

Test Report

As per

FCC Part 96 SAS requirements (CBRS Test Plan)

on the

E61

FCC ID: QGGIPA495X

Issued by:
TÜV SÜD Canada Inc.
1280 Teron Rd,
Ottawa, ON

Scott Drysdale.
Test Personnel



Nick Viktorov
Report Reviewer



Canada

Choose certainty.
Add value.

Testing produced for



See Appendix A for full
client & EUT details.



Testing Laboratory
Certificate #2955.19



Client	IP.Access	
Product	E61	
Standard(s)	FCC Part 96 SAS requirements (CBRS Test Plan)	

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Report Scope

This report addresses the EMC verification testing and test results of the **E61** herein referred to as EUT (Equipment Under Test). The EUT was tested for compliance against the following standards:


FCC Part 96 SAS requirements (CBRS Test Plan)

. Test procedures, results, justifications, and engineering considerations, if any, follow later in this report.

For a more detailed list of the standards and the revision used, see the "Applicable Standards, Specifications and Methods" section of this report.

This report does not imply product endorsement by any government, accreditation agency, or TÜV SÜD Canada Inc.

Opinions or interpretations expressed in this report, if any, are outside the scope of TÜV SÜD Canada Inc accreditations. Any opinions expressed do not necessarily reflect the opinions of TÜV SÜD Canada Inc, unless otherwise stated.


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Summary

The results contained in this report relate only to the item(s) tested.

Equipment Under Test (EUT)	E61
EUT passed all tests performed	Yes
Tests conducted by	Scott Drysdale


For testing dates, see 'Testing Environmental Conditions and Dates'.

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Test Results Summary

Section as per Working Document WINNF-TS-0122


Section	CBSD	DP	Test Case ID	Test Case Title	RF Measurement Requirement	Pass / Fail
6.1.4.1.1	X	--	WINNF.FT.C.REG.1	Multi-Step registration	Monitor for 60 seconds after REG message sent. No transmission during test.	N/A
6.1.4.1.2	--	X	WINNF.FT.D.REG.2	Domain Proxy Multi-Step registration	Monitor for 60 seconds after REG message sent. No transmission during test.	Pass
6.1.4.1.3	X	--	WINNF.FT.C.REG.3	Single-Step registration for Category A CBSD	Monitor for 60 seconds after REG message sent. No transmission during test.	N/A
6.1.4.1.4	--	X	WINNF.FT.D.REG.4	Domain Proxy Single-Step registration for Cat A CBSD (Note: Mandatory for without CPI, if EUT will always have signed CPI – asked for email waiver)	Monitor for 60 seconds after REG message sent. No transmission during test.	N/A
6.1.4.1.5	X	--	WINNF.FT.C.REG.5	Single-Step registration for CBSD with CPI signed data	Monitor for 60 seconds after REG message sent. No transmission during test.	N/A
6.1.4.1.6	--	X	WINNF.FT.D.REG.6	Domain Proxy Single-Step registration for CBSD with CPI signed data	Monitor for 60 seconds after REG message sent. No transmission during test.	N/A
6.1.4.1.7	X	X	WINNF.FT.C.REG.7	Registration due to change of an installation parameter	Test waits until transmission starts, then trigger an installationParam change.	N/A

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					<ul style="list-style-type: none"> Record time at which transmission stops. Time must be within 60 seconds of the installationParam change taking effect. 	
6.1.4.2.1	X	--	WINNF.FT.C.REG.8	Missing Required parameters (responseCode 102)	Monitor for 60 seconds after REG message sent. No transmission during test.	N/A
6.1.4.2.2	--	X	WINNF.FT.D.REG.9	Domain Proxy Missing Required parameters (responseCode 102)	Monitor for 60 seconds after REG message sent. No transmission during test.	Pass
6.1.4.2.3	X	--	WINNF.FT.C.REG.10	Pending registration (responseCode 200)	Monitor for 60 seconds after REG message sent. No transmission during test.	N/A
6.1.4.2.4	--	X	WINNF.FT.D.REG.11	Domain Proxy Pending registration (responseCode 200)	Monitor for 60 seconds after REG message sent. No transmission during test.	Pass
6.1.4.2.5	X	--	WINNF.FT.C.REG.12	Invalid parameter (responseCode 103)	Monitor for 60 seconds after REG message sent. No transmission during test.	N/A
6.1.4.2.6	--	X	WINNF.FT.D.REG.13	Domain Proxy Invalid parameters (responseCode 103)	Monitor for 60 seconds after REG message sent. No transmission during test.	Pass
6.1.4.2.7	X	--	WINNF.FT.C.REG.14	Blacklisted CBSD (responseCode 101)	Monitor for 60 seconds after REG message sent. No transmission during test.	N/A

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6.1.4.2.8	--	X	WINNF.FT.D.REG.15	Domain Proxy Blacklisted CBSD (responseCode 101)	Monitor for 60 seconds after REG message sent. No transmission during test.	Pass
6.1.4.2.9	X	--	WINNF.FT.C.REG.16	Unsupported SAS protocol version (responseCode 100)	Monitor for 60 seconds after REG message sent. No transmission during test.	N/A
6.1.4.2.10	--	X	WINNF.FT.D.REG.17	Domain Proxy Unsupported SAS protocol version responseCode 100)	Monitor for 60 seconds after REG message sent. No transmission during test.	Pass
6.1.4.2.11	X	--	WINNF.FT.C.REG.18	Group Error (responseCode 201)	Monitor for 60 seconds after REG message sent. No transmission during test.	N/A
6.1.4.2.12	--	X	WINNF.FT.D.REG.19	Domain Proxy Group Error (responseCode 201)	Monitor for 60 seconds after REG message sent. No transmission during test.	Pass
6.1.4.3.1	X	X	WINNF.FT.C.REG.20	Category A CBSD location update		N/A
6.3.4.2.1	X	X	WINNF.FT.C.GRA.1 (TYPO FIXED D TO C)	Unsuccessful Grant responseCode=400 (INTERFERENCE)	Monitor for 60 seconds after REG message sent. No transmission during test.	Pass
6.3.4.2.2	X	X	WINNF.FT.C.GRA.2	Unsuccessful Grant responseCode=401 (GRANT_CONFLICT)	Monitor for 60 seconds after REG message sent. No transmission during test.	Pass
6.4.4.1.1	X	--	WINNF.FT.C.HBT.1	Heartbeat Success Case (first Heartbeat Response)	Monitor RF from start of test. Ensure that: <ul style="list-style-type: none"> Transmission does not start until time of first heartbeat response or after. 	N/A

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					<ul style="list-style-type: none"> After transmission starts, measure that transmission is within the granted channel (frequencyLow, frequencyHigh) 	
6.4.4.1.2	--	X	WINNF.FT.D.HBT.2	Domain Proxy Heartbeat Success Case (first Heartbeat Response)	Monitor RF from start of test. Ensure that: <ul style="list-style-type: none"> Transmission does not start until time of first heartbeat response or after. After transmission starts, measure that transmission is within the granted channel (frequencyLow, frequencyHigh) 	Pass
6.4.4.2.1	X	X	WINNF.FT.C.HBT.3	Heartbeat responseCode=105 (DEREGISTER)	Monitor RF transmission. Ensure that: <ul style="list-style-type: none"> CBSD stops transmission within 60 seconds of the heartbeatResponse which contains responseCode = 105 	Pass

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6.4.4.2.2	X	--	WINNF.FT.C.HBT.4	Heartbeat responseCode=500 (TERMINATED_G RANT)		N/A
6.4.4.2.3	X	X	WINNF.FT.C.HBT.5	Heartbeat responseCode=501 (SUSPENDED_GR ANT) in First Heartbeat Response	Monitor RF transmission from start of test. Ensure there is no transmission during the test	Pass
6.4.4.2.4	X	X	WINNF.FT.C.HBT.6	Heartbeat responseCode=501 (SUSPENDED_GR ANT) in Subsequent Heartbeat Response	Monitor RF transmission. Ensur e: <ul style="list-style-type: none"> • CBSD stops transmission within 60 seconds of heartbeatRe sponse which contains responseCod e=501 	Pass
6.4.4.2.5	X	X	WINNF.FT.C.HBT.7	Heartbeat responseCode=502 (UNSYNC_OP_PA RAM)	Monitor RF transmission. Ensur e: <ul style="list-style-type: none"> • CBSD stops transmission within 60 seconds of heartbeatRe sponse which contains responseCod e=502 	Pass
6.4.4.2.6	--	X	WINNF.FT.D.HBT.8	Domain Proxy Heartbeat responseCode=500 (TEMINATED_GR ANT)	Monitor RF transmission. CBSD s will have different behavior: <ul style="list-style-type: none"> • CBSD1: will continue to transmit to end of test (this is not a pass/fail 	Pass

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					<p>criteria, but Passcheck)</p> <ul style="list-style-type: none"> CBSD2: must stop transmission within 60 seconds of being sent heartbeatResponse with responseCode = 500 	
6.4.4.3.1	X	X	WINNF.FT.C.HBT.9	Heartbeat Response Absent (First Heartbeat)	Monitor RF from start of test to 60 seconds after last heartbeatResponse message was sent. CBSD should not transmit at any time during test	Pass
6.4.4.3.2	X	X	WINNF.FT.C.HBT.10	Heartbeat Response Absent (Subsequent Heartbeat)	Monitor RF transmission. Verify: <ul style="list-style-type: none"> CBSD must stop transmission within transmitExpirationTime+60 seconds, where transmitExpirationTime is from last successful heartbeatResponse message 	Pass
6.5.4.2.1	X	--	WINNF.FT.C.MES.1	Registration Response contains measReportConfig	No RF monitoring	N/A
6.5.4.2.2	--	X	WINNF.FT.D.MES.2	Domain Proxy Registration Response contains measReportConfig	No RF monitoring	Pass
6.5.4.2.3	X	X	WINNF.FT.C.MES.3	Grant Response contains measReportConfig	No RF monitoring	Pass

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6.5.4.2.4	X	--	WINNF.FT.C.MES.4	Heartbeat Response contains measReportConfig	No RF monitoring	N/A
6.5.4.2.5	--	X	WINNF.FT.D.MES.5	Domain Proxy Heartbeat Response contains measReportConfig	No RF monitoring	N/A
6.6.4.1.1	X	--	WINNF.FT.C.RLQ.1	Successful Relinquishment	Monitor RF transmission. Ensure: <ul style="list-style-type: none"> • CBSD stops transmission at any time prior to sending the relinquishmentRequest message. 	N/A
6.6.4.1.2	--	X	WINNF.FT.D.RLQ.2	Domain Proxy Successful Relinquishment	Monitor RF transmission. Ensure : <ul style="list-style-type: none"> • CBSD stops transmission at any time prior to sending the relinquishmentRequest message. 	Pass
6.7.4.1.1	X	--	WINNF.FT.C.DRG.1	Successful Deregistration	Monitor RF transmission. Ensure: <ul style="list-style-type: none"> • CBSD stops transmission at any time prior to sending the relinquishmentRequest message or deregistrationRequest message (whichever is sent first) 	N/A
6.7.4.1.2	--	X	WINNF.FT.D.DRG.2	Domain Proxy Successful Deregistration	Monitor RF transmission. Ensure :	Pass


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					<ul style="list-style-type: none"> CBSD stops transmission at any time prior to sending the relinquishmentRequest message or deregistrationRequest message (whichever is sent first) 	
6.8.4.1.1	X	X	WINNF.FT.C.SCS.1	Successful TLS connection between UUT and SAS Test Harness	No RF transmission during test Check the tcpdump for the TLS information	Pass
6.8.4.2.1	X	X	WINNF.FT.C.SCS.2	TLS failure due to revoked certificate	No RF transmission during test Check the tcpdump for the TLS information	Pass
6.8.4.2.2	X	X	WINNF.FT.C.SCS.3	TLS failure due to expired server certificate	No RF transmission during test Check the tcpdump for the TLS information	Pass
6.8.4.2.3	X	X	WINNF.FT.C.SCS.4	TLS failure when SAS Test Harness certificate is issued by unknown CA	No RF transmission during test Check the tcpdump for the TLS information	Pass
6.8.4.2.4	X	X	WINNF.FT.C.SCS.5	TLS failure when certificate at the SAS Test Harness is corrupted	No RF transmission during test Check the tcpdump for the TLS information	Pass
7.1.4.1.1	X	X	WINNF.PT.C.HBT	UUT RF Transmit Power Measurement	Power Spectral Density test case. Assume we use 1 carrier bandwidth (say, 5 or 10 MHz), lower/middle/upper frequencies as	Pass

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					representative of band) for test. Measure at max transmit power, and reduce in steps of 3 dB to minimum declared transmit power.	
--	--	--	--	--	--	--

If the product as tested complies with the specification, the EUT is deemed to comply with the standard and is deemed a 'PASS' or 'P' grade. If not 'FAIL' grade is issued. Where 'N/A' is stated this means the test case is not applicable, and see Notes, Justifications or Deviations Section for details.

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Notes, Justifications, or Deviations

The following notes, justifications for tests not performed or deviations from the above listed specifications apply:

A later revision of the standard may have been substituted in place of the previous dated referenced revision. The year of the specification used is listed under applicable standards. Using the later revision accomplishes the goal of ensuring compliance to the intent of the previous specification, while allowing the laboratory to incorporate the extensions and clarifications made available by a later revision.

For the N/A test cases, the following justifications apply:


Test case Name	Description	Justification	Required for Certification
WINNF.FT.C.REG.1	Multi-Stepregistration	Not Supported	Mandatory for UUT which supports CBSD to SAS direct connectivity
WINNF.FT.C.REG.3	Single-Stepregistrationfor	Not Supported	Mandatory for UUT which supports CBSD to SAS direct connectivity
WINNF.FT.D.REG.4	DomainProxySingle-Step	Not Supported	Mandatory for UUT which supports single-step registration.
WINNF.FT.C.REG.5	Single-Stepregistrationfor	Not Supported	Mandatory for UUT which supports CBSD to SAS direct connectivity
WINNF.FT.D.REG.6	DomainProxySingle-Step	Not Supported	Mandatory for UUT which supports single-step registration
WINNF.FT.C.REG.7	Registrationduetochange ofan	Not Supported	Mandatory for UUT which supports parameter change being made at the UUT and prior to sending a deregistration.
WINNF.FT.C.REG.8	MissingRequiredparameters	Not Supported	Mandatory for UUT which supports CBSD to SAS direct connectivity
WINNF.FT.C.REG.10	Pendingregistration	Not Supported	Mandatory for UUT which supports CBSD to SAS direct connectivity
WINNF.FT.C.REG.12	Invalidparameter(responseCode)	Not Supported	Mandatory for UUT which supports CBSD to SAS direct connectivity
WINNF.FT.C.REG.14	BlacklistedCBSD(responseCode)	Not Supported	Mandatory for UUT which supports CBSD to SAS direct connectivity
WINNF.FT.C.REG.16	UnsupportedSASprotocol	Not Supported	Mandatory for UUT which supports CBSD to SAS direct connectivity
WINNF.FT.C.REG.18	GroupError(responseCode201)	Not Supported	Mandatory for UUT which supports CBSD to SAS direct connectivity
WINNF.FT.C.REG.20	CategoryACBSDlocation	Not Supported	Mandatory for UUT which supports single-step registration.
WINNF.FT.C.HBT.1	HeartbeatSuccessCase (first	Not Supported	Mandatory for UUT which supports CBSD to SAS direct connectivity
WINNF.FT.C.HBT.4	HeartbeatresponseCode=500	Not Supported	Mandatory for UUT which supports CBSD to SAS direct connectivity
WINNF.FT.C.HBT.11	SuccessfulGrantRenewal	Supported	Optional

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WINNF.FT.C.MES.1	RegistrationResponsecontains	Not Supported	Mandatory for UUT which supports CBSD to SAS direct connectivity
WINNF.FT.C.MES.3	GrantResponsecontains	Not Supported	Mandatory for UUT which supports RECEIVED_POWER_WITH_GRANT measurement report type
WINNF.FT.C.MES.4	HeartbeatResponsecontains	Not Supported	Mandatory for UUT which supports RECEIVED_POWER_WITH_GRANT measurement report type
WINNF.FT.D.MES.5	DomainProxyHeartbeat	Not Supported	Mandatory for UUT which supports RECEIVED_POWER_WITH_GRANT measurement report type
WINNF.FT.C.RLQ.1	SuccessfulRelinquishment	Not Supported	Mandatory for UUT which supports CBSD to SAS direct connectivity
WINNF.FT.C.RLQ.3	UnsuccessfulRelinquishment,	Not Supported	Optional
WINNF.FT.D.RLQ.4	DomainProxyUnsuccessful	Optional	Optional
WINNF.FT.C.RLQ.5	UnsuccessfulRelinquishment,	Not Supported	Optional
WINNF.FT.D.RLQ.6	DomainProxyUnsuccessful	Optional	Optional
WINNF.FT.C.DRG.1	SuccessfulDeregistration	Not Supported	Mandatory for UUT which supports CBSD to SAS direct connectivity
WINNF.FT.C.DRG.3	DeregistrationresponseCode=102	Not Supported	Optional
WINNF.FT.D.DRG.4	DomainProxyDeregistration	Optional	Optional
WINNF.FT.C.DRG.5	DeregistrationresponseCode=103	Optional	Optional

Note, where graph sweeps are incomplete, this was used to set the time stamp of when the events occurred. This can be accomplished by determining the time at which the graph was captured and subtracting the remaining time. For example if there was a 30 second sweep, and 9 out of 10 is complete, that means the end occurred at the 27 second mark. If the time on the graph was 12:03:35, this means the graph started at 12:03:08. This allows us to co-ordinate graph with UTC in the logs.

Logs are kept on file.

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Applicable Standards, Specifications and Methods

ANSI C63.4:2014 Methods of Measurement of Radio-Noise Emissions from Low-Voltage Electrical and Electronic Equipment in the Range of 9 kHz to 40 GHz

CFR47 FCC Part 96 Code of Federal Regulations – Citizens Broadband Radio Service


WINNF-TS-0122 Conformance and Performance Test Technical Specification;
Version V1.0.0 CBSD/DP as Unit Under Test (UUT)
19 December 2017 Working Document

ISO/IEC 17025:2005 General requirements for the competence of testing and calibration laboratories

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Document Revision Status

Revision 000: June 20th, 2019 First Revision.

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Definitions and Acronyms

The following definitions and acronyms are applicable in this report.
See also ANSI C63.14.

AE – Auxiliary Equipment. A digital accessory that feeds data into or receives data from another device (host) that in turn, controls its operation.

AM – Amplitude Modulation

Class A device – A device that is marketed for use in a commercial, industrial or business environment. A 'Class A' device should not be marketed for use by the general public and the instructions for use accompanying the product shall contain the following text:

Caution: This equipment is not intended for use in residential environments and may not provide adequate protection to radio reception in such environments.

Class B device – A device that is marketed for use in a residential environment and may also be used in a commercial, business or industrial environments.

EMC – Electro-Magnetic Compatibility. The ability of an equipment or system to function satisfactorily in its electromagnetic environment without introducing intolerable electromagnetic disturbances to anything in that environment.

EMI – Electro-Magnetic Immunity. The ability to maintain a specified performance when the equipment is subjected to disturbance (unwanted) signals of specified levels.

Enclosure Port – Physical boundary of equipment through which electromagnetic fields may radiate or impinge.

EUT – Equipment Under Test. A device or system being evaluated for compliance that is representative of a product to be marketed.


LISN – Line Impedance Stabilization Network

NCR – No Calibration Required

NSA – Normalized Site Attenuation

RF – Radio Frequency

EMC Test Plan – An EMC test plan established prior to testing. See 'Appendix A – EUT & Client Provided Details'.


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Testing Facility

Testing for EMC on the EUT was carried out at customer location as described in Appendix A.

Calibrations and Accreditations


TÜV SÜD Canada Inc is accredited to ISO/IEC 17025 by A2LA with Testing Certificate #2955.19. The laboratory's current scope of accreditation listing can be found as listed on the A2LA website. All measuring equipment is calibrated on an annual or bi-annual basis as listed for each respective test.

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Testing Environmental Conditions and Dates

Following environmental conditions were recorded in the facility during time of testing

Date	Test	Initials	Temperature (°C)	Humidity (%)	Pressure (kPa)
14-15 May, 2019	All	SD	20-23	40-55	96.106

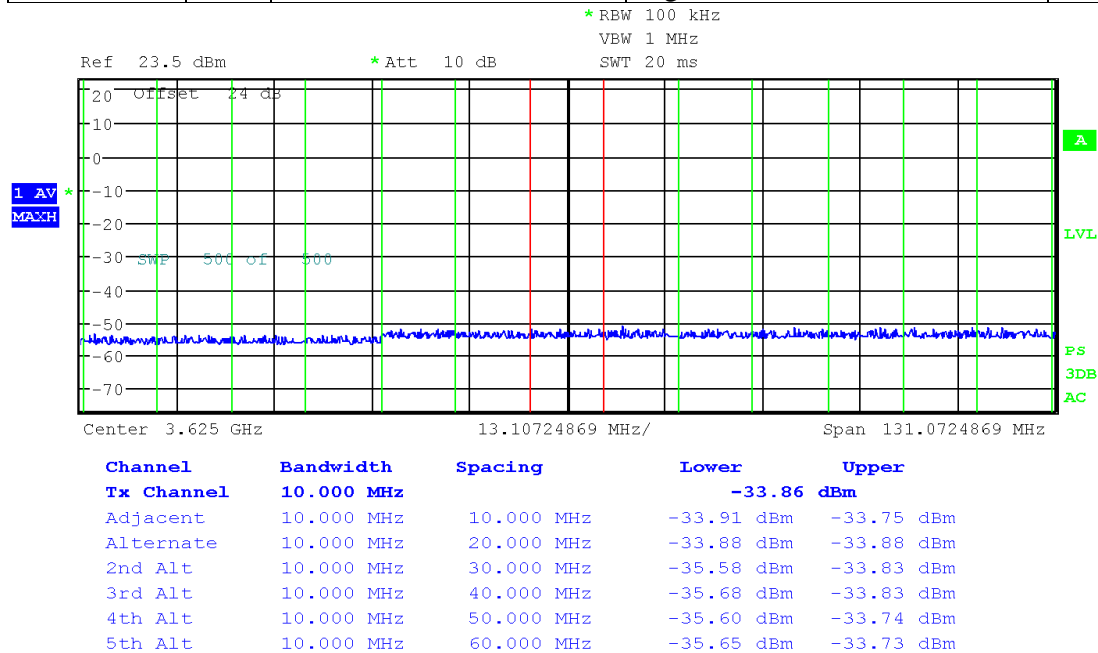
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Detailed Test Results Section


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Authorization transmit after it receives authorization from a SAS.

Section	DP	Test Case ID	Test Case Title	Pass / Fail
6.1.4.1.2	X	WINNF.FT.D.REG.2	Domain Proxy Multi-Step registration	P



Date: 14.MAY.2019 10:38:31

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2019-05-14T14:27:32.475Z - INFO - WINNF TEST HARNESS RELEASE: 1.0.0.3 - 2018-November-13
2019-05-14T14:27:32.478Z - INFO - the selected test from the user : WINNF.FT.D.REG.2 is starting now

2019-05-14T14:27:44.523Z - INFO - registration request from CBRS : {


```
"registrationRequest": [
  {
    "airInterface": {
      "radioTechnology": "E_UTRA"
    },
    "callSign": "",
    "cbsdCategory": "A",
    "cbsdInfo": {
      "hardwareVersion": "495X030-00065",
      "model": "495X030-00065",
      "vendor": "000295"
    },
    "cbsdSerialNumber": "0100008267",
    "fcclId": "IPaccess123",
    "measCapability": [
      "RECEIVED_POWER_WITHOUT_GRANT"
    ],
    "userId": "pgMyed"
  }
]
```

2019-05-14T14:27:44.566Z - INFO - engine sent successfully, the response to CBRS : {

```
"registrationResponse": [
  {
    "cbsdId": "IPaccess123Mock-SAS0100008267",
    "response": {
      "responseCode": 0
    }
  }
]
```

2019-05-14T14:27:46.147Z - INFO - grant request from CBRS : {


```
"grantRequest": [
  {
    "cbsdId": "IPaccess123Mock-SAS0100008267",
```

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```

    "operationParam": {
      "maxEirp": 14,
      "operationFrequencyRange": {
        "highFrequency": 3630000000,
        "lowFrequency": 3620000000
      }
    }
  }
]
}
2019-05-14T14:27:46.148Z - INFO - engine sent successfully, the response to CBRS : {
  "grantResponse": [
    {
      "cbsdId": "IPaccess123Mock-SAS0100008267",
      "response": {
        "responseCode": 400
      }
    }
  ]
}
2019-05-14T14:28:04.993Z - INFO - registration request from CBRS : {
  "registrationRequest": [
    {
      "airInterface": {
        "radioTechnology": "E_UTRA"
      },
      "callSign": "",
      "cbsdCategory": "A",
      "cbsdInfo": {
        "hardwareVersion": "495X030-00065",
        "model": "495X030-00065",
        "vendor": "000295"
      },
      "cbsdSerialNumber": "0100008310",
      "fcId": "IPaccess123",
      "measCapability": [
        "RECEIVED_POWER_WITHOUT_GRANT"
      ],
      "userId": "pgMyed"
    }
  ]
}

```


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```

    }
  ]
}

```

2019-05-14T14:28:05.031Z - INFO - engine sent successfully, the response to CBRS : {

```

  "registrationResponse": [
    {
      "cbsdId": "IPaccess123Mock-SAS0100008310",
      "response": {
        "responseCode": 0
      }
    }
  ]
}

```

2019-05-14T14:28:06.532Z - INFO - arrived to nstep starting question answer session with the technician


2019-05-14T14:28:06.533Z - INFO - the question is : Were there RF transmissions from the CBSD1 during the test? please choose one of the answers :

2019-05-14T14:28:45.772Z - INFO - for the question : Were there RF transmissions from the CBSD1 during the test? , the user choose n

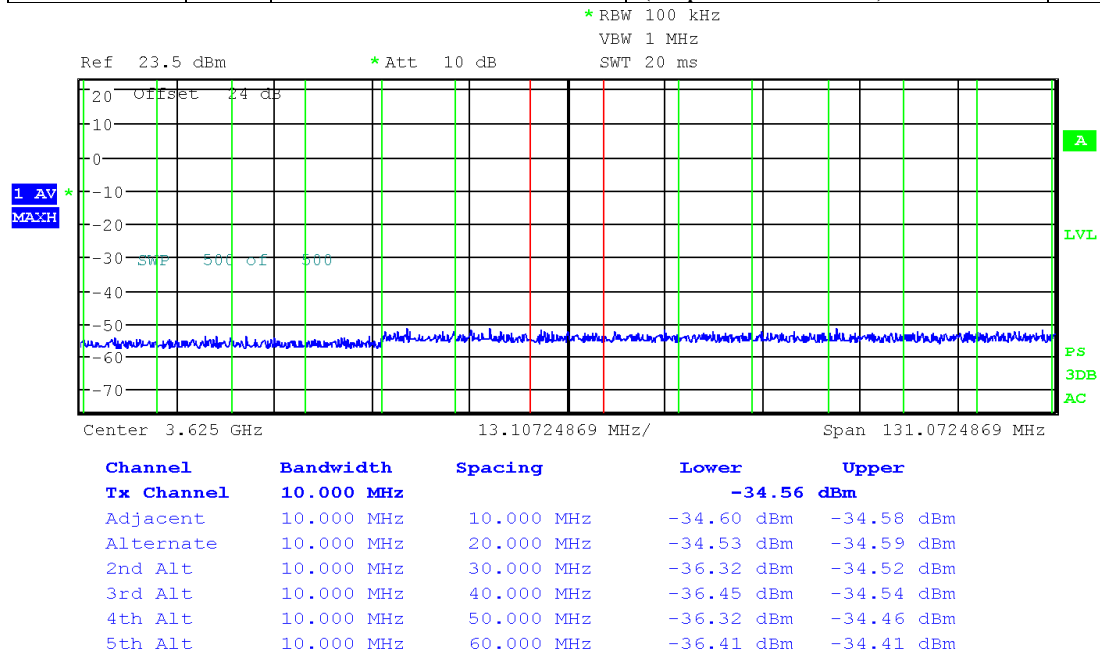
2019-05-14T14:28:45.773Z - INFO - the question is : Were there RF transmissions from the CBSD2 during the test? please choose one of the answers :

2019-05-14T14:28:47.059Z - INFO - for the question : Were there RF transmissions from the CBSD2 during the test? , the user choose n


2019-05-14T14:28:50.227Z - INFO - The final result of the test : WINNF.FT.D.REG.2 is - passed and :the additional comments for the current test are : no

Client	IP.Access	
Product	E61	
Standard(s)	FCC Part 96 SAS requirements (CBRS Test Plan)	

6.1.4.2.2	X	WINNF.FT.D.REG.9	Domain Proxy Missing Required parameters (responseCode 102)	P
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Date: 14.MAY.2019 10:42:48

Client	IP.Access	
Product	E61	
Standard(s)	FCC Part 96 SAS requirements (CBRS Test Plan)	

2019-05-14T14:42:12.144Z - INFO - WINNF TEST HARNESS RELEASE: 1.0.0.3 - 2018-November-13

2019-05-14T14:42:12.146Z - INFO - the selected test from the user : WINNF.FT.D.REG.9 is starting now

2019-05-14T14:42:23.710Z - INFO - registration request from CBRS : {

```

  "registrationRequest": [
    {
      "airInterface": {
        "radioTechnology": "E_UTRA"
      },
      "callSign": "",
      "cbsdCategory": "A",
      "cbsdInfo": {
        "hardwareVersion": "495X030-00065",
        "model": "495X030-00065",
        "vendor": "000295"
      },
      "cbsdSerialNumber": "0100008267",
      "fccId": "IPaccess123",
      "measCapability": [
        "RECEIVED_POWER_WITHOUT_GRANT"
      ],
      "userId": "pgMyed"
    }
  ]
}

```

2019-05-14T14:42:23.756Z - INFO - engine sent successfully, the response to CBRS : {

```

  "registrationResponse": [
    {
      "response": {
        "responseCode": 102
      }
    }
  ]
}


```

2019-05-14T14:42:44.611Z - INFO - registration request from CBRS : {

```

  "registrationRequest": [
    {
      "airInterface": {
        "radioTechnology": "E_UTRA"
      }
    }
  ]
}

```

Client	IP.Access	
Product	E61	
Standard(s)	FCC Part 96 SAS requirements (CBRS Test Plan)	

```

    },
    "callSign": "",
    "cbsdCategory": "A",
    "cbsdInfo": {
        "hardwareVersion": "495X030-00065",
        "model": "495X030-00065",
        "vendor": "000295"
    },
    "cbsdSerialNumber": "0100008310",
    "fcclId": "IPaccess123",
    "measCapability": [
        "RECEIVED_POWER_WITHOUT_GRANT"
    ],
    "userId": "pgMyed"
}
]
}

```

2019-05-14T14:42:44.649Z - INFO - engine sent successfully, the response to CBRS : {

```

    "registrationResponse": [
        {
            "response": {
                "responseCode": 102
            }
        }
    ]
}

```

2019-05-14T14:42:46.209Z - INFO - arrived to nstep starting question answer session with the technician


2019-05-14T14:42:46.212Z - INFO - the question is : Were there RF transmissions from the CBSD1 during the test? please choose one of the answers :

2019-05-14T14:43:10.422Z - INFO - for the question : Were there RF transmissions from the CBSD1 during the test? , the user choose n

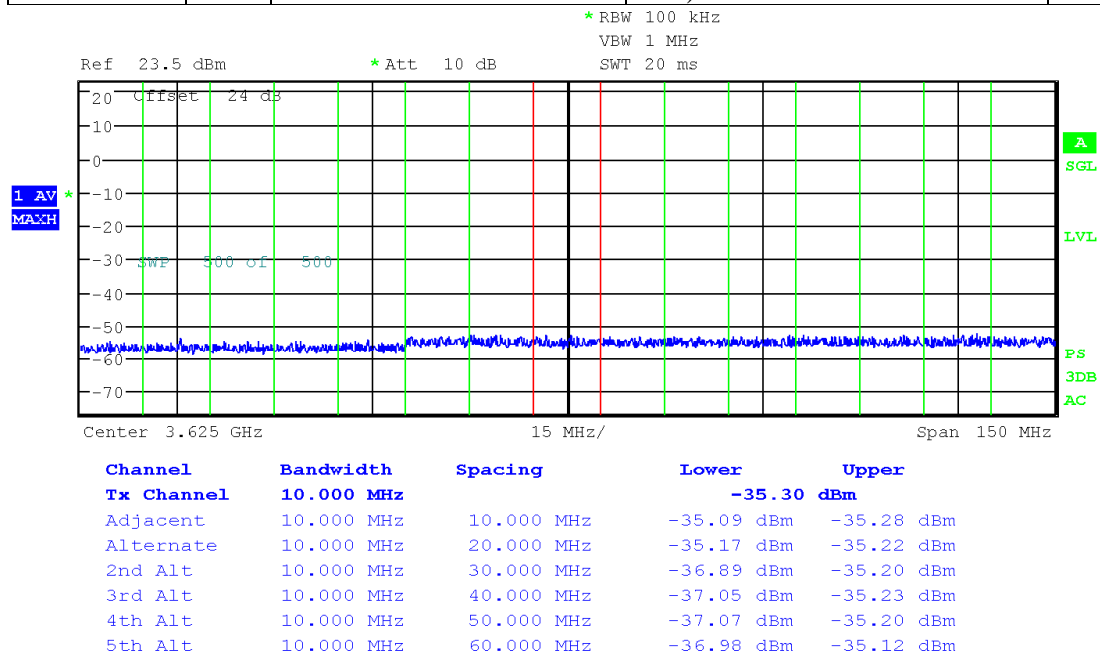
2019-05-14T14:43:10.423Z - INFO - the question is : Were there RF transmissions from the CBSD2 during the test? please choose one of the answers :

2019-05-14T14:43:12.085Z - INFO - for the question : Were there RF transmissions from the CBSD2 during the test? , the user choose n


2019-05-14T14:43:21.231Z - INFO - The final result of the test : WINNF.FT.D.REG.9 is - passed and :the additional comments for the current test are : no

Client	IP.Access	
Product	E61	
Standard(s)	FCC Part 96 SAS requirements (CBRS Test Plan)	

6.1.4.2.4	X	WINNF.FT.D.REG.11	Domain Proxy Pending registration (responseCode 200)	P
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Date: 14.MAY.2019 10:46:31

Client	IP.Access	
Product	E61	
Standard(s)	FCC Part 96 SAS requirements (CBRS Test Plan)	

2019-05-14T14:46:15.250Z - INFO - WINNF TEST HARNESS RELEASE: 1.0.0.3 - 2018-November-13
2019-05-14T14:46:15.252Z - INFO - the selected test from the user : WINNF.FT.D.REG.11 is starting now

2019-05-14T14:46:26.488Z - INFO - registration request from CBRS : {


```
"registrationRequest": [
  {
    "airInterface": {
      "radioTechnology": "E_UTRA"
    },
    "callSign": "",
    "cbsdCategory": "A",
    "cbsdInfo": {
      "hardwareVersion": "495X030-00065",
      "model": "495X030-00065",
      "vendor": "000295"
    },
    "cbsdSerialNumber": "0100008267",
    "fcclId": "IPaccess123",
    "measCapability": [
      "RECEIVED_POWER_WITHOUT_GRANT"
    ],
    "userId": "pgMyed"
  }
]
```

2019-05-14T14:46:26.532Z - INFO - engine sent successfully, the response to CBRS : {

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

2019-05-14T14:46:45.723Z - INFO - registration request from CBRS : {

```
"registrationRequest": [
  {
    "airInterface": {
      "radioTechnology": "E_UTRA"
    }
  }
]
```

Client	IP.Access	
Product	E61	
Standard(s)	FCC Part 96 SAS requirements (CBRS Test Plan)	

```

    },
    "callSign": "",
    "cbbsdCategory": "A",
    "cbbsdInfo": {
        "hardwareVersion": "495X030-00065",
        "model": "495X030-00065",
        "vendor": "000295"
    },
    "cbbsdSerialNumber": "0100008310",
    "fccId": "IPaccess123",
    "measCapability": [
        "RECEIVED_POWER_WITHOUT_GRANT"
    ],
    "userId": "pgMyed"
}
]
}

```

2019-05-14T14:46:45.762Z - INFO - engine sent successfully, the response to CBRS : {

```

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

```

2019-05-14T14:46:47.310Z - INFO - arrived to nstep starting question answer session with the technician


2019-05-14T14:46:47.313Z - INFO - the question is : Were there RF transmissions from the CBSD1 during the test? please choose one of the answers :

2019-05-14T14:47:42.088Z - INFO - for the question : Were there RF transmissions from the CBSD1 during the test? , the user choose n

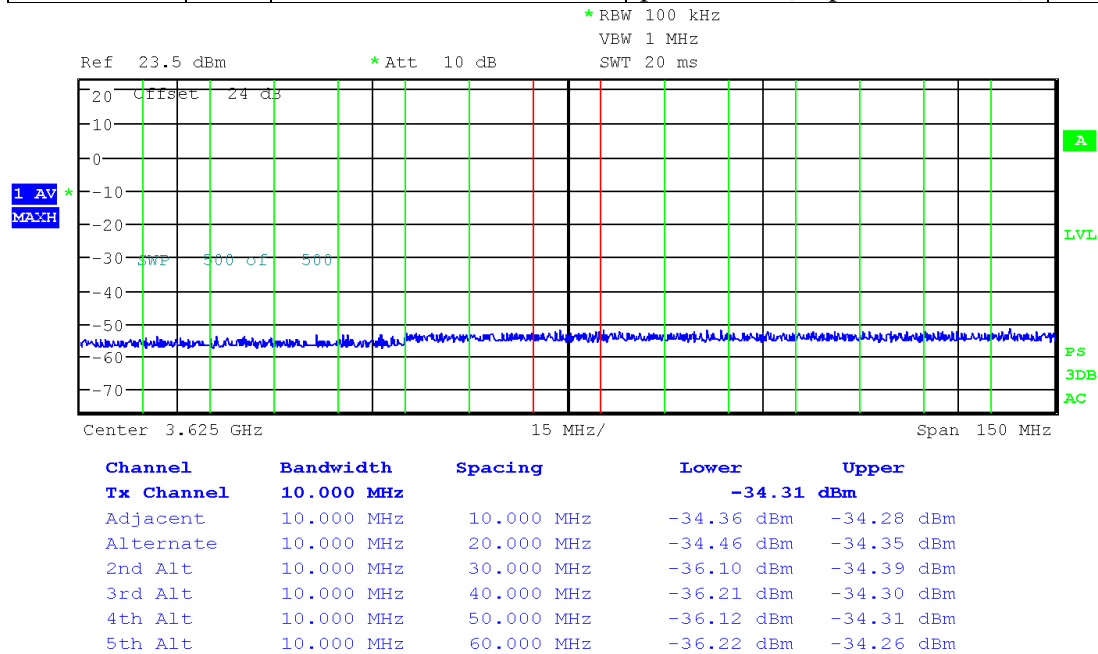
2019-05-14T14:47:42.091Z - INFO - the question is : Were there RF transmissions from the CBSD2 during the test? please choose one of the answers :

2019-05-14T14:47:43.901Z - INFO - for the question : Were there RF transmissions from the CBSD2 during the test? , the user choose n


2019-05-14T14:47:47.614Z - INFO - The final result of the test : WINNF.FT.D.REG.11 is - passed and :the additional comments for the current test are : no

Client	IP.Access	
Product	E61	
Standard(s)	FCC Part 96 SAS requirements (CBRS Test Plan)	

6.1.4.2.6	X	WINNF.FT.D.REG.13	Domain Proxy Invalid parameters (responseCode 103)	P
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Date: 14.MAY.2019 10:51:56

Client	IP.Access	
Product	E61	
Standard(s)	FCC Part 96 SAS requirements (CBRS Test Plan)	

2019-05-14T14:49:34.525Z - INFO - WINNF TEST HARNESS RELEASE: 1.0.0.3 - 2018-November-13
2019-05-14T14:49:34.528Z - INFO - the selected test from the user : WINNF.FT.D.REG.13 is starting now

2019-05-14T14:49:50.608Z - INFO - registration request from CBRS : {


```
"registrationRequest": [
  {
    "airInterface": {
      "radioTechnology": "E_UTRA"
    },
    "callSign": "",
    "cbsdCategory": "A",
    "cbsdInfo": {
      "hardwareVersion": "495X030-00065",
      "model": "495X030-00065",
      "vendor": "000295"
    },
    "cbsdSerialNumber": "0100008267",
    "fcclId": "IPaccess123",
    "measCapability": [
      "RECEIVED_POWER_WITHOUT_GRANT"
    ],
    "userId": "pgMyed"
  }
]
```

2019-05-14T14:49:50.651Z - INFO - engine sent successfully, the response to CBRS : {

```
"registrationResponse": [
  {
    "cbsdId": "IPaccess123Mock-SAS0100008267",
    "response": {
      "responseCode": 0
    }
  }
]
```

2019-05-14T14:49:52.231Z - INFO - grant request from CBRS : {


```
"grantRequest": [
  {
    "cbsdId": "IPaccess123Mock-SAS0100008267",
```

Client	IP.Access	
Product	E61	
Standard(s)	FCC Part 96 SAS requirements (CBRS Test Plan)	

```

    "operationParam": {
      "maxEirp": 14,
      "operationFrequencyRange": {
        "highFrequency": 3630000000,
        "lowFrequency": 3620000000
      }
    }
  }
]
}
}
2019-05-14T14:49:52.232Z - INFO - engine sent successfully, the response to CBRS : {
  "grantResponse": [
    {
      "cbsdId": "IPaccess123Mock-SAS0100008267",
      "response": {
        "responseCode": 400
      }
    }
  ]
}
2019-05-14T14:50:30.806Z - INFO - registration request from CBRS : {
  "registrationRequest": [
    {
      "airInterface": {
        "radioTechnology": "E_UTRA"
      },
      "callSign": "",
      "cbsdCategory": "A",
      "cbsdInfo": {
        "hardwareVersion": "495X030-00065",
        "model": "495X030-00065",
        "vendor": "000295"
      },
      "cbsdSerialNumber": "0100008310",
      "fcId": "IPaccess123",
      "measCapability": [
        "RECEIVED_POWER_WITHOUT_GRANT"
      ],
      "userId": "pgMyed"
    }
  ]
}

```

Client	IP.Access	
Product	E61	
Standard(s)	FCC Part 96 SAS requirements (CBRS Test Plan)	

```

    }
  ]
}

```

2019-05-14T14:50:30.844Z - INFO - engine sent successfully, the response to CBRS : {

```

  "registrationResponse": [
    {
      "response": {
        "responseCode": 103
      }
    }
  ]
}

```

2019-05-14T14:50:32.613Z - INFO - arrived to nstep starting question answer session with the technician


2019-05-14T14:50:32.614Z - INFO - the question is : Were there RF transmissions from the CBSD1 during the test? please choose one of the answers :

2019-05-14T14:53:05.252Z - INFO - for the question : Were there RF transmissions from the CBSD1 during the test? , the user choose n

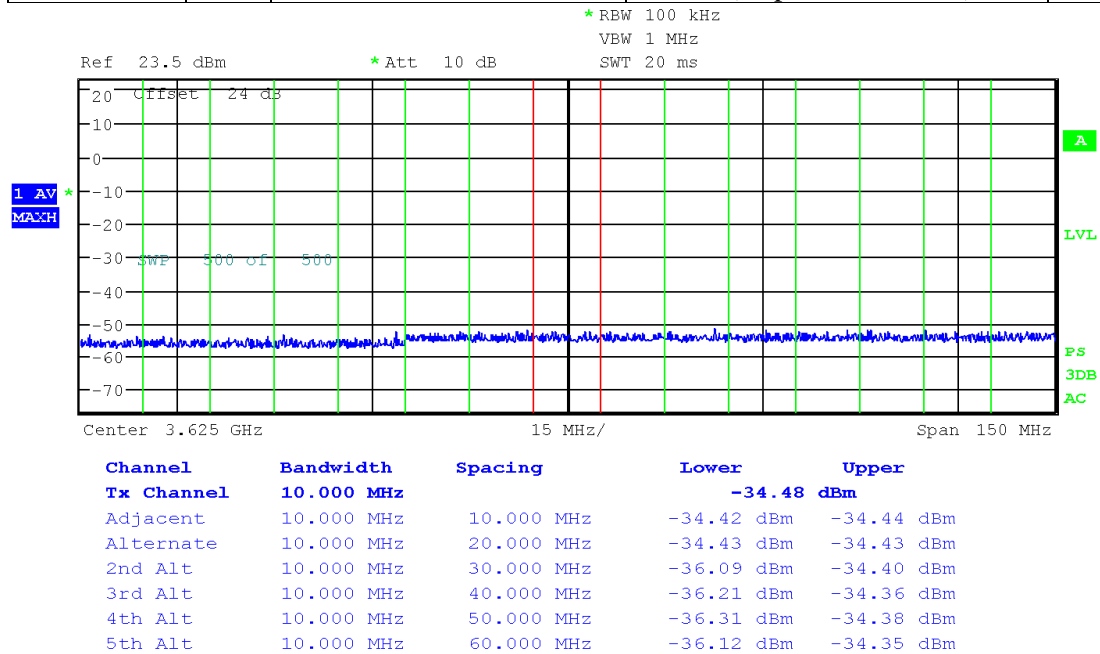
2019-05-14T14:53:05.254Z - INFO - the question is : Were there RF transmissions from the CBSD2 during the test? please choose one of the answers :

2019-05-14T14:53:07.670Z - INFO - for the question : Were there RF transmissions from the CBSD2 during the test? , the user choose n


2019-05-14T14:53:10.104Z - INFO - The final result of the test : WINNF.FT.D.REG.13 is - passed and :the additional comments for the current test are : no

Client	IP.Access	
Product	E61	
Standard(s)	FCC Part 96 SAS requirements (CBRS Test Plan)	

6.1.4.2.8	X	WINNF.FT.D.REG.15	Domain Proxy Blacklisted CBSD (responseCode 101)	P
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Date: 14.MAY.2019 10:56:25

Client	IP.Access	
Product	E61	
Standard(s)	FCC Part 96 SAS requirements (CBRS Test Plan)	

2019-05-14T14:55:26.034Z - INFO - WINNF TEST HARNESS RELEASE: 1.0.0.3 - 2018-November-13
2019-05-14T14:55:26.036Z - INFO - the selected test from the user : WINNF.FT.D.REG.15 is starting now

2019-05-14T14:55:38.407Z - INFO - registration request from CBRS : {


```
"registrationRequest": [
  {
    "airInterface": {
      "radioTechnology": "E_UTRA"
    },
    "callSign": "",
    "cbsdCategory": "A",
    "cbsdInfo": {
      "hardwareVersion": "495X030-00065",
      "model": "495X030-00065",
      "vendor": "000295"
    },
    "cbsdSerialNumber": "0100008267",
    "fcclId": "IPaccess123",
    "measCapability": [
      "RECEIVED_POWER_WITHOUT_GRANT"
    ],
    "userId": "pgMyed"
  }
]
```

2019-05-14T14:55:38.451Z - INFO - engine sent successfully, the response to CBRS : {

```
"registrationResponse": [
  {
    "cbsdId": "IPaccess123Mock-SAS0100008267",
    "response": {
      "responseCode": 0
    }
  }
]
```

2019-05-14T14:55:40.048Z - INFO - grant request from CBRS : {


```
"grantRequest": [
  {
    "cbsdId": "IPaccess123Mock-SAS0100008267",
```

Client	IP.Access	
Product	E61	
Standard(s)	FCC Part 96 SAS requirements (CBRS Test Plan)	

```

    "operationParam": {
      "maxEirp": 14,
      "operationFrequencyRange": {
        "highFrequency": 3630000000,
        "lowFrequency": 3620000000
      }
    }
  }
]
}
}
2019-05-14T14:55:40.049Z - INFO - engine sent successfully, the response to CBRS : {
  "grantResponse": [
    {
      "cbsdId": "IPaccess123Mock-SAS0100008267",
      "response": {
        "responseCode": 400
      }
    }
  ]
}
2019-05-14T14:55:54.206Z - INFO - registration request from CBRS : {
  "registrationRequest": [
    {
      "airInterface": {
        "radioTechnology": "E_UTRA"
      },
      "callSign": "",
      "cbsdCategory": "A",
      "cbsdInfo": {
        "hardwareVersion": "495X030-00065",
        "model": "495X030-00065",
        "vendor": "000295"
      },
      "cbsdSerialNumber": "0100008310",
      "fcId": "IPaccess123",
      "measCapability": [
        "RECEIVED_POWER_WITHOUT_GRANT"
      ],
      "userId": "pgMyed"
    }
  ]
}

```

Client	IP.Access	
Product	E61	
Standard(s)	FCC Part 96 SAS requirements (CBRS Test Plan)	

```

    }
  ]
}

```

2019-05-14T14:55:54.243Z - INFO - engine sent successfully, the response to CBRS : {

```

  "registrationResponse": [
    {
      "response": {
        "responseCode": 101
      }
    }
  ]
}

```

2019-05-14T14:55:56.090Z - INFO - arrived to nstep starting question answer session with the technician


2019-05-14T14:55:56.095Z - INFO - the question is : Were there RF transmissions from the CBSD1 during the test? please choose one of the answers :

2019-05-14T14:57:47.124Z - INFO - for the question : Were there RF transmissions from the CBSD1 during the test? , the user choose n

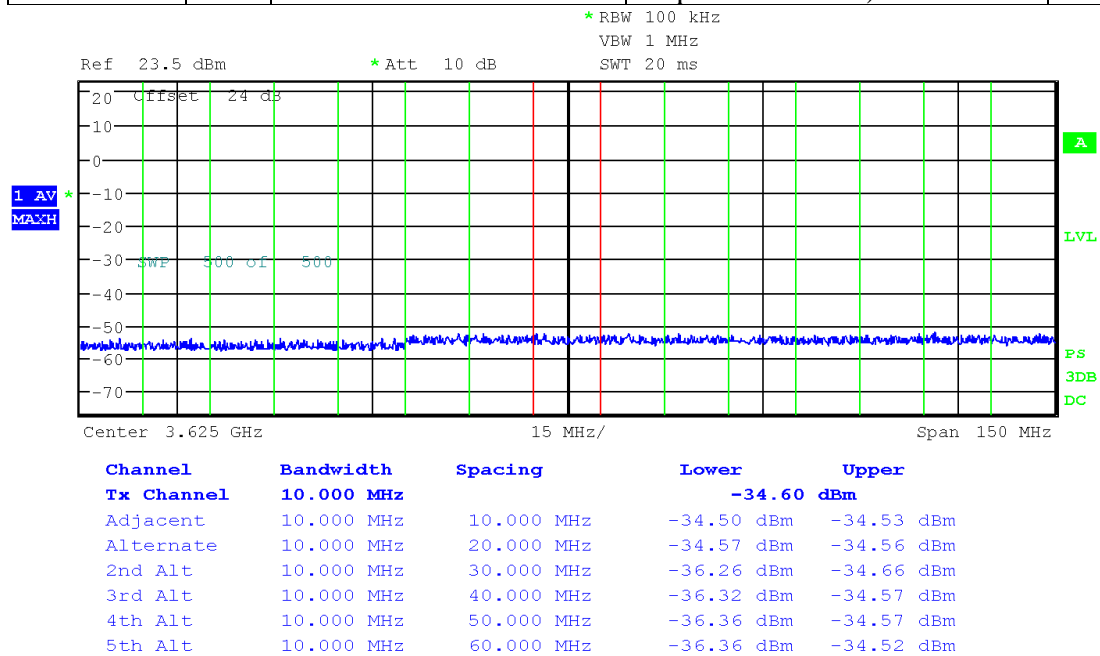
2019-05-14T14:57:47.126Z - INFO - the question is : Were there RF transmissions from the CBSD2 during the test? please choose one of the answers :

2019-05-14T14:57:50.316Z - INFO - for the question : Were there RF transmissions from the CBSD2 during the test? , the user choose n


2019-05-14T14:57:54.487Z - INFO - The final result of the test : WINNF.FT.D.REG.15 is - passed and :the additional comments for the current test are : no

Client	IP.Access	
Product	E61	
Standard(s)	FCC Part 96 SAS requirements (CBRS Test Plan)	

6.1.4.2.10	X	WINNF.FT.D.REG.17	Domain Proxy Unsupported SAS protocol version responseCode 100)	P
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Date: 14.MAY.2019 11:00:18

Client	IP.Access	
Product	E61	
Standard(s)	FCC Part 96 SAS requirements (CBRS Test Plan)	

2019-05-14T14:58:55.047Z - INFO - WINNF TEST HARNESS RELEASE: 1.0.0.3 - 2018-November-13
2019-05-14T14:58:55.049Z - INFO - the selected test from the user : WINNF.FT.D.REG.17 is starting now

2019-05-14T14:59:10.203Z - INFO - registration request from CBRS : {


```
"registrationRequest": [
  {
    "airInterface": {
      "radioTechnology": "E_UTRA"
    },
    "callSign": "",
    "cbsdCategory": "A",
    "cbsdInfo": {
      "hardwareVersion": "495X030-00065",
      "model": "495X030-00065",
      "vendor": "000295"
    },
    "cbsdSerialNumber": "0100008267",
    "fccId": "IPaccess123",
    "measCapability": [
      "RECEIVED_POWER_WITHOUT_GRANT"
    ],
    "userId": "pgMyed"
  }
]
```

2019-05-14T14:59:10.245Z - INFO - engine sent successfully, the response to CBRS : {

```
"registrationResponse": [
  {
    "response": {
      "responseCode": 100
    }
  }
]
```

2019-05-14T14:59:22.525Z - INFO - registration request from CBRS : {

```
"registrationRequest": [
  {
    "airInterface": {
      "radioTechnology": "E_UTRA"
    }
  }
]
```

Client	IP.Access	
Product	E61	
Standard(s)	FCC Part 96 SAS requirements (CBRS Test Plan)	

```

    },
    "callSign": "",
    "cbsdCategory": "A",
    "cbsdInfo": {
      "hardwareVersion": "495X030-00065",
      "model": "495X030-00065",
      "vendor": "000295"
    },
    "cbsdSerialNumber": "0100008310",
    "fcclId": "IPaccess123",
    "measCapability": [
      "RECEIVED_POWER_WITHOUT_GRANT"
    ],
    "userId": "pgMyed"
  }
]
}

```

2019-05-14T14:59:22.563Z - INFO - engine sent successfully, the response to CBRS : {

```

  "registrationResponse": [
    {
      "response": {
        "responseCode": 100
      }
    }
  ]
}

```

2019-05-14T14:59:24.100Z - INFO - arrived to nstep starting question answer session with the technician


2019-05-14T14:59:24.103Z - INFO - the question is : Were there RF transmissions from the CBSD1 during the test? please choose one of the answers :

2019-05-14T15:00:59.484Z - INFO - for the question : Were there RF transmissions from the CBSD1 during the test? , the user choose n

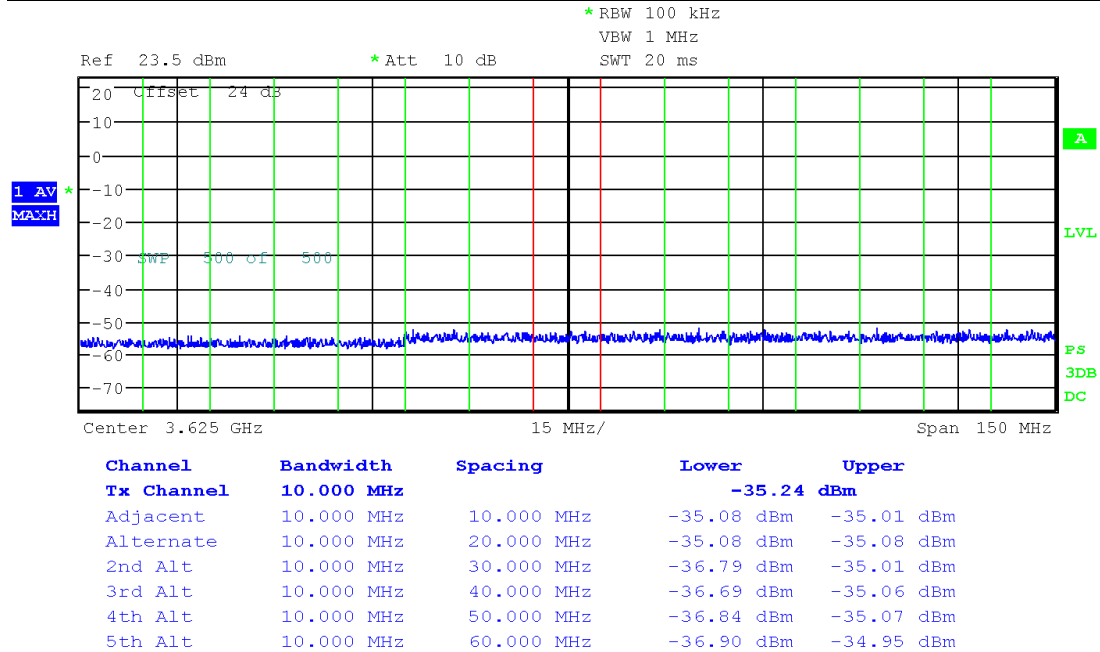
2019-05-14T15:00:59.487Z - INFO - the question is : Were there RF transmissions from the CBSD2 during the test? please choose one of the answers :

2019-05-14T15:01:00.334Z - INFO - for the question : Were there RF transmissions from the CBSD2 during the test? , the user choose n


2019-05-14T15:01:02.830Z - INFO - The final result of the test : WINNF.FT.D.REG.17 is - passed and :the additional comments for the current test are : no

Client	IP.Access	
Product	E61	
Standard(s)	FCC Part 96 SAS requirements (CBRS Test Plan)	

6.1.4.2.12	X	WINNF.FT.D.REG.19	Domain Proxy Group Error (responseCode 201)	P
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Date: 14.MAY.2019 11:02:02

Client	IP.Access	
Product	E61	
Standard(s)	FCC Part 96 SAS requirements (CBRS Test Plan)	

2019-05-14T15:02:25.913Z - INFO - WINNF TEST HARNESS RELEASE: 1.0.0.3 - 2018-November-13
2019-05-14T15:02:25.916Z - INFO - the selected test from the user : WINNF.FT.D.REG.19 is starting now

2019-05-14T15:02:40.242Z - INFO - registration request from CBRS : {


```
"registrationRequest": [
  {
    "airInterface": {
      "radioTechnology": "E_UTRA"
    },
    "callSign": "",
    "cbsdCategory": "A",
    "cbsdInfo": {
      "hardwareVersion": "495X030-00065",
      "model": "495X030-00065",
      "vendor": "000295"
    },
    "cbsdSerialNumber": "0100008267",
    "fcclId": "IPaccess123",
    "measCapability": [
      "RECEIVED_POWER_WITHOUT_GRANT"
    ],
    "userId": "pgMyed"
  }
]
```

2019-05-14T15:02:40.284Z - INFO - engine sent successfully, the response to CBRS : {

```
"registrationResponse": [
  {
    "cbsdId": "IPaccess123Mock-SAS0100008267",
    "response": {
      "responseCode": 0
    }
  }
]
```

2019-05-14T15:02:41.881Z - INFO - grant request from CBRS : {


```
"grantRequest": [
  {
    "cbsdId": "IPaccess123Mock-SAS0100008267",
```

Client	IP.Access	
Product	E61	
Standard(s)	FCC Part 96 SAS requirements (CBRS Test Plan)	

```

    "operationParam": {
      "maxEirp": 14,
      "operationFrequencyRange": {
        "highFrequency": 3630000000,
        "lowFrequency": 3620000000
      }
    }
  }
]
}
}
2019-05-14T15:02:41.882Z - INFO - engine sent successfully, the response to CBRS : {
  "grantResponse": [
    {
      "cbsdId": "IPaccess123Mock-SAS0100008267",
      "response": {
        "responseCode": 400
      }
    }
  ]
}
2019-05-14T15:02:51.812Z - INFO - registration request from CBRS : {
  "registrationRequest": [
    {
      "airInterface": {
        "radioTechnology": "E_UTRA"
      },
      "callSign": "",
      "cbsdCategory": "A",
      "cbsdInfo": {
        "hardwareVersion": "495X030-00065",
        "model": "495X030-00065",
        "vendor": "000295"
      },
      "cbsdSerialNumber": "0100008310",
      "fcId": "IPaccess123",
      "measCapability": [
        "RECEIVED_POWER_WITHOUT_GRANT"
      ],
      "userId": "pgMyed"
    }
  ]
}

```

Client	IP.Access	
Product	E61	
Standard(s)	FCC Part 96 SAS requirements (CBRS Test Plan)	

```

    }
  ]
}

```

2019-05-14T15:02:51.851Z - INFO - engine sent successfully, the response to CBRS : {

```

  "registrationResponse": [
    {
      "response": {
        "responseCode": 201
      }
    }
  ]
}

```

2019-05-14T15:02:52.974Z - INFO - arrived to nstep starting question answer session with the technician


2019-05-14T15:02:52.977Z - INFO - the question is : Were there RF transmissions from the CBSD1 during the test? please choose one of the answers :

2019-05-14T15:03:37.704Z - INFO - for the question : Were there RF transmissions from the CBSD1 during the test? , the user choose n

2019-05-14T15:03:37.707Z - INFO - the question is : Were there RF transmissions from the CBSD2 during the test? please choose one of the answers :

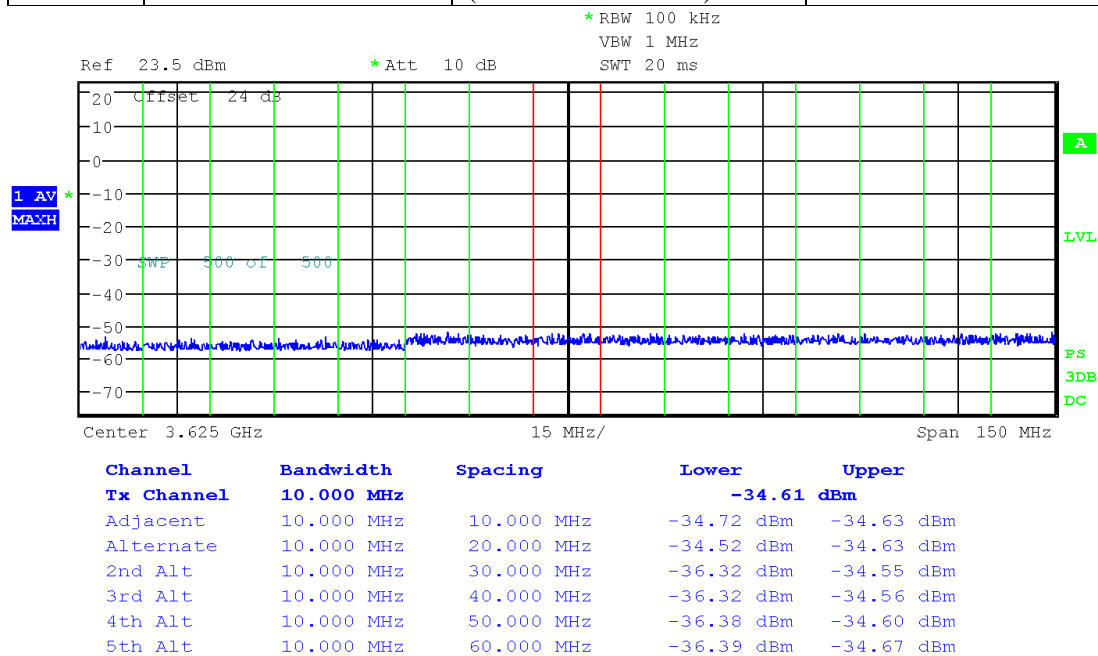
2019-05-14T15:03:39.132Z - INFO - for the question : Were there RF transmissions from the CBSD2 during the test? , the user choose n

2019-05-14T15:03:41.199Z - INFO - The final result of the test : WINNF.FT.D.REG.19 is - passed and :the additional comments for the current test are : no


Client	IP.Access	
Product	E61	
Standard(s)	FCC Part 96 SAS requirements (CBRS Test Plan)	

**Check the device registration and authorization with the SAS,
Confirm that the device changes its operating power and/or channel
in response to a command from the SAS and Confirm that the device
correctly configures based on the different license classes.**

6.3.4.2.1	WINNF.FT.C.GRA.1	Unsuccessful Grant responseCode=400 (INTERFERENCE)	Monitor for 60 seconds after REG message sent. No transmission during test.	P
-----------	------------------	--	---	---



Date: 14.MAY.2019 11:11:04

Client	IP.Access	
Product	E61	
Standard(s)	FCC Part 96 SAS requirements (CBRS Test Plan)	

2019-05-14T15:09:45.027Z - INFO - WINNF TEST HARNESS RELEASE: 1.0.0.3 - 2018-November-13
2019-05-14T15:09:45.030Z - INFO - the selected test from the user : WINNF.FT.C.GRA.1 is starting now

2019-05-14T15:10:05.577Z - INFO - registration request from CBRS : {


```
"registrationRequest": [
  {
    "airInterface": {
      "radioTechnology": "E_UTRA"
    },
    "callSign": "",
    "cbsdCategory": "A",
    "cbsdInfo": {
      "hardwareVersion": "495X030-00065",
      "model": "495X030-00065",
      "vendor": "000295"
    },
    "cbsdSerialNumber": "0100008267",
    "fcclId": "IPaccess123",
    "measCapability": [
      "RECEIVED_POWER_WITHOUT_GRANT"
    ],
    "userId": "pgMyed"
  }
]
```

2019-05-14T15:10:05.635Z - INFO - engine sent successfully, the response to CBRS : {

```
"registrationResponse": [
  {
    "cbsdId": "IPaccess123Mock-SAS0100008267",
    "response": {
      "responseCode": 0
    }
  }
]
```

2019-05-14T15:10:07.236Z - INFO - grant request from CBRS : {

```
"grantRequest": [
  {
    "cbsdId": "IPaccess123Mock-SAS0100008267",
```


Client	IP.Access	
Product	E61	
Standard(s)	FCC Part 96 SAS requirements (CBRS Test Plan)	

```

"operationParam": {
  "maxEirp": 14,
  "operationFrequencyRange": {
    "highFrequency": 3630000000,
    "lowFrequency": 3620000000
  }
}
}
]
}

```

2019-05-14T15:10:07.244Z - INFO - engine sent successfully, the response to CBRS : {

```

"grantResponse": [
  {
    "cbsdId": "IPaccess123Mock-SAS0100008267",
    "response": {
      "responseCode": 400
    }
  }
]
}


```

2019-05-14T15:10:09.066Z - INFO - arrived to nstep starting question answer session with the technician

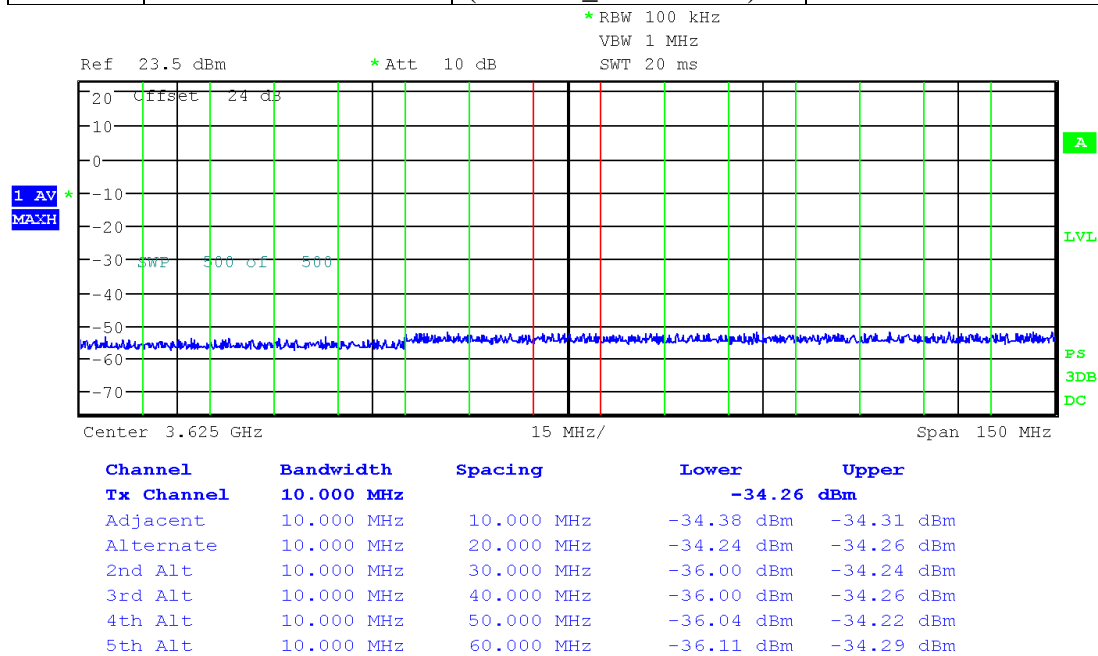
2019-05-14T15:10:09.068Z - INFO - the question is : Were there RF transmissions from the CBSD1 during the test? please choose one of the answers :

2019-05-14T15:11:12.987Z - INFO - for the question : Were there RF transmissions from the CBSD1 during the test? , the user choose n


2019-05-14T15:11:14.429Z - INFO - The final result of the test : WINNF.FT.C.GRA.1 is - passed and :the additional comments for the current test are : no

Client	IP.Access	
Product	E61	
Standard(s)	FCC Part 96 SAS requirements (CBRS Test Plan)	

6.3.4.2.2	WINNF.FT.C.GRA.2	Unsuccessful Grant responseCode=401 (GRANT_CONFLICT)	Monitor for 60 seconds after REG message sent. No transmission during test.	P
-----------	------------------	--	---	---



Date: 14.MAY.2019 11:14:13

Client	IP.Access	
Product	E61	
Standard(s)	FCC Part 96 SAS requirements (CBRS Test Plan)	

2019-05-14T15:14:00.531Z - INFO - WINNF TEST HARNESS RELEASE: 1.0.0.3 - 2018-November-13
2019-05-14T15:14:00.534Z - INFO - the selected test from the user : WINNF.FT.C.GRA.2 is starting now

2019-05-14T15:14:11.362Z - INFO - registration request from CBRS : {


```
"registrationRequest": [
  {
    "airInterface": {
      "radioTechnology": "E_UTRA"
    },
    "callSign": "",
    "cbsdCategory": "A",
    "cbsdInfo": {
      "hardwareVersion": "495X030-00065",
      "model": "495X030-00065",
      "vendor": "000295"
    },
    "cbsdSerialNumber": "0100008267",
    "fcclId": "IPaccess123",
    "measCapability": [
      "RECEIVED_POWER_WITHOUT_GRANT"
    ],
    "userId": "pgMyed"
  }
]
```

2019-05-14T15:14:11.418Z - INFO - engine sent successfully, the response to CBRS : {

```
"registrationResponse": [
  {
    "cbsdId": "IPaccess123Mock-SAS0100008267",
    "response": {
      "responseCode": 0
    }
  }
]
```

2019-05-14T15:14:13.004Z - INFO - grant request from CBRS : {

```
"grantRequest": [
  {
    "cbsdId": "IPaccess123Mock-SAS0100008267",
```

Client	IP.Access	
Product	E61	
Standard(s)	FCC Part 96 SAS requirements (CBRS Test Plan)	

```

"operationParam": {
  "maxEirp": 14,
  "operationFrequencyRange": {
    "highFrequency": 3630000000,
    "lowFrequency": 3620000000
  }
}
}
]
}

```

2019-05-14T15:14:13.014Z - INFO - engine sent successfully, the response to CBRS : {

```

"grantResponse": [
  {
    "cbsdId": "IPaccess123Mock-SAS0100008267",
    "response": {
      "responseCode": 401
    }
  }
]
}


```

2019-05-14T15:14:14.558Z - INFO - arrived to nstep starting question answer session with the technician

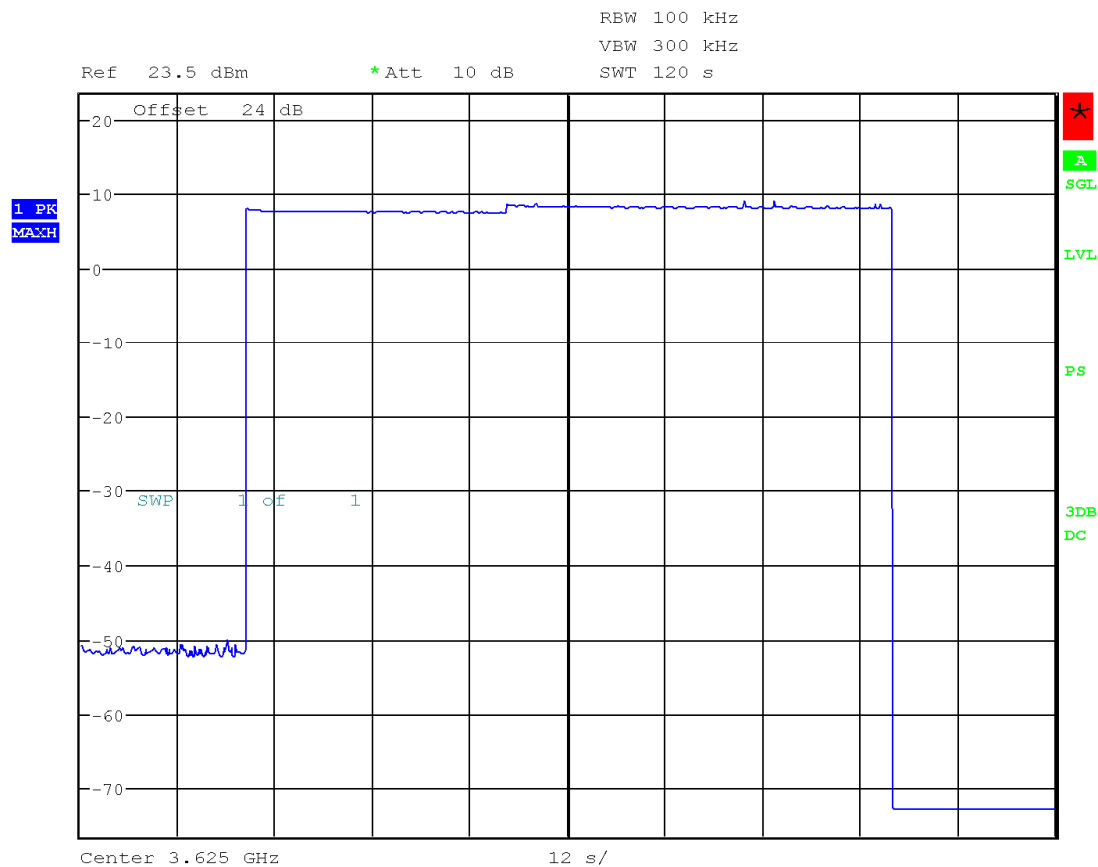
2019-05-14T15:14:14.560Z - INFO - the question is : Were there RF transmissions from the CBSD1 during the test? please choose one of the answers :

2019-05-14T15:15:37.837Z - INFO - for the question : Were there RF transmissions from the CBSD1 during the test? , the user choose n


2019-05-14T15:15:39.797Z - INFO - The final result of the test : WINNF.FT.C.GRA.2 is - passed and :the additional comments for the current test are : no

Client	IP.Access	
Product	E61	
Standard(s)	FCC Part 96 SAS requirements (CBRS Test Plan)	

6.4.4.1.2	WINNF.FT.D.HBT.2	Domain Proxy Heartbeat Success Case (first Heartbeat Response)	<p>Monitor RF from start of test. Ensure that:</p> <ul style="list-style-type: none"> • Transmission does not start until time of first heartbeat response or after. • After transmission starts, measure that transmission is within the granted channel (frequencyLow, frequencyHigh) 	P
-----------	------------------	--	---	---



Date: 14.MAY.2019 13:24:01

Client	IP.Access	
Product	E61	
Standard(s)	FCC Part 96 SAS requirements (CBRS Test Plan)	

2019-05-14T17:24:00.381Z - INFO - WINNF TEST HARNESS RELEASE: 1.0.0.3 - 2018-November-13
2019-05-14T17:24:00.382Z - INFO - the selected test from the user : WINNF.FT.D.HBT.2 is starting now

2019-05-14T17:24:11.995Z - INFO - registration request from CBRS : {


```
"registrationRequest": [
  {
    "airInterface": {
      "radioTechnology": "E_UTRA"
    },
    "callSign": "",
    "cbsdCategory": "A",
    "cbsdInfo": {
      "hardwareVersion": "495X030-00065",
      "model": "495X030-00065",
      "vendor": "000295"
    },
    "cbsdSerialNumber": "0100008267",
    "fcclId": "IPaccess123",
    "measCapability": [
      "RECEIVED_POWER_WITHOUT_GRANT"
    ],
    "userId": "pgMyed"
  }
]
```

2019-05-14T17:24:12.051Z - INFO - engine sent successfully, the response to CBRS : {

```
"registrationResponse": [
  {
    "cbsdId": "IPaccess123Mock-SAS0100008267",
    "response": {
      "responseCode": 0
    }
  }
]
```

2019-05-14T17:24:13.792Z - INFO - grant request from CBRS : {


```
"grantRequest": [
  {
    "cbsdId": "IPaccess123Mock-SAS0100008267",
```

Client	IP.Access	
Product	E61	
Standard(s)	FCC Part 96 SAS requirements (CBRS Test Plan)	

```

    "operationParam": {
      "maxEirp": 14,
      "operationFrequencyRange": {
        "highFrequency": 3630000000,
        "lowFrequency": 3620000000
      }
    }
  }
]
}
2019-05-14T17:24:13.801Z - INFO - engine sent successfully, the response to CBRS : {
  "grantResponse": [
    {
      "cbsId": "IPaccess123Mock-SAS0100008267",
      "channelType": "GAA",
      "grantExpireTime": "2019-05-21T17:24:13Z",
      "grantId": "370969783",
      "heartbeatInterval": 60,
      "response": {
        "responseCode": 0
      }
    }
  ]
}
2019-05-14T17:24:15.473Z - INFO - heartbeat request from CBRS : {
  "heartbeatRequest": [
    {
      "cbsId": "IPaccess123Mock-SAS0100008267",
      "grantId": "370969783",
      "operationState": "GRANTED"
    }
  ]
}
2019-05-14T17:24:15.480Z - INFO - engine sent successfully, the response to CBRS : {
  "heartbeatResponse": [
    {
      "cbsId": "IPaccess123Mock-SAS0100008267",
      "grantId": "370969783",
      "response": {


```

Client	IP.Access	
Product	E61	
Standard(s)	FCC Part 96 SAS requirements (CBRS Test Plan)	

```

        "responseCode": 0
      },
      "transmitExpireTime": "2019-05-14T17:27:35Z"
    }
  ]
}
2019-05-14T17:24:44.130Z - INFO - registration request from CBRS : {
  "registrationRequest": [
    {
      "airInterface": {
        "radioTechnology": "E_UTRA"
      },
      "callSign": "",
      "cbsdCategory": "A",
      "cbsdInfo": {
        "hardwareVersion": "495X030-00065",
        "model": "495X030-00065",
        "vendor": "000295"
      },
      "cbsdSerialNumber": "0100008310",
      "fcclId": "IPaccess123",
      "measCapability": [
        "RECEIVED_POWER_WITHOUT_GRANT"
      ],
      "userId": "pgMyed"
    }
  ]
}
2019-05-14T17:24:44.182Z - INFO - engine sent successfully, the response to CBRS : {
  "registrationResponse": [
    {
      "cbsdId": "IPaccess123Mock-SAS0100008310",
      "response": {
        "responseCode": 0
      }
    }
  ]
}
2019-05-14T17:24:45.870Z - INFO - grant request from CBRS : {


```


Client	IP.Access	
Product	E61	
Standard(s)	FCC Part 96 SAS requirements (CBRS Test Plan)	

```

"grantRequest": [
  {
    "cbsdId": "IPaccess123Mock-SAS0100008310",
    "operationParam": {
      "maxEirp": 14,
      "operationFrequencyRange": {
        "highFrequency": 3630000000,
        "lowFrequency": 3620000000
      }
    }
  }
]
}
2019-05-14T17:24:45.878Z - INFO - engine sent successfully, the response to CBRS : {
  "grantResponse": [
    {
      "cbsdId": "IPaccess123Mock-SAS0100008310",
      "channelType": "GAA",
      "grantExpireTime": "2019-05-21T17:24:45Z",
      "grantId": "686573937",
      "heartbeatInterval": 60,
      "response": {
        "responseCode": 0
      }
    }
  ]
}
2019-05-14T17:24:47.538Z - INFO - heartbeat request from CBRS : {
  "heartbeatRequest": [
    {
      "cbsdId": "IPaccess123Mock-SAS0100008310",
      "grantId": "686573937",
      "operationState": "GRANTED"
    }
  ]
}
2019-05-14T17:24:47.544Z - INFO - engine sent successfully, the response to CBRS : {
  "heartbeatResponse": [
    {


```

Client	IP.Access	
Product	E61	
Standard(s)	FCC Part 96 SAS requirements (CBRS Test Plan)	

```

        "cbsdId": "IPaccess123Mock-SAS0100008310",
        "grantId": "686573937",
        "response": {
            "responseCode": 0
        },
        "transmitExpireTime": "2019-05-14T17:28:07Z"
    }
}
]
}
2019-05-14T17:25:10.082Z - INFO - heartbeat request from CBRS : {
    "heartbeatRequest": [
        {
            "cbsdId": "IPaccess123Mock-SAS0100008267",
            "grantId": "370969783",
            "operationState": "AUTHORIZED"
        }
    ]
}
2019-05-14T17:25:10.084Z - INFO - Time interval between two heartbeat request messages is:
54.608588, limit is: 65.0
2019-05-14T17:25:10.089Z - INFO - engine sent successfully, the response to CBRS : {
    "heartbeatResponse": [
        {
            "cbsdId": "IPaccess123Mock-SAS0100008267",
            "grantId": "370969783",
            "response": {
                "responseCode": 0
            },
            "transmitExpireTime": "2019-05-14T17:28:30Z"
        }
    ]
}
2019-05-14T17:25:42.107Z - INFO - heartbeat request from CBRS : {
    "heartbeatRequest": [
        {
            "cbsdId": "IPaccess123Mock-SAS0100008310",
            "grantId": "686573937",
            "operationState": "AUTHORIZED"
        }
    ]
}


```

Client	IP.Access	
Product	E61	
Standard(s)	FCC Part 96 SAS requirements (CBRS Test Plan)	

```

    ]
  }
2019-05-14T17:25:42.108Z - INFO - Time interval between two heartbeat request messages is:
54.569642, limit is: 65.0
2019-05-14T17:25:42.115Z - INFO - engine sent successfully, the response to CBRS : {
  "heartbeatResponse": [
    {
      "cbsdId": "IPaccess123Mock-SAS0100008310",
      "grantId": "686573937",
      "response": {
        "responseCode": 0
      },
      "transmitExpireTime": "2019-05-14T17:29:02Z"
    }
  ]
}
2019-05-14T17:26:04.628Z - INFO - heartbeat request from CBRS : {
  "heartbeatRequest": [
    {
      "cbsdId": "IPaccess123Mock-SAS0100008267",
      "grantId": "370969783",
      "operationState": "AUTHORIZED"
    }
  ]
}
2019-05-14T17:26:04.629Z - INFO - Time interval between two heartbeat request messages is:
54.545772, limit is: 65.0
2019-05-14T17:26:04.636Z - INFO - engine sent successfully, the response to CBRS : {
  "heartbeatResponse": [
    {
      "cbsdId": "IPaccess123Mock-SAS0100008267",
      "grantId": "370969783",
      "response": {
        "responseCode": 0
      },
      "transmitExpireTime": "2019-05-14T17:29:24Z"
    }
  ]
}

```

Client	IP.Access	
Product	E61	
Standard(s)	FCC Part 96 SAS requirements (CBRS Test Plan)	

2019-05-14T17:26:36.660Z - INFO - heartbeat request from CBRS : {

```
"heartbeatRequest": [
  {
    "cbsdId": "IPaccess123Mock-SAS0100008310",
    "grantId": "686573937",
    "operationState": "AUTHORIZED"
  }
]
```

2019-05-14T17:26:36.662Z - INFO - Time interval between two heartbeat request messages is: 54.55252, limit is: 65.0

2019-05-14T17:26:36.666Z - INFO - engine sent successfully, the response to CBRS : {

```
"heartbeatResponse": [
  {
    "cbsdId": "IPaccess123Mock-SAS0100008310",
    "grantId": "686573937",
    "response": {
      "responseCode": 0
    },
    "transmitExpireTime": "2019-05-14T17:29:56Z"
  }
]
```


2019-05-14T17:26:59.171Z - INFO - heartbeat request from CBRS : {

```
"heartbeatRequest": [
  {
    "cbsdId": "IPaccess123Mock-SAS0100008267",
    "grantId": "370969783",
    "operationState": "AUTHORIZED"
  }
]
```

2019-05-14T17:26:59.173Z - INFO - Time interval between two heartbeat request messages is: 54.543785, limit is: 65.0

2019-05-14T17:26:59.178Z - INFO - engine sent successfully, the response to CBRS : {


```
"heartbeatResponse": [
  {
    "cbsdId": "IPaccess123Mock-SAS0100008267",
    "grantId": "370969783",
```

Client	IP.Access	
Product	E61	
Standard(s)	FCC Part 96 SAS requirements (CBRS Test Plan)	

```

    "response": {
      "responseCode": 0
    },
    "transmitExpireTime": "2019-05-14T17:30:19Z"
  }
]
}
2019-05-14T17:27:31.198Z - INFO - heartbeat request from CBRS : {
  "heartbeatRequest": [
    {
      "cbsdId": "IPaccess123Mock-SAS0100008310",
      "grantId": "686573937",
      "operationState": "AUTHORIZED"
    }
  ]
}
2019-05-14T17:27:31.200Z - INFO - Time interval between two heartbeat request messages is:
54.537946, limit is: 65.0
2019-05-14T17:27:31.205Z - INFO - engine sent successfully, the response to CBRS : {
  "heartbeatResponse": [
    {
      "cbsdId": "IPaccess123Mock-SAS0100008310",
      "grantId": "686573937",
      "response": {
        "responseCode": 0
      },
      "transmitExpireTime": "2019-05-14T17:30:51Z"
    }
  ]
}
2019-05-14T17:27:53.706Z - INFO - heartbeat request from CBRS : {
  "heartbeatRequest": [
    {
      "cbsdId": "IPaccess123Mock-SAS0100008267",
      "grantId": "370969783",
      "operationState": "AUTHORIZED"
    }
  ]
}

```

Client	IP.Access	
Product	E61	
Standard(s)	FCC Part 96 SAS requirements (CBRS Test Plan)	

2019-05-14T17:27:53.708Z - INFO - Time interval between two heartbeat request messages is: 54.534769, limit is: 65.0

2019-05-14T17:27:53.714Z - INFO - engine sent successfully, the response to CBRS : {

```
"heartbeatResponse": [
  {
    "cbsdId": "IPaccess123Mock-SAS0100008267",
    "grantId": "370969783",
    "response": {
      "responseCode": 0
    },
    "transmitExpireTime": "2019-05-14T17:31:13Z"
  }
]
```

2019-05-14T17:28:25.754Z - INFO - heartbeat request from CBRS : {

```
"heartbeatRequest": [
  {
    "cbsdId": "IPaccess123Mock-SAS0100008310",
    "grantId": "686573937",
    "operationState": "AUTHORIZED"
  }
]
```


2019-05-14T17:28:25.755Z - INFO - Time interval between two heartbeat request messages is: 54.555816, limit is: 65.0

2019-05-14T17:28:25.761Z - INFO - engine sent successfully, the response to CBRS : {

```
"heartbeatResponse": [
  {
    "cbsdId": "IPaccess123Mock-SAS0100008310",
    "grantId": "686573937",
    "response": {
      "responseCode": 0
    },
    "transmitExpireTime": "2019-05-14T17:31:45Z"
  }
]
```

2019-05-14T17:28:48.229Z - INFO - heartbeat request from CBRS : {

```
"heartbeatRequest": [
```

Client	IP.Access	
Product	E61	
Standard(s)	FCC Part 96 SAS requirements (CBRS Test Plan)	

```
{
  "cbsdId": "IPaccess123Mock-SAS0100008267",
  "grantId": "370969783",
  "operationState": "AUTHORIZED"
}
```

2019-05-14T17:28:48.231Z - INFO - Time interval between two heartbeat request messages is: 54.523132, limit is: 65.0

2019-05-14T17:28:48.236Z - INFO - engine sent successfully, the response to CBRS : {

```
  "heartbeatResponse": [
    {
      "cbsdId": "IPaccess123Mock-SAS0100008267",
      "grantId": "370969783",
      "response": {
        "responseCode": 0
      },
      "transmitExpireTime": "2019-05-14T17:32:08Z"
    }
  ]
}
```


2019-05-14T17:29:20.308Z - INFO - heartbeat request from CBRS : {

```
  "heartbeatRequest": [
    {
      "cbsdId": "IPaccess123Mock-SAS0100008310",
      "grantId": "686573937",
      "operationState": "AUTHORIZED"
    }
  ]
}
```

2019-05-14T17:29:20.309Z - INFO - Time interval between two heartbeat request messages is: 54.553787, limit is: 65.0

2019-05-14T17:29:20.315Z - INFO - engine sent successfully, the response to CBRS : {

```
  "heartbeatResponse": [
    {
      "cbsdId": "IPaccess123Mock-SAS0100008310",
      "grantId": "686573937",
      "response": {
        "responseCode": 0
      }
    }
  ]
}
```

Client	IP.Access	
Product	E61	
Standard(s)	FCC Part 96 SAS requirements (CBRS Test Plan)	

```

    },
    "transmitExpireTime": "2019-05-14T17:32:40Z"
  }
]
}

```

2019-05-14T17:29:21.847Z - INFO - arrived to nstep starting question answer session with the technician

2019-05-14T17:29:21.851Z - INFO - the question is : Did CBSD1 transmit power prior to AUTHORIZED state (first successful HBT response)? please choose one of the answers :

2019-05-14T17:29:30.510Z - INFO - for the question : Did CBSD1 transmit power prior to AUTHORIZED state (first successful HBT response)? , the user choose n

2019-05-14T17:29:30.511Z - INFO - the question is : Did CBSD1 transmit only within the frequency range specified in its grantRequest message? please choose one of the answers :

2019-05-14T17:29:35.035Z - INFO - for the question : Did CBSD1 transmit only within the frequency range specified in its grantRequest message? , the user choose y


2019-05-14T17:29:35.036Z - INFO - the question is : Did CBSD2 transmit power prior to AUTHORIZED state (first successful HBT response)? please choose one of the answers :

2019-05-14T17:29:38.367Z - INFO - for the question : Did CBSD2 transmit power prior to AUTHORIZED state (first successful HBT response)? , the user choose n

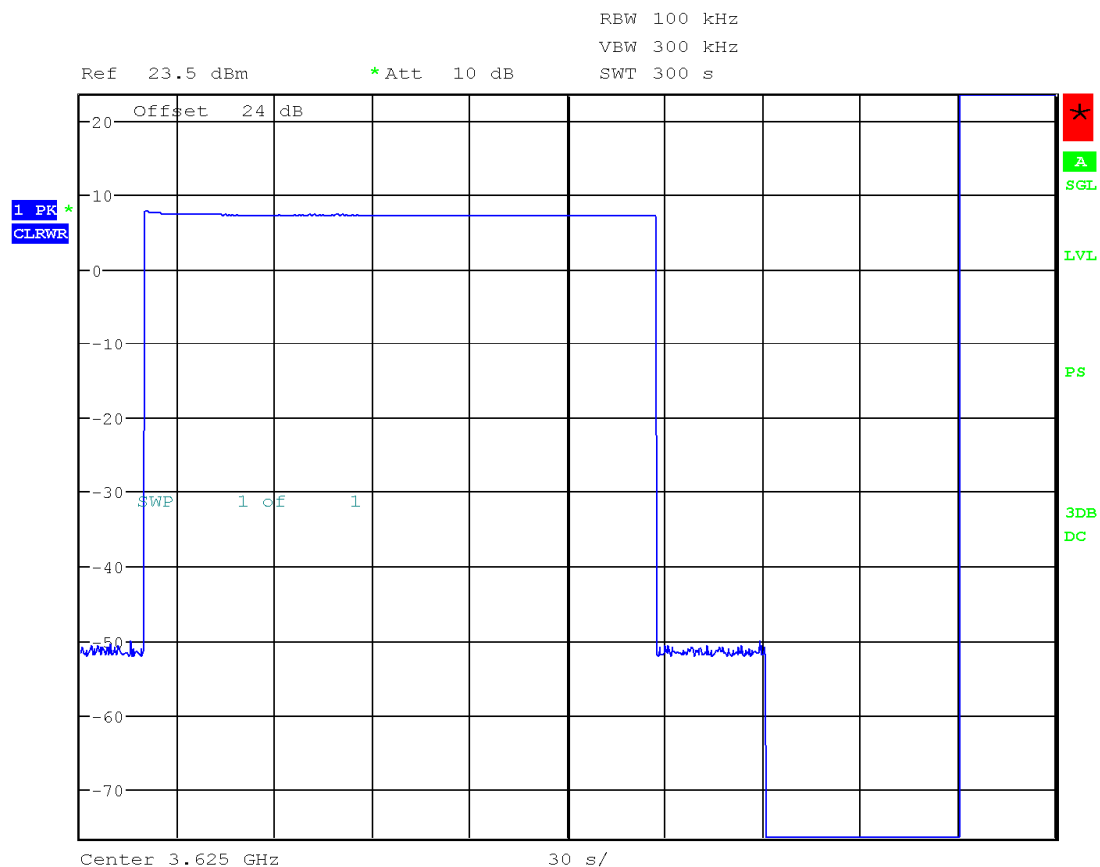
2019-05-14T17:29:38.367Z - INFO - the question is : Did CBSD2 transmit only within the frequency range specified in its grantRequest message? please choose one of the answers :

2019-05-14T17:29:42.601Z - INFO - for the question : Did CBSD2 transmit only within the frequency range specified in its grantRequest message? , the user choose y


2019-05-14T17:29:44.611Z - INFO - The final result of the test : WINNF.FT.D.HBT.2 is - passed and :the additional comments for the current test are : no

Client	IP.Access	
Product	E61	
Standard(s)	FCC Part 96 SAS requirements (CBRS Test Plan)	

6.4.4.2.1	WINNF.FT.C.HBT.3	Heartbeat responseCode=105 (DEREGISTER)	Monitor RF transmission. Ensure that: <ul style="list-style-type: none"> CBSD stops transmission within 60 seconds of the heartbeatResponse which contains responseCode = 105 	P
-----------	------------------	---	--	---



Date: 14.MAY.2019 13:36:52

Client	IP.Access	
Product	E61	
Standard(s)	FCC Part 96 SAS requirements (CBRS Test Plan)	

2019-05-14T17:32:12.022Z - INFO - WINNF TEST HARNESS RELEASE: 1.0.0.3 - 2018-November-13

2019-05-14T17:32:12.024Z - INFO - the selected test from the user : WINNF.FT.C.HBT.3 is starting now

2019-05-14T17:35:11.575Z - INFO - registration request from CBRS : {

```

  "registrationRequest": [
    {
      "airInterface": {
        "radioTechnology": "E_UTRA"
      },
      "callSign": "",
      "cbsdCategory": "A",
      "cbsdInfo": {
        "hardwareVersion": "495X030-00065",
        "model": "495X030-00065",
        "vendor": "000295"
      },
      "cbsdSerialNumber": "0100008267",
      "fccId": "IPaccess123",
      "measCapability": [
        "RECEIVED_POWER_WITHOUT_GRANT"
      ],
      "userId": "pgMyed"
    }
  ]
}
```

2019-05-14T17:35:11.630Z - INFO - engine sent successfully, the response to CBRS : {


```

  "registrationResponse": [
    {
      "cbsdId": "IPaccess123Mock-SAS0100008267",
      "response": {
        "responseCode": 0
      }
    }
  ]
}
```

2019-05-14T17:35:13.235Z - INFO - grant request from CBRS : {

```


  "grantRequest": [
    {
      "cbsdId": "IPaccess123Mock-SAS0100008267",
      "operationParam": {
```

Client	IP.Access	
Product	E61	
Standard(s)	FCC Part 96 SAS requirements (CBRS Test Plan)	

```

    "maxEirp": 14,
    "operationFrequencyRange": {
      "highFrequency": 3630000000,
      "lowFrequency": 3620000000
    }
  }
}
]
}
}
2019-05-14T17:35:13.242Z - INFO - engine sent successfully, the response to CBRS : {
  "grantResponse": [
    {
      "cbsdId": "IPaccess123Mock-SAS0100008267",
      "channelType": "GAA",
      "grantExpireTime": "2019-05-21T17:35:13Z",
      "grantId": "785939694",
      "heartbeatInterval": 60,
      "response": {
        "responseCode": 0
      }
    }
  ]
}
2019-05-14T17:35:14.899Z - INFO - heartbeat request from CBRS : {
  "heartbeatRequest": [
    {
      "cbsdId": "IPaccess123Mock-SAS0100008267",
      "grantId": "785939694",
      "operationState": "GRANTED"
    }
  ]
}
2019-05-14T17:35:14.904Z - INFO - engine sent successfully, the response to CBRS : {
  "heartbeatResponse": [
    {
      "cbsdId": "IPaccess123Mock-SAS0100008267",
      "grantId": "785939694",
      "response": {
        "responseCode": 0
      }
    }
  ]
}


```

Client	IP.Access	
Product	E61	
Standard(s)	FCC Part 96 SAS requirements (CBRS Test Plan)	

```

    },
    "transmitExpireTime": "2019-05-14T17:38:34Z"
  }
]
}
2019-05-14T17:36:09.483Z - INFO - heartbeat request from CBRS : {
  "heartbeatRequest": [
    {
      "cbsdId": "IPaccess123Mock-SAS0100008267",
      "grantId": "785939694",
      "operationState": "AUTHORIZED"
    }
  ]
}
2019-05-14T17:36:09.485Z - INFO - Time interval between two heartbeat request messages is:
54.584167, limit is: 65.0
2019-05-14T17:36:09.489Z - INFO - engine sent successfully, the response to CBRS : {
  "heartbeatResponse": [
    {
      "cbsdId": "IPaccess123Mock-SAS0100008267",
      "grantId": "785939694",
      "response": {
        "responseCode": 0
      },
      "transmitExpireTime": "2019-05-14T17:39:29Z"
    }
  ]
}
2019-05-14T17:37:03.967Z - INFO - heartbeat request from CBRS : {
  "heartbeatRequest": [
    {
      "cbsdId": "IPaccess123Mock-SAS0100008267",
      "grantId": "785939694",
      "operationState": "AUTHORIZED"
    }
  ]
}
2019-05-14T17:37:03.968Z - INFO - Time interval between two heartbeat request messages is:
54.483649, limit is: 65.0

```

Client	IP.Access	
Product	E61	
Standard(s)	FCC Part 96 SAS requirements (CBRS Test Plan)	

2019-05-14T17:37:03.974Z - INFO - engine sent successfully, the response to CBRS : {

```
"heartbeatResponse": [
  {
    "cbsdId": "IPaccess123Mock-SAS0100008267",
    "grantId": "785939694",
    "response": {
      "responseCode": 0
    },
    "transmitExpireTime": "2019-05-14T17:40:23Z"
  }
]
```

2019-05-14T17:37:58.510Z - INFO - heartbeat request from CBRS : {

```
"heartbeatRequest": [
  {
    "cbsdId": "IPaccess123Mock-SAS0100008267",
    "grantId": "785939694",
    "operationState": "AUTHORIZED"
  }
]
```


2019-05-14T17:37:58.512Z - INFO - Time interval between two heartbeat request messages is:

54.54364, limit is: 65.0

2019-05-14T17:37:58.517Z - INFO - engine sent successfully, the response to CBRS : {

```
"heartbeatResponse": [
  {
    "cbsdId": "IPaccess123Mock-SAS0100008267",
    "grantId": "785939694",
    "response": {
      "responseCode": 105
    },
    "transmitExpireTime": "2019-05-14T17:37:58Z"
  }
]
```


2019-05-14T17:37:59.596Z - INFO - arrived to nstep starting question answer session with the technician

Client	IP.Access	
Product	E61	
Standard(s)	FCC Part 96 SAS requirements (CBRS Test Plan)	

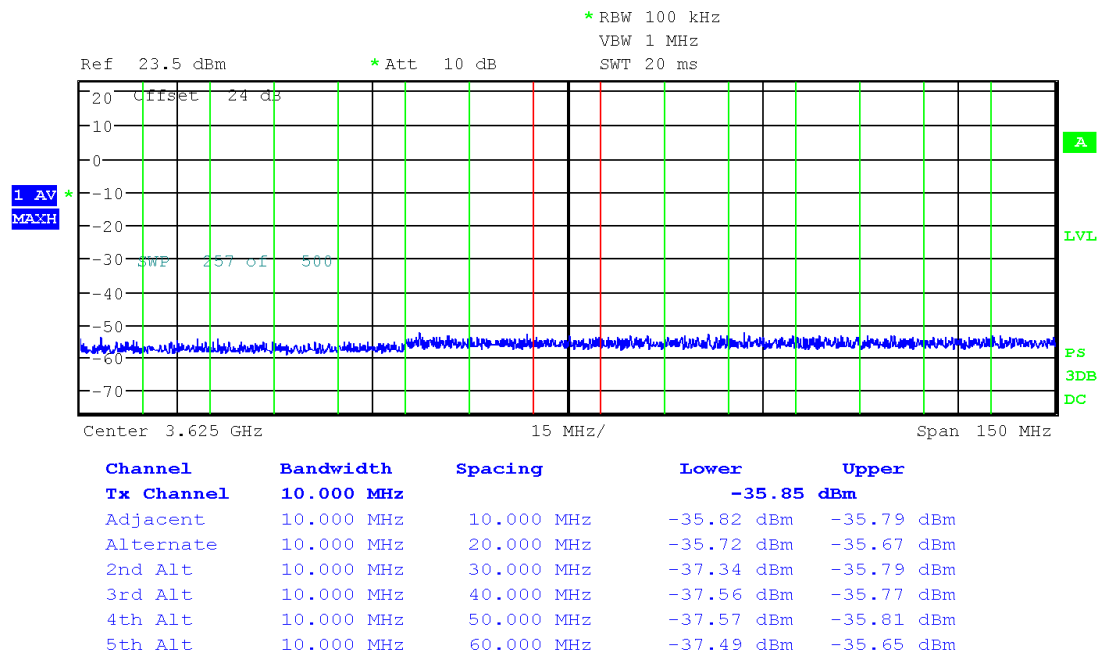
2019-05-14T17:37:59.599Z - INFO - the question is : Did the CBSD stop RF transmission within 60 seconds of receiving Heartbeat response with responseCode = 105? please choose one of the answers :

2019-05-14T17:38:15.128Z - INFO - for the question : Did the CBSD stop RF transmission within 60 seconds of receiving Heartbeat response with responseCode = 105? , the user choose y

2019-05-14T17:38:16.605Z - INFO - The final result of the test : WINNF.FT.C.HBT.3 is - passed and :the additional comments for the current test are : no

Client	IP.Access	
Product	E61	
Standard(s)	FCC Part 96 SAS requirements (CBRS Test Plan)	

6.4.4.2.3	WINNF.FT.C.HBT.5	Heartbeat responseCode=501 (SUSPENDED_GRANT) in First Heartbeat Response	Monitor RF transmission from start of test. Ensure there is no transmission during the test	p
-----------	------------------	--	---	---




Date: 14.MAY.2019 11:42:55

2019-05-14T15:35:14.659Z - INFO - WINNF TEST HARNESS RELEASE: 1.0.0.3 - 2018-November-13

2019-05-14T15:35:14.661Z - INFO - the selected test from the user : WINNF.FT.C.HBT.5 is starting now

2019-05-14T15:35:24.616Z - INFO - registration request from CBRS : {


"registrationRequest": [
{

Client	IP.Access	
Product	E61	
Standard(s)	FCC Part 96 SAS requirements (CBRS Test Plan)	

```

    "airInterface": {
      "radioTechnology": "E_UTRA"
    },
    "callSign": "",
    "cbsdCategory": "A",
    "cbsdInfo": {
      "hardwareVersion": "495X030-00065",
      "model": "495X030-00065",
      "vendor": "000295"
    },
    "cbsdSerialNumber": "0100008267",
    "fcclId": "IPaccess123",
    "measCapability": [
      "RECEIVED_POWER_WITHOUT_GRANT"
    ],
    "userId": "pgMyed"
  }
]
}
2019-05-14T15:35:24.672Z - INFO - engine sent successfully, the response to CBRS : {
  "registrationResponse": [
    {
      "cbsdId": "IPaccess123Mock-SAS0100008267",
      "response": {
        "responseCode": 0
      }
    }
  ]
}
2019-05-14T15:35:26.262Z - INFO - grant request from CBRS : {
  "grantRequest": [
    {
      "cbsdId": "IPaccess123Mock-SAS0100008267",
      "operationParam": {
        "maxEirp": 14,
        "operationFrequencyRange": {
          "highFrequency": 3630000000,
          "lowFrequency": 3620000000
        }
      }
    }
  ]
}


```


Client	IP.Access	
Product	E61	
Standard(s)	FCC Part 96 SAS requirements (CBRS Test Plan)	

```

    }
  }
]
}
2019-05-14T15:35:26.271Z - INFO - engine sent successfully, the response to CBRS : {
  "grantResponse": [
    {
      "cbsdId": "IPaccess123Mock-SAS0100008267",
      "channelType": "GAA",
      "grantExpireTime": "2019-05-21T15:35:26Z",
      "grantId": "613535040",
      "heartbeatInterval": 60,
      "response": {
        "responseCode": 0
      }
    }
  ]
}
2019-05-14T15:35:27.947Z - INFO - heartbeat request from CBRS : {
  "heartbeatRequest": [
    {
      "cbsdId": "IPaccess123Mock-SAS0100008267",
      "grantId": "613535040",
      "operationState": "GRANTED"
    }
  ]
}
2019-05-14T15:35:27.953Z - INFO - engine sent successfully, the response to CBRS : {
  "heartbeatResponse": [
    {
      "cbsdId": "IPaccess123Mock-SAS0100008267",
      "grantId": "613535040",
      "response": {
        "responseCode": 501
      },
      "transmitExpireTime": "2019-05-14T15:35:27Z"
    }
  ]
}

```

Client	IP.Access	
Product	E61	
Standard(s)	FCC Part 96 SAS requirements (CBRS Test Plan)	

2019-05-14T15:36:22.389Z - INFO - heartbeat request from CBRS : {

```
"heartbeatRequest": [
  {
    "cbsdId": "IPaccess123Mock-SAS0100008267",
    "grantId": "613535040",
    "operationState": "GRANTED"
  }
]
```

2019-05-14T15:36:22.391Z - INFO - Time interval between two heartbeat request messages is: 54.441842, limit is: 65.0

2019-05-14T15:36:22.397Z - INFO - engine sent successfully, the response to CBRS : {


```
"heartbeatResponse": [
  {
    "cbsdId": "IPaccess123Mock-SAS0100008267",
    "grantId": "613535040",
    "response": {
      "responseCode": 501
    },
    "transmitExpireTime": "2019-05-14T15:36:22Z"
  }
]
```

2019-05-14T15:36:23.776Z - INFO - arrived to nstep starting question answer session with the technician

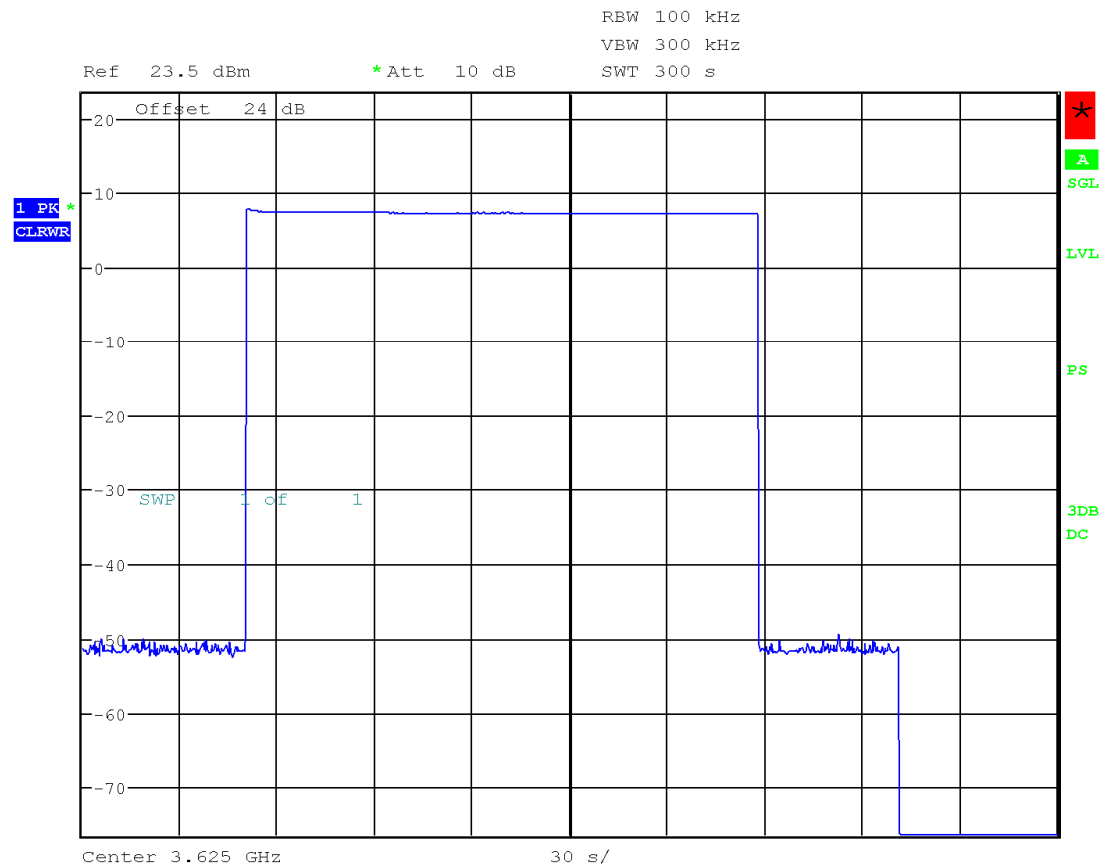
2019-05-14T15:36:23.779Z - INFO - the question is : Did the CBSD transmit at any time during the test? please choose one of the answers :

2019-05-14T15:36:29.654Z - INFO - for the question : Did the CBSD transmit at any time during the test? , the user choose n


2019-05-14T15:36:31.839Z - INFO - The final result of the test : WINNF.FT.C.HBT.5 is - passed and :the additional comments for the current test are : no

Client	IP.Access	
Product	E61	
Standard(s)	FCC Part 96 SAS requirements (CBRS Test Plan)	

6.4.4.2.4	WINNF.FT.C.HBT.6	Heartbeat responseCode=501 (SUSPENDED_GRANT) in Subsequent Heartbeat Response	Monitor RF transmission. Ensure: <ul style="list-style-type: none"> CBSD stops transmission within 60 seconds of heartbeatResponse which contains responseCode=501 	p
-----------	------------------	---	---	---



Date: 14.MAY.2019 13:47:14

Client	IP.Access	
Product	E61	
Standard(s)	FCC Part 96 SAS requirements (CBRS Test Plan)	

2019-05-14T17:44:50.230Z - INFO - WINNF TEST HARNESS RELEASE: 1.0.0.3 - 2018-November-13

2019-05-14T17:44:50.236Z - INFO - the selected test from the user : WINNF.FT.C.HBT.6 is starting now

2019-05-14T17:45:23.952Z - INFO - registration request from CBRS : {

```

  "registrationRequest": [
    {
      "airInterface": {
        "radioTechnology": "E_UTRA"
      },
      "callSign": "",
      "cbsdCategory": "A",
      "cbsdInfo": {
        "hardwareVersion": "495X030-00065",
        "model": "495X030-00065",
        "vendor": "000295"
      },
      "cbsdSerialNumber": "0100008267",
      "fccId": "IPaccess123",
      "measCapability": [
        "RECEIVED_POWER_WITHOUT_GRANT"
      ],
      "userId": "pgMyed"
    }
  ]
}
```

2019-05-14T17:45:24.010Z - INFO - engine sent successfully, the response to CBRS : {


```

  "registrationResponse": [
    {
      "cbsdId": "IPaccess123Mock-SAS0100008267",
      "response": {
        "responseCode": 0
      }
    }
  ]
}
```

2019-05-14T17:45:25.658Z - INFO - grant request from CBRS : {

```


  "grantRequest": [
    {
      "cbsdId": "IPaccess123Mock-SAS0100008267",
      "operationParam": {
```

Client	IP.Access	
Product	E61	
Standard(s)	FCC Part 96 SAS requirements (CBRS Test Plan)	

```

    "maxEirp": 14,
    "operationFrequencyRange": {
      "highFrequency": 3630000000,
      "lowFrequency": 3620000000
    }
  }
}
]
}
}
2019-05-14T17:45:25.667Z - INFO - engine sent successfully, the response to CBRS : {
  "grantResponse": [
    {
      "cbsdId": "IPaccess123Mock-SAS0100008267",
      "channelType": "GAA",
      "grantExpireTime": "2019-05-21T17:45:25Z",
      "grantId": "776248841",
      "heartbeatInterval": 60,
      "response": {
        "responseCode": 0
      }
    }
  ]
}
2019-05-14T17:45:27.335Z - INFO - heartbeat request from CBRS : {
  "heartbeatRequest": [
    {
      "cbsdId": "IPaccess123Mock-SAS0100008267",
      "grantId": "776248841",
      "operationState": "GRANTED"
    }
  ]
}
2019-05-14T17:45:27.341Z - INFO - engine sent successfully, the response to CBRS : {
  "heartbeatResponse": [
    {
      "cbsdId": "IPaccess123Mock-SAS0100008267",
      "grantId": "776248841",
      "response": {
        "responseCode": 0
      }
    }
  ]
}


```

Client	IP.Access	
Product	E61	
Standard(s)	FCC Part 96 SAS requirements (CBRS Test Plan)	

```

    },
    "transmitExpireTime": "2019-05-14T17:48:47Z"
  }
]
}
2019-05-14T17:46:21.877Z - INFO - heartbeat request from CBRS : {
  "heartbeatRequest": [
    {
      "cbsdId": "IPaccess123Mock-SAS0100008267",
      "grantId": "776248841",
      "operationState": "AUTHORIZED"
    }
  ]
}
2019-05-14T17:46:21.879Z - INFO - Time interval between two heartbeat request messages is:
54.541486, limit is: 65.0
2019-05-14T17:46:21.885Z - INFO - engine sent successfully, the response to CBRS : {
  "heartbeatResponse": [
    {
      "cbsdId": "IPaccess123Mock-SAS0100008267",
      "grantId": "776248841",
      "response": {
        "responseCode": 0
      },
      "transmitExpireTime": "2019-05-14T17:49:41Z"
    }
  ]
}
2019-05-14T17:47:16.402Z - INFO - heartbeat request from CBRS : {
  "heartbeatRequest": [
    {
      "cbsdId": "IPaccess123Mock-SAS0100008267",
      "grantId": "776248841",
      "operationState": "AUTHORIZED"
    }
  ]
}
2019-05-14T17:47:16.403Z - INFO - Time interval between two heartbeat request messages is:
54.524451, limit is: 65.0

```

Client	IP.Access	
Product	E61	
Standard(s)	FCC Part 96 SAS requirements (CBRS Test Plan)	

2019-05-14T17:47:16.408Z - INFO - engine sent successfully, the response to CBRS : {

```
"heartbeatResponse": [
  {
    "cbsdId": "IPaccess123Mock-SAS0100008267",
    "grantId": "776248841",
    "response": {
      "responseCode": 0
    },
    "transmitExpireTime": "2019-05-14T17:50:36Z"
  }
]
```

2019-05-14T17:48:10.943Z - INFO - heartbeat request from CBRS : {

```
"heartbeatRequest": [
  {
    "cbsdId": "IPaccess123Mock-SAS0100008267",
    "grantId": "776248841",
    "operationState": "AUTHORIZED"
  }
]
```

2019-05-14T17:48:10.946Z - INFO - Time interval between two heartbeat request messages is:


54.540703, limit is: 65.0

2019-05-14T17:48:10.954Z - INFO - engine sent successfully, the response to CBRS : {

```
"heartbeatResponse": [
  {
    "cbsdId": "IPaccess123Mock-SAS0100008267",
    "grantId": "776248841",
    "response": {
      "responseCode": 501
    },
    "transmitExpireTime": "2019-05-14T17:48:10Z"
  }
]
```

2019-05-14T17:48:17.490Z - INFO - heartbeat request from CBRS : {


```
"heartbeatRequest": [
  {
    "cbsdId": "IPaccess123Mock-SAS0100008267",
```

Client	IP.Access	
Product	E61	
Standard(s)	FCC Part 96 SAS requirements (CBRS Test Plan)	

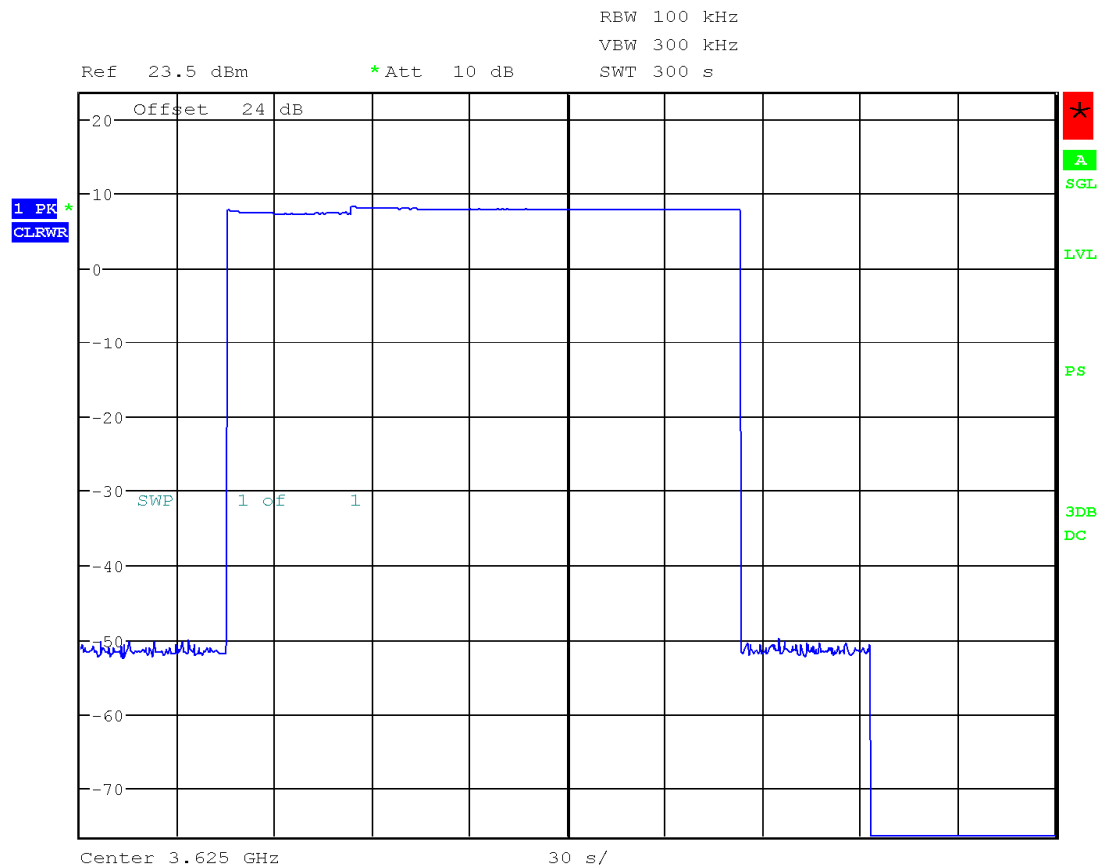
```

    "grantId": "776248841",
    "operationState": "GRANTED"
  }
]
}
2019-05-14T17:48:17.493Z - INFO - Time interval between two heartbeat request messages is:
6.547814, limit is: 65.0
2019-05-14T17:48:17.499Z - INFO - engine sent successfully, the response to CBRS : {
  "heartbeatResponse": [
    {
      "cbsdId": "IPaccess123Mock-SAS0100008267",
      "grantId": "776248841",
      "response": {
        "responseCode": 501
      },
      "transmitExpireTime": "2019-05-14T17:48:17Z"
    }
  ]
}
}
2019-05-14T17:48:18.606Z - INFO - arrived to nstep starting question answer session with the
technician
2019-05-14T17:48:18.608Z - 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
:
2019-05-14T17:48:28.479Z - INFO - for the question : Did the CBSD stop RF transmission within 60
seconds of receiving Heartbeat response with responseCode = 501? , the user choose y
2019-05-14T17:48:30.342Z - INFO - The final result of the test : WINNF.FT.C.HBT.6 is - passed and :the
additional comments for the current test are : no


```


Client	IP.Access	
Product	E61	
Standard(s)	FCC Part 96 SAS requirements (CBRS Test Plan)	

6.4.4.2.5	WINNF.FT.C.HBT.7	Heartbeat responseCode=502 (UNSYNC_OP_PARAM)	Monitor RF transmission. Ensure: <ul style="list-style-type: none"> CBSD stops transmission within 60 seconds of heartbeatResponse which contains responseCode=502 	p
-----------	------------------	--	---	---



Date: 14.MAY.2019 13:52:03

Client	IP.Access	
Product	E61	
Standard(s)	FCC Part 96 SAS requirements (CBRS Test Plan)	

2019-05-14T17:50:03.730Z - INFO - WINNF TEST HARNESS RELEASE: 1.0.0.3 - 2018-November-13

2019-05-14T17:50:03.732Z - INFO - the selected test from the user : WINNF.FT.C.HBT.7 is starting now

2019-05-14T17:50:16.614Z - INFO - registration request from CBRS : {

```

  "registrationRequest": [
    {
      "airInterface": {
        "radioTechnology": "E_UTRA"
      },
      "callSign": "",
      "cbsdCategory": "A",
      "cbsdInfo": {
        "hardwareVersion": "495X030-00065",
        "model": "495X030-00065",
        "vendor": "000295"
      },
      "cbsdSerialNumber": "0100008267",
      "fccId": "IPaccess123",
      "measCapability": [
        "RECEIVED_POWER_WITHOUT_GRANT"
      ],
      "userId": "pgMyed"
    }
  ]
}
```

2019-05-14T17:50:16.673Z - INFO - engine sent successfully, the response to CBRS : {


```

  "registrationResponse": [
    {
      "cbsdId": "IPaccess123Mock-SAS0100008267",
      "response": {
        "responseCode": 0
      }
    }
  ]
}
```

2019-05-14T17:50:18.342Z - INFO - grant request from CBRS : {

```


  "grantRequest": [
    {
      "cbsdId": "IPaccess123Mock-SAS0100008267",
      "operationParam": {
```

Client	IP.Access	
Product	E61	
Standard(s)	FCC Part 96 SAS requirements (CBRS Test Plan)	

```

    "maxEirp": 14,
    "operationFrequencyRange": {
      "highFrequency": 3630000000,
      "lowFrequency": 3620000000
    }
  }
}
]
}
}
2019-05-14T17:50:18.350Z - INFO - engine sent successfully, the response to CBRS : {
  "grantResponse": [
    {
      "cbsdId": "IPaccess123Mock-SAS0100008267",
      "channelType": "GAA",
      "grantExpireTime": "2019-05-21T17:50:18Z",
      "grantId": "790211241",
      "heartbeatInterval": 60,
      "response": {
        "responseCode": 0
      }
    }
  ]
}
2019-05-14T17:50:20.023Z - INFO - heartbeat request from CBRS : {
  "heartbeatRequest": [
    {
      "cbsdId": "IPaccess123Mock-SAS0100008267",
      "grantId": "790211241",
      "operationState": "GRANTED"
    }
  ]
}
2019-05-14T17:50:20.029Z - INFO - engine sent successfully, the response to CBRS : {
  "heartbeatResponse": [
    {
      "cbsdId": "IPaccess123Mock-SAS0100008267",
      "grantId": "790211241",
      "response": {
        "responseCode": 0
      }
    }
  ]
}


```

Client	IP.Access	
Product	E61	
Standard(s)	FCC Part 96 SAS requirements (CBRS Test Plan)	

```

    },
    "transmitExpireTime": "2019-05-14T17:53:40Z"
  }
]
}
2019-05-14T17:51:14.573Z - INFO - heartbeat request from CBRS : {
  "heartbeatRequest": [
    {
      "cbsdId": "IPaccess123Mock-SAS0100008267",
      "grantId": "790211241",
      "operationState": "AUTHORIZED"
    }
  ]
}
2019-05-14T17:51:14.575Z - INFO - Time interval between two heartbeat request messages is:
54.550286, limit is: 65.0
2019-05-14T17:51:14.580Z - INFO - engine sent successfully, the response to CBRS : {
  "heartbeatResponse": [
    {
      "cbsdId": "IPaccess123Mock-SAS0100008267",
      "grantId": "790211241",
      "response": {
        "responseCode": 0
      },
      "transmitExpireTime": "2019-05-14T17:54:34Z"
    }
  ]
}
2019-05-14T17:52:09.120Z - INFO - heartbeat request from CBRS : {
  "heartbeatRequest": [
    {
      "cbsdId": "IPaccess123Mock-SAS0100008267",
      "grantId": "790211241",
      "operationState": "AUTHORIZED"
    }
  ]
}
2019-05-14T17:52:09.122Z - INFO - Time interval between two heartbeat request messages is:
54.546537, limit is: 65.0

```

Client	IP.Access	
Product	E61	
Standard(s)	FCC Part 96 SAS requirements (CBRS Test Plan)	

2019-05-14T17:52:09.127Z - INFO - engine sent successfully, the response to CBRS : {

```
"heartbeatResponse": [
  {
    "cbsdId": "IPaccess123Mock-SAS0100008267",
    "grantId": "790211241",
    "response": {
      "responseCode": 0
    },
    "transmitExpireTime": "2019-05-14T17:55:29Z"
  }
]
```

2019-05-14T17:53:03.641Z - INFO - heartbeat request from CBRS : {

```
"heartbeatRequest": [
  {
    "cbsdId": "IPaccess123Mock-SAS0100008267",
    "grantId": "790211241",
    "operationState": "AUTHORIZED"
  }
]
```

2019-05-14T17:53:03.643Z - INFO - Time interval between two heartbeat request messages is:


54.521374, limit is: 65.0

2019-05-14T17:53:03.649Z - INFO - engine sent successfully, the response to CBRS : {

```
"heartbeatResponse": [
  {
    "cbsdId": "IPaccess123Mock-SAS0100008267",
    "grantId": "790211241",
    "response": {
      "responseCode": 502
    },
    "transmitExpireTime": "2019-05-14T17:53:03Z"
  }
]
```

2019-05-14T17:53:10.062Z - INFO - relinquishment request from CBRS : {


```
"relinquishmentRequest": [
  {
    "cbsdId": "IPaccess123Mock-SAS0100008267",
```

Client	IP.Access	
Product	E61	
Standard(s)	FCC Part 96 SAS requirements (CBRS Test Plan)	


```

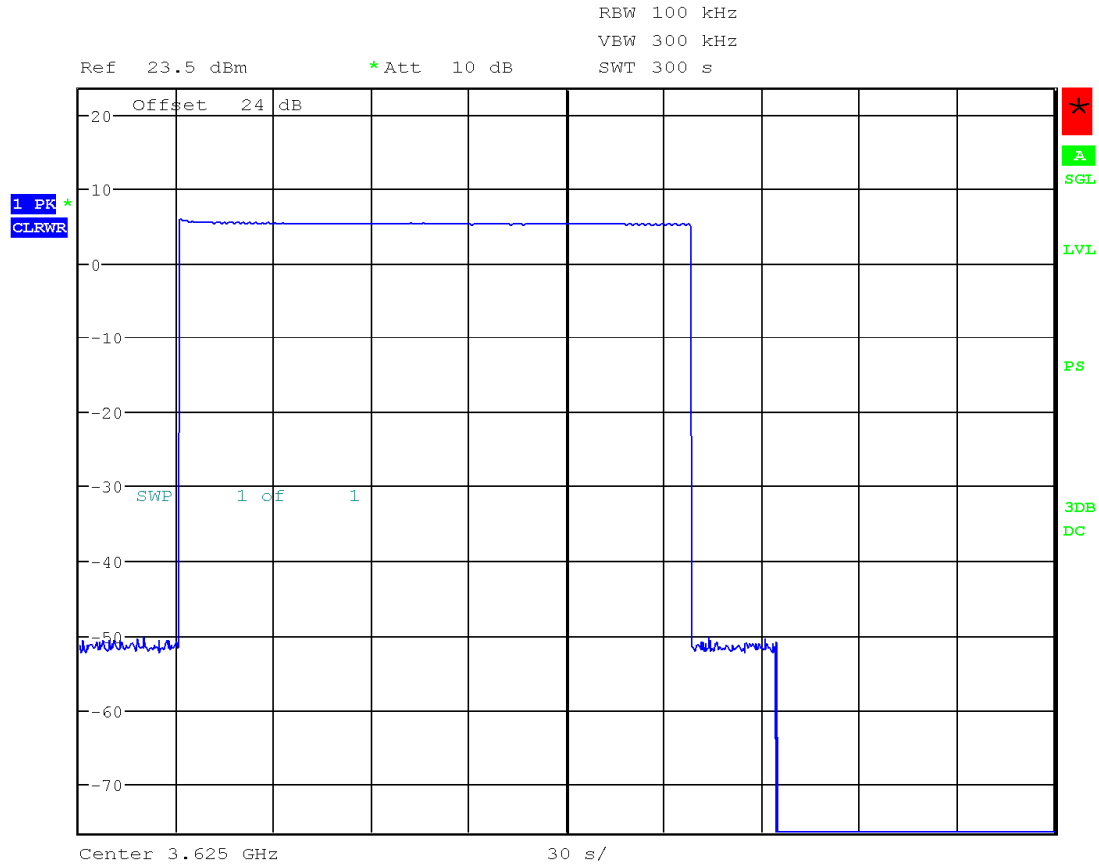
    "grantId": "790211241"
  }
]
}
2019-05-14T17:53:10.067Z - INFO - engine sent successfully, the response to CBRS : {
  "relinquishmentResponse": [
    {
      "cbstdId": "IPaccess123Mock-SAS0100008267",
      "grantId": "790211241",
      "response": {
        "responseCode": 0
      }
    }
  ]
}
2019-05-14T17:53:12.031Z - INFO - arrived to nstep starting question answer session with the technician
2019-05-14T17:53:12.034Z - 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 :
2019-05-14T17:53:19.900Z - INFO - for the question : Did the CBSD stop RF transmission within 60 seconds of receiving Heartbeat response with responseCode = 502? , the user choose y
2019-05-14T17:53:21.288Z - INFO - The final result of the test : WINNF.FT.C.HBT.7 is - passed and :the additional comments for the current test are : no

```

Client	IP.Access	
Product	E61	
Standard(s)	FCC Part 96 SAS requirements (CBRS Test Plan)	

6.4.4.2.6	--	X	WINNF.FT.D.H BT.8	Domain Proxy Heartbeat responseCode=500 (TERMINATED_GRANT)	Monitor RF transmission. CBSD s will have different behavior: <ul style="list-style-type: none"> • CBSD1: will continue to transmit to end of test (this is not a pass/fail criteria, but check) • CBSD2: must stop transmission within 60 seconds of being sent heartbeatRe sponse with responseCod e = 500 	P
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Client	IP.Access	
Product	E61	
Standard(s)	FCC Part 96 SAS requirements (CBRS Test Plan)	



Date: 14.MAY.2019 14:02:58

2019-05-14T18:00:56.586Z - INFO - WINNF TEST HARNESS RELEASE: 1.0.0.3 - 2018-November-13
 2019-05-14T18:00:56.588Z - INFO - the selected test from the user : WINNF.FT.D.HBT.8 is starting now
 2019-05-14T18:01:13.613Z - INFO - registration request from CBRS : {


```
"registrationRequest": [
{
  "airInterface": {
    "radioTechnology": "E_UTRA"
  },
  "callSign": "",
  "cbsdCategory": "A",
  "cbsdInfo": {
    "hardwareVersion": "495X030-00065",
```


Client	IP.Access	
Product	E61	
Standard(s)	FCC Part 96 SAS requirements (CBRS Test Plan)	

```

        "model": "495X030-00065",
        "vendor": "000295"
    },
    "cbsdSerialNumber": "0100008267",
    "fcclId": "IPaccess123",
    "measCapability": [
        "RECEIVED_POWER_WITHOUT_GRANT"
    ],
    "userId": "pgMyed"
}
]
}
2019-05-14T18:01:13.670Z - INFO - engine sent successfully, the response to CBRS : {
    "registrationResponse": [
        {
            "cbsdId": "IPaccess123Mock-SAS0100008267",
            "response": {
                "responseCode": 0
            }
        }
    ]
}
2019-05-14T18:01:15.286Z - INFO - grant request from CBRS : {
    "grantRequest": [
        {
            "cbsdId": "IPaccess123Mock-SAS0100008267",
            "operationParam": {
                "maxEirp": 14,
                "operationFrequencyRange": {
                    "highFrequency": 3630000000,
                    "lowFrequency": 3620000000
                }
            }
        }
    ]
}
2019-05-14T18:01:15.294Z - INFO - engine sent successfully, the response to CBRS : {
    "grantResponse": [
        {


```

Client	IP.Access	
Product	E61	
Standard(s)	FCC Part 96 SAS requirements (CBRS Test Plan)	

```

    "cbsdId": "IPaccess123Mock-SAS0100008267",
    "channelType": "GAA",
    "grantExpireTime": "2019-05-21T18:01:15Z",
    "grantId": "915588769",
    "heartbeatInterval": 60,
    "response": {
      "responseCode": 0
    }
  }
]
}
2019-05-14T18:01:16.977Z - INFO - heartbeat request from CBRS : {
  "heartbeatRequest": [
    {
      "cbsdId": "IPaccess123Mock-SAS0100008267",
      "grantId": "915588769",
      "operationState": "GRANTED"
    }
  ]
}
2019-05-14T18:01:16.983Z - INFO - engine sent successfully, the response to CBRS : {
  "heartbeatResponse": [
    {
      "cbsdId": "IPaccess123Mock-SAS0100008267",
      "grantId": "915588769",
      "response": {
        "responseCode": 0
      },
      "transmitExpireTime": "2019-05-14T18:04:36Z"
    }
  ]
}
2019-05-14T18:01:25.593Z - INFO - registration request from CBRS : {
  "registrationRequest": [
    {
      "airInterface": {
        "radioTechnology": "E_UTRA"
      },
      "callSign": "",


```

Client	IP.Access	
Product	E61	
Standard(s)	FCC Part 96 SAS requirements (CBRS Test Plan)	

```

    "cbsdCategory": "A",
    "cbsdInfo": {
      "hardwareVersion": "495X030-00065",
      "model": "495X030-00065",
      "vendor": "000295"
    },
    "cbsdSerialNumber": "0100008310",
    "fcclId": "IPaccess123",
    "measCapability": [
      "RECEIVED_POWER_WITHOUT_GRANT"
    ],
    "userId": "pgMyed"
  }
]
}
2019-05-14T18:01:25.646Z - INFO - engine sent successfully, the response to CBRS : {
  "registrationResponse": [
    {
      "cbsdId": "IPaccess123Mock-SAS0100008310",
      "response": {
        "responseCode": 0
      }
    }
  ]
}
2019-05-14T18:01:27.199Z - INFO - grant request from CBRS : {
  "grantRequest": [
    {
      "cbsdId": "IPaccess123Mock-SAS0100008310",
      "operationParam": {
        "maxEirp": 14,
        "operationFrequencyRange": {
          "highFrequency": 3630000000,
          "lowFrequency": 3620000000
        }
      }
    }
  ]
}

```

Client	IP.Access	
Product	E61	
Standard(s)	FCC Part 96 SAS requirements (CBRS Test Plan)	

2019-05-14T18:01:27.209Z - INFO - engine sent successfully, the response to CBRS : {

```
"grantResponse": [
  {
    "cbsdId": "IPaccess123Mock-SAS0100008310",
    "channelType": "GAA",
    "grantExpireTime": "2019-05-21T18:01:27Z",
    "grantId": "677941139",
    "heartbeatInterval": 60,
    "response": {
      "responseCode": 0
    }
  }
]
```

2019-05-14T18:01:28.900Z - INFO - heartbeat request from CBRS : {


```
"heartbeatRequest": [
  {
    "cbsdId": "IPaccess123Mock-SAS0100008310",
    "grantId": "677941139",
    "operationState": "GRANTED"
  }
]
```

2019-05-14T18:01:28.906Z - INFO - engine sent successfully, the response to CBRS : {

```
"heartbeatResponse": [
  {
    "cbsdId": "IPaccess123Mock-SAS0100008310",
    "grantId": "677941139",
    "response": {
      "responseCode": 0
    },
    "transmitExpireTime": "2019-05-14T18:04:48Z"
  }
]
```

2019-05-14T18:02:11.490Z - INFO - heartbeat request from CBRS : {


```
"heartbeatRequest": [
  {
    "cbsdId": "IPaccess123Mock-SAS0100008267",
```

Client	IP.Access	
Product	E61	
Standard(s)	FCC Part 96 SAS requirements (CBRS Test Plan)	

```

    "grantId": "915588769",
    "operationState": "AUTHORIZED"
  }
]
}
2019-05-14T18:02:11.491Z - INFO - Time interval between two heartbeat request messages is:
54.512779, limit is: 65.0
2019-05-14T18:02:11.496Z - INFO - engine sent successfully, the response to CBRS : {
  "heartbeatResponse": [
    {
      "cbsId": "IPaccess123Mock-SAS0100008267",
      "grantId": "915588769",
      "response": {
        "responseCode": 0
      },
      "transmitExpireTime": "2019-05-14T18:05:31Z"
    }
  ]
}
2019-05-14T18:02:23.415Z - INFO - heartbeat request from CBRS : {
  "heartbeatRequest": [
    {
      "cbsId": "IPaccess123Mock-SAS0100008310",
      "grantId": "677941139",
      "operationState": "AUTHORIZED"
    }
  ]
}
2019-05-14T18:02:23.416Z - INFO - Time interval between two heartbeat request messages is:
54.515223, limit is: 65.0
2019-05-14T18:02:23.421Z - INFO - engine sent successfully, the response to CBRS : {
  "heartbeatResponse": [
    {
      "cbsId": "IPaccess123Mock-SAS0100008310",
      "grantId": "677941139",
      "response": {
        "responseCode": 0
      },
      "transmitExpireTime": "2019-05-14T18:05:43Z"
    }
  ]
}


```

Client	IP.Access	
Product	E61	
Standard(s)	FCC Part 96 SAS requirements (CBRS Test Plan)	

```

    }
  ]
}
2019-05-14T18:03:05.989Z - INFO - heartbeat request from CBRS : {
  "heartbeatRequest": [
    {
      "cbsdId": "IPaccess123Mock-SAS0100008267",
      "grantId": "915588769",
      "operationState": "AUTHORIZED"
    }
  ]
}
2019-05-14T18:03:05.991Z - INFO - Time interval between two heartbeat request messages is:
54.499205, limit is: 65.0
2019-05-14T18:03:05.995Z - INFO - engine sent successfully, the response to CBRS : {
  "heartbeatResponse": [
    {
      "cbsdId": "IPaccess123Mock-SAS0100008267",
      "grantId": "915588769",
      "response": {
        "responseCode": 0
      },
      "transmitExpireTime": "2019-05-14T18:06:25Z"
    }
  ]
}
2019-05-14T18:03:17.939Z - INFO - heartbeat request from CBRS : {
  "heartbeatRequest": [
    {
      "cbsdId": "IPaccess123Mock-SAS0100008310",
      "grantId": "677941139",
      "operationState": "AUTHORIZED"
    }
  ]
}
2019-05-14T18:03:17.941Z - INFO - Time interval between two heartbeat request messages is:
54.524315, limit is: 65.0
2019-05-14T18:03:17.945Z - INFO - engine sent successfully, the response to CBRS : {
  "heartbeatResponse": [


```

Client	IP.Access	
Product	E61	
Standard(s)	FCC Part 96 SAS requirements (CBRS Test Plan)	

```

{
  "cbsdId": "IPaccess123Mock-SAS0100008310",
  "grantId": "677941139",
  "response": {
    "responseCode": 0
  },
  "transmitExpireTime": "2019-05-14T18:06:37Z"
}
]
}
2019-05-14T18:04:00.558Z - INFO - heartbeat request from CBRS : {
  "heartbeatRequest": [
    {
      "cbsdId": "IPaccess123Mock-SAS0100008267",
      "grantId": "915588769",
      "operationState": "AUTHORIZED"
    }
  ]
}
2019-05-14T18:04:00.560Z - INFO - Time interval between two heartbeat request messages is:
54.568972, limit is: 65.0
2019-05-14T18:04:00.566Z - INFO - engine sent successfully, the response to CBRS : {
  "heartbeatResponse": [
    {
      "cbsdId": "IPaccess123Mock-SAS0100008267",
      "grantId": "915588769",
      "response": {
        "responseCode": 0
      },
      "transmitExpireTime": "2019-05-14T18:07:20Z"
    }
  ]
}
2019-05-14T18:04:12.465Z - INFO - heartbeat request from CBRS : {
  "heartbeatRequest": [
    {
      "cbsdId": "IPaccess123Mock-SAS0100008310",
      "grantId": "677941139",
      "operationState": "AUTHORIZED"
    }
  ]
}


```

Client	IP.Access	
Product	E61	
Standard(s)	FCC Part 96 SAS requirements (CBRS Test Plan)	

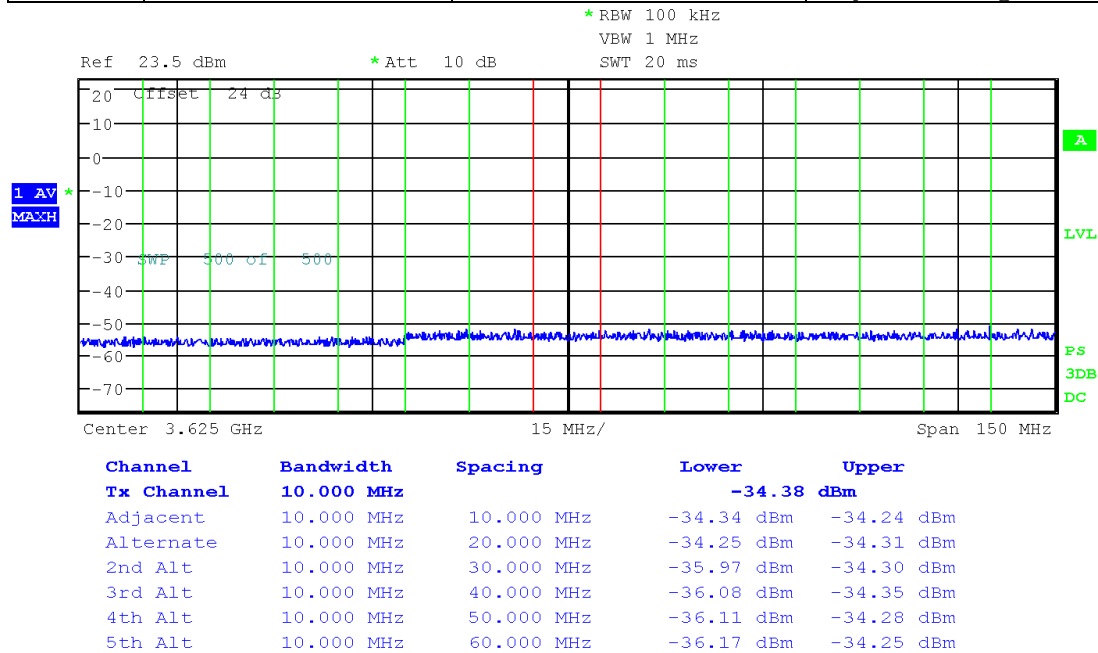
```

    }
  ]
}
2019-05-14T18:04:12.467Z - INFO - Time interval between two heartbeat request messages is:
54.526317, limit is: 65.0
2019-05-14T18:04:12.474Z - INFO - engine sent successfully, the response to CBRS : {
  "heartbeatResponse": [
    {
      "cbsdId": "IPaccess123Mock-SAS0100008310",
      "grantId": "677941139",
      "response": {
        "responseCode": 500
      },
      "transmitExpireTime": "2019-05-14T18:04:12Z"
    }
  ]
}
2019-05-14T18:04:13.876Z - INFO - arrived to nstep starting question answer session with the
technician
2019-05-14T18:04:13.880Z - INFO - the question is : Did the CBSD1 transmit power prior to
AUTHORIZED state (first successful HBT response)? please choose one of the answers :
2019-05-14T18:05:04.734Z - INFO - for the question : Did the CBSD1 transmit power prior to
AUTHORIZED state (first successful HBT response)? , the user choose n
2019-05-14T18:05:04.735Z - 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
:
2019-05-14T18:05:07.119Z - INFO - for the question : Did the CBSD2 stop RF transmission within 60
seconds of receiving Heartbeat response with responseCode = 500? , the user choose y
2019-05-14T18:05:11.688Z - INFO - The final result of the test : WINNF.FT.D.HBT.8 is - passed and :the
additional comments for the current test are : no

```


Client	IP.Access	
Product	E61	
Standard(s)	FCC Part 96 SAS requirements (CBRS Test Plan)	

6.4.4.3.1	WINNF.FT.C.HBT.9	Heartbeat Response Absent (First Heartbeat)	Monitor RF from start of test to 60 seconds after last heartbeatResponse message was sent. CBSD should not transmit at any time during test	P
-----------	------------------	---	---	---




Date: 14.MAY.2019 12:59:00

2019-05-14T16:56:06.767Z - INFO - WINNF TEST HARNESS RELEASE: 1.0.0.3 - 2018-November-13

2019-05-14T16:56:06.768Z - INFO - the selected test from the user : WINNF.FT.C.HBT.9 is starting now

2019-05-14T16:56:46.897Z - INFO - registration request from CBRS : {


```
"registrationRequest": [
{
"airInterface": {
"radioTechnology": "E_UTRA"
},
}
```

Client	IP.Access	
Product	E61	
Standard(s)	FCC Part 96 SAS requirements (CBRS Test Plan)	

```

    "callSign": "",
    "cbsdCategory": "A",
    "cbsdInfo": {
      "hardwareVersion": "495X030-00065",
      "model": "495X030-00065",
      "vendor": "000295"
    },
    "cbsdSerialNumber": "0100008267",
    "fcclId": "IPaccess123",
    "measCapability": [
      "RECEIVED_POWER_WITHOUT_GRANT"
    ],
    "userId": "pgMyed"
  }
]
}
2019-05-14T16:56:46.954Z - INFO - engine sent successfully, the response to CBRS : {
  "registrationResponse": [
    {
      "cbsdId": "IPaccess123Mock-SAS0100008267",
      "response": {
        "responseCode": 0
      }
    }
  ]
}
2019-05-14T16:56:48.586Z - INFO - grant request from CBRS : {
  "grantRequest": [
    {
      "cbsdId": "IPaccess123Mock-SAS0100008267",
      "operationParam": {
        "maxEirp": 14,
        "operationFrequencyRange": {
          "highFrequency": 3630000000,
          "lowFrequency": 3620000000
        }
      }
    }
  ]
}

```

Client	IP.Access	
Product	E61	
Standard(s)	FCC Part 96 SAS requirements (CBRS Test Plan)	

}

2019-05-14T16:56:48.594Z - INFO - engine sent successfully, the response to CBRS : {

```
"grantResponse": [
  {
    "cbsdId": "IPaccess123Mock-SAS0100008267",
    "channelType": "GAA",
    "grantExpireTime": "2019-05-21T16:56:48Z",
    "grantId": "24893747",
    "heartbeatInterval": 60,
    "response": {
      "responseCode": 0
    }
  }
]
```

}

2019-05-14T16:56:50.287Z - INFO - heartbeat request from CBRS : {

```
"heartbeatRequest": [
  {
    "cbsdId": "IPaccess123Mock-SAS0100008267",
    "grantId": "24893747",
    "operationState": "GRANTED"
  }
]
```

}

2019-05-14T16:57:50.269Z - INFO - heartbeat request from CBRS : {


```
"heartbeatRequest": [
  {
    "cbsdId": "IPaccess123Mock-SAS0100008267",
    "grantId": "24893747",
    "operationState": "GRANTED"
  }
]
```

}

2019-05-14T16:57:50.269Z - INFO - request message received while HBT is absent, sleep 145 sec before responding

2019-05-14T16:58:50.274Z - INFO - heartbeat request from CBRS : {


```
"heartbeatRequest": [
  {
    "cbsdId": "IPaccess123Mock-SAS0100008267",
```

Client	IP.Access	
Product	E61	
Standard(s)	FCC Part 96 SAS requirements (CBRS Test Plan)	

```


    "grantId": "24893747",
    "operationState": "GRANTED"
  }
]
}
2019-05-14T16:58:50.274Z - INFO - request message received while HBT is absent, sleep 85 sec before
responding
2019-05-14T16:59:50.269Z - INFO - heartbeat request from CBRS : {
  "heartbeatRequest": [
    {
      "cbsId": "IPaccess123Mock-SAS0100008267",
      "grantId": "24893747",
      "operationState": "GRANTED"
    }
  ]
}
2019-05-14T16:59:50.269Z - INFO - request message received while HBT is absent, sleep 25 sec before
responding
2019-05-14T17:00:10.365Z - INFO - engine sent successfully, the response to CBRS : {
  "heartbeatResponse": [
    {
      "cbsId": "IPaccess123Mock-SAS0100008267",
      "grantId": "24893747",
      "response": {
        "responseCode": 501
      },
      "transmitExpireTime": "2019-05-14T17:00:10Z"
    }
  ]
}
2019-05-14T17:00:12.173Z - INFO - arrived to nstep starting question answer session with the
technician
2019-05-14T17:00:12.174Z - INFO - the question is : Were there RF transmissions from the CBSD
during the test? please choose one of the answers :
2019-05-14T17:00:15.295Z - INFO - engine sent successfully, the response to CBRS : "list index out of
range"
2019-05-14T17:00:15.354Z - INFO - engine sent successfully, the response to CBRS : "list index out of
range"
2019-05-14T17:00:15.357Z - INFO - engine sent successfully, the response to CBRS : "list index out of
range"

```

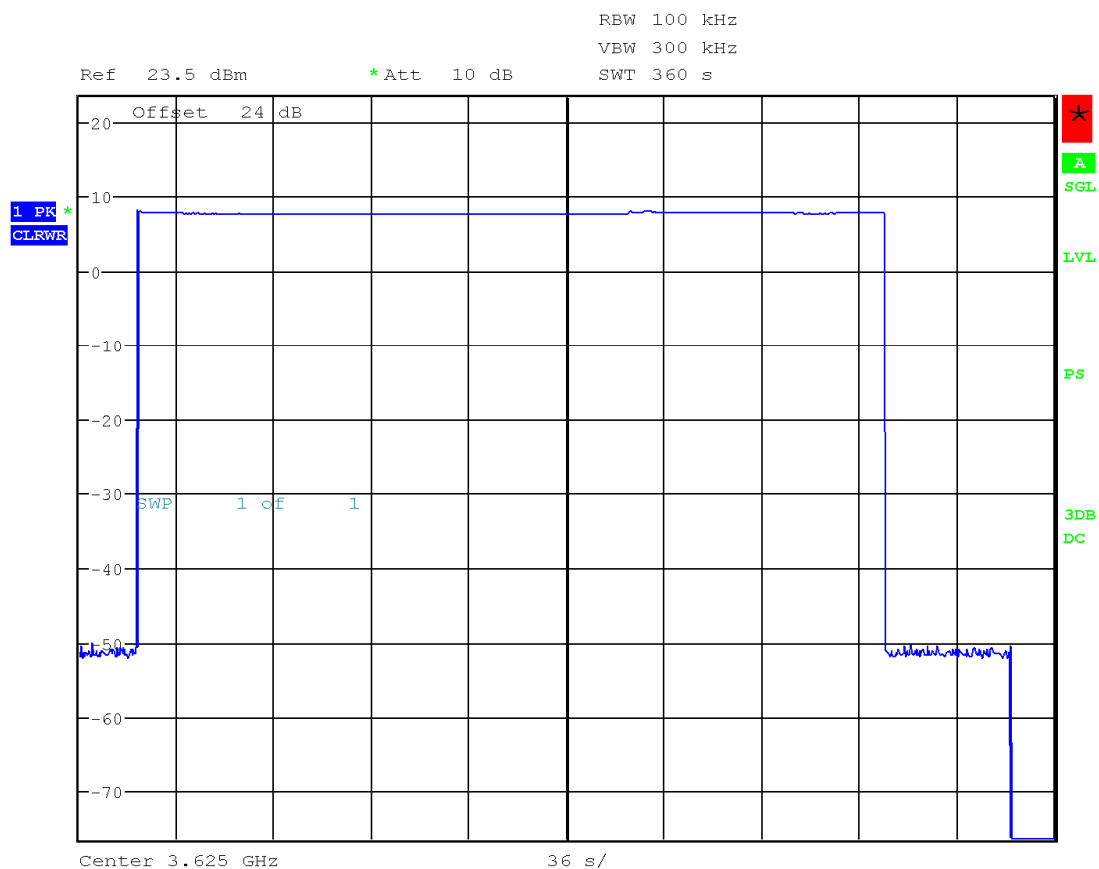
Client	IP.Access	
Product	E61	
Standard(s)	FCC Part 96 SAS requirements (CBRS Test Plan)	

2019-05-14T17:00:21.520Z - INFO - for the question : Were there RF transmissions from the CBSD during the test? , the user choose n


2019-05-14T17:00:23.526Z - INFO - The final result of the test : WINNF.FT.C.HBT.9 is - passed and :the additional comments for the current test are : no

Client	IP.Access	
Product	E61	
Standard(s)	FCC Part 96 SAS requirements (CBRS Test Plan)	

6.4.4.3.2	WINNF.FT.C.HBT.10	Heartbeat Response Absent (Subsequent Heartbeat)	Monitor RF transmission. Verify: <ul style="list-style-type: none"> CBSD must stop transmission within transmitExpireTime+60 seconds, where transmitExpireTime is from last successful heartbeatResponse message 	P
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Date: 14.MAY.2019 14:11:22

Client	IP.Access	
Product	E61	
Standard(s)	FCC Part 96 SAS requirements (CBRS Test Plan)	

2019-05-14T18:06:18.061Z - INFO - WINNF TEST HARNESS RELEASE: 1.0.0.3 - 2018-November-13
2019-05-14T18:06:18.065Z - INFO - the selected test from the user : WINNF.FT.C.HBT.10 is starting now

2019-05-14T18:07:29.991Z - INFO - registration request from CBRS : {


```
"registrationRequest": [
  {
    "airInterface": {
      "radioTechnology": "E_UTRA"
    },
    "callSign": "",
    "cbsdCategory": "A",
    "cbsdInfo": {
      "hardwareVersion": "495X030-00065",
      "model": "495X030-00065",
      "vendor": "000295"
    },
    "cbsdSerialNumber": "0100008267",
    "fcclId": "IPaccess123",
    "measCapability": [
      "RECEIVED_POWER_WITHOUT_GRANT"
    ],
    "userId": "pgMyed"
  }
]
```

2019-05-14T18:07:30.047Z - INFO - engine sent successfully, the response to CBRS : {

```
"registrationResponse": [
  {
    "cbsdId": "IPaccess123Mock-SAS0100008267",
    "response": {
      "responseCode": 0
    }
  }
]
```

2019-05-14T18:07:31.627Z - INFO - grant request from CBRS : {


```
"grantRequest": [
  {
    "cbsdId": "IPaccess123Mock-SAS0100008267",
```

Client	IP.Access	
Product	E61	
Standard(s)	FCC Part 96 SAS requirements (CBRS Test Plan)	

```

    "operationParam": {
      "maxEirp": 14,
      "operationFrequencyRange": {
        "highFrequency": 3630000000,
        "lowFrequency": 3620000000
      }
    }
  }
]
}
2019-05-14T18:07:31.635Z - INFO - engine sent successfully, the response to CBRS : {
  "grantResponse": [
    {
      "cbsId": "IPaccess123Mock-SAS0100008267",
      "channelType": "GAA",
      "grantExpireTime": "2019-05-21T18:07:31Z",
      "grantId": "137927371",
      "heartbeatInterval": 60,
      "response": {
        "responseCode": 0
      }
    }
  ]
}
2019-05-14T18:07:33.329Z - INFO - heartbeat request from CBRS : {
  "heartbeatRequest": [
    {
      "cbsId": "IPaccess123Mock-SAS0100008267",
      "grantId": "137927371",
      "operationState": "GRANTED"
    }
  ]
}
2019-05-14T18:07:33.334Z - INFO - engine sent successfully, the response to CBRS : {
  "heartbeatResponse": [
    {
      "cbsId": "IPaccess123Mock-SAS0100008267",
      "grantId": "137927371",
      "response": {


```


Client	IP.Access	
Product	E61	
Standard(s)	FCC Part 96 SAS requirements (CBRS Test Plan)	

```

        "responseCode": 0
    },
    "transmitExpireTime": "2019-05-14T18:10:53Z"
}
]
}
2019-05-14T18:08:27.858Z - INFO - heartbeat request from CBRS : {
    "heartbeatRequest": [
        {
            "cbsdId": "IPaccess123Mock-SAS0100008267",
            "grantId": "137927371",
            "operationState": "AUTHORIZED"
        }
    ]
}
2019-05-14T18:08:27.859Z - INFO - Time interval between two heartbeat request messages is:
54.52841, limit is: 65.0
2019-05-14T18:08:27.863Z - INFO - engine sent successfully, the response to CBRS : {
    "heartbeatResponse": [
        {
            "cbsdId": "IPaccess123Mock-SAS0100008267",
            "grantId": "137927371",
            "response": {
                "responseCode": 0
            },
            "transmitExpireTime": "2019-05-14T18:11:47Z"
        }
    ]
}
2019-05-14T18:09:22.407Z - INFO - heartbeat request from CBRS : {
    "heartbeatRequest": [
        {
            "cbsdId": "IPaccess123Mock-SAS0100008267",
            "grantId": "137927371",
            "operationState": "AUTHORIZED"
        }
    ]
}

```

Client	IP.Access	
Product	E61	
Standard(s)	FCC Part 96 SAS requirements (CBRS Test Plan)	

2019-05-14T18:09:22.409Z - INFO - Time interval between two heartbeat request messages is: 54.549457, limit is: 65.0

2019-05-14T18:09:22.411Z - INFO - LAST HBT RESPONSE THAT SET TRANSMIT_EXPIRE_TIME WAS AT: 2019-05-14 18:08:27.858173

2019-05-14T18:10:15.507Z - INFO - heartbeat request from CBRS : {

```
"heartbeatRequest": [
  {
    "cbsdId": "IPaccess123Mock-SAS0100008267",
    "grantId": "137927371",
    "operationState": "AUTHORIZED"
  }
]
```

2019-05-14T18:10:15.507Z - INFO - request message received while HBT is absent, sleep 151 sec before responding

2019-05-14T18:10:45.815Z - INFO - heartbeat request from CBRS : {

```
"heartbeatRequest": [
  {
    "cbsdId": "IPaccess123Mock-SAS0100008267",
    "grantId": "137927371",
    "operationState": "AUTHORIZED"
  }
]
```

2019-05-14T18:10:45.815Z - INFO - request message received while HBT is absent, sleep 121 sec before responding


2019-05-14T18:11:16.212Z - INFO - heartbeat request from CBRS : {

```
"heartbeatRequest": [
  {
    "cbsdId": "IPaccess123Mock-SAS0100008267",
    "grantId": "137927371",
    "operationState": "AUTHORIZED"
  }
]
```

2019-05-14T18:11:16.212Z - INFO - request message received while HBT is absent, sleep 91 sec before responding

2019-05-14T18:11:46.635Z - INFO - heartbeat request from CBRS : {


```
"heartbeatRequest": [
  {
```

Client	IP.Access	
Product	E61	
Standard(s)	FCC Part 96 SAS requirements (CBRS Test Plan)	

```

        "cbsdId": "IPaccess123Mock-SAS0100008267",
        "grantId": "137927371",
        "operationState": "AUTHORIZED"
    }
}
]
}
2019-05-14T18:11:46.635Z - INFO - request message received while HBT is absent, sleep 60 sec before
responding
2019-05-14T18:12:17.309Z - INFO - registration request from CBRS : {
    "registrationRequest": [
        {
            "airInterface": {
                "radioTechnology": "E_UTRA"
            },
            "callSign": "",
            "cbsdCategory": "A",
            "cbsdInfo": {
                "hardwareVersion": "495X030-00065",
                "model": "495X030-00065",
                "vendor": "000295"
            },
            "cbsdSerialNumber": "0100008267",
            "fcclId": "IPaccess123",
            "measCapability": [
                "RECEIVED_POWER_WITHOUT_GRANT"
            ],
            "userId": "pgMyed"
        }
    ]
}
}
2019-05-14T18:12:17.310Z - INFO - request message received while HBT is absent, sleep 30 sec before
responding
2019-05-14T18:12:42.439Z - INFO - engine sent successfully, the response to CBRS : {
    "heartbeatResponse": [
        {
            "cbsdId": "IPaccess123Mock-SAS0100008267",
            "grantId": "137927371",
            "response": {
                "responseCode": 501
            }
        }
    ]
}


```

Client	IP.Access	
Product	E61	
Standard(s)	FCC Part 96 SAS requirements (CBRS Test Plan)	

```

    },
    "transmitExpireTime": "2019-05-14T18:12:42Z"
  }
]
}
2019-05-14T18:12:43.708Z - INFO - arrived to nstep starting question answer session with the technician
2019-05-14T18:12:43.710Z - INFO - the question is : Did the CBSD stop RF transmissions within (transmitExpireTime + 60seconds) of last valid heartbeat response? please choose one of the answers :
2019-05-14T18:12:46.609Z - INFO - engine sent successfully, the response to CBRS : "list index out of range"
2019-05-14T18:12:46.699Z - INFO - engine sent successfully, the response to CBRS : "list index out of range"
2019-05-14T18:12:46.919Z - INFO - engine sent successfully, the response to CBRS : "list index out of range"
2019-05-14T18:12:47.239Z - INFO - engine sent successfully, the response to CBRS : "list index out of range"
2019-05-14T18:12:47.326Z - INFO - engine sent successfully, the response to CBRS : "for the CBRS with the cbsdSerialNumber :0100008267 list index out of range"
2019-05-14T18:12:56.236Z - INFO - for the question : Did the CBSD stop RF transmissions within (transmitExpireTime + 60seconds) of last valid heartbeat response? , the user choose y
2019-05-14T18:12:58.343Z - INFO - The final result of the test : WINNF.FT.C.HBT.10 is - passed and :the additional comments for the current test are : no

```

Client	IP.Access	
Product	E61	
Standard(s)	FCC Part 96 SAS requirements (CBRS Test Plan)	

6.5.4.2.2	WINNF.FT.D.MES.2	Domain Proxy Registration Response contains measReportConfig	No RF monitoring	P
-----------	------------------	---	------------------	---

Pass saw “measreportconfig” in logs

2019-05-14T18:17:07.655Z - INFO - WINNF TEST HARNESS RELEASE: 1.0.0.3 - 2018-November-13
2019-05-14T18:17:07.657Z - INFO - the selected test from the user : WINNF.FT.D.MES.2 is starting now


2019-05-14T18:17:19.089Z - INFO - registration request from CBRS : {

```
"registrationRequest": [
  {
    "airInterface": {
      "radioTechnology": "E_UTRA"
    },
    "callSign": "",
    "cbsdCategory": "A",
    "cbsdInfo": {
      "hardwareVersion": "495X030-00065",
      "model": "495X030-00065",
      "vendor": "000295"
    },
    "cbsdSerialNumber": "0100008267",
    "fcId": "IPaccess123",
    "measCapability": [
      "RECEIVED_POWER_WITHOUT_GRANT"
    ],
    "userId": "pgMyed"
  }
]
```

2019-05-14T18:17:19.146Z - INFO - Response message contains measReportConfig

2019-05-14T18:17:19.147Z - INFO - engine sent successfully, the response to CBRS : {


```
"registrationResponse": [
  {
    "cbsdId": "IPaccess123Mock-SAS0100008267",
    "measReportConfig": [
      "RECEIVED_POWER_WITHOUT_GRANT"
    ]
  }
]
```

Client	IP.Access	
Product	E61	
Standard(s)	FCC Part 96 SAS requirements (CBRS Test Plan)	

```

    },
    "response": {
        "responseCode": 0
    }
}
]
}
}
2019-05-14T18:17:23.428Z - INFO - grant request from CBRS : {
  "grantRequest": [
    {
      "cbsId": "IPaccess123Mock-SAS0100008267",
      "measReport": {
        "rcvdPowerMeasReports": [
          {
            "measBandwidth": 5000000,
            "measFrequency": 3550000000,
            "measRcvdPower": -25
          },
          {
            "measBandwidth": 5000000,
            "measFrequency": 3555000000,
            "measRcvdPower": -25
          },
          {
            "measBandwidth": 5000000,
            "measFrequency": 3560000000,
            "measRcvdPower": -25
          },
          {
            "measBandwidth": 5000000,
            "measFrequency": 3565000000,
            "measRcvdPower": -25
          },
          {
            "measBandwidth": 5000000,
            "measFrequency": 3570000000,
            "measRcvdPower": -25
          }
        ]
      }
    }
  ]
}


```

Client	IP.Access	
Product	E61	
Standard(s)	FCC Part 96 SAS requirements (CBRS Test Plan)	

```

    "measBandwidth": 5000000,
    "measFrequency": 3575000000,
    "measRcvdPower": -25
  },
  {
    "measBandwidth": 5000000,
    "measFrequency": 3580000000,
    "measRcvdPower": -25
  },
  {
    "measBandwidth": 5000000,
    "measFrequency": 3585000000,
    "measRcvdPower": -25
  },
  {
    "measBandwidth": 5000000,
    "measFrequency": 3590000000,
    "measRcvdPower": -25
  },
  {
    "measBandwidth": 5000000,
    "measFrequency": 3595000000,
    "measRcvdPower": -25
  },
  {
    "measBandwidth": 5000000,
    "measFrequency": 3600000000,
    "measRcvdPower": -25
  },
  {
    "measBandwidth": 5000000,
    "measFrequency": 3605000000,
    "measRcvdPower": -25
  },
  {
    "measBandwidth": 5000000,
    "measFrequency": 3610000000,
    "measRcvdPower": -25
  },
  },


```

Client	IP.Access	
Product	E61	
Standard(s)	FCC Part 96 SAS requirements (CBRS Test Plan)	

```

{
  "measBandwidth": 5000000,
  "measFrequency": 3615000000,
  "measRcvdPower": -25
},
{
  "measBandwidth": 5000000,
  "measFrequency": 3620000000,
  "measRcvdPower": -25
},
{
  "measBandwidth": 5000000,
  "measFrequency": 3625000000,
  "measRcvdPower": -25
},
{
  "measBandwidth": 5000000,
  "measFrequency": 3630000000,
  "measRcvdPower": -25
},
{
  "measBandwidth": 5000000,
  "measFrequency": 3635000000,
  "measRcvdPower": -25
},
{
  "measBandwidth": 5000000,
  "measFrequency": 3640000000,
  "measRcvdPower": -25
},
{
  "measBandwidth": 5000000,
  "measFrequency": 3645000000,
  "measRcvdPower": -25
},
{
  "measBandwidth": 5000000,
  "measFrequency": 3650000000,
  "measRcvdPower": -25
}


```


Client	IP.Access	
Product	E61	
Standard(s)	FCC Part 96 SAS requirements (CBRS Test Plan)	

```

},
{
  "measBandwidth": 5000000,
  "measFrequency": 3655000000,
  "measRcvdPower": -25
},
{
  "measBandwidth": 5000000,
  "measFrequency": 3660000000,
  "measRcvdPower": -25
},
{
  "measBandwidth": 5000000,
  "measFrequency": 3665000000,
  "measRcvdPower": -25
},
{
  "measBandwidth": 5000000,
  "measFrequency": 3670000000,
  "measRcvdPower": -25
},
{
  "measBandwidth": 5000000,
  "measFrequency": 3675000000,
  "measRcvdPower": -25
},
{
  "measBandwidth": 5000000,
  "measFrequency": 3680000000,
  "measRcvdPower": -25
},
{
  "measBandwidth": 5000000,
  "measFrequency": 3685000000,
  "measRcvdPower": -25
},
{
  "measBandwidth": 5000000,
  "measFrequency": 3690000000,

```

Client	IP.Access	
Product	E61	
Standard(s)	FCC Part 96 SAS requirements (CBRS Test Plan)	

```

        "measRcvdPower": -25
      },
      {
        "measBandwidth": 5000000,
        "measFrequency": 3695000000,
        "measRcvdPower": -25
      }
    ]
  },
  "operationParam": {
    "maxEirp": 14,
    "operationFrequencyRange": {
      "highFrequency": 3630000000,
      "lowFrequency": 3620000000
    }
  }
}
]
}

```

2019-05-14T18:17:23.448Z - INFO - engine sent successfully, the response to CBRS : {

```

  "grantResponse": [
    {
      "cbsdId": "IPaccess123Mock-SAS0100008267",
      "channelType": "GAA",
      "grantExpireTime": "2019-05-21T18:17:23Z",
      "grantId": "161494112",
      "heartbeatInterval": 60,
      "response": {
        "responseCode": 0
      }
    }
  ]
}


```

2019-05-14T18:17:25.048Z - INFO - heartbeat request from CBRS : {

```

  "heartbeatRequest": [
    {
      "cbsdId": "IPaccess123Mock-SAS0100008267",
      "grantId": "161494112",
      "operationState": "GRANTED"
    }
  ]
}


```

Client	IP.Access	
Product	E61	
Standard(s)	FCC Part 96 SAS requirements (CBRS Test Plan)	

```

    }
  ]
}
2019-05-14T18:17:25.050Z - INFO - engine sent successfully, the response to CBRS : {
  "heartbeatResponse": [
    {
      "cbsdId": "IPaccess123Mock-SAS0100008267",
      "grantId": "161494112",
      "response": {
        "responseCode": 501
      },
      "transmitExpireTime": "2019-05-14T18:17:25Z"
    }
  ]
}
2019-05-14T18:18:01.553Z - INFO - registration request from CBRS : {
  "registrationRequest": [
    {
      "airInterface": {
        "radioTechnology": "E_UTRA"
      },
      "callSign": "",
      "cbsdCategory": "A",
      "cbsdInfo": {
        "hardwareVersion": "495X030-00065",
        "model": "495X030-00065",
        "vendor": "000295"
      },
      "cbsdSerialNumber": "0100008310",
      "fcclId": "IPaccess123",
      "measCapability": [
        "RECEIVED_POWER_WITHOUT_GRANT"
      ],
      "userId": "pgMyed"
    }
  ]
}
2019-05-14T18:18:01.610Z - INFO - Response message contains measReportConfig
2019-05-14T18:18:01.611Z - INFO - engine sent successfully, the response to CBRS : {


```

Client	IP.Access	
Product	E61	
Standard(s)	FCC Part 96 SAS requirements (CBRS Test Plan)	

```

"registrationResponse": [
  {
    "cbsdId": "IPaccess123Mock-SAS0100008310",
    "measReportConfig": [
      "RECEIVED_POWER_WITHOUT_GRANT"
    ],
    "response": {
      "responseCode": 0
    }
  }
]
}
2019-05-14T18:18:05.831Z - INFO - grant request from CBRS : {
  "grantRequest": [
    {
      "cbsdId": "IPaccess123Mock-SAS0100008310",
      "measReport": {
        "rcvdPowerMeasReports": [
          {
            "measBandwidth": 5000000,
            "measFrequency": 3550000000,
            "measRcvdPower": -25
          },
          {
            "measBandwidth": 5000000,
            "measFrequency": 3555000000,
            "measRcvdPower": -25
          },
          {
            "measBandwidth": 5000000,
            "measFrequency": 3560000000,
            "measRcvdPower": -25
          },
          {
            "measBandwidth": 5000000,
            "measFrequency": 3565000000,
            "measRcvdPower": -25
          }
        ]
      }
    }
  ]
}


```

Client	IP.Access	
Product	E61	
Standard(s)	FCC Part 96 SAS requirements (CBRS Test Plan)	

```

    "measBandwidth": 5000000,
    "measFrequency": 3570000000,
    "measRcvdPower": -25
  },
  {
    "measBandwidth": 5000000,
    "measFrequency": 3575000000,
    "measRcvdPower": -25
  },
  {
    "measBandwidth": 5000000,
    "measFrequency": 3580000000,
    "measRcvdPower": -25
  },
  {
    "measBandwidth": 5000000,
    "measFrequency": 3585000000,
    "measRcvdPower": -25
  },
  {
    "measBandwidth": 5000000,
    "measFrequency": 3590000000,
    "measRcvdPower": -25
  },
  {
    "measBandwidth": 5000000,
    "measFrequency": 3595000000,
    "measRcvdPower": -25
  },
  {
    "measBandwidth": 5000000,
    "measFrequency": 3600000000,
    "measRcvdPower": -25
  },
  {
    "measBandwidth": 5000000,
    "measFrequency": 3605000000,
    "measRcvdPower": -25
  },
  },


```

Client	IP.Access	
Product	E61	
Standard(s)	FCC Part 96 SAS requirements (CBRS Test Plan)	

```

{
  "measBandwidth": 5000000,
  "measFrequency": 3610000000,
  "measRcvdPower": -25
},
{
  "measBandwidth": 5000000,
  "measFrequency": 3615000000,
  "measRcvdPower": -25
},
{
  "measBandwidth": 5000000,
  "measFrequency": 3620000000,
  "measRcvdPower": -25
},
{
  "measBandwidth": 5000000,
  "measFrequency": 3625000000,
  "measRcvdPower": -25
},
{
  "measBandwidth": 5000000,
  "measFrequency": 3630000000,
  "measRcvdPower": -25
},
{
  "measBandwidth": 5000000,
  "measFrequency": 3635000000,
  "measRcvdPower": -25
},
{
  "measBandwidth": 5000000,
  "measFrequency": 3640000000,
  "measRcvdPower": -25
},
{
  "measBandwidth": 5000000,
  "measFrequency": 3645000000,
  "measRcvdPower": -25
}


```

Client	IP.Access	
Product	E61	
Standard(s)	FCC Part 96 SAS requirements (CBRS Test Plan)	

```


},
{
  "measBandwidth": 5000000,
  "measFrequency": 3650000000,
  "measRcvdPower": -25
},
{
  "measBandwidth": 5000000,
  "measFrequency": 3655000000,
  "measRcvdPower": -25
},
{
  "measBandwidth": 5000000,
  "measFrequency": 3660000000,
  "measRcvdPower": -25
},
{
  "measBandwidth": 5000000,
  "measFrequency": 3665000000,
  "measRcvdPower": -25
},
{
  "measBandwidth": 5000000,
  "measFrequency": 3670000000,
  "measRcvdPower": -25
},
{
  "measBandwidth": 5000000,
  "measFrequency": 3675000000,
  "measRcvdPower": -25
},
{
  "measBandwidth": 5000000,
  "measFrequency": 3680000000,
  "measRcvdPower": -25
},
{
  "measBandwidth": 5000000,
  "measFrequency": 3685000000,

```


Client	IP.Access	
Product	E61	
Standard(s)	FCC Part 96 SAS requirements (CBRS Test Plan)	


2019-05-14T18:18:07.754Z - INFO - arrived to nstep starting question answer session with the technician

2019-05-14T18:18:12.883Z - INFO - The final result of the test : WINNF.FT.D.MES.2 is - passed and :the additional comments for the current test are : no

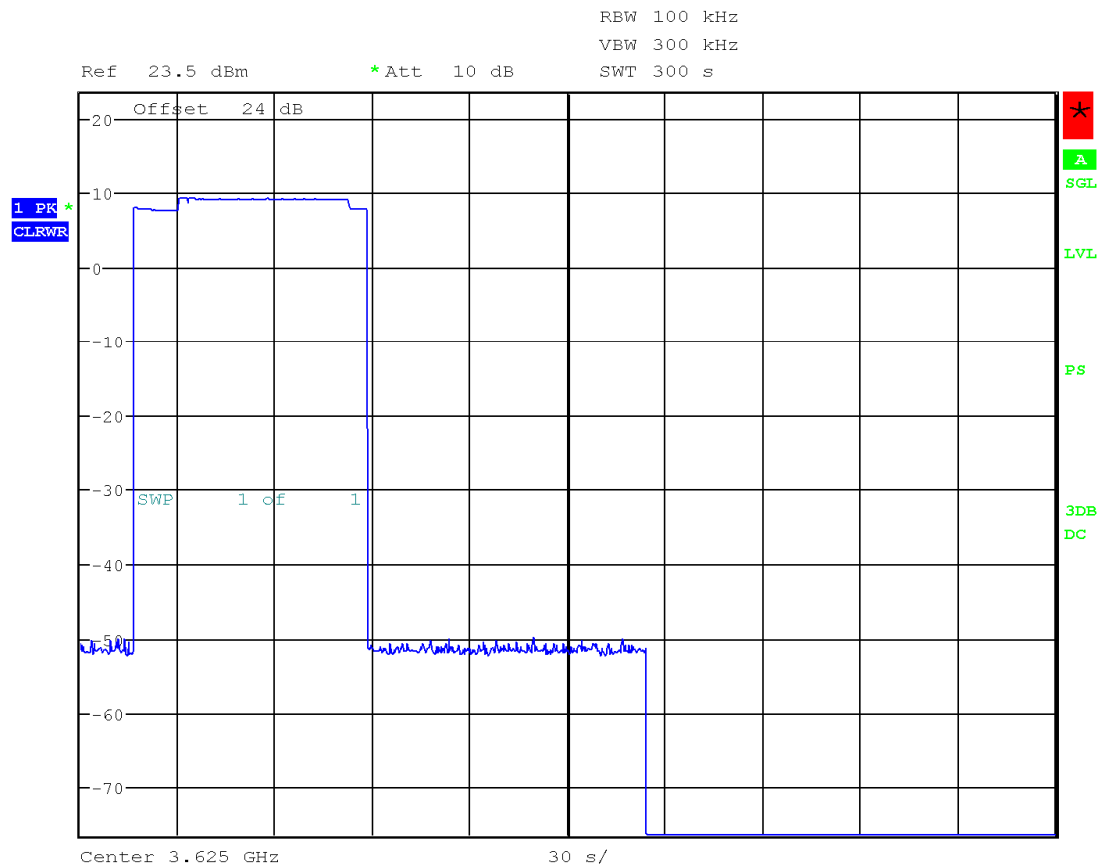
Client	IP.Access	
Product	E61	
Standard(s)	FCC Part 96 SAS requirements (CBRS Test Plan)	

6.5.4.2.3	WINNF.FT.C.MES.3	Grant Response contains measReportConfig	No RF monitoring	P
-----------	------------------	--	------------------	---

Pass saw “measreportconfig” in logs

Client	IP.Access	
Product	E61	
Standard(s)	FCC Part 96 SAS requirements (CBRS Test Plan)	

6.6.4.1.2	WINNF.FT.D.RLQ.2	Domain Proxy Successful Relinquishment	Monitor RF transmission. Ensure: <ul style="list-style-type: none"> • CBSD stops transmission at any time prior to sending the relinquishmentRequest message. 	P
-----------	------------------	--	--	---




Date: 14.MAY.2019 14:32:36

2019-05-14T18:30:52.685Z - INFO - WINNF TEST HARNESS RELEASE: 1.0.0.3 - 2018-November-13

2019-05-14T18:30:52.686Z - INFO - the selected test from the user : WINNF.FT.D.RLQ.2 is starting now

2019-05-14T18:31:29.089Z - INFO - registration request from CBRS : {


```
"registrationRequest": [
{
"airInterface": {
"radioTechnology": "E_UTRA"
```

Client	IP.Access	
Product	E61	
Standard(s)	FCC Part 96 SAS requirements (CBRS Test Plan)	

```

    },
    "callSign": "",
    "cbsdCategory": "A",
    "cbsdInfo": {
      "hardwareVersion": "495X030-00065",
      "model": "495X030-00065",
      "vendor": "000295"
    },
    "cbsdSerialNumber": "0100008267",
    "fcclId": "IPaccess123",
    "measCapability": [
      "RECEIVED_POWER_WITHOUT_GRANT"
    ],
    "userId": "pgMyed"
  }
]
}
2019-05-14T18:31:29.133Z - INFO - engine sent successfully, the response to CBRS : {
  "registrationResponse": [
    {
      "cbsdId": "IPaccess123Mock-SAS0100008267",
      "response": {
        "responseCode": 0
      }
    }
  ]
}
2019-05-14T18:31:30.726Z - INFO - grant request from CBRS : {
  "grantRequest": [
    {
      "cbsdId": "IPaccess123Mock-SAS0100008267",
      "operationParam": {
        "maxEirp": 14,
        "operationFrequencyRange": {
          "highFrequency": 3630000000,
          "lowFrequency": 3620000000
        }
      }
    }
  ]
}


```

Client	IP.Access	
Product	E61	
Standard(s)	FCC Part 96 SAS requirements (CBRS Test Plan)	

```

    ]
  }
2019-05-14T18:31:30.735Z - INFO - engine sent successfully, the response to CBRS : {
  "grantResponse": [
    {
      "cbsId": "IPaccess123Mock-SAS0100008267",
      "channelType": "GAA",
      "grantExpireTime": "2019-05-21T18:31:30Z",
      "grantId": "372264586",
      "heartbeatInterval": 60,
      "response": {
        "responseCode": 0
      }
    }
  ]
}
2019-05-14T18:31:32.402Z - INFO - heartbeat request from CBRS : {
  "heartbeatRequest": [
    {
      "cbsId": "IPaccess123Mock-SAS0100008267",
      "grantId": "372264586",
      "operationState": "GRANTED"
    }
  ]
}
2019-05-14T18:31:32.407Z - INFO - engine sent successfully, the response to CBRS : {
  "heartbeatResponse": [
    {
      "cbsId": "IPaccess123Mock-SAS0100008267",
      "grantId": "372264586",
      "response": {
        "responseCode": 0
      },
      "transmitExpireTime": "2019-05-14T18:34:52Z"
    }
  ]
}
2019-05-14T18:31:43.225Z - INFO - registration request from CBRS : {
  "registrationRequest": [


```

Client	IP.Access	
Product	E61	
Standard(s)	FCC Part 96 SAS requirements (CBRS Test Plan)	

```

{
  "airInterface": {
    "radioTechnology": "E_UTRA"
  },
  "callSign": "",
  "cbsdCategory": "A",
  "cbsdInfo": {
    "hardwareVersion": "495X030-00065",
    "model": "495X030-00065",
    "vendor": "000295"
  },
  "cbsdSerialNumber": "0100008310",
  "fcclId": "IPaccess123",
  "measCapability": [
    "RECEIVED_POWER_WITHOUT_GRANT"
  ],
  "userId": "pgMyed"
}
]
}
2019-05-14T18:31:43.267Z - INFO - engine sent successfully, the response to CBRS : {
  "registrationResponse": [
    {
      "cbsdId": "IPaccess123Mock-SAS0100008310",
      "response": {
        "responseCode": 0
      }
    }
  ]
}
2019-05-14T18:31:44.939Z - INFO - grant request from CBRS : {
  "grantRequest": [
    {
      "cbsdId": "IPaccess123Mock-SAS0100008310",
      "operationParam": {
        "maxEirp": 14,
        "operationFrequencyRange": {
          "highFrequency": 3630000000,
          "lowFrequency": 3620000000
        }
      }
    }
  ]
}


```

Client	IP.Access	
Product	E61	
Standard(s)	FCC Part 96 SAS requirements (CBRS Test Plan)	

```

    }
  }
}
]
}
2019-05-14T18:31:44.947Z - INFO - engine sent successfully, the response to CBRS : {
  "grantResponse": [
    {
      "cbsdId": "IPaccess123Mock-SAS0100008310",
      "channelType": "GAA",
      "grantExpireTime": "2019-05-21T18:31:44Z",
      "grantId": "957258940",
      "heartbeatInterval": 60,
      "response": {
        "responseCode": 0
      }
    }
  ]
}
2019-05-14T18:31:46.636Z - INFO - heartbeat request from CBRS : {
  "heartbeatRequest": [
    {
      "cbsdId": "IPaccess123Mock-SAS0100008310",
      "grantId": "957258940",
      "operationState": "GRANTED"
    }
  ]
}
2019-05-14T18:31:46.643Z - INFO - engine sent successfully, the response to CBRS : {
  "heartbeatResponse": [
    {
      "cbsdId": "IPaccess123Mock-SAS0100008310",
      "grantId": "957258940",
      "response": {
        "responseCode": 0
      },
      "transmitExpireTime": "2019-05-14T18:35:06Z"
    }
  ]
}


```

Client	IP.Access	
Product	E61	
Standard(s)	FCC Part 96 SAS requirements (CBRS Test Plan)	

```

}
2019-05-14T18:32:26.917Z - INFO - heartbeat request from CBRS : {
  "heartbeatRequest": [
    {
      "cbsdId": "IPaccess123Mock-SAS0100008267",
      "grantId": "372264586",
      "operationState": "AUTHORIZED"
    }
  ]
}
2019-05-14T18:32:26.919Z - INFO - Time interval between two heartbeat request messages is:
54.515324, limit is: 65.0
2019-05-14T18:32:26.924Z - INFO - engine sent successfully, the response to CBRS : {
  "heartbeatResponse": [
    {
      "cbsdId": "IPaccess123Mock-SAS0100008267",
      "grantId": "372264586",
      "response": {
        "responseCode": 0
      },
      "transmitExpireTime": "2019-05-14T18:35:46Z"
    }
  ]
}
2019-05-14T18:32:41.153Z - INFO - heartbeat request from CBRS : {
  "heartbeatRequest": [
    {
      "cbsdId": "IPaccess123Mock-SAS0100008310",
      "grantId": "957258940",
      "operationState": "AUTHORIZED"
    }
  ]
}
2019-05-14T18:32:41.154Z - INFO - Time interval between two heartbeat request messages is:
54.516707, limit is: 65.0
2019-05-14T18:32:41.160Z - INFO - engine sent successfully, the response to CBRS : {
  "heartbeatResponse": [
    {
      "cbsdId": "IPaccess123Mock-SAS0100008310",


```


Client	IP.Access	
Product	E61	
Standard(s)	FCC Part 96 SAS requirements (CBRS Test Plan)	

```

    "grantId": "957258940",
    "response": {
      "responseCode": 0
    },
    "transmitExpireTime": "2019-05-14T18:36:01Z"
  }
]
}
2019-05-14T18:32:51.784Z - INFO - relinquishment request from CBRS : {
  "relinquishmentRequest": [
    {
      "cbsdId": "IPaccess123Mock-SAS0100008267",
      "grantId": "372264586"
    }
  ]
}
2019-05-14T18:32:51.791Z - INFO - engine sent successfully, the response to CBRS : {
  "relinquishmentResponse": [
    {
      "cbsdId": "IPaccess123Mock-SAS0100008267",
      "grantId": "372264586",
      "response": {
        "responseCode": 0
      }
    }
  ]
}
2019-05-14T18:32:55.871Z - INFO - grant request from CBRS : {
  "grantRequest": [
    {
      "cbsdId": "IPaccess123Mock-SAS0100008267",
      "measReport": {
        "rcvdPowerMeasReports": [
          {
            "measBandwidth": 5000000,
            "measFrequency": 3550000000,
            "measRcvdPower": -25
          },
          {


```

Client	IP.Access	
Product	E61	
Standard(s)	FCC Part 96 SAS requirements (CBRS Test Plan)	

```

    "measBandwidth": 5000000,
    "measFrequency": 3555000000,
    "measRcvdPower": -25
  },
  {
    "measBandwidth": 5000000,
    "measFrequency": 3560000000,
    "measRcvdPower": -25
  },
  {
    "measBandwidth": 5000000,
    "measFrequency": 3565000000,
    "measRcvdPower": -25
  },
  {
    "measBandwidth": 5000000,
    "measFrequency": 3570000000,
    "measRcvdPower": -25
  },
  {
    "measBandwidth": 5000000,
    "measFrequency": 3575000000,
    "measRcvdPower": -25
  },
  {
    "measBandwidth": 5000000,
    "measFrequency": 3580000000,
    "measRcvdPower": -25
  },
  {
    "measBandwidth": 5000000,
    "measFrequency": 3585000000,
    "measRcvdPower": -25
  },
  {
    "measBandwidth": 5000000,
    "measFrequency": 3590000000,
    "measRcvdPower": -25
  },
  },


```

Client	IP.Access	
Product	E61	
Standard(s)	FCC Part 96 SAS requirements (CBRS Test Plan)	

```

{
  "measBandwidth": 5000000,
  "measFrequency": 3595000000,
  "measRcvdPower": -25
},
{
  "measBandwidth": 5000000,
  "measFrequency": 3600000000,
  "measRcvdPower": -25
},
{
  "measBandwidth": 5000000,
  "measFrequency": 3605000000,
  "measRcvdPower": -25
},
{
  "measBandwidth": 5000000,
  "measFrequency": 3610000000,
  "measRcvdPower": -25
},
{
  "measBandwidth": 5000000,
  "measFrequency": 3615000000,
  "measRcvdPower": -25
},
{
  "measBandwidth": 5000000,
  "measFrequency": 3620000000,
  "measRcvdPower": -25
},
{
  "measBandwidth": 5000000,
  "measFrequency": 3625000000,
  "measRcvdPower": -25
},
{
  "measBandwidth": 5000000,
  "measFrequency": 3630000000,
  "measRcvdPower": -25
}


```

Client	IP.Access	
Product	E61	
Standard(s)	FCC Part 96 SAS requirements (CBRS Test Plan)	

```

},
{
  "measBandwidth": 5000000,
  "measFrequency": 3635000000,
  "measRcvdPower": -25
},
{
  "measBandwidth": 5000000,
  "measFrequency": 3640000000,
  "measRcvdPower": -25
},
{
  "measBandwidth": 5000000,
  "measFrequency": 3645000000,
  "measRcvdPower": -25
},
{
  "measBandwidth": 5000000,
  "measFrequency": 3650000000,
  "measRcvdPower": -25
},
{
  "measBandwidth": 5000000,
  "measFrequency": 3655000000,
  "measRcvdPower": -25
},
{
  "measBandwidth": 5000000,
  "measFrequency": 3660000000,
  "measRcvdPower": -25
},
{
  "measBandwidth": 5000000,
  "measFrequency": 3665000000,
  "measRcvdPower": -25
},
{
  "measBandwidth": 5000000,
  "measFrequency": 3670000000,


```

Client	IP.Access	
Product	E61	
Standard(s)	FCC Part 96 SAS requirements (CBRS Test Plan)	

```

    "measRcvdPower": -25
  },
  {
    "measBandwidth": 5000000,
    "measFrequency": 3675000000,
    "measRcvdPower": -25
  },
  {
    "measBandwidth": 5000000,
    "measFrequency": 3680000000,
    "measRcvdPower": -25
  },
  {
    "measBandwidth": 5000000,
    "measFrequency": 3685000000,
    "measRcvdPower": -25
  },
  {
    "measBandwidth": 5000000,
    "measFrequency": 3690000000,
    "measRcvdPower": -25
  },
  {
    "measBandwidth": 5000000,
    "measFrequency": 3695000000,
    "measRcvdPower": -25
  }
]
},
"operationParam": {
  "maxEirp": 14,
  "operationFrequencyRange": {
    "highFrequency": 3560000000,
    "lowFrequency": 3550000000
  }
}
}
]
}

```

Client	IP.Access	
Product	E61	
Standard(s)	FCC Part 96 SAS requirements (CBRS Test Plan)	

2019-05-14T18:32:55.873Z - INFO - engine sent successfully, the response to CBRS : {

```
"grantResponse": [
  {
    "cbsdId": "IPaccess123Mock-SAS0100008267",
    "response": {
      "responseCode": 400
    }
  }
]
```

2019-05-14T18:32:57.633Z - INFO - relinquishment request from CBRS : {

```
"relinquishmentRequest": [
  {
    "cbsdId": "IPaccess123Mock-SAS0100008310",
    "grantId": "957258940"
  }
]
```

2019-05-14T18:32:57.638Z - INFO - engine sent successfully, the response to CBRS : {

```
"relinquishmentResponse": [
  {
    "cbsdId": "IPaccess123Mock-SAS0100008310",
    "grantId": "957258940",
    "response": {
      "responseCode": 0
    }
  }
]
```


2019-05-14T18:32:58.965Z - INFO - arrived to nstep starting question answer session with the technician

2019-05-14T18:32:58.968Z - INFO - the question is : Did CBSD1 cease RF transmission before receipt of Relinquishment Request by Test Harness? please choose one of the answers :

2019-05-14T18:33:29.235Z - INFO - for the question : Did CBSD1 cease RF transmission before receipt of Relinquishment Request by Test Harness? , the user choose y


2019-05-14T18:33:29.236Z - INFO - the question is : Did CBSD2 cease RF transmission before receipt of Relinquishment Request by Test Harness? please choose one of the answers :

2019-05-14T18:33:31.315Z - INFO - for the question : Did CBSD2 cease RF transmission before receipt of Relinquishment Request by Test Harness? , the user choose y

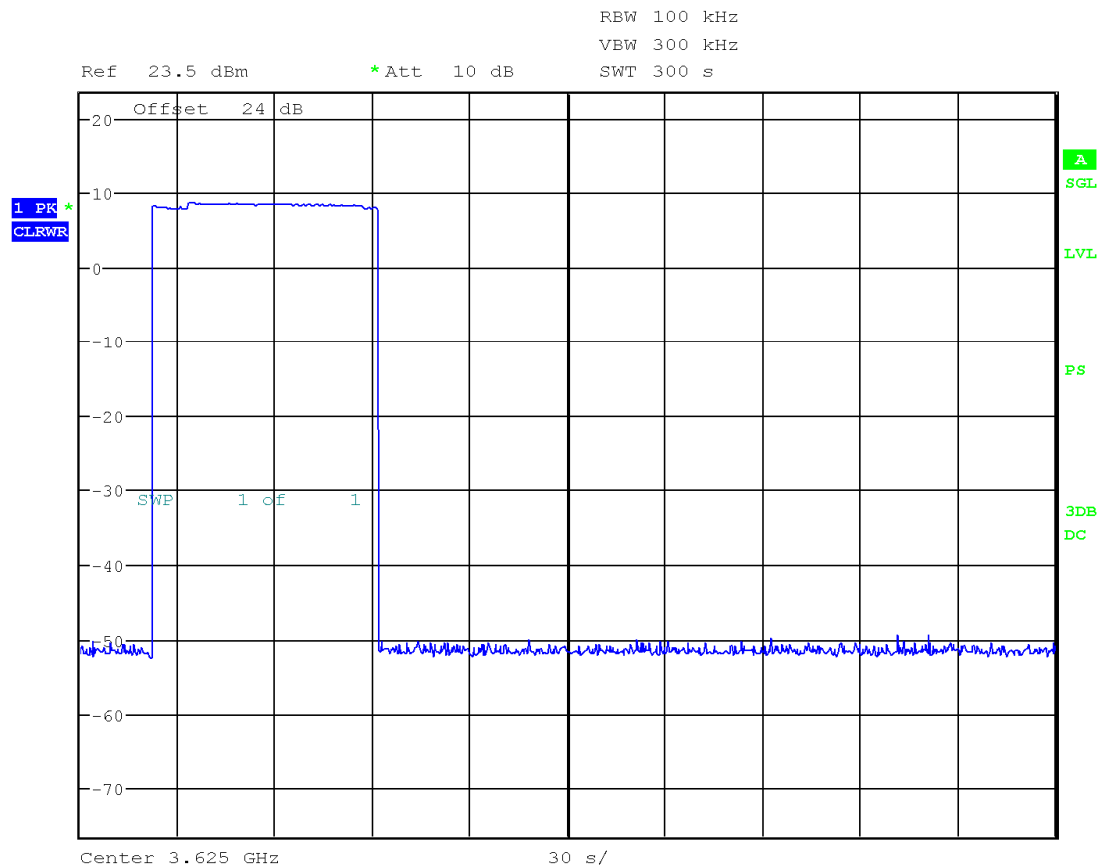
Client	IP.Access	
Product	E61	
Standard(s)	FCC Part 96 SAS requirements (CBRS Test Plan)	

2019-05-14T18:33:32.936Z - INFO - The final result of the test : WINNF.FT.D.RLQ.2 is - passed and :the additional comments for the current test are : no

Note: Shutdown confirmed by RF monitoring.


Client	IP.Access	
Product	E61	
Standard(s)	FCC Part 96 SAS requirements (CBRS Test Plan)	

6.7.4.1.2	WINNF.FT.D.DRG.2	Domain Proxy Successful Deregistration	Monitor RF transmission. Ensure: <ul style="list-style-type: none"> • CBSD stops transmission at any time prior to sending the relinquishmentRequest message or deregistrationRequest message (whichever is sent first) 	P
-----------	------------------	--	--	---



Date: 14.MAY.2019 14:44:06


2019-05-14T18:36:37.915Z - INFO - WINNF TEST HARNESS RELEASE: 1.0.0.3 - 2018-November-13
 2019-05-14T18:36:37.917Z - INFO - the selected test from the user : WINNF.FT.D.DRG.2 is starting now
 2019-05-14T18:38:28.901Z - INFO - registration request from CBRS : {
 "registrationRequest": [
 {
 "airInterface": {

Client	IP.Access	
Product	E61	
Standard(s)	FCC Part 96 SAS requirements (CBRS Test Plan)	

```

    "radioTechnology": "E_UTRA"
  },
  "callSign": "",
  "cbsdCategory": "A",
  "cbsdInfo": {
    "hardwareVersion": "495X030-00065",
    "model": "495X030-00065",
    "vendor": "000295"
  },
  "cbsdSerialNumber": "0100008267",
  "fcclId": "IPaccess123",
  "measCapability": [
    "RECEIVED_POWER_WITHOUT_GRANT"
  ],
  "userId": "pgMyed"
}
]
}
2019-05-14T18:38:28.950Z - INFO - engine sent successfully, the response to CBRS : {
  "registrationResponse": [
    {
      "cbsdId": "IPaccess123Mock-SAS0100008267",
      "response": {
        "responseCode": 0
      }
    }
  ]
}
2019-05-14T18:38:30.620Z - INFO - grant request from CBRS : {
  "grantRequest": [
    {
      "cbsdId": "IPaccess123Mock-SAS0100008267",
      "operationParam": {
        "maxEirp": 14,
        "operationFrequencyRange": {
          "highFrequency": 3630000000,
          "lowFrequency": 3620000000
        }
      }
    }
  ]
}


```

Client	IP.Access	
Product	E61	
Standard(s)	FCC Part 96 SAS requirements (CBRS Test Plan)	

```

    }
  ]
}
2019-05-14T18:38:30.628Z - INFO - engine sent successfully, the response to CBRS : {
  "grantResponse": [
    {
      "cbsdId": "IPaccess123Mock-SAS0100008267",
      "channelType": "GAA",
      "grantExpireTime": "2019-05-21T18:38:30Z",
      "grantId": "341809681",
      "heartbeatInterval": 60,
      "response": {
        "responseCode": 0
      }
    }
  ]
}
2019-05-14T18:38:32.311Z - INFO - heartbeat request from CBRS : {
  "heartbeatRequest": [
    {
      "cbsdId": "IPaccess123Mock-SAS0100008267",
      "grantId": "341809681",
      "operationState": "GRANTED"
    }
  ]
}
2019-05-14T18:38:32.317Z - INFO - engine sent successfully, the response to CBRS : {
  "heartbeatResponse": [
    {
      "cbsdId": "IPaccess123Mock-SAS0100008267",
      "grantId": "341809681",
      "response": {
        "responseCode": 0
      },
      "transmitExpireTime": "2019-05-14T18:41:52Z"
    }
  ]
}
2019-05-14T18:38:40.289Z - INFO - registration request from CBRS : {


```

Client	IP.Access	
Product	E61	
Standard(s)	FCC Part 96 SAS requirements (CBRS Test Plan)	

```

"registrationRequest": [
  {
    "airInterface": {
      "radioTechnology": "E_UTRA"
    },
    "callSign": "",
    "cbsdCategory": "A",
    "cbsdInfo": {
      "hardwareVersion": "495X030-00065",
      "model": "495X030-00065",
      "vendor": "000295"
    },
    "cbsdSerialNumber": "0100008310",
    "fccId": "IPaccess123",
    "measCapability": [
      "RECEIVED_POWER_WITHOUT_GRANT"
    ],
    "userId": "pgMyed"
  }
]
}
2019-05-14T18:38:40.342Z - INFO - engine sent successfully, the response to CBRS : {
  "registrationResponse": [
    {
      "cbsdId": "IPaccess123Mock-SAS0100008310",
      "response": {
        "responseCode": 0
      }
    }
  ]
}
2019-05-14T18:38:42.049Z - INFO - grant request from CBRS : {
  "grantRequest": [
    {
      "cbsdId": "IPaccess123Mock-SAS0100008310",
      "operationParam": {
        "maxEirp": 14,
        "operationFrequencyRange": {
          "highFrequency": 3630000000,


```

Client	IP.Access	
Product	E61	
Standard(s)	FCC Part 96 SAS requirements (CBRS Test Plan)	

```

        "lowFrequency": 3620000000
    }
}
]
}
2019-05-14T18:38:42.056Z - INFO - engine sent successfully, the response to CBRS : {
  "grantResponse": [
    {
      "cbsdId": "IPaccess123Mock-SAS0100008310",
      "channelType": "GAA",
      "grantExpireTime": "2019-05-21T18:38:42Z",
      "grantId": "823694681",
      "heartbeatInterval": 60,
      "response": {
        "responseCode": 0
      }
    }
  ]
}
2019-05-14T18:38:43.784Z - INFO - heartbeat request from CBRS : {
  "heartbeatRequest": [
    {
      "cbsdId": "IPaccess123Mock-SAS0100008310",
      "grantId": "823694681",
      "operationState": "GRANTED"
    }
  ]
}
2019-05-14T18:38:43.791Z - INFO - engine sent successfully, the response to CBRS : {
  "heartbeatResponse": [
    {
      "cbsdId": "IPaccess123Mock-SAS0100008310",
      "grantId": "823694681",
      "response": {
        "responseCode": 0
      },
      "transmitExpireTime": "2019-05-14T18:42:03Z"
    }
  ]
}


```

Client	IP.Access	
Product	E61	
Standard(s)	FCC Part 96 SAS requirements (CBRS Test Plan)	

```

    ]
  }
2019-05-14T18:39:26.862Z - INFO - heartbeat request from CBRS : {
  "heartbeatRequest": [
    {
      "cbsdId": "IPaccess123Mock-SAS0100008267",
      "grantId": "341809681",
      "operationState": "AUTHORIZED"
    }
  ]
}
2019-05-14T18:39:26.863Z - INFO - Time interval between two heartbeat request messages is:
54.550664, limit is: 65.0
2019-05-14T18:39:26.870Z - INFO - engine sent successfully, the response to CBRS : {
  "heartbeatResponse": [
    {
      "cbsdId": "IPaccess123Mock-SAS0100008267",
      "grantId": "341809681",
      "response": {
        "responseCode": 0
      },
      "transmitExpireTime": "2019-05-14T18:42:46Z"
    }
  ]
}
2019-05-14T18:39:38.375Z - INFO - heartbeat request from CBRS : {
  "heartbeatRequest": [
    {
      "cbsdId": "IPaccess123Mock-SAS0100008310",
      "grantId": "823694681",
      "operationState": "AUTHORIZED"
    }
  ]
}
2019-05-14T18:39:38.377Z - INFO - Time interval between two heartbeat request messages is:
54.590846, limit is: 65.0
2019-05-14T18:39:38.381Z - INFO - engine sent successfully, the response to CBRS : {
  "heartbeatResponse": [
    {


```

Client	IP.Access	
Product	E61	
Standard(s)	FCC Part 96 SAS requirements (CBRS Test Plan)	

```

        "cbsdId": "IPaccess123Mock-SAS0100008310",
        "grantId": "823694681",
        "response": {
            "responseCode": 0
        },
        "transmitExpireTime": "2019-05-14T18:42:58Z"
    }
}
]
}
2019-05-14T18:39:50.179Z - INFO - relinquishment request from CBRS : {
    "relinquishmentRequest": [
        {
            "cbsdId": "IPaccess123Mock-SAS0100008267",
            "grantId": "341809681"
        }
    ]
}
2019-05-14T18:39:50.185Z - INFO - engine sent successfully, the response to CBRS : {
    "relinquishmentResponse": [
        {
            "cbsdId": "IPaccess123Mock-SAS0100008267",
            "grantId": "341809681",
            "response": {
                "responseCode": 0
            }
        }
    ]
}
2019-05-14T18:39:51.596Z - INFO - deregistration request from CBRS : {
    "deregistrationRequest": [
        {
            "cbsdId": "IPaccess123Mock-SAS0100008267"
        }
    ]
}
2019-05-14T18:39:51.601Z - INFO - engine sent successfully, the response to CBRS : {
    "deregistrationResponse": [
        {
            "cbsdId": "IPaccess123Mock-SAS0100008267",


```

Client	IP.Access	
Product	E61	
Standard(s)	FCC Part 96 SAS requirements (CBRS Test Plan)	

```

        "response": {
            "responseCode": 0
        }
    }
}
]
}
2019-05-14T18:39:55.378Z - INFO - relinquishment request from CBRS : {
    "relinquishmentRequest": [
        {
            "cbsdId": "IPaccess123Mock-SAS0100008310",
            "grantId": "823694681"
        }
    ]
}
2019-05-14T18:39:55.383Z - INFO - engine sent successfully, the response to CBRS : {
    "relinquishmentResponse": [
        {
            "cbsdId": "IPaccess123Mock-SAS0100008310",
            "grantId": "823694681",
            "response": {
                "responseCode": 0
            }
        }
    ]
}
2019-05-14T18:39:56.817Z - INFO - deregistration request from CBRS : {
    "deregistrationRequest": [
        {
            "cbsdId": "IPaccess123Mock-SAS0100008310"
        }
    ]
}
2019-05-14T18:39:56.822Z - INFO - engine sent successfully, the response to CBRS : {
    "deregistrationResponse": [
        {
            "cbsdId": "IPaccess123Mock-SAS0100008310",
            "response": {
                "responseCode": 0
            }
        }
    ]
}

```

Client	IP.Access	
Product	E61	
Standard(s)	FCC Part 96 SAS requirements (CBRS Test Plan)	

```

    }
  ]
}

```

2019-05-14T18:39:58.220Z - INFO - arrived to nstep starting question answer session with the technician

2019-05-14T18:39:58.222Z - 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 :


2019-05-14T18:40:04.039Z - 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

2019-05-14T18:40:04.040Z - 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 :

2019-05-14T18:40:09.842Z - 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


2019-05-14T18:40:12.419Z - INFO - The final result of the test : WINNF.FT.D.DRG.2 is - passed and :the additional comments for the current test are : no

Note: shutdown confirmed by RF monitoring.

Client	IP.Access	
Product	E61	
Standard(s)	FCC Part 96 SAS requirements (CBRS Test Plan)	


Confirm that the device transmits at a power level less than or equal to the maximum power level approved by the SAS.

7.1.4.1.1	X	X	WINNF.PT.C.H BT	UUT RF Transmit Power Measurement	<p>Power Spectral Density test case.</p> <p>Assume we use 1 carrier bandwidth (say, 5 or 10 MHz), one frequency (say middle channel in band) for test. Measure at max transmit power, and minimum declared transmit power.</p>	P
-----------	---	---	--------------------	--------------------------------------	--	---

Client	IP.Access	
Product	E61	
Standard(s)	FCC Part 96 SAS requirements (CBRS Test Plan)	

lowFrequency (MHz)	highFrequency (MHz)	Grant Center Freq (MHz)	FCC Max power (EIRP) dBm / MHz	Granted power (EIRP) dBm / MHz	Measured power (EIRP) dBm / MHz	Pass/ Fail
3550	3560	3555	20	14	13.5	Pass
3620	3630	3625	20	14	13.4	Pass
3690	3700	3695	20	14	13.7	Pass
3550	3560	3555	20	-11	-10.9	Pass
3620	3630	3625	20	-11	-10.6	Pass
3690	3700	3695	20	-11	-10.5	Pass

Note 1: Pass or fail was determined as by being within 1 dB of the granted value and not exceeding the limit as defined in FCC Part 96. EIRP Values are the raw reading with the applicable factors and take into account the 2 dBi for the antenna gain.

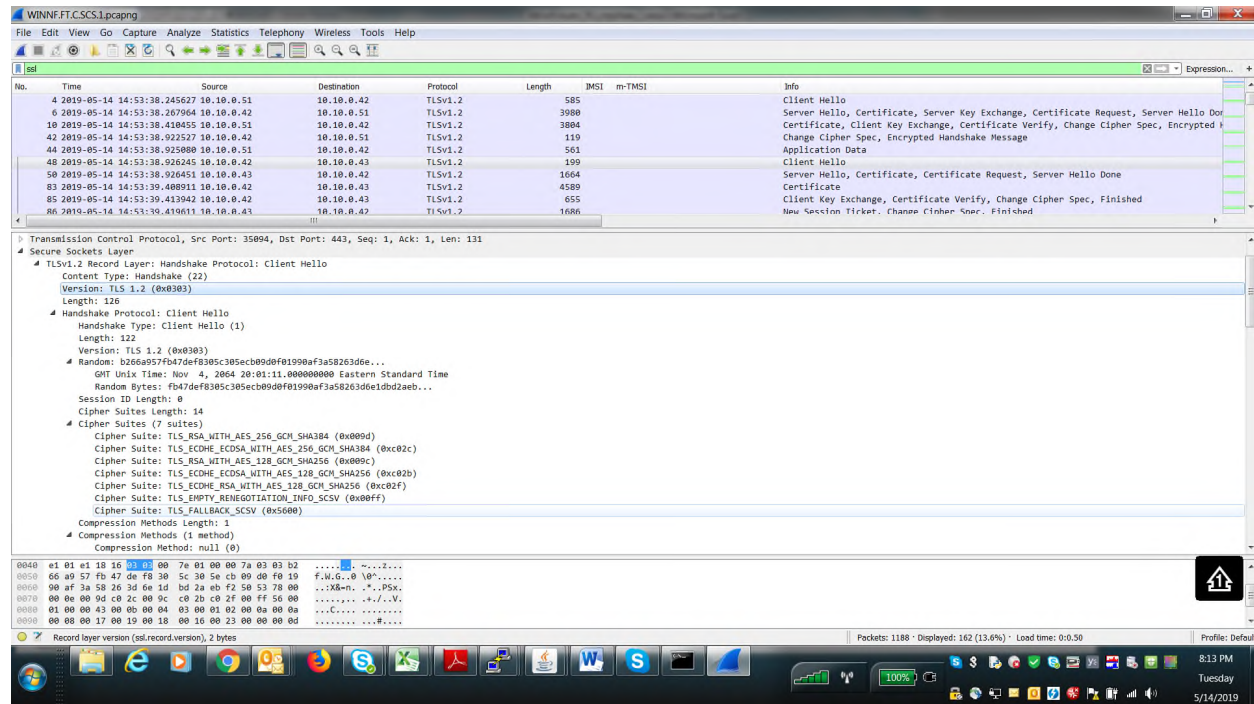
Client	IP.Access	
Product	E61	
Standard(s)	FCC Part 96 SAS requirements (CBRS Test Plan)	

DOT CBRS Radio: WINNF / Security Test Case Analysis

WINNF Security Test Case Analysis


WINNF.TC.SCS.1

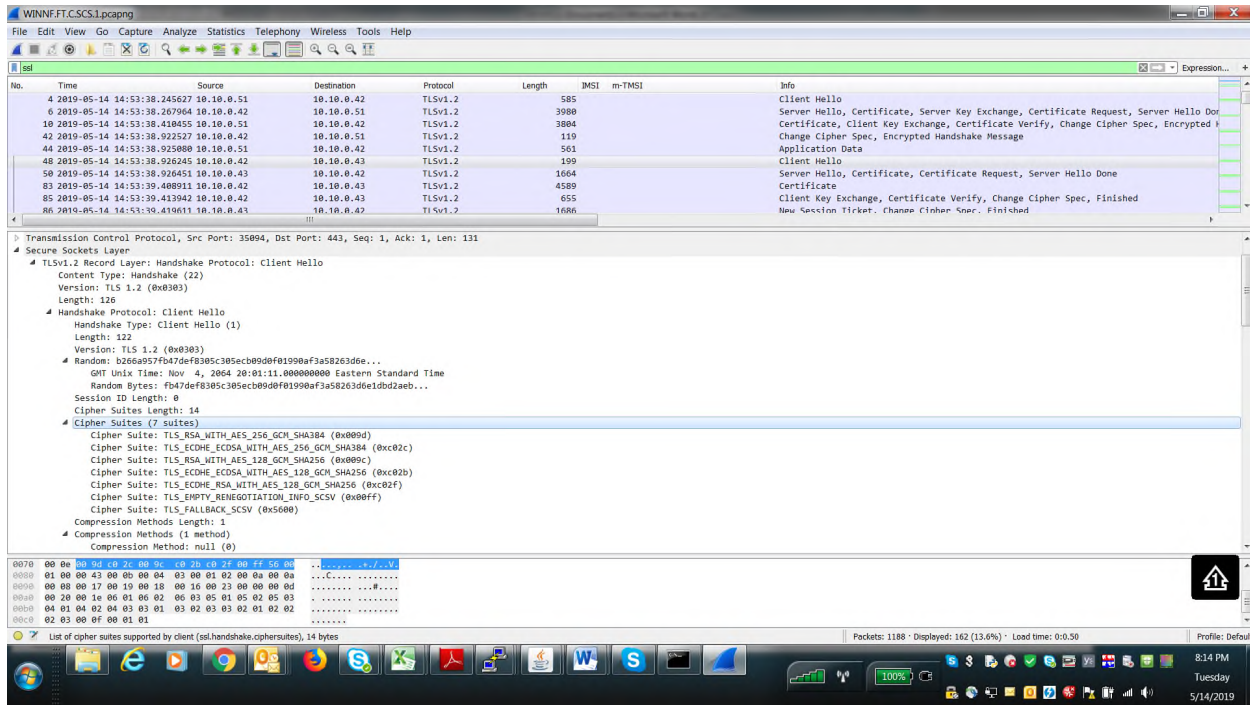
From Client Hello: TLS Version is 1.2



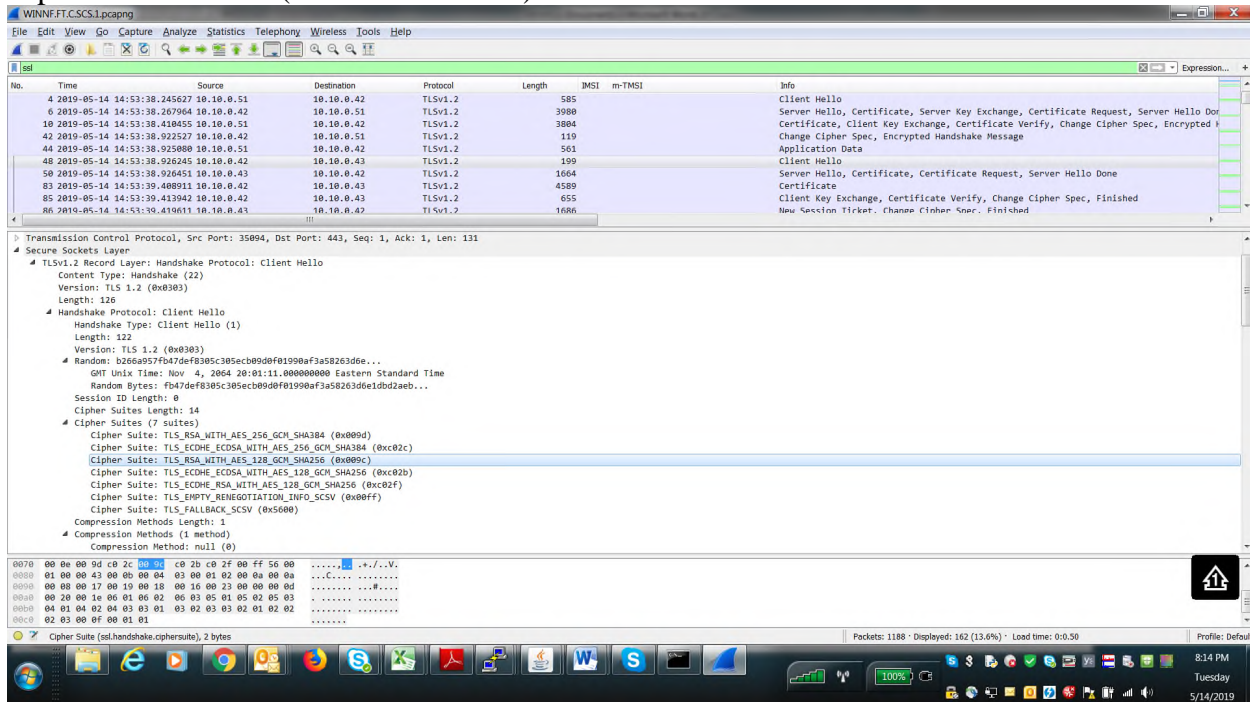
The screenshot displays a Wireshark capture of a network packet, specifically a TLSv1.2 Client Hello message. The packet list at the top shows a sequence of packets, with packet 4 (Time: 4.2019-05-14 14:53:38.245627) selected. The packet details pane on the right shows the structure of the Client Hello message, including the TLS version (1.2), random bytes, session ID, cipher suites, and compression methods. The raw packet data at the bottom is shown in hexadecimal and ASCII format.


Cipher Suite list from Client Hello

Client	IP.Access	
Product	E61	
Standard(s)	FCC Part 96 SAS requirements (CBRS Test Plan)	



Cipher Suite Chosen (from Server Hello)



Client	IP.Access	
Product	E61	
Standard(s)	FCC Part 96 SAS requirements (CBRS Test Plan)	

WINNF.FT.C.SCS.2

WINNF.FT.C.SCS.2


Screenshot from EMS System

Current Alarms For 0100008267 [100008267], 441C007_311.12_19731 and its Children		Total (U / A)	Indeterminate	Critical	Major
Filters		7 / 0	0 / 0	2 / 0	0 / 0
Find Attribute By Name <input type="text"/> Next Prev. 0 result(s)					
Name	Value				
ID #	1557929630155				
Severity	Critical				
Ack	<input type="checkbox"/>				
Type	Communications Alarm				
3GPP Probable Cause	Communications Protocol Error				
Specific Problem	CBSD Generic Failure				
MOC	AP_TR069				
Source	0100008267, 000295-0100008267				
MO Instance	ROOT#0,APS#0,LTE_APS#0,LTE_FAP_INFO#100008267,AP_TR069#0				
Date & Time	Wed May 15 10:13:50 EDT 2019				
Additional Text	HTTPERR:[526]:Bad cert from [10.10.0.43:443], error:[CERT_VERIFY_ERR_CERT_REVOKED][error:00000000:lib(0):func(0):reason(0)]				

Wireshark trace between CBSD & EMS

http								
Packet details		Narrow & Wide		Case sensitive		String		CERT_VERIFY_ERR_CERT_REVOKED
o.	Time	Source	Destination	Protocol	Length	IMSI	m-TMSI	Info
79	2019-05-15 10:11:43.128975	10.10.0.41	10.10.0.51	HTTP/XML	1222			HTTP/1.1 200 OK
89	2019-05-15 10:11:43.150334	10.10.0.51	10.10.0.41	HTTP/XML	758			POST /acs HTTP/1.1
91	2019-05-15 10:11:43.451960	10.10.0.41	10.10.0.51	HTTP	440			HTTP/1.1 204 No Content
136	2019-05-15 10:11:49.263584	10.10.0.51	10.10.0.41	HTTP/XML	891			POST /acs HTTP/1.1
140	2019-05-15 10:11:49.706946	10.10.0.41	10.10.0.51	HTTP/XML	78			HTTP/1.1 200 OK
148	2019-05-15 10:11:49.737115	10.10.0.51	10.10.0.41	HTTP	220			POST /acs HTTP/1.1
152	2019-05-15 10:11:49.752766	10.10.0.41	10.10.0.51	HTTP/XML	78			HTTP/1.1 200 OK
163	2019-05-15 10:11:49.764164	10.10.0.51	10.10.0.41	HTTP/XML	821			POST /acs HTTP/1.1
165	2019-05-15 10:11:49.919695	10.10.0.41	10.10.0.51	HTTP	440			HTTP/1.1 204 No Content
238	2019-05-15 10:12:49.508058	10.10.0.51	10.10.0.41	HTTP/XML	891			POST /acs HTTP/1.1
243	2019-05-15 10:12:49.955443	10.10.0.41	10.10.0.51	HTTP/XML	78			HTTP/1.1 200 OK
251	2019-05-15 10:12:49.984606	10.10.0.51	10.10.0.41	HTTP	220			POST /acs HTTP/1.1
253	2019-05-15 10:12:49.990213	10.10.0.41	10.10.0.51	HTTP/XML	1114			HTTP/1.1 200 OK
263	2019-05-15 10:12:50.000617	10.10.0.51	10.10.0.41	HTTP/XML	822			POST /acs HTTP/1.1
265	2019-05-15 10:12:50.135209	10.10.0.41	10.10.0.51	HTTP	440			HTTP/1.1 204 No Content
!!!								
<ParameterValueStruct> <ParameterValueStruct> <ParameterValueStruct> <ParameterValueStruct> <ParameterValueStruct> <ParameterValueStruct> <ParameterValueStruct> <Name> <Value> xsi:type="xsd:string"> HTTPERR:[526]:Bad cert from [10.10.0.43:443], error:[CERT_VERIFY_ERR_CERT_REVOKED][error:00000000:lib(0):func(0):reason(0)] </Value> </ParameterValueStruct> <ParameterValueStruct> <ParameterValueStruct>								

Screenshot from Domain Proxy Logfile

Client	IP.Access	
Product	E61	
Standard(s)	FCC Part 96 SAS requirements (CBRS Test Plan)	

```

om crl.ipaccess.com as /var/lib/pound/apstore/test_ipaccessltd oemca_201_200.crl.localcache
May 15 14:15:45 localhost pound: Clearing cache for store 0x248fb50, path /var/lib/pound/apcerts
May 15 14:15:45 localhost pound: Clearing cache for store 0x2496cd0, path /var/lib/pound/certs
May 15 14:15:45 localhost /var/lib/pound/dp-dlscr.sh: ARGS: ['sas', '7b692137', 'http://crlserver.testharness.cbrstestlab.com/cr
lserver.crl']
May 15 14:15:45 localhost /var/lib/pound/dp-dlscr.sh: Store:/var/lib/pound/store
May 15 14:15:45 localhost /var/lib/pound/dp-dlscr.sh: Certs:/var/lib/pound/certs
May 15 14:15:45 localhost /var/lib/pound/dp-dlscr.sh: Downloading '/var/lib/pound/store/crlserver.crl' from crlserver.testharnes
s.cbrstestlab.com as /var/lib/pound/store/crlserver.crl.localcache
May 15 14:15:45 localhost pound: Clearing cache for store 0x2496cd0, path /var/lib/pound/certs
May 15 14:15:45 localhost pound: (7f1caab2d700) verify cb at depth[0] status[0] as [23][CERT_VERIFY_ERR_CERT_REVOKED] for SN[/C=
UK/O=IPAccess/OU=IPAccess SAS Provider Certificate/CN=SasServer]
May 15 14:15:45 localhost pound: Bad certificate from 10.10.0.43:443
May 15 14:15:45 localhost pound: /var/lib/pound/dp-send-trap.sh pound "0x249c540 Bad cert from [10.10.0.43:443], error:[CERT_VER
IFY_ERR_CERT_REVOKED][error:00000000:lib(0):func(0):reason(0)]"
May 15 14:15:45 localhost /var/lib/pound/dp-send-trap.sh: NOS_IP shell variable is not exported!

```

Screenshot from CBSD

```

10.10.0.51 - PuTTY
CbrshttpInit : https://10.10.0.42:4433/v1.2/registration (context [(nil)] Thread[(nil)])
CbrshttpThreadContext being setp

CbrshttpThreadContext being setp

CbrshttpThreadContext being setp 2

CbrshttpThread being setp (context[0x2ba158d8] thread[0x2bd8b4c8] )

Eirp Capability is = 24


The json Registration object created: {"registrationRequest":{"userId":"pgMyed","fccId":"IPAccess123","cbsdSerialNumber":"0100008267","call
o":{"vendor":"000295","model":"495X030-00065","hardwareVersion":"495X030-00065"},"airInterface":{"radioTechnology":"E_UTRA"},"measCapability"
stopTimer:444 Timer DESTROYED for message[CBSR_REGISTRATION_RETRY] context[0x2bd698e8]
stopTimer:454 Timer context DESTROYED [0x2bd698e8]
Creating CBSR timer[1] duration[60.000000]...
localCbrsInitTimerAndContext:497 Timer created for message[CBSR_REGISTRATION_RETRY]
Starting CBSR timer[1] duration[60.000000]...
Starting poll...
Command [sh /opt/ipaccess/bin/cbrsPost.sh https://10.10.0.42:4433/v1.2/registration 0100008267 0 &]
Command returned with code [0]
Timeout of fdset?1,1...
Change for [response.out]
Event found response.outSending event to CBSR
LINE:Length(109):[Bad cert from [10.10.0.43:443], error:[CERT_VERIFY_ERR_CERT_REVOKED][error:00000000:lib(0):func(0):reason(0)]]
Raising alarm[2]: HTTPERR:[526]:Bad cert from [10.10.0.43:443], error:[CERT_VERIFY_ERR_CERT_REVOKED][error:00000000:lib(0):func(0):reason(0)]
SUCCESS raiseAlarmCbsdGenericFailure

```

Wireshark trace between DP & SAS

No.	Time	Source	Destination	Protocol	Length	Info
12	2019-05-15 10:11:43.892117	10.10.0.51	10.10.0.42	TLSv1.2	585	Client Hello
14	2019-05-15 10:11:43.916663	10.10.0.51	10.10.0.42	TLSv1.2	3980	Server Hello, Certificate, Server Key Exchange, Certificate Request, Server Hello Done
18	2019-05-15 10:11:44.061768	10.10.0.51	10.10.0.42	TLSv1.2	3804	Certificate, Client Key Exchange, Certificate Verify, Change Cipher Spec, Encrypted Handshake Message
51	2019-05-15 10:11:44.584504	10.10.0.42	10.10.0.51	TLSv1.2	119	Change Cipher Spec, Encrypted Handshake Message
53	2019-05-15 10:11:44.587030	10.10.0.51	10.10.0.42	TLSv1.2	561	Application Data
57	2019-05-15 10:11:44.590765	10.10.0.42	10.10.0.51	TLSv1.2	199	Client Hello
59	2019-05-15 10:11:44.593256	10.10.0.43	10.10.0.42	TLSv1.2	1664	Server Hello, Certificate, Certificate Request, Server Hello Done
72	2019-05-15 10:11:44.762364	10.10.0.42	10.10.0.43	TLSv1.2	4589	Certificate
74	2019-05-15 10:11:44.767617	10.10.0.42	10.10.0.43	TLSv1.2	655	Client Key Exchange, Certificate Verify, Change Cipher Spec, Finished
75	2019-05-15 10:11:44.773830	10.10.0.43	10.10.0.42	TLSv1.2	1686	New Session Ticket, Change Cipher Spec, Finished
77	2019-05-15 10:11:44.878479	10.10.0.42	10.10.0.51	TLSv1.2	358	Application Data
78	2019-05-15 10:11:44.878676	10.10.0.42	10.10.0.51	TLSv1.2	99	Encrypted Alert
79	2019-05-15 10:11:44.878762	10.10.0.42	10.10.0.51	TLSv1.2	99	Alert (Level: Warning, Description: Close Notify)
83	2019-05-15 10:11:44.880174	10.10.0.51	10.10.0.42	TLSv1.2	99	Encrypted Alert
93	2019-05-15 10:12:44.130172	10.10.0.51	10.10.0.42	TLSv1.2	585	Client Hello
95	2019-05-15 10:12:44.153914	10.10.0.42	10.10.0.51	TLSv1.2	3980	Server Hello, Certificate, Server Key Exchange, Certificate Request, Server Hello Done
101	2019-05-15 10:12:44.291441	10.10.0.51	10.10.0.42	TLSv1.2	908	Certificate, Client Key Exchange, Certificate Verify, Change Cipher Spec, Encrypted Handshake Message
134	2019-05-15 10:13:44.835168	10.10.0.42	10.10.0.51	TLSv1.2	110	Channel Finish Sent, Encrypted Handshake Message

4 Frame 79: 99 bytes on wire (792 bits), 99 bytes captured (792 bits) on interface 0
 Linux cooked capture
 Internet Protocol Version 4, Src: 10.10.0.42, Dst: 10.10.0.43
 Transmission Control Protocol, Src Port: 41796, Dst Port: 443, Seq: 5240, Ack: 3215, Len: 31
 Secure Sockets Layer
 TLSv1.2 Record Layer: Alert (Level: Warning, Description: Close Notify)
 Content Type: Alert (21)
 Version: TLS 1.2 (0x0303)
 Length: 26
 Alert Message
 Level: Warning (1)
 Description: Close Notify (0)

Client	IP.Access	
Product	E61	
Standard(s)	FCC Part 96 SAS requirements (CBRS Test Plan)	


```

10.10.0.51 - PuTTY
CbrshttpInit : https://10.10.0.42:4433/v1.2/registration (context [(nil)] Thread[(nil)])
CbrshttpThreadContext being setp
CbrshttpThreadContext being setp
CbrshttpThreadContext being setp 2
CbrshttpThread being setp (context[0x2b9fc738] thread[0x2bc42f48] )
Eirp Capability is = 24

The json Registration object created: {"registrationRequest":{"userId":"pgMyed","fccId":"IPAccess123","cbidSerialNumber":"0100008267","cal
o":{"vendor":"000295","model":"495X030-00065","hardwareVersion":"495X030-00065"},"airInterface":{"radioTechnology":"E_UTRA"},"measCapability

Creating CBRS timer[1] duration[60.000000]...
localCbrsInitTimerAndContext:497 Timer created for message[CBRS_REGISTRATION_RETRY]
Starting CBRS timer[1] duration[60.000000]...
Starting poll...
Command [sh /opt/ipaccess/bin/cbrsPost.sh https://10.10.0.42:4433/v1.2/registration 0100008267 0 &]
Command returned with code [0]
Timeout of fdset?1,1...
Change for [response.out]
Event found response.outSending event to CBRS
LINE:Length(113):[Bad cert from [10.10.0.43:443], error:[CERT_VERIFY_ERR_CERT_HAS_EXPIRED][error:00000000:lib(0):func(0):reason(0)]]
Raising alarm[2]: HTTPERR:[526]:Bad cert from [10.10.0.43:443], error:[CERT_VERIFY_ERR_CERT_HAS_EXPIRED][error:00000000:lib(0):func(0):reason(0)]
SUCCESS raiseAlarmCbrsGenericFailure
^C
root@ipas60:~#

```


Client	IP.Access	
Product	E61	
Standard(s)	FCC Part 96 SAS requirements (CBRS Test Plan)	

100	2019-05-15 10:34:41.219239	10.10.0.42	10.10.0.51	TLSv1.2	119	Change Cipher Spec, Encrypted Handshake Message
108	2019-05-15 10:34:41.222150	10.10.0.51	10.10.0.42	TLSv1.2	561	Application Data
112	2019-05-15 10:34:41.223113	10.10.0.42	10.10.0.43	TLSv1.2	199	Client Hello
114	2019-05-15 10:34:41.224050	10.10.0.43	10.10.0.42	TLSv1.2	1812	Server Hello, Certificate, Certificate Request, Server Hello Done
116	2019-05-15 10:34:41.225220	10.10.0.42	10.10.0.43	TLSv1.2	4589	Certificate
118	2019-05-15 10:34:41.226637	10.10.0.43	10.10.0.42	TLSv1.2	75	Alert (Level: Fatal, Description: Unknown CA)
120	2019-05-15 10:34:41.228536	10.10.0.42	10.10.0.43	TLSv1.2	911	Client Key Exchange, Certificate Verify, Change Cipher Spec, Encrypted Handshake Message
123	2019-05-15 10:34:41.338453	10.10.0.42	10.10.0.51	TLSv1.2	388	Application Data
124	2019-05-15 10:34:41.338453	10.10.0.42	10.10.0.51	TLSv1.2	99	Encrypted Alert
125	2019-05-15 10:34:41.339385	10.10.0.42	10.10.0.42	TLSv1.2	99	Encrypted Alert


Frame 118: 75 bytes on wire (600 bits), 75 bytes captured (600 bits) on interface 0
Linux cooked capture
Internet Protocol Version 4, Src: 10.10.0.43, Dst: 10.10.0.42
Transmission Control Protocol, Src Port: 443, Dst Port: 42180, Seq: 1745, Ack: 4653, Len: 7
Secure Sockets Layer
TLSv1.2 Record Layer: Alert (Level: Fatal, Description: Unknown CA)
Content Type: Alert (21)
Version: TLS 1.2 (0x0303)
Length: 2
Alert Message
Level: Fatal (2)
Description: Unknown CA (48)

Screenshot from CBSD


```

1010.051 - PuTTY
CbrshttpInit : https://10.10.0.42:4433/v1.2/registration (context [(nil)] Thread[(nil)])
CbrshttpThreadContext being setp
CbrshttpThreadContext being setp
CbrshttpThreadContext being setp 2
CbrshttpThread being setp (context[0x2ba01a58] thread[0x2ba06c28] )
Eirp Capability is = 24
The json Registration object created: [{"registrationRequest":{"userId":"pgMyed","fccId":"IPAccess123","cbsdSerialNumber":"0100008267","callSign":"","cbsdCategory":"A","cbsdInf":
o":{"vendor":"000295","model":"495X030-00065","hardwareVersion":"495X030-00065"},"airInterface":{"radioTechnology":"E-UTRA"},"measCapability":{"RECEIVED_POWER_WITHOUT_GRANT"}}}]
Creating CBRS timer[1] duration[60.000000]...
localCbrsInitTimerAndContext:497 Timer created for message[CBRS_REGISTRATION_RETRY]
Starting CBRS timer[1] duration[60.000000]...
Starting poll...
Command [sh /opt/ipaccess/bin/cbrsPost.sh https://10.10.0.42:4433/v1.2/registration 0100008267 0 &]
Command returned with code [0]
Timeout of fdset?1,1...
Change for [response.out]
Event found response.outSending event to CBRS
LINE:Length(139):[Bad cert from [10.10.0.43:443], error:[CBRS_VERIFY_ERR_INVALID_PURPOSE][error:14094418:SSL routines:ssl3_read_bytes:tlsv1 alert unknown ca]]
Raising alarm[2]: HTTPERR:[526]:Bad cert from [10.10.0.43:443], error:[CBRS_VERIFY_ERR_INVALID_PURPOSE][error:14094418:SSL routines:ssl3_read_bytes:tlsv1 alert unknown ca]
SUCCCESS raiseAlarmCbsdGenericFailure
^C
root@ipas60:~#

```

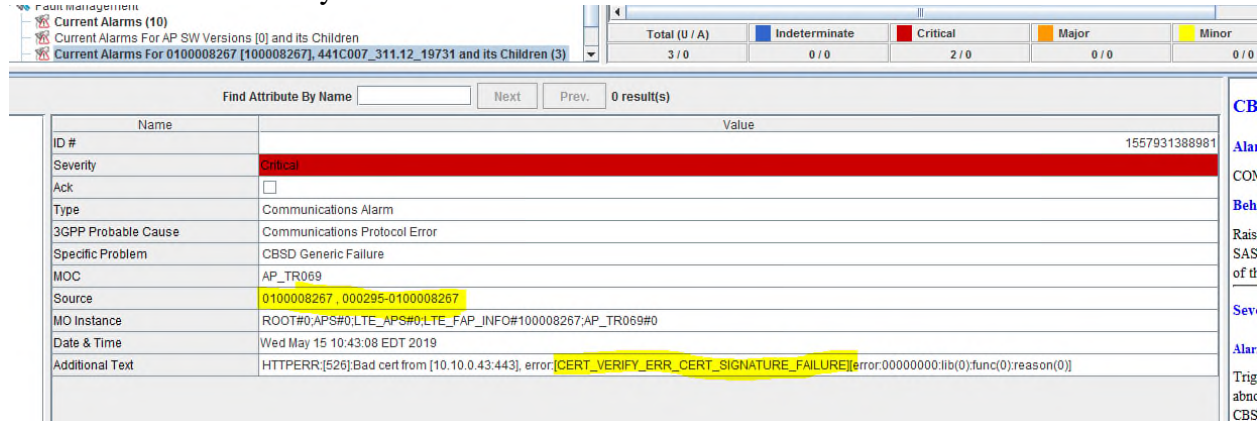
Client	IP.Access	
Product	E61	
Standard(s)	FCC Part 96 SAS requirements (CBRS Test Plan)	

WINNF.FT.C.SCS.5

Client	IP.Access	
Product	E61	
Standard(s)	FCC Part 96 SAS requirements (CBRS Test Plan)	

WINNF.TT.C.SCS.5

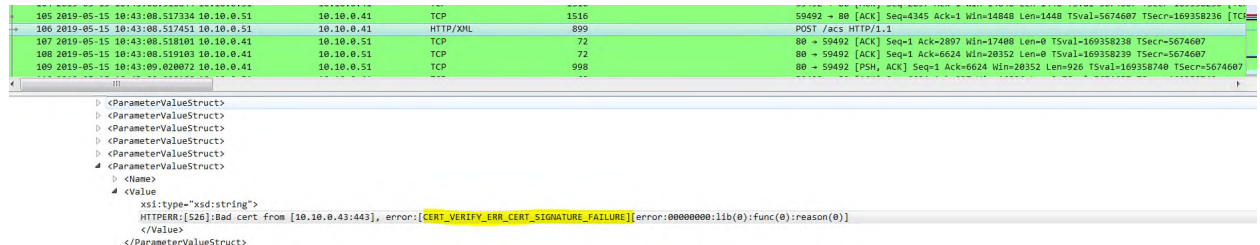
Screenshot from EMS System



Find Attribute By Name Next Prev. 0 result(s)

Name	Value
ID #	1557931388981
Severity	Critical
Ack	<input type="checkbox"/>
Type	Communications Alarm
3GPP Probable Cause	Communications Protocol Error
Specific Problem	CBSD Generic Failure
MOC	AP_TR069
Source	0100008267, 000295-0100008267
MO Instance	ROOT#0,APS#0,LTE_APS#0,LTE_FAP_INFO#100008267,AP_TR069#0
Date & Time	Wed May 15 10:43:08 EDT 2019
Additional Text	HTTPERR:[526]Bad cert from [10.10.0.43:443], error:[CERT_VERIFY_ERR_CERT_SIGNATURE_FAILURE][error:00000000:lib(0):func(0):reason(0)]

Wireshark between CBSD & EMS



```

185 2019-05-15 10:43:08.517334 10.10.0.51 → 10.10.0.41 TCP 1516 59492 → 80 [ACK] Seq=4345 Ack=1 Win=14848 Len=1448 TSval=5674607 TSecr=169358236 [Tc
186 2019-05-15 10:43:08.517451 10.10.0.51 → 10.10.0.41 HTTP/XL 899 POST /acs HTTP/1.1
187 2019-05-15 10:43:08.518101 10.10.0.41 → 10.10.0.51 TCP 72 80 → 59492 [ACK] Seq=1 Ack=2897 Win=17488 Len=0 TSval=169358238 TSecr=5674607
188 2019-05-15 10:43:08.519103 10.10.0.41 → 10.10.0.51 TCP 72 80 → 59492 [ACK] Seq=1 Ack=6624 Win=20352 Len=0 TSval=169358239 TSecr=5674607
189 2019-05-15 10:43:09.020072 10.10.0.41 → 10.10.0.51 TCP 998 80 → 59492 [PSH, ACK] Seq=1 Ack=6624 Win=20352 Len=926 TSval=169358740 TSecr=5674607


    <ParameterValueStruct>
    <ParameterValueStruct>
    <ParameterValueStruct>
    <ParameterValueStruct>
    <ParameterValueStruct>
    <ParameterValueStruct>
    <Name>
    <Value
      xslt-type="xsd:string">
        HTTPERR:[526]Bad cert from [10.10.0.43:443], error:[CERT_VERIFY_ERR_CERT_SIGNATURE_FAILURE][error:00000000:lib(0):func(0):reason(0)]
      </Value>
    </ParameterValueStruct>
  
```

Screenshot from Domain Proxy Logfile

```

May 15 14:43:03 localhost pound: Clearing cache for store 0x2496cd0, path /var/lib/pound/certs
May 15 14:43:04 localhost /var/lib/pound/dp-dlscr.sh: ARGS: ['sas', 'bf9db266', 'http://crlserver.testharness.cbrstestlab.com/crlserverca.crl']
May 15 14:43:04 localhost /var/lib/pound/dp-dlscr.sh: Store:/var/lib/pound/store
May 15 14:43:04 localhost /var/lib/pound/dp-dlscr.sh: Certs:/var/lib/pound/certs
May 15 14:43:04 localhost /var/lib/pound/dp-dlscr.sh: Downloading '/var/lib/pound/store/crlserverca.crl' from crlserver.testharness.cbrstestlab
.com as /var/lib/pound/store/crlserverca.crl.localcache
May 15 14:43:04 localhost pound: Clearing cache for store 0x2496cd0, path /var/lib/pound/certs
May 15 14:43:04 localhost pound: (7f1caaa6a700) verify_cb at depth[0] status[0] as [7][CERT_VERIFY_ERR_CERT_SIGNATURE_FAILURE] for SN[/C=UK/O=I
PAccess/OU=IPAccess SAS Provider Certificate/CN=SasServer]
May 15 14:43:04 localhost pound: Bad certificate from 10.10.0.43:443
May 15 14:43:04 localhost pound: /var/lib/pound/dp-send-trap.sh pound "0x249c540 Bad cert from [10.10.0.43:443], error:[CERT_VERIFY_ERR_CERT SI
GNATURE_FAILURE][error:00000000:lib(0):func(0):reason(0)]"
May 15 14:43:04 localhost /var/lib/pound/dp-send-trap.sh: NOS_IP shell variable is not exported!
^C
[root@localhost log]#
  
```

Wireshark between DP & SAS

Client	IP.Access	
Product	E61	
Standard(s)	FCC Part 96 SAS requirements (CBRS Test Plan)	

No.	Time	Source	Destination	Protocol	Length	Info	App
10	2019-05-15 10:43:03.322649	10.10.0.51	10.10.0.42	TLSv1.2	3804		Certificate, Client Key Exchange, Certificate Verify, Change Cipher Spec, Encrypted
44	2019-05-15 10:43:03.817612	10.10.0.42	10.10.0.51	TLSv1.2	119		Change Cipher Spec, Encrypted Handshake Message
46	2019-05-15 10:43:03.819551	10.10.0.51	10.10.0.42	TLSv1.2	561		Application Data
50	2019-05-15 10:43:03.821067	10.10.0.42	10.10.0.43	TLSv1.2	199		Client Hello
52	2019-05-15 10:43:03.822580	10.10.0.43	10.10.0.42	TLSv1.2	1587		Server Hello, Certificate, Certificate Request, Server Hello Done
76	2019-05-15 10:43:04.158438	10.10.0.42	10.10.0.43	TLSv1.2	4589		Certificate
78	2019-05-15 10:43:04.162821	10.10.0.42	10.10.0.43	TLSv1.2	655		Client Key Exchange, Certificate Verify, Change Cipher Spec, Finished
79	2019-05-15 10:43:04.166816	10.10.0.43	10.10.0.42	TLSv1.2	1686		New Session Ticket, Change Cipher Spec, Finished
81	2019-05-15 10:43:04.276284	10.10.0.42	10.10.0.51	TLSv1.2	368		Application Data
82	2019-05-15 10:43:04.276408	10.10.0.42	10.10.0.51	TLSv1.2	99		Encrypted Alert
83	2019-05-15 10:43:04.276502	10.10.0.42	10.10.0.43	TLSv1.2	99		Alert (Level: Warning, Description: Close Notify)
88	2019-05-15 10:43:04.278048	10.10.0.42	10.10.0.42	TLSv1.2	99		Encrypted Alert

Frame 83: 99 bytes on wire (792 bits), 99 bytes captured (792 bits) on interface 0
Linux cooked capture
Internet Protocol Version 4, Src: 10.10.0.42, Dst: 10.10.0.43
Transmission Control Protocol, Src Port: 42282, Dst Port: 443, Seq: 5240, Ack: 3138, Len: 31
Secure Sockets Layer
TLSv1.2 Record Layer: Alert (Level: Warning, Description: Close Notify)
Content Type: Alert (21)
Version: TLS 1.2 (0x0303)
Length: 26
Alert Message
Level: Warning (1)
Description: Close Notify (0)

Screenshot from CBSD


```

10.10.0.51 - PuTTY
ChrshhttpInit : https://10.10.0.42:4433/v1.2/registration (context [(nil)] Thread[(nil)])
ChrshhttpThreadContext being setp
ChrshhttpThreadContext being setp
ChrshhttpThreadContext being setp 2
ChrshhttpThread being setp (context[0x2ba159b8] thread[0x2ba1658] )
Eirp Capability is = 24
The json Registration object created: {"registrationRequest":{"userId":"pgMyed","fccId":"IPaccess123","cbidSerialNumber":"0100008267","callSign":"","cbidCategory":"A","cbidInf
n":{"vendor":"000295","model":"495X030-00065","hardwareVersion":"495X030-00065","airInterface":{"radioTechnology":"E_UTRA"},"maxCapabillity":{"RECEIVED_POWER_WITHOUT_GRANT"}}}}
Creating CBRS timer[1] duration[60.000000]...
localChrshInitTimerAndContext:497 Timer created for message[CBRS_REGISTRATION_RETRY]
Starting CBRS timer[1] duration[60.000000]...
Starting poll...
Command [sh /opt/ipaccess/bin/cbrsPost.sh https://10.10.0.42:4433/v1.2/registration 0100008267 0 &]
Command returned with code [0]
Timeout of fdset?1,1...
Change for [response.out]
Event found response.outending event to CBRS
LNBR:length(119):[Bad cert from [10.10.0.43:443], error:[CERT_VERIFY_ERR_CERT_SIGNATURE_FAILURE][error:00000000:lib(0):func(0):reason(0)]]
Raising alarm[2]: HTTPERR:[526]:Bad cert from [10.10.0.43:443], error:[CERT_VERIFY_ERR_CERT_SIGNATURE_FAILURE][error:00000000:lib(0):func(0):reason(0)]
SUCCESS raiseAlarmCbsdGenericFailure
^C
root@ipas60:~#


```

Test Equipment


Instrument	Manufacturer	Type No.	Serial No	Calibration Period (months)	Calibration Due
THG	Fluke	77 IV	34770264	12	18-Apr-2020
DVM	VWR	61161-378	170120564	24	17-Feb-2020
Power Supply	Xantrex	XKW 60-50	E00109863	O/P Mon	-N/A
Attenuator	Pasternack	PE7004-10	N/S	O/P Mon	-N/A
Switching Control Unit	Hewlett Packard	11713A	3748A060876	O/P Mon	-N/A
RF Switch Unit	Burnsco	RARFSW 4x1	001	O/P Mon	-N/A
Power Supply	Leader	730-3D	9801135	O/P Mon	-N/A
Receiver	Rohde & Schwarz	ESU40	1001162	24	6-June-2020

Client	IP.Access	
Product	E61	
Standard(s)	FCC Part 96 SAS requirements (CBRS Test Plan)	

Appendix A – EUT & Client Provided Details

Client	IP.Access	
Product	E61	
Standard(s)	FCC Part 96 SAS requirements (CBRS Test Plan)	

Client Details	
Organization / Address	Ip.access Ltd, 2020 Cambourne Business Park, Cambourne, CAMbs CB23 6DW UK
EUT (Equipment Under Test) Details	
EUT Name (for report title)	E61
EUT Model / SN (if known)	495X BAND 48 TDD
EUT revision	New product
Software version	2.5.0_LTE_311.12
Equipment category	
EUT is powered using	DC
Input voltage range(s) (V)	12V or Poe+
Frequency range(s) (Hz)	NA
Rated input current (A)	1.75A
Nominal power consumption (W)	22W
Number of power supplies in EUT	15
Transmits RF energy? (describe)	Yes Band 48 LTE Small Cell
Basic EUT functionality description	LTE TDD Band 48 Small CELL
Frequency of all clocks present in EUT	25M, 800M,
I/O cable description Specify length and type	DC Power with included Adaptor, unshielded Cat 5 or higher Ethernet up to 100M, GPS antenna connection
Available connectors on EUT	Dc Barrel RJ45 GPS antenna input
Peripherals required to exercise EUT Ex. Signal generator	ip.access
Dimensions of product	L 300mm W 225mm H 64mm

Client	IP.Access	
Product	E61	
Standard(s)	FCC Part 96 SAS requirements (CBRS Test Plan)	

Technical Description


EUT Configuration

Please see Appendix B for close up pictures of the unit as configured during testing


- Cables and earthing when applicable were connected as per manufacturer's specification.

Picture of EUT

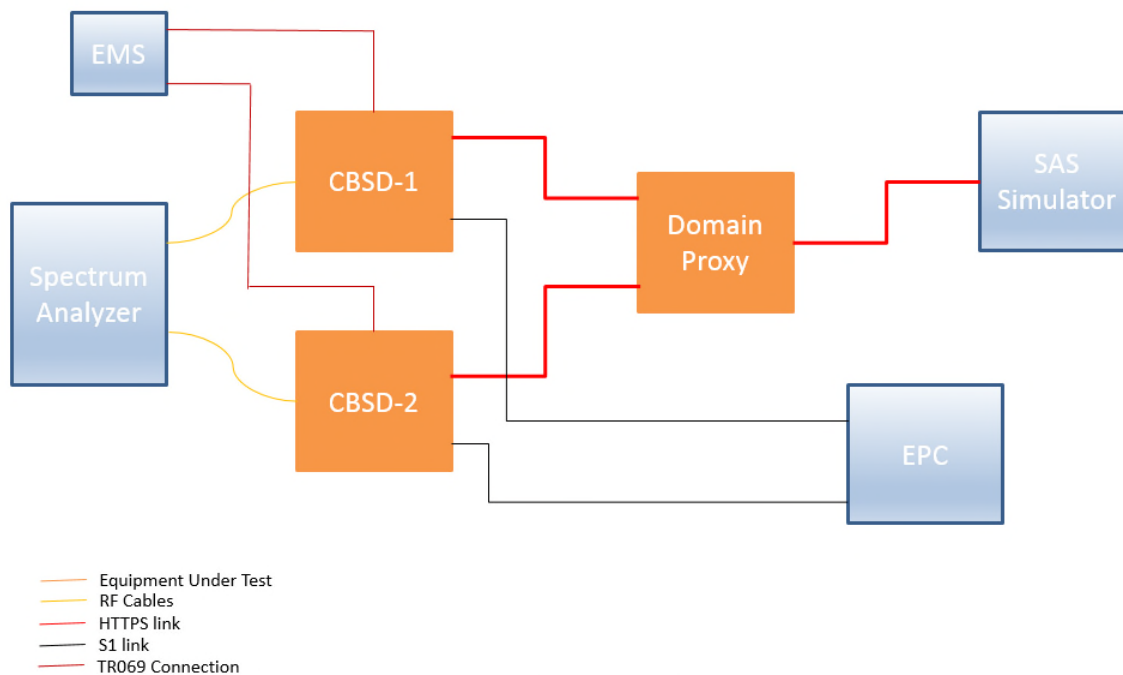


Client	IP.Access	
Product	E61	
Standard(s)	FCC Part 96 SAS requirements (CBRS Test Plan)	

- **Product Name:** E61 (495X) 4G AP B48 (3550-3700MHz) and Domain Proxy
- **Product Description:** 'E61' is an ip.access 4G Access Point (AP) that operates in B48 spectrum in conjunction with an ip.access designed Domain Proxy (DP). The AP is meant to serve as a Category A CBRS base station (CBSD) and provide 4G service on frequency channels allocated by a standard Spectrum Allocation Server (SAS). The maximum output power of CBSD is +24dBm (250mW) per antenna port and it uses 12VDC or PoE as input power source. The DP operates in a virtualized environment on standard 'x86' based machines. It communicates with SAS and AP using secure channels and it capable of serving multiple CBSDs simultaneously.
- **E61 HW rev :** 495X030
- **E61 SW Build :** 2.5.0_LTE_311.12
- **Domain Proxy SW Build :** 1.0.0_DOMAIN_PROXY_4.0 Subversion Reference - 12851
- **E61 Serial numbers :** 000295-0100002975, 000295-0100008329


Client	IP.Access	
Product	E61	
Standard(s)	FCC Part 96 SAS requirements (CBRS Test Plan)	

Certification test setup




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Client	IP.Access	
Product	E61	
Standard(s)	FCC Part 96 SAS requirements (CBRS Test Plan)	

Appendix B – EUT, Peripherals, and Test Setup Photos

Client	IP.Access	
Product	E61	
Standard(s)	FCC Part 96 SAS requirements (CBRS Test Plan)	

Test setup

