



Wireless test report – REP0031625-1R2TRFWL

Applicant:

SOLiD CO., LTD

Product name:

SOLiD O-RAN ORU CBRS

Model:

O-LRU_CBRSM2

Model variant:

N/A

FCC ID:

W6UOLRUCBRSM2

Specifications:

WINNF-TS-0122, Version V1.0.2

Test and Certification for Citizens Broadband Radio Service (CBRS); Conformance and Performance Test Technical Specification; CBSD/DP as Unit Under Test (UUT)

WINNF-IN-00129, Version V1.0.0.0

WinnForum CBSD/DP UUT Security Test 6 Cases Tutorial

Date of issue: October 27, 2023

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Test location(s)

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ISED Test Site	2040B-3

Limits of responsibility

Note that the results contained in this report relate only to the items tested and were obtained in the period between the date of initial receipt of samples and the date of issue of the report.

This test report has been completed in accordance with the requirements of WINNF-TS-0122 [Test and Certification for Citizens Broadband Radio Service (CBRS); Conformance and Performance Test Technical Specification; CBSD/DP as Unit Under Test (UUT)] .

Nemko San Diego has successfully completed the requirements to become a WINnForum CBRS Approved Lab and a CBRS Alliance Authorized Test Lab: <https://cbrs.wirelessinnovation.org/cbsd-certification-program>.

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Section 1. Report summary

1.1 Applicant and manufacturer

Company name	SOLID CO., LTD
Address	800 Klein Road Suite 200
City	Plano
Province/State	TX
Postal/Zip code	75074
Country	USA

1.2 Test specifications

WINNF-TS-0122 Version V1.0.2	Test and Certification for Citizens Broadband Radio Service (CBRS); Conformance and Performance Test Technical Specification; CBSD/DP as Unit Under Test (UUT)
WINNF-IN-00129, Version V1.0.0.0	WinnForum CBSD/DP UUT Security Test 6 Cases Tutorial

1.3 Statement of compliance

In the configuration tested, the EUT was found compliant.

Testing was performed against all relevant requirements of the test standard except as noted in section 1.4 below. Results obtained indicate that the product under test complies in full with the requirements tested. The test results relate only to the items tested.

See "Summary of test results" for full details.

1.4 Exclusions

None

1.5 Test report revision history

Revision #	Date of issue	Details of changes made to test report
1TRFWL	June 23, 2023	Original report issued
1R1TRFWL	July 17, 2023	Rev1 to report dBm/MHz, power as per document ONGO-PR-9002.
1R2TRFWL	October 27, 2023	Rev2 to update FCC ID to W6UOLRUCBRSM2

Section 2. Summary of test results

Per Customer declaration the UUT support the following cases:

CBSD	
Domain Proxy	x
Single-step registration without CPI-signed data in registration message	
Single-step registration with CPI-signed data in registration message	x
Multi-step registration	
UUT supports RECEIVED_POWER_WITHOUT_GRANT measurement report type	
UUT supports RECEIVED_POWER_WITH_GRANT measurement report type	x
UUT supports parameter change being made at the UUT and prior to sending a deregistration	

Note.- UUT supports RECEIVED_POWER_WITH_GRANT was added after the 1st day of testing(4/26/2023) therefore 3 new test cases were tested (on 5/18/2023): WINNF.FT.C.MES.3; WINNF.FT.C.MES.5; WINNF.FT.D.REG.6 and per OnGo request the following 2 test cases were retested: WINNF.FT.D.HBT.2 and WINNF.FT.D.HBT.8. See Section 10.35 (Customer Attestation Letter)

2.1 WINNF-TS-0122 requirements test results

Section	Test case ID	Test case title	Applicable	Verdict
6.1.4.1.6	WINNF.FT.D.REG.6	Domain Proxy Single-Step registration for CBSD with CPI signed data	M	Pass
6.1.4.2.2	WINNF.FT.D.REG.9	Domain Proxy Missing Required parameters (responseCode 102)	M	Pass
6.1.4.2.4	WINNF.FT.D.REG.11	Domain Proxy Pending registration (responseCode 200)	M	Pass
6.1.4.2.6	WINNF.FT.D.REG.13	Domain Proxy Invalid parameters (responseCode 103)	M	Pass
6.1.4.2.8	WINNF.FT.D.REG.15	Domain Proxy Blacklisted CBSD (responseCode 101)	M	Pass
6.1.4.2.10	WINNF.FT.D.REG.17	Domain Proxy Unsupported SAS protocol version responseCode 100)	M	Pass
6.1.4.2.12	WINNF.FT.D.REG.19	Domain Proxy Group Error (responseCode 201)	M	Pass
6.3.4.2.1	WINNF.FT.C.GRA.1	Unsuccessful Grant responseCode=400 (INTERFERENCE	M	Pass
6.3.4.2.2	WINNF.FT.C.GRA.2	Unsuccessful Grant responseCode=401	M	Pass
6.4.4.1.2	WINNF.FT.D.HBT.2	Domain Proxy Heartbeat Success Case (first Heartbeat Response)	M	Pass
6.4.4.2.1	WINNF.FT.C.HBT.3	Heartbeat responseCode=105 (DEREGISTER)	M	Pass
6.4.4.2.3	WINNF.FT.C.HBT.5	Heartbeat responseCode=501 (SUSPENDED_GRANT) in First Heartbeat Response	M	Pass
6.4.4.2.4	WINNF.FT.C.HBT.6	Heartbeat responseCode=501 (SUSPENDED_GRANT) in Subsequent Heartbeat Response	M	Pass
6.4.4.2.5	WINNF.FT.C.HBT.7	Heartbeat responseCode=502 (UNSYNC_OP_PARAM)	M	Pass
6.4.4.2.6	WINNF.FT.D.HBT.8	Domain Proxy Heartbeat responseCode=500 (TERMINATED_GRANT)	M	Pass
6.4.4.3.1	WINNF.FT.C.HBT.9	Heartbeat Response Absent (First Heartbeat)	M	Pass
6.4.4.3.2	WINNF.FT.C.HBT.10	Heartbeat Response Absent (Subsequent Heartbeat)	M	Pass
6.4.4.4.1	WINNF.FT.C.HBT.11	Successful Grant Renewal in Heartbeat Test Case	O	Pass
6.5.4.2.3	WINNF.FT.C.MES.3	Grant Response contains measReportConfig	M	Pass
6.5.4.2.5	WINNF.FT.D.MES.5	WINNF.FT.D.MES.5	M	Pass
6.6.4.1.2	WINNF.FT.D.RLQ.2	Domain Proxy Successful Relinquishment	M	Pass
6.6.4.2.2	WINNF.FT.D.RLQ.4	Domain Proxy Unsuccessful Relinquishment, responseCode=102	O	Pass
6.6.4.3.2	WINNF.FT.D.RLQ.6	Domain Proxy Unsuccessful Relinquishment, responseCode=103	O	Pass

Section 2:

Summary of test results



6.7.4.1.2	WINNF.FT.D.DRG.2	Domain Proxy Successful Deregistration	M	Pass
6.7.4.2.2	WINNF.FT.D.DRG.4	Domain Proxy Deregistration responseCode=102	O	Pass
6.7.4.3.1	WINNF.FT.C.DRG.5	Deregistration responseCode=103	O	Pass
6.8.4.1.1	WINNF.FT.C.SCS.1	Successful TLS connection between UUT and SAS Test Harness	M	Pass
6.8.4.2.1	WINNF.FT.C.SCS.2	TLS failure due to revoked certificate	M	Pass
6.8.4.2.2	WINNF.FT.C.SCS.3	TLS failure due to expired server certificate	M	Pass
6.8.4.2.3	WINNF.FT.C.SCS.4	TLS failure when SAS Test Harness certificate is issue by unknown CA	M	Pass
6.8.4.2.4	WINNF.FT.C.SCS.5	TLS failure when certificate at the SAS Test Harness is corrupted	M	Pass
7.1.4.1.1	PowerMeasTest	UUT RF Transmit Power Measurement	M	Pass

Notes:

UUT supports RECEIVED_POWER_WITH_GRANT was added after the 1st day of testing(4/26/2023) therefore 3 new test cases were tested (on 5/18/2023): WINNF.FT.C.MES.3; WINNF.FT.C.MES.5; WINNF.FT.D.REG.6 and per OnGo request the following 2 test cases were retested: WINNF.FT.D.HBT.2 and WINNF.FT.D.HBT.8.

Section 3. Equipment under test (EUT) details

3.1 Sample information

Receipt date	April 26, 2023
Nemko sample ID number	0031625

3.2 EUT information

Product name	SOLID O-RAN ORU CBRS
Model	O-LRU_CBRS M2
Model variant	N/A
FCC ID	W6UOLRUCBRS M2
Serial number (s)	Sample 1: 68530322500007 and Sample 2: 68530322500008
Software Details of UUT	FW Version 1.1.10 with Domain-Proxy version 4.4.2-72 (Testing on 4/26/23) and updated to Domain-Proxy version 4.4.2-73 (Testing on 5/18/23 and 5/24/23)
Hardware Details of UUT	0.0.1

3.3 Technical information

Frequency band	CBRS band: 3550–3700 MHz
Type of modulation	QPSK, QAM16, QAM64, QAM256
BW	10, 20, 30 and 40MHz
Power requirements	+48VDC nominal

3.4 Product description and theory of operation

The UUT is a CBSD/DP Category A.

3.5 UUT exercise details

The UUT was loaded with software Version: 1.1.10 with Domain-Proxy version 4.4.2-72 (Testing on 4/26/23) and updated to Domain-Proxy version 4.4.2-73 (Testing on 5/18/23 and 5/24/23).

All testing was performed with WinnForum SAS test harness version 1.0.0.3

EUT only supports 5GNR.

3.6 EUT setup diagram

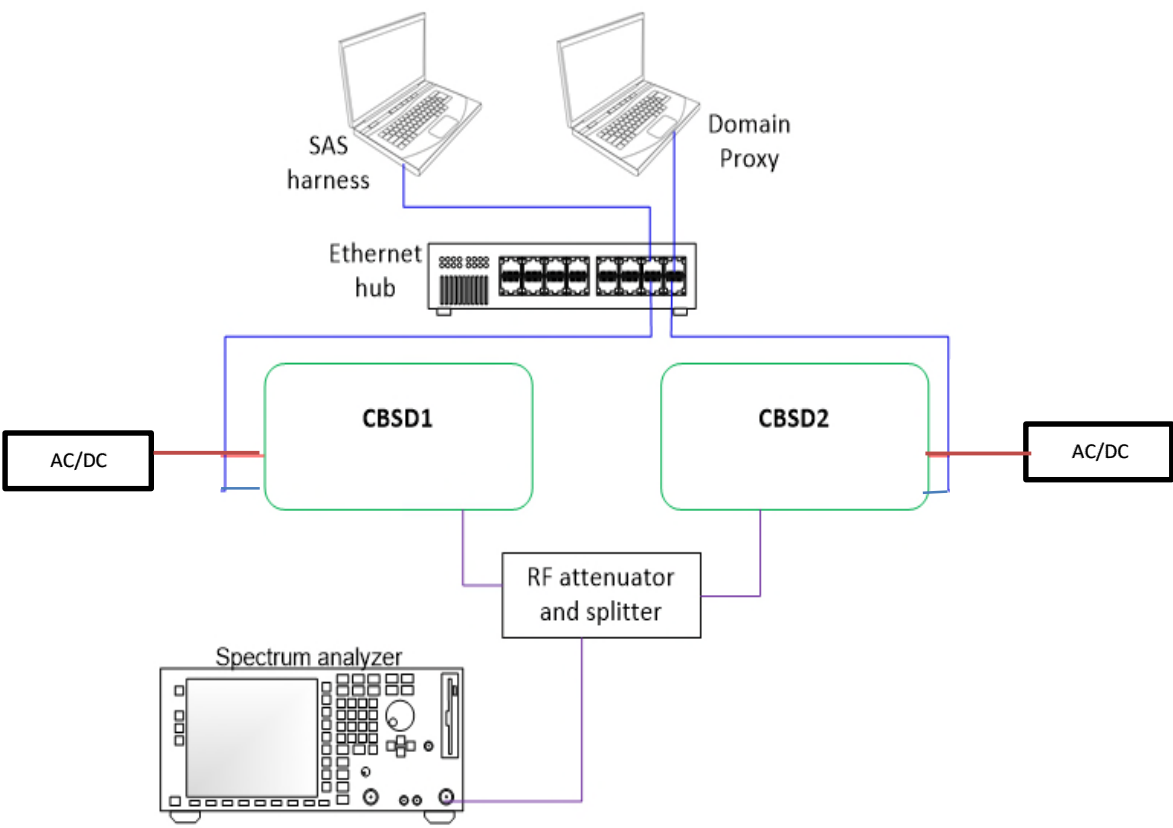


Figure 3.6-1: Setup diagram

3.7 EUT sub assemblies

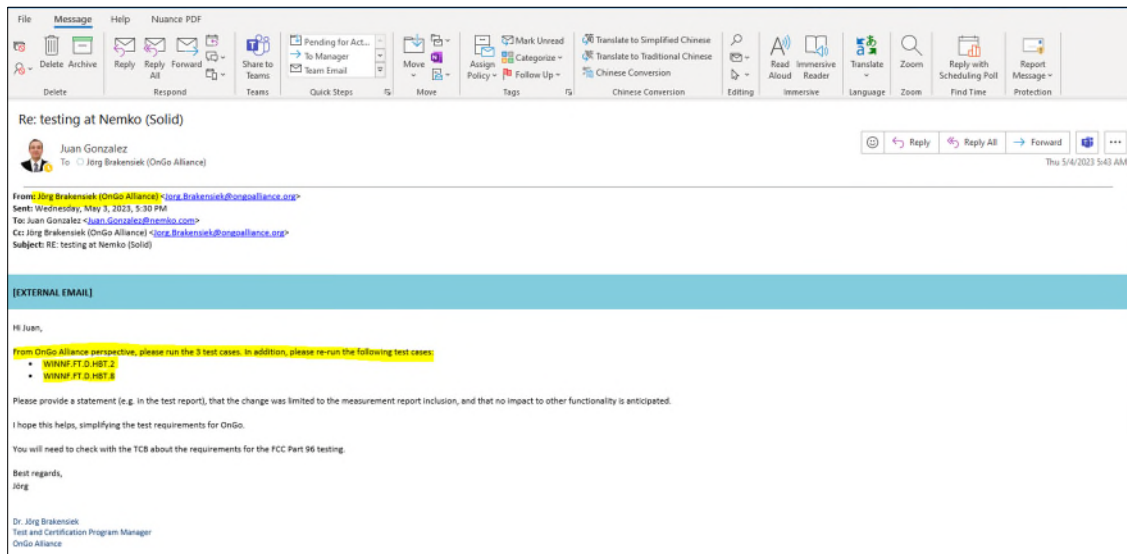
Table 3.7-1: EUT sub assemblies + Auxiliary Equipment

Description	Brand name	Model/Part number	Serial number/System Name
Wireless Router	NETGEAR	R7800	4H46715D0039C
SAS Harness Laptop	DELL	Latitude E7470	NEM-HG38MC2/IT2303
Router	CISCO	RV340	PS224211QPD
DU	SUPERMICRO/NETGEAR	ENG SAMPLE	ENG SAMPLE
CONTROL LAPTOP	DELL	-	23964452246

Section 4. Engineering considerations

4.1 Modifications incorporated in the EUT

During testing UUT supports RECEIVED_POWER_WITH_GRANT was added therefore 3 new test cases were tested (on 5/18/2023): WINNF.FT.C.MES.3; WINNF.FT.C.MES.5 & WINNF.FT.D.REG.6 and per OnGo Alliance guidance also the following 2 test cases were retested: WINNF.FT.D.HBT.2 and WINNF.FT.D.HBT.8.



4.2 Technical judgment

None

4.3 Deviations from laboratory tests procedures

No deviations were made from laboratory procedures.

Section 5. Test conditions

5.1 Atmospheric conditions

Temperature	15–30 °C
Relative humidity	20–75 %
Air pressure	860–1060 mbar

When it is impracticable to carry out tests under these conditions, a note to this effect stating the ambient temperature and relative humidity during the tests shall be recorded and stated.

5.2 Power supply range

The normal test voltage for equipment to be connected to the mains shall be the nominal mains voltage. For the purpose of the present document, the nominal voltage shall be the declared voltage, or any of the declared voltages $\pm 5\%$, for which the equipment was designed.

Section 6. Measurement uncertainty

6.1 Uncertainty of measurement

UKAS Lab 34 and TIA-603-B have been used as guidance for measurement uncertainty reasonable estimations with regards to previous experience and validation of data. Nemko Canada, Inc. follows these test methods in order to satisfy ISO/IEC 17025 requirements for estimation of uncertainty of measurement for wireless products.

Measurement uncertainty budgets for the tests are detailed below. Measurement uncertainty calculations assume a coverage factor of $K = 2$ with 95% certainty.

Table 6.1-1: Measurement uncertainty

Test name	Measurement uncertainty, dB
All antenna port measurements	0.55

Section 7. Test equipment

7.1 Test equipment list

Table 7.1-1: Equipment list

Equipment	Manufacturer	Model no.	Asset no.	Cal cycle	Next cal.
Spectrum Analyzer	Rohde & Schwarz	FSW43	E1302	1 year	20/Oct/23
SAS Test Harness Test Bed Computer	DELL	Latitude E7470	IT2303	NCR	N/A
Splitter	Mini Circuits	ZFRSC-123-S	E1215	NCR	Verified
10 dB Attenuator	Centric RF	C407-10	E1198/1199	NCR	Verified
Signal Generator	Rohde & Schwarz	SMB 100A	E1128	1 year	23/Dic/23
SAS Test Harness Software	WinnForumq	1.0.0.3	N/A	NCR	N/A
Wireless Router	NETGEAR	R7800	N/A	NCR	N/A

Note: NCR - no calibration required, VOU - verify on use

Section 8. Testing data

8.1 6.1 CBSD Registration Process

Definitions and limits

Upon a successful response from the SAS, the CBSD will generate its next message to the SAS. The SAS Test Harness, when configured for verification of a particular CBSD-SAS protocol procedure (i.e. registration), will / may not respond to any subsequent messages sent by the CBSD once the procedure being tested is complete.

8.2 6.1.4.1.6 [WINNF.FT.D.REG.6] Domain Proxy Single-Step registration for CBSD with CPI signed data:

8.2.1.1 Test date

Start date May 18, 2023

8.2.1.2 Observations, settings and special notes

None

8.2.1.3 Test data

#	Test Execution Steps	Results	
1	Ensure the following conditions are met for test entry: • UUT has successfully completed SAS Discovery and Authentication with the SAS Test Harness • UUT is in the Unregistered state • All of the required and REG-Conditional parameters shall be configured and CPI signature provided	-	-
	The DP with two CBSDs sends Registration requests in the form of one 2-element Array or as individual messages to the SAS Test Harness:		
2	• The required userId, fcId and cbsdSerialNumber and REGConditional cbsdCategory, airInterface, measCapability and cpiSignatureData registration parameters shall be sent from the CBSD and conform to proper format and acceptable ranges. • Any optional registration parameters that may be included in the message shall be verified that they conform to proper format and are within acceptable ranges.	☒ Pass	☐ Fail
3	SAS Test Harness sends a CBSD Registration Response in the form of one 2-element Array or as individual messages as follows: - cbsdId = Ci - measReportConfig for each CBSD shall not be included. - responseCode = 0 for each CBSD	-	-
4	After completion of step 3, SAS Test Harness will not provide any positive response (responseCode=0) to further request messages from the UUT.	-	-
5	Monitor the RF output of the UUT from start of test until 60 seconds after Step 3 is complete. This is the end of the test. Verify: • UUT shall not transmit RF during monitoring time	☒ Pass	☐ Fail

8.3 6.1.4.2.2 [WINNF.FT.D.REG.g] Domain Proxy Missing Required parameters (responseCode 102)

8.3.1.1 Test date

Start date April 26, 2023

8.3.1.2 Observations, settings and special notes

None

8.3.1.3 Test data

#	Test Execution Steps	Results	
1	Ensure the following conditions are met for test entry: • UUT has successfully completed SAS Discovery and Authentication with SAS Test Harness • UUT is in the Unregistered state	–	–
2	The DP with two CBSDs sends a Registration request in the form of one 2-element Array or as individual messages to SAS Test Harness.	–	–
3	SAS Test Harness sends a CBSD Registration Response in the form of one 2-element Array or as individual messages as follows: • SAS response does not include a cbsdId. • responseCode = Ri for CBSD1 and CBSD2	–	–
4	After completion of step 3, SAS Test Harness will not provide any positive response (responseCode=0) to further request messages from the UUT.	–	–
5	Monitor the RF output of each UUT from start of test until 60 seconds after Step 3 is complete. This is the end of the test. Verify: • UUT shall not transmit RF	☒	☐

8.4 6.1.4.2.4 [WINNF.FT.D.REG.11] Domain Proxy Pending registration (responseCode 200)

8.4.1.1 Test date

Start date April 26, 2023

8.4.1.2 Observations, settings and special notes

None

8.4.1.3 Test data

Step	Test Execution Steps	Pass	Fail
1	Ensure the following conditions are met for test entry: • UUT has successfully completed SAS Discovery and Authentication with SAS Test Harness • UUT is in the Unregistered state	–	–
2	The DP with two CBSDs sends a Registration request in the form of one 2-element Array or as individual messages to SAS Test Harness.	–	–
3	SAS Test Harness sends a CBSD Registration Response in the form of one 2-element Array or as individual messages as follows: - o SAS response does not include a cbsdId. - o responseCode (Ri) = 200 for CBSD1 and CBSD2	–	–
4	After completion of step 3, SAS Test Harness will not provide any positive response (responseCode=0) to further request messages from the UUT.	–	–
5	Monitor the RF output of each UUT from start of test until 60 seconds after Step 3 is complete. This is the end of the test. Verify: • UUT shall not transmit RF	☒	☐

8.5 6.1.4.2.6 [WINNF.FT.D.REG.13] Domain Proxy Invalid parameters (responseCode 103)

8.5.1.1 Test date

Start date April 26, 2023

8.5.1.2 Observations, settings and special notes

None

8.5.1.3 Test data

Step	Test Execution Steps	Pass	Fail
1	Ensure the following conditions are met for test entry: • UUT has successfully completed SAS Discovery and Authentication with SAS Test Harness • UUT is in the Unregistered state	–	–
2	The DP with two CBSDs sends a Registration request in the form of one 2-element Array or as individual messages to SAS Test Harness.	–	–
3	SAS Test Harness sends a CBSD Registration Response in the form of one 2-element Array or as individual messages as follows: - o SAS response does not include a cbsdId. - o responseCode (R1) = 0 for CBSD1 - o responseCode (R2) = 103 for CBSD2	–	–
4	After completion of step 3, SAS Test Harness will not provide any positive response (responseCode=0) to further request messages from the UUT.	–	–
5	Monitor the RF output of each UUT from start of test until 60 seconds after Step 3 is complete. This is the end of the test. Verify: • UUT shall not transmit RF	☒	☐

8.6 6.1.4.2.68[WINNF.FT.D.REG.15] Domain Proxy Blacklisted CBSD (responseCode 101)

8.6.1.1 Test date

Start date April 26, 2023

8.6.1.2 Observations, settings and special notes

None

8.6.1.3 Test data

Step	Test Execution Steps	Pass	Fail
1	Ensure the following conditions are met for test entry: • UUT has successfully completed SAS Discovery and Authentication with SAS Test Harness • UUT is in the Unregistered state	–	–
2	The DP with two CBSDs sends a Registration request in the form of one 2-element Array or as individual messages to SAS Test Harness.	–	–
3	SAS Test Harness sends a CBSD Registration Response in the form of one 2-element Array or as individual messages as follows: - o SAS response does not include a cbsdId. - o responseCode (R1) = 0 for CBSD1 - o responseCode (R2) = 101 for CBSD2	–	–
4	After completion of step 3, SAS Test Harness will not provide any positive response (responseCode=0) to further request messages from the UUT.	–	–
5	Monitor the RF output of each UUT from start of test until 60 seconds after Step 3 is complete. This is the end of the test. Verify: • UUT shall not transmit RF	☒	☐

8.7 6.1.4.2.10 [WINNF.FT.D.REG.17] Domain Proxy Unsupported SAS protocol version responseCode 100)

8.7.1.1 Test date

Start date April 26, 2023

8.7.1.2 Observations, settings and special notes

None

8.7.1.3 Test data

Step	Test Execution Steps	Pass	Fail
1	Ensure the following conditions are met for test entry: • UUT has successfully completed SAS Discovery and Authentication with SAS Test Harness • UUT is in the Unregistered state	–	–
2	The DP with two CBSDs sends a Registration request in the form of one 2-element Array or as individual messages to SAS Test Harness.	–	–
3	SAS Test Harness sends a CBSD Registration Response in the form of one 2-element Array or as individual messages as follows: - o SAS response does not include a cbsdId. - o responseCode (Ri) = 100 for CBSD1 and CBSD2	–	–
4	After completion of step 3, SAS Test Harness will not provide any positive response (responseCode=0) to further request messages from the UUT.	–	–
5	Monitor the RF output of each UUT from start of test until 60 seconds after Step 3 is complete. This is the end of the test. Verify: • UUT shall not transmit RF	☒	☐

8.8 6.1.4.2.12 [WINNF.FT.D.REG.19] Domain Proxy Group Error (responseCode 201)

8.8.1.1 Test date

Start date April 26, 2023

8.8.1.2 Observations, settings and special notes

None

8.8.1.3 Test data

Step	Test Execution Steps	Pass	Fail
1	Ensure the following conditions are met for test entry: • UUT has successfully completed SAS Discovery and Authentication with SAS Test Harness • UUT is in the Unregistered state	–	–
2	The DP with two CBSDs sends a Registration request in the form of one 2-element Array or as individual messages to SAS Test Harness.	–	–
3	SAS Test Harness sends a CBSD Registration Response in the form of one 2-element Array or as individual messages as follows: - o SAS response does not include a cbsdId. - o responseCode (R1) = 0 for CBSD1 - o responseCode (R2) = 201 for CBSD2	–	–
4	After completion of step 3, SAS Test Harness will not provide any positive response (responseCode=0) to further request messages from the UUT.	–	–
5	Monitor the RF output of each UUT from start of test until 60 seconds after Step 3 is complete. This is the end of the test. Verify: • UUT shall not transmit RF	☒	☐

8.9 6.3 CBSD Spectrum Grant Process

Definitions and limits

The test cases in this section are for verifying the handling of CBSD for various responseCodes in response from the-SAS Test Harness.
The actions taken in response of any responseCode are beyond the scope of this document unless mentioned in the test procedure.

8.10 6.3.4.2.1 [WINNF.FT.C.GRA.1] Unsuccessful Grant responseCode=400 (INTERFERENCE)

8.10.1.1 Test date

Start date April 26, 2023

8.10.1.2 Observations, settings and special notes

None

8.10.1.3 Test data

Step	Test Execution Steps	Pass	Fail
1	Ensure the following conditions are met for test entry: • UUT has registered successfully with SAS Test Harness, with cbsdId = C	–	–
2	UUT sends valid Grant Request.	–	–
3	SAS Test Harness sends a Grant Response message, including • cbsdId=C • responseCode = R	–	–
4	After completion of step 3, SAS Test Harness will not provide any positive response (responseCode=0) to further request messages from the UUT.	–	–
5	Monitor the RF output of the UUT from start of test until 60 seconds after Step 3 is complete. This is the end of the test. Verify: • UUT shall not transmit RF	☒	☐

8.11 6.3.4.2.2 [WINNF.FT.C.GRA.2] Unsuccessful Grant responseCode=401 (GRANT_CONFLICT)

8.11.1.1 Test date

Start date April 26, 2023

8.11.1.2 Observations, settings and special notes

None

8.11.1.3 Test data

Step	Test Execution Steps	Pass	Fail
1	Ensure the following conditions are met for test entry: • UUT has registered successfully with SAS Test Harness, with cbsdId = C	–	–
2	UUT sends valid Grant Request.	–	–
3	SAS Test Harness sends a Grant Response message, including • cbsdId=C • responseCode (R) = 401	–	–
4	After completion of step 3, SAS Test Harness will not provide any positive response (responseCode=0) to further request messages from the UUT.	–	–
5	Monitor the RF output of the UUT from start of test until 60 seconds after Step 3 is complete. This is the end of the test. Verify: • UUT shall not transmit RF	☒	☐

8.12 6.4 CBSD Heart Beat Process

Definitions and limits

The test cases in this section test the success path for the Heartbeat process. The SAS Test Harness shall use a heartBeatInterval of 60 seconds, unless specifically provided in the test case.

This test case incorporates validation of successful Spectrum Inquiry messaging (if present) and successful Grant messaging into the Heartbeat Success case.

8.13 6.4.4.1.2 [WINNF.FT.D.HBT.2] Domain Proxy Heartbeat Success Case (first Heartbeat Response)

8.13.1.1 Test date

Start date	April 26, 2023
Start date	May 18, 2023

8.13.1.2 Observations, settings and special notes

None

8.13.1.3 Test data

Step	Test Execution Steps	Pass	Fail
1	Ensure the following conditions are met for test entry: • DP has two CBSD registered successfully with SAS Test Harness, with cbsdId = Ci, i={1,2}	–	–
2	DP sends a message: • If message is a Spectrum Inquiry Request, go to step 3 • If message is a Grant Request, go to step 5	–	–
3	DP sends a Spectrum Inquiry Request message for each CBSD. This may occur in a separate message per CBSD, or together in a single message with array of 2. Verify Spectrum Inquiry Request message is formatted correctly for each CBSD, including for CBSDi, i={1,2}: • cbsdId = Ci • List of frequencyRange objects sent by DP are within the CBRS frequency range	☒	☐
4	If a separate Spectrum Inquiry Request message was sent for each CBSD, the SAS Test Harness shall respond to each Spectrum Inquiry Request message with a separate Spectrum Inquiry Response message. If a single Spectrum Inquiry Request message was sent containing a 2-object array (one per CBSD), the SAS Test Harness shall respond with a single Spectrum Inquiry Response message containing a 2-object array. Verify parameters for each CBSD within the Spectrum Inquiry Response message are as follows, for CBSDi, i={1,2}: • cbsdId = Ci • availableChannel is an array of availableChannel objects • responseCode = 0	–	–
5	DP sends a Grant Request message for each CBSD. This may occur in a separate message per CBSD, or together in a single message with array of 2. Verify Grant Request message is formatted correctly for each CBSD, including for CBSDi, i={1,2}: • cbsdId = C • maxEIRP is at or below the limit appropriate for CBSD category as defined by Part 96 • operationFrequencyRange, Fi, sent by UUT is a valid range within the CBRS band	☒	☐

8.14 6.4.4.2.1 [WINNF.FT.C.HBT.3] Heartbeat responseCode=105 (DEREGISTER)

8.14.1.1 Test date

Start date April 26, 2023

8.14.1.2 Observations, settings and special notes

None

8.14.1.3 Test data

Step	Test Execution Steps	Pass	Fail
1	Ensure the following conditions are met for test entry: • UUT has registered successfully with SAS Test Harness • UUT has a valid single grant as follows: - o valid cbsdId = C - o valid grantId = G - o grant is for frequency range F, power P - o grantExpireTime = UTC time greater than duration of the test • UUT is in AUTHORIZED state and is transmitting within the grant bandwidth F on RF interface	–	–
2	UUT sends a Heartbeat Request message. Ensure Heartbeat Request message is sent within Heartbeat Interval specified in the latest Heartbeat Response, and formatted correctly, including: • cbsdId = C • grantId = G • operationState = "AUTHORIZED"	☒	☐
3	SAS Test Harness sends a Heartbeat Response message, including the following parameters: • cbsdId = C • grantId = G • transmitExpireTime = T = Current UTC time • responseCode = 105 (DEREGISTER)	–	–
4	After completion of step 3, SAS Test Harness shall not allow any further grants to the UUT.		
5	Monitor the RF output of the UUT. Verify: • UUT shall stop transmission within (T + 60 seconds) of completion of step 3	☒	☐

8.15 6.4.4.2.3 [WINNF.FT.C.HBT.5] Heartbeat responseCode=501 (SUSPENDED_GRANT) in First Heartbeat Response

8.15.1.1 Test date

Start date April 26, 2023

8.15.1.2 Observations, settings and special notes

None

8.15.1.3 Test data

#	Test Execution Steps	Results	
1	Ensure the following conditions are met for test entry: • UUT has registered successfully with SAS Test Harness • UUT has a valid single grant as follows: - o valid cbsdId = C - o valid grantId = G - o grant is for frequency range F, power P - o grantExpireTime = UTC time greater than duration of the test • UUT is in GRANTED but not AUTHORIZED state (i.e. has not performed its first Heartbeat Request) UUT sends a Heartbeat Request message.	-	-
2	Ensure Heartbeat Request message is formatted correctly, including: • cbsdId = C • grantId = G • operationState = "GRANTED"	☒ Pass	☐ Fail
3	SAS Test Harness sends a Heartbeat Response message, including the following parameters: • cbsdId=C • grantId = G • transmitExpireTime = T = Current UTC time • responseCode = 105 (DEREGISTER)	-	-
4	After completion of step 3, SAS Test Harness shall not allow any further grants to the UUT.	-	-
5	Monitor the SAS-CBSD interface. Verify either A OR B occurs: A. UUT sends a Heartbeat Request message. Ensure message is sent within latest specified heartbeatInterval, and is correctly formatted with parameters: • cbsdId = C • grantId = G • operationState = "GRANTED" B. UUT sends a Relinquishment request message. Ensure message is correctly formatted with parameters: • cbsdId = C • grantId = G Monitor the RF output of the UUT from start of test until 60 seconds after Step 3 is complete. This is the end of the test. Verify: • UUT does not transmit at any time	☒ Pass	☐ Fail

8.16 6.4.4.2.4 [WINNF.FT.C.HBT.6] Heartbeat responseCode=501 (SUSPENDED_GRANT) in Subsequent Heartbeat Response

8.16.1.1 Test date

Start date April 26, 2023

8.16.1.2 Observations, settings and special notes

None

8.16.1.3 Test data

#	Test Execution Steps	Results	
1	Ensure the following conditions are met for test entry: • UUT has registered successfully with SAS Test Harness • UUT has a valid single grant as follows: ○ valid cbsdId = C ○ valid grantId = G ○ grant is for frequency range F, power P ○ grantExpireTime = UTC time greater than duration of the test • UUT is in AUTHORIZED state and is transmitting within the grant bandwidth , power P UUT sends a Heartbeat Request message.	-	-
2	Verify Heartbeat Request message is sent within latest specified heartbeatInterval, and is formatted correctly, including: • cbsdId = C • grantId = G • operationState = "AUTHORIZED"	☒ Pass	☐ Fail
3	SAS Test Harness sends a Heartbeat Response message, including the following parameters: • cbsdId=C • grantId = G • transmitExpireTime = T = current UTC time • responseCode = 501 (SUSPENDED_GRANT)	-	-
4	After completion of step 3, SAS Test Harness shall not allow any further grants to the UUT.	-	-
5	Monitor the SAS-CBSD interface. Verify either A OR B occurs: A. UUT sends a Heartbeat Request message. Ensure message is sent within latest specified heartbeatInterval, and is correctly formatted with parameters: • cbsdId = C • grantId = G • operationState = "GRANTED" B. UUT sends a Relinquishment request message. Ensure message is correctly formatted with parameters: • cbsdId = C • grantId = G Monitor the RF output of the UUT from start of test until 60 seconds after Step 3 is complete. This is the end of the test. Verify: • UUT shall stop transmission within (T + 60 seconds) of completion of step 3	☒ Pass	☐ Fail

8.17 6.4.4.2.5 [WINNF.FT.C.HBT.7] Heartbeat responseCode=502 (UNSYNC_OP_PARAM)

8.17.1.1 Test date

Start date April 26, 2023

8.17.1.2 Observations, settings and special notes

None

8.17.1.3 Test data

#	Test Execution Steps	Results	
1	Ensure the following conditions are met for test entry: - UUT has registered successfully with SAS Test Harness - UUT has a valid single grant as follows: - valid cbsdId = C - valid grantId = G - grant is for frequency range F, power P - grantExpireTime = UTC time greater than duration of the test - UUT is in AUTHORIZED state and is transmitting within the grant bandwidth , power P UUT sends a Heartbeat Request message. Verify Heartbeat Request message is sent within latest specified heartbeatInterval, and is formatted correctly, including:	-	-
2	- cbsdId = C - grantId = G - operationState = "AUTHORIZED"	☒ Pass	☐ Fail
3	SAS Test Harness sends a Heartbeat Response message, including the following parameters: - cbsdId=C - grantId = G - transmitExpireTime = T = current UTC time - responseCode = 502 (UNSYNC_OP_PARAM)	-	-
4	After completion of step 3, SAS Test Harness shall not allow any further grants to the UUT.	-	-
5	Monitor the SAS-CBSD interface. Verify: - UUT sends a Grant Relinquishment Request message. Verify message is correctly formatted with parameters: - cbsdId = C - grantId = G Monitor the RF output of the UUT from start of test until 60 seconds after Step 3 is complete. This is the end of the test. - UUT shall stop transmission within (T + 60 seconds) of completion of step 3	☒ Pass	☐ Fail

8.18 6.4.4.2.6 [WINNF.FT.D.HBT.8] Domain Proxy Heartbeat responseCode=500 (TERMINATED_GRANT)

8.18.1.1 Test date

Start date	April 26, 2023
Start date	May 18, 2023

8.18.1.2 Observations, settings and special notes

None

8.18.1.3 Test data

Step	Test Execution Steps	Pass	Fail
1	Ensure the following conditions are met for test entry: - DP has two CBSD registered successfully with SAS Test Harness - Each CBSD {1,2} has a valid single grant as follows: - o valid cbsdId = Ci, i={1,2} - o valid grantId = Gi, i={1,2} - o grant is for frequency range Fi, power Pi - o grantExpireTime = UTC time greater than duration of the test - Both CBSD are in AUTHORIZED state and transmitting within their granted bandwidth on RF interface	–	–
2	DP sends a Heartbeat Request message for each CBSD. This may occur in a separate message per CBSD, or together in a single message with array of size 2. Verify Heartbeat Request message is sent within latest specified heartbeatInterval, and is formatted correctly for each CBSD, including, for CBSDi i={1,2}: - cbsdId = Ci, i = {1,2} - grantId = Gi, i = {1,2} - operationState = "AUTHORIZED"	☒	☐
3	If separate Heartbeat Request message was sent for each CBSD by the DP, the SAS Test Harness shall respond to each Heartbeat Request message with a separate Heartbeat Response message. If a single Heartbeat Request message was sent by the DP containing a 2-object array (one per CBSD), the SAS Test Harness shall respond with a single Heartbeat Response message containing a 2-object array. Parameters for each CBSD within the Heartbeat Response message should be as follows, for CBSDi: - cbsdId = Ci - grantId = Gi - For CBSD1: - o transmitExpireTime = current UTC time + 200 seconds - o responseCode = 0 - For CBSD2: - o transmitExpireTime = T = current UTC time - o responseCode = 500 (TERMINATED_GRANT)	–	–

8.19 6.4.4.3.1 [WINNF.FT.C.HBT.9] Heartbeat Response Absent (First Heartbeat)

8.19.1.1 Test date

Start date April 26, 2023

8.19.1.2 Observations, settings and special notes

None

8.19.1.3 Test data

Step	Test Execution Steps	Pass	Fail
1	Ensure the following conditions are met for test entry: • UUT has registered successfully with SAS Test Harness • UUT has a valid single grant as follows: - o valid cbsdId = C - o valid grantId = G - o grant is for frequency range F, power P - o grantExpireTime = UTC time greater than duration of the test • UUT is in GRANTED, but not AUTHORIZED state (i.e. has not performed its first Heartbeat Request)	–	–
2	UUT sends a Heartbeat Request message. Ensure Heartbeat Request message is sent within latest specified heartbeatInterval, and is formatted correctly, including: • cbsdId = C • grantId = G • operationState = "GRANTED"	☒	☐
3	After completion of Step 2, SAS Test Harness does not respond to any further messages from UUT to simulate loss of network connection	–	–
4	Monitor the RF output of the UUT from start of test to 60 seconds after step 3. Verify: • At any time during the test, UUT shall not transmit on RF interface	☒	☐

8.20 6.4.4.3.2 [WINNF.FT.C.HBT.10] Heartbeat Response Absent (Subsequent Heartbeat)

8.20.1.1 Test date

Start date April 26, 2023

8.20.1.2 Observations, settings and special notes

None

8.20.1.3 Test data

Step	Test Execution Steps	Pass	Fail
1	Ensure the following conditions are met for test entry: • UUT has registered successfully with SAS Test Harness • UUT has a valid single grant as follows: - o valid cbsdId = C - o valid grantId = G - o grant is for frequency range F, power P - o grantExpireTime = UTC time greater than duration of the test • UUT is in AUTHORIZED state and is transmitting within the grant bandwidth F on RF interface	–	–
2	UUT sends a Heartbeat Request message. Verify Heartbeat Request message is sent within the latest specified heartbeatInterval, and is formatted correctly, including: • cbsdId = C • grantId = G • operationState = "AUTHORIZED"	☒	☐
3	SAS Test Harness sends a Heartbeat Response message, with the following parameters: • cbsdId = C • grantId = G • transmitExpireTime = current UTC time + 200 seconds • responseCode = 0	–	–
4	After completion of Step 3, SAS Test Harness does not respond to any further messages from UUT	–	–
5	Monitor the RF output of the UUT. Verify: • UUT shall stop all transmission on RF interface within (transmitExpireTime + 60 seconds), using the transmitExpireTime sent in Step 3.	☒	☐

8.21 6.4.4.4.1 [WINNF.FT.C.HBT.11] Successful Grant Renewal in Heartbeat Test Case

8.21.1.1 Test date

Start date April 26, 2023

8.21.1.2 Observations, settings and special notes

None

8.21.1.3 Test data

#	Test Execution Steps	Results	
1	Ensure the following conditions are met for test entry: • UUT has registered successfully with SAS Test Harness • UUT has a valid single grant as follows: ○ valid cbsdId = C ○ valid grantId = G ○ grant is for frequency range F, power P • UUT is in AUTHORIZED state and is transmitting within the grant bandwidth F on RF interface. • Grant has the following parameters at the start of the test: ○ grantExpireTime = UTC time equal to time at start of test + 300 seconds = Tgrant_expire ○ transmitExpireTime = UTC time equal to time at start of test + 200 seconds ○ heartbeatInterval = 60 seconds	-	-
2	UUT sends a Heartbeat Request message. If Heartbeat Request message contains grantRenew = TRUE, go to Step 6, else go to Step 3.	-	-
3	Verify Heartbeat Request message is sent within the latest specified heartbeatInterval, and is formatted correctly, including: • cbsdId = C • grantId = G • operationState = "AUTHORIZED"	☒ Pass	☐ Fail
4	SAS Test Harness sends a Heartbeat Response message, with the following parameters: • cbsdId = C • grantId = G • transmitExpireTime = current UTC + 200 seconds • grantExpireTime = same as Step 1 • responseCode = 0	-	-
5	Go to Step 2		
6	Verify Heartbeat Request message is sent within the latest specified heartbeatInterval, and is formatted correctly, including: • cbsdId = C • grantId = G • operationState = "AUTHORIZED" • grantRenew = TRUE	☒ Pass	☐ Fail
6		-	-
7	SAS Test Harness sends a Heartbeat Response message, with the following parameters: • cbsdId = C • grantId = G • grantExpireTime = UTC time set far in the future • transmitExpireTime = current UTC time + 200 seconds • responseCode = 0	☒ Pass	☐ Fail
8	Continue to respond to any subsequentHeartbeat Request from CBSD with Heartbeat Response with the following parameters: • cbsdId=C • grantId=G • transmitExpireTime=same as Step 7	-	-



9	Monitor RF transmission of UUT from start of test until Tgrant_expire + 60 seconds and ensure UUT continues to transmit throughout the time period.	☒ Pass	☐ Fail
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8.22 6.5 CBSD Measurement Report

Definitions and limits

This section explains test steps/condition/procedure for CBSD behavior for Measurement Reports.

8.23 6.5.4.2.3 [WINNF.FT.C.MES.3] Grant Response contains measReportConfig

8.23.1.1 Test date

Start date May 18, 2023

8.23.1.2 Observations, settings and special notes

None

8.23.1.3 Test data

#	Test Execution Steps	Results	
1	Ensure the following conditions are met for test entry: - UUT has successfully completed SAS Discovery and Authentication with SAS Test Harness - UUT has successfully registered with SAS Test Harness, with cbsdId=C and measCapability = "RECEIVED_POWER_WITH_GRANT"	-	-
2	UUT sends a Grant Request message. Verify Grant Request message contains all required parameters properly formatted, and specifically: - cbsdId = C - operationParam is present and format is valid	☒ Pass	☐ Fail
3	SAS Test Harness sends a Grant Response message, with the following parameters: - cbsdId = C - grantId = G = valid grant ID - grantExpireTime = UTC time in the future - heartbeatInterval = 60 seconds - measReportConfig= "RECEIVED_POWER_WITH_GRANT" - channelType = "GAA" - responseCode = 0	-	-
4	UUT sends a Heartbeat Request message. Verify message contains all required parameters properly formatted, and specifically: - cbsdId = C - grantId = G - operationState = "GRANTED"	☒ Pass	☐ Fail
5	If Heartbeat Request message (step 4) contains measReport object, then: - verify measReport is properly formatted as object rcvdPowerMeasReport - end test, with PASS result else, if Heartbeat Request message (step 4) does not contain measReport object, then: If number of Heartbeat Requests sent by UUT after Step 3 is = 5, then stop test with result of FAIL	☒ Pass	☐ Fail
6	SAS Test Harness sends a Heartbeat Response message, containing all required parameters properly formatted, and specifically: - cbsdId = C - grantId = G - transmitExpireTime = current UTC time + 200 seconds - responseCode = 0 Go to Step 4, above	-	-

8.24 6.5.4.2.5 [WINNF.FT.D.MES.5] Domain Proxy Heartbeat Response contains measReportConfig

8.24.1.1 Test date

Start date May 18, 2023

8.24.1.2 Observations, settings and special notes

None

8.24.1.3 Test data

#	Test Execution Steps	Results	
1	Ensure the following conditions are met for test entry: - DP has successfully completed SAS Discovery and Authentication with SAS Test HarnessAuthentication with SAS Test Harness - DP has successfully registered 2 CBSD with SAS Test Harness, each with cbsdId=Ci, i={1,2} and measCapability = "RECEIVED_POWER_WITH_GRANT" - DP has received a valid grant with grantId = Gi, i={1,2} for each CBSD - Both CBSD are in Grant State AUTHORIZED and actively transmitting within the bounds of their grants. - Grants have heartbeatInterval =60 seconds Verify DP sends a Heartbeat Request message for each CBSD. This may occur in a separate message per CBSD, or together in a single message with array of 2. Verify Heartbeat Request message contains all required parameters properly formatted for each CBSD, specifically, for CBSDi:	-	-
2	- cbsdId = Ci - grantId = Gi - operationState = "AUTHORIZED"	☒ Pass	☐ Fail
3	If a separate Heartbeat Request message was sent for each CBSD by the DP, the SAS Test Harness shall respond to each Heartbeat Request message with a separate Heartbeat Response message. If a single Heartbeat Request message was sent by the DP containing a 2-object array (one per CBSD), the SAS Test Harness shall respond with a single Heartbeat Response message containing a 2-object array. Parameters for each CBSD within the Heartbeat Response message containing all required parameters properly formatted, and specifically: - cbsdId = Ci - grantId = Gi - measReportConfig= "RECEIVED_POWER_WITH_GRANT" - responseCode = 0	-	-
4	Verify DP sends a Heartbeat Request message for each CBSD. This may occur in a separate message per CBSD, or together in a single message with array of 2. Verify Heartbeat Request message contains all required parameters properly formatted for each CBSD, and specifically, for CBSDi, i = {1,2}: - cbsdId = Ci - grantId = Gi - operationState = "AUTHORIZED" - Check whether measReport is present, and if present, ensure it is a properly formatted rcvdPowerMeasReport object, and record its reception for each CBSDi, i = {1,2}.	☒ Pass	☐ Fail
5	If Heartbeat Request message (step 4) contains measReport object, then: - Verify measReport is properly formatted as object rcvdPowerMeasReport - record which CBSD have successfully sent a measReport object If all CBSDi, i = {1,2} have successfully sent a measReport object, then - end test, with PASS result else, if the number of Heartbeat Requests sent per CBSD is 5 or more, then stop test with result of FAIL	☒ Pass	☐ Fail

-
- 6 If a separate Heartbeat Request message was sent for each CBSD by the DP, the SAS Test Harness shall respond to each Heartbeat Request message with a separate Heartbeat Response message.

If a single Heartbeat Request message was sent by the DP containing a 2-object array (one per CBSD), the SAS Test Harness shall respond with a single Heartbeat Response message containing a 2-object array.

Parameters for each CBSD within the Heartbeat Response message containing all required parameters properly formatted, and specifically:

- cbsdId = Ci
- grantId = Gi
- responseCode = 0

Go to Step 4, above

8.25 6.6 CBSD Relinquishment Process

Definitions and limits

This section provides test steps, condition and procedures to test the conformance of the CBSD implementation for the CBSD Relinquishment Procedure. A precondition is the CBSD has successfully discovered the SAS it wants to communicate with.

8.26 6.6.4.1.2 [WINNF.FT.D.RLQ.2] Domain Proxy Successful Relinquishment

8.26.1.1 Test date

Start date April 26, 2023

8.26.1.2 Observations, settings and special notes

None

8.26.1.3 Test data

Step	Test Execution Steps	Pass	Fail
1	Ensure the following conditions are met for test entry: • DP has successfully completed SAS Discovery and Authentication with SAS Test Harness • DP has successfully registered 2 CBSD with SAS Test Harness, each with cbsdId=Ci, i={1,2} • DP has received a valid grant with grantId = Gi, i={1,2} for each CBSD • Both CBSD are in Grant State AUTHORIZED and actively transmitting within the bounds of their grants. Invoke trigger to relinquish each UUT Grant from the SAS Test Harness	–	–
2	Verify DP sends a Relinquishment Request message for each CBSD. This may occur in a separate message per CBSD, or together in a single message with array of 2. Verify Relinquishment Request message contains all required parameters properly formatted for each CBSD, specifically, for CBSDi: • cbsdId = Ci • grantId = Gi	☒	☐
3	If a separate Relinquishment Request message was sent for each CBSD by the DP, the SAS Test Harness shall respond to each request message with a separate response message. If a single Relinquishment Request message was sent by the DP containing a 2-object array (one per CBSD), the SAS Test Harness shall respond with a single Response message containing a 2-object array. Parameters for each CBSD within the Relinquishment Response shall be as follows: • cbsdId = Ci • grantId = Gi • responseCode = 0	–	–
4	After completion of step 3, SAS Test Harness will not provide any additional positive response (responseCode=0) to further request messages from the UUT.	–	–
5	Monitor the RF output of each UUT from start of test until 60 seconds after Step 3 is complete. This is the end of the test. Verify: • UUT shall stop RF transmission at any time between triggering the relinquishments and UUT sending the relinquishment requests for each CBSD.	☒	☐

8.27 6.6.4.2.2 [WINNF.FT.D.RLQ.4] Domain Proxy Unsuccessful Relinquishment, responseCode=102

8.27.1.1 Test date

Start date April 26, 2023

8.27.1.2 Observations, settings and special notes

None

8.27.1.3 Test data

#	Test Execution Steps	Results	
1	Ensure the following conditions are met for test entry: - DP has successfully completed SAS Discovery and Authentication with SAS Test Harness - DP has successfully registered 2 CBSD with SAS Test Harness, each with cbsdId=Ci, i={1,2} - DP has received a valid grant with grantId = Gi, i={1,2} for each CBSD - Both CBSD are in Grant State AUTHORIZED and actively transmitting within the bounds of their grants. Invoke trigger on UUT to Relinquish Grant from the SAS Test Harness	-	-
2	DP with two CBSDs sends Relinquishment Request with two objects to the SAS Test Harness. This may occur in a separate message per CBSD, or together in a single message with array of 2. Verify DP sends a Relinquishment Request message for each CBSD. This may occur in a separate message per CBSD, or together in a single message with array of 2. Verify Relinquishment Request message contains all required parameters properly formatted for each CBSD, specifically, for CBSDi: - cbsdId = Ci - grantId = Gi	-	-
3	If a separate Relinquishment Request message was sent for each CBSD by the DP, the SAS Test Harness shall respond to each request message with a separate response message. If a single Relinquishment Request message was sent by the DP containing a 2-object array (one per CBSD), the SAS Test Harness shall respond with a single Response message containing a 2-object array. Parameters for each CBSD within the Relinquishment Response Message shall be as follows: - cbsdId = Ci - No grantId - responseCode = Ri	-	-
4	After completion of step 3, SAS Test Harness will not provide any positive response (responseCode=0) to further request messages from the UUT.	-	-
5	Monitor the RF output of each UUT from start of test until 60 seconds after Step 3 is complete. This is the end of the test. Verify: A. UUT stopped RF transmission at any time between triggering the relinquishment and UUT sending the relinquishment request	☒ Pass	☐ Fail

8.28 6.6.4.3.2 [WINNF.FT.D.RLQ.6] Domain Proxy Unsuccessful Relinquishment, responseCode=103

8.28.1.1 Test date

Start date April 26, 2023

8.28.1.2 Observations, settings and special notes

None

8.28.1.3 Test data

#	Test Execution Steps	Results	
1	Ensure the following conditions are met for test entry: - DP has successfully completed SAS Discovery and Authentication with SAS Test Harness - DP has successfully registered 2 CBSD with SAS Test Harness, each with cbsdId=Ci, i={1,2} - DP has received a valid grant with grantId = Gi, i={1,2} for each CBSD - Both CBSD are in Grant State AUTHORIZED and actively transmitting within the bounds of their grants. Invoke trigger on UUT to Relinquish Grant from the SAS Test Harness	-	-
2	DP with two CBSDs sends Relinquishment Request with two objects to the SAS Test Harness. This may occur in a separate message per CBSD, or together in a single message with array of 2. Verify DP sends a Relinquishment Request message for each CBSD. This may occur in a separate message per CBSD, or together in a single message with array of 2. Verify Relinquishment Request message contains all required parameters properly formatted for each CBSD, specifically, for CBSDi: - cbsdId = Ci - grantId = Gi	-	-
3	If a separate Relinquishment Request message was sent for each CBSD by the DP, the SAS Test Harness shall respond to each request message with a separate response message. If a single Relinquishment Request message was sent by the DP containing a 2-object array (one per CBSD), the SAS Test Harness shall respond with a single Response message containing a 2-object array. Parameters for each CBSD within the Relinquishment Response Message shall be as follows: - cbsdId = Ci - No grantId - responseCode = Ri	-	-
4	After completion of step 3, SAS Test Harness will not provide any positive response (responseCode=0) to further request messages from the UUT.	-	-
5	Monitor the RF output of each UUT from start of test until 60 seconds after Step 3 is complete. This is the end of the test. Verify: A. UUT stopped RF transmission at any time between triggering the relinquishment and UUT sending the relinquishment request	☒ Pass	☐ Fail

8.29 6.7 CBSD Deregistration Process

Definitions and limits

A Deregistration request is issued by a CBSD to request a SAS to deregister the CBSD from the SAS. A Deregistration Request Message issued by a CBSD is provided in [n.5], Section 10.11.

In the Deregistration Response message, the SAS should echo back an array of DeregistrationResponse object. Each deregistrationResponse object consists of a cbsdId and a responseCode. If the deregistration request was successful, the responseCode should be set to 0, otherwise responseCode is set to appropriate error value. The deregistrationResponse Message and the deregistrationResponse object are provided in [n.5], Section 10.12.

Each test generates a CBSD deregistration request and validates the CBSD takes the appropriate actions following the SAS deregistration response.

These deregistration test cases assume the CBSD is the source (operator initiated, for instance reset site). Deregistrations triggered by the SAS in a response message with a responseCode of 105 are covered in other test cases.

8.30 6.7.4.1.2 [WINNF.FT.D.DRG.2] Domain Proxy Successful Deregistration

8.30.1.1 Test date

Start date April 26, 2023

8.30.1.2 Observations, settings and special notes

None

8.30.1.3 Test data

Step	Test Execution Steps	Pass	Fail
1	Ensure the following conditions are met for test entry: - Each UUT has successfully registered with SAS Test Harness - Each UUT is in the authorized state - DP has successfully completed SAS Discovery and Authentication with SAS Test Harness - DP has successfully registered 2 CBSD with SAS Test Harness, each with cbsdId=Ci, i={1,2} - DP has received a valid grant with grantId = Gi, i={1,2} for each CBSD - Both CBSD are in Grant State AUTHORIZED and actively transmitting within the bounds of their grants. Invoke trigger to deregister each UUT from the SAS Test Harness	–	–
2	UUT sends a Relinquishment request and receives Relinquishment response with responseCode=0	–	–
3	Verify DP sends a Deregistration Request message for each CBSD. This may occur in a separate message per CBSD, or together in a single message with array of 2. Verify Deregistration Request message contains all required parameters properly formatted for each CBSD, specifically, for CBSDi: cbsdId = Ci	☒	☐
4	If a separate Deregistration Request message was sent for each CBSD by the DP, the SAS Test Harness shall respond to each request message with a separate response message. If a single Deregistration Request message was sent by the DP containing a 2-object array (one per CBSD), the SAS Test Harness shall respond with a single Response message containing a 2-object array. Parameters for each CBSD within the Deregistration Response shall be as follows: - cbsdId = Ci - responseCode = 0	–	–
5	After completion of step 4, SAS Test Harness will not provide any positive response (responseCode=0) to further request messages from the UUT.	–	–

8.31 6.7.4.2.2 [WINNF.FT.D.DRG.4] Domain Proxy Deregistration responseCode=102

8.31.1.1 Test date

Start date April 26, 2023

8.31.1.2 Observations, settings and special notes

None

8.31.1.3 Test data

Step	Test Execution Steps	Pass	Fail
1	Ensure the following conditions are met for test entry: - DP has successfully completed SAS Discovery and Authentication with SAS Test Harness - DP has successfully registered 2 CBSD with SAS Test Harness, each with cbsdId=Ci, i={1,2} - DP has received a valid grant with grantId = Gi, i={1,2} for each CBSD - Both CBSD are in Grant State AUTHORIZED and actively transmitting within the bounds of their grants. Invoke trigger to deregister each UUT from the SAS Test Harness	–	–
2	UUT may send a Relinquishment request and receives Relinquishment response with responseCode=0 for each CBSD	–	–
3	Verify DP sends a Deregistration Request message for each CBSD. This may occur in a separate message per CBSD, or together in a single message with array of 2. Verify Deregistration Request message contains all required parameters properly formatted for each CBSD, specifically, for CBSDi: cbsdId = Ci	–	–
4	If a separate Deregistration Request message was sent for each CBSD by the DP, the SAS Test Harness shall respond to each request message with a separate response message. If a single Deregistration Request message was sent by the DP containing a 2-object array (one per CBSD), the SAS Test Harness shall respond with a single Response message containing a 2-object array. Parameters for each CBSD within the Deregistration Response Message shall be as follows: - No cbsdId in either response - responseCode = Ri	–	–
5	After completion of step 3, SAS Test Harness will not provide any positive response (responseCode=0) to further request messages from the UUT.	–	–
6	Monitor the RF output of each UUT from start of test until 60 seconds after Step 4 is complete. This is the end of the test. Verify: - UUT stopped RF transmission at any time between triggering the deregistration and either A OR B occurs: A. UUT sending a Registration Request message, as this is not mandatory B. UUT sending a Deregistration Request message	☒	☐

8.32 6.7.4.3.1 [WINNF.FT.C.DRG.5] Deregistration responseCode=103

8.32.1.1 Test date

Start date April 26, 2023

8.32.1.2 Observations, settings and special notes

None

8.32.1.3 Test data

#	Test Execution Steps	Results	
1	Ensure the following conditions are met for test entry: - UUT has successfully completed SAS Discovery and Authentication with SAS Test Harness - UUT has successfully registered with SAS Test Harness, with cbsdId=C - UUT has received a valid grant with grantId = G - UUT is in Grant State AUTHORIZED and is actively transmitting within the bounds of its grant. Invoke trigger to deregister UUT from the SAS Test Harness	-	-
2	UUT sends a Relinquishment request and receives Relinquishment response with responseCode=0	-	-
3	UUT sends Deregistration Request to SAS Test Harness with cbsdId = C.	-	-
4	The SAS Test Harness sends the Deregistration Response Message to UUT with: - No cbsdId - responseCode = 103 - responseData = "cbsdId"	-	-
5	After completion of step 3, SAS Test Harness will not provide any positive response (responseCode=0) to further request messages from the UUT.	-	-
6	Monitor the RF output of the UUT from start of test until 60 seconds after Step 4 is complete. This is the end of the test. Verify: - UUT stopped RF transmission at any time between triggering the deregistration and either A OR B occurs: A. UUT sending a Registration Request message, as this is not mandatory B. UUT sending a Deregistration Request message	☒ Pass	☐ Fail

8.33 6.8 CBSD Security Validation

Definitions and limits

This section provides test steps, condition and procedures to test the conformance of the CBSD implementation for the Security Establishment Procedure. A precondition is the CBSD has successfully discovered the SAS it wants to communicate with. In all test cases under this category, the TLS connection is established successfully between the SAS Test Harness and CBSD. A pre-condition for these tests is that Certificates at CBSD and SAS Test Harness are correct and valid. The security procedure is irrespective of the procedures defined for the SAS Test Harness to CBSD communication.

8.34 6.8.4.1.1 [WINNF.FT.C.SCS.1] Successful TLS connection between UUT and SAS Test Harness

8.34.1.1 Test date

Start date April 26, 2023

8.34.1.2 Observations, settings and special notes

None

8.34.1.3 Test data

Step	Test Execution Steps	Pass	Fail
1	Verify in Wireshark the following in the captured packets: - Wireshark "Protocol" column shows "TLSv1.2" - CBSD/DP UUT sends "Client Hello" message to WInnForum SAS Test Harness WInnForum SAS Test Harness sends "Server Hello" message to CBSD/DP UUT. - The "Server Hello" message "Handshake Protocol" IE includes the "Cipher Suite" IE. - Verify the "Cipher Suite" shown in Wireshark is one of the following: - TLS_RSA_WITH_AES_128_GCM_SHA256, - TLS_RSA_WITH_AES_256_GCM_SHA384, - TLS_ECDHE_ECDSA_WITH_AES_128_GCM_SHA256, - TLS_ECDHE_ECDSA_WITH_AES_256_GCM_SHA384, - TLS_ECDHE_RSA_WITH_AES_128_GCM_SHA256 "Application Data" messages are exchanged between WInnForum SAS Test Harness and CBSD/DP UUT.	☒	☐
2	Verify that WInnForum SAS Test Harness Command Prompt shows Registration Request Message from CBSD/DP UUT	☒	☐

8.35 6.8.4.2.1 [WINNF.FT.C.SCS.2] TLS failure due to revoked certificate

8.35.1.1 Test date

Start date	April 26, 2023
Start date	May 18, 2023
Start date	May 24, 2023 Final test Passed!

8.35.1.2 Observations, settings and special notes

EUT initially failed the test on 04/26/23 and 05/18/23 then Customer Enabled TLS Failure report in configuration settings and passed the test on May 24. See Section 10.35 (Customer Attestation Letter)

8.35.1.3 Test data

Step	Test Execution Steps	Pass	Fail
1	Verify in Wireshark the following in the captured packets: - Wireshark "Protocol" column shows "TLSv1.2" - CBSD/DP UUT sends "Client Hello" message to WInnForum SAS Test Harness - WInnForum SAS Test Harness sends "Server Hello" message to CBSD/DP UUT. - The "Server Hello" message "Handshake Protocol" IE includes the "Cipher Suite" IE. - Verify the "Cipher Suite" shown in Wireshark is one of the following: - TLS_RSA_WITH_AES_128_GCM_SHA256, - TLS_RSA_WITH_AES_256_GCM_SHA384, - TLS_ECDHE_ECDSA_WITH_AES_128_GCM_SHA256, - TLS_ECDHE_ECDSA_WITH_AES_256_GCM_SHA384, - TLS_ECDHE_RSA_WITH_AES_128_GCM_SHA256 - CBSD/DP UUT performs DNS resolution for the FQDN of the CRL server, or OCSP server, or both listed in the X.509v3 extensions described above for the X.509 certificate of SAS Test Harness. - CBSD/DP UUT: - Download the CRL file according to the full URI listed in X.509v3 extension of "CRL Distribution Points" described above. OR - Send to the OCSP server an OCSP "Request" message containing the certificate serial number, and OCSP server replies. OR - Both CRL file download and OCSP transaction as described above. "Application Data" messages are not seen between WInnForum SAS Test Harness and CBSD/DP UUT. - CBSD/DP UUT may send a TLS "Alert" message to WInnForum SAS Test Harness notifying of rejecting the TLS connection before attempting to establish the TLS connection again.	☒	☐
2	Verify that WInnForum SAS Test Harness Command Prompt does not show any Request Message from CBSD/DP UUT	☒	☐

8.36 6.8.4.2.2 [WINNF.FT.C.SCS.3] TLS failure due to expired server certificate

8.36.1.1 Test date

Start date April 26, 2023

8.36.1.2 Observations, settings and special notes

None

8.36.1.3 Test data

Step	Test Execution Steps	Pass	Fail
1	Verify in Wireshark the following in the captured packets: - Wireshark "Protocol" column shows "TLSv1.2" - CBSD/DP UUT sends "Client Hello" message to WInnForum SAS Test Harness - WInnForum SAS Test Harness sends "Server Hello" message to CBSD/DP UUT. - The "Server Hello" message "Handshake Protocol" IE includes the "Cipher Suite" IE. - Verify the "Cipher Suite" shown in Wireshark is one of the following: - TLS_RSA_WITH_AES_128_GCM_SHA256, - TLS_RSA_WITH_AES_256_GCM_SHA384, - TLS_ECDHE_ECDSA_WITH_AES_128_GCM_SHA256, - TLS_ECDHE_ECDSA_WITH_AES_256_GCM_SHA384, - TLS_ECDHE_RSA_WITH_AES_128_GCM_SHA256 "Application Data" messages are exchanged between WInnForum SAS Test Harness and CBSD/DP UUT.	☒	☐
2	Verify that WInnForum SAS Test Harness Command Prompt does not show any Request Message from CBSD/DP UUT	☒	☐

8.37 6.8.4.2.3 [WINNF.FT.C.SCS.4] TLS failure when SAS Test Harness certificate is issued by an unknown CA

8.37.1.1 Test date

Start date April 26, 2023

8.37.1.2 Observations, settings and special notes

None

8.37.1.3 Test data

Step	Test Execution Steps	Pass	Fail
1	Verify in Wireshark the following in the captured packets: - Wireshark "Protocol" column shows "TLSv1.2" - CBSD/DP UUT sends "Client Hello" message to WinnForum SAS Test Harness - WinnForum SAS Test Harness sends "Server Hello" message to CBSD/DP UUT. - The "Server Hello" message "Handshake Protocol" IE includes the "Cipher Suite" IE. - Verify the "Cipher Suite" shown in Wireshark is one of the following: - TLS_RSA_WITH_AES_128_GCM_SHA256, - TLS_RSA_WITH_AES_256_GCM_SHA384, - TLS_ECDHE_ECDSA_WITH_AES_128_GCM_SHA256, - TLS_ECDHE_ECDSA_WITH_AES_256_GCM_SHA384, - TLS_ECDHE_RSA_WITH_AES_128_GCM_SHA256 "Application Data" messages are not seen between WinnForum SAS Test Harness and CBSD/DP UUT. - CBSD/DP UUT may send a TLS "Alert" message to WinnForum SAS Test Harness notifying of rejecting the TLS connection before attempting to establish the TLS connection again.	☒	☐
2	Verify that WinnForum SAS Test Harness Command Prompt does not show any Request Message from CBSD/DP UUT	☒	☐

8.38 6.8.4.2.4 [WINNF.FT.C.SCS.5] TLS failure when certificate at the SAS Test Harness is corrupted

8.38.1.1 Test date

Start date April 26, 2023

8.38.1.2 Observations, settings and special notes

None

8.38.1.3 Test data

Step	Test Execution Steps	Pass	Fail
1	Verify in Wireshark the following in the captured packets: - Wireshark "Protocol" column shows "TLSv1.2" - CBSD/DP UUT sends "Client Hello" message to WinnForum SAS Test Harness - WinnForum SAS Test Harness sends "Server Hello" message to CBSD/DP UUT. - The "Server Hello" message "Handshake Protocol" IE includes the "Cipher Suite" IE. - Verify the "Cipher Suite" shown in Wireshark is one of the following: - TLS_RSA_WITH_AES_128_GCM_SHA256, - TLS_RSA_WITH_AES_256_GCM_SHA384, - TLS_ECDHE_ECDSA_WITH_AES_128_GCM_SHA256, - TLS_ECDHE_ECDSA_WITH_AES_256_GCM_SHA384, - TLS_ECDHE_RSA_WITH_AES_128_GCM_SHA256 "Application Data" messages are not seen between WinnForum SAS Test Harness and CBSD/DP UUT. - CBSD/DP UUT may send a TLS "Alert" message to WinnForum SAS Test Harness notifying of rejecting the TLS connection before attempting to establish the TLS connection again.	☒	☐
2	Verify that WinnForum SAS Test Harness Command Prompt does not show any Request Message from CBSD/DP UUT	☒	☐

8.39 7.1 CBSD RF Power Measurement

Definitions and limits

This section provides test steps, condition and procedures to demonstrate conformance of the CBSD to limitations on transmit power due to maxEirp setting of AUTHORIZED grants for that CBSD.

8.40 7.1.4.1.1 [WINNF.PT.C.HBT.1] UUT RF Transmit Power Measurement

8.40.1.1 Test date

Start date	April 26, 2023
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8.40.1.2 Observations, settings and special notes

CBSD Vendor declaration of parameters:

Maximum rated power of UUT (EIRP, dBm/MHz)	EIRP:21dBm
Occupied bandwidth for the test case	20 MHz
maxEirp values for the test case	30 dBm/10MHz (CAT A CBSD)
Antenna gain	5.5dBi (The transmitter output signals are correlated 10 Log(2))

8.40.1.3 Test data

To demonstrate compliance, the following parameters shall be chosen:

- lowFrequency, highFrequency of the grant. These values should correspond to the bandwidth of operation for the test, appropriate to the OBW of signal under test. Where a UUT is capable of multiple bandwidth operation modes, a single bandwidth operation mode shall be chosen for this test.

The test case below shall be performed for each of the maxEirp values: {P1, P2, ... PN}, determining a pass or fail for each. The UUT must comply with the grant maxEirp parameter for each test. Choice of maxEirp values {P1, P2, ... PN} should be made with knowledge of any limitations on UUT power control steps.

The UUT should be configured during the test to apply the maxEirp values to the entire occupied bandwidth and is implicitly expected to not exceed the dBm/MHz grant requirement.

The test execution steps below will yield a single measurement case. The test steps are to be repeated for each power measurement step, P_i , $i = \{1...N\}$.

#	Test Execution Steps	Results
1	Ensure the following conditions are met for test entry: - UUT has successfully completed SAS Discovery and Authentication with the SAS Test Harness - UUT has registered with the SAS, with CBSD ID = C - UUT has a single valid grant G with parameters {lowFrequency = FL, highFrequency = FH, maxEirp = P_i}, with grant in AUTHORIZED state, and grantExpireTime set to a value far past the duration of this test case <i>Note: in order for the UUT to request a grant with the parameters {lowFrequency, highFrequency, maxEirp}, the SAS Test Harness may need to provide appropriate guidance in the availableChannel object of the spectrumInquiry response message, and the operationParam object of the grant response message. Alternately, the UUT vendor may provide the ability to set those parameters on the UUT so that the UUT will request a grant with those parameters.</i> UUT and SAS Test Harness perform a series of Heartbeat Request/Response cycles, which continues until the other test steps are complete. Messaging for each cycle is as follows: - UUT sends Heartbeat Request, including: - cbsdId = C - grantId = G - SAS Test Harness responds with Heartbeat Response, including: - cbsdId = C - grantId = G - transmitExpireTime = current UTC time + 200 seconds	-
2		-

0 responseCode = 0

3 Tester performs power measurement on RF interface(s) of UUT, and verifies it complies with the maxEirp setting, Pi. The RF measurement method is out of scope of this document, but may include additional configuration of the UUT, as required, to fulfil the requirements of the power measurement method.

☒ Pass

☐ Fail

Note: it may be required for the vendor to provide a method or configuration to bring the UUT to a mode which is required by the measurement methodology. Any such mode is vendor-specific and depends upon UUT behavior and the measurement methodology.

Power measurement results

Frequency: 3.56GHz

Serial Number: 68530322500007

Frequency [MHz]	Bandwidth [MHz]	Granted maxEIRP [dBm/MHz]	Tx1 Conducted PSD [dBm/MHz]	Tx2 Conducted PSD [dBm/MHz]	Antenna Gain [dBi]	maxEIRP [dBm/MHz]
3,560.00	20	11	5.93	6.49	0*	Tx1=5.93+ 0 +10Log(2) Tx1=5.93+3.0= 8.93 dBm/MHz Tx2=6.49+0+10Log(2) Tx2=6.49+3.0= 9.49 dBm/MHz

*Antenna gain used for this test was "0 dBi" however the end product will be using a final antenna gain of 5.5dBi.

End product will be correcting(lowering) the output power to account for this 5.5dBi Antenna gain).

Also since the transmitter output signals (TX1 and TX2) are correlated, we have accounted for this additional gain with the formula 10 Log(2).

Frequency: 3.56GHz

Serial Number: 68530322500008

Frequency [MHz]	Bandwidth [MHz]	Granted maxEIRP [dBm/MHz]	Tx1 Conducted PSD [dBm/MHz]	Tx2 Conducted PSD [dBm/MHz]	Antenna Gain [dBi]	maxEIRP [dBm/MHz]
3,560.00	20	11	5.98	Same as Tx1	0*	Tx1=5.98+ 0 +10Log(2) Tx1=5.98+3.0= 8.98 dBm/MHz Tx2=same as TX1

*Antenna gain used for this test was "0 dBi" however the end product will be using a final antenna gain of 5.5dBi.

End product will be correcting(lowering) the output power to account for this 5.5dBi Antenna gain).

Also since the transmitter output signals (TX1 and TX2) are correlated, we have accounted for this additional gain with the formula 10 Log(2).

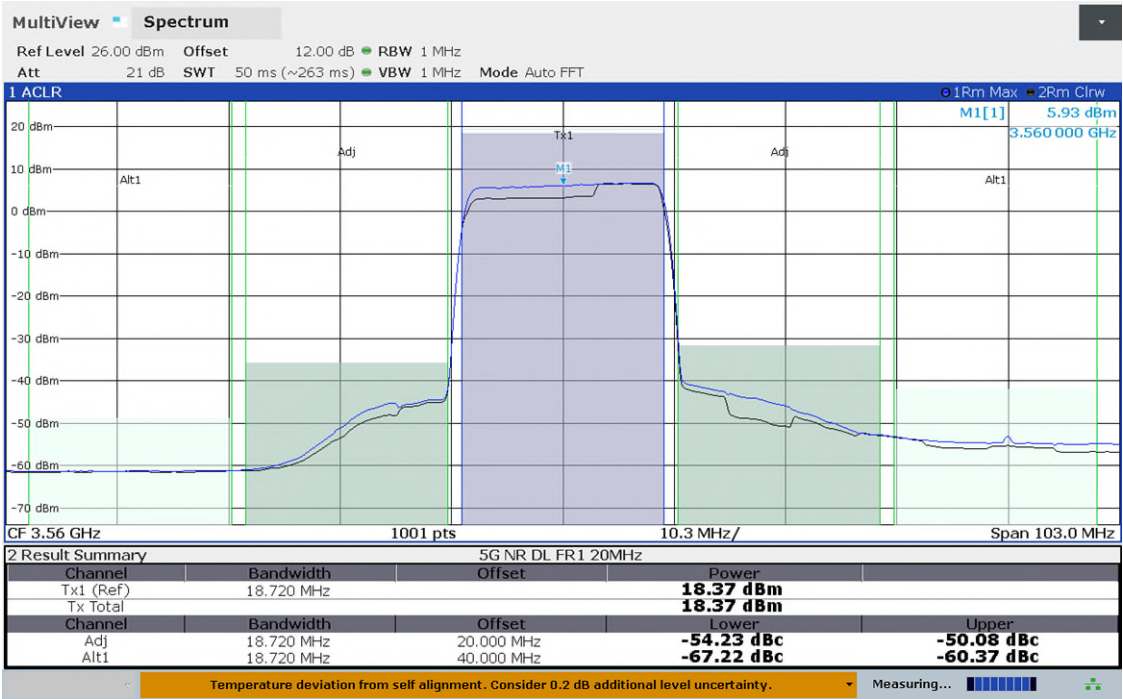


Figure 1 power sn7 port1

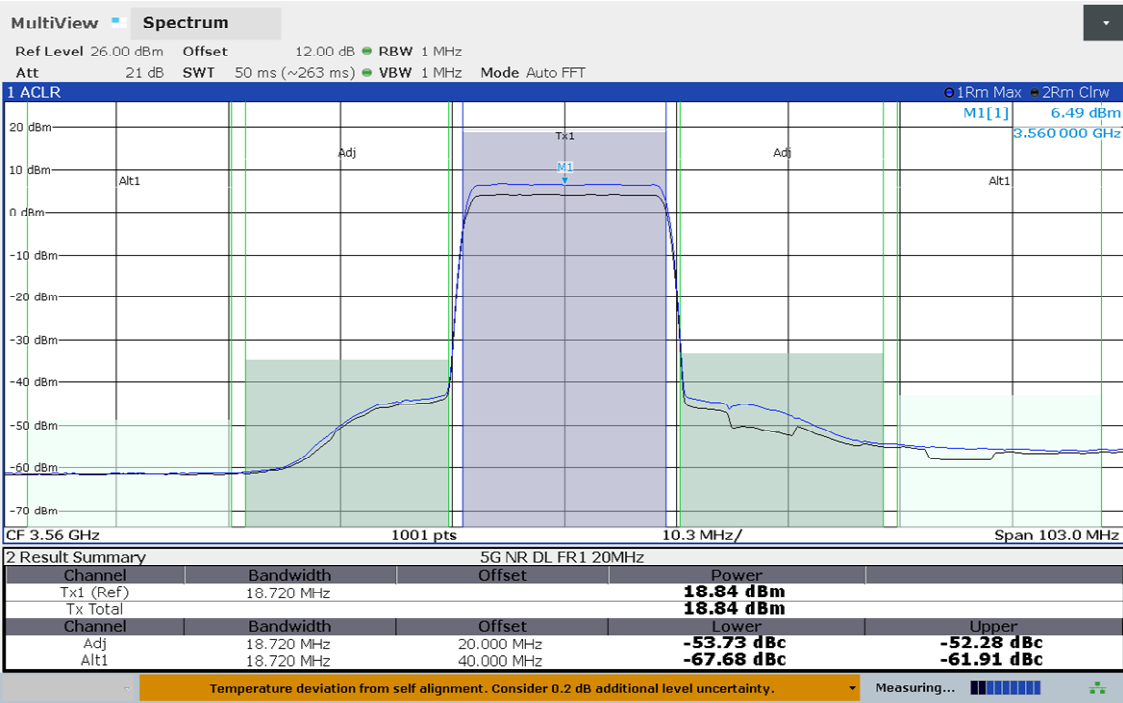


Figure 2 power sn7 port2

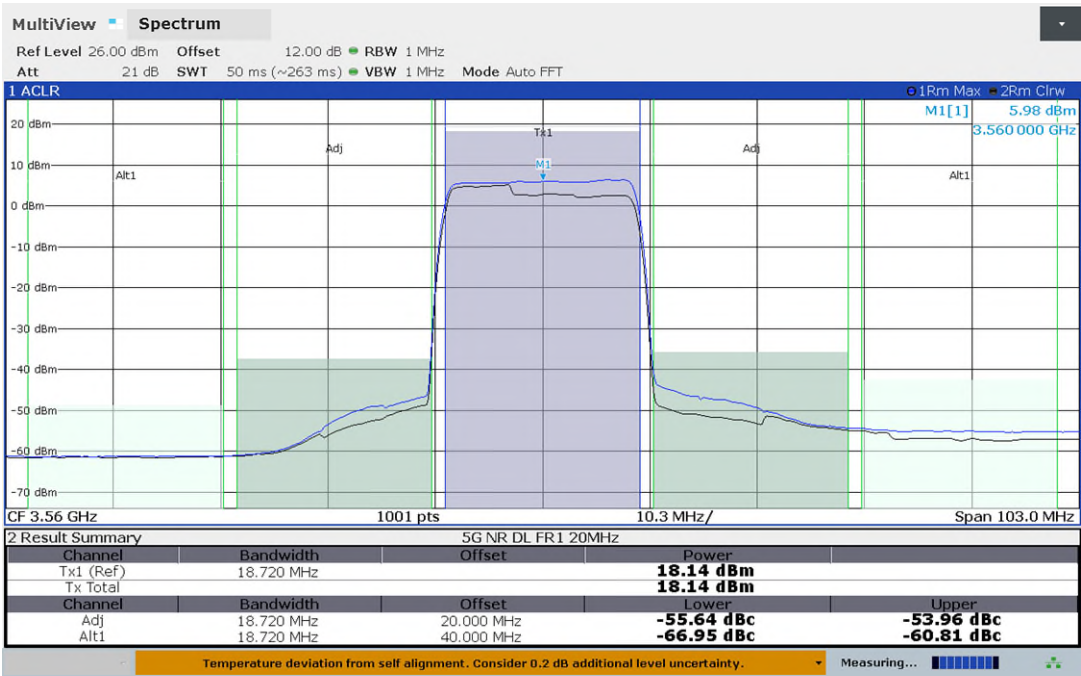
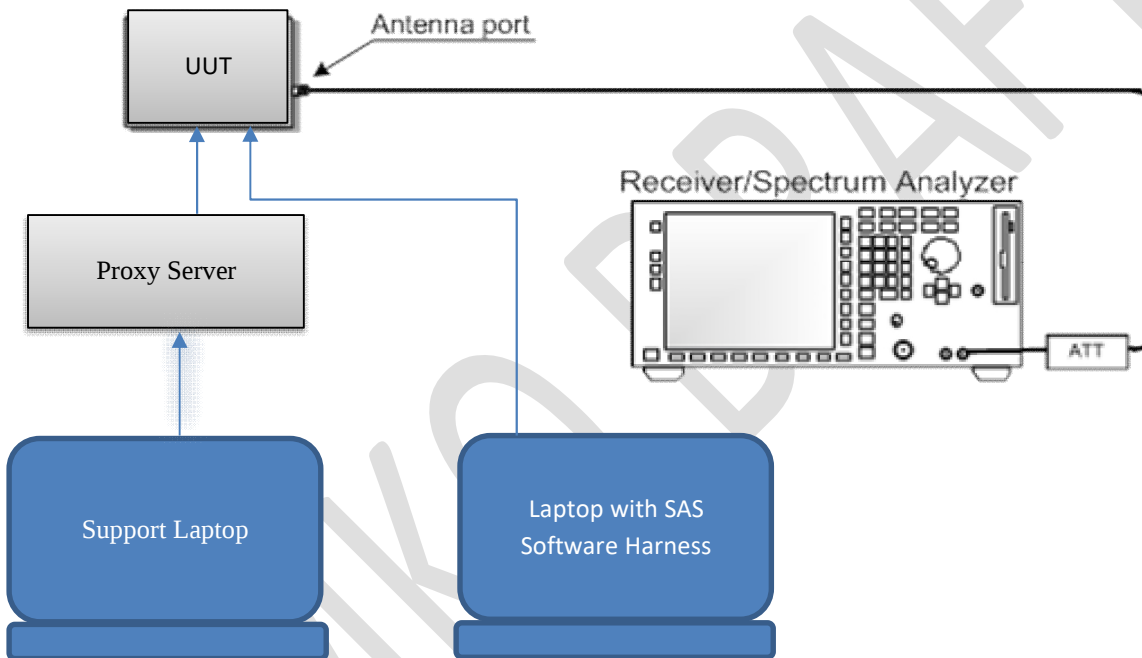


Figure 3 power sn8 port1.BMP

Section 9. Block diagrams of test set-ups

9.1 Test equipment set-up



Section 10. Log files library

10.1 Log file for test case ID: WINNF.FT.D.REG.6

2023-05-18T20:15:41.224Z - INFO - WINNF TEST HARNESS RELEASE: 1.0.0.3 - 2018-November-13

2023-05-18T20:15:41.230Z - INFO - the selected test from the user : WINNF.FT.D.REG.6 is starting now

2023-05-18T20:15:53.098Z - INFO - registration request from CBRS : {

```
"registrationRequest": [
  {
    "airInterface": {
      "radioTechnology": "NR"
    },
    "callSign": "1",
    "cbsdCategory": "A",
    "cbsdInfo": {
      "firmwareVersion": "1.1.10 ()",
      "hardwareVersion": "0.0.1",
      "model": "O-RU",
      "softwareVersion": "0.2.4 ()",
      "vendor": "SOLiD"
    },
    "cbsdSerialNumber": "68530322500007",
    "cpiSignatureData": {
      "digitalSignature": "j1vq18rNNN8l38JZtttIhPi7iqPXuThEHYbvjwR06aXiYkukiTdV38J9x39QtDSveh0V43oW3kxd-2osMadSV-
vuUV5GpCG9Vcs9lGwxXvCb508E3-RHRFZ-D2RkK4dGhKO51hgGiw2277U2UfNrLpOTKGwyxELibZdC5lvZMhM9h7LUBqm6kthKaT6-
9eCfUD8nFuaAcPbNWQ_K389FOQ3A8E9G0f-
lOvTcPjQlDgb6M30A3q_Nu67psMoHoAaEw7lvklDarb1zIM0_dQ1zioMSEB07xYNM253EXilGBaZbrvP9hQ85plcXX9bPiz_tfaw7bjFTm9oXbaxR0jYEsg",
      "encodedCpiSignedData":
"eyJpbmN0YWxsYXRpb25QYXJhbSI6eyJsYXRpdHVkZSI6MS4wLCJsb25naXR1ZGUioiEuMCwiaGVpZ2h0IjoxLjAsImhlaWdodFR5cGUioiJBROwiLCJpbmRvb3JlZXBs
b3ltZW50Ijpb0cnVILCJhbnRlbn5hR2Fpbil6MC4wfSwiZmNjSWQioiOiJXNIUtVEVTVVC1GQ0MtSUQiLCJjYnNkU2VyaWFsTnVtYmVyljoiNjg1MzAzMjl1MDAwMDciLCJw
cm9mZXNzaW9uYVWxJbnN0YWxsZXJlYXRoIjpb7ImNwaUlkljoiMSlslmNwaU5hbWUiOiOilxliwiaW5zdGFsbENlcnRpZmljYXRpb25UaW1lIjoiMjAxNy0xMC0xMVQyM
DozMdDowMFoifX0",
      "protectedHeader": "eyJhbGciOiJSUzI1NiIsInR5cCI6IkpXVCJ9"
    },
    "fccId": "W6U-TEST-FCC-ID",
    "measCapability": [
      "RECEIVED_POWER_WITH_GRANT"
    ],
    "userId": "1"
  }
]
```

2023-05-18T20:15:53.605Z - INFO - Registration message contains cpiSignatureData

2023-05-18T20:15:53.608Z - INFO - protectedHeader = {u'alq': u'RS256', u'typ': u'JWT'}

2023-05-18T20:15:53.618Z - INFO - encodedCpiSignedData contents = {

```
"installationParam": {
  "heightType": "AGL",
  "longitude": 1.0,
  "antennaGain": 0.0,
  "indoorDeployment": true,
  "latitude": 1.0,
```

```

    "height": 1.0
  },
  "professionalInstallerData": {
    "cpiName": "1",
    "installCertificationTime": "2017-10-11T20:30:00Z",
    "cpild": "1"
  },
  "fccId": "W6U-TEST-FCC-ID",
  "cbsdSerialNumber": "68530322500007"
}
2023-05-18T20:15:54.459Z - INFO - verified signature on cpiSignatureData
2023-05-18T20:15:54.532Z - INFO - cbsdCategory= 'A', removing optional param from cpi_schema
2023-05-18T20:15:54.538Z - INFO - cpiSignatureData data successfully validated against jsonschema
2023-05-18T20:15:54.548Z - INFO - engine sent successfully, the response to CBRS : {
  "registrationResponse": [
    {
      "cbsdId": "W6U-TEST-FCC-IDMock-SAS68530322500007",
      "response": {
        "responseCode": 0
      }
    }
  ]
}
2023-05-18T20:15:55.911Z - INFO - spectrumInquiry request from CBRS : {
  "spectrumInquiryRequest": [
    {
      "cbsdId": "W6U-TEST-FCC-IDMock-SAS68530322500007",
      "inquiredSpectrum": [
        {
          "highFrequency": 3700000000,
          "lowFrequency": 3550000000
        }
      ]
    }
  ]
}
2023-05-18T20:15:55.917Z - INFO - engine sent successfully, the response to CBRS : {
  "spectrumInquiryResponse": [
    {
      "availableChannel": [
        {
          "channelType": "GAA",
          "frequencyRange": {
            "highFrequency": 3555000000,
            "lowFrequency": 3550000000
          },
          "ruleApplied": "FCC_PART_96"
        }
      ],
      "cbsdId": "W6U-TEST-FCC-IDMock-SAS68530322500007",
      "response": {
        "responseCode": 0
      }
    }
  ]
}

```

```

}
}
2023-05-18T20:15:56.023Z - INFO - deregistration request from CBRS : {
  "deregistrationRequest": [
    {
      "cbid": "W6U-TEST-FCC-IDMock-SAS68530322500007"
    }
  ]
}
2023-05-18T20:15:56.029Z - INFO - engine sent successfully, the response to CBRS : {
  "deregistrationResponse": [
    {
      "cbid": "W6U-TEST-FCC-IDMock-SAS68530322500007",
      "response": {
        "responseCode": 0
      }
    }
  ]
}
2023-05-18T20:15:56.119Z - INFO - registration request from CBRS : {
  "registrationRequest": [
    {
      "airInterface": {
        "radioTechnology": "NR"
      },
      "callSign": "2",
      "cbidCategory": "A",
      "cbidInfo": {
        "firmwareVersion": "1.1.10 ()",
        "hardwareVersion": "0.0.1",
        "model": "O-RU",
        "softwareVersion": "0.2.4 ()",
        "vendor": "SOLiD"
      },
      "cbidSerialNumber": "68530322500008",
      "cpiSignatureData": {
        "digitalSignature": "1GZe27Pb3Be1PvI9yPlgMJKjBNidGn0YzWJgD-SanZn18-m8YydUCQJnchTtW5Ec8s9vuclxTGeVZPKsAzuoypmUfNMJorBpRwyy1qKDCvUtqLkS5VXC8zdUWgEdAnHGG6Ecp_Xktlb3SNLfsv8KHlajP602pt0_ffOo-Fc0f0CYhkoleAtqU2Ix4100g9v1Ztf2z1NtwAMzpPKzUqaKVEu7WWIzfZVTGiqrlmmrJQz7iO8050WINjk4xxEHLxT2yrK2osiZAdffdBmX5K1Ek_y8lwXRlupH6KMtYKI9NHdhGvYp1rDrXo93ciYOB9AdzKf4ihg8qKkQe3DIISRsG",
        "encodedCpiSignedData": "eyJpbmNOYWxsYXRpb25QYXJhbSI6eyJsYXRpdHVkZSI6Mi4wLCJsb25naXR1ZGUioiOiJluMCwiaGVpZ2h0IjoyLjAsImhlaWdodFR5cGUioiJBROwiLCJpbmRvb3JEZXBsbn3ltZW50Ijp0cnVILCIhbnRlbn5hR2Fpbil6MC4wfSwiZmNjSWQiOiJXNIUtEVETVC1GQ0MtSUQiLCJjYnNkU2VyaWFsTnVtYmVyIjojInjg1MzAzMjl1MDAwMDgiLCJwc m9mZXNZnaW9uYWxlbnNOYWxsZXJEYXRhljp7ImNwaUlkljoiMSIsImNwaU5hbWUiOiIlxiwiaW5zdGFsbENlcnRpZmljYXRpb25UaW1lIjojImAxNy0xMCOxMVQyMD ozMDowMFOifX0",
        "protectedHeader": "eyJhbGciOiJSUzI1NiIsInR5cCI6IkpXVCJ9",
      },
      "fccId": "W6U-TEST-FCC-ID",
      "measCapability": [
        "RECEIVED_POWER_WITH_GRANT"
      ],
      "userId": "2"
    }
  ]
}

```



```

    }
  ]
}
2023-05-18T20:15:56.249Z - INFO - Registration message contains cpiSignatureData
2023-05-18T20:15:56.249Z - INFO - protectedHeader = {u'alg': u'RS256', u'typ': u'JWT'}
2023-05-18T20:15:56.250Z - INFO - encodedCpiSignedData contents = {
  "installationParam": {
    "heightType": "AGL",
    "longitude": 2.0,
    "antennaGain": 0.0,
    "indoorDeployment": true,
    "latitude": 2.0,
    "height": 2.0
  },
  "professionalInstallerData": {
    "cpiName": "1",
    "installCertificationTime": "2017-10-11T20:30:00Z",
    "cpild": "1"
  },
  "fccId": "W6U-TEST-FCC-ID",
  "cbsdSerialNumber": "68530322500008"
}
2023-05-18T20:15:56.256Z - INFO - verified signature on cpiSignatureData
2023-05-18T20:15:56.270Z - INFO - cbsdCategory= 'A', removing optional param from cpi_schema
2023-05-18T20:15:56.275Z - INFO - cpiSignatureData data successfully validated against jsonschema
2023-05-18T20:15:56.288Z - INFO - engine sent successfully, the response to CBRS : {
  "registrationResponse": [
    {
      "cbsdId": "W6U-TEST-FCC-IDMock-SAS68530322500008",
      "response": {
        "responseCode": 0
      }
    }
  ]
}
}
2023-05-18T20:15:57.407Z - INFO - arrived to nstep starting question answer session with the technician
2023-05-18T20:15:57.533Z - INFO - the question is : Were there RF transmissions from the CBSD1 during the test? please choose one of the answers :
2023-05-18T20:17:26.516Z - INFO - for the question : Were there RF transmissions from the CBSD1 during the test? , the user choose n
2023-05-18T20:17:26.519Z - INFO - the question is : Were there RF transmissions from the CBSD2 during the test? please choose one of the answers :
2023-05-18T20:17:46.576Z - INFO - for the question : Were there RF transmissions from the CBSD2 during the test? , the user choose n
2023-05-18T20:18:12.400Z - INFO - The final result of the test : WINNF.FT.D.REG.6 is - passed and :the additional comments for the current test are : no Tx
During testing and after 60 Sec. CBSD1 and CBSD2

```

10.2 Log file for test case ID: WINNF.FT.D.REG.9

2023-04-26T15:59:06.437Z - INFO - WINNF TEST HARNESS RELEASE: 1.0.0.3 - 2018-November-13

2023-04-26T15:59:06.443Z - INFO - the selected test from the user : WINNF.FT.D.REG.9 is starting now

2023-04-26T15:59:25.825Z - INFO - registration request from CBRS : {

```

"registrationRequest": {
  {
    "airInterface": {
      "radioTechnology": "NR"
    },
    "callSign": "1",
    "cbsdCategory": "A",
    "cbsdInfo": {
      "firmwareVersion": "1.1.10 ()",
      "hardwareVersion": "0.0.1",
      "model": "O-RU",
      "softwareVersion": "0.2.4 ()",
      "vendor": "SOLiD"
    },
    "cbsdSerialNumber": "68530322500007",
    "cpiSignatureData": {
      "digitalSignature": "AR5MaDzi5_qJGKAmdXCUYzDjDxUWghcxP_oJXuoi2xq1K2B22_gHAL6HcpvWjYkBuHR4Br0gY81Le21Wrdc3yZHreFOV1iKJCF-
1GWGdpXNWZfuqRXj6-
hIEA9s5dlmQtu_Q2Z2UEXpqISwn6xtBY7k1qI6yenllQ4nV7C0iRxt9L7AeubAFSLIDc3twXBrrbLbbRgtckEAPbi2VgOAU4dkMuMydrYzolkQVNV4Nei9uL9r3rgaEfCm
HWVviex18_6kELx_IQYnU3P_N2siY81q57jE6AeJpWm3qa4n8Vm9Bdjv-riOZJ_E6-Mq7HhoF5EK4hLI9tNC_T5fpnYMOA",
      "encodedCpiSignedData":
"eyJpbmN0YWxsYXRpb25QYXJhbSI6eyJsYXRpdHVkZSI6MS4wLjCj5b25naXR1ZGUiOiJEUmMCwiaGVpZ2h0IjoxLjAsImhlaWdodFR5cGUiOiJBROwiLCJpbmRvb3JlZXBs
b3ltZW50Ijpb0cnVlLCJhbnRlbn5hR2Fpbil6MC4wfSwiZmNjSWQ0iXNlUteVEVTVc1GQOMtSUQILCjYnNkU2VyaWFsTnVtYmVyljoiNjg1MzAzMjI1MDAwMDciLCJw
cm9mZXNzaW9uYWxJbnN0YWxsZXJlYXJhIjpb7ImNwaUlkljoiMTEwIiwiaW53BpTmFtZSI6IjEiLCJpbmN0YWxsQ2VydGlmaWNhdGlvbiRpbWUiOiIilyMDE3LTcwLTExVDI
wOjMwOjAwWiI9fQ",
      "protectedHeader": "eyJhbGciOiJSUzI1NiIsInR5cCI6IkpXVCJ9"
    },
    "fccId": "W6U-TEST-FCC-ID",
    "userId": "1"
  }
}
]
}

```

2023-04-26T15:59:26.059Z - INFO - Registration message contains cpiSignatureData

2023-04-26T15:59:26.059Z - INFO - protectedHeader = {u'alg': u'RS256', u'typ': u'JWT'}

2023-04-26T15:59:26.062Z - INFO - encodedCpiSignedData contents = {

```
"installationParam": {
  "heightType": "AGL",
  "longitude": 1.0,
  "antennaGain": 0.0,
  "indoorDeployment": true,
  "latitude": 1.0,
  "height": 1.0
},
"professionalInstallerData": {
  "cpiName": "1",
  "installCertificationTime": "2017-10-11T20:30:00Z",
  "cpild": "111"
},
"fccId": "W6U-TEST-FCC-ID",
```

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```

"cbdsSerialNumber": "68530322500007"
}
2023-04-26T15:59:26.075Z - INFO - verified signature on cpiSignatureData
2023-04-26T15:59:26.088Z - INFO - cbdsCategory= 'A', removing optional param from cpi_schema
2023-04-26T15:59:26.092Z - INFO - cpiSignatureData data successfully validated against jsonschema
2023-04-26T15:59:26.105Z - INFO - engine sent successfully, the response to CBRS : {
  "registrationResponse": [
    {
      "response": {
        "responseCode": 102
      }
    }
  ]
}
2023-04-26T15:59:28.253Z - INFO - registration request from CBRS : {
  "registrationRequest": [
    {
      "airInterface": {
        "radioTechnology": "NR"
      },
      "callSign": "2",
      "cbdsCategory": "A",
      "cbdsInfo": {
        "firmwareVersion": "1.1.10 ()",
        "hardwareVersion": "0.0.1",
        "model": "O-RU",
        "softwareVersion": "0.2.4 ()",
        "vendor": "SOLiD"
      },
      "cbdsSerialNumber": "68530322500008",
      "cpiSignatureData": {
        "digitalSignature": "zt4hd5YbgTxJL7oSoSbdmXGklpZRCkpEjVg6bRRu7gOZ86AbhbObj868zbDY3wXZVe4VmUIXlfw09BouoqqsmjUQzLnsMca-
KuFlkOwevut7e-VklecYD0Dlb8tzppgryBWqD2eWMvWWBmFGwm4yuk0tIdL_B9iKNHO2fNWuULchQfBb9ghyil7hOOSoENZMXqwa-
_DVAKP8Zs23PT16XxZzH6hbs1Z7PN3F-CmuH1KPJVfKUt0VGldLYSOK-
EGdp6TPaj8uwZGIOPCht6L2E4tWUdKD5nNH5Wi1YVCZpRHmz3qeW1axyfshakWgqphM3QoXvRLs9Kb_hkyzT_g",
        "encodedCpiSignedData":
"eyJpbmN0YWxsYXRpb25QYXJhbSI6eyJsYXRpdHVkZSI6MjluMCwibG9uZ2I0dWRlIjoyLjAsImhlaWdodCI6Mi4wLCJoZWlnaHRUeXBlljoiQUdMliwiaW5kb29yRGVw
bG95bWVudCI6dHJ1ZSwiYW50ZW5uYUdhaW4iOiJhbmh0SImZjY0IkljoiVzZVLVRFU1QtrkNDLUIEliwiY2JzZFNlcmIhbE51bWJlci6lY4NTMwMzlyNTAwMDA4liwic
HJvZmVzc2lvmF5SW5zdGFsbGVyRGF0YSI6eyJjcGlJZCI6IjEiLCJjcGlOYW1lIjoiMSIsImIuc3RhbGxkZDZlOaWZpY2F0aW9uVGltZSI6IjIwMTctMTAtMTFUMjA6MzA6
MDBaIn19",
        "protectedHeader": "eyJhbGciOiJSUzI1NiIsInR5cCI6IkpXVCJ9"
      },
      "fccId": "W6U-TEST-FCC-ID",
      "userId": "2"
    }
  ]
}
2023-04-26T15:59:28.345Z - INFO - Registration message contains cpiSignatureData
2023-04-26T15:59:28.348Z - INFO - protectedHeader = {u'alg': u'RS256', u'typ': u'JWT'}
2023-04-26T15:59:28.348Z - INFO - encodedCpiSignedData contents = {
  "installationParam": {
    "heightType": "AGL",
    "longitude": 2.0,

```



```

    "antennaGain": 0.0,
    "indoorDeployment": true,
    "latitude": 22.0,
    "height": 2.0
  },
  "professionalInstallerData": {
    "cpiName": "1",
    "installCertificationTime": "2017-10-11T20:30:00Z",
    "cpild": "1"
  },
  "fccId": "W6U-TEST-FCC-ID",
  "cbsdSerialNumber": "68530322500008"
}
2023-04-26T15:59:28.362Z - INFO - verified signature on cpiSignatureData
2023-04-26T15:59:28.368Z - INFO - cbsdCategory= 'A', removing optional param from cpi_schema
2023-04-26T15:59:28.371Z - INFO - cpiSignatureData data successfully validated against jsonschema
2023-04-26T15:59:28.385Z - INFO - engine sent successfully, the response to CBRS : {
  "registrationResponse": [
    {
      "response": {
        "responseCode": 102
      }
    }
  ]
}
2023-04-26T15:59:29.683Z - INFO - arrived to nstep starting question answer session with the technician
2023-04-26T15:59:29.690Z - INFO - the question is : Were there RF transmissions from the CBSD1 during the test? please choose one of the answers :
2023-04-26T15:59:40.631Z - INFO - for the question : Were there RF transmissions from the CBSD1 during the test? , the user choose n
2023-04-26T15:59:40.638Z - INFO - the question is : Were there RF transmissions from the CBSD2 during the test? please choose one of the answers :
2023-04-26T15:59:45.147Z - INFO - for the question : Were there RF transmissions from the CBSD2 during the test? , the user choose n
2023-04-26T15:59:54.421Z - INFO - The final result of the test : WINNF.FT.D.REG.9 is - passed and :the additional comments for the current test are : No Tx
during Testing

```



10.3 Log file for test case ID: WINNF.FT.D.REG.11

2023-04-26T16:04:16.671Z - INFO - WINNF TEST HARNESS RELEASE: 1.0.0.3 - 2018-November-13

2023-04-26T16:04:16.676Z - INFO - the selected test from the user : WINNF.FT.D.REG.11 is starting now

2023-04-26T16:04:30.815Z - INFO - registration request from CBRS : {

```
"registrationRequest": [
  {
    "airInterface": {
      "radioTechnology": "NR"
    },
    "callSign": "1",
    "cbsdCategory": "A",
    "cbsdInfo": {
      "firmwareVersion": "1.1.10 ()",
      "hardwareVersion": "0.0.1",
      "model": "O-RU",
      "softwareVersion": "0.2.4 ()",
      "vendor": "SOLiD"
    },
    "cbsdSerialNumber": "68530322500007",
    "cpiSignatureData": {
      "digitalSignature": "AR5MaDlzi5_qJGKAmDxCUYzojDxUWghcxP_oJXuoizxq1K2B22_gHAl6HcpvWjYkBuHR4Br0gY81Le21Wrdc3yZHreFOV1iKJCF-
1GWGdpXNWXfuqRXj6-
hIEA9s5dlmQtu_O2Z2UEXpqISwn6xtBY7k1qI6yenIIQ4nV7C0iRxt9L7AeubAFSLIDc3twXBrrbLbbRgtckEAPbi2VgOAU4dkMuMydrYzolKQVNV4Nei9uL9r3rgaEfCm
HWVviex18_6kELxI_QYnU3P_N2siY81q57jE6AeJpWm3qa4n8Vm9Bdjv-riOZJ_E6-Mq7HhoF5EK4hLI9tNC_T5fpmYMOA",
      "encodedCpiSignedData":
"eyJpbmN0YWxsYXRpb25QYXJhbSI6YSYXRpdHVkZSI6MS4wLjI6b25naXR1ZGU0JEUuMCwiaGVpZ2h0IjoxLjAsImhlaWdodFR5cGU0OiBR0wiLCJpbmRvb3JEZXBs
b3ItZW50IjpbOjcnVILCJhbnRlbn5hR2Fpbil6MC4wfSwiZmNjSWQ0OiXNlUVEVTVVC1GQ0MtSUQ0LCJjYnNkU2VyaWFsTnVtYmVyljoiNjg1MzAzMjI1MDAwMDciLCJw
cm9mZXNzaW9uYWwJbnN0YWxsZXJEYXRhIjpb7ImNwaUlkljoiMTEwLjI6b25naXR1ZGU0JEUuMCwiaGVpZ2h0IjoxLjAsImhlaWdodFR5cGU0OiBR0wiLCJpbmRvb3JEZXBs
wOjMwOjAwWjI6fQ",
      "protectedHeader": "eyJhbGciOiJSUzI1NiIsInR5cCI6IkpXVCJ9"
    },
    "fcclId": "W6U-TEST-FCC-ID",
    "userId": "1"
  }
]
```

2023-04-26T16:04:32.000Z - INFO - Registration message contains cpiSignatureData

2023-04-26T16:04:32.003Z - INFO - protectedHeader = {u'alg': u'RS256', u'typ': u'JWT'}

2023-04-26T16:04:32.005Z - INFO - encodedCpiSignedData contents = {

```
"installationParam": {
  "heightType": "AGL",
  "longitude": 1.0,
  "antennaGain": 0.0,
  "indoorDeployment": true,
  "latitude": 1.0,
  "height": 1.0
},
"professionalInstallerData": {
  "cpiName": "1",
  "installCertificationTime": "2017-10-11T20:30:00Z",
  "cpild": "111"
},
"fcclId": "W6U-TEST-FCC-ID",
```

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```

"cbdsSerialNumber": "68530322500007"
}
2023-04-26T16:04:32.016Z - INFO - verified signature on cpiSignatureData
2023-04-26T16:04:32.058Z - INFO - cbdsCategory= 'A', removing optional param from cpi_schema
2023-04-26T16:04:32.078Z - INFO - cpiSignatureData data successfully validated against jsonschema
2023-04-26T16:04:32.095Z - INFO - engine sent successfully, the response to CBRS : {
  "registrationResponse": [
    {
      "response": {
        "responseCode": 200
      }
    }
  ]
}
2023-04-26T16:04:33.055Z - INFO - registration request from CBRS : {
  "registrationRequest": [
    {
      "airInterface": {
        "radioTechnology": "NR"
      },
      "callSign": "2",
      "cbdsCategory": "A",
      "cbdsInfo": {
        "firmwareVersion": "1.1.10 ()",
        "hardwareVersion": "0.0.1",
        "model": "O-RU",
        "softwareVersion": "0.2.4 ()",
        "vendor": "SOLiD"
      },
      "cbdsSerialNumber": "68530322500008",
      "cpiSignatureData": {
        "digitalSignature": "zt4hd5YbgTxJL7oSoSbdmXGklpZRCkpEjVg6bRRu7gOZ86AbhbObj868zbDY3wXZVe4VmUIXlfw09BouoqqsmjUQzLnsMca-
KuFlkOwevut7e-VklecYD0Dlb8tzppgryBWqD2eWMvWWBmFGwm4yuk0tIDL_B9iKNHO2fNWuULchQfBb9ghyil7hOOSoENZMXqwa-
_DVAKP8Zs23PT16XxZzH6hbs1Z7PN3F-CmuH1KPJVfKUt0VGldLYSOK-
EGdp6TPaj8uwZGIOPCht6L2E4tWUdKD5nNH5Wi1YVCZpRHmz3qeW1axyfshakWgqphM3QoXvRLs9Kb_hkyzT_g",
        "encodedCpiSignedData":
"eyJpbmN0YWxsYXRpb25QYXJhbSI6eyJsYXRpdHVkZSI6MjluMCwibG9uZ2l0dWRlIjoyLjAsImhlaWdodCI6Mi4wLCJoZWlnaHRUeXBlljoiQUdMliwiaW5kb29yRGVw
bG95bWVudCI6dHJ1ZSwiYW50ZW5uYUdhaW4iOiJhbmh0SImZjY0IkljoiVzZVLVRFU1QtrkNDLUIEliwiY2JzZFNlcmIhbE51bWJlci6lY4NTMwMzlyNTAwMDA4liwic
HJvZmVzc2lvmFsSW5zdGFsbGVyRGF0YSI6eyJjcGljZCI6IjEiLCJjcGLOYW1lIjoiMSIsImIuc3RhbGxkZDZlOaWZpY2F0aW9uVGltZSI6IjIwMTctMTAtMTFUMjA6MzA6
MDBaIn19",
        "protectedHeader": "eyJhbGciOiJSUzI1NiIsInR5cCI6IkpXVCJ9"
      },
      "fccId": "W6U-TEST-FCC-ID",
      "userId": "2"
    }
  ]
}
2023-04-26T16:04:33.157Z - INFO - Registration message contains cpiSignatureData
2023-04-26T16:04:33.161Z - INFO - protectedHeader = {u'alg': u'RS256', u'typ': u'JWT'}
2023-04-26T16:04:33.161Z - INFO - encodedCpiSignedData contents = {
  "installationParam": {
    "heightType": "AGL",
    "longitude": 2.0,

```



```

    "antennaGain": 0.0,
    "indoorDeployment": true,
    "latitude": 22.0,
    "height": 2.0
  },
  "professionalInstallerData": {
    "cpiName": "1",
    "installCertificationTime": "2017-10-11T20:30:00Z",
    "cpild": "1"
  },
  "fccId": "W6U-TEST-FCC-ID",
  "cbsdSerialNumber": "68530322500008"
}
2023-04-26T16:04:33.168Z - INFO - verified signature on cpiSignatureData
2023-04-26T16:04:33.174Z - INFO - cbsdCategory= 'A', removing optional param from cpi_schema
2023-04-26T16:04:33.178Z - INFO - cpiSignatureData data successfully validated against jsonschema
2023-04-26T16:04:33.190Z - INFO - engine sent successfully, the response to CBRS : {
  "registrationResponse": [
    {
      "response": {
        "responseCode": 200
      }
    }
  ]
}
2023-04-26T16:04:34.875Z - INFO - arrived to nstep starting question answer session with the technician
2023-04-26T16:04:34.881Z - INFO - the question is : Were there RF transmissions from the CBSD1 during the test? please choose one of the answers :
2023-04-26T16:05:29.605Z - INFO - for the question : Were there RF transmissions from the CBSD1 during the test? , the user choose n
2023-04-26T16:05:29.615Z - INFO - the question is : Were there RF transmissions from the CBSD2 during the test? please choose one of the answers :
2023-04-26T16:05:35.273Z - INFO - for the question : Were there RF transmissions from the CBSD2 during the test? , the user choose n
2023-04-26T16:06:21.673Z - INFO - The final result of the test : WINNF.FT.D.REG.11 is - passed and :the additional comments for the current test are : No Tx
During Testing "responseCode": 200 received from both CBSD's

```



10.4 Log file for test case ID: WINNF.FT.D.REG.13

2023-04-26T16:07:22.460Z - INFO - WINNF TEST HARNESS RELEASE: 1.0.0.3 - 2018-November-13

2023-04-26T16:07:22.464Z - INFO - the selected test from the user : WINNF.FT.D.REG.13 is starting now

2023-04-26T16:07:32.387Z - INFO - registration request from CBRS : {

```
"registrationRequest": [
  {
    "airInterface": {
      "radioTechnology": "NR"
    },
    "callSign": "1",
    "cbsdCategory": "A",
    "cbsdInfo": {
      "firmwareVersion": "1.1.10 ()",
      "hardwareVersion": "0.0.1",
      "model": "O-RU",
      "softwareVersion": "0.2.4 ()",
      "vendor": "SOLiD"
    },
    "cbsdSerialNumber": "68530322500007",
    "cpiSignatureData": {
      "digitalSignature": "AR5MaDIzi5_qJGKAmDxCUYzDxUWghcxP_oJXuoi2xq1K2B22_gHAI6HcpvWjYkBuHR4Br0gY81Le21Wrdc3yZHreFOV1iKJcF-
1GWGdpXNWZfuqRXj6-
hIEA9s5dlmQtu_Q2Z2UExpqISwn6xtBY7k1qI6yenIIQ4nV7C0iRxt9L7AeubAFSLIDc3twXBrbbLbbRgtckEAPbi2VgOAU4dkMuMydrYzolkQVNV4Nei9uL9r3rgaEfCm
HWViex18_6kELxI_QYnU3P_N2siY81q57jE6AeJpWm3qa4n8Vm9Bdjv-riOZJ_E6-Mq7HhoF5EK4hLI9tNC_T5fpmYMOA",
      "encodedCpiSignedData":
"eyJpbmN0YWxsYXRpb25QYXJhbSI6eyJsYXRpdHVkZSI6MS4wLjB25naXR1ZGU0JEU0MCwiaGVpZ2h0IjoxLjAsImhlaWdodFR5cGU0IjBR0wiLCJpbmRvb3JlZXBs
b3ltZW50Ijpb0cnVILCJhbnRlbn5hR2Fpbil6MC4wfSwiZmNjSWQ0IjoiXNlU0tEVTVVC1GQ0MtSUUqLCJjYnNkU2VyaWFsTnVtYmVyljoiNjg1MzAzMjI1MDAwMDciLCJw
cm9mZmNzaW9uYWw0IjpbN0YWxsZXJlYXRhIjpb7ImNwaUlkljoiMTExliwiY3BpTmFtZSI6IjEiLCJpbmN0YWxsQ2VydGlmaWNhdGlvbiRpbWUiOiIyMDE3LTExVDI
wOjMwOjAwWjIj9fQ",
      "protectedHeader": "eyJhbGciOiJSUzI1NiIsInR5cCI6IkpXVCJ9"
    },
    "fcid": "W6U-TEST-FCC-ID",
    "userId": "1"
  }
]
```

2023-04-26T16:07:32.956Z - INFO - Registration message contains cpiSignatureData

2023-04-26T16:07:32.961Z - INFO - protectedHeader = {u'alg': u'RS256', u'typ': u'JWT'}

2023-04-26T16:07:32.989Z - INFO - encodedCpiSignedData contents = {

```
"installationParam": {
  "heightType": "AGL",
  "longitude": 1.0,
  "antennaGain": 0.0,
  "indoorDeployment": true,
  "latitude": 1.0,
  "height": 1.0
},
"professionalInstallerData": {
  "cpiName": "1",
  "installCertificationTime": "2017-10-11T20:30:00Z",
  "cpild": "111"
},
```

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```

"fcid": "W6U-TEST-FCC-ID",
"cbid": "68530322500007"
}
2023-04-26T16:07:33.125Z - INFO - verified signature on cpiSignatureData
2023-04-26T16:07:33.150Z - INFO - cbsdCategory= 'A', removing optional param from cpi_schema
2023-04-26T16:07:33.153Z - INFO - cpiSignatureData data successfully validated against jsonschema
2023-04-26T16:07:33.160Z - INFO - engine sent successfully, the response to CBRS : {
  "registrationResponse": [
    {
      "cbid": "W6U-TEST-FCC-IDMock-SAS68530322500007",
      "response": {
        "responseCode": 0
      }
    }
  ]
}
2023-04-26T16:07:33.242Z - INFO - spectrumInquiry request from CBRS : {
  "spectrumInquiryRequest": [
    {
      "cbid": "W6U-TEST-FCC-IDMock-SAS68530322500007",
      "inquiredSpectrum": [
        {
          "highFrequency": 3700000000,
          "lowFrequency": 3550000000
        }
      ]
    }
  ]
}
2023-04-26T16:07:33.244Z - INFO - engine sent successfully, the response to CBRS : {
  "spectrumInquiryResponse": [
    {
      "availableChannel": [
        {
          "channelType": "GAA",
          "frequencyRange": {
            "highFrequency": 3550000000,
            "lowFrequency": 3550000000
          },
          "ruleApplied": "FCC_PART_96"
        }
      ],
      "cbid": "W6U-TEST-FCC-IDMock-SAS68530322500007",
      "response": {
        "responseCode": 0
      }
    }
  ]
}
2023-04-26T16:07:34.596Z - INFO - registration request from CBRS : {
  "registrationRequest": [
    {
      "airInterface": {

```



```

    "radioTechnology": "NR"
  },
  "callSign": "2",
  "cbsdCategory": "A",
  "cbsdInfo": {
    "firmwareVersion": "1.1.10 ()",
    "hardwareVersion": "0.0.1",
    "model": "O-RU",
    "softwareVersion": "0.2.4 ()",
    "vendor": "SOLID"
  },
  "cbsdSerialNumber": "68530322500008",
  "cpiSignatureData": {
    "digitalSignature": "zt4hd5YbgTxJL7oSoSbdmXGklpZRCkpEjVg6bRRu7gOZ86AbhbObj868zbDY3wXZVe4VmUIXlfw09BouojqqsmjUQzLnsMca-
KuFlkOwevut7e-VklecYD0DIb8tzppgryBWqD2eWMvWWBmFGwm4yuk0tIDL_B9iKNHO2fNWuULchQfBb9ghyil7hOOSoENZMXqwa-
_DVAKP8Zs23PT16XxZzH6hbn51Z7PN3F-CmuH1KPJVfKUt0VGldLYSOK-
EGdp6TPaj8uwZGIOPCht6L2E4tWUdKD5nNH5Wi1YVCZpRHmz3qeW1axyfshakWgqphM3QoXvRLs9Kb_hkyzT_g",
    "encodedCpiSignedData":
"eyJpbmN0YWxsYXRpb25QYXJhbSI6eyJsYXRpdHVkZSI6MjluMCwibG9uZ2l0dWRlljoyLjAsImhlaWdodCI6Mi4wLCJoZWlnaHRUeXBlljoiQUdMliwiaW5kb29yRGVw
bG95bWVudCI6dHJ1ZSwiYW50ZW5uYUdhaW4iOiAuMH0sImZjY0lkljoiVzZVLVRFU1QtrkNDLUIEliwiY2JzZFNlcmIhbE51bWJlcil6IjY4NTMwMzlyNTAwMDA4liwic
HJvZmVzc2l2bmFsSW5zdGFsbGVyRGF0YSI6eyJjcGljZCI6IjEiLCJjcGlOYW1lIjojMSIsImIuc3RhbmGxZDZJ0aWZpY2F0aW9uVGl0ZSI6IjIwMTctMTAtMTFUMjA6MzA6
MDBaIn19",
    "protectedHeader": "eyJhbGciOiJSUzI1NiIsInR5cCI6IkpXVCJ9"
  },
  "fccId": "W6U-TEST-FCC-ID",
  "userId": "2"
}
}
}
2023-04-26T16:07:34.721Z - INFO - Registration message contains cpiSignatureData
2023-04-26T16:07:34.723Z - INFO - protectedHeader = {u'alg': u'RS256', u'typ': u'JWT'}
2023-04-26T16:07:34.734Z - INFO - encodedCpiSignedData contents = {
  "installationParam": {
    "heightType": "AGL",
    "longitude": 2.0,
    "antennaGain": 0.0,
    "indoorDeployment": true,
    "latitude": 22.0,
    "height": 2.0
  },
  "professionalInstallerData": {
    "cpiName": "1",
    "installCertificationTime": "2017-10-11T20:30:00Z",
    "cpild": "1"
  },
  "fccId": "W6U-TEST-FCC-ID",
  "cbsdSerialNumber": "68530322500008"
}
2023-04-26T16:07:34.838Z - INFO - verified signature on cpiSignatureData
2023-04-26T16:07:34.892Z - INFO - cbsdCategory= 'A', removing optional param from cpi_schema
2023-04-26T16:07:34.917Z - INFO - cpiSignatureData data successfully validated against jsonschema
2023-04-26T16:07:34.944Z - INFO - engine sent successfully, the response to CBRS : {
  "registrationResponse": {

```



```
{
  "response": {
    "responseCode": 103
  }
}
```

2023-04-26T16:07:36.688Z - INFO - arrived to nstep starting question answer session with the technician

2023-04-26T16:07:36.690Z - INFO - the question is : Were there RF transmissions from the CBSD1 during the test? please choose one of the answers :

2023-04-26T16:09:51.710Z - INFO - for the question : Were there RF transmissions from the CBSD1 during the test? , the user choose n

2023-04-26T16:09:51.719Z - INFO - the question is : Were there RF transmissions from the CBSD2 during the test? please choose one of the answers :

2023-04-26T16:09:55.561Z - INFO - for the question : Were there RF transmissions from the CBSD2 during the test? , the user choose n

2023-04-26T16:10:43.253Z - INFO - The final result of the test : WINNF.FT.D.REG.13 is - passed and :the additional comments for the current test are : No Tx during testing and responseCode R1 = 0 for CBSD1 and R2 = 103



10.5 Log file for test case ID: WINNF.FT.D.REG.15

2023-04-26T16:13:07.957Z - INFO - WINNF TEST HARNESS RELEASE: 1.0.0.3 - 2018-November-13

2023-04-26T16:13:07.963Z - INFO - the selected test from the user : WINNF.FT.D.REG.15 is starting now

2023-04-26T16:13:09.888Z - INFO - registration request from CBRS : {

```
"registrationRequest": [
  {
    "airInterface": {
      "radioTechnology": "NR"
    },
    "callSign": "1",
    "cbsdCategory": "A",
    "cbsdInfo": {
      "firmwareVersion": "1.1.10 ()",
      "hardwareVersion": "0.0.1",
      "model": "O-RU",
      "softwareVersion": "0.2.4 ()",
      "vendor": "SOLiD"
    },
    "cbsdSerialNumber": "68530322500007",
    "cpiSignatureData": {
      "digitalSignature": "AR5MaDlzi5_qJGKAmDxCUYzojDxUWghcxP_oJXuoi2xq1K2B22_gHAl6HcpvWjYkBuHR4Br0gY81Le21Wrdc3yZHreFOV1iKJCF-
1GWGdpXNWXZfuqRXj6-
hIEA9s5dlmQtu_O2Z2UEXpqISwn6xtBY7k1qI6yenIIQ4nV7C0iRxt9L7AeubAFSLIDc3twXBrrbLbbRgtckEAPbi2VgOAU4dkMuMydrYzolKQVNV4Nei9uL9r3rgaEfCm
HWVviex18_6kELxJ_IQYnU3P_N2siY81q57jE6AeJpWm3qa4n8Vm9Bdjv-riOZJ_E6-Mq7HhoF5EK4hLI9tNC_T5fpmYMOA",
      "encodedCpiSignedData":
"eyJpbmN0YWxsYXRpb25QYXJhbSI6YSYXRpdHVkZSI6MS4wLjI1b25naXR1ZGU0JEUuMCwiaGVpZ2h0IjoxLjAsImhlaWdodFR5cGU0OiBR0wiLCJpbmRvb3JlZXBs
b3ItZW50IjpbOjcnVILCJhbnRlbnM5hR2Fpbil6MC4wfSwiZmNjSWQ0OiXNlUVEVTVVC1GQ0MtSUQ0LCJYnNkU2VyaWFsTnVtYmVyljoiNjg1MzAzMjI1MDAwMDciLCJw
cm9mZXNzaW9uYWwJbnN0YWxsZXJEYXRhIjpb7ImNwaUlkljoiMTEwLjE1b25naXR1ZGU0JEUuMCwiaGVpZ2h0IjoxLjAsImhlaWdodFR5cGU0OiBR0wiLCJpbmRvb3JlZXBs
wOjMwOjAwWjI1b25naXR1ZGU0JEUuMCwiaGVpZ2h0IjoxLjAsImhlaWdodFR5cGU0OiBR0wiLCJpbmRvb3JlZXBs
"protectedHeader": "eyJhbGciOiJSUzI1NiIsInR5cCI6IkpXVCJ9"
    },
    "fcclId": "W6U-TEST-FCC-ID",
    "userId": "1"
  }
]
```

2023-04-26T16:13:10.048Z - INFO - Registration message contains cpiSignatureData

2023-04-26T16:13:10.049Z - INFO - protectedHeader = {u'alg': u'RS256', u'typ': u'JWT'}

2023-04-26T16:13:10.052Z - INFO - encodedCpiSignedData contents = {

```
"installationParam": {
  "heightType": "AGL",
  "longitude": 1.0,
  "antennaGain": 0.0,
  "indoorDeployment": true,
  "latitude": 1.0,
  "height": 1.0
},
"professionalInstallerData": {
  "cpiName": "1",
  "installCertificationTime": "2017-10-11T20:30:00Z",
  "cpild": "111"
},
"fcclId": "W6U-TEST-FCC-ID",
```

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```

    "cbsdSerialNumber": "68530322500007"
  }
2023-04-26T16:13:10.078Z - INFO - verified signature on cpiSignatureData
2023-04-26T16:13:10.091Z - INFO - cbsdCategory= 'A', removing optional param from cpi_schema
2023-04-26T16:13:10.094Z - INFO - cpiSignatureData data successfully validated against jsonschema
2023-04-26T16:13:10.108Z - INFO - engine sent successfully, the response to CBRS : {
  "registrationResponse": [
    {
      "cbsdId": "W6U-TEST-FCC-IDMock-SAS68530322500007",
      "response": {
        "responseCode": 0
      }
    }
  ]
}
2023-04-26T16:13:10.197Z - INFO - spectrumInquiry request from CBRS : {
  "spectrumInquiryRequest": [
    {
      "cbsdId": "W6U-TEST-FCC-IDMock-SAS68530322500007",
      "inquiredSpectrum": [
        {
          "highFrequency": 3700000000,
          "lowFrequency": 3550000000
        }
      ]
    }
  ]
}
2023-04-26T16:13:10.200Z - INFO - engine sent successfully, the response to CBRS : {
  "spectrumInquiryResponse": [
    {
      "availableChannel": [
        {
          "channelType": "GAA",
          "frequencyRange": {
            "highFrequency": 3555000000,
            "lowFrequency": 3550000000
          },
          "ruleApplied": "FCC_PART_96"
        }
      ],
      "cbsdId": "W6U-TEST-FCC-IDMock-SAS68530322500007",
      "response": {
        "responseCode": 0
      }
    }
  ]
}
2023-04-26T16:13:11.677Z - INFO - registration request from CBRS : {
  "registrationRequest": [
    {
      "airInterface": {
        "radioTechnology": "NR"
      }
    }
  ]
}

```



```

    },
    "callSign": "2",
    "cbdsCategory": "A",
    "cbdsInfo": {
      "firmwareVersion": "1.1.10 ()",
      "hardwareVersion": "0.0.1",
      "model": "O-RU",
      "softwareVersion": "0.2.4 ()",
      "vendor": "SOLiD"
    },
    "cbdsSerialNumber": "68530322500008",
    "cpiSignatureData": {
      "digitalSignature": "zt4hd5YbgTxJL7oSoSbdmXGklpZRCkpEjVg6bRRu7gOZ86AbhbObj868zbDY3wXZVe4VmUIXlfw09BouojqqsrmjUQzLnsMca-
KuFlkOwevut7e-VklecYD0Dlb8tzppgryBWqD2eWMvWWBmFGwm4yuk0tIDL_B9iKNHO2fNWuUULchQfBb9ghyil7hOOSoENZMXqwa-
_DVAKP8Zs23PT16XxZzH6hbns1Z7PN3F-CmuH1KPJVfKUt0VGldLYSOK-
EGdp6TPaj8uwZGIOPCht6L2E4tWUdKD5nNH5Wi1VVCZpRHmz3qeW1axyfshakWgqphM3QoXvRLs9Kb_hkyzT_g",
      "encodedCpiSignedData":
"eyJpbmNOYXsYXRpb25QYXJhbnSi6eyJsYXRpdHVkZSI6MjluMCwibG9uZ2l0dWRlljoyLjAsImhlaWdodCI6Mi4wLCJoZWlnaHRUeXBlljoiQUdMliwiaW5kb29yRGVw
bG95bWVudCI6dHJ1ZSwiYW50ZW5uYUdhYW4iOiAuMH0sImZjY0kiOiVzZVLVRFU1QtrRkNDLUIEliwiY2JzZFNlcmllbE51bWJlcil6IjY4NTMwMzlyNTAwMDA4Iiwic
HJvZmVzZ2lvdjbmFsSW5zdGFsbGVyRGF0YSi6eyJjcGlJZCI6IjEiLCJjcGlOYW1lIjojMSIsImIuc3RhbmGxZDZXJ0aWZpY2F0aW9uVGltZSI6IjIwMTctMTAtMTFUMjA6MzA6
MDBaIn19",
      "protectedHeader": "eyJhbGciOiJSUzI1NiIsInR5cCI6IkpXVCJ9"
    },
    "fcclid": "W6U-TEST-FCC-ID",
    "userId": "2"
  }
}
}
2023-04-26T16:13:11.792Z - INFO - Registration message contains cpiSignatureData
2023-04-26T16:13:11.793Z - INFO - protectedHeader = {u'alg': u'RS256', u'typ': u'JWT'}
2023-04-26T16:13:11.796Z - INFO - encodedCpiSignedData contents = {
  "installationParam": {
    "heightType": "AGL",
    "longitude": 2.0,
    "antennaGain": 0.0,
    "indoorDeployment": true,
    "latitude": 22.0,
    "height": 2.0
  },
  "professionalInstallerData": {
    "cpiName": "1",
    "installCertificationTime": "2017-10-11T20:30:00Z",
    "cpild": "1"
  },
  "fcclid": "W6U-TEST-FCC-ID",
  "cbdsSerialNumber": "68530322500008"
}
2023-04-26T16:13:11.805Z - INFO - verified signature on cpiSignatureData
2023-04-26T16:13:11.812Z - INFO - cbdsCategory= 'A', removing optional param from cpi_schema
2023-04-26T16:13:11.818Z - INFO - cpiSignatureData data successfully validated against jsonschema
2023-04-26T16:13:11.832Z - INFO - engine sent successfully, the response to CBRS : {
  "registrationResponse": {
    {

```



```
"response": {  
  "responseCode": 101  
}  
}  
]
```

2023-04-26T16:13:13.032Z - INFO - arrived to nstep starting question answer session with the technician

2023-04-26T16:13:13.039Z - INFO - the question is : Were there RF transmissions from the CBSD1 during the test? please choose one of the answers :

2023-04-26T16:14:15.585Z - INFO - for the question : Were there RF transmissions from the CBSD1 during the test? , the user choose n

2023-04-26T16:14:15.589Z - INFO - the question is : Were there RF transmissions from the CBSD2 during the test? please choose one of the answers :

2023-04-26T16:14:19.407Z - INFO - for the question : Were there RF transmissions from the CBSD2 during the test? , the user choose n

2023-04-26T16:15:04.464Z - INFO - The final result of the test : WINNF.FT.D.REG.15 is - passed and :the additional comments for the current test are : No Tx during testing and responseCode R1 = 0 for CBSD1 and R2 = 101



10.6 Log file for test case ID: WINNF.FT.D.REG.17

2023-04-26T16:20:18.003Z - INFO - WINNF TEST HARNESS RELEASE: 1.0.0.3 - 2018-November-13

2023-04-26T16:20:18.006Z - INFO - the selected test from the user : WINNF.FT.D.REG.17 is starting now

2023-04-26T16:20:19.890Z - INFO - registration request from CBRS : {

```
"registrationRequest": [
  {
    "airInterface": {
      "radioTechnology": "NR"
    },
    "callSign": "1",
    "cbsdCategory": "A",
    "cbsdInfo": {
      "firmwareVersion": "1.1.10 ()",
      "hardwareVersion": "0.0.1",
      "model": "O-RU",
      "softwareVersion": "0.2.4 ()",
      "vendor": "SOLiD"
    },
    "cbsdSerialNumber": "68530322500007",
    "cpiSignatureData": {
      "digitalSignature": "AR5MaDlzi5_qJGKAmDxCUYzojDxUWghcxP_oJXuoi2xq1K2B22_gHAl6HcpvWjYkBuHR4Br0gY81Le21Wrdc3yZHreFOV1iKJCF-
1GWGdpXNWXZfuqRXj6-
hIEA9s5dlmQtu_O2Z2UEXpqISwn6xtBY7k1qI6yenIIQ4nV7C0iRxt9L7AeubAFSLIDc3twXBrrbLbbRgtckEAPbi2VgOAU4dkMuMydrYzolKQVNV4Nei9uL9r3rgaEfCm
HWVviex18_6kELxI_QYnU3P_N2siY81q57jE6AeJpWm3qa4n8Vm9Bdjv-riOZJ_E6-Mq7HhoF5EK4hLI9tNC_T5fpmYMOA",
      "encodedCpiSignedData":
"eyJpbmN0YWxsYXRpb25QYXJhbSI6YSYXRpdHVkZSI6MS4wLjI1ZGU0eUJMcWiaGVpZ2h0IjoxLjAsImhlaWdodFR5cGUiOiJBR0wiLCJpbmRvb3JlZXBs
b3ItZW50IjpbOjVILCJhbnRlbn5hR2Fpbil6MC4wfSwiZmNjSWQ0iXNlUVEVTVVC1GQ0MtSUQ0iLCJYnNkU2VyaWFsTnVtYmVyljoiNjg1MzAzMjI1MDAwMDciLCJw
cm9mZXNzaW9uYWwJbnN0YWxsZXJEYXRhIjpb7ImNwaUlkljoiMTEwLjE1ZSIsInR5cCI6IkpXVCJ9",
      "protectedHeader": "eyJhbGciOiJSUzI1NiIsInR5cCI6IkpXVCJ9"
    },
    "fcclId": "W6U-TEST-FCC-ID",
    "userId": "1"
  }
]
```

2023-04-26T16:20:20.128Z - INFO - Registration message contains cpiSignatureData

2023-04-26T16:20:20.130Z - INFO - protectedHeader = {u'alg': u'RS256', u'typ': u'JWT'}

2023-04-26T16:20:20.131Z - INFO - encodedCpiSignedData contents = {

```
"installationParam": {
  "heightType": "AGL",
  "longitude": 1.0,
  "antennaGain": 0.0,
  "indoorDeployment": true,
  "latitude": 1.0,
  "height": 1.0
},
"professionalInstallerData": {
  "cpiName": "1",
  "installCertificationTime": "2017-10-11T20:30:00Z",
  "cpild": "111"
},
"fcclId": "W6U-TEST-FCC-ID",
```

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```

"cbdsSerialNumber": "68530322500007"
}
2023-04-26T16:20:20.142Z - INFO - verified signature on cpiSignatureData
2023-04-26T16:20:20.155Z - INFO - cbdsCategory= 'A', removing optional param from cpi_schema
2023-04-26T16:20:20.160Z - INFO - cpiSignatureData data successfully validated against jsonschema
2023-04-26T16:20:20.173Z - INFO - engine sent successfully, the response to CBRS : {
  "registrationResponse": [
    {
      "response": {
        "responseCode": 100
      }
    }
  ]
}
2023-04-26T16:20:21.423Z - INFO - registration request from CBRS : {
  "registrationRequest": [
    {
      "airInterface": {
        "radioTechnology": "NR"
      },
      "callSign": "2",
      "cbdsCategory": "A",
      "cbdsInfo": {
        "firmwareVersion": "1.1.10 ()",
        "hardwareVersion": "0.0.1",
        "model": "O-RU",
        "softwareVersion": "0.2.4 ()",
        "vendor": "SOLiD"
      },
      "cbdsSerialNumber": "68530322500008",
      "cpiSignatureData": {
        "digitalSignature": "zt4hd5YbgTxJL7oSoSbdmXGklpZRCkpEjVg6bRRu7gOZ86AbhbObj868zbDY3wXZVe4VmUIXlfw09BouoqqsmjUQzLnsMca-
KuFlkOwevut7e-VklecYD0Dlb8tzppgryBWqD2eWMvWWBmFGwm4yuk0tIDL_B9iKNHO2fNWuULchQfBb9ghyil7hOOSoENZMXqwa-
_DVAKP8Zs23PT16XxZzH6hbs1Z7PN3F-CmuH1KPJVfKUt0VGldLYSOK-
EGdp6TPaj8uwZGIOPCht6L2E4tWUdKD5nNH5Wi1YVCZpRHmz3qeW1axyfshakWgqphM3QoXvRLs9Kb_hkyzT_g",
        "encodedCpiSignedData":
"eyJpbmN0YWxsYXRpb25QYXJhbSI6eyJsYXRpdHVkZSI6MjluMCwibG9uZ2I0dWRlIjoyLjAsImhlaWdodCI6Mi4wLCJoZWlnaHRUeXBlljoiQUdMliwiaW5kb29yRGVw
bG95bWVudCI6dHJ1ZSwiYW50ZW5uYUdhaW4iOiJhbmh0SImZjY0IkljoiVzZVLVRFU1QtRkNDLUiEliwiY2JzZFNlcmIhbE51bWJlci6lY4NTMwMzlyNTAwMDA4liwic
HJvZmVzc2lvmFsSW5zdGFsbGVyRGF0YSI6eyJjcGlJZCI6IjEiLCJjcGLOYW1lIjoiMSIsImIuc3RhbGxkZDZlJ0aWZpY2F0aW9uVGltZSI6IjIwMTctMTAtMTFUMjA6MzA6
MDBaIn19",
        "protectedHeader": "eyJhbGciOiJSUzI1NiIsInR5cCI6IkpXVCJ9"
      },
      "fccId": "W6U-TEST-FCC-ID",
      "userId": "2"
    }
  ]
}
2023-04-26T16:20:21.496Z - INFO - Registration message contains cpiSignatureData
2023-04-26T16:20:21.497Z - INFO - protectedHeader = {u'alg': u'RS256', u'typ': u'JWT'}
2023-04-26T16:20:21.499Z - INFO - encodedCpiSignedData contents = {
  "installationParam": {
    "heightType": "AGL",
    "longitude": 2.0,

```



```

    "antennaGain": 0.0,
    "indoorDeployment": true,
    "latitude": 22.0,
    "height": 2.0
  },
  "professionalInstallerData": {
    "cpiName": "1",
    "installCertificationTime": "2017-10-11T20:30:00Z",
    "cpild": "1"
  },
  "fccId": "W6U-TEST-FCC-ID",
  "cbsdSerialNumber": "68530322500008"
}
2023-04-26T16:20:21.506Z - INFO - verified signature on cpiSignatureData
2023-04-26T16:20:21.510Z - INFO - cbsdCategory= 'A', removing optional param from cpi_schema
2023-04-26T16:20:21.513Z - INFO - cpiSignatureData data successfully validated against jsonschema
2023-04-26T16:20:21.526Z - INFO - engine sent successfully, the response to CBRS : {
  "registrationResponse": [
    {
      "response": {
        "responseCode": 100
      }
    }
  ]
}
2023-04-26T16:20:23.049Z - INFO - arrived to nstep starting question answer session with the technician
2023-04-26T16:20:23.055Z - INFO - the question is : Were there RF transmissions from the CBSD1 during the test? please choose one of the answers :
2023-04-26T16:21:44.450Z - INFO - for the question : Were there RF transmissions from the CBSD1 during the test? , the user choose n
2023-04-26T16:21:44.459Z - INFO - the question is : Were there RF transmissions from the CBSD2 during the test? please choose one of the answers :
2023-04-26T16:21:48.644Z - INFO - for the question : Were there RF transmissions from the CBSD2 during the test? , the user choose n
2023-04-26T16:22:39.453Z - INFO - The final result of the test : WINNF.FT.D.REG.17 is - passed and :the additional comments for the current test are : No Tx
during testing and responseCode (Ri) = 100 for each CBSD

```

10.7 Log file for test case ID: WINNF.FT.D.REG.19

2023-04-26T16:24:18.180Z - INFO - WINNF TEST HARNESS RELEASE: 1.0.0.3 - 2018-November-13

2023-04-26T16:24:18.184Z - INFO - the selected test from the user : WINNF.FT.D.REG.19 is starting now

2023-04-26T16:24:19.437Z - INFO - registration request from CBRS : {

```
{
  "registrationRequest": {
    {
      "airInterface": {
        "radioTechnology": "NR"
      },
      "callSign": "1",
      "cbsdCategory": "A",
      "cbsdInfo": {
        "firmwareVersion": "1.1.10 ()",
        "hardwareVersion": "0.0.1",
        "model": "O-RU",
        "softwareVersion": "0.2.4 ()",
        "vendor": "SOLiD"
      },
      "cbsdSerialNumber": "68530322500007",
      "cpiSignatureData": {
        "digitalSignature": "AR5MaDIzi5_qJGKAmdXCUYzoiDxUWghcxP_ojXuoi2xq1K2B22_gHAL6HcpvWjYkBuHR4Br0gY81Le21Wrdc3yZHreFOV1iKJCf-1GWGdpXNWZfuqRXj6-hIEA9s5dlmQtu_Q2Z2UEXpqISwn6xtBY7k1ql6yenllQ4nV7C0iRxt9L7AeubAFSLIDc3twXBrrbLbbRgtckEAPbi2VgOAU4dkMuMydrYzoIkQNVn4Nei9uL9r3rgaEfCmHWViex18_6kELxI_QYnU3P_N2siY81q57jE6AelPwM3qa4n8Vm9Bdjv-riOZl_E6-Mq7HhoF5EK4hl9tNC_T5fpnYMOA",
        "encodedCpiSignedData":
          "eyJpbmN0YWxsYXRpb25QYXJhbSI6eyJsYXRpdHVkZSI6MS4wLjCsbn2SnaXR1ZGUiOiEuMCwiaGVpZ2h0IjoxLjAsImhlaWdodFR5cGUiOiJBROwiLCJpbmRvb3JEZXBsbnltZW50Ijo0cnVlLCJhbnRlbn5hR2Fpbil6MC4wfSwiZmNjSWQoIjXNIUtVEVTVC1GQQOMtSUQUiLCJjYnNkU2VyaWFsTnVtYmVyljoiNjg1MzAzMjl1MDAwMDciLCJwcm9mZXNzaW9uYXWJbnN0YWxsZXJlYXRhIjp7ImNwaUlkljoiMTExliwiY3BpTmFtZSI6IjElLCJpbmN0YWxsQ2VydGlmaWNhdGlvblRpbWUiOiilyMDE3LTewLTExVDIwOjMwOjAwWiI9fQ",
        "protectedHeader": "eyJhbGciOiJSUzI1NiIsInR5cCI6IkpXVCJ9"
      },
      "fccId": "W6U-TEST-FCC-ID",
      "userId": "1"
    }
  }
}
```

2023-04-26T16:24:19.578Z - INFO - Registration message contains cpiSignatureData

2023-04-26T16:24:19.579Z - INFO - protectedHeader = {u'alg': u'RS256', u'typ': u'JWT'}

2023-04-26T16:24:19.581Z - INFO - encodedCpiSignedData contents = {

```
"installationParam": {
  "heightType": "AGL",
  "longitude": 1.0,
  "antennaGain": 0.0,
  "indoorDeployment": true,
  "latitude": 1.0,
  "height": 1.0
},
"professionalInstallerData": {
  "cpiName": "1",
  "installCertificationTime": "2017-10-11T20:30:00Z",
  "cpild": "111"
},
```

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```

"fcid": "W6U-TEST-FCC-ID",
"cbidSerialNumber": "68530322500007"
}
2023-04-26T16:24:19.589Z - INFO - verified signature on cpiSignatureData
2023-04-26T16:24:19.599Z - INFO - cbidCategory= 'A', removing optional param from cpi_schema
2023-04-26T16:24:19.602Z - INFO - cpiSignatureData data successfully validated against jsonschema
2023-04-26T16:24:19.611Z - INFO - engine sent successfully, the response to CBRS : {
  "registrationResponse": [
    {
      "cbid": "W6U-TEST-FCC-IDMock-SAS68530322500007",
      "response": {
        "responseCode": 0
      }
    }
  ]
}
2023-04-26T16:24:19.697Z - INFO - spectrumInquiry request from CBRS : {
  "spectrumInquiryRequest": [
    {
      "cbid": "W6U-TEST-FCC-IDMock-SAS68530322500007",
      "inquiredSpectrum": [
        {
          "highFrequency": 3700000000,
          "lowFrequency": 3550000000
        }
      ]
    }
  ]
}
2023-04-26T16:24:19.700Z - INFO - engine sent successfully, the response to CBRS : {
  "spectrumInquiryResponse": [
    {
      "availableChannel": [
        {
          "channelType": "GAA",
          "frequencyRange": {
            "highFrequency": 3555000000,
            "lowFrequency": 3550000000
          },
          "ruleApplied": "FCC_PART_96"
        }
      ],
      "cbid": "W6U-TEST-FCC-IDMock-SAS68530322500007",
      "response": {
        "responseCode": 0
      }
    }
  ]
}
2023-04-26T16:24:20.467Z - INFO - registration request from CBRS : {
  "registrationRequest": [
    {
      "airInterface": {

```



```

    "radioTechnology": "NR"
  },
  "callSign": "2",
  "cbsdCategory": "A",
  "cbsdInfo": {
    "firmwareVersion": "1.1.10 ()",
    "hardwareVersion": "0.0.1",
    "model": "O-RU",
    "softwareVersion": "0.2.4 ()",
    "vendor": "SOLID"
  },
  "cbsdSerialNumber": "68530322500008",
  "cpiSignatureData": {
    "digitalSignature": "zt4hd5YbgTxJL7oSoSbdmXGklpZRCkpEjVg6bRRu7gOZ86AbhbObj868zbDY3wXZVe4VmUIXlfw09BouojqqsmjUQzLnsMca-
_KuFlkOwevut7e-VklecYDODIb8tppgryBWqD2eWMvWWBmFGwm4yuk0tIDL_B9iKNHO2fNWuULchQfBb9ghyil7hOOSoENZMXqwa-
_DVAKP8Zs23PT16XxZzH6hbn51Z7PN3F-CmuH1KPJVfKUt0VGldLYSOK-
EGdp6TPaj8uwZGIOPCht6L2E4tWUdKD5nNH5Wi1YVCZpRHmz3qeW1axyfshakWgqphM3QoXvRLs9Kb_hkyzT_g",
    "encodedCpiSignedData":
"eyJpbmN0YXwsYXRpb25QYXJhbSI6eyJsYXRpdHVkZSI6MjluMCwibG9uZ2l0dWRlljoyLjAsImhlaWdodCI6Mi4wLCJoZWlnaHRUeXBlljoiQUdMliwiaW5kb29yRGVw
bG95bWVudCI6dHJ1ZSwiYW50ZW5uYUdhaW4iOiAuMH0sImZjY0lkljoiVzZVLFVRFU1QtrkNDLUIEliwiY2JzZFNlcmIhbE51bWJlcil6IjY4NTMwMzlyNTAwMDA4liwic
HJvZmVzc2l2bmFsSW5zdGFsbGVyRGF0YSI6eyJjcGljZCI6IjEiLCJjcGlOYW1lIjojMSIsImIuc3RhbmGxZXJ0aWZpY2F0aW9uVGl0ZSI6IjIwMTctMTAtMTFUMjA6MzA6
MDBaIn19",
    "protectedHeader": "eyJhbGciOiJSUzI1NiIsInR5cCI6IkpXVCJ9"
  },
  "fccId": "W6U-TEST-FCC-ID",
  "userId": "2"
}
}
}
2023-04-26T16:24:20.573Z - INFO - Registration message contains cpiSignatureData
2023-04-26T16:24:20.573Z - INFO - protectedHeader = {u'alg': u'RS256', u'typ': u'JWT'}
2023-04-26T16:24:20.575Z - INFO - encodedCpiSignedData contents = {
  "installationParam": {
    "heightType": "AGL",
    "longitude": 2.0,
    "antennaGain": 0.0,
    "indoorDeployment": true,
    "latitude": 22.0,
    "height": 2.0
  },
  "professionalInstallerData": {
    "cpiName": "1",
    "installCertificationTime": "2017-10-11T20:30:00Z",
    "cpild": "1"
  },
  "fccId": "W6U-TEST-FCC-ID",
  "cbsdSerialNumber": "68530322500008"
}
2023-04-26T16:24:20.581Z - INFO - verified signature on cpiSignatureData
2023-04-26T16:24:20.586Z - INFO - cbsdCategory= 'A', removing optional param from cpi_schema
2023-04-26T16:24:20.592Z - INFO - cpiSignatureData data successfully validated against jsonschema
2023-04-26T16:24:20.605Z - INFO - engine sent successfully, the response to CBRS : {
  "registrationResponse": {

```



```
{  
  "response": {  
    "responseCode": 201  
  }  
}
```

2023-04-26T16:24:22.224Z - INFO - arrived to nstep starting question answer session with the technician

2023-04-26T16:24:22.230Z - INFO - the question is : Were there RF transmissions from the CBSD1 during the test? please choose one of the answers :

2023-04-26T16:25:32.209Z - INFO - for the question : Were there RF transmissions from the CBSD1 during the test? , the user choose n

2023-04-26T16:25:32.217Z - INFO - the question is : Were there RF transmissions from the CBSD2 during the test? please choose one of the answers :

2023-04-26T16:25:34.265Z - INFO - for the question : Were there RF transmissions from the CBSD2 during the test? , the user choose n

2023-04-26T16:26:14.717Z - INFO - The final result of the test : WINNF.FT.D.REG.19 is - passed and :the additional comments for the current test are : No Tx during testing and responseCode R1 = 0 for CBSD1 and R2 = 201 for CBSD2

10.8 Log file for test case ID: WINNF.FT.C.GRA.1

2023-04-26T16:29:06.286Z - INFO - WINNF TEST HARNESS RELEASE: 1.0.0.3 - 2018-November-13

2023-04-26T16:29:06.292Z - INFO - the selected test from the user : WINNF.FT.C.GRA.1 is starting now

2023-04-26T16:29:09.266Z - INFO - registration request from CBRS : {

```

"registrationRequest": {
  {
    "airInterface": {
      "radioTechnology": "NR"
    },
    "callSign": "1",
    "cbsdCategory": "A",
    "cbsdInfo": {
      "firmwareVersion": "1.1.10 ()",
      "hardwareVersion": "0.0.1",
      "model": "O-RU",
      "softwareVersion": "0.2.4 ()",
      "vendor": "SOLiD"
    },
    "cbsdSerialNumber": "68530322500007",
    "cpiSignatureData": {
      "digitalSignature": "AR5MaDlzi5_qJGKAmdXCUYzoiDxUWghcxP_oJXuoi2xq1K2B22_gHAL6HcpvWjYkBuHR4Br0gY81Le21Wrdc3yZHreFOV1iKJCF-1GWGdpXNWZfuqRXj6-hIEA9s5dlmQtu_Q2Z2UEXpqISwn6xtBY7k1ql6yenllQ4nV7C0iRxt9L7AeubAFSLIDc3twXBrrbLbbRgtckEAPbi2VgOAU4dkMuMydrYzolkQVNV4Nei9uL9r3rgaEfCmHWVviex18_6kELx_IQYnU3P_N2siY81q57jE6AeJpWm3qa4n8Vm9Bdjv-riOZJ_E6-Mq7HhoF5EK4hLI9tNC_T5fpnYMOA",
      "encodedCpiSignedData":
"eyJpbmN0YWxsYXRpb25QYXJhbSI6eyJsYXRpdHVkZSI6MS4wLjCj5b25naXR1ZGUiOiEuMCwiaGVpZ2h0IjoxLjAsImhlaWdodFR5cGUiOiJBROwiLCJpbmRvb3JlZXBsY3ltZW50IjpbO2cnVlLCJhbnRlbn5hR2Fpbil6MC4wfSwiZmNjSWQ0iXNlUutVEVTVc1GQOMtSUQILCjYnNkU2VyaWFsTnVtYmVyljoiNjg1MzAzMjI1MDAwMDciLCJwcm9mZXNzaW9uYWxjb2N0YXN5ZXJlYXRhIjpb7ImNwaUlkljoiMTEwIiwiaW53BpTmFtZSI6IjEiLCJpbmN0YXN5ZXQ2VydGlmaWNhdGlvbiRpbWUiOiilyMDE3LTcwLTExVjEwOjMwOjAwWiI9fQ",
      "protectedHeader": "eyJhbGciOiJSUzI1NiIsInR5cCI6IkpXVCJ9"
    },
    "fccId": "W6U-TEST-FCC-ID",
    "userId": "1"
  }
}
]
}

```

2023-04-26T16:29:09.546Z - INFO - Registration message contains cpiSignatureData

2023-04-26T16:29:09.548Z - INFO - protectedHeader = {u'alg': u'RS256', u'typ': u'JWT'}

2023-04-26T16:29:09.549Z - INFO - encodedCpiSignedData contents = {

```
{
  "installationParam": {
    "heightType": "AGL",
    "longitude": 1.0,
    "antennaGain": 0.0,
    "indoorDeployment": true,
    "latitude": 1.0,
    "height": 1.0
  },
  "professionalInstallerData": {
    "cpiName": "1",
    "installCertificationTime": "2017-10-11T20:30:00Z",
    "cpild": "111"
  },
  "fccId": "W6U-TEST-FCC-ID",
}
```

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```

    "cbsdSerialNumber": "68530322500007"
  }
2023-04-26T16:29:09.559Z - INFO - verified signature on cpiSignatureData
2023-04-26T16:29:09.568Z - INFO - cbsdCategory= 'A', removing optional param from cpi_schema
2023-04-26T16:29:09.571Z - INFO - cpiSignatureData data successfully validated against jsonschema
2023-04-26T16:29:09.576Z - INFO - engine sent successfully, the response to CBRS : {
  "registrationResponse": [
    {
      "cbsdId": "W6U-TEST-FCC-IDMock-SAS68530322500007",
      "response": {
        "responseCode": 0
      }
    }
  ]
}
2023-04-26T16:29:09.644Z - INFO - spectrumInquiry request from CBRS : {
  "spectrumInquiryRequest": [
    {
      "cbsdId": "W6U-TEST-FCC-IDMock-SAS68530322500007",
      "inquiredSpectrum": [
        {
          "highFrequency": 3700000000,
          "lowFrequency": 3550000000
        }
      ]
    }
  ]
}
2023-04-26T16:29:09.730Z - INFO - engine sent successfully, the response to CBRS : {
  "spectrumInquiryResponse": [
    {
      "availableChannel": [
        {
          "channelType": "GAA",
          "frequencyRange": {
            "highFrequency": 3700000000,
            "lowFrequency": 3550000000
          },
          "ruleApplied": "FCC_PART_96"
        }
      ],
      "cbsdId": "W6U-TEST-FCC-IDMock-SAS68530322500007",
      "response": {
        "responseCode": 0
      }
    }
  ]
}
2023-04-26T16:29:09.823Z - INFO - spectrumInquiry request from CBRS : {
  "spectrumInquiryRequest": [
    {
      "cbsdId": "W6U-TEST-FCC-IDMock-SAS68530322500007",
      "inquiredSpectrum": [

```

```

    {
      "highFrequency": 3590030000.0,
      "lowFrequency": 3550030000.0
    }
  ]
}
}
}
2023-04-26T16:29:09.874Z - INFO - engine sent successfully, the response to CBRS : {
  "spectrumInquiryResponse": [
    {
      "availableChannel": [
        {
          "channelType": "GAA",
          "frequencyRange": {
            "highFrequency": 3590030000.0,
            "lowFrequency": 3550030000.0
          },
          "ruleApplied": "FCC_PART_96"
        }
      ],
      "cbsdId": "W6U-TEST-FCC-IDMock-SAS68530322500007",
      "response": {
        "responseCode": 0
      }
    }
  ]
}
2023-04-26T16:29:09.966Z - INFO - grant request from CBRS : {
  "grantRequest": [
    {
      "cbsdId": "W6U-TEST-FCC-IDMock-SAS68530322500007",
      "operationParam": {
        "maxEirp": 3.98,
        "operationFrequencyRange": {
          "highFrequency": 3590030000.0,
          "lowFrequency": 3550030000.0
        }
      }
    }
  ]
}
2023-04-26T16:29:10.078Z - INFO - engine sent successfully, the response to CBRS : {
  "grantResponse": [
    {
      "cbsdId": "W6U-TEST-FCC-IDMock-SAS68530322500007",
      "response": {
        "responseCode": 400
      }
    }
  ]
}
2023-04-26T16:29:11.336Z - INFO - arrived to nstep starting question answer session with the technician

```

Section 10:

Log files



2023-04-26T16:29:11.345Z - INFO - the question is : Were there RF transmissions from the CBSD1 during the test? please choose one of the answers :

2023-04-26T16:31:17.950Z - INFO - for the question : Were there RF transmissions from the CBSD1 during the test? , the user choose n

2023-04-26T16:32:18.865Z - INFO - The final result of the test : WINNF.FT.C.GRA.1 is - passed and :the additional comments for the current test are : No Tx during testing and "responseCode": 400

10.9 Log file for test case ID: WINNF.FT.C.GRA.2

2023-04-26T16:35:01.502Z - INFO - WINNF TEST HARNESS RELEASE: 1.0.0.3 - 2018-November-13

2023-04-26T16:35:01.506Z - INFO - the selected test from the user : WINNF.FT.C.GRA.2 is starting now

2023-04-26T16:35:06.592Z - INFO - registration request from CBRS : {

```

"registrationRequest": {
  {
    "airInterface": {
      "radioTechnology": "NR"
    },
    "callSign": "1",
    "cbsdCategory": "A",
    "cbsdInfo": {
      "firmwareVersion": "1.1.10 ()",
      "hardwareVersion": "0.0.1",
      "model": "O-RU",
      "softwareVersion": "0.2.4 ()",
      "vendor": "SOLiD"
    },
    "cbsdSerialNumber": "68530322500007",
    "cpiSignatureData": {
      "digitalSignature": "AR5MaDlzi5_qJGKAmdXCUYzoiDxUWghcxP_oJXuoi2xq1K2B22_gHAL6HcpvWjYkBuHR4Br0gY81Le21Wrdc3yZHreFOV1iKJCF-1GWGdpXNWZfuqRXj6-hIEA9s5dlmQtu_Q2Z2UEXpqISwn6xtBY7k1ql6yenllQ4nV7C0iRxt9L7AeubAFSLIDc3twXBrrbLbbRgtckEAPbi2VgOAU4dkMuMydrYzolkQVNV4Nei9uL9r3rgaEfCmHWVviex18_6kELx_IQYnU3P_N2siY81q57jE6AeJpWm3qa4n8Vm9Bdjv-riOZJ_E6-Mq7HhoF5EK4hLI9tNC_T5fpnYMOA",
      "encodedCpiSignedData":
"eyJpbmN0YWxsYXRpb25QYXJhbSI6eyJsYXRpdHVkZSI6MS4wLjCj5b25naXR1ZGUiOiJEUmMCwiaGVpZ2h0IjoxLjAsImhlaWdodFR5cGUiOiJBROwiLCJpbmRvb3JlZXBsY3ltZW50Ijpb02cnVlLCJhbnRlbn5hR2Fpbil6MC4wfSwiZmNjSWQ0iXNlU0tVEVTVV1GQ0MtSUUqLiJjYnNkU2VyaWFsTnVtYmVyljoiNjg1MzAzMjI1MDAwMDciLCJwcm9mZXNzaW9uYWxjb2N0YXN5ZXJlYXRhIjpb7ImNwaUlkljoiMTExliwiY3BpTmFtZSI6IjEiLCJpbmN0YWxsQ2VydGlmaWNhdGlvbiRpbWUiOiilyMDE3LTcwLTExVjEwOjMwOjAwWiI9fQ",
      "protectedHeader": "eyJhbGciOiJSUzI1NiIsInR5cCI6IkpXVCJ9"
    },
    "fccId": "W6U-TEST-FCC-ID",
    "userId": "1"
  }
}
]
}

```

2023-04-26T16:35:06.798Z - INFO - Registration message contains cpiSignatureData

2023-04-26T16:35:06.799Z - INFO - protectedHeader = {u'alg': u'RS256', u'typ': u'JWT'}

2023-04-26T16:35:06.802Z - INFO - encodedCpiSignedData contents = {

```
{
  "installationParam": {
    "heightType": "AGL",
    "longitude": 1.0,
    "antennaGain": 0.0,
    "indoorDeployment": true,
    "latitude": 1.0,
    "height": 1.0
  },
  "professionalInstallerData": {
    "cpiName": "1",
    "installCertificationTime": "2017-10-11T20:30:00Z",
    "cpild": "111"
  },
  "fccId": "W6U-TEST-FCC-ID",
}
```

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```

    "cbsdSerialNumber": "68530322500007"
  }
2023-04-26T16:35:06.813Z - INFO - verified signature on cpiSignatureData
2023-04-26T16:35:06.825Z - INFO - cbsdCategory= 'A', removing optional param from cpi_schema
2023-04-26T16:35:06.828Z - INFO - cpiSignatureData data successfully validated against jsonschema
2023-04-26T16:35:06.836Z - INFO - engine sent successfully, the response to CBRS : {
  "registrationResponse": [
    {
      "cbsdId": "W6U-TEST-FCC-IDMock-SAS68530322500007",
      "response": {
        "responseCode": 0
      }
    }
  ]
}
2023-04-26T16:35:06.923Z - INFO - spectrumInquiry request from CBRS : {
  "spectrumInquiryRequest": [
    {
      "cbsdId": "W6U-TEST-FCC-IDMock-SAS68530322500007",
      "inquiredSpectrum": [
        {
          "highFrequency": 3700000000,
          "lowFrequency": 3550000000
        }
      ]
    }
  ]
}
2023-04-26T16:35:06.976Z - INFO - engine sent successfully, the response to CBRS : {
  "spectrumInquiryResponse": [
    {
      "availableChannel": [
        {
          "channelType": "GAA",
          "frequencyRange": {
            "highFrequency": 3700000000,
            "lowFrequency": 3550000000
          },
          "ruleApplied": "FCC_PART_96"
        }
      ],
      "cbsdId": "W6U-TEST-FCC-IDMock-SAS68530322500007",
      "response": {
        "responseCode": 0
      }
    }
  ]
}
2023-04-26T16:35:07.068Z - INFO - spectrumInquiry request from CBRS : {
  "spectrumInquiryRequest": [
    {
      "cbsdId": "W6U-TEST-FCC-IDMock-SAS68530322500007",
      "inquiredSpectrum": [

```

```

        {
            "highFrequency": 3590030000.0,
            "lowFrequency": 3550030000.0
        }
    ]
}
]
}
}
2023-04-26T16:35:07.107Z - INFO - engine sent successfully, the response to CBRS : {
  "spectrumInquiryResponse": [
    {
      "availableChannel": [
        {
          "channelType": "GAA",
          "frequencyRange": {
            "highFrequency": 3590030000.0,
            "lowFrequency": 3550030000.0
          },
          "ruleApplied": "FCC_PART_96"
        }
      ],
      "cbsdId": "W6U-TEST-FCC-IDMock-SAS68530322500007",
      "response": {
        "responseCode": 0
      }
    }
  ]
}
}
2023-04-26T16:35:07.197Z - INFO - grant request from CBRS : {
  "grantRequest": [
    {
      "cbsdId": "W6U-TEST-FCC-IDMock-SAS68530322500007",
      "operationParam": {
        "maxEirp": 3.98,
        "operationFrequencyRange": {
          "highFrequency": 3590030000.0,
          "lowFrequency": 3550030000.0
        }
      }
    }
  ]
}
}
2023-04-26T16:35:07.259Z - INFO - engine sent successfully, the response to CBRS : {
  "grantResponse": [
    {
      "cbsdId": "W6U-TEST-FCC-IDMock-SAS68530322500007",
      "response": {
        "responseCode": 401
      }
    }
  ]
}
}
2023-04-26T16:35:08.589Z - INFO - arrived to nstep starting question answer session with the technician

```

Section 10:

Log files



2023-04-26T16:35:08.596Z - INFO - the question is : Were there RF transmissions from the CBSD1 during the test? please choose one of the answers :

2023-04-26T16:35:53.545Z - INFO - for the question : Were there RF transmissions from the CBSD1 during the test? , the user choose n

2023-04-26T16:36:58.581Z - INFO - The final result of the test : WINNF.FT.C.GRA.2 is - passed and :the additional comments for the current test are : No Tx during testing and responseCode (R) = 401.



10.10 Log file for test case ID: WINNF.FT.D.HBT.2

2023-04-26T17:08:07.746Z - INFO - WINNF TEST HARNESS RELEASE: 1.0.0.3 - 2018-November-13

2023-04-26T17:08:07.749Z - INFO - the selected test from the user : WINNF.FT.D.HBT.2 is starting now

2023-04-26T17:08:20.164Z - INFO - registration request from CBRS : {

```
"registrationRequest": [
  {
    "airInterface": {
      "radioTechnology": "NR"
    },
    "callSign": "1",
    "cbsdCategory": "A",
    "cbsdInfo": {
      "firmwareVersion": "1.1.10 ()",
      "hardwareVersion": "0.0.1",
      "model": "O-RU",
      "softwareVersion": "0.2.4 ()",
      "vendor": "SOLiD"
    },
    "cbsdSerialNumber": "68530322500007",
    "cpiSignatureData": {
      "digitalSignature": "AR5MaDlzi5_qJGKAmDxCUYzojDxUWghcxP_oJXuoi2xq1K2B22_gHAl6HcpvWjYkBuHR4Br0gY81Le21Wrdc3yZHreFOV1iKJCF-
1GWGdpXNWXZfuqRXj6-
hIEA9s5dlmQtu_O2Z2UEXpqISwn6xtBY7k1qI6yenIIQ4nV7C0iRxt9L7AeubAFSLIDc3twXBrrbLbbRgtckEAPbi2VgOAU4dkMuMydrYzolKQVNV4Nei9uL9r3rgaEfCm
HWVviex18_6kELxI_QYnU3P_N2siY81q57jE6AeJpWm3qa4n8Vm9Bdjv-riOZJ_E6-Mq7HhoF5EK4hLI9tNC_T5fpmYMOA",
      "encodedCpiSignedData":
"eyJpbmN0YWxsYXRpb25QYXJhbSI6eyJsYXRpdHVkZSI6MS4wLCJsbn25naXR1ZGU0JEUwMCwiaGVpZ2h0IjoxLjAsImhlaWdodFR5cGU0OiBR0wiLCJpbmRvb3JEZXBs
b3ItZW50IjpbO2Z2UEXpqISwn6xtBY7k1qI6yenIIQ4nV7C0iRxt9L7AeubAFSLIDc3twXBrrbLbbRgtckEAPbi2VgOAU4dkMuMydrYzolKQVNV4Nei9uL9r3rgaEfCm
cm9mZXNzaW9uYWwJbnN0YWxsZXJEYXRhIjpb7ImNwaUlkljoiMTExliwIy3BpTmFtZSI6IjEiLCJpbmN0YWxsQ2VydGlmaWNhdGlvbIRpbWUiOiIyMDE3LTExVDI
wOjMwOjAwWjI9fQ",
      "protectedHeader": "eyJhbGciOiJSUzI1NiIsInR5cCI6IkpXVCJ9"
    },
    "fcclId": "W6U-TEST-FCC-ID",
    "userId": "1"
  }
]
```

2023-04-26T17:08:20.405Z - INFO - Registration message contains cpiSignatureData

2023-04-26T17:08:20.408Z - INFO - protectedHeader = {u'alg': u'RS256', u'typ': u'JWT'}

2023-04-26T17:08:20.411Z - INFO - encodedCpiSignedData contents = {

```
"installationParam": {
  "heightType": "AGL",
  "longitude": 1.0,
  "antennaGain": 0.0,
  "indoorDeployment": true,
  "latitude": 1.0,
  "height": 1.0
},
"professionalInstallerData": {
  "cpiName": "1",
  "installCertificationTime": "2017-10-11T20:30:00Z",
  "cpild": "111"
},
"fcclId": "W6U-TEST-FCC-ID",
```

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```

    "cbsdSerialNumber": "68530322500007"
  }
2023-04-26T17:08:20.483Z - INFO - verified signature on cpiSignatureData
2023-04-26T17:08:20.519Z - INFO - cbsdCategory= 'A', removing optional param from cpi_schema
2023-04-26T17:08:20.528Z - INFO - cpiSignatureData data successfully validated against jsonschema
2023-04-26T17:08:20.539Z - INFO - engine sent successfully, the response to CBRS : {
  "registrationResponse": [
    {
      "cbsdId": "W6U-TEST-FCC-IDMock-SAS68530322500007",
      "response": {
        "responseCode": 0
      }
    }
  ]
}
2023-04-26T17:08:20.614Z - INFO - spectrumInquiry request from CBRS : {
  "spectrumInquiryRequest": [
    {
      "cbsdId": "W6U-TEST-FCC-IDMock-SAS68530322500007",
      "inquiredSpectrum": [
        {
          "highFrequency": 3700000000,
          "lowFrequency": 3550000000
        }
      ]
    }
  ]
}
2023-04-26T17:08:20.667Z - INFO - engine sent successfully, the response to CBRS : {
  "spectrumInquiryResponse": [
    {
      "availableChannel": [
        {
          "channelType": "GAA",
          "frequencyRange": {
            "highFrequency": 3700000000,
            "lowFrequency": 3550000000
          },
          "ruleApplied": "FCC_PART_96"
        }
      ],
      "cbsdId": "W6U-TEST-FCC-IDMock-SAS68530322500007",
      "response": {
        "responseCode": 0
      }
    }
  ]
}
2023-04-26T17:08:20.759Z - INFO - spectrumInquiry request from CBRS : {
  "spectrumInquiryRequest": [
    {
      "cbsdId": "W6U-TEST-FCC-IDMock-SAS68530322500007",
      "inquiredSpectrum": [

```

```

    {
      "highFrequency": 3590030000.0,
      "lowFrequency": 3550030000.0
    }
  ]
}
}
}
2023-04-26T17:08:20.802Z - INFO - engine sent successfully, the response to CBRS : {
  "spectrumInquiryResponse": [
    {
      "availableChannel": [
        {
          "channelType": "GAA",
          "frequencyRange": {
            "highFrequency": 3590030000.0,
            "lowFrequency": 3550030000.0
          },
          "ruleApplied": "FCC_PART_96"
        }
      ],
      "cbsdId": "W6U-TEST-FCC-IDMock-SAS68530322500007",
      "response": {
        "responseCode": 0
      }
    }
  ]
}
2023-04-26T17:08:20.891Z - INFO - grant request from CBRS : {
  "grantRequest": [
    {
      "cbsdId": "W6U-TEST-FCC-IDMock-SAS68530322500007",
      "operationParam": {
        "maxEirp": 3.98,
        "operationFrequencyRange": {
          "highFrequency": 3590030000.0,
          "lowFrequency": 3550030000.0
        }
      }
    }
  ]
}
2023-04-26T17:08:20.956Z - INFO - engine sent successfully, the response to CBRS : {
  "grantResponse": [
    {
      "cbsdId": "W6U-TEST-FCC-IDMock-SAS68530322500007",
      "channelType": "GAA",
      "grantExpireTime": "2023-05-03T17:08:20Z",
      "grantId": "41108978",
      "heartbeatInterval": 60,
      "response": {
        "responseCode": 0
      }
    }
  ]
}

```

```

    }
  ]
}
2023-04-26T17:08:21.055Z - INFO - heartbeat request from CBRS : {
  "heartbeatRequest": [
    {
      "cbsdId": "W6U-TEST-FCC-IDMock-SAS68530322500007",
      "grantId": "41108978",
      "grantRenew": true,
      "operationState": "GRANTED"
    }
  ]
}
2023-04-26T17:08:21.132Z - INFO - grantRenew received in HBT request message
2023-04-26T17:08:21.138Z - INFO - engine sent successfully, the response to CBRS : {
  "heartbeatResponse": [
    {
      "cbsdId": "W6U-TEST-FCC-IDMock-SAS68530322500007",
      "grantExpireTime": "2023-05-03T17:08:21Z",
      "grantId": "41108978",
      "response": {
        "responseCode": 0
      },
      "transmitExpireTime": "2023-04-26T17:11:41Z"
    }
  ]
}
2023-04-26T17:08:21.221Z - INFO - heartbeat request from CBRS : {
  "heartbeatRequest": [
    {
      "cbsdId": "W6U-TEST-FCC-IDMock-SAS68530322500007",
      "grantId": "41108978",
      "operationState": "AUTHORIZED"
    }
  ]
}
2023-04-26T17:08:21.239Z - INFO - Time interval between two heartbeat request messages is: 0.167, limit is: 65.0
2023-04-26T17:08:21.292Z - INFO - engine sent successfully, the response to CBRS : {
  "heartbeatResponse": [
    {
      "cbsdId": "W6U-TEST-FCC-IDMock-SAS68530322500007",
      "grantId": "41108978",
      "response": {
        "responseCode": 0
      },
      "transmitExpireTime": "2023-04-26T17:11:41Z"
    }
  ]
}
2023-04-26T17:08:41.401Z - INFO - heartbeat request from CBRS : {
  "heartbeatRequest": [
    {
      "cbsdId": "W6U-TEST-FCC-IDMock-SAS68530322500007",

```



```

    "grantId": "41108978",
    "operationState": "AUTHORIZED"
  }
}
}
2023-04-26T17:08:41.430Z - INFO - Time interval between two heartbeat request messages is: 20.18, limit is: 65.0
2023-04-26T17:08:41.484Z - INFO - engine sent successfully, the response to CBRS : {
  "heartbeatResponse": [
    {
      "cbsdId": "W6U-TEST-FCC-IDMock-SAS68530322500007",
      "grantId": "41108978",
      "response": {
        "responseCode": 0
      },
      "transmitExpireTime": "2023-04-26T17:12:01Z"
    }
  ]
}
}
2023-04-26T17:08:45.631Z - INFO - heartbeat request from CBRS : {
  "heartbeatRequest": [
    {
      "cbsdId": "W6U-TEST-FCC-IDMock-SAS68530322500007",
      "grantId": "41108978",
      "operationState": "AUTHORIZED"
    }
  ]
}
}
2023-04-26T17:08:45.647Z - INFO - Time interval between two heartbeat request messages is: 4.229, limit is: 65.0
2023-04-26T17:08:45.694Z - INFO - engine sent successfully, the response to CBRS : {
  "heartbeatResponse": [
    {
      "cbsdId": "W6U-TEST-FCC-IDMock-SAS68530322500007",
      "grantId": "41108978",
      "response": {
        "responseCode": 0
      },
      "transmitExpireTime": "2023-04-26T17:12:05Z"
    }
  ]
}
}
2023-04-26T17:08:45.819Z - INFO - heartbeat request from CBRS : {
  "heartbeatRequest": [
    {
      "cbsdId": "W6U-TEST-FCC-IDMock-SAS68530322500007",
      "grantId": "41108978",
      "operationState": "AUTHORIZED"
    }
  ]
}
}
2023-04-26T17:08:45.835Z - INFO - Time interval between two heartbeat request messages is: 0.187, limit is: 65.0
2023-04-26T17:08:45.887Z - INFO - engine sent successfully, the response to CBRS : {
  "heartbeatResponse": [
    {

```



```

    "cbsdId": "W6U-TEST-FCC-IDMock-SAS68530322500007",
    "grantId": "41108978",
    "response": {
      "responseCode": 0
    },
    "transmitExpireTime": "2023-04-26T17:12:05Z"
  }
}
}
}
2023-04-26T17:08:45.966Z - INFO - registration request from CBRS : {
  "registrationRequest": [
    {
      "airInterface": {
        "radioTechnology": "NR"
      },
      "callSign": "2",
      "cbsdCategory": "A",
      "cbsdInfo": {
        "firmwareVersion": "1.1.10 ()",
        "hardwareVersion": "0.0.1",
        "model": "O-RU",
        "softwareVersion": "0.2.4 ()",
        "vendor": "SOLiD"
      },
      "cbsdSerialNumber": "68530322500008",
      "cpiSignatureData": {
        "digitalSignature": "zt4hd5YbgTxJL7oSoSbdmXGklpZRCkpEjVg6bRRu7gOZ86AbhbObj868zbDY3wXZVe4VmUIXIfw09BouojqqsmjUQzLnsMca-
KuFlkOwevut7e-VklecYD0Dlb8tzppgryBWqD2eWMvWWBmFGwm4yuk0tIDL_B9iKNHO2fNWuULchQfBb9ghyil7hOOSoENZMXqwa-
_DVAKP8Zs23PT16XxZzH6hbs1Z7PN3F-CmuH1KPJVfKUtOVGldLYSOK-
EGdp6TPaj8uwZGIOPCh6L2E4tWUdKD5nNH5Wi1YVCZpRHmz3qeW1axyfshakWgqphM3QoXvRLs9Kb_hkyzT_g",
        "encodedCpiSignedData":
"eyJpbmNOYWxsYXRpb25QYXJhbSI6eyJsYXRpdHVkZSI6MjluMCwibG9uZ2I0dWRlljoyLjAsImhlaWdodCI6Mi4wLCJoZWlnaHRUeXBlljoiQUdMliwiaW5kb29yRGVw
bG95bWVudCI6dHJ1ZSwiYW50ZW5uYUdhaW4iOiJAUmHOslmZjY0IkljoiVzZVLVRFU1QTRkNDLUIEliwiY2JzZFNlcmIhbE51bWJlci6lY4NTMwMzlyNTAwMDA4liwic
HJvZmVzc2lvdmsFSW5zdGFsbGVyRGF0YSI6eyJjcGljZCI6IjEiLCJjcGlOYW1lIjoMSlmluc3RhbGxkZDZlOjA0aWZpY2F0aW9uVGltZSI6IjIwMTctMTAtMTFUMjA6MzA6
MDBaIn19",
        "protectedHeader": "eyJhbGciOiJSUzI1NiIsInR5cCI6IkpXVCJ9"
      },
      "fccId": "W6U-TEST-FCC-ID",
      "userId": "2"
    }
  ]
}
}
2023-04-26T17:08:46.153Z - INFO - Registration message contains cpiSignatureData
2023-04-26T17:08:46.154Z - INFO - protectedHeader = {u'alg': u'RS256', u'typ': u'JWT'}
2023-04-26T17:08:46.155Z - INFO - encodedCpiSignedData contents = {
  "installationParam": {
    "heightType": "AGL",
    "longitude": 2.0,
    "antennaGain": 0.0,
    "indoorDeployment": true,
    "latitude": 22.0,
    "height": 2.0
  },

```



```

"professionalInstallerData": {
  "cpiName": "1",
  "installCertificationTime": "2017-10-11T20:30:00Z",
  "cpild": "1"
},
"fccId": "W6U-TEST-FCC-ID",
"cbidSerialNumber": "68530322500008"
}
2023-04-26T17:08:46.168Z - INFO - verified signature on cpiSignatureData
2023-04-26T17:08:46.181Z - INFO - cbidCategory= 'A', removing optional param from cpi_schema
2023-04-26T17:08:46.186Z - INFO - cpiSignatureData data successfully validated against jsonschema
2023-04-26T17:08:46.194Z - INFO - engine sent successfully, the response to CBRS : {
  "registrationResponse": [
    {
      "cbidId": "W6U-TEST-FCC-IDMock-SAS68530322500008",
      "response": {
        "responseCode": 0
      }
    }
  ]
}
2023-04-26T17:08:46.286Z - INFO - heartbeat request from CBRS : {
  "heartbeatRequest": [
    {
      "cbidId": "W6U-TEST-FCC-IDMock-SAS68530322500007",
      "grantId": "41108978",
      "operationState": "AUTHORIZED"
    }
  ]
}
2023-04-26T17:08:46.302Z - INFO - Time interval between two heartbeat request messages is: 0.468, limit is: 65.0
2023-04-26T17:08:46.344Z - INFO - engine sent successfully, the response to CBRS : {
  "heartbeatResponse": [
    {
      "cbidId": "W6U-TEST-FCC-IDMock-SAS68530322500007",
      "grantId": "41108978",
      "response": {
        "responseCode": 0
      },
      "transmitExpireTime": "2023-04-26T17:12:06Z"
    }
  ]
}
2023-04-26T17:08:46.438Z - INFO - spectrumInquiry request from CBRS : {
  "spectrumInquiryRequest": [
    {
      "cbidId": "W6U-TEST-FCC-IDMock-SAS68530322500008",
      "inquiredSpectrum": [
        {
          "highFrequency": 3700000000,
          "lowFrequency": 3550000000
        }
      ]
    }
  ]
}

```

```

    }
  ]
}
2023-04-26T17:08:46.489Z - INFO - engine sent successfully, the response to CBRS : {
  "spectrumInquiryResponse": [
    {
      "availableChannel": [
        {
          "channelType": "GAA",
          "frequencyRange": {
            "highFrequency": 3700000000,
            "lowFrequency": 3550000000
          },
          "ruleApplied": "FCC_PART_96"
        }
      ],
      "cbsdId": "W6U-TEST-FCC-IDMock-SAS68530322500008",
      "response": {
        "responseCode": 0
      }
    }
  ]
}
2023-04-26T17:08:46.572Z - INFO - heartbeat request from CBRS : {
  "heartbeatRequest": [
    {
      "cbsdId": "W6U-TEST-FCC-IDMock-SAS68530322500007",
      "grantId": "41108978",
      "operationState": "AUTHORIZED"
    }
  ]
}
2023-04-26T17:08:46.576Z - INFO - engine sent successfully, the response to CBRS : {
  "heartbeatResponse": [
    {
      "cbsdId": "W6U-TEST-FCC-IDMock-SAS68530322500007",
      "grantId": "41108978",
      "response": {
        "responseCode": 0
      },
      "transmitExpireTime": "2023-04-26T17:12:06Z"
    }
  ]
}
2023-04-26T17:08:46.651Z - INFO - spectrumInquiry request from CBRS : {
  "spectrumInquiryRequest": [
    {
      "cbsdId": "W6U-TEST-FCC-IDMock-SAS68530322500008",
      "inquiredSpectrum": [
        {
          "highFrequency": 3590030000.0,
          "lowFrequency": 3550030000.0
        }
      ]
    }
  ]
}

```

```

    ]
  }
]
}
2023-04-26T17:08:46.698Z - INFO - engine sent successfully, the response to CBRS : {
  "spectrumInquiryResponse": [
    {
      "availableChannel": [
        {
          "channelType": "GAA",
          "frequencyRange": {
            "highFrequency": 3590030000.0,
            "lowFrequency": 3550030000.0
          },
          "ruleApplied": "FCC_PART_96"
        }
      ],
      "cbsdId": "W6U-TEST-FCC-IDMock-SAS68530322500008",
      "response": {
        "responseCode": 0
      }
    }
  ]
}
2023-04-26T17:08:46.780Z - INFO - grant request from CBRS : {
  "grantRequest": [
    {
      "cbsdId": "W6U-TEST-FCC-IDMock-SAS68530322500008",
      "operationParam": {
        "maxEirp": 3.98,
        "operationFrequencyRange": {
          "highFrequency": 3590030000.0,
          "lowFrequency": 3550030000.0
        }
      }
    }
  ]
}
2023-04-26T17:08:46.823Z - INFO - engine sent successfully, the response to CBRS : {
  "grantResponse": [
    {
      "cbsdId": "W6U-TEST-FCC-IDMock-SAS68530322500008",
      "channelType": "GAA",
      "grantExpireTime": "2023-05-03T17:08:46Z",
      "grantId": "427677541",
      "heartbeatInterval": 60,
      "response": {
        "responseCode": 0
      }
    }
  ]
}
2023-04-26T17:08:46.907Z - INFO - heartbeat request from CBRS : {

```



```

"heartbeatRequest": [
  {
    "cbsdId": "W6U-TEST-FCC-IDMock-SAS68530322500008",
    "grantId": "427677541",
    "grantRenew": true,
    "operationState": "GRANTED"
  }
]
}
2023-04-26T17:08:46.979Z - INFO - grantRenew received in HBT request message
2023-04-26T17:08:46.983Z - INFO - engine sent successfully, the response to CBRS : {
  "heartbeatResponse": [
    {
      "cbsdId": "W6U-TEST-FCC-IDMock-SAS68530322500008",
      "grantExpireTime": "2023-05-03T17:08:46Z",
      "grantId": "427677541",
      "response": {
        "responseCode": 0
      },
      "transmitExpireTime": "2023-04-26T17:12:06Z"
    }
  ]
}
2023-04-26T17:08:47.072Z - INFO - heartbeat request from CBRS : {
  "heartbeatRequest": [
    {
      "cbsdId": "W6U-TEST-FCC-IDMock-SAS68530322500007",
      "grantId": "41108978",
      "operationState": "AUTHORIZED"
    }
  ]
}
2023-04-26T17:08:47.076Z - INFO - engine sent successfully, the response to CBRS : {
  "heartbeatResponse": [
    {
      "cbsdId": "W6U-TEST-FCC-IDMock-SAS68530322500007",
      "grantId": "41108978",
      "response": {
        "responseCode": 0
      },
      "transmitExpireTime": "2023-04-26T17:12:07Z"
    }
  ]
}
2023-04-26T17:08:47.164Z - INFO - heartbeat request from CBRS : {
  "heartbeatRequest": [
    {
      "cbsdId": "W6U-TEST-FCC-IDMock-SAS68530322500008",
      "grantId": "427677541",
      "operationState": "AUTHORIZED"
    }
  ]
}
}

```



2023-04-26T17:08:47.176Z - INFO - Time interval between two heartbeat request messages is: 0.257, limit is: 65.0

2023-04-26T17:08:47.213Z - INFO - engine sent successfully, the response to CBRS : {

```
"heartbeatResponse": [
  {
    "cbsdId": "W6U-TEST-FCC-IDMock-SAS68530322500008",
    "grantId": "427677541",
    "response": {
      "responseCode": 0
    },
    "transmitExpireTime": "2023-04-26T17:12:07Z"
  }
]
```

2023-04-26T17:09:07.332Z - INFO - heartbeat request from CBRS : {

```
"heartbeatRequest": [
  {
    "cbsdId": "W6U-TEST-FCC-IDMock-SAS68530322500007",
    "grantId": "41108978",
    "operationState": "AUTHORIZED"
  }
]
```

2023-04-26T17:09:07.336Z - INFO - engine sent successfully, the response to CBRS : {

```
"heartbeatResponse": [
  {
    "cbsdId": "W6U-TEST-FCC-IDMock-SAS68530322500007",
    "grantId": "41108978",
    "response": {
      "responseCode": 0
    },
    "transmitExpireTime": "2023-04-26T17:12:27Z"
  }
]
```

2023-04-26T17:09:07.421Z - INFO - heartbeat request from CBRS : {

```
"heartbeatRequest": [
  {
    "cbsdId": "W6U-TEST-FCC-IDMock-SAS68530322500008",
    "grantId": "427677541",
    "operationState": "AUTHORIZED"
  }
]
```

2023-04-26T17:09:07.444Z - INFO - Time interval between two heartbeat request messages is: 20.257, limit is: 65.0

2023-04-26T17:09:07.509Z - INFO - engine sent successfully, the response to CBRS : {

```
"heartbeatResponse": [
  {
    "cbsdId": "W6U-TEST-FCC-IDMock-SAS68530322500008",
    "grantId": "427677541",
    "response": {
      "responseCode": 0
    },
    "transmitExpireTime": "2023-04-26T17:12:27Z"
  }
]
```

```

    }
  ]
}
2023-04-26T17:09:37.618Z - INFO - heartbeat request from CBRS : {
  "heartbeatRequest": [
    {
      "cbsdId": "W6U-TEST-FCC-IDMock-SAS68530322500007",
      "grantId": "41108978",
      "operationState": "AUTHORIZED"
    }
  ]
}
2023-04-26T17:09:37.622Z - INFO - engine sent successfully, the response to CBRS : {
  "heartbeatResponse": [
    {
      "cbsdId": "W6U-TEST-FCC-IDMock-SAS68530322500007",
      "grantId": "41108978",
      "response": {
        "responseCode": 0
      },
      "transmitExpireTime": "2023-04-26T17:12:57Z"
    }
  ]
}
2023-04-26T17:09:37.713Z - INFO - heartbeat request from CBRS : {
  "heartbeatRequest": [
    {
      "cbsdId": "W6U-TEST-FCC-IDMock-SAS68530322500008",
      "grantId": "427677541",
      "operationState": "AUTHORIZED"
    }
  ]
}
2023-04-26T17:09:37.740Z - INFO - Time interval between two heartbeat request messages is: 30.293, limit is: 65.0
2023-04-26T17:09:37.811Z - INFO - engine sent successfully, the response to CBRS : {
  "heartbeatResponse": [
    {
      "cbsdId": "W6U-TEST-FCC-IDMock-SAS68530322500008",
      "grantId": "427677541",
      "response": {
        "responseCode": 0
      },
      "transmitExpireTime": "2023-04-26T17:12:57Z"
    }
  ]
}
2023-04-26T17:10:07.944Z - INFO - heartbeat request from CBRS : {
  "heartbeatRequest": [
    {
      "cbsdId": "W6U-TEST-FCC-IDMock-SAS68530322500007",
      "grantId": "41108978",
      "operationState": "AUTHORIZED"
    }
  ]
}

```

```

    ]
  }
2023-04-26T17:10:07.948Z - INFO - engine sent successfully, the response to CBRS : {
  "heartbeatResponse": [
    {
      "cbsdId": "W6U-TEST-FCC-IDMock-SAS68530322500007",
      "grantId": "41108978",
      "response": {
        "responseCode": 0
      },
      "transmitExpireTime": "2023-04-26T17:13:27Z"
    }
  ]
}
2023-04-26T17:10:08.035Z - INFO - heartbeat request from CBRS : {
  "heartbeatRequest": [
    {
      "cbsdId": "W6U-TEST-FCC-IDMock-SAS68530322500008",
      "grantId": "427677541",
      "operationState": "AUTHORIZED"
    }
  ]
}
2023-04-26T17:10:08.059Z - INFO - Time interval between two heartbeat request messages is: 30.321, limit is: 65.0
2023-04-26T17:10:08.134Z - INFO - engine sent successfully, the response to CBRS : {
  "heartbeatResponse": [
    {
      "cbsdId": "W6U-TEST-FCC-IDMock-SAS68530322500008",
      "grantId": "427677541",
      "response": {
        "responseCode": 0
      },
      "transmitExpireTime": "2023-04-26T17:13:28Z"
    }
  ]
}
2023-04-26T17:10:38.266Z - INFO - heartbeat request from CBRS : {
  "heartbeatRequest": [
    {
      "cbsdId": "W6U-TEST-FCC-IDMock-SAS68530322500007",
      "grantId": "41108978",
      "operationState": "AUTHORIZED"
    }
  ]
}
2023-04-26T17:10:38.272Z - INFO - engine sent successfully, the response to CBRS : {
  "heartbeatResponse": [
    {
      "cbsdId": "W6U-TEST-FCC-IDMock-SAS68530322500007",
      "grantId": "41108978",
      "response": {
        "responseCode": 0
      },

```



```

    "transmitExpireTime": "2023-04-26T17:13:58Z"
  }
}
}
2023-04-26T17:10:38.341Z - INFO - heartbeat request from CBRS : {
  "heartbeatRequest": [
    {
      "cbsdId": "W6U-TEST-FCC-IDMock-SAS68530322500008",
      "grantId": "427677541",
      "operationState": "AUTHORIZED"
    }
  ]
}
2023-04-26T17:10:38.361Z - INFO - Time interval between two heartbeat request messages is: 30.305, limit is: 65.0
2023-04-26T17:10:38.417Z - INFO - engine sent successfully, the response to CBRS : {
  "heartbeatResponse": [
    {
      "cbsdId": "W6U-TEST-FCC-IDMock-SAS68530322500008",
      "grantId": "427677541",
      "response": {
        "responseCode": 0
      },
      "transmitExpireTime": "2023-04-26T17:13:58Z"
    }
  ]
}
2023-04-26T17:10:40.346Z - INFO - arrived to nstep starting question answer session with the technician
2023-04-26T17:10:40.414Z - INFO - the question is : Did CBSD1 transmit power prior to AUTHORIZED state (first successful HBT response)? please choose one of the answers :
2023-04-26T17:11:00.239Z - INFO - for the question : Did CBSD1 transmit power prior to AUTHORIZED state (first successful HBT response)? , the user choose n
2023-04-26T17:11:00.243Z - INFO - the question is : Did CBSD1 transmit only within the frequency range specified in its grantRequest message? please choose one of the answers :
2023-04-26T17:12:19.951Z - INFO - for the question : Did CBSD1 transmit only within the frequency range specified in its grantRequest message? , the user choose y
2023-04-26T17:12:19.956Z - INFO - the question is : Did CBSD2 transmit power prior to AUTHORIZED state (first successful HBT response)? please choose one of the answers :
2023-04-26T17:12:27.434Z - INFO - for the question : Did CBSD2 transmit power prior to AUTHORIZED state (first successful HBT response)? , the user choose n
2023-04-26T17:12:27.440Z - INFO - the question is : Did CBSD2 transmit only within the frequency range specified in its grantRequest message? please choose one of the answers :
2023-04-26T17:12:34.868Z - INFO - for the question : Did CBSD2 transmit only within the frequency range specified in its grantRequest message? , the user choose y
2023-04-26T17:13:24.453Z - INFO - The final result of the test : WINNF.FT.D.HBT.2 is - passed and :the additional comments for the current test are : Both CBDS's Tx only after Authorized state and within allowed Fx and EIRP

```



10.11 Log file for test case ID: WINNF.FT.D.HBT.2 (Retest on 05/18/2023 per OnGo Alliance Guidance)

2023-05-18T20:21:27.336Z - INFO - WINNF TEST HARNESS RELEASE: 1.0.0.3 - 2018-November-13

2023-05-18T20:21:27.338Z - INFO - the selected test from the user : WINNF.FT.D.HBT.2 is starting now

2023-05-18T20:21:36.618Z - INFO - registration request from CBRS : {

```
"registrationRequest": [
  {
    "airInterface": {
      "radioTechnology": "NR"
    },
    "callSign": "1",
    "cbsdCategory": "A",
    "cbsdInfo": {
      "firmwareVersion": "1.1.10 ()",
      "hardwareVersion": "0.0.1",
      "model": "O-RU",
      "softwareVersion": "0.2.4 ()",
      "vendor": "SOLiD"
    },
    "cbsdSerialNumber": "68530322500007",
    "cpiSignatureData": {
      "digitalSignature": "j1vq18rNNN8l38JZtttIhPi7iqPXuThEHYbvjwR06aXiYkukiTdV38J9x39QtDSveh0V43oW3kxd-2osMadSV-
vuUV5GpCG9Vcs9IGwxXvCb508E3-RHRFZ-D2RkK4dGhKOs1hgGiw2277U2UfNrLpOTKGwyxELibZdC5lvZMhM9h7LUBqm6kthKaT6-
9eCfUD8nFuaAcPbNWQ_K389FOQ3A8E9G0f-
IOvTcPJqIDgb6M30A3q_Nu67psMoHOaAEW7lvklDarb1zIM0_dQ1zioMSEB07xYNM253EXilGBaZbrvP9hQ85plcXX9bPiz_tfaw7bjFTm9oXbaxR0jYEsg",
      "encodedCpiSignedData":
"eyJpbmNOYWxsYXRpb25QYXJhbSI6eyJsYXRpdHVkZSI6MS4wLjB2naXR1ZGU0JEUmcWiaGVpZ2h0IjoxLjAsImhlaWdodFR5cGU0OiBR0wiLCJpbmRvb3JEZXBs
b3ltZW50Ijpb0cnVlCjhbbnRlbn5hR2Fpbil6MC4wfSwiZmNjSWQ0iXNlU0tEVETVC1GQ0MtSUQ0LjYnNkU2VyaWFsTnVtYmVyljoiNjg1MzAzMjI1MDAwMDciLCJw
cm9mZXNzaW9uYWwJbnNOYWxsZXJEYXRhIjpb7ImNwaUlkljoiMSlsmNwaU5hbWUiOiIiwiaW5zdGFsbENlcnRpZmljYXRpb25UaW1lIjoiMjAxNy0xMC0xMVQyM
DozMDowMFoifX0",
      "protectedHeader": "eyJhbGciOiJSUzI1NiIsInR5cCI6IkpXVCJ9"
    },
    "fcclId": "W6U-TEST-FCC-ID",
    "measCapability": [
      "RECEIVED_POWER_WITH_GRANT"
    ],
    "userId": "1"
  }
]
```

2023-05-18T20:21:37.730Z - INFO - Registration message contains cpiSignatureData

2023-05-18T20:21:37.730Z - INFO - protectedHeader = {u'algi': u'RS256', u'typ': u'JWT'}

2023-05-18T20:21:37.732Z - INFO - encodedCpiSignedData contents = {

```
"installationParam": {
  "heightType": "AGL",
  "longitude": 1.0,
  "antennaGain": 0.0,
  "indoorDeployment": true,
  "latitude": 1.0,
  "height": 1.0
},
"professionalInstallerData": {
  "cpiName": "1",
  "installCertificationTime": "2017-10-11T20:30:00Z",
```

www.nemko.com

Nemko San Diego, a testing laboratory, is a authorized test lab (ATL) by the CBRS Alliance for standard WINNF-TS-0122

```

    "cpild": "1"
  },
  "fccId": "W6U-TEST-FCC-ID",
  "cbsdSerialNumber": "68530322500007"
}
2023-05-18T20:21:37.779Z - INFO - verified signature on cpiSignatureData
2023-05-18T20:21:37.848Z - INFO - cbsdCategory= 'A', removing optional param from cpi_schema
2023-05-18T20:21:37.852Z - INFO - cpiSignatureData data successfully validated against jsonschema
2023-05-18T20:21:37.869Z - INFO - engine sent successfully, the response to CBRS : {
  "registrationResponse": [
    {
      "cbsdId": "W6U-TEST-FCC-IDMock-SAS68530322500007",
      "response": {
        "responseCode": 0
      }
    }
  ]
}
2023-05-18T20:21:37.956Z - INFO - spectrumInquiry request from CBRS : {
  "spectrumInquiryRequest": [
    {
      "cbsdId": "W6U-TEST-FCC-IDMock-SAS68530322500007",
      "inquiredSpectrum": [
        {
          "highFrequency": 3700000000,
          "lowFrequency": 3550000000
        }
      ]
    }
  ]
}
2023-05-18T20:21:38.065Z - INFO - engine sent successfully, the response to CBRS : {
  "spectrumInquiryResponse": [
    {
      "availableChannel": [
        {
          "channelType": "GAA",
          "frequencyRange": {
            "highFrequency": 3700000000,
            "lowFrequency": 3550000000
          },
          "ruleApplied": "FCC_PART_96"
        }
      ],
      "cbsdId": "W6U-TEST-FCC-IDMock-SAS68530322500007",
      "response": {
        "responseCode": 0
      }
    }
  ]
}
2023-05-18T20:21:38.190Z - INFO - spectrumInquiry request from CBRS : {
  "spectrumInquiryRequest": [

```

```

{
  "cbsdId": "W6U-TEST-FCC-IDMock-SAS68530322500007",
  "inquiredSpectrum": [
    {
      "highFrequency": 3590000000.0,
      "lowFrequency": 3550000000.0
    }
  ]
}
]
}
}
2023-05-18T20:21:38.276Z - INFO - engine sent successfully, the response to CBRS : {
  "spectrumInquiryResponse": [
    {
      "availableChannel": [
        {
          "channelType": "GAA",
          "frequencyRange": {
            "highFrequency": 3590000000.0,
            "lowFrequency": 3550000000.0
          },
          "ruleApplied": "FCC_PART_96"
        }
      ],
      "cbsdId": "W6U-TEST-FCC-IDMock-SAS68530322500007",
      "response": {
        "responseCode": 0
      }
    }
  ]
}
}
2023-05-18T20:21:38.401Z - INFO - grant request from CBRS : {
  "grantRequest": [
    {
      "cbsdId": "W6U-TEST-FCC-IDMock-SAS68530322500007",
      "operationParam": {
        "maxEirp": 3.98,
        "operationFrequencyRange": {
          "highFrequency": 3590000000.0,
          "lowFrequency": 3550000000.0
        }
      }
    }
  ]
}
}
2023-05-18T20:21:38.578Z - INFO - engine sent successfully, the response to CBRS : {
  "grantResponse": [
    {
      "cbsdId": "W6U-TEST-FCC-IDMock-SAS68530322500007",
      "channelType": "GAA",
      "grantExpireTime": "2023-05-25T20:21:38Z",
      "grantId": "751321027",
      "heartbeatInterval": 60,

```

```

    "response": {
      "responseCode": 0
    }
  }
}
}
2023-05-18T20:21:38.654Z - INFO - heartbeat request from CBRS : {
  "heartbeatRequest": [
    {
      "cbsdId": "W6U-TEST-FCC-IDMock-SAS68530322500007",
      "grantId": "751321027",
      "grantRenew": true,
      "operationState": "GRANTED"
    }
  ]
}
2023-05-18T20:21:38.802Z - INFO - grantRenew received in HBT request message
2023-05-18T20:21:38.805Z - INFO - engine sent successfully, the response to CBRS : {
  "heartbeatResponse": [
    {
      "cbsdId": "W6U-TEST-FCC-IDMock-SAS68530322500007",
      "grantExpireTime": "2023-05-25T20:21:38Z",
      "grantId": "751321027",
      "response": {
        "responseCode": 0
      },
      "transmitExpireTime": "2023-05-18T20:24:58Z"
    }
  ]
}
2023-05-18T20:21:38.911Z - INFO - heartbeat request from CBRS : {
  "heartbeatRequest": [
    {
      "cbsdId": "W6U-TEST-FCC-IDMock-SAS68530322500007",
      "grantId": "751321027",
      "operationState": "AUTHORIZED"
    }
  ]
}
2023-05-18T20:21:39.025Z - INFO - Time interval between two heartbeat request messages is: 0.259, limit is: 65.0
2023-05-18T20:21:39.119Z - INFO - engine sent successfully, the response to CBRS : {
  "heartbeatResponse": [
    {
      "cbsdId": "W6U-TEST-FCC-IDMock-SAS68530322500007",
      "grantId": "751321027",
      "response": {
        "responseCode": 0
      },
      "transmitExpireTime": "2023-05-18T20:24:59Z"
    }
  ]
}
2023-05-18T20:21:39.211Z - INFO - registration request from CBRS : {

```

```

"registrationRequest": {
  {
    "airInterface": {
      "radioTechnology": "NR"
    },
    "callSign": "2",
    "cbsdCategory": "A",
    "cbsdInfo": {
      "firmwareVersion": "1.1.10 ()",
      "hardwareVersion": "0.0.1",
      "model": "O-RU",
      "softwareVersion": "0.2.4 ()",
      "vendor": "SOLiD"
    },
    "cbsdSerialNumber": "68530322500008",
    "cpiSignatureData": {
      "digitalSignature": "1GZe27Pb3Be1PvI9yPlgMJkJBidGn0YZwJgD-5anZn18-
m8YydUcQJnchTtW5Ec8s9vuclxTGeVZPKsAzuoypmUfNMJorBpRwyy1qKDCvUtqLkS5VXC8ZdUWgEdAnHGG6EcP_Xktlb3SNLfsV8KHLajP602pt0_ffOo-
Fc0f0fCYhkoleAtqU2lx4100g9v1Ztf2z1NtwAMzpPKzUqaKVEu7WWlzfZVTgirqIrmrJQz7iO8050WINjk4xxEHLxT2yrK2osiZAdffdBmX5K1Ek_y8lwXRIupH6KMTYKl
9NHdhGvYp1rDrXo93ciYOB9AdzKf4ihg8qKkQe3DIISRSg",
      "encodedCpiSignedData":
"eyJpbmN0YWxsYXRpb25QYXJhbSI6eyJsYXRpdHVkZSI6Mi4wLjBjb25naXR1ZGU0JlUwMCwiaGVpZ2h0IjoyLjAsImhlaWdodFR5cGU0IjBR0wiLCJpbmRvb3JlZXBsb3ltZW50Ijpb0cnVILCJhbnRlbn5hR2Fpbil6MC4wfSwiZmNjSWQ0OiOiXNIUVEVTVVC1GQ0MtSUQilCJjYnNkU2VyaWFsTnVtYmVyljoiNjg1MzAzMjl1MDAwMDgiLCJwc
m9mZXNzaW9uYWxjb2N0YWxsZXJEYXRhljp7ImNwaUlkljoiMSlsmNwaU5hbWUiOiIixliwiaW5zdGFsbENlcnRpZmljYXRpb25UaW1lIjoiMjAxNy0xMC0xMVQyMD
ozMDowMFoiX0",
      "protectedHeader": "eyJhbGciOiJSUzI1NiIsInR5cCI6IkpXVCJ9"
    },
    "fccId": "W6U-TEST-FCC-ID",
    "measCapability": [
      "RECEIVED_POWER_WITH_GRANT"
    ],
    "userId": "2"
  }
}
}

2023-05-18T20:21:39.691Z - INFO - Registration message contains cpiSignatureData
2023-05-18T20:21:39.693Z - INFO - protectedHeader = {u'alg': u'RS256', u'typ': u'JWT'}
2023-05-18T20:21:39.694Z - INFO - encodedCpiSignedData contents = {
  "installationParam": {
    "heightType": "AGL",
    "longitude": 2.0,
    "antennaGain": 0.0,
    "indoorDeployment": true,
    "latitude": 2.0,
    "height": 2.0
  },
  "professionalInstallerData": {
    "cpiName": "1",
    "installCertificationTime": "2017-10-11T20:30:00Z",
    "cpild": "1"
  },
  "fccId": "W6U-TEST-FCC-ID",
  "cbsdSerialNumber": "68530322500008"
}

```



```

}
2023-05-18T20:21:39.698Z - INFO - verified signature on cpiSignatureData
2023-05-18T20:21:39.701Z - INFO - cbsdCategory= 'A', removing optional param from cpi_schema
2023-05-18T20:21:39.706Z - INFO - cpiSignatureData data successfully validated against jsonschema
2023-05-18T20:21:39.734Z - INFO - engine sent successfully, the response to CBRS : {
  "registrationResponse": [
    {
      "cbsdId": "W6U-TEST-FCC-IDMock-SAS68530322500008",
      "response": {
        "responseCode": 0
      }
    }
  ]
}
2023-05-18T20:21:39.821Z - INFO - heartbeat request from CBRS : {
  "heartbeatRequest": [
    {
      "cbsdId": "W6U-TEST-FCC-IDMock-SAS68530322500007",
      "grantId": "751321027",
      "operationState": "AUTHORIZED"
    }
  ]
}
2023-05-18T20:21:39.832Z - INFO - Time interval between two heartbeat request messages is: 0.907, limit is: 65.0
2023-05-18T20:21:39.914Z - INFO - engine sent successfully, the response to CBRS : {
  "heartbeatResponse": [
    {
      "cbsdId": "W6U-TEST-FCC-IDMock-SAS68530322500007",
      "grantId": "751321027",
      "response": {
        "responseCode": 0
      },
      "transmitExpireTime": "2023-05-18T20:24:59Z"
    }
  ]
}
2023-05-18T20:21:40.000Z - INFO - spectrumInquiry request from CBRS : {
  "spectrumInquiryRequest": [
    {
      "cbsdId": "W6U-TEST-FCC-IDMock-SAS68530322500008",
      "inquiredSpectrum": [
        {
          "highFrequency": 3700000000,
          "lowFrequency": 3550000000
        }
      ]
    }
  ]
}
2023-05-18T20:21:40.125Z - INFO - engine sent successfully, the response to CBRS : {
  "spectrumInquiryResponse": [
    {
      "availableChannel": [

```

```

    {
      "channelType": "GAA",
      "frequencyRange": {
        "highFrequency": 3700000000,
        "lowFrequency": 3550000000
      },
      "ruleApplied": "FCC_PART_96"
    }
  ],
  "cbsdId": "W6U-TEST-FCC-IDMock-SAS68530322500008",
  "response": {
    "responseCode": 0
  }
}
]
}
2023-05-18T20:21:40.213Z - INFO - heartbeat request from CBRS : {
  "heartbeatRequest": [
    {
      "cbsdId": "W6U-TEST-FCC-IDMock-SAS68530322500007",
      "grantId": "751321027",
      "operationState": "AUTHORIZED"
    }
  ]
}
2023-05-18T20:21:40.293Z - INFO - Time interval between two heartbeat request messages is: 0.393, limit is: 65.0
2023-05-18T20:21:40.332Z - INFO - engine sent successfully, the response to CBRS : {
  "heartbeatResponse": [
    {
      "cbsdId": "W6U-TEST-FCC-IDMock-SAS68530322500007",
      "grantId": "751321027",
      "response": {
        "responseCode": 0
      },
      "transmitExpireTime": "2023-05-18T20:25:00Z"
    }
  ]
}
2023-05-18T20:21:40.877Z - INFO - heartbeat request from CBRS : {
  "heartbeatRequest": [
    {
      "cbsdId": "W6U-TEST-FCC-IDMock-SAS68530322500007",
      "grantId": "751321027",
      "operationState": "AUTHORIZED"
    }
  ]
}
2023-05-18T20:21:40.892Z - INFO - Time interval between two heartbeat request messages is: 0.664, limit is: 65.0
2023-05-18T20:21:41.020Z - INFO - engine sent successfully, the response to CBRS : {
  "heartbeatResponse": [
    {
      "cbsdId": "W6U-TEST-FCC-IDMock-SAS68530322500007",
      "grantId": "751321027",

```

```

    "response": {
      "responseCode": 0
    },
    "transmitExpireTime": "2023-05-18T20:25:01Z"
  }
}
}
2023-05-18T20:21:42.398Z - INFO - heartbeat request from CBRS : {
  "heartbeatRequest": [
    {
      "cbsdId": "W6U-TEST-FCC-IDMock-SAS68530322500007",
      "grantId": "751321027",
      "operationState": "AUTHORIZED"
    }
  ]
}
}
2023-05-18T20:21:42.413Z - INFO - Time interval between two heartbeat request messages is: 1.521, limit is: 65.0
2023-05-18T20:21:42.469Z - INFO - engine sent successfully, the response to CBRS : {
  "heartbeatResponse": [
    {
      "cbsdId": "W6U-TEST-FCC-IDMock-SAS68530322500007",
      "grantId": "751321027",
      "response": {
        "responseCode": 0
      },
      "transmitExpireTime": "2023-05-18T20:25:02Z"
    }
  ]
}
}
2023-05-18T20:21:42.545Z - INFO - spectrumInquiry request from CBRS : {
  "spectrumInquiryRequest": [
    {
      "cbsdId": "W6U-TEST-FCC-IDMock-SAS68530322500008",
      "inquiredSpectrum": [
        {
          "highFrequency": 3590000000.0,
          "lowFrequency": 3550000000.0
        }
      ]
    }
  ]
}
}
}
2023-05-18T20:21:42.589Z - INFO - engine sent successfully, the response to CBRS : {
  "spectrumInquiryResponse": [
    {
      "availableChannel": [
        {
          "channelType": "GAA",
          "frequencyRange": {
            "highFrequency": 3590000000.0,
            "lowFrequency": 3550000000.0
          },
          "ruleApplied": "FCC_PART_96"
        }
      ]
    }
  ]
}
}

```

```

    }
  ],
  "cbsdId": "W6U-TEST-FCC-IDMock-SAS68530322500008",
  "response": {
    "responseCode": 0
  }
}
}
}
2023-05-18T20:21:42.654Z - INFO - grant request from CBRS : {
  "grantRequest": [
    {
      "cbsdId": "W6U-TEST-FCC-IDMock-SAS68530322500008",
      "operationParam": {
        "maxEirp": 3.98,
        "operationFrequencyRange": {
          "highFrequency": 3590000000.0,
          "lowFrequency": 3550000000.0
        }
      }
    }
  ]
}
}
2023-05-18T20:21:42.713Z - INFO - engine sent successfully, the response to CBRS : {
  "grantResponse": [
    {
      "cbsdId": "W6U-TEST-FCC-IDMock-SAS68530322500008",
      "channelType": "GAA",
      "grantExpireTime": "2023-05-25T20:21:42Z",
      "grantId": "883203998",
      "heartbeatInterval": 60,
      "response": {
        "responseCode": 0
      }
    }
  ]
}
}
2023-05-18T20:21:42.828Z - INFO - heartbeat request from CBRS : {
  "heartbeatRequest": [
    {
      "cbsdId": "W6U-TEST-FCC-IDMock-SAS68530322500008",
      "grantId": "883203998",
      "grantRenew": true,
      "operationState": "GRANTED"
    }
  ]
}
}
2023-05-18T20:21:42.938Z - INFO - grantRenew received in HBT request message
2023-05-18T20:21:42.944Z - INFO - engine sent successfully, the response to CBRS : {
  "heartbeatResponse": [
    {
      "cbsdId": "W6U-TEST-FCC-IDMock-SAS68530322500008",
      "grantExpireTime": "2023-05-25T20:21:42Z",

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```

    "grantId": "883203998",
    "response": {
      "responseCode": 0
    },
    "transmitExpireTime": "2023-05-18T20:25:02Z"
  }
}
}
2023-05-18T20:21:43.053Z - INFO - heartbeat request from CBRS : {
  "heartbeatRequest": [
    {
      "cbsdId": "W6U-TEST-FCC-IDMock-SAS68530322500007",
      "grantId": "751321027",
      "operationState": "AUTHORIZED"
    }
  ]
}
2023-05-18T20:21:43.085Z - INFO - engine sent successfully, the response to CBRS : {
  "heartbeatResponse": [
    {
      "cbsdId": "W6U-TEST-FCC-IDMock-SAS68530322500007",
      "grantId": "751321027",
      "response": {
        "responseCode": 0
      },
      "transmitExpireTime": "2023-05-18T20:25:03Z"
    }
  ]
}
2023-05-18T20:21:43.161Z - INFO - heartbeat request from CBRS : {
  "heartbeatRequest": [
    {
      "cbsdId": "W6U-TEST-FCC-IDMock-SAS68530322500008",
      "grantId": "883203998",
      "operationState": "AUTHORIZED"
    }
  ]
}
2023-05-18T20:21:43.170Z - INFO - Time interval between two heartbeat request messages is: 0.326, limit is: 65.0
2023-05-18T20:21:43.209Z - INFO - engine sent successfully, the response to CBRS : {
  "heartbeatResponse": [
    {
      "cbsdId": "W6U-TEST-FCC-IDMock-SAS68530322500008",
      "grantId": "883203998",
      "response": {
        "responseCode": 0
      },
      "transmitExpireTime": "2023-05-18T20:25:03Z"
    }
  ]
}
2023-05-18T20:21:54.727Z - INFO - heartbeat request from CBRS : {
  "heartbeatRequest": [

```

```

{
  "cbsdId": "W6U-TEST-FCC-IDMock-SAS68530322500007",
  "grantId": "751321027",
  "operationState": "AUTHORIZED"
}
]
}
2023-05-18T20:21:54.776Z - INFO - engine sent successfully, the response to CBRS : {
  "heartbeatResponse": [
    {
      "cbsdId": "W6U-TEST-FCC-IDMock-SAS68530322500007",
      "grantId": "751321027",
      "response": {
        "responseCode": 0
      },
      "transmitExpireTime": "2023-05-18T20:25:14Z"
    }
  ]
}
2023-05-18T20:21:54.859Z - INFO - heartbeat request from CBRS : {
  "heartbeatRequest": [
    {
      "cbsdId": "W6U-TEST-FCC-IDMock-SAS68530322500008",
      "grantId": "883203998",
      "operationState": "AUTHORIZED"
    }
  ]
}
2023-05-18T20:21:54.908Z - INFO - Time interval between two heartbeat request messages is: 11.699, limit is: 65.0
2023-05-18T20:21:55.056Z - INFO - engine sent successfully, the response to CBRS : {
  "heartbeatResponse": [
    {
      "cbsdId": "W6U-TEST-FCC-IDMock-SAS68530322500008",
      "grantId": "883203998",
      "response": {
        "responseCode": 0
      },
      "transmitExpireTime": "2023-05-18T20:25:15Z"
    }
  ]
}
2023-05-18T20:22:04.686Z - INFO - heartbeat request from CBRS : {
  "heartbeatRequest": [
    {
      "cbsdId": "W6U-TEST-FCC-IDMock-SAS68530322500007",
      "grantId": "751321027",
      "operationState": "AUTHORIZED"
    }
  ]
}
2023-05-18T20:22:04.691Z - INFO - engine sent successfully, the response to CBRS : {
  "heartbeatResponse": [
    {

```



```

    "cbsdId": "W6U-TEST-FCC-IDMock-SAS68530322500007",
    "grantId": "751321027",
    "response": {
      "responseCode": 0
    },
    "transmitExpireTime": "2023-05-18T20:25:24Z"
  }
}
}
2023-05-18T20:22:04.831Z - INFO - heartbeat request from CBRS : {
  "heartbeatRequest": [
    {
      "cbsdId": "W6U-TEST-FCC-IDMock-SAS68530322500008",
      "grantId": "883203998",
      "operationState": "AUTHORIZED"
    }
  ]
}
}
2023-05-18T20:22:04.997Z - INFO - Time interval between two heartbeat request messages is: 9.989, limit is: 65.0
2023-05-18T20:22:05.137Z - INFO - engine sent successfully, the response to CBRS : {
  "heartbeatResponse": [
    {
      "cbsdId": "W6U-TEST-FCC-IDMock-SAS68530322500008",
      "grantId": "883203998",
      "response": {
        "responseCode": 0
      },
      "transmitExpireTime": "2023-05-18T20:25:25Z"
    }
  ]
}
}
2023-05-18T20:22:05.233Z - INFO - heartbeat request from CBRS : {
  "heartbeatRequest": [
    {
      "cbsdId": "W6U-TEST-FCC-IDMock-SAS68530322500007",
      "grantId": "751321027",
      "operationState": "AUTHORIZED"
    }
  ]
}
}
2023-05-18T20:22:05.265Z - INFO - engine sent successfully, the response to CBRS : {
  "heartbeatResponse": [
    {
      "cbsdId": "W6U-TEST-FCC-IDMock-SAS68530322500007",
      "grantId": "751321027",
      "response": {
        "responseCode": 0
      },
      "transmitExpireTime": "2023-05-18T20:25:25Z"
    }
  ]
}
}
2023-05-18T20:22:05.387Z - INFO - heartbeat request from CBRS : {

```



```

"heartbeatRequest": [
  {
    "cbsdId": "W6U-TEST-FCC-IDMock-SAS68530322500008",
    "grantId": "883203998",
    "operationState": "AUTHORIZED"
  }
]
}
2023-05-18T20:22:05.395Z - INFO - Time interval between two heartbeat request messages is: 0.538, limit is: 65.0
2023-05-18T20:22:05.476Z - INFO - engine sent successfully, the response to CBRS : {
  "heartbeatResponse": [
    {
      "cbsdId": "W6U-TEST-FCC-IDMock-SAS68530322500008",
      "grantId": "883203998",
      "response": {
        "responseCode": 0
      },
      "transmitExpireTime": "2023-05-18T20:25:25Z"
    }
  ]
}
2023-05-18T20:22:05.575Z - INFO - heartbeat request from CBRS : {
  "heartbeatRequest": [
    {
      "cbsdId": "W6U-TEST-FCC-IDMock-SAS68530322500007",
      "grantId": "751321027",
      "operationState": "AUTHORIZED"
    }
  ]
}
2023-05-18T20:22:05.578Z - INFO - engine sent successfully, the response to CBRS : {
  "heartbeatResponse": [
    {
      "cbsdId": "W6U-TEST-FCC-IDMock-SAS68530322500007",
      "grantId": "751321027",
      "response": {
        "responseCode": 0
      },
      "transmitExpireTime": "2023-05-18T20:25:25Z"
    }
  ]
}
2023-05-18T20:22:05.710Z - INFO - heartbeat request from CBRS : {
  "heartbeatRequest": [
    {
      "cbsdId": "W6U-TEST-FCC-IDMock-SAS68530322500008",
      "grantId": "883203998",
      "operationState": "AUTHORIZED"
    }
  ]
}
2023-05-18T20:22:05.775Z - INFO - Time interval between two heartbeat request messages is: 0.331, limit is: 65.0
2023-05-18T20:22:05.957Z - INFO - engine sent successfully, the response to CBRS : {

```



```
"heartbeatResponse": [
  {
    "cbsdId": "W6U-TEST-FCC-IDMock-SAS68530322500008",
    "grantId": "883203998",
    "response": {
      "responseCode": 0
    },
    "transmitExpireTime": "2023-05-18T20:25:25Z"
  }
]
```

2023-05-18T20:22:07.822Z - INFO - arrived to nstep starting question answer session with the technician

2023-05-18T20:22:07.891Z - INFO - the question is : Did CBSD1 transmit power prior to AUTHORIZED state (first successful HBT response)? please choose one of the answers :

2023-05-18T20:22:33.427Z - INFO - for the question : Did CBSD1 transmit power prior to AUTHORIZED state (first successful HBT response)? , the user choose n

2023-05-18T20:22:33.430Z - INFO - the question is : Did CBSD1 transmit only within the frequency range specified in its grantRequest message? please choose one of the answers :

2023-05-18T20:24:03.655Z - INFO - for the question : Did CBSD1 transmit only within the frequency range specified in its grantRequest message? , the user choose y

2023-05-18T20:24:03.661Z - INFO - the question is : Did CBSD2 transmit power prior to AUTHORIZED state (first successful HBT response)? please choose one of the answers :

2023-05-18T20:24:08.930Z - INFO - for the question : Did CBSD2 transmit power prior to AUTHORIZED state (first successful HBT response)? , the user choose n

2023-05-18T20:24:08.937Z - INFO - the question is : Did CBSD2 transmit only within the frequency range specified in its grantRequest message? please choose one of the answers :

2023-05-18T20:24:31.017Z - INFO - for the question : Did CBSD2 transmit only within the frequency range specified in its grantRequest message? , the user choose y

2023-05-18T20:25:22.283Z - INFO - The final result of the test : WINNF.FT.D.HBT.2 is - passed and :the additional comments for the current test are : Both CBSD's Transmit power after the Authorized state

10.12 Log file for test case ID: WINNF.FT.C.HBT.3

2023-04-26T17:19:53.125Z - INFO - WINNF TEST HARNESS RELEASE: 1.0.0.3 - 2018-November-13

2023-04-26T17:19:53.130Z - INFO - the selected test from the user : WINNF.FT.C.HBT.3 is starting now

2023-04-26T17:19:56.546Z - INFO - registration request from CBRS : {

```

"registrationRequest": {
  {
    "airInterface": {
      "radioTechnology": "NR"
    },
    "callSign": "1",
    "cbsdCategory": "A",
    "cbsdInfo": {
      "firmwareVersion": "1.1.10 ()",
      "hardwareVersion": "0.0.1",
      "model": "O-RU",
      "softwareVersion": "0.2.4 ()",
      "vendor": "SOLiD"
    },
    "cbsdSerialNumber": "68530322500007",
    "cpiSignatureData": {
      "digitalSignature": "AR5MaDlzi5_qJGKAmdXCUYzoiDxUWghcxP_oJXuoi2xq1K2B22_gHAL6HcpvWjYkBuHR4Br0gY81Le21Wrdc3yZHreFOV1iKJCF-1GWGdpXNWZfuqRXj6-hIEA9s5dlmQtu_Q2Z2UEXpqISwn6xtBY7k1ql6yenllQ4nV7C0iRxt9L7AeubAFSLIDc3twXBrrbLbbRgtckEAPbi2VgOAU4dkMuMydrYzolkQVNV4Nei9uL9r3rgaEfCmHWVviex18_6kELx_IQYnU3P_N2siY81q57jE6AeJpWm3qa4n8Vm9Bdjv-riOZJ_E6-Mq7HhoF5EK4hLI9tNC_T5fpnYMOA",
      "encodedCpiSignedData":
"eyJpbmN0YWxsYXRpb25QYXJhbSI6eyJsYXRpdHVkZSI6MS4wLjCj5b25naXR1ZGUiOiJEUmMCwiaGVpZ2h0IjoxLjAsImhlaWdodFR5cGUiOiJBROwiLCJpbmRvb3JlZXBsY3ltZ2W50ljp0cnVlLCJhbnRlbn5hR2Fpbil6MC4wfSwiZmNjSWQ0iXNlUutVEVTVc1GQOMtSUQlLCJjYnNkU2VyaWFsTnVtYmVyljoiNjg1MzAzMjI1MDAwMDciLCJwcm9mZXNzaW9uYWxjb2N0YXN5ZXJlYXRhIjpw7ImNwaUlkljoiMTEwIiwiaW53BpTmFtZSI6IjEiLCJpbmN0YWxsQ2VydGlmaWNhdGlvbiRpbWUiOiilyMDE3LTcwLTExVjEwOjMwOjAwWiI9fQ",
      "protectedHeader": "eyJhbGciOiJSUzI1NiIsInR5cCI6IkpXVCJ9"
    },
    "fccId": "W6U-TEST-FCC-ID",
    "userId": "1"
  }
}
]
}

```

2023-04-26T17:19:56.993Z - INFO - Registration message contains cpiSignatureData

2023-04-26T17:19:56.996Z - INFO - protectedHeader = {u'alg': u'RS256', u'typ': u'JWT'}

2023-04-26T17:19:56.996Z - INFO - encodedCpiSignedData contents = {

```
{
  "installationParam": {
    "heightType": "AGL",
    "longitude": 1.0,
    "antennaGain": 0.0,
    "indoorDeployment": true,
    "latitude": 1.0,
    "height": 1.0
  },
  "professionalInstallerData": {
    "cpiName": "1",
    "installCertificationTime": "2017-10-11T20:30:00Z",
    "cpild": "111"
  },
  "fccId": "W6U-TEST-FCC-ID",
}
```

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```

    "cbsdSerialNumber": "68530322500007"
  }
2023-04-26T17:19:57.049Z - INFO - verified signature on cpiSignatureData
2023-04-26T17:19:57.125Z - INFO - cbsdCategory= 'A', removing optional param from cpi_schema
2023-04-26T17:19:57.134Z - INFO - cpiSignatureData data successfully validated against jsonschema
2023-04-26T17:19:57.145Z - INFO - engine sent successfully, the response to CBRS : {
  "registrationResponse": [
    {
      "cbsdId": "W6U-TEST-FCC-IDMock-SAS68530322500007",
      "response": {
        "responseCode": 0
      }
    }
  ]
}
2023-04-26T17:19:57.243Z - INFO - spectrumInquiry request from CBRS : {
  "spectrumInquiryRequest": [
    {
      "cbsdId": "W6U-TEST-FCC-IDMock-SAS68530322500007",
      "inquiredSpectrum": [
        {
          "highFrequency": 3700000000,
          "lowFrequency": 3550000000
        }
      ]
    }
  ]
}
2023-04-26T17:19:57.348Z - INFO - engine sent successfully, the response to CBRS : {
  "spectrumInquiryResponse": [
    {
      "availableChannel": [
        {
          "channelType": "GAA",
          "frequencyRange": {
            "highFrequency": 3700000000,
            "lowFrequency": 3550000000
          },
          "ruleApplied": "FCC_PART_96"
        }
      ],
      "cbsdId": "W6U-TEST-FCC-IDMock-SAS68530322500007",
      "response": {
        "responseCode": 0
      }
    }
  ]
}
2023-04-26T17:19:57.457Z - INFO - spectrumInquiry request from CBRS : {
  "spectrumInquiryRequest": [
    {
      "cbsdId": "W6U-TEST-FCC-IDMock-SAS68530322500007",
      "inquiredSpectrum": [

```

```

    {
      "highFrequency": 3590030000.0,
      "lowFrequency": 3550030000.0
    }
  ]
}
}
}
2023-04-26T17:19:57.493Z - INFO - engine sent successfully, the response to CBRS : {
  "spectrumInquiryResponse": [
    {
      "availableChannel": [
        {
          "channelType": "GAA",
          "frequencyRange": {
            "highFrequency": 3590030000.0,
            "lowFrequency": 3550030000.0
          },
          "ruleApplied": "FCC_PART_96"
        }
      ],
      "cbsdId": "W6U-TEST-FCC-IDMock-SAS68530322500007",
      "response": {
        "responseCode": 0
      }
    }
  ]
}
2023-04-26T17:19:57.592Z - INFO - grant request from CBRS : {
  "grantRequest": [
    {
      "cbsdId": "W6U-TEST-FCC-IDMock-SAS68530322500007",
      "operationParam": {
        "maxEirp": 3.98,
        "operationFrequencyRange": {
          "highFrequency": 3590030000.0,
          "lowFrequency": 3550030000.0
        }
      }
    }
  ]
}
2023-04-26T17:19:57.707Z - INFO - engine sent successfully, the response to CBRS : {
  "grantResponse": [
    {
      "cbsdId": "W6U-TEST-FCC-IDMock-SAS68530322500007",
      "channelType": "GAA",
      "grantExpireTime": "2023-05-03T17:19:57Z",
      "grantId": "748280091",
      "heartbeatInterval": 60,
      "response": {
        "responseCode": 0
      }
    }
  ]
}

```

```

    }
  ]
}
2023-04-26T17:19:57.822Z - INFO - heartbeat request from CBRS : {
  "heartbeatRequest": [
    {
      "cbsdId": "W6U-TEST-FCC-IDMock-SAS68530322500007",
      "grantId": "748280091",
      "grantRenew": true,
      "operationState": "GRANTED"
    }
  ]
}
2023-04-26T17:19:57.911Z - INFO - grantRenew received in HBT request message
2023-04-26T17:19:57.914Z - INFO - engine sent successfully, the response to CBRS : {
  "heartbeatResponse": [
    {
      "cbsdId": "W6U-TEST-FCC-IDMock-SAS68530322500007",
      "grantExpireTime": "2023-05-03T17:19:57Z",
      "grantId": "748280091",
      "response": {
        "responseCode": 0
      },
      "transmitExpireTime": "2023-04-26T17:23:17Z"
    }
  ]
}
2023-04-26T17:19:58.010Z - INFO - heartbeat request from CBRS : {
  "heartbeatRequest": [
    {
      "cbsdId": "W6U-TEST-FCC-IDMock-SAS68530322500007",
      "grantId": "748280091",
      "operationState": "AUTHORIZED"
    }
  ]
}
2023-04-26T17:19:58.023Z - INFO - Time interval between two heartbeat request messages is: 0.189, limit is: 65.0
2023-04-26T17:19:58.062Z - INFO - engine sent successfully, the response to CBRS : {
  "heartbeatResponse": [
    {
      "cbsdId": "W6U-TEST-FCC-IDMock-SAS68530322500007",
      "grantId": "748280091",
      "response": {
        "responseCode": 0
      },
      "transmitExpireTime": "2023-04-26T17:23:18Z"
    }
  ]
}
2023-04-26T17:20:18.174Z - INFO - heartbeat request from CBRS : {
  "heartbeatRequest": [
    {
      "cbsdId": "W6U-TEST-FCC-IDMock-SAS68530322500007",

```



```

    "grantId": "748280091",
    "operationState": "AUTHORIZED"
  }
}
}
2023-04-26T17:20:18.197Z - INFO - Time interval between two heartbeat request messages is: 20.165, limit is: 65.0
2023-04-26T17:20:18.278Z - INFO - engine sent successfully, the response to CBRS : {
  "heartbeatResponse": [
    {
      "cbsdId": "W6U-TEST-FCC-IDMock-SAS68530322500007",
      "grantId": "748280091",
      "response": {
        "responseCode": 0
      },
      "transmitExpireTime": "2023-04-26T17:23:38Z"
    }
  ]
}
}
2023-04-26T17:20:48.398Z - INFO - heartbeat request from CBRS : {
  "heartbeatRequest": [
    {
      "cbsdId": "W6U-TEST-FCC-IDMock-SAS68530322500007",
      "grantId": "748280091",
      "operationState": "AUTHORIZED"
    }
  ]
}
}
2023-04-26T17:20:48.421Z - INFO - Time interval between two heartbeat request messages is: 30.223, limit is: 65.0
2023-04-26T17:20:48.490Z - INFO - engine sent successfully, the response to CBRS : {
  "heartbeatResponse": [
    {
      "cbsdId": "W6U-TEST-FCC-IDMock-SAS68530322500007",
      "grantId": "748280091",
      "response": {
        "responseCode": 105
      },
      "transmitExpireTime": "2023-04-26T17:20:48Z"
    }
  ]
}
}
2023-04-26T17:20:49.627Z - INFO - arrived to nstep starting question answer session with the technician
2023-04-26T17:20:49.634Z - INFO - the question is : Did the CBSD stop RF transmission within 60 seconds of receiving Heartbeat response with responseCode = 105? please choose one of the answers :
2023-04-26T17:21:30.654Z - INFO - for the question : Did the CBSD stop RF transmission within 60 seconds of receiving Heartbeat response with responseCode = 105? , the user choose y
2023-04-26T17:22:12.984Z - INFO - The final result of the test : WINNF.FT.C.HBT.3 is - passed and :the additional comments for the current test are : CBSD stop Tx within 1 second of responsecode 105

```

10.13 Log file for test case ID: WINNF.FT.C.HBT.5

2023-04-26T17:27:04.536Z - INFO - WINNF TEST HARNESS RELEASE: 1.0.0.3 - 2018-November-13

2023-04-26T17:27:04.540Z - INFO - the selected test from the user : WINNF.FT.C.HBT.5 is starting now

2023-04-26T17:27:08.201Z - INFO - registration request from CBRS : {

```

"registrationRequest": {
  {
    "airInterface": {
      "radioTechnology": "NR"
    },
    "callSign": "1",
    "cbsdCategory": "A",
    "cbsdInfo": {
      "firmwareVersion": "1.1.10 ()",
      "hardwareVersion": "0.0.1",
      "model": "O-RU",
      "softwareVersion": "0.2.4 ()",
      "vendor": "SOLiD"
    },
    "cbsdSerialNumber": "68530322500007",
    "cpiSignatureData": {
      "digitalSignature": "AR5MaDlzi5_qJGKAmdXCUYzoiDxUWghcxP_oJXuoi2xq1K2B22_gHAL6HcpvWjYkBuHR4Br0gY81Le21Wrdc3yZHreFOV1iKJCF-1GWGdpXNWZfuqRXj6-hIEA9s5dlmQtu_Q2Z2UEXpqISwn6xtBY7k1ql6yenllQ4nV7C0iRxt9L7AeubAFSLIDc3twXBrrbLbbRgtckEAPbi2VgOAU4dkMuMydrYzolkQVNV4Nei9uL9r3rgaEfCmHWVviex18_6kELx_IQYnU3P_N2siY81q57jE6AeJpWm3qa4n8Vm9Bdjv-riOZJ_E6-Mq7HhoF5EK4hLI9tNC_T5fpnYMOA",
      "encodedCpiSignedData":
"eyJpbmN0YWxsYXRpb25QYXJhbSI6eyJsYXRpdHVkZSI6MS4wLjCj5b25naXR1ZGUiOiEuMCwiaGVpZ2h0IjoxLjAsImhlaWdodFR5cGUiOiJBROwiLCJpbmRvb3JlZXBsY3ltZW50IjpbO2cnVlLCJhbnRlbn5hR2Fpbil6MC4wfSwiZmNjSWQ0iXNlU0tVEVTVV3QGMtSUUqLiJjYnNkU2VyaWFsTnVtYmVyljoiNjg1MzAzMjI1MDAwMDciLCJwcm9mZXNzaW9uYWxjb2N0YXN5ZXJlYXRhIjpb7ImNwaUlkljoiMTEwIiwiaW53BpTmFtZSI6IjEiLCJpbmN0YXN5ZXQ2VydGlmaWNhdGlvbiRpbWUiOiilyMDE3LTcwLTExVjIwOjMwOjAwWiI9fQ",
      "protectedHeader": "eyJhbGciOiJSUzI1NiIsInR5cCI6IkpXVCJ9"
    },
    "fccId": "W6U-TEST-FCC-ID",
    "userId": "1"
  }
}
]
}

```

2023-04-26T17:27:08.426Z - INFO - Registration message contains cpiSignatureData

2023-04-26T17:27:08.427Z - INFO - protectedHeader = {u'alg': u'RS256', u'typ': u'JWT'}

2023-04-26T17:27:08.431Z - INFO - encodedCpiSignedData contents = {

```
{
  "installationParam": {
    "heightType": "AGL",
    "longitude": 1.0,
    "antennaGain": 0.0,
    "indoorDeployment": true,
    "latitude": 1.0,
    "height": 1.0
  },
  "professionalInstallerData": {
    "cpiName": "1",
    "installCertificationTime": "2017-10-11T20:30:00Z",
    "cpild": "111"
  },
  "fccId": "W6U-TEST-FCC-ID",
}
```

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```

    "cbsdSerialNumber": "68530322500007"
  }
2023-04-26T17:27:08.444Z - INFO - verified signature on cpiSignatureData
2023-04-26T17:27:08.456Z - INFO - cbsdCategory= 'A', removing optional param from cpi_schema
2023-04-26T17:27:08.460Z - INFO - cpiSignatureData data successfully validated against jsonschema
2023-04-26T17:27:08.467Z - INFO - engine sent successfully, the response to CBRS : {
  "registrationResponse": [
    {
      "cbsdId": "W6U-TEST-FCC-IDMock-SAS68530322500007",
      "response": {
        "responseCode": 0
      }
    }
  ]
}
2023-04-26T17:27:08.553Z - INFO - spectrumInquiry request from CBRS : {
  "spectrumInquiryRequest": [
    {
      "cbsdId": "W6U-TEST-FCC-IDMock-SAS68530322500007",
      "inquiredSpectrum": [
        {
          "highFrequency": 3700000000,
          "lowFrequency": 3550000000
        }
      ]
    }
  ]
}
2023-04-26T17:27:08.598Z - INFO - engine sent successfully, the response to CBRS : {
  "spectrumInquiryResponse": [
    {
      "availableChannel": [
        {
          "channelType": "GAA",
          "frequencyRange": {
            "highFrequency": 3700000000,
            "lowFrequency": 3550000000
          },
          "ruleApplied": "FCC_PART_96"
        }
      ],
      "cbsdId": "W6U-TEST-FCC-IDMock-SAS68530322500007",
      "response": {
        "responseCode": 0
      }
    }
  ]
}
2023-04-26T17:27:08.713Z - INFO - spectrumInquiry request from CBRS : {
  "spectrumInquiryRequest": [
    {
      "cbsdId": "W6U-TEST-FCC-IDMock-SAS68530322500007",
      "inquiredSpectrum": [

```

```

    {
      "highFrequency": 3590030000.0,
      "lowFrequency": 3550030000.0
    }
  ]
}
}
}
2023-04-26T17:27:08.762Z - INFO - engine sent successfully, the response to CBRS : {
  "spectrumInquiryResponse": [
    {
      "availableChannel": [
        {
          "channelType": "GAA",
          "frequencyRange": {
            "highFrequency": 3590030000.0,
            "lowFrequency": 3550030000.0
          },
          "ruleApplied": "FCC_PART_96"
        }
      ],
      "cbsdId": "W6U-TEST-FCC-IDMock-SAS68530322500007",
      "response": {
        "responseCode": 0
      }
    }
  ]
}
2023-04-26T17:27:08.846Z - INFO - grant request from CBRS : {
  "grantRequest": [
    {
      "cbsdId": "W6U-TEST-FCC-IDMock-SAS68530322500007",
      "operationParam": {
        "maxEirp": 3.98,
        "operationFrequencyRange": {
          "highFrequency": 3590030000.0,
          "lowFrequency": 3550030000.0
        }
      }
    }
  ]
}
2023-04-26T17:27:08.908Z - INFO - engine sent successfully, the response to CBRS : {
  "grantResponse": [
    {
      "cbsdId": "W6U-TEST-FCC-IDMock-SAS68530322500007",
      "channelType": "GAA",
      "grantExpireTime": "2023-05-03T17:27:08Z",
      "grantId": "595501058",
      "heartbeatInterval": 60,
      "response": {
        "responseCode": 0
      }
    }
  ]
}

```

```

    }
  ]
}
2023-04-26T17:27:09.016Z - INFO - heartbeat request from CBRS : {
  "heartbeatRequest": [
    {
      "cbsdId": "W6U-TEST-FCC-IDMock-SAS68530322500007",
      "grantId": "595501058",
      "grantRenew": true,
      "operationState": "GRANTED"
    }
  ]
}
2023-04-26T17:27:09.099Z - INFO - grantRenew received in HBT request message
2023-04-26T17:27:09.102Z - INFO - engine sent successfully, the response to CBRS : {
  "heartbeatResponse": [
    {
      "cbsdId": "W6U-TEST-FCC-IDMock-SAS68530322500007",
      "grantExpireTime": "2023-05-03T17:27:09Z",
      "grantId": "595501058",
      "response": {
        "responseCode": 501
      },
      "transmitExpireTime": "2023-04-26T17:27:09Z"
    }
  ]
}
2023-04-26T17:27:09.184Z - INFO - relinquishment request from CBRS : {
  "relinquishmentRequest": [
    {
      "cbsdId": "W6U-TEST-FCC-IDMock-SAS68530322500007",
      "grantId": "595501058"
    }
  ]
}
2023-04-26T17:27:09.286Z - INFO - engine sent successfully, the response to CBRS : {
  "relinquishmentResponse": [
    {
      "cbsdId": "W6U-TEST-FCC-IDMock-SAS68530322500007",
      "grantId": "595501058",
      "response": {
        "responseCode": 0
      }
    }
  ]
}
2023-04-26T17:27:10.588Z - INFO - arrived to nstep starting question answer session with the technician
2023-04-26T17:27:10.592Z - INFO - the question is : Did the CBSD transmit at any time during the test? please choose one of the answers :
2023-04-26T17:28:35.038Z - INFO - for the question : Did the CBSD transmit at any time during the test? , the user choose n
2023-04-26T17:29:07.548Z - INFO - The final result of the test : WINNF.FT.C.HBT.5 is - passed and :the additional comments for the current test are : No Tx
during the test and responsecode=501

```

10.14 Log file for test case ID: WINNF.FT.C.HBT.6

2023-04-26T17:37:19.293Z - INFO - WINNF TEST HARNESS RELEASE: 1.0.0.3 - 2018-November-13

2023-04-26T17:37:19.296Z - INFO - the selected test from the user : WINNF.FT.C.HBT.6 is starting now

2023-04-26T17:37:20.634Z - INFO - registration request from CBRS : {

```

"registrationRequest": {
  {
    "airInterface": {
      "radioTechnology": "NR"
    },
    "callSign": "1",
    "cbsdCategory": "A",
    "cbsdInfo": {
      "firmwareVersion": "1.1.10 ()",
      "hardwareVersion": "0.0.1",
      "model": "O-RU",
      "softwareVersion": "0.2.4 ()",
      "vendor": "SOLiD"
    },
    "cbsdSerialNumber": "68530322500007",
    "cpiSignatureData": {
      "digitalSignature": "AR5MaDlzi5_qJGKAmdXCUYzoiDxUWghcxP_oJXuoi2xq1K2B22_gHAL6HcpvWjYkBuHR4Br0gY81Le21Wrdc3yZHreFOV1iKJCF-1GWGdpXNWZfuqRXj6-hIEA9s5dlmQtu_Q2Z2UEXpqISwn6xtBY7k1ql6yenllQ4nV7C0iRxt9L7AeubAFSLIDc3twXBrrbLbbRgtckEAPbi2VgOAU4dkMuMydrYzolkQVNV4Nei9uL9r3rgaEfCmHWVviex18_6kELx_IQYnU3P_N2siY81q57jE6AeJpWm3qa4n8Vm9Bdjv-riOZJ_E6-Mq7HhoF5EK4hLI9tNC_T5fpnYMOA",
      "encodedCpiSignedData":
"eyJpbmN0YWxsYXRpb25QYXJhbSI6eyJsYXRpdHVkZSI6MS4wLjCj5b25naXR1ZGUiOiJEUmMCwiaGVpZ2h0IjoxLjAsImhlaWdodFR5cGUiOiJBROwiLCJpbmRvb3JEZXBsb3ltZW50Ijpb02cnVlLCJhbnRlbn5hR2Fpbil6MC4wfSwiZmNjSWQ0iXNlUutVEVTVc1GQOMtSUQILCJjYnNkU2VyaWFsTnVtYmVyljoiNjg1MzAzMjI1MDAwMDciLCJwcm9mZXNzaW9uYWxjbN0YWxsZXJEYXRhIjpb7ImNwaUlkljoiMTEwIiwiaW53BpTmFtZSI6IjEiLCJpbmN0YWxsQ2VydGlmaWNhdGlvbiRpbWUiOiilyMDE3LTcwLTExVjIwOjMwOjAwWiI9fQ",
      "protectedHeader": "eyJhbGciOiJSUzI1NiIsInR5cCI6IkpXVCJ9"
    },
    "fccId": "W6U-TEST-FCC-ID",
    "userId": "1"
  }
}
]
}

```

2023-04-26T17:37:20.825Z - INFO - Registration message contains cpiSignatureData

2023-04-26T17:37:20.828Z - INFO - protectedHeader = {u'alg': u'RS256', u'typ': u'JWT'}

2023-04-26T17:37:20.828Z - INFO - encodedCpiSignedData contents = {

```
{
  "installationParam": {
    "heightType": "AGL",
    "longitude": 1.0,
    "antennaGain": 0.0,
    "indoorDeployment": true,
    "latitude": 1.0,
    "height": 1.0
  },
  "professionalInstallerData": {
    "cpiName": "1",
    "installCertificationTime": "2017-10-11T20:30:00Z",
    "cpild": "111"
  },
  "fccId": "W6U-TEST-FCC-ID",
}
```

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```

    "cbsdSerialNumber": "68530322500007"
  }
2023-04-26T17:37:20.842Z - INFO - verified signature on cpiSignatureData
2023-04-26T17:37:20.855Z - INFO - cbsdCategory= 'A', removing optional param from cpi_schema
2023-04-26T17:37:20.858Z - INFO - cpiSignatureData data successfully validated against jsonschema
2023-04-26T17:37:20.874Z - INFO - engine sent successfully, the response to CBRS : {
  "registrationResponse": [
    {
      "cbsdId": "W6U-TEST-FCC-IDMock-SAS68530322500007",
      "response": {
        "responseCode": 0
      }
    }
  ]
}
2023-04-26T17:37:20.953Z - INFO - spectrumInquiry request from CBRS : {
  "spectrumInquiryRequest": [
    {
      "cbsdId": "W6U-TEST-FCC-IDMock-SAS68530322500007",
      "inquiredSpectrum": [
        {
          "highFrequency": 3700000000,
          "lowFrequency": 3550000000
        }
      ]
    }
  ]
}
2023-04-26T17:37:20.999Z - INFO - engine sent successfully, the response to CBRS : {
  "spectrumInquiryResponse": [
    {
      "availableChannel": [
        {
          "channelType": "GAA",
          "frequencyRange": {
            "highFrequency": 3700000000,
            "lowFrequency": 3550000000
          },
          "ruleApplied": "FCC_PART_96"
        }
      ],
      "cbsdId": "W6U-TEST-FCC-IDMock-SAS68530322500007",
      "response": {
        "responseCode": 0
      }
    }
  ]
}
2023-04-26T17:37:21.092Z - INFO - spectrumInquiry request from CBRS : {
  "spectrumInquiryRequest": [
    {
      "cbsdId": "W6U-TEST-FCC-IDMock-SAS68530322500007",
      "inquiredSpectrum": [

```

```

    {
      "highFrequency": 3590030000.0,
      "lowFrequency": 3550030000.0
    }
  ]
}
}
}
2023-04-26T17:37:21.128Z - INFO - engine sent successfully, the response to CBRS : {
  "spectrumInquiryResponse": [
    {
      "availableChannel": [
        {
          "channelType": "GAA",
          "frequencyRange": {
            "highFrequency": 3590030000.0,
            "lowFrequency": 3550030000.0
          },
          "ruleApplied": "FCC_PART_96"
        }
      ],
      "cbsdId": "W6U-TEST-FCC-IDMock-SAS68530322500007",
      "response": {
        "responseCode": 0
      }
    }
  ]
}
2023-04-26T17:37:21.210Z - INFO - grant request from CBRS : {
  "grantRequest": [
    {
      "cbsdId": "W6U-TEST-FCC-IDMock-SAS68530322500007",
      "operationParam": {
        "maxEirp": 3.98,
        "operationFrequencyRange": {
          "highFrequency": 3590030000.0,
          "lowFrequency": 3550030000.0
        }
      }
    }
  ]
}
2023-04-26T17:37:21.272Z - INFO - engine sent successfully, the response to CBRS : {
  "grantResponse": [
    {
      "cbsdId": "W6U-TEST-FCC-IDMock-SAS68530322500007",
      "channelType": "GAA",
      "grantExpireTime": "2023-05-03T17:37:21Z",
      "grantId": "246162016",
      "heartbeatInterval": 60,
      "response": {
        "responseCode": 0
      }
    }
  ]
}

```

```

    }
  ]
}
2023-04-26T17:37:21.342Z - INFO - heartbeat request from CBRS : {
  "heartbeatRequest": [
    {
      "cbsdId": "W6U-TEST-FCC-IDMock-SAS68530322500007",
      "grantId": "246162016",
      "grantRenew": true,
      "operationState": "GRANTED"
    }
  ]
}
2023-04-26T17:37:21.401Z - INFO - grantRenew received in HBT request message
2023-04-26T17:37:21.405Z - INFO - engine sent successfully, the response to CBRS : {
  "heartbeatResponse": [
    {
      "cbsdId": "W6U-TEST-FCC-IDMock-SAS68530322500007",
      "grantExpireTime": "2023-05-03T17:37:21Z",
      "grantId": "246162016",
      "response": {
        "responseCode": 0
      },
      "transmitExpireTime": "2023-04-26T17:40:41Z"
    }
  ]
}
2023-04-26T17:37:21.482Z - INFO - heartbeat request from CBRS : {
  "heartbeatRequest": [
    {
      "cbsdId": "W6U-TEST-FCC-IDMock-SAS68530322500007",
      "grantId": "246162016",
      "operationState": "AUTHORIZED"
    }
  ]
}
2023-04-26T17:37:21.546Z - INFO - Time interval between two heartbeat request messages is: 0.142, limit is: 65.0
2023-04-26T17:37:21.648Z - INFO - engine sent successfully, the response to CBRS : {
  "heartbeatResponse": [
    {
      "cbsdId": "W6U-TEST-FCC-IDMock-SAS68530322500007",
      "grantId": "246162016",
      "response": {
        "responseCode": 0
      },
      "transmitExpireTime": "2023-04-26T17:40:41Z"
    }
  ]
}
2023-04-26T17:37:41.772Z - INFO - heartbeat request from CBRS : {
  "heartbeatRequest": [
    {
      "cbsdId": "W6U-TEST-FCC-IDMock-SAS68530322500007",

```

```

    "grantId": "246162016",
    "operationState": "AUTHORIZED"
  }
}
}
2023-04-26T17:37:41.796Z - INFO - Time interval between two heartbeat request messages is: 20.289, limit is: 65.0
2023-04-26T17:37:41.858Z - INFO - engine sent successfully, the response to CBRS : {
  "heartbeatResponse": [
    {
      "cbsdId": "W6U-TEST-FCC-IDMock-SAS68530322500007",
      "grantId": "246162016",
      "response": {
        "responseCode": 0
      },
      "transmitExpireTime": "2023-04-26T17:41:01Z"
    }
  ]
}
}
2023-04-26T17:38:11.983Z - INFO - heartbeat request from CBRS : {
  "heartbeatRequest": [
    {
      "cbsdId": "W6U-TEST-FCC-IDMock-SAS68530322500007",
      "grantId": "246162016",
      "operationState": "AUTHORIZED"
    }
  ]
}
}
2023-04-26T17:38:12.005Z - INFO - Time interval between two heartbeat request messages is: 30.21, limit is: 65.0
2023-04-26T17:38:12.072Z - INFO - engine sent successfully, the response to CBRS : {
  "heartbeatResponse": [
    {
      "cbsdId": "W6U-TEST-FCC-IDMock-SAS68530322500007",
      "grantId": "246162016",
      "response": {
        "responseCode": 501
      },
      "transmitExpireTime": "2023-04-26T17:38:12Z"
    }
  ]
}
}
2023-04-26T17:38:14.045Z - INFO - relinquishment request from CBRS : {
  "relinquishmentRequest": [
    {
      "cbsdId": "W6U-TEST-FCC-IDMock-SAS68530322500007",
      "grantId": "246162016"
    }
  ]
}
}
2023-04-26T17:38:14.134Z - INFO - engine sent successfully, the response to CBRS : {
  "relinquishmentResponse": [
    {
      "cbsdId": "W6U-TEST-FCC-IDMock-SAS68530322500007",
      "grantId": "246162016",

```

```
"response": {  
  "responseCode": 0  
}  
}  
]
```

2023-04-26T17:38:15.868Z - INFO - arrived to nstep starting question answer session with the technician

2023-04-26T17:38:15.875Z - INFO - the question is : Did the CBSD stop RF transmission within 60 seconds of receiving Heartbeat response with responseCode = 501? please choose one of the answers :

2023-04-26T17:38:28.661Z - INFO - for the question : Did the CBSD stop RF transmission within 60 seconds of receiving Heartbeat response with responseCode = 501? , the user choose y

2023-04-26T17:39:23.959Z - INFO - The final result of the test : WINNF.FT.C.HBT.6 is - passed and :the additional comments for the current test are : CBSD stop Tx within 1 second of responsecode 501

10.15 Log file for test case ID: WINNF.FT.C.HBT.7

2023-04-26T17:41:25.601Z - INFO - WINNF TEST HARNESS RELEASE: 1.0.0.3 - 2018-November-13

2023-04-26T17:41:25.605Z - INFO - the selected test from the user : WINNF.FT.C.HBT.7 is starting now

2023-04-26T17:41:26.796Z - INFO - registration request from CBRS : {

```

"registrationRequest": {
  {
    "airInterface": {
      "radioTechnology": "NR"
    },
    "callSign": "1",
    "cbsdCategory": "A",
    "cbsdInfo": {
      "firmwareVersion": "1.1.10 ()",
      "hardwareVersion": "0.0.1",
      "model": "O-RU",
      "softwareVersion": "0.2.4 ()",
      "vendor": "SOLiD"
    },
    "cbsdSerialNumber": "68530322500007",
    "cpiSignatureData": {
      "digitalSignature": "AR5MaDlzi5_qJGKAmdXCUYzDjDxUWghcxP_oJXuoi2xq1K2B22_gHAL6HcpvWjYkBuHR4Br0gY81Le21Wrdc3yZHreFOV1iKJCF-1GWGdpXNWZfuqRXj6-hIEA9s5dlmQtu_Q2Z2UEXpqISwn6xtBY7k1qI6yenllQ4nV7C0iRxt9L7AeubAFSLIDc3twXBrrbLbbRgtckEAPbi2VgOAU4dkMuMydrYzolkQVNV4Nei9uL9r3rgaEfCmHWVviex18_6kELxJ_QYnU3P_N2siY81q57jE6AeJpWm3qa4n8Vm9Bdjv-riOZJ_E6-Mq7HhoF5EK4hL9tNC_T5fpnYMOA",
      "encodedCpiSignedData":
"eyJpbmN0YWxsYXRpb25QYXJhbSI6eyJsYXRpdHVkZSI6MS4wLjCj5b2SnaXR1ZGUiOiJEUmMCwiaGVpZ2h0IjoxLjAsImhlaWdodFR5cGUiOiJBROwiLCJpbmRvb3JlZXBsY3ltZW50Ijpb0cnVlLCJhbnRlbnM5hr2Fpbil6MC4wfSwiZmNjSWQzQWQmTzUQIjCjYnNkU2VyaWFsTnVtYmVyljoiNjg1MzAzMjI1MDAwMDciLCJwcm9mZXNzaW9uYXVwJbnN0YWxsZXJlYXRoIjpb7ImNwaUlkljoiMTEtliwiY3BpTmFtZSI6IjEiLCJpbmN0YWxsQ2VydGlmaWNoNHNhdGlvbIRpbWUiOiilyMDE3LTExVDIwOjMwOjAwWiI9fQ",
      "protectedHeader": "eyJhbGciOiJSUzI1NiIsInR5cCI6IkpXVCJ9"
    },
    "fccId": "W6U-TEST-FCC-ID",
    "userId": "1"
  }
}
]
}

```

2023-04-26T17:41:27.138Z - INFO - Registration message contains cpiSignatureData

2023-04-26T17:41:27.140Z - INFO - protectedHeader = {u'alg': u'RS256', u'typ': u'JWT'}

2023-04-26T17:41:27.141Z - INFO - encodedCpiSignedData contents = {

```
{
  "installationParam": {
    "heightType": "AGL",
    "longitude": 1.0,
    "antennaGain": 0.0,
    "indoorDeployment": true,
    "latitude": 1.0,
    "height": 1.0
  },
  "professionalInstallerData": {
    "cpiName": "1",
    "installCertificationTime": "2017-10-11T20:30:00Z",
    "cpild": "111"
  }
}
```

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```

"fcid": "W6U-TEST-FCC-ID",
"cbid": "68530322500007"
}
2023-04-26T17:41:27.164Z - INFO - verified signature on cpiSignatureData
2023-04-26T17:41:27.177Z - INFO - cbsdCategory= 'A', removing optional param from cpi_schema
2023-04-26T17:41:27.181Z - INFO - cpiSignatureData data successfully validated against jsonschema
2023-04-26T17:41:27.190Z - INFO - engine sent successfully, the response to CBRS : {
  "registrationResponse": [
    {
      "cbid": "W6U-TEST-FCC-IDMock-SAS68530322500007",
      "response": {
        "responseCode": 0
      }
    }
  ]
}
2023-04-26T17:41:27.290Z - INFO - spectrumInquiry request from CBRS : {
  "spectrumInquiryRequest": [
    {
      "cbid": "W6U-TEST-FCC-IDMock-SAS68530322500007",
      "inquiredSpectrum": [
        {
          "highFrequency": 3700000000,
          "lowFrequency": 3550000000
        }
      ]
    }
  ]
}
2023-04-26T17:41:27.342Z - INFO - engine sent successfully, the response to CBRS : {
  "spectrumInquiryResponse": [
    {
      "availableChannel": [
        {
          "channelType": "GAA",
          "frequencyRange": {
            "highFrequency": 3700000000,
            "lowFrequency": 3550000000
          },
          "ruleApplied": "FCC_PART_96"
        }
      ],
      "cbid": "W6U-TEST-FCC-IDMock-SAS68530322500007",
      "response": {
        "responseCode": 0
      }
    }
  ]
}
2023-04-26T17:41:27.480Z - INFO - spectrumInquiry request from CBRS : {
  "spectrumInquiryRequest": [
    {
      "cbid": "W6U-TEST-FCC-IDMock-SAS68530322500007",

```

```

    "inquiredSpectrum": [
      {
        "highFrequency": 3590030000.0,
        "lowFrequency": 3550030000.0
      }
    ]
  }
}
}
}
2023-04-26T17:41:27.523Z - INFO - engine sent successfully, the response to CBRS : {
  "spectrumInquiryResponse": [
    {
      "availableChannel": [
        {
          "channelType": "GAA",
          "frequencyRange": {
            "highFrequency": 3590030000.0,
            "lowFrequency": 3550030000.0
          },
          "ruleApplied": "FCC_PART_96"
        }
      ],
      "cbsdId": "W6U-TEST-FCC-IDMock-SAS68530322500007",
      "response": {
        "responseCode": 0
      }
    }
  ]
}
2023-04-26T17:41:27.605Z - INFO - grant request from CBRS : {
  "grantRequest": [
    {
      "cbsdId": "W6U-TEST-FCC-IDMock-SAS68530322500007",
      "operationParam": {
        "maxEirp": 3.98,
        "operationFrequencyRange": {
          "highFrequency": 3590030000.0,
          "lowFrequency": 3550030000.0
        }
      }
    }
  ]
}
2023-04-26T17:41:27.661Z - INFO - engine sent successfully, the response to CBRS : {
  "grantResponse": [
    {
      "cbsdId": "W6U-TEST-FCC-IDMock-SAS68530322500007",
      "channelType": "GAA",
      "grantExpireTime": "2023-05-03T17:41:27Z",
      "grantId": "63714778",
      "heartbeatInterval": 60,
      "response": {
        "responseCode": 0
      }
    }
  ]
}

```

```

    }
  }
}
2023-04-26T17:41:27.729Z - INFO - heartbeat request from CBRS : {
  "heartbeatRequest": [
    {
      "cbsdId": "W6U-TEST-FCC-IDMock-SAS68530322500007",
      "grantId": "63714778",
      "grantRenew": true,
      "operationState": "GRANTED"
    }
  ]
}
2023-04-26T17:41:27.789Z - INFO - grantRenew received in HBT request message
2023-04-26T17:41:27.792Z - INFO - engine sent successfully, the response to CBRS : {
  "heartbeatResponse": [
    {
      "cbsdId": "W6U-TEST-FCC-IDMock-SAS68530322500007",
      "grantExpireTime": "2023-05-03T17:41:27Z",
      "grantId": "63714778",
      "response": {
        "responseCode": 0
      },
      "transmitExpireTime": "2023-04-26T17:44:47Z"
    }
  ]
}
2023-04-26T17:41:27.874Z - INFO - heartbeat request from CBRS : {
  "heartbeatRequest": [
    {
      "cbsdId": "W6U-TEST-FCC-IDMock-SAS68530322500007",
      "grantId": "63714778",
      "operationState": "AUTHORIZED"
    }
  ]
}
2023-04-26T17:41:27.888Z - INFO - Time interval between two heartbeat request messages is: 0.146, limit is: 65.0
2023-04-26T17:41:27.969Z - INFO - engine sent successfully, the response to CBRS : {
  "heartbeatResponse": [
    {
      "cbsdId": "W6U-TEST-FCC-IDMock-SAS68530322500007",
      "grantId": "63714778",
      "response": {
        "responseCode": 0
      },
      "transmitExpireTime": "2023-04-26T17:44:47Z"
    }
  ]
}
2023-04-26T17:41:48.082Z - INFO - heartbeat request from CBRS : {
  "heartbeatRequest": [
    {

```

```

    "cbsdId": "W6U-TEST-FCC-IDMock-SAS68530322500007",
    "grantId": "63714778",
    "operationState": "AUTHORIZED"
  }
}
}
2023-04-26T17:41:48.107Z - INFO - Time interval between two heartbeat request messages is: 20.207, limit is: 65.0
2023-04-26T17:41:48.174Z - INFO - engine sent successfully, the response to CBRS : {
  "heartbeatResponse": [
    {
      "cbsdId": "W6U-TEST-FCC-IDMock-SAS68530322500007",
      "grantId": "63714778",
      "response": {
        "responseCode": 0
      },
      "transmitExpireTime": "2023-04-26T17:45:08Z"
    }
  ]
}
}
2023-04-26T17:42:18.299Z - INFO - heartbeat request from CBRS : {
  "heartbeatRequest": [
    {
      "cbsdId": "W6U-TEST-FCC-IDMock-SAS68530322500007",
      "grantId": "63714778",
      "operationState": "AUTHORIZED"
    }
  ]
}
}
2023-04-26T17:42:18.323Z - INFO - Time interval between two heartbeat request messages is: 30.218, limit is: 65.0
2023-04-26T17:42:18.388Z - INFO - engine sent successfully, the response to CBRS : {
  "heartbeatResponse": [
    {
      "cbsdId": "W6U-TEST-FCC-IDMock-SAS68530322500007",
      "grantId": "63714778",
      "response": {
        "responseCode": 502
      },
      "transmitExpireTime": "2023-04-26T17:42:18Z"
    }
  ]
}
}
2023-04-26T17:42:18.467Z - INFO - relinquishment request from CBRS : {
  "relinquishmentRequest": [
    {
      "cbsdId": "W6U-TEST-FCC-IDMock-SAS68530322500007",
      "grantId": "63714778"
    }
  ]
}
}
2023-04-26T17:42:18.535Z - INFO - engine sent successfully, the response to CBRS : {
  "relinquishmentResponse": [
    {
      "cbsdId": "W6U-TEST-FCC-IDMock-SAS68530322500007",

```



```
"grantId": "63714778",  
"response": {  
  "responseCode": 0  
}  
}  
]
```

2023-04-26T17:42:20.040Z - INFO - arrived to nstep starting question answer session with the technician

2023-04-26T17:42:20.048Z - INFO - the question is : Did the CBSD stop RF transmission within 60 seconds of receiving Heartbeat response with responseCode = 502? please choose one of the answers :

2023-04-26T17:42:41.648Z - INFO - for the question : Did the CBSD stop RF transmission within 60 seconds of receiving Heartbeat response with responseCode = 502? , the user choose y

2023-04-26T17:43:12.023Z - INFO - The final result of the test : WINNF.FT.C.HBT.7 is - passed and :the additional comments for the current test are : CBSD Stop Tx within 1 second of responsecode 502



10.16 Log file for test case ID: WINNF.FT.D.HBT.8

2023-04-26T17:46:46.365Z - INFO - WINNF TEST HARNESS RELEASE: 1.0.0.3 - 2018-November-13

2023-04-26T17:46:46.368Z - INFO - the selected test from the user : WINNF.FT.D.HBT.8 is starting now

2023-04-26T17:46:49.276Z - INFO - registration request from CBRS : {

```
"registrationRequest": [
  {
    "airInterface": {
      "radioTechnology": "NR"
    },
    "callSign": "1",
    "cbsdCategory": "A",
    "cbsdInfo": {
      "firmwareVersion": "1.1.10 ()",
      "hardwareVersion": "0.0.1",
      "model": "O-RU",
      "softwareVersion": "0.2.4 ()",
      "vendor": "SOLiD"
    },
    "cbsdSerialNumber": "68530322500007",
    "cpiSignatureData": {
      "digitalSignature": "AR5MaDlzi5_qJGKAmDxCUYzojDxUWghcxP_oJXuoi2xq1K2B22_gHAl6HcpvWjYkBuHR4Br0gY81Le21Wrdc3yZHreFOV1iKJCF-
1GWGdpXNWXZfuqRXj6-
hIEA9s5dImQtu_O2Z2UEXpqISwn6xtBY7k1qI6yenIIQ4nV7C0iRxt9L7AeubAFSLIDc3twXBrrbLbbRgtckEAPbi2VgOAU4dkMuMydrYzolKQVNV4Nei9uL9r3rgaEfCm
HWVviex18_6kELxI_QYnU3P_N2siY81q57jE6AeJpWm3qa4n8Vm9Bdjv-riOZJ_E6-Mq7HhoF5EK4hLI9tNC_T5fpmYMOA",
      "encodedCpiSignedData":
"eyJpbmN0YWxsYXRpb25QYXJhbSI6eyJsYXRpdHVkZSI6MS4wLCJsbn25naXR1ZGU0JEUwMCwiaGVpZ2h0IjoxLjAsImhlaWdodFR5cGU0iOjBR0wiLCJpbmRvb3JEZXBs
b3ItZW50Ijp0cnVILCJhbnRlbnM5hR2Fpbil6MC4wfSwiZmNjSWQ0iOiXNlU0tEVETVC1GQ0MtSUQ0iLCJYnNkU2VyaWFsTnVtYmVyljoiNjg1MzAzMjI1MDAwMDciLCJw
cm9mZXNzaW9uYWwJbnN0YWxsZXJEYXRhIjp7ImNwaUlkljoiMTEwIiwiaWY3BpTmFtZSI6IjEiLCJpbmN0YWxsQ2VydGlmaWNhdGlvbIRpbWUiOiIyMDE3LTExVDI
wOjMwOjAwWjIj9fQ",
      "protectedHeader": "eyJhbGciOiJSUzI1NiIsInR5cCI6IkpXVCJ9"
    },
    "fcid": "W6U-TEST-FCC-ID",
    "userId": "1"
  }
]
```

2023-04-26T17:46:49.562Z - INFO - Registration message contains cpiSignatureData

2023-04-26T17:46:49.563Z - INFO - protectedHeader = {u'alg': u'RS256', u'typ': u'JWT'}

2023-04-26T17:46:49.565Z - INFO - encodedCpiSignedData contents = {

```
"installationParam": {
  "heightType": "AGL",
  "longitude": 1.0,
  "antennaGain": 0.0,
  "indoorDeployment": true,
  "latitude": 1.0,
  "height": 1.0
},
"professionalInstallerData": {
  "cpiName": "1",
  "installCertificationTime": "2017-10-11T20:30:00Z",
  "cpild": "111"
},
"fcid": "W6U-TEST-FCC-ID",
```

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```

    "cbsdSerialNumber": "68530322500007"
  }
2023-04-26T17:46:49.585Z - INFO - verified signature on cpiSignatureData
2023-04-26T17:46:49.601Z - INFO - cbsdCategory= 'A', removing optional param from cpi_schema
2023-04-26T17:46:49.605Z - INFO - cpiSignatureData data successfully validated against jsonschema
2023-04-26T17:46:49.612Z - INFO - engine sent successfully, the response to CBRS : {
  "registrationResponse": [
    {
      "cbsdId": "W6U-TEST-FCC-IDMock-SAS68530322500007",
      "response": {
        "responseCode": 0
      }
    }
  ]
}
2023-04-26T17:46:50.209Z - INFO - spectrumInquiry request from CBRS : {
  "spectrumInquiryRequest": [
    {
      "cbsdId": "W6U-TEST-FCC-IDMock-SAS68530322500007",
      "inquiredSpectrum": [
        {
          "highFrequency": 3700000000,
          "lowFrequency": 3550000000
        }
      ]
    }
  ]
}
2023-04-26T17:46:50.313Z - INFO - engine sent successfully, the response to CBRS : {
  "spectrumInquiryResponse": [
    {
      "availableChannel": [
        {
          "channelType": "GAA",
          "frequencyRange": {
            "highFrequency": 3700000000,
            "lowFrequency": 3550000000
          },
          "ruleApplied": "FCC_PART_96"
        }
      ],
      "cbsdId": "W6U-TEST-FCC-IDMock-SAS68530322500007",
      "response": {
        "responseCode": 0
      }
    }
  ]
}
2023-04-26T17:46:50.424Z - INFO - spectrumInquiry request from CBRS : {
  "spectrumInquiryRequest": [
    {
      "cbsdId": "W6U-TEST-FCC-IDMock-SAS68530322500007",
      "inquiredSpectrum": [

```

```

    {
      "highFrequency": 3590030000.0,
      "lowFrequency": 3550030000.0
    }
  ]
}
}
}
2023-04-26T17:46:50.494Z - INFO - engine sent successfully, the response to CBRS : {
  "spectrumInquiryResponse": [
    {
      "availableChannel": [
        {
          "channelType": "GAA",
          "frequencyRange": {
            "highFrequency": 3590030000.0,
            "lowFrequency": 3550030000.0
          },
          "ruleApplied": "FCC_PART_96"
        }
      ],
      "cbsdId": "W6U-TEST-FCC-IDMock-SAS68530322500007",
      "response": {
        "responseCode": 0
      }
    }
  ]
}
2023-04-26T17:46:50.573Z - INFO - grant request from CBRS : {
  "grantRequest": [
    {
      "cbsdId": "W6U-TEST-FCC-IDMock-SAS68530322500007",
      "operationParam": {
        "maxEirp": 3.98,
        "operationFrequencyRange": {
          "highFrequency": 3590030000.0,
          "lowFrequency": 3550030000.0
        }
      }
    }
  ]
}
2023-04-26T17:46:50.676Z - INFO - engine sent successfully, the response to CBRS : {
  "grantResponse": [
    {
      "cbsdId": "W6U-TEST-FCC-IDMock-SAS68530322500007",
      "channelType": "GAA",
      "grantExpireTime": "2023-05-03T17:46:50Z",
      "grantId": "837227053",
      "heartbeatInterval": 60,
      "response": {
        "responseCode": 0
      }
    }
  ]
}

```

```

    }
  ]
}
2023-04-26T17:46:50.759Z - INFO - heartbeat request from CBRS : {
  "heartbeatRequest": [
    {
      "cbsdId": "W6U-TEST-FCC-IDMock-SAS68530322500007",
      "grantId": "837227053",
      "grantRenew": true,
      "operationState": "GRANTED"
    }
  ]
}
2023-04-26T17:46:50.835Z - INFO - grantRenew received in HBT request message
2023-04-26T17:46:50.838Z - INFO - engine sent successfully, the response to CBRS : {
  "heartbeatResponse": [
    {
      "cbsdId": "W6U-TEST-FCC-IDMock-SAS68530322500007",
      "grantExpireTime": "2023-05-03T17:46:50Z",
      "grantId": "837227053",
      "response": {
        "responseCode": 0
      },
      "transmitExpireTime": "2023-04-26T17:50:10Z"
    }
  ]
}
2023-04-26T17:46:50.938Z - INFO - heartbeat request from CBRS : {
  "heartbeatRequest": [
    {
      "cbsdId": "W6U-TEST-FCC-IDMock-SAS68530322500007",
      "grantId": "837227053",
      "operationState": "AUTHORIZED"
    }
  ]
}
2023-04-26T17:46:50.960Z - INFO - Time interval between two heartbeat request messages is: 0.18, limit is: 65.0
2023-04-26T17:46:51.013Z - INFO - engine sent successfully, the response to CBRS : {
  "heartbeatResponse": [
    {
      "cbsdId": "W6U-TEST-FCC-IDMock-SAS68530322500007",
      "grantId": "837227053",
      "response": {
        "responseCode": 0
      },
      "transmitExpireTime": "2023-04-26T17:50:11Z"
    }
  ]
}
2023-04-26T17:47:11.122Z - INFO - heartbeat request from CBRS : {
  "heartbeatRequest": [
    {
      "cbsdId": "W6U-TEST-FCC-IDMock-SAS68530322500007",

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    "grantId": "837227053",
    "operationState": "AUTHORIZED"
  }
}
}
2023-04-26T17:47:11.148Z - INFO - Time interval between two heartbeat request messages is: 20.184, limit is: 65.0
2023-04-26T17:47:11.213Z - INFO - engine sent successfully, the response to CBRS : {
  "heartbeatResponse": [
    {
      "cbsdId": "W6U-TEST-FCC-IDMock-SAS68530322500007",
      "grantId": "837227053",
      "response": {
        "responseCode": 0
      },
      "transmitExpireTime": "2023-04-26T17:50:31Z"
    }
  ]
}
}
2023-04-26T17:47:11.947Z - INFO - heartbeat request from CBRS : {
  "heartbeatRequest": [
    {
      "cbsdId": "W6U-TEST-FCC-IDMock-SAS68530322500007",
      "grantId": "837227053",
      "operationState": "AUTHORIZED"
    }
  ]
}
}
2023-04-26T17:47:11.967Z - INFO - Time interval between two heartbeat request messages is: 0.825, limit is: 65.0
2023-04-26T17:47:12.022Z - INFO - engine sent successfully, the response to CBRS : {
  "heartbeatResponse": [
    {
      "cbsdId": "W6U-TEST-FCC-IDMock-SAS68530322500007",
      "grantId": "837227053",
      "response": {
        "responseCode": 0
      },
      "transmitExpireTime": "2023-04-26T17:50:32Z"
    }
  ]
}
}
2023-04-26T17:47:12.134Z - INFO - heartbeat request from CBRS : {
  "heartbeatRequest": [
    {
      "cbsdId": "W6U-TEST-FCC-IDMock-SAS68530322500007",
      "grantId": "837227053",
      "operationState": "AUTHORIZED"
    }
  ]
}
}
2023-04-26T17:47:12.138Z - INFO - engine sent successfully, the response to CBRS : {
  "heartbeatResponse": [
    {
      "cbsdId": "W6U-TEST-FCC-IDMock-SAS68530322500007",

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    "grantId": "837227053",
    "response": {
      "responseCode": 0
    },
    "transmitExpireTime": "2023-04-26T17:50:32Z"
  }
}
}
}
2023-04-26T17:47:12.236Z - INFO - registration request from CBRS : {
  "registrationRequest": [
    {
      "airInterface": {
        "radioTechnology": "NR"
      },
      "callSign": "2",
      "cbsdCategory": "A",
      "cbsdInfo": {
        "firmwareVersion": "1.1.10 ()",
        "hardwareVersion": "0.0.1",
        "model": "O-RU",
        "softwareVersion": "0.2.4 ()",
        "vendor": "SOLiD"
      },
      "cbsdSerialNumber": "68530322500008",
      "cpiSignatureData": {
        "digitalSignature": "zt4hd5YbgTxJL7oSoSbdmXGklpZRCKpEjVg6bRRu7gOZ86AbhbObj868zbDY3wXZVe4VmUIXIfw09BouojqqsmjUQzLnsMca-
KuFlkOwevut7e-VklecYD0DIb8tzppgryBWqD2eWMvWWBmFGwm4yuk0tIDL_B9iKNHO2fNWuULchQfBb9ghyil7hOOSoENZMXqwa-
_DVAKP8Zs23PT16XzZ6H6hbs1Z7PN3F-CmuH1KPJVfKUt0VGldLYSOK-
EGdp6TPaj8uwZGIOPCht6L2E4tWUdKD5nNH5Wi1YVCZpRHmz3qeW1axyfshakWgqphM3QoXvRLs9Kb_hkyzT_g",
        "encodedCpiSignedData":
"eyJpbmN0YWxsYXRpb25QYXJhbSI6eyJsYXRpdHVkZSI6MjluMCwibG9uZ2I0dWRlljoyLjAsImhlaWdodCI6Mi4wLCJoZWlnaHRUeXBlljoiQUdMliwiaW5kb29yRGVw
bG95bWVudCI6dHJ1ZSwiYW50ZW5uYUdhaW4iOiAuMH0sImZjY0lkloiVzZVLVRFU1QtRkNDLUlEliwiY2JzZFNlcmhBE51bWJlcil6JjY4NTMwMzlyNTAwMDA4liwic
HJvZmVzc2lvbmFsSW5zdGFsbGVyRGF0YSI6eyJjcGljZCI6JEljLCJjcGLOYW1lIjoiMSIsImIuc3RhbmGxZDZXJ0aWZpY2F0aW9uVGltZSI6JlJwMTctMTAtMTFUMjA6MzA6
MDBaIn19",
        "protectedHeader": "eyJhbGciOiJSUzI1NiIsInR5cCI6IkpXVCJ9"
      },
      "fccId": "W6U-TEST-FCC-ID",
      "userId": "2"
    }
  ]
}
}
2023-04-26T17:47:12.483Z - INFO - Registration message contains cpiSignatureData
2023-04-26T17:47:12.486Z - INFO - protectedHeader = {u'alg': u'RS256', u'typ': u'JWT'}
2023-04-26T17:47:12.487Z - INFO - encodedCpiSignedData contents = {
  "installationParam": {
    "heightType": "AGL",
    "longitude": 2.0,
    "antennaGain": 0.0,
    "indoorDeployment": true,
    "latitude": 22.0,
    "height": 2.0
  },
  "professionalInstallerData": {

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    "cpiName": "1",
    "installCertificationTime": "2017-10-11T20:30:00Z",
    "cpild": "1"
  },
  "fcld": "W6U-TEST-FCC-ID",
  "cbstdSerialNumber": "68530322500008"
}
2023-04-26T17:47:12.500Z - INFO - verified signature on cpiSignatureData
2023-04-26T17:47:12.532Z - INFO - cbstdCategory= 'A', removing optional param from cpi_schema
2023-04-26T17:47:12.536Z - INFO - cpiSignatureData data successfully validated against jsonschema
2023-04-26T17:47:12.546Z - INFO - engine sent successfully, the response to CBRS : {
  "registrationResponse": [
    {
      "cbstdId": "W6U-TEST-FCC-IDMock-SAS68530322500008",
      "response": {
        "responseCode": 0
      }
    }
  ]
}
2023-04-26T17:47:12.657Z - INFO - heartbeat request from CBRS : {
  "heartbeatRequest": [
    {
      "cbstdId": "W6U-TEST-FCC-IDMock-SAS68530322500007",
      "grantId": "837227053",
      "operationState": "AUTHORIZED"
    }
  ]
}
2023-04-26T17:47:12.661Z - INFO - engine sent successfully, the response to CBRS : {
  "heartbeatResponse": [
    {
      "cbstdId": "W6U-TEST-FCC-IDMock-SAS68530322500007",
      "grantId": "837227053",
      "response": {
        "responseCode": 0
      },
      "transmitExpireTime": "2023-04-26T17:50:32Z"
    }
  ]
}
2023-04-26T17:47:12.756Z - INFO - spectrumInquiry request from CBRS : {
  "spectrumInquiryRequest": [
    {
      "cbstdId": "W6U-TEST-FCC-IDMock-SAS68530322500008",
      "inquiredSpectrum": [
        {
          "highFrequency": 3700000000,
          "lowFrequency": 3550000000
        }
      ]
    }
  ]
}

```

```

}
2023-04-26T17:47:12.815Z - INFO - engine sent successfully, the response to CBRS : {
  "spectrumInquiryResponse": [
    {
      "availableChannel": [
        {
          "channelType": "GAA",
          "frequencyRange": {
            "highFrequency": 3700000000,
            "lowFrequency": 3550000000
          },
          "ruleApplied": "FCC_PART_96"
        }
      ],
      "cbsdId": "W6U-TEST-FCC-IDMock-SAS68530322500008",
      "response": {
        "responseCode": 0
      }
    }
  ]
}
2023-04-26T17:47:12.881Z - INFO - heartbeat request from CBRS : {
  "heartbeatRequest": [
    {
      "cbsdId": "W6U-TEST-FCC-IDMock-SAS68530322500007",
      "grantId": "837227053",
      "operationState": "AUTHORIZED"
    }
  ]
}
2023-04-26T17:47:12.884Z - INFO - engine sent successfully, the response to CBRS : {
  "heartbeatResponse": [
    {
      "cbsdId": "W6U-TEST-FCC-IDMock-SAS68530322500007",
      "grantId": "837227053",
      "response": {
        "responseCode": 0
      },
      "transmitExpireTime": "2023-04-26T17:50:32Z"
    }
  ]
}
2023-04-26T17:47:12.987Z - INFO - spectrumInquiry request from CBRS : {
  "spectrumInquiryRequest": [
    {
      "cbsdId": "W6U-TEST-FCC-IDMock-SAS68530322500008",
      "inquiredSpectrum": [
        {
          "highFrequency": 3590030000.0,
          "lowFrequency": 3550030000.0
        }
      ]
    }
  ]
}

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    ]
  }
2023-04-26T17:47:13.036Z - INFO - engine sent successfully, the response to CBRS : {
  "spectrumInquiryResponse": [
    {
      "availableChannel": [
        {
          "channelType": "GAA",
          "frequencyRange": {
            "highFrequency": 3590030000.0,
            "lowFrequency": 3550030000.0
          },
          "ruleApplied": "FCC_PART_96"
        }
      ],
      "cbsdId": "W6U-TEST-FCC-IDMock-SAS68530322500008",
      "response": {
        "responseCode": 0
      }
    }
  ]
}
2023-04-26T17:47:13.153Z - INFO - grant request from CBRS : {
  "grantRequest": [
    {
      "cbsdId": "W6U-TEST-FCC-IDMock-SAS68530322500008",
      "operationParam": {
        "maxEirp": 3.98,
        "operationFrequencyRange": {
          "highFrequency": 3590030000.0,
          "lowFrequency": 3550030000.0
        }
      }
    }
  ]
}
2023-04-26T17:47:13.213Z - INFO - engine sent successfully, the response to CBRS : {
  "grantResponse": [
    {
      "cbsdId": "W6U-TEST-FCC-IDMock-SAS68530322500008",
      "channelType": "GAA",
      "grantExpireTime": "2023-05-03T17:47:13Z",
      "grantId": "634543167",
      "heartbeatInterval": 60,
      "response": {
        "responseCode": 0
      }
    }
  ]
}
2023-04-26T17:47:13.316Z - INFO - heartbeat request from CBRS : {
  "heartbeatRequest": [
    {

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    "cbsdId": "W6U-TEST-FCC-IDMock-SAS68530322500008",
    "grantId": "634543167",
    "grantRenew": true,
    "operationState": "GRANTED"
  }
}
}
2023-04-26T17:47:13.371Z - INFO - grantRenew received in HBT request message
2023-04-26T17:47:13.375Z - INFO - engine sent successfully, the response to CBRS : {
  "heartbeatResponse": [
    {
      "cbsdId": "W6U-TEST-FCC-IDMock-SAS68530322500008",
      "grantExpireTime": "2023-05-03T17:47:13Z",
      "grantId": "634543167",
      "response": {
        "responseCode": 0
      },
      "transmitExpireTime": "2023-04-26T17:50:33Z"
    }
  ]
}
2023-04-26T17:47:13.476Z - INFO - heartbeat request from CBRS : {
  "heartbeatRequest": [
    {
      "cbsdId": "W6U-TEST-FCC-IDMock-SAS68530322500007",
      "grantId": "837227053",
      "operationState": "AUTHORIZED"
    }
  ]
}
2023-04-26T17:47:13.479Z - INFO - engine sent successfully, the response to CBRS : {
  "heartbeatResponse": [
    {
      "cbsdId": "W6U-TEST-FCC-IDMock-SAS68530322500007",
      "grantId": "837227053",
      "response": {
        "responseCode": 0
      },
      "transmitExpireTime": "2023-04-26T17:50:33Z"
    }
  ]
}
2023-04-26T17:47:13.552Z - INFO - heartbeat request from CBRS : {
  "heartbeatRequest": [
    {
      "cbsdId": "W6U-TEST-FCC-IDMock-SAS68530322500008",
      "grantId": "634543167",
      "operationState": "AUTHORIZED"
    }
  ]
}
2023-04-26T17:47:13.568Z - INFO - Time interval between two heartbeat request messages is: 0.235, limit is: 65.0
2023-04-26T17:47:13.624Z - INFO - engine sent successfully, the response to CBRS : {

```

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"heartbeatResponse": [
  {
    "cbsdId": "W6U-TEST-FCC-IDMock-SAS68530322500008",
    "grantId": "634543167",
    "response": {
      "responseCode": 0
    },
    "transmitExpireTime": "2023-04-26T17:50:33Z"
  }
]
}
2023-04-26T17:47:33.729Z - INFO - heartbeat request from CBRS : {
  "heartbeatRequest": [
    {
      "cbsdId": "W6U-TEST-FCC-IDMock-SAS68530322500007",
      "grantId": "837227053",
      "operationState": "AUTHORIZED"
    }
  ]
}
2023-04-26T17:47:33.733Z - INFO - engine sent successfully, the response to CBRS : {
  "heartbeatResponse": [
    {
      "cbsdId": "W6U-TEST-FCC-IDMock-SAS68530322500007",
      "grantId": "837227053",
      "response": {
        "responseCode": 0
      },
      "transmitExpireTime": "2023-04-26T17:50:53Z"
    }
  ]
}
2023-04-26T17:47:33.835Z - INFO - heartbeat request from CBRS : {
  "heartbeatRequest": [
    {
      "cbsdId": "W6U-TEST-FCC-IDMock-SAS68530322500008",
      "grantId": "634543167",
      "operationState": "AUTHORIZED"
    }
  ]
}
2023-04-26T17:47:33.858Z - INFO - Time interval between two heartbeat request messages is: 20.283, limit is: 65.0
2023-04-26T17:47:33.934Z - INFO - engine sent successfully, the response to CBRS : {
  "heartbeatResponse": [
    {
      "cbsdId": "W6U-TEST-FCC-IDMock-SAS68530322500008",
      "grantId": "634543167",
      "response": {
        "responseCode": 0
      },
      "transmitExpireTime": "2023-04-26T17:50:53Z"
    }
  ]
}

```



```

}
2023-04-26T17:48:04.061Z - INFO - heartbeat request from CBRS : {
  "heartbeatRequest": [
    {
      "cbsdId": "W6U-TEST-FCC-IDMock-SAS68530322500007",
      "grantId": "837227053",
      "operationState": "AUTHORIZED"
    }
  ]
}
2023-04-26T17:48:04.065Z - INFO - engine sent successfully, the response to CBRS : {
  "heartbeatResponse": [
    {
      "cbsdId": "W6U-TEST-FCC-IDMock-SAS68530322500007",
      "grantId": "837227053",
      "response": {
        "responseCode": 0
      },
      "transmitExpireTime": "2023-04-26T17:51:24Z"
    }
  ]
}
2023-04-26T17:48:04.141Z - INFO - heartbeat request from CBRS : {
  "heartbeatRequest": [
    {
      "cbsdId": "W6U-TEST-FCC-IDMock-SAS68530322500008",
      "grantId": "634543167",
      "operationState": "AUTHORIZED"
    }
  ]
}
2023-04-26T17:48:04.187Z - INFO - Time interval between two heartbeat request messages is: 30.305, limit is: 65.0
2023-04-26T17:48:04.273Z - INFO - engine sent successfully, the response to CBRS : {
  "heartbeatResponse": [
    {
      "cbsdId": "W6U-TEST-FCC-IDMock-SAS68530322500008",
      "grantId": "634543167",
      "response": {
        "responseCode": 500
      },
      "transmitExpireTime": "2023-04-26T17:48:04Z"
    }
  ]
}
2023-04-26T17:48:06.101Z - INFO - arrived to nstep starting question answer session with the technician
2023-04-26T17:48:06.108Z - INFO - the question is : Did the CBSD1 transmit power prior to AUTHORIZED state (first successful HBT response)? please choose one of the answers :
2023-04-26T17:49:11.914Z - INFO - for the question : Did the CBSD1 transmit power prior to AUTHORIZED state (first successful HBT response)? , the user choose n
2023-04-26T17:49:11.918Z - INFO - the question is : Did the CBSD2 stop RF transmission within 60 seconds of receiving Heartbeat response with responseCode = 500? please choose one of the answers :
2023-04-26T17:51:37.767Z - INFO - for the question : Did the CBSD2 stop RF transmission within 60 seconds of receiving Heartbeat response with responseCode = 500? , the user choose y

```

Section 10:

Log files



2023-04-26T17:52:14.459Z - INFO - The final result of the test : WINNF.FT.D.HBT.8 is - passed and :the additional comments for the current test are : CBSD2 stop Tx within 1 second of responsecode 500



10.17 Log file for test case ID: WINNF.FT.D.HBT.8 (Restest on 05/18/2023 per OnGo Alliance Guidance)

2023-05-18T20:30:02.595Z - INFO - WINNF TEST HARNESS RELEASE: 1.0.0.3 - 2018-November-13

2023-05-18T20:30:02.598Z - INFO - the selected test from the user : WINNF.FT.D.HBT.8 is starting now

2023-05-18T20:30:06.042Z - INFO - registration request from CBRS : {

```
"registrationRequest": [
  {
    "airInterface": {
      "radioTechnology": "NR"
    },
    "callSign": "1",
    "cbsdCategory": "A",
    "cbsdInfo": {
      "firmwareVersion": "1.1.10 ()",
      "hardwareVersion": "0.0.1",
      "model": "O-RU",
      "softwareVersion": "0.2.4 ()",
      "vendor": "SOLiD"
    },
    "cbsdSerialNumber": "68530322500007",
    "cpiSignatureData": {
      "digitalSignature": "j1vq18rNNN8l38JZtttIhPi7iqPXuThEHYbvjwR06aXiYkukiTdV38J9x39QtDSveh0V43oW3kxd-2osMadSV-
vuUV5GpCG9Vcs9lGwxXvCb508E3-RHRFZ-D2RkK4dGhKOslhgGiw2277U2UfnrLpOTKGwyxELibZdC5lvZMhM9h7Lubqm6kthKaT6-
9eCfUD8nFuaAcPbNWQ_K389FOQ3A8E9G0f-
lOvTcPJqldgb6M30A3q_Nu67psMoHOaAEW7lvklDarb1zIM0_dQ1zioMSEB07xYNM253EXilGBaZbrvP9hQ85plcXX9bPiz_tfaw7bjFTm9oXbaxR0jYEsg",
      "encodedCpiSignedData":
"eyJpbmNOYWxsYXRpb25QYXJhbSI6eyJsYXRpdHVkZSI6MS4wLjB2naXR1ZGU0JEUuMCwiaGVpZ2h0IjoxLjAsImhlaWdodFR5cGU0OiBR0wiLCJpbmRvb3JEZXBs
b3ltZW50IjpbOjcnVlLCJhbnRlbnM5hR2Fpbil6MC4wfSwiZmNjSWQ0IjoiXNlU0tEVETVC1GQ0MtSUQ0IjYnNkU2VyaWFsTnVtYmVyljoiNjg1MzAzMjI1MDAwMDciLCJw
cm9mZXNzaW9uYWwJbnN0YWxsZXJEYXRhIjpb7ImNwaUlkljoiMSlsmNwaU5hbWUiOiB1IiwiaW5zdGFsbENlcnRpZmljYXRpb25UaW1lIjoiMjAxNy0xMC0xMVQyM
DozMDowMFoifX0",
      "protectedHeader": "eyJhbGciOiJSUzI1NiIsInR5cCI6IkpXVCJ9"
    },
    "fcclId": "W6U-TEST-FCC-ID",
    "measCapability": [
      "RECEIVED_POWER_WITH_GRANT"
    ],
    "userId": "1"
  }
]
```

2023-05-18T20:30:06.517Z - INFO - Registration message contains cpiSignatureData

2023-05-18T20:30:06.519Z - INFO - protectedHeader = {u'alg': u'RS256', u'typ': u'JWT'}

2023-05-18T20:30:06.533Z - INFO - encodedCpiSignedData contents = {

```
"installationParam": {
  "heightType": "AGL",
  "longitude": 1.0,
  "antennaGain": 0.0,
  "indoorDeployment": true,
  "latitude": 1.0,
  "height": 1.0
},
"professionalInstallerData": {
  "cpiName": "1",
  "installCertificationTime": "2017-10-11T20:30:00Z",
```

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Nemko San Diego, a testing laboratory, is a authorized test lab (ATL) by the CBRS Alliance for standard WINNF-TS-0122

```

    "cpild": "1"
  },
  "fccId": "W6U-TEST-FCC-ID",
  "cbsdSerialNumber": "68530322500007"
}
2023-05-18T20:30:06.555Z - INFO - verified signature on cpiSignatureData
2023-05-18T20:30:06.595Z - INFO - cbsdCategory= 'A', removing optional param from cpi_schema
2023-05-18T20:30:06.608Z - INFO - cpiSignatureData data successfully validated against jsonschema
2023-05-18T20:30:06.622Z - INFO - engine sent successfully, the response to CBRS : {
  "registrationResponse": [
    {
      "cbsdId": "W6U-TEST-FCC-IDMock-SAS68530322500007",
      "response": {
        "responseCode": 0
      }
    }
  ]
}
2023-05-18T20:30:06.734Z - INFO - spectrumInquiry request from CBRS : {
  "spectrumInquiryRequest": [
    {
      "cbsdId": "W6U-TEST-FCC-IDMock-SAS68530322500007",
      "inquiredSpectrum": [
        {
          "highFrequency": 3700000000,
          "lowFrequency": 3550000000
        }
      ]
    }
  ]
}
2023-05-18T20:30:07.055Z - INFO - engine sent successfully, the response to CBRS : {
  "spectrumInquiryResponse": [
    {
      "availableChannel": [
        {
          "channelType": "GAA",
          "frequencyRange": {
            "highFrequency": 3700000000,
            "lowFrequency": 3550000000
          },
          "ruleApplied": "FCC_PART_96"
        }
      ],
      "cbsdId": "W6U-TEST-FCC-IDMock-SAS68530322500007",
      "response": {
        "responseCode": 0
      }
    }
  ]
}
2023-05-18T20:30:07.322Z - INFO - registration request from CBRS : {
  "registrationRequest": [

```

```

{
  "airInterface": {
    "radioTechnology": "NR"
  },
  "callSign": "2",
  "cbsdCategory": "A",
  "cbsdInfo": {
    "firmwareVersion": "1.1.10 ()",
    "hardwareVersion": "0.0.1",
    "model": "O-RU",
    "softwareVersion": "0.2.4 ()",
    "vendor": "SOLiD"
  },
  "cbsdSerialNumber": "68530322500008",
  "cpiSignatureData": {
    "digitalSignature": "1GZe27Pb3Be1PvI9yPlgMIKjBNidGn0YzWJgD-5anZn18-
m8YydUcQJnchTtW5Ec8s9vuclxTGeVZPKsAzuoypmUfNMJorBpRwyy1qKDCvUtqLkS5VXC8ZdUWgEdAnHGG6EcP_Xktlb3SNLfsV8KHLajP602pt0_ffOo-
FcOfOfCYhkoleAtqU2Ix4100g9v1Ztf2z1NtwAMzpPKzUqaKVEu7WWlzfZVTgigrlmmrJQz7iO8050WINjk4xxEHLxT2yrK2osiZAdffdBmX5K1Ek_y8lwXRlupH6KMtYKI
9NHdhGvYp1rDrXo93ciYOB9AdzKf4ihg8qKkQe3DIISRsg",
    "encodedCpiSignedData": "
eyJJpbN0YWxsYXRpb25QYXJhbSI6eyJsYXRpdHVkZSI6Mi4wLkJs25naXR1ZGUlOiJlucMcwiaGVpZ2h0IjoyLjAsImhlaWdodFR5cGUlOiJBROwiLCJpbmRvb3JEZXBsb
3ltZW50Ijpb0cnVILCJhbnRlbn5hR2Fpbil6MC4wfSwiZmNjSWQlOiJXNiUtEVTVVC1GQ0MtSUQlLCJjYnNkU2VyaWFsTnVtYmVyljoiNjg1MzAzMjl1MDAwMDgiLCJwc
m9mZXNzaW9uYWxJbnN0YWxsZXJEYXRhIjpb7ImNwaUlkljoiMSlslmNwaU5hbWUiOiOilxiwW5zdGFsbENlcnRpZmljYXRpb25UaW11IjoiMjAxNy0xMCOxMVQyMD
ozMDowMFoifX0",
    "protectedHeader": "eyJhbGciOiJSUzI1NiIsInR5cCI6IkpXVCJ9"
  },
  "fccId": "W6U-TEST-FCC-ID",
  "measCapability": [
    "RECEIVED_POWER_WITH_GRANT"
  ],
  "userId": "2"
}
}
}

2023-05-18T20:30:07.543Z - INFO - Registration message contains cpiSignatureData
2023-05-18T20:30:07.545Z - INFO - protectedHeader = {u'alg': u'RS256', u'typ': u'JWT'}
2023-05-18T20:30:07.546Z - INFO - encodedCpiSignedData contents = {
  "installationParam": {
    "heightType": "AGL",
    "longitude": 2.0,
    "antennaGain": 0.0,
    "indoorDeployment": true,
    "latitude": 2.0,
    "height": 2.0
  },
  "professionalInstallerData": {
    "cpiName": "1",
    "installCertificationTime": "2017-10-11T20:30:00Z",
    "cpild": "1"
  },
  "fccId": "W6U-TEST-FCC-ID",
  "cbsdSerialNumber": "68530322500008"
}
}

```



```

2023-05-18T20:30:07.549Z - INFO - verified signature on cpiSignatureData
2023-05-18T20:30:07.553Z - INFO - cbsdCategory= 'A', removing optional param from cpi_schema
2023-05-18T20:30:07.559Z - INFO - cpiSignatureData data successfully validated against jsonschema
2023-05-18T20:30:07.565Z - INFO - engine sent successfully, the response to CBRS : {
  "registrationResponse": [
    {
      "cbsdId": "W6U-TEST-FCC-IDMock-SAS68530322500008",
      "response": {
        "responseCode": 0
      }
    }
  ]
}
2023-05-18T20:30:07.651Z - INFO - spectrumInquiry request from CBRS : {
  "spectrumInquiryRequest": [
    {
      "cbsdId": "W6U-TEST-FCC-IDMock-SAS68530322500007",
      "inquiredSpectrum": [
        {
          "highFrequency": 3590000000.0,
          "lowFrequency": 3550000000.0
        }
      ]
    }
  ]
}
2023-05-18T20:30:07.687Z - INFO - engine sent successfully, the response to CBRS : {
  "spectrumInquiryResponse": [
    {
      "availableChannel": [
        {
          "channelType": "GAA",
          "frequencyRange": {
            "highFrequency": 3590000000.0,
            "lowFrequency": 3550000000.0
          },
          "ruleApplied": "FCC_PART_96"
        }
      ],
      "cbsdId": "W6U-TEST-FCC-IDMock-SAS68530322500007",
      "response": {
        "responseCode": 0
      }
    }
  ]
}
2023-05-18T20:30:07.796Z - INFO - grant request from CBRS : {
  "grantRequest": [
    {
      "cbsdId": "W6U-TEST-FCC-IDMock-SAS68530322500007",
      "operationParam": {
        "maxEirp": 3.98,
        "operationFrequencyRange": {

```

```

        "highFrequency": 3590000000.0,
        "lowFrequency": 3550000000.0
    }
}
]
}
}
2023-05-18T20:30:08.023Z - INFO - engine sent successfully, the response to CBRS : {
  "grantResponse": [
    {
      "cbsdId": "W6U-TEST-FCC-IDMock-SAS68530322500007",
      "channelType": "GAA",
      "grantExpireTime": "2023-05-25T20:30:08Z",
      "grantId": "317356091",
      "heartbeatInterval": 60,
      "response": {
        "responseCode": 0
      }
    }
  ]
}
}
2023-05-18T20:30:08.140Z - INFO - heartbeat request from CBRS : {
  "heartbeatRequest": [
    {
      "cbsdId": "W6U-TEST-FCC-IDMock-SAS68530322500007",
      "grantId": "317356091",
      "grantRenew": true,
      "operationState": "GRANTED"
    }
  ]
}
}
2023-05-18T20:30:08.223Z - INFO - grantRenew received in HBT request message
2023-05-18T20:30:08.226Z - INFO - engine sent successfully, the response to CBRS : {
  "heartbeatResponse": [
    {
      "cbsdId": "W6U-TEST-FCC-IDMock-SAS68530322500007",
      "grantExpireTime": "2023-05-25T20:30:08Z",
      "grantId": "317356091",
      "response": {
        "responseCode": 0
      },
      "transmitExpireTime": "2023-05-18T20:33:28Z"
    }
  ]
}
}
2023-05-18T20:30:09.105Z - INFO - heartbeat request from CBRS : {
  "heartbeatRequest": [
    {
      "cbsdId": "W6U-TEST-FCC-IDMock-SAS68530322500007",
      "grantId": "317356091",
      "operationState": "AUTHORIZED"
    }
  ]
}
]

```

```

}
2023-05-18T20:30:09.117Z - INFO - Time interval between two heartbeat request messages is: 0.965, limit is: 65.0
2023-05-18T20:30:09.184Z - INFO - engine sent successfully, the response to CBRS : {
  "heartbeatResponse": [
    {
      "cbsdId": "W6U-TEST-FCC-IDMock-SAS68530322500007",
      "grantId": "317356091",
      "response": {
        "responseCode": 0
      },
      "transmitExpireTime": "2023-05-18T20:33:29Z"
    }
  ]
}
2023-05-18T20:30:10.053Z - INFO - spectrumInquiry request from CBRS : {
  "spectrumInquiryRequest": [
    {
      "cbsdId": "W6U-TEST-FCC-IDMock-SAS68530322500008",
      "inquiredSpectrum": [
        {
          "highFrequency": 3700000000,
          "lowFrequency": 3550000000
        }
      ]
    }
  ]
}
2023-05-18T20:30:10.111Z - INFO - engine sent successfully, the response to CBRS : {
  "spectrumInquiryResponse": [
    {
      "availableChannel": [
        {
          "channelType": "GAA",
          "frequencyRange": {
            "highFrequency": 3700000000,
            "lowFrequency": 3550000000
          },
          "ruleApplied": "FCC_PART_96"
        }
      ],
      "cbsdId": "W6U-TEST-FCC-IDMock-SAS68530322500008",
      "response": {
        "responseCode": 0
      }
    }
  ]
}
2023-05-18T20:30:10.726Z - INFO - heartbeat request from CBRS : {
  "heartbeatRequest": [
    {
      "cbsdId": "W6U-TEST-FCC-IDMock-SAS68530322500007",
      "grantId": "317356091",
      "operationState": "AUTHORIZED"
    }
  ]
}

```

```

    }
  ]
}
2023-05-18T20:30:10.769Z - INFO - Time interval between two heartbeat request messages is: 1.629, limit is: 65.0
2023-05-18T20:30:10.826Z - INFO - engine sent successfully, the response to CBRS : {
  "heartbeatResponse": [
    {
      "cbsdId": "W6U-TEST-FCC-IDMock-SAS68530322500007",
      "grantId": "317356091",
      "response": {
        "responseCode": 0
      },
      "transmitExpireTime": "2023-05-18T20:33:30Z"
    }
  ]
}
2023-05-18T20:30:10.907Z - INFO - heartbeat request from CBRS : {
  "heartbeatRequest": [
    {
      "cbsdId": "W6U-TEST-FCC-IDMock-SAS68530322500007",
      "grantId": "317356091",
      "operationState": "AUTHORIZED"
    }
  ]
}
2023-05-18T20:30:10.983Z - INFO - Time interval between two heartbeat request messages is: 0.185, limit is: 65.0
2023-05-18T20:30:11.039Z - INFO - engine sent successfully, the response to CBRS : {
  "heartbeatResponse": [
    {
      "cbsdId": "W6U-TEST-FCC-IDMock-SAS68530322500007",
      "grantId": "317356091",
      "response": {
        "responseCode": 0
      },
      "transmitExpireTime": "2023-05-18T20:33:31Z"
    }
  ]
}
2023-05-18T20:30:11.114Z - INFO - spectrumInquiry request from CBRS : {
  "spectrumInquiryRequest": [
    {
      "cbsdId": "W6U-TEST-FCC-IDMock-SAS68530322500008",
      "inquiredSpectrum": [
        {
          "highFrequency": 3590000000.0,
          "lowFrequency": 3550000000.0
        }
      ]
    }
  ]
}
2023-05-18T20:30:11.154Z - INFO - engine sent successfully, the response to CBRS : {
  "spectrumInquiryResponse": [

```

```

{
  "availableChannel": [
    {
      "channelType": "GAA",
      "frequencyRange": {
        "highFrequency": 3590000000.0,
        "lowFrequency": 3550000000.0
      },
      "ruleApplied": "FCC_PART_96"
    }
  ],
  "cbsdId": "W6U-TEST-FCC-IDMock-SAS68530322500008",
  "response": {
    "responseCode": 0
  }
}
]
}
2023-05-18T20:30:11.362Z - INFO - grant request from CBRS : {
  "grantRequest": [
    {
      "cbsdId": "W6U-TEST-FCC-IDMock-SAS68530322500008",
      "operationParam": {
        "maxEirp": 3.98,
        "operationFrequencyRange": {
          "highFrequency": 3590000000.0,
          "lowFrequency": 3550000000.0
        }
      }
    }
  ]
}
}
2023-05-18T20:30:11.523Z - INFO - engine sent successfully, the response to CBRS : {
  "grantResponse": [
    {
      "cbsdId": "W6U-TEST-FCC-IDMock-SAS68530322500008",
      "channelType": "GAA",
      "grantExpireTime": "2023-05-25T20:30:11Z",
      "grantId": "939824392",
      "heartbeatInterval": 60,
      "response": {
        "responseCode": 0
      }
    }
  ]
}
}
2023-05-18T20:30:11.599Z - INFO - heartbeat request from CBRS : {
  "heartbeatRequest": [
    {
      "cbsdId": "W6U-TEST-FCC-IDMock-SAS68530322500008",
      "grantId": "939824392",
      "grantRenew": true,
      "operationState": "GRANTED"
    }
  ]
}

```

```

    }
  ]
}
2023-05-18T20:30:11.740Z - INFO - grantRenew received in HBT request message
2023-05-18T20:30:11.747Z - INFO - engine sent successfully, the response to CBRS : {
  "heartbeatResponse": [
    {
      "cbsdId": "W6U-TEST-FCC-IDMock-SAS68530322500008",
      "grantExpireTime": "2023-05-25T20:30:11Z",
      "grantId": "939824392",
      "response": {
        "responseCode": 0
      },
      "transmitExpireTime": "2023-05-18T20:33:31Z"
    }
  ]
}
2023-05-18T20:30:11.829Z - INFO - heartbeat request from CBRS : {
  "heartbeatRequest": [
    {
      "cbsdId": "W6U-TEST-FCC-IDMock-SAS68530322500007",
      "grantId": "317356091",
      "operationState": "AUTHORIZED"
    }
  ]
}
2023-05-18T20:30:11.841Z - INFO - engine sent successfully, the response to CBRS : {
  "heartbeatResponse": [
    {
      "cbsdId": "W6U-TEST-FCC-IDMock-SAS68530322500007",
      "grantId": "317356091",
      "response": {
        "responseCode": 0
      },
      "transmitExpireTime": "2023-05-18T20:33:31Z"
    }
  ]
}
2023-05-18T20:30:11.980Z - INFO - heartbeat request from CBRS : {
  "heartbeatRequest": [
    {
      "cbsdId": "W6U-TEST-FCC-IDMock-SAS68530322500008",
      "grantId": "939824392",
      "operationState": "AUTHORIZED"
    }
  ]
}
2023-05-18T20:30:12.096Z - INFO - Time interval between two heartbeat request messages is: 0.389, limit is: 65.0
2023-05-18T20:30:12.467Z - INFO - engine sent successfully, the response to CBRS : {
  "heartbeatResponse": [
    {
      "cbsdId": "W6U-TEST-FCC-IDMock-SAS68530322500008",
      "grantId": "939824392",

```



```

    "response": {
      "responseCode": 0
    },
    "transmitExpireTime": "2023-05-18T20:33:32Z"
  }
}
}
2023-05-18T20:30:29.186Z - INFO - heartbeat request from CBRS : {
  "heartbeatRequest": [
    {
      "cbsdId": "W6U-TEST-FCC-IDMock-SAS68530322500007",
      "grantId": "317356091",
      "operationState": "AUTHORIZED"
    }
  ]
}
2023-05-18T20:30:29.191Z - INFO - engine sent successfully, the response to CBRS : {
  "heartbeatResponse": [
    {
      "cbsdId": "W6U-TEST-FCC-IDMock-SAS68530322500007",
      "grantId": "317356091",
      "response": {
        "responseCode": 0
      },
      "transmitExpireTime": "2023-05-18T20:33:49Z"
    }
  ]
}
2023-05-18T20:30:29.266Z - INFO - heartbeat request from CBRS : {
  "heartbeatRequest": [
    {
      "cbsdId": "W6U-TEST-FCC-IDMock-SAS68530322500008",
      "grantId": "939824392",
      "operationState": "AUTHORIZED"
    }
  ]
}
2023-05-18T20:30:29.288Z - INFO - Time interval between two heartbeat request messages is: 17.277, limit is: 65.0
2023-05-18T20:30:29.355Z - INFO - engine sent successfully, the response to CBRS : {
  "heartbeatResponse": [
    {
      "cbsdId": "W6U-TEST-FCC-IDMock-SAS68530322500008",
      "grantId": "939824392",
      "response": {
        "responseCode": 0
      },
      "transmitExpireTime": "2023-05-18T20:33:49Z"
    }
  ]
}
2023-05-18T20:30:29.437Z - INFO - heartbeat request from CBRS : {
  "heartbeatRequest": [
    {

```



```

    "cbsdId": "W6U-TEST-FCC-IDMock-SAS68530322500007",
    "grantId": "317356091",
    "operationState": "AUTHORIZED"
  }
}
}
2023-05-18T20:30:29.441Z - INFO - engine sent successfully, the response to CBRS : {
  "heartbeatResponse": [
    {
      "cbsdId": "W6U-TEST-FCC-IDMock-SAS68530322500007",
      "grantId": "317356091",
      "response": {
        "responseCode": 0
      },
      "transmitExpireTime": "2023-05-18T20:33:49Z"
    }
  ]
}
}
2023-05-18T20:30:29.520Z - INFO - heartbeat request from CBRS : {
  "heartbeatRequest": [
    {
      "cbsdId": "W6U-TEST-FCC-IDMock-SAS68530322500008",
      "grantId": "939824392",
      "operationState": "AUTHORIZED"
    }
  ]
}
}
2023-05-18T20:30:29.548Z - INFO - Time interval between two heartbeat request messages is: 0.255, limit is: 65.0
2023-05-18T20:30:29.601Z - INFO - engine sent successfully, the response to CBRS : {
  "heartbeatResponse": [
    {
      "cbsdId": "W6U-TEST-FCC-IDMock-SAS68530322500008",
      "grantId": "939824392",
      "response": {
        "responseCode": 500
      },
      "transmitExpireTime": "2023-05-18T20:30:29Z"
    }
  ]
}
}
2023-05-18T20:30:31.009Z - INFO - arrived to nstep starting question answer session with the technician
2023-05-18T20:30:31.036Z - INFO - the question is : Did the CBSD1 transmit power prior to AUTHORIZED state (first successful HBT response)? please choose one of the answers :
2023-05-18T20:31:07.997Z - INFO - for the question : Did the CBSD1 transmit power prior to AUTHORIZED state (first successful HBT response)? , the user choose n
2023-05-18T20:31:08.010Z - INFO - the question is : Did the CBSD2 stop RF transmission within 60 seconds of receiving Heartbeat response with responseCode = 500? please choose one of the answers :
2023-05-18T20:32:31.444Z - INFO - for the question : Did the CBSD2 stop RF transmission within 60 seconds of receiving Heartbeat response with responseCode = 500? , the user choose y
2023-05-18T20:33:46.117Z - INFO - The final result of the test : WINNF.FT.D.HBT.8 is - passed and :the additional comments for the current test are : CBSD1 Tx power after the Authorized state only and CBSD2 stop RF Tx before 60 sec after responsecode=500

```



10.18 Log file for test case ID: WINNF.FT.C.HBT.9

2023-04-26T18:26:38.173Z - INFO - WINNF TEST HARNESS RELEASE: 1.0.0.3 - 2018-November-13

2023-04-26T18:26:38.177Z - INFO - the selected test from the user : WINNF.FT.C.HBT.9 is starting now

2023-04-26T18:26:40.588Z - INFO - registration request from CBRS : {

```
"registrationRequest": {
  {
    "airInterface": {
      "radioTechnology": "NR"
    },
    "callSign": "1",
    "cbssdCategory": "A",
    "cbssdInfo": {
      "firmwareVersion": "1.1.10 ()",
      "hardwareVersion": "0.0.1",
      "model": "O-RU",
      "softwareVersion": "0.2.4 ()",
      "vendor": "SOLiD"
    },
    "cbssdSerialNumber": "68530322500007",
    "cpiSignatureData": {
      "digitalSignature": "AR5MaDIzi5_qJGKAmDxCUYzDxUWghcxP_oJXuoi2xq1K2B22_gHAI6HcpvWjYkBuHR4Br0gY81Le21Wrdc3yZHreFOV1iKJCf-1GWGdpXNWZfuqRXj6-hlEA9s5dlmQtu_Q2Z2UEXpqISwn6xtBY7k1qI6yenllQ4nV7C0iRxt9L7AeubAFSLIDc3twXBrbbLbbRgtckEAPbi2VgOAU4dkMuMydrYzolkQVNV4Nei9uL9r3rgaEfCmHWVviex18_6kElxJ_IQYnU3P_N2siY81q57jE6AeJpWm3qa4n8Vm9Bdjv-riOZI_E6-Mq7HhoF5EK4hLI9tNC_T5fpnYMOA",
      "encodedCpiSignedData": "eyJpbmN0YWxsYXRpb25QYXJhbSI6eyJsYXRpdHVkZSI6MS4wLCJsb25naXR1ZGUioiEuMCwiaGVpZ2h0IjoxLjAsImhlaWdodFR5cGUioiJBROwiLCJpbmRvb3JEZXBsY3ltZW50Ijpb0cnVILCJhbnRlbn5hR2Fpbil6MC4wfSwiZmNjSWQiOiJXNlU0VtVEVTVClGQ0MtSUQiLCJjYnNkU2VyaWFsTnVtYmVyljoiNjg1MzAzMjI1MDAwMDciLCJwcm9mZXNzaW9uYWxJbnN0YWxsZXJlYXRoIjpb7ImNwaUlkljoiMTEwLjY3b2pTmFtZSI6IjEiLCJpbmN0YWxsQ2VydGlmaWNhdGlub3RpbWUiOiIyMDE3LTExVjEwOjMwOjAwWjI9fQ",
      "protectedHeader": "eyJhbGciOiJlSUZlI1NiIsInR5cCI6IkpXVCJ9"
    },
    "fccId": "W6U-TEST-FCC-ID",
    "userId": "1"
  }
}
```

2023-04-26T18:26:40.823Z - INFO - Registration message contains cpiSignatureData

2023-04-26T18:26:40.825Z - INFO - protectedHeader = {u'alg': u'RS256', u'typ': u'JWT'}

2023-04-26T18:26:40.828Z - INFO - encodedCpiSignedData contents = {

```
"installationParam": {
  "heightType": "AGL",
  "longitude": 1.0,
  "antennaGain": 0.0,
  "indoorDeployment": true,
  "latitude": 1.0,
  "height": 1.0
},
"professionalInstallerData": {
  "cpiName": "1",
  "installCertificationTime": "2017-10-11T20:30:00Z",
  "cpild": "111"
```



```

    },
    "fccId": "W6U-TEST-FCC-ID",
    "cbsdSerialNumber": "68530322500007"
  }
2023-04-26T18:26:41.161Z - INFO - verified signature on cpiSignatureData
2023-04-26T18:26:41.207Z - INFO - cbsdCategory= 'A', removing optional param from cpi_schema
2023-04-26T18:26:41.210Z - INFO - cpiSignatureData data successfully validated against jsonschema
2023-04-26T18:26:41.219Z - INFO - engine sent successfully, the response to CBRS : {
  "registrationResponse": [
    {
      "cbsdId": "W6U-TEST-FCC-IDMock-SAS68530322500007",
      "response": {
        "responseCode": 0
      }
    }
  ]
}
2023-04-26T18:26:41.328Z - INFO - spectrumInquiry request from CBRS : {
  "spectrumInquiryRequest": [
    {
      "cbsdId": "W6U-TEST-FCC-IDMock-SAS68530322500007",
      "inquiredSpectrum": [
        {
          "highFrequency": 3700000000,
          "lowFrequency": 3550000000
        }
      ]
    }
  ]
}
2023-04-26T18:26:41.398Z - INFO - engine sent successfully, the response to CBRS : {
  "spectrumInquiryResponse": [
    {
      "availableChannel": [
        {
          "channelType": "GAA",
          "frequencyRange": {
            "highFrequency": 3700000000,
            "lowFrequency": 3550000000
          },
          "ruleApplied": "FCC_PART_96"
        }
      ],
      "cbsdId": "W6U-TEST-FCC-IDMock-SAS68530322500007",
      "response": {
        "responseCode": 0
      }
    }
  ]
}
2023-04-26T18:26:41.506Z - INFO - spectrumInquiry request from CBRS : {
  "spectrumInquiryRequest": [
    {

```

```

    "cbsdId": "W6U-TEST-FCC-IDMock-SAS68530322500007",
    "inquiredSpectrum": [
      {
        "highFrequency": 3590030000.0,
        "lowFrequency": 3550030000.0
      }
    ]
  }
}
}
2023-04-26T18:26:41.555Z - INFO - engine sent successfully, the response to CBRS : {
  "spectrumInquiryResponse": [
    {
      "availableChannel": [
        {
          "channelType": "GAA",
          "frequencyRange": {
            "highFrequency": 3590030000.0,
            "lowFrequency": 3550030000.0
          },
          "ruleApplied": "FCC_PART_96"
        }
      ],
      "cbsdId": "W6U-TEST-FCC-IDMock-SAS68530322500007",
      "response": {
        "responseCode": 0
      }
    }
  ]
}
2023-04-26T18:26:41.655Z - INFO - grant request from CBRS : {
  "grantRequest": [
    {
      "cbsdId": "W6U-TEST-FCC-IDMock-SAS68530322500007",
      "operationParam": {
        "maxEirp": 3.98,
        "operationFrequencyRange": {
          "highFrequency": 3590030000.0,
          "lowFrequency": 3550030000.0
        }
      }
    }
  ]
}
2023-04-26T18:26:41.732Z - INFO - engine sent successfully, the response to CBRS : {
  "grantResponse": [
    {
      "cbsdId": "W6U-TEST-FCC-IDMock-SAS68530322500007",
      "channelType": "GAA",
      "grantExpireTime": "2023-05-03T18:26:41Z",
      "grantId": "271056238",
      "heartbeatInterval": 60,
      "response": {

```



```

        "responseCode": 0
      }
    }
  ]
}
2023-04-26T18:26:41.828Z - INFO - heartbeat request from CBRS : {
  "heartbeatRequest": [
    {
      "cbsdId": "W6U-TEST-FCC-IDMock-SAS68530322500007",
      "grantId": "271056238",
      "grantRenew": true,
      "operationState": "GRANTED"
    }
  ]
}
2023-04-26T18:27:01.878Z - INFO - relinquishment request from CBRS : {
  "relinquishmentRequest": [
    {
      "cbsdId": "W6U-TEST-FCC-IDMock-SAS68530322500007",
      "grantId": "271056238"
    }
  ]
}
2023-04-26T18:27:01.880Z - INFO - request message received while HBT is absent, sleep 184 sec before responding
2023-04-26T18:27:21.933Z - INFO - deregistration request from CBRS : {
  "deregistrationRequest": [
    {
      "cbsdId": "W6U-TEST-FCC-IDMock-SAS68530322500007"
    }
  ]
}
2023-04-26T18:27:21.934Z - INFO - request message received while HBT is absent, sleep 164 sec before responding
2023-04-26T18:30:02.069Z - INFO - grantRenew received in HBT request message
2023-04-26T18:30:02.078Z - INFO - engine sent successfully, the response to CBRS : {
  "heartbeatResponse": [
    {
      "cbsdId": "W6U-TEST-FCC-IDMock-SAS68530322500007",
      "grantExpireTime": "2023-05-03T18:30:02Z",
      "grantId": "271056238",
      "response": {
        "responseCode": 501
      },
      "transmitExpireTime": "2023-04-26T18:30:02Z"
    }
  ]
}
2023-04-26T18:30:03.276Z - INFO - arrived to nstep starting question answer session with the technician
2023-04-26T18:30:03.318Z - INFO - the question is : Were there RF transmissions from the CBSD during the test? please choose one of the answers :
2023-04-26T18:30:05.888Z - INFO - engine sent successfully, the response to CBRS : "list index out of range"
2023-04-26T18:30:05.950Z - INFO - engine sent successfully, the response to CBRS : "list index out of range"
2023-04-26T18:30:21.878Z - INFO - for the question : Were there RF transmissions from the CBSD during the test? , the user choose n
2023-04-26T18:30:33.088Z - INFO - The final result of the test : WINNF.FT.C.HBT.9 is - passed and :the additional comments for the current test are : no Tx
during testing

```

10.19 Log file for test case ID: WINNF.FT.C.HBT.10

2023-04-26T18:33:55.832Z - INFO - WINNF TEST HARNESS RELEASE: 1.0.0.3 - 2018-November-13

2023-04-26T18:33:55.836Z - INFO - the selected test from the user : WINNF.FT.C.HBT.10 is starting now

2023-04-26T18:33:57.299Z - INFO - registration request from CBRS : {

```

"registrationRequest": {
  {
    "airInterface": {
      "radioTechnology": "NR"
    },
    "callSign": "1",
    "cbsdCategory": "A",
    "cbsdInfo": {
      "firmwareVersion": "1.1.10 ()",
      "hardwareVersion": "0.0.1",
      "model": "O-RU",
      "softwareVersion": "0.2.4 ()",
      "vendor": "SOLiD"
    },
    "cbsdSerialNumber": "68530322500007",
    "cpiSignatureData": {
      "digitalSignature": "AR5MaDzi5_qJGKAmdXCUYzDjDxUWghcxP_oJXuoi2xq1K2B22_gHAL6HcpvWjYkBuHR4Br0gY81Le21Wrdc3yZHreFOV1iKJCF-1GWGdpXNWZfuqRXj6-hIEA9s5dlmQtu_Q2Z2UEXpqISwn6xtBY7k1qI6yenllQ4nV7C0iRxt9L7AeubAFSLIDc3twXBrrbLbbRgtckEAPbi2VgOAU4dkMuMydrYzolkQVNV4Nei9uL9r3rgaEfCmHWVviex18_6kELxJ_QJYnU3P_N2siY81q57jE6AeJpWm3qa4n8Vm9Bdjv-riOZJ_E6-Mq7HhoF5EK4hLI9tNC_T5fpnYMOA",
      "encodedCpiSignedData":
"eyJpbmN0YWxsYXRpb25QYXJhbSI6eyJsYXRpdHVkZSI6MS4wLjCj5b25naXR1ZGUiOiJEUmMCwiaGVpZ2h0IjoxLjAsImhlaWdodFR5cGUiOiJBROwiLCJpbmRvb3JlZXBsY3ltZW50IjpbO2cnVlLCJhbnRlbn5hR2Fpbil6MC4wfSwiZmNjSWQ0iXNlU0tVEVTVVC1GQOMtSUQlLCJjYnNkU2VyaWFsTnVtYmVyljoiNjg1MzAzMjI1MDAwMDciLCJwcm9mZXNzaW9uYWxjb2N0YWxsZXJlZCJpbnN0YWxsQ2VydGlmaWNhdGlvbiRpbWUiOiilyMDE3LTcwLTExVjEwOjMwOjAwWiI9fQ",
      "protectedHeader": "eyJhbGciOiJSUzI1NiIsInR5cCI6IkpXVCJ9"
    },
    "fccId": "W6U-TEST-FCC-ID",
    "userId": "1"
  }
}
]
}

```

2023-04-26T18:33:57.701Z - INFO - Registration message contains cpiSignatureData

2023-04-26T18:33:57.703Z - INFO - protectedHeader = {u'alg': u'RS256', u'typ': u'JWT'}

2023-04-26T18:33:57.706Z - INFO - encodedCpiSignedData contents = {

```
{
  "installationParam": {
    "heightType": "AGL",
    "longitude": 1.0,
    "antennaGain": 0.0,
    "indoorDeployment": true,
    "latitude": 1.0,
    "height": 1.0
  },
  "professionalInstallerData": {
    "cpiName": "1",
    "installCertificationTime": "2017-10-11T20:30:00Z",
    "cpild": "111"
  },
  "fccId": "W6U-TEST-FCC-ID",
}
```

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Nemko San Diego, a testing laboratory, is a authorized test lab (ATL) by the CBRs Alliance for standard WINNF-TS-0122



```

    "cbsdSerialNumber": "68530322500007"
  }
2023-04-26T18:33:57.729Z - INFO - verified signature on cpiSignatureData
2023-04-26T18:33:57.756Z - INFO - cbsdCategory= 'A', removing optional param from cpi_schema
2023-04-26T18:33:57.759Z - INFO - cpiSignatureData data successfully validated against jsonschema
2023-04-26T18:33:57.767Z - INFO - engine sent successfully, the response to CBRS : {
  "registrationResponse": [
    {
      "cbsdId": "W6U-TEST-FCC-IDMock-SAS68530322500007",
      "response": {
        "responseCode": 0
      }
    }
  ]
}
2023-04-26T18:33:57.858Z - INFO - spectrumInquiry request from CBRS : {
  "spectrumInquiryRequest": [
    {
      "cbsdId": "W6U-TEST-FCC-IDMock-SAS68530322500007",
      "inquiredSpectrum": [
        {
          "highFrequency": 3700000000,
          "lowFrequency": 3550000000
        }
      ]
    }
  ]
}
2023-04-26T18:33:57.923Z - INFO - engine sent successfully, the response to CBRS : {
  "spectrumInquiryResponse": [
    {
      "availableChannel": [
        {
          "channelType": "GAA",
          "frequencyRange": {
            "highFrequency": 3700000000,
            "lowFrequency": 3550000000
          },
          "ruleApplied": "FCC_PART_96"
        }
      ],
      "cbsdId": "W6U-TEST-FCC-IDMock-SAS68530322500007",
      "response": {
        "responseCode": 0
      }
    }
  ]
}
2023-04-26T18:33:58.023Z - INFO - spectrumInquiry request from CBRS : {
  "spectrumInquiryRequest": [
    {
      "cbsdId": "W6U-TEST-FCC-IDMock-SAS68530322500007",
      "inquiredSpectrum": [

```

```

    {
      "highFrequency": 3590030000.0,
      "lowFrequency": 3550030000.0
    }
  ]
}
]
}
}
2023-04-26T18:33:58.069Z - INFO - engine sent successfully, the response to CBRS : {
  "spectrumInquiryResponse": [
    {
      "availableChannel": [
        {
          "channelType": "GAA",
          "frequencyRange": {
            "highFrequency": 3590030000.0,
            "lowFrequency": 3550030000.0
          },
          "ruleApplied": "FCC_PART_96"
        }
      ],
      "cbsdId": "W6U-TEST-FCC-IDMock-SAS68530322500007",
      "response": {
        "responseCode": 0
      }
    }
  ]
}
}
2023-04-26T18:33:58.141Z - INFO - grant request from CBRS : {
  "grantRequest": [
    {
      "cbsdId": "W6U-TEST-FCC-IDMock-SAS68530322500007",
      "operationParam": {
        "maxEirp": 3.98,
        "operationFrequencyRange": {
          "highFrequency": 3590030000.0,
          "lowFrequency": 3550030000.0
        }
      }
    }
  ]
}
}
}
2023-04-26T18:33:58.226Z - INFO - engine sent successfully, the response to CBRS : {
  "grantResponse": [
    {
      "cbsdId": "W6U-TEST-FCC-IDMock-SAS68530322500007",
      "channelType": "GAA",
      "grantExpireTime": "2023-05-03T18:33:58Z",
      "grantId": "293108568",
      "heartbeatInterval": 60,
      "response": {
        "responseCode": 0
      }
    }
  ]
}
}

```

```

    }
  ]
}
2023-04-26T18:33:58.301Z - INFO - heartbeat request from CBRS : {
  "heartbeatRequest": [
    {
      "cbsdId": "W6U-TEST-FCC-IDMock-SAS68530322500007",
      "grantId": "293108568",
      "grantRenew": true,
      "operationState": "GRANTED"
    }
  ]
}
2023-04-26T18:33:58.378Z - INFO - grantRenew received in HBT request message
2023-04-26T18:33:58.381Z - INFO - engine sent successfully, the response to CBRS : {
  "heartbeatResponse": [
    {
      "cbsdId": "W6U-TEST-FCC-IDMock-SAS68530322500007",
      "grantExpireTime": "2023-05-03T18:33:58Z",
      "grantId": "293108568",
      "response": {
        "responseCode": 0
      },
      "transmitExpireTime": "2023-04-26T18:37:18Z"
    }
  ]
}
2023-04-26T18:33:58.470Z - INFO - heartbeat request from CBRS : {
  "heartbeatRequest": [
    {
      "cbsdId": "W6U-TEST-FCC-IDMock-SAS68530322500007",
      "grantId": "293108568",
      "operationState": "AUTHORIZED"
    }
  ]
}
2023-04-26T18:33:58.486Z - INFO - Time interval between two heartbeat request messages is: 0.17, limit is: 65.0
2023-04-26T18:33:58.529Z - INFO - engine sent successfully, the response to CBRS : {
  "heartbeatResponse": [
    {
      "cbsdId": "W6U-TEST-FCC-IDMock-SAS68530322500007",
      "grantId": "293108568",
      "response": {
        "responseCode": 0
      },
      "transmitExpireTime": "2023-04-26T18:37:18Z"
    }
  ]
}
2023-04-26T18:34:28.651Z - INFO - heartbeat request from CBRS : {
  "heartbeatRequest": [
    {
      "cbsdId": "W6U-TEST-FCC-IDMock-SAS68530322500007",

```

```

"grantId": "293108568",
  "operationState": "AUTHORIZED"
}
]
}
2023-04-26T18:34:28.677Z - INFO - Time interval between two heartbeat request messages is: 30.18, limit is: 65.0
2023-04-26T18:34:28.700Z - INFO - LAST HBT RESPONSE THAT SET TRANSMIT_EXPIRE_TIME WAS AT: 2023-04-26 18:33:58.472000
2023-04-26T18:34:48.703Z - INFO - relinquishment request from CBRs : {
  "relinquishmentRequest": [
    {
      "cbsdId": "W6U-TEST-FCC-IDMock-SAS68530322500007",
      "grantId": "293108568"
    }
  ]
}
2023-04-26T18:34:48.704Z - INFO - request message received while HBT is absent, sleep 184 sec before responding
2023-04-26T18:35:14.594Z - INFO - registration request from CBRs : {
  "registrationRequest": [
    {
      "airInterface": {
        "radioTechnology": "NR"
      },
      "callSign": "1",
      "cbsdCategory": "A",
      "cbsdInfo": {
        "firmwareVersion": "1.1.10 ()",
        "hardwareVersion": "0.0.1",
        "model": "O-RU",
        "softwareVersion": "0.2.4 ()",
        "vendor": "SOLiD"
      },
      "cbsdSerialNumber": "68530322500007",
      "cpiSignatureData": {
        "digitalSignature": "AR5MaDzi5_qJGKAmdXCuYzoxDxUWghcxP_oJXuoi2xq1K2B22_gHAL6HcpvWjYkBuHR4Br0gY81Le21Wrdc3yZHreFOV1iKJcf-1GWGdpXNWZfuqRXj6-hIEA9s5dlmQtu_O2ZZ2UEXpqISwn6xtBY7k1qI6yenlIQ4nV7C0iRxt9L7AeubAFSLIDc3twXBrrbLbbRgtckEAPbi2VgOAU4dkMuMydrYzolkQVNV4Nei9uL9r3rgaEfCmHWVix18_6kELxI_QYnU3P_N2siY81q57jE6AeJpWm3qa4n8Vm9Bdjv-riOZJ_E6-Mq7HhoF5EK4hL9tNC_T5fpnYMOA",
        "encodedCpiSignedData": "eyJpbmN0YWxsYXRpb25QYXJhbSI6YSI6MS4wLjI2ZGUuOjEuMCwiaGVpZ2h0IjoxLjAsImhlaWdodFR5cGUuOiBR0wiLCJpbmRvb3JlZXBsY3ItZW50Ij0pbnVlLCJhbnRlbnM5hR2Fpbil6MC4wfSwiZmNjSWWQioiXNlUUtVEVTVVC1GQ0MtSUQilCjYnNkU2VyaWFsTnVtYmVyljojNjg1MzAzMjI1MDAwMDciLCJwcm9mZXNzaW9uYWxJbnN0YWxsZXJlYXRhIj0pImNwaUlkljoiMTExliwiY3BpTmFtZSI6IjEiLCJpbmN0YWxsQ2VydGlmaWNhdGlvbGlRpbWUuOiilyMDE3LTExVDEwOjMwOjAwWi9fQ",
        "protectedHeader": "eyJhbGciOiJIUzI1NiIsInR5cCI6IkpXVCJ9",
        "fcclId": "W6U-TEST-FCC-ID",
        "userId": "1"
      }
    }
  ]
}
2023-04-26T18:35:14.596Z - INFO - request message received while HBT is absent, sleep 159 sec before responding
2023-04-26T18:36:04.881Z - INFO - registration request from CBRs : {
  "registrationRequest": [
    {

```



```

"airInterface": {
  "radioTechnology": "NR"
},
"callSign": "1",
"cbidCategory": "A",
"cbidInfo": {
  "firmwareVersion": "1.1.10 ()",
  "hardwareVersion": "0.0.1",
  "model": "O-RU",
  "softwareVersion": "0.2.4 ()",
  "vendor": "SOLiD"
},
"cbidSerialNumber": "68530322500007",
"cpisignatureData": {
  "digitalSignature": "AR5MaDIzi5_qJGKAmDxCUYzDxUWghcxP_oJXuoi2xq1K2B22_gHAI6HcpvWjYkBuHR4Br0gY81Le21Wrdc3yZHreFOV1iKJCF-
1GWGdpXNWZfuqRXj6-
hIEA9s5dlmQtu_Q2Z2UEXpqISwn6xtBY7k1qI6yenIIQ4nV7C0iRxt9L7AeubAFSLIDc3twXBrbbLbbRgtckEAPbi2VgOAU4dkMuMydrYzolkQVNV4Nei9uL9r3rgaEfCm
HWVviex18_6kELx_IQYnU3P_N2siY81q57jE6AeJpWm3qa4n8Vm9Bdjv-riOZI_E6-Mq7HhoF5EK4hLI9tNC_T5fpmYMOA",
  "encodedCpiSignedData":
"eyJpbmN0YWxsYXRpb25QYXJhbSI6eyJsYXRpdHVkZSI6MS4wLjE2ZGU0eUwMcWiaGVpZ2h0IjoxLjAsImhlaWdodFR5cGU0iJBR0wiLCJpbmRvb3JlZXBs
b3ltZW50Ijpb0cnVILCJhbnRlbn5hR2Fpbil6MC4wfSwiZmNjSWQ0iOjXNlUUEVTVVC1GQ0MtSUQ0LCJjYnNkU2VyaWFsTnVtYmVyljoiNjg1MzAzMjI1MDAwMDciLCJw
cm9mZXNzaW9uYWwJbnN0YWxsZXJlYXRhIjpb7ImNwaUlkljoiMTEwLiwiY3BpTmFtZSI6IjEiLCJpbmN0YWxsQ2VydGlmaWNhdGlvbIjRpbWUiOiIyMDE3LTExVDE
wOjMwOjAwWjI9fQ",
  "protectedHeader": "eyJhbGciOiJlSUZlI1NiIsInR5cCI6IkpXVCJ9"
},
"fccId": "W6U-TEST-FCC-ID",
"userId": "1"
}
}
}
2023-04-26T18:36:04.882Z - INFO - request message received while HBT is absent, sleep 108 sec before responding
2023-04-26T18:36:55.289Z - INFO - registration request from CBRS : {
  "registrationRequest": {
    {
      "airInterface": {
        "radioTechnology": "NR"
      },
      "callSign": "1",
      "cbidCategory": "A",
      "cbidInfo": {
        "firmwareVersion": "1.1.10 ()",
        "hardwareVersion": "0.0.1",
        "model": "O-RU",
        "softwareVersion": "0.2.4 ()",
        "vendor": "SOLiD"
      },
      "cbidSerialNumber": "68530322500007",
      "cpisignatureData": {
        "digitalSignature": "AR5MaDIzi5_qJGKAmDxCUYzDxUWghcxP_oJXuoi2xq1K2B22_gHAI6HcpvWjYkBuHR4Br0gY81Le21Wrdc3yZHreFOV1iKJCF-
1GWGdpXNWZfuqRXj6-
hIEA9s5dlmQtu_Q2Z2UEXpqISwn6xtBY7k1qI6yenIIQ4nV7C0iRxt9L7AeubAFSLIDc3twXBrbbLbbRgtckEAPbi2VgOAU4dkMuMydrYzolkQVNV4Nei9uL9r3rgaEfCm
HWVviex18_6kELx_IQYnU3P_N2siY81q57jE6AeJpWm3qa4n8Vm9Bdjv-riOZI_E6-Mq7HhoF5EK4hLI9tNC_T5fpmYMOA",

```



```

      "encodedCpiSignedData":
"eyJpbmN0YWxsYXRpb25QYXJhbSI6eyJsYXRpdHVkZSI6MS4wLCJsbn25naXR1ZGU0JEUwMCwiaGVpZ2h0IjoxLjAsImhlaWdodFR5cGU0IjBR0wiLCJpbmRvb3JEZXBs
b3ltZW50Ijpo0cnVILCJhbnRlbn5hR2Fpbil6MC4wfSwiZmNjSWQ0i0iXNlU0tVEVTVVC1GQ0MtSUQ0iLCJjYnNkU2VyaWFsTnVtYmVyljoiNjg1MzAzMjl1MDAwMDciLCJw
cm9mZXNzaW9uYWwJbnN0YWxsZXJEYXRhIjpw7ImNwaUlkljoiMTEwLiwiY3BpTmFtZSI6IjEiLCJpbmN0YWxsQ2VydGlmaWNhdGlvbIjRpbWUiOiIyMDE3LTExVDE
wOjMwOjAwWiI9fQ",
      "protectedHeader": "eyJhbGciOiJSUzI1NiIsInR5cCI6IkpXVCJ9"
    },
    "fccId": "W6U-TEST-FCC-ID",
    "userId": "1"
  }
}
}

```

2023-04-26T18:36:55.292Z - INFO - request message received while HBT is absent, sleep 58 sec before responding

2023-04-26T18:37:46.365Z - INFO - registration request from CBRS : {

```

  "registrationRequest": {
    {
      "airInterface": {
        "radioTechnology": "NR"
      },
      "callSign": "1",
      "cbidCategory": "A",
      "cbidInfo": {
        "firmwareVersion": "1.1.10 ()",
        "hardwareVersion": "0.0.1",
        "model": "O-RU",
        "softwareVersion": "0.2.4 ()",
        "vendor": "SOLiD"
      },
      "cbidSerialNumber": "68530322500007",
      "cpiSignatureData": {
        "digitalSignature": "AR5MaDIzi5_qJGKAmDxCUYzDjUWghcxP_oJXuoizxq1K2B22_gHAI6HcpvWjYkBuHR4Br0gY81Le21Wrdc3yZHreFOV1iKJCF-
1GWGdpXNWZfuqRXj6-
hIEA9s5dlmQtu_Q2Z2UEXpqISwn6xtBY7k1qI6yenIIQ4nV7C0iRxt9L7AeubAFSLIDc3twXBrbbLbbRgtckEAPbi2VgOAU4dkMuMydrYzolkQVNV4Nei9uL9r3rgaEfCm
HWVix18_6kELx_IQYnU3P_N2siY81q57jE6AeJpWm3qa4n8Vm9Bdjv-riOZI_E6-Mq7HhoF5EK4hLI9tNC_T5fpmYMOA",
        "encodedCpiSignedData":
"eyJpbmN0YWxsYXRpb25QYXJhbSI6eyJsYXRpdHVkZSI6MS4wLCJsbn25naXR1ZGU0JEUwMCwiaGVpZ2h0IjoxLjAsImhlaWdodFR5cGU0IjBR0wiLCJpbmRvb3JEZXBs
b3ltZW50Ijpo0cnVILCJhbnRlbn5hR2Fpbil6MC4wfSwiZmNjSWQ0i0iXNlU0tVEVTVVC1GQ0MtSUQ0iLCJjYnNkU2VyaWFsTnVtYmVyljoiNjg1MzAzMjl1MDAwMDciLCJw
cm9mZXNzaW9uYWwJbnN0YWxsZXJEYXRhIjpw7ImNwaUlkljoiMTEwLiwiY3BpTmFtZSI6IjEiLCJpbmN0YWxsQ2VydGlmaWNhdGlvbIjRpbWUiOiIyMDE3LTExVDE
wOjMwOjAwWiI9fQ",
        "protectedHeader": "eyJhbGciOiJSUzI1NiIsInR5cCI6IkpXVCJ9"
      },
      "fccId": "W6U-TEST-FCC-ID",
      "userId": "1"
    }
  }
}

```

2023-04-26T18:37:46.368Z - INFO - request message received while HBT is absent, sleep 7 sec before responding

2023-04-26T18:37:48.766Z - INFO - engine sent successfully, the response to CBRS : {

```

  "heartbeatResponse": {
    {
      "cbidId": "W6U-TEST-FCC-IDMock-SAS68530322500007",
      "grantId": "293108568",
      "response": {

```



```
"responseCode": 501
},
"transmitExpireTime": "2023-04-26T18:37:48Z"
}
]
```

2023-04-26T18:37:50.078Z - INFO - arrived to nstep starting question answer session with the technician

2023-04-26T18:37:50.085Z - INFO - the question is : Did the CBSD stop RF transmissions within (transmitExpireTime + 60seconds) of last valid heartbeat response? please choose one of the answers :

2023-04-26T18:37:52.713Z - INFO - engine sent successfully, the response to CBRS : "list index out of range"

2023-04-26T18:37:52.898Z - INFO - engine sent successfully, the response to CBRS : "for the CBRS with the cbsdSerialNumber :68530322500007 list index out of range"

2023-04-26T18:37:53.308Z - INFO - engine sent successfully, the response to CBRS : "for the CBRS with the cbsdSerialNumber :68530322500007 list index out of range"

2023-04-26T18:37:53.391Z - INFO - engine sent successfully, the response to CBRS : "for the CBRS with the cbsdSerialNumber :68530322500007 list index out of range"

2023-04-26T18:37:53.618Z - INFO - engine sent successfully, the response to CBRS : "for the CBRS with the cbsdSerialNumber :68530322500007 list index out of range"

2023-04-26T18:38:14.315Z - INFO - for the question : Did the CBSD stop RF transmissions within (transmitExpireTime + 60seconds) of last valid heartbeat response? , the user choose y

2023-04-26T18:38:27.644Z - INFO - The final result of the test : WINNF.FT.C.HBT.10 is - passed and :the additional comments for the current test are : CBSD Stop Tx

10.20 Log file for test case ID: WINNF.FT.C.HBT.11

2023-04-26T18:52:16.239Z - INFO - WINNF TEST HARNESS RELEASE: 1.0.0.3 - 2018-November-13

2023-04-26T18:52:16.244Z - INFO - the selected test from the user : WINNF.FT.C.HBT.11 is starting now

2023-04-26T18:52:17.546Z - INFO - registration request from CBRS : {

```
{
  "registrationRequest": {
    {
      "airInterface": {
        "radioTechnology": "NR"
      },
      "callSign": "1",
      "cbsdCategory": "A",
      "cbsdInfo": {
        "firmwareVersion": "1.1.10 ()",
        "hardwareVersion": "0.0.1",
        "model": "O-RU",
        "softwareVersion": "0.2.4 ()",
        "vendor": "SOLiD"
      },
      "cbsdSerialNumber": "68530322500007",
      "cpiSignatureData": {
        "digitalSignature": "AR5MaDIzi5_qJGKAmdXCUYzoiDxUWghcxP_ojXuoi2xq1K2B22_gHAL6HcpvWjYkBuHR4Br0gY81Le21Wrdc3yZHreFOV1iKJCf-1GWGdpXNWZfuqRXj6-hIEA9s5dlmQtu_Q2Z2UExpqlSwN6xtBY7k1ql6yenllQ4nV7C0iRxt9L7AeubAFSLIDc3twXBrrbLbbRgtckEAPbi2VgOAU4dkMuMydrYzoIkQVNv4Nei9uL9r3rgaEfCmHWViex18_6kELx_IQYnU3P_N2siY81q57jE6AejPWm3qa4n8Vm9Bdjv-riOZJ_E6-Mq7HhoF5EK4hLI9tNC_T5fpnYMOA",
        "encodedCpiSignedData":
          "eyJpbNNOYWxsYXRpb25QYXJhbSI6eyJsYXRpdHVkZSI6MS4wLjCsbn25NaXR1ZGUlOiEuMCwiaGVpZ2h0IjoxLjAsImhlaWdodFR5cGUlOiJBROwiLCJpbmRvb3JEZXBsbn3ltZW50IjpcnVILCjhbNRIbm5hR2Fpbil6MCA4wfSwiZmNjSWQlOiJXNIUtVEVTVC1GQQOMtSUQlLCJjYnNkU2VyaWFsTnVtYmVyljoijNg1MzAzMjl1MDAwMDciLCJwcm9mZXNzaW9uYWxlbnN0YWxsZXJlYXRoIjpw7lmNwaUlkljoiMTExliwiY3BpTmFtZSI6IjEiLCJpbNNOYWxsQ2VydgGlmaWNhdGlvblRpbWUiOiilyMDE3LTcwLTExVDIwOjMwOjAwWiI9fQ",
        "protectedHeader": "eyJhbGciOiJSUzI1NiIsInR5cCI6IkpXVCJ9"
      },
      "fccId": "W6U-TEST-FCC-ID",
      "userId": "1"
    }
  }
}
```

2023-04-26T18:52:17.792Z - INFO - Registration message contains cpiSignatureData

2023-04-26T18:52:17.793Z - INFO - protectedHeader = {u'alg': u'RS256', u'typ': u'JWT'}

2023-04-26T18:52:17.796Z - INFO - encodedCpiSignedData contents = {

```
{
  "installationParam": {
    "heightType": "AGL",
    "longitude": 1.0,
    "antennaGain": 0.0,
    "indoorDeployment": true,
    "latitude": 1.0,
    "height": 1.0
  },
  "professionalInstallerData": {
    "cpiName": "1",
    "installCertificationTime": "2017-10-11T20:30:00Z",
    "cpild": "111"
  },
  "fccId": "W6U-TEST-FCC-ID",
}
```

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Nemko San Diego, a testing laboratory, is a authorized test lab (ATL) by the CBRS Alliance for standard WINNF-TS-0122



```

    "cbsdSerialNumber": "68530322500007"
  }
2023-04-26T18:52:17.809Z - INFO - verified signature on cpiSignatureData
2023-04-26T18:52:17.821Z - INFO - cbsdCategory= 'A', removing optional param from cpi_schema
2023-04-26T18:52:17.825Z - INFO - cpiSignatureData data successfully validated against jsonschema
2023-04-26T18:52:17.834Z - INFO - engine sent successfully, the response to CBRS : {
  "registrationResponse": [
    {
      "cbsdId": "W6U-TEST-FCC-IDMock-SAS68530322500007",
      "response": {
        "responseCode": 0
      }
    }
  ]
}
2023-04-26T18:52:17.937Z - INFO - spectrumInquiry request from CBRS : {
  "spectrumInquiryRequest": [
    {
      "cbsdId": "W6U-TEST-FCC-IDMock-SAS68530322500007",
      "inquiredSpectrum": [
        {
          "highFrequency": 3700000000,
          "lowFrequency": 3550000000
        }
      ]
    }
  ]
}
2023-04-26T18:52:17.983Z - INFO - engine sent successfully, the response to CBRS : {
  "spectrumInquiryResponse": [
    {
      "availableChannel": [
        {
          "channelType": "GAA",
          "frequencyRange": {
            "highFrequency": 3700000000,
            "lowFrequency": 3550000000
          },
          "ruleApplied": "FCC_PART_96"
        }
      ],
      "cbsdId": "W6U-TEST-FCC-IDMock-SAS68530322500007",
      "response": {
        "responseCode": 0
      }
    }
  ]
}
2023-04-26T18:52:18.085Z - INFO - spectrumInquiry request from CBRS : {
  "spectrumInquiryRequest": [
    {
      "cbsdId": "W6U-TEST-FCC-IDMock-SAS68530322500007",
      "inquiredSpectrum": [

```

```

    {
      "highFrequency": 3590030000.0,
      "lowFrequency": 3550030000.0
    }
  ]
}
]
}
}
2023-04-26T18:52:18.140Z - INFO - engine sent successfully, the response to CBRS : {
  "spectrumInquiryResponse": [
    {
      "availableChannel": [
        {
          "channelType": "GAA",
          "frequencyRange": {
            "highFrequency": 3590030000.0,
            "lowFrequency": 3550030000.0
          },
          "ruleApplied": "FCC_PART_96"
        }
      ],
      "cbsId": "W6U-TEST-FCC-IDMock-SAS68530322500007",
      "response": {
        "responseCode": 0
      }
    }
  ]
}
}
2023-04-26T18:52:18.223Z - INFO - grant request from CBRS : {
  "grantRequest": [
    {
      "cbsId": "W6U-TEST-FCC-IDMock-SAS68530322500007",
      "operationParam": {
        "maxEirp": 3.98,
        "operationFrequencyRange": {
          "highFrequency": 3590030000.0,
          "lowFrequency": 3550030000.0
        }
      }
    }
  ]
}
}
}
2023-04-26T18:52:18.282Z - INFO - engine sent successfully, the response to CBRS : {
  "grantResponse": [
    {
      "cbsId": "W6U-TEST-FCC-IDMock-SAS68530322500007",
      "channelType": "GAA",
      "grantExpireTime": "2023-04-26T18:58:18Z",
      "grantId": "42223510",
      "heartbeatInterval": 60,
      "response": {
        "responseCode": 0
      }
    }
  ]
}
}

```

```

    }
  ]
}
2023-04-26T18:52:18.348Z - INFO - heartbeat request from CBRS : {
  "heartbeatRequest": [
    {
      "cbsdId": "W6U-TEST-FCC-IDMock-SAS68530322500007",
      "grantId": "42223510",
      "grantRenew": true,
      "operationState": "GRANTED"
    }
  ]
}
2023-04-26T18:52:18.440Z - INFO - grantRenew received in HBT request message
2023-04-26T18:52:18.443Z - INFO - engine sent successfully, the response to CBRS : {
  "heartbeatResponse": [
    {
      "cbsdId": "W6U-TEST-FCC-IDMock-SAS68530322500007",
      "grantExpireTime": "2023-04-26T18:58:18Z",
      "grantId": "42223510",
      "response": {
        "responseCode": 0
      },
      "transmitExpireTime": "2023-04-26T18:55:38Z"
    }
  ]
}
2023-04-26T18:52:18.526Z - INFO - heartbeat request from CBRS : {
  "heartbeatRequest": [
    {
      "cbsdId": "W6U-TEST-FCC-IDMock-SAS68530322500007",
      "grantId": "42223510",
      "operationState": "AUTHORIZED"
    }
  ]
}
2023-04-26T18:52:18.545Z - INFO - Time interval between two heartbeat request messages is: 0.181, limit is: 65.0
2023-04-26T18:52:18.592Z - INFO - engine sent successfully, the response to CBRS : {
  "heartbeatResponse": [
    {
      "cbsdId": "W6U-TEST-FCC-IDMock-SAS68530322500007",
      "grantId": "42223510",
      "response": {
        "responseCode": 0
      },
      "transmitExpireTime": "2023-04-26T18:55:38Z"
    }
  ]
}
2023-04-26T18:52:38.700Z - INFO - heartbeat request from CBRS : {
  "heartbeatRequest": [
    {
      "cbsdId": "W6U-TEST-FCC-IDMock-SAS68530322500007",

```



```

    "grantId": "42223510",
    "operationState": "AUTHORIZED"
  }
}
}
2023-04-26T18:52:38.724Z - INFO - Time interval between two heartbeat request messages is: 20.169, limit is: 65.0
2023-04-26T18:52:38.798Z - INFO - engine sent successfully, the response to CBRS : {
  "heartbeatResponse": [
    {
      "cbsdId": "W6U-TEST-FCC-IDMock-SAS68530322500007",
      "grantId": "42223510",
      "response": {
        "responseCode": 0
      },
      "transmitExpireTime": "2023-04-26T18:55:58Z"
    }
  ]
}
}
2023-04-26T18:53:08.934Z - INFO - heartbeat request from CBRS : {
  "heartbeatRequest": [
    {
      "cbsdId": "W6U-TEST-FCC-IDMock-SAS68530322500007",
      "grantId": "42223510",
      "operationState": "AUTHORIZED"
    }
  ]
}
}
2023-04-26T18:53:08.973Z - INFO - Time interval between two heartbeat request messages is: 30.236, limit is: 65.0
2023-04-26T18:53:09.052Z - INFO - engine sent successfully, the response to CBRS : {
  "heartbeatResponse": [
    {
      "cbsdId": "W6U-TEST-FCC-IDMock-SAS68530322500007",
      "grantId": "42223510",
      "response": {
        "responseCode": 0
      },
      "transmitExpireTime": "2023-04-26T18:56:29Z"
    }
  ]
}
}
2023-04-26T18:53:39.164Z - INFO - heartbeat request from CBRS : {
  "heartbeatRequest": [
    {
      "cbsdId": "W6U-TEST-FCC-IDMock-SAS68530322500007",
      "grantId": "42223510",
      "operationState": "AUTHORIZED"
    }
  ]
}
}
2023-04-26T18:53:39.190Z - INFO - Time interval between two heartbeat request messages is: 30.228, limit is: 65.0
2023-04-26T18:53:39.243Z - INFO - engine sent successfully, the response to CBRS : {
  "heartbeatResponse": [
    {

```

```

    "cbsdId": "W6U-TEST-FCC-IDMock-SAS68530322500007",
    "grantId": "42223510",
    "response": {
      "responseCode": 0
    },
    "transmitExpireTime": "2023-04-26T18:56:59Z"
  }
}
}
2023-04-26T18:54:09.358Z - INFO - heartbeat request from CBRS : {
  "heartbeatRequest": [
    {
      "cbsdId": "W6U-TEST-FCC-IDMock-SAS68530322500007",
      "grantId": "42223510",
      "operationState": "AUTHORIZED"
    }
  ]
}
2023-04-26T18:54:09.382Z - INFO - Time interval between two heartbeat request messages is: 30.196, limit is: 65.0
2023-04-26T18:54:09.447Z - INFO - engine sent successfully, the response to CBRS : {
  "heartbeatResponse": [
    {
      "cbsdId": "W6U-TEST-FCC-IDMock-SAS68530322500007",
      "grantId": "42223510",
      "response": {
        "responseCode": 0
      },
      "transmitExpireTime": "2023-04-26T18:57:29Z"
    }
  ]
}
2023-04-26T18:54:39.572Z - INFO - heartbeat request from CBRS : {
  "heartbeatRequest": [
    {
      "cbsdId": "W6U-TEST-FCC-IDMock-SAS68530322500007",
      "grantId": "42223510",
      "operationState": "AUTHORIZED"
    }
  ]
}
2023-04-26T18:54:39.595Z - INFO - Time interval between two heartbeat request messages is: 30.213, limit is: 65.0
2023-04-26T18:54:39.664Z - INFO - engine sent successfully, the response to CBRS : {
  "heartbeatResponse": [
    {
      "cbsdId": "W6U-TEST-FCC-IDMock-SAS68530322500007",
      "grantId": "42223510",
      "response": {
        "responseCode": 0
      },
      "transmitExpireTime": "2023-04-26T18:57:59Z"
    }
  ]
}
}

```



```

2023-04-26T18:55:09.779Z - INFO - heartbeat request from CBRS : {
  "heartbeatRequest": [
    {
      "cbsdId": "W6U-TEST-FCC-IDMock-SAS68530322500007",
      "grantId": "42223510",
      "operationState": "AUTHORIZED"
    }
  ]
}
2023-04-26T18:55:09.802Z - INFO - Time interval between two heartbeat request messages is: 30.207, limit is: 65.0
2023-04-26T18:55:09.880Z - INFO - engine sent successfully, the response to CBRS : {
  "heartbeatResponse": [
    {
      "cbsdId": "W6U-TEST-FCC-IDMock-SAS68530322500007",
      "grantId": "42223510",
      "response": {
        "responseCode": 0
      },
      "transmitExpireTime": "2023-04-26T18:58:18Z"
    }
  ]
}
2023-04-26T18:55:40.000Z - INFO - heartbeat request from CBRS : {
  "heartbeatRequest": [
    {
      "cbsdId": "W6U-TEST-FCC-IDMock-SAS68530322500007",
      "grantId": "42223510",
      "operationState": "AUTHORIZED"
    }
  ]
}
2023-04-26T18:55:40.019Z - INFO - Time interval between two heartbeat request messages is: 30.222, limit is: 65.0
2023-04-26T18:55:40.078Z - INFO - engine sent successfully, the response to CBRS : {
  "heartbeatResponse": [
    {
      "cbsdId": "W6U-TEST-FCC-IDMock-SAS68530322500007",
      "grantId": "42223510",
      "response": {
        "responseCode": 0
      },
      "transmitExpireTime": "2023-04-26T18:58:18Z"
    }
  ]
}
2023-04-26T18:56:10.196Z - INFO - heartbeat request from CBRS : {
  "heartbeatRequest": [
    {
      "cbsdId": "W6U-TEST-FCC-IDMock-SAS68530322500007",
      "grantId": "42223510",
      "operationState": "AUTHORIZED"
    }
  ]
}

```



2023-04-26T18:56:10.223Z - INFO - Time interval between two heartbeat request messages is: 30.2, limit is: 65.0

2023-04-26T18:56:10.293Z - INFO - engine sent successfully, the response to CBRS : {

```
"heartbeatResponse": [
  {
    "cbsdId": "W6U-TEST-FCC-IDMock-SAS68530322500007",
    "grantId": "42223510",
    "response": {
      "responseCode": 0
    },
    "transmitExpireTime": "2023-04-26T18:58:18Z"
  }
]
```

2023-04-26T18:56:40.411Z - INFO - heartbeat request from CBRS : {

```
"heartbeatRequest": [
  {
    "cbsdId": "W6U-TEST-FCC-IDMock-SAS68530322500007",
    "grantId": "42223510",
    "grantRenew": true,
    "operationState": "AUTHORIZED"
  }
]
```

2023-04-26T18:56:40.434Z - INFO - Time interval between two heartbeat request messages is: 30.211, limit is: 65.0

2023-04-26T18:56:40.500Z - INFO - grantRenew received in HBT request message

2023-04-26T18:56:40.503Z - INFO - engine sent successfully, the response to CBRS : {

```
"heartbeatResponse": [
  {
    "cbsdId": "W6U-TEST-FCC-IDMock-SAS68530322500007",
    "grantExpireTime": "2023-04-26T19:02:40Z",
    "grantId": "42223510",
    "response": {
      "responseCode": 0
    },
    "transmitExpireTime": "2023-04-26T19:00:00Z"
  }
]
```

2023-04-26T18:57:10.630Z - INFO - heartbeat request from CBRS : {

```
"heartbeatRequest": [
  {
    "cbsdId": "W6U-TEST-FCC-IDMock-SAS68530322500007",
    "grantId": "42223510",
    "operationState": "AUTHORIZED"
  }
]
```

2023-04-26T18:57:10.653Z - INFO - Time interval between two heartbeat request messages is: 30.218, limit is: 65.0

2023-04-26T18:57:10.723Z - INFO - engine sent successfully, the response to CBRS : {

```
"heartbeatResponse": [
  {
    "cbsdId": "W6U-TEST-FCC-IDMock-SAS68530322500007",
    "grantId": "42223510",
```



```
"response": {  
  "responseCode": 0  
},  
"transmitExpireTime": "2023-04-26T19:00:30Z"  
}  
]  
}
```

2023-04-26T18:57:12.178Z - INFO - arrived to nstep starting question answer session with the technician

2023-04-26T18:57:12.184Z - INFO - the question is : Did the CBSD renew its grant successfully? please choose one of the answers :

2023-04-26T18:57:37.072Z - INFO - for the question : Did the CBSD renew its grant successfully? , the user choose y

2023-04-26T18:58:05.482Z - INFO - The final result of the test : WINNF.FT.C.HBT.11 is - passed and :the additional comments for the current test are : CBSD Continued Tx after Grant renewal



10.21 Log file for test case ID: WINNF.FT.C.MES.3

2023-05-18T21:10:32.128Z - INFO - WINNF TEST HARNESS RELEASE: 1.0.0.3 - 2018-November-13

2023-05-18T21:10:32.131Z - INFO - the selected test from the user : WINNF.FT.C.MES.3 is starting now

2023-05-18T21:10:34.309Z - INFO - registration request from CBRS : {

```
"registrationRequest": {
  {
    "airInterface": {
      "radioTechnology": "NR"
    },
    "callSign": "1",
    "cbsdCategory": "A",
    "cbsdInfo": {
      "firmwareVersion": "1.1.10 ()",
      "hardwareVersion": "0.0.1",
      "model": "O-RU",
      "softwareVersion": "0.2.4 ()",
      "vendor": "SOLiD"
    },
    "cbsdSerialNumber": "68530322500007",
    "cpiSignatureData": {
      "digitalSignature":
"r_YmRduC2D3qevONTEmZ_TIMNx97YhDrJnedSgOesKZM9CHd1QDeH6ZQjo0q1YyIKBF3h9qyDZ9Os1WZMLyX9XWnGqhH4JC3sRaGPAIlh7m_nOBak-
IGin7YCLB4cc-BcAgTWRYEEHgE1IVJuqglEqfvipNFxImt83ox-xQwH6-
gL_brY4Jjbo2zSicTRKmV8HQz_jy3X7F2Cn0Ylgi6i_1gu6Pxz5IkHvcgEYult303QFmZxBeoULtGcGQDj3cHHLGH-BDII738dITakBr_OWs4g2UjtSeKI_NAV4qn06L-
ztB8TKy3B0zdhHCK06vtWiL1y6JycXdfuGIM7oQ",
      "encodedCpiSignedData":
"eyJpbmNOYXxsYXRpb25QYXJhbSI6eyJsYXRpdHVkZSI6MS4wLjBjb25naXR1ZGU0JEUuMCwiaGVpZ2h0IjoxLjAsImhlaWdodFR5cGUuOiJBR0wiLCJpbmRvb3JEZXBs
b3ltZW50IjpbOjN0cVILCjhbRlBm5hR2Fpbil6MC4wfSwiZmNjSWQ0IjoiX2JzZmNlcmIhbE51bWJlci6lY4NTMwMzlyNTAwMDA3IiwicHJvZmVzc2l2bmFsSW5zdGFs
bGVyRGF0YSI6eyJjcGljZCI6IjEiLCJjcGlOYW11IjoIbW50Iiwuc3RhbGxkZXI0aWZpY2F0aW9uVGVltZSI6IjIwMTctMTFUMjA6MzA6MDBAIn19",
      "protectedHeader": "eyJhbGciOiJIUzI1NiIsInR5cCI6IkpXVCJ9"
    },
    "fcclid": "1",
    "measCapability": [
      "RECEIVED_POWER_WITH_GRANT"
    ],
    "userId": "1"
  }
}
}
```

2023-05-18T21:10:34.753Z - INFO - Registration message contains cpiSignatureData

2023-05-18T21:10:34.757Z - INFO - protectedHeader = {u'algi': u'RS256', u'typ': u'JWT'}

2023-05-18T21:10:34.760Z - INFO - encodedCpiSignedData contents = {

```
"installationParam": {
  "heightType": "AGL",
  "longitude": 1.0,
  "antennaGain": 0.0,
  "indoorDeployment": true,
  "latitude": 1.0,
  "height": 1.0
},
"professionalInstallerData": {
  "cpiName": "1",
  "installCertificationTime": "2017-10-11T20:30:00Z",
```

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```

    "cpild": "1"
  },
  "fccId": "1",
  "cbsdSerialNumber": "68530322500007"
}
2023-05-18T21:10:34.805Z - INFO - verified signature on cpiSignatureData
2023-05-18T21:10:34.933Z - INFO - cbsdCategory= 'A', removing optional param from cpi_schema
2023-05-18T21:10:34.976Z - INFO - cpiSignatureData data successfully validated against jsonschema
2023-05-18T21:10:34.992Z - INFO - engine sent successfully, the response to CBRS : {
  "registrationResponse": [
    {
      "cbsdId": "1Mock-SAS68530322500007",
      "response": {
        "responseCode": 0
      }
    }
  ]
}
2023-05-18T21:10:35.081Z - INFO - spectrumInquiry request from CBRS : {
  "spectrumInquiryRequest": [
    {
      "cbsdId": "1Mock-SAS68530322500007",
      "inquiredSpectrum": [
        {
          "highFrequency": 3700000000,
          "lowFrequency": 3550000000
        }
      ]
    }
  ]
}
2023-05-18T21:10:35.150Z - INFO - engine sent successfully, the response to CBRS : {
  "spectrumInquiryResponse": [
    {
      "availableChannel": [
        {
          "channelType": "GAA",
          "frequencyRange": {
            "highFrequency": 3700000000,
            "lowFrequency": 3550000000
          },
          "ruleApplied": "FCC_PART_96"
        }
      ],
      "cbsdId": "1Mock-SAS68530322500007",
      "response": {
        "responseCode": 0
      }
    }
  ]
}
2023-05-18T21:10:35.262Z - INFO - spectrumInquiry request from CBRS : {
  "spectrumInquiryRequest": [

```

```

{
  "cbsdId": "1Mock-SAS68530322500007",
  "inquiredSpectrum": [
    {
      "highFrequency": 3590000000.0,
      "lowFrequency": 3550000000.0
    }
  ]
}
]
}
}
2023-05-18T21:10:35.298Z - INFO - engine sent successfully, the response to CBRS : {
  "spectrumInquiryResponse": [
    {
      "availableChannel": [
        {
          "channelType": "GAA",
          "frequencyRange": {
            "highFrequency": 3590000000.0,
            "lowFrequency": 3550000000.0
          },
          "ruleApplied": "FCC_PART_96"
        }
      ],
      "cbsdId": "1Mock-SAS68530322500007",
      "response": {
        "responseCode": 0
      }
    }
  ]
}
}
2023-05-18T21:10:35.405Z - INFO - grant request from CBRS : {
  "grantRequest": [
    {
      "cbsdId": "1Mock-SAS68530322500007",
      "operationParam": {
        "maxEirp": 3.98,
        "operationFrequencyRange": {
          "highFrequency": 3590000000.0,
          "lowFrequency": 3550000000.0
        }
      }
    }
  ]
}
}
2023-05-18T21:10:35.592Z - INFO - Response message contains measReportConfig
2023-05-18T21:10:35.595Z - INFO - engine sent successfully, the response to CBRS : {
  "grantResponse": [
    {
      "cbsdId": "1Mock-SAS68530322500007",
      "channelType": "GAA",
      "grantExpireTime": "2023-05-25T21:10:35Z",
      "grantId": "43051779",

```

```

    "heartbeatInterval": 60,
    "measReportConfig": [
      "RECEIVED_POWER_WITH_GRANT"
    ],
    "response": {
      "responseCode": 0
    }
  }
}
}
}
2023-05-18T21:10:35.696Z - INFO - heartbeat request from CBRS : {
  "heartbeatRequest": [
    {
      "cbsdId": "1Mock-SAS68530322500007",
      "grantId": "43051779",
      "grantRenew": true,
      "measReport": {
        "rcvdPowerMeasReports": [
          {
            "measBandwidth": 10000000,
            "measFrequency": 3550000000.0,
            "measRcvdPower": -94
          },
          {
            "measBandwidth": 10000000,
            "measFrequency": 3560000000.0,
            "measRcvdPower": -93
          },
          {
            "measBandwidth": 10000000,
            "measFrequency": 3570000000.0,
            "measRcvdPower": -94
          },
          {
            "measBandwidth": 10000000,
            "measFrequency": 3580000000.0,
            "measRcvdPower": -93
          }
        ]
      },
      "operationState": "GRANTED"
    }
  ]
}
2023-05-18T21:10:35.721Z - INFO - measReport received in heartbeat message
2023-05-18T21:10:35.775Z - INFO - grantRenew received in HBT request message
2023-05-18T21:10:35.780Z - INFO - engine sent successfully, the response to CBRS : {
  "heartbeatResponse": [
    {
      "cbsdId": "1Mock-SAS68530322500007",
      "grantExpireTime": "2023-05-25T21:10:35Z",
      "grantId": "43051779",
      "response": {

```

```

        "responseCode": 0
    },
    "transmitExpireTime": "2023-05-18T21:13:55Z"
}
]
}
2023-05-18T21:10:45.875Z - INFO - heartbeat request from CBRS : {
  "heartbeatRequest": [
    {
      "cbsdId": "1Mock-SAS68530322500007",
      "grantId": "43051779",
      "operationState": "AUTHORIZED"
    }
  ]
}
2023-05-18T21:10:45.890Z - INFO - Time interval between two heartbeat request messages is: 10.179, limit is: 65.0
2023-05-18T21:10:45.940Z - INFO - engine sent successfully, the response to CBRS : {
  "heartbeatResponse": [
    {
      "cbsdId": "1Mock-SAS68530322500007",
      "grantId": "43051779",
      "response": {
        "responseCode": 0
      },
      "transmitExpireTime": "2023-05-18T21:14:05Z"
    }
  ]
}
2023-05-18T21:10:52.384Z - INFO - heartbeat request from CBRS : {
  "heartbeatRequest": [
    {
      "cbsdId": "1Mock-SAS68530322500007",
      "grantId": "43051779",
      "operationState": "AUTHORIZED"
    }
  ]
}
2023-05-18T21:10:52.397Z - INFO - Time interval between two heartbeat request messages is: 6.508, limit is: 65.0
2023-05-18T21:10:52.443Z - INFO - engine sent successfully, the response to CBRS : {
  "heartbeatResponse": [
    {
      "cbsdId": "1Mock-SAS68530322500007",
      "grantId": "43051779",
      "response": {
        "responseCode": 0
      },
      "transmitExpireTime": "2023-05-18T21:14:12Z"
    }
  ]
}
2023-05-18T21:11:02.388Z - INFO - heartbeat request from CBRS : {
  "heartbeatRequest": [
    {

```

```

    "cbsdId": "1Mock-SAS68530322500007",
    "grantId": "43051779",
    "operationState": "AUTHORIZED"
  }
}
}
2023-05-18T21:11:02.401Z - INFO - Time interval between two heartbeat request messages is: 10.004, limit is: 65.0
2023-05-18T21:11:02.453Z - INFO - engine sent successfully, the response to CBRS : {
  "heartbeatResponse": [
    {
      "cbsdId": "1Mock-SAS68530322500007",
      "grantId": "43051779",
      "response": {
        "responseCode": 0
      },
      "transmitExpireTime": "2023-05-18T21:14:22Z"
    }
  ]
}
}
2023-05-18T21:11:12.411Z - INFO - heartbeat request from CBRS : {
  "heartbeatRequest": [
    {
      "cbsdId": "1Mock-SAS68530322500007",
      "grantId": "43051779",
      "operationState": "AUTHORIZED"
    }
  ]
}
}
2023-05-18T21:11:12.427Z - INFO - Time interval between two heartbeat request messages is: 10.024, limit is: 65.0
2023-05-18T21:11:12.502Z - INFO - engine sent successfully, the response to CBRS : {
  "heartbeatResponse": [
    {
      "cbsdId": "1Mock-SAS68530322500007",
      "grantId": "43051779",
      "response": {
        "responseCode": 0
      },
      "transmitExpireTime": "2023-05-18T21:14:32Z"
    }
  ]
}
}
2023-05-18T21:11:13.546Z - INFO - arrived to nstep starting question answer session with the technician
2023-05-18T21:13:53.365Z - INFO - The final result of the test : WINNF.FT.C.MES.3 is - passed and :the additional comments for the current test are : CBSD1 is
TX at 3.570GHz with 40MHz BW

```

10.22 Log file for test case ID: WINNF.FT.D.MES.5

2023-05-18T22:21:50.197Z - INFO - WINNF TEST HARNESS RELEASE: 1.0.0.3 - 2018-November-13

2023-05-18T22:21:50.201Z - INFO - the selected test from the user : WINNF.FT.D.MES.5 is starting now

2023-05-18T22:22:03.543Z - INFO - registration request from CBRS : {

```
"registrationRequest": {
  {
    "airInterface": {
      "radioTechnology": "NR"
    },
    "callSign": "1",
    "cbsdCategory": "A",
    "cbsdInfo": {
      "firmwareVersion": "1.1.10 ()",
      "hardwareVersion": "0.0.1",
      "model": "O-RU",
      "softwareVersion": "0.2.4 ()",
      "vendor": "SOLiD"
    },
    "cbsdSerialNumber": "68530322500007",
    "cpiSignatureData": {
      "digitalSignature":
"r_YmRduC2D3qevONTEmZ_TIMNX97YhDrJnedSgOesKZM9Chd1QDeH6ZQjo0q1YylKBF3h9qyDZ9Os1WZMLyX9XWnGqhH4JC3sRaGPAIlh7m_nOBAk-
IGin7YCLB4cc-BcAgTWRYEEHgE1IVJuqglEqfvipNFxImt83ox-xQwH6-
gL_brY4Jbo2zSicTRKmv8HQz_jy3X7F2Cn0Ylgi6i_1gu6Pxz5IkHvcgEYult303QFmZxBeoULxtGcGQDj3cHHLGH-BDII738dITakBr_OWs4g2UjtSeKI_NAV4qn06L-
ztB8TKy3B0zdhHck06vtWiL1y6JycXdfuGIM7oQ",
      "encodedCpiSignedData":
"eyJpbmNOYWxsYXRpb25QYXJhbSI6eyJsYXRpdHVkZSI6MS4wLjI6bnVkb25naXR1ZGUuOjEuMCwiaGVpZ2h0IjoxLjAsImhlaWdodFR5cGUuOiJBR0wiLCJpbmRvb3JlZXBs
b3ltZW50Ijpb0cnVILCJhbnRlbn5hR2Fpbil6MC4wfSwiZmNjSWQlOiIiLiwiY2JzZFNlcmllbE51bWJlcil6IjY4NTMwMzlyNTAwMDA3IiwicHJvZmVzc2lvbmFsSW5zdGFs
bGVyRGF0YSI6eyJjcGJZCjE6IjEiLCJjcGJOYW1IjoIiMSlmluc3RhbGxkZXJ0aWZpY2F0aW9uVGl0ZSI6IjIwMTctMTAtMTFUMjA6MzA6MDBaIn19",
      "protectedHeader": "eyJhbGciOiJSUzI1NiIsInR5cCI6IkpXVCJ9"
    },
    "fccId": "1",
    "measCapability": [
      "RECEIVED_POWER_WITH_GRANT"
    ],
    "userId": "1"
  }
}
```

2023-05-18T22:22:04.012Z - INFO - Registration message contains cpiSignatureData

2023-05-18T22:22:04.013Z - INFO - protectedHeader = {u'alg': u'RS256', u'typ': u'JWT'}

2023-05-18T22:22:04.015Z - INFO - encodedCpiSignedData contents = {

```
"installationParam": {
  "heightType": "AGL",
  "longitude": 1.0,
  "antennaGain": 0.0,
  "indoorDeployment": true,
  "latitude": 1.0,
  "height": 1.0
},
"professionalInstallerData": {
```

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```

    "cpiName": "1",
    "installCertificationTime": "2017-10-11T20:30:00Z",
    "cpild": "1"
  },
  "fcld": "1",
  "cbdsSerialNumber": "68530322500007"
}
2023-05-18T22:22:04.436Z - INFO - verified signature on cpiSignatureData
2023-05-18T22:22:04.496Z - INFO - cbdsCategory= 'A', removing optional param from cpi_schema
2023-05-18T22:22:04.500Z - INFO - cpiSignatureData data successfully validated against jsonschema
2023-05-18T22:22:04.510Z - INFO - engine sent successfully, the response to CBRS : {
  "registrationResponse": [
    {
      "cbdsId": "1Mock-SAS68530322500007",
      "response": {
        "responseCode": 0
      }
    }
  ]
}
2023-05-18T22:22:04.589Z - INFO - spectrumInquiry request from CBRS : {
  "spectrumInquiryRequest": [
    {
      "cbdsId": "1Mock-SAS68530322500007",
      "inquiredSpectrum": [
        {
          "highFrequency": 3700000000,
          "lowFrequency": 3550000000
        }
      ]
    }
  ]
}
2023-05-18T22:22:04.644Z - INFO - engine sent successfully, the response to CBRS : {
  "spectrumInquiryResponse": [
    {
      "availableChannel": [
        {
          "channelType": "GAA",
          "frequencyRange": {
            "highFrequency": 3700000000,
            "lowFrequency": 3550000000
          },
          "ruleApplied": "FCC_PART_96"
        }
      ],
      "cbdsId": "1Mock-SAS68530322500007",
      "response": {
        "responseCode": 0
      }
    }
  ]
}

```



```

2023-05-18T22:22:04.778Z - INFO - spectrumInquiry request from CBRS : {
  "spectrumInquiryRequest": [
    {
      "cbsdId": "1Mock-SAS68530322500007",
      "inquiredSpectrum": [
        {
          "highFrequency": 3590000000.0,
          "lowFrequency": 3550000000.0
        }
      ]
    }
  ]
}
2023-05-18T22:22:04.842Z - INFO - engine sent successfully, the response to CBRS : {
  "spectrumInquiryResponse": [
    {
      "availableChannel": [
        {
          "channelType": "GAA",
          "frequencyRange": {
            "highFrequency": 3590000000.0,
            "lowFrequency": 3550000000.0
          },
          "ruleApplied": "FCC_PART_96"
        }
      ],
      "cbsdId": "1Mock-SAS68530322500007",
      "response": {
        "responseCode": 0
      }
    }
  ]
}
2023-05-18T22:22:04.921Z - INFO - grant request from CBRS : {
  "grantRequest": [
    {
      "cbsdId": "1Mock-SAS68530322500007",
      "operationParam": {
        "maxEirp": 3.98,
        "operationFrequencyRange": {
          "highFrequency": 3590000000.0,
          "lowFrequency": 3550000000.0
        }
      }
    }
  ]
}
2023-05-18T22:22:05.048Z - INFO - engine sent successfully, the response to CBRS : {
  "grantResponse": [
    {
      "cbsdId": "1Mock-SAS68530322500007",
      "channelType": "GAA",
      "grantExpireTime": "2023-05-25T22:22:05Z",

```

```

    "grantId": "953600302",
    "heartbeatInterval": 60,
    "response": {
      "responseCode": 0
    }
  }
}
}
2023-05-18T22:22:05.132Z - INFO - heartbeat request from CBRS : {
  "heartbeatRequest": [
    {
      "cbsdId": "1Mock-SAS68530322500007",
      "grantId": "953600302",
      "grantRenew": true,
      "operationState": "GRANTED"
    }
  ]
}
2023-05-18T22:22:05.229Z - INFO - grantRenew received in HBT request message
2023-05-18T22:22:05.233Z - INFO - engine sent successfully, the response to CBRS : {
  "heartbeatResponse": [
    {
      "cbsdId": "1Mock-SAS68530322500007",
      "grantExpireTime": "2023-05-25T22:22:05Z",
      "grantId": "953600302",
      "response": {
        "responseCode": 0
      },
      "transmitExpireTime": "2023-05-18T22:25:25Z"
    }
  ]
}
2023-05-18T22:22:05.309Z - INFO - heartbeat request from CBRS : {
  "heartbeatRequest": [
    {
      "cbsdId": "1Mock-SAS68530322500007",
      "grantId": "953600302",
      "operationState": "AUTHORIZED"
    }
  ]
}
2023-05-18T22:22:05.325Z - INFO - Time interval between two heartbeat request messages is: 0.177, limit is: 65.0
2023-05-18T22:22:05.381Z - INFO - engine sent successfully, the response to CBRS : {
  "heartbeatResponse": [
    {
      "cbsdId": "1Mock-SAS68530322500007",
      "grantId": "953600302",
      "response": {
        "responseCode": 0
      },
      "transmitExpireTime": "2023-05-18T22:25:25Z"
    }
  ]
}

```

```

}
2023-05-18T22:22:05.467Z - INFO - registration request from CBRS : {
  "registrationRequest": [
    {
      "airInterface": {
        "radioTechnology": "NR"
      },
      "callSign": "1",
      "cbsdCategory": "A",
      "cbsdInfo": {
        "firmwareVersion": "1.1.10 ()",
        "hardwareVersion": "0.0.1",
        "model": "O-RU",
        "softwareVersion": "0.2.4 ()",
        "vendor": "SOLiD"
      },
      "cbsdSerialNumber": "68530322500008",
      "cpiSignatureData": {
        "digitalSignature":
          "EBpz0svAhxMfyEuGE8wAew2pwCDxmHrljd9IYz6ZgRXvFGJHY0SAAdT2iybl_IcOypTRyLAqRYSXYI_cTSugj8tQ0i50_UBGq9WVvc7u_Jc6Xyk5xRHlB2NINKXIUU4ybkeFGPEd2ou_RZmvs8teowG2ZakeQRS7TdH7zUU1VSmpPbEmTRYWUvXASMNnJ9y5E1TcGaQyz_GQNYgCwRTQ6kKh4R7CCUoyBAMY4Yqq-r_5LFqT5hMiMuN3Zy7CBMoLgEGqKScSLktYOIS-gRbSOqUKk3PAm3NzaxQexiY7yETTHhTojXT8OKrYadmUytBmBQaCcEM5LY2oAZOiLr-8VoA",
        "encodedCpiSignedData":
          "eyJpbmNOYWxsYXRpb25QYXJhbSI6eyJsYXRpdHVkZSI6MS4wLCJsb25naXR1ZGU0eUEuMCwiaGVpZ2h0JjoxLjAsImhlaWdobFR5cGUiOiBR0wiLCJpbmRvb3JEZXBs b3ltZW50Jjp0cnVILCJhbnRlbm5hR2Fpbil6MC4wfSwiZmNjSWWQiOiIlxiwiY2JzZFnlcmllbE51bWJlcil6JjY4NTMwMzlyNTAwMDA4IiwicHJvZmVzc2lvbmFsSW5zdGFs bGVyRGFGOYSi6eyJjcGlJZCI6JjEILCJjcGOYWw1IljoimSI6ImLuc3RhbgGDXJOawZpY2F0aW9uUGltZSI6IjIwMTctMTAtMTFUMjA6MzMzA6MDBBaIn19",
        "protectedHeader": "eyJhbGciOiJSUzI1NiIsInR5cCI6IkpXVCJ9"
      },
      "fcclId": "1",
      "measCapability": [
        "RECEIVED_POWER_WITH_GRANT"
      ],
      "userId": "1"
    }
  ]
}
```

```
2023-05-18T22:22:05.637Z - INFO - Registration message contains cpiSignatureData
2023-05-18T22:22:05.638Z - INFO - protectedHeader = {u'alg': u'RS256', u'typ': u'JWT'}
2023-05-18T22:22:05.640Z - INFO - encodedCpiSignedData contents = {
```

```
{
  "installationParam": {
    "heightType": "AGL",
    "longitude": 1.0,
    "antennaGain": 0.0,
    "indoorDeployment": true,
    "latitude": 1.0,
    "height": 1.0
  },
  "professionalInstallerData": {
    "cpiName": "1",
    "installCertificationTime": "2017-10-11T20:30:00Z",
    "cpild": "1"
  },
  "fccld": "1",
}
```



```

    "cbsdSerialNumber": "68530322500008"
  }
2023-05-18T22:22:05.644Z - INFO - verified signature on cpiSignatureData
2023-05-18T22:22:05.650Z - INFO - cbsdCategory= 'A', removing optional param from cpi_schema
2023-05-18T22:22:05.653Z - INFO - cpiSignatureData data successfully validated against jsonschema
2023-05-18T22:22:05.663Z - INFO - engine sent successfully, the response to CBRS : {
  "registrationResponse": [
    {
      "cbsdId": "1Mock-SAS68530322500008",
      "response": {
        "responseCode": 0
      }
    }
  ]
}
2023-05-18T22:22:05.755Z - INFO - heartbeat request from CBRS : {
  "heartbeatRequest": [
    {
      "cbsdId": "1Mock-SAS68530322500007",
      "grantId": "953600302",
      "operationState": "AUTHORIZED"
    }
  ]
}
2023-05-18T22:22:05.769Z - INFO - Time interval between two heartbeat request messages is: 0.446, limit is: 65.0
2023-05-18T22:22:05.822Z - INFO - Response message contains measReportConfig
2023-05-18T22:22:05.825Z - INFO - engine sent successfully, the response to CBRS : {
  "heartbeatResponse": [
    {
      "cbsdId": "1Mock-SAS68530322500007",
      "grantId": "953600302",
      "measReportConfig": [
        "RECEIVED_POWER_WITH_GRANT"
      ],
      "response": {
        "responseCode": 0
      },
      "transmitExpireTime": "2023-05-18T22:25:25Z"
    }
  ]
}
2023-05-18T22:22:05.894Z - INFO - spectrumInquiry request from CBRS : {
  "spectrumInquiryRequest": [
    {
      "cbsdId": "1Mock-SAS68530322500008",
      "inquiredSpectrum": [
        {
          "highFrequency": 3700000000,
          "lowFrequency": 3550000000
        }
      ]
    }
  ]
}

```

```

}
2023-05-18T22:22:05.940Z - INFO - engine sent successfully, the response to CBRS : {
  "spectrumInquiryResponse": [
    {
      "availableChannel": [
        {
          "channelType": "GAA",
          "frequencyRange": {
            "highFrequency": 3700000000,
            "lowFrequency": 3550000000
          },
          "ruleApplied": "FCC_PART_96"
        }
      ],
      "cbsdId": "1Mock-SAS68530322500008",
      "response": {
        "responseCode": 0
      }
    }
  ]
}
2023-05-18T22:22:06.013Z - INFO - heartbeat request from CBRS : {
  "heartbeatRequest": [
    {
      "cbsdId": "1Mock-SAS68530322500007",
      "grantId": "953600302",
      "measReport": {
        "rcvdPowerMeasReports": [
          {
            "measBandwidth": 10000000,
            "measFrequency": 3550000000.0,
            "measRcvdPower": -94
          },
          {
            "measBandwidth": 10000000,
            "measFrequency": 3560000000.0,
            "measRcvdPower": -94
          },
          {
            "measBandwidth": 10000000,
            "measFrequency": 3570000000.0,
            "measRcvdPower": -93
          },
          {
            "measBandwidth": 10000000,
            "measFrequency": 3580000000.0,
            "measRcvdPower": -92
          }
        ]
      },
      "operationState": "AUTHORIZED"
    }
  ]
}

```

```

}
2023-05-18T22:22:06.036Z - INFO - Time interval between two heartbeat request messages is: 0.258, limit is: 65.0
2023-05-18T22:22:06.049Z - INFO - measReport received in heartbeat message
2023-05-18T22:22:06.117Z - INFO - engine sent successfully, the response to CBRS : {
  "heartbeatResponse": [
    {
      "cbsdId": "1Mock-SAS68530322500007",
      "grantId": "953600302",
      "response": {
        "responseCode": 0
      },
      "transmitExpireTime": "2023-05-18T22:25:26Z"
    }
  ]
}
2023-05-18T22:22:06.213Z - INFO - heartbeat request from CBRS : {
  "heartbeatRequest": [
    {
      "cbsdId": "1Mock-SAS68530322500007",
      "grantId": "953600302",
      "operationState": "AUTHORIZED"
    }
  ]
}
2023-05-18T22:22:06.224Z - INFO - Time interval between two heartbeat request messages is: 0.199, limit is: 65.0
2023-05-18T22:22:06.265Z - INFO - engine sent successfully, the response to CBRS : {
  "heartbeatResponse": [
    {
      "cbsdId": "1Mock-SAS68530322500007",
      "grantId": "953600302",
      "response": {
        "responseCode": 0
      },
      "transmitExpireTime": "2023-05-18T22:25:26Z"
    }
  ]
}
2023-05-18T22:22:06.349Z - INFO - heartbeat request from CBRS : {
  "heartbeatRequest": [
    {
      "cbsdId": "1Mock-SAS68530322500007",
      "grantId": "953600302",
      "operationState": "AUTHORIZED"
    }
  ]
}
2023-05-18T22:22:06.365Z - INFO - Time interval between two heartbeat request messages is: 0.143, limit is: 65.0
2023-05-18T22:22:06.474Z - INFO - engine sent successfully, the response to CBRS : {
  "heartbeatResponse": [
    {
      "cbsdId": "1Mock-SAS68530322500007",
      "grantId": "953600302",
      "response": {

```

```

        "responseCode": 0
    },
    "transmitExpireTime": "2023-05-18T22:25:26Z"
}
]
}
2023-05-18T22:22:06.540Z - INFO - spectrumInquiry request from CBRS : {
  "spectrumInquiryRequest": [
    {
      "cbsdId": "1Mock-SAS68530322500008",
      "inquiredSpectrum": [
        {
          "highFrequency": 3590000000.0,
          "lowFrequency": 3550000000.0
        }
      ]
    }
  ]
}
]
}
2023-05-18T22:22:06.579Z - INFO - engine sent successfully, the response to CBRS : {
  "spectrumInquiryResponse": [
    {
      "availableChannel": [
        {
          "channelType": "GAA",
          "frequencyRange": {
            "highFrequency": 3590000000.0,
            "lowFrequency": 3550000000.0
          },
          "ruleApplied": "FCC_PART_96"
        }
      ],
      "cbsdId": "1Mock-SAS68530322500008",
      "response": {
        "responseCode": 0
      }
    }
  ]
}
2023-05-18T22:22:06.661Z - INFO - grant request from CBRS : {
  "grantRequest": [
    {
      "cbsdId": "1Mock-SAS68530322500008",
      "operationParam": {
        "maxEirp": 7.99,
        "operationFrequencyRange": {
          "highFrequency": 3590000000.0,
          "lowFrequency": 3550000000.0
        }
      }
    }
  ]
}
]
}

```



2023-05-18T22:22:06.707Z - INFO - engine sent successfully, the response to CBRS : {

```
"grantResponse": [
  {
    "cbsdId": "1Mock-SAS68530322500008",
    "channelType": "GAA",
    "grantExpireTime": "2023-05-25T22:22:06Z",
    "grantId": "789857050",
    "heartbeatInterval": 60,
    "response": {
      "responseCode": 0
    }
  }
]
```

2023-05-18T22:22:06.770Z - INFO - heartbeat request from CBRS : {

```
"heartbeatRequest": [
  {
    "cbsdId": "1Mock-SAS68530322500008",
    "grantId": "789857050",
    "grantRenew": true,
    "operationState": "GRANTED"
  }
]
```

2023-05-18T22:22:06.822Z - INFO - grantRenew received in HBT request message

2023-05-18T22:22:06.825Z - INFO - engine sent successfully, the response to CBRS : {

```
"heartbeatResponse": [
  {
    "cbsdId": "1Mock-SAS68530322500008",
    "grantExpireTime": "2023-05-25T22:22:06Z",
    "grantId": "789857050",
    "response": {
      "responseCode": 0
    },
    "transmitExpireTime": "2023-05-18T22:25:26Z"
  }
]
```

2023-05-18T22:22:06.911Z - INFO - heartbeat request from CBRS : {

```
"heartbeatRequest": [
  {
    "cbsdId": "1Mock-SAS68530322500007",
    "grantId": "953600302",
    "operationState": "AUTHORIZED"
  }
]
```

2023-05-18T22:22:06.934Z - INFO - Time interval between two heartbeat request messages is: 0.556, limit is: 65.0

2023-05-18T22:22:06.987Z - INFO - engine sent successfully, the response to CBRS : {

```
"heartbeatResponse": [
  {
    "cbsdId": "1Mock-SAS68530322500007",
    "grantId": "953600302",
  }
]
```

```

    "response": {
      "responseCode": 0
    },
    "transmitExpireTime": "2023-05-18T22:25:26Z"
  }
}
}
2023-05-18T22:22:07.072Z - INFO - heartbeat request from CBRS : {
  "heartbeatRequest": [
    {
      "cbsdId": "1Mock-SAS68530322500008",
      "grantId": "789857050",
      "operationState": "AUTHORIZED"
    }
  ]
}
}
2023-05-18T22:22:07.085Z - INFO - Time interval between two heartbeat request messages is: 0.303, limit is: 65.0
2023-05-18T22:22:07.125Z - INFO - engine sent successfully, the response to CBRS : {
  "heartbeatResponse": [
    {
      "cbsdId": "1Mock-SAS68530322500008",
      "grantId": "789857050",
      "response": {
        "responseCode": 0
      },
      "transmitExpireTime": "2023-05-18T22:25:27Z"
    }
  ]
}
}
2023-05-18T22:22:20.325Z - INFO - heartbeat request from CBRS : {
  "heartbeatRequest": [
    {
      "cbsdId": "1Mock-SAS68530322500007",
      "grantId": "953600302",
      "operationState": "AUTHORIZED"
    }
  ]
}
}
2023-05-18T22:22:20.345Z - INFO - Time interval between two heartbeat request messages is: 13.414, limit is: 65.0
2023-05-18T22:22:20.403Z - INFO - engine sent successfully, the response to CBRS : {
  "heartbeatResponse": [
    {
      "cbsdId": "1Mock-SAS68530322500007",
      "grantId": "953600302",
      "response": {
        "responseCode": 0
      },
      "transmitExpireTime": "2023-05-18T22:25:40Z"
    }
  ]
}
}
2023-05-18T22:22:20.480Z - INFO - heartbeat request from CBRS : {
  "heartbeatRequest": [

```

```

{
  "cbsdId": "1Mock-SAS68530322500008",
  "grantId": "789857050",
  "operationState": "AUTHORIZED"
}
]
}
2023-05-18T22:22:20.497Z - INFO - Time interval between two heartbeat request messages is: 13.406, limit is: 65.0
2023-05-18T22:22:20.539Z - INFO - Response message contains measReportConfig
2023-05-18T22:22:20.542Z - INFO - engine sent successfully, the response to CBRS : {
  "heartbeatResponse": [
    {
      "cbsdId": "1Mock-SAS68530322500008",
      "grantId": "789857050",
      "measReportConfig": [
        "RECEIVED_POWER_WITH_GRANT"
      ],
      "response": {
        "responseCode": 0
      },
      "transmitExpireTime": "2023-05-18T22:25:40Z"
    }
  ]
}
2023-05-18T22:22:30.328Z - INFO - heartbeat request from CBRS : {
  "heartbeatRequest": [
    {
      "cbsdId": "1Mock-SAS68530322500007",
      "grantId": "953600302",
      "operationState": "AUTHORIZED"
    }
  ]
}
2023-05-18T22:22:30.332Z - INFO - engine sent successfully, the response to CBRS : {
  "heartbeatResponse": [
    {
      "cbsdId": "1Mock-SAS68530322500007",
      "grantId": "953600302",
      "response": {
        "responseCode": 0
      },
      "transmitExpireTime": "2023-05-18T22:25:50Z"
    }
  ]
}
2023-05-18T22:22:30.405Z - INFO - heartbeat request from CBRS : {
  "heartbeatRequest": [
    {
      "cbsdId": "1Mock-SAS68530322500008",
      "grantId": "789857050",
      "measReport": {
        "rcvdPowerMeasReports": [

```

```

    "measBandwidth": 10000000,
    "measFrequency": 3550000000.0,
    "measRcvdPower": -92
  },
  {
    "measBandwidth": 10000000,
    "measFrequency": 3560000000.0,
    "measRcvdPower": -93
  },
  {
    "measBandwidth": 10000000,
    "measFrequency": 3570000000.0,
    "measRcvdPower": -92
  },
  {
    "measBandwidth": 10000000,
    "measFrequency": 3580000000.0,
    "measRcvdPower": -92
  }
]
},
"operationState": "AUTHORIZED"
}
]
}
2023-05-18T22:22:30.430Z - INFO - Time interval between two heartbeat request messages is: 9.927, limit is: 65.0
2023-05-18T22:22:30.440Z - INFO - measReport received in heartbeat message
2023-05-18T22:22:30.490Z - INFO - engine sent successfully, the response to CBRS : {
  "heartbeatResponse": [
    {
      "cbsdId": "1Mock-SAS68530322500008",
      "grantId": "789857050",
      "response": {
        "responseCode": 0
      },
      "transmitExpireTime": "2023-05-18T22:25:50Z"
    }
  ]
}
2023-05-18T22:22:30.571Z - INFO - heartbeat request from CBRS : {
  "heartbeatRequest": [
    {
      "cbsdId": "1Mock-SAS68530322500007",
      "grantId": "953600302",
      "operationState": "AUTHORIZED"
    }
  ]
}
2023-05-18T22:22:30.575Z - INFO - engine sent successfully, the response to CBRS : {
  "heartbeatResponse": [
    {
      "cbsdId": "1Mock-SAS68530322500007",
      "grantId": "953600302",

```



```

    "response": {
      "responseCode": 0
    },
    "transmitExpireTime": "2023-05-18T22:25:50Z"
  }
}
}
2023-05-18T22:22:30.677Z - INFO - heartbeat request from CBRS : {
  "heartbeatRequest": [
    {
      "cbsdId": "1Mock-SAS68530322500008",
      "grantId": "789857050",
      "operationState": "AUTHORIZED"
    }
  ]
}
}
2023-05-18T22:22:30.710Z - INFO - Time interval between two heartbeat request messages is: 0.275, limit is: 65.0
2023-05-18T22:22:30.875Z - INFO - engine sent successfully, the response to CBRS : {
  "heartbeatResponse": [
    {
      "cbsdId": "1Mock-SAS68530322500008",
      "grantId": "789857050",
      "response": {
        "responseCode": 0
      },
      "transmitExpireTime": "2023-05-18T22:25:50Z"
    }
  ]
}
}
2023-05-18T22:22:30.954Z - INFO - heartbeat request from CBRS : {
  "heartbeatRequest": [
    {
      "cbsdId": "1Mock-SAS68530322500007",
      "grantId": "953600302",
      "operationState": "AUTHORIZED"
    }
  ]
}
}
2023-05-18T22:22:30.957Z - INFO - engine sent successfully, the response to CBRS : {
  "heartbeatResponse": [
    {
      "cbsdId": "1Mock-SAS68530322500007",
      "grantId": "953600302",
      "response": {
        "responseCode": 0
      },
      "transmitExpireTime": "2023-05-18T22:25:50Z"
    }
  ]
}
}
2023-05-18T22:22:31.081Z - INFO - heartbeat request from CBRS : {
  "heartbeatRequest": [
    {

```

```

    "cbsdId": "1Mock-SAS68530322500008",
    "grantId": "789857050",
    "operationState": "AUTHORIZED"
  }
}
}
2023-05-18T22:22:31.144Z - INFO - Time interval between two heartbeat request messages is: 0.399, limit is: 65.0
2023-05-18T22:22:31.305Z - INFO - engine sent successfully, the response to CBRS : {
  "heartbeatResponse": [
    {
      "cbsdId": "1Mock-SAS68530322500008",
      "grantId": "789857050",
      "response": {
        "responseCode": 0
      },
      "transmitExpireTime": "2023-05-18T22:25:51Z"
    }
  ]
}
}
2023-05-18T22:22:40.352Z - INFO - heartbeat request from CBRS : {
  "heartbeatRequest": [
    {
      "cbsdId": "1Mock-SAS68530322500007",
      "grantId": "953600302",
      "operationState": "AUTHORIZED"
    }
  ]
}
}
2023-05-18T22:22:40.358Z - INFO - engine sent successfully, the response to CBRS : {
  "heartbeatResponse": [
    {
      "cbsdId": "1Mock-SAS68530322500007",
      "grantId": "953600302",
      "response": {
        "responseCode": 0
      },
      "transmitExpireTime": "2023-05-18T22:26:00Z"
    }
  ]
}
}
2023-05-18T22:22:40.440Z - INFO - heartbeat request from CBRS : {
  "heartbeatRequest": [
    {
      "cbsdId": "1Mock-SAS68530322500008",
      "grantId": "789857050",
      "operationState": "AUTHORIZED"
    }
  ]
}
}
2023-05-18T22:22:40.470Z - INFO - Time interval between two heartbeat request messages is: 9.36, limit is: 65.0
2023-05-18T22:22:40.664Z - INFO - engine sent successfully, the response to CBRS : {
  "heartbeatResponse": [
    {

```

```

    "cbsdId": "1Mock-SAS68530322500008",
    "grantId": "789857050",
    "response": {
      "responseCode": 0
    },
    "transmitExpireTime": "2023-05-18T22:26:00Z"
  }
}
}
2023-05-18T22:22:40.868Z - INFO - heartbeat request from CBRS : {
  "heartbeatRequest": [
    {
      "cbsdId": "1Mock-SAS68530322500007",
      "grantId": "953600302",
      "operationState": "AUTHORIZED"
    }
  ]
}
}
2023-05-18T22:22:40.872Z - INFO - engine sent successfully, the response to CBRS : {
  "heartbeatResponse": [
    {
      "cbsdId": "1Mock-SAS68530322500007",
      "grantId": "953600302",
      "response": {
        "responseCode": 0
      },
      "transmitExpireTime": "2023-05-18T22:26:00Z"
    }
  ]
}
}
2023-05-18T22:22:40.960Z - INFO - heartbeat request from CBRS : {
  "heartbeatRequest": [
    {
      "cbsdId": "1Mock-SAS68530322500008",
      "grantId": "789857050",
      "operationState": "AUTHORIZED"
    }
  ]
}
}
2023-05-18T22:22:40.990Z - INFO - Time interval between two heartbeat request messages is: 0.521, limit is: 65.0
2023-05-18T22:22:41.045Z - INFO - engine sent successfully, the response to CBRS : {
  "heartbeatResponse": [
    {
      "cbsdId": "1Mock-SAS68530322500008",
      "grantId": "789857050",
      "response": {
        "responseCode": 0
      },
      "transmitExpireTime": "2023-05-18T22:26:01Z"
    }
  ]
}
}
2023-05-18T22:22:42.773Z - INFO - arrived to nstep starting question answer session with the technician

```



2023-05-18T22:29:43.188Z - INFO - The final result of the test : WINNF.FT.D.MES.5 is - passed and :the additional comments for the current test are : Both CBSD1 and CBSD2 Tx after the Authorized message at 3.57GHz with 40MHz BW

10.23 Log file for test case ID: WINNF.FT.D.RLQ.2

2023-04-26T19:15:04.049Z - INFO - WINNF TEST HARNESS RELEASE: 1.0.0.3 - 2018-November-13

2023-04-26T19:15:04.053Z - INFO - the selected test from the user : WINNF.FT.D.RLQ.2 is starting now

2023-04-26T19:15:05.910Z - INFO - registration request from CBRS : {

```

"registrationRequest": {
  {
    "airInterface": {
      "radioTechnology": "NR"
    },
    "callSign": "1",
    "cbsdCategory": "A",
    "cbsdInfo": {
      "firmwareVersion": "1.1.10 ()",
      "hardwareVersion": "0.0.1",
      "model": "O-RU",
      "softwareVersion": "0.2.4 ()",
      "vendor": "SOLiD"
    },
    "cbsdSerialNumber": "68530322500007",
    "cpiSignatureData": {
      "digitalSignature": "AR5MaDlzi5_qJGKAmdXCUYzoiDxUWghcxP_oJXuoi2xq1K2B22_gHAL6HcpvWjYkBuHR4Br0gY81Le21Wrdc3yZHreFOV1iKJCF-1GWGdpXNWZfuqRXj6-hIEA9s5dlmQtu_Q2Z2UEXpqISwn6xtBY7k1ql6yenllQ4nV7C0iRxt9L7AeubAFSLIDc3twXBrrbLbbRgtckEAPbi2VgOAU4dkMuMydrYzolkQVNV4Nei9uL9r3rgaEfCmHWVviex18_6kELxJ_QJYnU3P_N2siY81q57jE6AeJpWm3qa4n8Vm9Bdjv-riOZJ_E6-Mq7HhoF5EK4hLI9tNC_T5fpnYMOA",
      "encodedCpiSignedData":
"eyJpbmN0YWxsYXRpb25QYXJhbSI6eyJsYXRpdHVkZSI6MS4wLjCj5b25naXR1ZGUiOiJEUmMCwiaGVpZ2h0IjoxLjAsImhlaWdodFR5cGUiOiJBROwiLCJpbmRvb3JlZXBsY3ltZW50Ijpb02cnVlLCJhbnRlbn5hR2Fpbil6MC4wfSwiZmNjSWQ0iXNlU0tVEVTVVC1GQOMtSUQlLCJjYnNkU2VyaWFsTnVtYmVyljoiNjg1MzAzMjI1MDAwMDciLCJwcm9mZXNzaW9uYWxjb2N0YXN5ZXJlYXJhIjpb7ImNwaUlkljoiMTEwIiwiaW573BpTmFtZSI6IjEiLCJpbmN0YXN5ZXQ2VydGlmaWNhdGlvbiRpbWUiOiilyMDE3LTcwLTExVDIwOjMwOjAwWiI9fQ",
      "protectedHeader": "eyJhbGciOiJSUzI1NiIsInR5cCI6IkpXVCJ9"
    },
    "fccId": "W6U-TEST-FCC-ID",
    "userId": "1"
  }
}
]
}

```

2023-04-26T19:15:06.246Z - INFO - Registration message contains cpiSignatureData

2023-04-26T19:15:06.247Z - INFO - protectedHeader = {u'alg': u'RS256', u'typ': u'JWT'}

2023-04-26T19:15:06.249Z - INFO - encodedCpiSignedData contents = {

```
{
  "installationParam": {
    "heightType": "AGL",
    "longitude": 1.0,
    "antennaGain": 0.0,
    "indoorDeployment": true,
    "latitude": 1.0,
    "height": 1.0
  },
  "professionalInstallerData": {
    "cpiName": "1",
    "installCertificationTime": "2017-10-11T20:30:00Z",
    "cpild": "111"
  },
  "fccId": "W6U-TEST-FCC-ID",
}
```

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Nemko San Diego, a testing laboratory, is a authorized test lab (ATL) by the CBRs Alliance for standard WINNF-TS-0122

```

    "cbsdSerialNumber": "68530322500007"
  }
2023-04-26T19:15:06.273Z - INFO - verified signature on cpiSignatureData
2023-04-26T19:15:06.296Z - INFO - cbsdCategory= 'A', removing optional param from cpi_schema
2023-04-26T19:15:06.301Z - INFO - cpiSignatureData data successfully validated against jsonschema
2023-04-26T19:15:06.311Z - INFO - engine sent successfully, the response to CBRS : {
  "registrationResponse": [
    {
      "cbsdId": "W6U-TEST-FCC-IDMock-SAS68530322500007",
      "response": {
        "responseCode": 0
      }
    }
  ]
}
2023-04-26T19:15:06.397Z - INFO - spectrumInquiry request from CBRS : {
  "spectrumInquiryRequest": [
    {
      "cbsdId": "W6U-TEST-FCC-IDMock-SAS68530322500007",
      "inquiredSpectrum": [
        {
          "highFrequency": 3700000000,
          "lowFrequency": 3550000000
        }
      ]
    }
  ]
}
2023-04-26T19:15:06.460Z - INFO - engine sent successfully, the response to CBRS : {
  "spectrumInquiryResponse": [
    {
      "availableChannel": [
        {
          "channelType": "GAA",
          "frequencyRange": {
            "highFrequency": 3700000000,
            "lowFrequency": 3550000000
          },
          "ruleApplied": "FCC_PART_96"
        }
      ],
      "cbsdId": "W6U-TEST-FCC-IDMock-SAS68530322500007",
      "response": {
        "responseCode": 0
      }
    }
  ]
}
2023-04-26T19:15:06.555Z - INFO - spectrumInquiry request from CBRS : {
  "spectrumInquiryRequest": [
    {
      "cbsdId": "W6U-TEST-FCC-IDMock-SAS68530322500007",
      "inquiredSpectrum": [

```

```

    {
      "highFrequency": 3590030000.0,
      "lowFrequency": 3550030000.0
    }
  ]
}
}
}
2023-04-26T19:15:06.595Z - INFO - engine sent successfully, the response to CBRS : {
  "spectrumInquiryResponse": [
    {
      "availableChannel": [
        {
          "channelType": "GAA",
          "frequencyRange": {
            "highFrequency": 3590030000.0,
            "lowFrequency": 3550030000.0
          },
          "ruleApplied": "FCC_PART_96"
        }
      ],
      "cbsdId": "W6U-TEST-FCC-IDMock-SAS68530322500007",
      "response": {
        "responseCode": 0
      }
    }
  ]
}
2023-04-26T19:15:06.671Z - INFO - grant request from CBRS : {
  "grantRequest": [
    {
      "cbsdId": "W6U-TEST-FCC-IDMock-SAS68530322500007",
      "operationParam": {
        "maxEirp": 3.98,
        "operationFrequencyRange": {
          "highFrequency": 3590030000.0,
          "lowFrequency": 3550030000.0
        }
      }
    }
  ]
}
2023-04-26T19:15:06.736Z - INFO - engine sent successfully, the response to CBRS : {
  "grantResponse": [
    {
      "cbsdId": "W6U-TEST-FCC-IDMock-SAS68530322500007",
      "channelType": "GAA",
      "grantExpireTime": "2023-05-03T19:15:06Z",
      "grantId": "920334385",
      "heartbeatInterval": 60,
      "response": {
        "responseCode": 0
      }
    }
  ]
}

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    }
  ]
}
2023-04-26T19:15:06.806Z - INFO - heartbeat request from CBRS : {
  "heartbeatRequest": [
    {
      "cbsdId": "W6U-TEST-FCC-IDMock-SAS68530322500007",
      "grantId": "920334385",
      "grantRenew": true,
      "operationState": "GRANTED"
    }
  ]
}
2023-04-26T19:15:06.875Z - INFO - grantRenew received in HBT request message
2023-04-26T19:15:06.878Z - INFO - engine sent successfully, the response to CBRS : {
  "heartbeatResponse": [
    {
      "cbsdId": "W6U-TEST-FCC-IDMock-SAS68530322500007",
      "grantExpireTime": "2023-05-03T19:15:06Z",
      "grantId": "920334385",
      "response": {
        "responseCode": 0
      },
      "transmitExpireTime": "2023-04-26T19:18:26Z"
    }
  ]
}
2023-04-26T19:15:06.993Z - INFO - heartbeat request from CBRS : {
  "heartbeatRequest": [
    {
      "cbsdId": "W6U-TEST-FCC-IDMock-SAS68530322500007",
      "grantId": "920334385",
      "operationState": "AUTHORIZED"
    }
  ]
}
2023-04-26T19:15:07.009Z - INFO - Time interval between two heartbeat request messages is: 0.186, limit is: 65.0
2023-04-26T19:15:07.071Z - INFO - engine sent successfully, the response to CBRS : {
  "heartbeatResponse": [
    {
      "cbsdId": "W6U-TEST-FCC-IDMock-SAS68530322500007",
      "grantId": "920334385",
      "response": {
        "responseCode": 0
      },
      "transmitExpireTime": "2023-04-26T19:18:27Z"
    }
  ]
}
2023-04-26T19:15:08.667Z - INFO - heartbeat request from CBRS : {
  "heartbeatRequest": [
    {
      "cbsdId": "W6U-TEST-FCC-IDMock-SAS68530322500007",

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    "grantId": "920334385",
    "operationState": "AUTHORIZED"
  }
}
}
2023-04-26T19:15:08.687Z - INFO - Time interval between two heartbeat request messages is: 1.678, limit is: 65.0
2023-04-26T19:15:08.734Z - INFO - engine sent successfully, the response to CBRS : {
  "heartbeatResponse": [
    {
      "cbsdId": "W6U-TEST-FCC-IDMock-SAS68530322500007",
      "grantId": "920334385",
      "response": {
        "responseCode": 0
      },
      "transmitExpireTime": "2023-04-26T19:18:28Z"
    }
  ]
}
}
2023-04-26T19:15:08.835Z - INFO - heartbeat request from CBRS : {
  "heartbeatRequest": [
    {
      "cbsdId": "W6U-TEST-FCC-IDMock-SAS68530322500007",
      "grantId": "920334385",
      "operationState": "AUTHORIZED"
    }
  ]
}
}
2023-04-26T19:15:08.848Z - INFO - Time interval between two heartbeat request messages is: 0.165, limit is: 65.0
2023-04-26T19:15:08.881Z - INFO - engine sent successfully, the response to CBRS : {
  "heartbeatResponse": [
    {
      "cbsdId": "W6U-TEST-FCC-IDMock-SAS68530322500007",
      "grantId": "920334385",
      "response": {
        "responseCode": 0
      },
      "transmitExpireTime": "2023-04-26T19:18:28Z"
    }
  ]
}
}
2023-04-26T19:15:08.950Z - INFO - registration request from CBRS : {
  "registrationRequest": [
    {
      "airInterface": {
        "radioTechnology": "NR"
      },
      "callSign": "2",
      "cbsdCategory": "A",
      "cbsdInfo": {
        "firmwareVersion": "1.1.10 ()",
        "hardwareVersion": "0.0.1",
        "model": "O-RU",
        "softwareVersion": "0.2.4 ()",

```



```

"vendor": "SOLiD"
},
"cbstdSerialNumber": "68530322500008",
"cpisignatureData": {
  "digitalSignature": "zt4hd5YbgTxJL7oSoSbdmXGklpZRCKpEjVg6bRRu7gOZ86AbhbObj868zbDY3wXZVe4VmUIXlfw09BouojqqsmjUQzLnsMca-
KuFlkOwevut7e-VklecYD0DIb8tzppgryBWqD2eWMvVWBMFGwm4yuk0tIDL_B9iKNHO2fNWuULchQfBb9ghyil7hOOSoENZMXqwa-
_DVAKP8Zs23PT16XxZzH6hbnS1Z7PN3F-CmuH1KJPJVFkUt0VGldLYS0K-
EGdp6TPaj8uwZGIOPCht6L2E4tWUdKD5nNH5Wi1YVCZpRHmz3qeW1axyfshakWgqphM3QoXvRLs9Kb_hkyzT_g",
  "encodedCpiSignedData":
"eyJpbmNOYWxsYXRpb25QYXJhbSI6eyJsYXRpdHVkZSI6MjluMCwibG9uZ2I0dWRlljoyLjAsImhlaWdodCI6Mi4wLCJoZWlnaHRUeXBlijoQUdMliwiaW5kb29yRGVw
bG95bWVudCI6dHJ1ZSwiYW50ZW5uYUdhaW4iOiAuMH0sImZjY0IkljoiVzZVLVRFU1QTRkNDLUlEliwiY2JzZFNlcmIhbE51bWJlciI6IjY4NTMwMzlyNTAwMDA4Iiwic
HJvZmVzc2lvbmFsSW5zdGFsbGVyRGF0YSI6eyJjcGlZCI6IjEiLCJjcGlOYW1lIjoIMSI6ImIuc3RhbgXDXJ0aWZpY2F0aW9uVGltZSI6IjIwMTctMTAtMTFUMjA6MzA6
MDBaIn19",
  "protectedHeader": "eyJhbGciOiJIUzI1NiIsInR5cCI6IkpXVCJ9"
},
"fcclId": "W6U-TEST-FCC-ID",
"userId": "2"
}
]
}
2023-04-26T19:15:09.117Z - INFO - Registration message contains cpiSignatureData
2023-04-26T19:15:09.118Z - INFO - protectedHeader = {u'alg': u'RS256', u'typ': u'JWT'}
2023-04-26T19:15:09.121Z - INFO - encodedCpiSignedData contents = {
  "installationParam": {
    "heightType": "AGL",
    "longitude": 2.0,
    "antennaGain": 0.0,
    "indoorDeployment": true,
    "latitude": 22.0,
    "height": 2.0
  },
  "professionalInstallerData": {
    "cpiName": "1",
    "installCertificationTime": "2017-10-11T20:30:00Z",
    "cpilId": "1"
  },
  "fcclId": "W6U-TEST-FCC-ID",
  "cbstdSerialNumber": "68530322500008"
}
2023-04-26T19:15:09.128Z - INFO - verified signature on cpiSignatureData
2023-04-26T19:15:09.134Z - INFO - cbstdCategory= 'A', removing optional param from cpi_schema
2023-04-26T19:15:09.144Z - INFO - cpiSignatureData data successfully validated against jsonschema
2023-04-26T19:15:09.157Z - INFO - engine sent successfully, the response to CBRS : {
  "registrationResponse": [
    {
      "cbstdId": "W6U-TEST-FCC-IDMock-SAS68530322500008",
      "response": {
        "responseCode": 0
      }
    }
  ]
}
}
2023-04-26T19:15:09.256Z - INFO - heartbeat request from CBRS : {

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"heartbeatRequest": [
  {
    "cbsdId": "W6U-TEST-FCC-IDMock-SAS68530322500007",
    "grantId": "920334385",
    "operationState": "AUTHORIZED"
  }
]
}
2023-04-26T19:15:09.269Z - INFO - Time interval between two heartbeat request messages is: 0.42, limit is: 65.0
2023-04-26T19:15:09.315Z - INFO - engine sent successfully, the response to CBRS : {
  "heartbeatResponse": [
    {
      "cbsdId": "W6U-TEST-FCC-IDMock-SAS68530322500007",
      "grantId": "920334385",
      "response": {
        "responseCode": 0
      },
      "transmitExpireTime": "2023-04-26T19:18:29Z"
    }
  ]
}
2023-04-26T19:15:09.405Z - INFO - spectrumInquiry request from CBRS : {
  "spectrumInquiryRequest": [
    {
      "cbsdId": "W6U-TEST-FCC-IDMock-SAS68530322500008",
      "inquiredSpectrum": [
        {
          "highFrequency": 3700000000,
          "lowFrequency": 3550000000
        }
      ]
    }
  ]
}
2023-04-26T19:15:09.440Z - INFO - engine sent successfully, the response to CBRS : {
  "spectrumInquiryResponse": [
    {
      "availableChannel": [
        {
          "channelType": "GAA",
          "frequencyRange": {
            "highFrequency": 3700000000,
            "lowFrequency": 3550000000
          },
          "ruleApplied": "FCC_PART_96"
        }
      ],
      "cbsdId": "W6U-TEST-FCC-IDMock-SAS68530322500008",
      "response": {
        "responseCode": 0
      }
    }
  ]
}

```

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}
2023-04-26T19:15:09.556Z - INFO - heartbeat request from CBRS : {
  "heartbeatRequest": [
    {
      "cbsdId": "W6U-TEST-FCC-IDMock-SAS68530322500007",
      "grantId": "920334385",
      "operationState": "AUTHORIZED"
    }
  ]
}
2023-04-26T19:15:09.579Z - INFO - Time interval between two heartbeat request messages is: 0.302, limit is: 65.0
2023-04-26T19:15:09.655Z - INFO - engine sent successfully, the response to CBRS : {
  "heartbeatResponse": [
    {
      "cbsdId": "W6U-TEST-FCC-IDMock-SAS68530322500007",
      "grantId": "920334385",
      "response": {
        "responseCode": 0
      },
      "transmitExpireTime": "2023-04-26T19:18:29Z"
    }
  ]
}
2023-04-26T19:15:09.769Z - INFO - spectrumInquiry request from CBRS : {
  "spectrumInquiryRequest": [
    {
      "cbsdId": "W6U-TEST-FCC-IDMock-SAS68530322500008",
      "inquiredSpectrum": [
        {
          "highFrequency": 3590030000.0,
          "lowFrequency": 3550030000.0
        }
      ]
    }
  ]
}
2023-04-26T19:15:09.834Z - INFO - engine sent successfully, the response to CBRS : {
  "spectrumInquiryResponse": [
    {
      "availableChannel": [
        {
          "channelType": "GAA",
          "frequencyRange": {
            "highFrequency": 3590030000.0,
            "lowFrequency": 3550030000.0
          },
          "ruleApplied": "FCC_PART_96"
        }
      ],
      "cbsdId": "W6U-TEST-FCC-IDMock-SAS68530322500008",
      "response": {
        "responseCode": 0
      }
    }
  ]
}

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    }
  ]
}
2023-04-26T19:15:09.913Z - INFO - grant request from CBRS : {
  "grantRequest": [
    {
      "cbsdId": "W6U-TEST-FCC-IDMock-SAS68530322500008",
      "operationParam": {
        "maxEirp": 3.98,
        "operationFrequencyRange": {
          "highFrequency": 3590030000.0,
          "lowFrequency": 3550030000.0
        }
      }
    }
  ]
}
2023-04-26T19:15:09.963Z - INFO - engine sent successfully, the response to CBRS : {
  "grantResponse": [
    {
      "cbsdId": "W6U-TEST-FCC-IDMock-SAS68530322500008",
      "channelType": "GAA",
      "grantExpireTime": "2023-05-03T19:15:09Z",
      "grantId": "181985326",
      "heartbeatInterval": 60,
      "response": {
        "responseCode": 0
      }
    }
  ]
}
2023-04-26T19:15:10.040Z - INFO - heartbeat request from CBRS : {
  "heartbeatRequest": [
    {
      "cbsdId": "W6U-TEST-FCC-IDMock-SAS68530322500008",
      "grantId": "181985326",
      "grantRenew": true,
      "operationState": "GRANTED"
    }
  ]
}
2023-04-26T19:15:10.098Z - INFO - grantRenew received in HBT request message
2023-04-26T19:15:10.101Z - INFO - engine sent successfully, the response to CBRS : {
  "heartbeatResponse": [
    {
      "cbsdId": "W6U-TEST-FCC-IDMock-SAS68530322500008",
      "grantExpireTime": "2023-05-03T19:15:10Z",
      "grantId": "181985326",
      "response": {
        "responseCode": 0
      },
      "transmitExpireTime": "2023-04-26T19:18:30Z"
    }
  ]
}

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    ]
  }
2023-04-26T19:15:10.206Z - INFO - heartbeat request from CBRS : {
  "heartbeatRequest": [
    {
      "cbsdId": "W6U-TEST-FCC-IDMock-SAS68530322500007",
      "grantId": "920334385",
      "operationState": "AUTHORIZED"
    }
  ]
}
2023-04-26T19:15:10.223Z - INFO - Time interval between two heartbeat request messages is: 0.648, limit is: 65.0
2023-04-26T19:15:10.270Z - INFO - engine sent successfully, the response to CBRS : {
  "heartbeatResponse": [
    {
      "cbsdId": "W6U-TEST-FCC-IDMock-SAS68530322500007",
      "grantId": "920334385",
      "response": {
        "responseCode": 0
      },
      "transmitExpireTime": "2023-04-26T19:18:30Z"
    }
  ]
}
2023-04-26T19:15:10.338Z - INFO - heartbeat request from CBRS : {
  "heartbeatRequest": [
    {
      "cbsdId": "W6U-TEST-FCC-IDMock-SAS68530322500008",
      "grantId": "181985326",
      "operationState": "AUTHORIZED"
    }
  ]
}
2023-04-26T19:15:10.352Z - INFO - Time interval between two heartbeat request messages is: 0.298, limit is: 65.0
2023-04-26T19:15:10.408Z - INFO - engine sent successfully, the response to CBRS : {
  "heartbeatResponse": [
    {
      "cbsdId": "W6U-TEST-FCC-IDMock-SAS68530322500008",
      "grantId": "181985326",
      "response": {
        "responseCode": 0
      },
      "transmitExpireTime": "2023-04-26T19:18:30Z"
    }
  ]
}
2023-04-26T19:15:30.529Z - INFO - heartbeat request from CBRS : {
  "heartbeatRequest": [
    {
      "cbsdId": "W6U-TEST-FCC-IDMock-SAS68530322500007",
      "grantId": "920334385",
      "operationState": "AUTHORIZED"
    }
  ]
}

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    ]
  }
2023-04-26T19:15:30.556Z - INFO - Time interval between two heartbeat request messages is: 20.324, limit is: 65.0
2023-04-26T19:15:30.635Z - INFO - engine sent successfully, the response to CBRS : {
  "heartbeatResponse": [
    {
      "cbsdId": "W6U-TEST-FCC-IDMock-SAS68530322500007",
      "grantId": "920334385",
      "response": {
        "responseCode": 0
      },
      "transmitExpireTime": "2023-04-26T19:18:50Z"
    }
  ]
}
2023-04-26T19:15:30.734Z - INFO - heartbeat request from CBRS : {
  "heartbeatRequest": [
    {
      "cbsdId": "W6U-TEST-FCC-IDMock-SAS68530322500008",
      "grantId": "181985326",
      "operationState": "AUTHORIZED"
    }
  ]
}
2023-04-26T19:15:30.753Z - INFO - Time interval between two heartbeat request messages is: 20.396, limit is: 65.0
2023-04-26T19:15:30.801Z - INFO - engine sent successfully, the response to CBRS : {
  "heartbeatResponse": [
    {
      "cbsdId": "W6U-TEST-FCC-IDMock-SAS68530322500008",
      "grantId": "181985326",
      "response": {
        "responseCode": 0
      },
      "transmitExpireTime": "2023-04-26T19:18:50Z"
    }
  ]
}
2023-04-26T19:16:00.930Z - INFO - heartbeat request from CBRS : {
  "heartbeatRequest": [
    {
      "cbsdId": "W6U-TEST-FCC-IDMock-SAS68530322500007",
      "grantId": "920334385",
      "operationState": "AUTHORIZED"
    }
  ]
}
2023-04-26T19:16:00.957Z - INFO - Time interval between two heartbeat request messages is: 30.4, limit is: 65.0
2023-04-26T19:16:01.036Z - INFO - engine sent successfully, the response to CBRS : {
  "heartbeatResponse": [
    {
      "cbsdId": "W6U-TEST-FCC-IDMock-SAS68530322500007",
      "grantId": "920334385",
      "response": {

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        "responseCode": 0
    },
    "transmitExpireTime": "2023-04-26T19:19:21Z"
}
]
}
2023-04-26T19:16:01.135Z - INFO - heartbeat request from CBRS : {
  "heartbeatRequest": [
    {
      "cbsdId": "W6U-TEST-FCC-IDMock-SAS68530322500008",
      "grantId": "181985326",
      "operationState": "AUTHORIZED"
    }
  ]
}
2023-04-26T19:16:01.157Z - INFO - Time interval between two heartbeat request messages is: 30.4, limit is: 65.0
2023-04-26T19:16:01.194Z - INFO - engine sent successfully, the response to CBRS : {
  "heartbeatResponse": [
    {
      "cbsdId": "W6U-TEST-FCC-IDMock-SAS68530322500008",
      "grantId": "181985326",
      "response": {
        "responseCode": 0
      },
      "transmitExpireTime": "2023-04-26T19:19:21Z"
    }
  ]
}
2023-04-26T19:16:06.061Z - INFO - relinquishment request from CBRS : {
  "relinquishmentRequest": [
    {
      "cbsdId": "W6U-TEST-FCC-IDMock-SAS68530322500007",
      "grantId": "920334385"
    }
  ]
}
2023-04-26T19:16:06.150Z - INFO - engine sent successfully, the response to CBRS : {
  "relinquishmentResponse": [
    {
      "cbsdId": "W6U-TEST-FCC-IDMock-SAS68530322500007",
      "grantId": "920334385",
      "response": {
        "responseCode": 0
      }
    }
  ]
}
2023-04-26T19:16:06.229Z - INFO - heartbeat request from CBRS : {
  "heartbeatRequest": [
    {
      "cbsdId": "W6U-TEST-FCC-IDMock-SAS68530322500008",
      "grantId": "181985326",
      "operationState": "AUTHORIZED"
    }
  ]
}

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    }
  ]
}
2023-04-26T19:16:06.246Z - INFO - Time interval between two heartbeat request messages is: 5.094, limit is: 65.0
2023-04-26T19:16:06.295Z - INFO - engine sent successfully, the response to CBRS : {
  "heartbeatResponse": [
    {
      "cbsdId": "W6U-TEST-FCC-IDMock-SAS68530322500008",
      "grantId": "181985326",
      "response": {
        "responseCode": 0
      },
      "transmitExpireTime": "2023-04-26T19:19:26Z"
    }
  ]
}
2023-04-26T19:16:11.733Z - INFO - heartbeat request from CBRS : {
  "heartbeatRequest": [
    {
      "cbsdId": "W6U-TEST-FCC-IDMock-SAS68530322500008",
      "grantId": "181985326",
      "operationState": "AUTHORIZED"
    }
  ]
}
2023-04-26T19:16:11.753Z - INFO - Time interval between two heartbeat request messages is: 5.505, limit is: 65.0
2023-04-26T19:16:11.805Z - INFO - engine sent successfully, the response to CBRS : {
  "heartbeatResponse": [
    {
      "cbsdId": "W6U-TEST-FCC-IDMock-SAS68530322500008",
      "grantId": "181985326",
      "response": {
        "responseCode": 0
      },
      "transmitExpireTime": "2023-04-26T19:19:31Z"
    }
  ]
}
2023-04-26T19:16:11.911Z - INFO - relinquishment request from CBRS : {
  "relinquishmentRequest": [
    {
      "cbsdId": "W6U-TEST-FCC-IDMock-SAS68530322500008",
      "grantId": "181985326"
    }
  ]
}
2023-04-26T19:16:11.979Z - INFO - engine sent successfully, the response to CBRS : {
  "relinquishmentResponse": [
    {
      "cbsdId": "W6U-TEST-FCC-IDMock-SAS68530322500008",
      "grantId": "181985326",
      "response": {
        "responseCode": 0
      }
    }
  ]
}

```



```
}  
}  
]  
}
```

2023-04-26T19:16:13.750Z - INFO - arrived to nstep starting question answer session with the technician

2023-04-26T19:16:13.757Z - INFO - the question is : Did CBSD1 cease RF transmission before receipt of Relinquishment Request by Test Harness? please choose one of the answers :

2023-04-26T19:16:38.115Z - INFO - for the question : Did CBSD1 cease RF transmission before receipt of Relinquishment Request by Test Harness? , the user choose y

2023-04-26T19:16:38.121Z - INFO - the question is : Did CBSD2 cease RF transmission before receipt of Relinquishment Request by Test Harness? please choose one of the answers :

2023-04-26T19:16:39.503Z - INFO - for the question : Did CBSD2 cease RF transmission before receipt of Relinquishment Request by Test Harness? , the user choose y

2023-04-26T19:17:17.586Z - INFO - The final result of the test : WINNF.FT.D.RLQ.2 is - passed and :the additional comments for the current test are : CBSD's Cease RF TX



10.24 Log file for test case ID: WINNF.FT.D.RLQ.4

2023-04-26T19:18:37.102Z - INFO - WINNF TEST HARNESS RELEASE: 1.0.0.3 - 2018-November-13

2023-04-26T19:18:37.108Z - INFO - the selected test from the user : WINNF.FT.D.RLQ.4 is starting now

2023-04-26T19:18:42.216Z - INFO - registration request from CBRS : {

```
"registrationRequest": [
  {
    "airInterface": {
      "radioTechnology": "NR"
    },
    "callSign": "1",
    "cbsdCategory": "A",
    "cbsdInfo": {
      "firmwareVersion": "1.1.10 ()",
      "hardwareVersion": "0.0.1",
      "model": "O-RU",
      "softwareVersion": "0.0.2.4 ()",
      "vendor": "SOLiD"
    },
    "cbsdSerialNumber": "68530322500007",
    "cpiSignatureData": {
      "digitalSignature": "AR5MaDlzi5_qJGKAmDxCUYzojDxUWghcxP_oJXuoizxq1K2B22_gHAl6HcpvWjYkBuHR4Br0gY81Le21Wrdc3yZHreFOV1iKJCF-
1GWGdpXNWZfuqRXj6-
hIEA9s5dlmQtu_O2Z2UEXpqISwn6xtBY7k1qI6yenIIQ4nV7C0iRxt9L7AeubAFSLIDc3twXBrrbLbbRgtckEAPbi2VgOAU4dkMuMydrYzolKQVNV4Nei9uL9r3rgaEfCm
HWVviex18_6kELxI_QYnU3P_N2siY81q57jE6AeJpWm3qa4n8Vm9Bdjv-riOZJ_E6-Mq7HhoF5EK4hLI9tNC_T5fpmYMOA",
      "encodedCpiSignedData":
"eyJpbmN0YWxsYXRpb25QYXJhbSI6eyJsYXRpdHVkZSI6MS4wLjI1ZGU0eUJlMCwibGpZ2h0IjoxLjAsImhlaWdodFR5cGU0IjBR0wiLCJpbmRvb3JlZXBs
b3ItZW50IjpbOjcnVILCJhbnRlbn5hR2Fpbil6MC4wfSwiZmNjSWQ0IjoiXNlU0tVEVTVVC1GQ0MtSUQ0IjYnNkU2VyaWFsTnVtYmVyljoiNjg1MzAzMjI1MDAwMDciLCJw
cm9mZXNzaW9uYWwJbnN0YWxsZXJEYXRhIjpb7ImNwaUlkljoiMTEwIiwiaWF0Ij0iY3BpTmFtZSI6IjEiLCJpbmN0YWxsQ2VydGlmaWNhdGlvbiRpbWUiOiIyMDE3LTExVDI
wOjMwOjAwWjI9fQ",
      "protectedHeader": "eyJhbGciOiJSUzI1NiIsInR5cCI6IkpXVCJ9"
    },
    "fcid": "W6U-TEST-FCC-ID",
    "userId": "1"
  }
]
```

2023-04-26T19:18:42.440Z - INFO - Registration message contains cpiSignatureData

2023-04-26T19:18:42.441Z - INFO - protectedHeader = {u'alg': u'RS256', u'typ': u'JWT'}

2023-04-26T19:18:42.443Z - INFO - encodedCpiSignedData contents = {

```
"installationParam": {
  "heightType": "AGL",
  "longitude": 1.0,
  "antennaGain": 0.0,
  "indoorDeployment": true,
  "latitude": 1.0,
  "height": 1.0
},
"professionalInstallerData": {
  "cpiName": "1",
  "installCertificationTime": "2017-10-11T20:30:00Z",
  "cpild": "111"
},
"fcid": "W6U-TEST-FCC-ID",
```

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Nemko San Diego, a testing laboratory, is a authorized test lab (ATL) by the CBRS Alliance for standard WINNF-TS-0122

```

    "cbsdSerialNumber": "68530322500007"
  }
2023-04-26T19:18:42.453Z - INFO - verified signature on cpiSignatureData
2023-04-26T19:18:42.463Z - INFO - cbsdCategory= 'A', removing optional param from cpi_schema
2023-04-26T19:18:42.467Z - INFO - cpiSignatureData data successfully validated against jsonschema
2023-04-26T19:18:42.476Z - INFO - engine sent successfully, the response to CBRS : {
  "registrationResponse": [
    {
      "cbsdId": "W6U-TEST-FCC-IDMock-SAS68530322500007",
      "response": {
        "responseCode": 0
      }
    }
  ]
}
2023-04-26T19:18:42.569Z - INFO - spectrumInquiry request from CBRS : {
  "spectrumInquiryRequest": [
    {
      "cbsdId": "W6U-TEST-FCC-IDMock-SAS68530322500007",
      "inquiredSpectrum": [
        {
          "highFrequency": 3700000000,
          "lowFrequency": 3550000000
        }
      ]
    }
  ]
}
2023-04-26T19:18:42.634Z - INFO - engine sent successfully, the response to CBRS : {
  "spectrumInquiryResponse": [
    {
      "availableChannel": [
        {
          "channelType": "GAA",
          "frequencyRange": {
            "highFrequency": 3700000000,
            "lowFrequency": 3550000000
          },
          "ruleApplied": "FCC_PART_96"
        }
      ],
      "cbsdId": "W6U-TEST-FCC-IDMock-SAS68530322500007",
      "response": {
        "responseCode": 0
      }
    }
  ]
}
2023-04-26T19:18:42.721Z - INFO - spectrumInquiry request from CBRS : {
  "spectrumInquiryRequest": [
    {
      "cbsdId": "W6U-TEST-FCC-IDMock-SAS68530322500007",
      "inquiredSpectrum": [

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```

    {
      "highFrequency": 3590030000.0,
      "lowFrequency": 3550030000.0
    }
  ]
}
]
}
}
2023-04-26T19:18:42.766Z - INFO - engine sent successfully, the response to CBRS : {
  "spectrumInquiryResponse": [
    {
      "availableChannel": [
        {
          "channelType": "GAA",
          "frequencyRange": {
            "highFrequency": 3590030000.0,
            "lowFrequency": 3550030000.0
          },
          "ruleApplied": "FCC_PART_96"
        }
      ],
      "cbsdId": "W6U-TEST-FCC-IDMock-SAS68530322500007",
      "response": {
        "responseCode": 0
      }
    }
  ]
}
}
2023-04-26T19:18:42.835Z - INFO - grant request from CBRS : {
  "grantRequest": [
    {
      "cbsdId": "W6U-TEST-FCC-IDMock-SAS68530322500007",
      "operationParam": {
        "maxEirp": 3.98,
        "operationFrequencyRange": {
          "highFrequency": 3590030000.0,
          "lowFrequency": 3550030000.0
        }
      }
    }
  ]
}
}
}
2023-04-26T19:18:42.921Z - INFO - engine sent successfully, the response to CBRS : {
  "grantResponse": [
    {
      "cbsdId": "W6U-TEST-FCC-IDMock-SAS68530322500007",
      "channelType": "GAA",
      "grantExpireTime": "2023-05-03T19:18:42Z",
      "grantId": "922797559",
      "heartbeatInterval": 60,
      "response": {
        "responseCode": 0
      }
    }
  ]
}
}

```

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    }
  ]
}
2023-04-26T19:18:43.000Z - INFO - heartbeat request from CBRS : {
  "heartbeatRequest": [
    {
      "cbsdId": "W6U-TEST-FCC-IDMock-SAS68530322500007",
      "grantId": "922797559",
      "grantRenew": true,
      "operationState": "GRANTED"
    }
  ]
}
2023-04-26T19:18:43.086Z - INFO - grantRenew received in HBT request message
2023-04-26T19:18:43.089Z - INFO - engine sent successfully, the response to CBRS : {
  "heartbeatResponse": [
    {
      "cbsdId": "W6U-TEST-FCC-IDMock-SAS68530322500007",
      "grantExpireTime": "2023-05-03T19:18:43Z",
      "grantId": "922797559",
      "response": {
        "responseCode": 0
      },
      "transmitExpireTime": "2023-04-26T19:22:03Z"
    }
  ]
}
2023-04-26T19:18:44.505Z - INFO - heartbeat request from CBRS : {
  "heartbeatRequest": [
    {
      "cbsdId": "W6U-TEST-FCC-IDMock-SAS68530322500007",
      "grantId": "922797559",
      "operationState": "AUTHORIZED"
    }
  ]
}
2023-04-26T19:18:44.519Z - INFO - Time interval between two heartbeat request messages is: 1.504, limit is: 65.0
2023-04-26T19:18:44.578Z - INFO - engine sent successfully, the response to CBRS : {
  "heartbeatResponse": [
    {
      "cbsdId": "W6U-TEST-FCC-IDMock-SAS68530322500007",
      "grantId": "922797559",
      "response": {
        "responseCode": 0
      },
      "transmitExpireTime": "2023-04-26T19:22:04Z"
    }
  ]
}
2023-04-26T19:18:44.651Z - INFO - heartbeat request from CBRS : {
  "heartbeatRequest": [
    {
      "cbsdId": "W6U-TEST-FCC-IDMock-SAS68530322500007",

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    "grantId": "922797559",
    "operationState": "AUTHORIZED"
  }
}
}
2023-04-26T19:18:44.667Z - INFO - Time interval between two heartbeat request messages is: 0.146, limit is: 65.0
2023-04-26T19:18:44.713Z - INFO - engine sent successfully, the response to CBRS : {
  "heartbeatResponse": [
    {
      "cbsdId": "W6U-TEST-FCC-IDMock-SAS68530322500007",
      "grantId": "922797559",
      "response": {
        "responseCode": 0
      },
      "transmitExpireTime": "2023-04-26T19:22:04Z"
    }
  ]
}
}
2023-04-26T19:18:44.783Z - INFO - registration request from CBRS : {
  "registrationRequest": [
    {
      "airInterface": {
        "radioTechnology": "NR"
      },
      "callSign": "2",
      "cbsdCategory": "A",
      "cbsdInfo": {
        "firmwareVersion": "1.1.10 ()",
        "hardwareVersion": "0.0.1",
        "model": "O-RU",
        "softwareVersion": "0.2.4 ()",
        "vendor": "SOLiD"
      },
      "cbsdSerialNumber": "68530322500008",
      "cpiSignatureData": {
        "digitalSignature": "zt4hd5YbgTxJL7oSoSbdmXGklpZRCkpEjVg6bRRu7gOZ86AbhbObj868zbDY3wXZVe4VmUIXIfw09BouoqqsmjUQzLnsMca-
KuFlkOwevut7e-VklecYD0Dlb8tzppgryBWqD2eWMvWWBmFGwm4yuk0tiDL_B9iKNHO2fNWuULchQfBb9ghyil7hOOSoENZMXqwa-
_DVAKP8Zs23PT16XxZzH6hbns1Z7PN3F-CmuH1KPJVfKUt0VGIldLYSOK-
EGdp6TPaj8uwZGIOPChT6L2E4tWUdKD5nNH5Wi1YVCZpRHmz3qeW1axyfshakWgqphM3QoXvRLs9Kb_hkyzT_g",
        "encodedCpiSignedData":
"eyJpbmN0YWxsYXRpb25QYXJhbSI6eyJsYXRpdHVkZSI6MjluMCwibG9uZ2l0dWRlIjoyLjAsImhlaWdodCI6Mi4wLCJoZWlnaHRUeXBlljoiQUdMliwiaW5kb29yRGVw
bG95bWVudCI6dHJ1ZSwiYW50ZW5uYUdhaW4iOiJhbmh0slmZjY0IkljoiVzZVLVRFU1QtRkNDLUIEliwiY2JzZFNlcmllbE51bWJlciI6IjY4NTMwMzlyNTAwMDA4liwic
HJvZmVzZ2lvbmFsSW5zdGFsbGVyRGF0YSI6eyJjcGljZCI6IjEiLCJjcGlOYW1lIjoyMSIsImIuc3RhbmGxZDZlOaWZpY2F0aW9uVGltZSI6IjIwMTctMTAtMTFUMjA6MzA6
MDBaIn19",
        "protectedHeader": "eyJhbGciOiJSUzI1NiIsInR5cCI6IkpXVCJ9"
      },
      "fcclId": "W6U-TEST-FCC-ID",
      "userId": "2"
    }
  ]
}
}
2023-04-26T19:18:44.927Z - INFO - Registration message contains cpiSignatureData
2023-04-26T19:18:44.930Z - INFO - protectedHeader = {u'alq': u'RS256', u'typ': u'JWT'}
```



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2023-04-26T19:18:44.931Z - INFO - encodedCpiSignedData contents = {
  "installationParam": {
    "heightType": "AGL",
    "longitude": 2.0,
    "antennaGain": 0.0,
    "indoorDeployment": true,
    "latitude": 22.0,
    "height": 2.0
  },
  "professionalInstallerData": {
    "cpiName": "1",
    "installCertificationTime": "2017-10-11T20:30:00Z",
    "cpild": "1"
  },
  "fccId": "W6U-TEST-FCC-ID",
  "cbsdSerialNumber": "68530322500008"
}
2023-04-26T19:18:44.937Z - INFO - verified signature on cpiSignatureData
2023-04-26T19:18:44.944Z - INFO - cbsdCategory= 'A', removing optional param from cpi_schema
2023-04-26T19:18:44.947Z - INFO - cpiSignatureData data successfully validated against jsonschema
2023-04-26T19:18:44.957Z - INFO - engine sent successfully, the response to CBRS : {
  "registrationResponse": [
    {
      "cbsdId": "W6U-TEST-FCC-IDMock-SAS68530322500008",
      "response": {
        "responseCode": 0
      }
    }
  ]
}
2023-04-26T19:18:45.040Z - INFO - heartbeat request from CBRS : {
  "heartbeatRequest": [
    {
      "cbsdId": "W6U-TEST-FCC-IDMock-SAS68530322500007",
      "grantId": "922797559",
      "operationState": "AUTHORIZED"
    }
  ]
}
2023-04-26T19:18:45.055Z - INFO - Time interval between two heartbeat request messages is: 0.39, limit is: 65.0
2023-04-26T19:18:45.098Z - INFO - engine sent successfully, the response to CBRS : {
  "heartbeatResponse": [
    {
      "cbsdId": "W6U-TEST-FCC-IDMock-SAS68530322500007",
      "grantId": "922797559",
      "response": {
        "responseCode": 0
      },
      "transmitExpireTime": "2023-04-26T19:22:05Z"
    }
  ]
}
2023-04-26T19:18:45.213Z - INFO - heartbeat request from CBRS : {

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"heartbeatRequest": [
  {
    "cbsdId": "W6U-TEST-FCC-IDMock-SAS68530322500007",
    "grantId": "922797559",
    "operationState": "AUTHORIZED"
  }
]
}
2023-04-26T19:18:45.227Z - INFO - Time interval between two heartbeat request messages is: 0.173, limit is: 65.0
2023-04-26T19:18:45.280Z - INFO - engine sent successfully, the response to CBRS : {
  "heartbeatResponse": [
    {
      "cbsdId": "W6U-TEST-FCC-IDMock-SAS68530322500007",
      "grantId": "922797559",
      "response": {
        "responseCode": 0
      },
      "transmitExpireTime": "2023-04-26T19:22:05Z"
    }
  ]
}
2023-04-26T19:18:45.364Z - INFO - spectrumInquiry request from CBRS : {
  "spectrumInquiryRequest": [
    {
      "cbsdId": "W6U-TEST-FCC-IDMock-SAS68530322500008",
      "inquiredSpectrum": [
        {
          "highFrequency": 3700000000,
          "lowFrequency": 3550000000
        }
      ]
    }
  ]
}
2023-04-26T19:18:45.424Z - INFO - engine sent successfully, the response to CBRS : {
  "spectrumInquiryResponse": [
    {
      "availableChannel": [
        {
          "channelType": "GAA",
          "frequencyRange": {
            "highFrequency": 3700000000,
            "lowFrequency": 3550000000
          },
          "ruleApplied": "FCC_PART_96"
        }
      ],
      "cbsdId": "W6U-TEST-FCC-IDMock-SAS68530322500008",
      "response": {
        "responseCode": 0
      }
    }
  ]
}

```

```

}
2023-04-26T19:18:45.513Z - INFO - heartbeat request from CBRS : {
  "heartbeatRequest": [
    {
      "cbsdId": "W6U-TEST-FCC-IDMock-SAS68530322500007",
      "grantId": "922797559",
      "operationState": "AUTHORIZED"
    }
  ]
}
2023-04-26T19:18:45.525Z - INFO - Time interval between two heartbeat request messages is: 0.299, limit is: 65.0
2023-04-26T19:18:45.559Z - INFO - engine sent successfully, the response to CBRS : {
  "heartbeatResponse": [
    {
      "cbsdId": "W6U-TEST-FCC-IDMock-SAS68530322500007",
      "grantId": "922797559",
      "response": {
        "responseCode": 0
      },
      "transmitExpireTime": "2023-04-26T19:22:05Z"
    }
  ]
}
2023-04-26T19:18:45.622Z - INFO - spectrumInquiry request from CBRS : {
  "spectrumInquiryRequest": [
    {
      "cbsdId": "W6U-TEST-FCC-IDMock-SAS68530322500008",
      "inquiredSpectrum": [
        {
          "highFrequency": 3590030000.0,
          "lowFrequency": 3550030000.0
        }
      ]
    }
  ]
}
2023-04-26T19:18:45.678Z - INFO - engine sent successfully, the response to CBRS : {
  "spectrumInquiryResponse": [
    {
      "availableChannel": [
        {
          "channelType": "GAA",
          "frequencyRange": {
            "highFrequency": 3590030000.0,
            "lowFrequency": 3550030000.0
          },
          "ruleApplied": "FCC_PART_96"
        }
      ],
      "cbsdId": "W6U-TEST-FCC-IDMock-SAS68530322500008",
      "response": {
        "responseCode": 0
      }
    }
  ]
}

```

```

    }
  ]
}
2023-04-26T19:18:45.743Z - INFO - grant request from CBRS : {
  "grantRequest": [
    {
      "cbsdId": "W6U-TEST-FCC-IDMock-SAS68530322500008",
      "operationParam": {
        "maxEirp": 3.98,
        "operationFrequencyRange": {
          "highFrequency": 3590030000.0,
          "lowFrequency": 3550030000.0
        }
      }
    }
  ]
}
2023-04-26T19:18:45.789Z - INFO - engine sent successfully, the response to CBRS : {
  "grantResponse": [
    {
      "cbsdId": "W6U-TEST-FCC-IDMock-SAS68530322500008",
      "channelType": "GAA",
      "grantExpireTime": "2023-05-03T19:18:45Z",
      "grantId": "24321452",
      "heartbeatInterval": 60,
      "response": {
        "responseCode": 0
      }
    }
  ]
}
2023-04-26T19:18:46.114Z - INFO - heartbeat request from CBRS : {
  "heartbeatRequest": [
    {
      "cbsdId": "W6U-TEST-FCC-IDMock-SAS68530322500008",
      "grantId": "24321452",
      "grantRenew": true,
      "operationState": "GRANTED"
    }
  ]
}
2023-04-26T19:18:46.176Z - INFO - grantRenew received in HBT request message
2023-04-26T19:18:46.178Z - INFO - engine sent successfully, the response to CBRS : {
  "heartbeatResponse": [
    {
      "cbsdId": "W6U-TEST-FCC-IDMock-SAS68530322500008",
      "grantExpireTime": "2023-05-03T19:18:46Z",
      "grantId": "24321452",
      "response": {
        "responseCode": 0
      },
      "transmitExpireTime": "2023-04-26T19:22:06Z"
    }
  ]
}

```

```

    ]
  }
2023-04-26T19:18:46.279Z - INFO - heartbeat request from CBRS : {
  "heartbeatRequest": [
    {
      "cbsdId": "W6U-TEST-FCC-IDMock-SAS68530322500007",
      "grantId": "922797559",
      "operationState": "AUTHORIZED"
    }
  ]
}
2023-04-26T19:18:46.292Z - INFO - Time interval between two heartbeat request messages is: 0.767, limit is: 65.0
2023-04-26T19:18:46.338Z - INFO - engine sent successfully, the response to CBRS : {
  "heartbeatResponse": [
    {
      "cbsdId": "W6U-TEST-FCC-IDMock-SAS68530322500007",
      "grantId": "922797559",
      "response": {
        "responseCode": 0
      },
      "transmitExpireTime": "2023-04-26T19:22:06Z"
    }
  ]
}
2023-04-26T19:18:46.417Z - INFO - heartbeat request from CBRS : {
  "heartbeatRequest": [
    {
      "cbsdId": "W6U-TEST-FCC-IDMock-SAS68530322500008",
      "grantId": "24321452",
      "operationState": "AUTHORIZED"
    }
  ]
}
2023-04-26T19:18:46.434Z - INFO - Time interval between two heartbeat request messages is: 0.303, limit is: 65.0
2023-04-26T19:18:46.496Z - INFO - engine sent successfully, the response to CBRS : {
  "heartbeatResponse": [
    {
      "cbsdId": "W6U-TEST-FCC-IDMock-SAS68530322500008",
      "grantId": "24321452",
      "response": {
        "responseCode": 0
      },
      "transmitExpireTime": "2023-04-26T19:22:06Z"
    }
  ]
}
2023-04-26T19:19:16.624Z - INFO - heartbeat request from CBRS : {
  "heartbeatRequest": [
    {
      "cbsdId": "W6U-TEST-FCC-IDMock-SAS68530322500007",
      "grantId": "922797559",
      "operationState": "AUTHORIZED"
    }
  ]
}

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    ]
  }
2023-04-26T19:19:16.648Z - INFO - Time interval between two heartbeat request messages is: 30.344, limit is: 65.0
2023-04-26T19:19:16.698Z - INFO - engine sent successfully, the response to CBRS : {
  "heartbeatResponse": [
    {
      "cbsdId": "W6U-TEST-FCC-IDMock-SAS68530322500007",
      "grantId": "922797559",
      "response": {
        "responseCode": 0
      },
      "transmitExpireTime": "2023-04-26T19:22:36Z"
    }
  ]
}
2023-04-26T19:19:16.775Z - INFO - heartbeat request from CBRS : {
  "heartbeatRequest": [
    {
      "cbsdId": "W6U-TEST-FCC-IDMock-SAS68530322500008",
      "grantId": "24321452",
      "operationState": "AUTHORIZED"
    }
  ]
}
2023-04-26T19:19:16.793Z - INFO - Time interval between two heartbeat request messages is: 30.357, limit is: 65.0
2023-04-26T19:19:16.832Z - INFO - engine sent successfully, the response to CBRS : {
  "heartbeatResponse": [
    {
      "cbsdId": "W6U-TEST-FCC-IDMock-SAS68530322500008",
      "grantId": "24321452",
      "response": {
        "responseCode": 0
      },
      "transmitExpireTime": "2023-04-26T19:22:36Z"
    }
  ]
}
2023-04-26T19:19:46.946Z - INFO - heartbeat request from CBRS : {
  "heartbeatRequest": [
    {
      "cbsdId": "W6U-TEST-FCC-IDMock-SAS68530322500007",
      "grantId": "922797559",
      "operationState": "AUTHORIZED"
    }
  ]
}
2023-04-26T19:19:46.973Z - INFO - Time interval between two heartbeat request messages is: 30.324, limit is: 65.0
2023-04-26T19:19:47.046Z - INFO - engine sent successfully, the response to CBRS : {
  "heartbeatResponse": [
    {
      "cbsdId": "W6U-TEST-FCC-IDMock-SAS68530322500007",
      "grantId": "922797559",
      "response": {

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        "responseCode": 0
      },
      "transmitExpireTime": "2023-04-26T19:23:07Z"
    }
  ]
}
2023-04-26T19:19:47.137Z - INFO - heartbeat request from CBRS : {
  "heartbeatRequest": [
    {
      "cbsdId": "W6U-TEST-FCC-IDMock-SAS68530322500008",
      "grantId": "24321452",
      "operationState": "AUTHORIZED"
    }
  ]
}
2023-04-26T19:19:47.160Z - INFO - Time interval between two heartbeat request messages is: 30.363, limit is: 65.0
2023-04-26T19:19:47.207Z - INFO - engine sent successfully, the response to CBRS : {
  "heartbeatResponse": [
    {
      "cbsdId": "W6U-TEST-FCC-IDMock-SAS68530322500008",
      "grantId": "24321452",
      "response": {
        "responseCode": 0
      },
      "transmitExpireTime": "2023-04-26T19:23:07Z"
    }
  ]
}
2023-04-26T19:20:17.325Z - INFO - heartbeat request from CBRS : {
  "heartbeatRequest": [
    {
      "cbsdId": "W6U-TEST-FCC-IDMock-SAS68530322500007",
      "grantId": "922797559",
      "operationState": "AUTHORIZED"
    }
  ]
}
2023-04-26T19:20:17.346Z - INFO - Time interval between two heartbeat request messages is: 30.378, limit is: 65.0
2023-04-26T19:20:17.415Z - INFO - engine sent successfully, the response to CBRS : {
  "heartbeatResponse": [
    {
      "cbsdId": "W6U-TEST-FCC-IDMock-SAS68530322500007",
      "grantId": "922797559",
      "response": {
        "responseCode": 0
      },
      "transmitExpireTime": "2023-04-26T19:23:37Z"
    }
  ]
}
2023-04-26T19:20:17.497Z - INFO - heartbeat request from CBRS : {
  "heartbeatRequest": [
    {

```



```

    "cbsdId": "W6U-TEST-FCC-IDMock-SAS68530322500008",
    "grantId": "24321452",
    "operationState": "AUTHORIZED"
  }
}
}
2023-04-26T19:20:17.519Z - INFO - Time interval between two heartbeat request messages is: 30.361, limit is: 65.0
2023-04-26T19:20:17.563Z - INFO - engine sent successfully, the response to CBRS : {
  "heartbeatResponse": [
    {
      "cbsdId": "W6U-TEST-FCC-IDMock-SAS68530322500008",
      "grantId": "24321452",
      "response": {
        "responseCode": 0
      },
      "transmitExpireTime": "2023-04-26T19:23:37Z"
    }
  ]
}
}
2023-04-26T19:20:47.684Z - INFO - heartbeat request from CBRS : {
  "heartbeatRequest": [
    {
      "cbsdId": "W6U-TEST-FCC-IDMock-SAS68530322500007",
      "grantId": "922797559",
      "operationState": "AUTHORIZED"
    }
  ]
}
}
2023-04-26T19:20:47.709Z - INFO - Time interval between two heartbeat request messages is: 30.359, limit is: 65.0
2023-04-26T19:20:47.773Z - INFO - engine sent successfully, the response to CBRS : {
  "heartbeatResponse": [
    {
      "cbsdId": "W6U-TEST-FCC-IDMock-SAS68530322500007",
      "grantId": "922797559",
      "response": {
        "responseCode": 0
      },
      "transmitExpireTime": "2023-04-26T19:24:07Z"
    }
  ]
}
}
2023-04-26T19:20:47.846Z - INFO - heartbeat request from CBRS : {
  "heartbeatRequest": [
    {
      "cbsdId": "W6U-TEST-FCC-IDMock-SAS68530322500008",
      "grantId": "24321452",
      "operationState": "AUTHORIZED"
    }
  ]
}
}
2023-04-26T19:20:47.868Z - INFO - Time interval between two heartbeat request messages is: 30.348, limit is: 65.0
2023-04-26T19:20:47.908Z - INFO - engine sent successfully, the response to CBRS : {
  "heartbeatResponse": [

```

```

{
  "cbsdId": "W6U-TEST-FCC-IDMock-SAS68530322500008",
  "grantId": "24321452",
  "response": {
    "responseCode": 0
  },
  "transmitExpireTime": "2023-04-26T19:24:07Z"
}
]
}
2023-04-26T19:21:18.026Z - INFO - heartbeat request from CBRS : {
  "heartbeatRequest": [
    {
      "cbsdId": "W6U-TEST-FCC-IDMock-SAS68530322500007",
      "grantId": "922797559",
      "operationState": "AUTHORIZED"
    }
  ]
}
}
2023-04-26T19:21:18.049Z - INFO - Time interval between two heartbeat request messages is: 30.341, limit is: 65.0
2023-04-26T19:21:18.130Z - INFO - engine sent successfully, the response to CBRS : {
  "heartbeatResponse": [
    {
      "cbsdId": "W6U-TEST-FCC-IDMock-SAS68530322500007",
      "grantId": "922797559",
      "response": {
        "responseCode": 0
      },
      "transmitExpireTime": "2023-04-26T19:24:38Z"
    }
  ]
}
}
2023-04-26T19:21:18.210Z - INFO - heartbeat request from CBRS : {
  "heartbeatRequest": [
    {
      "cbsdId": "W6U-TEST-FCC-IDMock-SAS68530322500008",
      "grantId": "24321452",
      "operationState": "AUTHORIZED"
    }
  ]
}
}
2023-04-26T19:21:18.230Z - INFO - Time interval between two heartbeat request messages is: 30.364, limit is: 65.0
2023-04-26T19:21:18.276Z - INFO - engine sent successfully, the response to CBRS : {
  "heartbeatResponse": [
    {
      "cbsdId": "W6U-TEST-FCC-IDMock-SAS68530322500008",
      "grantId": "24321452",
      "response": {
        "responseCode": 0
      },
      "transmitExpireTime": "2023-04-26T19:24:38Z"
    }
  ]
}
]

```

```

}
2023-04-26T19:21:48.394Z - INFO - heartbeat request from CBRS : {
  "heartbeatRequest": [
    {
      "cbsdId": "W6U-TEST-FCC-IDMock-SAS68530322500007",
      "grantId": "922797559",
      "operationState": "AUTHORIZED"
    }
  ]
}
2023-04-26T19:21:48.418Z - INFO - Time interval between two heartbeat request messages is: 30.37, limit is: 65.0
2023-04-26T19:21:48.484Z - INFO - engine sent successfully, the response to CBRS : {
  "heartbeatResponse": [
    {
      "cbsdId": "W6U-TEST-FCC-IDMock-SAS68530322500007",
      "grantId": "922797559",
      "response": {
        "responseCode": 0
      },
      "transmitExpireTime": "2023-04-26T19:25:08Z"
    }
  ]
}
2023-04-26T19:21:48.563Z - INFO - heartbeat request from CBRS : {
  "heartbeatRequest": [
    {
      "cbsdId": "W6U-TEST-FCC-IDMock-SAS68530322500008",
      "grantId": "24321452",
      "operationState": "AUTHORIZED"
    }
  ]
}
2023-04-26T19:21:48.592Z - INFO - Time interval between two heartbeat request messages is: 30.353, limit is: 65.0
2023-04-26T19:21:48.637Z - INFO - engine sent successfully, the response to CBRS : {
  "heartbeatResponse": [
    {
      "cbsdId": "W6U-TEST-FCC-IDMock-SAS68530322500008",
      "grantId": "24321452",
      "response": {
        "responseCode": 0
      },
      "transmitExpireTime": "2023-04-26T19:25:08Z"
    }
  ]
}
2023-04-26T19:22:18.760Z - INFO - heartbeat request from CBRS : {
  "heartbeatRequest": [
    {
      "cbsdId": "W6U-TEST-FCC-IDMock-SAS68530322500007",
      "grantId": "922797559",
      "operationState": "AUTHORIZED"
    }
  ]
}

```

```

}
2023-04-26T19:22:18.788Z - INFO - Time interval between two heartbeat request messages is: 30.366, limit is: 65.0
2023-04-26T19:22:18.851Z - INFO - engine sent successfully, the response to CBRS : {
  "heartbeatResponse": [
    {
      "cbsdId": "W6U-TEST-FCC-IDMock-SAS68530322500007",
      "grantId": "922797559",
      "response": {
        "responseCode": 0
      },
      "transmitExpireTime": "2023-04-26T19:25:38Z"
    }
  ]
}
2023-04-26T19:22:18.946Z - INFO - heartbeat request from CBRS : {
  "heartbeatRequest": [
    {
      "cbsdId": "W6U-TEST-FCC-IDMock-SAS68530322500008",
      "grantId": "24321452",
      "operationState": "AUTHORIZED"
    }
  ]
}
2023-04-26T19:22:18.966Z - INFO - Time interval between two heartbeat request messages is: 30.383, limit is: 65.0
2023-04-26T19:22:19.019Z - INFO - engine sent successfully, the response to CBRS : {
  "heartbeatResponse": [
    {
      "cbsdId": "W6U-TEST-FCC-IDMock-SAS68530322500008",
      "grantId": "24321452",
      "response": {
        "responseCode": 0
      },
      "transmitExpireTime": "2023-04-26T19:25:39Z"
    }
  ]
}
2023-04-26T19:22:46.783Z - INFO - heartbeat request from CBRS : {
  "heartbeatRequest": [
    {
      "cbsdId": "W6U-TEST-FCC-IDMock-SAS68530322500007",
      "grantId": "922797559",
      "operationState": "AUTHORIZED"
    }
  ]
}
2023-04-26T19:22:46.809Z - INFO - Time interval between two heartbeat request messages is: 28.022, limit is: 65.0
2023-04-26T19:22:46.881Z - INFO - engine sent successfully, the response to CBRS : {
  "heartbeatResponse": [
    {
      "cbsdId": "W6U-TEST-FCC-IDMock-SAS68530322500007",
      "grantId": "922797559",
      "response": {
        "responseCode": 0
      }
    }
  ]
}

```

```

    },
    "transmitExpireTime": "2023-04-26T19:26:06Z"
  }
}
}
2023-04-26T19:22:46.973Z - INFO - heartbeat request from CBRS : {
  "heartbeatRequest": [
    {
      "cbsdId": "W6U-TEST-FCC-IDMock-SAS68530322500008",
      "grantId": "24321452",
      "operationState": "AUTHORIZED"
    }
  ]
}
2023-04-26T19:22:47.075Z - INFO - Time interval between two heartbeat request messages is: 28.042, limit is: 65.0
2023-04-26T19:22:47.102Z - INFO - engine sent successfully, the response to CBRS : {
  "heartbeatResponse": [
    {
      "cbsdId": "W6U-TEST-FCC-IDMock-SAS68530322500008",
      "grantId": "24321452",
      "response": {
        "responseCode": 0
      },
      "transmitExpireTime": "2023-04-26T19:26:07Z"
    }
  ]
}
2023-04-26T19:22:47.170Z - INFO - relinquishment request from CBRS : {
  "relinquishmentRequest": [
    {
      "cbsdId": "W6U-TEST-FCC-IDMock-SAS68530322500007",
      "grantId": "922797559"
    }
  ]
}
2023-04-26T19:22:47.255Z - INFO - engine sent successfully, the response to CBRS : {
  "relinquishmentResponse": [
    {
      "cbsdId": "W6U-TEST-FCC-IDMock-SAS68530322500007",
      "response": {
        "responseCode": 102,
        "responseData": [
          "grantId"
        ]
      }
    }
  ]
}
2023-04-26T19:22:47.342Z - INFO - heartbeat request from CBRS : {
  "heartbeatRequest": [
    {
      "cbsdId": "W6U-TEST-FCC-IDMock-SAS68530322500008",
      "grantId": "24321452",

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    "operationState": "AUTHORIZED"
  }
]
}
2023-04-26T19:22:47.352Z - INFO - Time interval between two heartbeat request messages is: 0.354, limit is: 65.0
2023-04-26T19:22:47.413Z - INFO - engine sent successfully, the response to CBRS : {
  "heartbeatResponse": [
    {
      "cbsdId": "W6U-TEST-FCC-IDMock-SAS68530322500008",
      "grantId": "24321452",
      "response": {
        "responseCode": 0
      },
      "transmitExpireTime": "2023-04-26T19:26:07Z"
    }
  ]
}
2023-04-26T19:22:51.920Z - INFO - relinquishment request from CBRS : {
  "relinquishmentRequest": [
    {
      "cbsdId": "W6U-TEST-FCC-IDMock-SAS68530322500008",
      "grantId": "24321452"
    }
  ]
}
2023-04-26T19:22:51.984Z - INFO - engine sent successfully, the response to CBRS : {
  "relinquishmentResponse": [
    {
      "cbsdId": "W6U-TEST-FCC-IDMock-SAS68530322500008",
      "response": {
        "responseCode": 102,
        "responseData": [
          "grantId"
        ]
      }
    }
  ]
}
2023-04-26T19:22:53.437Z - INFO - arrived to nstep starting question answer session with the technician
2023-04-26T19:22:53.444Z - INFO - the question is : Did CBSD1 cease RF transmission before receipt of Relinquishment Request by Test Harness? please
choose one of the answers :
2023-04-26T19:23:15.302Z - INFO - for the question : Did CBSD1 cease RF transmission before receipt of Relinquishment Request by Test Harness? , the user
choose y
2023-04-26T19:23:15.305Z - INFO - the question is : Did CBSD2 cease RF transmission before receipt of Relinquishment Request by Test Harness? please
choose one of the answers :
2023-04-26T19:23:18.500Z - INFO - for the question : Did CBSD2 cease RF transmission before receipt of Relinquishment Request by Test Harness? , the user
choose y
2023-04-26T19:24:42.940Z - INFO - The final result of the test : WINNF.FT.D.RLQ.4 is - passed and :the additional comments for the current test are : CBSD's
Cease RF Transmission and both responsecode=102

```

10.25 Log file for test case ID: WINNF.FT.D.RLQ.6

2023-04-26T19:25:37.118Z - INFO - WINNF TEST HARNESS RELEASE: 1.0.0.3 - 2018-November-13

2023-04-26T19:25:37.124Z - INFO - the selected test from the user : WINNF.FT.D.RLQ.6 is starting now

2023-04-26T19:25:38.451Z - INFO - registration request from CBRS : {

```
"registrationRequest": {
  {
    "airInterface": {
      "radioTechnology": "NR"
    },
    "callSign": "1",
    "cbssdCategory": "A",
    "cbssdInfo": {
      "firmwareVersion": "1.1.10 ()",
      "hardwareVersion": "0.0.1",
      "model": "O-RU",
      "softwareVersion": "0.2.4 ()",
      "vendor": "SOLiD"
    },
    "cbssdSerialNumber": "68530322500007",
    "cpiSignatureData": {
      "digitalSignature": "AR5MaDIzi5_qJGKAmDxCUYzDxUWghcxP_oJXuoi2xq1K2B22_gHAI6HcpvWjYkBuHR4Br0gY81Le21Wrdc3yZHreFOV1iKJCF-
1GWGdpXNWZfuqRXj6-
hlEA9s5dlmQtu_Q2Z2UEXpqISwn6xtBY7k1qI6yenllQ4nV7C0iRxt9L7AeubAFSLIDc3twXBrbbLbbRgtckEAPbi2VgOAU4dkMuMydrYzolkQVNV4Nei9uL9r3rgaEfCm
HWVviex18_6kElxJ_IQYnU3P_N2siY81q57jE6AeJpWm3qa4n8Vm9Bdjv-riOZI_E6-Mq7HhoF5EK4hLI9tNC_T5fpnYMOA",
      "encodedCpiSignedData":
"eyJpbmN0YWxsYXRpb25QYXJhbSI6eyJsYXRpdHVkZSI6MS4wLCJsbn25naXR1ZGUiojEuMCwiaGVpZ2h0LjoxLjAsImhlaWdodFR5cGUioiJBROwiLCJpbmRvb3JEZXBs
b3ltZW50Ijp0cnVILCJhbnRlbn5hR2Fpbil6MC4wfSwiZmNjSWQiOiJXNlU0VtVEVTVGV1GQ0MtSUQiLCJjYnNkU2VyaWFsTnVtYmVyljoiNjg1MzAzMjI1MDAwMDciLCJw
cm9mZXNzaW9uYWxJbnN0YWxsZXJlYXRoIjpw7ImNwaUlkljoiMTEwLjY3BpTmFtZSI6IjEiLCJpbmN0YWxsQ2VydGlmaWNhdGlvbGlRpbWUiOiIyMDE3LTExVjVl
wOjMwOjAwWjIj9fQ",
      "protectedHeader": "eyJhbGciOiJlSUZlI1NiIsInR5cCI6IkpXVCJ9"
    },
    "fccId": "W6U-TEST-FCC-ID",
    "userId": "1"
  }
}
```

2023-04-26T19:25:38.772Z - INFO - Registration message contains cpiSignatureData

2023-04-26T19:25:38.773Z - INFO - protectedHeader = {u'alg': u'RS256', u'typ': u'JWT'}

2023-04-26T19:25:38.773Z - INFO - encodedCpiSignedData contents = {

```
"installationParam": {
  "heightType": "AGL",
  "longitude": 1.0,
  "antennaGain": 0.0,
  "indoorDeployment": true,
  "latitude": 1.0,
  "height": 1.0
},
"professionalInstallerData": {
  "cpiName": "1",
  "installCertificationTime": "2017-10-11T20:30:00Z",
  "cpild": "111"
```

```

    },
    "fccId": "W6U-TEST-FCC-ID",
    "cbsdSerialNumber": "68530322500007"
  }
2023-04-26T19:25:38.786Z - INFO - verified signature on cpiSignatureData
2023-04-26T19:25:38.796Z - INFO - cbsdCategory= 'A', removing optional param from cpi_schema
2023-04-26T19:25:38.801Z - INFO - cpiSignatureData data successfully validated against jsonschema
2023-04-26T19:25:38.806Z - INFO - engine sent successfully, the response to CBRS : {
  "registrationResponse": [
    {
      "cbsdId": "W6U-TEST-FCC-IDMock-SAS68530322500007",
      "response": {
        "responseCode": 0
      }
    }
  ]
}
2023-04-26T19:25:38.891Z - INFO - spectrumInquiry request from CBRS : {
  "spectrumInquiryRequest": [
    {
      "cbsdId": "W6U-TEST-FCC-IDMock-SAS68530322500007",
      "inquiredSpectrum": [
        {
          "highFrequency": 3700000000,
          "lowFrequency": 3550000000
        }
      ]
    }
  ]
}
2023-04-26T19:25:38.946Z - INFO - engine sent successfully, the response to CBRS : {
  "spectrumInquiryResponse": [
    {
      "availableChannel": [
        {
          "channelType": "GAA",
          "frequencyRange": {
            "highFrequency": 3700000000,
            "lowFrequency": 3550000000
          },
          "ruleApplied": "FCC_PART_96"
        }
      ],
      "cbsdId": "W6U-TEST-FCC-IDMock-SAS68530322500007",
      "response": {
        "responseCode": 0
      }
    }
  ]
}
2023-04-26T19:25:39.065Z - INFO - spectrumInquiry request from CBRS : {
  "spectrumInquiryRequest": [
    {

```



```

    "cbsdId": "W6U-TEST-FCC-IDMock-SAS68530322500007",
    "inquiredSpectrum": [
      {
        "highFrequency": 3590030000.0,
        "lowFrequency": 3550030000.0
      }
    ]
  }
}
}
2023-04-26T19:25:39.102Z - INFO - engine sent successfully, the response to CBRS : {
  "spectrumInquiryResponse": [
    {
      "availableChannel": [
        {
          "channelType": "GAA",
          "frequencyRange": {
            "highFrequency": 3590030000.0,
            "lowFrequency": 3550030000.0
          },
          "ruleApplied": "FCC_PART_96"
        }
      ],
      "cbsdId": "W6U-TEST-FCC-IDMock-SAS68530322500007",
      "response": {
        "responseCode": 0
      }
    }
  ]
}
2023-04-26T19:25:39.186Z - INFO - grant request from CBRS : {
  "grantRequest": [
    {
      "cbsdId": "W6U-TEST-FCC-IDMock-SAS68530322500007",
      "operationParam": {
        "maxEirp": 3.98,
        "operationFrequencyRange": {
          "highFrequency": 3590030000.0,
          "lowFrequency": 3550030000.0
        }
      }
    }
  ]
}
2023-04-26T19:25:39.286Z - INFO - engine sent successfully, the response to CBRS : {
  "grantResponse": [
    {
      "cbsdId": "W6U-TEST-FCC-IDMock-SAS68530322500007",
      "channelType": "GAA",
      "grantExpireTime": "2023-05-03T19:25:39Z",
      "grantId": "387817216",
      "heartbeatInterval": 60,
      "response": {

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```

        "responseCode": 0
    }
}
}
}
2023-04-26T19:25:39.355Z - INFO - heartbeat request from CBRS : {
  "heartbeatRequest": [
    {
      "cbsdId": "W6U-TEST-FCC-IDMock-SAS68530322500007",
      "grantId": "387817216",
      "grantRenew": true,
      "operationState": "GRANTED"
    }
  ]
}
2023-04-26T19:25:39.459Z - INFO - grantRenew received in HBT request message
2023-04-26T19:25:39.463Z - INFO - engine sent successfully, the response to CBRS : {
  "heartbeatResponse": [
    {
      "cbsdId": "W6U-TEST-FCC-IDMock-SAS68530322500007",
      "grantExpireTime": "2023-05-03T19:25:39Z",
      "grantId": "387817216",
      "response": {
        "responseCode": 0
      },
      "transmitExpireTime": "2023-04-26T19:28:59Z"
    }
  ]
}
2023-04-26T19:25:39.539Z - INFO - heartbeat request from CBRS : {
  "heartbeatRequest": [
    {
      "cbsdId": "W6U-TEST-FCC-IDMock-SAS68530322500007",
      "grantId": "387817216",
      "operationState": "AUTHORIZED"
    }
  ]
}
2023-04-26T19:25:39.553Z - INFO - Time interval between two heartbeat request messages is: 0.184, limit is: 65.0
2023-04-26T19:25:39.628Z - INFO - engine sent successfully, the response to CBRS : {
  "heartbeatResponse": [
    {
      "cbsdId": "W6U-TEST-FCC-IDMock-SAS68530322500007",
      "grantId": "387817216",
      "response": {
        "responseCode": 0
      },
      "transmitExpireTime": "2023-04-26T19:28:59Z"
    }
  ]
}
2023-04-26T19:25:42.460Z - INFO - heartbeat request from CBRS : {
  "heartbeatRequest": [

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{
  "cbsdId": "W6U-TEST-FCC-IDMock-SAS68530322500007",
  "grantId": "387817216",
  "operationState": "AUTHORIZED"
}
]
}
2023-04-26T19:25:42.470Z - INFO - Time interval between two heartbeat request messages is: 2.92, limit is: 65.0
2023-04-26T19:25:42.528Z - INFO - engine sent successfully, the response to CBRS : {
  "heartbeatResponse": [
    {
      "cbsdId": "W6U-TEST-FCC-IDMock-SAS68530322500007",
      "grantId": "387817216",
      "response": {
        "responseCode": 0
      },
      "transmitExpireTime": "2023-04-26T19:29:02Z"
    }
  ]
}
2023-04-26T19:25:42.645Z - INFO - heartbeat request from CBRS : {
  "heartbeatRequest": [
    {
      "cbsdId": "W6U-TEST-FCC-IDMock-SAS68530322500007",
      "grantId": "387817216",
      "operationState": "AUTHORIZED"
    }
  ]
}
2023-04-26T19:25:42.657Z - INFO - Time interval between two heartbeat request messages is: 0.185, limit is: 65.0
2023-04-26T19:25:42.736Z - INFO - engine sent successfully, the response to CBRS : {
  "heartbeatResponse": [
    {
      "cbsdId": "W6U-TEST-FCC-IDMock-SAS68530322500007",
      "grantId": "387817216",
      "response": {
        "responseCode": 0
      },
      "transmitExpireTime": "2023-04-26T19:29:02Z"
    }
  ]
}
2023-04-26T19:25:42.809Z - INFO - registration request from CBRS : {
  "registrationRequest": [
    {
      "airInterface": {
        "radioTechnology": "NR"
      },
      "callSign": "2",
      "cbsdCategory": "A",
      "cbsdInfo": {
        "firmwareVersion": "1.1.10 ()",
        "hardwareVersion": "0.0.1",

```



```

    "model": "O-RU",
    "softwareVersion": "0.2.4 ()",
    "vendor": "SOLiD"
  },
  "cbidSerialNumber": "68530322500008",
  "cpiSignatureData": {
    "digitalSignature": "zt4hd5YbgTxXJL7oSoSbdmXGklpZRCkpEjVg6bRRu7gOZ86AbhbObj868zbDY3wXZVe4VmUIXlfw09BouoqqqsmjUQzLnsMca-
KuFlkOwevut7e-VklecYD0DIb8tzppgryBWqD2eWMvWWBmFGwm4yuk0tIDL_B9iKNHO2fNWuULchQfBb9ghyil7hOOSoENZMXqwa-
_DVAKP8Zs23PT16XxZzH6hbs1Z7PN3F-CmuH1KJPJVFkUt0VGldLYSOK-
EGdp6TPaj8uwZGIOPCht6L2E4tWUdKD5nNH5Wi1YVCZpRHmz3qeW1axyfshakWgqphM3QoXvRLs9Kb_hkyzT_g",
    "encodedCpiSignedData":
"eyJpbmNOYXsYXRpb25QYXJhbSI6eyJsYXRpdHVkZSI6MjluMCwibG9uZ2l0dWRlljoyLjAsImhlaWdodCI6Mi4wLCJoZWlnaHRUeXBlljoiQUdMliwiaW5kb29yRGVw
bG95bWVudCI6dHJ1ZSwiYW50ZW5uYUdhaW4iOiAuMH0slmZjY0kljoiVzZVLVRFU1QtrkNDLUIEliwiY2JzZFNlcmhE51bWJlcil6IjY4NTMwMzlyNTAwMDA4liwic
HJvZmVzc2lvbmFsSW5zdGFsbGVyRGF0YSI6eyJjcGlZCI6IjEiLCJjcGLOYW1lIjoiMSIsImLuc3RhbmGxDXJ0aWZpY2F0aW9uVGl0ZSI6IjIwMTctMTA4MTFUMjA6MzA6
MDBaIn19",
    "protectedHeader": "eyJhbGciOiJSUzI1NiIsInR5cCI6IkpXVCJ9"
  },
  "fccId": "W6U-TEST-FCC-ID",
  "userId": "2"
}
]
}
2023-04-26T19:25:42.940Z - INFO - Registration message contains cpiSignatureData
2023-04-26T19:25:42.941Z - INFO - protectedHeader = {u'alg': u'RS256', u'typ': u'JWT'}
2023-04-26T19:25:42.944Z - INFO - encodedCpiSignedData contents = {
  "installationParam": {
    "heightType": "AGL",
    "longitude": 2.0,
    "antennaGain": 0.0,
    "indoorDeployment": true,
    "latitude": 22.0,
    "height": 2.0
  },
  "professionalInstallerData": {
    "cpiName": "1",
    "installCertificationTime": "2017-10-11T20:30:00Z",
    "cpid": "1"
  },
  "fccId": "W6U-TEST-FCC-ID",
  "cbidSerialNumber": "68530322500008"
}
2023-04-26T19:25:42.950Z - INFO - verified signature on cpiSignatureData
2023-04-26T19:25:42.956Z - INFO - cbidCategory= 'A', removing optional param from cpi_schema
2023-04-26T19:25:42.960Z - INFO - cpiSignatureData data successfully validated against jsonschema
2023-04-26T19:25:42.969Z - INFO - engine sent successfully, the response to CBRS : {
  "registrationResponse": [
    {
      "cbid": "W6U-TEST-FCC-IDMock-SAS68530322500008",
      "response": {
        "responseCode": 0
      }
    }
  ]
}
]

```



```

}
2023-04-26T19:25:43.061Z - INFO - heartbeat request from CBRS : {
  "heartbeatRequest": [
    {
      "cbsdId": "W6U-TEST-FCC-IDMock-SAS68530322500007",
      "grantId": "387817216",
      "operationState": "AUTHORIZED"
    }
  ]
}
2023-04-26T19:25:43.079Z - INFO - Time interval between two heartbeat request messages is: 0.415, limit is: 65.0
2023-04-26T19:25:43.128Z - INFO - engine sent successfully, the response to CBRS : {
  "heartbeatResponse": [
    {
      "cbsdId": "W6U-TEST-FCC-IDMock-SAS68530322500007",
      "grantId": "387817216",
      "response": {
        "responseCode": 0
      },
      "transmitExpireTime": "2023-04-26T19:29:03Z"
    }
  ]
}
2023-04-26T19:25:43.201Z - INFO - spectrumInquiry request from CBRS : {
  "spectrumInquiryRequest": [
    {
      "cbsdId": "W6U-TEST-FCC-IDMock-SAS68530322500008",
      "inquiredSpectrum": [
        {
          "highFrequency": 3700000000,
          "lowFrequency": 3550000000
        }
      ]
    }
  ]
}
2023-04-26T19:25:43.250Z - INFO - engine sent successfully, the response to CBRS : {
  "spectrumInquiryResponse": [
    {
      "availableChannel": [
        {
          "channelType": "GAA",
          "frequencyRange": {
            "highFrequency": 3700000000,
            "lowFrequency": 3550000000
          },
          "ruleApplied": "FCC_PART_96"
        }
      ],
      "cbsdId": "W6U-TEST-FCC-IDMock-SAS68530322500008",
      "response": {
        "responseCode": 0
      }
    }
  ]
}

```

```

    }
  ]
}
2023-04-26T19:25:43.348Z - INFO - heartbeat request from CBRS : {
  "heartbeatRequest": [
    {
      "cbsdId": "W6U-TEST-FCC-IDMock-SAS68530322500007",
      "grantId": "387817216",
      "operationState": "AUTHORIZED"
    }
  ]
}
2023-04-26T19:25:43.368Z - INFO - Time interval between two heartbeat request messages is: 0.288, limit is: 65.0
2023-04-26T19:25:43.410Z - INFO - engine sent successfully, the response to CBRS : {
  "heartbeatResponse": [
    {
      "cbsdId": "W6U-TEST-FCC-IDMock-SAS68530322500007",
      "grantId": "387817216",
      "response": {
        "responseCode": 0
      },
      "transmitExpireTime": "2023-04-26T19:29:03Z"
    }
  ]
}
2023-04-26T19:25:43.517Z - INFO - heartbeat request from CBRS : {
  "heartbeatRequest": [
    {
      "cbsdId": "W6U-TEST-FCC-IDMock-SAS68530322500007",
      "grantId": "387817216",
      "operationState": "AUTHORIZED"
    }
  ]
}
2023-04-26T19:25:43.532Z - INFO - Time interval between two heartbeat request messages is: 0.169, limit is: 65.0
2023-04-26T19:25:43.565Z - INFO - engine sent successfully, the response to CBRS : {
  "heartbeatResponse": [
    {
      "cbsdId": "W6U-TEST-FCC-IDMock-SAS68530322500007",
      "grantId": "387817216",
      "response": {
        "responseCode": 0
      },
      "transmitExpireTime": "2023-04-26T19:29:03Z"
    }
  ]
}
2023-04-26T19:25:43.647Z - INFO - spectrumInquiry request from CBRS : {
  "spectrumInquiryRequest": [
    {
      "cbsdId": "W6U-TEST-FCC-IDMock-SAS68530322500008",
      "inquiredSpectrum": [

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        "highFrequency": 3590030000.0,
        "lowFrequency": 3550030000.0
    }
}
}
}
}
2023-04-26T19:25:43.691Z - INFO - engine sent successfully, the response to CBRS : {
  "spectrumInquiryResponse": [
    {
      "availableChannel": [
        {
          "channelType": "GAA",
          "frequencyRange": {
            "highFrequency": 3590030000.0,
            "lowFrequency": 3550030000.0
          },
          "ruleApplied": "FCC_PART_96"
        }
      ],
      "cbsdId": "W6U-TEST-FCC-IDMock-SAS68530322500008",
      "response": {
        "responseCode": 0
      }
    }
  ]
}
2023-04-26T19:25:43.757Z - INFO - grant request from CBRS : {
  "grantRequest": [
    {
      "cbsdId": "W6U-TEST-FCC-IDMock-SAS68530322500008",
      "operationParam": {
        "maxEirp": 3.98,
        "operationFrequencyRange": {
          "highFrequency": 3590030000.0,
          "lowFrequency": 3550030000.0
        }
      }
    }
  ]
}
2023-04-26T19:25:43.802Z - INFO - engine sent successfully, the response to CBRS : {
  "grantResponse": [
    {
      "cbsdId": "W6U-TEST-FCC-IDMock-SAS68530322500008",
      "channelType": "GAA",
      "grantExpireTime": "2023-05-03T19:25:43Z",
      "grantId": "759606108",
      "heartbeatInterval": 60,
      "response": {
        "responseCode": 0
      }
    }
  ]
}

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    ]
  }
2023-04-26T19:25:43.894Z - INFO - heartbeat request from CBRS : {
  "heartbeatRequest": [
    {
      "cbsdId": "W6U-TEST-FCC-IDMock-SAS68530322500008",
      "grantId": "759606108",
      "grantRenew": true,
      "operationState": "GRANTED"
    }
  ]
}
2023-04-26T19:25:43.983Z - INFO - grantRenew received in HBT request message
2023-04-26T19:25:43.987Z - INFO - engine sent successfully, the response to CBRS : {
  "heartbeatResponse": [
    {
      "cbsdId": "W6U-TEST-FCC-IDMock-SAS68530322500008",
      "grantExpireTime": "2023-05-03T19:25:43Z",
      "grantId": "759606108",
      "response": {
        "responseCode": 0
      },
      "transmitExpireTime": "2023-04-26T19:29:03Z"
    }
  ]
}
2023-04-26T19:25:54.098Z - INFO - heartbeat request from CBRS : {
  "heartbeatRequest": [
    {
      "cbsdId": "W6U-TEST-FCC-IDMock-SAS68530322500007",
      "grantId": "387817216",
      "operationState": "AUTHORIZED"
    }
  ]
}
2023-04-26T19:25:54.117Z - INFO - Time interval between two heartbeat request messages is: 10.58, limit is: 65.0
2023-04-26T19:25:54.171Z - INFO - engine sent successfully, the response to CBRS : {
  "heartbeatResponse": [
    {
      "cbsdId": "W6U-TEST-FCC-IDMock-SAS68530322500007",
      "grantId": "387817216",
      "response": {
        "responseCode": 0
      },
      "transmitExpireTime": "2023-04-26T19:29:14Z"
    }
  ]
}
2023-04-26T19:25:54.260Z - INFO - heartbeat request from CBRS : {
  "heartbeatRequest": [
    {
      "cbsdId": "W6U-TEST-FCC-IDMock-SAS68530322500008",
      "grantId": "759606108",

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    "operationState": "AUTHORIZED"
  }
]
}
2023-04-26T19:25:54.273Z - INFO - Time interval between two heartbeat request messages is: 10.366, limit is: 65.0
2023-04-26T19:25:54.334Z - INFO - engine sent successfully, the response to CBRS : {
  "heartbeatResponse": [
    {
      "cbsdId": "W6U-TEST-FCC-IDMock-SAS68530322500008",
      "grantId": "759606108",
      "response": {
        "responseCode": 0
      },
      "transmitExpireTime": "2023-04-26T19:29:14Z"
    }
  ]
}
2023-04-26T19:26:24.448Z - INFO - heartbeat request from CBRS : {
  "heartbeatRequest": [
    {
      "cbsdId": "W6U-TEST-FCC-IDMock-SAS68530322500007",
      "grantId": "387817216",
      "operationState": "AUTHORIZED"
    }
  ]
}
2023-04-26T19:26:24.473Z - INFO - Time interval between two heartbeat request messages is: 30.351, limit is: 65.0
2023-04-26T19:26:24.516Z - INFO - engine sent successfully, the response to CBRS : {
  "heartbeatResponse": [
    {
      "cbsdId": "W6U-TEST-FCC-IDMock-SAS68530322500007",
      "grantId": "387817216",
      "response": {
        "responseCode": 0
      },
      "transmitExpireTime": "2023-04-26T19:29:44Z"
    }
  ]
}
2023-04-26T19:26:24.582Z - INFO - heartbeat request from CBRS : {
  "heartbeatRequest": [
    {
      "cbsdId": "W6U-TEST-FCC-IDMock-SAS68530322500008",
      "grantId": "759606108",
      "operationState": "AUTHORIZED"
    }
  ]
}
2023-04-26T19:26:24.596Z - INFO - Time interval between two heartbeat request messages is: 30.321, limit is: 65.0
2023-04-26T19:26:24.625Z - INFO - engine sent successfully, the response to CBRS : {
  "heartbeatResponse": [
    {
      "cbsdId": "W6U-TEST-FCC-IDMock-SAS68530322500008",

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    "grantId": "759606108",
    "response": {
      "responseCode": 0
    },
    "transmitExpireTime": "2023-04-26T19:29:44Z"
  }
}
}
2023-04-26T19:26:42.586Z - INFO - heartbeat request from CBRS : {
  "heartbeatRequest": [
    {
      "cbsdId": "W6U-TEST-FCC-IDMock-SAS68530322500007",
      "grantId": "387817216",
      "operationState": "AUTHORIZED"
    }
  ]
}
2023-04-26T19:26:42.608Z - INFO - Time interval between two heartbeat request messages is: 18.139, limit is: 65.0
2023-04-26T19:26:42.670Z - INFO - engine sent successfully, the response to CBRS : {
  "heartbeatResponse": [
    {
      "cbsdId": "W6U-TEST-FCC-IDMock-SAS68530322500007",
      "grantId": "387817216",
      "response": {
        "responseCode": 0
      },
      "transmitExpireTime": "2023-04-26T19:30:02Z"
    }
  ]
}
2023-04-26T19:26:42.776Z - INFO - heartbeat request from CBRS : {
  "heartbeatRequest": [
    {
      "cbsdId": "W6U-TEST-FCC-IDMock-SAS68530322500008",
      "grantId": "759606108",
      "operationState": "AUTHORIZED"
    }
  ]
}
2023-04-26T19:26:42.802Z - INFO - Time interval between two heartbeat request messages is: 18.195, limit is: 65.0
2023-04-26T19:26:42.858Z - INFO - engine sent successfully, the response to CBRS : {
  "heartbeatResponse": [
    {
      "cbsdId": "W6U-TEST-FCC-IDMock-SAS68530322500008",
      "grantId": "759606108",
      "response": {
        "responseCode": 0
      },
      "transmitExpireTime": "2023-04-26T19:30:02Z"
    }
  ]
}
2023-04-26T19:26:42.954Z - INFO - relinquishment request from CBRS : {

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"relinquishmentRequest": [
  {
    "cbsdId": "W6U-TEST-FCC-IDMock-SAS68530322500007",
    "grantId": "387817216"
  }
]
}
2023-04-26T19:26:43.025Z - INFO - engine sent successfully, the response to CBRS : {
  "relinquishmentResponse": [
    {
      "cbsdId": "W6U-TEST-FCC-IDMock-SAS68530322500007",
      "response": {
        "responseCode": 103,
        "responseData": [
          "grantId"
        ]
      }
    }
  ]
}
}
2023-04-26T19:26:49.943Z - INFO - heartbeat request from CBRS : {
  "heartbeatRequest": [
    {
      "cbsdId": "W6U-TEST-FCC-IDMock-SAS68530322500008",
      "grantId": "759606108",
      "operationState": "AUTHORIZED"
    }
  ]
}
}
2023-04-26T19:26:49.963Z - INFO - Time interval between two heartbeat request messages is: 7.166, limit is: 65.0
2023-04-26T19:26:50.022Z - INFO - engine sent successfully, the response to CBRS : {
  "heartbeatResponse": [
    {
      "cbsdId": "W6U-TEST-FCC-IDMock-SAS68530322500008",
      "grantId": "759606108",
      "response": {
        "responseCode": 0
      },
      "transmitExpireTime": "2023-04-26T19:30:10Z"
    }
  ]
}
}
2023-04-26T19:26:50.118Z - INFO - relinquishment request from CBRS : {
  "relinquishmentRequest": [
    {
      "cbsdId": "W6U-TEST-FCC-IDMock-SAS68530322500008",
      "grantId": "759606108"
    }
  ]
}
}
2023-04-26T19:26:50.184Z - INFO - engine sent successfully, the response to CBRS : {
  "relinquishmentResponse": [
    {

```



```
"cbsdId": "W6U-TEST-FCC-IDMock-SAS68530322500008",
"response": {
  "responseCode": 103,
  "responseData": [
    "grantId"
  ]
}
}
```

2023-04-26T19:26:51.782Z - INFO - arrived to nstep starting question answer session with the technician

2023-04-26T19:26:51.789Z - INFO - the question is : Did CBSD1 cease RF transmission before receipt of Relinquishment Request by Test Harness? please choose one of the answers :

2023-04-26T19:26:58.812Z - INFO - for the question : Did CBSD1 cease RF transmission before receipt of Relinquishment Request by Test Harness? , the user choose y

2023-04-26T19:26:58.818Z - INFO - the question is : Did CBSD2 cease RF transmission before receipt of Relinquishment Request by Test Harness? please choose one of the answers :

2023-04-26T19:27:00.510Z - INFO - for the question : Did CBSD2 cease RF transmission before receipt of Relinquishment Request by Test Harness? , the user choose y

2023-04-26T19:28:01.977Z - INFO - The final result of the test : WINNF.FT.D.RLQ.6 is - passed and :the additional comments for the current test are : CBSD's Cease RF TX and responsecode 103

10.26 Log file for test case ID: WINNF.FT.D.DRG.2

2023-04-26T19:50:06.815Z - INFO - WINNF TEST HARNESS RELEASE: 1.0.0.3 - 2018-November-13

2023-04-26T19:50:06.839Z - INFO - the selected test from the user : WINNF.FT.D.DRG.2 is starting now

2023-04-26T19:50:08.519Z - INFO - registration request from CBRS : {

```

"registrationRequest": {
  {
    "airInterface": {
      "radioTechnology": "NR"
    },
    "callSign": "1",
    "cbsdCategory": "A",
    "cbsdInfo": {
      "firmwareVersion": "1.1.10 ()",
      "hardwareVersion": "0.0.1",
      "model": "O-RU",
      "softwareVersion": "0.2.4 ()",
      "vendor": "SOLiD"
    },
    "cbsdSerialNumber": "68530322500007",
    "cpiSignatureData": {
      "digitalSignature": "AR5MaDlzi5_qJGKAmdXCUYzoiDxUWghcxP_oJXuoi2xq1K2B22_gHAL6HcpvWjYkBuHR4Br0gY81Le21Wrdc3yZHreFOV1iKJCF-1GWGdpXNWZfuqRXj6-hIEA9s5dlmQtu_Q2Z2UEXpqISwn6xtBY7k1ql6yenllQ4nV7C0iRxt9L7AeubAFSLIDc3twXBrrbLbbRgtckEAPbi2VgOAU4dkMuMydrYzolkQVNV4Nei9uL9r3rgaEfCmHWVviex18_6kELxJ_QJYnU3P_N2siY81q57jE6AeJpWm3qa4n8Vm9Bdjv-riOZJ_E6-Mq7HhoF5EK4hLI9tNC_T5fpnYMOA",
      "encodedCpiSignedData":
"eyJpbmN0YWxsYXRpb25QYXJhbSI6eyJsYXRpdHVkZSI6MS4wLjCj5b25naXR1ZGUiOiJEUmMCwiaGVpZ2h0IjoxLjAsImhlaWdodFR5cGUiOiJBROwiLCJpbmRvb3JEZXBsb3ltZW50Ijpb02cnVlLCJhbnRlbn5hR2Fpbil6MC4wfSwiZmNjSWQ0iXNlU0tVEVTVVC1GQOMtSUQILCJjYnNkU2VyaWFsTnVtYmVyljoiNjg1MzAzMjI1MDAwMDciLCJwcm9mZXNzaW9uYWxJbnN0YWxsZXJlYXRoIjpb7ImNwaUlkljoiMTEwIiwiaW53BpTmFtZSI6IjEiLCJpbmN0YWxsQ2VydGlmaWNhdGlvbiRpbWUiOiilyMDE3LTcwLTExVDIwOjMwOjAwWiI9fQ",
      "protectedHeader": "eyJhbGciOiJSUzI1NiIsInR5cCI6IkpXVCJ9"
    },
    "fccId": "W6U-TEST-FCC-ID",
    "userId": "1"
  }
}
]
}

```

2023-04-26T19:50:08.950Z - INFO - Registration message contains cpiSignatureData

2023-04-26T19:50:08.950Z - INFO - protectedHeader = {u'alg': u'RS256', u'typ': u'JWT'}

2023-04-26T19:50:08.953Z - INFO - encodedCpiSignedData contents = {

```
{
  "installationParam": {
    "heightType": "AGL",
    "longitude": 1.0,
    "antennaGain": 0.0,
    "indoorDeployment": true,
    "latitude": 1.0,
    "height": 1.0
  },
  "professionalInstallerData": {
    "cpiName": "1",
    "installCertificationTime": "2017-10-11T20:30:00Z",
    "cpild": "111"
  },
  "fccId": "W6U-TEST-FCC-ID",
}
```

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Nemko San Diego, a testing laboratory, is a authorized test lab (ATL) by the CBRS Alliance for standard WINNF-TS-0122

```

    "cbsdSerialNumber": "68530322500007"
  }
2023-04-26T19:50:08.996Z - INFO - verified signature on cpiSignatureData
2023-04-26T19:50:09.036Z - INFO - cbsdCategory= 'A', removing optional param from cpi_schema
2023-04-26T19:50:09.039Z - INFO - cpiSignatureData data successfully validated against jsonschema
2023-04-26T19:50:09.049Z - INFO - engine sent successfully, the response to CBRS : {
  "registrationResponse": [
    {
      "cbsdId": "W6U-TEST-FCC-IDMock-SAS68530322500007",
      "response": {
        "responseCode": 0
      }
    }
  ]
}
2023-04-26T19:50:09.147Z - INFO - spectrumInquiry request from CBRS : {
  "spectrumInquiryRequest": [
    {
      "cbsdId": "W6U-TEST-FCC-IDMock-SAS68530322500007",
      "inquiredSpectrum": [
        {
          "highFrequency": 3700000000,
          "lowFrequency": 3550000000
        }
      ]
    }
  ]
}
2023-04-26T19:50:09.246Z - INFO - engine sent successfully, the response to CBRS : {
  "spectrumInquiryResponse": [
    {
      "availableChannel": [
        {
          "channelType": "GAA",
          "frequencyRange": {
            "highFrequency": 3700000000,
            "lowFrequency": 3550000000
          },
          "ruleApplied": "FCC_PART_96"
        }
      ],
      "cbsdId": "W6U-TEST-FCC-IDMock-SAS68530322500007",
      "response": {
        "responseCode": 0
      }
    }
  ]
}
2023-04-26T19:50:09.357Z - INFO - spectrumInquiry request from CBRS : {
  "spectrumInquiryRequest": [
    {
      "cbsdId": "W6U-TEST-FCC-IDMock-SAS68530322500007",
      "inquiredSpectrum": [

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    {
      "highFrequency": 3590030000.0,
      "lowFrequency": 3550030000.0
    }
  ]
}
}
}
2023-04-26T19:50:09.392Z - INFO - engine sent successfully, the response to CBRS : {
  "spectrumInquiryResponse": [
    {
      "availableChannel": [
        {
          "channelType": "GAA",
          "frequencyRange": {
            "highFrequency": 3590030000.0,
            "lowFrequency": 3550030000.0
          },
          "ruleApplied": "FCC_PART_96"
        }
      ],
      "cbsdId": "W6U-TEST-FCC-IDMock-SAS68530322500007",
      "response": {
        "responseCode": 0
      }
    }
  ]
}
2023-04-26T19:50:09.457Z - INFO - grant request from CBRS : {
  "grantRequest": [
    {
      "cbsdId": "W6U-TEST-FCC-IDMock-SAS68530322500007",
      "operationParam": {
        "maxEirp": 3.98,
        "operationFrequencyRange": {
          "highFrequency": 3590030000.0,
          "lowFrequency": 3550030000.0
        }
      }
    }
  ]
}
2023-04-26T19:50:09.542Z - INFO - engine sent successfully, the response to CBRS : {
  "grantResponse": [
    {
      "cbsdId": "W6U-TEST-FCC-IDMock-SAS68530322500007",
      "channelType": "GAA",
      "grantExpireTime": "2023-05-03T19:50:09Z",
      "grantId": "253434552",
      "heartbeatInterval": 60,
      "response": {
        "responseCode": 0
      }
    }
  ]
}

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    }
  ]
}
2023-04-26T19:50:09.627Z - INFO - heartbeat request from CBRS : {
  "heartbeatRequest": [
    {
      "cbsdId": "W6U-TEST-FCC-IDMock-SAS68530322500007",
      "grantId": "253434552",
      "grantRenew": true,
      "operationState": "GRANTED"
    }
  ]
}
2023-04-26T19:50:09.730Z - INFO - grantRenew received in HBT request message
2023-04-26T19:50:09.734Z - INFO - engine sent successfully, the response to CBRS : {
  "heartbeatResponse": [
    {
      "cbsdId": "W6U-TEST-FCC-IDMock-SAS68530322500007",
      "grantExpireTime": "2023-05-03T19:50:09Z",
      "grantId": "253434552",
      "response": {
        "responseCode": 0
      },
      "transmitExpireTime": "2023-04-26T19:53:29Z"
    }
  ]
}
2023-04-26T19:50:18.144Z - INFO - heartbeat request from CBRS : {
  "heartbeatRequest": [
    {
      "cbsdId": "W6U-TEST-FCC-IDMock-SAS68530322500007",
      "grantId": "253434552",
      "operationState": "AUTHORIZED"
    }
  ]
}
2023-04-26T19:50:18.158Z - INFO - Time interval between two heartbeat request messages is: 8.518, limit is: 65.0
2023-04-26T19:50:18.211Z - INFO - engine sent successfully, the response to CBRS : {
  "heartbeatResponse": [
    {
      "cbsdId": "W6U-TEST-FCC-IDMock-SAS68530322500007",
      "grantId": "253434552",
      "response": {
        "responseCode": 0
      },
      "transmitExpireTime": "2023-04-26T19:53:38Z"
    }
  ]
}
2023-04-26T19:50:18.283Z - INFO - heartbeat request from CBRS : {
  "heartbeatRequest": [
    {
      "cbsdId": "W6U-TEST-FCC-IDMock-SAS68530322500007",

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    "grantId": "253434552",
    "operationState": "AUTHORIZED"
  }
}
}
2023-04-26T19:50:18.299Z - INFO - Time interval between two heartbeat request messages is: 0.139, limit is: 65.0
2023-04-26T19:50:18.345Z - INFO - engine sent successfully, the response to CBRS : {
  "heartbeatResponse": [
    {
      "cbsdId": "W6U-TEST-FCC-IDMock-SAS68530322500007",
      "grantId": "253434552",
      "response": {
        "responseCode": 0
      },
      "transmitExpireTime": "2023-04-26T19:53:38Z"
    }
  ]
}
}
2023-04-26T19:50:18.443Z - INFO - registration request from CBRS : {
  "registrationRequest": [
    {
      "airInterface": {
        "radioTechnology": "NR"
      },
      "callSign": "2",
      "cbsdCategory": "A",
      "cbsdInfo": {
        "firmwareVersion": "1.1.10 ()",
        "hardwareVersion": "0.0.1",
        "model": "O-RU",
        "softwareVersion": "0.2.4 ()",
        "vendor": "SOLiD"
      },
      "cbsdSerialNumber": "68530322500008",
      "cpiSignatureData": {
        "digitalSignature": "zt4hd5YbgTxJL7oSoSbdmXGklpZRCkpEjVg6bRRu7gOZ86AbhbObj868zbDY3wXZVe4VmUIXIfw09BouoqqsmjUQzLnsMca-
KuFlkOwevut7e-VklecYD0Dlb8tzppgryBWqD2eWMvWWBmFGwm4yuk0tiDL_B9iKNHO2fNWuULchQfBb9ghyil7hOOSoENZMXqwa-
_DVAKP8Zs23PT16XxZzH6hbns1Z7PN3F-CmuH1KPJVfKUt0VGIldLYSOK-
EGdp6TPaj8uwZGIOPChT6L2E4tWUdKD5nNH5Wi1YVCZpRHmz3qeW1axyfshakWgqphM3QoXvRLs9Kb_hkyzT_g",
        "encodedCpiSignedData":
"eyJpbmN0YWxsYXRpb25QYXJhbSI6eyJsYXRpdHVkZSI6MjluMCwibG9uZ2l0dWRlIjoyLjAsImhlaWdodCI6Mi4wLCJoZWlnaHRUeXBlljoiQUdMliwiaW5kb29yRGVw
bG95bWVudCI6dHJ1ZSwiYW50ZW5uYUdhaW4iOiJhbmh0slmZjY0IkljoiVzZVLVRFU1QtRkNDLUiEliwiY2JzZFNlcmllbE51bWJlciI6IjY4NTMwMzlyNTAwMDA4Iiwic
HJvZmVzZ2lvbmFsSW5zdGFsbGVyRGF0YSI6eyJjcGljZCI6IjEiLCJjcGlOYW1lIjoyMSIsImIuc3RhbmGxZDZlOaWZpY2F0aW9uVGltZSI6IjIwMTctMTAtMTFUMjA6MzA6
MDBaIn19",
        "protectedHeader": "eyJhbGciOiJSUzI1NiIsInR5cCI6IkpXVCJ9"
      },
      "fcclId": "W6U-TEST-FCC-ID",
      "userId": "2"
    }
  ]
}
}
2023-04-26T19:50:18.568Z - INFO - Registration message contains cpiSignatureData
2023-04-26T19:50:18.569Z - INFO - protectedHeader = {u'alg': u'RS256', u'typ': u'JWT'}
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2023-04-26T19:50:18.573Z - INFO - encodedCpiSignedData contents = {
  "installationParam": {
    "heightType": "AGL",
    "longitude": 2.0,
    "antennaGain": 0.0,
    "indoorDeployment": true,
    "latitude": 22.0,
    "height": 2.0
  },
  "professionalInstallerData": {
    "cpiName": "1",
    "installCertificationTime": "2017-10-11T20:30:00Z",
    "cpild": "1"
  },
  "fccId": "W6U-TEST-FCC-ID",
  "cbsdSerialNumber": "68530322500008"
}
2023-04-26T19:50:18.579Z - INFO - verified signature on cpiSignatureData
2023-04-26T19:50:18.585Z - INFO - cbsdCategory= 'A', removing optional param from cpi_schema
2023-04-26T19:50:18.588Z - INFO - cpiSignatureData data successfully validated against jsonschema
2023-04-26T19:50:18.596Z - INFO - engine sent successfully, the response to CBRS : {
  "registrationResponse": [
    {
      "cbsdId": "W6U-TEST-FCC-IDMock-SAS68530322500008",
      "response": {
        "responseCode": 0
      }
    }
  ]
}
2023-04-26T19:50:18.667Z - INFO - heartbeat request from CBRS : {
  "heartbeatRequest": [
    {
      "cbsdId": "W6U-TEST-FCC-IDMock-SAS68530322500007",
      "grantId": "253434552",
      "operationState": "AUTHORIZED"
    }
  ]
}
2023-04-26T19:50:18.680Z - INFO - Time interval between two heartbeat request messages is: 0.384, limit is: 65.0
2023-04-26T19:50:18.716Z - INFO - engine sent successfully, the response to CBRS : {
  "heartbeatResponse": [
    {
      "cbsdId": "W6U-TEST-FCC-IDMock-SAS68530322500007",
      "grantId": "253434552",
      "response": {
        "responseCode": 0
      },
      "transmitExpireTime": "2023-04-26T19:53:38Z"
    }
  ]
}
2023-04-26T19:50:18.818Z - INFO - heartbeat request from CBRS : {

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"heartbeatRequest": [
  {
    "cbsdId": "W6U-TEST-FCC-IDMock-SAS68530322500007",
    "grantId": "253434552",
    "operationState": "AUTHORIZED"
  }
]
}
2023-04-26T19:50:18.834Z - INFO - Time interval between two heartbeat request messages is: 0.15, limit is: 65.0
2023-04-26T19:50:18.890Z - INFO - engine sent successfully, the response to CBRS : {
  "heartbeatResponse": [
    {
      "cbsdId": "W6U-TEST-FCC-IDMock-SAS68530322500007",
      "grantId": "253434552",
      "response": {
        "responseCode": 0
      },
      "transmitExpireTime": "2023-04-26T19:53:38Z"
    }
  ]
}
2023-04-26T19:50:18.953Z - INFO - spectrumInquiry request from CBRS : {
  "spectrumInquiryRequest": [
    {
      "cbsdId": "W6U-TEST-FCC-IDMock-SAS68530322500008",
      "inquiredSpectrum": [
        {
          "highFrequency": 3700000000,
          "lowFrequency": 3550000000
        }
      ]
    }
  ]
}
2023-04-26T19:50:18.992Z - INFO - engine sent successfully, the response to CBRS : {
  "spectrumInquiryResponse": [
    {
      "availableChannel": [
        {
          "channelType": "GAA",
          "frequencyRange": {
            "highFrequency": 3700000000,
            "lowFrequency": 3550000000
          },
          "ruleApplied": "FCC_PART_96"
        }
      ],
      "cbsdId": "W6U-TEST-FCC-IDMock-SAS68530322500008",
      "response": {
        "responseCode": 0
      }
    }
  ]
}

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}
2023-04-26T19:50:19.078Z - INFO - heartbeat request from CBRS : {
  "heartbeatRequest": [
    {
      "cbsdId": "W6U-TEST-FCC-IDMock-SAS68530322500007",
      "grantId": "253434552",
      "operationState": "AUTHORIZED"
    }
  ]
}
2023-04-26T19:50:19.092Z - INFO - Time interval between two heartbeat request messages is: 0.262, limit is: 65.0
2023-04-26T19:50:19.125Z - INFO - engine sent successfully, the response to CBRS : {
  "heartbeatResponse": [
    {
      "cbsdId": "W6U-TEST-FCC-IDMock-SAS68530322500007",
      "grantId": "253434552",
      "response": {
        "responseCode": 0
      },
      "transmitExpireTime": "2023-04-26T19:53:39Z"
    }
  ]
}
2023-04-26T19:50:19.207Z - INFO - spectrumInquiry request from CBRS : {
  "spectrumInquiryRequest": [
    {
      "cbsdId": "W6U-TEST-FCC-IDMock-SAS68530322500008",
      "inquiredSpectrum": [
        {
          "highFrequency": 3590030000.0,
          "lowFrequency": 3550030000.0
        }
      ]
    }
  ]
}
2023-04-26T19:50:19.262Z - INFO - engine sent successfully, the response to CBRS : {
  "spectrumInquiryResponse": [
    {
      "availableChannel": [
        {
          "channelType": "GAA",
          "frequencyRange": {
            "highFrequency": 3590030000.0,
            "lowFrequency": 3550030000.0
          },
          "ruleApplied": "FCC_PART_96"
        }
      ],
      "cbsdId": "W6U-TEST-FCC-IDMock-SAS68530322500008",
      "response": {
        "responseCode": 0
      }
    }
  ]
}

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    }
  ]
}
2023-04-26T19:50:19.348Z - INFO - grant request from CBRS : {
  "grantRequest": [
    {
      "cbsdId": "W6U-TEST-FCC-IDMock-SAS68530322500008",
      "operationParam": {
        "maxEirp": 3.98,
        "operationFrequencyRange": {
          "highFrequency": 3590030000.0,
          "lowFrequency": 3550030000.0
        }
      }
    }
  ]
}
2023-04-26T19:50:19.414Z - INFO - engine sent successfully, the response to CBRS : {
  "grantResponse": [
    {
      "cbsdId": "W6U-TEST-FCC-IDMock-SAS68530322500008",
      "channelType": "GAA",
      "grantExpireTime": "2023-05-03T19:50:19Z",
      "grantId": "606724667",
      "heartbeatInterval": 60,
      "response": {
        "responseCode": 0
      }
    }
  ]
}
2023-04-26T19:50:19.479Z - INFO - heartbeat request from CBRS : {
  "heartbeatRequest": [
    {
      "cbsdId": "W6U-TEST-FCC-IDMock-SAS68530322500008",
      "grantId": "606724667",
      "grantRenew": true,
      "operationState": "GRANTED"
    }
  ]
}
2023-04-26T19:50:19.543Z - INFO - grantRenew received in HBT request message
2023-04-26T19:50:19.549Z - INFO - engine sent successfully, the response to CBRS : {
  "heartbeatResponse": [
    {
      "cbsdId": "W6U-TEST-FCC-IDMock-SAS68530322500008",
      "grantExpireTime": "2023-05-03T19:50:19Z",
      "grantId": "606724667",
      "response": {
        "responseCode": 0
      },
      "transmitExpireTime": "2023-04-26T19:53:39Z"
    }
  ]
}

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    ]
  }
2023-04-26T19:50:19.647Z - INFO - heartbeat request from CBRS : {
  "heartbeatRequest": [
    {
      "cbsdId": "W6U-TEST-FCC-IDMock-SAS68530322500007",
      "grantId": "253434552",
      "operationState": "AUTHORIZED"
    }
  ]
}
2023-04-26T19:50:19.664Z - INFO - Time interval between two heartbeat request messages is: 0.568, limit is: 65.0
2023-04-26T19:50:19.717Z - INFO - engine sent successfully, the response to CBRS : {
  "heartbeatResponse": [
    {
      "cbsdId": "W6U-TEST-FCC-IDMock-SAS68530322500007",
      "grantId": "253434552",
      "response": {
        "responseCode": 0
      },
      "transmitExpireTime": "2023-04-26T19:53:39Z"
    }
  ]
}
2023-04-26T19:50:19.808Z - INFO - heartbeat request from CBRS : {
  "heartbeatRequest": [
    {
      "cbsdId": "W6U-TEST-FCC-IDMock-SAS68530322500008",
      "grantId": "606724667",
      "operationState": "AUTHORIZED"
    }
  ]
}
2023-04-26T19:50:19.825Z - INFO - Time interval between two heartbeat request messages is: 0.33, limit is: 65.0
2023-04-26T19:50:19.874Z - INFO - engine sent successfully, the response to CBRS : {
  "heartbeatResponse": [
    {
      "cbsdId": "W6U-TEST-FCC-IDMock-SAS68530322500008",
      "grantId": "606724667",
      "response": {
        "responseCode": 0
      },
      "transmitExpireTime": "2023-04-26T19:53:39Z"
    }
  ]
}
2023-04-26T19:50:49.963Z - INFO - heartbeat request from CBRS : {
  "heartbeatRequest": [
    {
      "cbsdId": "W6U-TEST-FCC-IDMock-SAS68530322500007",
      "grantId": "253434552",
      "operationState": "AUTHORIZED"
    }
  ]
}

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    ]
  }
2023-04-26T19:50:49.982Z - INFO - Time interval between two heartbeat request messages is: 30.315, limit is: 65.0
2023-04-26T19:50:50.030Z - INFO - engine sent successfully, the response to CBRS : {
  "heartbeatResponse": [
    {
      "cbsdId": "W6U-TEST-FCC-IDMock-SAS68530322500007",
      "grantId": "253434552",
      "response": {
        "responseCode": 0
      },
      "transmitExpireTime": "2023-04-26T19:54:10Z"
    }
  ]
}
2023-04-26T19:50:50.095Z - INFO - heartbeat request from CBRS : {
  "heartbeatRequest": [
    {
      "cbsdId": "W6U-TEST-FCC-IDMock-SAS68530322500008",
      "grantId": "606724667",
      "operationState": "AUTHORIZED"
    }
  ]
}
2023-04-26T19:50:50.108Z - INFO - Time interval between two heartbeat request messages is: 30.286, limit is: 65.0
2023-04-26T19:50:50.145Z - INFO - engine sent successfully, the response to CBRS : {
  "heartbeatResponse": [
    {
      "cbsdId": "W6U-TEST-FCC-IDMock-SAS68530322500008",
      "grantId": "606724667",
      "response": {
        "responseCode": 0
      },
      "transmitExpireTime": "2023-04-26T19:54:10Z"
    }
  ]
}
2023-04-26T19:51:19.907Z - INFO - heartbeat request from CBRS : {
  "heartbeatRequest": [
    {
      "cbsdId": "W6U-TEST-FCC-IDMock-SAS68530322500007",
      "grantId": "253434552",
      "operationState": "AUTHORIZED"
    }
  ]
}
2023-04-26T19:51:19.931Z - INFO - Time interval between two heartbeat request messages is: 29.945, limit is: 65.0
2023-04-26T19:51:19.996Z - INFO - engine sent successfully, the response to CBRS : {
  "heartbeatResponse": [
    {
      "cbsdId": "W6U-TEST-FCC-IDMock-SAS68530322500007",
      "grantId": "253434552",
      "response": {

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        "responseCode": 0
    },
    "transmitExpireTime": "2023-04-26T19:54:39Z"
}
]
}
2023-04-26T19:51:20.078Z - INFO - heartbeat request from CBRS : {
  "heartbeatRequest": [
    {
      "cbsdId": "W6U-TEST-FCC-IDMock-SAS68530322500008",
      "grantId": "606724667",
      "operationState": "AUTHORIZED"
    }
  ]
}
2023-04-26T19:51:20.092Z - INFO - Time interval between two heartbeat request messages is: 29.985, limit is: 65.0
2023-04-26T19:51:20.155Z - INFO - engine sent successfully, the response to CBRS : {
  "heartbeatResponse": [
    {
      "cbsdId": "W6U-TEST-FCC-IDMock-SAS68530322500008",
      "grantId": "606724667",
      "response": {
        "responseCode": 0
      },
      "transmitExpireTime": "2023-04-26T19:54:40Z"
    }
  ]
}
2023-04-26T19:51:20.243Z - INFO - relinquishment request from CBRS : {
  "relinquishmentRequest": [
    {
      "cbsdId": "W6U-TEST-FCC-IDMock-SAS68530322500007",
      "grantId": "253434552"
    }
  ]
}
2023-04-26T19:51:20.346Z - INFO - engine sent successfully, the response to CBRS : {
  "relinquishmentResponse": [
    {
      "cbsdId": "W6U-TEST-FCC-IDMock-SAS68530322500007",
      "grantId": "253434552",
      "response": {
        "responseCode": 0
      }
    }
  ]
}
2023-04-26T19:51:20.430Z - INFO - heartbeat request from CBRS : {
  "heartbeatRequest": [
    {
      "cbsdId": "W6U-TEST-FCC-IDMock-SAS68530322500008",
      "grantId": "606724667",
      "operationState": "AUTHORIZED"
    }
  ]
}

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    }
  ]
}
2023-04-26T19:51:20.447Z - INFO - Time interval between two heartbeat request messages is: 0.352, limit is: 65.0
2023-04-26T19:51:20.496Z - INFO - engine sent successfully, the response to CBRS : {
  "heartbeatResponse": [
    {
      "cbsdId": "W6U-TEST-FCC-IDMock-SAS68530322500008",
      "grantId": "606724667",
      "response": {
        "responseCode": 0
      },
      "transmitExpireTime": "2023-04-26T19:54:40Z"
    }
  ]
}
2023-04-26T19:51:33.463Z - INFO - heartbeat request from CBRS : {
  "heartbeatRequest": [
    {
      "cbsdId": "W6U-TEST-FCC-IDMock-SAS68530322500008",
      "grantId": "606724667",
      "operationState": "AUTHORIZED"
    }
  ]
}
2023-04-26T19:51:33.480Z - INFO - Time interval between two heartbeat request messages is: 13.032, limit is: 65.0
2023-04-26T19:51:33.532Z - INFO - engine sent successfully, the response to CBRS : {
  "heartbeatResponse": [
    {
      "cbsdId": "W6U-TEST-FCC-IDMock-SAS68530322500008",
      "grantId": "606724667",
      "response": {
        "responseCode": 0
      },
      "transmitExpireTime": "2023-04-26T19:54:53Z"
    }
  ]
}
2023-04-26T19:51:33.630Z - INFO - relinquishment request from CBRS : {
  "relinquishmentRequest": [
    {
      "cbsdId": "W6U-TEST-FCC-IDMock-SAS68530322500008",
      "grantId": "606724667"
    }
  ]
}
2023-04-26T19:51:33.681Z - INFO - engine sent successfully, the response to CBRS : {
  "relinquishmentResponse": [
    {
      "cbsdId": "W6U-TEST-FCC-IDMock-SAS68530322500008",
      "grantId": "606724667",
      "response": {
        "responseCode": 0
      }
    }
  ]
}

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    }
  }
]
}
2023-04-26T19:52:15.240Z - INFO - deregistration request from CBRS : {
  "deregistrationRequest": [
    {
      "cbsdId": "W6U-TEST-FCC-IDMock-SAS68530322500008"
    }
  ]
}
2023-04-26T19:52:15.319Z - INFO - engine sent successfully, the response to CBRS : {
  "deregistrationResponse": [
    {
      "cbsdId": "W6U-TEST-FCC-IDMock-SAS68530322500008",
      "response": {
        "responseCode": 0
      }
    }
  ]
}
2023-04-26T19:52:15.456Z - INFO - registration request from CBRS : {
  "registrationRequest": [
    {
      "airInterface": {
        "radioTechnology": "NR"
      },
      "callSign": "2",
      "cbsdCategory": "A",
      "cbsdInfo": {
        "firmwareVersion": "1.1.10 ()",
        "hardwareVersion": "0.0.1",
        "model": "O-RU",
        "softwareVersion": "0.2.4 ()",
        "vendor": "SOLiD"
      },
      "cbsdSerialNumber": "68530322500008",
      "cpiSignatureData": {
        "digitalSignature": "zt4hd5YbgTxJL7oSoSbdmXGklpZRCkpEjVg6bRRu7gOZ86AbhbObj868zbDY3wXZVe4VmUIXlfw09BouoqqsmjUQzLnsMca-
KuFlkOwevut7e-VklecYD0DiB8tzppgryBWQd2eWMvWWBmFGwm4yuk0tIDL_B9iKNHO2fNWuULchQfBb9ghyil7hOOSoENZMXqwa-
_DVAKP8Zs23PT16XxZzH6hbns1Z7PN3F-CmuH1KPJVfKUt0VGIdLYSOK-
EGdp6TPaj8uwZGiOPCht6L2E4tWUDKD5nNH5Wi1YVCZpRHmz3qeW1axyfshakWgqphM3QoXvRLs9Kb_hkyzT_g",
        "encodedCpiSignedData":
"eyJpbmNOYWxsYXRpb25QYXJhbSI6eyJsYXRpdHVkZSI6MjluMCwibG9uZ2I0dWRlljoyLjAsImhlaWdodCI6Mi4wLCJoZWlnaHRUeXBlljoiQUdMliwiaW5kb29yRGVw
bG95bWVudCI6dHJ1ZSwiYW50ZW5uYUdhaW4iOiAuMH0sImZjY0lkljoiVzZVLVRFU1QtRkNDLUiEliwiY2JzZFNlcmllbE51bWJlcil6IjY4NTMwMzlyNTAwMDA4liwic
HJvZmVzc2lvbmFsSW5zdGFsbGVyRGF0YSI6eyJjcGljZCI6IjEiLCJjcGLOYW1lIjoiMSIsImIuc3RhbmGxDXJ0aWZpY2F0aW9uVGl0ZSI6IjIwMTctMTAtMTFUMjA6MzA6
MDBaIn19",
        "protectedHeader": "eyJhbGciOiJIUzI1NiIsInR5cCI6IkpXVCJ9"
      },
      "fccId": "W6U-TEST-FCC-ID",
      "userId": "2"
    }
  ]
}

```



```

}
2023-04-26T19:52:15.459Z - INFO - engine sent successfully, the response to CBRS : {
  "registrationResponse": [
    {
      "response": {
        "responseCode": 200
      }
    }
  ]
}
2023-04-26T19:52:41.585Z - INFO - deregistration request from CBRS : {
  "deregistrationRequest": [
    {
      "cbsdId": "W6U-TEST-FCC-IDMock-SAS68530322500007"
    }
  ]
}
2023-04-26T19:52:41.660Z - INFO - engine sent successfully, the response to CBRS : {
  "deregistrationResponse": [
    {
      "cbsdId": "W6U-TEST-FCC-IDMock-SAS68530322500007",
      "response": {
        "responseCode": 0
      }
    }
  ]
}
2023-04-26T19:52:43.414Z - INFO - arrived to nstep starting question answer session with the technician
2023-04-26T19:52:43.433Z - INFO - the question is : Did CBSD1 cease RF transmission before receipt of Relinquishment request (if sent) or Deregistration request at Test Harness? please choose one of the answers :
2023-04-26T19:53:24.717Z - INFO - for the question : Did CBSD1 cease RF transmission before receipt of Relinquishment request (if sent) or Deregistration request at Test Harness? , the user choose y
2023-04-26T19:53:24.720Z - INFO - the question is : Did CBSD2 cease RF transmission before receipt of Relinquishment request (if sent) or Deregistration request at Test Harness? please choose one of the answers :
2023-04-26T19:53:31.997Z - INFO - for the question : Did CBSD2 cease RF transmission before receipt of Relinquishment request (if sent) or Deregistration request at Test Harness? , the user choose y
2023-04-26T19:53:49.013Z - INFO - The final result of the test : WINNF.FT.D.DRG.2 is - passed and :the additional comments for the current test are : CBSD's Cease Tx

```

10.27 Log file for test case ID: WINNF.FT.D.DRG.4

2023-04-26T19:58:08.263Z - INFO - WINNF TEST HARNESS RELEASE: 1.0.0.3 - 2018-November-13

2023-04-26T19:58:08.266Z - INFO - the selected test from the user : WINNF.FT.D.DRG.4 is starting now

2023-04-26T19:58:12.480Z - INFO - registration request from CBRS : {

```

"registrationRequest": {
  {
    "airInterface": {
      "radioTechnology": "NR"
    },
    "callSign": "1",
    "cbsdCategory": "A",
    "cbsdInfo": {
      "firmwareVersion": "1.1.10 ()",
      "hardwareVersion": "0.0.1",
      "model": "O-RU",
      "softwareVersion": "0.2.4 ()",
      "vendor": "SOLiD"
    },
    "cbsdSerialNumber": "68530322500007",
    "cpiSignatureData": {
      "digitalSignature": "AR5MaDlzi5_qJGKAmdXCUYzDjDxUWghcxP_oJXuoi2xq1K2B22_gHAL6HcpvWjYkBuHR4Br0gY81Le21Wrdc3yZHreFOV1iKJCF-1GWGdpXNWZfuqRXj6-hIEA9s5dlmQtu_Q2Z2UEXpqISwn6xtBY7k1ql6yenllQ4nV7C0iRxt9L7AeubAFSLIDc3twXBrrbLbbRgtckEAPbi2VgOAU4dkMuMydrYzolkQVNV4Nei9uL9r3rgaEfCmHWVviex18_6kELx_IQYnU3P_N2siY81q57jE6AeJpWm3qa4n8Vm9Bdjv-riOZJ_E6-Mq7HhoF5EK4hLI9tNC_T5fpnYMOA",
      "encodedCpiSignedData":
"eyJpbmN0YWxsYXRpb25QYXJhbSI6eyJsYXRpdHVkZSI6MS4wLjCj5b25naXR1ZGUiOiJEUmMCwiaGVpZ2h0IjoxLjAsImhlaWdodFR5cGUiOiJBROwiLCJpbmRvb3JlZXBsY3ltZW50IjpbQ2cnVlLCJhbnRlbn5hR2Fpbil6MC4wfSwiZmNjSWQ0iXNlUutVEVTVc1GQOMtSUQILCjYnNkU2VyaWFsTnVtYmVyljoiNjg1MzAzMjI1MDAwMDciLCJwcm9mZXNzaW9uYWxjbN0YWxsZXJlYXRhIjpb7ImNwaUlkljoiMTEwIiwiaW53BpTmFtZSI6IjEiLCJpbmN0YWxsQ2VydGlmaWNhdGlvbiRpbWUiOiilyMDE3LTcwLTExVjEwOjMwOjAwWiI9fQ",
      "protectedHeader": "eyJhbGciOiJSUzI1NiIsInR5cCI6IkpXVCJ9"
    },
    "fccId": "W6U-TEST-FCC-ID",
    "userId": "1"
  }
}
]
}

```

2023-04-26T19:58:13.061Z - INFO - Registration message contains cpiSignatureData

2023-04-26T19:58:13.075Z - INFO - protectedHeader = {u'alg': u'RS256', u'typ': u'JWT'}

2023-04-26T19:58:13.076Z - INFO - encodedCpiSignedData contents = {

```
{
  "installationParam": {
    "heightType": "AGL",
    "longitude": 1.0,
    "antennaGain": 0.0,
    "indoorDeployment": true,
    "latitude": 1.0,
    "height": 1.0
  },
  "professionalInstallerData": {
    "cpiName": "1",
    "installCertificationTime": "2017-10-11T20:30:00Z",
    "cpild": "111"
  },
  "fccId": "W6U-TEST-FCC-ID",
}
```

www.nemko.com

Nemko San Diego, a testing laboratory, is a authorized test lab (ATL) by the CBRS Alliance for standard WINNF-TS-0122



```

    "cbsdSerialNumber": "68530322500007"
  }
2023-04-26T19:58:13.109Z - INFO - verified signature on cpiSignatureData
2023-04-26T19:58:13.219Z - INFO - cbsdCategory= 'A', removing optional param from cpi_schema
2023-04-26T19:58:13.223Z - INFO - cpiSignatureData data successfully validated against jsonschema
2023-04-26T19:58:13.233Z - INFO - engine sent successfully, the response to CBRS : {
  "registrationResponse": [
    {
      "cbsdId": "W6U-TEST-FCC-IDMock-SAS68530322500007",
      "response": {
        "responseCode": 0
      }
    }
  ]
}
2023-04-26T19:58:13.321Z - INFO - spectrumInquiry request from CBRS : {
  "spectrumInquiryRequest": [
    {
      "cbsdId": "W6U-TEST-FCC-IDMock-SAS68530322500007",
      "inquiredSpectrum": [
        {
          "highFrequency": 3700000000,
          "lowFrequency": 3550000000
        }
      ]
    }
  ]
}
2023-04-26T19:58:13.378Z - INFO - engine sent successfully, the response to CBRS : {
  "spectrumInquiryResponse": [
    {
      "availableChannel": [
        {
          "channelType": "GAA",
          "frequencyRange": {
            "highFrequency": 3700000000,
            "lowFrequency": 3550000000
          },
          "ruleApplied": "FCC_PART_96"
        }
      ],
      "cbsdId": "W6U-TEST-FCC-IDMock-SAS68530322500007",
      "response": {
        "responseCode": 0
      }
    }
  ]
}
2023-04-26T19:58:13.477Z - INFO - spectrumInquiry request from CBRS : {
  "spectrumInquiryRequest": [
    {
      "cbsdId": "W6U-TEST-FCC-IDMock-SAS68530322500007",
      "inquiredSpectrum": [

```

```

    {
      "highFrequency": 3590030000.0,
      "lowFrequency": 3550030000.0
    }
  ]
}
}
}
2023-04-26T19:58:13.573Z - INFO - engine sent successfully, the response to CBRS : {
  "spectrumInquiryResponse": [
    {
      "availableChannel": [
        {
          "channelType": "GAA",
          "frequencyRange": {
            "highFrequency": 3590030000.0,
            "lowFrequency": 3550030000.0
          },
          "ruleApplied": "FCC_PART_96"
        }
      ],
      "cbsdId": "W6U-TEST-FCC-IDMock-SAS68530322500007",
      "response": {
        "responseCode": 0
      }
    }
  ]
}
2023-04-26T19:58:13.651Z - INFO - grant request from CBRS : {
  "grantRequest": [
    {
      "cbsdId": "W6U-TEST-FCC-IDMock-SAS68530322500007",
      "operationParam": {
        "maxEirp": 3.98,
        "operationFrequencyRange": {
          "highFrequency": 3590030000.0,
          "lowFrequency": 3550030000.0
        }
      }
    }
  ]
}
2023-04-26T19:58:13.734Z - INFO - engine sent successfully, the response to CBRS : {
  "grantResponse": [
    {
      "cbsdId": "W6U-TEST-FCC-IDMock-SAS68530322500007",
      "channelType": "GAA",
      "grantExpireTime": "2023-05-03T19:58:13Z",
      "grantId": "257665833",
      "heartbeatInterval": 60,
      "response": {
        "responseCode": 0
      }
    }
  ]
}

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    }
  ]
}
2023-04-26T19:58:13.796Z - INFO - heartbeat request from CBRS : {
  "heartbeatRequest": [
    {
      "cbsdId": "W6U-TEST-FCC-IDMock-SAS68530322500007",
      "grantId": "257665833",
      "grantRenew": true,
      "operationState": "GRANTED"
    }
  ]
}
2023-04-26T19:58:13.857Z - INFO - grantRenew received in HBT request message
2023-04-26T19:58:13.877Z - INFO - engine sent successfully, the response to CBRS : {
  "heartbeatResponse": [
    {
      "cbsdId": "W6U-TEST-FCC-IDMock-SAS68530322500007",
      "grantExpireTime": "2023-05-03T19:58:13Z",
      "grantId": "257665833",
      "response": {
        "responseCode": 0
      },
      "transmitExpireTime": "2023-04-26T20:01:33Z"
    }
  ]
}
2023-04-26T19:58:13.961Z - INFO - heartbeat request from CBRS : {
  "heartbeatRequest": [
    {
      "cbsdId": "W6U-TEST-FCC-IDMock-SAS68530322500007",
      "grantId": "257665833",
      "operationState": "AUTHORIZED"
    }
  ]
}
2023-04-26T19:58:13.986Z - INFO - Time interval between two heartbeat request messages is: 0.171, limit is: 65.0
2023-04-26T19:58:14.032Z - INFO - engine sent successfully, the response to CBRS : {
  "heartbeatResponse": [
    {
      "cbsdId": "W6U-TEST-FCC-IDMock-SAS68530322500007",
      "grantId": "257665833",
      "response": {
        "responseCode": 0
      },
      "transmitExpireTime": "2023-04-26T20:01:34Z"
    }
  ]
}
2023-04-26T19:58:14.476Z - INFO - heartbeat request from CBRS : {
  "heartbeatRequest": [
    {
      "cbsdId": "W6U-TEST-FCC-IDMock-SAS68530322500007",

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    "grantId": "257665833",
    "operationState": "AUTHORIZED"
  }
}
}
2023-04-26T19:58:14.487Z - INFO - Time interval between two heartbeat request messages is: 0.51, limit is: 65.0
2023-04-26T19:58:14.552Z - INFO - engine sent successfully, the response to CBRS : {
  "heartbeatResponse": [
    {
      "cbsdId": "W6U-TEST-FCC-IDMock-SAS68530322500007",
      "grantId": "257665833",
      "response": {
        "responseCode": 0
      },
      "transmitExpireTime": "2023-04-26T20:01:34Z"
    }
  ]
}
}
2023-04-26T19:58:14.733Z - INFO - heartbeat request from CBRS : {
  "heartbeatRequest": [
    {
      "cbsdId": "W6U-TEST-FCC-IDMock-SAS68530322500007",
      "grantId": "257665833",
      "operationState": "AUTHORIZED"
    }
  ]
}
}
2023-04-26T19:58:14.776Z - INFO - Time interval between two heartbeat request messages is: 0.263, limit is: 65.0
2023-04-26T19:58:14.854Z - INFO - engine sent successfully, the response to CBRS : {
  "heartbeatResponse": [
    {
      "cbsdId": "W6U-TEST-FCC-IDMock-SAS68530322500007",
      "grantId": "257665833",
      "response": {
        "responseCode": 0
      },
      "transmitExpireTime": "2023-04-26T20:01:34Z"
    }
  ]
}
}
2023-04-26T19:58:14.941Z - INFO - registration request from CBRS : {
  "registrationRequest": [
    {
      "airInterface": {
        "radioTechnology": "NR"
      },
      "callSign": "2",
      "cbsdCategory": "A",
      "cbsdInfo": {
        "firmwareVersion": "1.1.10 ()",
        "hardwareVersion": "0.0.1",
        "model": "O-RU",
        "softwareVersion": "0.2.4 ()",

```



```

    "vendor": "SOLiD"
  },
  "cbsdSerialNumber": "68530322500008",
  "cpiSignatureData": {
    "digitalSignature": "zt4hd5YbgTxXL7oSoSbdmXGklpZRCkpEjVg6bRRu7gOZ86AbhbObj868zbDY3wXZVe4VmUIXlfw09BouojqqsmjUQzLnsMca-
KuFkOwevut7e-VklecYD0Dlb8tzppgryBWqD2eWMvWWBmFGwm4yuk0tIDL_B9iKNHO2fNWuULchQfBb9ghyil7hOOSoENZMXqwa-
_DVAKP8Zs23PT16XxZzH6hbns1Z7PN3F-CmuH1KPJVfKUt0VGldLYSOK-
EGdp6TPaj8uwZGIOPCht6L2E4tWUdKD5nNH5Wi1YVCZpRHmz3qeW1axyfshakWgqphM3QoXvRLs9Kb_hkyzT_g",
    "encodedCpiSignedData":
"eyJpbmNOYWxsYXRpb25QYXJhbSI6eyJsYXRpdHVkZSI6MjluMCwibG9uZ2I0dWRlljoyLjAsImhlaWdodCI6Mi4wLCJoZWlnaHRUeXBlljoiQUdMliwiaW5kb29yRGVw
bG95bWVudCI6dHJ1ZSwiYW50ZW5uYUdhaW4iOiJlY0kiOiJvZzVlVFRFU1QtRkNDLUlEliwiY2JzZFNlcmliE51bWJlci6lY4NTMwMzlyNTAwMDA4liwic
HJvZmVzc2lvbmFsSW5zdGFsbGVyRGFOYSI6eyJjcGlZCi6lYiEiLCJcGLOYW1lloiMSIsImIuc3RhbgxDZXJ0aWZpY2F0aW9uVGltZSI6IjIwMTctMTAtMTFUMjA6MzA6
MDBaIn19",
    "protectedHeader": "eyJhbGciOiJIUzI1NiIsInR5cCI6IkpXVCJ9"
  },
  "fccId": "W6U-TEST-FCC-ID",
  "userId": "2"
}
}
}
2023-04-26T19:58:15.161Z - INFO - Registration message contains cpiSignatureData
2023-04-26T19:58:15.161Z - INFO - protectedHeader = {u'alg': u'RS256', u'typ': u'JWT'}
2023-04-26T19:58:15.163Z - INFO - encodedCpiSignedData contents = {
  "installationParam": {
    "heightType": "AGL",
    "longitude": 2.0,
    "antennaGain": 0.0,
    "indoorDeployment": true,
    "latitude": 22.0,
    "height": 2.0
  },
  "professionalInstallerData": {
    "cpiName": "1",
    "installCertificationTime": "2017-10-11T20:30:00Z",
    "cpild": "1"
  },
  "fccId": "W6U-TEST-FCC-ID",
  "cbsdSerialNumber": "68530322500008"
}
2023-04-26T19:58:15.168Z - INFO - verified signature on cpiSignatureData
2023-04-26T19:58:15.173Z - INFO - cbsdCategory= 'A', removing optional param from cpi_schema
2023-04-26T19:58:15.180Z - INFO - cpiSignatureData data successfully validated against jsonschema
2023-04-26T19:58:15.204Z - INFO - engine sent successfully, the response to CBRS : {
  "registrationResponse": [
    {
      "cbsdId": "W6U-TEST-FCC-IDMock-SAS68530322500008",
      "response": {
        "responseCode": 0
      }
    }
  ]
}
}
2023-04-26T19:58:15.276Z - INFO - heartbeat request from CBRS : {

```



```

"heartbeatRequest": [
  {
    "cbsdId": "W6U-TEST-FCC-IDMock-SAS68530322500007",
    "grantId": "257665833",
    "operationState": "AUTHORIZED"
  }
]
}
2023-04-26T19:58:15.305Z - INFO - Time interval between two heartbeat request messages is: 0.541, limit is: 65.0
2023-04-26T19:58:15.351Z - INFO - engine sent successfully, the response to CBRS : {
  "heartbeatResponse": [
    {
      "cbsdId": "W6U-TEST-FCC-IDMock-SAS68530322500007",
      "grantId": "257665833",
      "response": {
        "responseCode": 0
      },
      "transmitExpireTime": "2023-04-26T20:01:35Z"
    }
  ]
}
2023-04-26T19:58:15.440Z - INFO - spectrumInquiry request from CBRS : {
  "spectrumInquiryRequest": [
    {
      "cbsdId": "W6U-TEST-FCC-IDMock-SAS68530322500008",
      "inquiredSpectrum": [
        {
          "highFrequency": 3700000000,
          "lowFrequency": 3550000000
        }
      ]
    }
  ]
}
2023-04-26T19:58:15.502Z - INFO - engine sent successfully, the response to CBRS : {
  "spectrumInquiryResponse": [
    {
      "availableChannel": [
        {
          "channelType": "GAA",
          "frequencyRange": {
            "highFrequency": 3700000000,
            "lowFrequency": 3550000000
          },
          "ruleApplied": "FCC_PART_96"
        }
      ],
      "cbsdId": "W6U-TEST-FCC-IDMock-SAS68530322500008",
      "response": {
        "responseCode": 0
      }
    }
  ]
}

```

```

}
2023-04-26T19:58:15.569Z - INFO - heartbeat request from CBRS : {
  "heartbeatRequest": [
    {
      "cbsdId": "W6U-TEST-FCC-IDMock-SAS68530322500007",
      "grantId": "257665833",
      "operationState": "AUTHORIZED"
    }
  ]
}
2023-04-26T19:58:15.581Z - INFO - Time interval between two heartbeat request messages is: 0.288, limit is: 65.0
2023-04-26T19:58:15.627Z - INFO - engine sent successfully, the response to CBRS : {
  "heartbeatResponse": [
    {
      "cbsdId": "W6U-TEST-FCC-IDMock-SAS68530322500007",
      "grantId": "257665833",
      "response": {
        "responseCode": 0
      },
      "transmitExpireTime": "2023-04-26T20:01:35Z"
    }
  ]
}
2023-04-26T19:58:15.720Z - INFO - heartbeat request from CBRS : {
  "heartbeatRequest": [
    {
      "cbsdId": "W6U-TEST-FCC-IDMock-SAS68530322500007",
      "grantId": "257665833",
      "operationState": "AUTHORIZED"
    }
  ]
}
2023-04-26T19:58:15.730Z - INFO - Time interval between two heartbeat request messages is: 0.15, limit is: 65.0
2023-04-26T19:58:15.783Z - INFO - engine sent successfully, the response to CBRS : {
  "heartbeatResponse": [
    {
      "cbsdId": "W6U-TEST-FCC-IDMock-SAS68530322500007",
      "grantId": "257665833",
      "response": {
        "responseCode": 0
      },
      "transmitExpireTime": "2023-04-26T20:01:35Z"
    }
  ]
}
2023-04-26T19:58:16.236Z - INFO - spectrumInquiry request from CBRS : {
  "spectrumInquiryRequest": [
    {
      "cbsdId": "W6U-TEST-FCC-IDMock-SAS68530322500008",
      "inquiredSpectrum": [
        {
          "highFrequency": 3590030000.0,
          "lowFrequency": 3550030000.0
        }
      ]
    }
  ]
}

```

```

    }
  ]
}
}
2023-04-26T19:58:16.276Z - INFO - engine sent successfully, the response to CBRS : {
  "spectrumInquiryResponse": [
    {
      "availableChannel": [
        {
          "channelType": "GAA",
          "frequencyRange": {
            "highFrequency": 3590030000.0,
            "lowFrequency": 3550030000.0
          },
          "ruleApplied": "FCC_PART_96"
        }
      ],
      "cbsId": "W6U-TEST-FCC-IDMock-SAS68530322500008",
      "response": {
        "responseCode": 0
      }
    }
  ]
}
2023-04-26T19:58:16.358Z - INFO - grant request from CBRS : {
  "grantRequest": [
    {
      "cbsId": "W6U-TEST-FCC-IDMock-SAS68530322500008",
      "operationParam": {
        "maxEirp": 3.98,
        "operationFrequencyRange": {
          "highFrequency": 3590030000.0,
          "lowFrequency": 3550030000.0
        }
      }
    }
  ]
}
2023-04-26T19:58:16.470Z - INFO - engine sent successfully, the response to CBRS : {
  "grantResponse": [
    {
      "cbsId": "W6U-TEST-FCC-IDMock-SAS68530322500008",
      "channelType": "GAA",
      "grantExpireTime": "2023-05-03T19:58:16Z",
      "grantId": "542258321",
      "heartbeatInterval": 60,
      "response": {
        "responseCode": 0
      }
    }
  ]
}

```



2023-04-26T19:58:16.561Z - INFO - heartbeat request from CBRS : {

```
"heartbeatRequest": [
  {
    "cbsdId": "W6U-TEST-FCC-IDMock-SAS68530322500008",
    "grantId": "542258321",
    "grantRenew": true,
    "operationState": "GRANTED"
  }
]
```

2023-04-26T19:58:16.640Z - INFO - grantRenew received in HBT request message

2023-04-26T19:58:16.661Z - INFO - engine sent successfully, the response to CBRS : {

```
"heartbeatResponse": [
  {
    "cbsdId": "W6U-TEST-FCC-IDMock-SAS68530322500008",
    "grantExpireTime": "2023-05-03T19:58:16Z",
    "grantId": "542258321",
    "response": {
      "responseCode": 0
    },
    "transmitExpireTime": "2023-04-26T20:01:36Z"
  }
]
```

2023-04-26T19:58:26.756Z - INFO - heartbeat request from CBRS : {

```
"heartbeatRequest": [
  {
    "cbsdId": "W6U-TEST-FCC-IDMock-SAS68530322500007",
    "grantId": "257665833",
    "operationState": "AUTHORIZED"
  }
]
```

2023-04-26T19:58:26.769Z - INFO - Time interval between two heartbeat request messages is: 11.037, limit is: 65.0

2023-04-26T19:58:26.862Z - INFO - engine sent successfully, the response to CBRS : {

```
"heartbeatResponse": [
  {
    "cbsdId": "W6U-TEST-FCC-IDMock-SAS68530322500007",
    "grantId": "257665833",
    "response": {
      "responseCode": 0
    },
    "transmitExpireTime": "2023-04-26T20:01:46Z"
  }
]
```

2023-04-26T19:58:26.930Z - INFO - heartbeat request from CBRS : {

```
"heartbeatRequest": [
  {
    "cbsdId": "W6U-TEST-FCC-IDMock-SAS68530322500008",
    "grantId": "542258321",
    "operationState": "AUTHORIZED"
  }
]
```



```

    ]
  }
2023-04-26T19:58:26.940Z - INFO - Time interval between two heartbeat request messages is: 10.367, limit is: 65.0
2023-04-26T19:58:27.006Z - INFO - engine sent successfully, the response to CBRS : {
  "heartbeatResponse": [
    {
      "cbsdId": "W6U-TEST-FCC-IDMock-SAS68530322500008",
      "grantId": "542258321",
      "response": {
        "responseCode": 0
      },
      "transmitExpireTime": "2023-04-26T20:01:47Z"
    }
  ]
}
2023-04-26T19:58:57.134Z - INFO - heartbeat request from CBRS : {
  "heartbeatRequest": [
    {
      "cbsdId": "W6U-TEST-FCC-IDMock-SAS68530322500007",
      "grantId": "257665833",
      "operationState": "AUTHORIZED"
    }
  ]
}
2023-04-26T19:58:57.157Z - INFO - Time interval between two heartbeat request messages is: 30.378, limit is: 65.0
2023-04-26T19:58:57.233Z - INFO - engine sent successfully, the response to CBRS : {
  "heartbeatResponse": [
    {
      "cbsdId": "W6U-TEST-FCC-IDMock-SAS68530322500007",
      "grantId": "257665833",
      "response": {
        "responseCode": 0
      },
      "transmitExpireTime": "2023-04-26T20:02:17Z"
    }
  ]
}
2023-04-26T19:58:57.315Z - INFO - heartbeat request from CBRS : {
  "heartbeatRequest": [
    {
      "cbsdId": "W6U-TEST-FCC-IDMock-SAS68530322500008",
      "grantId": "542258321",
      "operationState": "AUTHORIZED"
    }
  ]
}
2023-04-26T19:58:57.331Z - INFO - Time interval between two heartbeat request messages is: 30.385, limit is: 65.0
2023-04-26T19:58:57.371Z - INFO - engine sent successfully, the response to CBRS : {
  "heartbeatResponse": [
    {
      "cbsdId": "W6U-TEST-FCC-IDMock-SAS68530322500008",
      "grantId": "542258321",
      "response": {

```



```

        "responseCode": 0
    },
    "transmitExpireTime": "2023-04-26T20:02:17Z"
}
]
}
2023-04-26T19:59:14.937Z - INFO - heartbeat request from CBRS : {
  "heartbeatRequest": [
    {
      "cbsdId": "W6U-TEST-FCC-IDMock-SAS68530322500007",
      "grantId": "257665833",
      "operationState": "AUTHORIZED"
    }
  ]
}
2023-04-26T19:59:14.959Z - INFO - Time interval between two heartbeat request messages is: 17.802, limit is: 65.0
2023-04-26T19:59:15.023Z - INFO - engine sent successfully, the response to CBRS : {
  "heartbeatResponse": [
    {
      "cbsdId": "W6U-TEST-FCC-IDMock-SAS68530322500007",
      "grantId": "257665833",
      "response": {
        "responseCode": 0
      },
      "transmitExpireTime": "2023-04-26T20:02:35Z"
    }
  ]
}
2023-04-26T19:59:15.102Z - INFO - heartbeat request from CBRS : {
  "heartbeatRequest": [
    {
      "cbsdId": "W6U-TEST-FCC-IDMock-SAS68530322500008",
      "grantId": "542258321",
      "operationState": "AUTHORIZED"
    }
  ]
}
2023-04-26T19:59:15.122Z - INFO - Time interval between two heartbeat request messages is: 17.791, limit is: 65.0
2023-04-26T19:59:15.158Z - INFO - engine sent successfully, the response to CBRS : {
  "heartbeatResponse": [
    {
      "cbsdId": "W6U-TEST-FCC-IDMock-SAS68530322500008",
      "grantId": "542258321",
      "response": {
        "responseCode": 0
      },
      "transmitExpireTime": "2023-04-26T20:02:35Z"
    }
  ]
}
2023-04-26T19:59:15.243Z - INFO - relinquishment request from CBRS : {
  "relinquishmentRequest": [
    {

```

```

    "cbsdId": "W6U-TEST-FCC-IDMock-SAS68530322500007",
    "grantId": "257665833"
  }
}
}
2023-04-26T19:59:15.315Z - INFO - engine sent successfully, the response to CBRS : {
  "relinquishmentResponse": [
    {
      "cbsdId": "W6U-TEST-FCC-IDMock-SAS68530322500007",
      "grantId": "257665833",
      "response": {
        "responseCode": 0
      }
    }
  ]
}
}
2023-04-26T19:59:25.421Z - INFO - heartbeat request from CBRS : {
  "heartbeatRequest": [
    {
      "cbsdId": "W6U-TEST-FCC-IDMock-SAS68530322500008",
      "grantId": "542258321",
      "operationState": "AUTHORIZED"
    }
  ]
}
}
2023-04-26T19:59:25.438Z - INFO - Time interval between two heartbeat request messages is: 10.316, limit is: 65.0
2023-04-26T19:59:25.476Z - INFO - engine sent successfully, the response to CBRS : {
  "heartbeatResponse": [
    {
      "cbsdId": "W6U-TEST-FCC-IDMock-SAS68530322500008",
      "grantId": "542258321",
      "response": {
        "responseCode": 0
      },
      "transmitExpireTime": "2023-04-26T20:02:45Z"
    }
  ]
}
}
2023-04-26T19:59:26.009Z - INFO - relinquishment request from CBRS : {
  "relinquishmentRequest": [
    {
      "cbsdId": "W6U-TEST-FCC-IDMock-SAS68530322500008",
      "grantId": "542258321"
    }
  ]
}
}
2023-04-26T19:59:26.071Z - INFO - engine sent successfully, the response to CBRS : {
  "relinquishmentResponse": [
    {
      "cbsdId": "W6U-TEST-FCC-IDMock-SAS68530322500008",
      "grantId": "542258321",
      "response": {
        "responseCode": 0
      }
    }
  ]
}
}

```



```

    }
  }
]
}
2023-04-26T19:59:29.280Z - INFO - deregistration request from CBRS : {
  "deregistrationRequest": [
    {
      "cbsdId": "W6U-TEST-FCC-IDMock-SAS68530322500008"
    }
  ]
}
2023-04-26T19:59:29.395Z - INFO - engine sent successfully, the response to CBRS : {
  "deregistrationResponse": [
    {
      "response": {
        "responseCode": 102
      }
    }
  ]
}
2023-04-26T19:59:33.165Z - INFO - registration request from CBRS : {
  "registrationRequest": [
    {
      "airInterface": {
        "radioTechnology": "NR"
      },
      "callSign": "2",
      "cbsdCategory": "A",
      "cbsdInfo": {
        "firmwareVersion": "1.1.10 ()",
        "hardwareVersion": "0.0.1",
        "model": "O-RU",
        "softwareVersion": "0.2.4 ()",
        "vendor": "SOLiD"
      },
      "cbsdSerialNumber": "68530322500008",
      "cpiSignatureData": {
        "digitalSignature": "zt4hd5YbgTxXL7oSoSbdmXGklpZRCkpEjVg6bRRu7gOZ86AbhbObj868zbDY3wXZVe4VmUIXlfw09BouojqqsmjUQzLnsMca-
KuFlkOwevut7e-VklecYD0DIb8tzppgryBWqD2eWMvWWBmFGwm4yuk0tIDL_B9iKNHO2fNWuULchQfBb9ghyil7hOOSoENZMXqwa-
_DVAKP8Zs23PT16XxZzH6hbns1Z7PN3F-CmuH1KPJVfKUt0VGldLYSOK-
EGdp6TPaj8uwZGIOPCht6L2E4tWUDKD5nNH5Wi1YVCZpRHmz3qeW1axyfshakWgqphM3QoXvRLs9Kb_hkyzT_g",
        "encodedCpiSignedData":
"eyJpbmN0YXxsYXRpb25QYXJhbSI6eyJsYXRpdHVkZSI6MjluMCwibG9uZ2I0dWRlljoYLjAsImhlaWdodCI6Mi4wLCJoZWlnaHRUeXBlljoiQUdMliwiaW5kb29yRGVw
bG95bWVudCI6dHJ1ZSwiYW50ZW5uYUdhaW4iOiAuMH0sImZjY0IkljoiVzZVLVRFU1QtRkNDLUiEliwiY2JzZFNlcmIhbE51bWJlcil6IjY4NTMwMzlyNTAwMDA4liwic
HJvZmVzc2lvbmFsSW5zdGFsbGVyRGFOYSI6eyJjcGljZCI6IjEiLCJjcGlOYW1lIjoIISI6ImIuc3RhbmGxDXJ0aWZpY2F0aW9uVGltZSI6IjIwMTctMTAtMTFUMjA6MzA6
MDBaIn19",
        "protectedHeader": "eyJhbGciOiJSUzI1NiIsInR5cCI6IkpXVCJ9"
      },
      "fccId": "W6U-TEST-FCC-ID",
      "userId": "2"
    }
  ]
}

```



2023-04-26T19:59:33.171Z - INFO - engine sent successfully, the response to CBRS : {

```
"registrationResponse": [
  {
    "response": {
      "responseCode": 200
    }
  }
]
```

2023-04-26T19:59:34.967Z - INFO - deregistration request from CBRS : {

```
"deregistrationRequest": [
  {
    "cbsdId": "W6U-TEST-FCC-IDMock-SAS68530322500007"
  }
]
```

2023-04-26T19:59:35.026Z - INFO - engine sent successfully, the response to CBRS : {

```
"deregistrationResponse": [
  {
    "response": {
      "responseCode": 102
    }
  }
]
```

2023-04-26T19:59:36.115Z - INFO - arrived to nstep starting question answer session with the technician

2023-04-26T19:59:36.122Z - INFO - the question is : Did CBSD1 cease RF transmission before receipt of Relinquishment request (if sent) or Deregistration request at Test Harness? please choose one of the answers :

2023-04-26T19:59:47.691Z - INFO - for the question : Did CBSD1 cease RF transmission before receipt of Relinquishment request (if sent) or Deregistration request at Test Harness? , the user choose y

2023-04-26T19:59:47.701Z - INFO - the question is : Did CBSD2 cease RF transmission before receipt of Relinquishment request (if sent) or Deregistration request at Test Harness? please choose one of the answers :

2023-04-26T19:59:49.631Z - INFO - for the question : Did CBSD2 cease RF transmission before receipt of Relinquishment request (if sent) or Deregistration request at Test Harness? , the user choose y

2023-04-26T20:07:46.384Z - INFO - The final result of the test : WINNF.FT.D.DRG.4 is - passed and :the additional comments for the current test are : CBSD's Cease RF Tx



10.28 Log file for test case ID: WINNF.FT.C.DRG.5

2023-04-26T20:09:26.789Z - INFO - WINNF TEST HARNESS RELEASE: 1.0.0.3 - 2018-November-13

2023-04-26T20:09:26.793Z - INFO - the selected test from the user : WINNF.FT.C.DRG.5 is starting now

2023-04-26T20:09:36.164Z - INFO - registration request from CBRS : {

```
"registrationRequest": [
  {
    "airInterface": {
      "radioTechnology": "NR"
    },
    "callSign": "1",
    "cbsdCategory": "A",
    "cbsdInfo": {
      "firmwareVersion": "1.1.10 ()",
      "hardwareVersion": "0.0.1",
      "model": "O-RU",
      "softwareVersion": "0.2.4 ()",
      "vendor": "SOLiD"
    },
    "cbsdSerialNumber": "68530322500007",
    "cpiSignatureData": {
      "digitalSignature": "AR5MaDlzi5_qJGKAmDxCUYzojDxUWghcxP_oJXuoi2xq1K2B22_gHAl6HcpvWjYkBuHR4Br0gY81Le21Wrdc3yZHreFOV1iKJCF-
1GWGdpXNWXZfuqRXj6-
hIEA9s5dlmQtu_O2Z2UEXpqISwn6xtBY7k1qI6yenIIQ4nV7C0iRxt9L7AeubAFSLIDc3twXBrrbLbbRgtckEAPbi2VgOAU4dkMuMydrYzolKQVNV4Nei9uL9r3rgaEfCm
HWVviex18_6kELxJ_IQYnU3P_N2siY81q57jE6AeJpWm3qa4n8Vm9Bdjv-riOZJ_E6-Mq7HhoF5EK4hLI9tNC_T5fpmYMOA",
      "encodedCpiSignedData":
"eyJpbmN0YWxsYXRpb25QYXJhbSI6eyJsYXRpdHVkZSI6MS4wLCJsbn25naXR1ZGU0JEUuMCwiaGVpZ2h0IjoxLjAsImhlaWdodFR5cGU0OiJBR0wiLCJpbmRvb3JEZXBs
b3ItZW50IjpbO2Z2UEXpqISwn6xtBY7k1qI6yenIIQ4nV7C0iRxt9L7AeubAFSLIDc3twXBrrbLbbRgtckEAPbi2VgOAU4dkMuMydrYzolKQVNV4Nei9uL9r3rgaEfCm
cm9mZXNzaW9uYWwJbnN0YWxsZXJEYXRhIjpb7ImNwaUlkljoiMTEwIiwiaWF0Ij0iMj02MDA0IiwiaXNjaW50IjpbO2Z2UEXpqISwn6xtBY7k1qI6yenIIQ4nV7C0iRxt9L7AeubAFSLIDc3twXBrrbLbbRgtckEAPbi2VgOAU4dkMuMydrYzolKQVNV4Nei9uL9r3rgaEfCm
wOjMwOjAwWij9fQ",
      "protectedHeader": "eyJhbGciOiJSUzI1NiIsInR5cCI6IkpXVCJ9"
    },
    "fcclId": "W6U-TEST-FCC-ID",
    "userId": "1"
  }
]
```

2023-04-26T20:09:36.479Z - INFO - Registration message contains cpiSignatureData

2023-04-26T20:09:36.483Z - INFO - protectedHeader = {u'alg': u'RS256', u'typ': u'JWT'}

2023-04-26T20:09:36.489Z - INFO - encodedCpiSignedData contents = {

```
"installationParam": {
  "heightType": "AGL",
  "longitude": 1.0,
  "antennaGain": 0.0,
  "indoorDeployment": true,
  "latitude": 1.0,
  "height": 1.0
},
"professionalInstallerData": {
  "cpiName": "1",
  "installCertificationTime": "2017-10-11T20:30:00Z",
  "cpild": "111"
},
"fcclId": "W6U-TEST-FCC-ID",
```

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Nemko San Diego, a testing laboratory, is a authorized test lab (ATL) by the CBRS Alliance for standard WINNF-TS-0122

```

    "cbsdSerialNumber": "68530322500007"
  }
2023-04-26T20:09:36.515Z - INFO - verified signature on cpiSignatureData
2023-04-26T20:09:36.539Z - INFO - cbsdCategory= 'A', removing optional param from cpi_schema
2023-04-26T20:09:36.543Z - INFO - cpiSignatureData data successfully validated against jsonschema
2023-04-26T20:09:36.552Z - INFO - engine sent successfully, the response to CBRS : {
  "registrationResponse": [
    {
      "cbsdId": "W6U-TEST-FCC-IDMock-SAS68530322500007",
      "response": {
        "responseCode": 0
      }
    }
  ]
}
2023-04-26T20:09:36.663Z - INFO - spectrumInquiry request from CBRS : {
  "spectrumInquiryRequest": [
    {
      "cbsdId": "W6U-TEST-FCC-IDMock-SAS68530322500007",
      "inquiredSpectrum": [
        {
          "highFrequency": 3700000000,
          "lowFrequency": 3550000000
        }
      ]
    }
  ]
}
2023-04-26T20:09:36.729Z - INFO - engine sent successfully, the response to CBRS : {
  "spectrumInquiryResponse": [
    {
      "availableChannel": [
        {
          "channelType": "GAA",
          "frequencyRange": {
            "highFrequency": 3700000000,
            "lowFrequency": 3550000000
          },
          "ruleApplied": "FCC_PART_96"
        }
      ],
      "cbsdId": "W6U-TEST-FCC-IDMock-SAS68530322500007",
      "response": {
        "responseCode": 0
      }
    }
  ]
}
2023-04-26T20:09:36.818Z - INFO - spectrumInquiry request from CBRS : {
  "spectrumInquiryRequest": [
    {
      "cbsdId": "W6U-TEST-FCC-IDMock-SAS68530322500007",
      "inquiredSpectrum": [

```

```

    {
      "highFrequency": 3590030000.0,
      "lowFrequency": 3550030000.0
    }
  ]
}
}
}
2023-04-26T20:09:36.852Z - INFO - engine sent successfully, the response to CBRS : {
  "spectrumInquiryResponse": [
    {
      "availableChannel": [
        {
          "channelType": "GAA",
          "frequencyRange": {
            "highFrequency": 3590030000.0,
            "lowFrequency": 3550030000.0
          },
          "ruleApplied": "FCC_PART_96"
        }
      ],
      "cbsdId": "W6U-TEST-FCC-IDMock-SAS68530322500007",
      "response": {
        "responseCode": 0
      }
    }
  ]
}
2023-04-26T20:09:36.918Z - INFO - grant request from CBRS : {
  "grantRequest": [
    {
      "cbsdId": "W6U-TEST-FCC-IDMock-SAS68530322500007",
      "operationParam": {
        "maxEirp": 3.98,
        "operationFrequencyRange": {
          "highFrequency": 3590030000.0,
          "lowFrequency": 3550030000.0
        }
      }
    }
  ]
}
2023-04-26T20:09:36.990Z - INFO - engine sent successfully, the response to CBRS : {
  "grantResponse": [
    {
      "cbsdId": "W6U-TEST-FCC-IDMock-SAS68530322500007",
      "channelType": "GAA",
      "grantExpireTime": "2023-05-03T20:09:36Z",
      "grantId": "310554683",
      "heartbeatInterval": 60,
      "response": {
        "responseCode": 0
      }
    }
  ]
}

```

```

    }
  ]
}
2023-04-26T20:09:37.079Z - INFO - heartbeat request from CBRS : {
  "heartbeatRequest": [
    {
      "cbsdId": "W6U-TEST-FCC-IDMock-SAS68530322500007",
      "grantId": "310554683",
      "grantRenew": true,
      "operationState": "GRANTED"
    }
  ]
}
2023-04-26T20:09:37.163Z - INFO - grantRenew received in HBT request message
2023-04-26T20:09:37.164Z - INFO - engine sent successfully, the response to CBRS : {
  "heartbeatResponse": [
    {
      "cbsdId": "W6U-TEST-FCC-IDMock-SAS68530322500007",
      "grantExpireTime": "2023-05-03T20:09:37Z",
      "grantId": "310554683",
      "response": {
        "responseCode": 0
      },
      "transmitExpireTime": "2023-04-26T20:12:57Z"
    }
  ]
}
2023-04-26T20:09:37.234Z - INFO - heartbeat request from CBRS : {
  "heartbeatRequest": [
    {
      "cbsdId": "W6U-TEST-FCC-IDMock-SAS68530322500007",
      "grantId": "310554683",
      "operationState": "AUTHORIZED"
    }
  ]
}
2023-04-26T20:09:37.247Z - INFO - Time interval between two heartbeat request messages is: 0.155, limit is: 65.0
2023-04-26T20:09:37.303Z - INFO - engine sent successfully, the response to CBRS : {
  "heartbeatResponse": [
    {
      "cbsdId": "W6U-TEST-FCC-IDMock-SAS68530322500007",
      "grantId": "310554683",
      "response": {
        "responseCode": 0
      },
      "transmitExpireTime": "2023-04-26T20:12:57Z"
    }
  ]
}
2023-04-26T20:09:57.394Z - INFO - heartbeat request from CBRS : {
  "heartbeatRequest": [
    {
      "cbsdId": "W6U-TEST-FCC-IDMock-SAS68530322500007",

```



```

    "grantId": "310554683",
    "operationState": "AUTHORIZED"
  }
}
}
2023-04-26T20:09:57.414Z - INFO - Time interval between two heartbeat request messages is: 20.16, limit is: 65.0
2023-04-26T20:09:57.476Z - INFO - engine sent successfully, the response to CBRS : {
  "heartbeatResponse": [
    {
      "cbsdId": "W6U-TEST-FCC-IDMock-SAS68530322500007",
      "grantId": "310554683",
      "response": {
        "responseCode": 0
      },
      "transmitExpireTime": "2023-04-26T20:13:17Z"
    }
  ]
}
}
2023-04-26T20:10:28.043Z - INFO - heartbeat request from CBRS : {
  "heartbeatRequest": [
    {
      "cbsdId": "W6U-TEST-FCC-IDMock-SAS68530322500007",
      "grantId": "310554683",
      "operationState": "AUTHORIZED"
    }
  ]
}
}
2023-04-26T20:10:28.059Z - INFO - Time interval between two heartbeat request messages is: 30.649, limit is: 65.0
2023-04-26T20:10:28.109Z - INFO - engine sent successfully, the response to CBRS : {
  "heartbeatResponse": [
    {
      "cbsdId": "W6U-TEST-FCC-IDMock-SAS68530322500007",
      "grantId": "310554683",
      "response": {
        "responseCode": 0
      },
      "transmitExpireTime": "2023-04-26T20:13:48Z"
    }
  ]
}
}
2023-04-26T20:10:58.240Z - INFO - heartbeat request from CBRS : {
  "heartbeatRequest": [
    {
      "cbsdId": "W6U-TEST-FCC-IDMock-SAS68530322500007",
      "grantId": "310554683",
      "operationState": "AUTHORIZED"
    }
  ]
}
}
2023-04-26T20:10:58.263Z - INFO - Time interval between two heartbeat request messages is: 30.198, limit is: 65.0
2023-04-26T20:10:58.345Z - INFO - engine sent successfully, the response to CBRS : {
  "heartbeatResponse": [
    {

```

```

    "cbsdId": "W6U-TEST-FCC-IDMock-SAS68530322500007",
    "grantId": "310554683",
    "response": {
      "responseCode": 0
    },
    "transmitExpireTime": "2023-04-26T20:14:18Z"
  }
}
}
2023-04-26T20:11:28.474Z - INFO - heartbeat request from CBRS : {
  "heartbeatRequest": [
    {
      "cbsdId": "W6U-TEST-FCC-IDMock-SAS68530322500007",
      "grantId": "310554683",
      "operationState": "AUTHORIZED"
    }
  ]
}
}
2023-04-26T20:11:28.500Z - INFO - Time interval between two heartbeat request messages is: 30.235, limit is: 65.0
2023-04-26T20:11:28.565Z - INFO - engine sent successfully, the response to CBRS : {
  "heartbeatResponse": [
    {
      "cbsdId": "W6U-TEST-FCC-IDMock-SAS68530322500007",
      "grantId": "310554683",
      "response": {
        "responseCode": 0
      },
      "transmitExpireTime": "2023-04-26T20:14:48Z"
    }
  ]
}
}
2023-04-26T20:11:58.687Z - INFO - heartbeat request from CBRS : {
  "heartbeatRequest": [
    {
      "cbsdId": "W6U-TEST-FCC-IDMock-SAS68530322500007",
      "grantId": "310554683",
      "operationState": "AUTHORIZED"
    }
  ]
}
}
2023-04-26T20:11:58.713Z - INFO - Time interval between two heartbeat request messages is: 30.211, limit is: 65.0
2023-04-26T20:11:58.796Z - INFO - engine sent successfully, the response to CBRS : {
  "heartbeatResponse": [
    {
      "cbsdId": "W6U-TEST-FCC-IDMock-SAS68530322500007",
      "grantId": "310554683",
      "response": {
        "responseCode": 0
      },
      "transmitExpireTime": "2023-04-26T20:15:18Z"
    }
  ]
}
}
}

```

```

2023-04-26T20:12:15.578Z - INFO - heartbeat request from CBRS : {
  "heartbeatRequest": [
    {
      "cbsdId": "W6U-TEST-FCC-IDMock-SAS68530322500007",
      "grantId": "310554683",
      "operationState": "AUTHORIZED"
    }
  ]
}
2023-04-26T20:12:15.625Z - INFO - Time interval between two heartbeat request messages is: 16.891, limit is: 65.0
2023-04-26T20:12:15.676Z - INFO - engine sent successfully, the response to CBRS : {
  "heartbeatResponse": [
    {
      "cbsdId": "W6U-TEST-FCC-IDMock-SAS68530322500007",
      "grantId": "310554683",
      "response": {
        "responseCode": 0
      },
      "transmitExpireTime": "2023-04-26T20:15:35Z"
    }
  ]
}
2023-04-26T20:12:15.755Z - INFO - relinquishment request from CBRS : {
  "relinquishmentRequest": [
    {
      "cbsdId": "W6U-TEST-FCC-IDMock-SAS68530322500007",
      "grantId": "310554683"
    }
  ]
}
2023-04-26T20:12:15.812Z - INFO - engine sent successfully, the response to CBRS : {
  "relinquishmentResponse": [
    {
      "cbsdId": "W6U-TEST-FCC-IDMock-SAS68530322500007",
      "grantId": "310554683",
      "response": {
        "responseCode": 0
      }
    }
  ]
}
2023-04-26T20:12:18.638Z - INFO - deregistration request from CBRS : {
  "deregistrationRequest": [
    {
      "cbsdId": "W6U-TEST-FCC-IDMock-SAS68530322500007"
    }
  ]
}
2023-04-26T20:12:18.717Z - INFO - engine sent successfully, the response to CBRS : {
  "deregistrationResponse": [
    {
      "response": {
        "responseCode": 103,

```



```
"responseData": [  
  "cbsdId"  
]  
}  
}  
]  
}
```

2023-04-26T20:12:20.398Z - INFO - arrived to nstep starting question answer session with the technician

2023-04-26T20:12:20.404Z - INFO - the question is : Did CBSD1 cease RF transmission before receipt of Relinquishment request (if sent) or Deregistration request at Test Harness? please choose one of the answers :

2023-04-26T20:12:31.907Z - INFO - for the question : Did CBSD1 cease RF transmission before receipt of Relinquishment request (if sent) or Deregistration request at Test Harness? , the user choose y

2023-04-26T20:13:17.289Z - INFO - The final result of the test : WINNF.FT.C.DRG.5 is - passed and :the additional comments for the current test are : CBSD1 cease RF Tx and responsecode=103

10.29 Log file for PowerMeasTest (7.1.4.1.1)

```

2023-04-26T20:38:06.059Z - INFO - WINNF TEST HARNESS RELEASE: 1.0.0.3 - 2018-November-13
2023-04-26T20:38:06.065Z - INFO - Selected spectrum frequency is {'lowFrequency': 3550000000L, 'highFrequency': 3570000000L}
2023-04-26T20:38:06.069Z - INFO - Granted Spectrum Max Eirp = 20dBm/MHz
2023-04-26T20:38:06.076Z - INFO - the selected test from the user : PowerMeasTest is starting now
2023-04-26T20:38:22.706Z - INFO - deregistration request from CBRS : {
  "deregistrationRequest": [
    {
      "cbsdId": "W6U-TEST-FCC-IDMock-SAS68530322500007"
    }
  ]
}
2023-04-26T20:38:22.711Z - INFO - ERROR - there is no cbrs obj registered with the cbsdSerialNumber : 68530322500007
2023-04-26T20:38:22.823Z - INFO - registration request from CBRS : {
  "registrationRequest": [
    {
      "airInterface": {
        "radioTechnology": "NR"
      },
      "callSign": "1",
      "cbsdCategory": "A",
      "cbsdInfo": {
        "firmwareVersion": "1.1.10 ()",
        "hardwareVersion": "0.0.1",
        "model": "O-RU",
        "softwareVersion": "0.2.4 ()",
        "vendor": "SOLiD"
      },
      "cbsdSerialNumber": "68530322500007",
      "cpiSignatureData": {
        "digitalSignature": "AR5MaDIzi5_qJGKAmdxCUYzojDxUWghcxP_oJXuoizxq1K2B22_gHAI6HcpvWjYkBuHR4Br0gY81Le21Wrdc3yZHreFOV1iKJCF-
1GWGdpXNWZfuqRXj6-
hIEA9s5dlmQtu_Q2Z2UEXpqISwn6xtBY7k1qI6yenIIQ4nV7C0iRxt9L7AeubAFSLIDc3twXBrrbLbbRgtckEAPbi2VgOAU4dkMuMydrYzolKQVNV4Nei9uL9r3rgaEfCm
HWVix18_6kElxJ_IQYnU3P_N2siY81q57jE6AeJpWm3qa4n8Vm9Bdjv-riOZ_E6-Mq7HhoF5EK4hLI9tNC_T5fpnYMOA",
        "encodedCpiSignedData":
"eyJpbmN0YWxsYXRpb25QYXJhbSI6eyJsYXRpdHVkZSI6MS4wLjI6bnN0YXR1ZGUiojEuMCwiaGVpZ2h0IjoxLjAsImhlaWdodFR5cGUioiJBR0wiLCJpbmRvb3JlZXBs
b3ltZS01p0cnVILCJhbnRlbnM5hr2Fpbil6MC4wfSwiZmNjSWQioiJXNlU0tEVETVC1GQ0MtSUQlCjYnNkU2VyaWFsTnVtYmVyljoiNjg1MzAzMjI1MDAwMDciLCJw
cm9mZXNzaW9uYWwJbnN0YWxsZXJlYXJhIjpb7ImNwaUlkljoiMTEtXliwiY3BpTmFtZSI6IjEiLCJpbmN0YWxsQ2VydGlmaWNhdGlvbGlRpbWUiOiIyMDE3LTExLTExVDI
wOjMwOjAwWjI9fQ",
        "protectedHeader": "eyJhbGciOiJSUzI1NiIsInR5cCI6IkpXVCJ9"
      },
      "fccId": "W6U-TEST-FCC-ID",
      "userId": "1"
    }
  ]
}
2023-04-26T20:38:22.898Z - INFO - engine sent successfully, the response to CBRS : {
  "registrationResponse": [
    {
      "cbsdId": "W6U-TEST-FCC-IDMock-SAS68530322500007",
      "response": {
        "responseCode": 0
      }
    }
  ]
}

```

```

    }
  }
]
}
2023-04-26T20:38:22.983Z - INFO - spectrumInquiry request from CBRS : {
  "spectrumInquiryRequest": [
    {
      "cbsdId": "W6U-TEST-FCC-IDMock-SAS68530322500007",
      "inquiredSpectrum": [
        {
          "highFrequency": 3700000000,
          "lowFrequency": 3550000000
        }
      ]
    }
  ]
}
2023-04-26T20:38:23.063Z - INFO - The requested spectrum is out of the range, availableChannel is sent out
2023-04-26T20:38:23.068Z - INFO - engine sent successfully, the response to CBRS : {
  "spectrumInquiryResponse": [
    {
      "availableChannel": [
        {
          "channelType": "GAA",
          "frequencyRange": {
            "highFrequency": 3570000000,
            "lowFrequency": 3550000000
          },
          "maxEirp": 20,
          "ruleApplied": "FCC_PART_96"
        }
      ],
      "cbsdId": "W6U-TEST-FCC-IDMock-SAS68530322500007",
      "response": {
        "responseCode": 0
      }
    }
  ]
}
2023-04-26T20:38:23.180Z - INFO - spectrumInquiry request from CBRS : {
  "spectrumInquiryRequest": [
    {
      "cbsdId": "W6U-TEST-FCC-IDMock-SAS68530322500007",
      "inquiredSpectrum": [
        {
          "highFrequency": 3570040000.0,
          "lowFrequency": 3550040000.0
        }
      ]
    }
  ]
}
2023-04-26T20:38:23.203Z - INFO - The requested spectrum is out of the range, availableChannel is sent out

```

2023-04-26T20:38:23.209Z - INFO - engine sent successfully, the response to CBRS : {
 "spectrumInquiryResponse": [

```
{
  "availableChannel": [
    {
      "channelType": "GAA",
      "frequencyRange": {
        "highFrequency": 3570000000,
        "lowFrequency": 3550000000
      },
      "maxEirp": 20,
      "ruleApplied": "FCC_PART_96"
    }
  ],
  "cbsdId": "W6U-TEST-FCC-IDMock-SAS68530322500007",
  "response": {
    "responseCode": 0
  }
}
]
```

2023-04-26T20:38:23.283Z - INFO - grant request from CBRS : {
 "grantRequest": [

```
{
  "cbsdId": "W6U-TEST-FCC-IDMock-SAS68530322500007",
  "operationParam": {
    "maxEirp": 11.0,
    "operationFrequencyRange": {
      "highFrequency": 3570000000,
      "lowFrequency": 3550000000
    }
  }
}
]
```

2023-04-26T20:38:23.358Z - INFO - engine sent successfully, the response to CBRS : {
 "grantResponse": [

```
{
  "cbsdId": "W6U-TEST-FCC-IDMock-SAS68530322500007",
  "channelType": "GAA",
  "grantExpireTime": "2023-05-03T20:38:23Z",
  "grantId": "889567867",
  "heartbeatInterval": 60,
  "response": {
    "responseCode": 0
  }
}
]
```

2023-04-26T20:38:23.438Z - INFO - heartbeat request from CBRS : {
 "heartbeatRequest": [

```
{
  "cbsdId": "W6U-TEST-FCC-IDMock-SAS68530322500007",
```

```

    "grantId": "889567867",
    "grantRenew": true,
    "operationState": "GRANTED"
  }
}
}
2023-04-26T20:38:23.493Z - INFO - engine sent successfully, the response to CBRS : {
  "heartbeatResponse": [
    {
      "cbsdId": "W6U-TEST-FCC-IDMock-SAS68530322500007",
      "grantExpireTime": "2023-04-26T20:44:23Z",
      "grantId": "889567867",
      "response": {
        "responseCode": 0
      },
      "transmitExpireTime": "2023-04-26T20:41:43Z"
    }
  ]
}
}
2023-04-26T20:38:33.720Z - INFO - heartbeat request from CBRS : {
  "heartbeatRequest": [
    {
      "cbsdId": "W6U-TEST-FCC-IDMock-SAS68530322500007",
      "grantId": "889567867",
      "operationState": "AUTHORIZED"
    }
  ]
}
}
2023-04-26T20:38:33.747Z - INFO - engine sent successfully, the response to CBRS : {
  "heartbeatResponse": [
    {
      "cbsdId": "W6U-TEST-FCC-IDMock-SAS68530322500007",
      "grantId": "889567867",
      "response": {
        "responseCode": 0
      },
      "transmitExpireTime": "2023-04-26T20:41:53Z"
    }
  ]
}
}
2023-04-26T20:39:03.849Z - INFO - heartbeat request from CBRS : {
  "heartbeatRequest": [
    {
      "cbsdId": "W6U-TEST-FCC-IDMock-SAS68530322500007",
      "grantId": "889567867",
      "operationState": "AUTHORIZED"
    }
  ]
}
}
2023-04-26T20:39:03.953Z - INFO - engine sent successfully, the response to CBRS : {
  "heartbeatResponse": [
    {
      "cbsdId": "W6U-TEST-FCC-IDMock-SAS68530322500007",

```

```

    "grantId": "889567867",
    "response": {
      "responseCode": 0
    },
    "transmitExpireTime": "2023-04-26T20:42:23Z"
  }
}
}
2023-04-26T20:39:34.075Z - INFO - heartbeat request from CBRS : {
  "heartbeatRequest": [
    {
      "cbsdId": "W6U-TEST-FCC-IDMock-SAS68530322500007",
      "grantId": "889567867",
      "operationState": "AUTHORIZED"
    }
  ]
}
2023-04-26T20:39:34.115Z - INFO - engine sent successfully, the response to CBRS : {
  "heartbeatResponse": [
    {
      "cbsdId": "W6U-TEST-FCC-IDMock-SAS68530322500007",
      "grantId": "889567867",
      "response": {
        "responseCode": 0
      },
      "transmitExpireTime": "2023-04-26T20:42:54Z"
    }
  ]
}
2023-04-26T20:40:04.232Z - INFO - heartbeat request from CBRS : {
  "heartbeatRequest": [
    {
      "cbsdId": "W6U-TEST-FCC-IDMock-SAS68530322500007",
      "grantId": "889567867",
      "operationState": "AUTHORIZED"
    }
  ]
}
2023-04-26T20:40:04.276Z - INFO - engine sent successfully, the response to CBRS : {
  "heartbeatResponse": [
    {
      "cbsdId": "W6U-TEST-FCC-IDMock-SAS68530322500007",
      "grantId": "889567867",
      "response": {
        "responseCode": 0
      },
      "transmitExpireTime": "2023-04-26T20:43:24Z"
    }
  ]
}
2023-04-26T20:40:34.387Z - INFO - heartbeat request from CBRS : {
  "heartbeatRequest": [
    {

```

```

    "cbsdId": "W6U-TEST-FCC-IDMock-SAS68530322500007",
    "grantId": "889567867",
    "operationState": "AUTHORIZED"
  }
}
}
2023-04-26T20:40:34.427Z - INFO - engine sent successfully, the response to CBRS : {
  "heartbeatResponse": [
    {
      "cbsdId": "W6U-TEST-FCC-IDMock-SAS68530322500007",
      "grantId": "889567867",
      "response": {
        "responseCode": 0
      },
      "transmitExpireTime": "2023-04-26T20:43:54Z"
    }
  ]
}
2023-04-26T20:41:04.522Z - INFO - heartbeat request from CBRS : {
  "heartbeatRequest": [
    {
      "cbsdId": "W6U-TEST-FCC-IDMock-SAS68530322500007",
      "grantId": "889567867",
      "operationState": "AUTHORIZED"
    }
  ]
}
2023-04-26T20:41:04.563Z - INFO - engine sent successfully, the response to CBRS : {
  "heartbeatResponse": [
    {
      "cbsdId": "W6U-TEST-FCC-IDMock-SAS68530322500007",
      "grantId": "889567867",
      "response": {
        "responseCode": 0
      },
      "transmitExpireTime": "2023-04-26T20:44:24Z"
    }
  ]
}
2023-04-26T20:41:34.660Z - INFO - heartbeat request from CBRS : {
  "heartbeatRequest": [
    {
      "cbsdId": "W6U-TEST-FCC-IDMock-SAS68530322500007",
      "grantId": "889567867",
      "operationState": "AUTHORIZED"
    }
  ]
}
2023-04-26T20:41:34.698Z - INFO - engine sent successfully, the response to CBRS : {
  "heartbeatResponse": [
    {
      "cbsdId": "W6U-TEST-FCC-IDMock-SAS68530322500007",
      "grantId": "889567867",

```

```

    "response": {
      "responseCode": 0
    },
    "transmitExpireTime": "2023-04-26T20:44:54Z"
  }
}
}
2023-04-26T20:42:04.813Z - INFO - heartbeat request from CBRS : {
  "heartbeatRequest": [
    {
      "cbsdId": "W6U-TEST-FCC-IDMock-SAS68530322500007",
      "grantId": "889567867",
      "operationState": "AUTHORIZED"
    }
  ]
}
}
2023-04-26T20:42:04.858Z - INFO - engine sent successfully, the response to CBRS : {
  "heartbeatResponse": [
    {
      "cbsdId": "W6U-TEST-FCC-IDMock-SAS68530322500007",
      "grantId": "889567867",
      "response": {
        "responseCode": 0
      },
      "transmitExpireTime": "2023-04-26T20:45:24Z"
    }
  ]
}
}
2023-04-26T20:42:34.986Z - INFO - heartbeat request from CBRS : {
  "heartbeatRequest": [
    {
      "cbsdId": "W6U-TEST-FCC-IDMock-SAS68530322500007",
      "grantId": "889567867",
      "grantRenew": true,
      "operationState": "AUTHORIZED"
    }
  ]
}
}
2023-04-26T20:42:35.029Z - INFO - engine sent successfully, the response to CBRS : {
  "heartbeatResponse": [
    {
      "cbsdId": "W6U-TEST-FCC-IDMock-SAS68530322500007",
      "grantExpireTime": "2023-04-26T20:48:35Z",
      "grantId": "889567867",
      "response": {
        "responseCode": 0
      },
      "transmitExpireTime": "2023-04-26T20:45:55Z"
    }
  ]
}
}
2023-04-26T20:43:05.161Z - INFO - heartbeat request from CBRS : {
  "heartbeatRequest": [

```

```

{
  "cbsdId": "W6U-TEST-FCC-IDMock-SAS68530322500007",
  "grantId": "889567867",
  "operationState": "AUTHORIZED"
}
]
}
2023-04-26T20:43:05.207Z - INFO - engine sent successfully, the response to CBRS : {
  "heartbeatResponse": [
    {
      "cbsdId": "W6U-TEST-FCC-IDMock-SAS68530322500007",
      "grantId": "889567867",
      "response": {
        "responseCode": 0
      },
      "transmitExpireTime": "2023-04-26T20:46:25Z"
    }
  ]
}
2023-04-26T20:43:35.338Z - INFO - heartbeat request from CBRS : {
  "heartbeatRequest": [
    {
      "cbsdId": "W6U-TEST-FCC-IDMock-SAS68530322500007",
      "grantId": "889567867",
      "operationState": "AUTHORIZED"
    }
  ]
}
2023-04-26T20:43:35.421Z - INFO - engine sent successfully, the response to CBRS : {
  "heartbeatResponse": [
    {
      "cbsdId": "W6U-TEST-FCC-IDMock-SAS68530322500007",
      "grantId": "889567867",
      "response": {
        "responseCode": 0
      },
      "transmitExpireTime": "2023-04-26T20:46:55Z"
    }
  ]
}
2023-04-26T20:44:05.546Z - INFO - heartbeat request from CBRS : {
  "heartbeatRequest": [
    {
      "cbsdId": "W6U-TEST-FCC-IDMock-SAS68530322500007",
      "grantId": "889567867",
      "operationState": "AUTHORIZED"
    }
  ]
}
2023-04-26T20:44:05.588Z - INFO - engine sent successfully, the response to CBRS : {
  "heartbeatResponse": [
    {
      "cbsdId": "W6U-TEST-FCC-IDMock-SAS68530322500007",

```

```

    "grantId": "889567867",
    "response": {
      "responseCode": 0
    },
    "transmitExpireTime": "2023-04-26T20:47:25Z"
  }
}
}
2023-04-26T20:44:35.713Z - INFO - heartbeat request from CBRS : {
  "heartbeatRequest": [
    {
      "cbsdId": "W6U-TEST-FCC-IDMock-SAS68530322500007",
      "grantId": "889567867",
      "operationState": "AUTHORIZED"
    }
  ]
}
2023-04-26T20:44:35.753Z - INFO - engine sent successfully, the response to CBRS : {
  "heartbeatResponse": [
    {
      "cbsdId": "W6U-TEST-FCC-IDMock-SAS68530322500007",
      "grantId": "889567867",
      "response": {
        "responseCode": 0
      },
      "transmitExpireTime": "2023-04-26T20:47:55Z"
    }
  ]
}
2023-04-26T20:45:05.868Z - INFO - heartbeat request from CBRS : {
  "heartbeatRequest": [
    {
      "cbsdId": "W6U-TEST-FCC-IDMock-SAS68530322500007",
      "grantId": "889567867",
      "operationState": "AUTHORIZED"
    }
  ]
}
2023-04-26T20:45:05.905Z - INFO - engine sent successfully, the response to CBRS : {
  "heartbeatResponse": [
    {
      "cbsdId": "W6U-TEST-FCC-IDMock-SAS68530322500007",
      "grantId": "889567867",
      "response": {
        "responseCode": 0
      },
      "transmitExpireTime": "2023-04-26T20:48:25Z"
    }
  ]
}
2023-04-26T20:45:35.996Z - INFO - heartbeat request from CBRS : {
  "heartbeatRequest": [
    {

```

```

    "cbsdId": "W6U-TEST-FCC-IDMock-SAS68530322500007",
    "grantId": "889567867",
    "operationState": "AUTHORIZED"
  }
}
}
2023-04-26T20:45:36.026Z - INFO - engine sent successfully, the response to CBRS : {
  "heartbeatResponse": [
    {
      "cbsdId": "W6U-TEST-FCC-IDMock-SAS68530322500007",
      "grantId": "889567867",
      "response": {
        "responseCode": 0
      },
      "transmitExpireTime": "2023-04-26T20:48:56Z"
    }
  ]
}
2023-04-26T20:46:06.168Z - INFO - heartbeat request from CBRS : {
  "heartbeatRequest": [
    {
      "cbsdId": "W6U-TEST-FCC-IDMock-SAS68530322500007",
      "grantId": "889567867",
      "operationState": "AUTHORIZED"
    }
  ]
}
2023-04-26T20:46:06.213Z - INFO - engine sent successfully, the response to CBRS : {
  "heartbeatResponse": [
    {
      "cbsdId": "W6U-TEST-FCC-IDMock-SAS68530322500007",
      "grantId": "889567867",
      "response": {
        "responseCode": 0
      },
      "transmitExpireTime": "2023-04-26T20:49:26Z"
    }
  ]
}
2023-04-26T20:46:36.342Z - INFO - heartbeat request from CBRS : {
  "heartbeatRequest": [
    {
      "cbsdId": "W6U-TEST-FCC-IDMock-SAS68530322500007",
      "grantId": "889567867",
      "grantRenew": true,
      "operationState": "AUTHORIZED"
    }
  ]
}
2023-04-26T20:46:36.388Z - INFO - engine sent successfully, the response to CBRS : {
  "heartbeatResponse": [
    {
      "cbsdId": "W6U-TEST-FCC-IDMock-SAS68530322500007",

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    "grantExpireTime": "2023-04-26T20:52:36Z",
    "grantId": "889567867",
    "response": {
      "responseCode": 0
    },
    "transmitExpireTime": "2023-04-26T20:49:56Z"
  }
}
}
2023-04-26T20:47:06.617Z - INFO - heartbeat request from CBRS : {
  "heartbeatRequest": [
    {
      "cbsdId": "W6U-TEST-FCC-IDMock-SAS68530322500007",
      "grantId": "889567867",
      "operationState": "AUTHORIZED"
    }
  ]
}
}
2023-04-26T20:47:06.651Z - INFO - engine sent successfully, the response to CBRS : {
  "heartbeatResponse": [
    {
      "cbsdId": "W6U-TEST-FCC-IDMock-SAS68530322500007",
      "grantId": "889567867",
      "response": {
        "responseCode": 0
      },
      "transmitExpireTime": "2023-04-26T20:50:26Z"
    }
  ]
}
}
2023-04-26T20:47:36.778Z - INFO - heartbeat request from CBRS : {
  "heartbeatRequest": [
    {
      "cbsdId": "W6U-TEST-FCC-IDMock-SAS68530322500007",
      "grantId": "889567867",
      "operationState": "AUTHORIZED"
    }
  ]
}
}
2023-04-26T20:47:36.845Z - INFO - engine sent successfully, the response to CBRS : {
  "heartbeatResponse": [
    {
      "cbsdId": "W6U-TEST-FCC-IDMock-SAS68530322500007",
      "grantId": "889567867",
      "response": {
        "responseCode": 0
      },
      "transmitExpireTime": "2023-04-26T20:50:56Z"
    }
  ]
}
}
2023-04-26T20:48:06.964Z - INFO - heartbeat request from CBRS : {
  "heartbeatRequest": [

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{
  "cbsdId": "W6U-TEST-FCC-IDMock-SAS68530322500007",
  "grantId": "889567867",
  "operationState": "AUTHORIZED"
}
]
}
2023-04-26T20:48:07.013Z - INFO - engine sent successfully, the response to CBRS : {
  "heartbeatResponse": [
    {
      "cbsdId": "W6U-TEST-FCC-IDMock-SAS68530322500007",
      "grantId": "889567867",
      "response": {
        "responseCode": 0
      },
      "transmitExpireTime": "2023-04-26T20:51:27Z"
    }
  ]
}
2023-04-26T20:48:37.147Z - INFO - heartbeat request from CBRS : {
  "heartbeatRequest": [
    {
      "cbsdId": "W6U-TEST-FCC-IDMock-SAS68530322500007",
      "grantId": "889567867",
      "operationState": "AUTHORIZED"
    }
  ]
}
2023-04-26T20:48:37.190Z - INFO - engine sent successfully, the response to CBRS : {
  "heartbeatResponse": [
    {
      "cbsdId": "W6U-TEST-FCC-IDMock-SAS68530322500007",
      "grantId": "889567867",
      "response": {
        "responseCode": 0
      },
      "transmitExpireTime": "2023-04-26T20:51:57Z"
    }
  ]
}
2023-04-26T20:49:07.401Z - INFO - heartbeat request from CBRS : {
  "heartbeatRequest": [
    {
      "cbsdId": "W6U-TEST-FCC-IDMock-SAS68530322500007",
      "grantId": "889567867",
      "operationState": "AUTHORIZED"
    }
  ]
}
2023-04-26T20:49:07.523Z - INFO - engine sent successfully, the response to CBRS : {
  "heartbeatResponse": [
    {
      "cbsdId": "W6U-TEST-FCC-IDMock-SAS68530322500007",

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    "grantId": "889567867",
    "response": {
      "responseCode": 0
    },
    "transmitExpireTime": "2023-04-26T20:52:27Z"
  }
}
}
2023-04-26T20:49:37.648Z - INFO - heartbeat request from CBRS : {
  "heartbeatRequest": [
    {
      "cbsdId": "W6U-TEST-FCC-IDMock-SAS68530322500007",
      "grantId": "889567867",
      "operationState": "AUTHORIZED"
    }
  ]
}
2023-04-26T20:49:37.687Z - INFO - engine sent successfully, the response to CBRS : {
  "heartbeatResponse": [
    {
      "cbsdId": "W6U-TEST-FCC-IDMock-SAS68530322500007",
      "grantId": "889567867",
      "response": {
        "responseCode": 0
      },
      "transmitExpireTime": "2023-04-26T20:52:57Z"
    }
  ]
}
2023-04-26T20:50:07.812Z - INFO - heartbeat request from CBRS : {
  "heartbeatRequest": [
    {
      "cbsdId": "W6U-TEST-FCC-IDMock-SAS68530322500007",
      "grantId": "889567867",
      "operationState": "AUTHORIZED"
    }
  ]
}
2023-04-26T20:50:07.867Z - INFO - engine sent successfully, the response to CBRS : {
  "heartbeatResponse": [
    {
      "cbsdId": "W6U-TEST-FCC-IDMock-SAS68530322500007",
      "grantId": "889567867",
      "response": {
        "responseCode": 0
      },
      "transmitExpireTime": "2023-04-26T20:53:27Z"
    }
  ]
}
2023-04-26T20:50:38.002Z - INFO - heartbeat request from CBRS : {
  "heartbeatRequest": [
    {

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    "cbsdId": "W6U-TEST-FCC-IDMock-SAS68530322500007",
    "grantId": "889567867",
    "grantRenew": true,
    "operationState": "AUTHORIZED"
  }
}
}
2023-04-26T20:50:38.049Z - INFO - engine sent successfully, the response to CBRS : {
  "heartbeatResponse": [
    {
      "cbsdId": "W6U-TEST-FCC-IDMock-SAS68530322500007",
      "grantExpireTime": "2023-04-26T20:56:38Z",
      "grantId": "889567867",
      "response": {
        "responseCode": 0
      },
      "transmitExpireTime": "2023-04-26T20:53:58Z"
    }
  ]
}
2023-04-26T20:51:08.176Z - INFO - heartbeat request from CBRS : {
  "heartbeatRequest": [
    {
      "cbsdId": "W6U-TEST-FCC-IDMock-SAS68530322500007",
      "grantId": "889567867",
      "operationState": "AUTHORIZED"
    }
  ]
}
2023-04-26T20:51:08.226Z - INFO - engine sent successfully, the response to CBRS : {
  "heartbeatResponse": [
    {
      "cbsdId": "W6U-TEST-FCC-IDMock-SAS68530322500007",
      "grantId": "889567867",
      "response": {
        "responseCode": 0
      },
      "transmitExpireTime": "2023-04-26T20:54:28Z"
    }
  ]
}
2023-04-26T20:51:38.382Z - INFO - heartbeat request from CBRS : {
  "heartbeatRequest": [
    {
      "cbsdId": "W6U-TEST-FCC-IDMock-SAS68530322500007",
      "grantId": "889567867",
      "operationState": "AUTHORIZED"
    }
  ]
}
2023-04-26T20:51:38.418Z - INFO - engine sent successfully, the response to CBRS : {
  "heartbeatResponse": [
    {

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    "cbsdId": "W6U-TEST-FCC-IDMock-SAS68530322500007",
    "grantId": "889567867",
    "response": {
      "responseCode": 0
    },
    "transmitExpireTime": "2023-04-26T20:54:58Z"
  }
}
}
2023-04-26T20:52:08.631Z - INFO - heartbeat request from CBRS : {
  "heartbeatRequest": [
    {
      "cbsdId": "W6U-TEST-FCC-IDMock-SAS68530322500007",
      "grantId": "889567867",
      "operationState": "AUTHORIZED"
    }
  ]
}
}
2023-04-26T20:52:08.687Z - INFO - engine sent successfully, the response to CBRS : {
  "heartbeatResponse": [
    {
      "cbsdId": "W6U-TEST-FCC-IDMock-SAS68530322500007",
      "grantId": "889567867",
      "response": {
        "responseCode": 0
      },
      "transmitExpireTime": "2023-04-26T20:55:28Z"
    }
  ]
}
}
2023-04-26T20:52:38.786Z - INFO - heartbeat request from CBRS : {
  "heartbeatRequest": [
    {
      "cbsdId": "W6U-TEST-FCC-IDMock-SAS68530322500007",
      "grantId": "889567867",
      "operationState": "AUTHORIZED"
    }
  ]
}
}
2023-04-26T20:52:38.829Z - INFO - engine sent successfully, the response to CBRS : {
  "heartbeatResponse": [
    {
      "cbsdId": "W6U-TEST-FCC-IDMock-SAS68530322500007",
      "grantId": "889567867",
      "response": {
        "responseCode": 0
      },
      "transmitExpireTime": "2023-04-26T20:55:58Z"
    }
  ]
}
}
2023-04-26T20:53:08.948Z - INFO - heartbeat request from CBRS : {
  "heartbeatRequest": [

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{
  "cbsdId": "W6U-TEST-FCC-IDMock-SAS68530322500007",
  "grantId": "889567867",
  "operationState": "AUTHORIZED"
}
]
}
2023-04-26T20:53:08.994Z - INFO - engine sent successfully, the response to CBRS : {
  "heartbeatResponse": [
    {
      "cbsdId": "W6U-TEST-FCC-IDMock-SAS68530322500007",
      "grantId": "889567867",
      "response": {
        "responseCode": 0
      },
      "transmitExpireTime": "2023-04-26T20:56:28Z"
    }
  ]
}
2023-04-26T20:53:16.551Z - INFO - relinquishment request from CBRS : {
  "relinquishmentRequest": [
    {
      "cbsdId": "W6U-TEST-FCC-IDMock-SAS68530322500007",
      "grantId": "889567867"
    }
  ]
}
2023-04-26T20:53:16.644Z - INFO - engine sent successfully, the response to CBRS : {
  "relinquishmentResponse": [
    {
      "cbsdId": "W6U-TEST-FCC-IDMock-SAS68530322500007",
      "grantId": "889567867",
      "response": {
        "responseCode": 0
      }
    }
  ]
}
2023-04-26T20:53:22.723Z - INFO - deregistration request from CBRS : {
  "deregistrationRequest": [
    {
      "cbsdId": "W6U-TEST-FCC-IDMock-SAS68530322500007"
    }
  ]
}
2023-04-26T20:53:22.828Z - INFO - engine sent successfully, the response to CBRS : {
  "deregistrationResponse": [
    {
      "cbsdId": "W6U-TEST-FCC-IDMock-SAS68530322500007",
      "response": {
        "responseCode": 0
      }
    }
  ]
}

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}
}
2023-04-26T20:53:22.969Z - INFO - registration request from CBRS : {
  "registrationRequest": [
    {
      "airInterface": {
        "radioTechnology": "NR"
      },
      "callSign": "1",
      "cbsdCategory": "A",
      "cbsdInfo": {
        "firmwareVersion": "1.1.10 ()",
        "hardwareVersion": "0.0.1",
        "model": "O-RU",
        "softwareVersion": "0.2.4 ()",
        "vendor": "SOLiD"
      },
      "cbsdSerialNumber": "68530322500007",
      "cpiSignatureData": {
        "digitalSignature": "AR5MaDzi5_qJGKAmdXCuYzojDXUWghcxP_ojXuoi2xq1K2B22_gHAL6HcpvWjYkBuHR4Br0gY81Le21Wrdc3yZHreFOV1iKJCF-1GWGdpXNWZfuqRXj6-hIEA9s5dlmQtu_O2ZZ2UEXpqISwn6xtBY7k1qI6yenllQ4nV7C0iRxt9L7AeubAFSLIDc3twXBrbbLbbRgtckEAPbi2VgOAU4dkMuMydrYzoIkQVNV4Nei9uL9r3rgaEfCmHWViex18_6kELxI_QYnU3P_N2siY81q57jE6AeJpWm3qa4n8Vm9Bdjv-riOZL_E6-Mq7HhoF5EK4hLI9tNC_T5fpnYMOA",
        "encodedCpiSignedData": "eyJpbN0YWxsYXRpb25QYXJhbSI6eyJsYXRpdHVkZSI6MS4wLjB25naXR1ZGUuOiJEUjEuMCwiaGVpZ2h0IjoxLjAsImhlaWdodFR5cGUiOiJBROwiLCJpbmRvb3JEZXBsY3ltZW50IjpbOcnVILCJhbnRlbn5hR2Fpbil6MC4wfSwiZmNjSWQ0OiJXNlUuTEVETVC1GQ0MtSUQILCJjYnNkU2VyaWFsTnVtYmVyljoiNjg1MzAzMjl1MDAwMDciLCJmcm9mZXNzaW9uYWxJbnN0YWxsZXJlYXRhIjpb7ImNwaUlkljoiMTEwX2liY3BpTmFtZSI6IjEiLCJpbN0YWxsQ2VydGlmaWNhdGlvblRpbWUiOiIyMDE3LTExVDIwOjMwOjAwWij9fQ",
        "protectedHeader": "eyJhbGciOiJSUzI1NiIsInR5cCI6IkpXVCJ9"
      },
      "fccId": "W6U-TEST-FCC-ID",
      "userId": "1"
    }
  ]
}
2023-04-26T20:53:23.105Z - INFO - engine sent successfully, the response to CBRS : {
  "registrationResponse": [
    {
      "cbsdId": "W6U-TEST-FCC-IDMock-SAS68530322500007",
      "response": {
        "responseCode": 0
      }
    }
  ]
}
2023-04-26T20:53:23.183Z - INFO - spectrumInquiry request from CBRS : {
  "spectrumInquiryRequest": [
    {
      "cbsdId": "W6U-TEST-FCC-IDMock-SAS68530322500007",
      "inquiredSpectrum": [
        {
          "highFrequency": 3700000000,
          "lowFrequency": 3550000000
        }
      ]
    }
  ]
}

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    }
  ]
}
]
}
2023-04-26T20:53:23.285Z - INFO - The requested spectrum is out of the range, availableChannel is sent out
2023-04-26T20:53:23.289Z - INFO - engine sent successfully, the response to CBRS : {
  "spectrumInquiryResponse": [
    {
      "availableChannel": [
        {
          "channelType": "GAA",
          "frequencyRange": {
            "highFrequency": 3570000000,
            "lowFrequency": 3550000000
          },
          "maxEirp": 20,
          "ruleApplied": "FCC_PART_96"
        }
      ],
      "cbsdId": "W6U-TEST-FCC-IDMock-SAS68530322500007",
      "response": {
        "responseCode": 0
      }
    }
  ]
}
2023-04-26T20:53:23.390Z - INFO - spectrumInquiry request from CBRS : {
  "spectrumInquiryRequest": [
    {
      "cbsdId": "W6U-TEST-FCC-IDMock-SAS68530322500007",
      "inquiredSpectrum": [
        {
          "highFrequency": 3570040000.0,
          "lowFrequency": 3550040000.0
        }
      ]
    }
  ]
}
2023-04-26T20:53:23.417Z - INFO - The requested spectrum is out of the range, availableChannel is sent out
2023-04-26T20:53:23.421Z - INFO - engine sent successfully, the response to CBRS : {
  "spectrumInquiryResponse": [
    {
      "availableChannel": [
        {
          "channelType": "GAA",
          "frequencyRange": {
            "highFrequency": 3570000000,
            "lowFrequency": 3550000000
          },
          "maxEirp": 20,
          "ruleApplied": "FCC_PART_96"
        }
      ],
      "cbsdId": "W6U-TEST-FCC-IDMock-SAS68530322500007",
      "response": {
        "responseCode": 0
      }
    }
  ]
}

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    }
  ],
  "cbsdId": "W6U-TEST-FCC-IDMock-SAS68530322500007",
  "response": {
    "responseCode": 0
  }
}
}
}
2023-04-26T20:53:23.509Z - INFO - grant request from CBRS : {
  "grantRequest": [
    {
      "cbsdId": "W6U-TEST-FCC-IDMock-SAS68530322500007",
      "operationParam": {
        "maxEirp": 11.0,
        "operationFrequencyRange": {
          "highFrequency": 3570000000,
          "lowFrequency": 3550000000
        }
      }
    }
  ]
}
}
2023-04-26T20:53:23.634Z - INFO - engine sent successfully, the response to CBRS : {
  "grantResponse": [
    {
      "cbsdId": "W6U-TEST-FCC-IDMock-SAS68530322500007",
      "channelType": "GAA",
      "grantExpireTime": "2023-05-03T20:53:23Z",
      "grantId": "606557458",
      "heartbeatInterval": 60,
      "response": {
        "responseCode": 0
      }
    }
  ]
}
}
2023-04-26T20:53:23.703Z - INFO - heartbeat request from CBRS : {
  "heartbeatRequest": [
    {
      "cbsdId": "W6U-TEST-FCC-IDMock-SAS68530322500007",
      "grantId": "606557458",
      "grantRenew": true,
      "operationState": "GRANTED"
    }
  ]
}
}
2023-04-26T20:53:23.743Z - INFO - engine sent successfully, the response to CBRS : {
  "heartbeatResponse": [
    {
      "cbsdId": "W6U-TEST-FCC-IDMock-SAS68530322500007",
      "grantExpireTime": "2023-04-26T20:59:23Z",
      "grantId": "606557458",

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    "response": {
      "responseCode": 0
    },
    "transmitExpireTime": "2023-04-26T20:56:43Z"
  }
}
}
2023-04-26T20:53:23.822Z - INFO - heartbeat request from CBRS : {
  "heartbeatRequest": [
    {
      "cbsdId": "W6U-TEST-FCC-IDMock-SAS68530322500007",
      "grantId": "606557458",
      "operationState": "AUTHORIZED"
    }
  ]
}
}
2023-04-26T20:53:23.842Z - INFO - engine sent successfully, the response to CBRS : {
  "heartbeatResponse": [
    {
      "cbsdId": "W6U-TEST-FCC-IDMock-SAS68530322500007",
      "grantId": "606557458",
      "response": {
        "responseCode": 0
      },
      "transmitExpireTime": "2023-04-26T20:56:43Z"
    }
  ]
}
}
2023-04-26T20:53:43.948Z - INFO - heartbeat request from CBRS : {
  "heartbeatRequest": [
    {
      "cbsdId": "W6U-TEST-FCC-IDMock-SAS68530322500007",
      "grantId": "606557458",
      "operationState": "AUTHORIZED"
    }
  ]
}
}
2023-04-26T20:53:43.993Z - INFO - engine sent successfully, the response to CBRS : {
  "heartbeatResponse": [
    {
      "cbsdId": "W6U-TEST-FCC-IDMock-SAS68530322500007",
      "grantId": "606557458",
      "response": {
        "responseCode": 0
      },
      "transmitExpireTime": "2023-04-26T20:57:03Z"
    }
  ]
}
}
2023-04-26T20:54:14.128Z - INFO - heartbeat request from CBRS : {
  "heartbeatRequest": [
    {
      "cbsdId": "W6U-TEST-FCC-IDMock-SAS68530322500007",

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    "grantId": "606557458",
    "operationState": "AUTHORIZED"
  }
}
}
2023-04-26T20:54:14.165Z - INFO - engine sent successfully, the response to CBRS : {
  "heartbeatResponse": [
    {
      "cbsdId": "W6U-TEST-FCC-IDMock-SAS68530322500007",
      "grantId": "606557458",
      "response": {
        "responseCode": 0
      },
      "transmitExpireTime": "2023-04-26T20:57:34Z"
    }
  ]
}
2023-04-26T20:54:44.301Z - INFO - heartbeat request from CBRS : {
  "heartbeatRequest": [
    {
      "cbsdId": "W6U-TEST-FCC-IDMock-SAS68530322500007",
      "grantId": "606557458",
      "operationState": "AUTHORIZED"
    }
  ]
}
2023-04-26T20:54:44.346Z - INFO - engine sent successfully, the response to CBRS : {
  "heartbeatResponse": [
    {
      "cbsdId": "W6U-TEST-FCC-IDMock-SAS68530322500007",
      "grantId": "606557458",
      "response": {
        "responseCode": 0
      },
      "transmitExpireTime": "2023-04-26T20:58:04Z"
    }
  ]
}
2023-04-26T20:55:22.318Z - INFO - heartbeat request from CBRS : {
  "heartbeatRequest": [
    {
      "cbsdId": "W6U-TEST-FCC-IDMock-SAS68530322500007",
      "grantId": "606557458",
      "operationState": "AUTHORIZED"
    }
  ]
}
2023-04-26T20:55:22.355Z - INFO - engine sent successfully, the response to CBRS : {
  "heartbeatResponse": [
    {
      "cbsdId": "W6U-TEST-FCC-IDMock-SAS68530322500007",
      "grantId": "606557458",
      "response": {

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        "responseCode": 0
      },
      "transmitExpireTime": "2023-04-26T20:58:42Z"
    }
  ]
}
2023-04-26T20:55:52.482Z - INFO - heartbeat request from CBRS : {
  "heartbeatRequest": [
    {
      "cbsdId": "W6U-TEST-FCC-IDMock-SAS68530322500007",
      "grantId": "606557458",
      "operationState": "AUTHORIZED"
    }
  ]
}
2023-04-26T20:55:52.523Z - INFO - engine sent successfully, the response to CBRS : {
  "heartbeatResponse": [
    {
      "cbsdId": "W6U-TEST-FCC-IDMock-SAS68530322500007",
      "grantId": "606557458",
      "response": {
        "responseCode": 0
      },
      "transmitExpireTime": "2023-04-26T20:59:12Z"
    }
  ]
}
2023-04-26T20:56:22.622Z - INFO - heartbeat request from CBRS : {
  "heartbeatRequest": [
    {
      "cbsdId": "W6U-TEST-FCC-IDMock-SAS68530322500007",
      "grantId": "606557458",
      "operationState": "AUTHORIZED"
    }
  ]
}
2023-04-26T20:56:22.655Z - INFO - engine sent successfully, the response to CBRS : {
  "heartbeatResponse": [
    {
      "cbsdId": "W6U-TEST-FCC-IDMock-SAS68530322500007",
      "grantId": "606557458",
      "response": {
        "responseCode": 0
      },
      "transmitExpireTime": "2023-04-26T20:59:42Z"
    }
  ]
}
2023-04-26T20:56:36.082Z - INFO - heartbeat request from CBRS : {
  "heartbeatRequest": [
    {
      "cbsdId": "W6U-TEST-FCC-IDMock-SAS68530322500007",
      "grantId": "606557458",

```

```

        "operationState": "AUTHORIZED"
    }
}
}
2023-04-26T20:56:36.128Z - INFO - engine sent successfully, the response to CBRS : {
  "heartbeatResponse": [
    {
      "cbsdId": "W6U-TEST-FCC-IDMock-SAS68530322500007",
      "grantId": "606557458",
      "response": {
        "responseCode": 0
      },
      "transmitExpireTime": "2023-04-26T20:59:56Z"
    }
  ]
}
2023-04-26T20:56:36.227Z - INFO - relinquishment request from CBRS : {
  "relinquishmentRequest": [
    {
      "cbsdId": "W6U-TEST-FCC-IDMock-SAS68530322500007",
      "grantId": "606557458"
    }
  ]
}
2023-04-26T20:56:36.270Z - INFO - engine sent successfully, the response to CBRS : {
  "relinquishmentResponse": [
    {
      "cbsdId": "W6U-TEST-FCC-IDMock-SAS68530322500007",
      "grantId": "606557458",
      "response": {
        "responseCode": 0
      }
    }
  ]
}
2023-04-26T20:56:43.529Z - INFO - deregistration request from CBRS : {
  "deregistrationRequest": [
    {
      "cbsdId": "W6U-TEST-FCC-IDMock-SAS68530322500007"
    }
  ]
}
2023-04-26T20:56:43.558Z - INFO - engine sent successfully, the response to CBRS : {
  "deregistrationResponse": [
    {
      "cbsdId": "W6U-TEST-FCC-IDMock-SAS68530322500007",
      "response": {
        "responseCode": 0
      }
    }
  ]
}
2023-04-26T20:56:43.720Z - INFO - registration request from CBRS : {

```



```

"registrationRequest": [
  {
    "airInterface": {
      "radioTechnology": "NR"
    },
    "callSign": "1",
    "cbsdCategory": "A",
    "cbsdInfo": {
      "firmwareVersion": "1.1.10 ()",
      "hardwareVersion": "0.0.1",
      "model": "O-RU",
      "softwareVersion": "0.2.4 ()",
      "vendor": "SOLiD"
    },
    "cbsdSerialNumber": "68530322500007",
    "cpiSignatureData": {
      "digitalSignature": "AR5MaDIzi5_qJGKAmDxCUYzDxDxUWghcxP_oJXuoi2xq1K2B22_gHAI6HcpvWjYkBuHR4Br0gY81Le21Wrdc3yZHreFOV1iKJCF-
1GWGdpXNWZfuqRXj6-
hIEA9s5dlmQtu_O2Z2UEXpqISwn6xtBY7k1qI6yenIIQ4nV7C0iRxt9L7AeubAFSLIDc3twXBrbbLbbRgtckEAPbi2VgOAU4dkMuMydrYzolkQVNv4Nei9uL9r3rgaEfCm
HWVviex18_6kELxJ_IQYnU3P_N2siY81q57jE6AeJpWm3qa4n8Vm9Bdjv-riOZI_E6-Mq7HhoF5EK4hLI9tNC_T5fpmYMOA",
      "encodedCpiSignedData":
"eyJpbmN0YWxsYXRpb25QYXJhbSI6eyJsYXRpdHVkZSI6MS4wLCJsb25naXR1ZGU0OiEuMCwiaGVpZ2h0IjoxLjAsImhlaWdodFR5cGU0OiJBR0wiLCJpbmRvb3JEZXBs
b3ltZW50Ijp0cnVlLCJhbnRlbn5hR2Fpbil6MC4wfSwiZmNjSWQ0OiJXNlU0tVEVTVVC1GQ0MtSUQiLCJjYnNkU2VyaWFsTnVtYmVyljoiNjg1MzAzMjI1MDAwMDciLCJw
cm9mZXNzaW9uYWwJbnN0YWxsZXJEYXRhIjpw7ImNwaUlkljoiMTEtX2liY3BpTmFtZSI6IjEiLCJpbmN0YWxsQ2VydGlmaWNhdGlubGlRpbWUiOiIyMDE3LTExVDI
wOjMwOjAwWiI9fQ",
      "protectedHeader": "eyJhbGciOiJSUzI1NiIsInR5cCI6IkpXVCJ9"
    },
    "fccId": "W6U-TEST-FCC-ID",
    "userId": "1"
  }
]
}
2023-04-26T20:56:43.813Z - INFO - engine sent successfully, the response to CBRS : {
  "registrationResponse": [
    {
      "cbsdId": "W6U-TEST-FCC-IDMock-SAS68530322500007",
      "response": {
        "responseCode": 0
      }
    }
  ]
}
2023-04-26T20:56:43.927Z - INFO - spectrumInquiry request from CBRS : {
  "spectrumInquiryRequest": [
    {
      "cbsdId": "W6U-TEST-FCC-IDMock-SAS68530322500007",
      "inquiredSpectrum": [
        {
          "highFrequency": 3700000000,
          "lowFrequency": 3550000000
        }
      ]
    }
  ]
}

```

```

    ]
  }
2023-04-26T20:56:43.993Z - INFO - The requested spectrum is out of the range, availableChannel is sent out
2023-04-26T20:56:43.997Z - INFO - engine sent successfully, the response to CBRS : {
  "spectrumInquiryResponse": [
    {
      "availableChannel": [
        {
          "channelType": "GAA",
          "frequencyRange": {
            "highFrequency": 3570000000,
            "lowFrequency": 3550000000
          },
          "maxEirp": 20,
          "ruleApplied": "FCC_PART_96"
        }
      ],
      "cbsdId": "W6U-TEST-FCC-IDMock-SAS68530322500007",
      "response": {
        "responseCode": 0
      }
    }
  ]
}
2023-04-26T20:56:44.121Z - INFO - spectrumInquiry request from CBRS : {
  "spectrumInquiryRequest": [
    {
      "cbsdId": "W6U-TEST-FCC-IDMock-SAS68530322500007",
      "inquiredSpectrum": [
        {
          "highFrequency": 3570040000.0,
          "lowFrequency": 3550040000.0
        }
      ]
    }
  ]
}
2023-04-26T20:56:44.141Z - INFO - The requested spectrum is out of the range, availableChannel is sent out
2023-04-26T20:56:44.144Z - INFO - engine sent successfully, the response to CBRS : {
  "spectrumInquiryResponse": [
    {
      "availableChannel": [
        {
          "channelType": "GAA",
          "frequencyRange": {
            "highFrequency": 3570000000,
            "lowFrequency": 3550000000
          },
          "maxEirp": 20,
          "ruleApplied": "FCC_PART_96"
        }
      ],
      "cbsdId": "W6U-TEST-FCC-IDMock-SAS68530322500007",

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    "response": {
      "responseCode": 0
    }
  }
}
}
2023-04-26T20:56:44.229Z - INFO - grant request from CBRS : {
  "grantRequest": [
    {
      "cbsdId": "W6U-TEST-FCC-IDMock-SAS68530322500007",
      "operationParam": {
        "maxEirp": 11.0,
        "operationFrequencyRange": {
          "highFrequency": 3570000000,
          "lowFrequency": 3550000000
        }
      }
    }
  ]
}
2023-04-26T20:56:44.286Z - INFO - engine sent successfully, the response to CBRS : {
  "grantResponse": [
    {
      "cbsdId": "W6U-TEST-FCC-IDMock-SAS68530322500007",
      "channelType": "GAA",
      "grantExpireTime": "2023-05-03T20:56:44Z",
      "grantId": "476989327",
      "heartbeatInterval": 60,
      "response": {
        "responseCode": 0
      }
    }
  ]
}
2023-04-26T20:56:44.374Z - INFO - heartbeat request from CBRS : {
  "heartbeatRequest": [
    {
      "cbsdId": "W6U-TEST-FCC-IDMock-SAS68530322500007",
      "grantId": "476989327",
      "grantRenew": true,
      "operationState": "GRANTED"
    }
  ]
}
2023-04-26T20:56:44.408Z - INFO - engine sent successfully, the response to CBRS : {
  "heartbeatResponse": [
    {
      "cbsdId": "W6U-TEST-FCC-IDMock-SAS68530322500007",
      "grantExpireTime": "2023-04-26T21:02:44Z",
      "grantId": "476989327",
      "response": {
        "responseCode": 0
      }
    },

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        "transmitExpireTime": "2023-04-26T21:00:04Z"
    }
}
}
2023-04-26T20:56:54.497Z - INFO - heartbeat request from CBRS : {
  "heartbeatRequest": [
    {
      "cbsdId": "W6U-TEST-FCC-IDMock-SAS68530322500007",
      "grantId": "476989327",
      "operationState": "AUTHORIZED"
    }
  ]
}
}
2023-04-26T20:56:54.516Z - INFO - engine sent successfully, the response to CBRS : {
  "heartbeatResponse": [
    {
      "cbsdId": "W6U-TEST-FCC-IDMock-SAS68530322500007",
      "grantId": "476989327",
      "response": {
        "responseCode": 0
      },
      "transmitExpireTime": "2023-04-26T21:00:14Z"
    }
  ]
}
}
2023-04-26T20:57:24.828Z - INFO - heartbeat request from CBRS : {
  "heartbeatRequest": [
    {
      "cbsdId": "W6U-TEST-FCC-IDMock-SAS68530322500007",
      "grantId": "476989327",
      "operationState": "AUTHORIZED"
    }
  ]
}
}
2023-04-26T20:57:24.891Z - INFO - engine sent successfully, the response to CBRS : {
  "heartbeatResponse": [
    {
      "cbsdId": "W6U-TEST-FCC-IDMock-SAS68530322500007",
      "grantId": "476989327",
      "response": {
        "responseCode": 0
      },
      "transmitExpireTime": "2023-04-26T21:00:44Z"
    }
  ]
}
}
2023-04-26T20:57:47.627Z - INFO - heartbeat request from CBRS : {
  "heartbeatRequest": [
    {
      "cbsdId": "W6U-TEST-FCC-IDMock-SAS68530322500007",
      "grantId": "476989327",
      "operationState": "AUTHORIZED"
    }
  ]
}
}

```

```

    ]
  }
2023-04-26T20:57:47.676Z - INFO - engine sent successfully, the response to CBRS : {
  "heartbeatResponse": [
    {
      "cbsdId": "W6U-TEST-FCC-IDMock-SAS68530322500007",
      "grantId": "476989327",
      "response": {
        "responseCode": 0
      },
      "transmitExpireTime": "2023-04-26T21:01:07Z"
    }
  ]
}
2023-04-26T20:57:47.782Z - INFO - relinquishment request from CBRS : {
  "relinquishmentRequest": [
    {
      "cbsdId": "W6U-TEST-FCC-IDMock-SAS68530322500007",
      "grantId": "476989327"
    }
  ]
}
2023-04-26T20:57:47.816Z - INFO - engine sent successfully, the response to CBRS : {
  "relinquishmentResponse": [
    {
      "cbsdId": "W6U-TEST-FCC-IDMock-SAS68530322500007",
      "grantId": "476989327",
      "response": {
        "responseCode": 0
      }
    }
  ]
}
2023-04-26T20:57:55.447Z - INFO - deregistration request from CBRS : {
  "deregistrationRequest": [
    {
      "cbsdId": "W6U-TEST-FCC-IDMock-SAS68530322500007"
    }
  ]
}
2023-04-26T20:57:55.480Z - INFO - engine sent successfully, the response to CBRS : {
  "deregistrationResponse": [
    {
      "cbsdId": "W6U-TEST-FCC-IDMock-SAS68530322500007",
      "response": {
        "responseCode": 0
      }
    }
  ]
}
2023-04-26T21:00:47.750Z - INFO - registration request from CBRS : {
  "registrationRequest": [
    {

```

```

    "airInterface": {
      "radioTechnology": "NR"
    },
    "callSign": "1",
    "cbsdCategory": "A",
    "cbsdInfo": {
      "firmwareVersion": "1.1.10 ()",
      "hardwareVersion": "0.0.1",
      "model": "O-RU",
      "softwareVersion": "0.2.4 ()",
      "vendor": "SOLiD"
    },
    "cbsdSerialNumber": "68530322500007",
    "cpiSignatureData": {
      "digitalSignature": "AR5MaDlzi5_qJGKAmdxCUYzDxUWghcxP_ojXuoi2xq1K2B22_gHAL6HcpvWjYkBuHR4Br0gY81Le21Wrdc3yZHreFOV1iKJCf-1GWGdpXNWZfuqRXj6-hlEA9s5dlmQtu_Q2Z2UEXpqISwn6xtBY7k1q16yenllQ4nV7C0iRxt9L7AeubAFSLidC3twXBrbbLbbRgtckEAPbi2VgOAU4dkMuMydrYzolkQVNV4Nei9uL9r3rgaEfCmHWViex18_6kELxI_QYnU3P_N2siY81q57jE6AeJpWm3qa4n8Vm9Bdjv-riOZL_E6-Mq7HhoF5EK4hLI9tNC_T5fpyYMOA",
      "encodedCpiSignedData": "eyJpbN0YWxsYXRpb25QYXJhbSI6eyJsYXRpdHVkZSI6MS4wLjB25naXR1ZGUuOiJEUjEuMCwiaGVpZ2h0IjoxLjAsImhlaWdodFR5cGUiOiJBR0wiLCJpbmRvb3JEZXBsY3ltZW50Ijpb0cnVlLCJhbnRlbn5hR2Fpbil6MC4wfSwiZmNjSWQ0iOiJXNlUtVEVTVVC1GQ0MtSUQ0IjYnNkU2VyaWFsTnVtYmVYljoijoiNjg1MzAzMj1MDAwMDciLCJwcm9mZXNzaW9uYWxJbnN0YWxsZXJlYXRhIjpb7ImNwaUlkljoiMTEwIiwiaWY3BpTmFtZSI6IjEiLCJpbN0YWxsQ2VydGlmaWNhdGlvbmlRpbWUiOiIyMDE3LTcwLTExVDIwOjMwOjAwWiI9fQ",
      "protectedHeader": "eyJhbGciOiJlSUZlNiIsInR5cCI6IkpXVCJ9"
    },
    "fccId": "W6U-TEST-FCC-ID",
    "userId": "1"
  }
}
}
}
2023-04-26T21:00:47.881Z - INFO - engine sent successfully, the response to CBRS : {
  "registrationResponse": [
    {
      "cbsdId": "W6U-TEST-FCC-IDMock-SAS68530322500007",
      "response": {
        "responseCode": 0
      }
    }
  ]
}
}
2023-04-26T21:00:47.971Z - INFO - spectrumInquiry request from CBRS : {
  "spectrumInquiryRequest": [
    {
      "cbsdId": "W6U-TEST-FCC-IDMock-SAS68530322500007",
      "inquiredSpectrum": [
        {
          "highFrequency": 3700000000,
          "lowFrequency": 3550000000
        }
      ]
    }
  ]
}
}
}

```



2023-04-26T21:00:48.109Z - INFO - The requested spectrum is out of the range, availableChannel is sent out

2023-04-26T21:00:48.111Z - INFO - engine sent successfully, the response to CBRS : {

```
"spectrumInquiryResponse": [
  {
    "availableChannel": [
      {
        "channelType": "GAA",
        "frequencyRange": {
          "highFrequency": 3570000000,
          "lowFrequency": 3550000000
        },
        "maxEirp": 20,
        "ruleApplied": "FCC_PART_96"
      }
    ],
    "cbsdId": "W6U-TEST-FCC-IDMock-SAS68530322500007",
    "response": {
      "responseCode": 0
    }
  }
]
```

2023-04-26T21:00:48.194Z - INFO - spectrumInquiry request from CBRS : {

```
"spectrumInquiryRequest": [
  {
    "cbsdId": "W6U-TEST-FCC-IDMock-SAS68530322500007",
    "inquiredSpectrum": [
      {
        "highFrequency": 3570040000.0,
        "lowFrequency": 3550040000.0
      }
    ]
  }
]
```

2023-04-26T21:00:48.211Z - INFO - The requested spectrum is out of the range, availableChannel is sent out

2023-04-26T21:00:48.214Z - INFO - engine sent successfully, the response to CBRS : {

```
"spectrumInquiryResponse": [
  {
    "availableChannel": [
      {
        "channelType": "GAA",
        "frequencyRange": {
          "highFrequency": 3570000000,
          "lowFrequency": 3550000000
        },
        "maxEirp": 20,
        "ruleApplied": "FCC_PART_96"
      }
    ],
    "cbsdId": "W6U-TEST-FCC-IDMock-SAS68530322500007",
    "response": {
      "responseCode": 0
    }
  }
]
```

```

    }
  }
]
}
2023-04-26T21:00:48.285Z - INFO - grant request from CBRS : {
  "grantRequest": [
    {
      "cbsdId": "W6U-TEST-FCC-IDMock-SAS68530322500007",
      "operationParam": {
        "maxEirp": 11.0,
        "operationFrequencyRange": {
          "highFrequency": 3570000000,
          "lowFrequency": 3550000000
        }
      }
    }
  ]
}
2023-04-26T21:00:48.352Z - INFO - engine sent successfully, the response to CBRS : {
  "grantResponse": [
    {
      "cbsdId": "W6U-TEST-FCC-IDMock-SAS68530322500007",
      "channelType": "GAA",
      "grantExpireTime": "2023-05-03T21:00:48Z",
      "grantId": "39768967",
      "heartbeatInterval": 60,
      "response": {
        "responseCode": 0
      }
    }
  ]
}
2023-04-26T21:00:48.430Z - INFO - heartbeat request from CBRS : {
  "heartbeatRequest": [
    {
      "cbsdId": "W6U-TEST-FCC-IDMock-SAS68530322500007",
      "grantId": "39768967",
      "grantRenew": true,
      "operationState": "GRANTED"
    }
  ]
}
2023-04-26T21:00:48.493Z - INFO - engine sent successfully, the response to CBRS : {
  "heartbeatResponse": [
    {
      "cbsdId": "W6U-TEST-FCC-IDMock-SAS68530322500007",
      "grantExpireTime": "2023-04-26T21:06:48Z",
      "grantId": "39768967",
      "response": {
        "responseCode": 0
      },
      "transmitExpireTime": "2023-04-26T21:04:08Z"
    }
  ]
}

```

```

    ]
  }
2023-04-26T21:00:48.566Z - INFO - heartbeat request from CBRS : {
  "heartbeatRequest": [
    {
      "cbsdId": "W6U-TEST-FCC-IDMock-SAS68530322500007",
      "grantId": "39768967",
      "operationState": "AUTHORIZED"
    }
  ]
}
2023-04-26T21:00:48.595Z - INFO - engine sent successfully, the response to CBRS : {
  "heartbeatResponse": [
    {
      "cbsdId": "W6U-TEST-FCC-IDMock-SAS68530322500007",
      "grantId": "39768967",
      "response": {
        "responseCode": 0
      },
      "transmitExpireTime": "2023-04-26T21:04:08Z"
    }
  ]
}
2023-04-26T21:01:18.776Z - INFO - heartbeat request from CBRS : {
  "heartbeatRequest": [
    {
      "cbsdId": "W6U-TEST-FCC-IDMock-SAS68530322500007",
      "grantId": "39768967",
      "operationState": "AUTHORIZED"
    }
  ]
}
2023-04-26T21:01:18.839Z - INFO - engine sent successfully, the response to CBRS : {
  "heartbeatResponse": [
    {
      "cbsdId": "W6U-TEST-FCC-IDMock-SAS68530322500007",
      "grantId": "39768967",
      "response": {
        "responseCode": 0
      },
      "transmitExpireTime": "2023-04-26T21:04:38Z"
    }
  ]
}
2023-04-26T21:01:48.967Z - INFO - heartbeat request from CBRS : {
  "heartbeatRequest": [
    {
      "cbsdId": "W6U-TEST-FCC-IDMock-SAS68530322500007",
      "grantId": "39768967",
      "operationState": "AUTHORIZED"
    }
  ]
}

```

```

2023-04-26T21:01:49.013Z - INFO - engine sent successfully, the response to CBRS : {
  "heartbeatResponse": [
    {
      "cbsdId": "W6U-TEST-FCC-IDMock-SAS68530322500007",
      "grantId": "39768967",
      "response": {
        "responseCode": 0
      },
      "transmitExpireTime": "2023-04-26T21:05:09Z"
    }
  ]
}
2023-04-26T21:02:19.151Z - INFO - heartbeat request from CBRS : {
  "heartbeatRequest": [
    {
      "cbsdId": "W6U-TEST-FCC-IDMock-SAS68530322500007",
      "grantId": "39768967",
      "operationState": "AUTHORIZED"
    }
  ]
}
2023-04-26T21:02:19.190Z - INFO - engine sent successfully, the response to CBRS : {
  "heartbeatResponse": [
    {
      "cbsdId": "W6U-TEST-FCC-IDMock-SAS68530322500007",
      "grantId": "39768967",
      "response": {
        "responseCode": 0
      },
      "transmitExpireTime": "2023-04-26T21:05:39Z"
    }
  ]
}
2023-04-26T21:02:49.305Z - INFO - heartbeat request from CBRS : {
  "heartbeatRequest": [
    {
      "cbsdId": "W6U-TEST-FCC-IDMock-SAS68530322500007",
      "grantId": "39768967",
      "operationState": "AUTHORIZED"
    }
  ]
}
2023-04-26T21:02:49.355Z - INFO - engine sent successfully, the response to CBRS : {
  "heartbeatResponse": [
    {
      "cbsdId": "W6U-TEST-FCC-IDMock-SAS68530322500007",
      "grantId": "39768967",
      "response": {
        "responseCode": 0
      },
      "transmitExpireTime": "2023-04-26T21:06:09Z"
    }
  ]
}

```

```

}
2023-04-26T21:03:19.477Z - INFO - heartbeat request from CBRS : {
  "heartbeatRequest": [
    {
      "cbsdId": "W6U-TEST-FCC-IDMock-SAS68530322500007",
      "grantId": "39768967",
      "operationState": "AUTHORIZED"
    }
  ]
}
2023-04-26T21:03:19.526Z - INFO - engine sent successfully, the response to CBRS : {
  "heartbeatResponse": [
    {
      "cbsdId": "W6U-TEST-FCC-IDMock-SAS68530322500007",
      "grantId": "39768967",
      "response": {
        "responseCode": 0
      },
      "transmitExpireTime": "2023-04-26T21:06:39Z"
    }
  ]
}
2023-04-26T21:03:49.621Z - INFO - heartbeat request from CBRS : {
  "heartbeatRequest": [
    {
      "cbsdId": "W6U-TEST-FCC-IDMock-SAS68530322500007",
      "grantId": "39768967",
      "operationState": "AUTHORIZED"
    }
  ]
}
2023-04-26T21:03:49.678Z - INFO - engine sent successfully, the response to CBRS : {
  "heartbeatResponse": [
    {
      "cbsdId": "W6U-TEST-FCC-IDMock-SAS68530322500007",
      "grantId": "39768967",
      "response": {
        "responseCode": 0
      },
      "transmitExpireTime": "2023-04-26T21:07:09Z"
    }
  ]
}
2023-04-26T21:04:19.842Z - INFO - heartbeat request from CBRS : {
  "heartbeatRequest": [
    {
      "cbsdId": "W6U-TEST-FCC-IDMock-SAS68530322500007",
      "grantId": "39768967",
      "operationState": "AUTHORIZED"
    }
  ]
}
2023-04-26T21:04:19.924Z - INFO - engine sent successfully, the response to CBRS : {

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"heartbeatResponse": [
  {
    "cbsdId": "W6U-TEST-FCC-IDMock-SAS68530322500007",
    "grantId": "39768967",
    "response": {
      "responseCode": 0
    },
    "transmitExpireTime": "2023-04-26T21:07:39Z"
  }
]
}
2023-04-26T21:04:50.036Z - INFO - heartbeat request from CBRS : {
  "heartbeatRequest": [
    {
      "cbsdId": "W6U-TEST-FCC-IDMock-SAS68530322500007",
      "grantId": "39768967",
      "grantRenew": true,
      "operationState": "AUTHORIZED"
    }
  ]
}
2023-04-26T21:04:50.075Z - INFO - engine sent successfully, the response to CBRS : {
  "heartbeatResponse": [
    {
      "cbsdId": "W6U-TEST-FCC-IDMock-SAS68530322500007",
      "grantExpireTime": "2023-04-26T21:10:50Z",
      "grantId": "39768967",
      "response": {
        "responseCode": 0
      },
      "transmitExpireTime": "2023-04-26T21:08:10Z"
    }
  ]
}
2023-04-26T21:05:20.200Z - INFO - heartbeat request from CBRS : {
  "heartbeatRequest": [
    {
      "cbsdId": "W6U-TEST-FCC-IDMock-SAS68530322500007",
      "grantId": "39768967",
      "operationState": "AUTHORIZED"
    }
  ]
}
2023-04-26T21:05:20.240Z - INFO - engine sent successfully, the response to CBRS : {
  "heartbeatResponse": [
    {
      "cbsdId": "W6U-TEST-FCC-IDMock-SAS68530322500007",
      "grantId": "39768967",
      "response": {
        "responseCode": 0
      },
      "transmitExpireTime": "2023-04-26T21:08:40Z"
    }
  ]
}

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    ]
  }
2023-04-26T21:05:50.374Z - INFO - heartbeat request from CBRS : {
  "heartbeatRequest": [
    {
      "cbsdId": "W6U-TEST-FCC-IDMock-SAS68530322500007",
      "grantId": "39768967",
      "operationState": "AUTHORIZED"
    }
  ]
}
2023-04-26T21:05:50.438Z - INFO - engine sent successfully, the response to CBRS : {
  "heartbeatResponse": [
    {
      "cbsdId": "W6U-TEST-FCC-IDMock-SAS68530322500007",
      "grantId": "39768967",
      "response": {
        "responseCode": 0
      },
      "transmitExpireTime": "2023-04-26T21:09:10Z"
    }
  ]
}
2023-04-26T21:06:20.571Z - INFO - heartbeat request from CBRS : {
  "heartbeatRequest": [
    {
      "cbsdId": "W6U-TEST-FCC-IDMock-SAS68530322500007",
      "grantId": "39768967",
      "operationState": "AUTHORIZED"
    }
  ]
}
2023-04-26T21:06:20.641Z - INFO - engine sent successfully, the response to CBRS : {
  "heartbeatResponse": [
    {
      "cbsdId": "W6U-TEST-FCC-IDMock-SAS68530322500007",
      "grantId": "39768967",
      "response": {
        "responseCode": 0
      },
      "transmitExpireTime": "2023-04-26T21:09:40Z"
    }
  ]
}
2023-04-26T21:06:50.753Z - INFO - heartbeat request from CBRS : {
  "heartbeatRequest": [
    {
      "cbsdId": "W6U-TEST-FCC-IDMock-SAS68530322500007",
      "grantId": "39768967",
      "operationState": "AUTHORIZED"
    }
  ]
}

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2023-04-26T21:06:50.798Z - INFO - engine sent successfully, the response to CBRS : {
  "heartbeatResponse": [
    {
      "cbsdId": "W6U-TEST-FCC-IDMock-SAS68530322500007",
      "grantId": "39768967",
      "response": {
        "responseCode": 0
      },
      "transmitExpireTime": "2023-04-26T21:10:10Z"
    }
  ]
}
2023-04-26T21:07:21.605Z - INFO - heartbeat request from CBRS : {
  "heartbeatRequest": [
    {
      "cbsdId": "W6U-TEST-FCC-IDMock-SAS68530322500007",
      "grantId": "39768967",
      "operationState": "AUTHORIZED"
    }
  ]
}
2023-04-26T21:07:21.648Z - INFO - engine sent successfully, the response to CBRS : {
  "heartbeatResponse": [
    {
      "cbsdId": "W6U-TEST-FCC-IDMock-SAS68530322500007",
      "grantId": "39768967",
      "response": {
        "responseCode": 0
      },
      "transmitExpireTime": "2023-04-26T21:10:41Z"
    }
  ]
}
2023-04-26T21:07:52.069Z - INFO - heartbeat request from CBRS : {
  "heartbeatRequest": [
    {
      "cbsdId": "W6U-TEST-FCC-IDMock-SAS68530322500007",
      "grantId": "39768967",
      "operationState": "AUTHORIZED"
    }
  ]
}
2023-04-26T21:07:52.111Z - INFO - engine sent successfully, the response to CBRS : {
  "heartbeatResponse": [
    {
      "cbsdId": "W6U-TEST-FCC-IDMock-SAS68530322500007",
      "grantId": "39768967",
      "response": {
        "responseCode": 0
      },
      "transmitExpireTime": "2023-04-26T21:11:12Z"
    }
  ]
}

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}
2023-04-26T21:08:22.233Z - INFO - heartbeat request from CBRS : {
  "heartbeatRequest": [
    {
      "cbsdId": "W6U-TEST-FCC-IDMock-SAS68530322500007",
      "grantId": "39768967",
      "operationState": "AUTHORIZED"
    }
  ]
}
2023-04-26T21:08:22.273Z - INFO - engine sent successfully, the response to CBRS : {
  "heartbeatResponse": [
    {
      "cbsdId": "W6U-TEST-FCC-IDMock-SAS68530322500007",
      "grantId": "39768967",
      "response": {
        "responseCode": 0
      },
      "transmitExpireTime": "2023-04-26T21:11:42Z"
    }
  ]
}
2023-04-26T21:08:53.316Z - INFO - heartbeat request from CBRS : {
  "heartbeatRequest": [
    {
      "cbsdId": "W6U-TEST-FCC-IDMock-SAS68530322500007",
      "grantId": "39768967",
      "grantRenew": true,
      "operationState": "AUTHORIZED"
    }
  ]
}
2023-04-26T21:08:53.371Z - INFO - engine sent successfully, the response to CBRS : {
  "heartbeatResponse": [
    {
      "cbsdId": "W6U-TEST-FCC-IDMock-SAS68530322500007",
      "grantExpireTime": "2023-04-26T21:14:53Z",
      "grantId": "39768967",
      "response": {
        "responseCode": 0
      },
      "transmitExpireTime": "2023-04-26T21:12:13Z"
    }
  ]
}
2023-04-26T21:09:23.842Z - INFO - heartbeat request from CBRS : {
  "heartbeatRequest": [
    {
      "cbsdId": "W6U-TEST-FCC-IDMock-SAS68530322500007",
      "grantId": "39768967",
      "operationState": "AUTHORIZED"
    }
  ]
}

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}
2023-04-26T21:09:23.888Z - INFO - engine sent successfully, the response to CBRS : {
  "heartbeatResponse": [
    {
      "cbsdId": "W6U-TEST-FCC-IDMock-SAS68530322500007",
      "grantId": "39768967",
      "response": {
        "responseCode": 0
      },
      "transmitExpireTime": "2023-04-26T21:12:43Z"
    }
  ]
}
2023-04-26T21:09:54.028Z - INFO - heartbeat request from CBRS : {
  "heartbeatRequest": [
    {
      "cbsdId": "W6U-TEST-FCC-IDMock-SAS68530322500007",
      "grantId": "39768967",
      "operationState": "AUTHORIZED"
    }
  ]
}
2023-04-26T21:09:54.085Z - INFO - engine sent successfully, the response to CBRS : {
  "heartbeatResponse": [
    {
      "cbsdId": "W6U-TEST-FCC-IDMock-SAS68530322500007",
      "grantId": "39768967",
      "response": {
        "responseCode": 0
      },
      "transmitExpireTime": "2023-04-26T21:13:14Z"
    }
  ]
}
2023-04-26T21:10:25.528Z - INFO - heartbeat request from CBRS : {
  "heartbeatRequest": [
    {
      "cbsdId": "W6U-TEST-FCC-IDMock-SAS68530322500007",
      "grantId": "39768967",
      "operationState": "AUTHORIZED"
    }
  ]
}
2023-04-26T21:10:25.591Z - INFO - engine sent successfully, the response to CBRS : {
  "heartbeatResponse": [
    {
      "cbsdId": "W6U-TEST-FCC-IDMock-SAS68530322500007",
      "grantId": "39768967",
      "response": {
        "responseCode": 0
      },
      "transmitExpireTime": "2023-04-26T21:13:45Z"
    }
  ]
}

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    ]
  }
2023-04-26T21:10:55.694Z - INFO - heartbeat request from CBRS : {
  "heartbeatRequest": [
    {
      "cbsdId": "W6U-TEST-FCC-IDMock-SAS68530322500007",
      "grantId": "39768967",
      "operationState": "AUTHORIZED"
    }
  ]
}
2023-04-26T21:10:55.726Z - INFO - engine sent successfully, the response to CBRS : {
  "heartbeatResponse": [
    {
      "cbsdId": "W6U-TEST-FCC-IDMock-SAS68530322500007",
      "grantId": "39768967",
      "response": {
        "responseCode": 0
      },
      "transmitExpireTime": "2023-04-26T21:14:15Z"
    }
  ]
}
2023-04-26T21:11:25.950Z - INFO - heartbeat request from CBRS : {
  "heartbeatRequest": [
    {
      "cbsdId": "W6U-TEST-FCC-IDMock-SAS68530322500007",
      "grantId": "39768967",
      "operationState": "AUTHORIZED"
    }
  ]
}
2023-04-26T21:11:25.986Z - INFO - engine sent successfully, the response to CBRS : {
  "heartbeatResponse": [
    {
      "cbsdId": "W6U-TEST-FCC-IDMock-SAS68530322500007",
      "grantId": "39768967",
      "response": {
        "responseCode": 0
      },
      "transmitExpireTime": "2023-04-26T21:14:45Z"
    }
  ]
}
2023-04-26T21:11:56.085Z - INFO - heartbeat request from CBRS : {
  "heartbeatRequest": [
    {
      "cbsdId": "W6U-TEST-FCC-IDMock-SAS68530322500007",
      "grantId": "39768967",
      "operationState": "AUTHORIZED"
    }
  ]
}

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2023-04-26T21:11:56.128Z - INFO - engine sent successfully, the response to CBRS : {
  "heartbeatResponse": [
    {
      "cbsdId": "W6U-TEST-FCC-IDMock-SAS68530322500007",
      "grantId": "39768967",
      "response": {
        "responseCode": 0
      },
      "transmitExpireTime": "2023-04-26T21:15:16Z"
    }
  ]
}
2023-04-26T21:12:26.233Z - INFO - heartbeat request from CBRS : {
  "heartbeatRequest": [
    {
      "cbsdId": "W6U-TEST-FCC-IDMock-SAS68530322500007",
      "grantId": "39768967",
      "operationState": "AUTHORIZED"
    }
  ]
}
2023-04-26T21:12:26.269Z - INFO - engine sent successfully, the response to CBRS : {
  "heartbeatResponse": [
    {
      "cbsdId": "W6U-TEST-FCC-IDMock-SAS68530322500007",
      "grantId": "39768967",
      "response": {
        "responseCode": 0
      },
      "transmitExpireTime": "2023-04-26T21:15:46Z"
    }
  ]
}
2023-04-26T21:12:56.388Z - INFO - heartbeat request from CBRS : {
  "heartbeatRequest": [
    {
      "cbsdId": "W6U-TEST-FCC-IDMock-SAS68530322500007",
      "grantId": "39768967",
      "grantRenew": true,
      "operationState": "AUTHORIZED"
    }
  ]
}
2023-04-26T21:12:56.428Z - INFO - engine sent successfully, the response to CBRS : {
  "heartbeatResponse": [
    {
      "cbsdId": "W6U-TEST-FCC-IDMock-SAS68530322500007",
      "grantExpireTime": "2023-04-26T21:18:56Z",
      "grantId": "39768967",
      "response": {
        "responseCode": 0
      },
      "transmitExpireTime": "2023-04-26T21:16:16Z"
    }
  ]
}

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    }
  ]
}
2023-04-26T21:13:26.523Z - INFO - heartbeat request from CBRS : {
  "heartbeatRequest": [
    {
      "cbsdId": "W6U-TEST-FCC-IDMock-SAS68530322500007",
      "grantId": "39768967",
      "operationState": "AUTHORIZED"
    }
  ]
}
2023-04-26T21:13:26.568Z - INFO - engine sent successfully, the response to CBRS : {
  "heartbeatResponse": [
    {
      "cbsdId": "W6U-TEST-FCC-IDMock-SAS68530322500007",
      "grantId": "39768967",
      "response": {
        "responseCode": 0
      },
      "transmitExpireTime": "2023-04-26T21:16:46Z"
    }
  ]
}
2023-04-26T21:13:56.703Z - INFO - heartbeat request from CBRS : {
  "heartbeatRequest": [
    {
      "cbsdId": "W6U-TEST-FCC-IDMock-SAS68530322500007",
      "grantId": "39768967",
      "operationState": "AUTHORIZED"
    }
  ]
}
2023-04-26T21:13:56.802Z - INFO - engine sent successfully, the response to CBRS : {
  "heartbeatResponse": [
    {
      "cbsdId": "W6U-TEST-FCC-IDMock-SAS68530322500007",
      "grantId": "39768967",
      "response": {
        "responseCode": 0
      },
      "transmitExpireTime": "2023-04-26T21:17:16Z"
    }
  ]
}
2023-04-26T21:14:26.910Z - INFO - heartbeat request from CBRS : {
  "heartbeatRequest": [
    {
      "cbsdId": "W6U-TEST-FCC-IDMock-SAS68530322500007",
      "grantId": "39768967",
      "operationState": "AUTHORIZED"
    }
  ]
}

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}
2023-04-26T21:14:26.950Z - INFO - engine sent successfully, the response to CBRS : {
  "heartbeatResponse": [
    {
      "cbsdId": "W6U-TEST-FCC-IDMock-SAS68530322500007",
      "grantId": "39768967",
      "response": {
        "responseCode": 0
      },
      "transmitExpireTime": "2023-04-26T21:17:46Z"
    }
  ]
}
2023-04-26T21:14:57.088Z - INFO - heartbeat request from CBRS : {
  "heartbeatRequest": [
    {
      "cbsdId": "W6U-TEST-FCC-IDMock-SAS68530322500007",
      "grantId": "39768967",
      "operationState": "AUTHORIZED"
    }
  ]
}
2023-04-26T21:14:57.164Z - INFO - engine sent successfully, the response to CBRS : {
  "heartbeatResponse": [
    {
      "cbsdId": "W6U-TEST-FCC-IDMock-SAS68530322500007",
      "grantId": "39768967",
      "response": {
        "responseCode": 0
      },
      "transmitExpireTime": "2023-04-26T21:18:17Z"
    }
  ]
}
2023-04-26T21:15:09.759Z - INFO - heartbeat request from CBRS : {
  "heartbeatRequest": [
    {
      "cbsdId": "W6U-TEST-FCC-IDMock-SAS68530322500007",
      "grantId": "39768967",
      "operationState": "AUTHORIZED"
    }
  ]
}
2023-04-26T21:15:09.806Z - INFO - engine sent successfully, the response to CBRS : {
  "heartbeatResponse": [
    {
      "cbsdId": "W6U-TEST-FCC-IDMock-SAS68530322500007",
      "grantId": "39768967",
      "response": {
        "responseCode": 0
      },
      "transmitExpireTime": "2023-04-26T21:18:29Z"
    }
  ]
}

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    ]
  }
2023-04-26T21:15:09.890Z - INFO - relinquishment request from CBRS : {
  "relinquishmentRequest": [
    {
      "cbsdId": "W6U-TEST-FCC-IDMock-SAS68530322500007",
      "grantId": "39768967"
    }
  ]
}
2023-04-26T21:15:09.994Z - INFO - engine sent successfully, the response to CBRS : {
  "relinquishmentResponse": [
    {
      "cbsdId": "W6U-TEST-FCC-IDMock-SAS68530322500007",
      "grantId": "39768967",
      "response": {
        "responseCode": 0
      }
    }
  ]
}
2023-04-26T21:15:14.049Z - INFO - deregistration request from CBRS : {
  "deregistrationRequest": [
    {
      "cbsdId": "W6U-TEST-FCC-IDMock-SAS68530322500007"
    }
  ]
}
2023-04-26T21:15:14.138Z - INFO - engine sent successfully, the response to CBRS : {
  "deregistrationResponse": [
    {
      "cbsdId": "W6U-TEST-FCC-IDMock-SAS68530322500007",
      "response": {
        "responseCode": 0
      }
    }
  ]
}
2023-04-26T21:15:14.266Z - INFO - registration request from CBRS : {
  "registrationRequest": [
    {
      "airInterface": {
        "radioTechnology": "NR"
      },
      "callSign": "1",
      "cbsdCategory": "A",
      "cbsdInfo": {
        "firmwareVersion": "1.1.10 ()",
        "hardwareVersion": "0.0.1",
        "model": "O-RU",
        "softwareVersion": "0.2.4 ()",
        "vendor": "SOLID"
      }
    }
  ],

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    "cbstdSerialNumber": "68530322500007",
    "cpiSignatureData": {
      "digitalSignature": "AR5MaDizi5_qJGKAmDxCUYzojDxUWghcxP_oJXuoi2xq1K2B22_gHAL6HcpvWjYkBuHR4BrOgY81Le21Wrdc3yZHreFOV1iKJCf-1GWGdpXNWZfuqRXj6-hlEA9s5dlmQtu_O2ZZ2UEXpqISwn6xtBY7k1ql6yenllQ4nV7C0IRxt9L7AeubAFSLIDc3twXBrrbbLbbRgtckEAPbi2VgOAU4dkMuMydrYzolkQVNv4Nei9uL9r3rgaEfCmHWVviex18_6kELxI_QJYnU3P_N2siY81q57jE6AeJPwM3qa4n8Vm9Bdjv-riOZJ_E6-Mq7HhoF5EK4hLI9tNC_T5fpnYMOA",
      "encodedCpiSignedData": "eyJpbmNOYWxsYXRpb25QYXJhbSI6eyJsYXRpdHVkZSI6MS4wLCJsbn25naXR12GUiOiEuMCwiaGVpZ2h0ljoxLjAsImhlaWdodFR5cGUiOiJBROwiLCJpbmRvb3JEZXBs b3ltZW50Ijp0cnVlLCJhbnRIbm5hR2Fpbil6MC4wfSwiZmNjSWQwQiOiJXNUtVEVTVC1GQQ0MtSUQILCJjYnNkU2VyaWFsTnVtYmVyljoiNjg1MzAzMjl1MDAwMDciLCJw cm9mZXNzaW9uYWxJbnNOYWxsZXJEXYRhIjp7ImNwaUlkljoiMTExliwiY3BpTmFtZSI6IjEiLCJpbmNOYWxsQ2VydgImaWNhdGlvlbRpbWUiOiIilyMDE3LTEwLTExVDI wOjMwOjAwWi9fQ",
      "protectedHeader": "eyJhbGciOiJSUzI1NiIsInR5cCI6IkpXVCJ9"}},
    "fccId": "W6U-TEST-FCC-ID",
    "userId": "1"
  }
}
]
}

2023-04-26T21:15:14.411Z - INFO - engine sent successfully, the response to CBRS : {
  "registrationResponse": [
    {
      "cbstdId": "W6U-TEST-FCC-IDMock-SAS68530322500007",
      "response": {
        "responseCode": 0
      }
    }
  ]
}

2023-04-26T21:15:14.489Z - INFO - spectrumInquiry request from CBRS : {
  "spectrumInquiryRequest": [
    {
      "cbstdId": "W6U-TEST-FCC-IDMock-SAS68530322500007",
      "inquiredSpectrum": [
        {
          "highFrequency": 3700000000,
          "lowFrequency": 3550000000
        }
      ]
    }
  ]
}

2023-04-26T21:15:14.611Z - INFO - The requested spectrum is out of the range, availableChannel is sent out
2023-04-26T21:15:14.612Z - INFO - engine sent successfully, the response to CBRS : {
  "spectrumInquiryResponse": [
    {
      "availableChannel": [
        {
          "channelType": "GAA",
          "frequencyRange": {
            "highFrequency": 3570000000,
            "lowFrequency": 3550000000
          },
          "maxEirp": 20,

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        "ruleApplied": "FCC_PART_96"
    }
],
"cbsdId": "W6U-TEST-FCC-IDMock-SAS68530322500007",
"response": {
    "responseCode": 0
}
}
]
}
2023-04-26T21:15:14.719Z - INFO - spectrumInquiry request from CBRS : {
"spectrumInquiryRequest": [
{
    "cbsdId": "W6U-TEST-FCC-IDMock-SAS68530322500007",
    "inquiredSpectrum": [
        {
            "highFrequency": 3570040000.0,
            "lowFrequency": 3550040000.0
        }
    ]
}
]
}
}
2023-04-26T21:15:14.736Z - INFO - The requested spectrum is out of the range, availableChannel is sent out
2023-04-26T21:15:14.740Z - INFO - engine sent successfully, the response to CBRS : {
"spectrumInquiryResponse": [
{
    "availableChannel": [
        {
            "channelType": "GAA",
            "frequencyRange": {
                "highFrequency": 3570000000,
                "lowFrequency": 3550000000
            },
            "maxEirp": 20,
            "ruleApplied": "FCC_PART_96"
        }
    ],
    "cbsdId": "W6U-TEST-FCC-IDMock-SAS68530322500007",
    "response": {
        "responseCode": 0
    }
}
]
}
2023-04-26T21:15:14.813Z - INFO - grant request from CBRS : {
"grantRequest": [
{
    "cbsdId": "W6U-TEST-FCC-IDMock-SAS68530322500007",
    "operationParam": {
        "maxEirp": 11.0,
        "operationFrequencyRange": {
            "highFrequency": 3570000000,

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        "lowFrequency": 3550000000
    }
}
]
}
}
2023-04-26T21:15:14.954Z - INFO - engine sent successfully, the response to CBRS : {
  "grantResponse": [
    {
      "cbsdId": "W6U-TEST-FCC-IDMock-SAS68530322500007",
      "channelType": "GAA",
      "grantExpireTime": "2023-05-03T21:15:14Z",
      "grantId": "773569300",
      "heartbeatInterval": 60,
      "response": {
        "responseCode": 0
      }
    }
  ]
}
2023-04-26T21:15:15.046Z - INFO - heartbeat request from CBRS : {
  "heartbeatRequest": [
    {
      "cbsdId": "W6U-TEST-FCC-IDMock-SAS68530322500007",
      "grantId": "773569300",
      "grantRenew": true,
      "operationState": "GRANTED"
    }
  ]
}
2023-04-26T21:15:15.068Z - INFO - engine sent successfully, the response to CBRS : {
  "heartbeatResponse": [
    {
      "cbsdId": "W6U-TEST-FCC-IDMock-SAS68530322500007",
      "grantExpireTime": "2023-04-26T21:21:15Z",
      "grantId": "773569300",
      "response": {
        "responseCode": 0
      },
      "transmitExpireTime": "2023-04-26T21:18:35Z"
    }
  ]
}
2023-04-26T21:15:25.145Z - INFO - heartbeat request from CBRS : {
  "heartbeatRequest": [
    {
      "cbsdId": "W6U-TEST-FCC-IDMock-SAS68530322500007",
      "grantId": "773569300",
      "operationState": "AUTHORIZED"
    }
  ]
}
2023-04-26T21:15:25.171Z - INFO - engine sent successfully, the response to CBRS : {

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"heartbeatResponse": [
  {
    "cbsdId": "W6U-TEST-FCC-IDMock-SAS68530322500007",
    "grantId": "773569300",
    "response": {
      "responseCode": 0
    },
    "transmitExpireTime": "2023-04-26T21:18:45Z"
  }
]
}
2023-04-26T21:15:55.309Z - INFO - heartbeat request from CBRS : {
  "heartbeatRequest": [
    {
      "cbsdId": "W6U-TEST-FCC-IDMock-SAS68530322500007",
      "grantId": "773569300",
      "operationState": "AUTHORIZED"
    }
  ]
}
2023-04-26T21:15:55.364Z - INFO - engine sent successfully, the response to CBRS : {
  "heartbeatResponse": [
    {
      "cbsdId": "W6U-TEST-FCC-IDMock-SAS68530322500007",
      "grantId": "773569300",
      "response": {
        "responseCode": 0
      },
      "transmitExpireTime": "2023-04-26T21:19:15Z"
    }
  ]
}
2023-04-26T21:16:25.611Z - INFO - heartbeat request from CBRS : {
  "heartbeatRequest": [
    {
      "cbsdId": "W6U-TEST-FCC-IDMock-SAS68530322500007",
      "grantId": "773569300",
      "operationState": "AUTHORIZED"
    }
  ]
}
2023-04-26T21:16:25.670Z - INFO - engine sent successfully, the response to CBRS : {
  "heartbeatResponse": [
    {
      "cbsdId": "W6U-TEST-FCC-IDMock-SAS68530322500007",
      "grantId": "773569300",
      "response": {
        "responseCode": 0
      },
      "transmitExpireTime": "2023-04-26T21:19:45Z"
    }
  ]
}
}

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2023-04-26T21:16:55.786Z - INFO - heartbeat request from CBRS : {
  "heartbeatRequest": [
    {
      "cbsdId": "W6U-TEST-FCC-IDMock-SAS68530322500007",
      "grantId": "773569300",
      "operationState": "AUTHORIZED"
    }
  ]
}
2023-04-26T21:16:55.841Z - INFO - engine sent successfully, the response to CBRS : {
  "heartbeatResponse": [
    {
      "cbsdId": "W6U-TEST-FCC-IDMock-SAS68530322500007",
      "grantId": "773569300",
      "response": {
        "responseCode": 0
      },
      "transmitExpireTime": "2023-04-26T21:20:15Z"
    }
  ]
}
2023-04-26T21:17:25.971Z - INFO - heartbeat request from CBRS : {
  "heartbeatRequest": [
    {
      "cbsdId": "W6U-TEST-FCC-IDMock-SAS68530322500007",
      "grantId": "773569300",
      "operationState": "AUTHORIZED"
    }
  ]
}
2023-04-26T21:17:26.017Z - INFO - engine sent successfully, the response to CBRS : {
  "heartbeatResponse": [
    {
      "cbsdId": "W6U-TEST-FCC-IDMock-SAS68530322500007",
      "grantId": "773569300",
      "response": {
        "responseCode": 0
      },
      "transmitExpireTime": "2023-04-26T21:20:46Z"
    }
  ]
}
2023-04-26T21:17:56.147Z - INFO - heartbeat request from CBRS : {
  "heartbeatRequest": [
    {
      "cbsdId": "W6U-TEST-FCC-IDMock-SAS68530322500007",
      "grantId": "773569300",
      "operationState": "AUTHORIZED"
    }
  ]
}
2023-04-26T21:17:56.196Z - INFO - engine sent successfully, the response to CBRS : {
  "heartbeatResponse": [

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{
  "cbsdId": "W6U-TEST-FCC-IDMock-SAS68530322500007",
  "grantId": "773569300",
  "response": {
    "responseCode": 0
  },
  "transmitExpireTime": "2023-04-26T21:21:16Z"
}
]
}
2023-04-26T21:18:26.311Z - INFO - heartbeat request from CBRS : {
  "heartbeatRequest": [
    {
      "cbsdId": "W6U-TEST-FCC-IDMock-SAS68530322500007",
      "grantId": "773569300",
      "operationState": "AUTHORIZED"
    }
  ]
}
}
2023-04-26T21:18:26.368Z - INFO - engine sent successfully, the response to CBRS : {
  "heartbeatResponse": [
    {
      "cbsdId": "W6U-TEST-FCC-IDMock-SAS68530322500007",
      "grantId": "773569300",
      "response": {
        "responseCode": 0
      },
      "transmitExpireTime": "2023-04-26T21:21:46Z"
    }
  ]
}
}
2023-04-26T21:18:56.490Z - INFO - heartbeat request from CBRS : {
  "heartbeatRequest": [
    {
      "cbsdId": "W6U-TEST-FCC-IDMock-SAS68530322500007",
      "grantId": "773569300",
      "operationState": "AUTHORIZED"
    }
  ]
}
}
2023-04-26T21:18:56.536Z - INFO - engine sent successfully, the response to CBRS : {
  "heartbeatResponse": [
    {
      "cbsdId": "W6U-TEST-FCC-IDMock-SAS68530322500007",
      "grantId": "773569300",
      "response": {
        "responseCode": 0
      },
      "transmitExpireTime": "2023-04-26T21:22:16Z"
    }
  ]
}
}
2023-04-26T21:19:18.036Z - INFO - heartbeat request from CBRS : {

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"heartbeatRequest": [
  {
    "cbsdId": "W6U-TEST-FCC-IDMock-SAS68530322500007",
    "grantId": "773569300",
    "grantRenew": true,
    "operationState": "AUTHORIZED"
  }
]
}
2023-04-26T21:19:18.082Z - INFO - engine sent successfully, the response to CBRS : {
  "heartbeatResponse": [
    {
      "cbsdId": "W6U-TEST-FCC-IDMock-SAS68530322500007",
      "grantExpireTime": "2023-04-26T21:25:18Z",
      "grantId": "773569300",
      "response": {
        "responseCode": 0
      },
      "transmitExpireTime": "2023-04-26T21:22:38Z"
    }
  ]
}
2023-04-26T21:19:18.167Z - INFO - relinquishment request from CBRS : {
  "relinquishmentRequest": [
    {
      "cbsdId": "W6U-TEST-FCC-IDMock-SAS68530322500007",
      "grantId": "773569300"
    }
  ]
}
2023-04-26T21:19:18.198Z - INFO - engine sent successfully, the response to CBRS : {
  "relinquishmentResponse": [
    {
      "cbsdId": "W6U-TEST-FCC-IDMock-SAS68530322500007",
      "grantId": "773569300",
      "response": {
        "responseCode": 0
      }
    }
  ]
}
2023-04-26T21:19:40.992Z - INFO - registration request from CBRS : {
  "registrationRequest": [
    {
      "airInterface": {
        "radioTechnology": "NR"
      },
      "callSign": "2",
      "cbsdCategory": "A",
      "cbsdInfo": {
        "firmwareVersion": "1.1.10 ()",
        "hardwareVersion": "0.0.1",
        "model": "O-RU",

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    "softwareVersion": "0.2.4 ()",
    "vendor": "SOLID"
  },
  "cbsdSerialNumber": "68530322500008",
  "cpiSignatureData": {
    "digitalSignature": "zt4hd5YbgTxXL7oSoSbdmXGklpZRCkpEjVg6bRRu7gOZ86AbhbObj868zbDY3wXZVe4VmUIXlfw09BouojqqsmjUQzLnsMca-
KuFlkOwevut7e-VklecYD0Dlb8tzppgryBWqD2eWMvWWBmFGwm4yuk0tIDL_B9iKNHO2fNWuULchQfBb9ghyil7hOOSoENZMXqwa-
_DVAKP8Zs23PT16XxZzH6hbns1Z7PN3F-CmuH1KPJVfKU0VGLdLYSOK-
EGdp6TPaj8uwZGIOPCht6L2E4tWUDKD5nNH5Wi1YVCZpRHmz3qeW1axyfshakWgqphM3QoXvRLs9Kb_hkyzT_g",
    "encodedCpiSignedData":
"eyJpbmN0YWxsYXRpb25QYXJhbSI6eyJsYXRpdHVkZSI6MjluMCwibG9uZ2I0dWRlljoyLjAsImhlaWdodCI6Mi4wLCJoZWlnaHRUeXBlljoiQUdMliwiaW5kb29yRGVw
bG95bWVudCI6dHJ1ZSwiYW50ZW5uYUdhaW4iOiAuMH0sImZjY0lkljoiVzZVLVRFU1QtrkNDLUIEliwiY2JzZFNlcmIhbE51bWJlcil6IjY4NTMwMzlyNTAwMDA4liwic
HJvZmVzcllvmFsSW5zdGFsbGVyRGF0YSI6eyJjcGljZCI6IjEiLCJjcGLOYW1lIjoiMSIsImIuc3RhbmGxDXJ0aWZpY2F0aW9uVGltdSI6IjIwMTctMTAtMTFUMjA6MzA6
MDBaIn19",
    "protectedHeader": "eyJhbGciOiJSUzI1NiIsInR5cCI6IkpXVCJ9"
  },
  "fccId": "W6U-TEST-FCC-ID",
  "userId": "2"
}
]
}
2023-04-26T21:19:41.061Z - INFO - engine sent successfully, the response to CBRS : {
  "registrationResponse": [
    {
      "cbsdId": "W6U-TEST-FCC-IDMock-SAS68530322500008",
      "response": {
        "responseCode": 0
      }
    }
  ]
}
2023-04-26T21:19:41.158Z - INFO - spectrumInquiry request from CBRS : {
  "spectrumInquiryRequest": [
    {
      "cbsdId": "W6U-TEST-FCC-IDMock-SAS68530322500008",
      "inquiredSpectrum": [
        {
          "highFrequency": 3700000000,
          "lowFrequency": 3550000000
        }
      ]
    }
  ]
}
2023-04-26T21:19:41.221Z - INFO - The requested spectrum is out of the range, availableChannel is sent out
2023-04-26T21:19:41.226Z - INFO - engine sent successfully, the response to CBRS : {
  "spectrumInquiryResponse": [
    {
      "availableChannel": [
        {
          "channelType": "GAA",
          "frequencyRange": {
            "highFrequency": 3570000000,

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        "lowFrequency": 3550000000
      },
      "maxEirp": 20,
      "ruleApplied": "FCC_PART_96"
    }
  ],
  "cbsdId": "W6U-TEST-FCC-IDMock-SAS68530322500008",
  "response": {
    "responseCode": 0
  }
}
]
}
2023-04-26T21:19:41.342Z - INFO - spectrumInquiry request from CBRS : {
  "spectrumInquiryRequest": [
    {
      "cbsdId": "W6U-TEST-FCC-IDMock-SAS68530322500008",
      "inquiredSpectrum": [
        {
          "highFrequency": 3570040000.0,
          "lowFrequency": 3550040000.0
        }
      ]
    }
  ]
}
]
}
2023-04-26T21:19:41.367Z - INFO - The requested spectrum is out of the range, availableChannel is sent out
2023-04-26T21:19:41.371Z - INFO - engine sent successfully, the response to CBRS : {
  "spectrumInquiryResponse": [
    {
      "availableChannel": [
        {
          "channelType": "GAA",
          "frequencyRange": {
            "highFrequency": 3570000000,
            "lowFrequency": 3550000000
          },
          "maxEirp": 20,
          "ruleApplied": "FCC_PART_96"
        }
      ],
      "cbsdId": "W6U-TEST-FCC-IDMock-SAS68530322500008",
      "response": {
        "responseCode": 0
      }
    }
  ]
}
]
}
2023-04-26T21:19:41.460Z - INFO - grant request from CBRS : {
  "grantRequest": [
    {
      "cbsdId": "W6U-TEST-FCC-IDMock-SAS68530322500008",
      "operationParam": {

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        "maxEirp": 6.99,
        "operationFrequencyRange": {
            "highFrequency": 3570000000,
            "lowFrequency": 3550000000
        }
    }
}
}
}
}
2023-04-26T21:19:41.513Z - INFO - engine sent successfully, the response to CBRS : {
  "grantResponse": [
    {
      "cbsdId": "W6U-TEST-FCC-IDMock-SAS68530322500008",
      "channelType": "GAA",
      "grantExpireTime": "2023-05-03T21:19:41Z",
      "grantId": "869765249",
      "heartbeatInterval": 60,
      "response": {
        "responseCode": 0
      }
    }
  ]
}
2023-04-26T21:19:41.582Z - INFO - heartbeat request from CBRS : {
  "heartbeatRequest": [
    {
      "cbsdId": "W6U-TEST-FCC-IDMock-SAS68530322500008",
      "grantId": "869765249",
      "grantRenew": true,
      "operationState": "GRANTED"
    }
  ]
}
2023-04-26T21:19:41.621Z - INFO - engine sent successfully, the response to CBRS : {
  "heartbeatResponse": [
    {
      "cbsdId": "W6U-TEST-FCC-IDMock-SAS68530322500008",
      "grantExpireTime": "2023-04-26T21:25:41Z",
      "grantId": "869765249",
      "response": {
        "responseCode": 0
      },
      "transmitExpireTime": "2023-04-26T21:23:01Z"
    }
  ]
}
2023-04-26T21:19:41.719Z - INFO - heartbeat request from CBRS : {
  "heartbeatRequest": [
    {
      "cbsdId": "W6U-TEST-FCC-IDMock-SAS68530322500008",
      "grantId": "869765249",
      "operationState": "AUTHORIZED"
    }
  ]
}

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    ]
  }
2023-04-26T21:19:41.740Z - INFO - engine sent successfully, the response to CBRS : {
  "heartbeatResponse": [
    {
      "cbsdId": "W6U-TEST-FCC-IDMock-SAS68530322500008",
      "grantId": "869765249",
      "response": {
        "responseCode": 0
      },
      "transmitExpireTime": "2023-04-26T21:23:01Z"
    }
  ]
}
2023-04-26T21:20:11.867Z - INFO - heartbeat request from CBRS : {
  "heartbeatRequest": [
    {
      "cbsdId": "W6U-TEST-FCC-IDMock-SAS68530322500008",
      "grantId": "869765249",
      "operationState": "AUTHORIZED"
    }
  ]
}
2023-04-26T21:20:11.927Z - INFO - engine sent successfully, the response to CBRS : {
  "heartbeatResponse": [
    {
      "cbsdId": "W6U-TEST-FCC-IDMock-SAS68530322500008",
      "grantId": "869765249",
      "response": {
        "responseCode": 0
      },
      "transmitExpireTime": "2023-04-26T21:23:31Z"
    }
  ]
}
2023-04-26T21:20:42.056Z - INFO - heartbeat request from CBRS : {
  "heartbeatRequest": [
    {
      "cbsdId": "W6U-TEST-FCC-IDMock-SAS68530322500008",
      "grantId": "869765249",
      "operationState": "AUTHORIZED"
    }
  ]
}
2023-04-26T21:20:42.094Z - INFO - engine sent successfully, the response to CBRS : {
  "heartbeatResponse": [
    {
      "cbsdId": "W6U-TEST-FCC-IDMock-SAS68530322500008",
      "grantId": "869765249",
      "response": {
        "responseCode": 0
      },
      "transmitExpireTime": "2023-04-26T21:24:02Z"
    }
  ]
}

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    }
  ]
}
2023-04-26T21:21:12.210Z - INFO - heartbeat request from CBRS : {
  "heartbeatRequest": [
    {
      "cbsdId": "W6U-TEST-FCC-IDMock-SAS68530322500008",
      "grantId": "869765249",
      "operationState": "AUTHORIZED"
    }
  ]
}
2023-04-26T21:21:12.246Z - INFO - engine sent successfully, the response to CBRS : {
  "heartbeatResponse": [
    {
      "cbsdId": "W6U-TEST-FCC-IDMock-SAS68530322500008",
      "grantId": "869765249",
      "response": {
        "responseCode": 0
      },
      "transmitExpireTime": "2023-04-26T21:24:32Z"
    }
  ]
}
2023-04-26T21:21:42.367Z - INFO - heartbeat request from CBRS : {
  "heartbeatRequest": [
    {
      "cbsdId": "W6U-TEST-FCC-IDMock-SAS68530322500008",
      "grantId": "869765249",
      "operationState": "AUTHORIZED"
    }
  ]
}
2023-04-26T21:21:42.418Z - INFO - engine sent successfully, the response to CBRS : {
  "heartbeatResponse": [
    {
      "cbsdId": "W6U-TEST-FCC-IDMock-SAS68530322500008",
      "grantId": "869765249",
      "response": {
        "responseCode": 0
      },
      "transmitExpireTime": "2023-04-26T21:25:02Z"
    }
  ]
}
2023-04-26T21:22:12.540Z - INFO - heartbeat request from CBRS : {
  "heartbeatRequest": [
    {
      "cbsdId": "W6U-TEST-FCC-IDMock-SAS68530322500008",
      "grantId": "869765249",
      "operationState": "AUTHORIZED"
    }
  ]
}

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}
2023-04-26T21:22:12.594Z - INFO - engine sent successfully, the response to CBRS : {
  "heartbeatResponse": [
    {
      "cbsdId": "W6U-TEST-FCC-IDMock-SAS68530322500008",
      "grantId": "869765249",
      "response": {
        "responseCode": 0
      },
      "transmitExpireTime": "2023-04-26T21:25:32Z"
    }
  ]
}
2023-04-26T21:22:13.532Z - INFO - relinquishment request from CBRS : {
  "relinquishmentRequest": [
    {
      "cbsdId": "W6U-TEST-FCC-IDMock-SAS68530322500008",
      "grantId": "869765249"
    }
  ]
}
2023-04-26T21:22:13.565Z - INFO - engine sent successfully, the response to CBRS : {
  "relinquishmentResponse": [
    {
      "cbsdId": "W6U-TEST-FCC-IDMock-SAS68530322500008",
      "grantId": "869765249",
      "response": {
        "responseCode": 0
      }
    }
  ]
}
2023-04-26T21:24:42.470Z - INFO - deregistration request from CBRS : {
  "deregistrationRequest": [
    {
      "cbsdId": "W6U-TEST-FCC-IDMock-SAS68530322500008"
    }
  ]
}
2023-04-26T21:24:42.528Z - INFO - engine sent successfully, the response to CBRS : {
  "deregistrationResponse": [
    {
      "cbsdId": "W6U-TEST-FCC-IDMock-SAS68530322500008",
      "response": {
        "responseCode": 0
      }
    }
  ]
}
2023-04-26T21:24:42.683Z - INFO - registration request from CBRS : {
  "registrationRequest": [
    {
      "airInterface": {

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    "radioTechnology": "NR"
  },
  "callSign": "2",
  "cbsdCategory": "A",
  "cbsdInfo": {
    "firmwareVersion": "1.1.10 ()",
    "hardwareVersion": "0.0.1",
    "model": "O-RU",
    "softwareVersion": "0.2.4 ()",
    "vendor": "SOLID"
  },
  "cbsdSerialNumber": "68530322500008",
  "cpiSignatureData": {
    "digitalSignature": "zt4hd5YbgTxJL7oSoSbdmXGklpZRCkpEjVg6bRRu7gOZ86AbhbObj868zbDY3wXZVe4VmUIXlfw09BouojqqsmjUQzLnsMca-
KuFlkOwevut7e-VklecYD0DIb8tzppgryBWqD2eWMvWWBmFGwm4yuk0tIDL_B9iKNHO2fNWuULchQfBb9ghyil7hOOSoENZMXqwa-
_DVAKP8Zs23PT16XxZzH6hbnS1Z7PN3F-CmuH1KPJVfKUt0VGldLYSOK-
EGdp6TPaj8uwZGIOPChT6L2E4tWUdKD5nNH5Wi1YVCZpRHmz3qeW1axyfshakWgqphM3QoXvRLs9Kb_hkyzT_g",
    "encodedCpiSignedData":
"eyJpbmNOYXxsYXRpb25QYXJhbSI6eyJsYXRpdHVkZSI6MjluMCwibG9uZ2I0dWRlljoyLjAsImhlaWdodCI6Mi4wLCJoZWlnaHRUeXBlljoiQUdMliwiaW5kb29yRGVw
bG95bWVudCI6dHJ1ZSwiYW50ZW5uYUdhaW4iOiJhbmh0slmZjY0lkljoiVzZVLVRFU1QtRkNDLUIEliwiY2JzZFNlcmllhbE51bWJlcil6IjY4NTMwMzlyNTAwMDA4liwic
HJvZmVzc2lvbmFsSW5zdGFsbGVyRGF0YSI6eyJjcGljZCI6IjEiLCJjcGlOYW1lIjojMSIsImIuc3RhbmGxZDZXJ0aWZpY2F0aW9uVGl0ZSI6IjIwMTctMTAtMTFUMjA6MzA6
MDBaIn19",
    "protectedHeader": "eyJhbGciOiJSUzI1NiIsInR5cCI6IkpXVCJ9"
  },
  "fccId": "W6U-TEST-FCC-ID",
  "userId": "2"
}
}
}
2023-04-26T21:24:42.770Z - INFO - engine sent successfully, the response to CBRS : {
  "registrationResponse": [
    {
      "cbsdId": "W6U-TEST-FCC-IDMock-SAS68530322500008",
      "response": {
        "responseCode": 0
      }
    }
  ]
}
}
2023-04-26T21:24:42.861Z - INFO - spectrumInquiry request from CBRS : {
  "spectrumInquiryRequest": [
    {
      "cbsdId": "W6U-TEST-FCC-IDMock-SAS68530322500008",
      "inquiredSpectrum": [
        {
          "highFrequency": 3700000000,
          "lowFrequency": 3550000000
        }
      ]
    }
  ]
}
}
2023-04-26T21:24:42.913Z - INFO - The requested spectrum is out of the range, availableChannel is sent out

```



2023-04-26T21:24:42.917Z - INFO - engine sent successfully, the response to CBRS : {

```
"spectrumInquiryResponse": [
  {
    "availableChannel": [
      {
        "channelType": "GAA",
        "frequencyRange": {
          "highFrequency": 3570000000,
          "lowFrequency": 3550000000
        },
        "maxEirp": 20,
        "ruleApplied": "FCC_PART_96"
      }
    ],
    "cbsdId": "W6U-TEST-FCC-IDMock-SAS68530322500008",
    "response": {
      "responseCode": 0
    }
  }
]
```

2023-04-26T21:24:43.022Z - INFO - spectrumInquiry request from CBRS : {

```
"spectrumInquiryRequest": [
  {
    "cbsdId": "W6U-TEST-FCC-IDMock-SAS68530322500008",
    "inquiredSpectrum": [
      {
        "highFrequency": 3570040000.0,
        "lowFrequency": 3550040000.0
      }
    ]
  }
]
```

2023-04-26T21:24:43.040Z - INFO - The requested spectrum is out of the range, availableChannel is sent out

2023-04-26T21:24:43.046Z - INFO - engine sent successfully, the response to CBRS : {

```
"spectrumInquiryResponse": [
  {
    "availableChannel": [
      {
        "channelType": "GAA",
        "frequencyRange": {
          "highFrequency": 3570000000,
          "lowFrequency": 3550000000
        },
        "maxEirp": 20,
        "ruleApplied": "FCC_PART_96"
      }
    ],
    "cbsdId": "W6U-TEST-FCC-IDMock-SAS68530322500008",
    "response": {
      "responseCode": 0
    }
  }
]
```

```

    }
  ]
}
2023-04-26T21:24:43.131Z - INFO - grant request from CBRS : {
  "grantRequest": [
    {
      "cbsdId": "W6U-TEST-FCC-IDMock-SAS68530322500008",
      "operationParam": {
        "maxEirp": 11.0,
        "operationFrequencyRange": {
          "highFrequency": 3570000000,
          "lowFrequency": 3550000000
        }
      }
    }
  ]
}
2023-04-26T21:24:43.180Z - INFO - engine sent successfully, the response to CBRS : {
  "grantResponse": [
    {
      "cbsdId": "W6U-TEST-FCC-IDMock-SAS68530322500008",
      "channelType": "GAA",
      "grantExpireTime": "2023-05-03T21:24:43Z",
      "grantId": "929853230",
      "heartbeatInterval": 60,
      "response": {
        "responseCode": 0
      }
    }
  ]
}
2023-04-26T21:24:43.263Z - INFO - heartbeat request from CBRS : {
  "heartbeatRequest": [
    {
      "cbsdId": "W6U-TEST-FCC-IDMock-SAS68530322500008",
      "grantId": "929853230",
      "grantRenew": true,
      "operationState": "GRANTED"
    }
  ]
}
2023-04-26T21:24:43.319Z - INFO - engine sent successfully, the response to CBRS : {
  "heartbeatResponse": [
    {
      "cbsdId": "W6U-TEST-FCC-IDMock-SAS68530322500008",
      "grantExpireTime": "2023-04-26T21:30:43Z",
      "grantId": "929853230",
      "response": {
        "responseCode": 0
      },
      "transmitExpireTime": "2023-04-26T21:28:03Z"
    }
  ]
}

```

```

}
2023-04-26T21:24:43.391Z - INFO - heartbeat request from CBRS : {
  "heartbeatRequest": [
    {
      "cbsdId": "W6U-TEST-FCC-IDMock-SAS68530322500008",
      "grantId": "929853230",
      "operationState": "AUTHORIZED"
    }
  ]
}
2023-04-26T21:24:43.411Z - INFO - engine sent successfully, the response to CBRS : {
  "heartbeatResponse": [
    {
      "cbsdId": "W6U-TEST-FCC-IDMock-SAS68530322500008",
      "grantId": "929853230",
      "response": {
        "responseCode": 0
      },
      "transmitExpireTime": "2023-04-26T21:28:03Z"
    }
  ]
}
2023-04-26T21:25:03.519Z - INFO - heartbeat request from CBRS : {
  "heartbeatRequest": [
    {
      "cbsdId": "W6U-TEST-FCC-IDMock-SAS68530322500008",
      "grantId": "929853230",
      "operationState": "AUTHORIZED"
    }
  ]
}
2023-04-26T21:25:03.586Z - INFO - engine sent successfully, the response to CBRS : {
  "heartbeatResponse": [
    {
      "cbsdId": "W6U-TEST-FCC-IDMock-SAS68530322500008",
      "grantId": "929853230",
      "response": {
        "responseCode": 0
      },
      "transmitExpireTime": "2023-04-26T21:28:23Z"
    }
  ]
}
2023-04-26T21:25:33.716Z - INFO - heartbeat request from CBRS : {
  "heartbeatRequest": [
    {
      "cbsdId": "W6U-TEST-FCC-IDMock-SAS68530322500008",
      "grantId": "929853230",
      "operationState": "AUTHORIZED"
    }
  ]
}
2023-04-26T21:25:33.760Z - INFO - engine sent successfully, the response to CBRS : {

```

```

"heartbeatResponse": [
  {
    "cbsdId": "W6U-TEST-FCC-IDMock-SAS68530322500008",
    "grantId": "929853230",
    "response": {
      "responseCode": 0
    },
    "transmitExpireTime": "2023-04-26T21:28:53Z"
  }
]
}
2023-04-26T21:26:03.903Z - INFO - heartbeat request from CBRS : {
  "heartbeatRequest": [
    {
      "cbsdId": "W6U-TEST-FCC-IDMock-SAS68530322500008",
      "grantId": "929853230",
      "operationState": "AUTHORIZED"
    }
  ]
}
2023-04-26T21:26:03.957Z - INFO - engine sent successfully, the response to CBRS : {
  "heartbeatResponse": [
    {
      "cbsdId": "W6U-TEST-FCC-IDMock-SAS68530322500008",
      "grantId": "929853230",
      "response": {
        "responseCode": 0
      },
      "transmitExpireTime": "2023-04-26T21:29:23Z"
    }
  ]
}
2023-04-26T21:26:34.084Z - INFO - heartbeat request from CBRS : {
  "heartbeatRequest": [
    {
      "cbsdId": "W6U-TEST-FCC-IDMock-SAS68530322500008",
      "grantId": "929853230",
      "operationState": "AUTHORIZED"
    }
  ]
}
2023-04-26T21:26:34.127Z - INFO - engine sent successfully, the response to CBRS : {
  "heartbeatResponse": [
    {
      "cbsdId": "W6U-TEST-FCC-IDMock-SAS68530322500008",
      "grantId": "929853230",
      "response": {
        "responseCode": 0
      },
      "transmitExpireTime": "2023-04-26T21:29:54Z"
    }
  ]
}
}

```

```

2023-04-26T21:27:04.246Z - INFO - heartbeat request from CBRS : {
  "heartbeatRequest": [
    {
      "cbsdId": "W6U-TEST-FCC-IDMock-SAS68530322500008",
      "grantId": "929853230",
      "operationState": "AUTHORIZED"
    }
  ]
}
2023-04-26T21:27:04.296Z - INFO - engine sent successfully, the response to CBRS : {
  "heartbeatResponse": [
    {
      "cbsdId": "W6U-TEST-FCC-IDMock-SAS68530322500008",
      "grantId": "929853230",
      "response": {
        "responseCode": 0
      },
      "transmitExpireTime": "2023-04-26T21:30:24Z"
    }
  ]
}
2023-04-26T21:27:34.417Z - INFO - heartbeat request from CBRS : {
  "heartbeatRequest": [
    {
      "cbsdId": "W6U-TEST-FCC-IDMock-SAS68530322500008",
      "grantId": "929853230",
      "operationState": "AUTHORIZED"
    }
  ]
}
2023-04-26T21:27:34.447Z - INFO - engine sent successfully, the response to CBRS : {
  "heartbeatResponse": [
    {
      "cbsdId": "W6U-TEST-FCC-IDMock-SAS68530322500008",
      "grantId": "929853230",
      "response": {
        "responseCode": 0
      },
      "transmitExpireTime": "2023-04-26T21:30:54Z"
    }
  ]
}
2023-04-26T21:28:04.559Z - INFO - heartbeat request from CBRS : {
  "heartbeatRequest": [
    {
      "cbsdId": "W6U-TEST-FCC-IDMock-SAS68530322500008",
      "grantId": "929853230",
      "operationState": "AUTHORIZED"
    }
  ]
}
2023-04-26T21:28:04.602Z - INFO - engine sent successfully, the response to CBRS : {
  "heartbeatResponse": [

```

```

{
  "cbsdId": "W6U-TEST-FCC-IDMock-SAS68530322500008",
  "grantId": "929853230",
  "response": {
    "responseCode": 0
  },
  "transmitExpireTime": "2023-04-26T21:31:24Z"
}
]
}
2023-04-26T21:28:34.730Z - INFO - heartbeat request from CBRS : {
  "heartbeatRequest": [
    {
      "cbsdId": "W6U-TEST-FCC-IDMock-SAS68530322500008",
      "grantId": "929853230",
      "operationState": "AUTHORIZED"
    }
  ]
}
}
2023-04-26T21:28:34.803Z - INFO - engine sent successfully, the response to CBRS : {
  "heartbeatResponse": [
    {
      "cbsdId": "W6U-TEST-FCC-IDMock-SAS68530322500008",
      "grantId": "929853230",
      "response": {
        "responseCode": 0
      },
      "transmitExpireTime": "2023-04-26T21:31:54Z"
    }
  ]
}
}
2023-04-26T21:29:04.937Z - INFO - heartbeat request from CBRS : {
  "heartbeatRequest": [
    {
      "cbsdId": "W6U-TEST-FCC-IDMock-SAS68530322500008",
      "grantId": "929853230",
      "grantRenew": true,
      "operationState": "AUTHORIZED"
    }
  ]
}
}
2023-04-26T21:29:04.990Z - INFO - engine sent successfully, the response to CBRS : {
  "heartbeatResponse": [
    {
      "cbsdId": "W6U-TEST-FCC-IDMock-SAS68530322500008",
      "grantExpireTime": "2023-04-26T21:35:04Z",
      "grantId": "929853230",
      "response": {
        "responseCode": 0
      },
      "transmitExpireTime": "2023-04-26T21:32:24Z"
    }
  ]
}
]

```

```

}
2023-04-26T21:29:35.130Z - INFO - heartbeat request from CBRS : {
  "heartbeatRequest": [
    {
      "cbsdId": "W6U-TEST-FCC-IDMock-SAS68530322500008",
      "grantId": "929853230",
      "operationState": "AUTHORIZED"
    }
  ]
}
2023-04-26T21:29:35.174Z - INFO - engine sent successfully, the response to CBRS : {
  "heartbeatResponse": [
    {
      "cbsdId": "W6U-TEST-FCC-IDMock-SAS68530322500008",
      "grantId": "929853230",
      "response": {
        "responseCode": 0
      },
      "transmitExpireTime": "2023-04-26T21:32:55Z"
    }
  ]
}
2023-04-26T21:30:06.115Z - INFO - heartbeat request from CBRS : {
  "heartbeatRequest": [
    {
      "cbsdId": "W6U-TEST-FCC-IDMock-SAS68530322500008",
      "grantId": "929853230",
      "operationState": "AUTHORIZED"
    }
  ]
}
2023-04-26T21:30:06.173Z - INFO - engine sent successfully, the response to CBRS : {
  "heartbeatResponse": [
    {
      "cbsdId": "W6U-TEST-FCC-IDMock-SAS68530322500008",
      "grantId": "929853230",
      "response": {
        "responseCode": 0
      },
      "transmitExpireTime": "2023-04-26T21:33:26Z"
    }
  ]
}
2023-04-26T21:30:36.315Z - INFO - heartbeat request from CBRS : {
  "heartbeatRequest": [
    {
      "cbsdId": "W6U-TEST-FCC-IDMock-SAS68530322500008",
      "grantId": "929853230",
      "operationState": "AUTHORIZED"
    }
  ]
}
2023-04-26T21:30:36.362Z - INFO - engine sent successfully, the response to CBRS : {

```

```

"heartbeatResponse": [
  {
    "cbsdId": "W6U-TEST-FCC-IDMock-SAS68530322500008",
    "grantId": "929853230",
    "response": {
      "responseCode": 0
    },
    "transmitExpireTime": "2023-04-26T21:33:56Z"
  }
]
}
2023-04-26T21:31:07.013Z - INFO - heartbeat request from CBRS : {
  "heartbeatRequest": [
    {
      "cbsdId": "W6U-TEST-FCC-IDMock-SAS68530322500008",
      "grantId": "929853230",
      "operationState": "AUTHORIZED"
    }
  ]
}
2023-04-26T21:31:07.061Z - INFO - engine sent successfully, the response to CBRS : {
  "heartbeatResponse": [
    {
      "cbsdId": "W6U-TEST-FCC-IDMock-SAS68530322500008",
      "grantId": "929853230",
      "response": {
        "responseCode": 0
      },
      "transmitExpireTime": "2023-04-26T21:34:27Z"
    }
  ]
}
2023-04-26T21:31:37.161Z - INFO - heartbeat request from CBRS : {
  "heartbeatRequest": [
    {
      "cbsdId": "W6U-TEST-FCC-IDMock-SAS68530322500008",
      "grantId": "929853230",
      "operationState": "AUTHORIZED"
    }
  ]
}
2023-04-26T21:31:37.206Z - INFO - engine sent successfully, the response to CBRS : {
  "heartbeatResponse": [
    {
      "cbsdId": "W6U-TEST-FCC-IDMock-SAS68530322500008",
      "grantId": "929853230",
      "response": {
        "responseCode": 0
      },
      "transmitExpireTime": "2023-04-26T21:34:57Z"
    }
  ]
}
}

```



```
2023-04-26T21:31:58.161Z - INFO - heartbeat request from CBRS : {
  "heartbeatRequest": [
    {
      "cbsdId": "W6U-TEST-FCC-IDMock-SAS68530322500008",
      "grantId": "929853230",
      "operationState": "AUTHORIZED"
    }
  ]
}
2023-04-26T21:31:58.227Z - INFO - engine sent successfully, the response to CBRS : {
  "heartbeatResponse": [
    {
      "cbsdId": "W6U-TEST-FCC-IDMock-SAS68530322500008",
      "grantId": "929853230",
      "response": {
        "responseCode": 0
      },
      "transmitExpireTime": "2023-04-26T21:35:18Z"
    }
  ]
}
2023-04-26T21:31:58.305Z - INFO - relinquishment request from CBRS : {
  "relinquishmentRequest": [
    {
      "cbsdId": "W6U-TEST-FCC-IDMock-SAS68530322500008",
      "grantId": "929853230"
    }
  ]
}
2023-04-26T21:31:58.349Z - INFO - engine sent successfully, the response to CBRS : {
  "relinquishmentResponse": [
    {
      "cbsdId": "W6U-TEST-FCC-IDMock-SAS68530322500008",
      "grantId": "929853230",
      "response": {
        "responseCode": 0
      }
    }
  ]
}
2023-04-26T21:32:22.016Z - INFO - deregistration request from CBRS : {
  "deregistrationRequest": [
    {
      "cbsdId": "W6U-TEST-FCC-IDMock-SAS68530322500007"
    }
  ]
}
2023-04-26T21:32:22.062Z - INFO - engine sent successfully, the response to CBRS : {
  "deregistrationResponse": [
    {
      "cbsdId": "W6U-TEST-FCC-IDMock-SAS68530322500007",
      "response": {
        "responseCode": 0
      }
    }
  ]
}
```



```

    }
  }
}
}
2023-04-26T21:32:22.181Z - INFO - registration request from CBRS : {
  "registrationRequest": [
    {
      "airInterface": {
        "radioTechnology": "NR"
      },
      "callSign": "1",
      "cbsdCategory": "A",
      "cbsdInfo": {
        "firmwareVersion": "1.1.10 ()",
        "hardwareVersion": "0.0.1",
        "model": "O-RU",
        "softwareVersion": "0.2.4 ()",
        "vendor": "SOLiD"
      },
      "cbsdSerialNumber": "68530322500007",
      "cpiSignatureData": {
        "digitalSignature": "AR5MaDIzi5_qJGKAmdxCUYzDxUWghcxP_oJXuoI2xq1K2B22_gHAI6HcpvWjYkBuHR4Br0gY81Le21Wrdc3yZHreFOV1iKJCf-
1GWGdpXNWZfuqRXj6-
hlEA9s5dlmQtu_Q2Z2UEXpqISwn6xtBY7k1qI6yenIIQ4nV7C0iRxt9L7AeubAFSLIDc3twXBrbbLbbRgtckEAPbi2VgOAU4dkMuMydrYzolkQVNV4Nei9uL9r3rgaEfCm
HWVix18_6kELxJ_IQYnU3P_N2siY81q57jE6AeJpWm3qa4n8Vm9Bdjv-riOZJ_E6-Mq7HhoF5EK4hLI9tNC_T5fpmYMOA",
        "encodedCpiSignedData":
"eyJpbmN0YWxsYXRpb25QYXJhbSI6eyJsYXRpdHVkZSI6MS4wLjB25naXR1ZGUoJEUwMCwiaGVpZ2h0IjoxLjAsImhlaWdodFR5cGUoIjBR0wiLCJpbmRvb3JlZXBs
b3ltZW50Ij0pOcnVILCJhbnRlbn5hR2Fpbil6MC4wfSwiZmNjSWQ0iOiXNlUteVETVC1GQ0MtSUQ0iLCJjYnNkU2VyaWFsTnVtYmVyljoiNjg1MzAzMjI1MDAwMDciLCJw
cm9mZXNzaW9uYWwJbnN0YWxsZXJlYXRoIj0p7ImNwaUlkljoiMTEwX2VydGlmYWVhdGlvbmlRpbWUiOiIyMDE3LTEwLWVldi
wOjMwOjAwWjI9fQ",
        "protectedHeader": "eyJhbGciOiJSUzI1NiIsInR5cCI6IkpXVCJ9"
      },
      "fccId": "W6U-TEST-FCC-ID",
      "userId": "1"
    }
  ]
}
}
2023-04-26T21:32:22.315Z - INFO - engine sent successfully, the response to CBRS : {
  "registrationResponse": [
    {
      "cbsdId": "W6U-TEST-FCC-IDMock-SAS68530322500007",
      "response": {
        "responseCode": 0
      }
    }
  ]
}
}
2023-04-26T21:32:22.404Z - INFO - spectrumInquiry request from CBRS : {
  "spectrumInquiryRequest": [
    {
      "cbsdId": "W6U-TEST-FCC-IDMock-SAS68530322500007",
      "inquiredSpectrum": [
        {

```



```

        "highFrequency": 3700000000,
        "lowFrequency": 3550000000
    }
}
}
}
}
2023-04-26T21:32:22.474Z - INFO - The requested spectrum is out of the range, availableChannel is sent out
2023-04-26T21:32:22.480Z - INFO - engine sent successfully, the response to CBRS : {
  "spectrumInquiryResponse": [
    {
      "availableChannel": [
        {
          "channelType": "GAA",
          "frequencyRange": {
            "highFrequency": 3570000000,
            "lowFrequency": 3550000000
          },
          "maxEirp": 20,
          "ruleApplied": "FCC_PART_96"
        }
      ],
      "cbsdId": "W6U-TEST-FCC-IDMock-SAS68530322500007",
      "response": {
        "responseCode": 0
      }
    }
  ]
}
}
2023-04-26T21:32:22.602Z - INFO - spectrumInquiry request from CBRS : {
  "spectrumInquiryRequest": [
    {
      "cbsdId": "W6U-TEST-FCC-IDMock-SAS68530322500007",
      "inquiredSpectrum": [
        {
          "highFrequency": 3570040000.0,
          "lowFrequency": 3550040000.0
        }
      ]
    }
  ]
}
}
}
2023-04-26T21:32:22.625Z - INFO - The requested spectrum is out of the range, availableChannel is sent out
2023-04-26T21:32:22.631Z - INFO - engine sent successfully, the response to CBRS : {
  "spectrumInquiryResponse": [
    {
      "availableChannel": [
        {
          "channelType": "GAA",
          "frequencyRange": {
            "highFrequency": 3570000000,
            "lowFrequency": 3550000000
          },
          "maxEirp": 20,
          "ruleApplied": "FCC_PART_96"
        }
      ],
      "cbsdId": "W6U-TEST-FCC-IDMock-SAS68530322500007",
      "response": {
        "responseCode": 0
      }
    }
  ]
}
}
}

```

```

        "maxEirp": 20,
        "ruleApplied": "FCC_PART_96"
    }
],
"cbstdId": "W6U-TEST-FCC-IDMock-SAS68530322500007",
"response": {
    "responseCode": 0
}
}
}
}
2023-04-26T21:32:22.713Z - INFO - grant request from CBRS : {
    "grantRequest": [
        {
            "cbstdId": "W6U-TEST-FCC-IDMock-SAS68530322500007",
            "operationParam": {
                "maxEirp": 11.0,
                "operationFrequencyRange": {
                    "highFrequency": 3570000000,
                    "lowFrequency": 3550000000
                }
            }
        }
    ]
}
}
2023-04-26T21:32:22.775Z - INFO - engine sent successfully, the response to CBRS : {
    "grantResponse": [
        {
            "cbstdId": "W6U-TEST-FCC-IDMock-SAS68530322500007",
            "channelType": "GAA",
            "grantExpireTime": "2023-05-03T21:32:22Z",
            "grantId": "530719168",
            "heartbeatInterval": 60,
            "response": {
                "responseCode": 0
            }
        }
    ]
}
}
2023-04-26T21:32:22.855Z - INFO - heartbeat request from CBRS : {
    "heartbeatRequest": [
        {
            "cbstdId": "W6U-TEST-FCC-IDMock-SAS68530322500007",
            "grantId": "530719168",
            "grantRenew": true,
            "operationState": "GRANTED"
        }
    ]
}
}
2023-04-26T21:32:22.905Z - INFO - engine sent successfully, the response to CBRS : {
    "heartbeatResponse": [
        {
            "cbstdId": "W6U-TEST-FCC-IDMock-SAS68530322500007",

```



```

    "grantExpireTime": "2023-04-26T21:38:22Z",
    "grantId": "530719168",
    "response": {
      "responseCode": 0
    },
    "transmitExpireTime": "2023-04-26T21:35:42Z"
  }
}
}
2023-04-26T21:32:23.000Z - INFO - heartbeat request from CBRS : {
  "heartbeatRequest": [
    {
      "cbsdId": "W6U-TEST-FCC-IDMock-SAS68530322500007",
      "grantId": "530719168",
      "operationState": "AUTHORIZED"
    }
  ]
}
}
2023-04-26T21:32:23.017Z - INFO - engine sent successfully, the response to CBRS : {
  "heartbeatResponse": [
    {
      "cbsdId": "W6U-TEST-FCC-IDMock-SAS68530322500007",
      "grantId": "530719168",
      "response": {
        "responseCode": 0
      },
      "transmitExpireTime": "2023-04-26T21:35:43Z"
    }
  ]
}
}
2023-04-26T21:32:53.131Z - INFO - heartbeat request from CBRS : {
  "heartbeatRequest": [
    {
      "cbsdId": "W6U-TEST-FCC-IDMock-SAS68530322500007",
      "grantId": "530719168",
      "operationState": "AUTHORIZED"
    }
  ]
}
}
2023-04-26T21:32:53.174Z - INFO - engine sent successfully, the response to CBRS : {
  "heartbeatResponse": [
    {
      "cbsdId": "W6U-TEST-FCC-IDMock-SAS68530322500007",
      "grantId": "530719168",
      "response": {
        "responseCode": 0
      },
      "transmitExpireTime": "2023-04-26T21:36:13Z"
    }
  ]
}
}
2023-04-26T21:33:23.289Z - INFO - heartbeat request from CBRS : {
  "heartbeatRequest": [

```

```

{
  "cbsdId": "W6U-TEST-FCC-IDMock-SAS68530322500007",
  "grantId": "530719168",
  "operationState": "AUTHORIZED"
}
]
}
2023-04-26T21:33:23.329Z - INFO - engine sent successfully, the response to CBRS : {
  "heartbeatResponse": [
    {
      "cbsdId": "W6U-TEST-FCC-IDMock-SAS68530322500007",
      "grantId": "530719168",
      "response": {
        "responseCode": 0
      },
      "transmitExpireTime": "2023-04-26T21:36:43Z"
    }
  ]
}
2023-04-26T21:33:53.428Z - INFO - heartbeat request from CBRS : {
  "heartbeatRequest": [
    {
      "cbsdId": "W6U-TEST-FCC-IDMock-SAS68530322500007",
      "grantId": "530719168",
      "operationState": "AUTHORIZED"
    }
  ]
}
2023-04-26T21:33:53.480Z - INFO - engine sent successfully, the response to CBRS : {
  "heartbeatResponse": [
    {
      "cbsdId": "W6U-TEST-FCC-IDMock-SAS68530322500007",
      "grantId": "530719168",
      "response": {
        "responseCode": 0
      },
      "transmitExpireTime": "2023-04-26T21:37:13Z"
    }
  ]
}
2023-04-26T21:34:03.852Z - INFO - heartbeat request from CBRS : {
  "heartbeatRequest": [
    {
      "cbsdId": "W6U-TEST-FCC-IDMock-SAS68530322500007",
      "grantId": "530719168",
      "operationState": "AUTHORIZED"
    }
  ]
}
2023-04-26T21:34:03.874Z - INFO - engine sent successfully, the response to CBRS : {
  "heartbeatResponse": [
    {
      "cbsdId": "W6U-TEST-FCC-IDMock-SAS68530322500007",

```

```

    "grantId": "530719168",
    "response": {
      "responseCode": 0
    },
    "transmitExpireTime": "2023-04-26T21:37:23Z"
  }
}
}
2023-04-26T21:34:03.953Z - INFO - relinquishment request from CBRS : {
  "relinquishmentRequest": [
    {
      "cbsdId": "W6U-TEST-FCC-IDMock-SAS68530322500007",
      "grantId": "530719168"
    }
  ]
}
2023-04-26T21:34:03.990Z - INFO - engine sent successfully, the response to CBRS : {
  "relinquishmentResponse": [
    {
      "cbsdId": "W6U-TEST-FCC-IDMock-SAS68530322500007",
      "grantId": "530719168",
      "response": {
        "responseCode": 0
      }
    }
  ]
}
2023-04-26T21:34:22.359Z - INFO - deregistration request from CBRS : {
  "deregistrationRequest": [
    {
      "cbsdId": "W6U-TEST-FCC-IDMock-SAS68530322500007"
    }
  ]
}
2023-04-26T21:34:22.400Z - INFO - engine sent successfully, the response to CBRS : {
  "deregistrationResponse": [
    {
      "cbsdId": "W6U-TEST-FCC-IDMock-SAS68530322500007",
      "response": {
        "responseCode": 0
      }
    }
  ]
}
2023-04-26T21:34:22.530Z - INFO - registration request from CBRS : {
  "registrationRequest": [
    {
      "airInterface": {
        "radioTechnology": "NR"
      },
      "callSign": "1",
      "cbsdCategory": "A",
      "cbsdInfo": {

```



```

    "firmwareVersion": "1.1.10 ()",
    "hardwareVersion": "0.0.1",
    "model": "O-RU",
    "softwareVersion": "0.2.4 ()",
    "vendor": "SOLiD"
  },
  "cbsdSerialNumber": "68530322500007",
  "cpiSignatureData": {
    "digitalSignature": "AR5MaDIzi5_qJGKAmdXCUYzDxUWghcxP_oJXuoi2xq1K2B22_gHAl6HcpvWjYkBuHR4Br0gY81Le21Wrdc3yZHreFOV1iKJCF-
1GWGdpXNWZfuqRXj6-
hIEA9s5dlmQtu_O2Z2UEXpqISwn6xtBY7k1qI6yenIIQ4nV7C0iRxt9L7AeubAFSLIDc3twXBrrbLbbRgtckEAPbi2VgOAU4dkMuMydrYzolkQVNV4Nei9uL9r3rgaEfCm
HWVviex18_6kELxJ_IQYnU3P_N2siY81q57jE6AeJpWm3qa4n8Vm9Bdjv-riOZI_E6-Mq7HhoF5EK4hLI9tNC_T5fpmYMOA",
    "encodedCpiSignedData":
"eyJpbmN0YWxsYXRpb25QYXJhbnSI6eyJsYXRpdHVkZSI6MS4wLCJsb25naXR1ZGUioEUMCwiaGVpZ2h0IjoxLjAsImhlaWdodFR5cGUioiJBROwiLCJpbmRvb3JEZXBs
b3ltZW50Ij0cnVlLCJhbnRlbn5hR2Fpbil6MC4wfSwiZmNjSWQioiXNIUteVETVC1GQ0MtSUQiLCJjYnNkU2VyaWFsTnVtYmVyljoiNjg1MzAzMjI1MDAwMDciLCJw
cm9mZXNzaW9uYWxJbnN0YWxsZXJlYXRoIj07ImNwaUlkljoiMTEtXliwiY3BpTmFtZSI6IjEiLCJpbmN0YWxsQ2VydGlmaWNhdGlvbIRpbWUiOiIyMDE3LTExVDI
wOjMwOjAwWjI9fQ",
    "protectedHeader": "eyJhbGciOiJSUzI1NiIsInR5cCI6IkpXVCJ9"
  },
  "fccId": "W6U-TEST-FCC-ID",
  "userId": "1"
}
]
}
2023-04-26T21:34:22.611Z - INFO - engine sent successfully, the response to CBRS : {
  "registrationResponse": {
    {
      "cbsdId": "W6U-TEST-FCC-IDMock-SAS68530322500007",
      "response": {
        "responseCode": 0
      }
    }
  }
}
2023-04-26T21:34:22.704Z - INFO - spectrumInquiry request from CBRS : {
  "spectrumInquiryRequest": {
    {
      "cbsdId": "W6U-TEST-FCC-IDMock-SAS68530322500007",
      "inquiredSpectrum": [
        {
          "highFrequency": 3700000000,
          "lowFrequency": 3550000000
        }
      ]
    }
  }
}
2023-04-26T21:34:22.757Z - INFO - The requested spectrum is out of the range, availableChannel is sent out
2023-04-26T21:34:22.760Z - INFO - engine sent successfully, the response to CBRS : {
  "spectrumInquiryResponse": {
    {
      "availableChannel": [
        {

```

```

        "channelType": "GAA",
        "frequencyRange": {
            "highFrequency": 3570000000,
            "lowFrequency": 3550000000
        },
        "maxEirp": 20,
        "ruleApplied": "FCC_PART_96"
    }
},
"cbsdId": "W6U-TEST-FCC-IDMock-SAS68530322500007",
"response": {
    "responseCode": 0
}
}
]
}
2023-04-26T21:34:22.878Z - INFO - spectrumInquiry request from CBRS : {
    "spectrumInquiryRequest": [
        {
            "cbsdId": "W6U-TEST-FCC-IDMock-SAS68530322500007",
            "inquiredSpectrum": [
                {
                    "highFrequency": 3570040000.0,
                    "lowFrequency": 3550040000.0
                }
            ]
        }
    ]
}
}
2023-04-26T21:34:22.904Z - INFO - The requested spectrum is out of the range, availableChannel is sent out
2023-04-26T21:34:22.908Z - INFO - engine sent successfully, the response to CBRS : {
    "spectrumInquiryResponse": [
        {
            "availableChannel": [
                {
                    "channelType": "GAA",
                    "frequencyRange": {
                        "highFrequency": 3570000000,
                        "lowFrequency": 3550000000
                    },
                    "maxEirp": 20,
                    "ruleApplied": "FCC_PART_96"
                }
            ],
            "cbsdId": "W6U-TEST-FCC-IDMock-SAS68530322500007",
            "response": {
                "responseCode": 0
            }
        }
    ]
}
}
2023-04-26T21:34:23.002Z - INFO - grant request from CBRS : {
    "grantRequest": [

```

```

{
  "cbsdId": "W6U-TEST-FCC-IDMock-SAS68530322500007",
  "operationParam": {
    "maxEirp": 11.0,
    "operationFrequencyRange": {
      "highFrequency": 3570000000,
      "lowFrequency": 3550000000
    }
  }
}
]
}
}
2023-04-26T21:34:23.051Z - INFO - engine sent successfully, the response to CBRS : {
  "grantResponse": [
    {
      "cbsdId": "W6U-TEST-FCC-IDMock-SAS68530322500007",
      "channelType": "GAA",
      "grantExpireTime": "2023-05-03T21:34:23Z",
      "grantId": "292407276",
      "heartbeatInterval": 60,
      "response": {
        "responseCode": 0
      }
    }
  ]
}
}
2023-04-26T21:34:23.137Z - INFO - heartbeat request from CBRS : {
  "heartbeatRequest": [
    {
      "cbsdId": "W6U-TEST-FCC-IDMock-SAS68530322500007",
      "grantId": "292407276",
      "grantRenew": true,
      "operationState": "GRANTED"
    }
  ]
}
}
2023-04-26T21:34:23.187Z - INFO - engine sent successfully, the response to CBRS : {
  "heartbeatResponse": [
    {
      "cbsdId": "W6U-TEST-FCC-IDMock-SAS68530322500007",
      "grantExpireTime": "2023-04-26T21:40:23Z",
      "grantId": "292407276",
      "response": {
        "responseCode": 0
      },
      "transmitExpireTime": "2023-04-26T21:37:43Z"
    }
  ]
}
}
2023-04-26T21:34:33.282Z - INFO - heartbeat request from CBRS : {
  "heartbeatRequest": [
    {
      "cbsdId": "W6U-TEST-FCC-IDMock-SAS68530322500007",

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    "grantId": "292407276",
    "operationState": "AUTHORIZED"
  }
}
}
2023-04-26T21:34:33.313Z - INFO - engine sent successfully, the response to CBRS : {
  "heartbeatResponse": [
    {
      "cbsdId": "W6U-TEST-FCC-IDMock-SAS68530322500007",
      "grantId": "292407276",
      "response": {
        "responseCode": 0
      },
      "transmitExpireTime": "2023-04-26T21:37:53Z"
    }
  ]
}
2023-04-26T21:35:03.492Z - INFO - heartbeat request from CBRS : {
  "heartbeatRequest": [
    {
      "cbsdId": "W6U-TEST-FCC-IDMock-SAS68530322500007",
      "grantId": "292407276",
      "operationState": "AUTHORIZED"
    }
  ]
}
2023-04-26T21:35:03.539Z - INFO - engine sent successfully, the response to CBRS : {
  "heartbeatResponse": [
    {
      "cbsdId": "W6U-TEST-FCC-IDMock-SAS68530322500007",
      "grantId": "292407276",
      "response": {
        "responseCode": 0
      },
      "transmitExpireTime": "2023-04-26T21:38:23Z"
    }
  ]
}
2023-04-26T21:35:33.701Z - INFO - heartbeat request from CBRS : {
  "heartbeatRequest": [
    {
      "cbsdId": "W6U-TEST-FCC-IDMock-SAS68530322500007",
      "grantId": "292407276",
      "operationState": "AUTHORIZED"
    }
  ]
}
2023-04-26T21:35:33.744Z - INFO - engine sent successfully, the response to CBRS : {
  "heartbeatResponse": [
    {
      "cbsdId": "W6U-TEST-FCC-IDMock-SAS68530322500007",
      "grantId": "292407276",
      "response": {

```

```

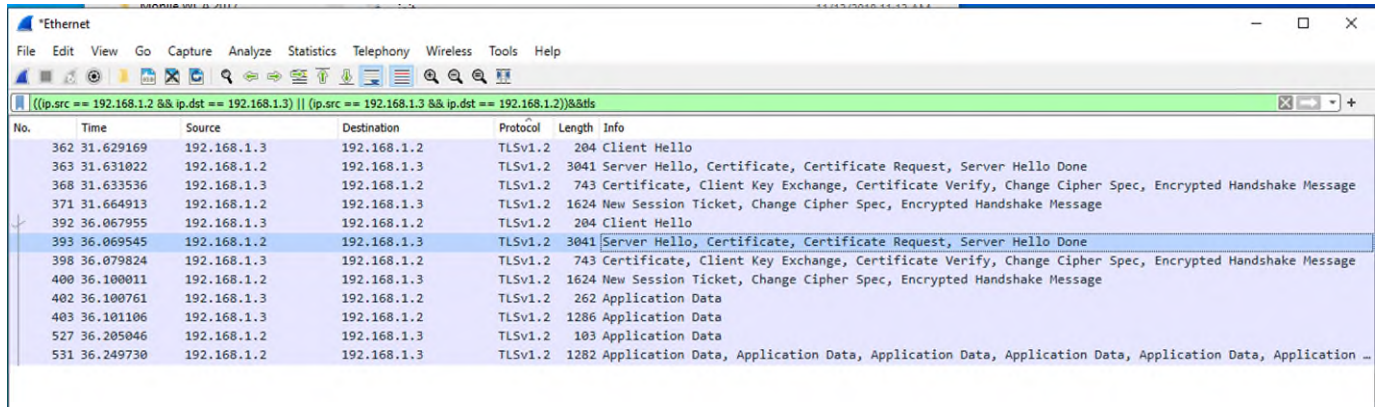
        "responseCode": 0
    },
    "transmitExpireTime": "2023-04-26T21:38:53Z"
}
]
}
2023-04-26T21:36:03.865Z - INFO - heartbeat request from CBRS : {
  "heartbeatRequest": [
    {
      "cbsdId": "W6U-TEST-FCC-IDMock-SAS68530322500007",
      "grantId": "292407276",
      "operationState": "AUTHORIZED"
    }
  ]
}
2023-04-26T21:36:03.926Z - INFO - engine sent successfully, the response to CBRS : {
  "heartbeatResponse": [
    {
      "cbsdId": "W6U-TEST-FCC-IDMock-SAS68530322500007",
      "grantId": "292407276",
      "response": {
        "responseCode": 0
      },
      "transmitExpireTime": "2023-04-26T21:39:23Z"
    }
  ]
}
2023-04-26T21:36:34.579Z - INFO - heartbeat request from CBRS : {
  "heartbeatRequest": [
    {
      "cbsdId": "W6U-TEST-FCC-IDMock-SAS68530322500007",
      "grantId": "292407276",
      "operationState": "AUTHORIZED"
    }
  ]
}
2023-04-26T21:36:34.628Z - INFO - engine sent successfully, the response to CBRS : {
  "heartbeatResponse": [
    {
      "cbsdId": "W6U-TEST-FCC-IDMock-SAS68530322500007",
      "grantId": "292407276",
      "response": {
        "responseCode": 0
      },
      "transmitExpireTime": "2023-04-26T21:39:54Z"
    }
  ]
}
2023-04-26T21:37:04.769Z - INFO - heartbeat request from CBRS : {
  "heartbeatRequest": [
    {
      "cbsdId": "W6U-TEST-FCC-IDMock-SAS68530322500007",
      "grantId": "292407276",

```



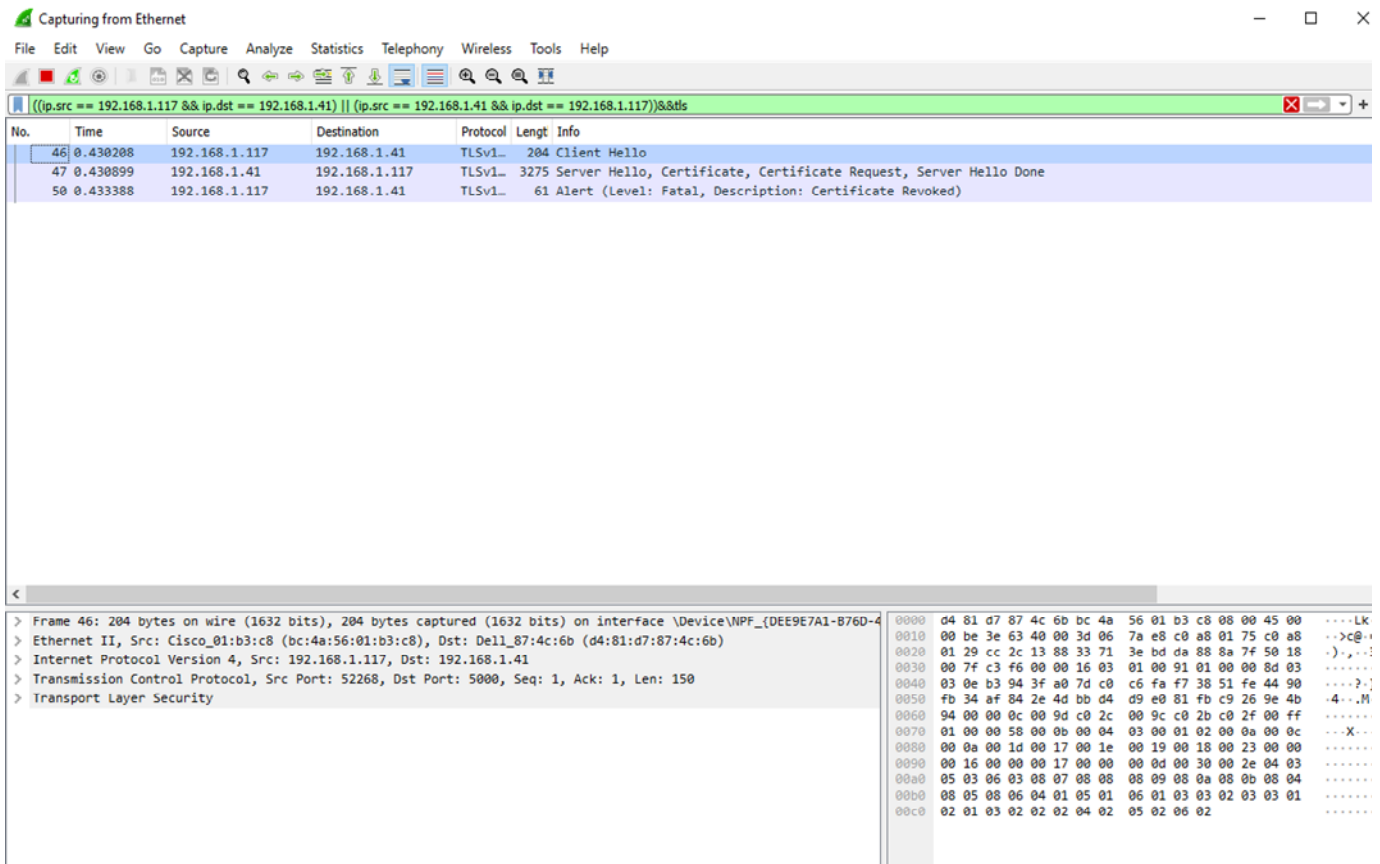
```
    "operationState": "AUTHORIZED"
  }
]
}
2023-04-26T21:37:04.816Z - INFO - engine sent successfully, the response to CBRS : {
  "heartbeatResponse": [
    {
      "cbsdId": "W6U-TEST-FCC-IDMock-SAS68530322500007",
      "grantId": "292407276",
      "response": {
        "responseCode": 0
      },
      "transmitExpireTime": "2023-04-26T21:40:24Z"
    }
  ]
}
```

10.30 Wireshark capture screenshot for test case ID: WINNF.FT.C.SCS.1



No.	Time	Source	Destination	Protocol	Length	Info
362	31.629169	192.168.1.3	192.168.1.2	TLSv1.2	204	Client Hello
363	31.631022	192.168.1.2	192.168.1.3	TLSv1.2	3041	Server Hello, Certificate, Certificate Request, Server Hello Done
368	31.633536	192.168.1.3	192.168.1.2	TLSv1.2	743	Certificate, Client Key Exchange, Certificate Verify, Change Cipher Spec, Encrypted Handshake Message
371	31.664913	192.168.1.2	192.168.1.3	TLSv1.2	1624	New Session Ticket, Change Cipher Spec, Encrypted Handshake Message
392	36.067955	192.168.1.3	192.168.1.2	TLSv1.2	204	Client Hello
393	36.069545	192.168.1.2	192.168.1.3	TLSv1.2	3041	Server Hello, Certificate, Certificate Request, Server Hello Done
398	36.079824	192.168.1.3	192.168.1.2	TLSv1.2	743	Certificate, Client Key Exchange, Certificate Verify, Change Cipher Spec, Encrypted Handshake Message
400	36.100011	192.168.1.2	192.168.1.3	TLSv1.2	1624	New Session Ticket, Change Cipher Spec, Encrypted Handshake Message
402	36.100761	192.168.1.3	192.168.1.2	TLSv1.2	262	Application Data
403	36.101106	192.168.1.3	192.168.1.2	TLSv1.2	1286	Application Data
527	36.205046	192.168.1.2	192.168.1.3	TLSv1.2	103	Application Data
531	36.249730	192.168.1.2	192.168.1.3	TLSv1.2	1282	Application Data, Application Data, Application Data, Application Data, Application Data, Application ...

10.31 Wireshark capture screenshot for test case ID: WINNF.FT.C.SCS.2



Wireshark capture screenshot showing a TLS alert message (Certificate Revoked) between 192.168.1.117 and 192.168.1.41. The capture is filtered by the expression: `((ip.src == 192.168.1.117 && ip.dst == 192.168.1.41) || (ip.src == 192.168.1.41 && ip.dst == 192.168.1.117))&&tls`.

No.	Time	Source	Destination	Protocol	Length	Info
46	0.430208	192.168.1.117	192.168.1.41	TLSv1...	204	Client Hello
47	0.430899	192.168.1.41	192.168.1.117	TLSv1...	3275	Server Hello, Certificate, Certificate Request, Server Hello Done
50	0.433388	192.168.1.117	192.168.1.41	TLSv1...	61	Alert (Level: Fatal, Description: Certificate Revoked)

Frame 46: 204 bytes on wire (1632 bits), 204 bytes captured (1632 bits) on interface \Device\NPF_{DEE9E7A1-B76D-4...}

Ethernet II, Src: Cisco_01:b3:c8 (bc:4a:56:01:b3:c8), Dst: Dell_87:4c:6b (d4:81:d7:87:4c:6b)

Internet Protocol Version 4, Src: 192.168.1.117, Dst: 192.168.1.41

Transmission Control Protocol, Src Port: 52268, Dst Port: 5000, Seq: 1, Ack: 1, Len: 150

Transport Layer Security

0000 d4 81 d7 87 4c 6b bc 4a 56 01 b3 c8 06 00 45 00Lk
0010 00 be 3e 63 40 00 3d 06 7a e8 c0 a8 01 75 c0 a8 ...>c@...
0020 01 29 cc 2c 13 88 33 71 3e bd da 88 8a 7f 50 18 .).,.,..
0030 00 7f c3 f6 00 00 16 03 01 00 91 01 00 00 8d 03
0040 03 0e b3 94 3f a0 7d c0 c6 fa f7 38 51 fe 44 90?..
0050 fb 34 af 84 2e 4d bb d4 d9 e0 81 fb c9 26 9e 4b .4...M
0060 94 00 00 0c 00 9d c0 2c 00 9c c0 2b c0 2f 00 ff
0070 01 00 00 58 00 0b 00 04 03 00 01 02 00 0a 00 0c ...X..
0080 00 0a 00 1d 00 17 00 1e 00 19 00 18 00 23 00 00
0090 00 16 00 00 00 17 00 00 00 0d 00 30 00 2e 04 03
00a0 05 03 06 03 08 07 08 08 08 09 08 0a 08 0b 08 04
00b0 08 05 08 06 04 01 05 01 06 01 03 03 02 03 03 01
00c0 02 01 03 02 02 04 02 05 02 06 02Lk

10.32 Wireshark capture screenshot for test case ID: WINNF.FT.C.SCS.3

Capturing from Ethernet

File Edit View Go Capture Analyze Statistics Telephony Wireless Tools Help

(((ip.src == 192.168.1.2 && ip.dst == 192.168.1.3) || (ip.src == 192.168.1.3 && ip.dst == 192.168.1.2)))&&tls

No.	Time	Source	Destination	Protocol	Length	Info
308	13.376868	192.168.1.3	192.168.1.2	TLSv1.2	204	Client Hello
309	13.378811	192.168.1.2	192.168.1.3	TLSv1.2	3062	Server Hello, Certificate, Certificate Request, Server Hello Done
312	13.379920	192.168.1.3	192.168.1.2	TLSv1.2	61	Alert (Level: Fatal, Description: Certificate Expired)
371	18.393253	192.168.1.3	192.168.1.2	TLSv1.2	204	Client Hello
372	18.394667	192.168.1.2	192.168.1.3	TLSv1.2	3062	Server Hello, Certificate, Certificate Request, Server Hello Done
374	18.405727	192.168.1.3	192.168.1.2	TLSv1.2	61	Alert (Level: Fatal, Description: Certificate Expired)
388	23.407520	192.168.1.3	192.168.1.2	TLSv1.2	204	Client Hello
389	23.408025	192.168.1.2	192.168.1.3	TLSv1.2	3062	Server Hello, Certificate, Certificate Request, Server Hello Done
392	23.408781	192.168.1.3	192.168.1.2	TLSv1.2	61	Alert (Level: Fatal, Description: Certificate Expired)
463	28.428351	192.168.1.3	192.168.1.2	TLSv1.2	204	Client Hello
464	28.429920	192.168.1.2	192.168.1.3	TLSv1.2	3062	Server Hello, Certificate, Certificate Request, Server Hello Done
466	28.431702	192.168.1.3	192.168.1.2	TLSv1.2	61	Alert (Level: Fatal, Description: Certificate Expired)

10.33 Wireshark capture screenshot for test case ID: WINNF.FT.C.SCS.4

*Ethernet

File Edit View Go Capture Analyze Statistics Telephony Wireless Tools Help

(((ip.src == 192.168.1.2 && ip.dst == 192.168.1.3) || (ip.src == 192.168.1.3 && ip.dst == 192.168.1.2))&&tls)

No.	Time	Source	Destination	Protocol	Length	Info
2837	78.365963	192.168.1.3	192.168.1.2	TLSv1.2	204	Client Hello
2838	78.367295	192.168.1.2	192.168.1.3	TLSv1.2	3064	Server Hello, Certificate, Certificate Request, Server Hello Done
2841	78.410528	192.168.1.3	192.168.1.2	TLSv1.2	61	Alert (Level: Fatal, Description: Unknown CA)
2881	83.431125	192.168.1.3	192.168.1.2	TLSv1.2	204	Client Hello
2882	83.431877	192.168.1.2	192.168.1.3	TLSv1.2	3064	Server Hello, Certificate, Certificate Request, Server Hello Done
2885	83.432433	192.168.1.3	192.168.1.2	TLSv1.2	61	Alert (Level: Fatal, Description: Unknown CA)
2917	88.482165	192.168.1.3	192.168.1.2	TLSv1.2	204	Client Hello
2918	88.483830	192.168.1.2	192.168.1.3	TLSv1.2	3064	Server Hello, Certificate, Certificate Request, Server Hello Done
2921	88.484489	192.168.1.3	192.168.1.2	TLSv1.2	61	Alert (Level: Fatal, Description: Unknown CA)
2965	93.500106	192.168.1.3	192.168.1.2	TLSv1.2	204	Client Hello
2966	93.501661	192.168.1.2	192.168.1.3	TLSv1.2	3064	Server Hello, Certificate, Certificate Request, Server Hello Done
2969	93.502250	192.168.1.3	192.168.1.2	TLSv1.2	61	Alert (Level: Fatal, Description: Unknown CA)
2981	98.524887	192.168.1.3	192.168.1.2	TLSv1.2	204	Client Hello
2982	98.526708	192.168.1.2	192.168.1.3	TLSv1.2	3064	Server Hello, Certificate, Certificate Request, Server Hello Done
2985	98.527348	192.168.1.3	192.168.1.2	TLSv1.2	61	Alert (Level: Fatal, Description: Unknown CA)

10.34 Wireshark capture screenshot for test case ID: WINNF.FT.C.SCS.5

Capturing from Ethernet

File Edit View Go Capture Analyze Statistics Telephony Wireless Tools Help

Filter: ((ip.src == 192.168.1.2 && ip.dst == 192.168.1.3) || (ip.src == 192.168.1.3 && ip.dst == 192.168.1.2))&&tls

No.	Time	Source	Destination	Protocol	Length	Info
233	11.808764	192.168.1.3	192.168.1.2	TLSv1.2	204	Client Hello
234	11.809164	192.168.1.2	192.168.1.3	TLSv1.2	3041	Server Hello, Certificate, Certificate Request, Server Hello Done
236	11.809861	192.168.1.3	192.168.1.2	TLSv1.2	61	Alert (Level: Fatal, Description: Decrypt Error)
261	16.824847	192.168.1.3	192.168.1.2	TLSv1.2	204	Client Hello
262	16.826515	192.168.1.2	192.168.1.3	TLSv1.2	3041	Server Hello, Certificate, Certificate Request, Server Hello Done
265	16.827267	192.168.1.3	192.168.1.2	TLSv1.2	61	Alert (Level: Fatal, Description: Decrypt Error)
328	21.843630	192.168.1.3	192.168.1.2	TLSv1.2	204	Client Hello
329	21.844593	192.168.1.2	192.168.1.3	TLSv1.2	3041	Server Hello, Certificate, Certificate Request, Server Hello Done
332	21.845358	192.168.1.3	192.168.1.2	TLSv1.2	61	Alert (Level: Fatal, Description: Decrypt Error)
374	26.860923	192.168.1.3	192.168.1.2	TLSv1.2	204	Client Hello
375	26.863497	192.168.1.2	192.168.1.3	TLSv1.2	3041	Server Hello, Certificate, Certificate Request, Server Hello Done
378	26.870886	192.168.1.3	192.168.1.2	TLSv1.2	61	Alert (Level: Fatal, Description: Decrypt Error)
408	31.874702	192.168.1.3	192.168.1.2	TLSv1.2	204	Client Hello
409	31.876685	192.168.1.2	192.168.1.3	TLSv1.2	3041	Server Hello, Certificate, Certificate Request, Server Hello Done
412	31.877381	192.168.1.3	192.168.1.2	TLSv1.2	61	Alert (Level: Fatal, Description: Decrypt Error)

Section 11. Attestation letter for Domain Proxy modifications, SW versions and Antenna Gain used during power measurement.

ASOCS  CBRS Testing at Nemko Attestation Letter

To Whom It May Concern,

RE: Attestation Letter - Domain-Proxy Software Testing

I, Niv Zimmerman, hereby provide this attestation letter to confirm the details of the testing process conducted on the Domain-Proxy software.

The testing commenced on April 26th with the utilization of Domain-Proxy version 4.4.2-72. Throughout the testing, it was observed that the inclusion of the "Received Power Reporting" feature was mandatory for accurate and comprehensive testing results.

In response to this requirement, our team promptly enabled the "RECEIVED_POWER_WITH_GRANT" feature within the Domain Proxy engine. This feature was set to the default configuration, ensuring its compatibility and effectiveness within the testing environment. Subsequently, version 4.4.2-73 of the Domain-Proxy software was released on the following day, with the sole distinction of incorporating the enabled "RECEIVED_POWER_WITH_GRANT" feature.

Additionally, during the testing process, a configuration change was made to the Domain Proxy's TLS module. Specifically, a Certificate Revocation List (CRL) validation option was set upon session creation.

Should you require any further information or clarification regarding the aforementioned testing process, please do not hesitate to contact me directly at nivz@asocslud.com.

Niv Zimmerman

VP Solutions

ASOCS

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ASOCS  CBRS Testing at Nemko Attestation Letter

To Whom It May Concern,

RE: Attestation Letter - Domain-Proxy Tx_Power Calculation

I am writing to provide clarification regarding a recent test conducted by our company, which yielded results that differed from expectations due to an misalignment in CBSD antenna gain setting.

During the execution of the test, the value of 0dBi for the antenna gain was utilized. This decision was made as the test was performed without antennas, resulting in a simplified setup.

Considering the following calculation:

"Granted EIRP of 11dBm and our PSD reading @ dBm/1MHz is 5.93 dBm then if we add the antenna gain + the Correlation of the 2 antennas "3dBi" (0 + 10Log(2)=3) we have a total of 8.93dBm."

The calculation that was done at Domain-Proxy side to meet the 11dB/Mhz limitation as follows:

$$\text{Radio_Tx_Power} = \text{EIRP} - 10\log(\text{NUM_OF_ANTENNAS}) - \text{ANTENNA_GAIN} + 10\log(\text{BANDWIDTH_IN_MHZ})$$

Note: Radio_Tx_Power is the way for the Domain-Proxy to configure the radio power. Radio_Tx_Power is configured per antenna-port for the entire channel bandwidth (e.g. 20Mhz)

$11\text{dBm/Mhz} - 10\log(2) - 0\text{dB} + 10\log(20) = 21\text{dBm}$ Radio_Tx_Power for 0dBi Antenna-Gain

In production deployments, the product will use the actual antenna gain value in the formula above, to lower the Radio_Tx_Power, meeting the max EIRP requirements of 11dB/Mhz

Should you require any further information or clarification regarding the aforementioned testing process, please do not hesitate to contact me directly at nivz@asocslud.com.

Niv Zimmerman

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Thank you for choosing

