



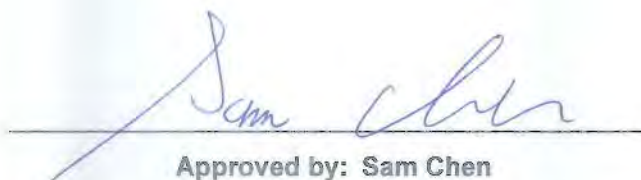
WINNF-TS-0122 TEST REPORT

FCC ID : 2AVFNLBS7320
Equipment : LTE-TDD Base Station
Brand Name : Leax
Model Name : LBS7320
Applicant : Leax Arkivator Telecom USA Inc.
833 E Arapaho Rd. Suite 203 Richardson, TX 75081
Manufacturer : Leax Arkivator Telecom USA Inc.
833 E Arapaho Rd. Suite 203 Richardson, TX 75081
Standard : WINNF-TS-0122 Version V1.0.1

The product was received on Jan. 08, 2020, and testing was started from Feb. 07, 2020 and completed on Feb. 21, 2020. We, SPORTON INTERNATIONAL INC. EMC & Wireless Communications Laboratory, would like to declare that the tested sample has been evaluated in accordance with the procedures given in WINNF-TS-0122 Version V1.0.1 and shown compliance with the applicable technical standards.

The report must not be used by the client to claim product certification, approval, or endorsement by TAF or any agency of government.

The test results in this report apply exclusively to the tested model / sample. Without written approval of SPORTON INTERNATIONAL INC. EMC & Wireless Communications Laboratory, the test report shall not be reproduced except in full.



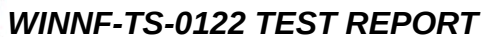
Approved by: Sam Chen

SPORTON INTERNATIONAL INC. EMC & Wireless Communications Laboratory
No. 52, Huaya 1st Rd., Guishan Dist., Taoyuan City, Taiwan (R.O.C.)



Table of Contents

1	General Description	7
1.1	Product Feature of Equipment Under Test	7
1.2	Accessories.....	8
1.3	Support Equipment	8
1.4	Testing Location.....	8
2	Measurement Environment	9
2.1	Conditional Test Case.....	9
2.2	Test Configuration	10
3	Test Results	11
3.1	WINNF.FT.D.REG.2 - Domain Proxy Multi-Step registration.....	11
3.2	WINNF.FT.D.REG.6 - Domain Proxy Single-Step registration for CBSD with CPI signed data	12
3.3	WINNF.FT.D.REG.9 - Domain Proxy Missing Required parameters (responseCode 102)	13
3.4	WINNF.FT.D.REG.11 - Domain Proxy Pending registration (responseCode 200)	14
3.5	WINNF.FT.D.REG.13 - Domain Proxy Invalid parameters (responseCode 103)	15
3.6	WINNF.FT.D.REG.15 - Domain Proxy Blacklisted CBSD (responseCode 101).....	16
3.7	WINNF.FT.D.REG.17 - Domain Proxy Unsupported SAS protocol version (responseCode 100).....	17
3.8	WINNF.FT.D.REG.19 - Domain Proxy Group Error (responseCode 201)	18
3.9	WINNF.FT.C.GRA.1 - Unsuccessful Grant responseCode=400 (INTERFERENCE)	19
3.10	WINNF.FT.C.GRA.2 - Unsuccessful Grant responseCode=401 (GRANT_CONFLICT).....	20
3.11	WINNF.FT.D.HBT.2 - Domain Proxy Heartbeat Success Case (first Heartbeat Response).....	21
3.12	WINNF.FT.C.HBT.3 - Heartbeat responseCode=105 (DEREGISTER).....	24
3.13	WINNF.FT.C.HBT.5 - Heartbeat responseCode=501 (SUSPENDED_GRANT) in First Heartbeat Response.	25
3.14	WINNF.FT.C.HBT.6 - Heartbeat responseCode=501 (SUSPENDED_GRANT) in Subsequent Heartbeat Response	26
3.15	WINNF.FT.C.HBT.7 - Heartbeat responseCode=502 (UNSYNC_OP_PARAM)	27
3.16	WINNF.FT.D.HBT.8 - Domain Proxy Heartbeat responseCode=500 (TERMINATED_GRANT).....	28
3.17	WINNF.FT.C.HBT.9 - Heartbeat Response Absent (First Heartbeat).....	30
3.18	WINNF.FT.C.HBT.10 - Heartbeat Response Absent (Subsequent Heartbeat)	31
3.19	WINNF.FT.C.HBT.11 - Successful Grant Renewal in Heartbeat Test Case.....	32
3.20	WINNF.FT.D.MES.2 - Domain Proxy Registration Response contains measReportConfig	34
3.21	WINNF.FT.C.MES.3 - Grant Response contains measReportConfig.....	36
3.22	WINNF.FT.D.MES.5 - Domain Proxy Heartbeat Response contains measReportConfig	37
3.23	WINNF.FT.D.RLQ.2 - Domain Proxy Successful Relinquishment	39
3.24	WINNF.FT.D.RLQ.4 - Domain Proxy Unsuccessful Relinquishment, responseCode=102	40
3.25	WINNF.FT.D.RLQ.6 - Domain Proxy Unsuccessful Relinquishment, responseCode=103.....	41
3.26	WINNF.FT.D.DRG.2 - Domain Proxy Successful Deregistration.....	42
3.27	WINNF.FT.D.DRG.4 - Domain Proxy Deregistration responseCode=102.....	43
3.28	WINNF.FT.C.DRG.5 - Deregistration responseCode=103	44
3.29	WINNF.FT.C.SCS.1 - Successful TLS connection between UUT and SAS Test Harness.....	45
3.30	WINNF.FT.C.SCS.2 - TLS failure due to revoked certificate	46
3.31	WINNF.FT.C.SCS.3 - TLS failure due to expired server certificate	47
3.32	WINNF.FT.C.SCS.4 - TLS failure when SAS Test Harness certificate is issued by an unknown CA.....	48
3.33	WINNF.FT.C.SCS.5 - TLS failure when certificate at the SAS Test Harness is corrupted	49
3.34	WINNF.FT.C.HBT - UUT RF Transmit Power Measurement	50
4	Test Equipment and Calibration Data	53
5	Measurement Uncertainty	54
Appendix A. Test Logs		
Appendix B. RF Measurement Plots		
Appendix C. Wireshark Plots		
Appendix D. CRL and OCSP Verify Plots		
Appendix E. Test Photos		
Photographs of EUT v01		



History of this test report

TEL : 886-3-656-9065
FAX : 886-3-656-9085
Report Template No.: CB-A18_2 Ver1.0

Page Number : 3 of 54
Issued Date : Feb. 27, 2020
Report Version : 01

Summary of Test Result

Report Clause	Ref Std. Clause	CBSD	DP	Required for Cert.	Test Case ID	Test Case Title	Result (PASS/FAIL)	Remark
-	6.1.4.1.1	X	-	C1	WINNF.FT.C.REG.1	Multi-Step registration	N/A	-
3.1	6.1.4.1.2	-	X	C1	WINNF.FT.D.REG.2	Domain Proxy Multi-Step registration	PASS	-
-	6.1.4.1.3	X	-	C2	WINNF.FT.C.REG.3	Single-Step registration for Category A CBSD	N/A	-
-	6.1.4.1.4	-	X	C2	WINNF.FT.D.REG.4	Domain Proxy Single-Step registration for Cat A CBSD	N/A	-
-	6.1.4.1.5	X	-	C3	WINNF.FT.C.REG.5	Single-Step registration for CBSD with CPI signed data	N/A	-
3.2	6.1.4.1.6	-	X	C3	WINNF.FT.D.REG.6	Domain Proxy Single-Step registration for CBSD with CPI signed data	PASS	-
-	6.1.4.1.7	X	X	C6	WINNF.FT.C.REG.7	Registration due to change of an installation parameter	N/A	-
-	6.1.4.2.1	X	-	M	WINNF.FT.C.REG.8	Missing Required parameters (responseCode 102)	N/A	-
3.3	6.1.4.2.2	-	X	M	WINNF.FT.D.REG.9	Domain Proxy Missing Required parameters (responseCode 102)	PASS	-
-	6.1.4.2.3	X	-	M	WINNF.FT.C.REG.10	Pending registration (responseCode 200)	N/A	-
3.4	6.1.4.2.4	-	X	M	WINNF.FT.D.REG.11	Domain Proxy Pending registration (responseCode 200)	PASS	-
-	6.1.4.2.5	X	-	M	WINNF.FT.C.REG.12	Invalid parameter (responseCode 103)	N/A	-
3.5	6.1.4.2.6	-	X	M	WINNF.FT.D.REG.13	Domain Proxy Invalid parameters (responseCode 103)	PASS	-
-	6.1.4.2.7	X	-	M	WINNF.FT.C.REG.14	Blacklisted CBSD (responseCode 101)	N/A	-
3.6	6.1.4.2.8	-	X	M	WINNF.FT.D.REG.15	Domain Proxy Blacklisted CBSD (responseCode 101)	PASS	-
-	6.1.4.2.9	X	-	M	WINNF.FT.C.REG.16	Unsupported SAS protocol version (responseCode 100)	N/A	-
3.7	6.1.4.2.10	-	X	M	WINNF.FT.D.REG.17	Domain Proxy Unsupported SAS protocol version (responseCode 100)	PASS	-
-	6.1.4.2.11	X	-	M	WINNF.FT.C.REG.18	Group Error (responseCode 201)	N/A	-
3.8	6.1.4.2.12	-	X	M	WINNF.FT.D.REG.19	Domain Proxy Group Error (responseCode 201)	PASS	-



-	6.1.4.3.1	X	X	C2	WINNF.FT.C.REG.20	Category A CBSD location Update	N/A	-
3.9	6.3.4.2.1	X	X	M	WINNF.FT.C.GRA.1	Unsuccessful Grant responseCode=400 (INTERFERENCE)	PASS	-
3.10	6.3.4.2.2	X	X	M	WINNF.FT.C.GRA.2	Unsuccessful Grant responseCode=401 (GRANT_CONFLICT)	PASS	-
-	6.4.4.1.1	X	-	M	WINNF.FT.C.HBT.1	Heartbeat Success Case (first Heartbeat Response)	N/A	-
3.11	6.4.4.1.2	-	X	M	WINNF.FT.D.HBT.2	Domain Proxy Heartbeat Success Case (first Heartbeat Response)	PASS	-
3.12	6.4.4.2.1	X	X	M	WINNF.FT.C.HBT.3	Heartbeat responseCode=105 (DEREGISTER)	PASS	-
-	6.4.4.2.2	X	-	M	WINNF.FT.C.HBT.4	Heartbeat responseCode=500 (TERMINATED_GRANT)	N/A	-
3.13	6.4.4.2.3	X	X	M	WINNF.FT.C.HBT.5	Heartbeat responseCode=501 (SUSPENDED_GRANT) in First Heartbeat Response	PASS	-
3.14	6.4.4.2.4	X	X	M	WINNF.FT.C.HBT.6	Heartbeat responseCode=501 (SUSPENDED_GRANT) in Subsequent Heartbeat Response	PASS	-
3.15	6.4.4.2.5	X	X	M	WINNF.FT.C.HBT.7	Heartbeat responseCode=502 (UNSYNC_OP_PARAM)	PASS	-
3.16	6.4.4.2.6	-	X	M	WINNF.FT.D.HBT.8	Domain Proxy Heartbeat responseCode=500 (TERMINATED_GRANT)	PASS	-
3.17	6.4.4.3.1	X	X	M	WINNF.FT.C.HBT.9	Heartbeat Response Absent (First Heartbeat)	PASS	-
3.18	6.4.4.3.2	X	X	M	WINNF.FT.C.HBT.10	Heartbeat Response Absent (Subsequent Heartbeat)	PASS	-
3.19	6.4.4.4.1	X	X	O	WINNF.FT.C.HBT.11	SuccessfulGrantRenewalin HeartbeatTestCase	PASS	-
-	6.5.4.2.1	X	-	C4	WINNF.FT.C.MES.1	Registration Response contains measReportConfig	N/A	-
3.20	6.5.4.2.2	-	X	C4	WINNF.FT.D.MES.2	Domain Proxy Registration Response contains measReportConfig	PASS	-
3.21	6.5.4.2.3	X	X	C5	WINNF.FT.C.MES.3	Grant Response contains measReportConfig	PASS	-
-	6.5.4.2.4	X	-	C5	WINNF.FT.C.MES.4	Heartbeat Response contains measReportConfig	N/A	-
3.22	6.5.4.2.5	-	X	C5	WINNF.FT.D.MES.5	Domain Proxy Heartbeat Response contains measReportConfig	PASS	-
-	6.6.4.1.1	X	-	M	WINNF.FT.C.RLQ.1	Successful Relinquishment	N/A	-
3.23	6.6.4.1.2	-	X	M	WINNF.FT.D.RLQ.2	Domain Proxy Successful Relinquishment	PASS	-



-	6.6.4.2.1	X	-	O	WINNF.FT.C.RLQ.3	Unsuccessful Relinquishment, responseCode=102	N/A	-
3.24	6.6.4.2.2	-	X	O	WINNF.FT.D.RLQ.4	Domain Proxy Unsuccessful Relinquishment, responseCode=102	PASS	-
-	6.6.4.3.1	X	-	O	WINNF.FT.C.RLQ.5	Unsuccessful Relinquishment, responseCode=103	N/A	-
3.25	6.6.4.3.2	-	X	O	WINNF.FT.D.RLQ.6	Domain Proxy Unsuccessful Relinquishment, responseCode=103	PASS	-
-	6.7.4.1.1	X	-	M	WINNF.FT.C.DRG.1	Successful Deregistration	N/A	-
3.26	6.7.4.1.2	-	X	M	WINNF.FT.D.DRG.2	Domain Proxy Successful Deregistration	PASS	-
-	6.7.4.2.1	X	-	O	WINNF.FT.C.DRG.3	Deregistration responseCode=102	N/A	-
3.27	6.7.4.2.2	-	X	O	WINNF.FT.D.DRG.4	Domain Proxy Deregistration responseCode=102	PASS	-
3.28	6.7.4.3.1	X	X	O	WINNF.FT.C.DRG.5	Deregistration responseCode=103	PASS	-
3.29	6.8.4.1.1	X	X	M	WINNF.FT.C.SCS.1	Successful TLS connection between UUT and SAS Test Harness	PASS	-
3.30	6.8.4.2.1	X	X	M	WINNF.FT.C.SCS.2	TLS failure due to revoked certificate	PASS	-
3.31	6.8.4.2.2	X	X	M	WINNF.FT.C.SCS.3	TLS failure due to expired server certificate	PASS	-
3.32	6.8.4.2.3	X	X	M	WINNF.FT.C.SCS.4	TLS failure when SAS Test Harness certificate is issued by unknown CA	PASS	-
3.33	6.8.4.2.4	X	X	M	WINNF.FT.C.SCS.5	TLS failure when certificate at the SAS Test Harness is corrupted	PASS	-
3.34	7.1.4.1.1	X	X	M	WINNF.PT.C.HBT	UUT RF Transmit Power Measurement	PASS	-

Note1:

- ◆ M: Mandatory for certification
- ◆ O: Optional. Not required for certification.
- ◆ C: Conditional. Mandatory if CBSD supports relevant functionality.

Note2: The unit under test type is CBSD with Domain Proxy and Conditional Test Case Definitions are C1, C3, C4 and C5.

Declaration of Conformity:

The test results with all measurement uncertainty excluded are presented in accordance with the regulation limits or requirements declared by manufacturers.

Comments and Explanations:

None

Reviewed by: Sam Chen

Report Producer: Viola Huang



1 General Description

1.1 Product Feature of Equipment Under Test

Product Feature of Equipment Under Test	
EUT Type	CBSD
Power Type	From power adapter
Category of EUT	☐ Category A ☒ Category B
Professional Installation	☒ Yes ☐ No
EUT in Test ID	☒ EUT with Domain Proxy ☐ EUT without Domain Proxy
CBSD Hardware Version	A
CBSD Software Version	LeaxBTS_V2.0.4.1
CBSD Firmware Version	LeaxBTS_V2.0.4.1
Domain Proxy Hardware Version	N/A
Domain Proxy Software Version	V1.0.26
Domain Proxy Firmware Version	N/A

Note1: The above information was declared by manufacturer.

Note2: The EUT can only be used at Y axis position

1.2 Accessories

Accessories				
Power	Brand Name	Model Name	Rating	Remark
Adapter	INVENTRONICS	EUV-150S048ST	INPUT: 100-277Vac, 50/60Hz, 1.75A@100Vac OUTPUT: 48Vdc, 0-3.125A	AC power cable, non-shield, 0.6m DC power cable, non-shield, 1.1m

1.3 Support Equipment

Support Equipment				
No.	Equipment	Brand Name	Model Name	FCC ID
A	Notebook (SAS)	DELL	E4300	N/A
B	Switch	TP-Link	TL-SG1008M	N/A
C	Notebook (Domain Proxy)	ThinkPad	ThinkPad L480	N/A
D	Desktop PC (EPC)	ASUS	PN6017DB8D	N/A
E	UE	Zmtel	CN3919B	N/A
F	Notebook	DELL	E4300	N/A

1.4 Testing Location

Testing Location				
☐	HWA YA	ADD : No. 52, Huaya 1st Rd., Guishan Dist., Taoyuan City, Taiwan (R.O.C.) TEL : 886-3-327-3456 FAX : 886-3-327-0973		
☒	JHUBEI	ADD : No.8, Lane 724, Bo-ai St., Jhubei City, HsinChu County 302, Taiwan, R.O.C. TEL : 886-3-656-9065 FAX : 886-3-656-9085		
Test Condition	Test Site No.	Test Engineer	Test Environment	Test Date
RF Conducted	TH01-CB	Jeff Wu	22.9~23.8°C / 50~53%	Feb. 07, 2020~Feb. 21, 2020

Test site Designation No. TW0006 with FCC.

Test site registered number IC 4086D with Industry Canada.

2 Measurement Environment

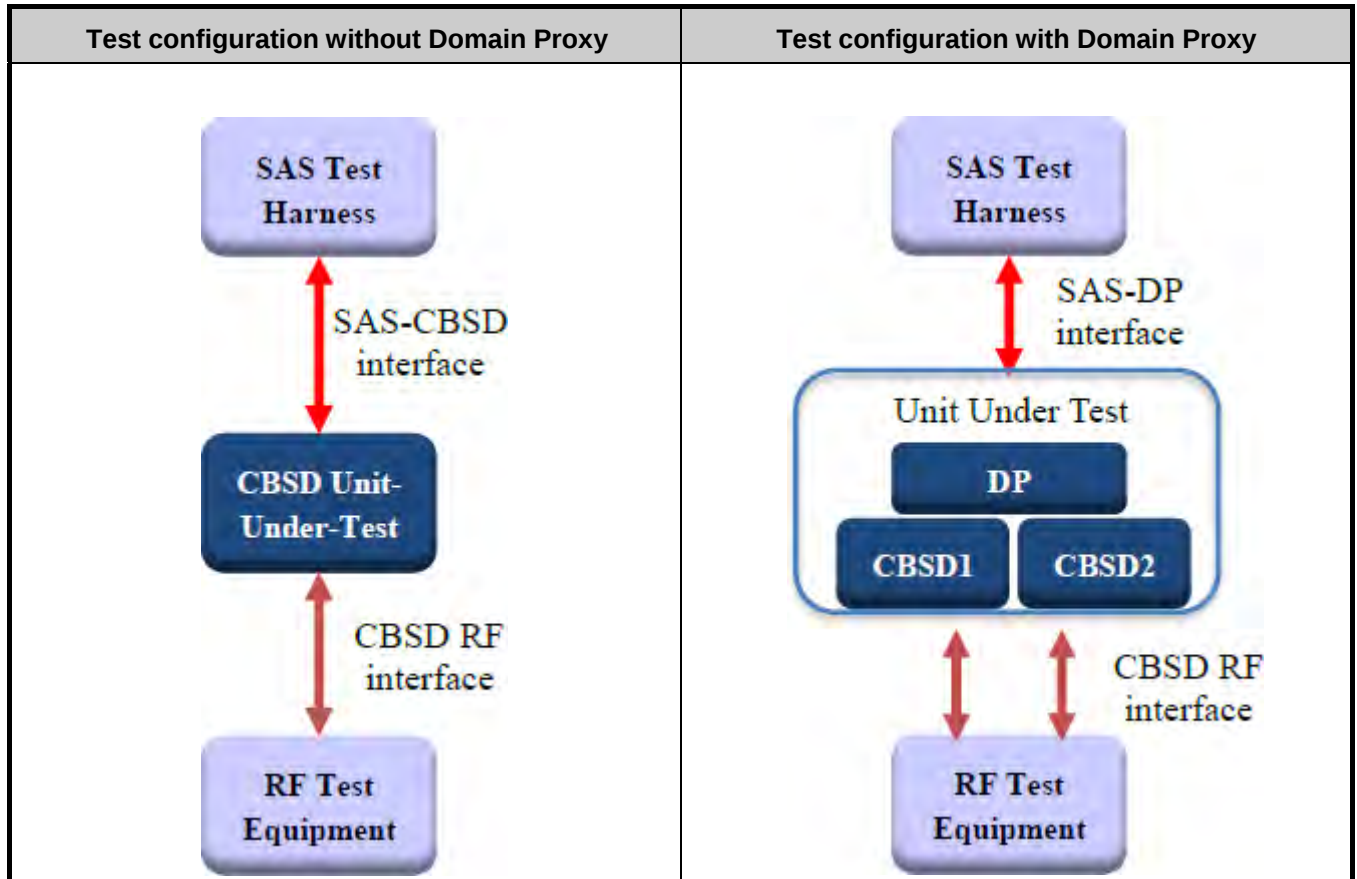
Measurement Environment Information	
Test Harness version	v1.0.0.3
Operating System	Microsoft Windows 7
TLS version	1.2
Python	2.7.16

2.1 Conditional Test Case

☒	C1	Mandatory for UUT which supports multi-step registration message
☐	C2	Mandatory for UUT which supports single-step registration with no CPI-signed data in the registration message. By definition, this is a subset of Category A devices which determine all registration information, including location, without CPI intervention.
☒	C3	Mandatory for UUT which supports single-step registration containing CPI-signed data in the registration message.
☒	C4	Mandatory for UUT which supports RECEIVED_POWER_WITHOUT_GRANT measurement report type.
☒	C5	Mandatory for UUT which supports RECEIVED_POWER_WITH_GRANT measurement report type.
☐	C6	Mandatory for UUT which supports parameter change being made at the UUT and prior to sending a deregistration.

Note: The above information was declared by manufacturer.

2.2 Test Configuration



3 Test Results

The test parameter (e.g. C for cbsdid) used shall be refer to the test log file in appendix A. Some test case need to monitor RF interface and the measurement plots are in Appendix B. Some test case need to monitor security validation process which are in appendix C and D.

3.1 WINNF.FT.D.REG.2 - Domain Proxy Multi-Step registration

#	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	DP with two CBSD sends correct Registration request information, as specified in [n.5], in the form of one 2-element Array or as individual messages to the SAS Test Harness: • The required <code>userId</code>, <code>fcid</code> and <code>cbsdSerialNumber</code> registration parameters shall be sent for each CBSD and conform to proper format and acceptable ranges. • Any REG-conditional or optional registration parameters that may be included in the message shall be verified that they conform to proper format and are within acceptable ranges. Note: It is outside the scope of this document to test the Registration information that is supplied via another means.	PASS	--
3	• SAS Test Harness sends a CBSD Registration Response in the form of one 2-element Array or individual messages as follows: – <code>cbsdid</code> = Ci – <code>measReportConfig</code> shall not be included – <code>responseCode</code> = 0 for each CBSD	--	--
4	After completion of step 3, SAS Test Harness will not provide any positive response (<code>responseCode</code> =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	PASS	--

3.2 WINNF.FT.D.REG.6 - Domain Proxy Single-Step registration for CBSD with CPI signed 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 • All of the required and REG-Conditional parameters shall be configured and CPI signature provided	--	--
2	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: • The required <code>userId</code>, <code>fcid</code> and <code>cbsdSerialNumber</code> and REG-Conditional <code>cbsdCategory</code>, <code>airInterface</code>, <code>measCapability</code> and <code>cpiSignatureData</code> 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	--
3	• SAS Test Harness sends a CBSD Registration Response in the form of one 2-element Array or as individual messages as follows: – <code>cbsdId</code> = Ci – <code>measReportConfig</code> for each CBSD shall not be included. – <code>responseCode</code> = 0 for each CBSD	--	--
4	After completion of step 3, SAS Test Harness will not provide any positive response (<code>responseCode</code> =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	PASS	--

3.3 WINNF.FT.D.REG.9 - Domain Proxy Missing Required parameters (responseCode 102)

#	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 <i>cbsdId</i>. – <i>responseCode</i> = Ri for CBSD1 and CBSD2	--	--
4	After completion of step 3, SAS Test Harness will not provide any positive response (<i>responseCode</i> =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	PASS	--

3.4 WINNF.FT.D.REG.11 - Domain Proxy Pending registration (responseCode 200)

#	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 <i>cbsdId</i>. – <i>responseCode</i> = Ri for CBSD1 and CBSD2	--	--
4	After completion of step 3, SAS Test Harness will not provide any positive response (<i>responseCode</i> = 200) 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	PASS	--

3.5 WINNF.FT.D.REG.13 - Domain Proxy Invalid parameters (responseCode 103)

#	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 <i>cbsdId</i>. – <i>responseCode</i> = R1 for CBSD1 and CBSD2	--	--
4	After completion of step 3, SAS Test Harness will not provide any positive response (<i>responseCode</i> R1 = 0 for CBSD1 and R2 = 103 for CBSD2) 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	PASS	--

3.6 WINNF.FT.D.REG.15 - Domain Proxy Blacklisted CBSD (responseCode 101)

#	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 <i>cbsdId</i>. – <i>responseCode</i> = Ri for CBSD1 and CBSD2	--	--
4	After completion of step 3, SAS Test Harness will not provide any positive response (<i>responseCode</i> R1=0 for CBSD1 and R2=101 for CBSD2) 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	PASS	--

3.7 WINNF.FT.D.REG.17 - Domain Proxy Unsupported SAS protocol version (responseCode 100)

#	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 <i>cbstdId</i>. – <i>responseCode</i> = <i>Ri</i> for CBSD1 and CBSD2	--	--
4	After completion of step 3, SAS Test Harness will not provide any positive response (<i>responseCode (Ri) = 100</i> for each CBSD) 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	PASS	--

3.8 WINNF.FT.D.REG.19 - Domain Proxy Group Error (responseCode 201)

#	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 <i>cbsdId</i>. – <i>responseCode</i>=Ri for CBSD1 and CBSD2	--	--
4	After completion of step 3, SAS Test Harness will not provide any positive response (<i>responseCode</i> R1=0 for CBSD1 and R2=201 for CBSD2) 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	PASS	--

3.9 WINNF.FT.C.GRA.1 - Unsuccessful Grant responseCode=400 (INTERFERENCE)

#	Test Execution Steps	Results	
1	Ensure the following conditions are met for test entry: • UUT has registered successfully with SAS Test Harness, with <i>cbsdId</i> = C	--	--
2	UUT sends valid Grant Request.	--	--
3	SAS Test Harness sends a Grant Response message, including • <i>cbsdId</i>=C • <i>responseCode</i> =R	--	--
4	After completion of step 3, SAS Test Harness does not provide any positive response(<i>responseCode</i> =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	PASS	--



3.10 WINNF.FT.C.GRA.2 - Unsuccessful Grant responseCode=401 (GRANT_CONFLICT)

#	Test Execution Steps	Results	
1	Ensure the following conditions are met for test entry: • UUT has registered successfully with SAS Test Harness, with <i>cbsdId</i> = C	--	--
2	UUT sends valid Grant Request.	--	--
3	SAS Test Harness sends a Grant Response message, including • <i>cbsdId</i>=C • <i>responseCode</i> =R	--	--
4	After completion of step 3, SAS Test Harness does not provide any positive response (<i>responseCode</i> =401) 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	PASS	--

3.11 WINNF.FT.D.HBT.2 - Domain Proxy Heartbeat Success Case (first Heartbeat Response)

#	Test Execution Steps	Results	
1	Ensure the following conditions are met for test entry: DP has two CBSD registered successfully with SAS Test Harness, with <i>cbsdId</i> = 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}: <i>cbsdId</i> = Ci - List of frequencyRange objects sent by DP are within the CBRS frequency range	PASS	--
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}: <i>cbsdId</i> = Ci <i>availableChannel</i> is an array of availableChannel objects <i>responseCode</i> = 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}: <i>cbsdId</i> = C <i>maxEIRP</i> is at or below the limit appropriate for CBSD category as defined by Part 96 <i>operationFrequencyRange</i>, Fi, sent by UUT is a valid range within the CBRS band	PASS	--

6	If a separate Grant Request message was sent for each CBSD, the SAS Test Harness shall respond to each Grant Request message with a separate Grant Response message. If a single Grant Request message was sent containing a 2-object array (one per CBSD), the SAS Test Harness shall respond with a single Grant Response message containing a 2-object array. Verify parameters for each CBSD within the Grant Response message are as follows, for CBSDi, i={1,2}: • <i>cbsdId</i> = Ci • <i>grantId</i> = Gi = a valid grant ID • <i>grantExpireTime</i> = UTC time greater than duration of the test • <i>responseCode</i> = 0	--	--
7	Ensure DP sends first 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 is formatted correctly for each CBSD, including, for CBSDi i={1,2}: • <i>cbsdId</i> = Ci, i={1,2} • <i>grantId</i> = Gi, i={1,2} • <i>operationState</i> = "GRANTED"	PASS	--
8	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. Verify parameters for each CBSD within the Heartbeat Response message are as follows, for CBSDi: • <i>cbsdId</i> = Ci • <i>grantId</i> = Gi • <i>transmitExpireTime</i> = current UTC time + 200 seconds • <i>responseCode</i> = 0	--	--
9	For further Heartbeat Request messages sent from DP after completion of step 8, validate message is sent within latest specified heartbeatInterval for CBSDi: • <i>cbsdId</i> = Ci • <i>grantId</i> = Gi • <i>operationState</i> = "AUTHORIZED" and SAS Test Harness responds with a Heartbeat Response message including the following parameters, for CBSDi • <i>cbsdId</i> = Ci • <i>grantId</i> = Gi • <i>transmitExpireTime</i> = current UTC time + 200 seconds • <i>responseCode</i> = 0	PASS	--



10	Monitor the RF output of the UUT from start of test until UUT transmission commences. Monitor the RF output of the UUT from start of test until RF transmission commences. Verify: • UUT does not transmit at any time prior to completion of the first heartbeat response • UUT transmits after step 8 is complete, and its transmission is limited to within the bandwidth range F_i.	PASS	--
----	---	------	----

3.12 WINNF.FT.C.HBT.3 - Heartbeat responseCode=105 (DEREGISTER)

#	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 <i>cbsdId</i> = C ○ valid <i>grantId</i> = G ○ grant is for frequency range F, power P ○ <i>grantExpireTime</i> = 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: • <i>cbsdId</i> = C • <i>grantId</i> = G • <i>operationState</i> = "AUTHORIZED"	PASS	--
3	SAS Test Harness sends a Heartbeat Response message, including the following parameters: • <i>cbsdId</i> = C • <i>grantId</i> = G • <i>transmitExpireTime</i> = T = Current UTC time • <i>responseCode</i> = 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	PASS	--

3.13 WINNF.FT.C.HBT.5 - Heartbeat responseCode=501 (SUSPENDED_GRANT) in First Heartbeat Response

#	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 <i>cbsdId</i> = C ○ valid <i>grantId</i> = G ○ grant is for frequency range F, power P ○ <i>grantExpireTime</i> = 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. Verify Heartbeat Request message is formatted correctly, including: • <i>cbsdId</i> = C • <i>grantId</i> = G • <i>operationState</i> = "GRANTED"	PASS	--
3	SAS Test Harness sends a Heartbeat Response message, including the following parameters: • <i>cbsdId</i> = C • <i>grantId</i> = G • <i>transmitExpireTime</i> = T = current UTC time • <i>responseCode</i> = 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: • <i>cbsdId</i> = C • <i>grantId</i> = G • <i>operationState</i> = "GRANTED" B. UUT sends a Relinquishment request message. Ensure message is correctly formatted with parameters: • <i>cbsdId</i> = C • <i>grantId</i> = G Monitor the RF output of the UUT. Verify: • UUT does not transmit at any time	PASS	--

3.14 WINNF.FT.C.HBT.6 - Heartbeat responseCode=501 (SUSPENDED_GRANT) in Subsequent Heartbeat Response

#	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 <i>cbsdId</i> = C ○ valid <i>grantId</i> = G ○ grant is for frequency range F, power P ○ <i>grantExpireTime</i> = 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 latest specified heartbeatInterval, and is formatted correctly, including: • <i>cbsdId</i> = C • <i>grantId</i> = G • <i>operationState</i> = "AUTHORIZED"	PASS	--
3	SAS Test Harness sends a Heartbeat Response message, including the following parameters: • <i>cbsdId</i> = C • <i>grantId</i> = G • <i>transmitExpireTime</i> = T = current UTC time • <i>responseCode</i> = 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: • <i>cbsdId</i> = C • <i>grantId</i> = G • <i>operationState</i> = "GRANTED" B. UUT sends a Relinquishment Request message. Ensure message is correctly formatted with parameters: • <i>cbsdId</i> = C • <i>grantId</i> = G Monitor the RF output of the UUT. Verify: • UUT shall stop transmission within (T + 60 seconds) of completion of step 3	PASS	--

3.15 WINNF.FT.C.HBT.7 - Heartbeat responseCode=502 (UNSYNC_OP_PARAM)

#	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 <i>cbsdId</i> = C ○ valid <i>grantId</i> = G ○ grant is for frequency range F, power P ○ <i>grantExpireTime</i> = 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 latest specified <i>heartbeatInterval</i> , and is formatted correctly, including: • <i>cbsdId</i> = C • <i>grantId</i> = G • <i>operationState</i> = "AUTHORIZED"	PASS	--
3	SAS Test Harness sends a Heartbeat Response message, including the following parameters: • <i>cbsdId</i> = C • <i>grantId</i> = G • <i>transmitExpireTime</i> = T = Current UTC Time • <i>responseCode</i> = 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: ○ <i>cbsdId</i> = C ○ <i>grantId</i> = G Monitor the RF output of the UUT. Verify: • UUT shall stop transmission within (T+60) seconds of completion of step 3.	PASS	--

3.16 WINNF.FT.D.HBT.8 - Domain Proxy Heartbeat responseCode=500 (TERMINATED_GRANT)

#	Test Execution Steps	Results	
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: - valid <i>cbsdId</i> = Ci, i={1,2} - valid <i>grantId</i> = Gi, i={1,2} - grant is for frequency range Fi, power Pi <i>grantExpireTime</i> = 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 <i>heartbeatInterval</i>, and is formatted correctly for each CBSD, including, for CBSDi i={1,2}: <i>cbsdId</i> = Ci, i = {1,2} <i>grantId</i> = Gi, i = {1,2} <i>operationState</i> = "AUTHORIZED"	PASS	--
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: <i>cbsdId</i> = Ci <i>grantId</i> = Gi - For CBSD1: <i>transmitExpireTime</i> = current UTC time + 200 seconds <i>responseCode</i> = 0 - For CBSD2: <i>transmitExpireTime</i> = T = current UTC time <i>responseCode</i> = 500 (TERMINATED_GRANT)	--	--

4	After completion of step 3, SAS Test Harness shall not allow any further grants to the UUT. If CBSD sends further Heartbeat Request messages for CBSD1, SAS Test Harness shall respond with a Heartbeat Response message with parameters: • <i>cbsdId</i> = C1 • <i>grantId</i> = G1 • <i>transmitExpireTime</i> = current UTC time + 200 seconds • <i>responseCode</i> = 0 • Heartbeat Request message is within <i>heartbeatInterval</i> of previous Heartbeat Request message	--	--
5	Monitor the RF output of CBSD2. Verify: • CBSD2 shall stop transmission within bandwidth F2 within (T + 60 seconds) of completion of step 3	PASS	--

3.17 WINNF.FT.C.HBT.9 - Heartbeat Response Absent (First Heartbeat)

#	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 <i>cbsdId</i> = C ○ valid <i>grantId</i> = G ○ grant is for frequency range F, power P ○ <i>grantExpireTime</i> = 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 <i>heartbeatInterval</i>, and is formatted correctly, including: • <i>cbsdId</i> = C • <i>grantId</i> = G • <i>operationState</i> = "GRANTED"	PASS	--
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	PASS	--

3.18 WINNF.FT.C.HBT.10 - Heartbeat Response Absent (Subsequent Heartbeat)

#	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 <i>cbsdId</i> = C ○ valid <i>grantId</i> = G ○ grant is for frequency range F, power P ○ <i>grantExpireTime</i> = 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 <i>heartbeatInterval</i> , and is formatted correctly, including: • <i>cbsdId</i> = C • <i>grantId</i> = G • <i>operationState</i> = "AUTHORIZED"	PASS	--
3	SAS Test Harness sends a Heartbeat Response message, with the following parameters: • <i>cbsdId</i> = C • <i>grantId</i> = G • <i>transmitExpireTime</i> = current UTC time + 200 seconds • <i>responseCode</i> = 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 (<i>transmitExpireTime</i> + 60 seconds), using the <i>transmitExpireTime</i> sent in Step 3.	PASS	--

3.19 WINNF.FT.C.HBT.11 - Successful Grant Renewal in Heartbeat Test Case

#	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 <i>cbsdId</i> = C ○ valid <i>grantId</i> = 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: ○ <i>grantExpireTime</i> = UTC time equal to time at start of test + 300 seconds = Tgrant_expire ○ <i>transmitExpireTime</i> = UTC time equal to time at start of test + 200 seconds ○ <i>heartbeatInterval</i> = 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 <i>heartbeatInterval</i>, and is formatted correctly, including: • <i>cbsdId</i> = C • <i>grantId</i> = G • <i>operationState</i> = "AUTHORIZED"	PASS	--
4	SAS Test Harness sends a Heartbeat Response message, with the following parameters: • <i>cbsdId</i> = C • <i>grantId</i> = G • <i>transmitExpireTime</i> = current UTC + 200 seconds • <i>grantExpireTime</i> = same as Step 1 • <i>responseCode</i> = 0	--	--
5	Go to Step 2	--	--
6	Verify Heartbeat Request message is sent within the latest specified <i>heartbeatInterval</i>, and is formatted correctly, including: • <i>cbsdId</i> = C • <i>grantId</i> = G • <i>operationState</i> = "AUTHORIZED" • <i>grantRenew</i> = TRUE	PASS	--



7	SAS Test Harness sends a Heartbeat Response message, with the following parameters: • <i>cbsdId</i> = C • <i>grantId</i> = G • <i>grantExpireTime</i> = UTC time set far in the future • <i>transmitExpireTime</i> = current UTC time + 200 seconds • <i>responseCode</i> = 0	--	--
8	Continue to respond to any subsequent Heartbeat Request from CBSD with Heartbeat Response with the following parameters: • <i>cbsdId</i> = C • <i>grantId</i> = G • <i>transmitExpireTime</i> = same as Step 7 • <i>responseCode</i> = 0	--	--
9	Monitor RF transmission of UUT from start of test until <i>Tgrant_expire</i> + 60 seconds and ensure UUT continues to transmit throughout the time period.	PASS	--

3.20 WINNF.FT.D.MES.2 - Domain Proxy Registration Response contains measReportConfig

#	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	--	--
2	DP sends a Registration Request message for each of two CBSD. This may occur in a separate Request message per CBSD, or together in a single Request message with array of 2. Verify Registration Request message contains all required parameters properly formatted for CBSDi, i={1,2}, and specifically: <i>userId</i> is present and correct <i>fcId</i> is present and correct <i>cbsdSerialNumber</i> is present and correct <i>measCapability</i> = "RECEIVED_POWER_WITHOUT_GRANT"	PASS	--
3	If a separate Registration Request message was sent for each CBSD by the DP, the SAS Test Harness shall respond to each Registration Request message with a separate Registration Response message. If a single Registration Request message was sent by the DP containing a 2-object array (one per CBSD), the SAS Test Harness shall respond with a single Registration Response message containing a 2-object array. Parameters for each CBSD within the Registration Response message should be as follows, for CBSDi: <i>cbsdId</i> = Ci <i>measReportConfig</i> = "RECEIVED_POWER_WITHOUT_GRANT" <i>responseCode</i> = 0	--	--
4	UUT sends a message: - If message is type Spectrum Inquiry Request, go to step 5, or - If message is type Grant Request, go to step 7	--	--
5	UUT sends message type Spectrum Inquiry Request. This may occur in a separate message per CBSD, or together in a single message with array of 2. Verify Spectrum Inquiry Request message contains all required parameters properly formatted for CBSDi, i= {1,2}, and specifically: <i>cbsdId</i> = Ci <i>measReport</i> is present, and is a properly formatted <i>rcvdPowerMeasReport</i>.	PASS	--

6	If a separate Spectrum Inquiry Request message was sent for each CBSD by the DP, 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 by the DP 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. Parameters for each CBSD within the Spectrum Inquiry Response message should be as follows: • <i>cbsdId</i> = <i>Ci</i> • <i>availableChannel</i> is an array of <i>availableChannel</i> objects • <i>responseCode</i> = 0	--	--
7	UUT sends message type Grant Request message. This may occur in a separate message per CBSD, or together in a single message with array of 2. Verify the Grant Request message contains all required parameters properly formatted for CBSD_i, <i>i</i> = {1,2}, and specifically: • <i>cbsdId</i> = <i>Ci</i> • <i>measReport</i> is present, and is a properly formatted <i>rcvdPowerMeasReport</i>.	PASS	--

3.21 WINNF.FT.C.MES.3 - Grant Response contains measReportConfig

#	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 <i>cbsdId</i>=C and <i>measCapability</i> = "RECEIVED_POWER_WITH_GRANT"	--	--
2	UUT sends a Grant Request message. VerifyGrantRequestmessagecontainsallrequiredparameters properly formatted, andspecifically: • <i>cbsdId</i> = C • <i>operationParam</i> is present and format is valid	PASS	--
3	SAS Test Harness sends a Grant Response message, with the following parameters: • <i>cbsdId</i> = C • <i>grantId</i> = G = valid grant ID • <i>grantExpireTime</i> = UTC time in the future • <i>heartbeatInterval</i> = 60 seconds • <i>measReportConfig</i>="RECEIVED_POWER_WITH_GRANT" • <i>operationParam</i> is set to valid operating parameters • <i>channelType</i> ="GAA" • <i>responseCode</i> =0	--	--
4	UUT sends a Heartbeat Request message. Verify message contains all required parameters properly formatted, and specifically: • <i>cbsdId</i> = C • <i>grantId</i> = G • <i>operationState</i> ="GRANTED"	PASS	--
5	If Heartbeat Request message (step 4) contains <i>measReport</i> object, then: • verify <i>measReport</i> is properly formatted as object <i>rcvdPowerMeasReport</i> • end test, with PASS result else, if Heartbeat Request message (step 4) does not contain <i>measReport</i> object, then: If number of Heartbeat Requests sent by UUT after Step 3 is = 5, then stop test with result of FAIL	PASS	--
6	SAS Test Harness sends a Heartbeat Response message, containing all required parameters properly formatted, and specifically: • <i>cbsdId</i> = C • <i>grantId</i> = G • <i>transmitExpireTime</i> = current UTC time + 200 seconds • <i>responseCode</i> =0 Go to Step 4, above	--	--

3.22 WINNF.FT.D.MES.5 - Domain Proxy Heartbeat Response contains measReportConfig

#	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 <i>cbsdId</i>=Ci, i={1,2} and <i>measCapability</i> = "RECEIVED_POWER_WITH_GRANT" - DP has received a valid grant with <i>grantId</i> = 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 <i>heartbeatInterval</i> = 60 seconds	--	--
2	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: <i>cbsdId</i> = Ci <i>grantId</i> = Gi <i>operationState</i> = "AUTHORIZED"	PASS	--
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: <i>cbsdId</i> = Ci <i>grantId</i> = Gi <i>measReportConfig</i> = "RECEIVED_POWER_WITH_GRANT" <i>responseCode</i> = 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}: <i>cbsdId</i> = Ci <i>grantId</i> = Gi <i>operationState</i> = "AUTHORIZED" - Check whether <i>measReport</i> is present, and if present, ensure it is a properly formatted <i>rcvdPowerMeasReport</i> object, and record its reception for each CBSDi, i = {1,2}.	PASS	--

5	If Heartbeat Request message (step 4) contains <i>measReport</i> object, then: • Verify <i>measReport</i> is properly formatted as object <i>rcvdPowerMeasReport</i> • record which CBSD have successfully sent a <i>measReport</i> object If all CBSD_i, i={1,2} have successfully sent a <i>measReport</i> 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	--
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: • <i>cbsdId</i> = <i>C_i</i> • <i>grantId</i> = <i>G_i</i> • <i>responseCode</i> = 0 Go to Step 4, above.	--	--

3.23 WINNF.FT.D.RLQ.2 - Domain Proxy Successful Relinquishment

#	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 <i>cbsdId</i>=Ci, i={1,2} - DP has received a valid grant with <i>grantId</i>=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: <i>cbsdId</i> = Ci <i>grantId</i> = Gi	PASS	--
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: <i>cbsdId</i> = Ci <i>grantId</i> = Gi <i>responseCode</i> = 0	--	--
4	After completion of step 3, SAS Test Harness will not provide any additional positive response (<i>responseCode</i>=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.	PASS	--

3.24 WINNF.FT.D.RLQ.4 - Domain Proxy Unsuccessful Relinquishment, responseCode=102

#	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 <i>cbsdId</i>=Ci, i={1,2} - DP has received a valid grant with <i>grantId</i>= 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: <i>cbsdId</i> = Ci <i>grantId</i> = 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: <i>cbsdId</i>=Ci - No <i>grantId</i> <i>responseCode</i> = Ri	--	--
4	After completion of step 3, SAS Test Harness will not provide any positive response (<i>responseCode</i>=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	--

3.25 WINNF.FT.D.RLQ.6 - Domain Proxy Unsuccessful Relinquishment, responseCode=103

#	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 <i>cbsdId</i>=Ci, i={1,2} - DP has received a valid grant with <i>grantId</i>=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: <i>cbsdId</i> = Ci <i>grantId</i> = 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: <i>cbsdId</i>=Ci - No <i>grantId</i> <i>responseCode</i> = Ri	--	--
4	After completion of step 3, SAS Test Harness will not provide any positive response (<i>responseCode</i>=103) 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	--

3.26 WINNF.FT.D.DRG.2 - Domain Proxy Successful Deregistration

#	Test Execution Steps	Results	
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 <i>cbsdId</i>=Ci, i={1,2} - DP has received a valid grant with <i>grantId</i>=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 <i>responseCode</i> =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: <i>cbsdId</i> = Ci	PASS	--
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: <i>cbsdId</i> = Ci <i>responseCode</i> = 0	--	--
5	After completion of step 4, SAS Test Harness will not provide any positive response (<i>responseCode</i> =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	PASS	--

3.27 WINNF.FT.D.DRG.4 - Domain Proxy Deregistration responseCode=102

#	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 <i>cbsdId</i>=Ci, i={1,2} - DP has received a valid grant with <i>grantId</i>=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 <i>responseCode</i> =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: <i>cbsdId</i> = 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 <i>cbsdId</i> in either response <i>responseCode</i> = Ri	--	--
5	After completion of step 3, SAS Test Harness will not provide any positive response (<i>responseCode</i> =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: - UUT sending a Registration Request message, as this is not mandatory - UUT sending a Deregistration Request message	PASS	--

3.28 WINNF.FT.C.DRG.5 - Deregistration responseCode=103

#	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 <i>cbsdId</i>=C • UUT has received a valid grant with <i>grantId</i>= 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 <i>responseCode</i> =0	--	--
3	UUT sends Deregistration Request to SAS Test Harness with <i>cbsdId</i> =C	--	--
4	The SAS Test Harness sends the Deregistration Response Message to UUT with: • No <i>cbsdId</i> • <i>responseCode</i> = 103	--	--
5	After completion of step 3, SAS Test Harness will not provide any positive response (<i>responseCode</i> =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 anytime 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	--

3.29 WINNF.FT.C.SCS.1 - Successful TLS connection between UUT and SAS Test Harness

#	Test Execution Steps	Results	
1	• UUT shall start CBSD-SAS communication with the security procedure • The UUT shall establish a TLS handshake with the SAS Test Harness using configured certificate. • Configure the SAS Test Harness to accept the security procedure and establish the connection	PASS	--
2	• Make sure that Mutual authentication happens between UUT and the SAS Test Harness. • Make sure that UUT uses TLS v1.2 • Make sure that cipher suites from one of the following is selected, • 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	PASS	--
3	A successful registration is accomplished using one of the test cases described in section 6.1.4.1, depending on CBSD capability. • UUT sends a registration request to the SAS Test Harness and the SAS Test Harness sends a Registration Response with <i>responseCode</i> = 0 and <i>cbsdId</i>.	PASS	--
4	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	PASS	--

3.30 WINNF.FT.C.SCS.2 - TLS failure due to revoked certificate

#	Test Execution Steps	Results	
1	UUT shall start CBSD-SAS communication with the security procedures	PASS	--
2	- Make sure that UUT uses TLS v1.2 for security establishment. - Make sure UUT selects the correct cipher suite. - UUT shall use CRL or OCSP to verify the validity of the server certificate. - Make sure that Mutual authentication does not happen between UUT and the SAS Test Harness.	PASS	--
3	UUT may retry for the security procedure which shall fail	PASS	--
4	SAS Test-Harness shall not receive any Registration request or any application data.	--	--
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	PASS	--

3.31 WINNF.FT.C.SCS.3 - TLS failure due to expired server certificate

#	Test Execution Steps	Results	
1	UUT shall start CBSD-SAS communication with the security procedures	PASS	--
2	- Make sure that UUT uses TLS v1.2 for security establishment. - Make sure UUT selects the correct cipher suite. - UUT shall use CRL or OCSP to verify the validity of the server certificate. - Make sure that Mutual authentication does not happen between UUT and the SAS Test Harness.	PASS	--
3	UUT may retry for the security procedure which shall fail.	PASS	--
4	SAS Test-Harness shall not receive any Registration request or any application data.	--	--
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	PASS	--

3.32 WINNF.FT.C.SCS.4 - TLS failure when SAS Test Harness certificate is issued by an unknown CA

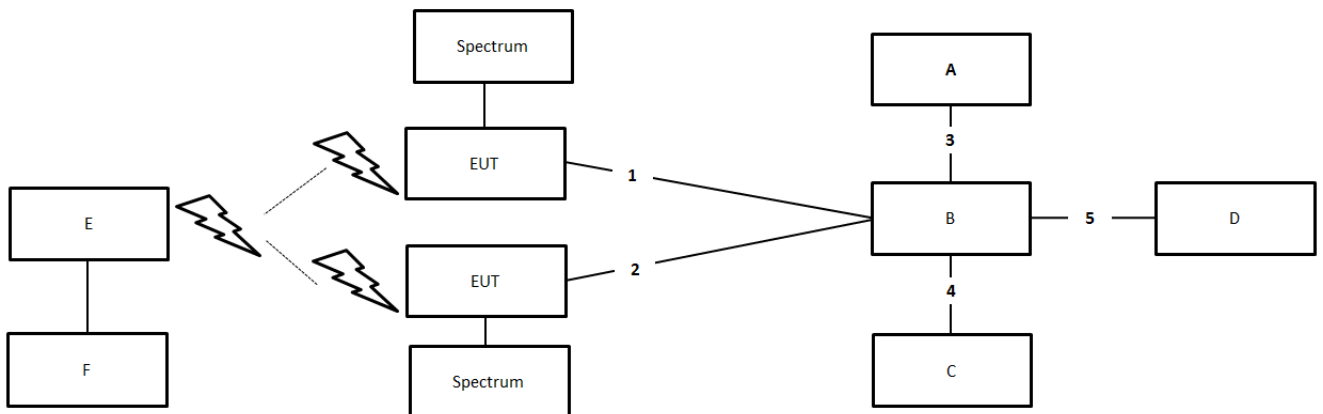
#	Test Execution Steps	Results	
1	UUT shall start CBSD-SAS communication with the security procedures	PASS	--
2	- Make sure that UUT uses TLS v1.2 for security establishment. - Make sure UUT selects the correct cipher suite. - UUT shall use CRL or OCSP to verify the validity of the server certificate - Make sure that Mutual authentication does not happen between UUT and the SAS Test Harness.	PASS	--
3	UUT may retry for the security procedure which shall fail.	PASS	--
4	SAS Test-Harness shall not receive any Registration request or any application data.	--	--
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	PASS	--

3.33 WINNF.FT.C.SCS.5 - TLS failure when certificate at the SAS Test Harness is corrupted

#	Test Execution Steps	Results	
1	UUT shall start CBSD-SAS communication with the security procedures	PASS	--
2	- Make sure that UUT uses TLS v1.2 for security establishment. - Make sure UUT selects the correct cipher suite. - UUT shall use CRL or OCSP to verify the validity of the server certificate. - Make sure that Mutual authentication does not happen between UUT and the SAS Test Harness.	PASS	--
3	UUT may retry for the security procedure which shall fail.	PASS	--
4	SAS Test-Harness shall not receive any Registration request or any application data.	--	--
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	PASS	--

3.34 WINNF.PT.C.HBT - UUT RF Transmit Power Measurement

Items	Parameters
Maximum rated power (EIRP, dBm/MHz)	34dBm/MHz
Transmit dynamic range (EIRP, dBm/MHz)	1 dB increments from 9 dBm/MHz to 34 dBm/MHz (26 steps) for OBW 20MHz
Occupied bandwidth (OBW)	20MHz
maxEirp values	34 dBm/MHz



Note: To ensure EUT transmits with full power across the Bandwidth during the on duration of duty cycle, EUT is running maximum traffic during the test.



Spectrum Analyzer Setting	Parameters
Center Frequency	3560MHz
Frequency Span	40MHz
RBW / VBW	1 MHz / 3MHz
Channel Power Meas Bandwidth	20MHz
Sweep Time	1ms

#	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 CBSID ID=C • UUT has a single valid grant G with parameters {lowFrequency = FL, highFrequency = FH, maxEirp = Pi}, with grant in AUTHORIZED state, and grantExpireTime set to a value far past the duration of this test case <i>Note: inorder 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>	--	--
2	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: - o cbsdId = C - o grantId = G • SAS Test Harness responds with Heartbeat Response, including: - o cbsdId = C - o grantId = G - o transmitExpireTime = currentUTCtime + 200seconds - o responseCode = 0	--	--

3	Tester performs power measurement on RF interface(s) of UUT, and verifies it complies with the maxEirp setting, P_i. The RF measurement method is out of scope of this document, but may include additional configuration of the UUT, as required, to fulfill the requirements of the power measurement method. <i>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.</i>	PASS	--
---	--	------	----

Frequency	Occupied Bandwidth	Antenna Gain	Conducted PSD		Grant maxEirp	maxEirp	Result
			Port 1	Port 2			
	(MHz)	(dBi)	(dBm/MHz)	(dBm/MHz)	(dBm/MHz)	(dBm/MHz)	
3560MHz	20	14.25	11.83	12.74	34	29.57	PASS
3560MHz	20	14.25	-0.73	0.4888	22	17.18	PASS
3560MHz	20	14.25	-14.4	-13.33	9	3.43	PASS



4 Test Equipment and Calibration Data

Instrument	Manufacturer	Model No.	Serial No.	Characteristics	Calibration Date	Calibration Due Date	Remark
Signal analyzer	Agilent	N9010A	MY52220519	10kHz~44GHz	Mar. 11, 2019	Mar. 10, 2020	Conducted (TH01-CB)
Spectrum analyzer	Keysight	N9020A	MY55400138	10 Hz up to 26.5 GHz	Dec. 11, 2019	Dec. 10, 2020	Conducted (TH01-CB)
RF Cable-high	Woken	RG402	High Cable-06	1 GHz – 26.5 GHz	Oct. 07, 2019	Oct. 06, 2020	Conducted (TH01-CB)
RF Cable-high	Woken	RG402	High Cable-07	1 GHz –26.5 GHz	Oct. 07, 2019	Oct. 06, 2020	Conducted (TH01-CB)
RF Cable-high	Woken	RG402	High Cable-08	1 GHz –26.5 GHz	Oct. 07, 2019	Oct. 06, 2020	Conducted (TH01-CB)
RF Cable-high	Woken	RG402	High Cable-09	1 GHz –26.5 GHz	Oct. 07, 2019	Oct. 06, 2020	Conducted (TH01-CB)
RF Cable-high	Woken	RG402	High Cable-10	1 GHz –26.5 GHz	Oct. 07, 2019	Oct. 06, 2020	Conducted (TH01-CB)
RF Cable-high	Woken	RG402	High Cable-28	1 GHz –26.5 GHz	Nov. 18, 2019	Nov. 17, 2020	Conducted (TH01-CB)
RF Power Divider	Woken	4 Way	TH01-DV-01	1GHz ~ 6GHz	Oct. 07, 2019	Oct. 06, 2020	Conducted (TH01-CB)
RF Power Divider	Woken	2 Way	TH01-DV-02	1GHz ~ 6GHz	Oct. 07, 2019	Oct. 06, 2020	Conducted (TH01-CB)

Note: Calibration Interval of instruments listed above is one year.



5 Measurement Uncertainty

Test Items	Uncertainty	Remark
Conducted Emission	2.4 dB	Confidence levels of 95%

Test Log for WINNF.FT.D.REG.2 Test Case ID

2020-02-10T01:57:49.690Z - INFO - WINNF TEST HARNESS RELEASE: 1.0.0.3 - 2018-November-13
 2020-02-10T01:57:49.690Z - INFO - the selected test from the user : WINNF.FT.D.REG.2 is starting now

2020-02-10T01:58:26.907Z - INFO - registration request from CBRS : {

"registrationRequest": [

{

"airInterface": {

"radioTechnology": "E_UTRA",

"supportedSpec": "FFS"

},

"callSign": "LEAX",

"cbsdCategory": "B",

"cbsdInfo": {

"model": "LBS7320",

"softwareVersion": "LeaxBTS_V2.0.4.1",

"vendor": "Radisys"

},

"cbsdSerialNumber": "22020300003A1952J0003",

"cpiSignatureData": {

"digitalSignature":

"ETbL80n0eBRMfFR-zQidciWmZDmyUd3KThjiYR7itL6xS0J8Zlj2Xj6R80faC-5XfJYg30ZsmHw5tDPFS
 E8DOiyazvv17hr1Op8ZQLqZLdu_5tQ_AFuD4OdfJmLw4CGWxJY8zSeO75mdyNij87Vb_LJhPOYwVUs
 dJVTSwZs7uqpH9twe-cNYpANlqhZ9-MgS0re_Dm5YkfYEkicrJ2eTB4oMCHll4hzAhim5KgXetjEC9GIY
 kE6llhNad_V1V_uNry3FH7ngYQ4Km0OQmK11MnSWjEEO1skjFushcpqAejjNE-FZkLZCd7UwNSyEqy
 PGQu_yH38Xf5EWA1QfHVkiOg",

"encodedCpiSignedData":

"eyJjYnNkU2VyaWFsTnVtYmVyljoiMjIwMjAzMDAwMDNBMTk1MkowMDAzliwiZmNjSWQiOiIyQVZGtK
 xCUzczMjAiLCJpbnN0YWxsYXRpb25QYXJhbnSi6eyJhbnRlbn5hQXppbXV0aCI6NywiYW50ZW5uYUJl
 YW13aWR0aCI6NjUsImFudGVubmFEb3dudGlsdCI6MCwiYW50ZW5uYUdhW4iOiE2LjUsImhlaWdod
 CI6MywiaGVpZ2h0VHlwZSI6IkFHTCIsImluZG9vckRlcGxveW1lbnQiOmZhbHNILCJsYXRpdHVkZSI6M
 zcuNDExMzMxLCJsb25naXR1ZGUiOi0xMjluMDE4OTQyfSwicHJvZmVzc2lvbmFsSW5zdGFsbGVyRG
 F0YSi6eyJjcGlJZCI6IjAwMSIsImNwaU5hbWUiOiJ5dWkiLCJpbnN0YWxsQ2VydGImaWNhdGlvbIRpbW
 UiOiIyMDIwLTAyLTEwVDAxOjU4OjMyWiJ9fQ",

"protectedHeader": "eyJhbnRlbnR5cCI6IkpXVCJ9"

},

"fccId": "2AVFNLBS7320",

"groupingParam": [

{

"groupId": "GW",

"groupType": "INTERFERENCE_COORDINATION"

}

],

"measCapability": [

"RECEIVED_POWER_WITH_GRANT",

"RECEIVED_POWER_WITHOUT_GRANT"

],

"userId": "GW"

},

{

"airInterface": {

"radioTechnology": "E_UTRA",


```

    "antennaDowntilt": 0,
    "antennaBeamwidth": 65,
    "antennaGain": 16.5
  },
  "fccId": "2AVFNLBS7320",
  "professionalInstallerData": {
    "cpiName": "yui",
    "installCertificationTime": "2020-02-10T01:58:32Z",
    "cpild": "001"
  },
  "cbsdSerialNumber": "22020300003A1952J0003"
}
2020-02-10T01:58:27.000Z - INFO - verified signature on cpiSignatureData
2020-02-10T01:58:27.007Z - INFO - cpiSignatureData data successfully validated against jsonschema
2020-02-10T01:58:27.052Z - INFO - Registration message contains cpiSignatureData
2020-02-10T01:58:27.052Z - INFO - protectedHeader = {u'alg': u'RS256', u'typ': u'JWT'}
2020-02-10T01:58:27.053Z - INFO - encodedCpiSignedData contents = {
  "installationParam": {
    "antennaAzimuth": 7,
    "heightType": "AGL",
    "longitude": -122.018942,
    "height": 3,
    "indoorDeployment": false,
    "latitude": 37.411331,
    "antennaDowntilt": 0,
    "antennaBeamwidth": 65,
    "antennaGain": 16.5
  },
  "fccId": "2AVFNLBS7320",
  "professionalInstallerData": {
    "cpiName": "yui",
    "installCertificationTime": "2020-02-10T01:58:32Z",
    "cpild": "001"
  },
  "cbsdSerialNumber": "22020300003A1952J0004"
}
2020-02-10T01:58:27.055Z - INFO - verified signature on cpiSignatureData
2020-02-10T01:58:27.061Z - INFO - cpiSignatureData data successfully validated against jsonschema
2020-02-10T01:58:27.062Z - INFO - engine sent successfully, the response to CBRS : {
  "registrationResponse": [
    {
      "cbsdId": "2AVFNLBS7320Mock-SAS22020300003A1952J0003",
      "response": {
        "responseCode": 0
      }
    },
    {
      "cbsdId": "2AVFNLBS7320Mock-SAS22020300003A1952J0004",
      "response": {
        "responseCode": 0
      }
    }
  ]
}

```



```
]
}
```

2020-02-10T01:58:28.693Z - INFO - arrived to nstep starting question answer session with the technician

2020-02-10T01:58:28.694Z - INFO - the question is : Were there RF transmissions from the CBSD1 during the test? please choose one of the answers :

2020-02-10T02:00:14.217Z - INFO - for the question : Were there RF transmissions from the CBSD1 during the test? , the user choose n

2020-02-10T02:00:14.219Z - INFO - the question is : Were there RF transmissions from the CBSD2 during the test? please choose one of the answers :

2020-02-10T02:00:14.947Z - INFO - for the question : Were there RF transmissions from the CBSD2 during the test? , the user choose n

2020-02-10T02:00:15.428Z - INFO - The final result of the test : WINNF.FT.D.REG.2 is - passed


```

    "antennaDowntilt": 0,
    "antennaBeamwidth": 65,
    "antennaGain": 16.5
  },
  "fccId": "2AVFNLBS7320",
  "professionalInstallerData": {
    "cpiName": "yui",
    "installCertificationTime": "2020-02-10T02:05:32Z",
    "cpild": "001"
  },
  "cbsdSerialNumber": "22020300003A1952J0003"
}
2020-02-10T02:05:26.920Z - INFO - verified signature on cpiSignatureData
2020-02-10T02:05:26.927Z - INFO - cpiSignatureData data successfully validated against jsonschema
2020-02-10T02:05:26.951Z - INFO - Registration message contains cpiSignatureData
2020-02-10T02:05:26.951Z - INFO - protectedHeader = {u'alg': u'RS256', u'typ': u'JWT'}
2020-02-10T02:05:26.951Z - INFO - encodedCpiSignedData contents = {
  "installationParam": {
    "antennaAzimuth": 7,
    "heightType": "AGL",
    "longitude": -122.018942,
    "height": 3,
    "indoorDeployment": false,
    "latitude": 37.411331,
    "antennaDowntilt": 0,
    "antennaBeamwidth": 65,
    "antennaGain": 16.5
  },
  "fccId": "2AVFNLBS7320",
  "professionalInstallerData": {
    "cpiName": "yui",
    "installCertificationTime": "2020-02-10T02:05:32Z",
    "cpild": "001"
  },
  "cbsdSerialNumber": "22020300003A1952J0004"
}
2020-02-10T02:05:26.953Z - INFO - verified signature on cpiSignatureData
2020-02-10T02:05:26.960Z - INFO - cpiSignatureData data successfully validated against jsonschema
2020-02-10T02:05:26.961Z - INFO - engine sent successfully, the response to CBRS : {
  "registrationResponse": [
    {
      "cbsdId": "2AVFNLBS7320Mock-SAS22020300003A1952J0003",
      "response": {
        "responseCode": 0
      }
    },
    {
      "cbsdId": "2AVFNLBS7320Mock-SAS22020300003A1952J0004",
      "response": {
        "responseCode": 0
      }
    }
  ]
}

```



```
]
}
```

2020-02-10T02:05:28.036Z - INFO - arrived to nstep starting question answer session with the technician

2020-02-10T02:05:28.038Z - INFO - the question is : Were there RF transmissions from the CBSD1 during the test? please choose one of the answers :

2020-02-10T02:06:55.680Z - INFO - for the question : Were there RF transmissions from the CBSD1 during the test? , the user choose n

2020-02-10T02:06:55.680Z - INFO - the question is : Were there RF transmissions from the CBSD2 during the test? please choose one of the answers :

2020-02-10T02:06:56.352Z - INFO - for the question : Were there RF transmissions from the CBSD2 during the test? , the user choose n

2020-02-10T02:06:57.062Z - INFO - The final result of the test : WINNF.FT.D.REG.6 is - passed

Test Log for WINNF.FT.D.REG.9 Test Case ID

2020-02-10T02:08:13.637Z - INFO - WINNF TEST HARNESS RELEASE: 1.0.0.3 - 2018-November-13
 2020-02-10T02:08:13.637Z - INFO - the selected test from the user : WINNF.FT.D.REG.9 is starting now

2020-02-10T02:08:26.871Z - INFO - registration request from CBRS : {

"registrationRequest": [

{

"airInterface": {

"radioTechnology": "E_UTRA",

"supportedSpec": "FFS"

},

"callSign": "LEAX",

"cbsdCategory": "B",

"cbsdInfo": {

"model": "LBS7320",

"softwareVersion": "LeaxBTS_V2.0.4.1",

"vendor": "Radisys"

},

"cbsdSerialNumber": "22020300003A1952J0003",

"cpiSignatureData": {

"digitalSignature":

"UQsDC4WyHDZAZvx7OgtvflkTAWkEOiroyLJw1clrS7jT5T2cNfMbJ0LfuV34YZysjRTIILnM4wvgObFxpG1awjdd1M0AEEcsrnE3Ad6V0eHenMc4IDQ0xAmsFPPw5P5DCV9e_uoLnGGXYLRcfmOv_rVZet_yChnP8v5ZNMfhkwMXVrugVB4kCI72ZMRMycevJ1k7tR-jY1Sm96ZdJJZ-AjMC30PkOXbnVa6FjyzUGiSEL3TCItvSeB5AeTOe6gObLobY-dx4ChTz35u94xDW5CrKqW_UPnK97VL7u0M5tugulQfESBXNprXSYNKsioeHA-CK4O6pznIOvVhxvZg",

"encodedCpiSignedData":

"eyJjYnNkU2VyaWFsTnVtYmVyljoiMjIwMjAzMDAwMDNBMTk1MkowMDAzliwiZmNjSWQiOiIyQVZG TkxCUzczMjAiLCJpbnN0YWxsYXRpb25QYXJhbnSi6eyJhbnRlbn5hQXppbXV0aCI6NywiYW50ZW5uYUJlYW13aWR0aCI6NjUsImFudGVubmFEb3dudGlsdCI6MCwiYW50ZW5uYUdhaW4iOiE2LjUsImhlaWdodCI6MywiaGVpZ2h0VHlwZSI6IkFHTCIsImluZG9vckRlcGxveW1lbnQiOmZhbHNILCJsYXRpdHVkZSI6MzcuNDExMzMxLCJsb25naXR1ZGUiOi0xMjluMDE4OTQyfSwicHJvZmVzc2lvbmFsSW5zdGFsbGVyRGF0YSi6eyJjcGlJZCI6IjAwMSIsImNwaU5hbWUiOiJ5dWkiLCJpbnN0YWxsQ2VydGImaWNhdGlvbIRpbWUiOiIyMDIwLTAYLTEwVDAyOjA4OjMyWiJ9fQ",

"protectedHeader": "eyJhbnRlbnR5cCI6IkpXVCJ9"

},

"fccId": "2AVFNLBS7320",

"groupingParam": [

{

"groupId": "GW",

"groupType": "INTERFERENCE_COORDINATION"

}

],

"measCapability": [

"RECEIVED_POWER_WITH_GRANT",

"RECEIVED_POWER_WITHOUT_GRANT"

],

"userId": "GW"

},

{

"airInterface": {

"radioTechnology": "E_UTRA",

```

        "supportedSpec": "FFS"
    },
    "callSign": "LEAX",
    "cbsdCategory": "B",
    "cbsdInfo": {
        "model": "LBS7320",
        "softwareVersion": "LeaxBTS_V2.0.4.1",
        "vendor": "Radisys"
    },
    "cbsdSerialNumber": "22020300003A1952J0004",
    "cpiSignatureData": {
        "digitalSignature":
"CUZiz_sMAa81-IlYHdsdiod5QWc9jBbUsFoQd532hyUdB2MUn4-MmQasAHA7gJKc5xTkKSUSuqd-j_j
8hftXuDhAPrftmuwxzznex7-EMg58phEq5opykZl1lh7PAyFe7aCTRSvZnnM0_9q_OiHiltZGtTIAqBTIF_I1
3g_W93KM8FFmNmnlYABGMME9pEqQFOJFUPCqzEhegdb4ijTCMabLG_kinkyjr-yq7fllF6CibQUEhL-
bofWdwHXFVF1ADKMw8fh3jt77Eeitg6sY7CNQUoA3rIY3ccVCwpJF96PnY6OKUPuvoz0jd0AKBqG1c
OqjWcjrQrH0tkvK2FQzIQ",
        "encodedCpiSignedData":
"eyJYnNkU2VyaWFsTnVtYmVyljoiMjIwMjA0MDAwMDNBMTk1MkxwMDA0liwiZmNjSWQiOilyQVZGTk
xCUzczMjAiLCJpbnN0YWxsYXRpb25QYXJhbSI6eyJhbG9uZm5hQXppbXV0aCI6NywiYW50ZW5uYUJl
YW13aWR0aCI6NjUsImFudGVubmFEb3dudGlsdCI6MCwiYW50ZW5uYUdhaW4iOiJlUjUslmhlaWdod
CI6MywiaGVpZ2h0VHlwZSI6IkFHTCIsImluZG9vckRlcGxveW1lbnQiOmZhbnHNILCJsYXRpdHVkZSI6M
zcuNDEzMzZnaXR1ZGU0xMjluMDE4OTQyYXNjaWZmVzc2l2bmFsSW5zdGFsbGVyRG
F0YSI6eyJjcGljZCI6IjAwMSIsImNwaU5hbWU0iOiJ5dWkiLCJpbnN0YWxsQ2VydGlmaWNhdGlvbIRpbW
UiOilyMDIwLTAYLTEwVDAyOjA4OjMyWiJ9fQ",
        "protectedHeader": "eyJhbGciOiJSUzI1NiIsInR5cCI6IkpXVCJ9"
    },
    "fccId": "2AVFNLBS7320",
    "groupingParam": [
        {
            "groupId": "GW",
            "groupType": "INTERFERENCE_COORDINATION"
        }
    ],
    "measCapability": [
        "RECEIVED_POWER_WITH_GRANT",
        "RECEIVED_POWER_WITHOUT_GRANT"
    ],
    "userId": "GW"
}
]
}
2020-02-10T02:08:26.917Z - INFO - Registration message contains cpiSignatureData
2020-02-10T02:08:26.917Z - INFO - protectedHeader = {u'alg': u'RS256', u'typ': u'JWT'}
2020-02-10T02:08:26.917Z - INFO - encodedCpiSignedData contents = {
    "installationParam": {
        "antennaAzimuth": 7,
        "heightType": "AGL",
        "longitude": -122.018942,
        "height": 3,
        "indoorDeployment": false,
        "latitude": 37.411331,

```

```

    "antennaDowntilt": 0,
    "antennaBeamwidth": 65,
    "antennaGain": 16.5
  },
  "fccId": "2AVFNLBS7320",
  "professionalInstallerData": {
    "cpiName": "yui",
    "installCertificationTime": "2020-02-10T02:08:32Z",
    "cpild": "001"
  },
  "cbsdSerialNumber": "22020300003A1952J0003"
}
2020-02-10T02:08:26.918Z - INFO - verified signature on cpiSignatureData
2020-02-10T02:08:26.924Z - INFO - cpiSignatureData data successfully validated against jsonschema
2020-02-10T02:08:26.969Z - INFO - Registration message contains cpiSignatureData
2020-02-10T02:08:26.969Z - INFO - protectedHeader = {u'alg': u'RS256', u'typ': u'JWT'}
2020-02-10T02:08:26.970Z - INFO - encodedCpiSignedData contents = {
  "installationParam": {
    "antennaAzimuth": 7,
    "heightType": "AGL",
    "longitude": -122.018942,
    "height": 3,
    "indoorDeployment": false,
    "latitude": 37.411331,
    "antennaDowntilt": 0,
    "antennaBeamwidth": 65,
    "antennaGain": 16.5
  },
  "fccId": "2AVFNLBS7320",
  "professionalInstallerData": {
    "cpiName": "yui",
    "installCertificationTime": "2020-02-10T02:08:32Z",
    "cpild": "001"
  },
  "cbsdSerialNumber": "22020300003A1952J0004"
}
2020-02-10T02:08:26.970Z - INFO - verified signature on cpiSignatureData
2020-02-10T02:08:26.976Z - INFO - cpiSignatureData data successfully validated against jsonschema
2020-02-10T02:08:26.979Z - INFO - engine sent successfully, the response to CBRS : {
  "registrationResponse": [
    {
      "response": {
        "responseCode": 102
      }
    },
    {
      "response": {
        "responseCode": 102
      }
    }
  ]
}
}

```



Test Logs

Appendix A

2020-02-10T02:08:28.638Z - INFO - arrived to nstep starting question answer session with the technician
2020-02-10T02:08:28.641Z - INFO - the question is : Were there RF transmissions from the CBSD1 during the test? please choose one of the answers :
2020-02-10T02:09:38.927Z - INFO - for the question : Were there RF transmissions from the CBSD1 during the test? , the user choose n
2020-02-10T02:09:38.930Z - INFO - the question is : Were there RF transmissions from the CBSD2 during the test? please choose one of the answers :
2020-02-10T02:09:39.734Z - INFO - for the question : Were there RF transmissions from the CBSD2 during the test? , the user choose n
2020-02-10T02:09:40.444Z - INFO - The final result of the test : WINNF.FT.D.REG.9 is - passed

Test Log for WINNF.FT.D.REG.11 Test Case ID

2020-02-10T02:09:53.433Z - INFO - WINNF TEST HARNESS RELEASE: 1.0.0.3 - 2018-November-13
 2020-02-10T02:09:53.433Z - INFO - the selected test from the user : WINNF.FT.D.REG.11 is starting now

2020-02-10T02:10:26.874Z - INFO - registration request from CBRS : {

```
"registrationRequest": [
  {
    "airInterface": {
      "radioTechnology": "E_UTRA",
      "supportedSpec": "FFS"
    },
    "callSign": "LEAX",
    "cbsdCategory": "B",
    "cbsdInfo": {
      "model": "LBS7320",
      "softwareVersion": "LeaxBTS_V2.0.4.1",
      "vendor": "Radisys"
    },
    "cbsdSerialNumber": "22020300003A1952J0003",
    "cpiSignatureData": {
      "digitalSignature":
        "RvOvsDtlAns6g-Lt9nxU06xEsqW_uNb5gkWeCwXVLndBrIsygnPvxy_Lh1DzrtO22QBcCu-DAYVHmA
        GcMBObsnUn4ZdeMvwr_FvfJquDUKCELibvk93rqpfTN_xbR9QL7PDLAxqv4gYt-4e-h-CnK1zASv-ATlW
        s-tlyJa6hRSKJZAqncjqcMqV4hyNZJi1y7ivbpjp0p-JfbxvhXYsrEL0fSziRPyxrc-r8HaBP-QE7qZF18CgdE
        Ud8vhwf216mL56cKHwDJw0AKYXazxMncfJjNx9oVkvAl8-MP2wL2caQjfBUvQgeWdEOq4Yb3mgnMT
        HyJPQWCpwp9j0Uv7q7bQ",
      "encodedCpiSignedData":
        "eyJjYnNkU2VyaWFsTnVtYmVyljoiMjIwMjAzMDAwMDNBMTk1MkowMDAzliwiZmNjSWQiOiIyQVZGTC
        xCUzczMjAiLCJpbnN0YWxsYXRpb25QYXJhbnSi6eyJhbnRlbn5hQXppbXV0aCI6NywiYW50ZW5uYUJl
        YW13aWR0aCI6NjUsImFudGVubmFEb3dudGlsdCI6MCwiYW50ZW5uYUdhW4iOiE2LjUsImhlaWdod
        CI6MywiaGVpZ2h0VHlwZSI6IkFHTCIsImluZG9vckRlcGxveW1lbnQiOmZhbHNILCJsYXRpdHVkZSI6M
        zcuNDExMzMxLCJsb25naXR1ZGUiOi0xMjluMDE4OTQyfSwicHJvZmVzc2lvbmFsSW5zdGFsbGVyRG
        F0YSi6eyJjcGlJZCI6IjAwMSIsImNwaU5hbWUiOiJ5dWkiLCJpbnN0YWxsQ2VydGlmaWNhdGlvbIRpbW
        UiOiIyMDIwLTAYLTEwVDAyOjEwOjMyWiJ9fQ",
      "protectedHeader": "eyJhbGciOiJSUzI1NiIsInR5cCI6IkpXVCJ9"
    },
    "fccId": "2AVFNLBS7320",
    "groupingParam": [
      {
        "groupId": "GW",
        "groupType": "INTERFERENCE_COORDINATION"
      }
    ],
    "measCapability": [
      "RECEIVED_POWER_WITH_GRANT",
      "RECEIVED_POWER_WITHOUT_GRANT"
    ],
    "userId": "GW"
  },
  {
    "airInterface": {
      "radioTechnology": "E_UTRA",
```

```

    "supportedSpec": "FFS"
  },
  "callSign": "LEAX",
  "cbsdCategory": "B",
  "cbsdInfo": {
    "model": "LBS7320",
    "softwareVersion": "LeaxBTS_V2.0.4.1",
    "vendor": "Radisys"
  },
  "cbsdSerialNumber": "22020300003A1952J0004",
  "cpiSignatureData": {
    "digitalSignature":
      "z2AOPT7J5iiYyfriAsdl2KiwPmadM57nMcYfaBdLTUJ2D-DnfhGlxWw3ttzDctXrfqGjmiVyttHqKR0ObuM
      oq78W1k5aOG-ibOiyjBm86e5ZQIUvRPEcgP8wqk0BDmytlXluN1kp1IkCK-LNUtCzekobmSkvlHrB57N36
      dKEectgA4NNYTvDAOaTBqwN8ASRVwk4Qtyn6xlgHCQX_puTRTBeeVAYZMhsul7T7tQwE_HdOQvav
      NE3Yrvi7MqveC_cDKMpVovBLCC1lb84aAqz33nMV6Tt5eeZiRlhZhzhKJVX689nn2mqqs8A2WJEyRSW
      4Wp94y7RncA16fBwX2Ozl2w",
    "encodedCpiSignedData":
      "eyJjYnNkU2VyaWFsTnVtYmVyljoiMjlwMjAzMDAwMDNBMTk1MkowMDA0IiwiZmNjSWQiOiIlyQVZGTk
      xCUzczMjAiLCJpbmN0YWxsYXRpb25QYXJhbSI6eyJhbGlnbm5hQXppbXBV0aCI6NywiYW50ZW5uYUJl
      YW13aWR0aCI6NjUsImFudGVubmFEb3dudGlscCI6MCwiYW50ZW5uYUdhawW4iOiE2LjUsImhlaWdob
      CI6MywiaGVpZ2h0VHlwZSI6IkFHTCIsImVuZG9vcnkRlcGxveW1lbnQiOmZhbHNILCJsYXRpdHVkZSI6M
      zcuNDExMzMxLCJsb25naXR1ZGUiOi0xMjluMDEOTQyfSwicHJvZmVzc2lvbmFsSW5zdGFsbGVyRG
      F0YSI6eyJjcGIJCjE6ljAwMSIsImNwaU5hbWUiOiJ5dWkiLCJpbmN0YWxsQ2VydgGmaWNhdGlvbIRpbW
      UiOiilyMDIwLTAYLTEwVDAYoJEWojMyWiJ9fQ",
    "protectedHeader": "eyJhbGciOiJSUzI1NiIsInR5cCI6IkpXVCJ9"
  }
},
"fccId": "2AVFNLS7320",
"groupingParam": [
  {
    "groupld": "GW",
    "groupType": "INTERFERENCE_COORDINATION"
  }
],
"measCapability": [
  "RECEIVED_POWER_WITH_GRANT",
  "RECEIVED_POWER_WITHOUT_GRANT"
],
"userld": "GW"
}
]
}

```

```
2020-02-10T02:10:26.918Z - INFO - Registration message contains cpiSignatureData
2020-02-10T02:10:26.918Z - INFO - protectedHeader = {u'alg': u'RS256', u'typ': u'JWT'}
2020-02-10T02:10:26.918Z - INFO - encodedCpiSignedData contents = {
    "installationParam": {
        "antennaAzimuth": 7,
        "heightType": "AGL",
        "longitude": -122.018942,
        "height": 3,
        "indoorDeployment": false,
        "latitude": 37.411331,
```

```

    "antennaDowntilt": 0,
    "antennaBeamwidth": 65,
    "antennaGain": 16.5
  },
  "fccId": "2AVFNLBS7320",
  "professionalInstallerData": {
    "cpiName": "yui",
    "installCertificationTime": "2020-02-10T02:10:32Z",
    "cpild": "001"
  },
  "cbsdSerialNumber": "22020300003A1952J0003"
}
2020-02-10T02:10:26.920Z - INFO - verified signature on cpiSignatureData
2020-02-10T02:10:26.927Z - INFO - cpiSignatureData data successfully validated against jsonschema
2020-02-10T02:10:26.997Z - INFO - Registration message contains cpiSignatureData
2020-02-10T02:10:26.997Z - INFO - protectedHeader = {u'alg': u'RS256', u'typ': u'JWT'}
2020-02-10T02:10:26.999Z - INFO - encodedCpiSignedData contents = {
  "installationParam": {
    "antennaAzimuth": 7,
    "heightType": "AGL",
    "longitude": -122.018942,
    "height": 3,
    "indoorDeployment": false,
    "latitude": 37.411331,
    "antennaDowntilt": 0,
    "antennaBeamwidth": 65,
    "antennaGain": 16.5
  },
  "fccId": "2AVFNLBS7320",
  "professionalInstallerData": {
    "cpiName": "yui",
    "installCertificationTime": "2020-02-10T02:10:32Z",
    "cpild": "001"
  },
  "cbsdSerialNumber": "22020300003A1952J0004"
}
2020-02-10T02:10:27.000Z - INFO - verified signature on cpiSignatureData
2020-02-10T02:10:27.006Z - INFO - cpiSignatureData data successfully validated against jsonschema
2020-02-10T02:10:27.009Z - INFO - engine sent successfully, the response to CBRS : {
  "registrationResponse": [
    {
      "response": {
        "responseCode": 200
      }
    },
    {
      "response": {
        "responseCode": 200
      }
    }
  ]
}
}

```



Test Logs

Appendix A

2020-02-10T02:10:28.436Z - INFO - arrived to nstep starting question answer session with the technician
2020-02-10T02:10:28.437Z - INFO - the question is : Were there RF transmissions from the CBSD1 during the test? please choose one of the answers :
2020-02-10T02:11:44.280Z - INFO - for the question : Were there RF transmissions from the CBSD1 during the test? , the user choose n
2020-02-10T02:11:44.282Z - INFO - the question is : Were there RF transmissions from the CBSD2 during the test? please choose one of the answers :
2020-02-10T02:11:45.049Z - INFO - for the question : Were there RF transmissions from the CBSD2 during the test? , the user choose n
2020-02-10T02:11:45.878Z - INFO - The final result of the test : WINNF.FT.D.REG.11 is - passed

Test Log for WINNF.FT.D.REG.13 Test Case ID

2020-02-10T02:12:09.288Z - INFO - WINNF TEST HARNESS RELEASE: 1.0.0.3 - 2018-November-13
 2020-02-10T02:12:09.289Z - INFO - the selected test from the user : WINNF.FT.D.REG.13 is starting now

2020-02-10T02:12:26.871Z - INFO - registration request from CBRS : {

```
"registrationRequest": [
  {
    "airInterface": {
      "radioTechnology": "E_UTRA",
      "supportedSpec": "FFS"
    },
    "callSign": "LEAX",
    "cbsdCategory": "B",
    "cbsdInfo": {
      "model": "LBS7320",
      "softwareVersion": "LeaxBTS_V2.0.4.1",
      "vendor": "Radisys"
    },
    "cbsdSerialNumber": "22020300003A1952J0003",
    "cpiSignatureData": {
      "digitalSignature":
        "fWot9QifSyi6iGd9pmEeLONPxAaln6gBY3KAdg57PGLhvn7-Z0UF1XnFi0q8J9yNxEx8YqiQDIYuQmzDR
        HFfj_plwYg2VxSRznQRPDdpilLblz6kWUSQldpHMO4CndtqyOH383hYnUxtw0hM8bDWjqSYBgQlhOCij
        uDPMb21vYPZrs-L6FcBj25v3b2EfT2MeKM0OLLtMQZI8sVAH1RAtfHuVVk9-eecA91e9S1gloz6w4u-Fy
        KPY3ROWUQxg9Dttt4DoR-zejBrenVB0esryol4op3BvWHxH01C5YDtAJ6aTRMIFlsgGR1P4BfugkUrg
        sUmzIO7DIKreFL30K3U4wa",
      "encodedCpiSignedData":
        "eyJjYnNkU2VyaWFsTnVtYmVyljoiMjIwMjAzMDAwMDNBMTk1MkowMDAzliwiZmNjSWQiOiIyQVZGTC
        xCUzczMjAiLCJpbnN0YWxsYXRpb25QYXJhbnSi6eyJhbnRlbn5hQXppbXV0aCI6NywiYW50ZW5uYUJl
        YW13aWR0aCI6NjUsImFudGVubmFEb3dudGlsdCI6MCwiYW50ZW5uYUdhW4iOiE2LjUsImhlaWdod
        CI6MywiaGVpZ2h0VHlwZSI6IkFHTCIsImluZG9vckRlcGxveW1lbnQiOmZhbHNILCJsYXRpdHVkZSI6M
        zcuNDExMzMxLCJsb25naXR1ZGUiOi0xMjluMDE4OTQyfSwicHJvZmVzc2lvbmFsSW5zdGFsbGVyRG
        F0YSi6eyJjcGlJZCI6IjAwMSIsImNwaU5hbWUiOiJ5dWkiLCJpbnN0YWxsQ2VydGImaWNhdGlvbIRpbW
        UiOiIyMDIwLTAYLTEwVDAyOjEyOjMyWiJ9fQ",
      "protectedHeader": "eyJhbnRlbn5hQXppbXV0aCI6NywiYW50ZW5uYUJlYW13aWR0aCI6NjUsImFudGVubmFEb3dudGlsdCI6MCwiYW50ZW5uYUdhW4iOiE2LjUsImhlaWdodCI6MywiaGVpZ2h0VHlwZSI6IkFHTCIsImluZG9vckRlcGxveW1lbnQiOmZhbHNILCJsYXRpdHVkZSI6MzcuNDExMzMxLCJsb25naXR1ZGUiOi0xMjluMDE4OTQyfSwicHJvZmVzc2lvbmFsSW5zdGFsbGVyRGF0YSi6eyJjcGlJZCI6IjAwMSIsImNwaU5hbWUiOiJ5dWkiLCJpbnN0YWxsQ2VydGImaWNhdGlvbIRpbWUiOiIyMDIwLTAYLTEwVDAyOjEyOjMyWiJ9fQ"
    },
    "fccId": "2AVFNLBS7320",
    "groupingParam": [
      {
        "groupId": "GW",
        "groupType": "INTERFERENCE_COORDINATION"
      }
    ],
    "measCapability": [
      "RECEIVED_POWER_WITH_GRANT",
      "RECEIVED_POWER_WITHOUT_GRANT"
    ],
    "userId": "GW"
  },
  {
    "airInterface": {
      "radioTechnology": "E_UTRA",
```

```

    "supportedSpec": "FFS"
  },
  "callSign": "LEAX",
  "cbsdCategory": "B",
  "cbsdInfo": {
    "model": "LBS7320",
    "softwareVersion": "LeaxBTS_V2.0.4.1",
    "vendor": "Radisys"
  },
  "cbsdSerialNumber": "22020300003A1952J0004",
  "cpiSignatureData": {
    "digitalSignature":
      "GiNztI25qMj9M2g1Y8LDUIlWbacpgbiQrj_E7vpERIVJORtBBEDbgNZD__oALg5popDNzMwvV4lhaWJO
      OSrpTPhdRkHTJCS6lrq6vZnuU-fp5--ZHpqCZp8nBnFRevTh42Wq1TCGDX43rhK3FhxVriZekY_Pspca2
      d1DdaheXFhKXiyRn-ALE_e2RJ2G7SJK8SnA00qoruI9HmXE_qEjaVcSi7KxmDuNRnOjHcXRsbKYsqO
      9b-z_9Ua2gl4JqnwUjxRwX0z1NqkDGjMyARMeF1fJ7Q-E97CUyp2aW0_n0-_0gT57Z0S4SMQevUQI-Z
      6ee8QZ494G71xw5DMMIz1j0Q",
    "encodedCpiSignedData":
      "eyJjYnNkU2VyaWFfsTnVtYmVyljoiMjlwMjAzMDAwMDNBMTk1MkowMDA0liwiZmNjSWQiOiilyQVZGTk
      xCUzczMjAiLCJpbN0YWxsYXRpb25QYXJhbSI6eyJhbGlnbm5hQXppbXBV0aCI6NywiYW50ZW5uYUJl
      YW13aWR0aCI6NjUsImFudGVubmFEb3dudGlzdCI6MCwiYW50ZW5uYUdhaw4iOiE2LjUsImhlaWdob
      CI6MywiaGVpZ2h0VHlwZSI6IkFHTCIsImluZG9vcnRicGxveW1lbniQiOmZhbnHNILCJsYXRpdHVkZSI6M
      zcuNDExMzMxLCJsb25naXR1ZGUiOi0xMjluMDE4OTQyfSwicHJvZmVzc2lvbmFsSW5zdGFsbGVyRG
      F0YSI6eyJjcGIJCi6ljAwMSlmlnNwaU5hbWUiOiJ5dWkiLCJpbN0YWxsQ2VydgImaWNhdGlvblRpbW
      UiOiilyMDIwLTAYLTEwVDAYojEyOjMyWiJ9fQ",
    "protectedHeader": "eyJhbGciOiJSUzI1NiIsInR5cCI6IkpXVCJ9"
  },
  "fccId": "2AVFNLS7320",
  "groupingParam": [
    {
      "groupId": "GW",
      "groupType": "INTERFERENCE_COORDINATION"
    }
  ],
  "measCapability": [
    "RECEIVED_POWER_WITH_GRANT",
    "RECEIVED_POWER_WITHOUT_GRANT"
  ],
  "userId": "GW"
}
]
}

```

```
2020-02-10T02:12:26.915Z - INFO - Registration message contains cpiSignatureData
2020-02-10T02:12:26.915Z - INFO - protectedHeader = {u'alg': u'RS256', u'typ': u'JWT'}
2020-02-10T02:12:26.917Z - INFO - encodedCpiSignedData contents = {
    "installationParam": {
        "antennaAzimuth": 7,
        "heightType": "AGL",
        "longitude": -122.018942,
        "height": 3,
        "indoorDeployment": false,
        "latitude": 37.411331,
```

```

        "antennaDowntilt": 0,
        "antennaBeamwidth": 65,
        "antennaGain": 16.5
    },
    "fccId": "2AVFNLBS7320",
    "professionalInstallerData": {
        "cpiName": "yui",
        "installCertificationTime": "2020-02-10T02:12:32Z",
        "cpild": "001"
    },
    "cbsdSerialNumber": "22020300003A1952J0003"
}
2020-02-10T02:12:26.917Z - INFO - verified signature on cpiSignatureData
2020-02-10T02:12:26.924Z - INFO - cpiSignatureData data successfully validated against jsonschema
2020-02-10T02:12:26.970Z - INFO - Registration message contains cpiSignatureData
2020-02-10T02:12:26.970Z - INFO - protectedHeader = {u'alg': u'RS256', u'typ': u'JWT'}
2020-02-10T02:12:26.970Z - INFO - encodedCpiSignedData contents = {
    "installationParam": {
        "antennaAzimuth": 7,
        "heightType": "AGL",
        "longitude": -122.018942,
        "height": 3,
        "indoorDeployment": false,
        "latitude": 37.411331,
        "antennaDowntilt": 0,
        "antennaBeamwidth": 65,
        "antennaGain": 16.5
    },
    "fccId": "2AVFNLBS7320",
    "professionalInstallerData": {
        "cpiName": "yui",
        "installCertificationTime": "2020-02-10T02:12:32Z",
        "cpild": "001"
    },
    "cbsdSerialNumber": "22020300003A1952J0004"
}
2020-02-10T02:12:26.971Z - INFO - verified signature on cpiSignatureData
2020-02-10T02:12:26.977Z - INFO - cpiSignatureData data successfully validated against jsonschema
2020-02-10T02:12:26.980Z - INFO - engine sent successfully, the response to CBRS : {
    "registrationResponse": [
        {
            "cbsdId": "2AVFNLBS7320Mock-SAS22020300003A1952J0003",
            "response": {
                "responseCode": 0
            }
        },
        {
            "response": {
                "responseCode": 103
            }
        }
    ]
}
]

```



}

2020-02-10T02:12:28.289Z - INFO - arrived to nstep starting question answer session with the technician

2020-02-10T02:12:28.290Z - INFO - the question is : Were there RF transmissions from the CBSD1 during the test? please choose one of the answers :

2020-02-10T02:15:39.588Z - INFO - for the question : Were there RF transmissions from the CBSD1 during the test? , the user choose n

2020-02-10T02:15:39.588Z - INFO - the question is : Were there RF transmissions from the CBSD2 during the test? please choose one of the answers :

2020-02-10T02:15:40.489Z - INFO - for the question : Were there RF transmissions from the CBSD2 during the test? , the user choose n

2020-02-10T02:15:41.927Z - INFO - The final result of the test : WINNF.FT.D.REG.13 is - passed

Test Log for WINNF.FT.D.REG.15 Test Case ID

2020-02-10T02:17:01.701Z - INFO - WINNF TEST HARNESS RELEASE: 1.0.0.3 - 2018-November-13
 2020-02-10T02:17:01.701Z - INFO - the selected test from the user : WINNF.FT.D.REG.15 is starting now

2020-02-10T02:17:26.854Z - INFO - registration request from CBRS : {

```
"registrationRequest": [
  {
    "airInterface": {
      "radioTechnology": "E_UTRA",
      "supportedSpec": "FFS"
    },
    "callSign": "LEAX",
    "cbsdCategory": "B",
    "cbsdInfo": {
      "model": "LBS7320",
      "softwareVersion": "LeaxBTS_V2.0.4.1",
      "vendor": "Radisys"
    },
    "cbsdSerialNumber": "22020300003A1952J0003",
    "cpiSignatureData": {
      "digitalSignature":
"vKueCnkCmZZPwWEpkCs95MoJ9-Y3vVKfKwkMZA WKl57IUofB1E9nO1exRI-Y5N3PlebVMVr8ZwHvK
4xZ8BvY15LITfKLuoZbSuf-i_5K9FHg_GUA83vVboJ7ob9kGu-D-F3TijXWVqk3DmyydJX-CH5dm-3ksK
W1ThVBxR4kWhd9i_imSCKwAIXvE7_3bfBNnVRK0vPGSHp93CGQo_B8YwjBK_ulDNMLsS0k116Doy
vhoJ0NGmJsc2OJjuwKszM6_mwpNDxv_5_ao28-MFSSrcJZmMrt117Ov7n_oCqeHFrd3qs2kIEGlc5pQ
hAbRiux-cmlZi8wz5la3-B_rPqVPg",
      "encodedCpiSignedData":
"eyJjYnNkU2VyaWFsTnVtYmVyljoiMjIwMjA2MDAwMDNBMTk1MkowMDAzliwiZmNjSWQiOiIyQVZG
TkxCUzczMjAiLCJpbnN0YWxsYXRpb25QYXJhbSI6eyJhbnRlbnM5hQXppbXV0aCI6NywiYW50ZW5u
YUJlYW13aWR0aCI6NjUsImFudGVubmFEb3dudGlsdCI6MCwiYW50ZW5uYUdhW4iOiE2LjUsImhlaW
dodCI6MywiaGVpZ2h0VHlwZSI6IkFHTCIsImluZG9vckRlcGxveW1lbnQiOmZhbHNILCJsYXRpdH
VhZSI6MzcuNDExMzMxLjI6IjAwMSIsImNwaU5hbWUiOiJ5dWkiLCJpbnN0YWxsQ2VydGlmYW
NhdGlvbiRpbWUiOiIyMDIwLTAyLTEwVDAyOjE3OjMyWiJ9fQ",
      "protectedHeader": "eyJhbnRlbnM5hQXppbXV0aCI6NywiYW50ZW5uYUJlYW13aWR0aCI6NjUsImFudGVubmFEb3dudGlsdCI6MCwiYW50ZW5uYUdhW4iOiE2LjUsImhlaWdodCI6MywiaGVpZ2h0VHlwZSI6IkFHTCIsImluZG9vckRlcGxveW1lbnQiOmZhbHNILCJsYXRpdHViZSI6MzcuNDExMzMxLjI6IjAwMSIsImNwaU5hbWUiOiJ5dWkiLCJpbnN0YWxsQ2VydGlmYW5hdGlvbiRpbWUiOiIyMDIwLTAyLTEwVDAyOjE3OjMyWiJ9fQ"
    },
    "fccId": "2AVFNLBS7320",
    "groupingParam": [
      {
        "groupId": "GW",
        "groupType": "INTERFERENCE_COORDINATION"
      }
    ],
    "measCapability": [
      "RECEIVED_POWER_WITH_GRANT",
      "RECEIVED_POWER_WITHOUT_GRANT"
    ],
    "userId": "GW"
  },
  {
    "airInterface": {
      "radioTechnology": "E_UTRA",
```



```

    "antennaDowntilt": 0,
    "antennaBeamwidth": 65,
    "antennaGain": 16.5
  },
  "fccId": "2AVFNLBS7320",
  "professionalInstallerData": {
    "cpiName": "yui",
    "installCertificationTime": "2020-02-10T02:17:32Z",
    "cpild": "001"
  },
  "cbsdSerialNumber": "22020300003A1952J0003"
}
2020-02-10T02:17:26.905Z - INFO - verified signature on cpiSignatureData
2020-02-10T02:17:26.913Z - INFO - cpiSignatureData data successfully validated against jsonschema
2020-02-10T02:17:26.957Z - INFO - Registration message contains cpiSignatureData
2020-02-10T02:17:26.957Z - INFO - protectedHeader = {u'alg': u'RS256', u'typ': u'JWT'}
2020-02-10T02:17:26.957Z - INFO - encodedCpiSignedData contents = {
  "installationParam": {
    "antennaAzimuth": 7,
    "heightType": "AGL",
    "longitude": -122.018942,
    "height": 3,
    "indoorDeployment": false,
    "latitude": 37.411331,
    "antennaDowntilt": 0,
    "antennaBeamwidth": 65,
    "antennaGain": 16.5
  },
  "fccId": "2AVFNLBS7320",
  "professionalInstallerData": {
    "cpiName": "yui",
    "installCertificationTime": "2020-02-10T02:17:32Z",
    "cpild": "001"
  },
  "cbsdSerialNumber": "22020300003A1952J0004"
}
2020-02-10T02:17:26.959Z - INFO - verified signature on cpiSignatureData
2020-02-10T02:17:26.966Z - INFO - cpiSignatureData data successfully validated against jsonschema
2020-02-10T02:17:26.967Z - INFO - engine sent successfully, the response to CBRS : {
  "registrationResponse": [
    {
      "cbsdId": "2AVFNLBS7320Mock-SAS22020300003A1952J0003",
      "response": {
        "responseCode": 0
      }
    },
    {
      "response": {
        "responseCode": 101
      }
    }
  ]
}
]

```



}

2020-02-10T02:17:28.703Z - INFO - arrived to nstep starting question answer session with the technician

2020-02-10T02:17:28.706Z - INFO - the question is : Were there RF transmissions from the CBSD1 during the test? please choose one of the answers :

2020-02-10T02:18:56.474Z - INFO - for the question : Were there RF transmissions from the CBSD1 during the test? , the user choose n

2020-02-10T02:18:56.476Z - INFO - the question is : Were there RF transmissions from the CBSD2 during the test? please choose one of the answers :

2020-02-10T02:18:57.471Z - INFO - for the question : Were there RF transmissions from the CBSD2 during the test? , the user choose n

2020-02-10T02:18:58.805Z - INFO - The final result of the test : WINNF.FT.D.REG.15 is - passed

Test Log for WINNF.FT.D.REG.17 Test Case ID

2020-02-10T02:20:45.099Z - INFO - WINNF TEST HARNESS RELEASE: 1.0.0.3 - 2018-November-13
 2020-02-10T02:20:45.099Z - INFO - the selected test from the user : WINNF.FT.D.REG.17 is starting now

2020-02-10T02:21:26.846Z - INFO - registration request from CBRS : {

```
"registrationRequest": [
  {
    "airInterface": {
      "radioTechnology": "E_UTRA",
      "supportedSpec": "FFS"
    },
    "callSign": "LEAX",
    "cbsdCategory": "B",
    "cbsdInfo": {
      "model": "LBS7320",
      "softwareVersion": "LeaxBTS_V2.0.4.1",
      "vendor": "Radisys"
    },
    "cbsdSerialNumber": "22020300003A1952J0003",
    "cpiSignatureData": {
      "digitalSignature":
"jiRadTJ4Kttt4WZK2-dU3SN6lISqApJ2r5diPlg2aRliVpbG20rTOckIS-gfp-KROiMfXLPExbrkjhgILggKzzu
HlBMBsRjktCB5wVfDw9L_GDwo0Tl_hIQ-X9uJKy12b1jbHl40WNFS_alGevKBM4446vRxxFUbQOBMko
160MCa7Zdao_iocEHlBStBwEwfXNX6jShFm_unzxwhMZbtINWXc7TFHvRPAH8ZfLOkvEyyVqsM-N6hl
gEKxGy3EQTsmeTJz3c1oPhjRSFMRXCf2JPyhhesKR014ZxXpXni4kailKzpCyPWdWNw5ndPwgFwkU
ysGyWQJlkeWziKw6gQbA",
      "encodedCpiSignedData":
"eyJjYnNkU2VyaWFsTnVtYmVyljoiMjIwMjE1MDAwMDNBMTk1MkowMDAzliwiZmNjSWQiOiIyQVZGTC
xCUzc2MjAiLCJpbnN0YWxsYXRpb25QYXJhbnSi6eyJhbnRlbn5hQXppbXV0aCI6NywiYW50ZW5uYUJl
YW50ZW50aCI6NywiZW50ZW5uYUdhW4iOiE2LjUslmhlaWdod
CI6MywiaGVpZ2h0VHlwZSI6IkFHTCIsImZG9vckRlcGxveW1lbnQiOmZhbHNILCJsYXRpdHVkZSI6M
zcuNDExMzMxLjI1bW5naXR1ZGU0I0xMjluMDE4OTQyfSwicHJvZmVzc2lvbmFsSW5zdGFsbGVyRG
F0YSI6eyJjcGlJZCI6IjAwMSIsImNwaU5hbWUiOiJ5dWkiLCJpbnN0YWxsQ2VydGlmawWNhdGlvbIRpbW
UiOiIyMDIwLTAyLTEwVDAyOjlxOjMyWiJ9fQ",
      "protectedHeader": "eyJhbnRlbn5hQXppbXV0aCI6NywiYW50ZW5uYUJlYW50ZW50aCI6NywiZW50ZW5uYUdhW4iOiE2LjUslmhlaWdod
CI6MywiaGVpZ2h0VHlwZSI6IkFHTCIsImZG9vckRlcGxveW1lbnQiOmZhbHNILCJsYXRpdHVkZSI6M
zcuNDExMzMxLjI1bW5naXR1ZGU0I0xMjluMDE4OTQyfSwicHJvZmVzc2lvbmFsSW5zdGFsbGVyRG
F0YSI6eyJjcGlJZCI6IjAwMSIsImNwaU5hbWUiOiJ5dWkiLCJpbnN0YWxsQ2VydGlmawWNhdGlvbIRpbW
UiOiIyMDIwLTAyLTEwVDAyOjlxOjMyWiJ9fQ",
    },
    "fccId": "2AVFNLBS7320",
    "groupingParam": [
      {
        "groupId": "GW",
        "groupType": "INTERFERENCE_COORDINATION"
      }
    ],
    "measCapability": [
      "RECEIVED_POWER_WITH_GRANT",
      "RECEIVED_POWER_WITHOUT_GRANT"
    ],
    "userId": "GW"
  },
  {
    "airInterface": {
      "radioTechnology": "E_UTRA",
```

```

    "supportedSpec": "FFS"
  },
  "callSign": "LEAX",
  "cbsdCategory": "B",
  "cbsdInfo": {
    "model": "LBS7320",
    "softwareVersion": "LeaxBTS_V2.0.4.1",
    "vendor": "Radisys"
  },
  "cbsdSerialNumber": "22020300003A1952J0004",
  "cpiSignatureData": {
    "digitalSignature":
"U6maJ6rB-A099K7U6mReC4uu0eADkmSZyAxXXiz25X5UcGVM4fv8FWrxf203ee2QeWvSWG1X0NX
2VhFTr6qi4rcHsqifHGTwcMYnoE-fxeqpyViKOaIvPP6-bytLND22E4wM-PEcwNuN8q2G2FTG9Qz3S8u
hbXbETpNnHjG0L52Ynyzra9WALaCvqD8-CndPfaTQUw4V69eBJvhO9XwfgXE8Q7LaE9ZXHeLFqBiU
6TNEnrZ9OH7obkdkshkdWwCuGIR3_hQree9Jq3JAE8O1FgaOHGOCcyXj0IBySTPHITHAHGvW7zIU2
lg_VpYPHNp8K-UG_c3yTnq_PwHdvHXyiQ",
    "encodedCpiSignedData":
"eyJjYnNkU2VyaWFsTnVtYmVyljoiMjIwMjAzMDAwMDNBMTk1MkowMDA0liwiZmNjSWQiOiIyQVZGZGZG
xGUzYzZGZGZGZGZGZGZGZGZGZGZGZGZGZGZGZGZGZGZGZGZGZGZGZGZGZGZGZGZGZGZGZGZGZGZGZG
YW13aWR0aCI6NjUsImFudGVubmFEb3dudGlsdCI6MCwiYW50ZW5uYUdhaW4iOiE2LjUsImhlaWdod
CI6MywiaGVpZ2h0VHlwZSI6IkFHTCIsImIuZG9vcnRlcGxveW1lbnQiOiOmZhbHNILCJsYXRpdHVkZSI6M
zcuNDExMzZGZGZGZGZGZGZGZGZGZGZGZGZGZGZGZGZGZGZGZGZGZGZGZGZGZGZGZGZGZGZGZGZGZG
F0YSI6eyJjcGlZCi6lAjAwMSIsImNwaU5hbWUiOiJ5dWkiLCJpbmN0YWxsQ2VydGlmYW5hdGlvbiRpbW
UiOiIyMDIwLTAYLTEwVDAyOjlxOjMyWiJ9fQ",
    "protectedHeader": "eyJhbGciOiJSUzI1NiIsInR5cCI6IkpXVCJ9"
  },
  "fccId": "2AVFNLBS7320",
  "groupingParam": [
    {
      "groupId": "GW",
      "groupType": "INTERFERENCE_COORDINATION"
    }
  ],
  "measCapability": [
    "RECEIVED_POWER_WITH_GRANT",
    "RECEIVED_POWER_WITHOUT_GRANT"
  ],
  "userId": "GW"
}
]
}

```

```
2020-02-10T02:21:26.894Z - INFO - Registration message contains cpiSignatureData
2020-02-10T02:21:26.894Z - INFO - protectedHeader = {u'alg': u'RS256', u'typ': u'JWT'}
2020-02-10T02:21:26.894Z - INFO - encodedCpiSignedData contents = {
    "installationParam": {
        "antennaAzimuth": 7,
        "heightType": "AGL",
        "longitude": -122.018942,
        "height": 3,
        "indoorDeployment": false,
        "latitude": 37.411331,
```

```

    "antennaDowntilt": 0,
    "antennaBeamwidth": 65,
    "antennaGain": 16.5
  },
  "fccId": "2AVFNLBS7320",
  "professionalInstallerData": {
    "cpiName": "yui",
    "installCertificationTime": "2020-02-10T02:21:32Z",
    "cpild": "001"
  },
  "cbsdSerialNumber": "22020300003A1952J0003"
}
2020-02-10T02:21:26.944Z - INFO - verified signature on cpiSignatureData
2020-02-10T02:21:26.950Z - INFO - cpiSignatureData data successfully validated against jsonschema
2020-02-10T02:21:26.997Z - INFO - Registration message contains cpiSignatureData
2020-02-10T02:21:26.997Z - INFO - protectedHeader = {u'alg': u'RS256', u'typ': u'JWT'}
2020-02-10T02:21:26.999Z - INFO - encodedCpiSignedData contents = {
  "installationParam": {
    "antennaAzimuth": 7,
    "heightType": "AGL",
    "longitude": -122.018942,
    "height": 3,
    "indoorDeployment": false,
    "latitude": 37.411331,
    "antennaDowntilt": 0,
    "antennaBeamwidth": 65,
    "antennaGain": 16.5
  },
  "fccId": "2AVFNLBS7320",
  "professionalInstallerData": {
    "cpiName": "yui",
    "installCertificationTime": "2020-02-10T02:21:32Z",
    "cpild": "001"
  },
  "cbsdSerialNumber": "22020300003A1952J0004"
}
2020-02-10T02:21:26.999Z - INFO - verified signature on cpiSignatureData
2020-02-10T02:21:27.006Z - INFO - cpiSignatureData data successfully validated against jsonschema
2020-02-10T02:21:27.007Z - INFO - engine sent successfully, the response to CBRS : {
  "registrationResponse": [
    {
      "response": {
        "responseCode": 100
      }
    },
    {
      "response": {
        "responseCode": 100
      }
    }
  ]
}
}

```



Test Logs

Appendix A

2020-02-10T02:21:28.102Z - INFO - arrived to nstep starting question answer session with the technician
2020-02-10T02:21:28.104Z - INFO - the question is : Were there RF transmissions from the CBSD1 during the test? please choose one of the answers :
2020-02-10T02:22:34.605Z - INFO - for the question : Were there RF transmissions from the CBSD1 during the test? , the user choose n
2020-02-10T02:22:34.607Z - INFO - the question is : Were there RF transmissions from the CBSD2 during the test? please choose one of the answers :
2020-02-10T02:22:35.384Z - INFO - for the question : Were there RF transmissions from the CBSD2 during the test? , the user choose n
2020-02-10T02:22:35.750Z - INFO - The final result of the test : WINNF.FT.D.REG.17 is - passed

Test Log for WINNF.FT.D.REG.19 Test Case ID

```
2020-02-10T02:23:02.953Z - INFO - WINNF TEST HARNESS RELEASE: 1.0.0.3 - 2018-November-13
2020-02-10T02:23:02.953Z - INFO - the selected test from the user : WINNF.FT.D.REG.19 is starting
now
```

2020-02-10T02:23:26.846Z - INFO - registration request from CBRS : {

```

"registrationRequest": [
  {
    "airInterface": {
      "radioTechnology": "E_UTRA",
      "supportedSpec": "FFS"
    },
    "callSign": "LEAX",
    "cbsdCategory": "B",
    "cbsdInfo": {
      "model": "LBS7320",
      "softwareVersion": "LeaxBTS_V2.0.4.1",
      "vendor": "Radisys"
    },
    "cbsdSerialNumber": "22020300003A1952J0003",
    "cpiSignatureData": {
      "digitalSignature":
"L2pJEyG2ncwzBB3tv2-r6yzm_gIDpVWj24NYEgBn3WE1HAfpNXTdvC4af63CcWIKyJg4yzM453P88gU
5jB5PV8hBESEDGToosif2AqzhK5hYGg8VV1HtifmiTSC8Wtv9M2i0y3FjclAMzH_xOgc4pAx_TWHUK__
_SxOUIxRpNsZtQ-QNt-i_6bize9HNwL8YAFJJTcqf7mdv0CipWlVHP6WFRh4324AV23xvxO0ejLJLNxXo
02jbDH4StRkedeo01rbacmEO1vLwJyACqJ6zIYTwK5LJdsGvzUUIBOiaktWh4TkL68zDgR4N-s6JORu9
mTFKclLBoeQNJhLRpleC8A",
      "encodedCpiSignedData":
"eyJYnNkU2VyaWFsTnVtYmVyljoiMjIwMjA5MDAwMDNBMTk1Mk0wMDAzliwiZmNjSWQiOiIyQVZGTk
xCUzczMjAiLCJpbmN0YWxsYXRpb25QYXJhbSI6eyJhbnRlbn5hQXppbXV0aCI6NywiYW50ZW5uYUJl
YW13aWR0aCI6NjUslmFudGVubmFEb3dudGlscCI6MCwiYW50ZW5uYUdhaW4iOiE2LjUslmhmaWdod
CI6MywiaGVpZ2h0VHlwZSI6IkFHTCIsImluZG9vckRlcGxveW1lbnQiOmZhbHNILCJsYXRpdHVkZSI6M
zcuNDExMzMxLCJsb25naXR1ZGUUiOi0xMjluMDE4OTQyfSwicHJvZmVzc2lvbmFsSW5zdGFsbGVyRG
FOYSI6eyJjcGlZCi6ljiAwMSIsImNwaU5hbWUiOiJ5dWkiLCJpbmN0YWxsQ2VydGlmaWNhdGlvbiRpbW
UiOiIyMDIwLTAyLTAwVDAyOjIzOjMyWiJ9fQ",
      "protectedHeader": "eyJhbnRlbnR5dWkiLCJpbmN0YWxsQ2VydGlmaWNhdGlvbiRpbW
",
    },
    "fccId": "2AVFNLBS7320",
    "groupingParam": [
      {
        "groupId": "GW",
        "groupType": "INTERFERENCE_COORDINATION"
      }
    ],
    "measCapability": [
      "RECEIVED_POWER_WITH_GRANT",
      "RECEIVED_POWER_WITHOUT_GRANT"
    ],
    "userId": "GW"
  },
  {
    "airInterface": {
      "radioTechnology": "E_UTRA",

```

```

        "supportedSpec": "FFS"
    },
    "callSign": "LEAX",
    "cbsdCategory": "B",
    "cbsdInfo": {
        "model": "LBS7320",
        "softwareVersion": "LeaxBTS_V2.0.4.1",
        "vendor": "Radisys"
    },
    "cbsdSerialNumber": "22020300003A1952J0004",
    "cpiSignatureData": {
        "digitalSignature":
"ykihVOZyGd7Ah1HHhdMittsNSfh_HJRr-U4zHcNnXie4mxZ22oEqQFNG8CnseAbi3gUiByQannlewphJ-
HpcRilxacosRaCy7FdPmbpNDBFI6-pY00BD3NhCsiyhqMV_mor4yp1-KWKJx3u_0HRFU-722rRfLc3Cc
n4zyDwE1hZjo8YpdOytJdfXlfutmLTkfR_GuAcoBhBRCZo7alJUok4nLKFTV1usR3kXvQoTUnFNN7hd4g
Hi6dfsdS8yMhrm_8zeZ7nwgzfr8SeYsc7xUIWBp1gzdVkpYZpxKDVg77a1oqSfWqqXw-hjE7zoTDCZyfQ
LcpANK-BrP4wLb9WCA",
        "encodedCpiSignedData":
"eyJjYnNkU2VyaWFsTnVtYmVyljoiMjIwMjAzMDAwMDNBMTk1MkowMDA0liwiZmNjSWQiOiIyQVZGTk
xCUzcMjAiLCJpbnN0YWxsYXRpb25QYXJhbSI6eyJhbG9uZm5hQXppbXV0aCI6NywiYW50ZW5uYUJl
YW13aWR0aCI6NjUsImFudGVubmFEb3dudGlsdCI6MCwiYW50ZW5uYUdhaW4iOiJlUjUslmhlaWdod
CI6MywiaGVpZ2h0VHlwZSI6IkFHTCIsImluZG9vcnkRlcGxveW1lbnQiOiOmZhbHNILCJsYXRpdHVkZSI6M
zcuNDEzMzZmLjU5b25naXR1ZGU0xMjluMDE4OTQyYmVzc2l2bmFsSW5zdGFsbGVyRG
F0YSI6eyJjcGljZCI6IjAwMSIsImNwaU5hbWU0Ij5dWkiLCJpbnN0YWxsQ2VydGlmaWNhdGlublRpbW
UiOiIyMDIwLTAyLTUwVDAyOjIzOjMyWiJ9fQ",
        "protectedHeader": "eyJhbGciOiJSUzI1NiIsInR5cCI6IkpXVCJ9"
    },
    "fccId": "2AVFNLBS7320",
    "groupingParam": [
        {
            "groupId": "GW",
            "groupType": "INTERFERENCE_COORDINATION"
        }
    ],
    "measCapability": [
        "RECEIVED_POWER_WITH_GRANT",
        "RECEIVED_POWER_WITHOUT_GRANT"
    ],
    "userId": "GW"
}
]
}
2020-02-10T02:23:26.891Z - INFO - Registration message contains cpiSignatureData
2020-02-10T02:23:26.891Z - INFO - protectedHeader = {u'alg': u'RS256', u'typ': u'JWT'}
2020-02-10T02:23:26.892Z - INFO - encodedCpiSignedData contents = {
    "installationParam": {
        "antennaAzimuth": 7,
        "heightType": "AGL",
        "longitude": -122.018942,
        "height": 3,
        "indoorDeployment": false,
        "latitude": 37.411331,

```



```
"antennaDowntilt": 0,
"antennaBeamwidth": 65,
"antennaGain": 16.5
},
"fccId": "2AVFNLBS7320",
"professionalInstallerData": {
  "cpiName": "yui",
  "installCertificationTime": "2020-02-10T02:23:32Z",
  "cpild": "001"
},
"cbid": "22020300003A1952J0003"
}
2020-02-10T02:23:26.894Z - INFO - verified signature on cpiSignatureData
2020-02-10T02:23:26.900Z - INFO - cpiSignatureData data successfully validated against jsonschema
2020-02-10T02:23:26.946Z - INFO - Registration message contains cpiSignatureData
2020-02-10T02:23:26.946Z - INFO - protectedHeader = {u'alg': u'RS256', u'typ': u'JWT'}
2020-02-10T02:23:26.947Z - INFO - encodedCpiSignedData contents = {
  "installationParam": {
    "antennaAzimuth": 7,
    "heightType": "AGL",
    "longitude": -122.018942,
    "height": 3,
    "indoorDeployment": false,
    "latitude": 37.411331,
    "antennaDowntilt": 0,
    "antennaBeamwidth": 65,
    "antennaGain": 16.5
  },
  "fccId": "2AVFNLBS7320",
  "professionalInstallerData": {
    "cpiName": "yui",
    "installCertificationTime": "2020-02-10T02:23:32Z",
    "cpild": "001"
  },
  "cbid": "22020300003A1952J0004"
}
2020-02-10T02:23:26.947Z - INFO - verified signature on cpiSignatureData
2020-02-10T02:23:26.953Z - INFO - cpiSignatureData data successfully validated against jsonschema
2020-02-10T02:23:26.957Z - INFO - engine sent successfully, the response to CBRS : {
  "registrationResponse": [
    {
      "cbid": "2AVFNLBS7320Mock-SAS22020300003A1952J0003",
      "response": {
        "responseCode": 0
      }
    },
    {
      "response": {
        "responseCode": 201
      }
    }
  ]
}
```



}

2020-02-10T02:23:27.969Z - INFO - arrived to nstep starting question answer session with the technician

2020-02-10T02:23:27.970Z - INFO - the question is : Were there RF transmissions from the CBSD1 during the test? please choose one of the answers :

2020-02-10T02:24:37.411Z - INFO - for the question : Were there RF transmissions from the CBSD1 during the test? , the user choose n

2020-02-10T02:24:37.411Z - INFO - the question is : Were there RF transmissions from the CBSD2 during the test? please choose one of the answers :

2020-02-10T02:24:38.009Z - INFO - for the question : Were there RF transmissions from the CBSD2 during the test? , the user choose n

2020-02-10T02:24:38.233Z - INFO - The final result of the test : WINNF.FT.D.REG.19 is - passed

Test Log for WINNF.FT.C.GRA.1 Test Case ID

```
2020-02-10T02:34:51.012Z - INFO - WINNF TEST HARNESS RELEASE: 1.0.0.3 - 2018-November-13
2020-02-10T02:34:51.012Z - INFO - the selected test from the user : WINNF.FT.C.GRA.1 is starting
now
```

2020-02-10T02:35:26.811Z - INFO - registration request from CBRS : {

```

"registrationRequest": [
  {
    "airInterface": {
      "radioTechnology": "E_UTRA",
      "supportedSpec": "FFS"
    },
    "callSign": "LEAX",
    "cbsdCategory": "B",
    "cbsdInfo": {
      "model": "LBS7320",
      "softwareVersion": "LeaxBTS_V2.0.4.1",
      "vendor": "Radisys"
    },
    "cbsdSerialNumber": "22020300003A1952J0003",
    "cpiSignatureData": {
      "digitalSignature":
"B4BvWi23mEnPNf2miiVpjcD0Y8WGI21IGTBejZiRBoHQRTRDYfVBtPwZ0fDvLhI6ZACXaGojyxOBtYx
RHcqsleZknL115LnsPFkrBgJloJP7NBMPmb6kNDitLlnKo02PJswupMEPveNzff51SwRTSIC9cAWF-vW
3nHFU1CNJIX6fypOTcREFnYdpF9hFBCENT05jABjzUQglAV384AtlqFQoQ7Zb63DEqSYIFuskTkY1qEj
AY37n5gU2Wa_tZg9jHW-ZE6LI3DVmXs11oY5IhIBXt9lqE0VyoQdsFTCqaNPbFzIFVL_09Mcz7Ehc8gzg
uP6MBPaggi6r4X2FY9JyJw",
      "encodedCpiSignedData":
"eyJYnNkU2VyaWFsTnVtYmVyljoiMjIwMjA5MDAwMDNBMTk1Mk0wMDAzliwiZmNjSWQiOiIyQVZGTk
xCUzczMjAiLCJpbmN0YWxsYXRpb25QYXJhbSI6eyJhbnRlbn5hQXppbXV0aCI6NywiYW50ZW5uYUJl
YW13aWR0aCI6NjUsImFudGVubmFEb3dudGlsdCI6MCwiYW50ZW5uYUdhW4iOiE2LjUsImhlaWdod
CI6MywiaGVpZ2h0VHlwZSI6IkFHTCIsImluZG9vckRlcGxveW1lbnQiOmZhbHNILCJsYXRpdHVkZSI6M
zcuNDExMzMxLCJsb25naXR1ZGUUiOi0xMjluMDE4OTQyfSwicHJvZmVzc2lvbmFsSW5zdGFsbGVyRG
FOYSI6eyJjcGlZCi6ljiAwMSIsImNwaU5hbWUiOiJ5dWkiLCJpbmN0YWxsQ2VydGlmaWNhdGlvbiRpbW
UiOiIyMDIwLTAyLTAwVDAyOjM1OjMyWiJ9fQ",
      "protectedHeader": "eyJhbnRlbn5hQXppbXV0aCI6NywiYW50ZW5uYUdhW4iOiE2LjUsImhlaWdod
CI6MywiaGVpZ2h0VHlwZSI6IkFHTCIsImluZG9vckRlcGxveW1lbnQiOmZhbHNILCJsYXRpdHVkZSI6M
zcuNDExMzMxLCJsb25naXR1ZGUUiOi0xMjluMDE4OTQyfSwicHJvZmVzc2lvbmFsSW5zdGFsbGVyRG
FOYSI6eyJjcGlZCi6ljiAwMSIsImNwaU5hbWUiOiJ5dWkiLCJpbmN0YWxsQ2VydGlmaWNhdGlvbiRpbW
UiOiIyMDIwLTAyLTAwVDAyOjM1OjMyWiJ9fQ"
    },
    "fccId": "2AVFNLBS7320",
    "groupingParam": [
      {
        "groupId": "GW",
        "groupType": "INTERFERENCE_COORDINATION"
      }
    ],
    "measCapability": [
      "RECEIVED_POWER_WITH_GRANT",
      "RECEIVED_POWER_WITHOUT_GRANT"
    ],
    "userId": "GW"
  }
]
}

```

2020-02-10T02:35:26.871Z - INFO - Registration message contains cpiSignatureData



```
2020-02-10T02:35:26.871Z - INFO - protectedHeader = {u'alg': u'RS256', u'typ': u'JWT'}
2020-02-10T02:35:26.871Z - INFO - encodedCpiSignedData contents = {
  "installationParam": {
    "antennaAzimuth": 7,
    "heightType": "AGL",
    "longitude": -122.018942,
    "height": 3,
    "indoorDeployment": false,
    "latitude": 37.411331,
    "antennaDowntilt": 0,
    "antennaBeamwidth": 65,
    "antennaGain": 16.5
  },
  "fccId": "2AVFNLBS7320",
  "professionalInstallerData": {
    "cpiName": "yui",
    "installCertificationTime": "2020-02-10T02:35:32Z",
    "cpild": "001"
  },
  "cbsdSerialNumber": "22020300003A1952J0003"
}
2020-02-10T02:35:26.872Z - INFO - verified signature on cpiSignatureData
2020-02-10T02:35:26.878Z - INFO - cpiSignatureData data successfully validated against jsonschema
2020-02-10T02:35:26.881Z - INFO - engine sent successfully, the response to CBRS : {
  "registrationResponse": [
    {
      "cbsdId": "2AVFNLBS7320Mock-SAS22020300003A1952J0003",
      "response": {
        "responseCode": 0
      }
    }
  ]
}
2020-02-10T02:35:27.069Z - INFO - spectrumInquiry request from CBRS : {
  "spectrumInquiryRequest": [
    {
      "cbsdId": "2AVFNLBS7320Mock-SAS22020300003A1952J0003",
      "inquiredSpectrum": [
        {
          "highFrequency": 3700000000,
          "lowFrequency": 3550000000
        }
      ]
    }
  ]
}
2020-02-10T02:35:27.079Z - INFO - engine sent successfully, the response to CBRS : {
  "spectrumInquiryResponse": [
    {
      "availableChannel": [
        {
          "channelType": "GAA",
```

```
        "frequencyRange": {
            "highFrequency": 3700000000,
            "lowFrequency": 3550000000
        },
        "ruleApplied": "FCC_PART_96"
    }
},
"cbstdId": "2AVFNLBS7320Mock-SAS22020300003A1952J0003",
"response": {
    "responseCode": 0
}
}
]
}
2020-02-10T02:35:27.500Z - INFO - grant request from CBRS : {
    "grantRequest": [
        {
            "cbstdId": "2AVFNLBS7320Mock-SAS22020300003A1952J0003",
            "operationParam": {
                "maxEirp": 34,
                "operationFrequencyRange": {
                    "highFrequency": 3570000000,
                    "lowFrequency": 3550000000
                }
            }
        }
    ]
}
}
2020-02-10T02:35:27.509Z - INFO - engine sent successfully, the response to CBRS : {
    "grantResponse": [
        {
            "cbstdId": "2AVFNLBS7320Mock-SAS22020300003A1952J0003",
            "response": {
                "responseCode": 400
            }
        }
    ]
}
}
2020-02-10T02:35:29.015Z - INFO - arrived to nstep starting question answer session with the technician
2020-02-10T02:35:29.016Z - INFO - the question is : Were there RF transmissions from the CBSD1 during the test? please choose one of the answers :
2020-02-10T02:36:43.334Z - INFO - for the question : Were there RF transmissions from the CBSD1 during the test? , the user choose n
2020-02-10T02:36:44.338Z - INFO - The final result of the test : WINNF.FT.C.GRA.1 is - passed
```

Test Log for WINNF.FT.C.GRA.2 Test Case ID

2020-02-10T02:36:57.517Z - INFO - WINNF TEST HARNESS RELEASE: 1.0.0.3 - 2018-November-13
2020-02-10T02:36:57.517Z - INFO - the selected test from the user : WINNF.FT.C.GRA.2 is starting
now

2020-02-10T02:37:26.805Z - INFO - registration request from CBRS : {

```

"registrationRequest": [
  {
    "airInterface": {
      "radioTechnology": "E_UTRA",
      "supportedSpec": "FFS"
    },
    "callSign": "LEAX",
    "cbsdCategory": "B",
    "cbsdInfo": {
      "model": "LBS7320",
      "softwareVersion": "LeaxBTS_V2.0.4.1",
      "vendor": "Radisys"
    },
    "cbsdSerialNumber": "22020300003A1952J0003",
    "cpiSignatureData": {
      "digitalSignature":
"mogB5t_0h3ytF2D81IA9PFObA_HiDteoWXBycprCrEcHHo11f-OVJn72RQXSJCyDmY3WPkTKbKmF
8AD8H_A6w_c2Wr7iKcySPoxN-3GfzgBq1fw0m1z8FUv0Z5_yvGLOiFa4DzRfRRACQJYadUJvlojZ2453
ALzkHQJXaoNX18CkJ9gJ2bQViChfVTjovXsxaoA8Jp2fTe-Jd366AEMD69AT8FbasgY2nX2SNYwRaC
av3SVkUjLQx-LhsuCxmC8_hlSajAcXVfhYejMR5rgPaG6xKAUnqoK7pkvyc-LQcNGswcibGYWpT66UI7
TM68Eh32etnWlot1_xX1gjmrg",
      "encodedCpiSignedData":
"eyJYnNkU2VyaWFsTnVtYmVyljoiMjIwMjA5MDAwMDNBMTk1Mk0wMDAzliwiZmNjSWQiOiIyQVZGTk
xCUzc2MjAiLCJpbmN0YWxsYXRpb25QYXJhbSI6eyJhbnRlbn5hQXppbXV0aCI6NywiYW50ZW5uYUJl
YW13aWR0aCI6NjUsImFudGVubmFEb3dudGlsdCI6MCwiYW50ZW5uYUdhaW4iOiE2LjUsImhlaWdod
CI6MywiaGVpZ2h0VHlwZSI6IkFHTCIsImiluZG9vckRlcGxveW1lbnQiOmZhbHNILCJsYXRpdHVkZSI6M
zcuNDExMzMxLzI5b25naXR1ZGUUiOi0xMjIwMDE4OTQyfiSwicHJvZmVzc2lvbmFsSW5zdGFsbGVyRG
FOYSI6eyJjcGlJZCI6IjAwMSIsImNwaU5hbWUiOiJ5dWkiLCJpbmN0YWxsQ2VydGImaWNhdGlvbiRpbW
UiOiIyMDIwLTAyLTEwVDAyOjMzOjMyWiJ9fQ",
      "protectedHeader": "eyJhbGciOiJIUzI1NiIsInR5cCI6IkpXVCJ9"
    },
    "fccId": "2AVFNLBS7320",
    "groupingParam": [
      {
        "groupId": "GW",
        "groupType": "INTERFERENCE_COORDINATION"
      }
    ],
    "measCapability": [
      "RECEIVED_POWER_WITH_GRANT",
      "RECEIVED_POWER_WITHOUT_GRANT"
    ],
    "userId": "GW"
  }
]
}

```

2020-02-10T02:37:26.865Z - INFO - Registration message contains cpiSignatureData



```
2020-02-10T02:37:26.865Z - INFO - protectedHeader = {u'alg': u'RS256', u'typ': u'JWT'}
2020-02-10T02:37:26.865Z - INFO - encodedCpiSignedData contents = {
  "installationParam": {
    "antennaAzimuth": 7,
    "heightType": "AGL",
    "longitude": -122.018942,
    "height": 3,
    "indoorDeployment": false,
    "latitude": 37.411331,
    "antennaDowntilt": 0,
    "antennaBeamwidth": 65,
    "antennaGain": 16.5
  },
  "fccId": "2AVFNLBS7320",
  "professionalInstallerData": {
    "cpiName": "yui",
    "installCertificationTime": "2020-02-10T02:37:32Z",
    "cpild": "001"
  },
  "cbsdSerialNumber": "22020300003A1952J0003"
}
2020-02-10T02:37:26.867Z - INFO - verified signature on cpiSignatureData
2020-02-10T02:37:26.874Z - INFO - cpiSignatureData data successfully validated against jsonschema
2020-02-10T02:37:26.875Z - INFO - engine sent successfully, the response to CBRS : {
  "registrationResponse": [
    {
      "cbsdId": "2AVFNLBS7320Mock-SAS22020300003A1952J0003",
      "response": {
        "responseCode": 0
      }
    }
  ]
}
2020-02-10T02:37:27.078Z - INFO - spectrumInquiry request from CBRS : {
  "spectrumInquiryRequest": [
    {
      "cbsdId": "2AVFNLBS7320Mock-SAS22020300003A1952J0003",
      "inquiredSpectrum": [
        {
          "highFrequency": 3700000000,
          "lowFrequency": 3550000000
        }
      ]
    }
  ]
}
2020-02-10T02:37:27.115Z - INFO - engine sent successfully, the response to CBRS : {
  "spectrumInquiryResponse": [
    {
      "availableChannel": [
        {
          "channelType": "GAA",
```

```
        "frequencyRange": {
            "highFrequency": 3700000000,
            "lowFrequency": 3550000000
        },
        "ruleApplied": "FCC_PART_96"
    }
},
"cbstdId": "2AVFNLBS7320Mock-SAS22020300003A1952J0003",
"response": {
    "responseCode": 0
}
}
]
}
2020-02-10T02:37:27.759Z - INFO - grant request from CBRS : {
    "grantRequest": [
        {
            "cbstdId": "2AVFNLBS7320Mock-SAS22020300003A1952J0003",
            "operationParam": {
                "maxEirp": 34,
                "operationFrequencyRange": {
                    "highFrequency": 3570000000,
                    "lowFrequency": 3550000000
                }
            }
        }
    ]
}
}
2020-02-10T02:37:27.767Z - INFO - engine sent successfully, the response to CBRS : {
    "grantResponse": [
        {
            "cbstdId": "2AVFNLBS7320Mock-SAS22020300003A1952J0003",
            "response": {
                "responseCode": 401
            }
        }
    ]
}
}
2020-02-10T02:37:29.520Z - INFO - arrived to nstep starting question answer session with the technician
2020-02-10T02:37:29.523Z - INFO - the question is : Were there RF transmissions from the CBSD1 during the test? please choose one of the answers :
2020-02-10T02:38:37.278Z - INFO - for the question : Were there RF transmissions from the CBSD1 during the test? , the user choose n
2020-02-10T02:38:38.033Z - INFO - The final result of the test : WINNF.FT.C.GRA.2 is - passed
```

Test Log for WINNF.FT.D.HBT.2 Test Case ID

2020-02-10T02:49:47.556Z - INFO - WINNF TEST HARNESS RELEASE: 1.0.0.3 - 2018-November-13
 2020-02-10T02:49:47.556Z - INFO - the selected test from the user : WINNF.FT.D.HBT.2 is starting now
 2020-02-10T02:50:26.779Z - INFO - registration request from CBRS : {

```
"registrationRequest": {
  {
    "airInterface": {
      "radioTechnology": "E_UTRA",
      "supportedSpec": "FFS"
    },
    "callSign": "LEAX",
    "cbsdCategory": "B",
    "cbsdInfo": {
      "model": "LBS7320",
      "softwareVersion": "LeaxBTS_V2.0.4.1",
      "vendor": "Radisys"
    },
    "cbsdSerialNumber": "22020300003A1952J0003",
    "cpiSignatureData": {
      "digitalSignature":
        "bRnGNqcaPII- Ik0sQy_esDWnaVREX74VOEIR7IA3ZQvnxkSCuvBwIKoYvYa-P3NbDjxROA1xhUGd7
        bHoHNNh_oWJMcVggCL60IoOIsQcZek8swRlv3zuVK4xf0U4hXCn87idUA5W7FqnXHYILa6ali2nvAq4
        Q9KDN7iU4Lt-Nvj3yx15Qz9MSEhsF4WkWmVCZo4_NEyWS9hyVltpeJ9j4htndACQKbgYGpTp_-4HQ
        3fa18mCp8ZpthJqtKEo6vwEMaTpvcLGNiVhJC8DwKG-gaNgzyG65Erzh14m8JCYh0IN60EoTPEpJr9B
        -7tealk-sL9mZiB9hukWkiQengw",
      "encodedCpiSignedData":
        "eyJjYnNkU2VyaWFsTnVtYmVyljoiMjIwMjE5MDAwMDNBMTk1Mk0wMDAzliwiZmNjSWQiOilyQVZGTC
        xCUzczMjAiLCJpbnN0YWxsYXRpb25QYXJhbSI6eyJhbnRlbn5hQXppbXV0aCI6NywiYW50ZW5uYUJl
        YW13aWR0aCI6NjUsImFudGVubmFEb3dudGlsdCI6MCwiYW50ZW5uYUdhW4iOiE2LjUsImhlaWdod
        CI6MywiaGVpZ2h0VHlwZSI6IkFHTCIsImluZG9vckRlcGxveW1lbnQiOmZhbHNILCJsYXRpdHVkZSI6M
        zcuNDExMzMxLCJsb25naXR1ZGU0Oi0xMjIwMjE5MDAwMDAwMDAwMDAwMDAwMDAwMDAwMDAwMDAwMDAw
        F0YSI6eyJjcGlJZCI6IjAwMSIsImNwaU5hbWUiOiJ5dWkiLCJpbnN0YWxsQ2VydGImaWNhdGlvbIRpbW
        UiOilyMDIwLTAYLTEwVDAyOjUwOjMyWiJ9fQ",
      "protectedHeader": "eyJhbGciOiJSUzI1NiIsInR5cCI6IkpXVCJ9"
    },
    "fccId": "2AVFNLBS7320",
    "groupingParam": {
      {
        "groupId": "GW",
        "groupType": "INTERFERENCE_COORDINATION"
      }
    },
    "measCapability": [
      "RECEIVED_POWER_WITH_GRANT",
      "RECEIVED_POWER_WITHOUT_GRANT"
    ],
    "userId": "GW"
  },
  {
    "airInterface": {
      "radioTechnology": "E_UTRA",
      "supportedSpec": "FFS"
    }
  }
}
```

```

    },
    "callSign": "LEAX",
    "cbsdCategory": "B",
    "cbsdInfo": {
      "model": "LBS7320",
      "softwareVersion": "LeaxBTS_V2.0.4.1",
      "vendor": "Radisys"
    },
    "cbsdSerialNumber": "22020300003A1952J0004",
    "cpiSignatureData": {
      "digitalSignature":
"TAYS02evFdWc_x3EudiqZ2n6DF7BAR2m8r_aUI6YDPS2O_jvradQkbu4sjRoHo_rHoAFtmOSK_iyo93I
TqlhVM08plQxXYROFw2J7ugxyV86zs3qclF3uL0203F1_nZUcKHqLWvIDGgLoX04sxKDkO-uKeSDdR
SYw0TfR4BUV8Uh4XAK7-OcFeKij0quSXYnhlclT8V3eQMcm7j42Ungo2x7Sj9yl8HQ60GEuCzqXdnnZ
Tfa1tlKtQWPmcaC1wkc3QyBMJDr2vAE4TJJYFKwDCm0vybpQdv4PaFM768Mz35c5gl0iZ62n6gPjzbP
OAD6lEXKssrEA6ED2zGFPFqQ",
      "encodedCpiSignedData":
"eyJjYnNkU2VyaWFsTnVtYmVyljoiMjltMjAzMDAwMDNBMTk1MkowMDA0liwiZmNjSWQiOiIyQVZGTk
xCUzc2MjAiLCJpbnN0YWxsYXRpb25QYXJhbSI6eyJhbG9uZmVudG9uZmVudG9uZmVudG9uZmVudG9u
YW13aWR0aCI6NjUsImFudGVubmFEb3dudGlsdCI6MCwiYW50ZW5uYUdhaW4iOiE2LjUsImhlaWdod
CI6MywiaGVpZ2h0VHlwZSI6IkFHTClSImluZG9vckRlcGxveW1lbnQiOmZhbnHNILCJsYXRpdHVkZSI6M
zcuNDExMzMxLzJsbn25naXR1ZGUiOi0xMjltMDE4OTQyfSwicHJvZmVzc2l2bmFsSW5zdGFsbGVyRG
F0YSI6eyJjcGlZCjI6IjAwMSIsImNwaU5hbWUiOiJ5dWkiLCJpbnN0YWxsQ2VydGlmaWNhdGlvbiRpbW
UiOiIyMDIwLTAYLTEwVDAyOjUwOjMyWiJ9fQ",
      "protectedHeader": "eyJhbGciOiJIUzI1NiIsInR5cCI6IkpXVCJ9"
    },
    },
    "fccId": "2AVFNLBS7320",
    "groupingParam": [
      {
        "groupId": "GW",
        "groupType": "INTERFERENCE_COORDINATION"
      }
    ],
    "measCapability": [
      "RECEIVED_POWER_WITH_GRANT",
      "RECEIVED_POWER_WITHOUT_GRANT"
    ],
    "userId": "GW"
  }
}
]
}

```

```
2020-02-10T02:50:26.842Z - INFO - Registration message contains cpiSignatureData
2020-02-10T02:50:26.842Z - INFO - protectedHeader = {u'alg': u'RS256', u'typ': u'JWT'}
2020-02-10T02:50:26.842Z - INFO - encodedCpiSignedData contents = {
    "installationParam": {
        "antennaAzimuth": 7,
        "heightType": "AGL",
        "longitude": -122.018942,
        "height": 3,
        "indoorDeployment": false,
        "latitude": 37.411331,
        "antennaDowntilt": 0.
```



```
"antennaBeamwidth": 65,
"antennaGain": 16.5
},
"fccId": "2AVFNLBS7320",
"professionalInstallerData": {
  "cpiName": "yui",
  "installCertificationTime": "2020-02-10T02:50:32Z",
  "cpild": "001"
},
"cbid": "22020300003A1952J0003"
}
2020-02-10T02:50:26.888Z - INFO - verified signature on cpiSignatureData
2020-02-10T02:50:26.897Z - INFO - cpiSignatureData data successfully validated against jsonschema
2020-02-10T02:50:26.960Z - INFO - Registration message contains cpiSignatureData
2020-02-10T02:50:26.960Z - INFO - protectedHeader = {u'alg': u'RS256', u'typ': u'JWT'}
2020-02-10T02:50:26.960Z - INFO - encodedCpiSignedData contents = {
  "installationParam": {
    "antennaAzimuth": 7,
    "heightType": "AGL",
    "longitude": -122.018942,
    "height": 3,
    "indoorDeployment": false,
    "latitude": 37.411331,
    "antennaDowntilt": 0,
    "antennaBeamwidth": 65,
    "antennaGain": 16.5
  },
  "fccId": "2AVFNLBS7320",
  "professionalInstallerData": {
    "cpiName": "yui",
    "installCertificationTime": "2020-02-10T02:50:32Z",
    "cpild": "001"
  },
  "cbid": "22020300003A1952J0004"
}
2020-02-10T02:50:26.961Z - INFO - verified signature on cpiSignatureData
2020-02-10T02:50:26.969Z - INFO - cpiSignatureData data successfully validated against jsonschema
2020-02-10T02:50:26.970Z - INFO - engine sent successfully, the response to CBRS : {
  "registrationResponse": [
    {
      "cbid": "2AVFNLBS7320Mock-SAS22020300003A1952J0003",
      "response": {
        "responseCode": 0
      }
    },
    {
      "cbid": "2AVFNLBS7320Mock-SAS22020300003A1952J0004",
      "response": {
        "responseCode": 0
      }
    }
  ]
}
```

```
}
2020-02-10T02:50:27.269Z - INFO - spectrumInquiry request from CBRS : {
  "spectrumInquiryRequest": [
    {
      "cbsdId": "2AVFNLBS7320Mock-SAS22020300003A1952J0003",
      "inquiredSpectrum": [
        {
          "highFrequency": 3700000000,
          "lowFrequency": 3550000000
        }
      ]
    },
    {
      "cbsdId": "2AVFNLBS7320Mock-SAS22020300003A1952J0004",
      "inquiredSpectrum": [
        {
          "highFrequency": 3700000000,
          "lowFrequency": 3550000000
        }
      ]
    }
  ]
}
2020-02-10T02:50:27.286Z - INFO - engine sent successfully, the response to CBRS : {
  "spectrumInquiryResponse": [
    {
      "availableChannel": [
        {
          "channelType": "GAA",
          "frequencyRange": {
            "highFrequency": 3700000000,
            "lowFrequency": 3550000000
          },
          "ruleApplied": "FCC_PART_96"
        }
      ],
      "cbsdId": "2AVFNLBS7320Mock-SAS22020300003A1952J0003",
      "response": {
        "responseCode": 0
      }
    },
    {
      "availableChannel": [
        {
          "channelType": "GAA",
          "frequencyRange": {
            "highFrequency": 3700000000,
            "lowFrequency": 3550000000
          },
          "ruleApplied": "FCC_PART_96"
        }
      ],
      "cbsdId": "2AVFNLBS7320Mock-SAS22020300003A1952J0004",
      "response": {
        "responseCode": 0
      }
    }
  ]
}
```

```
"cbsdId": "2AVFNLBS7320Mock-SAS22020300003A1952J0004",
"response": {
  "responseCode": 0
}
]
}
2020-02-10T02:50:28.713Z - INFO - grant request from CBRS : {
  "grantRequest": [
    {
      "cbsdId": "2AVFNLBS7320Mock-SAS22020300003A1952J0003",
      "operationParam": {
        "maxEirp": 34,
        "operationFrequencyRange": {
          "highFrequency": 3570000000,
          "lowFrequency": 3550000000
        }
      }
    },
    {
      "cbsdId": "2AVFNLBS7320Mock-SAS22020300003A1952J0004",
      "operationParam": {
        "maxEirp": 34,
        "operationFrequencyRange": {
          "highFrequency": 3570000000,
          "lowFrequency": 3550000000
        }
      }
    }
  ]
}
2020-02-10T02:50:28.727Z - INFO - engine sent successfully, the response to CBRS : {
  "grantResponse": [
    {
      "cbsdId": "2AVFNLBS7320Mock-SAS22020300003A1952J0003",
      "channelType": "GAA",
      "grantExpireTime": "2020-02-17T02:50:28Z",
      "grantId": "25775012",
      "heartbeatInterval": 60,
      "response": {
        "responseCode": 0
      }
    },
    {
      "cbsdId": "2AVFNLBS7320Mock-SAS22020300003A1952J0004",
      "channelType": "GAA",
      "grantExpireTime": "2020-02-17T02:50:28Z",
      "grantId": "101092050",
      "heartbeatInterval": 60,
      "response": {
        "responseCode": 0
      }
    }
  ]
}
```

```
}
]
}
2020-02-10T02:50:29.253Z - INFO - heartbeat request from CBRS : {
  "heartbeatRequest": [
    {
      "cbsdId": "2AVFNLBS7320Mock-SAS22020300003A1952J0003",
      "grantId": "25775012",
      "grantRenew": false,
      "operationState": "GRANTED"
    },
    {
      "cbsdId": "2AVFNLBS7320Mock-SAS22020300003A1952J0004",
      "grantId": "101092050",
      "grantRenew": false,
      "operationState": "GRANTED"
    }
  ]
}
2020-02-10T02:50:29.267Z - INFO - engine sent successfully, the response to CBRS : {
  "heartbeatResponse": [
    {
      "cbsdId": "2AVFNLBS7320Mock-SAS22020300003A1952J0003",
      "grantId": "25775012",
      "response": {
        "responseCode": 0
      },
      "transmitExpireTime": "2020-02-10T02:53:49Z"
    },
    {
      "cbsdId": "2AVFNLBS7320Mock-SAS22020300003A1952J0004",
      "grantId": "101092050",
      "response": {
        "responseCode": 0
      },
      "transmitExpireTime": "2020-02-10T02:53:49Z"
    }
  ]
}
2020-02-10T02:50:54.615Z - INFO - heartbeat request from CBRS : {
  "heartbeatRequest": [
    {
      "cbsdId": "2AVFNLBS7320Mock-SAS22020300003A1952J0003",
      "grantId": "25775012",
      "grantRenew": false,
      "operationState": "AUTHORIZED"
    },
    {
      "cbsdId": "2AVFNLBS7320Mock-SAS22020300003A1952J0004",
      "grantId": "101092050",
      "grantRenew": false,
      "operationState": "AUTHORIZED"
    }
  ]
}
```

```

    }
  ]
}
2020-02-10T02:50:54.617Z - INFO - Time interval between two heartbeat request messages is: 25.362,
limit is: 65.0
2020-02-10T02:50:54.624Z - INFO - Time interval between two heartbeat request messages is: 25.362,
limit is: 65.0
2020-02-10T02:50:54.631Z - INFO - engine sent successfully, the response to CBRS : {
  "heartbeatResponse": [
    {
      "cbsdId": "2AVFNLBS7320Mock-SAS22020300003A1952J0003",
      "grantId": "25775012",
      "response": {
        "responseCode": 0
      },
      "transmitExpireTime": "2020-02-10T02:54:14Z"
    },
    {
      "cbsdId": "2AVFNLBS7320Mock-SAS22020300003A1952J0004",
      "grantId": "101092050",
      "response": {
        "responseCode": 0
      },
      "transmitExpireTime": "2020-02-10T02:54:14Z"
    }
  ]
}
2020-02-10T02:51:54.615Z - INFO - heartbeat request from CBRS : {
  "heartbeatRequest": [
    {
      "cbsdId": "2AVFNLBS7320Mock-SAS22020300003A1952J0003",
      "grantId": "25775012",
      "grantRenew": false,
      "operationState": "AUTHORIZED"
    },
    {
      "cbsdId": "2AVFNLBS7320Mock-SAS22020300003A1952J0004",
      "grantId": "101092050",
      "grantRenew": false,
      "operationState": "AUTHORIZED"
    }
  ]
}
2020-02-10T02:51:54.615Z - INFO - Time interval between two heartbeat request messages is: 59.999,
limit is: 65.0
2020-02-10T02:51:54.622Z - INFO - Time interval between two heartbeat request messages is: 59.999,
limit is: 65.0
2020-02-10T02:51:54.630Z - INFO - engine sent successfully, the response to CBRS : {
  "heartbeatResponse": [
    {
      "cbsdId": "2AVFNLBS7320Mock-SAS22020300003A1952J0003",
      "grantId": "25775012",

```

```

        "response": {
            "responseCode": 0
        },
        "transmitExpireTime": "2020-02-10T02:55:14Z"
    },
    {
        "cbsdId": "2AVFNLBS7320Mock-SAS22020300003A1952J0004",
        "grantId": "101092050",
        "response": {
            "responseCode": 0
        },
        "transmitExpireTime": "2020-02-10T02:55:14Z"
    }
]
}
2020-02-10T02:52:54.619Z - INFO - heartbeat request from CBRS : {
    "heartbeatRequest": [
        {
            "cbsdId": "2AVFNLBS7320Mock-SAS22020300003A1952J0003",
            "grantId": "25775012",
            "grantRenew": false,
            "operationState": "AUTHORIZED"
        },
        {
            "cbsdId": "2AVFNLBS7320Mock-SAS22020300003A1952J0004",
            "grantId": "101092050",
            "grantRenew": false,
            "operationState": "AUTHORIZED"
        }
    ]
}
2020-02-10T02:52:54.621Z - INFO - Time interval between two heartbeat request messages is: 60.005,
limit is: 65.0
2020-02-10T02:52:54.628Z - INFO - Time interval between two heartbeat request messages is: 60.005,
limit is: 65.0
2020-02-10T02:52:54.634Z - INFO - engine sent successfully, the response to CBRS : {
    "heartbeatResponse": [
        {
            "cbsdId": "2AVFNLBS7320Mock-SAS22020300003A1952J0003",
            "grantId": "25775012",
            "response": {
                "responseCode": 0
            },
            "transmitExpireTime": "2020-02-10T02:56:14Z"
        },
        {
            "cbsdId": "2AVFNLBS7320Mock-SAS22020300003A1952J0004",
            "grantId": "101092050",
            "response": {
                "responseCode": 0
            },
            "transmitExpireTime": "2020-02-10T02:56:14Z"
        }
    ]
}

```

```
}
]
}
2020-02-10T02:53:54.611Z - INFO - heartbeat request from CBRS : {
  "heartbeatRequest": [
    {
      "cbsdId": "2AVFNLBS7320Mock-SAS22020300003A1952J0003",
      "grantId": "25775012",
      "grantRenew": false,
      "operationState": "AUTHORIZED"
    },
    {
      "cbsdId": "2AVFNLBS7320Mock-SAS22020300003A1952J0004",
      "grantId": "101092050",
      "grantRenew": false,
      "operationState": "AUTHORIZED"
    }
  ]
}
2020-02-10T02:53:54.611Z - INFO - Time interval between two heartbeat request messages is: 59.991,
limit is: 65.0
2020-02-10T02:53:54.618Z - INFO - Time interval between two heartbeat request messages is: 59.991,
limit is: 65.0
2020-02-10T02:53:54.627Z - INFO - engine sent successfully, the response to CBRS : {
  "heartbeatResponse": [
    {
      "cbsdId": "2AVFNLBS7320Mock-SAS22020300003A1952J0003",
      "grantId": "25775012",
      "response": {
        "responseCode": 0
      },
      "transmitExpireTime": "2020-02-10T02:57:14Z"
    },
    {
      "cbsdId": "2AVFNLBS7320Mock-SAS22020300003A1952J0004",
      "grantId": "101092050",
      "response": {
        "responseCode": 0
      },
      "transmitExpireTime": "2020-02-10T02:57:14Z"
    }
  ]
}
2020-02-10T02:54:54.604Z - INFO - heartbeat request from CBRS : {
  "heartbeatRequest": [
    {
      "cbsdId": "2AVFNLBS7320Mock-SAS22020300003A1952J0003",
      "grantId": "25775012",
      "grantRenew": false,
      "operationState": "AUTHORIZED"
    },
    {

```

```
"cbsdId": "2AVFNLBS7320Mock-SAS22020300003A1952J0004",
"grantId": "101092050",
"grantRenew": false,
"operationState": "AUTHORIZED"
}
]
}
2020-02-10T02:54:54.605Z - INFO - Time interval between two heartbeat request messages is: 59.993,
limit is: 65.0
2020-02-10T02:54:54.612Z - INFO - Time interval between two heartbeat request messages is: 59.993,
limit is: 65.0
2020-02-10T02:54:54.622Z - INFO - engine sent successfully, the response to CBRS : {
  "heartbeatResponse": [
    {
      "cbsdId": "2AVFNLBS7320Mock-SAS22020300003A1952J0003",
      "grantId": "25775012",
      "response": {
        "responseCode": 0
      },
      "transmitExpireTime": "2020-02-10T02:58:14Z"
    },
    {
      "cbsdId": "2AVFNLBS7320Mock-SAS22020300003A1952J0004",
      "grantId": "101092050",
      "response": {
        "responseCode": 0
      },
      "transmitExpireTime": "2020-02-10T02:58:14Z"
    }
  ]
}
2020-02-10T02:54:55.644Z - INFO - arrived to nstep starting question answer session with the
technician
2020-02-10T02:54:55.645Z - INFO - the question is : Did CBSD1 transmit power prior to AUTHORIZED
state (first successful HBT response)? please choose one of the answers :
2020-02-10T02:55:17.411Z - INFO - for the question : Did CBSD1 transmit power prior to AUTHORIZED
state (first successful HBT response)? , the user choose n
2020-02-10T02:55:17.411Z - INFO - the question is : Did CBSD1 transmit only within the frequency
range specified in its grantRequest message? please choose one of the answers :
2020-02-10T02:55:44.411Z - INFO - for the question : Did CBSD1 transmit only within the frequency
range specified in its grantRequest message? , the user choose y
2020-02-10T02:55:44.413Z - INFO - the question is : Did CBSD2 transmit power prior to AUTHORIZED
state (first successful HBT response)? please choose one of the answers :
2020-02-10T02:55:46.966Z - INFO - for the question : Did CBSD2 transmit power prior to AUTHORIZED
state (first successful HBT response)? , the user choose n
2020-02-10T02:55:46.967Z - INFO - the question is : Did CBSD2 transmit only within the frequency
range specified in its grantRequest message? please choose one of the answers :
2020-02-10T02:55:47.786Z - INFO - for the question : Did CBSD2 transmit only within the frequency
range specified in its grantRequest message? , the user choose y
2020-02-10T02:56:03.118Z - INFO - The final result of the test : WINNF.FT.D.HBT.2 is - passed and :the
additional comments for the current test are : CBSD1 and CBSD2 start transmission at T02:50:34
```

Test Log for WINNF.FT.C.HBT.3 Test Case ID

2020-02-10T03:08:23.437Z - INFO - WINNF TEST HARNESS RELEASE: 1.0.0.3 - 2018-November-13
 2020-02-10T03:08:23.437Z - INFO - the selected test from the user : WINNF.FT.C.HBT.3 is starting now
 2020-02-10T03:08:26.704Z - INFO - registration request from CBRS : {

```
"registrationRequest": [
  {
    "airInterface": {
      "radioTechnology": "E_UTRA",
      "supportedSpec": "FFS"
    },
    "callSign": "LEAX",
    "cbsdCategory": "B",
    "cbsdInfo": {
      "model": "LBS7320",
      "softwareVersion": "LeaxBTS_V2.0.4.1",
      "vendor": "Radisys"
    },
    "cbsdSerialNumber": "22020300003A1952J0003",
    "cpiSignatureData": {
      "digitalSignature":
        "BWht6JDzb959k1uNW3PmDAADeZHS4aut7llhyxqRHfYMuwikYqcVKeGpHGe7esFVnBcQ1-Gli2YGsL
        ztNgmUcjZ3N7ez3WAXjcIV001gQzGWclD51xmqsVgQ948Pp1zV_EDNnDw8JVnK01-JuCPQeFsHP4F2
        JrvBTMuLSLe_-L8lxFF6BILsgO9807CW6b6LsN7HM43TOeWMqCHVh-WEEGI3ndtwAfXbF5rS6f3NbP
        RWwwNkMwf12vTbxBB0u-RXPPXG6zH81RVnJ1AA19Uivs8SU5DUsaVWSFKkWLeoO4MPV7i5n907w
        yDzsfZo-lrNB-43H-6Rf37pOffOF-7Yqw",
      "encodedCpiSignedData":
        "eyJjYnNkU2VyaWFsTnVtYmVyljoiMjIwMjE0MDAwMDNBMTk1MkowMDAzliwiZmNjSWQiOilyQVZGtK
        xCUzczMjAiLCJpbnN0YWxsYXRpb25QYXJhbSI6eyJhbnRlbn5hQXppbXV0aCI6NywiYW50ZW5uYUJl
        YW13aWR0aCI6NjUsImFudGVubmFEb3dudGlsdCI6MCwiYW50ZW5uYUdhW4iOiE2LjUsImhlaWdod
        CI6MywiaGVpZ2h0VHlwZSI6IkFHTCIsImluZG9vckRlcGxveW1lbnQiOmZhbHNILCJsYXRpdHVkZSI6M
        zcuNDExMzMxLCJsb25naXR1ZGU0aXNjaWJlMDE4OTQyfSwicHJvZmVzc2lvdjVbmFsSW5zdGFsbGVyRG
        F0YSi6eyJjcGlJZCI6IjAwMSIsImNwaU5hbWUiOiJ5dWkiLCJpbnN0YWxsQ2VydGlmYWVhdGlvdjVlRpbW
        UiOilyMDIwLTAYLTEwVDAzOjA4OjMyWiJ9fQ",
      "protectedHeader": "eyJhbnRlbn5hQXppbXV0aCI6NywiYW50ZW5uYUJlYW13aWR0aCI6NjUsImFudGVubmFEb3dudGlsdCI6MCwiYW50ZW5uYUdhW4iOiE2LjUsImhlaWdodCI6MywiaGVpZ2h0VHlwZSI6IkFHTCIsImluZG9vckRlcGxveW1lbnQiOmZhbHNILCJsYXRpdHVkZSI6MzcuNDExMzMxLCJsb25naXR1ZGU0aXNjaWJlMDE4OTQyfSwicHJvZmVzc2lvdjVbmFsSW5zdGFsbGVyRGF0YSi6eyJjcGlJZCI6IjAwMSIsImNwaU5hbWUiOiJ5dWkiLCJpbnN0YWxsQ2VydGlmYWVhdGlvdjVlRpbWUiOilyMDIwLTAYLTEwVDAzOjA4OjMyWiJ9fQ"
    },
    "fccId": "2AVFNLBS7320",
    "groupingParam": [
      {
        "groupId": "GW",
        "groupType": "INTERFERENCE_COORDINATION"
      }
    ],
    "measCapability": [
      "RECEIVED_POWER_WITH_GRANT",
      "RECEIVED_POWER_WITHOUT_GRANT"
    ],
    "userId": "GW"
  }
]
```

2020-02-10T03:08:26.815Z - INFO - Registration message contains cpiSignatureData
 2020-02-10T03:08:26.815Z - INFO - protectedHeader = {u'alg': u'RS256', u'typ': u'JWT'}

```

2020-02-10T03:08:26.815Z - INFO - encodedCpiSignedData contents = {
  "installationParam": {
    "antennaAzimuth": 7,
    "heightType": "AGL",
    "longitude": -122.018942,
    "height": 3,
    "indoorDeployment": false,
    "latitude": 37.411331,
    "antennaDowntilt": 0,
    "antennaBeamwidth": 65,
    "antennaGain": 16.5
  },
  "fccId": "2AVFNLBS7320",
  "professionalInstallerData": {
    "cpiName": "yui",
    "installCertificationTime": "2020-02-10T03:08:32Z",
    "cpild": "001"
  },
  "cbsdSerialNumber": "22020300003A1952J0003"
}
2020-02-10T03:08:26.816Z - INFO - verified signature on cpiSignatureData
2020-02-10T03:08:26.823Z - INFO - cpiSignatureData data successfully validated against jsonschema
2020-02-10T03:08:26.828Z - INFO - engine sent successfully, the response to CBRS : {
  "registrationResponse": [
    {
      "cbsdId": "2AVFNLBS7320Mock-SAS22020300003A1952J0003",
      "response": {
        "responseCode": 0
      }
    }
  ]
}
2020-02-10T03:08:27.084Z - INFO - spectrumInquiry request from CBRS : {
  "spectrumInquiryRequest": [
    {
      "cbsdId": "2AVFNLBS7320Mock-SAS22020300003A1952J0003",
      "inquiredSpectrum": [
        {
          "highFrequency": 3700000000,
          "lowFrequency": 3550000000
        }
      ]
    }
  ]
}
2020-02-10T03:08:27.092Z - INFO - engine sent successfully, the response to CBRS : {
  "spectrumInquiryResponse": [
    {
      "availableChannel": [
        {
          "channelType": "GAA",
          "frequencyRange": {

```

```

        "highFrequency": 3700000000,
        "lowFrequency": 3550000000
    },
    "ruleApplied": "FCC_PART_96"
}
],
"cbstdId": "2AVFNLBS7320Mock-SAS22020300003A1952J0003",
"response": {
    "responseCode": 0
}
}
]
}
2020-02-10T03:08:27.700Z - INFO - grant request from CBRS : {
    "grantRequest": [
        {
            "cbstdId": "2AVFNLBS7320Mock-SAS22020300003A1952J0003",
            "operationParam": {
                "maxEirp": 34,
                "operationFrequencyRange": {
                    "highFrequency": 3570000000,
                    "lowFrequency": 3550000000
                }
            }
        }
    ]
}
}
2020-02-10T03:08:27.709Z - INFO - engine sent successfully, the response to CBRS : {
    "grantResponse": [
        {
            "cbstdId": "2AVFNLBS7320Mock-SAS22020300003A1952J0003",
            "channelType": "GAA",
            "grantExpireTime": "2020-02-17T03:08:27Z",
            "grantId": "156790542",
            "heartbeatInterval": 60,
            "response": {
                "responseCode": 0
            }
        }
    ]
}
}
2020-02-10T03:08:28.006Z - INFO - heartbeat request from CBRS : {
    "heartbeatRequest": [
        {
            "cbstdId": "2AVFNLBS7320Mock-SAS22020300003A1952J0003",
            "grantId": "156790542",
            "grantRenew": false,
            "operationState": "GRANTED"
        }
    ]
}
}
2020-02-10T03:08:28.016Z - INFO - engine sent successfully, the response to CBRS : {

```

```
"heartbeatResponse": [
  {
    "cbsdId": "2AVFNLBS7320Mock-SAS22020300003A1952J0003",
    "grantId": "156790542",
    "response": {
      "responseCode": 0
    },
    "transmitExpireTime": "2020-02-10T03:11:48Z"
  }
]
}
2020-02-10T03:08:54.562Z - INFO - heartbeat request from CBRS : {
  "heartbeatRequest": [
    {
      "cbsdId": "2AVFNLBS7320Mock-SAS22020300003A1952J0003",
      "grantId": "156790542",
      "grantRenew": false,
      "operationState": "AUTHORIZED"
    }
  ]
}
2020-02-10T03:08:54.563Z - INFO - Time interval between two heartbeat request messages is: 26.555,
limit is: 65.0
2020-02-10T03:08:54.571Z - INFO - engine sent successfully, the response to CBRS : {
  "heartbeatResponse": [
    {
      "cbsdId": "2AVFNLBS7320Mock-SAS22020300003A1952J0003",
      "grantId": "156790542",
      "response": {
        "responseCode": 0
      },
      "transmitExpireTime": "2020-02-10T03:12:14Z"
    }
  ]
}
2020-02-10T03:09:54.553Z - INFO - heartbeat request from CBRS : {
  "heartbeatRequest": [
    {
      "cbsdId": "2AVFNLBS7320Mock-SAS22020300003A1952J0003",
      "grantId": "156790542",
      "grantRenew": false,
      "operationState": "AUTHORIZED"
    }
  ]
}
2020-02-10T03:09:54.555Z - INFO - Time interval between two heartbeat request messages is: 59.992,
limit is: 65.0
2020-02-10T03:09:54.562Z - INFO - engine sent successfully, the response to CBRS : {
  "heartbeatResponse": [
    {
      "cbsdId": "2AVFNLBS7320Mock-SAS22020300003A1952J0003",
      "grantId": "156790542",
```

```

        "response": {
            "responseCode": 0
        },
        "transmitExpireTime": "2020-02-10T03:13:14Z"
    }
}
}
2020-02-10T03:10:54.552Z - INFO - heartbeat request from CBRS : {
    "heartbeatRequest": [
        {
            "cbsdId": "2AVFNLBS7320Mock-SAS22020300003A1952J0003",
            "grantId": "156790542",
            "grantRenew": false,
            "operationState": "AUTHORIZED"
        }
    ]
}
}
2020-02-10T03:10:54.553Z - INFO - Time interval between two heartbeat request messages is: 59.998,
limit is: 65.0
2020-02-10T03:10:54.561Z - INFO - engine sent successfully, the response to CBRS : {
    "heartbeatResponse": [
        {
            "cbsdId": "2AVFNLBS7320Mock-SAS22020300003A1952J0003",
            "grantId": "156790542",
            "response": {
                "responseCode": 105
            },
            "transmitExpireTime": "2020-02-10T03:10:54Z"
        }
    ]
}
}
2020-02-10T03:10:56.447Z - INFO - arrived to nstep starting question answer session with the
technician
2020-02-10T03:10:56.450Z - 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 :
2020-02-10T03:11:18.867Z - INFO - for the question : Did the CBSD stop RF transmission within 60
seconds of receiving Heartbeat response with responseCode = 105? , the user choose y
2020-02-10T03:12:12.848Z - 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 transmission at T03:10:56

```



```
2020-02-10T03:22:26.756Z - INFO - encodedCpiSignedData contents = {
  "installationParam": {
    "antennaAzimuth": 7,
    "heightType": "AGL",
    "longitude": -122.018942,
    "height": 3,
    "indoorDeployment": false,
    "latitude": 37.411331,
    "antennaDowntilt": 0,
    "antennaBeamwidth": 65,
    "antennaGain": 16.5
  },
  "fccId": "2AVFNLBS7320",
  "professionalInstallerData": {
    "cpiName": "yui",
    "installCertificationTime": "2020-02-10T03:22:32Z",
    "cpild": "001"
  },
  "cbsdSerialNumber": "22020300003A1952J0003"
}
2020-02-10T03:22:26.757Z - INFO - verified signature on cpiSignatureData
2020-02-10T03:22:26.763Z - INFO - cpiSignatureData data successfully validated against jsonschema
2020-02-10T03:22:26.766Z - INFO - engine sent successfully, the response to CBRS : {
  "registrationResponse": [
    {
      "cbsdId": "2AVFNLBS7320Mock-SAS22020300003A1952J0003",
      "response": {
        "responseCode": 0
      }
    }
  ]
}
2020-02-10T03:22:26.966Z - INFO - spectrumInquiry request from CBRS : {
  "spectrumInquiryRequest": [
    {
      "cbsdId": "2AVFNLBS7320Mock-SAS22020300003A1952J0003",
      "inquiredSpectrum": [
        {
          "highFrequency": 3700000000,
          "lowFrequency": 3550000000
        }
      ]
    }
  ]
}
2020-02-10T03:22:26.974Z - INFO - engine sent successfully, the response to CBRS : {
  "spectrumInquiryResponse": [
    {
      "availableChannel": [
        {
          "channelType": "GAA",
          "frequencyRange": {
```

```

        "highFrequency": 3700000000,
        "lowFrequency": 3550000000
    },
    "ruleApplied": "FCC_PART_96"
}
],
"cbstdId": "2AVFNLBS7320Mock-SAS22020300003A1952J0003",
"response": {
    "responseCode": 0
}
}
]
}
2020-02-10T03:22:27.736Z - INFO - grant request from CBRS : {
    "grantRequest": [
        {
            "cbstdId": "2AVFNLBS7320Mock-SAS22020300003A1952J0003",
            "operationParam": {
                "maxEirp": 34,
                "operationFrequencyRange": {
                    "highFrequency": 3570000000,
                    "lowFrequency": 3550000000
                }
            }
        }
    ]
}
}
2020-02-10T03:22:27.743Z - INFO - engine sent successfully, the response to CBRS : {
    "grantResponse": [
        {
            "cbstdId": "2AVFNLBS7320Mock-SAS22020300003A1952J0003",
            "channelType": "GAA",
            "grantExpireTime": "2020-02-17T03:22:27Z",
            "grantId": "583382583",
            "heartbeatInterval": 60,
            "response": {
                "responseCode": 0
            }
        }
    ]
}
}
2020-02-10T03:22:28.346Z - INFO - heartbeat request from CBRS : {
    "heartbeatRequest": [
        {
            "cbstdId": "2AVFNLBS7320Mock-SAS22020300003A1952J0003",
            "grantId": "583382583",
            "grantRenew": false,
            "operationState": "GRANTED"
        }
    ]
}
}
2020-02-10T03:22:28.355Z - INFO - engine sent successfully, the response to CBRS : {

```

```
"heartbeatResponse": [
  {
    "cbsdId": "2AVFNLBS7320Mock-SAS22020300003A1952J0003",
    "grantId": "583382583",
    "response": {
      "responseCode": 501
    },
    "transmitExpireTime": "2020-02-10T03:22:28Z"
  }
]
}
2020-02-10T03:22:28.385Z - INFO - relinquishment request from CBRS : {
  "relinquishmentRequest": [
    {
      "cbsdId": "2AVFNLBS7320Mock-SAS22020300003A1952J0003",
      "grantId": "583382583"
    }
  ]
}
2020-02-10T03:22:28.417Z - INFO - engine sent successfully, the response to CBRS : {
  "relinquishmentResponse": [
    {
      "cbsdId": "2AVFNLBS7320Mock-SAS22020300003A1952J0003",
      "grantId": "583382583",
      "response": {
        "responseCode": 0
      }
    }
  ]
}
2020-02-10T03:22:30.196Z - INFO - arrived to nstep starting question answer session with the technician
2020-02-10T03:22:30.197Z - INFO - the question is : Did the CBSD transmit at any time during the test?
please choose one of the answers :
2020-02-10T03:23:14.697Z - INFO - for the question : Did the CBSD transmit at any time during the test? , the user choose n
2020-02-10T03:23:15.805Z - INFO - The final result of the test : WINNF.FT.C.HBT.5 is - passed
```

Test Log for WINNF.FT.C.HBT.6 Test Case ID

2020-02-10T03:28:15.572Z - INFO - WINNF TEST HARNESS RELEASE: 1.0.0.3 - 2018-November-13
 2020-02-10T03:28:15.573Z - INFO - the selected test from the user : WINNF.FT.C.HBT.6 is starting now
 2020-02-10T03:28:26.665Z - INFO - registration request from CBRS : {

```
"registrationRequest": [
  {
    "airInterface": {
      "radioTechnology": "E_UTRA",
      "supportedSpec": "FFS"
    },
    "callSign": "LEAX",
    "cbsdCategory": "B",
    "cbsdInfo": {
      "model": "LBS7320",
      "softwareVersion": "LeaxBTS_V2.0.4.1",
      "vendor": "Radisys"
    },
    "cbsdSerialNumber": "22020300003A1952J0003",
    "cpiSignatureData": {
      "digitalSignature":
        "qPXYh7DOCEjPEV2p1gXuue-xZ7ODiTgWxR2VH8ltCVPWRYLFahlsF1mU-Yvlebm477Hog_ZsjYEW
        Nb3ctU7C42i_0FH3qMIQ1sCtzQbBYgv7oQ0UWYkPH86v5jNPO-7jh5Dgzd4yNjoXdnGqNx3nFt2VRLE
        VjgbuFfk_ECT8-giN8BuzTU85NS8eBlsus99_YltdDoCMjJtJSS_XEJCc5P8Yi0DPVsMf2K2MceU3aQsLi
        t_eTi5gRg5wwtHRF_zTjCVN1NVY9Zh0leHXUv1WpaXaywqWzggqWTiUN_oNfjDsqmTvLKCRCFI6_uM
        7_UWBrMXP6gj_HRAVRaAqlZwTcQ",
      "encodedCpiSignedData":
        "eyJjYnNkU2VyaWFsTnVtYmVyljoiMjIwMjE5MDAwMDNBMTk1MkowMDAzliwiZmNjSWQiOilyQVZGtK
        xCUzczMjAiLCJpbnN0YWxsYXRpb25QYXJhbSI6eyJhbnRlbn5hQXppbXV0aCI6NywiYW50ZW5uYUJl
        YW13aWR0aCI6NjUsImFudGVubmFEb3dudGlsdCI6MCwiYW50ZW5uYUdhW4iOiE2LjUsImhlaWdod
        CI6MywiaGVpZ2h0VHlwZSI6IkFHTCIsImluZG9vckRlcGxveW1lbnQiOmZhbnHNILCJsYXRpdHVkZSI6M
        zcuNDExMzMxLCJsb25naXR1ZGUiOi0xMjluMDE4OTQyfSwicHJvZmVzc2lvdjVbmFsSW5zdGFsbGVyRG
        F0YSI6eyJjcGlJZCI6IjAwMSIsImNwaU5hbWUiOiJ5dWkiLCJpbnN0YWxsQ2VydgGImaWNhdGlvbIRpbW
        UiOilyMDIwLTAYLTEwVDAzOjI4OjMyWiJ9fQ",
      "protectedHeader": "eyJhbnRlbn5hQXppbXV0aCI6NywiYW50ZW5uYUJlYW13aWR0aCI6NjUsImFudGVubmFEb3dudGlsdCI6MCwiYW50ZW5uYUdhW4iOiE2LjUsImhlaWdodCI6MywiaGVpZ2h0VHlwZSI6IkFHTCIsImluZG9vckRlcGxveW1lbnQiOmZhbnHNILCJsYXRpdHVkZSI6MzcuNDExMzMxLCJsb25naXR1ZGUiOi0xMjluMDE4OTQyfSwicHJvZmVzc2lvdjVbmFsSW5zdGFsbGVyRGF0YSI6eyJjcGlJZCI6IjAwMSIsImNwaU5hbWUiOiJ5dWkiLCJpbnN0YWxsQ2VydgGImaWNhdGlvbIRpbWUiOilyMDIwLTAYLTEwVDAzOjI4OjMyWiJ9fQ"
    },
    "fccId": "2AVFNLBS7320",
    "groupingParam": [
      {
        "groupId": "GW",
        "groupType": "INTERFERENCE_COORDINATION"
      }
    ],
    "measCapability": [
      "RECEIVED_POWER_WITH_GRANT",
      "RECEIVED_POWER_WITHOUT_GRANT"
    ],
    "userId": "GW"
  }
]
```

2020-02-10T03:28:26.762Z - INFO - Registration message contains cpiSignatureData
 2020-02-10T03:28:26.762Z - INFO - protectedHeader = {u'alg': u'RS256', u'typ': u'JWT'}

```

2020-02-10T03:28:26.763Z - INFO - encodedCpiSignedData contents = {
  "installationParam": {
    "antennaAzimuth": 7,
    "heightType": "AGL",
    "longitude": -122.018942,
    "height": 3,
    "indoorDeployment": false,
    "latitude": 37.411331,
    "antennaDowntilt": 0,
    "antennaBeamwidth": 65,
    "antennaGain": 16.5
  },
  "fccId": "2AVFNLBS7320",
  "professionalInstallerData": {
    "cpiName": "yui",
    "installCertificationTime": "2020-02-10T03:28:32Z",
    "cpild": "001"
  },
  "cbsdSerialNumber": "22020300003A1952J0003"
}
2020-02-10T03:28:26.763Z - INFO - verified signature on cpiSignatureData
2020-02-10T03:28:26.769Z - INFO - cpiSignatureData data successfully validated against jsonschema
2020-02-10T03:28:26.772Z - INFO - engine sent successfully, the response to CBRS : {
  "registrationResponse": [
    {
      "cbsdId": "2AVFNLBS7320Mock-SAS22020300003A1952J0003",
      "response": {
        "responseCode": 0
      }
    }
  ]
}
2020-02-10T03:28:26.976Z - INFO - spectrumInquiry request from CBRS : {
  "spectrumInquiryRequest": [
    {
      "cbsdId": "2AVFNLBS7320Mock-SAS22020300003A1952J0003",
      "inquiredSpectrum": [
        {
          "highFrequency": 3700000000,
          "lowFrequency": 3550000000
        }
      ]
    }
  ]
}
2020-02-10T03:28:26.984Z - INFO - engine sent successfully, the response to CBRS : {
  "spectrumInquiryResponse": [
    {
      "availableChannel": [
        {
          "channelType": "GAA",
          "frequencyRange": {

```

```

        "highFrequency": 3700000000,
        "lowFrequency": 3550000000
    },
    "ruleApplied": "FCC_PART_96"
}
],
"cbstdId": "2AVFNLBS7320Mock-SAS22020300003A1952J0003",
"response": {
    "responseCode": 0
}
}
]
}
2020-02-10T03:28:27.641Z - INFO - grant request from CBRS : {
    "grantRequest": [
        {
            "cbstdId": "2AVFNLBS7320Mock-SAS22020300003A1952J0003",
            "operationParam": {
                "maxEirp": 34,
                "operationFrequencyRange": {
                    "highFrequency": 3570000000,
                    "lowFrequency": 3550000000
                }
            }
        }
    ]
}
}
2020-02-10T03:28:27.650Z - INFO - engine sent successfully, the response to CBRS : {
    "grantResponse": [
        {
            "cbstdId": "2AVFNLBS7320Mock-SAS22020300003A1952J0003",
            "channelType": "GAA",
            "grantExpireTime": "2020-02-17T03:28:27Z",
            "grantId": "515460927",
            "heartbeatInterval": 60,
            "response": {
                "responseCode": 0
            }
        }
    ]
}
}
2020-02-10T03:28:28.026Z - INFO - heartbeat request from CBRS : {
    "heartbeatRequest": [
        {
            "cbstdId": "2AVFNLBS7320Mock-SAS22020300003A1952J0003",
            "grantId": "515460927",
            "grantRenew": false,
            "operationState": "GRANTED"
        }
    ]
}
}
2020-02-10T03:28:28.033Z - INFO - engine sent successfully, the response to CBRS : {

```

```
"heartbeatResponse": [
  {
    "cbsdId": "2AVFNLBS7320Mock-SAS22020300003A1952J0003",
    "grantId": "515460927",
    "response": {
      "responseCode": 0
    },
    "transmitExpireTime": "2020-02-10T03:31:48Z"
  }
]
}
2020-02-10T03:28:54.507Z - INFO - heartbeat request from CBRS : {
  "heartbeatRequest": [
    {
      "cbsdId": "2AVFNLBS7320Mock-SAS22020300003A1952J0003",
      "grantId": "515460927",
      "grantRenew": false,
      "operationState": "AUTHORIZED"
    }
  ]
}
2020-02-10T03:28:54.509Z - INFO - Time interval between two heartbeat request messages is: 26.483,
limit is: 65.0
2020-02-10T03:28:54.516Z - INFO - engine sent successfully, the response to CBRS : {
  "heartbeatResponse": [
    {
      "cbsdId": "2AVFNLBS7320Mock-SAS22020300003A1952J0003",
      "grantId": "515460927",
      "response": {
        "responseCode": 0
      },
      "transmitExpireTime": "2020-02-10T03:32:14Z"
    }
  ]
}
2020-02-10T03:29:54.505Z - INFO - heartbeat request from CBRS : {
  "heartbeatRequest": [
    {
      "cbsdId": "2AVFNLBS7320Mock-SAS22020300003A1952J0003",
      "grantId": "515460927",
      "grantRenew": false,
      "operationState": "AUTHORIZED"
    }
  ]
}
2020-02-10T03:29:54.506Z - INFO - Time interval between two heartbeat request messages is: 59.996,
limit is: 65.0
2020-02-10T03:29:54.513Z - INFO - engine sent successfully, the response to CBRS : {
  "heartbeatResponse": [
    {
      "cbsdId": "2AVFNLBS7320Mock-SAS22020300003A1952J0003",
      "grantId": "515460927",
```



```
        "response": {
            "responseCode": 0
        },
        "transmitExpireTime": "2020-02-10T03:33:14Z"
    }
}
2020-02-10T03:30:54.505Z - INFO - heartbeat request from CBRS : {
    "heartbeatRequest": [
        {
            "cbsdId": "2AVFNLBS7320Mock-SAS22020300003A1952J0003",
            "grantId": "515460927",
            "grantRenew": false,
            "operationState": "AUTHORIZED"
        }
    ]
}
2020-02-10T03:30:54.506Z - INFO - Time interval between two heartbeat request messages is: 60.0,
limit is: 65.0
2020-02-10T03:30:54.513Z - INFO - engine sent successfully, the response to CBRS : {
    "heartbeatResponse": [
        {
            "cbsdId": "2AVFNLBS7320Mock-SAS22020300003A1952J0003",
            "grantId": "515460927",
            "response": {
                "responseCode": 501
            },
            "transmitExpireTime": "2020-02-10T03:30:54Z"
        }
    ]
}
2020-02-10T03:30:54.687Z - INFO - relinquishment request from CBRS : {
    "relinquishmentRequest": [
        {
            "cbsdId": "2AVFNLBS7320Mock-SAS22020300003A1952J0003",
            "grantId": "515460927"
        }
    ]
}
2020-02-10T03:30:54.694Z - INFO - engine sent successfully, the response to CBRS : {
    "relinquishmentResponse": [
        {
            "cbsdId": "2AVFNLBS7320Mock-SAS22020300003A1952J0003",
            "grantId": "515460927",
            "response": {
                "responseCode": 0
            }
        }
    ]
}
2020-02-10T03:30:56.584Z - INFO - arrived to nstep starting question answer session with the
technician
```



2020-02-10T03:30:56.585Z - 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 :

2020-02-10T03:31:06.573Z - INFO - for the question : Did the CBSD stop RF transmission within 60 seconds of receiving Heartbeat response with responseCode = 501? , the user choose y

2020-02-10T03:31:19.493Z - 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 transmission at T03:30:54.6

Test Log for WINNF.FT.C.HBT.7 Test Case ID

2020-02-10T03:38:35.045Z - INFO - WINNF TEST HARNESS RELEASE: 1.0.0.3 - 2018-November-13
 2020-02-10T03:38:35.046Z - INFO - the selected test from the user : WINNF.FT.C.HBT.7 is starting now
 2020-02-10T03:39:26.628Z - INFO - registration request from CBRS : {

```
"registrationRequest": [
  {
    "airInterface": {
      "radioTechnology": "E_UTRA",
      "supportedSpec": "FFS"
    },
    "callSign": "LEAX",
    "cbsdCategory": "B",
    "cbsdInfo": {
      "model": "LBS7320",
      "softwareVersion": "LeaxBTS_V2.0.4.1",
      "vendor": "Radisys"
    },
    "cbsdSerialNumber": "22020300003A1952J0003",
    "cpiSignatureData": {
      "digitalSignature":
        "qqTATQZXCGOV1u2bwCEff_XLa2dRimCcpx7uaR_Qsxtcxak9CJ1I7A0_EDjXmZ4b4CD-lr1EqtdZcSV
        llvyrxliNHumyE-TjcmJWCtpGk4eWA4vXGPqOAmvklTpMBVO1_9_S7bwUD0YrNghwvsqZ4C6VsGOTg
        zbwMo5N5uckCUyO85yR6GAffxBkFh9NMvdJ8FzoYHMX-D4vriqPbn9SrC97rkCH13KkWUnZgeFKgw
        i9hBl0QKhQcBv_ROpa-P_Dn982PeQs1BKC57U4C2QkS5rkF5-3-Yd1TWcSTKrqKIS3-Yc6oyvQJJuyh
        2Mpj_11ra7xBDjdWUpyKnJ5iY7g",
      "encodedCpiSignedData":
        "eyJjYnNkU2VyaWFsTnVtYmVyljoiMjIwMjAzMDAwMDNBMTk1MkowMDAzliwiZmNjSWQiOilyQVZGtK
        xCUzczMjAiLCJpbnN0YWxsYXRpb25QYXJhbSI6eyJhbnRlbn5hQXppbXV0aCI6NywiYW50ZW5uYUJl
        YW13aWR0aCI6NjUsImFudGVubmFEb3dudGlsdCI6MCwiYW50ZW5uYUdhW4iOiE2LjUsImhlaWdod
        CI6MywiaGVpZ2h0VHlwZSI6IkFHTCIsImluZG9vckRlcGxveW1lbnQiOmZhbHNILCJsYXRpdHVkZSI6M
        zcuNDExMzMxLCJsb25naXR1ZGUiOi0xMjluMDE4OTQyfSwicHJvZmVzc2lvdjVbmFsSW5zdGFsbGVyRG
        F0YSi6eyJjcGlJZCI6IjAwMSIsImNwaU5hbWUiOiJ5dWkiLCJpbnN0YWxsQ2VydGlmYWVhdGlvdjRpbW
        UiOilyMDIwLTAYLTEwVDAzOjM5OjMyWiJ9fQ",
      "protectedHeader": "eyJhbnRlbn5hQXppbXV0aCI6NywiYW50ZW5uYUdhW4iOiE2LjUsImhlaWdod
        CI6MywiaGVpZ2h0VHlwZSI6IkFHTCIsImluZG9vckRlcGxveW1lbnQiOmZhbHNILCJsYXRpdHVkZSI6M
        zcuNDExMzMxLCJsb25naXR1ZGUiOi0xMjluMDE4OTQyfSwicHJvZmVzc2lvdjVbmFsSW5zdGFsbGVyRG
        F0YSi6eyJjcGlJZCI6IjAwMSIsImNwaU5hbWUiOiJ5dWkiLCJpbnN0YWxsQ2VydGlmYWVhdGlvdjRpbW
        UiOilyMDIwLTAYLTEwVDAzOjM5OjMyWiJ9fQ"
    },
    "fccId": "2AVFNLBS7320",
    "groupingParam": [
      {
        "groupId": "GW",
        "groupType": "INTERFERENCE_COORDINATION"
      }
    ],
    "measCapability": [
      "RECEIVED_POWER_WITH_GRANT",
      "RECEIVED_POWER_WITHOUT_GRANT"
    ],
    "userId": "GW"
  }
]
```

2020-02-10T03:39:26.750Z - INFO - Registration message contains cpiSignatureData
 2020-02-10T03:39:26.750Z - INFO - protectedHeader = {u'alg': u'RS256', u'typ': u'JWT'}

```

2020-02-10T03:39:26.750Z - INFO - encodedCpiSignedData contents = {
  "installationParam": {
    "antennaAzimuth": 7,
    "heightType": "AGL",
    "longitude": -122.018942,
    "height": 3,
    "indoorDeployment": false,
    "latitude": 37.411331,
    "antennaDowntilt": 0,
    "antennaBeamwidth": 65,
    "antennaGain": 16.5
  },
  "fccId": "2AVFNLBS7320",
  "professionalInstallerData": {
    "cpiName": "yui",
    "installCertificationTime": "2020-02-10T03:39:32Z",
    "cpild": "001"
  },
  "cbsdSerialNumber": "22020300003A1952J0003"
}
2020-02-10T03:39:26.752Z - INFO - verified signature on cpiSignatureData
2020-02-10T03:39:26.762Z - INFO - cpiSignatureData data successfully validated against jsonschema
2020-02-10T03:39:26.763Z - INFO - engine sent successfully, the response to CBRS : {
  "registrationResponse": [
    {
      "cbsdId": "2AVFNLBS7320Mock-SAS22020300003A1952J0003",
      "response": {
        "responseCode": 0
      }
    }
  ]
}
2020-02-10T03:39:26.957Z - INFO - spectrumInquiry request from CBRS : {
  "spectrumInquiryRequest": [
    {
      "cbsdId": "2AVFNLBS7320Mock-SAS22020300003A1952J0003",
      "inquiredSpectrum": [
        {
          "highFrequency": 3700000000,
          "lowFrequency": 3550000000
        }
      ]
    }
  ]
}
2020-02-10T03:39:26.970Z - INFO - engine sent successfully, the response to CBRS : {
  "spectrumInquiryResponse": [
    {
      "availableChannel": [
        {
          "channelType": "GAA",
          "frequencyRange": {

```

```

        "highFrequency": 3700000000,
        "lowFrequency": 3550000000
      },
      "ruleApplied": "FCC_PART_96"
    }
  ],
  "cbsdId": "2AVFNLBS7320Mock-SAS22020300003A1952J0003",
  "response": {
    "responseCode": 0
  }
}
]
}
2020-02-10T03:39:27.635Z - INFO - grant request from CBRS : {
  "grantRequest": [
    {
      "cbsdId": "2AVFNLBS7320Mock-SAS22020300003A1952J0003",
      "operationParam": {
        "maxEirp": 34,
        "operationFrequencyRange": {
          "highFrequency": 3570000000,
          "lowFrequency": 3550000000
        }
      }
    }
  ]
}
}
2020-02-10T03:39:27.644Z - INFO - engine sent successfully, the response to CBRS : {
  "grantResponse": [
    {
      "cbsdId": "2AVFNLBS7320Mock-SAS22020300003A1952J0003",
      "channelType": "GAA",
      "grantExpireTime": "2020-02-17T03:39:27Z",
      "grantId": "724373066",
      "heartbeatInterval": 60,
      "response": {
        "responseCode": 0
      }
    }
  ]
}
}
2020-02-10T03:39:28.142Z - INFO - heartbeat request from CBRS : {
  "heartbeatRequest": [
    {
      "cbsdId": "2AVFNLBS7320Mock-SAS22020300003A1952J0003",
      "grantId": "724373066",
      "grantRenew": false,
      "operationState": "GRANTED"
    }
  ]
}
}
2020-02-10T03:39:28.151Z - INFO - engine sent successfully, the response to CBRS : {

```

```
"heartbeatResponse": [
  {
    "cbsdId": "2AVFNLBS7320Mock-SAS22020300003A1952J0003",
    "grantId": "724373066",
    "response": {
      "responseCode": 0
    },
    "transmitExpireTime": "2020-02-10T03:42:48Z"
  }
]
}
2020-02-10T03:39:54.476Z - INFO - heartbeat request from CBRS : {
  "heartbeatRequest": [
    {
      "cbsdId": "2AVFNLBS7320Mock-SAS22020300003A1952J0003",
      "grantId": "724373066",
      "grantRenew": false,
      "operationState": "AUTHORIZED"
    }
  ]
}
2020-02-10T03:39:54.476Z - INFO - Time interval between two heartbeat request messages is: 26.333,
limit is: 65.0
2020-02-10T03:39:54.483Z - INFO - engine sent successfully, the response to CBRS : {
  "heartbeatResponse": [
    {
      "cbsdId": "2AVFNLBS7320Mock-SAS22020300003A1952J0003",
      "grantId": "724373066",
      "response": {
        "responseCode": 0
      },
      "transmitExpireTime": "2020-02-10T03:43:14Z"
    }
  ]
}
2020-02-10T03:40:54.473Z - INFO - heartbeat request from CBRS : {
  "heartbeatRequest": [
    {
      "cbsdId": "2AVFNLBS7320Mock-SAS22020300003A1952J0003",
      "grantId": "724373066",
      "grantRenew": false,
      "operationState": "AUTHORIZED"
    }
  ]
}
2020-02-10T03:40:54.476Z - INFO - Time interval between two heartbeat request messages is: 59.998,
limit is: 65.0
2020-02-10T03:40:54.483Z - INFO - engine sent successfully, the response to CBRS : {
  "heartbeatResponse": [
    {
      "cbsdId": "2AVFNLBS7320Mock-SAS22020300003A1952J0003",
      "grantId": "724373066",
```



```
        "response": {
            "responseCode": 0
        },
        "transmitExpireTime": "2020-02-10T03:44:14Z"
    }
}
}
2020-02-10T03:41:54.471Z - INFO - heartbeat request from CBRS : {
    "heartbeatRequest": [
        {
            "cbsdId": "2AVFNLBS7320Mock-SAS22020300003A1952J0003",
            "grantId": "724373066",
            "grantRenew": false,
            "operationState": "AUTHORIZED"
        }
    ]
}
2020-02-10T03:41:54.473Z - INFO - Time interval between two heartbeat request messages is: 59.998,
limit is: 65.0
2020-02-10T03:41:54.480Z - INFO - engine sent successfully, the response to CBRS : {
    "heartbeatResponse": [
        {
            "cbsdId": "2AVFNLBS7320Mock-SAS22020300003A1952J0003",
            "grantId": "724373066",
            "response": {
                "responseCode": 502
            },
            "transmitExpireTime": "2020-02-10T03:41:54Z"
        }
    ]
}
2020-02-10T03:41:54.640Z - INFO - relinquishment request from CBRS : {
    "relinquishmentRequest": [
        {
            "cbsdId": "2AVFNLBS7320Mock-SAS22020300003A1952J0003",
            "grantId": "724373066"
        }
    ]
}
2020-02-10T03:41:54.645Z - INFO - engine sent successfully, the response to CBRS : {
    "relinquishmentResponse": [
        {
            "cbsdId": "2AVFNLBS7320Mock-SAS22020300003A1952J0003",
            "grantId": "724373066",
            "response": {
                "responseCode": 0
            }
        }
    ]
}
2020-02-10T03:41:56.063Z - INFO - arrived to nstep starting question answer session with the
technician
```



2020-02-10T03:41:56.065Z - 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 :

2020-02-10T03:42:31.737Z - INFO - for the question : Did the CBSD stop RF transmission within 60 seconds of receiving Heartbeat response with responseCode = 502? , the user choose y

2020-02-10T03:42:35.579Z - 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 transmission at T03:41:54.57

Test Log for WINNF.FT.D.HBT.8 Test Case ID

2020-02-10T05:39:43.729Z - INFO - WINNF TEST HARNESS RELEASE: 1.0.0.3 - 2018-November-13

2020-02-10T05:39:43.730Z - INFO - the selected test from the user : WINNF.FT.D.HBT.8 is starting now

2020-02-10T05:40:26.417Z - INFO - registration request from CBRS : {

```

"registrationRequest": [
  {
    "airInterface": {
      "radioTechnology": "E_UTRA",
      "supportedSpec": "FFS"
    },
    "callSign": "LEAX",
    "cbsdCategory": "B",
    "cbsdInfo": {
      "model": "LBS7320",
      "softwareVersion": "LeaxBTS_V2.0.4.1",
      "vendor": "Radisys"
    },
    "cbsdSerialNumber": "22020300003A1952J0003",
    "cpiSignatureData": {
      "digitalSignature":
"Q1ZOrnOV0eQWYA4AK4Wd0BT0DfQOi3hvdMLKHKiCskS9nuOuVPZQGipekFaxdOMxUx9IEp_7ax
xD4kolb9INIf-MZD2NbhILOIMzhmmbrFAVBUa7a9zxCW-obZ2RzZRuceHlsxOYrRey92orEKroZMHVW
gv7_y-laxH0T_b6FfBtI3lezHPO0gycnUufl-22vnyKsa7du0QeEyBH_CKVkjQHe9l44PaLKXMB2EakMqluq
Q77p6y1sp1UGqYSIJSXB0cO1Pa8_VhZ8y5flg9NMDZQRcb30HC72l3Fx0P3j9-n0XJwRbRNE0pDEC4
ZzRG0smpT_bo-L_7ol27oo-WAJQ",
      "encodedCpiSignedData":
"eyJjYnNkU2VyaWFsTnVtYmVyljoiMjIwMjA5MDAwMDNBMTk1Mk0wMDAzliwiZmNjSWQiOilyQVZGTk
xCUzczMjAiLCJpbmN0YWxsYXRpb25QYXJhbSI6eyJhbGlnbm5hQXppbXV0aCI6NywiYW50ZW5uYUJl
YW13aWR0aCI6NjUsImFudGVubmFEb3dudGlsdCI6MCwiYW50ZW5uYUdhYW4iOiE2LjUsImhlaWdod
CI6MywiaGVpZ2h0VHlwZSI6IkFHTCIsImluZG9vckRicGxveW1lbnQiOmZhbHNILCJsYXRpdHVkZSI6M
zcuNDExMzMxLzJsb25naXR1ZGU0Oi0xMjIwMDE4OTQyfSwicHJvZmVzc2lvcnVzSW5zdGFsbGVyRG
FOYSI6eyJjcGljZCI6ImFwMSIsImNwaU5hbWUiOiJ5dWkiLCJpbmN0YWxsQ2VydGlmaWNhdGlvbIRpbW
UiOilyMDIwLTAYLTEwVDA1OjQwOjMyWiJ9fQ",
      "protectedHeader": "eyJhbGciOiJIJSUzI1NiIsInR5cCI6IkpXVCJ9"
    },
    "fcclId": "2AVFNLBS7320",
    "groupingParam": [
      {
        "groupId": "GW",
        "groupType": "INTERFERENCE_COORDINATION"
      }
    ],
    "measCapability": [
      "RECEIVED_POWER_WITH_GRANT",
      "RECEIVED_POWER_WITHOUT_GRANT"
    ],
    "userId": "GW"
  },
  {
    "airInterface": {
      "radioTechnology": "E_UTRA",
      "supportedSpec": "FFS"
    }
  }
]

```

```

    },
    "callSign": "LEAX",
    "cbsdCategory": "B",
    "cbsdInfo": {
        "model": "LBS7320",
        "softwareVersion": "LeaxBTS_V2.0.4.1",
        "vendor": "Radisys"
    },
    "cbsdSerialNumber": "22020300003A1952J0004",
    "cpiSignatureData": {
        "digitalSignature":
            "JVlXq6_R6BNmasIEjpATxipOz4-U3kfMrmu_37JHzpL3FdGrWfLPW1LaSlkrNLmPkRGAYGh0gMAIK2
            _2bUSAT17IDFYhkCN1I2hhjinzQu_1NsXPwgO8v-9EhzTcBEQqOCfcCOgueHAVAttrAASYZQ_sTxHN
            Mk5qzsyRx-GBt4CC2iqGBQyj9xb19Z3czFpku7I7SYGOjwo8fvJSvtEwXOW86qor6kUli5QUmvvgXPoj-IE
            SdXNritAKs7OVvOygcZ3-nAi5JLuxm7iJBIXBQR_wogeHiGx-KvZy9vvgspt7Uc4Njr9-7I_5w4RtAsYD6IYA
            XhmRbGNat5DTqzOcQ",
        "encodedCpiSignedData":
            "eyJjYnNkU2VyaWFsTnVtYmVyljoimjlwMjAzMDAwMDNBMTk1MkowMDA0liwiZmNjSWQiOiOilyQVZGTk
            xCUzczMjAiLCJpbN0YWxsYXRpb25QYXJhbSI6eyJhbnRlbm5hQXppbXV0aCI6NywiYW50ZW5uYUJl
            YW13aWR0aCI6NjUsImFudGVubmFEb3dudGlzdCI6MCwiYW50ZW5uYUdhaw4iOiE2LjUsImhlaWdob
            CI6MywiaGVpZ2h0VHlwZSI6IkFHTCIsImluZG9vcnkicGxveW1lbnQiOmZhbmHNILCJsYXRpdHVkZSI6M
            zcuNDExMzMxLzJsbn25naXR1ZGUioiOxmJluMDE4OTQyfSwicHJvZmVzc2lvbmFsSW5zdGFsbGVyRG
            F0YSI6eyJjcGljZCI6IjAwMSIsImNwaU5hbWUiOiJ5dWkiLCJpbN0YWxsQ2VydgGmaWNhdGlvbIRpbW
            UiOilyMDIwLTAYLTEwVDA1OjQwOjMyWiJ9fQ",
        "protectedHeader": "eyJhbGciOiJSUzI1NiIsInR5cCI6IkpXVCJ9"
    },
    },
    "fccId": "2AVFNLB7320",
    "groupingParam": [
        {
            "groupId": "GW",
            "groupType": "INTERFERENCE_COORDINATION"
        }
    ],
    "measCapability": [
        "RECEIVED_POWER_WITH_GRANT",
        "RECEIVED_POWER_WITHOUT_GRANT"
    ],
    "userId": "GW"
}
]

```

```
2020-02-10T05:40:26.480Z - INFO - Registration message contains cpiSignatureData
2020-02-10T05:40:26.480Z - INFO - protectedHeader = {u'alg': u'RS256', u'typ': u'JWT'}
2020-02-10T05:40:26.480Z - INFO - encodedCpiSignedData contents = {
    "installationParam": {
        "antennaAzimuth": 7,
        "heightType": "AGL",
        "longitude": -122.018942,
        "height": 3,
        "indoorDeployment": false,
        "latitude": 37.411331,
        "antennaDowntilt": 0.
```

```

        "antennaBeamwidth": 65,
        "antennaGain": 16.5
    },
    "fccId": "2AVFNLBS7320",
    "professionalInstallerData": {
        "cpiName": "yui",
        "installCertificationTime": "2020-02-10T05:40:32Z",
        "cpild": "001"
    },
    "cbsdSerialNumber": "22020300003A1952J0003"
}
2020-02-10T05:40:26.529Z - INFO - verified signature on cpiSignatureData
2020-02-10T05:40:26.538Z - INFO - cpiSignatureData data successfully validated against jsonschema
2020-02-10T05:40:26.601Z - INFO - Registration message contains cpiSignatureData
2020-02-10T05:40:26.601Z - INFO - protectedHeader = {u'alg': u'RS256', u'typ': u'JWT'}
2020-02-10T05:40:26.601Z - INFO - encodedCpiSignedData contents = {
    "installationParam": {
        "antennaAzimuth": 7,
        "heightType": "AGL",
        "longitude": -122.018942,
        "height": 3,
        "indoorDeployment": false,
        "latitude": 37.411331,
        "antennaDowntilt": 0,
        "antennaBeamwidth": 65,
        "antennaGain": 16.5
    },
    "fccId": "2AVFNLBS7320",
    "professionalInstallerData": {
        "cpiName": "yui",
        "installCertificationTime": "2020-02-10T05:40:32Z",
        "cpild": "001"
    },
    "cbsdSerialNumber": "22020300003A1952J0004"
}
2020-02-10T05:40:26.602Z - INFO - verified signature on cpiSignatureData
2020-02-10T05:40:26.609Z - INFO - cpiSignatureData data successfully validated against jsonschema
2020-02-10T05:40:26.611Z - INFO - engine sent successfully, the response to CBRS : {
    "registrationResponse": [
        {
            "cbsdId": "2AVFNLBS7320Mock-SAS22020300003A1952J0003",
            "response": {
                "responseCode": 0
            }
        },
        {
            "cbsdId": "2AVFNLBS7320Mock-SAS22020300003A1952J0004",
            "response": {
                "responseCode": 0
            }
        }
    ]
}
]

```

```

}
2020-02-10T05:40:26.923Z - INFO - spectrumInquiry request from CBRS : {
  "spectrumInquiryRequest": [
    {
      "cbsdId": "2AVFNLBS7320Mock-SAS22020300003A1952J0003",
      "inquiredSpectrum": [
        {
          "highFrequency": 3700000000,
          "lowFrequency": 3550000000
        }
      ]
    },
    {
      "cbsdId": "2AVFNLBS7320Mock-SAS22020300003A1952J0004",
      "inquiredSpectrum": [
        {
          "highFrequency": 3700000000,
          "lowFrequency": 3550000000
        }
      ]
    }
  ]
}
2020-02-10T05:40:26.937Z - INFO - engine sent successfully, the response to CBRS : {
  "spectrumInquiryResponse": [
    {
      "availableChannel": [
        {
          "channelType": "GAA",
          "frequencyRange": {
            "highFrequency": 3700000000,
            "lowFrequency": 3550000000
          },
          "ruleApplied": "FCC_PART_96"
        }
      ],
      "cbsdId": "2AVFNLBS7320Mock-SAS22020300003A1952J0003",
      "response": {
        "responseCode": 0
      }
    },
    {
      "availableChannel": [
        {
          "channelType": "GAA",
          "frequencyRange": {
            "highFrequency": 3700000000,
            "lowFrequency": 3550000000
          },
          "ruleApplied": "FCC_PART_96"
        }
      ],

```

```
"cbsdId": "2AVFNLBS7320Mock-SAS22020300003A1952J0004",
"response": {
  "responseCode": 0
}
]
}
2020-02-10T05:40:28.628Z - INFO - grant request from CBRS : {
  "grantRequest": [
    {
      "cbsdId": "2AVFNLBS7320Mock-SAS22020300003A1952J0003",
      "operationParam": {
        "maxEirp": 34,
        "operationFrequencyRange": {
          "highFrequency": 3570000000,
          "lowFrequency": 3550000000
        }
      }
    },
    {
      "cbsdId": "2AVFNLBS7320Mock-SAS22020300003A1952J0004",
      "operationParam": {
        "maxEirp": 34,
        "operationFrequencyRange": {
          "highFrequency": 3570000000,
          "lowFrequency": 3550000000
        }
      }
    }
  ]
}
2020-02-10T05:40:28.642Z - INFO - engine sent successfully, the response to CBRS : {
  "grantResponse": [
    {
      "cbsdId": "2AVFNLBS7320Mock-SAS22020300003A1952J0003",
      "channelType": "GAA",
      "grantExpireTime": "2020-02-17T05:40:28Z",
      "grantId": "258472473",
      "heartbeatInterval": 60,
      "response": {
        "responseCode": 0
      }
    },
    {
      "cbsdId": "2AVFNLBS7320Mock-SAS22020300003A1952J0004",
      "channelType": "GAA",
      "grantExpireTime": "2020-02-17T05:40:28Z",
      "grantId": "765726448",
      "heartbeatInterval": 60,
      "response": {
        "responseCode": 0
      }
    }
  ]
}
```

```
}
]
}
2020-02-10T05:40:29.223Z - INFO - heartbeat request from CBRS : {
  "heartbeatRequest": [
    {
      "cbsdId": "2AVFNLBS7320Mock-SAS22020300003A1952J0003",
      "grantId": "258472473",
      "grantRenew": false,
      "operationState": "GRANTED"
    },
    {
      "cbsdId": "2AVFNLBS7320Mock-SAS22020300003A1952J0004",
      "grantId": "765726448",
      "grantRenew": false,
      "operationState": "GRANTED"
    }
  ]
}
2020-02-10T05:40:29.239Z - INFO - engine sent successfully, the response to CBRS : {
  "heartbeatResponse": [
    {
      "cbsdId": "2AVFNLBS7320Mock-SAS22020300003A1952J0003",
      "grantId": "258472473",
      "response": {
        "responseCode": 0
      },
      "transmitExpireTime": "2020-02-10T05:43:49Z"
    },
    {
      "cbsdId": "2AVFNLBS7320Mock-SAS22020300003A1952J0004",
      "grantId": "765726448",
      "response": {
        "responseCode": 0
      },
      "transmitExpireTime": "2020-02-10T05:43:49Z"
    }
  ]
}
2020-02-10T05:40:54.257Z - INFO - heartbeat request from CBRS : {
  "heartbeatRequest": [
    {
      "cbsdId": "2AVFNLBS7320Mock-SAS22020300003A1952J0003",
      "grantId": "258472473",
      "grantRenew": false,
      "operationState": "AUTHORIZED"
    },
    {
      "cbsdId": "2AVFNLBS7320Mock-SAS22020300003A1952J0004",
      "grantId": "765726448",
      "grantRenew": false,
      "operationState": "AUTHORIZED"
    }
  ]
}
```

```

    }
  ]
}
2020-02-10T05:40:54.259Z - INFO - Time interval between two heartbeat request messages is: 25.035,
limit is: 65.0
2020-02-10T05:40:54.266Z - INFO - Time interval between two heartbeat request messages is: 25.035,
limit is: 65.0
2020-02-10T05:40:54.273Z - INFO - engine sent successfully, the response to CBRS : {
  "heartbeatResponse": [
    {
      "cbsdId": "2AVFNLBS7320Mock-SAS22020300003A1952J0003",
      "grantId": "258472473",
      "response": {
        "responseCode": 0
      },
      "transmitExpireTime": "2020-02-10T05:44:14Z"
    },
    {
      "cbsdId": "2AVFNLBS7320Mock-SAS22020300003A1952J0004",
      "grantId": "765726448",
      "response": {
        "responseCode": 0
      },
      "transmitExpireTime": "2020-02-10T05:44:14Z"
    }
  ]
}
2020-02-10T05:41:54.263Z - INFO - heartbeat request from CBRS : {
  "heartbeatRequest": [
    {
      "cbsdId": "2AVFNLBS7320Mock-SAS22020300003A1952J0003",
      "grantId": "258472473",
      "grantRenew": false,
      "operationState": "AUTHORIZED"
    },
    {
      "cbsdId": "2AVFNLBS7320Mock-SAS22020300003A1952J0004",
      "grantId": "765726448",
      "grantRenew": false,
      "operationState": "AUTHORIZED"
    }
  ]
}
2020-02-10T05:41:54.266Z - INFO - Time interval between two heartbeat request messages is: 60.005,
limit is: 65.0
2020-02-10T05:41:54.279Z - INFO - Time interval between two heartbeat request messages is: 60.005,
limit is: 65.0
2020-02-10T05:41:54.286Z - INFO - engine sent successfully, the response to CBRS : {
  "heartbeatResponse": [
    {
      "cbsdId": "2AVFNLBS7320Mock-SAS22020300003A1952J0003",
      "grantId": "258472473",

```

```

        "response": {
            "responseCode": 0
        },
        "transmitExpireTime": "2020-02-10T05:45:14Z"
    },
    {
        "cbsdId": "2AVFNLBS7320Mock-SAS22020300003A1952J0004",
        "grantId": "765726448",
        "response": {
            "responseCode": 0
        },
        "transmitExpireTime": "2020-02-10T05:45:14Z"
    }
]
}
2020-02-10T05:42:54.256Z - INFO - heartbeat request from CBRS : {
    "heartbeatRequest": [
        {
            "cbsdId": "2AVFNLBS7320Mock-SAS22020300003A1952J0003",
            "grantId": "258472473",
            "grantRenew": false,
            "operationState": "AUTHORIZED"
        },
        {
            "cbsdId": "2AVFNLBS7320Mock-SAS22020300003A1952J0004",
            "grantId": "765726448",
            "grantRenew": false,
            "operationState": "AUTHORIZED"
        }
    ]
}
2020-02-10T05:42:54.257Z - INFO - Time interval between two heartbeat request messages is: 59.992,
limit is: 65.0
2020-02-10T05:42:54.265Z - INFO - Time interval between two heartbeat request messages is: 59.992,
limit is: 65.0
2020-02-10T05:42:54.273Z - INFO - engine sent successfully, the response to CBRS : {
    "heartbeatResponse": [
        {
            "cbsdId": "2AVFNLBS7320Mock-SAS22020300003A1952J0003",
            "grantId": "258472473",
            "response": {
                "responseCode": 0
            },
            "transmitExpireTime": "2020-02-10T05:46:14Z"
        },
        {
            "cbsdId": "2AVFNLBS7320Mock-SAS22020300003A1952J0004",
            "grantId": "765726448",
            "response": {
                "responseCode": 500
            },
            "transmitExpireTime": "2020-02-10T05:42:54Z"
        }
    ]
}

```



```
}  
]  
}  
2020-02-10T05:42:55.806Z - INFO - arrived to nstep starting question answer session with the technician  
2020-02-10T05:42:55.809Z - INFO - the question is : Did the CBSD1 transmit power prior to AUTHORIZED state (first successful HBT response)? please choose one of the answers :  
2020-02-10T05:43:23.117Z - INFO - for the question : Did the CBSD1 transmit power prior to AUTHORIZED state (first successful HBT response)? , the user choose n  
2020-02-10T05:43:23.118Z - 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 :  
2020-02-10T05:43:28.424Z - INFO - for the question : Did the CBSD2 stop RF transmission within 60 seconds of receiving Heartbeat response with responseCode = 500? , the user choose y  
2020-02-10T05:43:35.296Z - 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 transmission at T05:42:55
```

Test Log for WINNF.FT.C.HBT.9 Test Case ID

2020-02-10T05:47:41.134Z - INFO - WINNF TEST HARNESS RELEASE: 1.0.0.3 - 2018-November-13
 2020-02-10T05:47:41.134Z - INFO - the selected test from the user : WINNF.FT.C.HBT.9 is starting now
 2020-02-10T05:48:26.657Z - INFO - registration request from CBRS : {

```
"registrationRequest": [
  {
    "airInterface": {
      "radioTechnology": "E_UTRA",
      "supportedSpec": "FFS"
    },
    "callSign": "LEAX",
    "cbsdCategory": "B",
    "cbsdInfo": {
      "model": "LBS7320",
      "softwareVersion": "LeaxBTS_V2.0.4.1",
      "vendor": "Radisys"
    },
    "cbsdSerialNumber": "22020300003A1952J0003",
    "cpiSignatureData": {
      "digitalSignature":
        "jLs0iCbU8J7dqIGQER7d-rp3WOELOfPWm9zknLfnt0hA9wkFcXgCaoxD-2dmyCgr1_5sPiIB5nnuEWNb
        G4SfbwIR_n01Jmp2i2ZPfA1wvI61HiuHB7G2Q5mo47cc6KxRkNDdJfKLhditNXFYCnKA7b1QxIKh5RB
        W-kTje4YYdFzAoU5NgJlk4i1hmLVBxZ1FZ8GhzTM07zU3C38rWbloajVRhh0WudlzBhGzAYTayz1PpY
        aMzEPv-f80yjXJzef-l6d4Flb8120rlbOqzOGr9MJRyHLKfzJmUqRajlBOqTgqRxYyIgooxUweJXSfWBYeJ
        YiQI3_Z2aYOdwxH1C-6Q",
      "encodedCpiSignedData":
        "eyJjYnNkU2VyaWFsTnVtYmVyljoiMjIwMjE0MDAwMDNBMTk1Mk0wMDAzliwiZmNjSWQiOilyQVZGtK
        xCUzcMjAiLCJpbnN0YWxsYXRpb25QYXJhbSI6eyJhbnRlbn5hQXppbXV0aCI6NywiYW50ZW5uYUJl
        YW13aWR0aCI6NjUsImFudGVubmFEb3dudGlsdCI6MCwiYW50ZW5uYUdhW4iOiE2LjUsImhlaWdod
        CI6MywiaGVpZ2h0VHlwZSI6IkFHTCIsImluZG9vckRlcGxveW1lbnQiOmZhbHNILCJsYXRpdHVkZSI6M
        zcuNDExMzMxLCJsb25naXR1ZGU0xMjluMDE4OTQyfSwicHJvZmVzc2lvdjVbmFsSW5zdGFsbGVyRG
        F0YSi6eyJjcGljZCI6IjAwMSIsImNwaU5hbWUiOiJ5dWkiLCJpbnN0YWxsQ2VydGlmYWVhdGlvdjRpbW
        UiOilyMDIwLTAYLTEwVDA1OjQ4OjMyWiJ9fQ",
      "protectedHeader": "eyJhbnRlbn5hQXppbXV0aCI6NywiYW50ZW5uYUJlYW13aWR0aCI6NjUsImFudGVubmFEb3dudGlsdCI6MCwiYW50ZW5uYUdhW4iOiE2LjUsImhlaWdodCI6MywiaGVpZ2h0VHlwZSI6IkFHTCIsImluZG9vckRlcGxveW1lbnQiOmZhbHNILCJsYXRpdHVkZSI6MzcuNDExMzMxLCJsb25naXR1ZGU0xMjluMDE4OTQyfSwicHJvZmVzc2lvdjVbmFsSW5zdGFsbGVyRGF0YSi6eyJjcGljZCI6IjAwMSIsImNwaU5hbWUiOiJ5dWkiLCJpbnN0YWxsQ2VydGlmYWVhdGlvdjRpbWUiOilyMDIwLTAYLTEwVDA1OjQ4OjMyWiJ9fQ"
    },
    "fccId": "2AVFNLBS7320",
    "groupingParam": [
      {
        "groupId": "GW",
        "groupType": "INTERFERENCE_COORDINATION"
      }
    ],
    "measCapability": [
      "RECEIVED_POWER_WITH_GRANT",
      "RECEIVED_POWER_WITHOUT_GRANT"
    ],
    "userId": "GW"
  }
]
```

2020-02-10T05:48:26.726Z - INFO - Registration message contains cpiSignatureData
 2020-02-10T05:48:26.726Z - INFO - protectedHeader = {u'alg': u'RS256', u'typ': u'JWT'}

```

2020-02-10T05:48:26.726Z - INFO - encodedCpiSignedData contents = {
  "installationParam": {
    "antennaAzimuth": 7,
    "heightType": "AGL",
    "longitude": -122.018942,
    "height": 3,
    "indoorDeployment": false,
    "latitude": 37.411331,
    "antennaDowntilt": 0,
    "antennaBeamwidth": 65,
    "antennaGain": 16.5
  },
  "fccId": "2AVFNLBS7320",
  "professionalInstallerData": {
    "cpiName": "yui",
    "installCertificationTime": "2020-02-10T05:48:32Z",
    "cpild": "001"
  },
  "cbsdSerialNumber": "22020300003A1952J0003"
}
2020-02-10T05:48:26.727Z - INFO - verified signature on cpiSignatureData
2020-02-10T05:48:26.734Z - INFO - cpiSignatureData data successfully validated against jsonschema
2020-02-10T05:48:26.736Z - INFO - engine sent successfully, the response to CBRS : {
  "registrationResponse": [
    {
      "cbsdId": "2AVFNLBS7320Mock-SAS22020300003A1952J0003",
      "response": {
        "responseCode": 0
      }
    }
  ]
}
2020-02-10T05:48:26.904Z - INFO - spectrumInquiry request from CBRS : {
  "spectrumInquiryRequest": [
    {
      "cbsdId": "2AVFNLBS7320Mock-SAS22020300003A1952J0003",
      "inquiredSpectrum": [
        {
          "highFrequency": 3700000000,
          "lowFrequency": 3550000000
        }
      ]
    }
  ]
}
2020-02-10T05:48:26.914Z - INFO - engine sent successfully, the response to CBRS : {
  "spectrumInquiryResponse": [
    {
      "availableChannel": [
        {
          "channelType": "GAA",
          "frequencyRange": {

```

```

        "highFrequency": 3700000000,
        "lowFrequency": 3550000000
    },
    "ruleApplied": "FCC_PART_96"
}
],
"cbstdId": "2AVFNLBS7320Mock-SAS22020300003A1952J0003",
"response": {
    "responseCode": 0
}
}
]
}
2020-02-10T05:48:27.586Z - INFO - grant request from CBRS : {
    "grantRequest": [
        {
            "cbstdId": "2AVFNLBS7320Mock-SAS22020300003A1952J0003",
            "operationParam": {
                "maxEirp": 34,
                "operationFrequencyRange": {
                    "highFrequency": 3570000000,
                    "lowFrequency": 3550000000
                }
            }
        }
    ]
}
}
2020-02-10T05:48:27.595Z - INFO - engine sent successfully, the response to CBRS : {
    "grantResponse": [
        {
            "cbstdId": "2AVFNLBS7320Mock-SAS22020300003A1952J0003",
            "channelType": "GAA",
            "grantExpireTime": "2020-02-17T05:48:27Z",
            "grantId": "404300530",
            "heartbeatInterval": 60,
            "response": {
                "responseCode": 0
            }
        }
    ]
}
}
2020-02-10T05:48:27.957Z - INFO - heartbeat request from CBRS : {
    "heartbeatRequest": [
        {
            "cbstdId": "2AVFNLBS7320Mock-SAS22020300003A1952J0003",
            "grantId": "404300530",
            "grantRenew": false,
            "operationState": "GRANTED"
        }
    ]
}
}
2020-02-10T05:49:26.395Z - INFO - heartbeat request from CBRS : {

```



```
"heartbeatRequest": [
  {
    "cbsdId": "2AVFNLBS7320Mock-SAS22020300003A1952J0003",
    "grantId": "404300530",
    "grantRenew": false,
    "operationState": "GRANTED"
  }
]
}
2020-02-10T05:49:26.397Z - INFO - request message received while HBT is absent, sleep 146 sec
before responding
2020-02-10T05:50:26.394Z - INFO - heartbeat request from CBRS : {
  "heartbeatRequest": [
    {
      "cbsdId": "2AVFNLBS7320Mock-SAS22020300003A1952J0003",
      "grantId": "404300530",
      "grantRenew": false,
      "operationState": "GRANTED"
    }
  ]
}
2020-02-10T05:50:26.394Z - INFO - request message received while HBT is absent, sleep 86 sec
before responding
2020-02-10T05:51:26.392Z - INFO - heartbeat request from CBRS : {
  "heartbeatRequest": [
    {
      "cbsdId": "2AVFNLBS7320Mock-SAS22020300003A1952J0003",
      "grantId": "404300530",
      "grantRenew": false,
      "operationState": "GRANTED"
    }
  ]
}
2020-02-10T05:51:26.392Z - INFO - request message received while HBT is absent, sleep 26 sec
before responding
2020-02-10T05:51:47.996Z - INFO - engine sent successfully, the response to CBRS : {
  "heartbeatResponse": [
    {
      "cbsdId": "2AVFNLBS7320Mock-SAS22020300003A1952J0003",
      "grantId": "404300530",
      "response": {
        "responseCode": 501
      },
      "transmitExpireTime": "2020-02-10T05:51:47Z"
    }
  ]
}
2020-02-10T05:51:49.154Z - INFO - arrived to nstep starting question answer session with the
technician
2020-02-10T05:51:49.157Z - INFO - the question is : Were there RF transmissions from the CBSD
during the test? please choose one of the answers :
2020-02-10T05:51:52.394Z - INFO - engine sent successfully, the response to CBRS : "list index out of
```



range"

2020-02-10T05:51:52.397Z - INFO - engine sent successfully, the response to CBRS : "list index out of range"

2020-02-10T05:51:52.398Z - INFO - engine sent successfully, the response to CBRS : "list index out of range"

2020-02-10T05:53:16.295Z - INFO - for the question : Were there RF transmissions from the CBSD during the test? , the user choose n

2020-02-10T05:53:17.917Z - INFO - The final result of the test : WINNF.FT.C.HBT.9 is - passed

Test Log for WINNF.FT.C.HBT.10 Test Case ID

```
2020-02-10T06:08:44.759Z - INFO - WINNF TEST HARNESS RELEASE: 1.0.0.3 - 2018-November-13
2020-02-10T06:08:44.759Z - INFO - the selected test from the user : WINNF.FT.C.HBT.10 is starting
now
```

2020-02-10T06:09:26.346Z - INFO - registration request from CBRS : {

```

"registrationRequest": [
  {
    "airInterface": {
      "radioTechnology": "E_UTRA",
      "supportedSpec": "FFS"
    },
    "callSign": "LEAX",
    "cbsdCategory": "B",
    "cbsdInfo": {
      "model": "LBS7320",
      "softwareVersion": "LeaxBTS_V2.0.4.1",
      "vendor": "Radisys"
    },
    "cbsdSerialNumber": "22020300003A1952J0003",
    "cpiSignatureData": {
      "digitalSignature":
"IQ2M7X453Q05Gb7tUqjzQa-lcWsvLBZb4Pca32Cw0z5Rzsp7wMLA-XLYo9hYHHAhzu00TweoyvHscH
JbRP1VeU8FJO4dMxP_AKMGEFrO1DqIDmHq5Gi4jH9JlqBxrWUUVqhvblFp1RBMe3WfH5LAWnZgZfU
9yWhKxixqWrb6ugHsk8Ce9FoFYK529TIn-Gn8ECMPc-zWO-hZB32yKDA-dqbrTFLBcnDukr3qg3IU_nX
W0qW9afZ76Zt_ql6VUfZD2y0d7KIYHkKjCuk5b_I0MlrOHgCzrw55cF2uE1H7luy2BdKFyFCPSSt-GUm1
Vet8lqeNbwgXI98dkVs_18BjUfQ",
      "encodedCpiSignedData":
"eyJYnNkU2VyaWFsTnVtYmVyljoiMjIwMjAzMDAwMDNBMTk1Mk0wMDAzliwiZmNjSWQiOiIyQVZGTk
xCUzcMjAiLCJpbmN0YWxsYXRpb25QYXJhbSI6eyJhbnRlbn5hQXppbXV0aCI6NywiYW50ZW5uYUJl
YW13aWR0aCI6NjUsImFudGVubmFEb3dudGlsdCI6MCwiYW50ZW5uYUdhaW4iOiE2LjUsImhlaWdod
CI6MywiaGVpZ2h0VHlwZSI6IkFHTCIsImiluZG9vckRlcGxveW1lbnQiOmZhbnHNILCJsYXRpdHVkZSI6M
zcuNDEzMzIxLCJsb25naXR1ZGUUiOi0xMjIuMDE4OTQyfSwicHJvZmVzc2lvbmFsSW5zdGFsbGVyRG
FOYSI6eyJjcGljZCI6IjAwMSIsImNwaU5hbWUiOiJ5dWkiLCJpbmN0YWxsQ2VydGImaWNhdGlvbiRpbW
UiOiIyMDIwLTAYLTEwVDA2OjA5OjMyWiJ9fQ",
      "protectedHeader": "eyJhbGciOiJSUzI1NiIsInR5cCI6IkpXVCJ9"
    },
    "fccId": "2AVFNLBS7320",
    "groupingParam": [
      {
        "groupId": "GW",
        "groupType": "INTERFERENCE_COORDINATION"
      }
    ],
    "measCapability": [
      "RECEIVED_POWER_WITH_GRANT",
      "RECEIVED_POWER_WITHOUT_GRANT"
    ],
    "userId": "GW"
  }
]
}

```

2020-02-10T06:09:26.407Z - INFO - Registration message contains cpiSignatureData



```
2020-02-10T06:09:26.407Z - INFO - protectedHeader = {u'alg': u'RS256', u'typ': u'JWT'}
2020-02-10T06:09:26.407Z - INFO - encodedCpiSignedData contents = {
  "installationParam": {
    "antennaAzimuth": 7,
    "heightType": "AGL",
    "longitude": -122.018942,
    "height": 3,
    "indoorDeployment": false,
    "latitude": 37.411331,
    "antennaDowntilt": 0,
    "antennaBeamwidth": 65,
    "antennaGain": 16.5
  },
  "fccId": "2AVFNLBS7320",
  "professionalInstallerData": {
    "cpiName": "yui",
    "installCertificationTime": "2020-02-10T06:09:32Z",
    "cpild": "001"
  },
  "cbsdSerialNumber": "22020300003A1952J0003"
}
2020-02-10T06:09:26.408Z - INFO - verified signature on cpiSignatureData
2020-02-10T06:09:26.414Z - INFO - cpiSignatureData data successfully validated against jsonschema
2020-02-10T06:09:26.417Z - INFO - engine sent successfully, the response to CBRS : {
  "registrationResponse": [
    {
      "cbsdId": "2AVFNLBS7320Mock-SAS22020300003A1952J0003",
      "response": {
        "responseCode": 0
      }
    }
  ]
}
2020-02-10T06:09:26.618Z - INFO - spectrumInquiry request from CBRS : {
  "spectrumInquiryRequest": [
    {
      "cbsdId": "2AVFNLBS7320Mock-SAS22020300003A1952J0003",
      "inquiredSpectrum": [
        {
          "highFrequency": 3700000000,
          "lowFrequency": 3550000000
        }
      ]
    }
  ]
}
2020-02-10T06:09:26.628Z - INFO - engine sent successfully, the response to CBRS : {
  "spectrumInquiryResponse": [
    {
      "availableChannel": [
        {
          "channelType": "GAA",
```

```

        "frequencyRange": {
            "highFrequency": 3700000000,
            "lowFrequency": 3550000000
        },
        "ruleApplied": "FCC_PART_96"
    }
},
"cbstdId": "2AVFNLBS7320Mock-SAS22020300003A1952J0003",
"response": {
    "responseCode": 0
}
}
]
}
2020-02-10T06:09:27.290Z - INFO - grant request from CBRS : {
    "grantRequest": [
        {
            "cbstdId": "2AVFNLBS7320Mock-SAS22020300003A1952J0003",
            "operationParam": {
                "maxEirp": 34,
                "operationFrequencyRange": {
                    "highFrequency": 3570000000,
                    "lowFrequency": 3550000000
                }
            }
        }
    ]
}
}
2020-02-10T06:09:27.299Z - INFO - engine sent successfully, the response to CBRS : {
    "grantResponse": [
        {
            "cbstdId": "2AVFNLBS7320Mock-SAS22020300003A1952J0003",
            "channelType": "GAA",
            "grantExpireTime": "2020-02-17T06:09:27Z",
            "grantId": "406094434",
            "heartbeatInterval": 60,
            "response": {
                "responseCode": 0
            }
        }
    ]
}
}
2020-02-10T06:09:27.678Z - INFO - heartbeat request from CBRS : {
    "heartbeatRequest": [
        {
            "cbstdId": "2AVFNLBS7320Mock-SAS22020300003A1952J0003",
            "grantId": "406094434",
            "grantRenew": false,
            "operationState": "GRANTED"
        }
    ]
}
}

```



```
2020-02-10T06:09:27.687Z - INFO - engine sent successfully, the response to CBRS : {
  "heartbeatResponse": [
    {
      "cbsdId": "2AVFNLBS7320Mock-SAS22020300003A1952J0003",
      "grantId": "406094434",
      "response": {
        "responseCode": 0
      },
      "transmitExpireTime": "2020-02-10T06:12:47Z"
    }
  ]
}
2020-02-10T06:09:54.190Z - INFO - heartbeat request from CBRS : {
  "heartbeatRequest": [
    {
      "cbsdId": "2AVFNLBS7320Mock-SAS22020300003A1952J0003",
      "grantId": "406094434",
      "grantRenew": false,
      "operationState": "AUTHORIZED"
    }
  ]
}
2020-02-10T06:09:54.193Z - INFO - Time interval between two heartbeat request messages is: 26.513,
limit is: 65.0
2020-02-10T06:09:54.200Z - INFO - engine sent successfully, the response to CBRS : {
  "heartbeatResponse": [
    {
      "cbsdId": "2AVFNLBS7320Mock-SAS22020300003A1952J0003",
      "grantId": "406094434",
      "response": {
        "responseCode": 0
      },
      "transmitExpireTime": "2020-02-10T06:13:14Z"
    }
  ]
}
2020-02-10T06:10:54.190Z - INFO - heartbeat request from CBRS : {
  "heartbeatRequest": [
    {
      "cbsdId": "2AVFNLBS7320Mock-SAS22020300003A1952J0003",
      "grantId": "406094434",
      "grantRenew": false,
      "operationState": "AUTHORIZED"
    }
  ]
}
2020-02-10T06:10:54.190Z - INFO - Time interval between two heartbeat request messages is: 59.998,
limit is: 65.0
2020-02-10T06:10:54.194Z - INFO - LAST HBT RESPONSE THAT SET TRANSMIT_EXPIRE_TIME
WAS AT: 2020-02-10 06:09:54.192000
2020-02-10T06:11:54.187Z - INFO - heartbeat request from CBRS : {
  "heartbeatRequest": [
```

```

    {
      "cbsdId": "2AVFNLBS7320Mock-SAS22020300003A1952J0003",
      "grantId": "406094434",
      "grantRenew": false,
      "operationState": "AUTHORIZED"
    }
  ]
}
2020-02-10T06:11:54.187Z - INFO - request message received while HBT is absent, sleep 145 sec
before responding
2020-02-10T06:12:54.181Z - INFO - heartbeat request from CBRS : {
  "heartbeatRequest": [
    {
      "cbsdId": "2AVFNLBS7320Mock-SAS22020300003A1952J0003",
      "grantId": "406094434",
      "grantRenew": false,
      "operationState": "AUTHORIZED"
    }
  ]
}
2020-02-10T06:12:54.181Z - INFO - request message received while HBT is absent, sleep 85 sec
before responding
2020-02-10T06:13:26.477Z - INFO - relinquishment request from CBRS : {
  "relinquishmentRequest": [
    {
      "cbsdId": "2AVFNLBS7320Mock-SAS22020300003A1952J0003",
      "grantId": "406094434"
    }
  ]
}
2020-02-10T06:13:26.479Z - INFO - request message received while HBT is absent, sleep 52 sec
before responding
2020-02-10T06:14:14.200Z - INFO - engine sent successfully, the response to CBRS : {
  "heartbeatResponse": [
    {
      "cbsdId": "2AVFNLBS7320Mock-SAS22020300003A1952J0003",
      "grantId": "406094434",
      "response": {
        "responseCode": 501
      },
      "transmitExpireTime": "2020-02-10T06:14:14Z"
    }
  ]
}
2020-02-10T06:14:15.964Z - INFO - arrived to nstep starting question answer session with the
technician
2020-02-10T06:14:15.966Z - INFO - the question is : Did the CBSD stop RF transmissions within
(transmitExpireTime + 60seconds) of last valid heartbeat response? please choose one of the answers :
2020-02-10T06:14:18.480Z - INFO - engine sent successfully, the response to CBRS : "list index out of
range"
2020-02-10T06:14:19.184Z - INFO - engine sent successfully, the response to CBRS : "list index out of
range"

```



2020-02-10T06:14:19.187Z - INFO - engine sent successfully, the response to CBRS : "list index out of range"

2020-02-10T06:14:20.980Z - INFO - for the question : Did the CBSD stop RF transmissions within (transmitExpireTime + 60seconds) of last valid heartbeat response? , the user choose y

2020-02-10T06:14:26.875Z - 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 transmission at T06:13:26.4

Test Log for WINNF.FT.C.HBT.11 Test Case ID

2020-02-10T06:22:01.335Z - INFO - WINNF TEST HARNESS RELEASE: 1.0.0.3 - 2018-November-13
 2020-02-10T06:22:01.335Z - INFO - the selected test from the user : WINNF.FT.C.HBT.11 is starting now

2020-02-10T06:22:26.323Z - INFO - registration request from CBRS : {

```
"registrationRequest": [
  {
    "airInterface": {
      "radioTechnology": "E_UTRA",
      "supportedSpec": "FFS"
    },
    "callSign": "LEAX",
    "cbsdCategory": "B",
    "cbsdInfo": {
      "model": "LBS7320",
      "softwareVersion": "LeaxBTS_V2.0.4.1",
      "vendor": "Radisys"
    },
    "cbsdSerialNumber": "22020300003A1952J0003",
    "cpiSignatureData": {
      "digitalSignature":
        "lZhLdxBwyad3lfV_xU93J_Mh75FsdVp05xNQk26L1NKJ_LRD7lf6GFB5wVc30pWNWqMQTUDcH3z52
        GZV5nfqgOFKt5ke3tq0HtAh10ek0t65rz3hpQn-dNwgqYDglGBFpanoxZiiD0vjsrDOGzkNYdvSK9ud_feE
        hkpBBclIzmQm2qRw_144V7L7EX-rJ7dtKcl_idm0wDIW0xDF9ludITFkKLbbeZsPuHLt6aQ2SEGE_FO6l
        piXFiZrbKCcsyaBK0RENxraqhIb3Kdha89m-vCfFCSSs3P9eeA3GkfvDR8a4Jt6PTvRzNUmjXCveYZDpe
        KC87yEVw0M8_RyPFnwPw",
      "encodedCpiSignedData":
        "eyJjYnNkU2VyaWFsTnVtYmVyljoiMjIwMjE5MDAwMDNBMTk1MkowMDAzliwiZmNjSWQiOiIyQVZGTC
        xCUzczMjAiLCJpbnN0YWxsYXRpb25QYXJhbSI6eyJhbnRlbn5hQXppbXV0aCI6NywiYW50ZW5uYUJl
        YW13aWR0aCI6NjUsImFudGVubmFEb3dudGlsdCI6MCwiYW50ZW5uYUdhaW4iOiE2LjUsImhlaWdod
        CI6MywiaGVpZ2h0VHlwZSI6IkFHTCIsImluZG9vckRlcGxveW1lbnQiOmZhbnHNILCJsYXRpdHVkZSI6M
        zcuNDExMzMxLCJsb25naXR1ZGUiOi0xMjluMDE4OTQyfSwicHJvZmVzc2lvbmFsSW5zdGFsbGVyRG
        F0YSI6eyJjcGljZCI6IjAwMSIsImNwaU5hbWUiOiJ5dWkiLCJpbnN0YWxsQ2VydGImaWNhdGlvbIRpbW
        UiOiIyMDIwLTAyLTEwVDA2OjlyOjMyWiJ9fQ",
      "protectedHeader": "eyJhbnRlbn5hQXppbXV0aCI6NywiYW50ZW5uYUJlYW13aWR0aCI6NjUsImFudGVubmFEb3dudGlsdCI6MCwiYW50ZW5uYUdhaW4iOiE2LjUsImhlaWdodCI6MywiaGVpZ2h0VHlwZSI6IkFHTCIsImluZG9vckRlcGxveW1lbnQiOmZhbnHNILCJsYXRpdHVkZSI6MzcuNDExMzMxLCJsb25naXR1ZGUiOi0xMjluMDE4OTQyfSwicHJvZmVzc2lvbmFsSW5zdGFsbGVyRGF0YSI6eyJjcGljZCI6IjAwMSIsImNwaU5hbWUiOiJ5dWkiLCJpbnN0YWxsQ2VydGImaWNhdGlvbIRpbWUiOiIyMDIwLTAyLTEwVDA2OjlyOjMyWiJ9fQ"
    },
    "fccId": "2AVFNLBS7320",
    "groupingParam": [
      {
        "groupId": "GW",
        "groupType": "INTERFERENCE_COORDINATION"
      }
    ],
    "measCapability": [
      "RECEIVED_POWER_WITH_GRANT",
      "RECEIVED_POWER_WITHOUT_GRANT"
    ],
    "userId": "GW"
  }
]
```

2020-02-10T06:22:26.385Z - INFO - Registration message contains cpiSignatureData



```
2020-02-10T06:22:26.385Z - INFO - protectedHeader = {u'alg': u'RS256', u'typ': u'JWT'}
2020-02-10T06:22:26.392Z - INFO - encodedCpiSignedData contents = {
  "installationParam": {
    "antennaAzimuth": 7,
    "heightType": "AGL",
    "longitude": -122.018942,
    "height": 3,
    "indoorDeployment": false,
    "latitude": 37.411331,
    "antennaDowntilt": 0,
    "antennaBeamwidth": 65,
    "antennaGain": 16.5
  },
  "fccId": "2AVFNLBS7320",
  "professionalInstallerData": {
    "cpiName": "yui",
    "installCertificationTime": "2020-02-10T06:22:32Z",
    "cpild": "001"
  },
  "cbsdSerialNumber": "22020300003A1952J0003"
}
2020-02-10T06:22:26.443Z - INFO - verified signature on cpiSignatureData
2020-02-10T06:22:26.450Z - INFO - cpiSignatureData data successfully validated against jsonschema
2020-02-10T06:22:26.451Z - INFO - engine sent successfully, the response to CBRS : {
  "registrationResponse": [
    {
      "cbsdId": "2AVFNLBS7320Mock-SAS22020300003A1952J0003",
      "response": {
        "responseCode": 0
      }
    }
  ]
}
2020-02-10T06:22:26.634Z - INFO - spectrumInquiry request from CBRS : {
  "spectrumInquiryRequest": [
    {
      "cbsdId": "2AVFNLBS7320Mock-SAS22020300003A1952J0003",
      "inquiredSpectrum": [
        {
          "highFrequency": 3700000000,
          "lowFrequency": 3550000000
        }
      ]
    }
  ]
}
2020-02-10T06:22:26.641Z - INFO - engine sent successfully, the response to CBRS : {
  "spectrumInquiryResponse": [
    {
      "availableChannel": [
        {
          "channelType": "GAA",
```

```

        "frequencyRange": {
            "highFrequency": 3700000000,
            "lowFrequency": 3550000000
        },
        "ruleApplied": "FCC_PART_96"
    }
},
"cbstdId": "2AVFNLBS7320Mock-SAS22020300003A1952J0003",
"response": {
    "responseCode": 0
}
}
]
}
2020-02-10T06:22:27.298Z - INFO - grant request from CBRS : {
    "grantRequest": [
        {
            "cbstdId": "2AVFNLBS7320Mock-SAS22020300003A1952J0003",
            "operationParam": {
                "maxEirp": 34,
                "operationFrequencyRange": {
                    "highFrequency": 3570000000,
                    "lowFrequency": 3550000000
                }
            }
        }
    ]
}
}
2020-02-10T06:22:27.305Z - INFO - engine sent successfully, the response to CBRS : {
    "grantResponse": [
        {
            "cbstdId": "2AVFNLBS7320Mock-SAS22020300003A1952J0003",
            "channelType": "GAA",
            "grantExpireTime": "2020-02-10T06:28:27Z",
            "grantId": "673316459",
            "heartbeatInterval": 60,
            "response": {
                "responseCode": 0
            }
        }
    ]
}
}
2020-02-10T06:22:27.710Z - INFO - heartbeat request from CBRS : {
    "heartbeatRequest": [
        {
            "cbstdId": "2AVFNLBS7320Mock-SAS22020300003A1952J0003",
            "grantId": "673316459",
            "grantRenew": false,
            "operationState": "GRANTED"
        }
    ]
}
}

```



```
2020-02-10T06:22:27.720Z - INFO - engine sent successfully, the response to CBRS : {
  "heartbeatResponse": [
    {
      "cbsdId": "2AVFNLBS7320Mock-SAS22020300003A1952J0003",
      "grantId": "673316459",
      "response": {
        "responseCode": 0
      },
      "transmitExpireTime": "2020-02-10T06:25:47Z"
    }
  ]
}
2020-02-10T06:22:54.164Z - INFO - heartbeat request from CBRS : {
  "heartbeatRequest": [
    {
      "cbsdId": "2AVFNLBS7320Mock-SAS22020300003A1952J0003",
      "grantId": "673316459",
      "grantRenew": false,
      "operationState": "AUTHORIZED"
    }
  ]
}
2020-02-10T06:22:54.165Z - INFO - Time interval between two heartbeat request messages is: 26.455,
limit is: 65.0
2020-02-10T06:22:54.173Z - INFO - engine sent successfully, the response to CBRS : {
  "heartbeatResponse": [
    {
      "cbsdId": "2AVFNLBS7320Mock-SAS22020300003A1952J0003",
      "grantId": "673316459",
      "response": {
        "responseCode": 0
      },
      "transmitExpireTime": "2020-02-10T06:26:14Z"
    }
  ]
}
2020-02-10T06:23:54.161Z - INFO - heartbeat request from CBRS : {
  "heartbeatRequest": [
    {
      "cbsdId": "2AVFNLBS7320Mock-SAS22020300003A1952J0003",
      "grantId": "673316459",
      "grantRenew": false,
      "operationState": "AUTHORIZED"
    }
  ]
}
2020-02-10T06:23:54.163Z - INFO - Time interval between two heartbeat request messages is: 59.997,
limit is: 65.0
2020-02-10T06:23:54.170Z - INFO - engine sent successfully, the response to CBRS : {
  "heartbeatResponse": [
    {
      "cbsdId": "2AVFNLBS7320Mock-SAS22020300003A1952J0003",
```

```
"grantId": "673316459",
"response": {
  "responseCode": 0
},
"transmitExpireTime": "2020-02-10T06:27:14Z"
}
]
}
2020-02-10T06:24:54.158Z - INFO - heartbeat request from CBRS : {
  "heartbeatRequest": [
    {
      "cbsdId": "2AVFNLBS7320Mock-SAS22020300003A1952J0003",
      "grantId": "673316459",
      "grantRenew": false,
      "operationState": "AUTHORIZED"
    }
  ]
}
2020-02-10T06:24:54.161Z - INFO - Time interval between two heartbeat request messages is: 59.997,
limit is: 65.0
2020-02-10T06:24:54.167Z - INFO - engine sent successfully, the response to CBRS : {
  "heartbeatResponse": [
    {
      "cbsdId": "2AVFNLBS7320Mock-SAS22020300003A1952J0003",
      "grantId": "673316459",
      "response": {
        "responseCode": 0
      },
      "transmitExpireTime": "2020-02-10T06:28:14Z"
    }
  ]
}
2020-02-10T06:25:54.155Z - INFO - heartbeat request from CBRS : {
  "heartbeatRequest": [
    {
      "cbsdId": "2AVFNLBS7320Mock-SAS22020300003A1952J0003",
      "grantId": "673316459",
      "grantRenew": false,
      "operationState": "AUTHORIZED"
    }
  ]
}
2020-02-10T06:25:54.157Z - INFO - Time interval between two heartbeat request messages is: 59.997,
limit is: 65.0
2020-02-10T06:25:54.164Z - INFO - engine sent successfully, the response to CBRS : {
  "heartbeatResponse": [
    {
      "cbsdId": "2AVFNLBS7320Mock-SAS22020300003A1952J0003",
      "grantId": "673316459",
      "response": {
        "responseCode": 0
      },

```

```
        "transmitExpireTime": "2020-02-10T06:28:27Z"
    }
}
]
}
2020-02-10T06:26:54.154Z - INFO - heartbeat request from CBRS : {
    "heartbeatRequest": [
        {
            "cbsdId": "2AVFNLBS7320Mock-SAS22020300003A1952J0003",
            "grantId": "673316459",
            "grantRenew": false,
            "operationState": "AUTHORIZED"
        }
    ]
}
}
2020-02-10T06:26:54.155Z - INFO - Time interval between two heartbeat request messages is: 59.998,
limit is: 65.0
2020-02-10T06:26:54.161Z - INFO - engine sent successfully, the response to CBRS : {
    "heartbeatResponse": [
        {
            "cbsdId": "2AVFNLBS7320Mock-SAS22020300003A1952J0003",
            "grantId": "673316459",
            "response": {
                "responseCode": 0
            },
            "transmitExpireTime": "2020-02-10T06:28:27Z"
        }
    ]
}
}
2020-02-10T06:27:54.157Z - INFO - heartbeat request from CBRS : {
    "heartbeatRequest": [
        {
            "cbsdId": "2AVFNLBS7320Mock-SAS22020300003A1952J0003",
            "grantId": "673316459",
            "grantRenew": true,
            "operationState": "AUTHORIZED"
        }
    ]
}
}
2020-02-10T06:27:54.157Z - INFO - Time interval between two heartbeat request messages is: 60.003,
limit is: 65.0
2020-02-10T06:27:54.170Z - INFO - grantRenew received in HBT request message
2020-02-10T06:27:54.171Z - INFO - engine sent successfully, the response to CBRS : {
    "heartbeatResponse": [
        {
            "cbsdId": "2AVFNLBS7320Mock-SAS22020300003A1952J0003",
            "grantExpireTime": "2020-02-10T06:33:54Z",
            "grantId": "673316459",
            "response": {
                "responseCode": 0
            },
            "transmitExpireTime": "2020-02-10T06:31:14Z"
        }
    ]
}
```

```
]
}
2020-02-10T06:28:54.151Z - INFO - heartbeat request from CBRS : {
  "heartbeatRequest": [
    {
      "cbsdId": "2AVFNLBS7320Mock-SAS22020300003A1952J0003",
      "grantId": "673316459",
      "grantRenew": false,
      "operationState": "AUTHORIZED"
    }
  ]
}
2020-02-10T06:28:54.153Z - INFO - Time interval between two heartbeat request messages is: 59.995,
limit is: 65.0
2020-02-10T06:28:54.161Z - INFO - engine sent successfully, the response to CBRS : {
  "heartbeatResponse": [
    {
      "cbsdId": "2AVFNLBS7320Mock-SAS22020300003A1952J0003",
      "grantId": "673316459",
      "response": {
        "responseCode": 0
      },
      "transmitExpireTime": "2020-02-10T06:32:14Z"
    }
  ]
}
2020-02-10T06:28:55.380Z - INFO - arrived to nstep starting question answer session with the
technician
2020-02-10T06:28:55.381Z - INFO - the question is : Did the CBSD renew its grant successfully? please
choose one of the answers :
2020-02-10T06:29:48.657Z - INFO - for the question : Did the CBSD renew its grant successfully? , the
user choose y
2020-02-10T06:29:49.743Z - INFO - The final result of the test : WINNF.FT.C.HBT.11 is - passed
```

Test Log for WINNF.FT.D.MES.2 Test Case ID

```
2020-02-10T07:04:41.565Z - INFO - WINNF TEST HARNESS RELEASE: 1.0.0.3 - 2018-November-13
2020-02-10T07:04:41.566Z - INFO - the selected test from the user : WINNF.FT.D.MES.2 is starting
now
```

2020-02-10T07:05:26.243Z - INFO - registration request from CBRS : {

```

"registrationRequest": [
  {
    "airInterface": {
      "radioTechnology": "E_UTRA",
      "supportedSpec": "FFS"
    },
    "callSign": "LEAX",
    "cbsdCategory": "B",
    "cbsdInfo": {
      "model": "LBS7320",
      "softwareVersion": "LeaxBTS_V2.0.4.1",
      "vendor": "Radisys"
    },
    "cbsdSerialNumber": "22020300003A1952J0003",
    "cpiSignatureData": {
      "digitalSignature":
"LSZyu-soEIMT3qu4sfjs46FjdHpUdv0d0-Tdcg8S1OCM-oLgJGIfkukaLK-LANPtPxNfNab5SQMI8kR8ku
9bC8AxTR-D9lfxyYfVZGYEnhny2rltv358_CRdvaUWjk1y9Diduyl7wgcja_z3L60Tf3M76PSINy4SzpC-3M
KpyJJJevVufKDW4CwmQqF180qijrKhUUwms8OsBDk4AfW5uKAmqORM-D_ffl3u-7ck263nnGRYUZzbqc
tmYR1ff9TT4O94XTzPfftWQxn_8ASr9qDurBudmWq-mXS7-z2wSmsz5UBwc-cLoI-9zXEHSpoO_b0tOI
YX8gXil7IDn1Qta-w",
      "encodedCpiSignedData":
"eyJjYnNkU2VyaWFsTnVtYmVyljoiMjIwMjA5MDAwMDNBMTk1Mk0wMDAzliwiZmNjSWQiOiIyQVZGTk
xCUzczMjAiLCJpbnN0YWxsYXRpb25QYXJhbnSi6eyJhbnRlbn5hQXppbXV0aCI6NywiYW50ZW5uYUJl
YW13aWR0aCI6NjUslmFudGVubmFEb3dudGlscCI6MCwiYW50ZW5uYUdhaW4iOiE2LjUslmhmaWdod
CI6MywiaGVpZ2h0VHlwZSI6IkFHTCIsImluZG9vckRlcGxveW1lbnQiOmZhbHNiLCJ5YXRpdHVkZSI6M
zcuNDExMzMxLCJsb25naXR1ZGU0Oi0xMjIwMDE4OTQyfiSwicHJvZmVzc2lvdjVbmFsSW5zdGFsbGVyRG
FOYSi6eyJjcGlZCi6ljiAwMSIsImNwaU5hbWUiOiJ5dWkiLCJpbnN0YWxsQ2VydGlmaWNhdGlvbiRpbW
UiOiIyMDIwLTAyLTUwVDA3OjA1OjMyWiJ9fQ",
      "protectedHeader": "eyJhbGciOiJSUzI1NiIsInR5cCI6IkpXVCJ9"
    },
    "fccId": "2AVFNLBS7320",
    "groupingParam": [
      {
        "groupId": "GW",
        "groupType": "INTERFERENCE_COORDINATION"
      }
    ],
    "measCapability": [
      "RECEIVED_POWER_WITH_GRANT",
      "RECEIVED_POWER_WITHOUT_GRANT"
    ],
    "userId": "GW"
  },
  {
    "airInterface": {
      "radioTechnology": "E_UTRA",

```

```

        "supportedSpec": "FFS"
    },
    "callSign": "LEAX",
    "cbsdCategory": "B",
    "cbsdInfo": {
        "model": "LBS7320",
        "softwareVersion": "LeaxBTS_V2.0.4.1",
        "vendor": "Radisys"
    },
    "cbsdSerialNumber": "22020300003A1952J0004",
    "cpiSignatureData": {
        "digitalSignature":
"nnwsc5Scps_h2FKBIOVg8yx2sSHPNIONWkNrLZw7xoQZGxfq4LGhOszf3NTDBnSB6bIU6ThLCkvnM
dYSBCKwbC9jBqsSzX5J_Mmf6kblf5PwLGXVhXfrEC7p0-87wEE1npVH7uad8F2DTxSf9KaGxTdbYOrHI
k4DuBgXACrMFZrCpYIsOTnoFkj5cPS73vwVdGlX-Obww68PO0255WINvwmOspX2lwFvi3ZwTLVGeA
mXS29pOgLuilS5kBcVaGcpeELIHMVRVHfWhxX9zlkyezq3dVHGnlsHKDi9bQrSmKpPrXJQWNQhZWfZ
Eco_vROjBaGPrLLiQ4dCuadBbqRtvOw",
        "encodedCpiSignedData":
"eyJjYnNkU2VyaWFsTnVtYmVyljoiMjIwMjIwMjIwMjIwMjIwMDAwMDNBMTk1MkowMDA0liwiZmNjSWQiOilyQVZGTk
xCUzcMjAiLCJpbnN0YWxsYXRpb25QYXJhbSI6eyJhbGpbnRlbn5hQXppbXV0aCI6NywiYW50ZW5uYUJl
YW13aWR0aCI6NjUsImFudGVubmFEb3dudGlsdCI6MCwiYW50ZW5uYUdhaW4iOiE2LjUsImhlaWdod
CI6MywiaGVpZ2h0VHlwZSI6IkFHTCIsImluZG9vckRlcGxveW1lbnQiOmZhbnHNILCJsYXRpdHVkZSI6M
zcuNDExMzIxLjI5b25naXR1ZGU0xMjIwMDE4OTQyYfSwicHJvZmVzc2lvbmFsSW5zdGFsbGVyRG
F0YSI6eyJjcGljZCI6IjAwMSIsImNwaU5hbWU0iOiJ5dWkiLCJpbnN0YWxsQ2VydGlmaWNhdGlubIRpbW
UiOiilyMDIwLTAYLTEwVDA3OjA1OjMyWiJ9fQ",
        "protectedHeader": "eyJhbGciOiJSUzI1NiIsInR5cCI6IkpXVCJ9"
    },
    "fccId": "2AVFNLBS7320",
    "groupingParam": [
        {
            "groupId": "GW",
            "groupType": "INTERFERENCE_COORDINATION"
        }
    ],
    "measCapability": [
        "RECEIVED_POWER_WITH_GRANT",
        "RECEIVED_POWER_WITHOUT_GRANT"
    ],
    "userId": "GW"
}
]
}
2020-02-10T07:05:26.305Z - INFO - Registration message contains cpiSignatureData
2020-02-10T07:05:26.305Z - INFO - protectedHeader = {u'alg': u'RS256', u'typ': u'JWT'}
2020-02-10T07:05:26.305Z - INFO - encodedCpiSignedData contents = {
    "installationParam": {
        "antennaAzimuth": 7,
        "heightType": "AGL",
        "longitude": -122.018942,
        "height": 3,
        "indoorDeployment": false,
        "latitude": 37.411331,

```

```

        "antennaDowntilt": 0,
        "antennaBeamwidth": 65,
        "antennaGain": 16.5
    },
    "fccId": "2AVFNLBS7320",
    "professionalInstallerData": {
        "cpiName": "yui",
        "installCertificationTime": "2020-02-10T07:05:32Z",
        "cpild": "001"
    },
    "cbsdSerialNumber": "22020300003A1952J0003"
}
2020-02-10T07:05:26.305Z - INFO - verified signature on cpiSignatureData
2020-02-10T07:05:26.312Z - INFO - cpiSignatureData data successfully validated against jsonschema
2020-02-10T07:05:26.313Z - INFO - Response message contains measReportConfig
2020-02-10T07:05:26.381Z - INFO - Registration message contains cpiSignatureData
2020-02-10T07:05:26.381Z - INFO - protectedHeader = {u'alg': u'RS256', u'typ': u'JWT'}
2020-02-10T07:05:26.381Z - INFO - encodedCpiSignedData contents = {
    "installationParam": {
        "antennaAzimuth": 7,
        "heightType": "AGL",
        "longitude": -122.018942,
        "height": 3,
        "indoorDeployment": false,
        "latitude": 37.411331,
        "antennaDowntilt": 0,
        "antennaBeamwidth": 65,
        "antennaGain": 16.5
    },
    "fccId": "2AVFNLBS7320",
    "professionalInstallerData": {
        "cpiName": "yui",
        "installCertificationTime": "2020-02-10T07:05:32Z",
        "cpild": "001"
    },
    "cbsdSerialNumber": "22020300003A1952J0004"
}
2020-02-10T07:05:26.381Z - INFO - verified signature on cpiSignatureData
2020-02-10T07:05:26.388Z - INFO - cpiSignatureData data successfully validated against jsonschema
2020-02-10T07:05:26.391Z - INFO - Response message contains measReportConfig
2020-02-10T07:05:26.391Z - INFO - engine sent successfully, the response to CBRS : {
    "registrationResponse": [
        {
            "cbsdId": "2AVFNLBS7320Mock-SAS22020300003A1952J0003",
            "measReportConfig": [
                "RECEIVED_POWER_WITHOUT_GRANT"
            ],
            "response": {
                "responseCode": 0
            }
        }
    ],
    {

```

```

        "cbsdId": "2AVFNLBS7320Mock-SAS22020300003A1952J0004",
        "measReportConfig": [
            "RECEIVED_POWER_WITHOUT_GRANT"
        ],
        "response": {
            "responseCode": 0
        }
    }
}
]
}
2020-02-10T07:05:26.703Z - INFO - spectrumInquiry request from CBRS : {
    "spectrumInquiryRequest": [
        {
            "cbsdId": "2AVFNLBS7320Mock-SAS22020300003A1952J0003",
            "inquiredSpectrum": [
                {
                    "highFrequency": 3700000000,
                    "lowFrequency": 3550000000
                }
            ],
            "measReport": {
                "rcvdPowerMeasReports": [
                    {
                        "measBandwidth": 10000000,
                        "measFrequency": 3550000000,
                        "measRcvdPower": -100
                    },
                    {
                        "measBandwidth": 10000000,
                        "measFrequency": 3560000000,
                        "measRcvdPower": -100
                    },
                    {
                        "measBandwidth": 10000000,
                        "measFrequency": 3570000000,
                        "measRcvdPower": -100
                    },
                    {
                        "measBandwidth": 10000000,
                        "measFrequency": 3580000000,
                        "measRcvdPower": -100
                    },
                    {
                        "measBandwidth": 10000000,
                        "measFrequency": 3590000000,
                        "measRcvdPower": -100
                    },
                    {
                        "measBandwidth": 10000000,
                        "measFrequency": 3600000000,
                        "measRcvdPower": -100
                    }
                ]
            }
        }
    ]
}

```

```

    {
      "measBandwidth": 10000000,
      "measFrequency": 3610000000,
      "measRcvdPower": -100
    },
    {
      "measBandwidth": 10000000,
      "measFrequency": 3620000000,
      "measRcvdPower": -100
    },
    {
      "measBandwidth": 10000000,
      "measFrequency": 3630000000,
      "measRcvdPower": -100
    },
    {
      "measBandwidth": 10000000,
      "measFrequency": 3640000000,
      "measRcvdPower": -100
    },
    {
      "measBandwidth": 10000000,
      "measFrequency": 3650000000,
      "measRcvdPower": -100
    },
    {
      "measBandwidth": 10000000,
      "measFrequency": 3660000000,
      "measRcvdPower": -100
    },
    {
      "measBandwidth": 10000000,
      "measFrequency": 3670000000,
      "measRcvdPower": -100
    },
    {
      "measBandwidth": 10000000,
      "measFrequency": 3680000000,
      "measRcvdPower": -100
    },
    {
      "measBandwidth": 10000000,
      "measFrequency": 3690000000,
      "measRcvdPower": -100
    }
  ]
},
{
  "cbsdId": "2AVFNLBS7320Mock-SAS22020300003A1952J0004",
  "inquiredSpectrum": [
    {

```

```
        "highFrequency": 3700000000,
        "lowFrequency": 3550000000
    },
],
"measReport": {
    "rcvdPowerMeasReports": [
        {
            "measBandwidth": 10000000,
            "measFrequency": 3550000000,
            "measRcvdPower": -100
        },
        {
            "measBandwidth": 10000000,
            "measFrequency": 3560000000,
            "measRcvdPower": -100
        },
        {
            "measBandwidth": 10000000,
            "measFrequency": 3570000000,
            "measRcvdPower": -100
        },
        {
            "measBandwidth": 10000000,
            "measFrequency": 3580000000,
            "measRcvdPower": -100
        },
        {
            "measBandwidth": 10000000,
            "measFrequency": 3590000000,
            "measRcvdPower": -100
        },
        {
            "measBandwidth": 10000000,
            "measFrequency": 3600000000,
            "measRcvdPower": -100
        },
        {
            "measBandwidth": 10000000,
            "measFrequency": 3610000000,
            "measRcvdPower": -100
        },
        {
            "measBandwidth": 10000000,
            "measFrequency": 3620000000,
            "measRcvdPower": -100
        },
        {
            "measBandwidth": 10000000,
            "measFrequency": 3630000000,
            "measRcvdPower": -100
        },
        {

```

```

        "measBandwidth": 10000000,
        "measFrequency": 3640000000,
        "measRcvdPower": -100
      },
      {
        "measBandwidth": 10000000,
        "measFrequency": 3650000000,
        "measRcvdPower": -100
      },
      {
        "measBandwidth": 10000000,
        "measFrequency": 3660000000,
        "measRcvdPower": -100
      },
      {
        "measBandwidth": 10000000,
        "measFrequency": 3670000000,
        "measRcvdPower": -100
      },
      {
        "measBandwidth": 10000000,
        "measFrequency": 3680000000,
        "measRcvdPower": -100
      },
      {
        "measBandwidth": 10000000,
        "measFrequency": 3690000000,
        "measRcvdPower": -100
      }
    ]
  }
}

2020-02-10T07:05:26.723Z - INFO - engine sent successfully, the response to CBRS : {
  "spectrumInquiryResponse": [
    {
      "availableChannel": [
        {
          "channelType": "GAA",
          "frequencyRange": {
            "highFrequency": 3700000000,
            "lowFrequency": 3550000000
          },
          "ruleApplied": "FCC_PART_96"
        }
      ],
      "cbsdId": "2AVFNLBS7320Mock-SAS22020300003A1952J0003",
      "response": {
        "responseCode": 0
      }
    }
  ],

```

```

{
  "availableChannel": [
    {
      "channelType": "GAA",
      "frequencyRange": {
        "highFrequency": 3700000000,
        "lowFrequency": 3550000000
      },
      "ruleApplied": "FCC_PART_96"
    }
  ],
  "cbsdId": "2AVFNLBS7320Mock-SAS22020300003A1952J0004",
  "response": {
    "responseCode": 0
  }
}
]
}
}
2020-02-10T07:05:28.052Z - INFO - grant request from CBRS : {
  "grantRequest": [
    {
      "cbsdId": "2AVFNLBS7320Mock-SAS22020300003A1952J0003",
      "measReport": {
        "rcvdPowerMeasReports": [
          {
            "measBandwidth": 10000000,
            "measFrequency": 3550000000,
            "measRcvdPower": -100
          },
          {
            "measBandwidth": 10000000,
            "measFrequency": 3560000000,
            "measRcvdPower": -100
          },
          {
            "measBandwidth": 10000000,
            "measFrequency": 3570000000,
            "measRcvdPower": -100
          },
          {
            "measBandwidth": 10000000,
            "measFrequency": 3580000000,
            "measRcvdPower": -100
          },
          {
            "measBandwidth": 10000000,
            "measFrequency": 3590000000,
            "measRcvdPower": -100
          },
          {
            "measBandwidth": 10000000,
            "measFrequency": 3600000000,

```

```

        "measRcvdPower": -100
    },
    {
        "measBandwidth": 10000000,
        "measFrequency": 3610000000,
        "measRcvdPower": -100
    },
    {
        "measBandwidth": 10000000,
        "measFrequency": 3620000000,
        "measRcvdPower": -100
    },
    {
        "measBandwidth": 10000000,
        "measFrequency": 3630000000,
        "measRcvdPower": -100
    },
    {
        "measBandwidth": 10000000,
        "measFrequency": 3640000000,
        "measRcvdPower": -100
    },
    {
        "measBandwidth": 10000000,
        "measFrequency": 3650000000,
        "measRcvdPower": -100
    },
    {
        "measBandwidth": 10000000,
        "measFrequency": 3660000000,
        "measRcvdPower": -100
    },
    {
        "measBandwidth": 10000000,
        "measFrequency": 3670000000,
        "measRcvdPower": -100
    },
    {
        "measBandwidth": 10000000,
        "measFrequency": 3680000000,
        "measRcvdPower": -100
    },
    {
        "measBandwidth": 10000000,
        "measFrequency": 3690000000,
        "measRcvdPower": -100
    }
]
},
"operationParam": {
    "maxEirp": 34,
    "operationFrequencyRange": {

```

```
        "highFrequency": 3570000000,
        "lowFrequency": 3550000000
      }
    },
    {
      "cbsdId": "2AVFNLBS7320Mock-SAS22020300003A1952J0004",
      "measReport": {
        "rcvdPowerMeasReports": [
          {
            "measBandwidth": 10000000,
            "measFrequency": 3550000000,
            "measRcvdPower": -100
          },
          {
            "measBandwidth": 10000000,
            "measFrequency": 3560000000,
            "measRcvdPower": -100
          },
          {
            "measBandwidth": 10000000,
            "measFrequency": 3570000000,
            "measRcvdPower": -100
          },
          {
            "measBandwidth": 10000000,
            "measFrequency": 3580000000,
            "measRcvdPower": -100
          },
          {
            "measBandwidth": 10000000,
            "measFrequency": 3590000000,
            "measRcvdPower": -100
          },
          {
            "measBandwidth": 10000000,
            "measFrequency": 3600000000,
            "measRcvdPower": -100
          },
          {
            "measBandwidth": 10000000,
            "measFrequency": 3610000000,
            "measRcvdPower": -100
          },
          {
            "measBandwidth": 10000000,
            "measFrequency": 3620000000,
            "measRcvdPower": -100
          },
          {
            "measBandwidth": 10000000,
            "measFrequency": 3630000000,
```

```

        "measRcvdPower": -100
      },
      {
        "measBandwidth": 10000000,
        "measFrequency": 3640000000,
        "measRcvdPower": -100
      },
      {
        "measBandwidth": 10000000,
        "measFrequency": 3650000000,
        "measRcvdPower": -100
      },
      {
        "measBandwidth": 10000000,
        "measFrequency": 3660000000,
        "measRcvdPower": -100
      },
      {
        "measBandwidth": 10000000,
        "measFrequency": 3670000000,
        "measRcvdPower": -100
      },
      {
        "measBandwidth": 10000000,
        "measFrequency": 3680000000,
        "measRcvdPower": -100
      },
      {
        "measBandwidth": 10000000,
        "measFrequency": 3690000000,
        "measRcvdPower": -100
      }
    ]
  },
  "operationParam": {
    "maxEirp": 34,
    "operationFrequencyRange": {
      "highFrequency": 3570000000,
      "lowFrequency": 3550000000
    }
  }
}
]
}
}
2020-02-10T07:05:28.102Z - INFO - engine sent successfully, the response to CBRS : {
  "grantResponse": [
    {
      "cbsdId": "2AVFNLBS7320Mock-SAS22020300003A1952J0003",
      "channelType": "GAA",
      "grantExpireTime": "2020-02-17T07:05:28Z",
      "grantId": "585521457",
      "heartbeatInterval": 60,

```

```
"response": {
  "responseCode": 0
},
{
  "cbsdId": "2AVFNLBS7320Mock-SAS22020300003A1952J0004",
  "channelType": "GAA",
  "grantExpireTime": "2020-02-17T07:05:28Z",
  "grantId": "144969668",
  "heartbeatInterval": 60,
  "response": {
    "responseCode": 0
  }
}
]
```

2020-02-10T07:05:29.628Z - INFO - arrived to nstep starting question answer session with the technician

2020-02-10T07:05:57.234Z - INFO - The final result of the test : WINNF.FT.D.MES.2 is - passed

Test Log for WINNF.FT.C.MES.3 Test Case ID

```
2020-02-10T06:30:40.667Z - INFO - WINNF TEST HARNESS RELEASE: 1.0.0.3 - 2018-November-13
2020-02-10T06:30:40.668Z - INFO - the selected test from the user : WINNF.FT.C.MES.3 is starting
now
```

2020-02-10T06:31:26.302Z - INFO - registration request from CBRS : {

```

"registrationRequest": [
  {
    "airInterface": {
      "radioTechnology": "E_UTRA",
      "supportedSpec": "FFS"
    },
    "callSign": "LEAX",
    "cbsdCategory": "B",
    "cbsdInfo": {
      "model": "LBS7320",
      "softwareVersion": "LeaxBTS_V2.0.4.1",
      "vendor": "Radisys"
    },
    "cbsdSerialNumber": "22020300003A1952J0003",
    "cpiSignatureData": {
      "digitalSignature":
"CQof31VDqSJJuGYRWmZp0_CEp3zmKnNqjy3SL0xKynFSFR5a0KxCtvG7aZprKsHBBc13INEGeZ7t6b
V2GLvbdmCjQgxUYrHfa3VODqlivdDARMLFvQpoXKPKzXKuqVmKjVCjJ3Vb7eO11-E0c0muDrvw7iNqq
r4RszgPEeJCzZGvWc6QvYss5paJpBMOvMs3sDBGv0uj5Y3IvOn5NXeihCW92Y8m6pGyV4p9hj_e8IS
Ey-2u5DozigEi6i1_CE2GD6zKJqT7fsQeYTzd9YiXFnNsRaCdb-4M_Kg6uyVbQpt-PYedQ_cg97JQPXp
ZheyJN2fe1WigRnNdeTAy56wRMg",
      "encodedCpiSignedData":
"eyJYnNkU2VyaWFsTnVtYmVyljoiMjIwMjAzMDAwMDNBMTk1Mk0wMDAzliwiZmNjSWQiOiIyQVZGTk
xCUzczMjAiLCJpbmN0YWxsYXRpb25QYXJhbSI6eyJhbnRlbn5hQXppbXV0aCI6NywiYW50ZW5uYUJl
YW13aWR0aCI6NjUsImFudGVubmFEb3dudGlsdCI6MCwiYW50ZW5uYUdhaW4iOiE2LjUsImhlaWdod
CI6MywiaGVpZ2h0VHlwZSI6IkFHTCIsImiluZG9vckRlcGxveW1lbnQiOmZhbnHNILCJsYXRpdHVkZSI6M
zcuNDEzMzIxLCJsb25naXR1ZGUUiOi0xMjIwMDE4OTQyfiSwicHJvZmVzc2lvbmFsSW5zdGFsbGVyRG
FOYSI6eyJjcGlJZCI6IjAwMSIsImNwaU5hbWUiOiJ5dWkiLCJpbmN0YWxsQ2VydGImaWNhdGlvbiRpbW
UiOiIyMDIwLTAYLTEwVDA2OjMxOjMyWiJ9fQ",
      "protectedHeader": "eyJhbGciOiJIUzI1NiIsInR5cCI6IkpXVCJ9"
    },
    "fccId": "2AVFNLBS7320",
    "groupingParam": [
      {
        "groupId": "GW",
        "groupType": "INTERFERENCE_COORDINATION"
      }
    ],
    "measCapability": [
      "RECEIVED_POWER_WITH_GRANT",
      "RECEIVED_POWER_WITHOUT_GRANT"
    ],
    "userId": "GW"
  }
]
}

```

2020-02-10T06:31:26.395Z - INFO - Registration message contains cpiSignatureData



```
2020-02-10T06:31:26.395Z - INFO - protectedHeader = {u'alg': u'RS256', u'typ': u'JWT'}
2020-02-10T06:31:26.397Z - INFO - encodedCpiSignedData contents = {
  "installationParam": {
    "antennaAzimuth": 7,
    "heightType": "AGL",
    "longitude": -122.018942,
    "height": 3,
    "indoorDeployment": false,
    "latitude": 37.411331,
    "antennaDowntilt": 0,
    "antennaBeamwidth": 65,
    "antennaGain": 16.5
  },
  "fccId": "2AVFNLBS7320",
  "professionalInstallerData": {
    "cpiName": "yui",
    "installCertificationTime": "2020-02-10T06:31:32Z",
    "cpild": "001"
  },
  "cbsdSerialNumber": "22020300003A1952J0003"
}
2020-02-10T06:31:26.398Z - INFO - verified signature on cpiSignatureData
2020-02-10T06:31:26.423Z - INFO - cpiSignatureData data successfully validated against jsonschema
2020-02-10T06:31:26.424Z - INFO - engine sent successfully, the response to CBRS : {
  "registrationResponse": [
    {
      "cbsdId": "2AVFNLBS7320Mock-SAS22020300003A1952J0003",
      "response": {
        "responseCode": 0
      }
    }
  ]
}
2020-02-10T06:31:26.615Z - INFO - spectrumInquiry request from CBRS : {
  "spectrumInquiryRequest": [
    {
      "cbsdId": "2AVFNLBS7320Mock-SAS22020300003A1952J0003",
      "inquiredSpectrum": [
        {
          "highFrequency": 3700000000,
          "lowFrequency": 3550000000
        }
      ]
    }
  ]
}
2020-02-10T06:31:26.625Z - INFO - engine sent successfully, the response to CBRS : {
  "spectrumInquiryResponse": [
    {
      "availableChannel": [
        {
          "channelType": "GAA",
```

```
        "frequencyRange": {
            "highFrequency": 3700000000,
            "lowFrequency": 3550000000
        },
        "ruleApplied": "FCC_PART_96"
    }
},
"cbstdId": "2AVFNLBS7320Mock-SAS22020300003A1952J0003",
"response": {
    "responseCode": 0
}
}
]
}
2020-02-10T06:31:27.223Z - INFO - grant request from CBRS : {
    "grantRequest": [
        {
            "cbstdId": "2AVFNLBS7320Mock-SAS22020300003A1952J0003",
            "operationParam": {
                "maxEirp": 34,
                "operationFrequencyRange": {
                    "highFrequency": 3570000000,
                    "lowFrequency": 3550000000
                }
            }
        }
    ]
}
}
2020-02-10T06:31:27.230Z - INFO - Response message contains measReportConfig
2020-02-10T06:31:27.230Z - INFO - engine sent successfully, the response to CBRS : {
    "grantResponse": [
        {
            "cbstdId": "2AVFNLBS7320Mock-SAS22020300003A1952J0003",
            "channelType": "GAA",
            "grantExpireTime": "2020-02-17T06:31:27Z",
            "grantId": "874819860",
            "heartbeatInterval": 60,
            "measReportConfig": [
                "RECEIVED_POWER_WITH_GRANT"
            ],
            "response": {
                "responseCode": 0
            }
        }
    ]
}
}
2020-02-10T06:31:27.596Z - INFO - heartbeat request from CBRS : {
    "heartbeatRequest": [
        {
            "cbstdId": "2AVFNLBS7320Mock-SAS22020300003A1952J0003",
            "grantId": "874819860",
            "grantRenew": false,
```

```

    "measReport": {
      "rcvdPowerMeasReports": [
        {
          "measBandwidth": 10000000,
          "measFrequency": 3550000000,
          "measRcvdPower": -100
        },
        {
          "measBandwidth": 10000000,
          "measFrequency": 3560000000,
          "measRcvdPower": -100
        },
        {
          "measBandwidth": 10000000,
          "measFrequency": 3570000000,
          "measRcvdPower": -100
        }
      ]
    },
    "operationState": "GRANTED"
  }
]
}
2020-02-10T06:31:27.598Z - INFO - measReport received in heartbeat message
2020-02-10T06:31:27.605Z - INFO - engine sent successfully, the response to CBRS : {
  "heartbeatResponse": [
    {
      "cbsdId": "2AVFNLBS7320Mock-SAS22020300003A1952J0003",
      "grantId": "874819860",
      "response": {
        "responseCode": 0
      },
      "transmitExpireTime": "2020-02-10T06:34:47Z"
    }
  ]
}
2020-02-10T06:31:54.161Z - INFO - heartbeat request from CBRS : {
  "heartbeatRequest": [
    {
      "cbsdId": "2AVFNLBS7320Mock-SAS22020300003A1952J0003",
      "grantId": "874819860",
      "grantRenew": false,
      "operationState": "AUTHORIZED"
    }
  ]
}
2020-02-10T06:31:54.164Z - INFO - Time interval between two heartbeat request messages is: 26.566,
limit is: 65.0
2020-02-10T06:31:54.171Z - INFO - engine sent successfully, the response to CBRS : {
  "heartbeatResponse": [
    {
      "cbsdId": "2AVFNLBS7320Mock-SAS22020300003A1952J0003",

```



```
"grantId": "874819860",
"response": {
  "responseCode": 0
},
"transmitExpireTime": "2020-02-10T06:35:14Z"
}
]
}
2020-02-10T06:32:54.161Z - INFO - heartbeat request from CBRS : {
  "heartbeatRequest": [
    {
      "cbsdId": "2AVFNLBS7320Mock-SAS22020300003A1952J0003",
      "grantId": "874819860",
      "grantRenew": false,
      "operationState": "AUTHORIZED"
    }
  ]
}
2020-02-10T06:32:54.161Z - INFO - Time interval between two heartbeat request messages is: 59.998,
limit is: 65.0
2020-02-10T06:32:54.173Z - INFO - engine sent successfully, the response to CBRS : {
  "heartbeatResponse": [
    {
      "cbsdId": "2AVFNLBS7320Mock-SAS22020300003A1952J0003",
      "grantId": "874819860",
      "response": {
        "responseCode": 0
      },
      "transmitExpireTime": "2020-02-10T06:36:14Z"
    }
  ]
}
2020-02-10T06:33:54.138Z - INFO - heartbeat request from CBRS : {
  "heartbeatRequest": [
    {
      "cbsdId": "2AVFNLBS7320Mock-SAS22020300003A1952J0003",
      "grantId": "874819860",
      "grantRenew": false,
      "operationState": "AUTHORIZED"
    }
  ]
}
2020-02-10T06:33:54.141Z - INFO - Time interval between two heartbeat request messages is: 59.978,
limit is: 65.0
2020-02-10T06:33:54.148Z - INFO - engine sent successfully, the response to CBRS : {
  "heartbeatResponse": [
    {
      "cbsdId": "2AVFNLBS7320Mock-SAS22020300003A1952J0003",
      "grantId": "874819860",
      "response": {
        "responseCode": 0
      },
    },
  ]
}
```

```
        "transmitExpireTime": "2020-02-10T06:37:14Z"
      }
    ]
  }
2020-02-10T06:34:54.140Z - INFO - heartbeat request from CBRS : {
  "heartbeatRequest": [
    {
      "cbsdId": "2AVFNLBS7320Mock-SAS22020300003A1952J0003",
      "grantId": "874819860",
      "grantRenew": false,
      "operationState": "AUTHORIZED"
    }
  ]
}
2020-02-10T06:34:54.141Z - INFO - Time interval between two heartbeat request messages is: 60.001,
limit is: 65.0
2020-02-10T06:34:54.150Z - INFO - engine sent successfully, the response to CBRS : {
  "heartbeatResponse": [
    {
      "cbsdId": "2AVFNLBS7320Mock-SAS22020300003A1952J0003",
      "grantId": "874819860",
      "response": {
        "responseCode": 0
      },
      "transmitExpireTime": "2020-02-10T06:38:14Z"
    }
  ]
}
2020-02-10T06:34:55.729Z - INFO - arrived to nstep starting question answer session with the
technician
2020-02-10T06:35:37.546Z - INFO - The final result of the test : WINNF.FT.C.MES.3 is - passed
```

Test Log for WINNF.FT.D.MES.5 Test Case ID

```
2020-02-10T07:10:08.989Z - INFO - WINNF TEST HARNESS RELEASE: 1.0.0.3 - 2018-November-13
2020-02-10T07:10:08.990Z - INFO - the selected test from the user : WINNF.FT.D.MES.5 is starting
now
```

2020-02-10T07:10:26.233Z - INFO - registration request from CBRS : {

```

"registrationRequest": [
  {
    "airInterface": {
      "radioTechnology": "E_UTRA",
      "supportedSpec": "FFS"
    },
    "callSign": "LEAX",
    "cbsdCategory": "B",
    "cbsdInfo": {
      "model": "LBS7320",
      "softwareVersion": "LeaxBTS_V2.0.4.1",
      "vendor": "Radisys"
    },
    "cbsdSerialNumber": "22020300003A1952J0003",
    "cpiSignatureData": {
      "digitalSignature":
"s31Szss2gd_Wui7lJNH7PIUr3Fkily8mHPzqOJ3i_YlbnFQTrJJ-4gWfMKA0xahZhggM8l49qvdPFdCQ
jmE4zk_J30vNF0VDqZNmkLmpO2TeoVWjllwwRE2BJg4wgC-w5q6PgLpGd2qN9iwuTYsDAp0mJIOKi
B-X09mSNsTyfee0-xl4bv9vD4TfG5bvwPWj9wjM3jimP3RLqw49tGy5MdyX2NKZr4T4JCYZloMyrTmKq
olc7UTJMgsZV0fkQ1IO85hkjbRN0jC6HnHmtJV_Jkf9QRypkjGgSLHHhu_FRxs9s45zrQM1SXEOqs5Px
8WE1hHqXj3VwwwBQOttfcQQ",
      "encodedCpiSignedData":
"eyJYnNkU2VyaWFsTnVtYmVyljoiMjIwMjAzMDAwMDNBMTk1Mk0wMDAzliwiZmNjSWQiOiIyQVZGTk
xCUzczMjAiLCJpbmN0YWxsYXRpb25QYXJhbSI6eyJhbnRlbn5hQXppbXV0aCI6NywiYW50ZW5uYUJl
YW13aWR0aCI6NjUsImFudGVubmFEb3dudGlscCI6MCwiYW50ZW5uYUdhaW4iOiE2LjUsImhlaWdod
CI6MywiaGVpZ2h0VHlwZSI6IkFHTCIsImluZG9vckRlcGxveW1lbnQiOmZhbHNiLCJsYXRpdHVkZSI6M
zcuNDExMzMxLCJsb25naXR1ZGU0I0xMjluMDE4OTQyfSwicHJvZmVzc2lvdjVbmFsSW5zdGFsbGVyRG
FOYSI6eyJjcGlZCi6lAwMSIsImNwaU5hbWUiOiJ5dWkiLCJpbmN0YWxsQ2VydGlmaWNhdGlvbiRpbW
UiOiIyMDIwLTAyLTUwVDA3OjEwOjMyWiJ9fQ",
      "protectedHeader": "eyJhbnRlbn5hQXppbXV0aCI6NywiYW50ZW5uYUdhaW4iOiE2LjUsImhlaWdod
CI6MywiaGVpZ2h0VHlwZSI6IkFHTCIsImluZG9vckRlcGxveW1lbnQiOmZhbHNiLCJsYXRpdHVkZSI6M
zcuNDExMzMxLCJsb25naXR1ZGU0I0xMjluMDE4OTQyfSwicHJvZmVzc2lvdjVbmFsSW5zdGFsbGVyRG
FOYSI6eyJjcGlZCi6lAwMSIsImNwaU5hbWUiOiJ5dWkiLCJpbmN0YWxsQ2VydGlmaWNhdGlvbiRpbW
UiOiIyMDIwLTAyLTUwVDA3OjEwOjMyWiJ9fQ"
    },
    "fcclId": "2AVFNLBS7320",
    "groupingParam": [
      {
        "groupId": "GW",
        "groupType": "INTERFERENCE_COORDINATION"
      }
    ],
    "measCapability": [
      "RECEIVED_POWER_WITH_GRANT",
      "RECEIVED_POWER_WITHOUT_GRANT"
    ],
    "userId": "GW"
  },
  {
    "airInterface": {
      "radioTechnology": "E_UTRA",

```

```

    "supportedSpec": "FFS"
  },
  "callSign": "LEAX",
  "cbsdCategory": "B",
  "cbsdInfo": {
    "model": "LBS7320",
    "softwareVersion": "LeaxBTS_V2.0.4.1",
    "vendor": "Radisys"
  },
  "cbsdSerialNumber": "22020300003A1952J0004",
  "cpiSignatureData": {
    "digitalSignature":
      "Vz0XeRGC4MFPd5gVNksvVIE-2QgXqz-WRvJuwz0V104-vANPnJXeg8wkQvcgUBebY3glS5jP7fSnw0GidzLh3bWdmQ1vGgkxqlFv0MkSxOyCMriXGaegSDIf9nyANZcZ54Rs8iD4beRco--3vRMTaf70U1UO5RSaEXyPEhcYGR2OBVNsvQlq_pnSEythDDAGTFbx5JvXnOF5ZQlfDVYQdvpcyGxYHe44It9K3w6hjckrVAQfiYC4Yi_sULDpDMBEDp9HubyJd4YehAtwsbQGa1IAm8A8f4bvqEzapFVIPNG4C3sDfPIJRatTWCYw4bthwwCdvy08fldkhTMQpuEfBw",
    "encodedCpiSignedData":
      "eyJjYnNkU2VyaWF5TnVtYmVyljoimjlwMjAzMDAwMDNBMTk1MkowMDA0liwiZmNjSWQiOiIlyQVZGTkxCUzczMjAiLCJpbmN0YWxsYXRpb25QYXJhbSI6eyJhbGlnbm5hQXppbXBV0aCI6NywiYW50ZW5uYUJlYW13aWR0aCI6NjUsImFudGVubmFEb3dudGlzdCI6MCwiYW50ZW5uYUdhW4iOiE2LjUsImhlaWdodCI6MywiaGVpZ2h0VHlwZSI6IkFHTCIsImluZG9vckRicGxveW1lbniQiOmZhbHNILCJsYXRpdHVkZSI6MzcunDEzMzIxLCJsbn25naXR1ZGUioi0xMjluMDEOTQyfSwicHJvZmVzc2lvbmFsSW5zdGFsbGVyRGF0YSI6eyJjcGIUZCj6ljAwMSIsImNwaU5hbWUiOiJ5dWkiLCJpbmN0YWxsQ2VydgImaWNhdGlvbIRpbWUiOiIlyMDIwLTAYLTEwVDA3OjEwOjMyWiJ9fQ",
    "protectedHeader": "eyJhbGciOiJSUzI1NiIsInR5cCI6IkpXVCJ9"
  },
  "fccId": "2AVFNLS7320",
  "groupingParam": [
    {
      "groupId": "GW",
      "groupType": "INTERFERENCE_COORDINATION"
    }
  ],
  "measCapability": [
    "RECEIVED_POWER_WITH_GRANT",
    "RECEIVED_POWER_WITHOUT_GRANT"
  ],
  "userId": "GW"
}
]

```

```
2020-02-10T07:10:26.299Z - INFO - Registration message contains cpiSignatureData
2020-02-10T07:10:26.299Z - INFO - protectedHeader = {u'alg': u'RS256', u'typ': u'JWT'}
2020-02-10T07:10:26.299Z - INFO - encodedCpiSignedData contents = {
    "installationParam": {
        "antennaAzimuth": 7,
        "heightType": "AGL",
        "longitude": -122.018942,
        "height": 3,
        "indoorDeployment": false,
        "latitude": 37.411331,
```



```
"antennaDowntilt": 0,
"antennaBeamwidth": 65,
"antennaGain": 16.5
},
"fccId": "2AVFNLBS7320",
"professionalInstallerData": {
  "cpiName": "yui",
  "installCertificationTime": "2020-02-10T07:10:32Z",
  "cpild": "001"
},
"cbstdSerialNumber": "22020300003A1952J0003"
}
2020-02-10T07:10:26.299Z - INFO - verified signature on cpiSignatureData
2020-02-10T07:10:26.306Z - INFO - cpiSignatureData data successfully validated against jsonschema
2020-02-10T07:10:26.401Z - INFO - Registration message contains cpiSignatureData
2020-02-10T07:10:26.401Z - INFO - protectedHeader = {u'alg': u'RS256', u'typ': u'JWT'}
2020-02-10T07:10:26.401Z - INFO - encodedCpiSignedData contents = {
  "installationParam": {
    "antennaAzimuth": 7,
    "heightType": "AGL",
    "longitude": -122.018942,
    "height": 3,
    "indoorDeployment": false,
    "latitude": 37.411331,
    "antennaDowntilt": 0,
    "antennaBeamwidth": 65,
    "antennaGain": 16.5
  },
  "fccId": "2AVFNLBS7320",
  "professionalInstallerData": {
    "cpiName": "yui",
    "installCertificationTime": "2020-02-10T07:10:32Z",
    "cpild": "001"
  },
  "cbstdSerialNumber": "22020300003A1952J0004"
}
2020-02-10T07:10:26.403Z - INFO - verified signature on cpiSignatureData
2020-02-10T07:10:26.410Z - INFO - cpiSignatureData data successfully validated against jsonschema
2020-02-10T07:10:26.411Z - INFO - engine sent successfully, the response to CBRS : {
  "registrationResponse": [
    {
      "cbstdId": "2AVFNLBS7320Mock-SAS22020300003A1952J0003",
      "response": {
        "responseCode": 0
      }
    },
    {
      "cbstdId": "2AVFNLBS7320Mock-SAS22020300003A1952J0004",
      "response": {
        "responseCode": 0
      }
    }
  ]
}
```



```
]
}
2020-02-10T07:10:26.855Z - INFO - spectrumInquiry request from CBRS : {
  "spectrumInquiryRequest": [
    {
      "cbsdId": "2AVFNLBS7320Mock-SAS22020300003A1952J0003",
      "inquiredSpectrum": [
        {
          "highFrequency": 3700000000,
          "lowFrequency": 3550000000
        }
      ]
    },
    {
      "cbsdId": "2AVFNLBS7320Mock-SAS22020300003A1952J0004",
      "inquiredSpectrum": [
        {
          "highFrequency": 3700000000,
          "lowFrequency": 3550000000
        }
      ]
    }
  ]
}
2020-02-10T07:10:26.871Z - INFO - engine sent successfully, the response to CBRS : {
  "spectrumInquiryResponse": [
    {
      "availableChannel": [
        {
          "channelType": "GAA",
          "frequencyRange": {
            "highFrequency": 3700000000,
            "lowFrequency": 3550000000
          },
          "ruleApplied": "FCC_PART_96"
        }
      ],
      "cbsdId": "2AVFNLBS7320Mock-SAS22020300003A1952J0003",
      "response": {
        "responseCode": 0
      }
    },
    {
      "availableChannel": [
        {
          "channelType": "GAA",
          "frequencyRange": {
            "highFrequency": 3700000000,
            "lowFrequency": 3550000000
          },
          "ruleApplied": "FCC_PART_96"
        }
      ]
    }
  ]
}
```

```
    ],
    "cbsdId": "2AVFNLBS7320Mock-SAS22020300003A1952J0004",
    "response": {
      "responseCode": 0
    }
  }
]
}
2020-02-10T07:10:28.211Z - INFO - grant request from CBRS : {
  "grantRequest": [
    {
      "cbsdId": "2AVFNLBS7320Mock-SAS22020300003A1952J0003",
      "operationParam": {
        "maxEirp": 34,
        "operationFrequencyRange": {
          "highFrequency": 3570000000,
          "lowFrequency": 3550000000
        }
      }
    },
    {
      "cbsdId": "2AVFNLBS7320Mock-SAS22020300003A1952J0004",
      "operationParam": {
        "maxEirp": 34,
        "operationFrequencyRange": {
          "highFrequency": 3570000000,
          "lowFrequency": 3550000000
        }
      }
    }
  ]
}
2020-02-10T07:10:28.226Z - INFO - engine sent successfully, the response to CBRS : {
  "grantResponse": [
    {
      "cbsdId": "2AVFNLBS7320Mock-SAS22020300003A1952J0003",
      "channelType": "GAA",
      "grantExpireTime": "2020-02-17T07:10:28Z",
      "grantId": "750977067",
      "heartbeatInterval": 60,
      "response": {
        "responseCode": 0
      }
    },
    {
      "cbsdId": "2AVFNLBS7320Mock-SAS22020300003A1952J0004",
      "channelType": "GAA",
      "grantExpireTime": "2020-02-17T07:10:28Z",
      "grantId": "179092910",
      "heartbeatInterval": 60,
      "response": {
        "responseCode": 0
      }
    }
  ]
}
```

```

    }
  }
]
}
2020-02-10T07:10:28.792Z - INFO - heartbeat request from CBRS : {
  "heartbeatRequest": [
    {
      "cbsdId": "2AVFNLBS7320Mock-SAS22020300003A1952J0003",
      "grantId": "750977067",
      "grantRenew": false,
      "operationState": "GRANTED"
    },
    {
      "cbsdId": "2AVFNLBS7320Mock-SAS22020300003A1952J0004",
      "grantId": "179092910",
      "grantRenew": false,
      "operationState": "GRANTED"
    }
  ]
}
2020-02-10T07:10:28.806Z - INFO - engine sent successfully, the response to CBRS : {
  "heartbeatResponse": [
    {
      "cbsdId": "2AVFNLBS7320Mock-SAS22020300003A1952J0003",
      "grantId": "750977067",
      "response": {
        "responseCode": 0
      },
      "transmitExpireTime": "2020-02-10T07:13:48Z"
    },
    {
      "cbsdId": "2AVFNLBS7320Mock-SAS22020300003A1952J0004",
      "grantId": "179092910",
      "response": {
        "responseCode": 0
      },
      "transmitExpireTime": "2020-02-10T07:13:48Z"
    }
  ]
}
2020-02-10T07:10:54.078Z - INFO - heartbeat request from CBRS : {
  "heartbeatRequest": [
    {
      "cbsdId": "2AVFNLBS7320Mock-SAS22020300003A1952J0004",
      "grantId": "179092910",
      "grantRenew": false,
      "operationState": "AUTHORIZED"
    },
    {
      "cbsdId": "2AVFNLBS7320Mock-SAS22020300003A1952J0003",
      "grantId": "750977067",
      "grantRenew": false,

```

```

        "operationState": "AUTHORIZED"
    }
]
}
2020-02-10T07:10:54.081Z - INFO - Time interval between two heartbeat request messages is: 25.287,
limit is: 65.0
2020-02-10T07:10:54.088Z - INFO - Time interval between two heartbeat request messages is: 25.287,
limit is: 65.0
2020-02-10T07:10:54.095Z - INFO - engine sent successfully, the response to CBRS : {
    "heartbeatResponse": [
        {
            "cbsdId": "2AVFNLBS7320Mock-SAS22020300003A1952J0004",
            "grantId": "179092910",
            "response": {
                "responseCode": 0
            },
            "transmitExpireTime": "2020-02-10T07:14:14Z"
        },
        {
            "cbsdId": "2AVFNLBS7320Mock-SAS22020300003A1952J0003",
            "grantId": "750977067",
            "response": {
                "responseCode": 0
            },
            "transmitExpireTime": "2020-02-10T07:14:14Z"
        }
    ]
}
2020-02-10T07:11:54.075Z - INFO - heartbeat request from CBRS : {
    "heartbeatRequest": [
        {
            "cbsdId": "2AVFNLBS7320Mock-SAS22020300003A1952J0004",
            "grantId": "179092910",
            "grantRenew": false,
            "operationState": "AUTHORIZED"
        },
        {
            "cbsdId": "2AVFNLBS7320Mock-SAS22020300003A1952J0003",
            "grantId": "750977067",
            "grantRenew": false,
            "operationState": "AUTHORIZED"
        }
    ]
}
2020-02-10T07:11:54.078Z - INFO - Time interval between two heartbeat request messages is: 59.995,
limit is: 65.0
2020-02-10T07:11:54.084Z - INFO - Response message contains measReportConfig
2020-02-10T07:11:54.085Z - INFO - Time interval between two heartbeat request messages is: 59.995,
limit is: 65.0
2020-02-10T07:11:54.091Z - INFO - Response message contains measReportConfig
2020-02-10T07:11:54.092Z - INFO - engine sent successfully, the response to CBRS : {
    "heartbeatResponse": [

```

```

{
  "cbsdId": "2AVFNLBS7320Mock-SAS22020300003A1952J0004",
  "grantId": "179092910",
  "measReportConfig": [
    "RECEIVED_POWER_WITH_GRANT"
  ],
  "response": {
    "responseCode": 0
  },
  "transmitExpireTime": "2020-02-10T07:15:14Z"
},
{
  "cbsdId": "2AVFNLBS7320Mock-SAS22020300003A1952J0003",
  "grantId": "750977067",
  "measReportConfig": [
    "RECEIVED_POWER_WITH_GRANT"
  ],
  "response": {
    "responseCode": 0
  },
  "transmitExpireTime": "2020-02-10T07:15:14Z"
}
]
}
2020-02-10T07:12:54.059Z - INFO - heartbeat request from CBRS : {
  "heartbeatRequest": [
    {
      "cbsdId": "2AVFNLBS7320Mock-SAS22020300003A1952J0004",
      "grantId": "179092910",
      "grantRenew": false,
      "measReport": {
        "rcvdPowerMeasReports": [
          {
            "measBandwidth": 10000000,
            "measFrequency": 3550000000,
            "measRcvdPower": -100
          },
          {
            "measBandwidth": 10000000,
            "measFrequency": 3560000000,
            "measRcvdPower": -100
          },
          {
            "measBandwidth": 10000000,
            "measFrequency": 3570000000,
            "measRcvdPower": -100
          }
        ]
      },
      "operationState": "AUTHORIZED"
    },
    {

```

```

    "cbsdId": "2AVFNLBS7320Mock-SAS22020300003A1952J0003",
    "grantId": "750977067",
    "grantRenew": false,
    "measReport": {
      "rcvdPowerMeasReports": [
        {
          "measBandwidth": 10000000,
          "measFrequency": 3550000000,
          "measRcvdPower": -100
        },
        {
          "measBandwidth": 10000000,
          "measFrequency": 3560000000,
          "measRcvdPower": -100
        },
        {
          "measBandwidth": 10000000,
          "measFrequency": 3570000000,
          "measRcvdPower": -100
        }
      ]
    },
    "operationState": "AUTHORIZED"
  }
]
}
}
2020-02-10T07:12:54.061Z - INFO - Time interval between two heartbeat request messages is: 59.985,
limit is: 65.0
2020-02-10T07:12:54.062Z - INFO - measReport received in heartbeat message
2020-02-10T07:12:54.069Z - INFO - Time interval between two heartbeat request messages is: 59.985,
limit is: 65.0
2020-02-10T07:12:54.071Z - INFO - measReport received in heartbeat message
2020-02-10T07:12:54.082Z - INFO - engine sent successfully, the response to CBRS : {
  "heartbeatResponse": [
    {
      "cbsdId": "2AVFNLBS7320Mock-SAS22020300003A1952J0004",
      "grantId": "179092910",
      "response": {
        "responseCode": 0
      },
      "transmitExpireTime": "2020-02-10T07:16:14Z"
    },
    {
      "cbsdId": "2AVFNLBS7320Mock-SAS22020300003A1952J0003",
      "grantId": "750977067",
      "response": {
        "responseCode": 0
      },
      "transmitExpireTime": "2020-02-10T07:16:14Z"
    }
  ]
}
}

```



```
2020-02-10T07:13:54.053Z - INFO - heartbeat request from CBRS : {
  "heartbeatRequest": [
    {
      "cbsdId": "2AVFNLBS7320Mock-SAS22020300003A1952J0004",
      "grantId": "179092910",
      "grantRenew": false,
      "operationState": "AUTHORIZED"
    },
    {
      "cbsdId": "2AVFNLBS7320Mock-SAS22020300003A1952J0003",
      "grantId": "750977067",
      "grantRenew": false,
      "operationState": "AUTHORIZED"
    }
  ]
}
2020-02-10T07:13:54.055Z - INFO - Time interval between two heartbeat request messages is: 59.995,
limit is: 65.0
2020-02-10T07:13:54.063Z - INFO - Time interval between two heartbeat request messages is: 59.995,
limit is: 65.0
2020-02-10T07:13:54.071Z - INFO - engine sent successfully, the response to CBRS : {
  "heartbeatResponse": [
    {
      "cbsdId": "2AVFNLBS7320Mock-SAS22020300003A1952J0004",
      "grantId": "179092910",
      "response": {
        "responseCode": 0
      },
      "transmitExpireTime": "2020-02-10T07:17:14Z"
    },
    {
      "cbsdId": "2AVFNLBS7320Mock-SAS22020300003A1952J0003",
      "grantId": "750977067",
      "response": {
        "responseCode": 0
      },
      "transmitExpireTime": "2020-02-10T07:17:14Z"
    }
  ]
}
2020-02-10T07:14:54.052Z - INFO - heartbeat request from CBRS : {
  "heartbeatRequest": [
    {
      "cbsdId": "2AVFNLBS7320Mock-SAS22020300003A1952J0004",
      "grantId": "179092910",
      "grantRenew": false,
      "operationState": "AUTHORIZED"
    },
    {
      "cbsdId": "2AVFNLBS7320Mock-SAS22020300003A1952J0003",
      "grantId": "750977067",
      "grantRenew": false,
```

```

        "operationState": "AUTHORIZED"
    }
]
}
2020-02-10T07:14:54.053Z - INFO - Time interval between two heartbeat request messages is: 59.997,
limit is: 65.0
2020-02-10T07:14:54.062Z - INFO - Time interval between two heartbeat request messages is: 59.997,
limit is: 65.0
2020-02-10T07:14:54.069Z - INFO - engine sent successfully, the response to CBRS : {
    "heartbeatResponse": [
        {
            "cbsdId": "2AVFNLBS7320Mock-SAS22020300003A1952J0004",
            "grantId": "179092910",
            "response": {
                "responseCode": 0
            },
            "transmitExpireTime": "2020-02-10T07:18:14Z"
        },
        {
            "cbsdId": "2AVFNLBS7320Mock-SAS22020300003A1952J0003",
            "grantId": "750977067",
            "response": {
                "responseCode": 0
            },
            "transmitExpireTime": "2020-02-10T07:18:14Z"
        }
    ]
}
2020-02-10T07:15:54.052Z - INFO - heartbeat request from CBRS : {
    "heartbeatRequest": [
        {
            "cbsdId": "2AVFNLBS7320Mock-SAS22020300003A1952J0004",
            "grantId": "179092910",
            "grantRenew": false,
            "operationState": "AUTHORIZED"
        },
        {
            "cbsdId": "2AVFNLBS7320Mock-SAS22020300003A1952J0003",
            "grantId": "750977067",
            "grantRenew": false,
            "operationState": "AUTHORIZED"
        }
    ]
}
2020-02-10T07:15:54.052Z - INFO - Time interval between two heartbeat request messages is: 60.0,
limit is: 65.0
2020-02-10T07:15:54.061Z - INFO - Time interval between two heartbeat request messages is: 60.0,
limit is: 65.0
2020-02-10T07:15:54.069Z - INFO - engine sent successfully, the response to CBRS : {
    "heartbeatResponse": [
        {
            "cbsdId": "2AVFNLBS7320Mock-SAS22020300003A1952J0004",

```

```

        "grantId": "179092910",
        "response": {
            "responseCode": 0
        },
        "transmitExpireTime": "2020-02-10T07:19:14Z"
    },
    {
        "cbsdId": "2AVFNLBS7320Mock-SAS22020300003A1952J0003",
        "grantId": "750977067",
        "response": {
            "responseCode": 0
        },
        "transmitExpireTime": "2020-02-10T07:19:14Z"
    }
]
}
2020-02-10T07:16:54.048Z - INFO - heartbeat request from CBRS : {
    "heartbeatRequest": [
        {
            "cbsdId": "2AVFNLBS7320Mock-SAS22020300003A1952J0004",
            "grantId": "179092910",
            "grantRenew": false,
            "operationState": "AUTHORIZED"
        },
        {
            "cbsdId": "2AVFNLBS7320Mock-SAS22020300003A1952J0003",
            "grantId": "750977067",
            "grantRenew": false,
            "operationState": "AUTHORIZED"
        }
    ]
}
2020-02-10T07:16:54.049Z - INFO - Time interval between two heartbeat request messages is: 59.997,
limit is: 65.0
2020-02-10T07:16:54.058Z - INFO - Time interval between two heartbeat request messages is: 59.997,
limit is: 65.0
2020-02-10T07:16:54.066Z - INFO - engine sent successfully, the response to CBRS : {
    "heartbeatResponse": [
        {
            "cbsdId": "2AVFNLBS7320Mock-SAS22020300003A1952J0004",
            "grantId": "179092910",
            "response": {
                "responseCode": 0
            },
            "transmitExpireTime": "2020-02-10T07:20:14Z"
        },
        {
            "cbsdId": "2AVFNLBS7320Mock-SAS22020300003A1952J0003",
            "grantId": "750977067",
            "response": {
                "responseCode": 0
            },
            "transmitExpireTime": "2020-02-10T07:20:14Z"
        }
    ]
}

```



```
"transmitExpireTime": "2020-02-10T07:20:14Z"
    }
  ]
}
```

2020-02-10T07:16:55.085Z - INFO - arrived to nstep starting question answer session with the technician

2020-02-10T07:32:33.368Z - INFO - The final result of the test : WINNF.FT.D.MES.5 is - passed

Test Log for WINNF.FT.D.RLQ.2 Test Case ID

2020-02-10T07:40:09.710Z - INFO - WINNF TEST HARNESS RELEASE: 1.0.0.3 - 2018-November-13
 2020-02-10T07:40:09.710Z - INFO - the selected test from the user : WINNF.FT.D.RLQ.2 is starting now
 2020-02-10T07:40:26.171Z - INFO - registration request from CBRS : {

```
"registrationRequest": [
  {
    "airInterface": {
      "radioTechnology": "E_UTRA",
      "supportedSpec": "FFS"
    },
    "callSign": "LEAX",
    "cbsdCategory": "B",
    "cbsdInfo": {
      "model": "LBS7320",
      "softwareVersion": "LeaxBTS_V2.0.4.1",
      "vendor": "Radisys"
    },
    "cbsdSerialNumber": "22020300003A1952J0003",
    "cpiSignatureData": {
      "digitalSignature":
        "g6BAJVRPcJjzZ2ShJYMJ_ iuaMEpcPHIEC8sGJowK4NIWiEzf6SSCy51vRKYbtchwwRje9CPXIFdpZnfL
        8epeXdDVIGckmtHh-SVA8c0VqxMliDArwxYNebSfi20p_HPWNqo2VMI3jmQcz8fTqrtKiY4ocVXJeTmxk
        _ZBjAyi0LzW2r67RsP-cv8lzuAGQFXFq6sfPrNoAX1-3ODwnv7qM56_S3Sf33cC9CxGLFUGOj5Dde41
        QebhlzvJPQM6vClwF-ApTUQeh6fK0kiSz5Gj18qKA6ioYdFFF3-JHslhPYta7rO7Doo0moR3NHFFu5B24g
        _OmohXyYdlXld-4Ex2Swg",
      "encodedCpiSignedData":
        "eyJjYnNkU2VyaWFsTnVtYmVyljoiMjIwMjA1MDAwMDNBMTk1MkxwMDAzliwiZmNjSWQiOilyQVZGTC
        xCUzczMjAiLCJpbnN0YWxsYXRpb25QYXJhbnSi6eyJhbnRlbnM5hQXppbXV0aCI6NywiYW50ZW5uYUJl
        YW13aWR0aCI6NjUsImFudGVubmFEb3dudGlsdCI6MCwiYW50ZW5uYUdhW4iOiE2LjUsImhlaWdod
        CI6MywiaGVpZ2h0VHlwZSI6IkFHTCIsImluZG9vckRlcGxveW1lbnQiOmZhbHNILCJsYXRpdHVkZSI6M
        zcuNDExMzMxLCJsb25naXR1ZGUiOi0xMjluMDE4OTQyfSwicHJvZmVzc2lvdjVbmFsSW5zdGFsbGVyRG
        F0YSi6eyJjcGlJZCI6IjAwMSIsImNwaU5hbWUiOiJ5dWkiLCJpbnN0YWxsQ2VydGlmawWNhdGlvdjRpbW
        UiOilyMDIwLTAYLTEwVDA3OjQwOjMyWiJ9fQ",
      "protectedHeader": "eyJhbnRlbnR5cCI6IkpXVCJ9"
    },
    "fccId": "2AVFNLBS7320",
    "groupingParam": [
      {
        "groupId": "GW",
        "groupType": "INTERFERENCE_COORDINATION"
      }
    ],
    "measCapability": [
      "RECEIVED_POWER_WITH_GRANT",
      "RECEIVED_POWER_WITHOUT_GRANT"
    ],
    "userId": "GW"
  },
  {
    "airInterface": {
      "radioTechnology": "E_UTRA",
      "supportedSpec": "FFS"
```

```

    },
    "callSign": "LEAX",
    "cbsdCategory": "B",
    "cbsdInfo": {
      "model": "LBS7320",
      "softwareVersion": "LeaxBTS_V2.0.4.1",
      "vendor": "Radisys"
    },
    "cbsdSerialNumber": "22020300003A1952J0004",
    "cpiSignatureData": {
      "digitalSignature":
        "O0OzK0zH07K_Qj4RAJQkE7SfCjKE61-ymtFmfKOXTDz-IJju6VWVBbQOqqVAur-yyXmycok-ZltKHJCf
        a7ZGVUYk09boggcUX3VDhiNB0fqPqxDAUuAPPGujORDjcX69I90q4WXKPk0cTZButyagCEq1UrpM6V
        Ec4VzsdAiHPLSJsj9NRvNRELuD4Mea2uXxUstZz9XBYl0yzh1QWs8Be_i_kTmjyT0hMbQbs2A6HAhj4C
        E7_NtycSlvVPtN2Ypi_53IIPJDOWicU2c17zDkyfB_yR4HuX2aFG_TtV5GkJ7T1ks54ECKjn114GEG5nB
        unpjyMR0_SDOpJVX0r_b1Qsg",
      "encodedCpiSignedData":
        "eyJYnNkU2VyaWFsTnVtYmVyIjoiaWJlMjAzMDAwMDNBMTk1MkowMDA0liwiZmNjSWQiOiIyZWZGTk
        xCUzczMjAiLCJpbmN0YWxsYXRpb25QYXJhbSI6eyJhbGRlbm5hZXppbXBV0aCI6NywiYW50ZW5uYUJI
        YW13aWR0aCI6NjUsImFudGVubmFEb3dudGlzdCI6MCwiYW50ZW5uYUdhaw4iOiE2LjUsImhlaWdod
        CI6MywiaGVpZ2h0VHlwZSI6IkFHTClslmluZG9vcckRicGxveW1lbnQiOmZhbmHNILCJsYXRpdHVkZSI6M
        zcuNDExMzMxLjBs25naXR1ZGUiOi0xMjluMDE4OTQyfSwicHJvZmVzc2lvbmFsSW5zdGFsbGVyRG
        F0YSI6eyJjcGlJZCI6IjAwMSIsImNwaU5hbWUiOiJ5dWkiLCJpbmN0YWxsQ2VydGlmaWNhdGlvbiRpbW
        UiOiIyZWZGTkUwLTAYLTEwVDA3OjQwOjMyWiJ9fQ",
      "protectedHeader": "eyJhbGciOiJSUzI1NiIsInR5cCI6IkpXVCJ9"
    },
    ],
    "fccId": "2AVFNLS7320",
    "groupingParam": [
      {
        "groupId": "GW",
        "groupType": "INTERFERENCE_COORDINATION"
      }
    ],
    "measCapability": [
      "RECEIVED_POWER_WITH_GRANT",
      "RECEIVED_POWER_WITHOUT_GRANT"
    ],
    "userId": "GW"
  }
}
]

```

```
2020-02-10T07:40:26.224Z - INFO - Registration message contains cpiSignatureData
2020-02-10T07:40:26.224Z - INFO - protectedHeader = {u'alg': u'RS256', u'typ': u'JWT'}
2020-02-10T07:40:26.224Z - INFO - encodedCpiSignedData contents = {
    "installationParam": {
        "antennaAzimuth": 7,
        "heightType": "AGL",
        "longitude": -122.018942,
        "height": 3,
        "indoorDeployment": false,
        "latitude": 37.411331,
        "antennaDowntilt": 0.
```

```

        "antennaBeamwidth": 65,
        "antennaGain": 16.5
    },
    "fccId": "2AVFNLBS7320",
    "professionalInstallerData": {
        "cpiName": "yui",
        "installCertificationTime": "2020-02-10T07:40:32Z",
        "cpild": "001"
    },
    "cbsdSerialNumber": "22020300003A1952J0003"
}
2020-02-10T07:40:26.290Z - INFO - verified signature on cpiSignatureData
2020-02-10T07:40:26.301Z - INFO - cpiSignatureData data successfully validated against jsonschema
2020-02-10T07:40:26.367Z - INFO - Registration message contains cpiSignatureData
2020-02-10T07:40:26.367Z - INFO - protectedHeader = {u'alg': u'RS256', u'typ': u'JWT'}
2020-02-10T07:40:26.368Z - INFO - encodedCpiSignedData contents = {
    "installationParam": {
        "antennaAzimuth": 7,
        "heightType": "AGL",
        "longitude": -122.018942,
        "height": 3,
        "indoorDeployment": false,
        "latitude": 37.411331,
        "antennaDowntilt": 0,
        "antennaBeamwidth": 65,
        "antennaGain": 16.5
    },
    "fccId": "2AVFNLBS7320",
    "professionalInstallerData": {
        "cpiName": "yui",
        "installCertificationTime": "2020-02-10T07:40:32Z",
        "cpild": "001"
    },
    "cbsdSerialNumber": "22020300003A1952J0004"
}
2020-02-10T07:40:26.368Z - INFO - verified signature on cpiSignatureData
2020-02-10T07:40:26.375Z - INFO - cpiSignatureData data successfully validated against jsonschema
2020-02-10T07:40:26.377Z - INFO - engine sent successfully, the response to CBRS : {
    "registrationResponse": [
        {
            "cbsdId": "2AVFNLBS7320Mock-SAS22020300003A1952J0003",
            "response": {
                "responseCode": 0
            }
        },
        {
            "cbsdId": "2AVFNLBS7320Mock-SAS22020300003A1952J0004",
            "response": {
                "responseCode": 0
            }
        }
    ]
}
]

```

```
}
2020-02-10T07:40:26.736Z - INFO - spectrumInquiry request from CBRS : {
  "spectrumInquiryRequest": [
    {
      "cbsdId": "2AVFNLBS7320Mock-SAS22020300003A1952J0003",
      "inquiredSpectrum": [
        {
          "highFrequency": 3700000000,
          "lowFrequency": 3550000000
        }
      ]
    },
    {
      "cbsdId": "2AVFNLBS7320Mock-SAS22020300003A1952J0004",
      "inquiredSpectrum": [
        {
          "highFrequency": 3700000000,
          "lowFrequency": 3550000000
        }
      ]
    }
  ]
}
2020-02-10T07:40:26.756Z - INFO - engine sent successfully, the response to CBRS : {
  "spectrumInquiryResponse": [
    {
      "availableChannel": [
        {
          "channelType": "GAA",
          "frequencyRange": {
            "highFrequency": 3700000000,
            "lowFrequency": 3550000000
          },
          "ruleApplied": "FCC_PART_96"
        }
      ],
      "cbsdId": "2AVFNLBS7320Mock-SAS22020300003A1952J0003",
      "response": {
        "responseCode": 0
      }
    },
    {
      "availableChannel": [
        {
          "channelType": "GAA",
          "frequencyRange": {
            "highFrequency": 3700000000,
            "lowFrequency": 3550000000
          },
          "ruleApplied": "FCC_PART_96"
        }
      ],
      "cbsdId": "2AVFNLBS7320Mock-SAS22020300003A1952J0004",
      "response": {
        "responseCode": 0
      }
    }
  ]
}
```

```
"cbsdId": "2AVFNLBS7320Mock-SAS22020300003A1952J0004",
"response": {
  "responseCode": 0
}
]
}
2020-02-10T07:40:28.382Z - INFO - grant request from CBRS : {
  "grantRequest": [
    {
      "cbsdId": "2AVFNLBS7320Mock-SAS22020300003A1952J0003",
      "operationParam": {
        "maxEirp": 34,
        "operationFrequencyRange": {
          "highFrequency": 3570000000,
          "lowFrequency": 3550000000
        }
      }
    },
    {
      "cbsdId": "2AVFNLBS7320Mock-SAS22020300003A1952J0004",
      "operationParam": {
        "maxEirp": 34,
        "operationFrequencyRange": {
          "highFrequency": 3570000000,
          "lowFrequency": 3550000000
        }
      }
    }
  ]
}
2020-02-10T07:40:28.397Z - INFO - engine sent successfully, the response to CBRS : {
  "grantResponse": [
    {
      "cbsdId": "2AVFNLBS7320Mock-SAS22020300003A1952J0003",
      "channelType": "GAA",
      "grantExpireTime": "2020-02-17T07:40:28Z",
      "grantId": "943858059",
      "heartbeatInterval": 60,
      "response": {
        "responseCode": 0
      }
    },
    {
      "cbsdId": "2AVFNLBS7320Mock-SAS22020300003A1952J0004",
      "channelType": "GAA",
      "grantExpireTime": "2020-02-17T07:40:28Z",
      "grantId": "428197445",
      "heartbeatInterval": 60,
      "response": {
        "responseCode": 0
      }
    }
  ]
}
```

```
}
]
}
2020-02-10T07:40:29.062Z - INFO - heartbeat request from CBRS : {
  "heartbeatRequest": [
    {
      "cbsdId": "2AVFNLBS7320Mock-SAS22020300003A1952J0003",
      "grantId": "943858059",
      "grantRenew": false,
      "operationState": "GRANTED"
    },
    {
      "cbsdId": "2AVFNLBS7320Mock-SAS22020300003A1952J0004",
      "grantId": "428197445",
      "grantRenew": false,
      "operationState": "GRANTED"
    }
  ]
}
2020-02-10T07:40:29.076Z - INFO - engine sent successfully, the response to CBRS : {
  "heartbeatResponse": [
    {
      "cbsdId": "2AVFNLBS7320Mock-SAS22020300003A1952J0003",
      "grantId": "943858059",
      "response": {
        "responseCode": 0
      },
      "transmitExpireTime": "2020-02-10T07:43:49Z"
    },
    {
      "cbsdId": "2AVFNLBS7320Mock-SAS22020300003A1952J0004",
      "grantId": "428197445",
      "response": {
        "responseCode": 0
      },
      "transmitExpireTime": "2020-02-10T07:43:49Z"
    }
  ]
}
2020-02-10T07:40:54.000Z - INFO - heartbeat request from CBRS : {
  "heartbeatRequest": [
    {
      "cbsdId": "2AVFNLBS7320Mock-SAS22020300003A1952J0004",
      "grantId": "428197445",
      "grantRenew": false,
      "operationState": "AUTHORIZED"
    },
    {
      "cbsdId": "2AVFNLBS7320Mock-SAS22020300003A1952J0003",
      "grantId": "943858059",
      "grantRenew": false,
      "operationState": "AUTHORIZED"
    }
  ]
}
```

```

    }
  ]
}
2020-02-10T07:40:54.002Z - INFO - Time interval between two heartbeat request messages is: 24.939,
limit is: 65.0
2020-02-10T07:40:54.009Z - INFO - Time interval between two heartbeat request messages is: 24.939,
limit is: 65.0
2020-02-10T07:40:54.016Z - INFO - engine sent successfully, the response to CBRS : {
  "heartbeatResponse": [
    {
      "cbsdId": "2AVFNLBS7320Mock-SAS22020300003A1952J0004",
      "grantId": "428197445",
      "response": {
        "responseCode": 0
      },
      "transmitExpireTime": "2020-02-10T07:44:14Z"
    },
    {
      "cbsdId": "2AVFNLBS7320Mock-SAS22020300003A1952J0003",
      "grantId": "943858059",
      "response": {
        "responseCode": 0
      },
      "transmitExpireTime": "2020-02-10T07:44:14Z"
    }
  ]
}
2020-02-10T07:41:54.056Z - INFO - heartbeat request from CBRS : {
  "heartbeatRequest": [
    {
      "cbsdId": "2AVFNLBS7320Mock-SAS22020300003A1952J0004",
      "grantId": "428197445",
      "grantRenew": false,
      "operationState": "AUTHORIZED"
    },
    {
      "cbsdId": "2AVFNLBS7320Mock-SAS22020300003A1952J0003",
      "grantId": "943858059",
      "grantRenew": false,
      "operationState": "AUTHORIZED"
    }
  ]
}
2020-02-10T07:41:54.058Z - INFO - Time interval between two heartbeat request messages is: 60.056,
limit is: 65.0
2020-02-10T07:41:54.063Z - INFO - Time interval between two heartbeat request messages is: 60.056,
limit is: 65.0
2020-02-10T07:41:54.075Z - INFO - engine sent successfully, the response to CBRS : {
  "heartbeatResponse": [
    {
      "cbsdId": "2AVFNLBS7320Mock-SAS22020300003A1952J0004",
      "grantId": "428197445",

```



```
        "response": {
            "responseCode": 0
        },
        "transmitExpireTime": "2020-02-10T07:45:14Z"
    },
    {
        "cbsdId": "2AVFNLBS7320Mock-SAS22020300003A1952J0003",
        "grantId": "943858059",
        "response": {
            "responseCode": 0
        },
        "transmitExpireTime": "2020-02-10T07:45:14Z"
    }
]
}
2020-02-10T07:42:21.142Z - INFO - relinquishment request from CBRS : {
    "relinquishmentRequest": [
        {
            "cbsdId": "2AVFNLBS7320Mock-SAS22020300003A1952J0003",
            "grantId": "943858059"
        }
    ]
}
2020-02-10T07:42:21.151Z - INFO - engine sent successfully, the response to CBRS : {
    "relinquishmentResponse": [
        {
            "cbsdId": "2AVFNLBS7320Mock-SAS22020300003A1952J0003",
            "grantId": "943858059",
            "response": {
                "responseCode": 0
            }
        }
    ]
}
2020-02-10T07:42:24.267Z - INFO - relinquishment request from CBRS : {
    "relinquishmentRequest": [
        {
            "cbsdId": "2AVFNLBS7320Mock-SAS22020300003A1952J0004",
            "grantId": "428197445"
        }
    ]
}
2020-02-10T07:42:24.275Z - INFO - engine sent successfully, the response to CBRS : {
    "relinquishmentResponse": [
        {
            "cbsdId": "2AVFNLBS7320Mock-SAS22020300003A1952J0004",
            "grantId": "428197445",
            "response": {
                "responseCode": 0
            }
        }
    ]
}
```



}

2020-02-10T07:42:25.719Z - INFO - arrived to nstep starting question answer session with the technician

2020-02-10T07:42:25.720Z - INFO - the question is : Did CBSD1 cease RF transmission before receipt of Relinquishment Request by Test Harness? please choose one of the answers :

2020-02-10T07:43:48.608Z - INFO - for the question : Did CBSD1 cease RF transmission before receipt of Relinquishment Request by Test Harness? , the user choose y

2020-02-10T07:43:48.609Z - INFO - the question is : Did CBSD2 cease RF transmission before receipt of Relinquishment Request by Test Harness? please choose one of the answers :

2020-02-10T07:43:52.019Z - INFO - for the question : Did CBSD2 cease RF transmission before receipt of Relinquishment Request by Test Harness? , the user choose y

2020-02-10T07:43:55.588Z - INFO - The final result of the test : WINNF.FT.D.RLQ.2 is - passed and :the additional comments for the current test are : CBSD1 stop transmission at T07:41:22. CBSD2 stop transmission at T07:41:24

Test Log for WINNF.FT.D.RLQ.4 Test Case ID

2020-02-10T08:01:43.862Z - INFO - WINNF TEST HARNESS RELEASE: 1.0.0.3 - 2018-November-13

2020-02-10T08:01:43.864Z - INFO - the selected test from the user : WINNF.FT.D.RLQ.4 is starting now

2020-02-10T08:02:26.102Z - INFO - registration request from CBRS : {

```
"registrationRequest": {  
    {  
        "airInterface": {  
            "radioTechnology": "E_UTRA",  
            "supportedSpec": "FFS"  
        },  
        "callSign": "LEAX",  
        "cbstdCategory": "B",  
        "cbstdInfo": {  
            "model": "LBS7320",  
            "softwareVersion": "LeaxBTS_V2.0.4.1",  
            "vendor": "Radisys"  
        },  
        "cbstdSerialNumber": "22020300003A1952J0003",  
        "cpiSignatureData": {  
            "digitalSignature":  
"sAEgRoa5yOmpQ9rP_DN3a0cfo8MEiNnrItNoHcwUdVdv31eFb3wnljXvG-6zNrFeEJW6sGmOQVZjiol-vLG_BjWswgO_YB2kJBxP_I4B8CSAZa1nDChhpUq15DBrHb-M_6keap58wie88svq9L1lXlpMqhpVHo  
oqk27cuAtgefADXEOSzD14ZvDNiv4JyEbH62R7BpHDF1dqNajqbU02IGQUISequqaGS_uAzOBJ3gBtA  
ahfvUBUx95bMixNwhhQz69Gnb-XaruYl0QX4_Z3v7hERSxMoKx45ktdN8nlfBMa7hW49uwmm28D-rjjJ9u  
s9oTPvcXIHOxzfhOU6-uQg",  
            "encodedCpiSignedData":  
"eyJjYnNkU2VyaWFfsTnVtYmVyljoimjlwMjAzMDAwMDNBMTk1MkowMDAzliwiZmNjSWQiOilYQVZGTk  
xCUZczMjAiLCJpbN0YWxsYXRpb25QYXJhbSI6eyJhbGRlbn5hQXppbXBv0aCI6NywiYW50ZW5uYUJJ  
YW13aWR0aCI6NjUsImFudGVubmFEb3dudGlscCI6MCwiYW50ZW5uYUdhawW4iOiE2LjUsImhlaWdob  
Cl6MywiaGVpZ2h0VHlwZSI6IkFHTCIsImImluZG9vcGRlcGxveW1lbniQiOmZhbmHNILCJsYXRpdHVkZSI6M  
zcunDEzMzmxLCJsb25naXR1ZGUioi0xMjluMDEOTQyfSwicHJvZmVzc2lvbmFsSW5zdGFsbGVyRG  
FOYSI6eyJjcGlZCi6lAjAwMSlmlNwaU5hbWUiOiJ5dWkiLCJpbN0YWxsQ2VydgGmaWNhdGlvbiRpbW  
UiOilYMDIwLTAYLTEwVDA4OjAyOjMyWiJ9fQ",  
            "protectedHeader": "eyJhbGciOiJSUzI1NiIsInR5cCI6IkpXVCJ9"  
        },  
        "fccId": "2AVFNLS7320",  
        "groupingParam": [  
            {  
                "groupId": "GW",  
                "groupType": "INTERFERENCE_COORDINATION"  
            }  
        ],  
        "measCapability": [  
            "RECEIVED_POWER_WITH_GRANT",  
            "RECEIVED_POWER_WITHOUT_GRANT"  
        ],  
        "userId": "GW"  
    },  
    {  
        "airInterface": {  
            "radioTechnology": "E_UTRA",  
            "supportedSpec": "FFS"
```

```

    },
    "callSign": "LEAX",
    "cbsdCategory": "B",
    "cbsdInfo": {
      "model": "LBS7320",
      "softwareVersion": "LeaxBTS_V2.0.4.1",
      "vendor": "Radisys"
    },
    "cbsdSerialNumber": "22020300003A1952J0004",
    "cpiSignatureData": {
      "digitalSignature":
"N125GcqjMsBiNd6A1V3srVTRuyHXazVs1YacCMODtCCleVpWEFq9V1nHVuBgS66uheyn8Qk1S2swj
SemBtyhmsyg3iw5h2TweiK3uvdcnkrMsuUbr8gnPACCUNCmtt6mcBQXhkfp7wk-JHyNcsUbhbcl_s3VT
Fdw8N3T6ukQPXCFpnIOzbb0_3dmQFVVj3Fu2ssY_2DeICs4wWVhX9BZcLIvVLe4F8FyixU3F8vXjLh6
C--tFRLWAcScNyoBzZ370P8ViiingvKRb5P968brtiyata9L4ABRo30Fu9rX13qRdknoRxLf2p7VltLPHA7
Qzy2u4qgOGzFXzwkbAUnGQ",
      "encodedCpiSignedData":
"eyJjYnNkU2VyaWFsTnVtYmVyljoiMjIwMjAzMDAwMDNBMTk1MkowMDA0liwiZmNjSWQiOiOilyQVZGTk
xCUzczMjAiLCJpbnN0YWxsYXRpb25QYXJhbSI6eyJhbnRlbnM5hQXppbXV0aCI6NywiYW50ZW5uYUJl
YW13aWR0aCI6NjUsImFudGVubmFEb3dudGlsdCI6MCwiYW50ZW5uYUdhYW4iOiE2LjUsImhlaWdod
CI6MywiaGVpZ2h0VHlwZSI6IkFHTCIsImImluZG9vckRlcGxveW1lbnQiOmZhbnHNILCJsYXRpdHVkZSI6M
zcuNDExMzMxLzJsbn25naXR1ZGUiOi0xMjluMDE4OTQyfSwicHJvZmVzc2lvbmFsSW5zdGFsbGVyRG
F0YSI6eyJjcGljZCI6IjAwMSIsImNwaU5hbWUiOiJ5dWkiLCJpbnN0YWxsQ2VydGlmaWNhdGlvbIRpbW
UiOiOilyMDIwLTAYLTEwVDA4OjAyOjMyWiJ9fQ",
      "protectedHeader": "eyJhbGciOiJSUzI1NiIsInR5cCI6IkpXVCJ9"
    },
    "fccId": "2AVFNLBS7320",
    "groupingParam": [
      {
        "groupId": "GW",
        "groupType": "INTERFERENCE_COORDINATION"
      }
    ],
    "measCapability": [
      "RECEIVED_POWER_WITH_GRANT",
      "RECEIVED_POWER_WITHOUT_GRANT"
    ],
    "userId": "GW"
  }
}
]
}

```

```
2020-02-10T08:02:26.151Z - INFO - Registration message contains cpiSignatureData
2020-02-10T08:02:26.151Z - INFO - protectedHeader = {u'alg': u'RS256', u'typ': u'JWT'}
2020-02-10T08:02:26.151Z - INFO - encodedCpiSignedData contents = {
    "installationParam": {
        "antennaAzimuth": 7,
        "heightType": "AGL",
        "longitude": -122.018942,
        "height": 3,
        "indoorDeployment": false,
        "latitude": 37.411331,
        "antennaDowntilt": 0.
```



```
"antennaBeamwidth": 65,
"antennaGain": 16.5
},
"fccId": "2AVFNLBS7320",
"professionalInstallerData": {
  "cpiName": "yui",
  "installCertificationTime": "2020-02-10T08:02:32Z",
  "cpild": "001"
},
"cbid": "22020300003A1952J0003"
}
2020-02-10T08:02:26.201Z - INFO - verified signature on cpiSignatureData
2020-02-10T08:02:26.210Z - INFO - cpiSignatureData data successfully validated against jsonschema
2020-02-10T08:02:26.259Z - INFO - Registration message contains cpiSignatureData
2020-02-10T08:02:26.259Z - INFO - protectedHeader = {u'alg': u'RS256', u'typ': u'JWT'}
2020-02-10T08:02:26.259Z - INFO - encodedCpiSignedData contents = {
  "installationParam": {
    "antennaAzimuth": 7,
    "heightType": "AGL",
    "longitude": -122.018942,
    "height": 3,
    "indoorDeployment": false,
    "latitude": 37.411331,
    "antennaDowntilt": 0,
    "antennaBeamwidth": 65,
    "antennaGain": 16.5
  },
  "fccId": "2AVFNLBS7320",
  "professionalInstallerData": {
    "cpiName": "yui",
    "installCertificationTime": "2020-02-10T08:02:32Z",
    "cpild": "001"
  },
  "cbid": "22020300003A1952J0004"
}
2020-02-10T08:02:26.260Z - INFO - verified signature on cpiSignatureData
2020-02-10T08:02:26.267Z - INFO - cpiSignatureData data successfully validated against jsonschema
2020-02-10T08:02:26.269Z - INFO - engine sent successfully, the response to CBRS : {
  "registrationResponse": [
    {
      "cbid": "2AVFNLBS7320Mock-SAS22020300003A1952J0003",
      "response": {
        "responseCode": 0
      }
    },
    {
      "cbid": "2AVFNLBS7320Mock-SAS22020300003A1952J0004",
      "response": {
        "responseCode": 0
      }
    }
  ]
}
```

```

}
2020-02-10T08:02:26.605Z - INFO - spectrumInquiry request from CBRS : {
  "spectrumInquiryRequest": [
    {
      "cbsdId": "2AVFNLBS7320Mock-SAS22020300003A1952J0003",
      "inquiredSpectrum": [
        {
          "highFrequency": 3700000000,
          "lowFrequency": 3550000000
        }
      ]
    },
    {
      "cbsdId": "2AVFNLBS7320Mock-SAS22020300003A1952J0004",
      "inquiredSpectrum": [
        {
          "highFrequency": 3700000000,
          "lowFrequency": 3550000000
        }
      ]
    }
  ]
}
2020-02-10T08:02:26.619Z - INFO - engine sent successfully, the response to CBRS : {
  "spectrumInquiryResponse": [
    {
      "availableChannel": [
        {
          "channelType": "GAA",
          "frequencyRange": {
            "highFrequency": 3700000000,
            "lowFrequency": 3550000000
          },
          "ruleApplied": "FCC_PART_96"
        }
      ],
      "cbsdId": "2AVFNLBS7320Mock-SAS22020300003A1952J0003",
      "response": {
        "responseCode": 0
      }
    },
    {
      "availableChannel": [
        {
          "channelType": "GAA",
          "frequencyRange": {
            "highFrequency": 3700000000,
            "lowFrequency": 3550000000
          },
          "ruleApplied": "FCC_PART_96"
        }
      ],

```

```
"cbsdId": "2AVFNLBS7320Mock-SAS22020300003A1952J0004",
"response": {
  "responseCode": 0
}
]
}
2020-02-10T08:02:27.477Z - INFO - grant request from CBRS : {
  "grantRequest": [
    {
      "cbsdId": "2AVFNLBS7320Mock-SAS22020300003A1952J0003",
      "operationParam": {
        "maxEirp": 34,
        "operationFrequencyRange": {
          "highFrequency": 3570000000,
          "lowFrequency": 3550000000
        }
      }
    },
    {
      "cbsdId": "2AVFNLBS7320Mock-SAS22020300003A1952J0004",
      "operationParam": {
        "maxEirp": 34,
        "operationFrequencyRange": {
          "highFrequency": 3570000000,
          "lowFrequency": 3550000000
        }
      }
    }
  ]
}
2020-02-10T08:02:27.492Z - INFO - engine sent successfully, the response to CBRS : {
  "grantResponse": [
    {
      "cbsdId": "2AVFNLBS7320Mock-SAS22020300003A1952J0003",
      "channelType": "GAA",
      "grantExpireTime": "2020-02-17T08:02:27Z",
      "grantId": "695575022",
      "heartbeatInterval": 60,
      "response": {
        "responseCode": 0
      }
    },
    {
      "cbsdId": "2AVFNLBS7320Mock-SAS22020300003A1952J0004",
      "channelType": "GAA",
      "grantExpireTime": "2020-02-17T08:02:27Z",
      "grantId": "967900180",
      "heartbeatInterval": 60,
      "response": {
        "responseCode": 0
      }
    }
  ]
}
```

```
}
]
}
2020-02-10T08:02:28.252Z - INFO - heartbeat request from CBRS : {
  "heartbeatRequest": [
    {
      "cbsdId": "2AVFNLBS7320Mock-SAS22020300003A1952J0003",
      "grantId": "695575022",
      "grantRenew": false,
      "operationState": "GRANTED"
    },
    {
      "cbsdId": "2AVFNLBS7320Mock-SAS22020300003A1952J0004",
      "grantId": "967900180",
      "grantRenew": false,
      "operationState": "GRANTED"
    }
  ]
}
2020-02-10T08:02:28.266Z - INFO - engine sent successfully, the response to CBRS : {
  "heartbeatResponse": [
    {
      "cbsdId": "2AVFNLBS7320Mock-SAS22020300003A1952J0003",
      "grantId": "695575022",
      "response": {
        "responseCode": 0
      },
      "transmitExpireTime": "2020-02-10T08:05:48Z"
    },
    {
      "cbsdId": "2AVFNLBS7320Mock-SAS22020300003A1952J0004",
      "grantId": "967900180",
      "response": {
        "responseCode": 0
      },
      "transmitExpireTime": "2020-02-10T08:05:48Z"
    }
  ]
}
2020-02-10T08:02:53.937Z - INFO - heartbeat request from CBRS : {
  "heartbeatRequest": [
    {
      "cbsdId": "2AVFNLBS7320Mock-SAS22020300003A1952J0004",
      "grantId": "967900180",
      "grantRenew": false,
      "operationState": "AUTHORIZED"
    },
    {
      "cbsdId": "2AVFNLBS7320Mock-SAS22020300003A1952J0003",
      "grantId": "695575022",
      "grantRenew": false,
      "operationState": "AUTHORIZED"
    }
  ]
}
```

```

    }
  ]
}
2020-02-10T08:02:53.940Z - INFO - Time interval between two heartbeat request messages is: 25.687,
limit is: 65.0
2020-02-10T08:02:53.946Z - INFO - Time interval between two heartbeat request messages is: 25.687,
limit is: 65.0
2020-02-10T08:02:53.953Z - INFO - engine sent successfully, the response to CBRS : {
  "heartbeatResponse": [
    {
      "cbsdId": "2AVFNLBS7320Mock-SAS22020300003A1952J0004",
      "grantId": "967900180",
      "response": {
        "responseCode": 0
      },
      "transmitExpireTime": "2020-02-10T08:06:13Z"
    },
    {
      "cbsdId": "2AVFNLBS7320Mock-SAS22020300003A1952J0003",
      "grantId": "695575022",
      "response": {
        "responseCode": 0
      },
      "transmitExpireTime": "2020-02-10T08:06:13Z"
    }
  ]
}
2020-02-10T08:03:53.938Z - INFO - heartbeat request from CBRS : {
  "heartbeatRequest": [
    {
      "cbsdId": "2AVFNLBS7320Mock-SAS22020300003A1952J0004",
      "grantId": "967900180",
      "grantRenew": false,
      "operationState": "AUTHORIZED"
    },
    {
      "cbsdId": "2AVFNLBS7320Mock-SAS22020300003A1952J0003",
      "grantId": "695575022",
      "grantRenew": false,
      "operationState": "AUTHORIZED"
    }
  ]
}
2020-02-10T08:03:53.940Z - INFO - Time interval between two heartbeat request messages is: 60.001,
limit is: 65.0
2020-02-10T08:03:53.947Z - INFO - Time interval between two heartbeat request messages is: 60.001,
limit is: 65.0
2020-02-10T08:03:53.954Z - INFO - engine sent successfully, the response to CBRS : {
  "heartbeatResponse": [
    {
      "cbsdId": "2AVFNLBS7320Mock-SAS22020300003A1952J0004",
      "grantId": "967900180",

```

```

        "response": {
            "responseCode": 0
        },
        "transmitExpireTime": "2020-02-10T08:07:13Z"
    },
    {
        "cbsdId": "2AVFNLBS7320Mock-SAS22020300003A1952J0003",
        "grantId": "695575022",
        "response": {
            "responseCode": 0
        },
        "transmitExpireTime": "2020-02-10T08:07:13Z"
    }
]
}
2020-02-10T08:03:54.540Z - INFO - relinquishment request from CBRS : {
    "relinquishmentRequest": [
        {
            "cbsdId": "2AVFNLBS7320Mock-SAS22020300003A1952J0003",
            "grantId": "695575022"
        }
    ]
}
2020-02-10T08:03:54.546Z - INFO - engine sent successfully, the response to CBRS : {
    "relinquishmentResponse": [
        {
            "cbsdId": "2AVFNLBS7320Mock-SAS22020300003A1952J0003",
            "response": {
                "responseCode": 102,
                "responseData": [
                    "grantId"
                ]
            }
        }
    ]
}
2020-02-10T08:03:55.733Z - INFO - relinquishment request from CBRS : {
    "relinquishmentRequest": [
        {
            "cbsdId": "2AVFNLBS7320Mock-SAS22020300003A1952J0004",
            "grantId": "967900180"
        }
    ]
}
2020-02-10T08:03:55.740Z - INFO - engine sent successfully, the response to CBRS : {
    "relinquishmentResponse": [
        {
            "cbsdId": "2AVFNLBS7320Mock-SAS22020300003A1952J0004",
            "response": {
                "responseCode": 102,
                "responseData": [
                    "grantId"
                ]
            }
        }
    ]
}

```

```
]
}
}
]
```

2020-02-10T08:03:56.871Z - INFO - arrived to nstep starting question answer session with the technician

2020-02-10T08:03:56.872Z - INFO - the question is : Did CBSD1 cease RF transmission before receipt of Relinquishment Request by Test Harness? please choose one of the answers :

2020-02-10T08:05:10.381Z - INFO - for the question : Did CBSD1 cease RF transmission before receipt of Relinquishment Request by Test Harness? , the user choose y

2020-02-10T08:05:10.382Z - INFO - the question is : Did CBSD2 cease RF transmission before receipt of Relinquishment Request by Test Harness? please choose one of the answers :

2020-02-10T08:05:11.101Z - INFO - for the question : Did CBSD2 cease RF transmission before receipt of Relinquishment Request by Test Harness? , the user choose y

2020-02-10T08:05:40.964Z - INFO - The final result of the test : WINNF.FT.D.RLQ.4 is - passed and :the additional comments for the current test are : CBSD1 stop transmission at T08:02:55. CBSD2 stop transmission at T08:02:56

Test Log for WINNF.FT.D.RLO.6 Test Case ID

2020-02-10T08:29:18.059Z - INFO - WINNF TEST HARNESS RELEASE: 1.0.0.3 - 2018-November-13

2020-02-10T08:29:18.061Z - INFO - the selected test from the user : WINNF.FT.D.RLQ.6 is starting now

2020-02-10T08:30:26.039Z - INFO - registration request from CBRS : {

```

"registrationRequest": [
  {
    "airInterface": {
      "radioTechnology": "E_UTRA",
      "supportedSpec": "FFS"
    },
    "callSign": "LEAX",
    "cbsdCategory": "B",
    "cbsdInfo": {
      "model": "LBS7320",
      "softwareVersion": "LeaxBTS_V2.0.4.1",
      "vendor": "Radisys"
    },
    "cbsdSerialNumber": "22020300003A1952J0003",
    "cpiSignatureData": {
      "digitalSignature":
"rh3m7jiETnRVc5hBZ8ajuGvyPX8KyLHxpBxRdzkqUBwgpD-cdFJ2zxue8hbl51bC07RrdG-5PbzSHO1id
Q69Qh3FB0m8mhbrAs_4tS5g0-dgf83-Q0Z3zHoEaSiceCXoRVgm6cmG_E5B9I3LNwH2RCirG2gZfZx
XE9ZMY4bWkSYykGXReojRqOiQm3McCgregcob7SvKnnXPdWE7hGj7Z7Z9E_QjwnltWIm4QkOhT1Aeg
tkjAvHOQSg4ekzV4fk7CZ-WIWuA7Z1BfYCxYRPTW9Gjq27Rw0_c1kiSan-KJ9dJn_2Dr3BdzdqPCIOQS
minqKpqiXuBvMB4KcUqamO1BUw",
      "encodedCpiSignedData":
"eyJjYnNkU2VyaWFsTnVtYmVyljoiMjIwMjAzMDAwMDNBMTk1MkowMDAzliwiZmNjSWQiOilyQVZGTk
xCUzczMjAiLCJpbmN0YWxsYXRpb25QYXJhbSI6eyJhbnRlbn5hQXppbXV0aCI6NywiYW50ZW5uYUJl
YW13aWR0aCI6NjUsImFudGVubmFEb3dudGlsdCI6MCwiYW50ZW5uYUdhaW4iOiE2LjUsImhlaWdod
CI6MywiaGVpZ2h0VHlwZSI6IkFHTCIsImIuZG9vckRlcGxveW1lbnQiOmZhbHNILCJsYXRpdHVkZSI6M
zcuNDEzMzIxLCJsb25naXR1ZGUiOi0xMjIuMDE4OTQyfSwicHJvZmVzc2lvcnRlcFsb25zdGFsbGVyRG
FOYSI6eyJjcGljZCI6ImFwMSIsImNwaU5hbWUiOiJ5dWkiLCJpbmN0YWxsQ2VydGlmaWNhdGlvbRlRpbW
UiOilyMDIwLTAYLTEwVDA4OjMwOjMyWiJ9fQ",
      "protectedHeader": "eyJhbGciOiJSUzI1NiIsInR5cCI6IkpXVCJ9"
    },
    "fcid": "2AVFNLBS7320",
    "groupingParam": [
      {
        "groupId": "GW",
        "groupType": "INTERFERENCE_COORDINATION"
      }
    ],
    "measCapability": [
      "RECEIVED_POWER_WITH_GRANT",
      "RECEIVED_POWER_WITHOUT_GRANT"
    ],
    "userId": "GW"
  },
  {
    "airInterface": {
      "radioTechnology": "E_UTRA",
      "supportedSpec": "FFS"
    }
  }
]

```

```

    },
    "callSign": "LEAX",
    "cbssCategory": "B",
    "cbssInfo": {
      "model": "LBS7320",
      "softwareVersion": "LeaxBTS_V2.0.4.1",
      "vendor": "Radisys"
    },
    "cbssSerialNumber": "22020300003A1952J0004",
    "cpiSignatureData": {
      "digitalSignature":
        "n81L7gWN8F0gykqUVhjwhsiyZhnuviOBREcS5iKpOztd6ZOu6QrcJH55kup6D90mh9dnMCQkMDCCm
        sjpThU7YpAwP0rCDPhSbuUXqH-fLlnmzFz6XUe9qfBABjQBkiB1KdJmTcf3hmApiJbux9cZrLrN8XnUJ1v
        bziPfsOjlfFqkui8RCH8N_qZtuYdtQZ8AtUZOxxle02bLGj6K8X6CUzkBEXdrTWrcVMMhxVs8DFYFgN-q
        BNPTnMjobHE8N31kbBF-auMLQ_Tc8VPWMI0W9NEaqmA4_sbvxAvR8eHgHGO4VqefzOlxoKRMzw7
        DwBUuMzrAxO-GyNKDvNNQUEicWA",
      "encodedCpiSignedData":
        "eyJjYnNkU2VyaWFsTnVtYmVyljoiMjIwMjA0MDAwMDNBMTk1MkowMDA0liwiZmNjSWQiOilyQVZGTk
        xCUzczMjAiLCJpbnN0YWxsYXRpb25QYXJhbSI6eyJhbnRlbn5hQXppbXV0aCI6NywiYW50ZW5uYUJl
        YW13aWR0aCI6NjUsImFudGVubmFEb3dudGlsdCI6MCwiYW50ZW5uYUdhaW4iOiE2LjUsImhlaWdod
        CI6MywiaGVpZ2h0VHlwZSI6IkFHTCIsImluZG9vckRlcGxveW1lbnQiOmZhbnHNILCJsYXRpdHVkZSI6M
        zcuNDExMzIxLjI5b25naXR1ZGU0xMjluMDE4OTQyYXVzZmVzc2l2bmFsSW5zdGFsbGVyRG
        F0YSI6eyJjcGljZCI6IjAwMSIsImNwaU5hbWUiOiJ5dWkiLCJpbnN0YWxsQ2VydGlmaWNhdGlzblRpbW
        UiOilyMDIwLTAYLTEwVDA4OjMwOjMyWiJ9fQ",
      "protectedHeader": "eyJhbGciOiJSUzI1NiIsInR5cCI6IkpXVCJ9"
    },
    "fccId": "2AVFNLBS7320",
    "groupingParam": [
      {
        "groupId": "GW",
        "groupType": "INTERFERENCE_COORDINATION"
      }
    ],
    "measCapability": [
      "RECEIVED_POWER_WITH_GRANT",
      "RECEIVED_POWER_WITHOUT_GRANT"
    ],
    "userId": "GW"
  }
}
]
}

```

```

2020-02-10T08:30:26.088Z - INFO - Registration message contains cpiSignatureData
2020-02-10T08:30:26.088Z - INFO - protectedHeader = {u'alg': u'RS256', u'typ': u'JWT'}
2020-02-10T08:30:26.088Z - INFO - encodedCpiSignedData contents = {
  "installationParam": {
    "antennaAzimuth": 7,
    "heightType": "AGL",
    "longitude": -122.018942,
    "height": 3,
    "indoorDeployment": false,
    "latitude": 37.411331,
    "antennaDowntilt": 0,

```

```

        "antennaBeamwidth": 65,
        "antennaGain": 16.5
    },
    "fccId": "2AVFNLBS7320",
    "professionalInstallerData": {
        "cpiName": "yui",
        "installCertificationTime": "2020-02-10T08:30:32Z",
        "cpild": "001"
    },
    "cbsdSerialNumber": "22020300003A1952J0003"
}
2020-02-10T08:30:26.137Z - INFO - verified signature on cpiSignatureData
2020-02-10T08:30:26.144Z - INFO - cpiSignatureData data successfully validated against jsonschema
2020-02-10T08:30:26.193Z - INFO - Registration message contains cpiSignatureData
2020-02-10T08:30:26.193Z - INFO - protectedHeader = {u'alg': u'RS256', u'typ': u'JWT'}
2020-02-10T08:30:26.193Z - INFO - encodedCpiSignedData contents = {
    "installationParam": {
        "antennaAzimuth": 7,
        "heightType": "AGL",
        "longitude": -122.018942,
        "height": 3,
        "indoorDeployment": false,
        "latitude": 37.411331,
        "antennaDowntilt": 0,
        "antennaBeamwidth": 65,
        "antennaGain": 16.5
    },
    "fccId": "2AVFNLBS7320",
    "professionalInstallerData": {
        "cpiName": "yui",
        "installCertificationTime": "2020-02-10T08:30:32Z",
        "cpild": "001"
    },
    "cbsdSerialNumber": "22020300003A1952J0004"
}
2020-02-10T08:30:26.194Z - INFO - verified signature on cpiSignatureData
2020-02-10T08:30:26.200Z - INFO - cpiSignatureData data successfully validated against jsonschema
2020-02-10T08:30:26.201Z - INFO - engine sent successfully, the response to CBRS : {
    "registrationResponse": [
        {
            "cbsdId": "2AVFNLBS7320Mock-SAS22020300003A1952J0003",
            "response": {
                "responseCode": 0
            }
        },
        {
            "cbsdId": "2AVFNLBS7320Mock-SAS22020300003A1952J0004",
            "response": {
                "responseCode": 0
            }
        }
    ]
}
]

```

```

}
2020-02-10T08:30:26.546Z - INFO - spectrumInquiry request from CBRS : {
  "spectrumInquiryRequest": [
    {
      "cbsdId": "2AVFNLBS7320Mock-SAS22020300003A1952J0003",
      "inquiredSpectrum": [
        {
          "highFrequency": 3700000000,
          "lowFrequency": 3550000000
        }
      ]
    },
    {
      "cbsdId": "2AVFNLBS7320Mock-SAS22020300003A1952J0004",
      "inquiredSpectrum": [
        {
          "highFrequency": 3700000000,
          "lowFrequency": 3550000000
        }
      ]
    }
  ]
}
2020-02-10T08:30:26.562Z - INFO - engine sent successfully, the response to CBRS : {
  "spectrumInquiryResponse": [
    {
      "availableChannel": [
        {
          "channelType": "GAA",
          "frequencyRange": {
            "highFrequency": 3700000000,
            "lowFrequency": 3550000000
          },
          "ruleApplied": "FCC_PART_96"
        }
      ],
      "cbsdId": "2AVFNLBS7320Mock-SAS22020300003A1952J0003",
      "response": {
        "responseCode": 0
      }
    },
    {
      "availableChannel": [
        {
          "channelType": "GAA",
          "frequencyRange": {
            "highFrequency": 3700000000,
            "lowFrequency": 3550000000
          },
          "ruleApplied": "FCC_PART_96"
        }
      ],

```

```

        "cbsdId": "2AVFNLBS7320Mock-SAS22020300003A1952J0004",
        "response": {
            "responseCode": 0
        }
    ]
}
2020-02-10T08:30:28.046Z - INFO - grant request from CBRS : {
    "grantRequest": [
        {
            "cbsdId": "2AVFNLBS7320Mock-SAS22020300003A1952J0003",
            "operationParam": {
                "maxEirp": 34,
                "operationFrequencyRange": {
                    "highFrequency": 3570000000,
                    "lowFrequency": 3550000000
                }
            }
        },
        {
            "cbsdId": "2AVFNLBS7320Mock-SAS22020300003A1952J0004",
            "operationParam": {
                "maxEirp": 34,
                "operationFrequencyRange": {
                    "highFrequency": 3570000000,
                    "lowFrequency": 3550000000
                }
            }
        }
    ]
}
2020-02-10T08:30:28.059Z - INFO - engine sent successfully, the response to CBRS : {
    "grantResponse": [
        {
            "cbsdId": "2AVFNLBS7320Mock-SAS22020300003A1952J0003",
            "channelType": "GAA",
            "grantExpireTime": "2020-02-17T08:30:28Z",
            "grantId": "688880234",
            "heartbeatInterval": 60,
            "response": {
                "responseCode": 0
            }
        },
        {
            "cbsdId": "2AVFNLBS7320Mock-SAS22020300003A1952J0004",
            "channelType": "GAA",
            "grantExpireTime": "2020-02-17T08:30:28Z",
            "grantId": "289102550",
            "heartbeatInterval": 60,
            "response": {
                "responseCode": 0
            }
        }
    ]
}

```

```
    }
  ]
}
2020-02-10T08:30:28.655Z - INFO - heartbeat request from CBRS : {
  "heartbeatRequest": [
    {
      "cbsdId": "2AVFNLBS7320Mock-SAS22020300003A1952J0003",
      "grantId": "688880234",
      "grantRenew": false,
      "operationState": "GRANTED"
    },
    {
      "cbsdId": "2AVFNLBS7320Mock-SAS22020300003A1952J0004",
      "grantId": "289102550",
      "grantRenew": false,
      "operationState": "GRANTED"
    }
  ]
}
2020-02-10T08:30:28.670Z - INFO - engine sent successfully, the response to CBRS : {
  "heartbeatResponse": [
    {
      "cbsdId": "2AVFNLBS7320Mock-SAS22020300003A1952J0003",
      "grantId": "688880234",
      "response": {
        "responseCode": 0
      },
      "transmitExpireTime": "2020-02-10T08:33:48Z"
    },
    {
      "cbsdId": "2AVFNLBS7320Mock-SAS22020300003A1952J0004",
      "grantId": "289102550",
      "response": {
        "responseCode": 0
      },
      "transmitExpireTime": "2020-02-10T08:33:48Z"
    }
  ]
}
2020-02-10T08:30:53.878Z - INFO - heartbeat request from CBRS : {
  "heartbeatRequest": [
    {
      "cbsdId": "2AVFNLBS7320Mock-SAS22020300003A1952J0004",
      "grantId": "289102550",
      "grantRenew": false,
      "operationState": "AUTHORIZED"
    },
    {
      "cbsdId": "2AVFNLBS7320Mock-SAS22020300003A1952J0003",
      "grantId": "688880234",
      "grantRenew": false,
      "operationState": "AUTHORIZED"
    }
  ]
}
```

```

    }
  ]
}
2020-02-10T08:30:53.880Z - INFO - Time interval between two heartbeat request messages is: 25.223,
limit is: 65.0
2020-02-10T08:30:53.885Z - INFO - Time interval between two heartbeat request messages is: 25.223,
limit is: 65.0
2020-02-10T08:30:53.892Z - INFO - engine sent successfully, the response to CBRS : {
  "heartbeatResponse": [
    {
      "cbsdId": "2AVFNLBS7320Mock-SAS22020300003A1952J0004",
      "grantId": "289102550",
      "response": {
        "responseCode": 0
      },
      "transmitExpireTime": "2020-02-10T08:34:13Z"
    },
    {
      "cbsdId": "2AVFNLBS7320Mock-SAS22020300003A1952J0003",
      "grantId": "688880234",
      "response": {
        "responseCode": 0
      },
      "transmitExpireTime": "2020-02-10T08:34:13Z"
    }
  ]
}
2020-02-10T08:31:53.875Z - INFO - heartbeat request from CBRS : {
  "heartbeatRequest": [
    {
      "cbsdId": "2AVFNLBS7320Mock-SAS22020300003A1952J0004",
      "grantId": "289102550",
      "grantRenew": false,
      "operationState": "AUTHORIZED"
    },
    {
      "cbsdId": "2AVFNLBS7320Mock-SAS22020300003A1952J0003",
      "grantId": "688880234",
      "grantRenew": false,
      "operationState": "AUTHORIZED"
    }
  ]
}
2020-02-10T08:31:53.877Z - INFO - Time interval between two heartbeat request messages is: 59.997,
limit is: 65.0
2020-02-10T08:31:53.882Z - INFO - Time interval between two heartbeat request messages is: 59.997,
limit is: 65.0
2020-02-10T08:31:53.890Z - INFO - engine sent successfully, the response to CBRS : {
  "heartbeatResponse": [
    {
      "cbsdId": "2AVFNLBS7320Mock-SAS22020300003A1952J0004",
      "grantId": "289102550",

```

```

        "response": {
            "responseCode": 0
        },
        "transmitExpireTime": "2020-02-10T08:35:13Z"
    },
    {
        "cbsdId": "2AVFNLBS7320Mock-SAS22020300003A1952J0003",
        "grantId": "688880234",
        "response": {
            "responseCode": 0
        },
        "transmitExpireTime": "2020-02-10T08:35:13Z"
    }
]
}
2020-02-10T08:32:24.259Z - INFO - relinquishment request from CBRS : {
    "relinquishmentRequest": [
        {
            "cbsdId": "2AVFNLBS7320Mock-SAS22020300003A1952J0003",
            "grantId": "688880234"
        }
    ]
}
2020-02-10T08:32:24.265Z - INFO - engine sent successfully, the response to CBRS : {
    "relinquishmentResponse": [
        {
            "cbsdId": "2AVFNLBS7320Mock-SAS22020300003A1952J0003",
            "response": {
                "responseCode": 103,
                "responseData": [
                    "grantId"
                ]
            }
        }
    ]
}
2020-02-10T08:32:25.888Z - INFO - relinquishment request from CBRS : {
    "relinquishmentRequest": [
        {
            "cbsdId": "2AVFNLBS7320Mock-SAS22020300003A1952J0004",
            "grantId": "289102550"
        }
    ]
}
2020-02-10T08:32:25.894Z - INFO - engine sent successfully, the response to CBRS : {
    "relinquishmentResponse": [
        {
            "cbsdId": "2AVFNLBS7320Mock-SAS22020300003A1952J0004",
            "response": {
                "responseCode": 103,
                "responseData": [
                    "grantId"
                ]
            }
        }
    ]
}

```

```
]
}
}
]
```

2020-02-10T08:32:27.084Z - INFO - arrived to nstep starting question answer session with the technician

2020-02-10T08:32:27.085Z - INFO - the question is : Did CBSD1 cease RF transmission before receipt of Relinquishment Request by Test Harness? please choose one of the answers :

2020-02-10T08:33:47.289Z - INFO - for the question : Did CBSD1 cease RF transmission before receipt of Relinquishment Request by Test Harness? , the user choose y

2020-02-10T08:33:47.290Z - INFO - the question is : Did CBSD2 cease RF transmission before receipt of Relinquishment Request by Test Harness? please choose one of the answers :

2020-02-10T08:33:48.380Z - INFO - for the question : Did CBSD2 cease RF transmission before receipt of Relinquishment Request by Test Harness? , the user choose y

2020-02-10T08:34:07.809Z - INFO - The final result of the test : WINNF.FT.D.RLQ.6 is - passed and :the additional comments for the current test are : CBSD1 stop transmission at T08:31:25. CBSD2 stop transmission at T08:31:27.

Test Log for WINNF.FT.D.DRG.2 Test Case ID

2020-02-10T08:40:31.875Z - INFO - WINNF TEST HARNESS RELEASE: 1.0.0.3 - 2018-November-13
2020-02-10T08:40:31.875Z - INFO - the selected test from the user : WINNF.FT.D.DRG.2 is starting
now

2020-02-10T08:41:26.005Z - INFO - registration request from CBRS : {

```

"registrationRequest": [
  {
    "airInterface": {
      "radioTechnology": "E_UTRA",
      "supportedSpec": "FFS"
    },
    "callSign": "LEAX",
    "cbsdCategory": "B",
    "cbsdInfo": {
      "model": "LBS7320",
      "softwareVersion": "LeaxBTS_V2.0.4.1",
      "vendor": "Radisys"
    },
    "cbsdSerialNumber": "22020300003A1952J0003",
    "cpiSignatureData": {
      "digitalSignature":
"0JPrtLq0XLw5wcl_MOCJof7qXJgjzYLTzboJI9Rip_u1kPkFNa_IJZAKEmrMfezJxwQWBHNjCDLDBTQ
WKgHKOenhG7WF1ygiZzIRwGRImetA6QrB0My0G55PuMgFvFMx3-XPFTYEfsfCHza1ZIdGNgryT-mJ
E7qNR2RhC83fOCLFS0QVDeGbl03bzMg6BZl38dxYvrwg923Nk5-FavGrjegGCK9Te_qTDoT2XU6jynk
EiXrRjwc1hB2C3hNw2p97aY9nlSHQPQznN0AhrsKUyqMXx461KQ0gtxZtDbi9tsbpYnmAri9pJQeYzHt_
cLU_ZCHIEUN_ssntchn6FzG7uw",
      "encodedCpiSignedData":
"eyJYnNkU2VyaWFsTnVtYmVyljoiMjIwMjAzMDAwMDNBMTk1MkowMDAzliwiZmNjSWQiOiIyQVZGTk
xCUzczMjAiLCJpbmN0YWxsYXRpb25QYXJhbSI6eyJhbnRlbn5hQXppbXV0aCI6NywiYW50ZW5uYUJl
YW13aWR0aCI6NjUsImFudGVubmFEb3dudGlscCI6MCwiYW50ZW5uYUdhW4iOiE2LjUsImhlaWdod
CI6MywiaGVpZ2h0VHlwZSI6IkFHTCIsImluZG9vckRlcGxveW1lbnQiOmZhbHNILCJsYXRpdHVkZSI6M
zcuNDExMzMxLCJsb25naXR1ZGUUiOi0xMjluMDE4OTQyfSwicHJvZmVzc2lvbmFsSW5zdGFsbGVyRG
FOYSI6eyJjcGlZCi6lAwMSIsImNwaU5hbWUiOiJ5dWkiLCJpbmN0YWxsQ2VydGlmaWNhdGlvbiRpbW
UiOiIyMDIwLTAyLTUwVDA4OjQxOjMyWiJ9fQ",
      "protectedHeader": "eyJhbnRlbnR5cCI6IkpXVCJ9"
    },
    "fccId": "2AVFNLBS7320",
    "groupingParam": [
      {
        "groupId": "GW",
        "groupType": "INTERFERENCE_COORDINATION"
      }
    ],
    "measCapability": [
      "RECEIVED_POWER_WITH_GRANT",
      "RECEIVED_POWER_WITHOUT_GRANT"
    ],
    "userId": "GW"
  },
  {
    "airInterface": {
      "radioTechnology": "E_UTRA",

```

```

    "supportedSpec": "FFS"
  },
  "callSign": "LEAX",
  "cbsdCategory": "B",
  "cbsdInfo": {
    "model": "LBS7320",
    "softwareVersion": "LeaxBTS_V2.0.4.1",
    "vendor": "Radisys"
  },
  "cbsdSerialNumber": "22020300003A1952J0004",
  "cpiSignatureData": {
    "digitalSignature":
"yWtEtFOcsSuTNuLNjMHpq38ZO5xCA5yxYiQ9mrgcuvXDM2AO5nrBu6_0vvEzJNz4LA9Cf1PZzhSPK
m5lyVZfUIOVEkvYQRBq4EfEhufYBcVpc7J3NH89eMmeiidvwr1N-DkH2sc6bvcUCK2ICGEFXRuJeA1D
WRyJzNs_D7uvkKIJM4iJ3z9YykuA9Mgwb3nkSSw8DSy50wRh51rOsmP29wjhBo9GkAqzQjJeJDZu6Zi
DDegPbRv-I4mmxv5dVWStRbeUKJ9PXGyzgQdojGM3yZaM1_FZ2HHmZUbp12mFVP9Y2ZR8hxQ6R
mYnHLDBW0qAvOhpDaNULpLldxdOaqEw",
    "encodedCpiSignedData":
"eyJjYnNkU2VyaWFsTnVtYmVyljoiMjIwMjAzMDAwMDNBMTk1MkowMDA0liwiZmNjSWQiOiIyQVZGTC
xCUzczMjAiLCJpbmN0YWxsYXRpb25QYXJhbSI6eyJhbnRlbn5hQXppbXV0aCI6NywiYW50ZW5uYUJl
YW13aWR0aCI6NjUsImFudGVubmFEb3dudGlsdCI6MCwiYW50ZW5uYUdhW4iOiE2LjUsImhlaWdod
CI6MywiaGVpZ2h0VHlwZSI6IkhFTCIsImZG9vckRlcGxveW1lbnQiOiOmZhbHNILCJsYXRpdHVkZSI6M
zcuNDExMzMxLCJsb25naXR1ZGUiOi0xMjluMDE0OTQyfSwicHJvZmVzc2lvbmFsSW5zdGFsbGVyRG
F0YSI6eyJjcGljZCI6IjAwMSIsImNwaU5hbWUiOiJ5dWkiLCJpbmN0YWxsQ2VydGlmaWNhdGlvbiRpbW
UiOiIyMDIwLTAYLTEwVDA4OjQxOjMyWiJ9fQ",
    "protectedHeader": "eyJhbGciOiJSUzI1NiIsInR5cCI6IkpXVCJ9"
  },
  "fccId": "2AVFNLBS7320",
  "groupingParam": [
    {
      "groupId": "GW",
      "groupType": "INTERFERENCE_COORDINATION"
    }
  ],
  "measCapability": [
    "RECEIVED_POWER_WITH_GRANT",
    "RECEIVED_POWER_WITHOUT_GRANT"
  ],
  "userId": "GW"
}
]
}
2020-02-10T08:41:26.052Z - INFO - Registration message contains cpiSignatureData
2020-02-10T08:41:26.052Z - INFO - protectedHeader = {u'alg': u'RS256', u'typ': u'JWT'}
2020-02-10T08:41:26.052Z - INFO - encodedCpiSignedData contents = {
  "installationParam": {
    "antennaAzimuth": 7,
    "heightType": "AGL",
    "longitude": -122.018942,
    "height": 3,
    "indoorDeployment": false,
    "latitude": 37.411331,

```

```

    "antennaDowntilt": 0,
    "antennaBeamwidth": 65,
    "antennaGain": 16.5
  },
  "fccId": "2AVFNLBS7320",
  "professionalInstallerData": {
    "cpiName": "yui",
    "installCertificationTime": "2020-02-10T08:41:32Z",
    "cpild": "001"
  },
  "cbsdSerialNumber": "22020300003A1952J0003"
}
2020-02-10T08:41:26.053Z - INFO - verified signature on cpiSignatureData
2020-02-10T08:41:26.061Z - INFO - cpiSignatureData data successfully validated against jsonschema
2020-02-10T08:41:26.115Z - INFO - Registration message contains cpiSignatureData
2020-02-10T08:41:26.115Z - INFO - protectedHeader = {u'alg': u'RS256', u'typ': u'JWT'}
2020-02-10T08:41:26.115Z - INFO - encodedCpiSignedData contents = {
  "installationParam": {
    "antennaAzimuth": 7,
    "heightType": "AGL",
    "longitude": -122.018942,
    "height": 3,
    "indoorDeployment": false,
    "latitude": 37.411331,
    "antennaDowntilt": 0,
    "antennaBeamwidth": 65,
    "antennaGain": 16.5
  },
  "fccId": "2AVFNLBS7320",
  "professionalInstallerData": {
    "cpiName": "yui",
    "installCertificationTime": "2020-02-10T08:41:32Z",
    "cpild": "001"
  },
  "cbsdSerialNumber": "22020300003A1952J0004"
}
2020-02-10T08:41:26.117Z - INFO - verified signature on cpiSignatureData
2020-02-10T08:41:26.124Z - INFO - cpiSignatureData data successfully validated against jsonschema
2020-02-10T08:41:26.125Z - INFO - engine sent successfully, the response to CBRS : {
  "registrationResponse": [
    {
      "cbsdId": "2AVFNLBS7320Mock-SAS22020300003A1952J0003",
      "response": {
        "responseCode": 0
      }
    },
    {
      "cbsdId": "2AVFNLBS7320Mock-SAS22020300003A1952J0004",
      "response": {
        "responseCode": 0
      }
    }
  ]
}

```



```
]
}
2020-02-10T08:41:26.446Z - INFO - spectrumInquiry request from CBRS : {
  "spectrumInquiryRequest": [
    {
      "cbsdId": "2AVFNLBS7320Mock-SAS22020300003A1952J0003",
      "inquiredSpectrum": [
        {
          "highFrequency": 3700000000,
          "lowFrequency": 3550000000
        }
      ]
    },
    {
      "cbsdId": "2AVFNLBS7320Mock-SAS22020300003A1952J0004",
      "inquiredSpectrum": [
        {
          "highFrequency": 3700000000,
          "lowFrequency": 3550000000
        }
      ]
    }
  ]
}
2020-02-10T08:41:26.490Z - INFO - engine sent successfully, the response to CBRS : {
  "spectrumInquiryResponse": [
    {
      "availableChannel": [
        {
          "channelType": "GAA",
          "frequencyRange": {
            "highFrequency": 3700000000,
            "lowFrequency": 3550000000
          },
          "ruleApplied": "FCC_PART_96"
        }
      ],
      "cbsdId": "2AVFNLBS7320Mock-SAS22020300003A1952J0003",
      "response": {
        "responseCode": 0
      }
    },
    {
      "availableChannel": [
        {
          "channelType": "GAA",
          "frequencyRange": {
            "highFrequency": 3700000000,
            "lowFrequency": 3550000000
          },
          "ruleApplied": "FCC_PART_96"
        }
      ]
    }
  ]
}
```

```
    ],
    "cbsdId": "2AVFNLBS7320Mock-SAS22020300003A1952J0004",
    "response": {
      "responseCode": 0
    }
  }
]
}
2020-02-10T08:41:27.825Z - INFO - grant request from CBRS : {
  "grantRequest": [
    {
      "cbsdId": "2AVFNLBS7320Mock-SAS22020300003A1952J0003",
      "operationParam": {
        "maxEirp": 34,
        "operationFrequencyRange": {
          "highFrequency": 3570000000,
          "lowFrequency": 3550000000
        }
      }
    },
    {
      "cbsdId": "2AVFNLBS7320Mock-SAS22020300003A1952J0004",
      "operationParam": {
        "maxEirp": 34,
        "operationFrequencyRange": {
          "highFrequency": 3570000000,
          "lowFrequency": 3550000000
        }
      }
    }
  ]
}
2020-02-10T08:41:27.839Z - INFO - engine sent successfully, the response to CBRS : {
  "grantResponse": [
    {
      "cbsdId": "2AVFNLBS7320Mock-SAS22020300003A1952J0003",
      "channelType": "GAA",
      "grantExpireTime": "2020-02-17T08:41:27Z",
      "grantId": "126990915",
      "heartbeatInterval": 60,
      "response": {
        "responseCode": 0
      }
    },
    {
      "cbsdId": "2AVFNLBS7320Mock-SAS22020300003A1952J0004",
      "channelType": "GAA",
      "grantExpireTime": "2020-02-17T08:41:27Z",
      "grantId": "582525043",
      "heartbeatInterval": 60,
      "response": {
        "responseCode": 0
      }
    }
  ]
}
```

```

    }
  }
]
}
2020-02-10T08:41:28.424Z - INFO - heartbeat request from CBRS : {
  "heartbeatRequest": [
    {
      "cbsdId": "2AVFNLBS7320Mock-SAS22020300003A1952J0003",
      "grantId": "126990915",
      "grantRenew": false,
      "operationState": "GRANTED"
    },
    {
      "cbsdId": "2AVFNLBS7320Mock-SAS22020300003A1952J0004",
      "grantId": "582525043",
      "grantRenew": false,
      "operationState": "GRANTED"
    }
  ]
}
2020-02-10T08:41:28.437Z - INFO - engine sent successfully, the response to CBRS : {
  "heartbeatResponse": [
    {
      "cbsdId": "2AVFNLBS7320Mock-SAS22020300003A1952J0003",
      "grantId": "126990915",
      "response": {
        "responseCode": 0
      },
      "transmitExpireTime": "2020-02-10T08:44:48Z"
    },
    {
      "cbsdId": "2AVFNLBS7320Mock-SAS22020300003A1952J0004",
      "grantId": "582525043",
      "response": {
        "responseCode": 0
      },
      "transmitExpireTime": "2020-02-10T08:44:48Z"
    }
  ]
}
2020-02-10T08:41:53.851Z - INFO - heartbeat request from CBRS : {
  "heartbeatRequest": [
    {
      "cbsdId": "2AVFNLBS7320Mock-SAS22020300003A1952J0004",
      "grantId": "582525043",
      "grantRenew": false,
      "operationState": "AUTHORIZED"
    },
    {
      "cbsdId": "2AVFNLBS7320Mock-SAS22020300003A1952J0003",
      "grantId": "126990915",
      "grantRenew": false,

```

```
        "operationState": "AUTHORIZED"
      }
    ]
  }
}
2020-02-10T08:41:53.852Z - INFO - Time interval between two heartbeat request messages is: 25.427,
limit is: 65.0
2020-02-10T08:41:53.875Z - INFO - Time interval between two heartbeat request messages is: 25.427,
limit is: 65.0
2020-02-10T08:41:53.885Z - INFO - engine sent successfully, the response to CBRS : {
  "heartbeatResponse": [
    {
      "cbsdId": "2AVFNLBS7320Mock-SAS22020300003A1952J0004",
      "grantId": "582525043",
      "response": {
        "responseCode": 0
      },
      "transmitExpireTime": "2020-02-10T08:45:13Z"
    },
    {
      "cbsdId": "2AVFNLBS7320Mock-SAS22020300003A1952J0003",
      "grantId": "126990915",
      "response": {
        "responseCode": 0
      },
      "transmitExpireTime": "2020-02-10T08:45:13Z"
    }
  ]
}
}
2020-02-10T08:42:53.845Z - INFO - heartbeat request from CBRS : {
  "heartbeatRequest": [
    {
      "cbsdId": "2AVFNLBS7320Mock-SAS22020300003A1952J0004",
      "grantId": "582525043",
      "grantRenew": false,
      "operationState": "AUTHORIZED"
    },
    {
      "cbsdId": "2AVFNLBS7320Mock-SAS22020300003A1952J0003",
      "grantId": "126990915",
      "grantRenew": false,
      "operationState": "AUTHORIZED"
    }
  ]
}
}
2020-02-10T08:42:53.845Z - INFO - Time interval between two heartbeat request messages is: 59.994,
limit is: 65.0
2020-02-10T08:42:53.855Z - INFO - Time interval between two heartbeat request messages is: 59.994,
limit is: 65.0
2020-02-10T08:42:53.861Z - INFO - engine sent successfully, the response to CBRS : {
  "heartbeatResponse": [
    {
      "cbsdId": "2AVFNLBS7320Mock-SAS22020300003A1952J0004",
```



```
        "grantId": "582525043",
        "response": {
            "responseCode": 0
        },
        "transmitExpireTime": "2020-02-10T08:46:13Z"
    },
    {
        "cbsdId": "2AVFNLBS7320Mock-SAS22020300003A1952J0003",
        "grantId": "126990915",
        "response": {
            "responseCode": 0
        },
        "transmitExpireTime": "2020-02-10T08:46:13Z"
    }
]
}
2020-02-10T08:43:09.703Z - INFO - deregistration request from CBRS : {
    "deregistrationRequest": [
        {
            "cbsdId": "2AVFNLBS7320Mock-SAS22020300003A1952J0003"
        }
    ]
}
2020-02-10T08:43:09.709Z - INFO - engine sent successfully, the response to CBRS : {
    "deregistrationResponse": [
        {
            "cbsdId": "2AVFNLBS7320Mock-SAS22020300003A1952J0003",
            "response": {
                "responseCode": 0
            }
        }
    ]
}
2020-02-10T08:43:11.171Z - INFO - deregistration request from CBRS : {
    "deregistrationRequest": [
        {
            "cbsdId": "2AVFNLBS7320Mock-SAS22020300003A1952J0004"
        }
    ]
}
2020-02-10T08:43:11.178Z - INFO - engine sent successfully, the response to CBRS : {
    "deregistrationResponse": [
        {
            "cbsdId": "2AVFNLBS7320Mock-SAS22020300003A1952J0004",
            "response": {
                "responseCode": 0
            }
        }
    ]
}
2020-02-10T08:43:12.885Z - INFO - arrived to nstep starting question answer session with the technician
```

2020-02-10T08:43:12.887Z - 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 :

2020-02-10T08:44:22.313Z - 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

2020-02-10T08:44:22.315Z - 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 :

2020-02-10T08:44:24.796Z - 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

2020-02-10T08:44:54.832Z - INFO - The final result of the test : WINNF.FT.D.DRG.2 is - passed and :the additional comments for the current test are : CBSD1 stop transmission at T08:42:10. CBSD2 stop transmission at T08:42:12.

Test Log for WINNF.FT.D.DRG.4 Test Case ID

```
2020-02-10T08:51:56.496Z - INFO - WINNF TEST HARNESS RELEASE: 1.0.0.3 - 2018-November-13
2020-02-10T08:51:56.496Z - INFO - the selected test from the user : WINNF.FT.D.DRG.4 is starting
now
```

2020-02-10T08:52:25.976Z - INFO - registration request from CBRS : {

```

"registrationRequest": {
  {
    "airInterface": {
      "radioTechnology": "E_UTRA",
      "supportedSpec": "FFS"
    },
    "callSign": "LEAX",
    "cbsdCategory": "B",
    "cbsdInfo": {
      "model": "LBS7320",
      "softwareVersion": "LeaxBTS_V2.0.4.1",
      "vendor": "Radisys"
    },
    "cbsdSerialNumber": "22020300003A1952J0003",
    "cpiSignatureData": {
      "digitalSignature":
"n2iK5K9t0I95YWDDJXVerQ5aBuB7Pv0whPSDJaiocGLn5V4_920qX0XSNnxgjzt6EnHB5bxktG_Gm2
9QG4knNKIXTTmgJqutc3JSqwBeFT4wAxQGqBoUlPqEYDvGdkUKlPkOjZ0Bxjf75on5Dk6S8HltYiT4MA
mLbya1EGRIMXCOK842bA3YUhsEF7sB2Ozj4YUrud4GFhsvOrp86lADMMm_L6juiGmYHUONcprlJqe
N8aHplUdT_U9LALqD8JyWM4LijDP0p1s4ghgHgqHVJ5FaecirKJ3MzVnY1iWwUyviARR6F_ba3zNRh2
SLaSkEEExLOnx2rYhmzqw3JTpNbdA",
      "encodedCpiSignedData":
"eyJjYnNkU2VyaWFsTnVtYmVyljoiMjIwMjA5MDAwMDNBMTk1Mk0wMDAzliwiZmNjSWQiOiIyQVZGTk
xCUzczMjAiLCJpbmN0YWxsYXRpb25QYXJhbSI6eyJhbnRlbn5hQXppbXV0aCI6NywiYW50ZW5uYUJl
YW13aWR0aCI6NjUslmFudGVubmFEb3dudGlscCI6MCwiYW50ZW5uYUdhaW4iOiJlLjUslmhmaWdod
CI6MywiaGVpZ2h0VHlwZSI6IkFHTCIsImluZG9vckRlcGxveW1lbnQiOmZhbHNILCJsYXRpdHVkZSI6M
zcuNDExMzMxLCJsb25naXR1ZGU0I0xMjluMDE4OTQyfSwicHJvZmVzc2lvbmFsSW5zdGFsbGVyRG
FOYSI6eyJjcGlZCi6lAwMSIsImNwaU5hbWUiOiJ5dWkiLCJpbmN0YWxsQ2VydGlmaWNhdGlvblRpbW
UiOiIyMDIwLTAYLTEwVDA0QjUyOjMyWiJ9fQ",
      "protectedHeader": "eyJhbGciOiJSUzI1NiIsInR5cCI6IkpXVCJ9"
    },
    "fcclId": "2AVFNLBS7320",
    "groupingParam": [
      {
        "groupId": "GW",
        "groupType": "INTERFERENCE_COORDINATION"
      }
    ],
    "measCapability": [
      "RECEIVED_POWER_WITH_GRANT",
      "RECEIVED_POWER_WITHOUT_GRANT"
    ],
    "userId": "GW"
  },
  {
    "airInterface": {
      "radioTechnology": "E_UTRA",

```

```

    "supportedSpec": "FFS"
  },
  "callSign": "LEAX",
  "cbsdCategory": "B",
  "cbsdInfo": {
    "model": "LBS7320",
    "softwareVersion": "LeaxBTS_V2.0.4.1",
    "vendor": "Radisys"
  },
  "cbsdSerialNumber": "22020300003A1952J0004",
  "cpiSignatureData": {
    "digitalSignature":
"SecwcVhyiR8axf0MK2thlUcO4zE3xu5ZNP38grsAl1uBQij11zcopfe53E71yR6j94-g65fWLHPqBlqSxWs
U9QPKm0g-368ltTXDyVG7X9DXczIPGis3-1lp6ChwNQKaXEuWvNga8TBFeukE3ue4fU_YlzxAlxpiJ6L
A796GcYVoRt5Zd62S_8q_ihRPwOWHs28HxH102r9DFTuz0HsJK3f4GvM1-O7q7KX5H_nVLafJKaL1s
oEnSFRF80cUsft3atmuwJD3Wyos-4AOnMz1UkoeRduop_UslOroiwn1C39zmn9QKfyVpB06Yct9RukAj
9naIHQGqP7oCtArqxnSrg",
    "encodedCpiSignedData":
"eyJjYnNkU2VyaWFsTnVtYmVyljoiMjIwMjIwMjIwMjIwMDAwMDNBMTk1MkxwMDA0liwiZmNjSWQiOiIyZWZGTk
xCUzcMjAiLCJpbnN0YWxsYXRpb25QYXJhbSI6eyJhbG9uZm5hQXppbXV0aCI6NywiYW50ZW5uYUJl
YW13aWR0aCI6NjUsImFudGVubmFEb3dudGlsdCI6MCwiYW50ZW5uYUdhaW4iOiJlZlUslmhlaWdod
CI6MywiaGVpZ2h0VHlwZSI6IkFHTCIsImVudG9vckRlcGxveW1lbnQiOiOmZhbHNILCJsYXRpdHVkZSI6M
zcuNDEzMzZnaXR1ZGU0xMjIwMDE4OTQyYXNjaWZmVzc2l2bmFsSW5zdGFsbGVyRG
F0YSI6eyJjcGljZCI6ImFwMSIsImNwaU5hbWU0iOiJ5dWkiLCJpbnN0YWxsQ2VydGlmaWNhdGlublRpbW
UiOiIyMDIwLTAyLTUwVDA0OjUyOjMyWiJ9fQ",
    "protectedHeader": "eyJhbGciOiJSUzI1NiIsInR5cCI6IkpXVCJ9"
  },
  "fccId": "2AVFNLBS7320",
  "groupingParam": [
    {
      "groupId": "GW",
      "groupType": "INTERFERENCE_COORDINATION"
    }
  ],
  "measCapability": [
    "RECEIVED_POWER_WITH_GRANT",
    "RECEIVED_POWER_WITHOUT_GRANT"
  ],
  "userId": "GW"
}
]
}
2020-02-10T08:52:26.028Z - INFO - Registration message contains cpiSignatureData
2020-02-10T08:52:26.028Z - INFO - protectedHeader = {u'alg': u'RS256', u'typ': u'JWT'}
2020-02-10T08:52:26.028Z - INFO - encodedCpiSignedData contents = {
  "installationParam": {
    "antennaAzimuth": 7,
    "heightType": "AGL",
    "longitude": -122.018942,
    "height": 3,
    "indoorDeployment": false,
    "latitude": 37.411331,

```

```

    "antennaDowntilt": 0,
    "antennaBeamwidth": 65,
    "antennaGain": 16.5
  },
  "fccId": "2AVFNLBS7320",
  "professionalInstallerData": {
    "cpiName": "yui",
    "installCertificationTime": "2020-02-10T08:52:32Z",
    "cpild": "001"
  },
  "cbsdSerialNumber": "22020300003A1952J0003"
}
2020-02-10T08:52:26.029Z - INFO - verified signature on cpiSignatureData
2020-02-10T08:52:26.036Z - INFO - cpiSignatureData data successfully validated against jsonschema
2020-02-10T08:52:26.085Z - INFO - Registration message contains cpiSignatureData
2020-02-10T08:52:26.085Z - INFO - protectedHeader = {u'alg': u'RS256', u'typ': u'JWT'}
2020-02-10T08:52:26.085Z - INFO - encodedCpiSignedData contents = {
  "installationParam": {
    "antennaAzimuth": 7,
    "heightType": "AGL",
    "longitude": -122.018942,
    "height": 3,
    "indoorDeployment": false,
    "latitude": 37.411331,
    "antennaDowntilt": 0,
    "antennaBeamwidth": 65,
    "antennaGain": 16.5
  },
  "fccId": "2AVFNLBS7320",
  "professionalInstallerData": {
    "cpiName": "yui",
    "installCertificationTime": "2020-02-10T08:52:32Z",
    "cpild": "001"
  },
  "cbsdSerialNumber": "22020300003A1952J0004"
}
2020-02-10T08:52:26.086Z - INFO - verified signature on cpiSignatureData
2020-02-10T08:52:26.094Z - INFO - cpiSignatureData data successfully validated against jsonschema
2020-02-10T08:52:26.095Z - INFO - engine sent successfully, the response to CBRS : {
  "registrationResponse": [
    {
      "cbsdId": "2AVFNLBS7320Mock-SAS22020300003A1952J0003",
      "response": {
        "responseCode": 0
      }
    },
    {
      "cbsdId": "2AVFNLBS7320Mock-SAS22020300003A1952J0004",
      "response": {
        "responseCode": 0
      }
    }
  ]
}

```

```

    ]
  }
  2020-02-10T08:52:26.395Z - INFO - spectrumInquiry request from CBRS : {
    "spectrumInquiryRequest": [
      {
        "cbsdId": "2AVFNLBS7320Mock-SAS22020300003A1952J0003",
        "inquiredSpectrum": [
          {
            "highFrequency": 3700000000,
            "lowFrequency": 3550000000
          }
        ]
      },
      {
        "cbsdId": "2AVFNLBS7320Mock-SAS22020300003A1952J0004",
        "inquiredSpectrum": [
          {
            "highFrequency": 3700000000,
            "lowFrequency": 3550000000
          }
        ]
      }
    ]
  }
  2020-02-10T08:52:26.414Z - INFO - engine sent successfully, the response to CBRS : {
    "spectrumInquiryResponse": [
      {
        "availableChannel": [
          {
            "channelType": "GAA",
            "frequencyRange": {
              "highFrequency": 3700000000,
              "lowFrequency": 3550000000
            },
            "ruleApplied": "FCC_PART_96"
          }
        ],
        "cbsdId": "2AVFNLBS7320Mock-SAS22020300003A1952J0003",
        "response": {
          "responseCode": 0
        }
      },
      {
        "availableChannel": [
          {
            "channelType": "GAA",
            "frequencyRange": {
              "highFrequency": 3700000000,
              "lowFrequency": 3550000000
            },
            "ruleApplied": "FCC_PART_96"
          }
        ]
      }
    ]
  }

```

```
    ],
    "cbsdId": "2AVFNLBS7320Mock-SAS22020300003A1952J0004",
    "response": {
      "responseCode": 0
    }
  }
]
}
2020-02-10T08:52:27.744Z - INFO - grant request from CBRS : {
  "grantRequest": [
    {
      "cbsdId": "2AVFNLBS7320Mock-SAS22020300003A1952J0003",
      "operationParam": {
        "maxEirp": 34,
        "operationFrequencyRange": {
          "highFrequency": 3570000000,
          "lowFrequency": 3550000000
        }
      }
    },
    {
      "cbsdId": "2AVFNLBS7320Mock-SAS22020300003A1952J0004",
      "operationParam": {
        "maxEirp": 34,
        "operationFrequencyRange": {
          "highFrequency": 3570000000,
          "lowFrequency": 3550000000
        }
      }
    }
  ]
}
2020-02-10T08:52:27.760Z - INFO - engine sent successfully, the response to CBRS : {
  "grantResponse": [
    {
      "cbsdId": "2AVFNLBS7320Mock-SAS22020300003A1952J0003",
      "channelType": "GAA",
      "grantExpireTime": "2020-02-17T08:52:27Z",
      "grantId": "919311033",
      "heartbeatInterval": 60,
      "response": {
        "responseCode": 0
      }
    },
    {
      "cbsdId": "2AVFNLBS7320Mock-SAS22020300003A1952J0004",
      "channelType": "GAA",
      "grantExpireTime": "2020-02-17T08:52:27Z",
      "grantId": "76618822",
      "heartbeatInterval": 60,
      "response": {
        "responseCode": 0
      }
    }
  ]
}
```

```
    }
  }
]
}
2020-02-10T08:52:28.305Z - INFO - heartbeat request from CBRS : {
  "heartbeatRequest": [
    {
      "cbsdId": "2AVFNLBS7320Mock-SAS22020300003A1952J0003",
      "grantId": "919311033",
      "grantRenew": false,
      "operationState": "GRANTED"
    },
    {
      "cbsdId": "2AVFNLBS7320Mock-SAS22020300003A1952J0004",
      "grantId": "76618822",
      "grantRenew": false,
      "operationState": "GRANTED"
    }
  ]
}
2020-02-10T08:52:28.321Z - INFO - engine sent successfully, the response to CBRS : {
  "heartbeatResponse": [
    {
      "cbsdId": "2AVFNLBS7320Mock-SAS22020300003A1952J0003",
      "grantId": "919311033",
      "response": {
        "responseCode": 0
      },
      "transmitExpireTime": "2020-02-10T08:55:48Z"
    },
    {
      "cbsdId": "2AVFNLBS7320Mock-SAS22020300003A1952J0004",
      "grantId": "76618822",
      "response": {
        "responseCode": 0
      },
      "transmitExpireTime": "2020-02-10T08:55:48Z"
    }
  ]
}
2020-02-10T08:52:53.815Z - INFO - heartbeat request from CBRS : {
  "heartbeatRequest": [
    {
      "cbsdId": "2AVFNLBS7320Mock-SAS22020300003A1952J0004",
      "grantId": "76618822",
      "grantRenew": false,
      "operationState": "AUTHORIZED"
    },
    {
      "cbsdId": "2AVFNLBS7320Mock-SAS22020300003A1952J0003",
      "grantId": "919311033",
      "grantRenew": false,
```

```
        "operationState": "AUTHORIZED"
      }
    ]
  }
}
2020-02-10T08:52:53.816Z - INFO - Time interval between two heartbeat request messages is: 25.51,
limit is: 65.0
2020-02-10T08:52:53.823Z - INFO - Time interval between two heartbeat request messages is: 25.51,
limit is: 65.0
2020-02-10T08:52:53.832Z - INFO - engine sent successfully, the response to CBRS : {
  "heartbeatResponse": [
    {
      "cbsdId": "2AVFNLBS7320Mock-SAS22020300003A1952J0004",
      "grantId": "76618822",
      "response": {
        "responseCode": 0
      },
      "transmitExpireTime": "2020-02-10T08:56:13Z"
    },
    {
      "cbsdId": "2AVFNLBS7320Mock-SAS22020300003A1952J0003",
      "grantId": "919311033",
      "response": {
        "responseCode": 0
      },
      "transmitExpireTime": "2020-02-10T08:56:13Z"
    }
  ]
}
2020-02-10T08:53:53.809Z - INFO - heartbeat request from CBRS : {
  "heartbeatRequest": [
    {
      "cbsdId": "2AVFNLBS7320Mock-SAS22020300003A1952J0004",
      "grantId": "76618822",
      "grantRenew": false,
      "operationState": "AUTHORIZED"
    },
    {
      "cbsdId": "2AVFNLBS7320Mock-SAS22020300003A1952J0003",
      "grantId": "919311033",
      "grantRenew": false,
      "operationState": "AUTHORIZED"
    }
  ]
}
2020-02-10T08:53:53.812Z - INFO - Time interval between two heartbeat request messages is: 59.994,
limit is: 65.0
2020-02-10T08:53:53.819Z - INFO - Time interval between two heartbeat request messages is: 59.994,
limit is: 65.0
2020-02-10T08:53:53.825Z - INFO - engine sent successfully, the response to CBRS : {
  "heartbeatResponse": [
    {
      "cbsdId": "2AVFNLBS7320Mock-SAS22020300003A1952J0004",
```



```
        "grantId": "76618822",
        "response": {
            "responseCode": 0
        },
        "transmitExpireTime": "2020-02-10T08:57:13Z"
    },
    {
        "cbsdId": "2AVFNLBS7320Mock-SAS22020300003A1952J0003",
        "grantId": "919311033",
        "response": {
            "responseCode": 0
        },
        "transmitExpireTime": "2020-02-10T08:57:13Z"
    }
]
}
2020-02-10T08:54:00.858Z - INFO - deregistration request from CBRS : {
    "deregistrationRequest": [
        {
            "cbsdId": "2AVFNLBS7320Mock-SAS22020300003A1952J0003"
        }
    ]
}
2020-02-10T08:54:00.864Z - INFO - engine sent successfully, the response to CBRS : {
    "deregistrationResponse": [
        {
            "response": {
                "responseCode": 102
            }
        }
    ]
}
2020-02-10T08:54:02.112Z - INFO - deregistration request from CBRS : {
    "deregistrationRequest": [
        {
            "cbsdId": "2AVFNLBS7320Mock-SAS22020300003A1952J0004"
        }
    ]
}
2020-02-10T08:54:02.131Z - INFO - engine sent successfully, the response to CBRS : {
    "deregistrationResponse": [
        {
            "response": {
                "responseCode": 102
            }
        }
    ]
}
2020-02-10T08:54:03.512Z - INFO - arrived to nstep starting question answer session with the technician
2020-02-10T08:54:03.513Z - 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 :

2020-02-10T08:55:14.614Z - 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

2020-02-10T08:55:14.615Z - 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 :

2020-02-10T08:55:15.900Z - 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

2020-02-10T08:55:26.654Z - INFO - The final result of the test : WINNF.FT.D.DRG.4 is - passed and :the additional comments for the current test are : CBSD1 stop transmission at T08:53:02. CBSD2 stop transmission at T08:53:04.

Test Log for WINNF.FT.C.DRG.5 Test Case ID

```
2020-02-10T06:44:22.381Z - INFO - WINNF TEST HARNESS RELEASE: 1.0.0.3 - 2018-November-13
2020-02-10T06:44:22.381Z - INFO - the selected test from the user : WINNF.FT.C.DRG.5 is starting
now
```

2020-02-10T06:44:26.276Z - INFO - registration request from CBRS : {

```

"registrationRequest": [
  {
    "airInterface": {
      "radioTechnology": "E_UTRA",
      "supportedSpec": "FFS"
    },
    "callSign": "LEAX",
    "cbsdCategory": "B",
    "cbsdInfo": {
      "model": "LBS7320",
      "softwareVersion": "LeaxBTS_V2.0.4.1",
      "vendor": "Radisys"
    },
    "cbsdSerialNumber": "22020300003A1952J0003",
    "cpiSignatureData": {
      "digitalSignature":
"1aud5bVkfZYQgLwoBbNC3seH3LuOofk8-xPn3nWfDxrKue7py1ZMW8yD-_Qh10U98-Cd4j1PmRdehs
YC9n4AqDKWbn3uMBNCQjYddXuegDtILvSprhJLa3mfrJ06BvGeza6W3RIUHWQtjQcNeW1YJuAYT7o
GVWrK9E71YIAj3z3gs7dNZfDgQHGT78e9SU8OiENevGNtWHbNKYUxmD6rxIK2CbA39Ecuu6y2Wpd
W6ID-a7HFUFi6mvWBd6opyPZwDWkoRmA520beDQJbNXvck0FU90t1ctoTX1jpYjf-7ylqz-DvWZ7vnwu
fDi29LRgOVLeOwE32Fnm7g6Ly-j1JEg",
      "encodedCpiSignedData":
"eyJYnNkU2VyaWFsTnVtYmVyljoiMjlwMjAzMDAwMDNBMTk1MkowMDAzliwiZmNjSWQiOiIlyQVZGTk
xCUzczMjAiLCJpbmN0YWxsYXRpb25QYXJhbSI6eyJhbnRlbn5hQXppbXV0aCI6NywiYW50ZW5uYUJl
YW13aWR0aCI6NjUsImFudGVubmFEb3dudGlsdCI6MCwiYW50ZW5uYUdhaW4iOiE2LjUsImhlaWdod
CI6MywiaGVpZ2h0VHlwZSI6IkFHTCIsImiluZG9vckRlcGxveW1lbnQiOmZhbnHNILCJsYXRpdHVkZSI6M
zcuNDExMzMxLCJsb25naXR1ZGUUiOi0xMjluMDE4OTQyfSwicHJvZmVzc2lvbmFsSW5zdGFsbGVyRG
FOYSI6eyJjcGljZCI6IjAwMSIsImNwaU5hbWUiOiJ5dWkiLCJpbmN0YWxsQ2VydGlmaWNhdGlvbI
RpbWUiOiIyMDIwLTAYLTEwVDA2OjQ0OjMyWiJ9fQ",
      "protectedHeader": "eyJhbGciOiJSUzI1NiIsInR5cCI6IkpXVCJ9"
    },
    "fccId": "2AVFNLBS7320",
    "groupingParam": [
      {
        "groupId": "GW",
        "groupType": "INTERFERENCE_COORDINATION"
      }
    ],
    "measCapability": [
      "RECEIVED_POWER_WITH_GRANT",
      "RECEIVED_POWER_WITHOUT_GRANT"
    ],
    "userId": "GW"
  }
]
}

```

2020-02-10T06:44:26.323Z - INFO - Registration message contains cpiSignatureData



```
2020-02-10T06:44:26.323Z - INFO - protectedHeader = {u'alg': u'RS256', u'typ': u'JWT'}
2020-02-10T06:44:26.323Z - INFO - encodedCpiSignedData contents = {
  "installationParam": {
    "antennaAzimuth": 7,
    "heightType": "AGL",
    "longitude": -122.018942,
    "height": 3,
    "indoorDeployment": false,
    "latitude": 37.411331,
    "antennaDowntilt": 0,
    "antennaBeamwidth": 65,
    "antennaGain": 16.5
  },
  "fccId": "2AVFNLBS7320",
  "professionalInstallerData": {
    "cpiName": "yui",
    "installCertificationTime": "2020-02-10T06:44:32Z",
    "cpild": "001"
  },
  "cbsdSerialNumber": "22020300003A1952J0003"
}
2020-02-10T06:44:26.374Z - INFO - verified signature on cpiSignatureData
2020-02-10T06:44:26.382Z - INFO - cpiSignatureData data successfully validated against jsonschema
2020-02-10T06:44:26.384Z - INFO - engine sent successfully, the response to CBRS : {
  "registrationResponse": [
    {
      "cbsdId": "2AVFNLBS7320Mock-SAS22020300003A1952J0003",
      "response": {
        "responseCode": 0
      }
    }
  ]
}
2020-02-10T06:44:26.700Z - INFO - spectrumInquiry request from CBRS : {
  "spectrumInquiryRequest": [
    {
      "cbsdId": "2AVFNLBS7320Mock-SAS22020300003A1952J0003",
      "inquiredSpectrum": [
        {
          "highFrequency": 3700000000,
          "lowFrequency": 3550000000
        }
      ]
    }
  ]
}
2020-02-10T06:44:26.709Z - INFO - engine sent successfully, the response to CBRS : {
  "spectrumInquiryResponse": [
    {
      "availableChannel": [
        {
          "channelType": "GAA",
```

```

        "frequencyRange": {
            "highFrequency": 3700000000,
            "lowFrequency": 3550000000
        },
        "ruleApplied": "FCC_PART_96"
    }
},
"cbstdId": "2AVFNLBS7320Mock-SAS22020300003A1952J0003",
"response": {
    "responseCode": 0
}
}
]
}
2020-02-10T06:44:27.611Z - INFO - grant request from CBRS : {
    "grantRequest": [
        {
            "cbstdId": "2AVFNLBS7320Mock-SAS22020300003A1952J0003",
            "operationParam": {
                "maxEirp": 34,
                "operationFrequencyRange": {
                    "highFrequency": 3570000000,
                    "lowFrequency": 3550000000
                }
            }
        }
    ]
}
}
2020-02-10T06:44:27.619Z - INFO - engine sent successfully, the response to CBRS : {
    "grantResponse": [
        {
            "cbstdId": "2AVFNLBS7320Mock-SAS22020300003A1952J0003",
            "channelType": "GAA",
            "grantExpireTime": "2020-02-17T06:44:27Z",
            "grantId": "163226358",
            "heartbeatInterval": 60,
            "response": {
                "responseCode": 0
            }
        }
    ]
}
}
2020-02-10T06:44:28.069Z - INFO - heartbeat request from CBRS : {
    "heartbeatRequest": [
        {
            "cbstdId": "2AVFNLBS7320Mock-SAS22020300003A1952J0003",
            "grantId": "163226358",
            "grantRenew": false,
            "operationState": "GRANTED"
        }
    ]
}
}

```



```
2020-02-10T06:44:28.076Z - INFO - engine sent successfully, the response to CBRS : {
  "heartbeatResponse": [
    {
      "cbsdId": "2AVFNLBS7320Mock-SAS22020300003A1952J0003",
      "grantId": "163226358",
      "response": {
        "responseCode": 0
      },
      "transmitExpireTime": "2020-02-10T06:47:48Z"
    }
  ]
}
2020-02-10T06:44:54.118Z - INFO - heartbeat request from CBRS : {
  "heartbeatRequest": [
    {
      "cbsdId": "2AVFNLBS7320Mock-SAS22020300003A1952J0003",
      "grantId": "163226358",
      "grantRenew": false,
      "operationState": "AUTHORIZED"
    }
  ]
}
2020-02-10T06:44:54.118Z - INFO - Time interval between two heartbeat request messages is: 26.049,
limit is: 65.0
2020-02-10T06:44:54.128Z - INFO - engine sent successfully, the response to CBRS : {
  "heartbeatResponse": [
    {
      "cbsdId": "2AVFNLBS7320Mock-SAS22020300003A1952J0003",
      "grantId": "163226358",
      "response": {
        "responseCode": 0
      },
      "transmitExpireTime": "2020-02-10T06:48:14Z"
    }
  ]
}
2020-02-10T06:45:54.118Z - INFO - heartbeat request from CBRS : {
  "heartbeatRequest": [
    {
      "cbsdId": "2AVFNLBS7320Mock-SAS22020300003A1952J0003",
      "grantId": "163226358",
      "grantRenew": false,
      "operationState": "AUTHORIZED"
    }
  ]
}
2020-02-10T06:45:54.118Z - INFO - Time interval between two heartbeat request messages is: 60.0,
limit is: 65.0
2020-02-10T06:45:54.125Z - INFO - engine sent successfully, the response to CBRS : {
  "heartbeatResponse": [
    {
      "cbsdId": "2AVFNLBS7320Mock-SAS22020300003A1952J0003",
```

```

        "grantId": "163226358",
        "response": {
            "responseCode": 0
        },
        "transmitExpireTime": "2020-02-10T06:49:14Z"
    }
}
2020-02-10T06:46:54.115Z - INFO - heartbeat request from CBRS : {
    "heartbeatRequest": [
        {
            "cbsdId": "2AVFNLBS7320Mock-SAS22020300003A1952J0003",
            "grantId": "163226358",
            "grantRenew": false,
            "operationState": "AUTHORIZED"
        }
    ]
}
2020-02-10T06:46:54.117Z - INFO - Time interval between two heartbeat request messages is: 59.998,
limit is: 65.0
2020-02-10T06:46:54.122Z - INFO - engine sent successfully, the response to CBRS : {
    "heartbeatResponse": [
        {
            "cbsdId": "2AVFNLBS7320Mock-SAS22020300003A1952J0003",
            "grantId": "163226358",
            "response": {
                "responseCode": 0
            },
            "transmitExpireTime": "2020-02-10T06:50:14Z"
        }
    ]
}
2020-02-10T06:47:53.094Z - INFO - deregistration request from CBRS : {
    "deregistrationRequest": [
        {
            "cbsdId": "2AVFNLBS7320Mock-SAS22020300003A1952J0003"
        }
    ]
}
2020-02-10T06:47:53.098Z - INFO - engine sent successfully, the response to CBRS : {
    "deregistrationResponse": [
        {
            "response": {
                "responseCode": 103,
                "responseData": [
                    "cbsdId"
                ]
            }
        }
    ]
}
2020-02-10T06:47:54.407Z - INFO - arrived to nstep starting question answer session with the

```



technician

2020-02-10T06:47:54.408Z - 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 :

2020-02-10T06:56:01.921Z - 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

2020-02-10T06:56:11.132Z - INFO - The final result of the test : WINNF.FT.C.DRG.5 is - passed and :the additional comments for the current test are : CBSD stop transmission at T06:46:53

Test Log for WINNF.PT.C.HBT Test Case ID BW20M Grant maxEirp 34

```

2020-02-21T06:04:04.226Z - INFO - WINNF TEST HARNESS RELEASE: 1.0.0.3 - 2018-November-13
2020-02-21T06:04:04.226Z - INFO - Selected spectrum frequency is {lowFrequency: 3550000000L,
'highFrequency': 3570000000L}
2020-02-21T06:04:04.226Z - INFO - Granted Spectrum Max Eirp = 34dBm/MHz
2020-02-21T06:04:04.227Z - INFO - the selected test from the user : PowerMeasTest is starting now
2020-02-21T06:04:41.253Z - INFO - registration request from CBRS : {
  "registrationRequest": [
    {
      "airInterface": {
        "radioTechnology": "E_UTRA",
        "supportedSpec": "FFS"
      },
      "callSign": "LEAX",
      "cbsdCategory": "B",
      "cbsdInfo": {
        "model": "LBS7320",
        "softwareVersion": "LeaxBTS_V2.0.4.1",
        "vendor": "Radisys"
      },
      "cbsdSerialNumber": "22020300003A1952J0003",
      "cpiSignatureData": {
        "digitalSignature":
"WGnHDTNuuc4XzvmnwWuLEK3mayCn7IzCA7aBBSiRoOmLm_zPpbHbSuSowVMDOv4sPC6pv4Xkf
0csj768DbdgRzcBUKx8qLQFkWTKQ1s6pOxPuAowYx5ySc5sdulPm1tn-gR0ahEsyv0N00kiTeoOEBI4t
_bojNcCmV60oWX7jXjdErjRtMYhxBazQ2Io5kVOAjZYMLdJlI-il8NZ5h8c-RJr8_fMmQtbmHo63P1xiTnX
AYioXfohCpUlplAc0cC5g9bhwnDQ6I89DDj0LokGenmXuOa-jY0X_zTqVTMECblo7n9XSXdZR_rp57wT
5K0VPAlyq6nvnIoXvr-8Rcz2bQ",
        "encodedCpiSignedData":
"eyJjYnNkU2VyaWFsTnVtYmVyljoiMjllwMjAzMDAwMDNBMTk1MkowMDAzliwiZmNjSWQiOiIlyQVZGTk
xCUzczMjAiLCJpbmN0YWxsYXRpb25QYXJhbSI6eyJhbGRIbm5hQXppbXV0aCI6NywiYW50ZW5uYUJl
YW13aWR0aCI6NjUsImFudGVubmFEb3dudGlscCI6MCwiYW50ZW5uYUdhaW4iOiE2LjUsImhlaWdod
CI6MywiaGVpZ2h0VHlwZSI6IkFHTClSlmluZG9vckRlcGxveW1lbnQiOmZhbnHNILCJsYXRpdHVkZSI6M
zcuNDEzMzIxLCJsb25naXR1ZGUUiOi0xMjllwMDE4OTQyfSwicHJvZmVzc2l2bmFsSW5zdGFsbGVyRG
FOYSI6eyJjcGljZCI6IjAwMSIsImNwaU5hbWUiOiJ5dWkiLCJpbmN0YWxsQ2VydGlmaWNhdGl2bGlRpbW
UiOiIyMDIwLTAyLTlxVDA2OjA3OjAwWiJ9fQ",
        "protectedHeader": "eyJhbGciOiJIUzU1NiIsInR5cCI6IkpXVCJ9"
      },
      "fccId": "2AVFNLBS7320",
      "groupingParam": [
        {
          "groupId": "GW",
          "groupType": "INTERFERENCE_COORDINATION"
        }
      ],
      "measCapability": [
        "RECEIVED_POWER_WITH_GRANT",
        "RECEIVED_POWER_WITHOUT_GRANT"
      ],
      "userId": "GW"
    }
  ]
}

```

```

}
2020-02-21T06:04:41.361Z - INFO - engine sent successfully, the response to CBRS : {
  "registrationResponse": [
    {
      "cbsdId": "2AVFNLBS7320Mock-SAS22020300003A1952J0003",
      "response": {
        "responseCode": 0
      }
    }
  ]
}
}
2020-02-21T06:04:41.668Z - INFO - spectrumInquiry request from CBRS : {
  "spectrumInquiryRequest": [
    {
      "cbsdId": "2AVFNLBS7320Mock-SAS22020300003A1952J0003",
      "inquiredSpectrum": [
        {
          "highFrequency": 3700000000,
          "lowFrequency": 3550000000
        }
      ]
    }
  ]
}
}
2020-02-21T06:04:41.734Z - INFO - The requested spectrum is out of the range, availableChannel is sent out
2020-02-21T06:04:41.736Z - INFO - engine sent successfully, the response to CBRS : {
  "spectrumInquiryResponse": [
    {
      "availableChannel": [
        {
          "channelType": "GAA",
          "frequencyRange": {
            "highFrequency": 3570000000,
            "lowFrequency": 3550000000
          },
          "maxEirp": 34,
          "ruleApplied": "FCC_PART_96"
        }
      ],
      "cbsdId": "2AVFNLBS7320Mock-SAS22020300003A1952J0003",
      "response": {
        "responseCode": 0
      }
    }
  ]
}
}
2020-02-21T06:04:42.371Z - INFO - grant request from CBRS : {
  "grantRequest": [
    {
      "cbsdId": "2AVFNLBS7320Mock-SAS22020300003A1952J0003",
      "operationParam": {

```

```
        "maxEirp": 34,
        "operationFrequencyRange": {
            "highFrequency": 3570000000,
            "lowFrequency": 3550000000
        }
    }
}
]
}
2020-02-21T06:04:42.401Z - INFO - engine sent successfully, the response to CBRS : {
    "grantResponse": [
        {
            "cbsdId": "2AVFNLBS7320Mock-SAS22020300003A1952J0003",
            "channelType": "GAA",
            "grantExpireTime": "2020-02-28T06:04:42Z",
            "grantId": "228719620",
            "heartbeatInterval": 60,
            "response": {
                "responseCode": 0
            }
        }
    ]
}
2020-02-21T06:04:43.286Z - INFO - heartbeat request from CBRS : {
    "heartbeatRequest": [
        {
            "cbsdId": "2AVFNLBS7320Mock-SAS22020300003A1952J0003",
            "grantId": "228719620",
            "grantRenew": false,
            "operationState": "GRANTED"
        }
    ]
}
2020-02-21T06:04:43.315Z - INFO - engine sent successfully, the response to CBRS : {
    "heartbeatResponse": [
        {
            "cbsdId": "2AVFNLBS7320Mock-SAS22020300003A1952J0003",
            "grantId": "228719620",
            "response": {
                "responseCode": 0
            },
            "transmitExpireTime": "2020-02-21T06:08:03Z"
        }
    ]
}
2020-02-21T06:05:41.232Z - INFO - heartbeat request from CBRS : {
    "heartbeatRequest": [
        {
            "cbsdId": "2AVFNLBS7320Mock-SAS22020300003A1952J0003",
            "grantId": "228719620",
            "grantRenew": false,
            "operationState": "AUTHORIZED"
        }
    ]
}
```

```

    }
  ]
}
2020-02-21T06:05:41.240Z - INFO - engine sent successfully, the response to CBRS : {
  "heartbeatResponse": [
    {
      "cbsdId": "2AVFNLBS7320Mock-SAS22020300003A1952J0003",
      "grantId": "228719620",
      "response": {
        "responseCode": 0
      },
      "transmitExpireTime": "2020-02-21T06:09:01Z"
    }
  ]
}
2020-02-21T06:06:41.081Z - INFO - heartbeat request from CBRS : {
  "heartbeatRequest": [
    {
      "cbsdId": "2AVFNLBS7320Mock-SAS22020300003A1952J0003",
      "grantId": "228719620",
      "grantRenew": false,
      "operationState": "AUTHORIZED"
    }
  ]
}
2020-02-21T06:06:41.088Z - INFO - engine sent successfully, the response to CBRS : {
  "heartbeatResponse": [
    {
      "cbsdId": "2AVFNLBS7320Mock-SAS22020300003A1952J0003",
      "grantId": "228719620",
      "response": {
        "responseCode": 0
      },
      "transmitExpireTime": "2020-02-21T06:10:01Z"
    }
  ]
}
2020-02-21T06:07:41.084Z - INFO - heartbeat request from CBRS : {
  "heartbeatRequest": [
    {
      "cbsdId": "2AVFNLBS7320Mock-SAS22020300003A1952J0003",
      "grantId": "228719620",
      "grantRenew": false,
      "operationState": "AUTHORIZED"
    }
  ]
}
2020-02-21T06:07:41.094Z - INFO - engine sent successfully, the response to CBRS : {
  "heartbeatResponse": [
    {
      "cbsdId": "2AVFNLBS7320Mock-SAS22020300003A1952J0003",
      "grantId": "228719620",

```

```

        "response": {
            "responseCode": 0
        },
        "transmitExpireTime": "2020-02-21T06:11:01Z"
    }
}
}
2020-02-21T06:08:41.084Z - INFO - heartbeat request from CBRS : {
    "heartbeatRequest": [
        {
            "cbsdId": "2AVFNLBS7320Mock-SAS22020300003A1952J0003",
            "grantId": "228719620",
            "grantRenew": false,
            "operationState": "AUTHORIZED"
        }
    ]
}
2020-02-21T06:08:41.092Z - INFO - engine sent successfully, the response to CBRS : {
    "heartbeatResponse": [
        {
            "cbsdId": "2AVFNLBS7320Mock-SAS22020300003A1952J0003",
            "grantId": "228719620",
            "response": {
                "responseCode": 0
            },
            "transmitExpireTime": "2020-02-21T06:12:01Z"
        }
    ]
}
2020-02-21T06:09:41.073Z - INFO - heartbeat request from CBRS : {
    "heartbeatRequest": [
        {
            "cbsdId": "2AVFNLBS7320Mock-SAS22020300003A1952J0003",
            "grantId": "228719620",
            "grantRenew": false,
            "operationState": "AUTHORIZED"
        }
    ]
}
2020-02-21T06:09:41.084Z - INFO - engine sent successfully, the response to CBRS : {
    "heartbeatResponse": [
        {
            "cbsdId": "2AVFNLBS7320Mock-SAS22020300003A1952J0003",
            "grantId": "228719620",
            "response": {
                "responseCode": 0
            },
            "transmitExpireTime": "2020-02-21T06:13:01Z"
        }
    ]
}
2020-02-21T06:10:41.069Z - INFO - heartbeat request from CBRS : {

```



```
"heartbeatRequest": [
  {
    "cbsdId": "2AVFNLBS7320Mock-SAS22020300003A1952J0003",
    "grantId": "228719620",
    "grantRenew": false,
    "operationState": "AUTHORIZED"
  }
]
}
2020-02-21T06:10:41.078Z - INFO - engine sent successfully, the response to CBRS : {
  "heartbeatResponse": [
    {
      "cbsdId": "2AVFNLBS7320Mock-SAS22020300003A1952J0003",
      "grantId": "228719620",
      "response": {
        "responseCode": 0
      },
      "transmitExpireTime": "2020-02-21T06:14:01Z"
    }
  ]
}
```

Test Log for WINNF.PT.C.HBT Test Case ID BW20M Grant maxEirp 22

```

2020-02-21T06:12:13.961Z - INFO - WINNF TEST HARNESS RELEASE: 1.0.0.3 - 2018-November-13
2020-02-21T06:12:13.961Z - INFO - Selected spectrum frequency is {'lowFrequency': 3550000000L,
'highFrequency': 3570000000L}
2020-02-21T06:12:13.963Z - INFO - Granted Spectrum Max Eirp = 22dBm/MHz
2020-02-21T06:12:13.963Z - INFO - the selected test from the user : PowerMeasTest is starting now
2020-02-21T06:12:41.111Z - INFO - registration request from CBRS   : {
    "registrationRequest": [
        {
            "airInterface": {
                "radioTechnology": "E_UTRA",
                "supportedSpec": "FFS"
            },
            "callSign": "LEAX",
            "cbsdCategory": "B",
            "cbsdInfo": {
                "model": "LBS7320",
                "softwareVersion": "LeaxBTS_V2.0.4.1",
                "vendor": "Radisys"
            },
            "cbsdSerialNumber": "22020300003A1952J0003",
            "cpiSignatureData": {
                "digitalSignature":
"a5KjfsuCufe6cB1CqnCIK7d6s4JgzZUBKq39VK9kBSPISt5T3blv0UEQMpaQwbPbMnyf_ZxwySic9G7t
BX3zjMWwE7Q1VWAmjWHtRQiKcDXthd0BCzSdhqLGMDjBQdDRRT9dz1zAqwzecc_VSy4NK7JJQombp
FMHO2Yg9V7zYQvIC3_Ricgzqt3gXqbr4p1uEpB7AIINsDByaJP4NGv2ORuahMOxCY4-hpOU8gNF6L
KJmFFrBGU0lhVEwTMLlf3q_4PaOG-lfhQGfJL_gr56QvG9sRcv9B5fECgn5ABlpFlaDhaPM95WlwRma
um0F-PQEomRzzyU2GNHIGQby8zwHQ",
                "encodedCpiSignedData":
"eyJyYnNkU2VyawFsTnVtYmVyljoiMjlwMjAzMDAwMDNBMTk1MkowMDAzIiwiaWZmNjSWQiOiOilyQVZGTk
xCUZczMjAiLCJpbmN0YWxsYXRpb25QYXJhbSI6eyJhbGRIbm5hZXppbXBV0aCI6NywiYW50ZW5uYUJI
YW50ZW50ZW5uYUJlIjE2LjUsImhlaWdodCI6MywiaGVpZ2h0VHlwZSI6IkFHTClSlmluZG9vcnkRlcGxveW1lbniOmZhbnHNILCJsYXRpdHVkZSI6M
zcudExMzMxLzJsbn25naXR1ZGUUiOi0xMjluMDE4OTQyfSwicHJvZmVzc2lvbmFsSW5zdGFsbGVyRG
FOYSI6eyJjcGlJZCI6IjAwMSIsImNwaU5hbWUiOiJ5dWkiLCJpbmN0YWxsQ2VydGlmaWNhdGlvbiRpbW
UiOiilyMDIwLTAYLTlxVDA2OjE1OjAwWiJ9fQ",
                "protectedHeader": "eyJhbGciOiJSUzI1NiIsInR5cCI6IkpXVCJ9"
            },
            "fccId": "2AVFNLS7320",
            "groupingParam": [
                {
                    "groupId": "GW",
                    "groupType": "INTERFERENCE_COORDINATION"
                }
            ],
            "measCapability": [
                "RECEIVED_POWER_WITH_GRANT",
                "RECEIVED_POWER_WITHOUT_GRANT"
            ],
            "userId": "GW"
        }
    ]
}

```

```
}
2020-02-21T06:12:41.173Z - INFO - engine sent successfully, the response to CBRS : {
  "registrationResponse": [
    {
      "cbsdId": "2AVFNLBS7320Mock-SAS22020300003A1952J0003",
      "response": {
        "responseCode": 0
      }
    }
  ]
}
2020-02-21T06:12:41.513Z - INFO - spectrumInquiry request from CBRS : {
  "spectrumInquiryRequest": [
    {
      "cbsdId": "2AVFNLBS7320Mock-SAS22020300003A1952J0003",
      "inquiredSpectrum": [
        {
          "highFrequency": 3700000000,
          "lowFrequency": 3550000000
        }
      ]
    }
  ]
}
2020-02-21T06:12:41.523Z - INFO - The requested spectrum is out of the range, availableChannel is sent out
2020-02-21T06:12:41.523Z - INFO - engine sent successfully, the response to CBRS : {
  "spectrumInquiryResponse": [
    {
      "availableChannel": [
        {
          "channelType": "GAA",
          "frequencyRange": {
            "highFrequency": 3570000000,
            "lowFrequency": 3550000000
          },
          "maxEirp": 22,
          "ruleApplied": "FCC_PART_96"
        }
      ],
      "cbsdId": "2AVFNLBS7320Mock-SAS22020300003A1952J0003",
      "response": {
        "responseCode": 0
      }
    }
  ]
}
2020-02-21T06:12:42.072Z - INFO - grant request from CBRS : {
  "grantRequest": [
    {
      "cbsdId": "2AVFNLBS7320Mock-SAS22020300003A1952J0003",
      "operationParam": {
```

```
        "maxEirp": 22,
        "operationFrequencyRange": {
            "highFrequency": 3570000000,
            "lowFrequency": 3550000000
        }
    }
}
]
}
2020-02-21T06:12:42.079Z - INFO - engine sent successfully, the response to CBRS : {
    "grantResponse": [
        {
            "cbsdId": "2AVFNLBS7320Mock-SAS22020300003A1952J0003",
            "channelType": "GAA",
            "grantExpireTime": "2020-02-28T06:12:42Z",
            "grantId": "191636121",
            "heartbeatInterval": 60,
            "response": {
                "responseCode": 0
            }
        }
    ]
}
2020-02-21T06:12:42.581Z - INFO - heartbeat request from CBRS : {
    "heartbeatRequest": [
        {
            "cbsdId": "2AVFNLBS7320Mock-SAS22020300003A1952J0003",
            "grantId": "191636121",
            "grantRenew": false,
            "operationState": "GRANTED"
        }
    ]
}
2020-02-21T06:12:42.589Z - INFO - engine sent successfully, the response to CBRS : {
    "heartbeatResponse": [
        {
            "cbsdId": "2AVFNLBS7320Mock-SAS22020300003A1952J0003",
            "grantId": "191636121",
            "response": {
                "responseCode": 0
            },
            "transmitExpireTime": "2020-02-21T06:16:02Z"
        }
    ]
}
2020-02-21T06:13:41.062Z - INFO - heartbeat request from CBRS : {
    "heartbeatRequest": [
        {
            "cbsdId": "2AVFNLBS7320Mock-SAS22020300003A1952J0003",
            "grantId": "191636121",
            "grantRenew": false,
            "operationState": "AUTHORIZED"
        }
    ]
}
```



```
}
]
}
2020-02-21T06:13:41.072Z - INFO - engine sent successfully, the response to CBRS : {
  "heartbeatResponse": [
    {
      "cbsdId": "2AVFNLBS7320Mock-SAS22020300003A1952J0003",
      "grantId": "191636121",
      "response": {
        "responseCode": 0
      },
      "transmitExpireTime": "2020-02-21T06:17:01Z"
    }
  ]
}
}
2020-02-21T06:14:41.063Z - INFO - heartbeat request from CBRS : {
  "heartbeatRequest": [
    {
      "cbsdId": "2AVFNLBS7320Mock-SAS22020300003A1952J0003",
      "grantId": "191636121",
      "grantRenew": false,
      "operationState": "AUTHORIZED"
    }
  ]
}
}
2020-02-21T06:14:41.072Z - INFO - engine sent successfully, the response to CBRS : {
  "heartbeatResponse": [
    {
      "cbsdId": "2AVFNLBS7320Mock-SAS22020300003A1952J0003",
      "grantId": "191636121",
      "response": {
        "responseCode": 0
      },
      "transmitExpireTime": "2020-02-21T06:18:01Z"
    }
  ]
}
}
```

Test Log for WINNF.PT.C.HBT Test Case ID_ BW20M_Grant maxEirp 9

```

2020-02-21T06:24:19.109Z - INFO - WATSON TEST HARNESS RELEASE: 1.0.0.3 - 2018-November-13
2020-02-21T06:24:19.111Z - INFO - Selected spectrum frequency is {'lowFrequency': 3550000000L,
'highFrequency': 3570000000L}
2020-02-21T06:24:19.111Z - INFO - Granted Spectrum Max Eirp = 9dBm/MHz
2020-02-21T06:24:19.111Z - INFO - the selected test from the user : PowerMeasTest is starting now
2020-02-21T06:24:41.082Z - INFO - registration request from CBRS   : {
    "registrationRequest": [
        {
            "airInterface": {
                "radioTechnology": "E_UTRA",
                "supportedSpec": "FFS"
            },
            "callSign": "LEAX",
            "cbsdCategory": "B",
            "cbsdInfo": {
                "model": "LBS7320",
                "softwareVersion": "LeaxBTS_V2.0.4.1",
                "vendor": "Radisys"
            },
            "cbsdSerialNumber": "22020300003A1952J0003",
            "cpiSignatureData": {
                "digitalSignature":
"pn8h5nbKK9EZifWyXKtqeNT0O9WUbUZei7xmmsWH01s4bmORMl1YzRLpUbnTNisc63_oP7Ik5jcNR
hAgq2vUU8nIQx07S1dSSXJ6Jfc8UDeSppmVSCDcltGuvJLd_oYRp-XC8SNkVVehlTV4kJNGk7YCDZek
Ni9b3ITveyymGOKhBBbtklMHBRjjEt83EvOVmr2oaHa9i3NCTkmUFRFumV9nC3LV-0jp3q_TOR3xeEIj
ib8Jo7U4u_i21vPGFw4T0gY9iRXO7OeARxrnm33sx3VoFW3nes0PgerPnMbbRTBciKmgmmgFTCeJo1s
KXDZF_gh0QLHBfdEYLhN-1SvBBRg",
                "encodedCpiSignedData":
"eyJjYnNkU2VyaWFsTnVtYmVyljoiMjlwMjAzMDAwMDNBMTk1MkowMDAZliwiZmNjSWQiOiIyQVZGTk
xCUzczMjAiLCJpbN0YWxsYXRpb25QYXJhbSI6eyJhbnRIbm5hQXppbXBV0aCI6NywiYW50ZW5uYUJl
YW50ZW50ZW5uYUdhW4iOiE2LjUsImhlaWdodCI6MywiaGVpZ2h0VHlwZSI6IkFHTCIsImluZG9vcnkRlcGxveW1lbniOmZhbnHNILCJsYXRpdHVkZSI6M
zcunDEzMzIxLjI2NSNaXSR1ZGUioiOi0xMjluMDEOTQyfSwicHJvZmVzc2lvbmFsSW5zdGFsbGVyRG
FOYSi6eyJjcGlZCi6lAwMSIsImNwaU5hbWUiOiJ5dWkiLCJpbN0YWxsQ2VydgGmaWNhdGlvbiRpbW
UiOiIyMDIwLTAyLTlxVDA2OjI3OjAwWiJ9fQ",
                "protectedHeader": "eyJhbnGciOiJSUzI1NiIsInR5cCI6IkpXVCJ9"
            },
            "fccId": "2AVFNLS7320",
            "groupingParam": [
                {
                    "groupId": "GW",
                    "groupType": "INTERFERENCE_COORDINATION"
                }
            ],
            "measCapability": [
                "RECEIVED_POWER_WITH_GRANT",
                "RECEIVED_POWER_WITHOUT_GRANT"
            ],
            "userId": "GW"
        }
    ]
}

```

```

}
2020-02-21T06:24:41.144Z - INFO - engine sent successfully, the response to CBRS : {
  "registrationResponse": [
    {
      "cbsdId": "2AVFNLBS7320Mock-SAS22020300003A1952J0003",
      "response": {
        "responseCode": 0
      }
    }
  ]
}
}
2020-02-21T06:24:41.418Z - INFO - spectrumInquiry request from CBRS : {
  "spectrumInquiryRequest": [
    {
      "cbsdId": "2AVFNLBS7320Mock-SAS22020300003A1952J0003",
      "inquiredSpectrum": [
        {
          "highFrequency": 3700000000,
          "lowFrequency": 3550000000
        }
      ]
    }
  ]
}
}
2020-02-21T06:24:41.428Z - INFO - The requested spectrum is out of the range, availableChannel is sent out
2020-02-21T06:24:41.430Z - INFO - engine sent successfully, the response to CBRS : {
  "spectrumInquiryResponse": [
    {
      "availableChannel": [
        {
          "channelType": "GAA",
          "frequencyRange": {
            "highFrequency": 3570000000,
            "lowFrequency": 3550000000
          },
          "maxEirp": 9,
          "ruleApplied": "FCC_PART_96"
        }
      ],
      "cbsdId": "2AVFNLBS7320Mock-SAS22020300003A1952J0003",
      "response": {
        "responseCode": 0
      }
    }
  ]
}
}
2020-02-21T06:24:42.046Z - INFO - grant request from CBRS : {
  "grantRequest": [
    {
      "cbsdId": "2AVFNLBS7320Mock-SAS22020300003A1952J0003",
      "operationParam": {

```

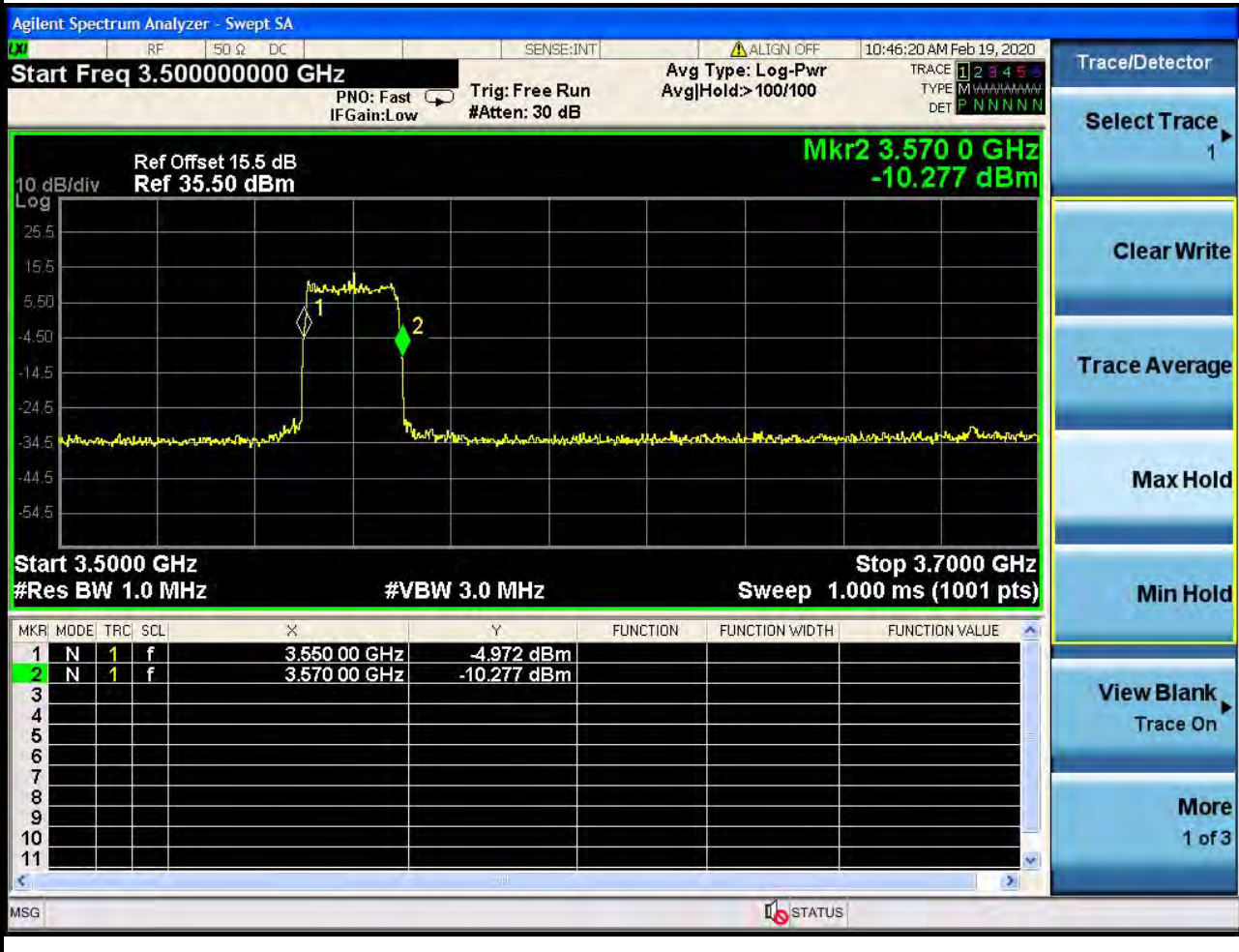
```

        "maxEirp": 9,
        "operationFrequencyRange": {
            "highFrequency": 3570000000,
            "lowFrequency": 3550000000
        }
    }
}
]
}
2020-02-21T06:24:42.055Z - INFO - engine sent successfully, the response to CBRS : {
    "grantResponse": [
        {
            "cbsdId": "2AVFNLBS7320Mock-SAS22020300003A1952J0003",
            "channelType": "GAA",
            "grantExpireTime": "2020-02-28T06:24:42Z",
            "grantId": "58168216",
            "heartbeatInterval": 60,
            "response": {
                "responseCode": 0
            }
        }
    ]
}
2020-02-21T06:24:42.565Z - INFO - heartbeat request from CBRS : {
    "heartbeatRequest": [
        {
            "cbsdId": "2AVFNLBS7320Mock-SAS22020300003A1952J0003",
            "grantId": "58168216",
            "grantRenew": false,
            "operationState": "GRANTED"
        }
    ]
}
2020-02-21T06:24:42.572Z - INFO - engine sent successfully, the response to CBRS : {
    "heartbeatResponse": [
        {
            "cbsdId": "2AVFNLBS7320Mock-SAS22020300003A1952J0003",
            "grantId": "58168216",
            "response": {
                "responseCode": 0
            },
            "transmitExpireTime": "2020-02-21T06:28:02Z"
        }
    ]
}
2020-02-21T06:25:41.035Z - INFO - heartbeat request from CBRS : {
    "heartbeatRequest": [
        {
            "cbsdId": "2AVFNLBS7320Mock-SAS22020300003A1952J0003",
            "grantId": "58168216",
            "grantRenew": false,
            "operationState": "AUTHORIZED"
        }
    ]
}

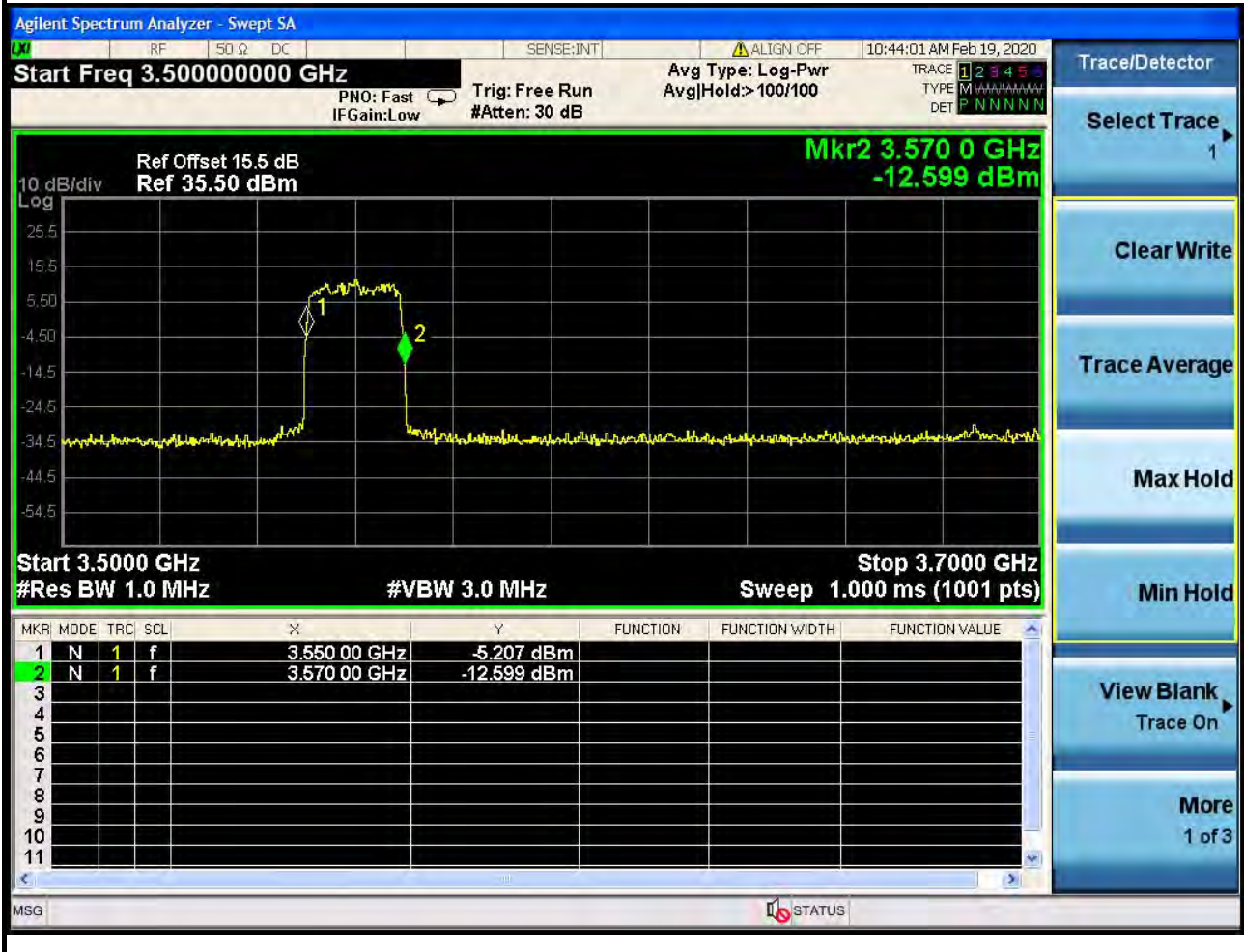
```

```
    }
  ]
}
2020-02-21T06:25:41.043Z - INFO - engine sent successfully, the response to CBRS : {
  "heartbeatResponse": [
    {
      "cbsdId": "2AVFNLBS7320Mock-SAS22020300003A1952J0003",
      "grantId": "58168216",
      "response": {
        "responseCode": 0
      },
      "transmitExpireTime": "2020-02-21T06:29:01Z"
    }
  ]
}
2020-02-21T06:26:41.032Z - INFO - heartbeat request from CBRS : {
  "heartbeatRequest": [
    {
      "cbsdId": "2AVFNLBS7320Mock-SAS22020300003A1952J0003",
      "grantId": "58168216",
      "grantRenew": false,
      "operationState": "AUTHORIZED"
    }
  ]
}
2020-02-21T06:26:41.040Z - INFO - engine sent successfully, the response to CBRS : {
  "heartbeatResponse": [
    {
      "cbsdId": "2AVFNLBS7320Mock-SAS22020300003A1952J0003",
      "grantId": "58168216",
      "response": {
        "responseCode": 0
      },
      "transmitExpireTime": "2020-02-21T06:30:01Z"
    }
  ]
}
```

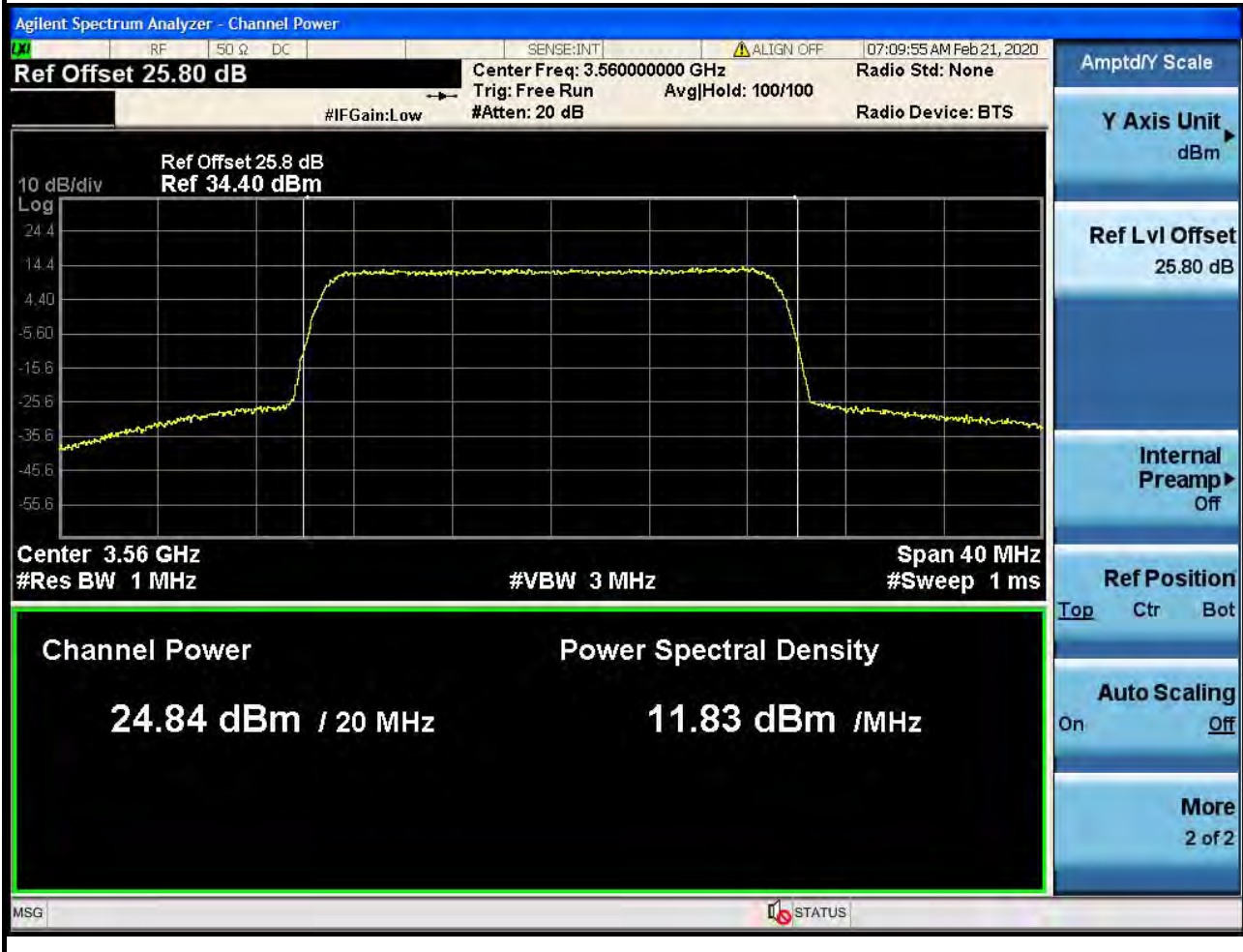
RF measurement plot for WINNF.FT.D.HBT.2 Test Case ID_CBSD 1



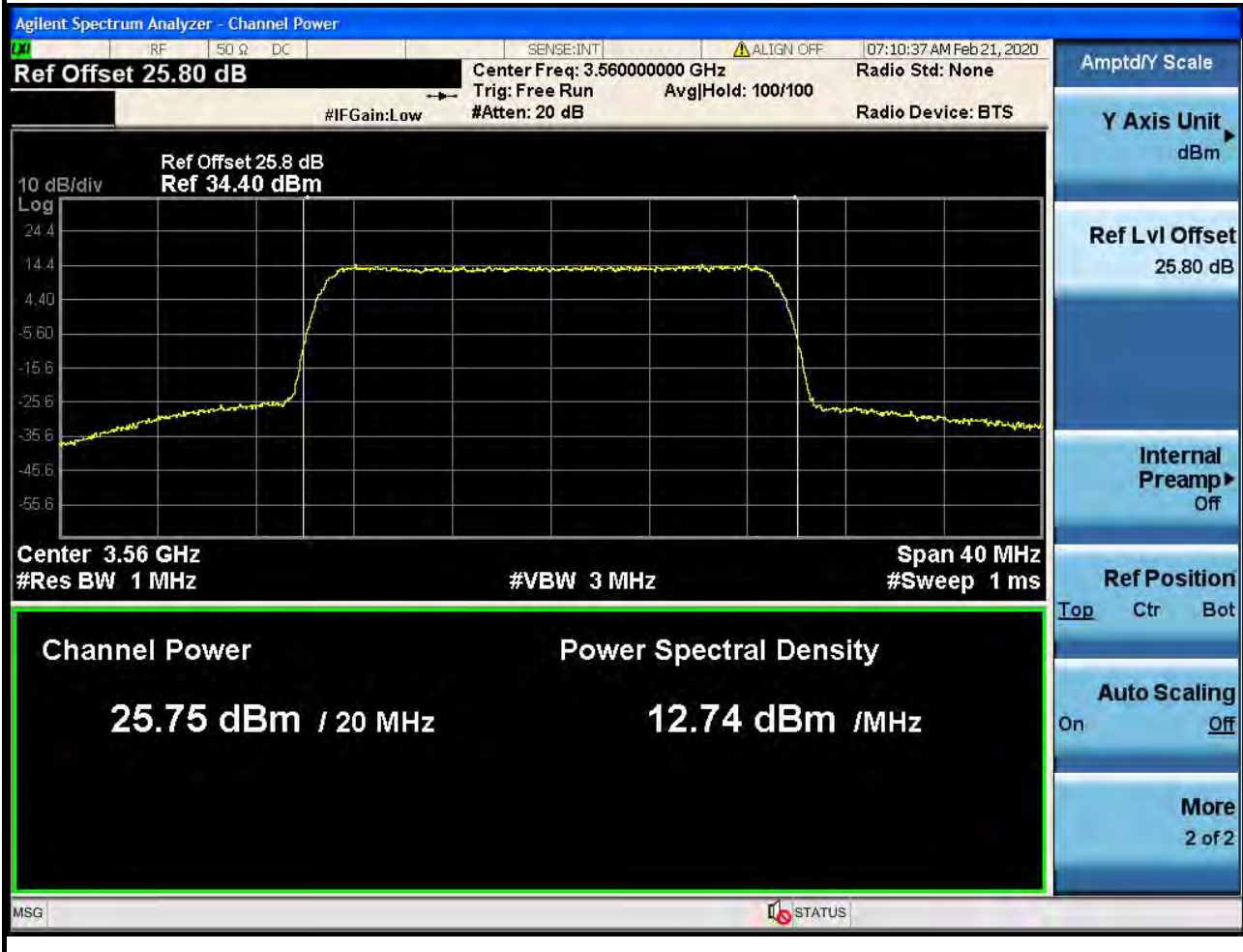
RF measurement plot for WINNF.FT.D.HBT.2 Test Case ID_CBSD 2



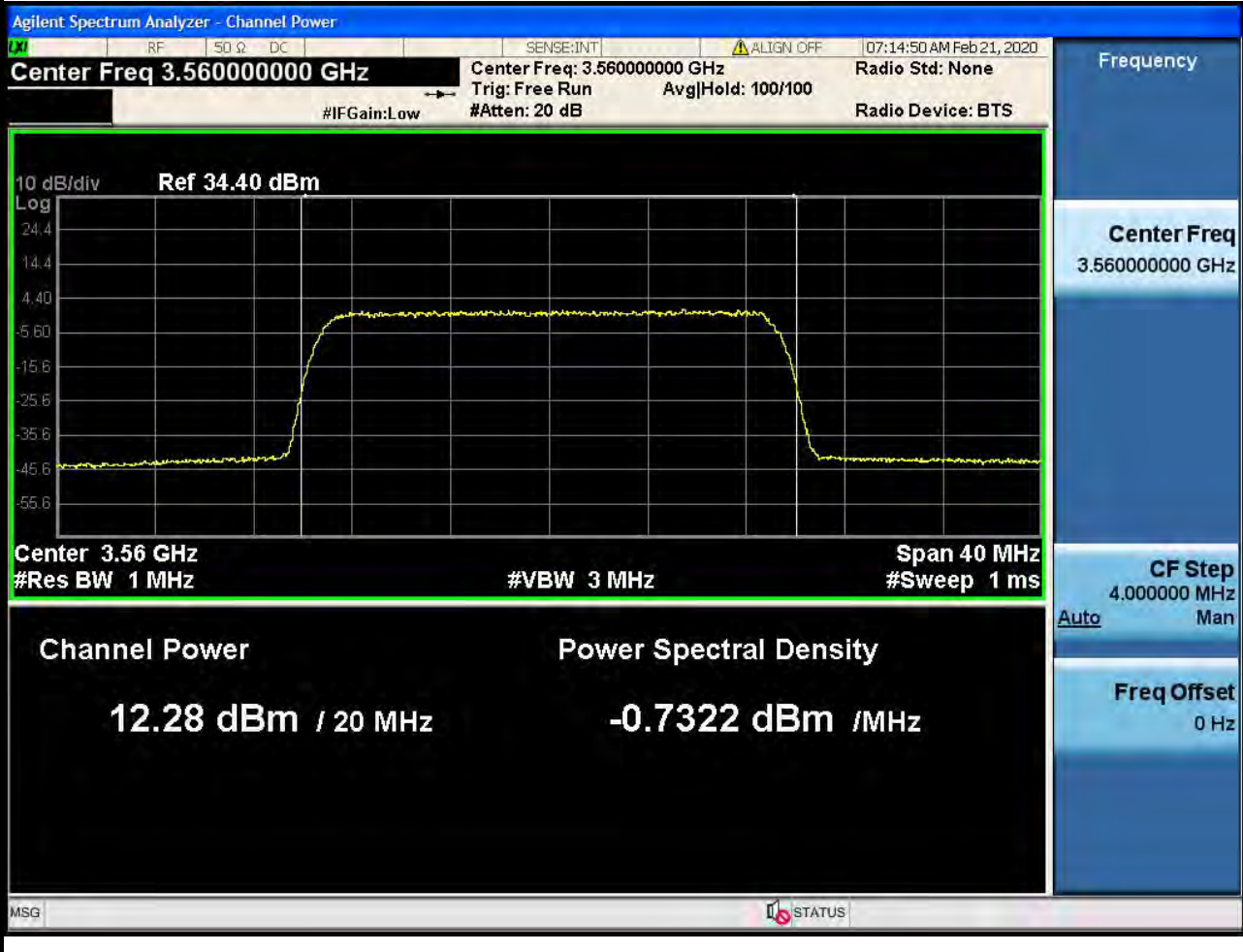
RF measurement plot for WINNF.PT.C.HBT Test Case ID_BW20M_Grant maxEirp 34_Port 1



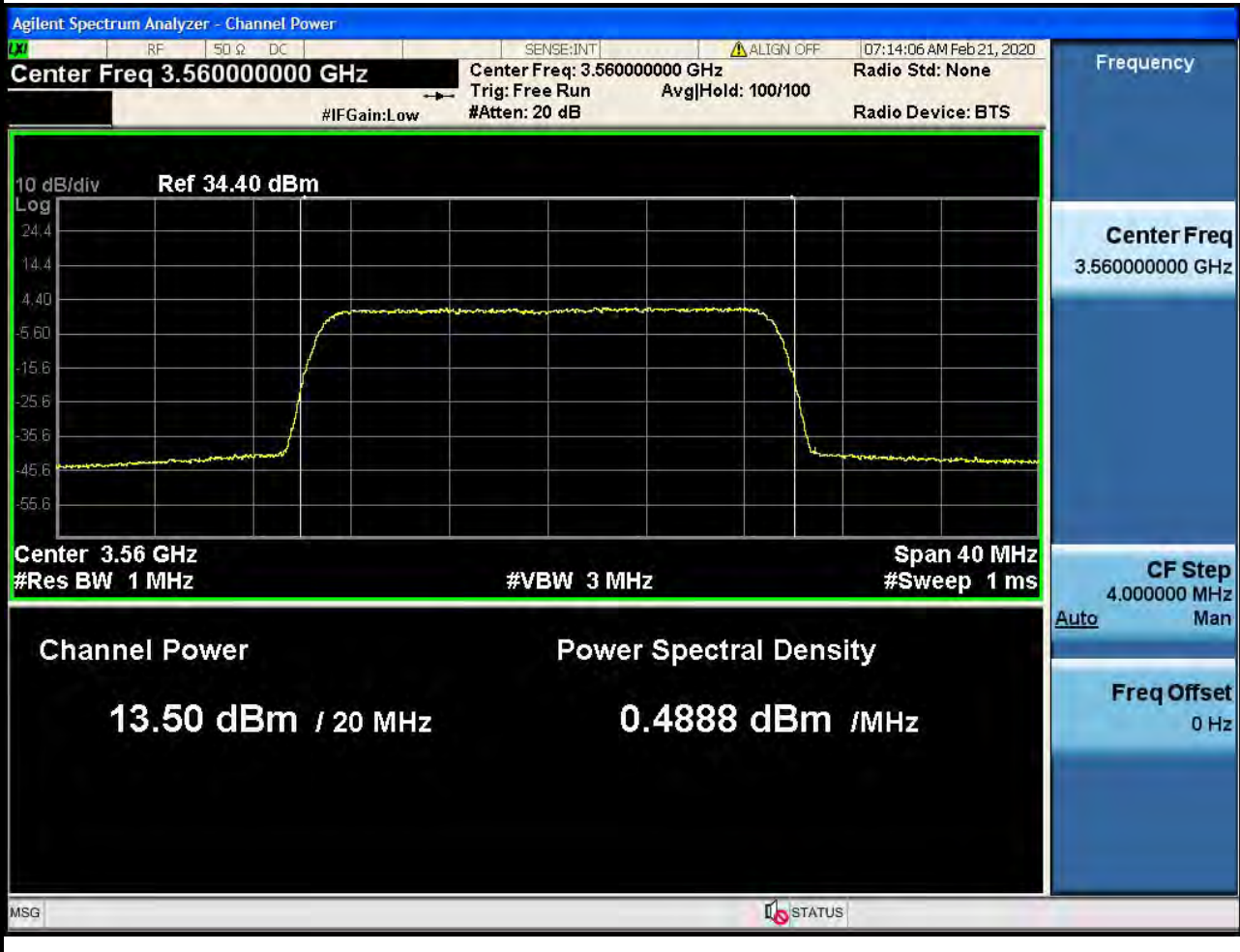
RF measurement plot for WINNF.PT.C.HBT Test Case ID_BW20M_Grant maxEirp 34_Port 2



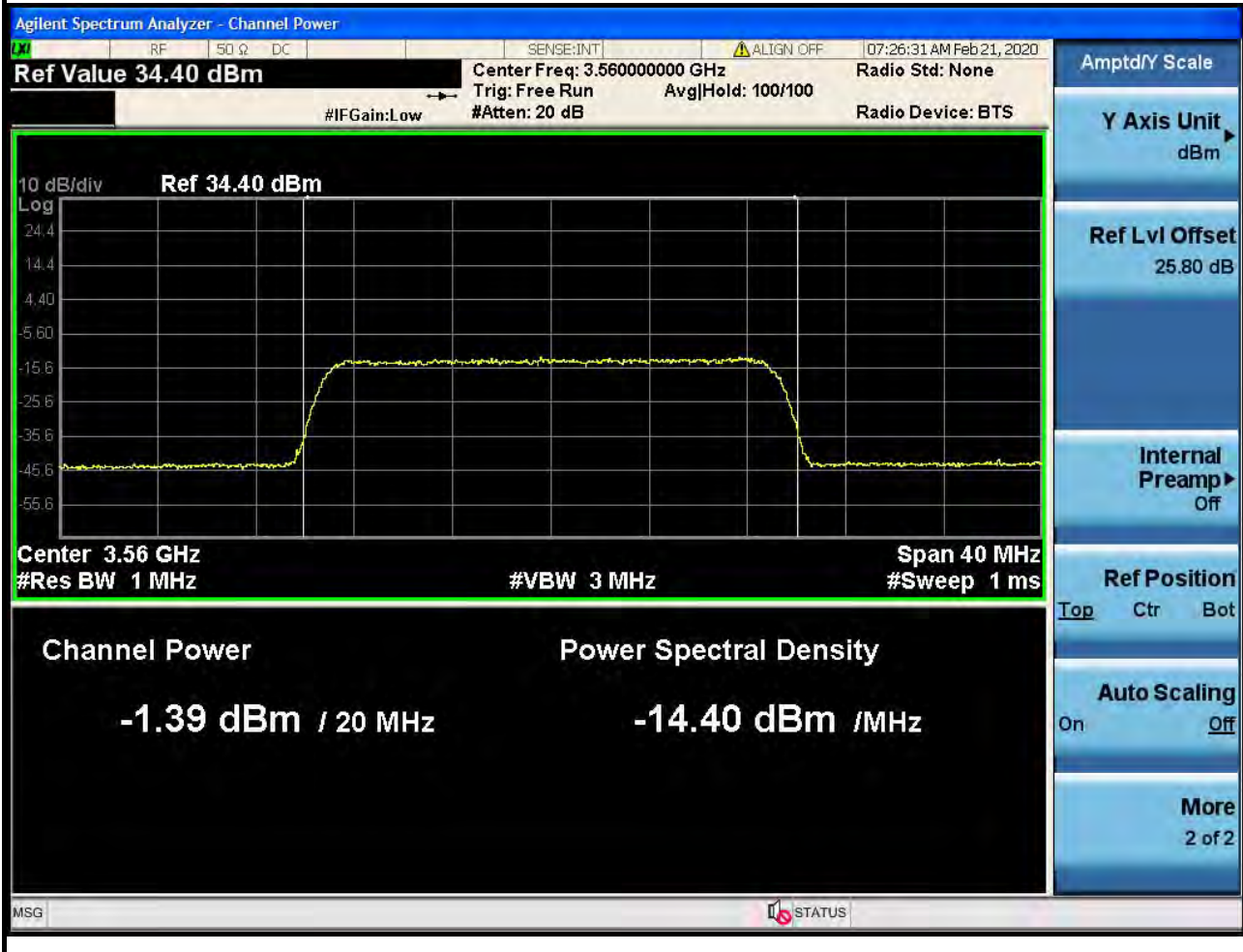
RF measurement plot for WINNF.PT.C.HBT Test Case ID_BW20M_Grant maxEirp 22_Port 1



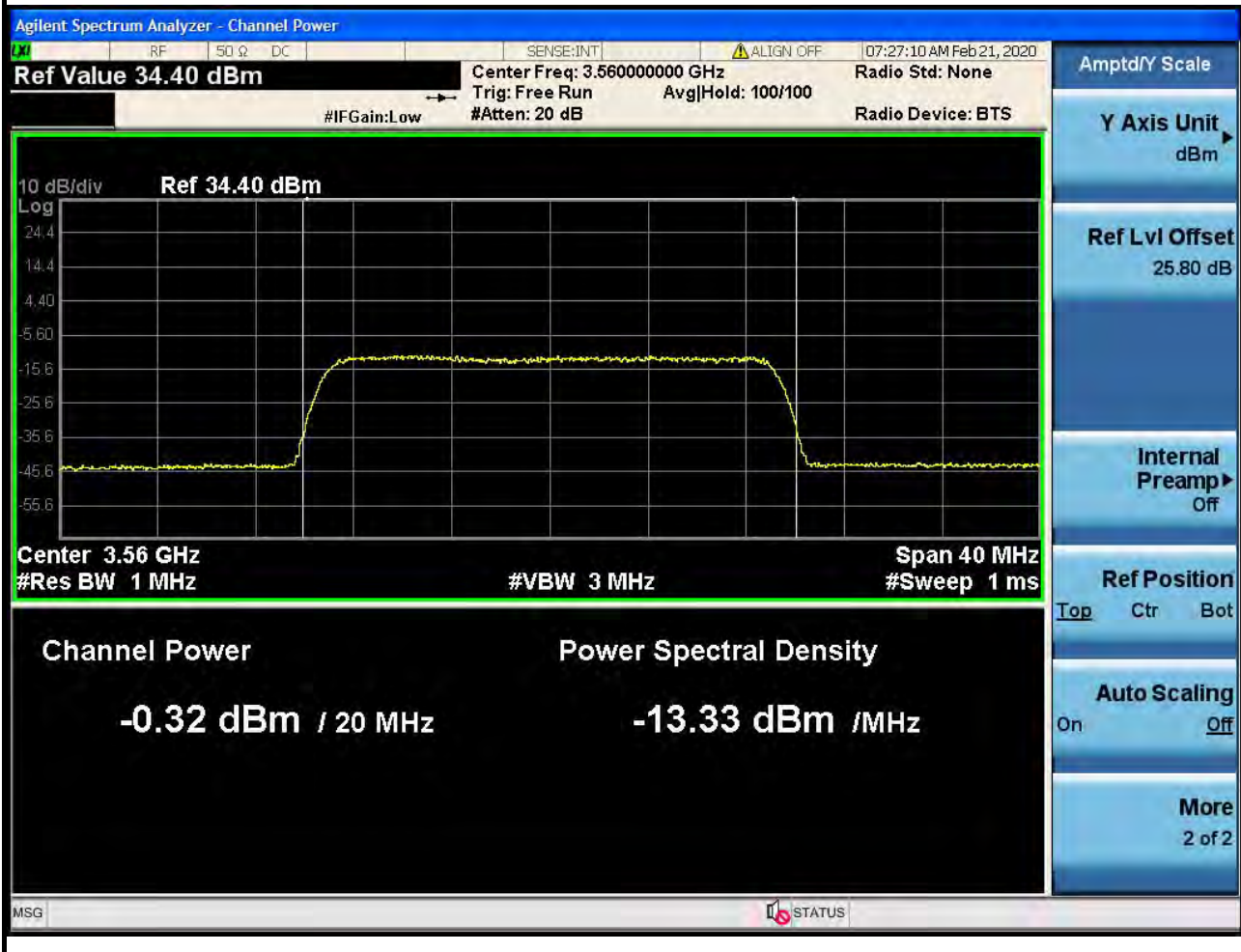
RF measurement plot for WINNF.PT.C.HBT Test Case ID_BW20M_Grant maxEirp 22_Port 2



RF measurement plot for WINNF.PT.C.HBT Test Case ID_BW20M_Grant maxEirp 9_Port 1



RF measurement plot for WINNF.PT.C.HBT Test Case ID_BW20M_Grant maxEirp 9_Port 2





Wireshark Plots for WINNF.FT.C.SCS.1 Test Case ID

File Edit View Go Capture Analyze Statistics Telephony Wireless Tools Help				
ip.addr == 192.168.199.102 && ip.addr == 192.168.199.109 && ssl				
Time	Source	Destination	Protocol	Info
2020-02-14 03:03:08.763214	192.168.199.109	192.168.199.102	TLSv1.2	Client Hello
2020-02-14 03:03:08.764328	192.168.199.102	192.168.199.109	TLSv1.2	Server Hello
2020-02-14 03:03:08.764785	192.168.199.102	192.168.199.109	TLSv1.2	Certificate, Certificate Request, Server Hello Done
2020-02-14 03:03:08.765619	192.168.199.109	192.168.199.102	TLSv1.2	Certificate, Client Key Exchange
2020-02-14 03:03:08.767553	192.168.199.109	192.168.199.102	TLSv1.2	Certificate Verify
2020-02-14 03:03:08.767655	192.168.199.109	192.168.199.102	TLSv1.2	Change Cipher Spec, Encrypted Handshake Message
2020-02-14 03:03:08.825638	192.168.199.102	192.168.199.109	TLSv1.2	Change Cipher Spec, Encrypted Handshake Message
2020-02-14 03:03:08.827736	192.168.199.109	192.168.199.102	TLSv1.2	Application Data
2020-02-14 03:03:08.828088	192.168.199.109	192.168.199.102	TLSv1.2	Application Data
2020-02-14 03:03:09.387865	192.168.199.102	192.168.199.109	TLSv1.2	Application Data
2020-02-14 03:03:09.389038	192.168.199.102	192.168.199.109	TLSv1.2	Application Data, Application Data, Application Data, Application Data, Appli
2020-02-14 03:03:09.789112	192.168.199.109	192.168.199.102	TLSv1.2	Client Hello
2020-02-14 03:03:09.790380	192.168.199.102	192.168.199.109	TLSv1.2	Server Hello
Ethernet II, Src: Dell_c8:60:e7 (00:24:e8:c8:60:e7), Dst: LcfcHefe_6c:ce:1d (98:fa:9b:6c:ce:1d)				
Internet Protocol Version 4, Src: 192.168.199.102, Dst: 192.168.199.109				
Transmission Control Protocol, Src Port: 5000, Dst Port: 47278, Seq: 1, Ack: 208, Len: 2896				
Secure Sockets Layer				
TLSv1.2 Record Layer: Handshake Protocol: Server Hello				
Content Type: Handshake (22)				
Version: TLS 1.2 (0x0303)				
Length: 81				
Handshake Protocol: Server Hello				
Handshake Type: Server Hello (2)				
Length: 77				
Version: TLS 1.2 (0x0303)				
Random: e7b21486faf0d6449ec2feaa269155ff6df3f3ff504a43c8...				
Session ID Length: 32				
Session ID: 7b353ad5ff4c8ee1d55fd6df08b08ee4fcab756e8ac04fd2...				
Cipher Suite: TLS_RSA_WITH_AES_256_GCM_SHA384 (0x009d)				
Compression Method: null (0)				



Wireshark Plots for WINNF.FT.C.SCS.2 Test Case ID

File Edit View Go Capture Analyze Statistics Telephony Wireless Tools Help				
ip.addr==192.168.199.102 && ip.addr==192.168.199.109 && ssl				
Time	Source	Destination	Protocol	Info
2020-02-11 00:45:56	192.168.199.109	192.168.199.102	TLSv1.2	Client Hello
2020-02-11 00:45:56	192.168.199.102	192.168.199.109	TLSv1.2	Server Hello
2020-02-11 00:45:56	192.168.199.102	192.168.199.109	TLSv1.2	Certificate, Certificate Request, Server Hello Done
2020-02-11 00:45:56	192.168.199.109	192.168.199.102	TLSv1.2	Certificate, Client Key Exchange
2020-02-11 00:45:56	192.168.199.109	192.168.199.102	TLSv1.2	Certificate Verify
2020-02-11 00:45:56	192.168.199.109	192.168.199.102	TLSv1.2	Change Cipher Spec, Encrypted Handshake Message
2020-02-11 00:45:56	192.168.199.102	192.168.199.109	TLSv1.2	Change Cipher Spec, Encrypted Handshake Message
Frame 882: 2962 bytes on wire (23696 bits), 2962 bytes captured (23696 bits) on interface 0				
Ethernet II, Src: Dell_9f:bd:03 (00:26:b9:9f:bd:03), Dst: 98:fa:9b:6c:ce:1d (98:fa:9b:6c:ce:1d)				
Internet Protocol Version 4, Src: 192.168.199.102, Dst: 192.168.199.109				
Transmission Control Protocol, Src Port: 5000, Dst Port: 51242, Seq: 1, Ack: 2896				
Secure Sockets Layer				
TLSv1.2 Record Layer: Handshake Protocol: Server Hello				
Content Type: Handshake (22)				
Version: TLS 1.2 (0x0303)				
Length: 81				
Handshake Protocol: Server Hello				
Handshake Type: Server Hello (2)				
Length: 77				
Version: TLS 1.2 (0x0303)				
Random: 83fd82bde22345f9e36724c76f329e26ab352cedf040c543...				
Session ID Length: 32				
Session ID: 1d523eba97e92d12def10e31a22fc44064f68e3ccfb445f3...				
Cipher Suite: TLS_RSA_WITH_AES_256_GCM_SHA384 (0x009d)				
Compression Method: null (0)				
Extensions Length: 5				
Extension: renegotiation_info (len=1)				



Wireshark Plots for WINNF.FT.C.SCS.3 Test Case ID

File Edit View Go Capture Analyze Statistics Telephony Wireless Tools Help

ip.addr==192.168.199.102 && ip.addr==192.168.199.109 && ssl

Time	Source	Destination	Protocol	Info
2020-02-10 09:32:25	192.168.199.109	192.168.199.102	TLSv1.2	Client Hello
2020-02-10 09:32:25	192.168.199.102	192.168.199.109	TLSv1.2	Server Hello
2020-02-10 09:32:25	192.168.199.102	192.168.199.109	TLSv1.2	Certificate, Certificate Request, Server Hello Done
2020-02-10 09:32:25	192.168.199.109	192.168.199.102	TLSv1.2	Alert (Level: Fatal, Description: Certificate Unknown)

Frame 358: 2962 bytes on wire (23696 bits), 2962 bytes captured (23696 bits) on interface 0

Ethernet II, Src: Dell_9f:bd:03 (00:26:b9:9f:bd:03), Dst: 98:fa:9b:6c:ce:1d (98:fa:9b:6c:ce:1d)

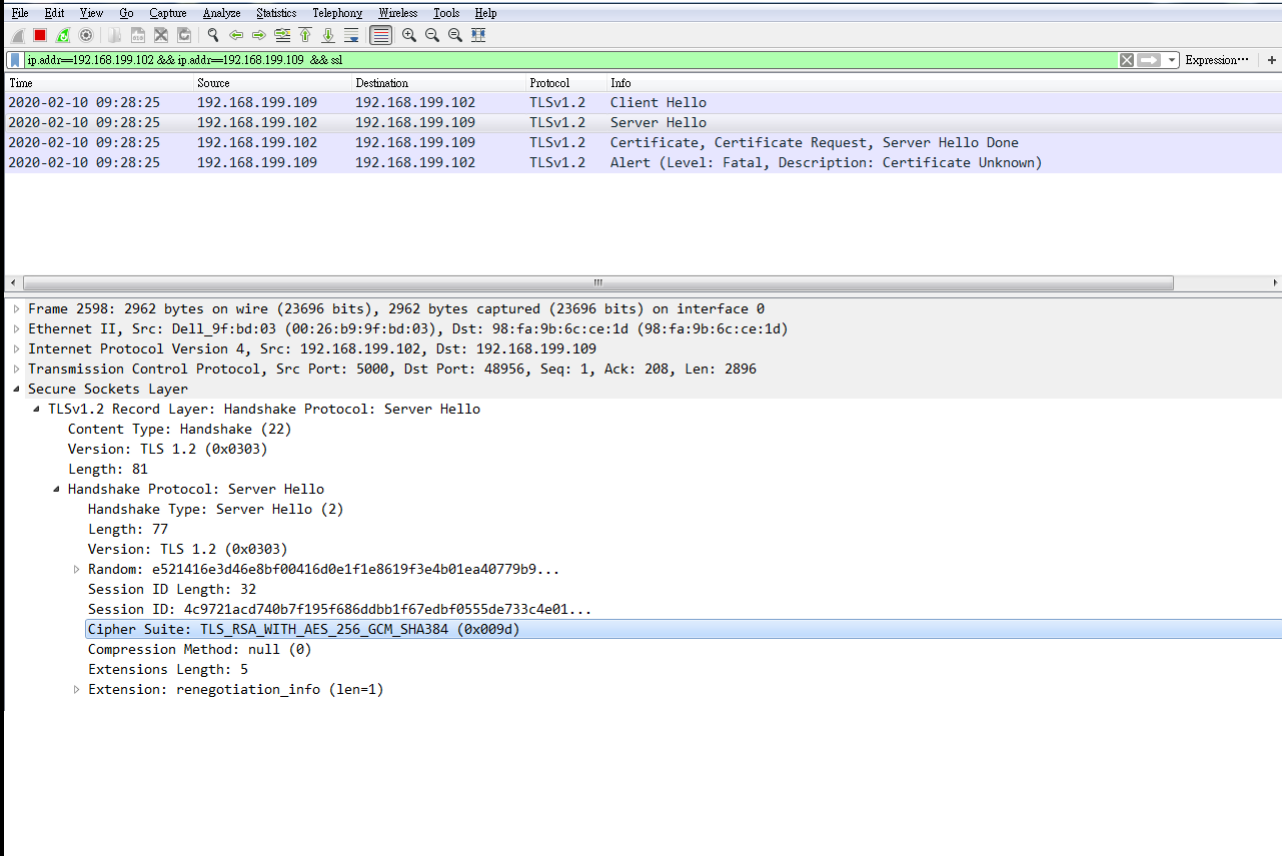
Internet Protocol Version 4, Src: 192.168.199.102, Dst: 192.168.199.109

Transmission Control Protocol, Src Port: 5000, Dst Port: 49272, Seq: 1, Ack: 208, Len: 2896

Secure Sockets Layer

- TLSv1.2 Record Layer: Handshake Protocol: Server Hello
 - Content Type: Handshake (22)
 - Version: TLS 1.2 (0x0303)
 - Length: 81
- Handshake Protocol: Server Hello
 - Handshake Type: Server Hello (2)
 - Length: 77
 - Version: TLS 1.2 (0x0303)
 - Random: c686c8a4e94d68515c1fce44983269503db207a7f4cd6d53...
 - Session ID Length: 32
 - Session ID: ccc26593d997d42106f2904b03f56abcb1659dfc672626ad...
 - Cipher Suite: TLS_RSA_WITH_AES_256_GCM_SHA384 (0x009d)
 - Compression Method: null (0)
 - Extensions Length: 5
 - Extension: renegotiation_info (len=1)

Wireshark Plots for WINNF.FT.C.SCS.4 Test Case ID



File Edit View Go Capture Analyze Statistics Telephony Wireless Tools Help

ip.addr==192.168.199.102 && ip.addr==192.168.199.109 && ssl

Time	Source	Destination	Protocol	Info
2020-02-10 09:28:25	192.168.199.109	192.168.199.102	TLSv1.2	Client Hello
2020-02-10 09:28:25	192.168.199.102	192.168.199.109	TLSv1.2	Server Hello
2020-02-10 09:28:25	192.168.199.102	192.168.199.109	TLSv1.2	Certificate, Certificate Request, Server Hello Done
2020-02-10 09:28:25	192.168.199.109	192.168.199.102	TLSv1.2	Alert (Level: Fatal, Description: Certificate Unknown)

Frame 2598: 2962 bytes on wire (23696 bits), 2962 bytes captured (23696 bits) on interface 0

Ethernet II, Src: Dell_9f:bd:03 (00:26:b9:9f:bd:03), Dst: 98:fa:9b:6c:ce:1d (98:fa:9b:6c:ce:1d)

Internet Protocol Version 4, Src: 192.168.199.102, Dst: 192.168.199.109

Transmission Control Protocol, Src Port: 5000, Dst Port: 48956, Seq: 1, Ack: 208, Len: 2896

Secure Sockets Layer

- TLSv1.2 Record Layer: Handshake Protocol: Server Hello
 - Content Type: Handshake (22)
 - Version: TLS 1.2 (0x0303)
 - Length: 81
 - Handshake Protocol: Server Hello
 - Handshake Type: Server Hello (2)
 - Length: 77
 - Version: TLS 1.2 (0x0303)
 - Random: e521416e3d46e8bf00416d0e1f1e8619f3e4b01ea40779b9...
 - Session ID Length: 32
 - Session ID: 4c9721acd740b7f195f686ddb1f67edbf0555de733c4e01...
 - Cipher Suite: TLS_RSA_WITH_AES_256_GCM_SHA384 (0x009d)
 - Compression Method: null (0)
 - Extensions Length: 5
 - Extension: renegotiation_info (len=1)



Wireshark Plots for WINNF.FT.C.SCS.5 Test Case ID

File Edit View Go Capture Analyze Statistics Telephony Wireless Tools Help				
ip.addr==192.168.199.102 && ip.addr==192.168.199.109 && not				
Time	Source	Destination	Protocol	Info
2020-02-10 09:19:25	192.168.199.109	192.168.199.102	TLSv1.2	Client Hello
2020-02-10 09:19:25	192.168.199.102	192.168.199.109	TLSv1.2	Server Hello
2020-02-10 09:19:25	192.168.199.102	192.168.199.109	TLSv1.2	Certificate, Certificate Request, Server Hello Done
2020-02-10 09:19:25	192.168.199.109	192.168.199.102	TLSv1.2	Alert (Level: Fatal, Description: Certificate Unknown)

Frame 180: 2962 bytes on wire (23696 bits), 2962 bytes captured (23696 bits) on interface 0

Ethernet II, Src: Dell_9f:bd:03 (00:26:b9:9f:bd:03), Dst: 98:fa:9b:6c:ce:1d (98:fa:9b:6c:ce:1d)

Internet Protocol Version 4, Src: 192.168.199.102, Dst: 192.168.199.109

Transmission Control Protocol, Src Port: 5000, Dst Port: 48282, Seq: 1, Ack: 208, Len: 2896

Secure Sockets Layer

- TLSv1.2 Record Layer: Handshake Protocol: Server Hello
 - Content Type: Handshake (22)
 - Version: TLS 1.2 (0x0303)
 - Length: 81
 - Handshake Protocol: Server Hello
 - Handshake Type: Server Hello (2)
 - Length: 77
 - Version: TLS 1.2 (0x0303)
 - Random: f309edab4d1236e46c3d616dc5cc596203b2f56f3800e47b...
 - Session ID Length: 32
 - Session ID: 32e905fe22ef7f772d05415434b2bdd3db22ec4f9c358d4...
 - Cipher Suite: TLS_RSA_WITH_AES_256_GCM_SHA384 (0x009d)
 - Compression Method: null (0)
 - Extensions Length: 5
 - Extension: renegotiation_info (len=1)

CRL and OCSP Verify Plots for WINNF.FT.C.SCS.2 Test Case ID

File Edit View Go Capture Analyze Statistics Telephony Wireless Tools Help					
ip addr == 192.168.199.110 && http					
Time	Source	Destination	Protocol	Info	
2020-02-11 00:43:49.569940	192.168.199.109	192.168.199.110	HTTP	GET /crlserver.crl HTTP/1.1	
2020-02-11 00:43:49.586897	192.168.199.110	192.168.199.109	HTTP	HTTP/1.1 200 OK	
2020-02-11 00:44:49.567052	192.168.199.109	192.168.199.110	HTTP	GET /crlserver.crl HTTP/1.1	
2020-02-11 00:44:49.583762	192.168.199.110	192.168.199.109	HTTP	HTTP/1.1 200 OK	

- Frame 332: 234 bytes on wire (1872 bits), 234 bytes captured (1872 bits) on interface 0 - Ethernet II, Src: LcfcHefe_6c:ce:1d (98:fa:9b:6c:ce:1d), Dst: Dell_c8:60:e7 (00:24:e8:c8:60:e7) - Internet Protocol Version 4, Src: 192.168.199.109, Dst: 192.168.199.110 - Transmission Control Protocol, Src Port: 44748, Dst Port: 80, Seq: 1, Ack: 1, Len: 168 Hypertext Transfer Protocol - GET /crlserver.crl HTTP/1.1\r\n - User-Agent: Java/1.8.0_202\r\n - Host: 192.168.199.110\r\n - Accept: text/html, image/gif, image/jpeg, *; q=.2, */*; q=.2\r\n - Connection: keep-alive\r\n \r\n [Full request URI: http://192.168.199.110/crlserver.crl] [HTTP request 1/1] [Response in frame: 335]
--