WINNF-TS-0122 TEST REPORT

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

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

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

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

Approved by: Sam Chen

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

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History of this test report

Report No.	Version	Description	Issued Date
FG9D1714AB	01	Initial issue of report	Feb. 27, 2020

Summary of Test Result

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

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

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

Note1:
♦ M: Mandatory for certification
♦ O: Optional. Not required for certification.
♦ C: Conditional. Mandatory if CBSD supports relevant functionality.
Note2: The unit under test type is CBSD with Domain Proxy and Conditional Test Case Definitions are C1, C3, C4 and C5.

Declaration of Conformity:
The test results with all measurement uncertainty excluded are presented in accordance with the regulation limits or requirements declared by manufacturers.
Comments and Explanations:
None

Reviewed by: Sam Chen

Report Producer: Viola Huang

1 General Description

1.1 Product Feature of Equipment Under Test

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

Note1: The above information was declared by manufacturer.

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

1.2 Accessories

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

1.3 Support Equipment

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

1.4 Testing Location

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

Test site Designation No. TW0006 with FCC.

Test site registered number IC 4086D with Industry Canada.

2 Measurement Environment

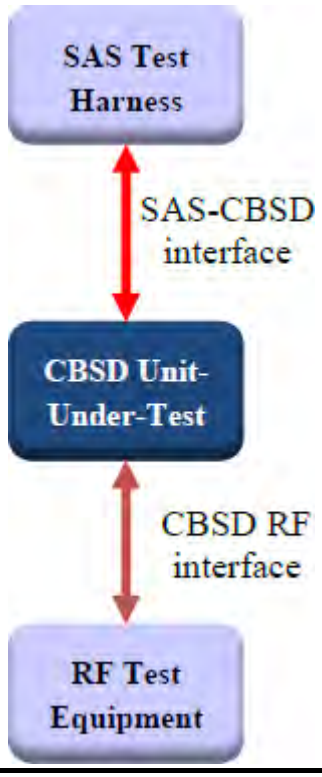
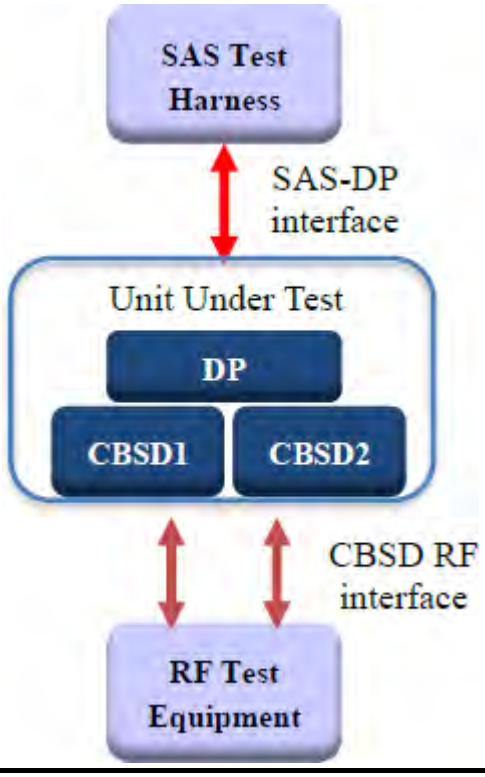
Measurement Environment Information	
Test Harness version	v1.0.0.3
Operating System	Microsoft Windows 7
TLS version	1.2
Python	2.7.16

2.1 Conditional Test Case

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

Note: The above information was declared by manufacturer.

2.2 Test Configuration

Test configuration without Domain Proxy	Test configuration with Domain Proxy
	

3 Test Results

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

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

#	Test Execution Steps	Results	
1	Ensure the following conditions are met for test entry: • UUT has successfully completed SAS Discovery and Authentication with SAS Test Harness • UUT is in the Unregistered state	--	--
2	DP with two CBSD sends correct Registration request information, as specified in [n.5], in the form of one 2-element Array or as individual messages to the SAS Test Harness: • The required userId, fccId and cbsdSerialNumber registration parameters shall be sent for each CBSD and conform to proper format and acceptable ranges. • Any REG-conditional or optional registration parameters that may be included in the message shall be verified that they conform to proper format and are within acceptable ranges. Note: It is outside the scope of this document to test the Registration information that is supplied via another means.	PASS	--
3	• SAS Test Harness sends a CBSD Registration Response in the form of one 2-element Array or individual messages as follows: – *cbsdId* = Ci – *measReportConfig* shall not be included – *responseCode* = 0 for each CBSD	--	--
4	After completion of step 3, SAS Test Harness will not provide any positive response (*responseCode*=0) to further request messages from the UUT.	--	--
5	Monitor the RF output of each UUT from start of test until 60 seconds after Step 3 is complete. This is the end of the test. Verify: • UUT shall not transmit RF	PASS	--

3.2 WINNF.FT.D.REG.6 - Domain Proxy Single-Step registration for CBSD with CPI signed data

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

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

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

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

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

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

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

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

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

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

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

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

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

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

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

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

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

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

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

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

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

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

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

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

#	Test Execution Steps	Results	
1	Ensure the following conditions are met for test entry: • UUT has registered successfully with SAS Test Harness • UUT has a valid single grant as follows: o valid *cbsdId* = C o valid *grantId* = G o grant is for frequency range F, power P o *grantExpireTime* = UTC time greater than duration of the test • UUT is in GRANTED, but not AUTHORIZED state (i.e. has not performed its first Heartbeat Request)	--	--
2	UUT sends a Heartbeat Request message. Verify HeartbeatRequest message is formatted correctly, including: • *cbsdId* = C • *grantId* = G • *operationState* = "GRANTED"	PASS	--
3	SAS Test Harness sends a Heartbeat Response message, including the following parameters: • *cbsdId* = C • *grantId* = G • *transmitExpireTime* = T = current UTC time • *responseCode* = 501 (SUSPENDED_GRANT)	--	--
4	After completion of step 3, SAS Test Harness shall not allow any further grants to the UUT.	--	--
5	Monitor the SAS-CBSD interface. Verify either A OR B occurs: A. UUT sends a Heartbeat Request message. Ensure message is sent within latest specified heartbeatInterval, and is correctly formatted with parameters: • *cbsdId* = C • *grantId* = G • *operationState* = "GRANTED" B. UUT sends a Relinquishment request message. Ensure message is correctly formatted with parameters: • *cbdsId* = C • *grantId* = G Monitor the RF output of the UUT. Verify: • UUT does not transmit at any time	PASS	--

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

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

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

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

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

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

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

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

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

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

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

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

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

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

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

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

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

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

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

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

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

5	If Heartbeat Request message (step 4) contains *measReport* object, then: • Verify *measReport* is properly formatted as object *rcvdPowerMeasReport* • record which CBSD have successfully sent a *measReport* object If all CBSDi, i={1,2} have successfully sent a measReport object, then • end test, with PASS result else, if the number of Heartbeat Requests sent per CBSD is 5 or more, then stop test with result of FAIL	PASS	--
6	If a separate Heartbeat Request message was sent for each CBSD by the DP, the SAS Test Harness shall respond to each Heartbeat Request message with a separate Heartbeat Response message. If a single Heartbeat Request message was sent by the DP containing a 2-object array (one per CBSD), the SAS Test Harness shall respond with a single Heartbeat Response message containing a 2-object array. Parameters for each CBSD within the Heartbeat Response message containing all required parameters properly formatted, and specifically: • *cbsdId* = Ci • *grantId* = *Gi* • *responseCode* = 0 Go to Step 4, above.	--	--

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

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

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

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

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

#	Test Execution Steps	Results	
1	Ensure the following conditions are met for test entry: • DP has successfully completed SAS Discovery and Authentication with SAS Test Harness • DP has successfully registered 2 CBSD with SAS Test Harness, each with *cbsdId*=Ci, i={1,2} • DP has received a valid grant with *grantId* = Gi, i={1,2} for each CBSD • Both CBSD are in Grant State AUTHORIZED and actively transmitting within the bounds of their grants. Invoke trigger on UUT to Relinquish Grant from the SAS Test Harness	--	--
2	DP with two CBSDs sends Relinquishment Request with two objects to the SAS Test Harness. This may occur in a separate message per CBSD, or together in a single message with array of 2. Verify DP sends a Relinquishment Request message for each CBSD. This may occur in a separate message per CBSD, or together in a single message with array of 2. Verify Relinquishment Request message contains all required parameters properly formatted for each CBSD, specifically, for CBSDi: • *cbsdId* = Ci • *grantId* = Gi	--	--
3	If a separate Relinquishment Request message was sent for each CBSD by the DP, the SAS Test Harness shall respond to each request message with a separate response message. If a single Relinquishment Request message was sent by the DP containing a 2-object array (one per CBSD), the SAS Test Harness shall respond with a single Response message containing a 2-object array. Parameters for each CBSD within the Relinquishment Response Message shall be as follows: • *cbsdId*=Ci • No *grantId* • *responseCode* = Ri	--	--
4	After completion of step 3, SAS Test Harness will not provide any positive response (*responseCode*=103) to further request messages from the UUT.	--	--
5	Monitor the RF output of each UUT from start of test until 60 seconds after Step 3 is complete. This is the end of the test. Verify: A. UUT stopped RF transmission at any time between triggering the relinquishment and UUT sending the relinquishment request	PASS	--

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

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

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

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

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

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

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

#	Test Execution Steps	Results	
1	• UUT shall start CBSD-SAS communication with the security procedure • The UUT shall establish a TLS handshake with the SAS Test Harness using configured certificate. • Configure the SAS Test Harness to accept the security procedure and establish the connection	PASS	--

2	• Make sure that Mutual authentication happens between UUT and the SAS Test Harness.
	• Make sure that UUT uses TLS v1.2
	• Make sure that cipher suites from one of the following is selected,
	  • TLS_RSA_WITH_AES_128_GCM_SHA256
	  • TLS_RSA_WITH_AES_256_GCM_SHA384
	  • TLS_ECDHE_ECDSA_WITH_AES_128_GCM_SHA256
	  • TLS_ECDHE_ECDSA_WITH_AES_256_GCM_SHA384
	  • TLS_ECDHE_RSA_WITH_AES_128_GCM_SHA256
		PASS	--

3	A successful registration is accomplished using one of the test cases described in section 6.1.4.1, depending on CBSD capability. • UUT sends a registration request to the SAS Test Harness and the SAS Test Harness sends a Registration Response with *responseCode* = 0 and *cbsdId*.	PASS	--
4	Monitor the RF output of the UUT from start of test until 60 seconds after Step 3 is complete. This is the end of the test. Verify: • UUT shall not transmit RF	PASS	--

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

#	Test Execution Steps	Results	
1	• UUT shall start CBSD-SAS communication with the security procedures	PASS	--
2	• Make sure that UUT uses TLS v1.2 for security establishment. • Make sure UUT selects the correct cipher suite. • UUT shall use CRL or OCSP to verify the validity of the server certificate. • Make sure that Mutual authentication does not happen between UUT and the SAS Test Harness.	PASS	--
3	UUT may retry for the security procedure which shall fail	PASS	--
4	SAS Test-Harness shall not receive any Registration request or any application data.	--	--
5	Monitor the RF output of the UUT from start of test until 60 seconds after Step 3 is complete. This is the end of the test. Verify: • UUT shall not transmit RF	PASS	--

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

#	Test Execution Steps	Results	
1	• UUT shall start CBSD-SAS communication with the security procedures	PASS	--
2	• Make sure that UUT uses TLS v1.2 for security establishment. • Make sure UUT selects the correct cipher suite. • UUT shall use CRL or OCSP to verify the validity of the server certificate. • Make sure that Mutual authentication does not happen between UUT and the SAS Test Harness.	PASS	--
3	UUT may retry for the security procedure which shall fail.	PASS	--
4	SAS Test-Harness shall not receive any Registration request or any application data.	--	--
5	Monitor the RF output of the UUT from start of test until 60 seconds after Step 3 is complete. This is the end of the test. Verify: • UUT shall not transmit RF	PASS	--

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

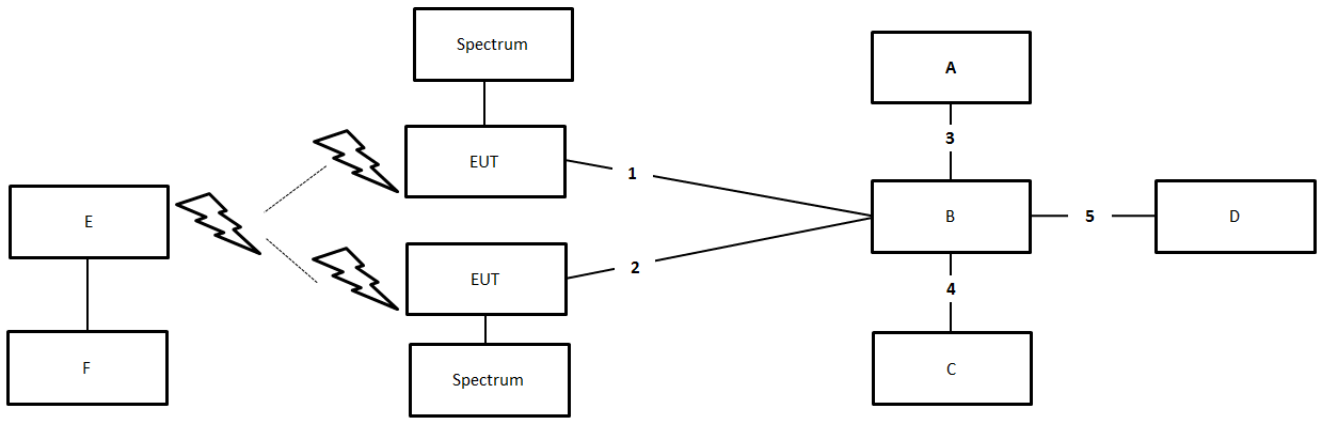
#	Test Execution Steps	Results	
1	• UUT shall start CBSD-SAS communication with the security procedures	PASS	--
2	• Make sure that UUT uses TLS v1.2 for security establishment. • Make sure UUT selects the correct cipher suite. • UUT shall use CRL or OCSP to verify the validity of the server certificate • Make sure that Mutual authentication does not happen between UUT and the SAS Test Harness.	PASS	--
3	UUT may retry for the security procedure which shall fail.	PASS	--
4	SAS Test-Harness shall not receive any Registration request or any application data.	--	--
5	Monitor the RF output of the UUT from start of test until 60 seconds after Step 3 is complete. This is the end of the test. Verify: • UUT shall not transmit RF	PASS	--

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

#	Test Execution Steps	Results	
1	• UUT shall start CBSD-SAS communication with the security procedures	PASS	--
2	• Make sure that UUT uses TLS v1.2 for security establishment. • Make sure UUT selects the correct cipher suite. • UUT shall use CRL or OCSP to verify the validity of the server certificate. • Make sure that Mutual authentication does not happen between UUT and the SAS Test Harness.	PASS	--
3	UUT may retry for the security procedure which shall fail.	PASS	--
4	SAS Test-Harness shall not receive any Registration request or any application data.	--	--
5	Monitor the RF output of the UUT from start of test until 60 seconds after Step 3 is complete. This is the end of the test. Verify: • UUT shall not transmit RF	PASS	--

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

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



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

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

#	Test Execution Steps	Results	
1	Ensure the following conditions are met for test entry: • UUT has successfully completed SAS Discovery and Authentication with the SAS Test Harness • UUT has registered with the SAS, with CBSD ID = C • UUT has a single valid grant G with parameters {lowFrequency = F_L, highFrequency = F_H, maxEirp = P_i}, with grant in AUTHORIZED state, and grantExpireTime set to a value far past the duration of this test case *Note: in order for the UUT to request a grant with the parameters {lowFrequency, highFrequency, maxEirp), the SAS Test Harness may need to provide appropriate guidance in the availableChannel object of the spectrumInquiry response message, and the operationParam object of the grant response message. Alternately, the UUT vendor may provide the ability to set those parameters on the UUT so that the UUT will request a grant with those parameters.*	--	--
2	UUT and SAS Test Harness perform a series of Heartbeat Request/Response cycles, which continues until the other test steps are complete. Messaging for each cycle is as follows: • UUT sends Heartbeat Request, including: o *cbsdId* = C o *grantId* = G • SAS Test Harness responds with Heartbeat Response, including: o *cbsdId* = C o *grantId* = G o *transmitExpireTime* = current UTC time + 200 seconds o *responseCode* = 0	--	--

3	Tester performs power measurement on RF interface(s) of UUT, and verifies it complies with the maxEirp setting, P_i. The RF measurement method is out of scope of this document, but may include additional configuration of the UUT, as required, to fulfil the requirements of the power measurement method. *Note: it may be required for the vendor to provide a method or configuration to bring the UUT to a mode which is required by the measurement methodology. Any such mode is vendor-specific and depends upon UUT behavior and the measurement methodology.*	PASS	--

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

4 Test Equipment and Calibration Data

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

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

5 Measurement Uncertainty

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

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

2020-02-10T01:57:49.690Z - INFO - WINNF TEST HARNESS RELEASE: 1.0.0.3 - 2018-November-13
2020-02-10T01:57:49.690Z - INFO - the selected test from the user : WINNF.FT.D.REG.2 is starting now
2020-02-10T01:58:26.907Z - INFO - registration request from CBRS : {


```
"registrationRequest": [
    {
        "airInterface": {
            "radioTechnology": "E_UTRA",
            "supportedSpec": "FFS"
        },
        "callSign": "LEAX",
        "cbsdCategory": "B",
        "cbsdInfo": {
            "model": "LBS7320",
            "softwareVersion": "LeaxBTS_V2.0.4.1",
            "vendor": "Radisys"
        },
        "cbsdSerialNumber": "22020300003A1952J0003",
        "cpiSignatureData": {
            "digitalSignature":
"ETbL80n0eBRMfFR-zQidciWmZDmyUd3KThjiYR7itL6xS0J8Zlj2Xj6R80faC-5XfJYg30ZsmHw5tDPFS
E8DOiyazvv17hr1Op8ZQLqZLdu_5tQ_AFuD4OdfJMlw4CGWxJY8zSeO75mdyNij87Vb_LJhPOYwVUs
dJVTSwZs7uqpH9twe-cNYpANIqhZ9-MgS0re_Dm5YkfYEKicrJ2eTB4oMCHII4hzAhim5KgXetjEC9GIY
kE6IIhNad_V1V_uNry3FH7ngYQ4Km0OQmK11MnSWjEEO1skjFushcpqAejjNE-FZkLZCd7UwNSyEqy
PGQu_yH38Xf5EWA1QfHVkiOg",
            "encodedCpiSignedData":
"eyJjYnNkU2VyaWFsTnVtYmVyIjoiMjIwMjAzMDAwMDNBMTk1MkowMDAzIiwiZmNjSWQiOiIyQVZGTk
xCUzczMjAiLCJpbnN0YWxsYXRpb25QYXJhbSI6eyJhbnRlbm5hQXppbXV0aCI6NywiYW50ZW5uYUJl
YW13aWR0aCI6NjUsImFudGVubmFEb3dudGlsdCI6MCwiYW50ZW5uYUdhaW4iOjE2LjUsImhlaWdod
CI6MywiaGVpZ2h0VHlwZSI6IkFHTCIsImluZG9vckRlcGxveW1lbnQiOmZhbHNlLCJsYXRpdHVkZSI6M
zcuNDExMzMxLCJsb25naXR1ZGUiOi0xMjIuMDE4OTQyfSwicHJvZmVzc2lvbmFsSW5zdGFsbGVyRG
F0YSI6eyJjcGlJZCI6IjAwMSIsImNwaU5hbWUiOiJ5dWkiLCJpbnN0YWxsQ2VydGlmaWNhdGlvblRpbW
UiOiIyMDIwLTAyLTEwVDAxOjU4OjMyWiJ9fQ",
            "protectedHeader": "eyJhbGciOiJSUzI1NiIsInR5cCI6IkpXVCJ9"
        },
        "fccId": "2AVFNLBS7320",
        "groupingParam": [
            {
                "groupId": "GW",
                "groupType": "INTERFERENCE_COORDINATION"
            }
        ],
        "measCapability": [
            "RECEIVED_POWER_WITH_GRANT",
            "RECEIVED_POWER_WITHOUT_GRANT"
        ],
        "userId": "GW"
    },
    {
        "airInterface": {
            "radioTechnology": "E_UTRA",
```

```
                "supportedSpec": "FFS"
            },
            "callSign": "LEAX",
            "cbsdCategory": "B",
            "cbsdInfo": {
                "model": "LBS7320",
                "softwareVersion": "LeaxBTS_V2.0.4.1",
                "vendor": "Radisys"
            },
            "cbsdSerialNumber": "22020300003A1952J0004",
            "cpiSignatureData": {
                "digitalSignature":
"ofpsdvGMS-LX9GkPufvgC4FHCU68Ea49bxe12qCg4V0rzQ6dwsC-3JM0LfL8kFqlCKMMnivxby2C2aFl
HPjmKipiJMHBlYn003G7H-_q3IQy8ywkaXPo6tArYbwOfCqpDfQYV5uIBzSxz53Wan32LvT6dQp_zIF-w
8CmQ6gF2cI_hHAh0gybfCsdmX31EHBgC1kO9w5I64a0zPjUzKehfWXCy3fn_QJaU3cKIwAtfwJx6LvQ
2jDnoiXOeKA-ON7wzdwMr99juBHIS5EufOJrBZad2ARF8YFgSXd_l8Rkcr6tsbt8kSLwnS_ocYuDAQbWt
mmdwaE1Z_sJG7swN4o33w",
                "encodedCpiSignedData":
"eyJjYnNkU2VyaWFsTnVtYmVyIjoiMjIwMjAzMDAwMDNBMTk1MkowMDA0IiwiZmNjSWQiOiIyQVZGTk
xCUzczMjAiLCJpbnN0YWxsYXRpb25QYXJhbSI6eyJhbnRlbm5hQXppbXV0aCI6NywiYW50ZW5uYUJl
YW13aWR0aCI6NjUsImFudGVubmFEb3dudGlsdCI6MCwiYW50ZW5uYUdhaW4iOjE2LjUsImhlaWdod
CI6MywiaGVpZ2h0VHlwZSI6IkFHTCIsImluZG9vckRlcGxveW1lbnQiOmZhbHNlLCJsYXRpdHVkZSI6M
zcuNDExMzMxLCJsb25naXR1ZGUiOi0xMjIuMDE4OTQyfSwicHJvZmVzc2lvbmFsSW5zdGFsbGVyRG
F0YSI6eyJjcGlJZCI6IjAwMSIsImNwaU5hbWUiOiJ5dWkiLCJpbnN0YWxsQ2VydGlmaWNhdGlvblRpbW
UiOiIyMDIwLTAyLTEwVDAxOjU4OjMyWiJ9fQ",
                "protectedHeader": "eyJhbGciOiJSUzI1NiIsInR5cCI6IkpXVCJ9"
            },
            "fccId": "2AVFNLBS7320",
            "groupingParam": [
                {
                    "groupId": "GW",
                    "groupType": "INTERFERENCE_COORDINATION"
                }
            ],
            "measCapability": [
                "RECEIVED_POWER_WITH_GRANT",
                "RECEIVED_POWER_WITHOUT_GRANT"
            ],
            "userId": "GW"
        }
    ]
}
2020-02-10T01:58:26.953Z - INFO - Registration message contains cpiSignatureData
2020-02-10T01:58:26.953Z - INFO - protectedHeader = {u'alg': u'RS256', u'typ': u'JWT'}
2020-02-10T01:58:26.953Z - INFO - encodedCpiSignedData contents = {
    "installationParam": {
        "antennaAzimuth": 7,
        "heightType": "AGL",
        "longitude": -122.018942,
        "height": 3,
        "indoorDeployment": false,
        "latitude": 37.411331,
```

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

]
}
2020-02-10T01:58:28.693Z - INFO - arrived to nstep starting question answer session with the technician
2020-02-10T01:58:28.694Z - INFO - the question is : Were there RF transmissions from the CBSD1 during the test? please choose one of the answers :
2020-02-10T02:00:14.217Z - INFO - for the question : Were there RF transmissions from the CBSD1 during the test? , the user choose n
2020-02-10T02:00:14.219Z - INFO - the question is : Were there RF transmissions from the CBSD2 during the test? please choose one of the answers :
2020-02-10T02:00:14.947Z - INFO - for the question : Were there RF transmissions from the CBSD2 during the test? , the user choose n
2020-02-10T02:00:15.428Z - INFO - The final result of the test : WINNF.FT.D.REG.2 is - passed

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

2020-02-10T02:05:08.026Z - INFO - WINNF TEST HARNESS RELEASE: 1.0.0.3 - 2018-November-13
2020-02-10T02:05:08.026Z - INFO - the selected test from the user : WINNF.FT.D.REG.6 is starting now
2020-02-10T02:05:26.884Z - INFO - registration request from CBRS : {


```
"registrationRequest": [
    {
        "airInterface": {
            "radioTechnology": "E_UTRA",
            "supportedSpec": "FFS"
        },
        "callSign": "LEAX",
        "cbsdCategory": "B",
        "cbsdInfo": {
            "model": "LBS7320",
            "softwareVersion": "LeaxBTS_V2.0.4.1",
            "vendor": "Radisys"
        },
        "cbsdSerialNumber": "22020300003A1952J0003",
        "cpiSignatureData": {
            "digitalSignature":
"eds8jLpqtx0uuAenbclJwL8-dYA2-ezmoiyjYLaw8MVnuv0jHq6pKQ6EHQdlGX-Csa6_L0qlD21uV_PLQ
CWe5gEO_O2qfTCW-6S_xWBGVA5HBdq90IZoq06gm4rTUAeO3RomfHsQKTQ-rKQzBO3Jn2UDdYfX
Y_3ZVCIkD0cRBT7393osPYW7YiolUkuCgwcBmbRDrD4VjBQ3JgPzFpR0-FYK0YEncHCcrUCQXZVN
PrBtsdHhKVDpWLwSq8GiHdPHx_SQf2v6FnBre5RytihALRDSemMCKyaCPLe9MoLTpYc6hOVjouk_Y
b_VvcHiwF_5hkPkFisqp2qWD_nQQ1DPrg",
            "encodedCpiSignedData":
"eyJjYnNkU2VyaWFsTnVtYmVyIjoiMjIwMjAzMDAwMDNBMTk1MkowMDAzIiwiZmNjSWQiOiIyQVZGTk
xCUzczMjAiLCJpbnN0YWxsYXRpb25QYXJhbSI6eyJhbnRlbm5hQXppbXV0aCI6NywiYW50ZW5uYUJl
YW13aWR0aCI6NjUsImFudGVubmFEb3dudGlsdCI6MCwiYW50ZW5uYUdhaW4iOjE2LjUsImhlaWdod
CI6MywiaGVpZ2h0VHlwZSI6IkFHTCIsImluZG9vckRlcGxveW1lbnQiOmZhbHNlLCJsYXRpdHVkZSI6M
zcuNDExMzMxLCJsb25naXR1ZGUiOi0xMjIuMDE4OTQyfSwicHJvZmVzc2lvbmFsSW5zdGFsbGVyRG
F0YSI6eyJjcGlJZCI6IjAwMSIsImNwaU5hbWUiOiJ5dWkiLCJpbnN0YWxsQ2VydGlmaWNhdGlvblRpbW
UiOiIyMDIwLTAyLTEwVDAyOjA1OjMyWiJ9fQ",
            "protectedHeader": "eyJhbGciOiJSUzI1NiIsInR5cCI6IkpXVCJ9"
        },
        "fccId": "2AVFNLBS7320",
        "groupingParam": [
            {
                "groupId": "GW",
                "groupType": "INTERFERENCE_COORDINATION"
            }
        ],
        "measCapability": [
            "RECEIVED_POWER_WITH_GRANT",
            "RECEIVED_POWER_WITHOUT_GRANT"
        ],
        "userId": "GW"
    },
    {
        "airInterface": {
            "radioTechnology": "E_UTRA",
```

```
                "supportedSpec": "FFS"
            },
            "callSign": "LEAX",
            "cbsdCategory": "B",
            "cbsdInfo": {
                "model": "LBS7320",
                "softwareVersion": "LeaxBTS_V2.0.4.1",
                "vendor": "Radisys"
            },
            "cbsdSerialNumber": "22020300003A1952J0004",
            "cpiSignatureData": {
                "digitalSignature":
"pBeFL4KN5MrKQ2lHm9GQhiYBgBKm1K37XdqW3kz02Fe1iyrA2np3AeUbQ-35QU6t7SL-1xh5va8Va
VOeTe14GJjXW5FNllOs5OliEtHHwJzhJ44P7BR5ENE2hJwUn8Btq13ipGZ1S8DKlPR_yF6JhaKGk1SZ
mcbAh7dWVSUyZhQvyRed8XvbGz0JS_AK4uHrWAdFAE2JyuJqFfyCX7YQ8S8_VQdvstYayvHm84KQ
q5qIWylkxzyoiG97_KmtRyqR7Oxfrf_8l-5r0v8WLNuVpFjflBlj6EnEVkuAM83G80SfhjY8XIEoWnyK-79h0
AMGByRKRS75qhC_RVx6p130mA",
                "encodedCpiSignedData":
"eyJjYnNkU2VyaWFsTnVtYmVyIjoiMjIwMjAzMDAwMDNBMTk1MkowMDA0IiwiZmNjSWQiOiIyQVZGTk
xCUzczMjAiLCJpbnN0YWxsYXRpb25QYXJhbSI6eyJhbnRlbm5hQXppbXV0aCI6NywiYW50ZW5uYUJl
YW13aWR0aCI6NjUsImFudGVubmFEb3dudGlsdCI6MCwiYW50ZW5uYUdhaW4iOjE2LjUsImhlaWdod
CI6MywiaGVpZ2h0VHlwZSI6IkFHTCIsImluZG9vckRlcGxveW1lbnQiOmZhbHNlLCJsYXRpdHVkZSI6M
zcuNDExMzMxLCJsb25naXR1ZGUiOi0xMjIuMDE4OTQyfSwicHJvZmVzc2lvbmFsSW5zdGFsbGVyRG
F0YSI6eyJjcGlJZCI6IjAwMSIsImNwaU5hbWUiOiJ5dWkiLCJpbnN0YWxsQ2VydGlmaWNhdGlvblRpbW
UiOiIyMDIwLTAyLTEwVDAyOjA1OjMyWiJ9fQ",
                "protectedHeader": "eyJhbGciOiJSUzI1NiIsInR5cCI6IkpXVCJ9"
            },
            "fccId": "2AVFNLBS7320",
            "groupingParam": [
                {
                    "groupId": "GW",
                    "groupType": "INTERFERENCE_COORDINATION"
                }
            ],
            "measCapability": [
                "RECEIVED_POWER_WITH_GRANT",
                "RECEIVED_POWER_WITHOUT_GRANT"
            ],
            "userId": "GW"
        }
    ]
}
2020-02-10T02:05:26.918Z - INFO - Registration message contains cpiSignatureData
2020-02-10T02:05:26.918Z - INFO - protectedHeader = {u'alg': u'RS256', u'typ': u'JWT'}
2020-02-10T02:05:26.918Z - INFO - encodedCpiSignedData contents = {
    "installationParam": {
        "antennaAzimuth": 7,
        "heightType": "AGL",
        "longitude": -122.018942,
        "height": 3,
        "indoorDeployment": false,
        "latitude": 37.411331,
```

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

]
}
2020-02-10T02:05:28.036Z - INFO - arrived to nstep starting question answer session with the technician
2020-02-10T02:05:28.038Z - INFO - the question is : Were there RF transmissions from the CBSD1 during the test? please choose one of the answers :
2020-02-10T02:06:55.680Z - INFO - for the question : Were there RF transmissions from the CBSD1 during the test? , the user choose n
2020-02-10T02:06:55.680Z - INFO - the question is : Were there RF transmissions from the CBSD2 during the test? please choose one of the answers :
2020-02-10T02:06:56.352Z - INFO - for the question : Were there RF transmissions from the CBSD2 during the test? , the user choose n
2020-02-10T02:06:57.062Z - INFO - The final result of the test : WINNF.FT.D.REG.6 is - passed

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

2020-02-10T02:08:13.637Z - INFO - WINNF TEST HARNESS RELEASE: 1.0.0.3 - 2018-November-13
2020-02-10T02:08:13.637Z - INFO - the selected test from the user : WINNF.FT.D.REG.9 is starting now
2020-02-10T02:08:26.871Z - INFO - registration request from CBRS : {


```
"registrationRequest": [
    {
        "airInterface": {
            "radioTechnology": "E_UTRA",
            "supportedSpec": "FFS"
        },
        "callSign": "LEAX",
        "cbsdCategory": "B",
        "cbsdInfo": {
            "model": "LBS7320",
            "softwareVersion": "LeaxBTS_V2.0.4.1",
            "vendor": "Radisys"
        },
        "cbsdSerialNumber": "22020300003A1952J0003",
        "cpiSignatureData": {
            "digitalSignature":
"UQsDC4WyHDZAZvzx7OgtvlfLkTAwkEOiyrojLJw1cIrS7jT5T2cNfMbJ0LfuV34YZysjRTllLnM4wvgObF
xpG1awjdd1M0AEEcsrnE3Ad6V0eHenMc4IDQ0xAmsFPPw5P5DCV9e_uoLnGGXYLRCFmOv_rVZet_
yChnP8v5ZNMfhkwMXVrugVB4kCI72ZMRMycevJ1k7tR-jY1Sm96ZdJJZ-AjMC30PkOXbnVa6FjyzUGiS
EL3TCItvSeB5AeTOe6gObLobY-dx4ChTz35u94xDW5CrKqW_UPnK97VL7u0M5tugulQfESBXNprXSY
NKsioeHA-CK4O6pznIOvVhxvZg",
            "encodedCpiSignedData":
"eyJjYnNkU2VyaWFsTnVtYmVyIjoiMjIwMjAzMDAwMDNBMTk1MkowMDAzIiwiZmNjSWQiOiIyQVZGTk
xCUzczMjAiLCJpbnN0YWxsYXRpb25QYXJhbSI6eyJhbnRlbm5hQXppbXV0aCI6NywiYW50ZW5uYUJl
YW13aWR0aCI6NjUsImFudGVubmFEb3dudGlsdCI6MCwiYW50ZW5uYUdhaW4iOjE2LjUsImhlaWdod
CI6MywiaGVpZ2h0VHlwZSI6IkFHTCIsImluZG9vckRlcGxveW1lbnQiOmZhbHNlLCJsYXRpdHVkZSI6M
zcuNDExMzMxLCJsb25naXR1ZGUiOi0xMjIuMDE4OTQyfSwicHJvZmVzc2lvbmFsSW5zdGFsbGVyRG
F0YSI6eyJjcGlJZCI6IjAwMSIsImNwaU5hbWUiOiJ5dWkiLCJpbnN0YWxsQ2VydGlmaWNhdGlvblRpbW
UiOiIyMDIwLTAyLTEwVDAyOjA4OjMyWiJ9fQ",
            "protectedHeader": "eyJhbGciOiJSUzI1NiIsInR5cCI6IkpXVCJ9"
        },
        "fccId": "2AVFNLBS7320",
        "groupingParam": [
            {
                "groupId": "GW",
                "groupType": "INTERFERENCE_COORDINATION"
            }
        ],
        "measCapability": [
            "RECEIVED_POWER_WITH_GRANT",
            "RECEIVED_POWER_WITHOUT_GRANT"
        ],
        "userId": "GW"
    },
    {
        "airInterface": {
            "radioTechnology": "E_UTRA",
```

```
                "supportedSpec": "FFS"
            },
            "callSign": "LEAX",
            "cbsdCategory": "B",
            "cbsdInfo": {
                "model": "LBS7320",
                "softwareVersion": "LeaxBTS_V2.0.4.1",
                "vendor": "Radisys"
            },
            "cbsdSerialNumber": "22020300003A1952J0004",
            "cpiSignatureData": {
                "digitalSignature":
"CUZiz_sMAa81-llYHdsdiod5QWc9jBbUsFoQd532hyUdB2MUn4-MmQasAHA7gJKc5xTkKSUSuqd-j_j
8hftXuDhAPrftmuwxzznex7-EMg58phEq5opykZl1lh7PAyFe7aCTRSvZnnM0_9q_OiHiltZGtTIAqBTlF_l1
3g_W93KM8FFmNmnIYABGMME9pEqQFOJFUPCqzEhegdb4ijTCMabLG_kinkyjr-yq7fIIF6CibQUEhL-
bofWdwHXFVF1ADKMw8fh3jt77Eeitg6sY7CNQUoA3rIY3ccVCwpJF96PnY6OKUPuvoz0jd0AKBqG1c
OqjWcjrQrH0tkvK2FQzIQ",
                "encodedCpiSignedData":
"eyJjYnNkU2VyaWFsTnVtYmVyIjoiMjIwMjAzMDAwMDNBMTk1MkowMDA0IiwiZmNjSWQiOiIyQVZGTk
xCUzczMjAiLCJpbnN0YWxsYXRpb25QYXJhbSI6eyJhbnRlbm5hQXppbXV0aCI6NywiYW50ZW5uYUJl
YW13aWR0aCI6NjUsImFudGVubmFEb3dudGlsdCI6MCwiYW50ZW5uYUdhaW4iOjE2LjUsImhlaWdod
CI6MywiaGVpZ2h0VHlwZSI6IkFHTCIsImluZG9vckRlcGxveW1lbnQiOmZhbHNlLCJsYXRpdHVkZSI6M
zcuNDExMzMxLCJsb25naXR1ZGUiOi0xMjIuMDE4OTQyfSwicHJvZmVzc2lvbmFsSW5zdGFsbGVyRG
F0YSI6eyJjcGlJZCI6IjAwMSIsImNwaU5hbWUiOiJ5dWkiLCJpbnN0YWxsQ2VydGlmaWNhdGlvblRpbW
UiOiIyMDIwLTAyLTEwVDAyOjA4OjMyWiJ9fQ",
                "protectedHeader": "eyJhbGciOiJSUzI1NiIsInR5cCI6IkpXVCJ9"
            },
            "fccId": "2AVFNLBS7320",
            "groupingParam": [
                {
                    "groupId": "GW",
                    "groupType": "INTERFERENCE_COORDINATION"
                }
            ],
            "measCapability": [
                "RECEIVED_POWER_WITH_GRANT",
                "RECEIVED_POWER_WITHOUT_GRANT"
            ],
            "userId": "GW"
        }
    ]
}
2020-02-10T02:08:26.917Z - INFO - Registration message contains cpiSignatureData
2020-02-10T02:08:26.917Z - INFO - protectedHeader = {u'alg': u'RS256', u'typ': u'JWT'}
2020-02-10T02:08:26.917Z - INFO - encodedCpiSignedData contents = {
    "installationParam": {
        "antennaAzimuth": 7,
        "heightType": "AGL",
        "longitude": -122.018942,
        "height": 3,
        "indoorDeployment": false,
        "latitude": 37.411331,
```

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

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

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

2020-02-10T02:09:53.433Z - INFO - WINNF TEST HARNESS RELEASE: 1.0.0.3 - 2018-November-13
2020-02-10T02:09:53.433Z - INFO - the selected test from the user : WINNF.FT.D.REG.11 is starting now
2020-02-10T02:10:26.874Z - INFO - registration request from CBRS : {


```
"registrationRequest": [
    {
        "airInterface": {
            "radioTechnology": "E_UTRA",
            "supportedSpec": "FFS"
        },
        "callSign": "LEAX",
        "cbsdCategory": "B",
        "cbsdInfo": {
            "model": "LBS7320",
            "softwareVersion": "LeaxBTS_V2.0.4.1",
            "vendor": "Radisys"
        },
        "cbsdSerialNumber": "22020300003A1952J0003",
        "cpiSignatureData": {
            "digitalSignature":
"RvOvsDtlAns6g-Lt9nxU06xEsqW_uNb5gkWeCwXVLndBrIsygNPvxy_Lh1DzrtO22QBcCu-DAyVHmA
GcMBObsnUn4ZdeMvwr_FvfJquDUkCELibvk93rqpfTN_xbR9QL7PDLAxqv4gYt-4e-h-CnK1zASv-ATIw
s-tIyJa6hRSKJZAqncjqcMqV4hyNZJi1y7ivbpjp0p-JfbxvhXYsrEL0fSziRPyxrc-r8HaBP-QE7qZF18CgdE
Ud8vhwf216mL56cKHwDJw0AKYXazxMncfJjNx9oVkvAl8-MP2wL2caQjfBUvQgeWdEOq4Yb3mgnMT
HyJPQWCpwp9j0Uv7q7bQ",
            "encodedCpiSignedData":
"eyJjYnNkU2VyaWFsTnVtYmVyIjoiMjIwMjAzMDAwMDNBMTk1MkowMDAzIiwiZmNjSWQiOiIyQVZGTk
xCUzczMjAiLCJpbnN0YWxsYXRpb25QYXJhbSI6eyJhbnRlbm5hQXppbXV0aCI6NywiYW50ZW5uYUJl
YW13aWR0aCI6NjUsImFudGVubmFEb3dudGlsdCI6MCwiYW50ZW5uYUdhaW4iOjE2LjUsImhlaWdod
CI6MywiaGVpZ2h0VHlwZSI6IkFHTCIsImluZG9vckRlcGxveW1lbnQiOmZhbHNlLCJsYXRpdHVkZSI6M
zcuNDExMzMxLCJsb25naXR1ZGUiOi0xMjIuMDE4OTQyfSwicHJvZmVzc2lvbmFsSW5zdGFsbGVyRG
F0YSI6eyJjcGlJZCI6IjAwMSIsImNwaU5hbWUiOiJ5dWkiLCJpbnN0YWxsQ2VydGlmaWNhdGlvblRpbW
UiOiIyMDIwLTAyLTEwVDAyOjEwOjMyWiJ9fQ",
            "protectedHeader": "eyJhbGciOiJSUzI1NiIsInR5cCI6IkpXVCJ9"
        },
        "fccId": "2AVFNLBS7320",
        "groupingParam": [
            {
                "groupId": "GW",
                "groupType": "INTERFERENCE_COORDINATION"
            }
        ],
        "measCapability": [
            "RECEIVED_POWER_WITH_GRANT",
            "RECEIVED_POWER_WITHOUT_GRANT"
        ],
        "userId": "GW"
    },
    {
        "airInterface": {
            "radioTechnology": "E_UTRA",
```

```
                "supportedSpec": "FFS"
            },
            "callSign": "LEAX",
            "cbsdCategory": "B",
            "cbsdInfo": {
                "model": "LBS7320",
                "softwareVersion": "LeaxBTS_V2.0.4.1",
                "vendor": "Radisys"
            },
            "cbsdSerialNumber": "22020300003A1952J0004",
            "cpiSignatureData": {
                "digitalSignature":
"z2AOPT7J5iiYyfriAsdI2KiwPmadM57nMcYfaBdLTUJ2D-DnfhGIxWw3ttzDctXrfqGjmiVyttHqKR0ObuM
oq78W1k5aOG-ibOiyjBm86e5ZQlUVrPEcgP8wqk0BDmytlXIuN1kp1lkCK-LNUtCzekobmSkvlHrB57N36
dKEectgA4NNYTvDAOaTBqwN8AsRVwk4Qtyn6xIgHCQX_puTRTBeeVAYZMhsul7T7tQwE_HdOQvav
NE3Yrvi7MqveC_cDKMpvOvBLCC1lb84aAqz33nMV6Tt5eeZiRlhZhzKJVX689nn2mqs8A2WJEdyRSW
4Wp94y7RncA16fBwX2OzI2w",
                "encodedCpiSignedData":
"eyJjYnNkU2VyaWFsTnVtYmVyIjoiMjIwMjAzMDAwMDNBMTk1MkowMDA0IiwiZmNjSWQiOiIyQVZGTk
xCUzczMjAiLCJpbnN0YWxsYXRpb25QYXJhbSI6eyJhbnRlbm5hQXppbXV0aCI6NywiYW50ZW5uYUJl
YW13aWR0aCI6NjUsImFudGVubmFEb3dudGlsdCI6MCwiYW50ZW5uYUdhaW4iOjE2LjUsImhlaWdod
CI6MywiaGVpZ2h0VHlwZSI6IkFHTCIsImluZG9vckRlcGxveW1lbnQiOmZhbHNlLCJsYXRpdHVkZSI6M
zcuNDExMzMxLCJsb25naXR1ZGUiOi0xMjIuMDE4OTQyfSwicHJvZmVzc2lvbmFsSW5zdGFsbGVyRG
F0YSI6eyJjcGlJZCI6IjAwMSIsImNwaU5hbWUiOiJ5dWkiLCJpbnN0YWxsQ2VydGlmaWNhdGlvblRpbW
UiOiIyMDIwLTAyLTEwVDAyOjEwOjMyWiJ9fQ",
                "protectedHeader": "eyJhbGciOiJSUzI1NiIsInR5cCI6IkpXVCJ9"
            },
            "fccId": "2AVFNLBS7320",
            "groupingParam": [
                {
                    "groupId": "GW",
                    "groupType": "INTERFERENCE_COORDINATION"
                }
            ],
            "measCapability": [
                "RECEIVED_POWER_WITH_GRANT",
                "RECEIVED_POWER_WITHOUT_GRANT"
            ],
            "userId": "GW"
        }
    ]
}
2020-02-10T02:10:26.918Z - INFO - Registration message contains cpiSignatureData
2020-02-10T02:10:26.918Z - INFO - protectedHeader = {u'alg': u'RS256', u'typ': u'JWT'}
2020-02-10T02:10:26.918Z - INFO - encodedCpiSignedData contents = {
    "installationParam": {
        "antennaAzimuth": 7,
        "heightType": "AGL",
        "longitude": -122.018942,
        "height": 3,
        "indoorDeployment": false,
        "latitude": 37.411331,
```

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

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

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

2020-02-10T02:12:09.288Z - INFO - WINNF TEST HARNESS RELEASE: 1.0.0.3 - 2018-November-13
2020-02-10T02:12:09.289Z - INFO - the selected test from the user : WINNF.FT.D.REG.13 is starting now
2020-02-10T02:12:26.871Z - INFO - registration request from CBRS : {


```
"registrationRequest": [
    {
        "airInterface": {
            "radioTechnology": "E_UTRA",
            "supportedSpec": "FFS"
        },
        "callSign": "LEAX",
        "cbsdCategory": "B",
        "cbsdInfo": {
            "model": "LBS7320",
            "softwareVersion": "LeaxBTS_V2.0.4.1",
            "vendor": "Radisys"
        },
        "cbsdSerialNumber": "22020300003A1952J0003",
        "cpiSignatureData": {
            "digitalSignature":
"fWOt9QifSyi6iGd9pmEeLOnPxAaln6gBY3KAdg57PGlhvn7-Z0UF1XnFi0q8J9yNxE8YqiQDIYuQmzDR
HFfj_plwYg2VxSRznQRPDdpiILblz6kWUSQldpHMO4CndtqyOH383hYnUxtw0hM8bDWjqSYBgQlhOCij
uDPMb21vYPZrs-L6FcBj25v3b2EfT2MeKM0OLLtMQZI8sVAH1RAtfHuVVk9-eecA91e9S1gIoz6w4u-Fy
KPY3ROWUQxg9DTTt4DoR-zejBrenVB0esryoI4op3BvWHxH01C5YDtAJ6aTRMlFlsgGR1P4BfugkUrg
sUmzlO7DIKreFL30K3U4wA",
            "encodedCpiSignedData":
"eyJjYnNkU2VyaWFsTnVtYmVyIjoiMjIwMjAzMDAwMDNBMTk1MkowMDAzIiwiZmNjSWQiOiIyQVZGTk
xCUzczMjAiLCJpbnN0YWxsYXRpb25QYXJhbSI6eyJhbnRlbm5hQXppbXV0aCI6NywiYW50ZW5uYUJl
YW13aWR0aCI6NjUsImFudGVubmFEb3dudGlsdCI6MCwiYW50ZW5uYUdhaW4iOjE2LjUsImhlaWdod
CI6MywiaGVpZ2h0VHlwZSI6IkFHTCIsImluZG9vckRlcGxveW1lbnQiOmZhbHNlLCJsYXRpdHVkZSI6M
zcuNDExMzMxLCJsb25naXR1ZGUiOi0xMjIuMDE4OTQyfSwicHJvZmVzc2lvbmFsSW5zdGFsbGVyRG
F0YSI6eyJjcGlJZCI6IjAwMSIsImNwaU5hbWUiOiJ5dWkiLCJpbnN0YWxsQ2VydGlmaWNhdGlvblRpbW
UiOiIyMDIwLTAyLTEwVDAyOjEyOjMyWiJ9fQ",
            "protectedHeader": "eyJhbGciOiJSUzI1NiIsInR5cCI6IkpXVCJ9"
        },
        "fccId": "2AVFNLBS7320",
        "groupingParam": [
            {
                "groupId": "GW",
                "groupType": "INTERFERENCE_COORDINATION"
            }
        ],
        "measCapability": [
            "RECEIVED_POWER_WITH_GRANT",
            "RECEIVED_POWER_WITHOUT_GRANT"
        ],
        "userId": "GW"
    },
    {
        "airInterface": {
            "radioTechnology": "E_UTRA",
```

```
                "supportedSpec": "FFS"
            },
            "callSign": "LEAX",
            "cbsdCategory": "B",
            "cbsdInfo": {
                "model": "LBS7320",
                "softwareVersion": "LeaxBTS_V2.0.4.1",
                "vendor": "Radisys"
            },
            "cbsdSerialNumber": "22020300003A1952J0004",
            "cpiSignatureData": {
                "digitalSignature":
"GiNztI25qMj9M2g1Y8LDUllWbapcgbiQrj_E7vpERIVJORtBBeDbgnZD__oALg5popDNzMwvV4lhaWJO
OSrpTPhdRkHTjCS6lrq6vZnuU-fp5--ZHpqCZp8nBnFRevTh42Wq1TCGDX43rhK3FhxVriZekY_Pspca2
d1DdaheXFhKXiyRn-ALE_e2RJ2G7SJK8SnA00qoruI9HmXE_qEjaVcSi7KxmDuNRnOjHcXRsBKYSQo
9b-z_9Ua2gI4JqnwUjxRwX0z1NqkDGjMyARMeF1fJ7Q-E97CUyp2aW0_n0-_0gT57Z0S4SMQevUQl-Z
6ee8QZ494G71xw5DMMIz1j0Q",
                "encodedCpiSignedData":
"eyJjYnNkU2VyaWFsTnVtYmVyIjoiMjIwMjAzMDAwMDNBMTk1MkowMDA0IiwiZmNjSWQiOiIyQVZGTk
xCUzczMjAiLCJpbnN0YWxsYXRpb25QYXJhbSI6eyJhbnRlbm5hQXppbXV0aCI6NywiYW50ZW5uYUJl
YW13aWR0aCI6NjUsImFudGVubmFEb3dudGlsdCI6MCwiYW50ZW5uYUdhaW4iOjE2LjUsImhlaWdod
CI6MywiaGVpZ2h0VHlwZSI6IkFHTCIsImluZG9vckRlcGxveW1lbnQiOmZhbHNlLCJsYXRpdHVkZSI6M
zcuNDExMzMxLCJsb25naXR1ZGUiOi0xMjIuMDE4OTQyfSwicHJvZmVzc2lvbmFsSW5zdGFsbGVyRG
F0YSI6eyJjcGlJZCI6IjAwMSIsImNwaU5hbWUiOiJ5dWkiLCJpbnN0YWxsQ2VydGlmaWNhdGlvblRpbW
UiOiIyMDIwLTAyLTEwVDAyOjEyOjMyWiJ9fQ",
                "protectedHeader": "eyJhbGciOiJSUzI1NiIsInR5cCI6IkpXVCJ9"
            },
            "fccId": "2AVFNLBS7320",
            "groupingParam": [
                {
                    "groupId": "GW",
                    "groupType": "INTERFERENCE_COORDINATION"
                }
            ],
            "measCapability": [
                "RECEIVED_POWER_WITH_GRANT",
                "RECEIVED_POWER_WITHOUT_GRANT"
            ],
            "userId": "GW"
        }
    ]
}
2020-02-10T02:12:26.915Z - INFO - Registration message contains cpiSignatureData
2020-02-10T02:12:26.915Z - INFO - protectedHeader = {u'alg': u'RS256', u'typ': u'JWT'}
2020-02-10T02:12:26.917Z - INFO - encodedCpiSignedData contents = {
    "installationParam": {
        "antennaAzimuth": 7,
        "heightType": "AGL",
        "longitude": -122.018942,
        "height": 3,
        "indoorDeployment": false,
        "latitude": 37.411331,
```

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

}
2020-02-10T02:12:28.289Z - INFO - arrived to nstep starting question answer session with the technician
2020-02-10T02:12:28.290Z - INFO - the question is : Were there RF transmissions from the CBSD1 during the test? please choose one of the answers :
2020-02-10T02:15:39.588Z - INFO - for the question : Were there RF transmissions from the CBSD1 during the test? , the user choose n
2020-02-10T02:15:39.588Z - INFO - the question is : Were there RF transmissions from the CBSD2 during the test? please choose one of the answers :
2020-02-10T02:15:40.489Z - INFO - for the question : Were there RF transmissions from the CBSD2 during the test? , the user choose n
2020-02-10T02:15:41.927Z - INFO - The final result of the test : WINNF.FT.D.REG.13 is - passed

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

2020-02-10T02:17:01.701Z - INFO - WINNF TEST HARNESS RELEASE: 1.0.0.3 - 2018-November-13
2020-02-10T02:17:01.701Z - INFO - the selected test from the user : WINNF.FT.D.REG.15 is starting now
2020-02-10T02:17:26.854Z - INFO - registration request from CBRS : {


```
"registrationRequest": [
    {
        "airInterface": {
            "radioTechnology": "E_UTRA",
            "supportedSpec": "FFS"
        },
        "callSign": "LEAX",
        "cbsdCategory": "B",
        "cbsdInfo": {
            "model": "LBS7320",
            "softwareVersion": "LeaxBTS_V2.0.4.1",
            "vendor": "Radisys"
        },
        "cbsdSerialNumber": "22020300003A1952J0003",
        "cpiSignatureData": {
            "digitalSignature":
"vKueCnkCmZZPwWEpkCs95MoJ9-Y3vVKfKwkMZAWkl57IUofB1E9nO1exRl-Y5N3PIebVMVr8ZwHvK
4xZ8BvY15LITfKLuoZbSuf-i_5K9FHg_GUA83vVboJ7ob9kGu-D-F3TijXWVkq3DmyydJX-CH5dm-3ksK
W1ThVBxR4kWhd9i_imSCKwAIXvE7_3bfBNNvRK0vPGSHp93CGQo_B8YwjBK_uIDNMLsS0k116Doy
vhoJ0NGmJsc2OJjuwKszM6_mwpNDxv_5_ao28-MFSSrcJZmMrt117Ov7n_oCqeHFrd3qs2klEGlc5pQ
hAbRiux-cmlZi8wz5Ia3-B_rPqVPg",
            "encodedCpiSignedData":
"eyJjYnNkU2VyaWFsTnVtYmVyIjoiMjIwMjAzMDAwMDNBMTk1MkowMDAzIiwiZmNjSWQiOiIyQVZGTk
xCUzczMjAiLCJpbnN0YWxsYXRpb25QYXJhbSI6eyJhbnRlbm5hQXppbXV0aCI6NywiYW50ZW5uYUJl
YW13aWR0aCI6NjUsImFudGVubmFEb3dudGlsdCI6MCwiYW50ZW5uYUdhaW4iOjE2LjUsImhlaWdod
CI6MywiaGVpZ2h0VHlwZSI6IkFHTCIsImluZG9vckRlcGxveW1lbnQiOmZhbHNlLCJsYXRpdHVkZSI6M
zcuNDExMzMxLCJsb25naXR1ZGUiOi0xMjIuMDE4OTQyfSwicHJvZmVzc2lvbmFsSW5zdGFsbGVyRG
F0YSI6eyJjcGlJZCI6IjAwMSIsImNwaU5hbWUiOiJ5dWkiLCJpbnN0YWxsQ2VydGlmaWNhdGlvblRpbW
UiOiIyMDIwLTAyLTEwVDAyOjE3OjMyWiJ9fQ",
            "protectedHeader": "eyJhbGciOiJSUzI1NiIsInR5cCI6IkpXVCJ9"
        },
        "fccId": "2AVFNLBS7320",
        "groupingParam": [
            {
                "groupId": "GW",
                "groupType": "INTERFERENCE_COORDINATION"
            }
        ],
        "measCapability": [
            "RECEIVED_POWER_WITH_GRANT",
            "RECEIVED_POWER_WITHOUT_GRANT"
        ],
        "userId": "GW"
    },
    {
        "airInterface": {
            "radioTechnology": "E_UTRA",
```

```
                "supportedSpec": "FFS"
            },
            "callSign": "LEAX",
            "cbsdCategory": "B",
            "cbsdInfo": {
                "model": "LBS7320",
                "softwareVersion": "LeaxBTS_V2.0.4.1",
                "vendor": "Radisys"
            },
            "cbsdSerialNumber": "22020300003A1952J0004",
            "cpiSignatureData": {
                "digitalSignature":
"O9vu4e49DEH4kOb1mJKKgThtz6TDVcEpkAqxiVlpNmbjAgJcJR-UjpPchHKy38sfuT_UJVMhIcnTNLH
v2tWPz8ROm_lxwXMMhhkBsN7Zngi4GBYCLUyCqMwWWJ7Z57YByAKvDs-aEekc7qPnaKodpEHbZy
nywoRbNyNOWmL-Hm2cTv5CkfTngZeSGpHjmJuUK_-Y9flQmtcb0_o5ZjMQYHEhV0t5QbQCbXCCeL
OkiIGyj9tfVm5LUIC52jENOsEzPzSirAqAEEzYegllE1pCfsdYlVtp1YxwU_HSDzTF9SB_IoRmtCFifCH3O
smF4XUrrZUXeNmPOzr_Zt2niXeLCA",
                "encodedCpiSignedData":
"eyJjYnNkU2VyaWFsTnVtYmVyIjoiMjIwMjAzMDAwMDNBMTk1MkowMDA0IiwiZmNjSWQiOiIyQVZGTk
xCUzczMjAiLCJpbnN0YWxsYXRpb25QYXJhbSI6eyJhbnRlbm5hQXppbXV0aCI6NywiYW50ZW5uYUJl
YW13aWR0aCI6NjUsImFudGVubmFEb3dudGlsdCI6MCwiYW50ZW5uYUdhaW4iOjE2LjUsImhlaWdod
CI6MywiaGVpZ2h0VHlwZSI6IkFHTCIsImluZG9vckRlcGxveW1lbnQiOmZhbHNlLCJsYXRpdHVkZSI6M
zcuNDExMzMxLCJsb25naXR1ZGUiOi0xMjIuMDE4OTQyfSwicHJvZmVzc2lvbmFsSW5zdGFsbGVyRG
F0YSI6eyJjcGlJZCI6IjAwMSIsImNwaU5hbWUiOiJ5dWkiLCJpbnN0YWxsQ2VydGlmaWNhdGlvblRpbW
UiOiIyMDIwLTAyLTEwVDAyOjE3OjMyWiJ9fQ",
                "protectedHeader": "eyJhbGciOiJSUzI1NiIsInR5cCI6IkpXVCJ9"
            },
            "fccId": "2AVFNLBS7320",
            "groupingParam": [
                {
                    "groupId": "GW",
                    "groupType": "INTERFERENCE_COORDINATION"
                }
            ],
            "measCapability": [
                "RECEIVED_POWER_WITH_GRANT",
                "RECEIVED_POWER_WITHOUT_GRANT"
            ],
            "userId": "GW"
        }
    ]
}
2020-02-10T02:17:26.904Z - INFO - Registration message contains cpiSignatureData
2020-02-10T02:17:26.904Z - INFO - protectedHeader = {u'alg': u'RS256', u'typ': u'JWT'}
2020-02-10T02:17:26.904Z - INFO - encodedCpiSignedData contents = {
    "installationParam": {
        "antennaAzimuth": 7,
        "heightType": "AGL",
        "longitude": -122.018942,
        "height": 3,
        "indoorDeployment": false,
        "latitude": 37.411331,
```

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

}
2020-02-10T02:17:28.703Z - INFO - arrived to nstep starting question answer session with the technician
2020-02-10T02:17:28.706Z - INFO - the question is : Were there RF transmissions from the CBSD1 during the test? please choose one of the answers :
2020-02-10T02:18:56.474Z - INFO - for the question : Were there RF transmissions from the CBSD1 during the test? , the user choose n
2020-02-10T02:18:56.476Z - INFO - the question is : Were there RF transmissions from the CBSD2 during the test? please choose one of the answers :
2020-02-10T02:18:57.471Z - INFO - for the question : Were there RF transmissions from the CBSD2 during the test? , the user choose n
2020-02-10T02:18:58.805Z - INFO - The final result of the test : WINNF.FT.D.REG.15 is - passed

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

2020-02-10T02:20:45.099Z - INFO - WINNF TEST HARNESS RELEASE: 1.0.0.3 - 2018-November-13
2020-02-10T02:20:45.099Z - INFO - the selected test from the user : WINNF.FT.D.REG.17 is starting now
2020-02-10T02:21:26.846Z - INFO - registration request from CBRS : {


```
"registrationRequest": [
    {
        "airInterface": {
            "radioTechnology": "E_UTRA",
            "supportedSpec": "FFS"
        },
        "callSign": "LEAX",
        "cbsdCategory": "B",
        "cbsdInfo": {
            "model": "LBS7320",
            "softwareVersion": "LeaxBTS_V2.0.4.1",
            "vendor": "Radisys"
        },
        "cbsdSerialNumber": "22020300003A1952J0003",
        "cpiSignatureData": {
            "digitalSignature":
"jiRadTJ4Kttt4WZK2-dU3SN6IlSqApJ2r5diPIg2aRliVpbG20rTOcKiS-gfp-KROiMfXLPEXbrkjhgILggKzzu
HlBMBSrjktCB5wVfDw9L_GDwo0Tl_hIQ-X9uJKy12b1jbHl40WNFS_alGevKBM4446vRxkFUbQOBMko
160MCa7Zdao_iocEHIbStBwEwfXNX6jShFm_unzxwhMZbtINWXc7TFHvRPAH8ZfLOkvEyyVqsM-N6hl
gEKxGy3EQTSmeTJz3c1oPhjRSFMRXCf2JPyhhesKR014ZxXpXni4kailKzpCyPWdWNw5ndPwgFwkU
ysGyWQJlkeWziKw6gQbA",
            "encodedCpiSignedData":
"eyJjYnNkU2VyaWFsTnVtYmVyIjoiMjIwMjAzMDAwMDNBMTk1MkowMDAzIiwiZmNjSWQiOiIyQVZGTk
xCUzczMjAiLCJpbnN0YWxsYXRpb25QYXJhbSI6eyJhbnRlbm5hQXppbXV0aCI6NywiYW50ZW5uYUJl
YW13aWR0aCI6NjUsImFudGVubmFEb3dudGlsdCI6MCwiYW50ZW5uYUdhaW4iOjE2LjUsImhlaWdod
CI6MywiaGVpZ2h0VHlwZSI6IkFHTCIsImluZG9vckRlcGxveW1lbnQiOmZhbHNlLCJsYXRpdHVkZSI6M
zcuNDExMzMxLCJsb25naXR1ZGUiOi0xMjIuMDE4OTQyfSwicHJvZmVzc2lvbmFsSW5zdGFsbGVyRG
F0YSI6eyJjcGlJZCI6IjAwMSIsImNwaU5hbWUiOiJ5dWkiLCJpbnN0YWxsQ2VydGlmaWNhdGlvblRpbW
UiOiIyMDIwLTAyLTEwVDAyOjIxOjMyWiJ9fQ",
            "protectedHeader": "eyJhbGciOiJSUzI1NiIsInR5cCI6IkpXVCJ9"
        },
        "fccId": "2AVFNLBS7320",
        "groupingParam": [
            {
                "groupId": "GW",
                "groupType": "INTERFERENCE_COORDINATION"
            }
        ],
        "measCapability": [
            "RECEIVED_POWER_WITH_GRANT",
            "RECEIVED_POWER_WITHOUT_GRANT"
        ],
        "userId": "GW"
    },
    {
        "airInterface": {
            "radioTechnology": "E_UTRA",
```

```
                "supportedSpec": "FFS"
            },
            "callSign": "LEAX",
            "cbsdCategory": "B",
            "cbsdInfo": {
                "model": "LBS7320",
                "softwareVersion": "LeaxBTS_V2.0.4.1",
                "vendor": "Radisys"
            },
            "cbsdSerialNumber": "22020300003A1952J0004",
            "cpiSignatureData": {
                "digitalSignature":
"U6maJ6rB-A099K7U6mReC4uu0eADkmSZyAxXXiz25X5UcGVM4fv8FWrxf203ee2QeWvSWG1X0NX
2VhFTr6qi4rcHsqifHGTwcMYnoE-fxeqpyViKOalVPP6-bytLND22E4wM-PEcwNuN8q2G2FTG9Qz3S8u
hbXbETpNnHjG0L52Ynyzra9WALaCvqD8-CndPfaTQUw4V69eBJvhO9XwfgXE8Q7LaE9ZXHeLFqBiU
6TNEnrZ9OH7obkdkshkdWwCuGlR3_hQree9Jq3JAE8O1FgaOHGOCcyXj0IBySTPHlTHAHGvW7zIU2
Ig_VpYPHNp8K-UG_c3yTnq_PwHdvHXyiQ",
                "encodedCpiSignedData":
"eyJjYnNkU2VyaWFsTnVtYmVyIjoiMjIwMjAzMDAwMDNBMTk1MkowMDA0IiwiZmNjSWQiOiIyQVZGTk
xCUzczMjAiLCJpbnN0YWxsYXRpb25QYXJhbSI6eyJhbnRlbm5hQXppbXV0aCI6NywiYW50ZW5uYUJl
YW13aWR0aCI6NjUsImFudGVubmFEb3dudGlsdCI6MCwiYW50ZW5uYUdhaW4iOjE2LjUsImhlaWdod
CI6MywiaGVpZ2h0VHlwZSI6IkFHTCIsImluZG9vckRlcGxveW1lbnQiOmZhbHNlLCJsYXRpdHVkZSI6M
zcuNDExMzMxLCJsb25naXR1ZGUiOi0xMjIuMDE4OTQyfSwicHJvZmVzc2lvbmFsSW5zdGFsbGVyRG
F0YSI6eyJjcGlJZCI6IjAwMSIsImNwaU5hbWUiOiJ5dWkiLCJpbnN0YWxsQ2VydGlmaWNhdGlvblRpbW
UiOiIyMDIwLTAyLTEwVDAyOjIxOjMyWiJ9fQ",
                "protectedHeader": "eyJhbGciOiJSUzI1NiIsInR5cCI6IkpXVCJ9"
            },
            "fccId": "2AVFNLBS7320",
            "groupingParam": [
                {
                    "groupId": "GW",
                    "groupType": "INTERFERENCE_COORDINATION"
                }
            ],
            "measCapability": [
                "RECEIVED_POWER_WITH_GRANT",
                "RECEIVED_POWER_WITHOUT_GRANT"
            ],
            "userId": "GW"
        }
    ]
}
2020-02-10T02:21:26.894Z - INFO - Registration message contains cpiSignatureData
2020-02-10T02:21:26.894Z - INFO - protectedHeader = {u'alg': u'RS256', u'typ': u'JWT'}
2020-02-10T02:21:26.894Z - INFO - encodedCpiSignedData contents = {
    "installationParam": {
        "antennaAzimuth": 7,
        "heightType": "AGL",
        "longitude": -122.018942,
        "height": 3,
        "indoorDeployment": false,
        "latitude": 37.411331,
```

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

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

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

2020-02-10T02:23:02.953Z - INFO - WINNF TEST HARNESS RELEASE: 1.0.0.3 - 2018-November-13
2020-02-10T02:23:02.953Z - INFO - the selected test from the user : WINNF.FT.D.REG.19 is starting now
2020-02-10T02:23:26.846Z - INFO - registration request from CBRS : {


```
"registrationRequest": [
    {
        "airInterface": {
            "radioTechnology": "E_UTRA",
            "supportedSpec": "FFS"
        },
        "callSign": "LEAX",
        "cbsdCategory": "B",
        "cbsdInfo": {
            "model": "LBS7320",
            "softwareVersion": "LeaxBTS_V2.0.4.1",
            "vendor": "Radisys"
        },
        "cbsdSerialNumber": "22020300003A1952J0003",
        "cpiSignatureData": {
            "digitalSignature":
"L2pJEyG2ncwzBB3tv2-r6yzm_glDpVWj24NYEgBn3WE1HAfpNxTdvC4af63CcWlKyjg4yzM453P88gU
5jB5PV8hBEsEDGToosif2AqzhK5hYGg8VV1HtifmiTSC8Wtv9M2i0y3FjcIAMzH_xOgc4pAx_TWHUK__
_SxOUIxRpNsZtQ-QNt-i_6bize9HNwL8YAFjJTcqf7mdv0CipWlvHP6WFRh4324AV23xvxO0ejLJLNxXo
02jbDH4StRkedeoo1rbacmEO1vLwJyACqJ6zIYTwK5LJdsGvzUUIBOiaktWh4TkL68zDgR4N-s6JORu9
mTFKclLBoeQNJhLRpleC8A",
            "encodedCpiSignedData":
"eyJjYnNkU2VyaWFsTnVtYmVyIjoiMjIwMjAzMDAwMDNBMTk1MkowMDAzIiwiZmNjSWQiOiIyQVZGTk
xCUzczMjAiLCJpbnN0YWxsYXRpb25QYXJhbSI6eyJhbnRlbm5hQXppbXV0aCI6NywiYW50ZW5uYUJl
YW13aWR0aCI6NjUsImFudGVubmFEb3dudGlsdCI6MCwiYW50ZW5uYUdhaW4iOjE2LjUsImhlaWdod
CI6MywiaGVpZ2h0VHlwZSI6IkFHTCIsImluZG9vckRlcGxveW1lbnQiOmZhbHNlLCJsYXRpdHVkZSI6M
zcuNDExMzMxLCJsb25naXR1ZGUiOi0xMjIuMDE4OTQyfSwicHJvZmVzc2lvbmFsSW5zdGFsbGVyRG
F0YSI6eyJjcGlJZCI6IjAwMSIsImNwaU5hbWUiOiJ5dWkiLCJpbnN0YWxsQ2VydGlmaWNhdGlvblRpbW
UiOiIyMDIwLTAyLTEwVDAyOjIzOjMyWiJ9fQ",
            "protectedHeader": "eyJhbGciOiJSUzI1NiIsInR5cCI6IkpXVCJ9"
        },
        "fccId": "2AVFNLBS7320",
        "groupingParam": [
            {
                "groupId": "GW",
                "groupType": "INTERFERENCE_COORDINATION"
            }
        ],
        "measCapability": [
            "RECEIVED_POWER_WITH_GRANT",
            "RECEIVED_POWER_WITHOUT_GRANT"
        ],
        "userId": "GW"
    },
    {
        "airInterface": {
            "radioTechnology": "E_UTRA",
```

```
                "supportedSpec": "FFS"
            },
            "callSign": "LEAX",
            "cbsdCategory": "B",
            "cbsdInfo": {
                "model": "LBS7320",
                "softwareVersion": "LeaxBTS_V2.0.4.1",
                "vendor": "Radisys"
            },
            "cbsdSerialNumber": "22020300003A1952J0004",
            "cpiSignatureData": {
                "digitalSignature":
"ykihVOZyGd7Ah1HHhdMittsNSfh_HJRr-U4zHcNnXie4mxZ22oEqQFNG8CnseAbi3gUibyQannlewphJ-
HpcRiIxacosRaCy7FdPmbpNDBFl6-pY00BD3NhCsiyhfqMV_mor4yp1-KWKJx3u_0HRFU-722rRfLc3Cc
n4zyDwE1hZjo8YpdOytJdfXlfutmLTkfR_GuAcoBhBRCZo7aljUok4nLKFTV1usR3kXvQoTUnFNN7hd4g
Hi6dfsdS8yMhrm_8zeZ7nwgzfr8SeYsc7xUIWBp1gzdVkpYZpxKDVg77a1oqSfWqqXw-hjE7zoTDCZyfQ
LcpANK-BrP4wLb9WCA",
                "encodedCpiSignedData":
"eyJjYnNkU2VyaWFsTnVtYmVyIjoiMjIwMjAzMDAwMDNBMTk1MkowMDA0IiwiZmNjSWQiOiIyQVZGTk
xCUzczMjAiLCJpbnN0YWxsYXRpb25QYXJhbSI6eyJhbnRlbm5hQXppbXV0aCI6NywiYW50ZW5uYUJl
YW13aWR0aCI6NjUsImFudGVubmFEb3dudGlsdCI6MCwiYW50ZW5uYUdhaW4iOjE2LjUsImhlaWdod
CI6MywiaGVpZ2h0VHlwZSI6IkFHTCIsImluZG9vckRlcGxveW1lbnQiOmZhbHNlLCJsYXRpdHVkZSI6M
zcuNDExMzMxLCJsb25naXR1ZGUiOi0xMjIuMDE4OTQyfSwicHJvZmVzc2lvbmFsSW5zdGFsbGVyRG
F0YSI6eyJjcGlJZCI6IjAwMSIsImNwaU5hbWUiOiJ5dWkiLCJpbnN0YWxsQ2VydGlmaWNhdGlvblRpbW
UiOiIyMDIwLTAyLTEwVDAyOjIzOjMyWiJ9fQ",
                "protectedHeader": "eyJhbGciOiJSUzI1NiIsInR5cCI6IkpXVCJ9"
            },
            "fccId": "2AVFNLBS7320",
            "groupingParam": [
                {
                    "groupId": "GW",
                    "groupType": "INTERFERENCE_COORDINATION"
                }
            ],
            "measCapability": [
                "RECEIVED_POWER_WITH_GRANT",
                "RECEIVED_POWER_WITHOUT_GRANT"
            ],
            "userId": "GW"
        }
    ]
}
2020-02-10T02:23:26.891Z - INFO - Registration message contains cpiSignatureData
2020-02-10T02:23:26.891Z - INFO - protectedHeader = {u'alg': u'RS256', u'typ': u'JWT'}
2020-02-10T02:23:26.892Z - INFO - encodedCpiSignedData contents = {
    "installationParam": {
        "antennaAzimuth": 7,
        "heightType": "AGL",
        "longitude": -122.018942,
        "height": 3,
        "indoorDeployment": false,
        "latitude": 37.411331,
```

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

}
2020-02-10T02:23:27.969Z - INFO - arrived to nstep starting question answer session with the technician
2020-02-10T02:23:27.970Z - INFO - the question is : Were there RF transmissions from the CBSD1 during the test? please choose one of the answers :
2020-02-10T02:24:37.411Z - INFO - for the question : Were there RF transmissions from the CBSD1 during the test? , the user choose n
2020-02-10T02:24:37.411Z - INFO - the question is : Were there RF transmissions from the CBSD2 during the test? please choose one of the answers :
2020-02-10T02:24:38.009Z - INFO - for the question : Were there RF transmissions from the CBSD2 during the test? , the user choose n
2020-02-10T02:24:38.233Z - INFO - The final result of the test : WINNF.FT.D.REG.19 is - passed

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

2020-02-10T02:34:51.012Z - INFO - WINNF TEST HARNESS RELEASE: 1.0.0.3 - 2018-November-13
2020-02-10T02:34:51.012Z - INFO - the selected test from the user : WINNF.FT.C.GRA.1 is starting now
2020-02-10T02:35:26.811Z - INFO - registration request from CBRS : {


```
"registrationRequest": [
    {
        "airInterface": {
            "radioTechnology": "E_UTRA",
            "supportedSpec": "FFS"
        },
        "callSign": "LEAX",
        "cbsdCategory": "B",
        "cbsdInfo": {
            "model": "LBS7320",
            "softwareVersion": "LeaxBTS_V2.0.4.1",
            "vendor": "Radisys"
        },
        "cbsdSerialNumber": "22020300003A1952J0003",
        "cpiSignatureData": {
            "digitalSignature":
"B4BvWi23mEnPNf2miiVpjcD0Y8WGI21IGTBejZiRBoHQRTRDYfVBtPwZ0fDvLhl6ZACXaGojyxOBtYx
RHcqsleZknL115LnsPFkrBgJIoJP7NBMPmb6kNDitILnKo02PJswupMEPveNzff51SwRTSlC9cAWF-vW
3nHFU1CNJIX6fypOTcREFnYdpF9hFBCENT05jABjzUQglAV384AtlqFQoQ7Zb63DEqSYlFuskTkY1qEj
AY37n5gU2Wa_tZg9jHW-ZE6Ll3DVmXs11oY5IhlBXt9lqE0Vy0qdsFTCqaNPbFzlFVL_09Mcz7Ehc8gzg
uP6MBPagci6r4X2FY9JyJw",
            "encodedCpiSignedData":
"eyJjYnNkU2VyaWFsTnVtYmVyIjoiMjIwMjAzMDAwMDNBMTk1MkowMDAzIiwiZmNjSWQiOiIyQVZGTk
xCUzczMjAiLCJpbnN0YWxsYXRpb25QYXJhbSI6eyJhbnRlbm5hQXppbXV0aCI6NywiYW50ZW5uYUJl
YW13aWR0aCI6NjUsImFudGVubmFEb3dudGlsdCI6MCwiYW50ZW5uYUdhaW4iOjE2LjUsImhlaWdod
CI6MywiaGVpZ2h0VHlwZSI6IkFHTCIsImluZG9vckRlcGxveW1lbnQiOmZhbHNlLCJsYXRpdHVkZSI6M
zcuNDExMzMxLCJsb25naXR1ZGUiOi0xMjIuMDE4OTQyfSwicHJvZmVzc2lvbmFsSW5zdGFsbGVyRG
F0YSI6eyJjcGlJZCI6IjAwMSIsImNwaU5hbWUiOiJ5dWkiLCJpbnN0YWxsQ2VydGlmaWNhdGlvblRpbW
UiOiIyMDIwLTAyLTEwVDAyOjM1OjMyWiJ9fQ",
            "protectedHeader": "eyJhbGciOiJSUzI1NiIsInR5cCI6IkpXVCJ9"
        },
        "fccId": "2AVFNLBS7320",
        "groupingParam": [
            {
                "groupId": "GW",
                "groupType": "INTERFERENCE_COORDINATION"
            }
        ],
        "measCapability": [
            "RECEIVED_POWER_WITH_GRANT",
            "RECEIVED_POWER_WITHOUT_GRANT"
        ],
        "userId": "GW"
    }
]
}
```


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

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

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

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

2020-02-10T02:36:57.517Z - INFO - WINNF TEST HARNESS RELEASE: 1.0.0.3 - 2018-November-13
2020-02-10T02:36:57.517Z - INFO - the selected test from the user : WINNF.FT.C.GRA.2 is starting now
2020-02-10T02:37:26.805Z - INFO - registration request from CBRS : {


```
"registrationRequest": [
    {
        "airInterface": {
            "radioTechnology": "E_UTRA",
            "supportedSpec": "FFS"
        },
        "callSign": "LEAX",
        "cbsdCategory": "B",
        "cbsdInfo": {
            "model": "LBS7320",
            "softwareVersion": "LeaxBTS_V2.0.4.1",
            "vendor": "Radisys"
        },
        "cbsdSerialNumber": "22020300003A1952J0003",
        "cpiSignatureData": {
            "digitalSignature":
"mogB5t_0h3ytF2D81lA9PFObA_HiDteoWXByciprCrEcHHo11f-OVJn72RQXSJCyDmY3WPkTKbKmF
8AD8H_A6w_c2Wr7iKcySPoxN-3GfzgBq1fw0m1z8FUv0Z5_yvGLOiFa4DzRfRRAcQJYadUJvlojZ2453
ALzkHQuJXaoNX18CkJ9gJ2bQViChfVTjovXsxaoA8Jp2fTe-Jd366AEMD69AT8FbasgY2nX2SNYwRaC
av3SVkUjLQx-LhsuCxmC8_hlSajAcXVfhYejMR5rgPaG6xKAUnqoK7pkvyc-LQcNGswcibGYWpT66Ul7
TM68Eh32etnWIot1_xX1gjmrZg",
            "encodedCpiSignedData":
"eyJjYnNkU2VyaWFsTnVtYmVyIjoiMjIwMjAzMDAwMDNBMTk1MkowMDAzIiwiZmNjSWQiOiIyQVZGTk
xCUzczMjAiLCJpbnN0YWxsYXRpb25QYXJhbSI6eyJhbnRlbm5hQXppbXV0aCI6NywiYW50ZW5uYUJl
YW13aWR0aCI6NjUsImFudGVubmFEb3dudGlsdCI6MCwiYW50ZW5uYUdhaW4iOjE2LjUsImhlaWdod
CI6MywiaGVpZ2h0VHlwZSI6IkFHTCIsImluZG9vckRlcGxveW1lbnQiOmZhbHNlLCJsYXRpdHVkZSI6M
zcuNDExMzMxLCJsb25naXR1ZGUiOi0xMjIuMDE4OTQyfSwicHJvZmVzc2lvbmFsSW5zdGFsbGVyRG
F0YSI6eyJjcGlJZCI6IjAwMSIsImNwaU5hbWUiOiJ5dWkiLCJpbnN0YWxsQ2VydGlmaWNhdGlvblRpbW
UiOiIyMDIwLTAyLTEwVDAyOjM3OjMyWiJ9fQ",
            "protectedHeader": "eyJhbGciOiJSUzI1NiIsInR5cCI6IkpXVCJ9"
        },
        "fccId": "2AVFNLBS7320",
        "groupingParam": [
            {
                "groupId": "GW",
                "groupType": "INTERFERENCE_COORDINATION"
            }
        ],
        "measCapability": [
            "RECEIVED_POWER_WITH_GRANT",
            "RECEIVED_POWER_WITHOUT_GRANT"
        ],
        "userId": "GW"
    }
]
}
```


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

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

```
                        "frequencyRange": {
                            "highFrequency": 3700000000,
                            "lowFrequency": 3550000000
                        },
                        "ruleApplied": "FCC_PART_96"
                    }
                ],
                "cbsdId": "2AVFNLBS7320Mock-SAS22020300003A1952J0003",
                "response": {
                    "responseCode": 0
                }
            }
        ]
}
2020-02-10T02:37:27.759Z - INFO - grant request from CBRS    : {
    "grantRequest": [
        {
            "cbsdId": "2AVFNLBS7320Mock-SAS22020300003A1952J0003",
            "operationParam": {
                "maxEirp": 34,
                "operationFrequencyRange": {
                    "highFrequency": 3570000000,
                    "lowFrequency": 3550000000
                }
            }
        }
    ]
}
2020-02-10T02:37:27.767Z - INFO - engine sent successfully, the response to CBRS    : {
    "grantResponse": [
        {
            "cbsdId": "2AVFNLBS7320Mock-SAS22020300003A1952J0003",
            "response": {
                "responseCode": 401
            }
        }
    ]
}
```


2020-02-10T02:37:29.520Z - INFO - arrived to nstep starting question answer session with the technician

2020-02-10T02:37:29.523Z - INFO - the question is : Were there RF transmissions from the CBSD1 during the test? please choose one of the answers :

2020-02-10T02:38:37.278Z - INFO - for the question : Were there RF transmissions from the CBSD1 during the test? , the user choose n

2020-02-10T02:38:38.033Z - INFO - The final result of the test : WINNF.FT.C.GRA.2 is - passed

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

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


```
"registrationRequest": [
    {
        "airInterface": {
            "radioTechnology": "E_UTRA",
            "supportedSpec": "FFS"
        },
        "callSign": "LEAX",
        "cbsdCategory": "B",
        "cbsdInfo": {
            "model": "LBS7320",
            "softwareVersion": "LeaxBTS_V2.0.4.1",
            "vendor": "Radisys"
        },
        "cbsdSerialNumber": "22020300003A1952J0003",
        "cpiSignatureData": {
            "digitalSignature":
"bRnGNqcaPll-_Ik0sQy_esDWnaVREX74VOEIR7lA3ZQvnxkSCuvBwIKoYvYa-P3NbDjxROA1xhUGd7
bHoHNNh_oWJMcVggCL60IoOIsQcZek8swRIv3zuVK4xf0U4hXCn87idUA5W7FqnXHYlLa6ali2nvAq4
Q9KDN7iU4Lt-Nvj3yxI5Qz9MSEhsF4WkWmVCZo4_NEyWS9hyVltnpeJ9j4htndACQKbgYGpTp_-4HQ
3fa18mCp8ZpthJqtKEo6vwEMaTpvkLGNiVhlJC8DwKG-gaNgzyG65Erzh14m8JCYh0IN60EoTPEpJr9B
-7tealk-sL9mZiB9hukWkiQengw",
            "encodedCpiSignedData":
"eyJjYnNkU2VyaWFsTnVtYmVyIjoiMjIwMjAzMDAwMDNBMTk1MkowMDAzIiwiZmNjSWQiOiIyQVZGTk
xCUzczMjAiLCJpbnN0YWxsYXRpb25QYXJhbSI6eyJhbnRlbm5hQXppbXV0aCI6NywiYW50ZW5uYUJl
YW13aWR0aCI6NjUsImFudGVubmFEb3dudGlsdCI6MCwiYW50ZW5uYUdhaW4iOjE2LjUsImhlaWdod
CI6MywiaGVpZ2h0VHlwZSI6IkFHTCIsImluZG9vckRlcGxveW1lbnQiOmZhbHNlLCJsYXRpdHVkZSI6M
zcuNDExMzMxLCJsb25naXR1ZGUiOi0xMjIuMDE4OTQyfSwicHJvZmVzc2lvbmFsSW5zdGFsbGVyRG
F0YSI6eyJjcGlJZCI6IjAwMSIsImNwaU5hbWUiOiJ5dWkiLCJpbnN0YWxsQ2VydGlmaWNhdGlvblRpbW
UiOiIyMDIwLTAyLTEwVDAyOjUwOjMyWiJ9fQ",
            "protectedHeader": "eyJhbGciOiJSUzI1NiIsInR5cCI6IkpXVCJ9"
        },
        "fccId": "2AVFNLBS7320",
        "groupingParam": [
            {
                "groupId": "GW",
                "groupType": "INTERFERENCE_COORDINATION"
            }
        ],
        "measCapability": [
            "RECEIVED_POWER_WITH_GRANT",
            "RECEIVED_POWER_WITHOUT_GRANT"
        ],
        "userId": "GW"
    },
    {
        "airInterface": {
            "radioTechnology": "E_UTRA",
            "supportedSpec": "FFS"
```

```
            },
            "callSign": "LEAX",
            "cbsdCategory": "B",
            "cbsdInfo": {
                "model": "LBS7320",
                "softwareVersion": "LeaxBTS_V2.0.4.1",
                "vendor": "Radisys"
            },
            "cbsdSerialNumber": "22020300003A1952J0004",
            "cpiSignatureData": {
                "digitalSignature":
"TAYS02evFdWc_x3Eudiq2Zn6DF7BAr2m8r_aUI6YDPS2O_jvradQkbuj4sjRoHo_rHoAFtmOSK_iyo93I
TqIhVM08plQxXYROFw2J7ugxyV86zs3qclF3uL0203F1_nZUcKHqLWvIDGgLoX04sxKDkO-uKeSDdR
SYw0TfR4BUV8Uh4XAK7-OcFeKij0quSXYnhlcIT8V3eQMcm7j42Ungoz2x7Sj9yl8HQ60GEuCzqXdnnZ
Tfa1tlKtQWPmcaC1wkc3QyBMJDr2vAE4TJJYFKwDCm0vybpQdv4PaFM768Mz35c5gI0iZ62n6gPjzbP
OAD6lEXKssrEA6ED2zGFPFqQ",
                "encodedCpiSignedData":
"eyJjYnNkU2VyaWFsTnVtYmVyIjoiMjIwMjAzMDAwMDNBMTk1MkowMDA0IiwiZmNjSWQiOiIyQVZGTk
xCUzczMjAiLCJpbnN0YWxsYXRpb25QYXJhbSI6eyJhbnRlbm5hQXppbXV0aCI6NywiYW50ZW5uYUJl
YW13aWR0aCI6NjUsImFudGVubmFEb3dudGlsdCI6MCwiYW50ZW5uYUdhaW4iOjE2LjUsImhlaWdod
CI6MywiaGVpZ2h0VHlwZSI6IkFHTCIsImluZG9vckRlcGxveW1lbnQiOmZhbHNlLCJsYXRpdHVkZSI6M
zcuNDExMzMxLCJsb25naXR1ZGUiOi0xMjIuMDE4OTQyfSwicHJvZmVzc2lvbmFsSW5zdGFsbGVyRG
F0YSI6eyJjcGlJZCI6IjAwMSIsImNwaU5hbWUiOiJ5dWkiLCJpbnN0YWxsQ2VydGlmaWNhdGlvblRpbW
UiOiIyMDIwLTAyLTEwVDAyOjUwOjMyWiJ9fQ",
                "protectedHeader": "eyJhbGciOiJSUzI1NiIsInR5cCI6IkpXVCJ9"
            },
            "fccId": "2AVFNLBS7320",
            "groupingParam": [
                {
                    "groupId": "GW",
                    "groupType": "INTERFERENCE_COORDINATION"
                }
            ],
            "measCapability": [
                "RECEIVED_POWER_WITH_GRANT",
                "RECEIVED_POWER_WITHOUT_GRANT"
            ],
            "userId": "GW"
        }
    ]
}
2020-02-10T02:50:26.842Z - INFO - Registration message contains cpiSignatureData
2020-02-10T02:50:26.842Z - INFO - protectedHeader = {u'alg': u'RS256', u'typ': u'JWT'}
2020-02-10T02:50:26.842Z - INFO - encodedCpiSignedData contents = {
    "installationParam": {
        "antennaAzimuth": 7,
        "heightType": "AGL",
        "longitude": -122.018942,
        "height": 3,
        "indoorDeployment": false,
        "latitude": 37.411331,
        "antennaDowntilt": 0,
```

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

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

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

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

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

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

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

```
            "cbsdId": "2AVFNLBS7320Mock-SAS22020300003A1952J0004",
            "grantId": "101092050",
            "grantRenew": false,
            "operationState": "AUTHORIZED"
        }
    ]
}
```


2020-02-10T02:54:54.605Z - INFO - Time interval between two heartbeat request messages is: 59.993, limit is: 65.0

2020-02-10T02:54:54.612Z - INFO - Time interval between two heartbeat request messages is: 59.993, limit is: 65.0

2020-02-10T02:54:54.622Z - INFO - engine sent successfully, the response to CBRS : {


```
    "heartbeatResponse": [
        {
            "cbsdId": "2AVFNLBS7320Mock-SAS22020300003A1952J0003",
            "grantId": "25775012",
            "response": {
                "responseCode": 0
            },
            "transmitExpireTime": "2020-02-10T02:58:14Z"
        },
        {
            "cbsdId": "2AVFNLBS7320Mock-SAS22020300003A1952J0004",
            "grantId": "101092050",
            "response": {
                "responseCode": 0
            },
            "transmitExpireTime": "2020-02-10T02:58:14Z"
        }
    ]
}
```


2020-02-10T02:54:55.644Z - INFO - arrived to nstep starting question answer session with the technician

2020-02-10T02:54:55.645Z - INFO - the question is : Did CBSD1 transmit power prior to AUTHORIZED state (first successful HBT response)? please choose one of the answers :

2020-02-10T02:55:17.411Z - INFO - for the question : Did CBSD1 transmit power prior to AUTHORIZED state (first successful HBT response)? , the user choose n

2020-02-10T02:55:17.411Z - INFO - the question is : Did CBSD1 transmit only within the frequency range specified in its grantRequest message? please choose one of the answers :

2020-02-10T02:55:44.411Z - INFO - for the question : Did CBSD1 transmit only within the frequency range specified in its grantRequest message? , the user choose y

2020-02-10T02:55:44.413Z - INFO - the question is : Did CBSD2 transmit power prior to AUTHORIZED state (first successful HBT response)? please choose one of the answers :

2020-02-10T02:55:46.966Z - INFO - for the question : Did CBSD2 transmit power prior to AUTHORIZED state (first successful HBT response)? , the user choose n

2020-02-10T02:55:46.967Z - INFO - the question is : Did CBSD2 transmit only within the frequency range specified in its grantRequest message? please choose one of the answers :

2020-02-10T02:55:47.786Z - INFO - for the question : Did CBSD2 transmit only within the frequency range specified in its grantRequest message? , the user choose y

2020-02-10T02:56:03.118Z - INFO - The final result of the test : WINNF.FT.D.HBT.2 is - passed and :the additional comments for the current test are : CBSD1 and CBSD2 start transmission at T02:50:34

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

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


```
"registrationRequest": [
    {
        "airInterface": {
            "radioTechnology": "E_UTRA",
            "supportedSpec": "FFS"
        },
        "callSign": "LEAX",
        "cbsdCategory": "B",
        "cbsdInfo": {
            "model": "LBS7320",
            "softwareVersion": "LeaxBTS_V2.0.4.1",
            "vendor": "Radisys"
        },
        "cbsdSerialNumber": "22020300003A1952J0003",
        "cpiSignatureData": {
            "digitalSignature":
"BWht6JDzb959k1uNW3PmDAADEzHS4aut7IlhyxqRHfYMuwikYqcVKeGpHGe7esFVnBcQ1-Gli2YGsL
ztNgmUcjZ3N7ez3WAXjcIV001gQzGWcld51xmqsvGq948Pp1zV_EDNnDw8JVnK01-JuCPQeFsHP4F2
JrvBTMuLSLe_-L8IxFF6BILsgO9807CW6b6LsN7HM43TOeWMqCHVh-WEEGl3ndtwAfXbF5rS6f3NbP
RWwvNkMwf12vTbxBB0u-RXPPXG6zH81RVnJ1AA19Uivs8SU5DUsaVWSFKkWLeoO4MPV7i5n907w
yDzsfZo-lrNB-43H-6Rf37pOffOF-7Yqw",
            "encodedCpiSignedData":
"eyJjYnNkU2VyaWFsTnVtYmVyIjoiMjIwMjAzMDAwMDNBMTk1MkowMDAzIiwiZmNjSWQiOiIyQVZGTk
xCUzczMjAiLCJpbnN0YWxsYXRpb25QYXJhbSI6eyJhbnRlbm5hQXppbXV0aCI6NywiYW50ZW5uYUJl
YW13aWR0aCI6NjUsImFudGVubmFEb3dudGlsdCI6MCwiYW50ZW5uYUdhaW4iOjE2LjUsImhlaWdod
CI6MywiaGVpZ2h0VHlwZSI6IkFHTCIsImluZG9vckRlcGxveW1lbnQiOmZhbHNlLCJsYXRpdHVkZSI6M
zcuNDExMzMxLCJsb25naXR1ZGUiOi0xMjIuMDE4OTQyfSwicHJvZmVzc2lvbmFsSW5zdGFsbGVyRG
F0YSI6eyJjcGlJZCI6IjAwMSIsImNwaU5hbWUiOiJ5dWkiLCJpbnN0YWxsQ2VydGlmaWNhdGlvblRpbW
UiOiIyMDIwLTAyLTEwVDAzOjA4OjMyWiJ9fQ",
            "protectedHeader": "eyJhbGciOiJSUzI1NiIsInR5cCI6IkpXVCJ9"
        },
        "fccId": "2AVFNLBS7320",
        "groupingParam": [
            {
                "groupId": "GW",
                "groupType": "INTERFERENCE_COORDINATION"
            }
        ],
        "measCapability": [
            "RECEIVED_POWER_WITH_GRANT",
            "RECEIVED_POWER_WITHOUT_GRANT"
        ],
        "userId": "GW"
    }
]
}
```


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

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

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

"heartbeatResponse": [
{
"cbsdId": "2AVFNLBS7320Mock-SAS22020300003A1952J0003",
"grantId": "156790542",
"response": {
"responseCode": 0
},
"transmitExpireTime": "2020-02-10T03:11:48Z"
}
]
}

2020-02-10T03:08:54.562Z - INFO - heartbeat request from CBRS : {

"heartbeatRequest": [
{
"cbsdId": "2AVFNLBS7320Mock-SAS22020300003A1952J0003",
"grantId": "156790542",
"grantRenew": false,
"operationState": "AUTHORIZED"
}
]
}

2020-02-10T03:08:54.563Z - INFO - Time interval between two heartbeat request messages is: 26.555, limit is: 65.0
2020-02-10T03:08:54.571Z - INFO - engine sent successfully, the response to CBRS : {

"heartbeatResponse": [
{
"cbsdId": "2AVFNLBS7320Mock-SAS22020300003A1952J0003",
"grantId": "156790542",
"response": {
"responseCode": 0
},
"transmitExpireTime": "2020-02-10T03:12:14Z"
}
]
}

2020-02-10T03:09:54.553Z - INFO - heartbeat request from CBRS : {

"heartbeatRequest": [
{
"cbsdId": "2AVFNLBS7320Mock-SAS22020300003A1952J0003",
"grantId": "156790542",
"grantRenew": false,
"operationState": "AUTHORIZED"
}
]
}

2020-02-10T03:09:54.555Z - INFO - Time interval between two heartbeat request messages is: 59.992, limit is: 65.0
2020-02-10T03:09:54.562Z - INFO - engine sent successfully, the response to CBRS : {

"heartbeatResponse": [
{
"cbsdId": "2AVFNLBS7320Mock-SAS22020300003A1952J0003",
"grantId": "156790542",

```
            "response": {
                "responseCode": 0
            },
            "transmitExpireTime": "2020-02-10T03:13:14Z"
        }
    ]
}
2020-02-10T03:10:54.552Z - INFO - heartbeat request from CBRS    : {
    "heartbeatRequest": [
        {
            "cbsdId": "2AVFNLBS7320Mock-SAS22020300003A1952J0003",
            "grantId": "156790542",
            "grantRenew": false,
            "operationState": "AUTHORIZED"
        }
    ]
}
```


2020-02-10T03:10:54.553Z - INFO - Time interval between two heartbeat request messages is: 59.998, limit is: 65.0


```
2020-02-10T03:10:54.561Z - INFO - engine sent successfully, the response to CBRS    : {
    "heartbeatResponse": [
        {
            "cbsdId": "2AVFNLBS7320Mock-SAS22020300003A1952J0003",
            "grantId": "156790542",
            "response": {
                "responseCode": 105
            },
            "transmitExpireTime": "2020-02-10T03:10:54Z"
        }
    ]
}
```


2020-02-10T03:10:56.447Z - INFO - arrived to nstep starting question answer session with the technician

2020-02-10T03:10:56.450Z - INFO - the question is : Did the CBSD stop RF transmission within 60 seconds of receiving Heartbeat response with responseCode = 105? please choose one of the answers :

2020-02-10T03:11:18.867Z - INFO - for the question : Did the CBSD stop RF transmission within 60 seconds of receiving Heartbeat response with responseCode = 105? , the user choose y

2020-02-10T03:12:12.848Z - INFO - The final result of the test : WINNF.FT.C.HBT.3 is - passed and :the additional comments for the current test are : CBSD stop transmission at T03:10:56

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

2020-02-10T03:22:22.191Z - INFO - WINNF TEST HARNESS RELEASE: 1.0.0.3 - 2018-November-13
2020-02-10T03:22:22.191Z - INFO - the selected test from the user : WINNF.FT.C.HBT.5 is starting now
2020-02-10T03:22:26.671Z - INFO - registration request from CBRS : {


```
"registrationRequest": [
    {
        "airInterface": {
            "radioTechnology": "E_UTRA",
            "supportedSpec": "FFS"
        },
        "callSign": "LEAX",
        "cbsdCategory": "B",
        "cbsdInfo": {
            "model": "LBS7320",
            "softwareVersion": "LeaxBTS_V2.0.4.1",
            "vendor": "Radisys"
        },
        "cbsdSerialNumber": "22020300003A1952J0003",
        "cpiSignatureData": {
            "digitalSignature":
"CNSllzkMhyQLQMLHOkUUfnpaxLvzsHUkNEazVbu5-wHi6Mnx6mknM8npOocIUfkt_0vz1UO5UPDS9
GchaId-3utJcNjQ3zIssp0ef-mEeIz5D-IqsKd62EB8Xz4mO93ZBq2P7xrWQyQlpUexR6KlsIAHy096UPBJ
JKbbr-DYjVgnKEc8U5FqgOeROETXcFcj79gHr0n_OajwCPu5KjrTvg_q5h-6Vsp1eZ_QJQlElgMcqorkOu
Q-ykI4NlCti5FtxYv45VoCadlyaazqcovvOjnaUDKm47R_B8T_FbBjYkYTEV12o5tLcTpcED0pmE-FH9AV
XzOofAJtDYcg0pDPtA",
            "encodedCpiSignedData":
"eyJjYnNkU2VyaWFsTnVtYmVyIjoiMjIwMjAzMDAwMDNBMTk1MkowMDAzIiwiZmNjSWQiOiIyQVZGTk
xCUzczMjAiLCJpbnN0YWxsYXRpb25QYXJhbSI6eyJhbnRlbm5hQXppbXV0aCI6NywiYW50ZW5uYUJl
YW13aWR0aCI6NjUsImFudGVubmFEb3dudGlsdCI6MCwiYW50ZW5uYUdhaW4iOjE2LjUsImhlaWdod
CI6MywiaGVpZ2h0VHlwZSI6IkFHTCIsImluZG9vckRlcGxveW1lbnQiOmZhbHNlLCJsYXRpdHVkZSI6M
zcuNDExMzMxLCJsb25naXR1ZGUiOi0xMjIuMDE4OTQyfSwicHJvZmVzc2lvbmFsSW5zdGFsbGVyRG
F0YSI6eyJjcGlJZCI6IjAwMSIsImNwaU5hbWUiOiJ5dWkiLCJpbnN0YWxsQ2VydGlmaWNhdGlvblRpbW
UiOiIyMDIwLTAyLTEwVDAzOjIyOjMyWiJ9fQ",
            "protectedHeader": "eyJhbGciOiJSUzI1NiIsInR5cCI6IkpXVCJ9"
        },
        "fccId": "2AVFNLBS7320",
        "groupingParam": [
            {
                "groupId": "GW",
                "groupType": "INTERFERENCE_COORDINATION"
            }
        ],
        "measCapability": [
            "RECEIVED_POWER_WITH_GRANT",
            "RECEIVED_POWER_WITHOUT_GRANT"
        ],
        "userId": "GW"
    }
]
}
```


2020-02-10T03:22:26.756Z - INFO - Registration message contains cpiSignatureData
2020-02-10T03:22:26.756Z - INFO - protectedHeader = {u'alg': u'RS256', u'typ': u'JWT'}

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

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

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

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

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


```
"registrationRequest": [
    {
        "airInterface": {
            "radioTechnology": "E_UTRA",
            "supportedSpec": "FFS"
        },
        "callSign": "LEAX",
        "cbsdCategory": "B",
        "cbsdInfo": {
            "model": "LBS7320",
            "softwareVersion": "LeaxBTS_V2.0.4.1",
            "vendor": "Radisys"
        },
        "cbsdSerialNumber": "22020300003A1952J0003",
        "cpiSignatureData": {
            "digitalSignature":
"qPXYh7DOCEjPEV2p1gXuue-xZ7ODiTgWxR2VH8ltCVPWRYLFahIsF1mU-Yvlebm477Hog_ZsjYEW
Nb3ctU7C42i_0FH3qMIQ1sCtzQbBYgv7oQ0UWYkpH86v5jNPO-7jh5Dgzd4yNjoXdnGqNx3nFt2VRLE
VjgbuFfk_ECT8-giN8BuzTU85NS8eBIsus99_YltdDoCMjJtJSS_XEJCc5P8Yi0DPVsMf2K2MceU3aQsLI
t_eTi5gRg5wwtHRF_zTjCVN1NVY9Zh0IeHXUv1WpaXaywqWzgqWTiUN_oNfjDsqmTvLKCRCFI6_uM
7_UWBrMXP6gj-_HRAVRaAqlZwTcQ",
            "encodedCpiSignedData":
"eyJjYnNkU2VyaWFsTnVtYmVyIjoiMjIwMjAzMDAwMDNBMTk1MkowMDAzIiwiZmNjSWQiOiIyQVZGTk
xCUzczMjAiLCJpbnN0YWxsYXRpb25QYXJhbSI6eyJhbnRlbm5hQXppbXV0aCI6NywiYW50ZW5uYUJl
YW13aWR0aCI6NjUsImFudGVubmFEb3dudGlsdCI6MCwiYW50ZW5uYUdhaW4iOjE2LjUsImhlaWdod
CI6MywiaGVpZ2h0VHlwZSI6IkFHTCIsImluZG9vckRlcGxveW1lbnQiOmZhbHNlLCJsYXRpdHVkZSI6M
zcuNDExMzMxLCJsb25naXR1ZGUiOi0xMjIuMDE4OTQyfSwicHJvZmVzc2lvbmFsSW5zdGFsbGVyRG
F0YSI6eyJjcGlJZCI6IjAwMSIsImNwaU5hbWUiOiJ5dWkiLCJpbnN0YWxsQ2VydGlmaWNhdGlvblRpbW
UiOiIyMDIwLTAyLTEwVDAzOjI4OjMyWiJ9fQ",
            "protectedHeader": "eyJhbGciOiJSUzI1NiIsInR5cCI6IkpXVCJ9"
        },
        "fccId": "2AVFNLBS7320",
        "groupingParam": [
            {
                "groupId": "GW",
                "groupType": "INTERFERENCE_COORDINATION"
            }
        ],
        "measCapability": [
            "RECEIVED_POWER_WITH_GRANT",
            "RECEIVED_POWER_WITHOUT_GRANT"
        ],
        "userId": "GW"
    }
]
}
```


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

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

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

"heartbeatResponse": [
{
"cbsdId": "2AVFNLBS7320Mock-SAS22020300003A1952J0003",
"grantId": "515460927",
"response": {
"responseCode": 0
},
"transmitExpireTime": "2020-02-10T03:31:48Z"
}
]
}
2020-02-10T03:28:54.507Z - INFO - heartbeat request from CBRS : {
"heartbeatRequest": [
{
"cbsdId": "2AVFNLBS7320Mock-SAS22020300003A1952J0003",
"grantId": "515460927",
"grantRenew": false,
"operationState": "AUTHORIZED"
}
]
}

2020-02-10T03:28:54.509Z - INFO - Time interval between two heartbeat request messages is: 26.483, limit is: 65.0
2020-02-10T03:28:54.516Z - INFO - engine sent successfully, the response to CBRS : {

"heartbeatResponse": [
{
"cbsdId": "2AVFNLBS7320Mock-SAS22020300003A1952J0003",
"grantId": "515460927",
"response": {
"responseCode": 0
},
"transmitExpireTime": "2020-02-10T03:32:14Z"
}
]
}
2020-02-10T03:29:54.505Z - INFO - heartbeat request from CBRS : {
"heartbeatRequest": [
{
"cbsdId": "2AVFNLBS7320Mock-SAS22020300003A1952J0003",
"grantId": "515460927",
"grantRenew": false,
"operationState": "AUTHORIZED"
}
]
}

2020-02-10T03:29:54.506Z - INFO - Time interval between two heartbeat request messages is: 59.996, limit is: 65.0
2020-02-10T03:29:54.513Z - INFO - engine sent successfully, the response to CBRS : {

"heartbeatResponse": [
{
"cbsdId": "2AVFNLBS7320Mock-SAS22020300003A1952J0003",
"grantId": "515460927",

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

2020-02-10T03:30:56.585Z - INFO - the question is : Did the CBSD stop RF transmission within 60 seconds of receiving Heartbeat response with responseCode = 501? please choose one of the answers :
2020-02-10T03:31:06.573Z - INFO - for the question : Did the CBSD stop RF transmission within 60 seconds of receiving Heartbeat response with responseCode = 501? , the user choose y
2020-02-10T03:31:19.493Z - INFO - The final result of the test : WINNF.FT.C.HBT.6 is - passed and :the additional comments for the current test are : CBSD stop transmission at T03:30:54.6

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

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


```
"registrationRequest": [
    {
        "airInterface": {
            "radioTechnology": "E_UTRA",
            "supportedSpec": "FFS"
        },
        "callSign": "LEAX",
        "cbsdCategory": "B",
        "cbsdInfo": {
            "model": "LBS7320",
            "softwareVersion": "LeaxBTS_V2.0.4.1",
            "vendor": "Radisys"
        },
        "cbsdSerialNumber": "22020300003A1952J0003",
        "cpiSignatureData": {
            "digitalSignature":
"qqTATQZXCGOV1u2bwCEff_XLa2dRimCcxp7uaR_Qsxtcxak9CJ1I7A0_EDjXmZ4b4CD-lr1EqtDZcSV
llvyrxliNHumyE-TjcmJWCtpGk4eWA4vXGPqOAmvklTpMBVO1_9_S7bwUD0YrNghwvsqZ4C6VsGOTg
zbwMo5N5uckCUyO85yR6GAffxuBkFh9NMvdJ8FzoYHMX-D4vriqPbn9SrC97rkCH13KkWUnZgeFKgw
i9hBIt0QKhQcBv_ROpa-P_Dn982PeQs1BKC57U4C2QkS5rkF5-3-Yd1TWcSTKrqKlS3-Yc6oyvQJJuyh
2Mpj_11ra7xBDjdwUpyKnJ5iY7g",
            "encodedCpiSignedData":
"eyJjYnNkU2VyaWFsTnVtYmVyIjoiMjIwMjAzMDAwMDNBMTk1MkowMDAzIiwiZmNjSWQiOiIyQVZGTk
xCUzczMjAiLCJpbnN0YWxsYXRpb25QYXJhbSI6eyJhbnRlbm5hQXppbXV0aCI6NywiYW50ZW5uYUJl
YW13aWR0aCI6NjUsImFudGVubmFEb3dudGlsdCI6MCwiYW50ZW5uYUdhaW4iOjE2LjUsImhlaWdod
CI6MywiaGVpZ2h0VHlwZSI6IkFHTCIsImluZG9vckRlcGxveW1lbnQiOmZhbHNlLCJsYXRpdHVkZSI6M
zcuNDExMzMxLCJsb25naXR1ZGUiOi0xMjIuMDE4OTQyfSwicHJvZmVzc2lvbmFsSW5zdGFsbGVyRG
F0YSI6eyJjcGlJZCI6IjAwMSIsImNwaU5hbWUiOiJ5dWkiLCJpbnN0YWxsQ2VydGlmaWNhdGlvblRpbW
UiOiIyMDIwLTAyLTEwVDAzOjM5OjMyWiJ9fQ",
            "protectedHeader": "eyJhbGciOiJSUzI1NiIsInR5cCI6IkpXVCJ9"
        },
        "fccId": "2AVFNLBS7320",
        "groupingParam": [
            {
                "groupId": "GW",
                "groupType": "INTERFERENCE_COORDINATION"
            }
        ],
        "measCapability": [
            "RECEIVED_POWER_WITH_GRANT",
            "RECEIVED_POWER_WITHOUT_GRANT"
        ],
        "userId": "GW"
    }
]
}
```


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

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

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

"heartbeatResponse": [
{
"cbsdId": "2AVFNLBS7320Mock-SAS22020300003A1952J0003",
"grantId": "724373066",
"response": {
"responseCode": 0
},
"transmitExpireTime": "2020-02-10T03:42:48Z"
}
]
}
2020-02-10T03:39:54.476Z - INFO - heartbeat request from CBRS : {
"heartbeatRequest": [
{
"cbsdId": "2AVFNLBS7320Mock-SAS22020300003A1952J0003",
"grantId": "724373066",
"grantRenew": false,
"operationState": "AUTHORIZED"
}
]
}

2020-02-10T03:39:54.476Z - INFO - Time interval between two heartbeat request messages is: 26.333, limit is: 65.0

2020-02-10T03:39:54.483Z - INFO - engine sent successfully, the response to CBRS : {
"heartbeatResponse": [
{
"cbsdId": "2AVFNLBS7320Mock-SAS22020300003A1952J0003",
"grantId": "724373066",
"response": {
"responseCode": 0
},
"transmitExpireTime": "2020-02-10T03:43:14Z"
}
]
}
2020-02-10T03:40:54.473Z - INFO - heartbeat request from CBRS : {
"heartbeatRequest": [
{
"cbsdId": "2AVFNLBS7320Mock-SAS22020300003A1952J0003",
"grantId": "724373066",
"grantRenew": false,
"operationState": "AUTHORIZED"
}
]
}

2020-02-10T03:40:54.476Z - INFO - Time interval between two heartbeat request messages is: 59.998, limit is: 65.0

2020-02-10T03:40:54.483Z - INFO - engine sent successfully, the response to CBRS : {
"heartbeatResponse": [
{
"cbsdId": "2AVFNLBS7320Mock-SAS22020300003A1952J0003",
"grantId": "724373066",

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

2020-02-10T03:41:56.065Z - INFO - the question is : Did the CBSD stop RF transmission within 60 seconds of receiving Heartbeat response with responseCode = 502? please choose one of the answers :
2020-02-10T03:42:31.737Z - INFO - for the question : Did the CBSD stop RF transmission within 60 seconds of receiving Heartbeat response with responseCode = 502? , the user choose y
2020-02-10T03:42:35.579Z - INFO - The final result of the test : WINNF.FT.C.HBT.7 is - passed and :the additional comments for the current test are : CBSD stop transmission at T03:41:54.57

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

2020-02-10T05:39:43.729Z - INFO - WINNF TEST HARNESS RELEASE: 1.0.0.3 - 2018-November-13
2020-02-10T05:39:43.730Z - INFO - the selected test from the user : WINNF.FT.D.HBT.8 is starting now
2020-02-10T05:40:26.417Z - INFO - registration request from CBRS : {


```
"registrationRequest": [
    {
        "airInterface": {
            "radioTechnology": "E_UTRA",
            "supportedSpec": "FFS"
        },
        "callSign": "LEAX",
        "cbsdCategory": "B",
        "cbsdInfo": {
            "model": "LBS7320",
            "softwareVersion": "LeaxBTS_V2.0.4.1",
            "vendor": "Radisys"
        },
        "cbsdSerialNumber": "22020300003A1952J0003",
        "cpiSignatureData": {
            "digitalSignature":
"Q1ZOrnOV0eQWYA4AK4Wd0BToDfQOi3hvDMLKHKiCskS9nuOuVPZQGiPEkFaxdOMxUx9IEp_7ax
xD4koIb9INIf-MZD2NbhILOIMzhmmbrFAVBUa7a9zxCW-obZ2RzZRuceHlsxOYrRey92orEKroZMHVW
gv7_y-laxH0T_b6FfBtI3lezHPO0gycnUufl-22vnyKsa7du0QeEyBH_CKVkjqHe9l44PaLKXMB2EakMqluq
Q77p6y1sp1UGqYSIJSXB0cO1Pa8_VhZ8y5flg9NMDZQRCb30HC72l3Fx0P3j9-n0XJwRbRNE0pDEC4
ZzRG0smpT_bo-L_7oI27oo-WAJQ",
            "encodedCpiSignedData":
"eyJjYnNkU2VyaWFsTnVtYmVyIjoiMjIwMjAzMDAwMDNBMTk1MkowMDAzIiwiZmNjSWQiOiIyQVZGTk
xCUzczMjAiLCJpbnN0YWxsYXRpb25QYXJhbSI6eyJhbnRlbm5hQXppbXV0aCI6NywiYW50ZW5uYUJl
YW13aWR0aCI6NjUsImFudGVubmFEb3dudGlsdCI6MCwiYW50ZW5uYUdhaW4iOjE2LjUsImhlaWdod
CI6MywiaGVpZ2h0VHlwZSI6IkFHTCIsImluZG9vckRlcGxveW1lbnQiOmZhbHNlLCJsYXRpdHVkZSI6M
zcuNDExMzMxLCJsb25naXR1ZGUiOi0xMjIuMDE4OTQyfSwicHJvZmVzc2lvbmFsSW5zdGFsbGVyRG
F0YSI6eyJjcGlJZCI6IjAwMSIsImNwaU5hbWUiOiJ5dWkiLCJpbnN0YWxsQ2VydGlmaWNhdGlvblRpbW
UiOiIyMDIwLTAyLTEwVDA1OjQwOjMyWiJ9fQ",
            "protectedHeader": "eyJhbGciOiJSUzI1NiIsInR5cCI6IkpXVCJ9"
        },
        "fccId": "2AVFNLBS7320",
        "groupingParam": [
            {
                "groupId": "GW",
                "groupType": "INTERFERENCE_COORDINATION"
            }
        ],
        "measCapability": [
            "RECEIVED_POWER_WITH_GRANT",
            "RECEIVED_POWER_WITHOUT_GRANT"
        ],
        "userId": "GW"
    },
    {
        "airInterface": {
            "radioTechnology": "E_UTRA",
            "supportedSpec": "FFS"
```

```
            },
            "callSign": "LEAX",
            "cbsdCategory": "B",
            "cbsdInfo": {
                "model": "LBS7320",
                "softwareVersion": "LeaxBTS_V2.0.4.1",
                "vendor": "Radisys"
            },
            "cbsdSerialNumber": "22020300003A1952J0004",
            "cpiSignatureData": {
                "digitalSignature":
"JVLXq6_R6BNmaslEjpATxipOz4-U3kfMrmu_37JHzpL3FdGrWfLfPW1LaSIkrNLmPkRGAyGh0gMAIK2
_2bUSAT17lDFYhkCN1I2hhjinzQu_1NsXPwgO8v-9EhzTcBEQqOCfcCOgueHAVAttraASYZQ_sTxHN
Mk5qzsyRx-GBt4CC2iqGBQyj9xb19Z3czFpku7l7SYGOjwo8fvJSVtEwXOw86qor6kUli5QUMvxgXPoj-lE
SdXNritAKs7OVvOygcZ3-nAi5JLuxm7iJBlXBQr_wogeHiGx-KvZy9vvgSpt7Uc4Njr9-7l_5w4RtAsYD6lYA
XhmRbGNaT5DTqzOcQ",
                "encodedCpiSignedData":
"eyJjYnNkU2VyaWFsTnVtYmVyIjoiMjIwMjAzMDAwMDNBMTk1MkowMDA0IiwiZmNjSWQiOiIyQVZGTk
xCUzczMjAiLCJpbnN0YWxsYXRpb25QYXJhbSI6eyJhbnRlbm5hQXppbXV0aCI6NywiYW50ZW5uYUJl
YW13aWR0aCI6NjUsImFudGVubmFEb3dudGlsdCI6MCwiYW50ZW5uYUdhaW4iOjE2LjUsImhlaWdodd
CI6MywiaGVpZ2h0VHlwZSI6IkFHTCIsImluZG9vckRlcGxveW1lbnQiOmZhbHNlLCJsYXRpdHVkZSI6M
zcuNDExMzMxLCJsb25naXR1ZGUiOi0xMjIuMDE4OTQyfSwicHJvZmVzc2lvbmFsSW5zdGFsbGVyRG
F0YSI6eyJjcGlJZCI6IjAwMSIsImNwaU5hbWUiOiJ5dWkiLCJpbnN0YWxsQ2VydGlmaWNhdGlvblRpbW
UiOiIyMDIwLTAyLTEwVDA1OjQwOjMyWiJ9fQ",
                "protectedHeader": "eyJhbGciOiJSUzI1NiIsInR5cCI6IkpXVCJ9"
            },
            "fccId": "2AVFNLBS7320",
            "groupingParam": [
                {
                    "groupId": "GW",
                    "groupType": "INTERFERENCE_COORDINATION"
                }
            ],
            "measCapability": [
                "RECEIVED_POWER_WITH_GRANT",
                "RECEIVED_POWER_WITHOUT_GRANT"
            ],
            "userId": "GW"
        }
    ]
}
2020-02-10T05:40:26.480Z - INFO - Registration message contains cpiSignatureData
2020-02-10T05:40:26.480Z - INFO - protectedHeader = {u'alg': u'RS256', u'typ': u'JWT'}
2020-02-10T05:40:26.480Z - INFO - encodedCpiSignedData contents = {
    "installationParam": {
        "antennaAzimuth": 7,
        "heightType": "AGL",
        "longitude": -122.018942,
        "height": 3,
        "indoorDeployment": false,
        "latitude": 37.411331,
        "antennaDowntilt": 0,
```

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

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

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

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

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

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

```
            }
        ]
}
```

2020-02-10T05:42:55.806Z - INFO - arrived to nstep starting question answer session with the technician
2020-02-10T05:42:55.809Z - INFO - the question is : Did the CBSD1 transmit power prior to AUTHORIZED state (first successful HBT response)? please choose one of the answers :
2020-02-10T05:43:23.117Z - INFO - for the question : Did the CBSD1 transmit power prior to AUTHORIZED state (first successful HBT response)? , the user choose n
2020-02-10T05:43:23.118Z - INFO - the question is : Did the CBSD2 stop RF transmission within 60 seconds of receiving Heartbeat response with responseCode = 500? please choose one of the answers :
2020-02-10T05:43:28.424Z - INFO - for the question : Did the CBSD2 stop RF transmission within 60 seconds of receiving Heartbeat response with responseCode = 500? , the user choose y
2020-02-10T05:43:35.296Z - INFO - The final result of the test : WINNF.FT.D.HBT.8 is - passed and :the additional comments for the current test are : CBSD2 stop transmission at T05:42:55

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

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


```
"registrationRequest": [
    {
        "airInterface": {
            "radioTechnology": "E_UTRA",
            "supportedSpec": "FFS"
        },
        "callSign": "LEAX",
        "cbsdCategory": "B",
        "cbsdInfo": {
            "model": "LBS7320",
            "softwareVersion": "LeaxBTS_V2.0.4.1",
            "vendor": "Radisys"
        },
        "cbsdSerialNumber": "22020300003A1952J0003",
        "cpiSignatureData": {
            "digitalSignature":
"jLs0iCbU8J7dqIGQER7d-rp3WOELOfPWm9zknLfnt0hA9wkFcxgCaoxD-2dmyCgr1_5sPiIB5nnuEWNb
G4SfbwIR_n01Jmip2i2ZPfA1wvI61HiuHB7G2Q5mo47cc6KxRkNDdJfKLhditNXFYCnKA7b1QxIKh5RB
W-kTje4YYdFzAoU5NgJlk4i1hmLVBxZ1FZ8GhzTM07zU3C38rWbIoajVRhh0WudlzBhGzAYTayz1PpY
aMzEPv-f80yjXJzef-l6d4Flb8120rlbOqzOGr9MJRyHLKfzJmUqRajlBOqTgqRxYyIgooxUweJXSfWBYeJ
YiQI3_Z2aYOdwXH1C-6Q",
            "encodedCpiSignedData":
"eyJjYnNkU2VyaWFsTnVtYmVyIjoiMjIwMjAzMDAwMDNBMTk1MkowMDAzIiwiZmNjSWQiOiIyQVZGTk
xCUzczMjAiLCJpbnN0YWxsYXRpb25QYXJhbSI6eyJhbnRlbm5hQXppbXV0aCI6NywiYW50ZW5uYUJl
YW13aWR0aCI6NjUsImFudGVubmFEb3dudGlsdCI6MCwiYW50ZW5uYUdhaW4iOjE2LjUsImhlaWdod
CI6MywiaGVpZ2h0VHlwZSI6IkFHTCIsImluZG9vckRlcGxveW1lbnQiOmZhbHNlLCJsYXRpdHVkZSI6M
zcuNDExMzMxLCJsb25naXR1ZGUiOi0xMjIuMDE4OTQyfSwicHJvZmVzc2lvbmFsSW5zdGFsbGVyRG
F0YSI6eyJjcGlJZCI6IjAwMSIsImNwaU5hbWUiOiJ5dWkiLCJpbnN0YWxsQ2VydGlmaWNhdGlvblRpbW
UiOiIyMDIwLTAyLTEwVDA1OjQ4OjMyWiJ9fQ",
            "protectedHeader": "eyJhbGciOiJSUzI1NiIsInR5cCI6IkpXVCJ9"
        },
        "fccId": "2AVFNLBS7320",
        "groupingParam": [
            {
                "groupId": "GW",
                "groupType": "INTERFERENCE_COORDINATION"
            }
        ],
        "measCapability": [
            "RECEIVED_POWER_WITH_GRANT",
            "RECEIVED_POWER_WITHOUT_GRANT"
        ],
        "userId": "GW"
    }
]
}
```


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

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

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

"heartbeatRequest": [
{
"cbsdId": "2AVFNLBS7320Mock-SAS22020300003A1952J0003",
"grantId": "404300530",
"grantRenew": false,
"operationState": "GRANTED"
}
]
}

2020-02-10T05:49:26.397Z - INFO - request message received while HBT is absent, sleep 146 sec before responding

2020-02-10T05:50:26.394Z - INFO - heartbeat request from CBRS : {

"heartbeatRequest": [
{
"cbsdId": "2AVFNLBS7320Mock-SAS22020300003A1952J0003",
"grantId": "404300530",
"grantRenew": false,
"operationState": "GRANTED"
}
]
}

2020-02-10T05:50:26.394Z - INFO - request message received while HBT is absent, sleep 86 sec before responding

2020-02-10T05:51:26.392Z - INFO - heartbeat request from CBRS : {

"heartbeatRequest": [
{
"cbsdId": "2AVFNLBS7320Mock-SAS22020300003A1952J0003",
"grantId": "404300530",
"grantRenew": false,
"operationState": "GRANTED"
}
]
}

2020-02-10T05:51:26.392Z - INFO - request message received while HBT is absent, sleep 26 sec before responding

2020-02-10T05:51:47.996Z - INFO - engine sent successfully, the response to CBRS : {

"heartbeatResponse": [
{
"cbsdId": "2AVFNLBS7320Mock-SAS22020300003A1952J0003",
"grantId": "404300530",
"response": {
"responseCode": 501
},
"transmitExpireTime": "2020-02-10T05:51:47Z"
}
]
}

2020-02-10T05:51:49.154Z - INFO - arrived to nstep starting question answer session with the technician

2020-02-10T05:51:49.157Z - INFO - the question is : Were there RF transmissions from the CBSD during the test? please choose one of the answers :

2020-02-10T05:51:52.394Z - INFO - engine sent successfully, the response to CBRS : "list index out of

range"
2020-02-10T05:51:52.397Z - INFO - engine sent successfully, the response to CBRS : "list index out of range"
2020-02-10T05:51:52.398Z - INFO - engine sent successfully, the response to CBRS : "list index out of range"
2020-02-10T05:53:16.295Z - INFO - for the question : Were there RF transmissions from the CBSD during the test? , the user choose n
2020-02-10T05:53:17.917Z - INFO - The final result of the test : WINNF.FT.C.HBT.9 is - passed

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

2020-02-10T06:08:44.759Z - INFO - WINNF TEST HARNESS RELEASE: 1.0.0.3 - 2018-November-13
2020-02-10T06:08:44.759Z - INFO - the selected test from the user : WINNF.FT.C.HBT.10 is starting now
2020-02-10T06:09:26.346Z - INFO - registration request from CBRS : {


```
"registrationRequest": [
    {
        "airInterface": {
            "radioTechnology": "E_UTRA",
            "supportedSpec": "FFS"
        },
        "callSign": "LEAX",
        "cbsdCategory": "B",
        "cbsdInfo": {
            "model": "LBS7320",
            "softwareVersion": "LeaxBTS_V2.0.4.1",
            "vendor": "Radisys"
        },
        "cbsdSerialNumber": "22020300003A1952J0003",
        "cpiSignatureData": {
            "digitalSignature":
"lQ2M7X453Q05Gb7tUqjzQa-lcWsvLBZb4Pca32Cw0z5Rzsp7wMLA-XLYo9hYHHAhzu00TweoyvHscH
JbRP1VeU8FJO4dMxP_AKMGEFrO1DqIDmHq5Gi4jH9JIqBxrWUVqhvblFp1RBMe3WfH5LAWnzgZfU
9yWhKxixqWrb6ugHsk8Ce9FoFYK529Tln-Gn8ECMPc-zWO-hZB32yKDA-dqbrTFLBcnDukr3qg3lU_nX
W0qW9afZ76Zt_ql6VUfZD2y0d7KlYHkKjCuk5b_I0MlrOHgCzrw55cF2uE1H7luy2BdKFyFCPSSt-GUm1
Vet8IqeNbwgXl98dkVs_18BjUfQ",
            "encodedCpiSignedData":
"eyJjYnNkU2VyaWFsTnVtYmVyIjoiMjIwMjAzMDAwMDNBMTk1MkowMDAzIiwiZmNjSWQiOiIyQVZGTk
xCUzczMjAiLCJpbnN0YWxsYXRpb25QYXJhbSI6eyJhbnRlbm5hQXppbXV0aCI6NywiYW50ZW5uYUJl
YW13aWR0aCI6NjUsImFudGVubmFEb3dudGlsdCI6MCwiYW50ZW5uYUdhaW4iOjE2LjUsImhlaWdod
CI6MywiaGVpZ2h0VHlwZSI6IkFHTCIsImluZG9vckRlcGxveW1lbnQiOmZhbHNlLCJsYXRpdHVkZSI6M
zcuNDExMzMxLCJsb25naXR1ZGUiOi0xMjIuMDE4OTQyfSwicHJvZmVzc2lvbmFsSW5zdGFsbGVyRG
F0YSI6eyJjcGlJZCI6IjAwMSIsImNwaU5hbWUiOiJ5dWkiLCJpbnN0YWxsQ2VydGlmaWNhdGlvblRpbW
UiOiIyMDIwLTAyLTEwVDA2OjA5OjMyWiJ9fQ",
            "protectedHeader": "eyJhbGciOiJSUzI1NiIsInR5cCI6IkpXVCJ9"
        },
        "fccId": "2AVFNLBS7320",
        "groupingParam": [
            {
                "groupId": "GW",
                "groupType": "INTERFERENCE_COORDINATION"
            }
        ],
        "measCapability": [
            "RECEIVED_POWER_WITH_GRANT",
            "RECEIVED_POWER_WITHOUT_GRANT"
        ],
        "userId": "GW"
    }
]
}
```


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

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

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

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

```
            {
                "cbsdId": "2AVFNLBS7320Mock-SAS22020300003A1952J0003",
                "grantId": "406094434",
                "grantRenew": false,
                "operationState": "AUTHORIZED"
            }
        ]
}
```


2020-02-10T06:11:54.187Z - INFO - request message received while HBT is absent, sleep 145 sec before responding

2020-02-10T06:12:54.181Z - INFO - heartbeat request from CBRS : {


```
    "heartbeatRequest": [
            {
                "cbsdId": "2AVFNLBS7320Mock-SAS22020300003A1952J0003",
                "grantId": "406094434",
                "grantRenew": false,
                "operationState": "AUTHORIZED"
            }
        ]
}
```


2020-02-10T06:12:54.181Z - INFO - request message received while HBT is absent, sleep 85 sec before responding

2020-02-10T06:13:26.477Z - INFO - relinquishment request from CBRS : {


```
    "relinquishmentRequest": [
            {
                "cbsdId": "2AVFNLBS7320Mock-SAS22020300003A1952J0003",
                "grantId": "406094434"
            }
        ]
}
```


2020-02-10T06:13:26.479Z - INFO - request message received while HBT is absent, sleep 52 sec before responding

2020-02-10T06:14:14.200Z - INFO - engine sent successfully, the response to CBRS : {


```
    "heartbeatResponse": [
            {
                "cbsdId": "2AVFNLBS7320Mock-SAS22020300003A1952J0003",
                "grantId": "406094434",
                "response": {
                    "responseCode": 501
                },
                "transmitExpireTime": "2020-02-10T06:14:14Z"
            }
        ]
}
```


2020-02-10T06:14:15.964Z - INFO - arrived to nstep starting question answer session with the technician

2020-02-10T06:14:15.966Z - INFO - the question is : Did the CBSD stop RF transmissions within (transmitExpireTime + 60seconds) of last valid heartbeat response? please choose one of the answers :

2020-02-10T06:14:18.480Z - INFO - engine sent successfully, the response to CBRS : "list index out of range"

2020-02-10T06:14:19.184Z - INFO - engine sent successfully, the response to CBRS : "list index out of range"

2020-02-10T06:14:19.187Z - INFO - engine sent successfully, the response to CBRS : "list index out of range"
2020-02-10T06:14:20.980Z - INFO - for the question : Did the CBSD stop RF transmissions within (transmitExpireTime + 60seconds) of last valid heartbeat response? , the user choose y
2020-02-10T06:14:26.875Z - INFO - The final result of the test : WINNF.FT.C.HBT.10 is - passed and :the additional comments for the current test are : CBSD stop transmission at T06:13:26.4

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

2020-02-10T06:22:01.335Z - INFO - WINNF TEST HARNESS RELEASE: 1.0.0.3 - 2018-November-13
2020-02-10T06:22:01.335Z - INFO - the selected test from the user : WINNF.FT.C.HBT.11 is starting now
2020-02-10T06:22:26.323Z - INFO - registration request from CBRS : {


```
"registrationRequest": [
    {
        "airInterface": {
            "radioTechnology": "E_UTRA",
            "supportedSpec": "FFS"
        },
        "callSign": "LEAX",
        "cbsdCategory": "B",
        "cbsdInfo": {
            "model": "LBS7320",
            "softwareVersion": "LeaxBTS_V2.0.4.1",
            "vendor": "Radisys"
        },
        "cbsdSerialNumber": "22020300003A1952J0003",
        "cpiSignatureData": {
            "digitalSignature":
"lZhLdxBwyad3lfV_xU93J_Mh75FsdVp05xNQk26L1NKJ_LRD7lf6GFB5wVc30pWNWqMQTUDcH3z52GZV5nfqgOFKt5ke3tq0HtAh10ek0t65rz3hpQn-dNwgqYDgIGBFpanoxZiiD0vjsrDOGzkNYdvSK9ud_feEhkpBBcIIzmQm2qRw_144V7L7EX-rJ7dtKcl_idm0wDIW0xDF9IudITFkKLbbeZsPuHLt6aQ2SEGE_FO6lpiXFiZrbKCcsyaBk0RENxraqhIb3Kdha89m-vCfFCSss3P9eeA3GkfvDR8a4Jt6PTvRzNUmjXCveYZDpeKC87yEVw0M8_RyPFnwPw",
            "encodedCpiSignedData":
"eyJjYnNkU2VyaWFsTnVtYmVyIjoiMjIwMjAzMDAwMDNBMTk1MkowMDAzIiwiZmNjSWQiOiIyQVZGTkxCUzczMjAiLCJpbnN0YWxsYXRpb25QYXJhbSI6eyJhbnRlbm5hQXppbXV0aCI6NywiYW50ZW5uYUJlYW13aWR0aCI6NjUsImFudGVubmFEb3dudGlsdCI6MCwiYW50ZW5uYUdhaW4iOjE2LjUsImhlaWdodCI6MywiaGVpZ2h0VHlwZSI6IkFHTCIsImluZG9vckRlcGxveW1lbnQiOmZhbHNlLCJsYXRpdHVkZSI6MzcuNDExMzMxLCJsb25naXR1ZGUiOi0xMjIuMDE4OTQyfSwicHJvZmVzc2lvbmFsSW5zdGFsbGVyRGF0YSI6eyJjcGlJZCI6IjAwMSIsImNwaU5hbWUiOiJ5dWkiLCJpbnN0YWxsQ2VydGlmaWNhdGlvblRpbWUiOiIyMDIwLTAyLTEwVDA2OjIyOjMyWiJ9fQ",
            "protectedHeader": "eyJhbGciOiJSUzI1NiIsInR5cCI6IkpXVCJ9"
        },
        "fccId": "2AVFNLBS7320",
        "groupingParam": [
            {
                "groupId": "GW",
                "groupType": "INTERFERENCE_COORDINATION"
            }
        ],
        "measCapability": [
            "RECEIVED_POWER_WITH_GRANT",
            "RECEIVED_POWER_WITHOUT_GRANT"
        ],
        "userId": "GW"
    }
]
}
```


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

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

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

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

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

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

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

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

2020-02-10T07:04:41.565Z - INFO - WINNF TEST HARNESS RELEASE: 1.0.0.3 - 2018-November-13
2020-02-10T07:04:41.566Z - INFO - the selected test from the user : WINNF.FT.D.MES.2 is starting now
2020-02-10T07:05:26.243Z - INFO - registration request from CBRS : {


```
"registrationRequest": [
    {
        "airInterface": {
            "radioTechnology": "E_UTRA",
            "supportedSpec": "FFS"
        },
        "callSign": "LEAX",
        "cbsdCategory": "B",
        "cbsdInfo": {
            "model": "LBS7320",
            "softwareVersion": "LeaxBTS_V2.0.4.1",
            "vendor": "Radisys"
        },
        "cbsdSerialNumber": "22020300003A1952J0003",
        "cpiSignatureData": {
            "digitalSignature":
"LSZyu-soElMT3qu4sfjs46FjdHpUdv0d0-Tdcg8S1OCM-oLgJGlfkukaLK-LANPtPxNfNab5SQMl8kR8ku
9bC8AxTR-D9lfxyYfVZGYEnhny2rltv358_CRdvaUWjk1y9Diduvl7wgcja_z3L60Tf3M76PSlNy4SzpC-3M
KpyJJevVufKDW4CwmQfF180qijrKhUUwms8OsBDk4AfW5uKAmq0RM-D_flf3u-7ck263nnGRYUZzbqc
tmYR1fF9TT4O94XTzPfftwQxn_8ASr9qDurBudmWq-mXS7-z2wSmsz5UBwc-cLoI-9zXEHSpOO_b0tOI
YX8gXiI7IDn1Qta-w",
            "encodedCpiSignedData":
"eyJjYnNkU2VyaWFsTnVtYmVyIjoiMjIwMjAzMDAwMDNBMTk1MkowMDAzIiwiZmNjSWQiOiIyQVZGTk
xCUzczMjAiLCJpbnN0YWxsYXRpb25QYXJhbSI6eyJhbnRlbm5hQXppbXV0aCI6NywiYW50ZW5uYUJl
YW13aWR0aCI6NjUsImFudGVubmFEb3dudGlsdCI6MCwiYW50ZW5uYUdhaW4iOjE2LjUsImhlaWdod
CI6MywiaGVpZ2h0VHlwZSI6IkFHTCIsImluZG9vckRlcGxveW1lbnQiOmZhbHNlLCJsYXRpdHVkZSI6M
zcuNDExMzMxLCJsb25naXR1ZGUiOi0xMjIuMDE4OTQyfSwicHJvZmVzc2lvbmFsSW5zdGFsbGVyRG
F0YSI6eyJjcGlJZCI6IjAwMSIsImNwaU5hbWUiOiJ5dWkiLCJpbnN0YWxsQ2VydGlmaWNhdGlvblRpbW
UiOiIyMDIwLTAyLTEwVDA3OjA1OjMyWiJ9fQ",
            "protectedHeader": "eyJhbGciOiJSUzI1NiIsInR5cCI6IkpXVCJ9"
        },
        "fccId": "2AVFNLBS7320",
        "groupingParam": [
            {
                "groupId": "GW",
                "groupType": "INTERFERENCE_COORDINATION"
            }
        ],
        "measCapability": [
            "RECEIVED_POWER_WITH_GRANT",
            "RECEIVED_POWER_WITHOUT_GRANT"
        ],
        "userId": "GW"
    },
    {
        "airInterface": {
            "radioTechnology": "E_UTRA",
```

```
                "supportedSpec": "FFS"
            },
            "callSign": "LEAX",
            "cbsdCategory": "B",
            "cbsdInfo": {
                "model": "LBS7320",
                "softwareVersion": "LeaxBTS_V2.0.4.1",
                "vendor": "Radisys"
            },
            "cbsdSerialNumber": "22020300003A1952J0004",
            "cpiSignatureData": {
                "digitalSignature":
"nnwsc5Scps_h2FKBlOVg8yx2sSHPNlONWkNrLZw7xoQZGxfq4LGhOszf3NTDBnSB6bIU6ThLCkvnM
dYSBCkwbC9jBqsSzX5J_Mmf6kbIf5PwlGXVhXfrEC7p0-87wEE1npVH7uad8F2DTxSf9KaGxTdbyOrHI
k4DuBgXACrMFZrCpYlsOTnoFkj5cPS73vwVdGlx-Obww68PO0255WlNvwmOspX2IwFvi3ZwTLVGeA
mXS29pOgLuilS5kBcVaGcpeELlHMRVHfWhxX9zIkyezq3dVHGnlsHKDi9bQrSmKpPrXJQWNQhZWFZ
Eco_vROjBaGPrLLiQ4dCuadBbqRtvOw",
                "encodedCpiSignedData":
"eyJjYnNkU2VyaWFsTnVtYmVyIjoiMjIwMjAzMDAwMDNBMTk1MkowMDA0IiwiZmNjSWQiOiIyQVZGTk
xCUzczMjAiLCJpbnN0YWxsYXRpb25QYXJhbSI6eyJhbnRlbm5hQXppbXV0aCI6NywiYW50ZW5uYUJl
YW13aWR0aCI6NjUsImFudGVubmFEb3dudGlsdCI6MCwiYW50ZW5uYUdhaW4iOjE2LjUsImhlaWdod
CI6MywiaGVpZ2h0VHlwZSI6IkFHTCIsImluZG9vckRlcGxveW1lbnQiOmZhbHNlLCJsYXRpdHVkZSI6M
zcuNDExMzMxLCJsb25naXR1ZGUiOi0xMjIuMDE4OTQyfSwicHJvZmVzc2lvbmFsSW5zdGFsbGVyRG
F0YSI6eyJjcGlJZCI6IjAwMSIsImNwaU5hbWUiOiJ5dWkiLCJpbnN0YWxsQ2VydGlmaWNhdGlvblRpbW
UiOiIyMDIwLTAyLTEwVDA3OjA1OjMyWiJ9fQ",
                "protectedHeader": "eyJhbGciOiJSUzI1NiIsInR5cCI6IkpXVCJ9"
            },
            "fccId": "2AVFNLBS7320",
            "groupingParam": [
                {
                    "groupId": "GW",
                    "groupType": "INTERFERENCE_COORDINATION"
                }
            ],
            "measCapability": [
                "RECEIVED_POWER_WITH_GRANT",
                "RECEIVED_POWER_WITHOUT_GRANT"
            ],
            "userId": "GW"
        }
    ]
}
2020-02-10T07:05:26.305Z - INFO - Registration message contains cpiSignatureData
2020-02-10T07:05:26.305Z - INFO - protectedHeader = {u'alg': u'RS256', u'typ': u'JWT'}
2020-02-10T07:05:26.305Z - INFO - encodedCpiSignedData contents = {
    "installationParam": {
        "antennaAzimuth": 7,
        "heightType": "AGL",
        "longitude": -122.018942,
        "height": 3,
        "indoorDeployment": false,
        "latitude": 37.411331,
```

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

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

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

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

```
                        "measBandwidth": 10000000,
                        "measFrequency": 3640000000,
                        "measRcvdPower": -100
                    },
                    {
                        "measBandwidth": 10000000,
                        "measFrequency": 3650000000,
                        "measRcvdPower": -100
                    },
                    {
                        "measBandwidth": 10000000,
                        "measFrequency": 3660000000,
                        "measRcvdPower": -100
                    },
                    {
                        "measBandwidth": 10000000,
                        "measFrequency": 3670000000,
                        "measRcvdPower": -100
                    },
                    {
                        "measBandwidth": 10000000,
                        "measFrequency": 3680000000,
                        "measRcvdPower": -100
                    },
                    {
                        "measBandwidth": 10000000,
                        "measFrequency": 3690000000,
                        "measRcvdPower": -100
                    }
                ]
            }
        }
    ]
}
2020-02-10T07:05:26.723Z - INFO - engine sent successfully, the response to CBRS    : {
    "spectrumInquiryResponse": [
        {
            "availableChannel": [
                {
                    "channelType": "GAA",
                    "frequencyRange": {
                        "highFrequency": 3700000000,
                        "lowFrequency": 3550000000
                    },
                    "ruleApplied": "FCC_PART_96"
                }
            ],
            "cbsdId": "2AVFNLBS7320Mock-SAS22020300003A1952J0003",
            "response": {
                "responseCode": 0
            }
        },
```

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

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

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

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

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


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

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

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

2020-02-10T06:30:40.667Z - INFO - WINNF TEST HARNESS RELEASE: 1.0.0.3 - 2018-November-13
2020-02-10T06:30:40.668Z - INFO - the selected test from the user : WINNF.FT.C.MES.3 is starting now
2020-02-10T06:31:26.302Z - INFO - registration request from CBRS : {


```
"registrationRequest": [
    {
        "airInterface": {
            "radioTechnology": "E_UTRA",
            "supportedSpec": "FFS"
        },
        "callSign": "LEAX",
        "cbsdCategory": "B",
        "cbsdInfo": {
            "model": "LBS7320",
            "softwareVersion": "LeaxBTS_V2.0.4.1",
            "vendor": "Radisys"
        },
        "cbsdSerialNumber": "22020300003A1952J0003",
        "cpiSignatureData": {
            "digitalSignature":
"CQof31VDqSJuGYRWmZp0_CEp3zmKnNqjy3SL0xKynFSFR5a0KxCtvg7aZprKsHBBc13lNEGeZ7t6bV2GLvbdmCjQgxUYrHfa3VOdqIivdDArMLFvQpoXKPKzXKuqVmKjVCjJ3Vb7eO11-E0c0muDrvw7iNqqr4RszgPEeJCzZGvWc6QvYss5paJPbMOvMs3sDBGv0uj5Y3IvOn5NXeihCW92Y8m6pGyV4p9hj_e8lSEy-2u5DozigEi6i1_CE2GD6zKJqT7fsQeYTzd9YiXFnNsRaCdb-4M_Kg6uyVbQpt-PYedQ_cg97JQPxXpZheyJN2fe1WigRnNdeTAy56wRMg",
            "encodedCpiSignedData":
"eyJjYnNkU2VyaWFsTnVtYmVyIjoiMjIwMjAzMDAwMDNBMTk1MkowMDAzIiwiZmNjSWQiOiIyQVZGTkxCUzczMjAiLCJpbnN0YWxsYXRpb25QYXJhbSI6eyJhbnRlbm5hQXppbXV0aCI6NywiYW50ZW5uYUJlYW13aWR0aCI6NjUsImFudGVubmFEb3dudGlsdCI6MCwiYW50ZW5uYUdhaW4iOjE2LjUsImhlaWdodCI6MywiaGVpZ2h0VHlwZSI6IkFHTCIsImluZG9vckRlcGxveW1lbnQiOmZhbHNlLCJsYXRpdHVkZSI6MzcuNDExMzMxLCJsb25naXR1ZGUiOi0xMjIuMDE4OTQyfSwicHJvZmVzc2lvbmFsSW5zdGFsbGVyRGF0YSI6eyJjcGlJZCI6IjAwMSIsImNwaU5hbWUiOiJ5dWkiLCJpbnN0YWxsQ2VydGlmaWNhdGlvblRpbWUiOiIyMDIwLTAyLTEwVDA2OjMxOjMyWiJ9fQ",
            "protectedHeader": "eyJhbGciOiJSUzI1NiIsInR5cCI6IkpXVCJ9"
        },
        "fccId": "2AVFNLBS7320",
        "groupingParam": [
            {
                "groupId": "GW",
                "groupType": "INTERFERENCE_COORDINATION"
            }
        ],
        "measCapability": [
            "RECEIVED_POWER_WITH_GRANT",
            "RECEIVED_POWER_WITHOUT_GRANT"
        ],
        "userId": "GW"
    }
]
}
```


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

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

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

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

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

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

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

2020-02-10T07:10:08.989Z - INFO - WINNF TEST HARNESS RELEASE: 1.0.0.3 - 2018-November-13
2020-02-10T07:10:08.990Z - INFO - the selected test from the user : WINNF.FT.D.MES.5 is starting now
2020-02-10T07:10:26.233Z - INFO - registration request from CBRS : {


```
"registrationRequest": [
    {
        "airInterface": {
            "radioTechnology": "E_UTRA",
            "supportedSpec": "FFS"
        },
        "callSign": "LEAX",
        "cbsdCategory": "B",
        "cbsdInfo": {
            "model": "LBS7320",
            "softwareVersion": "LeaxBTS_V2.0.4.1",
            "vendor": "Radisys"
        },
        "cbsdSerialNumber": "22020300003A1952J0003",
        "cpiSignatureData": {
            "digitalSignature":
"s31Szss2gd_Wui7IJNHy7PIUr3FkiIy8mHPzqOJ3i_YlbmFQTrJJ-4gWfMKAOxahZhgqM8l49qvdPFdCQjmE4zk_J30vNF0VDqZNmkLmpO2TeoVWjllwwRE2BJg4wgcC-w5q6PgLpGd2qN9iwuTYsDAp0mJIOKiB-X09mSNsTyfee0-xl4bv9vD4TfG5bvwPWj9wjM3jimP3RLqw49tGy5MdyX2NKZr4T4JCYZIoMyrTmKqoIc7UTJMgsZV0fkQ1IO85hkjbRN0jC6HnHmtJV_Jkf9QRypkjGgSLHHhu_FRxs9s45zrQM1SXEOqs5Px8WE1hHqXj3VwwxBQOttfcQQ",
            "encodedCpiSignedData":
"eyJjYnNkU2VyaWFsTnVtYmVyIjoiMjIwMjAzMDAwMDNBMTk1MkowMDAzIiwiZmNjSWQiOiIyQVZGTkxCUzczMjAiLCJpbnN0YWxsYXRpb25QYXJhbSI6eyJhbnRlbm5hQXppbXV0aCI6NywiYW50ZW5uYUJlYW13aWR0aCI6NjUsImFudGVubmFEb3dudGlsdCI6MCwiYW50ZW5uYUdhaW4iOjE2LjUsImhlaWdodCI6MywiaGVpZ2h0VHlwZSI6IkFHTCIsImluZG9vckRlcGxveW1lbnQiOmZhbHNlLCJsYXRpdHVkZSI6MzcuNDExMzMxLCJsb25naXR1ZGUiOi0xMjIuMDE4OTQyfSwicHJvZmVzc2lvbmFsSW5zdGFsbGVyRGF0YSI6eyJjcGlJZCI6IjAwMSIsImNwaU5hbWUiOiJ5dWkiLCJpbnN0YWxsQ2VydGlmaWNhdGlvblRpbWUiOiIyMDIwLTAyLTEwVDA3OjEwOjMyWiJ9fQ",
            "protectedHeader": "eyJhbGciOiJSUzI1NiIsInR5cCI6IkpXVCJ9"
        },
        "fccId": "2AVFNLBS7320",
        "groupingParam": [
            {
                "groupId": "GW",
                "groupType": "INTERFERENCE_COORDINATION"
            }
        ],
        "measCapability": [
            "RECEIVED_POWER_WITH_GRANT",
            "RECEIVED_POWER_WITHOUT_GRANT"
        ],
        "userId": "GW"
    },
    {
        "airInterface": {
            "radioTechnology": "E_UTRA",
```

```
                "supportedSpec": "FFS"
            },
            "callSign": "LEAX",
            "cbsdCategory": "B",
            "cbsdInfo": {
                "model": "LBS7320",
                "softwareVersion": "LeaxBTS_V2.0.4.1",
                "vendor": "Radisys"
            },
            "cbsdSerialNumber": "22020300003A1952J0004",
            "cpiSignatureData": {
                "digitalSignature":
"Vz0XeRGC4MFPd5gVNksvVIE-2QgXqz-WRvJuwz0V104-vANPnJXeg8wkQvcgUBebY3gls5jP7fSnw0
GidzLh3bWdmQ1vGgkxqLfV0MkSxOyCMriXGaegSDIf9nyANZcZ54Rs8iD4beRco--3vRMTaf70U1UO5
RSaEXyPEhcYGR2OBVNsvQIq_pnSEythDDAGTFbx5JvXnOF5ZQIfdVYQdvpcyGxYHe44It9K3w6hjckr
VAQfiYC4Yi_sULDpDMBEDp9HubyJd4YehAtwsbQGa1IAm8A8f4bvqEzapFVlPNG4C3sDfPIJRatTWC
Yw4bthwwCdvy08fldkhTMQpuEfBw",
                "encodedCpiSignedData":
"eyJjYnNkU2VyaWFsTnVtYmVyIjoiMjIwMjAzMDAwMDNBMTk1MkowMDA0IiwiZmNjSWQiOiIyQVZGTk
xCUzczMjAiLCJpbnN0YWxsYXRpb25QYXJhbSI6eyJhbnRlbm5hQXppbXV0aCI6NywiYW50ZW5uYUJl
YW13aWR0aCI6NjUsImFudGVubmFEb3dudGlsdCI6MCwiYW50ZW5uYUdhaW4iOjE2LjUsImhlaWdod
CI6MywiaGVpZ2h0VHlwZSI6IkFHTCIsImluZG9vckRlcGxveW1lbnQiOmZhbHNlLCJsYXRpdHVkZSI6M
zcuNDExMzMxLCJsb25naXR1ZGUiOi0xMjIuMDE4OTQyfSwicHJvZmVzc2lvbmFsSW5zdGFsbGVyRG
F0YSI6eyJjcGlJZCI6IjAwMSIsImNwaU5hbWUiOiJ5dWkiLCJpbnN0YWxsQ2VydGlmaWNhdGlvblRpbW
UiOiIyMDIwLTAyLTEwVDA3OjEwOjMyWiJ9fQ",
                "protectedHeader": "eyJhbGciOiJSUzI1NiIsInR5cCI6IkpXVCJ9"
            },
            "fccId": "2AVFNLBS7320",
            "groupingParam": [
                {
                    "groupId": "GW",
                    "groupType": "INTERFERENCE_COORDINATION"
                }
            ],
            "measCapability": [
                "RECEIVED_POWER_WITH_GRANT",
                "RECEIVED_POWER_WITHOUT_GRANT"
            ],
            "userId": "GW"
        }
    ]
}
2020-02-10T07:10:26.299Z - INFO - Registration message contains cpiSignatureData
2020-02-10T07:10:26.299Z - INFO - protectedHeader = {u'alg': u'RS256', u'typ': u'JWT'}
2020-02-10T07:10:26.299Z - INFO - encodedCpiSignedData contents = {
    "installationParam": {
        "antennaAzimuth": 7,
        "heightType": "AGL",
        "longitude": -122.018942,
        "height": 3,
        "indoorDeployment": false,
        "latitude": 37.411331,
```

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

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

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

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

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

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

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

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

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

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

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

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

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

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

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

```
"registrationRequest": [
    {
        "airInterface": {
            "radioTechnology": "E_UTRA",
            "supportedSpec": "FFS"
        },
        "callSign": "LEAX",
        "cbsdCategory": "B",
        "cbsdInfo": {
            "model": "LBS7320",
            "softwareVersion": "LeaxBTS_V2.0.4.1",
            "vendor": "Radisys"
        },
        "cbsdSerialNumber": "22020300003A1952J0003",
        "cpiSignatureData": {
            "digitalSignature":
"g6BAJVRPcJjzZ2ShJYMJ_iuaMEpcPHlEC8sGJowK4NlWiEzf6SSCy51vRKYbtchwvRje9CPXIFdpZnfL
8epeXdDViGCkmtHh-SVA8c0VqxMliDArwxYNebSfi20p_HPWNqo2VMl3jmQcz8fTqrtKiY4ocVXJeTmxk
_ZBjAyj0LzW2r67RsP-cv8lzuAGQFXFq6sfPrNoAX1-3ODwnv7qM56_S3Sf33cC9CxGLFUGOj5Dde41
QebhIzvJPQM6vCIwF-ApTUQeh6fK0kiSz5Gj18qKA6ioYdFF3-JHslhPYta7rO7Doo0moR3NHFFu5B24g
_OmohXyYdlXld-4Ex2Swg",
            "encodedCpiSignedData":
"eyJjYnNkU2VyaWFsTnVtYmVyIjoiMjIwMjAzMDAwMDNBMTk1MkowMDAzIiwiZmNjSWQiOiIyQVZGTk
xCUzczMjAiLCJpbnN0YWxsYXRpb25QYXJhbSI6eyJhbnRlbm5hQXppbXV0aCI6NywiYW50ZW5uYUJl
YW13aWR0aCI6NjUsImFudGVubmFEb3dudGlsdCI6MCwiYW50ZW5uYUdhaW4iOjE2LjUsImhlaWdod
CI6MywiaGVpZ2h0VHlwZSI6IkFHTCIsImluZG9vckRlcGxveW1lbnQiOmZhbHNlLCJsYXRpdHVkZSI6M
zcuNDExMzMxLCJsb25naXR1ZGUiOi0xMjIuMDE4OTQyfSwicHJvZmVzc2lvbmFsSW5zdGFsbGVyRG
F0YSI6eyJjcGlJZCI6IjAwMSIsImNwaU5hbWUiOiJ5dWkiLCJpbnN0YWxsQ2VydGlmaWNhdGlvblRpbW
UiOiIyMDIwLTAyLTEwVDA3OjQwOjMyWiJ9fQ",
            "protectedHeader": "eyJhbGciOiJSUzI1NiIsInR5cCI6IkpXVCJ9"
        },
        "fccId": "2AVFNLBS7320",
        "groupingParam": [
            {
                "groupId": "GW",
                "groupType": "INTERFERENCE_COORDINATION"
            }
        ],
        "measCapability": [
            "RECEIVED_POWER_WITH_GRANT",
            "RECEIVED_POWER_WITHOUT_GRANT"
        ],
        "userId": "GW"
    },
    {
        "airInterface": {
            "radioTechnology": "E_UTRA",
            "supportedSpec": "FFS"
```

```
            },
            "callSign": "LEAX",
            "cbsdCategory": "B",
            "cbsdInfo": {
                "model": "LBS7320",
                "softwareVersion": "LeaxBTS_V2.0.4.1",
                "vendor": "Radisys"
            },
            "cbsdSerialNumber": "22020300003A1952J0004",
            "cpiSignatureData": {
                "digitalSignature":
"O0OzK0zH07K_Qj4RAJQkE7SfCjKE61-ymtFmfKOXTDz-IJju6VWVBbQOqqVAur-yyXmycok-ZltKHJCf
a7ZGVUYk09boggcUX3VDhiNB0fqPqxDAUuAPPGujORDjcX69l90q4WXKPk0cTZButyagCEq1UrpM6V
Ec4VzsdAiHPLSjs9NRvNRELuD4Mea2uXxUstZz9XBYl0yzh1QWs8Be_i_kTmjyT0hMbQbs2A6HAhj4C
E7_NtycSIvVPtN2Ypi_53lIPJDOWicU2c17zDkyfB_yR4HuX2aFG_TtV5GkJ7T1ks54ECKjn114GEG5nB
unpjyMR0_SDOpJVX0r_b1Qsg",
                "encodedCpiSignedData":
"eyJjYnNkU2VyaWFsTnVtYmVyIjoiMjIwMjAzMDAwMDNBMTk1MkowMDA0IiwiZmNjSWQiOiIyQVZGTk
xCUzczMjAiLCJpbnN0YWxsYXRpb25QYXJhbSI6eyJhbnRlbm5hQXppbXV0aCI6NywiYW50ZW5uYUJl
YW13aWR0aCI6NjUsImFudGVubmFEb3dudGlsdCI6MCwiYW50ZW5uYUdhaW4iOjE2LjUsImhlaWdod
CI6MywiaGVpZ2h0VHlwZSI6IkFHTCIsImluZG9vckRlcGxveW1lbnQiOmZhbHNlLCJsYXRpdHVkZSI6M
zcuNDExMzMxLCJsb25naXR1ZGUiOi0xMjIuMDE4OTQyfSwicHJvZmVzc2lvbmFsSW5zdGFsbGVyRG
F0YSI6eyJjcGlJZCI6IjAwMSIsImNwaU5hbWUiOiJ5dWkiLCJpbnN0YWxsQ2VydGlmaWNhdGlvblRpbW
UiOiIyMDIwLTAyLTEwVDA3OjQwOjMyWiJ9fQ",
                "protectedHeader": "eyJhbGciOiJSUzI1NiIsInR5cCI6IkpXVCJ9"
            },
            "fccId": "2AVFNLBS7320",
            "groupingParam": [
                {
                    "groupId": "GW",
                    "groupType": "INTERFERENCE_COORDINATION"
                }
            ],
            "measCapability": [
                "RECEIVED_POWER_WITH_GRANT",
                "RECEIVED_POWER_WITHOUT_GRANT"
            ],
            "userId": "GW"
        }
    ]
}
2020-02-10T07:40:26.224Z - INFO - Registration message contains cpiSignatureData
2020-02-10T07:40:26.224Z - INFO - protectedHeader = {u'alg': u'RS256', u'typ': u'JWT'}
2020-02-10T07:40:26.224Z - INFO - encodedCpiSignedData contents = {
    "installationParam": {
        "antennaAzimuth": 7,
        "heightType": "AGL",
        "longitude": -122.018942,
        "height": 3,
        "indoorDeployment": false,
        "latitude": 37.411331,
        "antennaDowntilt": 0,
```

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

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

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

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

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

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

}
2020-02-10T07:42:25.719Z - INFO - arrived to nstep starting question answer session with the technician
2020-02-10T07:42:25.720Z - INFO - the question is : Did CBSD1 cease RF transmission before receipt of Relinquishment Request by Test Harness? please choose one of the answers :
2020-02-10T07:43:48.608Z - INFO - for the question : Did CBSD1 cease RF transmission before receipt of Relinquishment Request by Test Harness? , the user choose y
2020-02-10T07:43:48.609Z - INFO - the question is : Did CBSD2 cease RF transmission before receipt of Relinquishment Request by Test Harness? please choose one of the answers :
2020-02-10T07:43:52.019Z - INFO - for the question : Did CBSD2 cease RF transmission before receipt of Relinquishment Request by Test Harness? , the user choose y
2020-02-10T07:43:55.588Z - INFO - The final result of the test : WINNF.FT.D.RLQ.2 is - passed and :the additional comments for the current test are : CBSD1 stop transmission at T07:41:22. CBSD2 stop transmission at T07:41:24

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

2020-02-10T08:01:43.862Z - INFO - WINNF TEST HARNESS RELEASE: 1.0.0.3 - 2018-November-13
2020-02-10T08:01:43.864Z - INFO - the selected test from the user : WINNF.FT.D.RLQ.4 is starting now
2020-02-10T08:02:26.102Z - INFO - registration request from CBRS : {


```
"registrationRequest": [
    {
        "airInterface": {
            "radioTechnology": "E_UTRA",
            "supportedSpec": "FFS"
        },
        "callSign": "LEAX",
        "cbsdCategory": "B",
        "cbsdInfo": {
            "model": "LBS7320",
            "softwareVersion": "LeaxBTS_V2.0.4.1",
            "vendor": "Radisys"
        },
        "cbsdSerialNumber": "22020300003A1952J0003",
        "cpiSignatureData": {
            "digitalSignature":
"sAEgRoa5yOmpQ9rP_DN3a0cfo8MEiNnrltNoHcwUdVdv31eFb3wnljrXvG-6zNrFeEJW6sGmOQVZjiol-
vLG_BjWswgO_YB2kJBxP_I4B8CSAza1nDChhpUq15DBrHb-M_6keap58wie88svq9LI1xlXpMqhpVHo
oqk27cuAtgefADXEOszD14ZvDNiv4JyEbH62R7BpHDF1dqNajqbU02lGQUlSequqaGS_uAzOBJ3gBtA
ahfvUBUx95bMixNwhhQz69Gnb-XaruYl0QX4_Z3v7hERSxMoKx45ktdN8nIfBMa7hW49uwm28D-rjjJ9u
s9oTPvcXlHoxzfhou6-uQg",
            "encodedCpiSignedData":
"eyJjYnNkU2VyaWFsTnVtYmVyIjoiMjIwMjAzMDAwMDNBMTk1MkowMDAzIiwiZmNjSWQiOiIyQVZGTk
xCUzczMjAiLCJpbnN0YWxsYXRpb25QYXJhbSI6eyJhbnRlbm5hQXppbXV0aCI6NywiYW50ZW5uYUJl
YW13aWR0aCI6NjUsImFudGVubmFEb3dudGlsdCI6MCwiYW50ZW5uYUdhaW4iOjE2LjUsImhlaWdod
CI6MywiaGVpZ2h0VHlwZSI6IkFHTCIsImluZG9vckRlcGxveW1lbnQiOmZhbHNlLCJsYXRpdHVkZSI6M
zcuNDExMzMxLCJsb25naXR1ZGUiOi0xMjIuMDE4OTQyfSwicHJvZmVzc2lvbmFsSW5zdGFsbGVyRG
F0YSI6eyJjcGlJZCI6IjAwMSIsImNwaU5hbWUiOiJ5dWkiLCJpbnN0YWxsQ2VydGlmaWNhdGlvblRpbW
UiOiIyMDIwLTAyLTEwVDA4OjAyOjMyWiJ9fQ",
            "protectedHeader": "eyJhbGciOiJSUzI1NiIsInR5cCI6IkpXVCJ9"
        },
        "fccId": "2AVFNLBS7320",
        "groupingParam": [
            {
                "groupId": "GW",
                "groupType": "INTERFERENCE_COORDINATION"
            }
        ],
        "measCapability": [
            "RECEIVED_POWER_WITH_GRANT",
            "RECEIVED_POWER_WITHOUT_GRANT"
        ],
        "userId": "GW"
    },
    {
        "airInterface": {
            "radioTechnology": "E_UTRA",
            "supportedSpec": "FFS"
```

```
            },
            "callSign": "LEAX",
            "cbsdCategory": "B",
            "cbsdInfo": {
                "model": "LBS7320",
                "softwareVersion": "LeaxBTS_V2.0.4.1",
                "vendor": "Radisys"
            },
            "cbsdSerialNumber": "22020300003A1952J0004",
            "cpiSignatureData": {
                "digitalSignature":
"N125GcqjMsBiNd6A1V3srVTRuyHXazVs1YacCMODtCCleVpWEFq9V1nHVuBgS66uheyn8Qk1S2swj
SemBtyhmsyg3iw5h2TweiK3uvdcnkrMsuUbr8gnPACCUNCMtt6mcBQXhkfp7wk-JHyNcsUbhbcI_s3VT
Fdw8N3T6ukQPXCFpnIOzbb0_3dmQFVVj3Fu2ssY_2DeICs4wWVhX9BZcLIvVLe4F8FyixU3F8vXjLh6
C--tFRLWAcdScNyoBzZ370P8ViingvKRb5P968brtiyata9L4ABRo30Fu9rX13qRdknoRxLf2p7VItlLPHA7
Qzy2u4qgOGzFXzwkbAUnGQ",
                "encodedCpiSignedData":
"eyJjYnNkU2VyaWFsTnVtYmVyIjoiMjIwMjAzMDAwMDNBMTk1MkowMDA0IiwiZmNjSWQiOiIyQVZGTk
xCUzczMjAiLCJpbnN0YWxsYXRpb25QYXJhbSI6eyJhbnRlbm5hQXppbXV0aCI6NywiYW50ZW5uYUJl
YW13aWR0aCI6NjUsImFudGVubmFEb3dudGlsdCI6MCwiYW50ZW5uYUdhaW4iOjE2LjUsImhlaWdod
CI6MywiaGVpZ2h0VHlwZSI6IkFHTCIsImluZG9vckRlcGxveW1lbnQiOmZhbHNlLCJsYXRpdHVkZSI6M
zcuNDExMzMxLCJsb25naXR1ZGUiOi0xMjIuMDE4OTQyfSwicHJvZmVzc2lvbmFsSW5zdGFsbGVyRG
F0YSI6eyJjcGlJZCI6IjAwMSIsImNwaU5hbWUiOiJ5dWkiLCJpbnN0YWxsQ2VydGlmaWNhdGlvblRpbW
UiOiIyMDIwLTAyLTEwVDA4OjAyOjMyWiJ9fQ",
                "protectedHeader": "eyJhbGciOiJSUzI1NiIsInR5cCI6IkpXVCJ9"
            },
            "fccId": "2AVFNLBS7320",
            "groupingParam": [
                {
                    "groupId": "GW",
                    "groupType": "INTERFERENCE_COORDINATION"
                }
            ],
            "measCapability": [
                "RECEIVED_POWER_WITH_GRANT",
                "RECEIVED_POWER_WITHOUT_GRANT"
            ],
            "userId": "GW"
        }
    ]
}
2020-02-10T08:02:26.151Z - INFO - Registration message contains cpiSignatureData
2020-02-10T08:02:26.151Z - INFO - protectedHeader = {u'alg': u'RS256', u'typ': u'JWT'}
2020-02-10T08:02:26.151Z - INFO - encodedCpiSignedData contents = {
    "installationParam": {
        "antennaAzimuth": 7,
        "heightType": "AGL",
        "longitude": -122.018942,
        "height": 3,
        "indoorDeployment": false,
        "latitude": 37.411331,
        "antennaDowntilt": 0,
```

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

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

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

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

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

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

```
                ]
            }
        }
    ]
}
```

2020-02-10T08:03:56.871Z - INFO - arrived to nstep starting question answer session with the technician
2020-02-10T08:03:56.872Z - INFO - the question is : Did CBSD1 cease RF transmission before receipt of Relinquishment Request by Test Harness? please choose one of the answers :
2020-02-10T08:05:10.381Z - INFO - for the question : Did CBSD1 cease RF transmission before receipt of Relinquishment Request by Test Harness? , the user choose y
2020-02-10T08:05:10.382Z - INFO - the question is : Did CBSD2 cease RF transmission before receipt of Relinquishment Request by Test Harness? please choose one of the answers :
2020-02-10T08:05:11.101Z - INFO - for the question : Did CBSD2 cease RF transmission before receipt of Relinquishment Request by Test Harness? , the user choose y
2020-02-10T08:05:40.964Z - INFO - The final result of the test : WINNF.FT.D.RLQ.4 is - passed and :the additional comments for the current test are : CBSD1 stop transmission at T08:02:55. CBSD2 stop transmission at T08:02:56

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

2020-02-10T08:29:18.059Z - INFO - WINNF TEST HARNESS RELEASE: 1.0.0.3 - 2018-November-13
2020-02-10T08:29:18.061Z - INFO - the selected test from the user : WINNF.FT.D.RLQ.6 is starting now
2020-02-10T08:30:26.039Z - INFO - registration request from CBRS : {


```
"registrationRequest": [
    {
        "airInterface": {
            "radioTechnology": "E_UTRA",
            "supportedSpec": "FFS"
        },
        "callSign": "LEAX",
        "cbsdCategory": "B",
        "cbsdInfo": {
            "model": "LBS7320",
            "softwareVersion": "LeaxBTS_V2.0.4.1",
            "vendor": "Radisys"
        },
        "cbsdSerialNumber": "22020300003A1952J0003",
        "cpiSignatureData": {
            "digitalSignature":
"rh3m7jiETnRVc5hBZ8ajuGvyPX8KyLHxpBxRdzkqUBwgpD-cdFJ2zxue8hbI51bC07RrdG-5PbzSHO1id
Q69Qh3FB0m8mhbRaS_4tS5g0-dgf83-Q0Z3zHoEaSiceCXoRVgm6cmG_E5B9l3LNwH2RCirG2gZfZx
XE9ZMY4bWkSYykGXReojRqOiqM3McCgrecob7SvKnnXPdWE7hGj7Z7Z9E_QjwnltWIm4QkOhT1Aeg
tkjAvHOQSg4ekzV4fk7CZ-WIWuA7Z1BfYCxYRPTW9Gjq27Rw0_c1kiSAn-KJ9djn_2Dr3BdzdqPClOQS
minqKpqiXuBvMB4KcUqamO1BUw",
            "encodedCpiSignedData":
"eyJjYnNkU2VyaWFsTnVtYmVyIjoiMjIwMjAzMDAwMDNBMTk1MkowMDAzIiwiZmNjSWQiOiIyQVZGTk
xCUzczMjAiLCJpbnN0YWxsYXRpb25QYXJhbSI6eyJhbnRlbm5hQXppbXV0aCI6NywiYW50ZW5uYUJl
YW13aWR0aCI6NjUsImFudGVubmFEb3dudGlsdCI6MCwiYW50ZW5uYUdhaW4iOjE2LjUsImhlaWdod
CI6MywiaGVpZ2h0VHlwZSI6IkFHTCIsImluZG9vckRlcGxveW1lbnQiOmZhbHNlLCJsYXRpdHVkZSI6M
zcuNDExMzMxLCJsb25naXR1ZGUiOi0xMjIuMDE4OTQyfSwicHJvZmVzc2lvbmFsSW5zdGFsbGVyRG
F0YSI6eyJjcGlJZCI6IjAwMSIsImNwaU5hbWUiOiJ5dWkiLCJpbnN0YWxsQ2VydGlmaWNhdGlvblRpbW
UiOiIyMDIwLTAyLTEwVDA4OjMwOjMyWiJ9fQ",
            "protectedHeader": "eyJhbGciOiJSUzI1NiIsInR5cCI6IkpXVCJ9"
        },
        "fccId": "2AVFNLBS7320",
        "groupingParam": [
            {
                "groupId": "GW",
                "groupType": "INTERFERENCE_COORDINATION"
            }
        ],
        "measCapability": [
            "RECEIVED_POWER_WITH_GRANT",
            "RECEIVED_POWER_WITHOUT_GRANT"
        ],
        "userId": "GW"
    },
    {
        "airInterface": {
            "radioTechnology": "E_UTRA",
            "supportedSpec": "FFS"
```

```
                },
                "callSign": "LEAX",
                "cbsdCategory": "B",
                "cbsdInfo": {
                    "model": "LBS7320",
                    "softwareVersion": "LeaxBTS_V2.0.4.1",
                    "vendor": "Radisys"
                },
                "cbsdSerialNumber": "22020300003A1952J0004",
                "cpiSignatureData": {
                    "digitalSignature":
"n81L7gWN8F0gykqUVhjwhsiyzhnuviOBREcS5iKpOztd6ZOu6QrcJH55kup6D90mh9dnMCQkMDCCm
sjpThU7YpAwP0rCDPhSbuUXqH-fLlnmzFz6XUe9qfBABjQBkiB1KdJmTcf3hmApiJbux9czrLrN8XnUJ1v
bziPfsOjlFqFkui8RCH8N_qZtuYdtQZ8AtUZ0xxIe02bLGj6K8X6CUzkBEXdrTWrCVMMhxVs8DFYFgN-q
BNPTnMjobHE8N31kbBF-auMLQ_Tc8VPWMI0W9NEaqmA4_sbvxAvR8eHgHGO4VqefzOlxoKRMzw7
DwBUuMzrAxO-GyNKDvNNQUEicWA",
                    "encodedCpiSignedData":
"eyJjYnNkU2VyaWFsTnVtYmVyIjoiMjIwMjAzMDAwMDNBMTk1MkowMDA0IiwiZmNjSWQiOiIyQVZGTk
xCUzczMjAiLCJpbnN0YWxsYXRpb25QYXJhbSI6eyJhbnRlbm5hQXppbXV0aCI6NywiYW50ZW5uYUJl
YW13aWR0aCI6NjUsImFudGVubmFEb3dudGlsdCI6MCwiYW50ZW5uYUdhaW4iOjE2LjUsImhlaWdod
CI6MywiaGVpZ2h0VHlwZSI6IkFHTCIsImluZG9vckRlcGxveW1lbnQiOmZhbHNlLCJsYXRpdHVkZSI6M
zcuNDExMzMxLCJsb25naXR1ZGUiOi0xMjIuMDE4OTQyfSwicHJvZmVzc2lvbmFsSW5zdGFsbGVyRG
F0YSI6eyJjcGlJZCI6IjAwMSIsImNwaU5hbWUiOiJ5dWkiLCJpbnN0YWxsQ2VydGlmaWNhdGlvblRpbW
UiOiIyMDIwLTAyLTEwVDA4OjMwOjMyWiJ9fQ",
                    "protectedHeader": "eyJhbGciOiJSUzI1NiIsInR5cCI6IkpXVCJ9"
                },
                "fccId": "2AVFNLBS7320",
                "groupingParam": [
                    {
                        "groupId": "GW",
                        "groupType": "INTERFERENCE_COORDINATION"
                    }
                ],
                "measCapability": [
                    "RECEIVED_POWER_WITH_GRANT",
                    "RECEIVED_POWER_WITHOUT_GRANT"
                ],
                "userId": "GW"
            }
        ]
}
2020-02-10T08:30:26.088Z - INFO - Registration message contains cpiSignatureData
2020-02-10T08:30:26.088Z - INFO - protectedHeader = {u'alg': u'RS256', u'typ': u'JWT'}
2020-02-10T08:30:26.088Z - INFO - encodedCpiSignedData contents = {
    "installationParam": {
        "antennaAzimuth": 7,
        "heightType": "AGL",
        "longitude": -122.018942,
        "height": 3,
        "indoorDeployment": false,
        "latitude": 37.411331,
        "antennaDowntilt": 0,
```

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

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

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

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

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

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

```
                ]
            }
        }
    ]
}
```

2020-02-10T08:32:27.084Z - INFO - arrived to nstep starting question answer session with the technician
2020-02-10T08:32:27.085Z - INFO - the question is : Did CBSD1 cease RF transmission before receipt of Relinquishment Request by Test Harness? please choose one of the answers :
2020-02-10T08:33:47.289Z - INFO - for the question : Did CBSD1 cease RF transmission before receipt of Relinquishment Request by Test Harness? , the user choose y
2020-02-10T08:33:47.290Z - INFO - the question is : Did CBSD2 cease RF transmission before receipt of Relinquishment Request by Test Harness? please choose one of the answers :
2020-02-10T08:33:48.380Z - INFO - for the question : Did CBSD2 cease RF transmission before receipt of Relinquishment Request by Test Harness? , the user choose y
2020-02-10T08:34:07.809Z - INFO - The final result of the test : WINNF.FT.D.RLQ.6 is - passed and :the additional comments for the current test are : CBSD1 stop transmission at T08:31:25. CBSD2 stop transmission at T08:31:27.

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

2020-02-10T08:40:31.875Z - INFO - WINNF TEST HARNESS RELEASE: 1.0.0.3 - 2018-November-13
2020-02-10T08:40:31.875Z - INFO - the selected test from the user : WINNF.FT.D.DRG.2 is starting now
2020-02-10T08:41:26.005Z - INFO - registration request from CBRS : {


```
"registrationRequest": [
    {
        "airInterface": {
            "radioTechnology": "E_UTRA",
            "supportedSpec": "FFS"
        },
        "callSign": "LEAX",
        "cbsdCategory": "B",
        "cbsdInfo": {
            "model": "LBS7320",
            "softwareVersion": "LeaxBTS_V2.0.4.1",
            "vendor": "Radisys"
        },
        "cbsdSerialNumber": "22020300003A1952J0003",
        "cpiSignatureData": {
            "digitalSignature":
"0JPrtLq0XLw5wcI_MOCJof7qXJgjzYLtZboJI9Rip_u1kPkFNa_IJZAKEmrMfezJxwQWBHNjCDLDBTQ
WKgHKOenhG7WF1ygiZzIRwGRImetA6QrB0My0G55PuMgFvFMx3-XPFTYEfsfCHza1ZIdGNgryT-mJ
E7qNR2RhC83fOCLFS0QVDeGbl03bzMg6BZl38dxYvrwg923Nk5-FavGrjegGCK9Te_qTDoT2XU6jynk
EiXrRjwc1hB2C3hNw2p97aY9nlsHQPQznN0AhrsKUYqMXx461KQ0gtxZtDbi9tsbpYnmAri9pJQeYzHt_
cLU_ZCHIEUN_ssntchn6FzG7uw",
            "encodedCpiSignedData":
"eyJjYnNkU2VyaWFsTnVtYmVyIjoiMjIwMjAzMDAwMDNBMTk1MkowMDAzIiwiZmNjSWQiOiIyQVZGTk
xCUzczMjAiLCJpbnN0YWxsYXRpb25QYXJhbSI6eyJhbnRlbm5hQXppbXV0aCI6NywiYW50ZW5uYUJl
YW13aWR0aCI6NjUsImFudGVubmFEb3dudGlsdCI6MCwiYW50ZW5uYUdhaW4iOjE2LjUsImhlaWdod
CI6MywiaGVpZ2h0VHlwZSI6IkFHTCIsImluZG9vckRlcGxveW1lbnQiOmZhbHNlLCJsYXRpdHVkZSI6M
zcuNDExMzMxLCJsb25naXR1ZGUiOi0xMjIuMDE4OTQyfSwicHJvZmVzc2lvbmFsSW5zdGFsbGVyRG
F0YSI6eyJjcGlJZCI6IjAwMSIsImNwaU5hbWUiOiJ5dWkiLCJpbnN0YWxsQ2VydGlmaWNhdGlvblRpbW
UiOiIyMDIwLTAyLTEwVDA4OjQxOjMyWiJ9fQ",
            "protectedHeader": "eyJhbGciOiJSUzI1NiIsInR5cCI6IkpXVCJ9"
        },
        "fccId": "2AVFNLBS7320",
        "groupingParam": [
            {
                "groupId": "GW",
                "groupType": "INTERFERENCE_COORDINATION"
            }
        ],
        "measCapability": [
            "RECEIVED_POWER_WITH_GRANT",
            "RECEIVED_POWER_WITHOUT_GRANT"
        ],
        "userId": "GW"
    },
    {
        "airInterface": {
            "radioTechnology": "E_UTRA",
```

```
                "supportedSpec": "FFS"
            },
            "callSign": "LEAX",
            "cbsdCategory": "B",
            "cbsdInfo": {
                "model": "LBS7320",
                "softwareVersion": "LeaxBTS_V2.0.4.1",
                "vendor": "Radisys"
            },
            "cbsdSerialNumber": "22020300003A1952J0004",
            "cpiSignatureData": {
                "digitalSignature":
"yWtEtFOcsSuTNuLNjMHpq38ZO5xCA5yxYiQ9mrgcuvXDM2AO5nrBu6_0vvEzJNz4LA9Cf1PZzhSPK
m5lyVZfUIOVEkvYQRBq4EfEhufYBcVpc7J3NH89eMmeiidvwr1N-DkH2sc6bvcUCk2lCGEFXRuJeA1D
WRyJzNs_D7uvkKIJM4iJ3z9YykuA9Mgwb3nkSSw8DSy50wRh51rlOsmp29wjhBo9GkAqzQjJejDZu6Zi
DDegPbRv-I4mmxv5dVWStRbeUKJ9PXGyzgQdojGM3yZaM1_FZ2HHmZUbp12mFVP9Y2ZR8hxQ6R
mYnHLDBW0qAvOhpDaNULplLIdxdOaqEw",
                "encodedCpiSignedData":
"eyJjYnNkU2VyaWFsTnVtYmVyIjoiMjIwMjAzMDAwMDNBMTk1MkowMDA0IiwiZmNjSWQiOiIyQVZGTk
xCUzczMjAiLCJpbnN0YWxsYXRpb25QYXJhbSI6eyJhbnRlbm5hQXppbXV0aCI6NywiYW50ZW5uYUJl
YW13aWR0aCI6NjUsImFudGVubmFEb3dudGlsdCI6MCwiYW50ZW5uYUdhaW4iOjE2LjUsImhlaWdod
CI6MywiaGVpZ2h0VHlwZSI6IkFHTCIsImluZG9vckRlcGxveW1lbnQiOmZhbHNlLCJsYXRpdHVkZSI6M
zcuNDExMzMxLCJsb25naXR1ZGUiOi0xMjIuMDE4OTQyfSwicHJvZmVzc2lvbmFsSW5zdGFsbGVyRG
F0YSI6eyJjcGlJZCI6IjAwMSIsImNwaU5hbWUiOiJ5dWkiLCJpbnN0YWxsQ2VydGlmaWNhdGlvblRpbW
UiOiIyMDIwLTAyLTEwVDA4OjQxOjMyWiJ9fQ",
                "protectedHeader": "eyJhbGciOiJSUzI1NiIsInR5cCI6IkpXVCJ9"
            },
            "fccId": "2AVFNLBS7320",
            "groupingParam": [
                {
                    "groupId": "GW",
                    "groupType": "INTERFERENCE_COORDINATION"
                }
            ],
            "measCapability": [
                "RECEIVED_POWER_WITH_GRANT",
                "RECEIVED_POWER_WITHOUT_GRANT"
            ],
            "userId": "GW"
        }
    ]
}
2020-02-10T08:41:26.052Z - INFO - Registration message contains cpiSignatureData
2020-02-10T08:41:26.052Z - INFO - protectedHeader = {u'alg': u'RS256', u'typ': u'JWT'}
2020-02-10T08:41:26.052Z - INFO - encodedCpiSignedData contents = {
    "installationParam": {
        "antennaAzimuth": 7,
        "heightType": "AGL",
        "longitude": -122.018942,
        "height": 3,
        "indoorDeployment": false,
        "latitude": 37.411331,
```

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

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

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

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

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

"grantId": "582525043",
"response": {
"responseCode": 0
},
"transmitExpireTime": "2020-02-10T08:46:13Z"
},
{
"cbsdId": "2AVFNLBS7320Mock-SAS22020300003A1952J0003",
"grantId": "126990915",
"response": {
"responseCode": 0
},
"transmitExpireTime": "2020-02-10T08:46:13Z"
}
]
}

2020-02-10T08:43:09.703Z - INFO - deregistration request from CBRS : {

"deregistrationRequest": [
{
"cbsdId": "2AVFNLBS7320Mock-SAS22020300003A1952J0003"
}
]
}

2020-02-10T08:43:09.709Z - INFO - engine sent successfully, the response to CBRS : {

"deregistrationResponse": [
{
"cbsdId": "2AVFNLBS7320Mock-SAS22020300003A1952J0003",
"response": {
"responseCode": 0
}
}
]
}

2020-02-10T08:43:11.171Z - INFO - deregistration request from CBRS : {

"deregistrationRequest": [
{
"cbsdId": "2AVFNLBS7320Mock-SAS22020300003A1952J0004"
}
]
}

2020-02-10T08:43:11.178Z - INFO - engine sent successfully, the response to CBRS : {

"deregistrationResponse": [
{
"cbsdId": "2AVFNLBS7320Mock-SAS22020300003A1952J0004",
"response": {
"responseCode": 0
}
}
]
}

2020-02-10T08:43:12.885Z - INFO - arrived to nstep starting question answer session with the technician

2020-02-10T08:43:12.887Z - INFO - the question is : Did CBSD1 cease RF transmission before receipt of Relinquishment request (if sent) or Deregistration request at Test Harness? please choose one of the answers :
2020-02-10T08:44:22.313Z - INFO - for the question : Did CBSD1 cease RF transmission before receipt of Relinquishment request (if sent) or Deregistration request at Test Harness? , the user choose y
2020-02-10T08:44:22.315Z - INFO - the question is : Did CBSD2 cease RF transmission before receipt of Relinquishment request (if sent) or Deregistration request at Test Harness? please choose one of the answers :
2020-02-10T08:44:24.796Z - INFO - for the question : Did CBSD2 cease RF transmission before receipt of Relinquishment request (if sent) or Deregistration request at Test Harness? , the user choose y
2020-02-10T08:44:54.832Z - INFO - The final result of the test : WINNF.FT.D.DRG.2 is - passed and :the additional comments for the current test are : CBSD1 stop transmission at T08:42:10. CBSD2 stop transmission at T08:42:12.

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

2020-02-10T08:51:56.496Z - INFO - WINNF TEST HARNESS RELEASE: 1.0.0.3 - 2018-November-13
2020-02-10T08:51:56.496Z - INFO - the selected test from the user : WINNF.FT.D.DRG.4 is starting now
2020-02-10T08:52:25.976Z - INFO - registration request from CBRS : {


```
"registrationRequest": [
    {
        "airInterface": {
            "radioTechnology": "E_UTRA",
            "supportedSpec": "FFS"
        },
        "callSign": "LEAX",
        "cbsdCategory": "B",
        "cbsdInfo": {
            "model": "LBS7320",
            "softwareVersion": "LeaxBTS_V2.0.4.1",
            "vendor": "Radisys"
        },
        "cbsdSerialNumber": "22020300003A1952J0003",
        "cpiSignatureData": {
            "digitalSignature":
"n2iK5K9t0I95YWDDJXVeRQ5aBuB7Pv0whPSDJaiocGLn5V4_920qX0XSNnxgjzt6EnHB5bxktG_Gm29QG4knNKIXTTmgJqutc3JSqwBeFT4wAxGQgBoUlpqEYDvGdkUKlpkOjZ0Bxjf75on5Dk6S8HltYiT4MAmLbya1EGRIMXCOK842bA3YUhbsEF7sB2Ozj4YUrud4GFhsvOrp86lADMm_L6juiGmYHUONcprlJqeN8aHpIUdT_U9LALqD8JyWM4LijDP0p1s4ghgHgqHVJ5FaecirKJ3MzVNy1iWwUyvlARR6F_ba3zNRh2SLaSkEExLOnx2rYhmzqw3JTpNbdA",
            "encodedCpiSignedData":
"eyJjYnNkU2VyaWFsTnVtYmVyIjoiMjIwMjAzMDAwMDNBMTk1MkowMDAzIiwiZmNjSWQiOiIyQVZGTkxCUzczMjAiLCJpbnN0YWxsYXRpb25QYXJhbSI6eyJhbnRlbm5hQXppbXV0aCI6NywiYW50ZW5uYUJlYW13aWR0aCI6NjUsImFudGVubmFEb3dudGlsdCI6MCwiYW50ZW5uYUdhaW4iOjE2LjUsImhlaWdodCI6MywiaGVpZ2h0VHlwZSI6IkFHTCIsImluZG9vckRlcGxveW1lbnQiOmZhbHNlLCJsYXRpdHVkZSI6MzcuNDExMzMxLCJsb25naXR1ZGUiOi0xMjIuMDE4OTQyfSwicHJvZmVzc2lvbmFsSW5zdGFsbGVyRGF0YSI6eyJjcGlJZCI6IjAwMSIsImNwaU5hbWUiOiJ5dWkiLCJpbnN0YWxsQ2VydGlmaWNhdGlvblRpbWUiOiIyMDIwLTAyLTEwVDA4OjUyOjMyWiJ9fQ",
            "protectedHeader": "eyJhbGciOiJSUzI1NiIsInR5cCI6IkpXVCJ9"
        },
        "fccId": "2AVFNLBS7320",
        "groupingParam": [
            {
                "groupId": "GW",
                "groupType": "INTERFERENCE_COORDINATION"
            }
        ],
        "measCapability": [
            "RECEIVED_POWER_WITH_GRANT",
            "RECEIVED_POWER_WITHOUT_GRANT"
        ],
        "userId": "GW"
    },
    {
        "airInterface": {
            "radioTechnology": "E_UTRA",
```

```
                "supportedSpec": "FFS"
            },
            "callSign": "LEAX",
            "cbsdCategory": "B",
            "cbsdInfo": {
                "model": "LBS7320",
                "softwareVersion": "LeaxBTS_V2.0.4.1",
                "vendor": "Radisys"
            },
            "cbsdSerialNumber": "22020300003A1952J0004",
            "cpiSignatureData": {
                "digitalSignature":
"SecwcVhyiR8axf0MK2thIUcO4zE3xu5ZNP38grsAI1uBQij11zcopfe53E71yR6j94-g65fWLHPqBlqSxWs
U9QPKm0g-368ItTXDyVG7X9DXczlPGis3-1lp6ChwNQKaXEuWvNga8TBFeukE3ue4fU_YlzxAIxpiJ6L
A796GcYVoRt5Zd62S_8q_ihRPwOWHs28HxH102r9DFTuz0HsJK3f4GvM1-O7q7KX5H_nVLafJKaL1s
oEnSFRF80cUsft3atmuwJD3Wyos-4AOnMz1UkoeRduop_UsIOroiwn1C39zmn9QKfyVpB06YCt9RukAj
9naIHQGqP7oCtArqxnSrg",
                "encodedCpiSignedData":
"eyJjYnNkU2VyaWFsTnVtYmVyIjoiMjIwMjAzMDAwMDNBMTk1MkowMDA0IiwiZmNjSWQiOiIyQVZGTk
xCUzczMjAiLCJpbnN0YWxsYXRpb25QYXJhbSI6eyJhbnRlbm5hQXppbXV0aCI6NywiYW50ZW5uYUJl
YW13aWR0aCI6NjUsImFudGVubmFEb3dudGlsdCI6MCwiYW50ZW5uYUdhaW4iOjE2LjUsImhlaWdod
CI6MywiaGVpZ2h0VHlwZSI6IkFHTCIsImluZG9vckRlcGxveW1lbnQiOmZhbHNlLCJsYXRpdHVkZSI6M
zcuNDExMzMxLCJsb25naXR1ZGUiOi0xMjIuMDE4OTQyfSwicHJvZmVzc2lvbmFsSW5zdGFsbGVyRG
F0YSI6eyJjcGlJZCI6IjAwMSIsImNwaU5hbWUiOiJ5dWkiLCJpbnN0YWxsQ2VydGlmaWNhdGlvblRpbW
UiOiIyMDIwLTAyLTEwVDA4OjUyOjMyWiJ9fQ",
                "protectedHeader": "eyJhbGciOiJSUzI1NiIsInR5cCI6IkpXVCJ9"
            },
            "fccId": "2AVFNLBS7320",
            "groupingParam": [
                {
                    "groupId": "GW",
                    "groupType": "INTERFERENCE_COORDINATION"
                }
            ],
            "measCapability": [
                "RECEIVED_POWER_WITH_GRANT",
                "RECEIVED_POWER_WITHOUT_GRANT"
            ],
            "userId": "GW"
        }
    ]
}
2020-02-10T08:52:26.028Z - INFO - Registration message contains cpiSignatureData
2020-02-10T08:52:26.028Z - INFO - protectedHeader = {u'alg': u'RS256', u'typ': u'JWT'}
2020-02-10T08:52:26.028Z - INFO - encodedCpiSignedData contents = {
    "installationParam": {
        "antennaAzimuth": 7,
        "heightType": "AGL",
        "longitude": -122.018942,
        "height": 3,
        "indoorDeployment": false,
        "latitude": 37.411331,
```

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

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

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

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

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

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

2020-02-10T08:54:03.512Z - INFO - arrived to nstep starting question answer session with the technician

2020-02-10T08:54:03.513Z - INFO - the question is : Did CBSD1 cease RF transmission before receipt of Relinquishment request (if sent) or Deregistration request at Test Harness? please choose one of the

answers :
2020-02-10T08:55:14.614Z - INFO - for the question : Did CBSD1 cease RF transmission before receipt of Relinquishment request (if sent) or Deregistration request at Test Harness? , the user choose y
2020-02-10T08:55:14.615Z - INFO - the question is : Did CBSD2 cease RF transmission before receipt of Relinquishment request (if sent) or Deregistration request at Test Harness? please choose one of the answers :
2020-02-10T08:55:15.900Z - INFO - for the question : Did CBSD2 cease RF transmission before receipt of Relinquishment request (if sent) or Deregistration request at Test Harness? , the user choose y
2020-02-10T08:55:26.654Z - INFO - The final result of the test : WINNF.FT.D.DRG.4 is - passed and :the additional comments for the current test are : CBSD1 stop transmission at T08:53:02. CBSD2 stop transmission at T08:53:04.

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

2020-02-10T06:44:22.381Z - INFO - WINNF TEST HARNESS RELEASE: 1.0.0.3 - 2018-November-13
2020-02-10T06:44:22.381Z - INFO - the selected test from the user : WINNF.FT.C.DRG.5 is starting now
2020-02-10T06:44:26.276Z - INFO - registration request from CBRS : {


```
"registrationRequest": [
    {
        "airInterface": {
            "radioTechnology": "E_UTRA",
            "supportedSpec": "FFS"
        },
        "callSign": "LEAX",
        "cbsdCategory": "B",
        "cbsdInfo": {
            "model": "LBS7320",
            "softwareVersion": "LeaxBTS_V2.0.4.1",
            "vendor": "Radisys"
        },
        "cbsdSerialNumber": "22020300003A1952J0003",
        "cpiSignatureData": {
            "digitalSignature":
"1aud5bVkfZYQgLwoBbNC3seH3LuOofk8-xPn3nWfDxrKue7py1ZMW8yD-_Qh10U98-Cd4j1PmRdehs
YC9n4AqDKWbn3uMBNCQjYddXuegDtILvSprhJLa3mfrJ06BvGeza6W3RlUHWQtjQcNeW1YJuAYT7o
GVWrK9E71YlAj3z3gs7dNZfDgQHGT78e9SU8OiENevGNtWHbNKYUxmD6rxIK2CbA39Ecuu6y2Wpd
W6ID-a7HFUFi6mvWBd6opyPZwDWkoRmA520beDQJbNXvck0FU90t1ctoTX1jpYjf-7yIqz-DvWZ7vnwu
fDi29LRgOVLeOwE32Fnm7g6Ly-j1JEg",
            "encodedCpiSignedData":
"eyJjYnNkU2VyaWFsTnVtYmVyIjoiMjIwMjAzMDAwMDNBMTk1MkowMDAzIiwiZmNjSWQiOiIyQVZGTk
xCUzczMjAiLCJpbnN0YWxsYXRpb25QYXJhbSI6eyJhbnRlbm5hQXppbXV0aCI6NywiYW50ZW5uYUJl
YW13aWR0aCI6NjUsImFudGVubmFEb3dudGlsdCI6MCwiYW50ZW5uYUdhaW4iOjE2LjUsImhlaWdod
CI6MywiaGVpZ2h0VHlwZSI6IkFHTCIsImluZG9vckRlcGxveW1lbnQiOmZhbHNlLCJsYXRpdHVkZSI6M
zcuNDExMzMxLCJsb25naXR1ZGUiOi0xMjIuMDE4OTQyfSwicHJvZmVzc2lvbmFsSW5zdGFsbGVyRG
F0YSI6eyJjcGlJZCI6IjAwMSIsImNwaU5hbWUiOiJ5dWkiLCJpbnN0YWxsQ2VydGlmaWNhdGlvblRpbW
UiOiIyMDIwLTAyLTEwVDA2OjQ0OjMyWiJ9fQ",
            "protectedHeader": "eyJhbGciOiJSUzI1NiIsInR5cCI6IkpXVCJ9"
        },
        "fccId": "2AVFNLBS7320",
        "groupingParam": [
            {
                "groupId": "GW",
                "groupType": "INTERFERENCE_COORDINATION"
            }
        ],
        "measCapability": [
            "RECEIVED_POWER_WITH_GRANT",
            "RECEIVED_POWER_WITHOUT_GRANT"
        ],
        "userId": "GW"
    }
]
}
```


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

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

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

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

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

technician
2020-02-10T06:47:54.408Z - INFO - the question is : Did CBSD1 cease RF transmission before receipt of Relinquishment request (if sent) or Deregistration request at Test Harness? please choose one of the answers :
2020-02-10T06:56:01.921Z - INFO - for the question : Did CBSD1 cease RF transmission before receipt of Relinquishment request (if sent) or Deregistration request at Test Harness? , the user choose y
2020-02-10T06:56:11.132Z - INFO - The final result of the test : WINNF.FT.C.DRG.5 is - passed and :the additional comments for the current test are : CBSD stop transmission at T06:46:53

Test Log for WINNF.PT.C.HBT Test Case ID_ BW20M_Grant maxEirp 34

2020-02-21T06:04:04.226Z - INFO - WINNF TEST HARNESS RELEASE: 1.0.0.3 - 2018-November-13
2020-02-21T06:04:04.226Z - INFO - Selected spectrum frequency is {'lowFrequency': 3550000000L, 'highFrequency': 3570000000L}
2020-02-21T06:04:04.226Z - INFO - Granted Spectrum Max Eirp = 34dBm/MHz
2020-02-21T06:04:04.227Z - INFO - the selected test from the user : PowerMeasTest is starting now
2020-02-21T06:04:41.253Z - INFO - registration request from CBRS : {


```
"registrationRequest": [
    {
        "airInterface": {
            "radioTechnology": "E_UTRA",
            "supportedSpec": "FFS"
        },
        "callSign": "LEAX",
        "cbsdCategory": "B",
        "cbsdInfo": {
            "model": "LBS7320",
            "softwareVersion": "LeaxBTS_V2.0.4.1",
            "vendor": "Radisys"
        },
        "cbsdSerialNumber": "22020300003A1952J0003",
        "cpiSignatureData": {
            "digitalSignature":
"WGnHDTNuuc4XzvmnwWuLEk3mayCn7IzCA7aBBSiRoOmLm_zPpbHbSuSowVMDOv4sPC6pv4Xkf
0csj768DbdgRzcBUKx8qLQFkWTKQ1s6pOxPuAowYx5ySc5sduIPm1tn-gR0ahEsyv0N00kITeoOEBl4t
_bojNcCmV60oWX7jXjdErjRtMYhxBazQ2Io5kVOAjZYMLdJll-iI8NZ5h8c-RJr8_fMmQtbmHo63P1xiTnX
AYioXfohCpUlplAc0cC5g9bhwnDQ6I89DDj0LokGenmXuOa-jY0X_zTqVTMECbIo7n9XSXdZR_rp57wT
5K0VPAIyq6nvnIoXvr-8Rcz2bQ",
            "encodedCpiSignedData":
"eyJjYnNkU2VyaWFsTnVtYmVyIjoiMjIwMjAzMDAwMDNBMTk1MkowMDAzIiwiZmNjSWQiOiIyQVZGTk
xCUzczMjAiLCJpbnN0YWxsYXRpb25QYXJhbSI6eyJhbnRlbm5hQXppbXV0aCI6NywiYW50ZW5uYUJl
YW13aWR0aCI6NjUsImFudGVubmFEb3dudGlsdCI6MCwiYW50ZW5uYUdhaW4iOjE2LjUsImhlaWdod
CI6MywiaGVpZ2h0VHlwZSI6IkFHTCIsImluZG9vckRlcGxveW1lbnQiOmZhbHNlLCJsYXRpdHVkZSI6M
zcuNDExMzMxLCJsb25naXR1ZGUiOi0xMjIuMDE4OTQyfSwicHJvZmVzc2lvbmFsSW5zdGFsbGVyRG
F0YSI6eyJjcGlJZCI6IjAwMSIsImNwaU5hbWUiOiJ5dWkiLCJpbnN0YWxsQ2VydGlmaWNhdGlvblRpbW
UiOiIyMDIwLTAyLTIxVDA2OjA3OjAwWiJ9fQ",
            "protectedHeader": "eyJhbGciOiJSUzI1NiIsInR5cCI6IkpXVCJ9"
        },
        "fccId": "2AVFNLBS7320",
        "groupingParam": [
            {
                "groupId": "GW",
                "groupType": "INTERFERENCE_COORDINATION"
            }
        ],
        "measCapability": [
            "RECEIVED_POWER_WITH_GRANT",
            "RECEIVED_POWER_WITHOUT_GRANT"
        ],
        "userId": "GW"
    }
]
```

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

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

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

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

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

Test Log for WINNF.PT.C.HBT Test Case ID_ BW20M_Grant maxEirp 22

2020-02-21T06:12:13.961Z - INFO - WINNF TEST HARNESS RELEASE: 1.0.0.3 - 2018-November-13
2020-02-21T06:12:13.961Z - INFO - Selected spectrum frequency is {'lowFrequency': 3550000000L, 'highFrequency': 3570000000L}
2020-02-21T06:12:13.963Z - INFO - Granted Spectrum Max Eirp = 22dBm/MHz
2020-02-21T06:12:13.963Z - INFO - the selected test from the user : PowerMeasTest is starting now
2020-02-21T06:12:41.111Z - INFO - registration request from CBRS : {


```
"registrationRequest": [
    {
        "airInterface": {
            "radioTechnology": "E_UTRA",
            "supportedSpec": "FFS"
        },
        "callSign": "LEAX",
        "cbsdCategory": "B",
        "cbsdInfo": {
            "model": "LBS7320",
            "softwareVersion": "LeaxBTS_V2.0.4.1",
            "vendor": "Radisys"
        },
        "cbsdSerialNumber": "22020300003A1952J0003",
        "cpiSignatureData": {
            "digitalSignature":
"a5KjfzuCufe6cB1CqnCIK7d6s4JgzZUBKq39VK9kBSPIsT5T3blv0UEQMpaQwbPbMnyf_ZxwySic9G7t
BX3zjMWe7Q1VWAmjWHtRQikcDXthd0BCzSdhqLGMdjBQdDRrDT9dz1zAqwzecc_VSy4NK7JQombp
FMHO2Yg9V7zYQvIC3_Ricgzqt3gXqbr4p1uEpB7AIINsDByaJP4fNGv2ORuahMOxCY4-hpOU8gNF6L
KJmFFrBGU0IhVEwTMLIf3q_4PaOG-IfhQGFJL_gr56QvG9sRcv9B5fECgn5ABlpFlaDhaPM95WIwRma
um0F-PQEomRzzyU2GNHlGQby8zwHQ",
            "encodedCpiSignedData":
"eyJjYnNkU2VyaWFsTnVtYmVyIjoiMjIwMjAzMDAwMDNBMTk1MkowMDAzIiwiZmNjSWQiOiIyQVZGTk
xCUzczMjAiLCJpbnN0YWxsYXRpb25QYXJhbSI6eyJhbnRlbm5hQXppbXV0aCI6NywiYW50ZW5uYUJl
YW13aWR0aCI6NjUsImFudGVubmFEb3dudGlsdCI6MCwiYW50ZW5uYUdhaW4iOjE2LjUsImhlaWdod
CI6MywiaGVpZ2h0VHlwZSI6IkFHTCIsImluZG9vckRlcGxveW1lbnQiOmZhbHNlLCJsYXRpdHVkZSI6M
zcuNDExMzMxLCJsb25naXR1ZGUiOi0xMjIuMDE4OTQyfSwicHJvZmVzc2lvbmFsSW5zdGFsbGVyRG
F0YSI6eyJjcGlJZCI6IjAwMSIsImNwaU5hbWUiOiJ5dWkiLCJpbnN0YWxsQ2VydGlmaWNhdGlvblRpbW
UiOiIyMDIwLTAyLTIxVDA2OjE1OjAwWiJ9fQ",
            "protectedHeader": "eyJhbGciOiJSUzI1NiIsInR5cCI6IkpXVCJ9"
        },
        "fccId": "2AVFNLBS7320",
        "groupingParam": [
            {
                "groupId": "GW",
                "groupType": "INTERFERENCE_COORDINATION"
            }
        ],
        "measCapability": [
            "RECEIVED_POWER_WITH_GRANT",
            "RECEIVED_POWER_WITHOUT_GRANT"
        ],
        "userId": "GW"
    }
]
```

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

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

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

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

2020-02-21T06:24:19.109Z - INFO - WINNF TEST HARNESS RELEASE: 1.0.0.3 - 2018-November-13
2020-02-21T06:24:19.111Z - INFO - Selected spectrum frequency is {'lowFrequency': 3550000000L, 'highFrequency': 3570000000L}
2020-02-21T06:24:19.111Z - INFO - Granted Spectrum Max Eirp = 9dBm/MHz
2020-02-21T06:24:19.111Z - INFO - the selected test from the user : PowerMeasTest is starting now
2020-02-21T06:24:41.082Z - INFO - registration request from CBRS : {

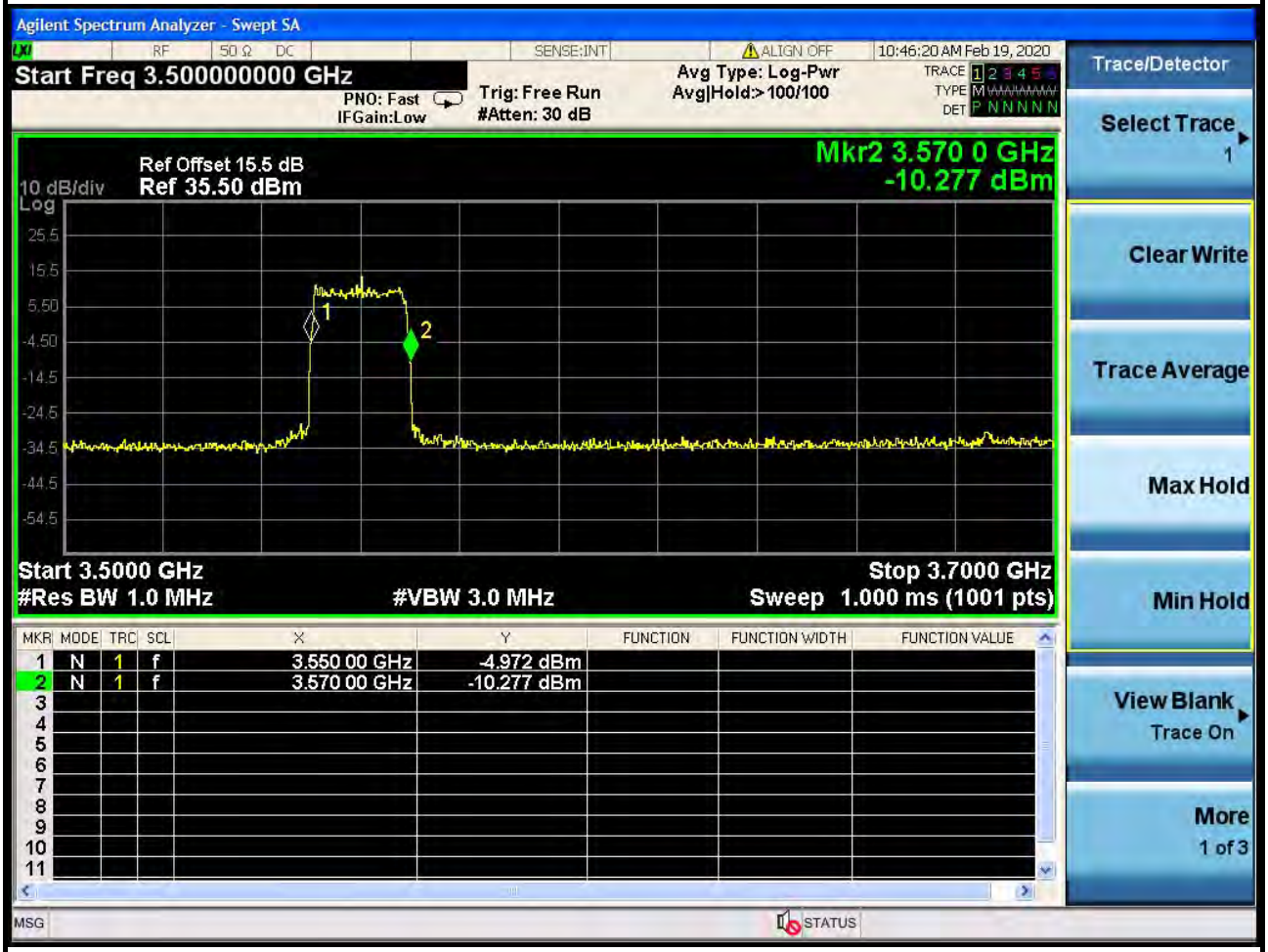

```
"registrationRequest": [
    {
        "airInterface": {
            "radioTechnology": "E_UTRA",
            "supportedSpec": "FFS"
        },
        "callSign": "LEAX",
        "cbsdCategory": "B",
        "cbsdInfo": {
            "model": "LBS7320",
            "softwareVersion": "LeaxBTS_V2.0.4.1",
            "vendor": "Radisys"
        },
        "cbsdSerialNumber": "22020300003A1952J0003",
        "cpiSignatureData": {
            "digitalSignature":
"pn8h5nbKK9EZifWyXKtqeNT0O9WUbUZei7xmmsWH01s4bmORmL1YzRLpUbnTNIsc63_oP7lk5jcNR
hAgq2vUU8nIQx07S1dSSXJ6Jfc8UDeSppmVSCDcltGuvJLd_oYRp-XC8SNkVVehltV4kJNGk7YCDZek
Ni9b3ITveyymGOKhBBbtklMHBRjjEt83EvOVmr2oaHa9i3NCTkmUFRFumV9nC3LV-0jp3q_TOR3xeEIJ
ib8Jo7U4u_i21vPGFw4T0gY9iRXO7OeARxrn33sx3VoFW3nes0PgerPnMbbRTBciKmgmmgFTCeJo1s
KXDzF_gh0QLHBfdEYLhN-1SvBBRg",
            "encodedCpiSignedData":
"eyJjYnNkU2VyaWFsTnVtYmVyIjoiMjIwMjAzMDAwMDNBMTk1MkowMDAzIiwiZmNjSWQiOiIyQVZGTk
xCUzczMjAiLCJpbnN0YWxsYXRpb25QYXJhbSI6eyJhbnRlbm5hQXppbXV0aCI6NywiYW50ZW5uYUJl
YW13aWR0aCI6NjUsImFudGVubmFEb3dudGlsdCI6MCwiYW50ZW5uYUdhaW4iOjE2LjUsImhlaWdod
CI6MywiaGVpZ2h0VHlwZSI6IkFHTCIsImluZG9vckRlcGxveW1lbnQiOmZhbHNlLCJsYXRpdHVkZSI6M
zcuNDExMzMxLCJsb25naXR1ZGUiOi0xMjIuMDE4OTQyfSwicHJvZmVzc2lvbmFsSW5zdGFsbGVyRG
F0YSI6eyJjcGlJZCI6IjAwMSIsImNwaU5hbWUiOiJ5dWkiLCJpbnN0YWxsQ2VydGlmaWNhdGlvblRpbW
UiOiIyMDIwLTAyLTIxVDA2OjI3OjAwWiJ9fQ",
            "protectedHeader": "eyJhbGciOiJSUzI1NiIsInR5cCI6IkpXVCJ9"
        },
        "fccId": "2AVFNLBS7320",
        "groupingParam": [
            {
                "groupId": "GW",
                "groupType": "INTERFERENCE_COORDINATION"
            }
        ],
        "measCapability": [
            "RECEIVED_POWER_WITH_GRANT",
            "RECEIVED_POWER_WITHOUT_GRANT"
        ],
        "userId": "GW"
    }
]
```

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

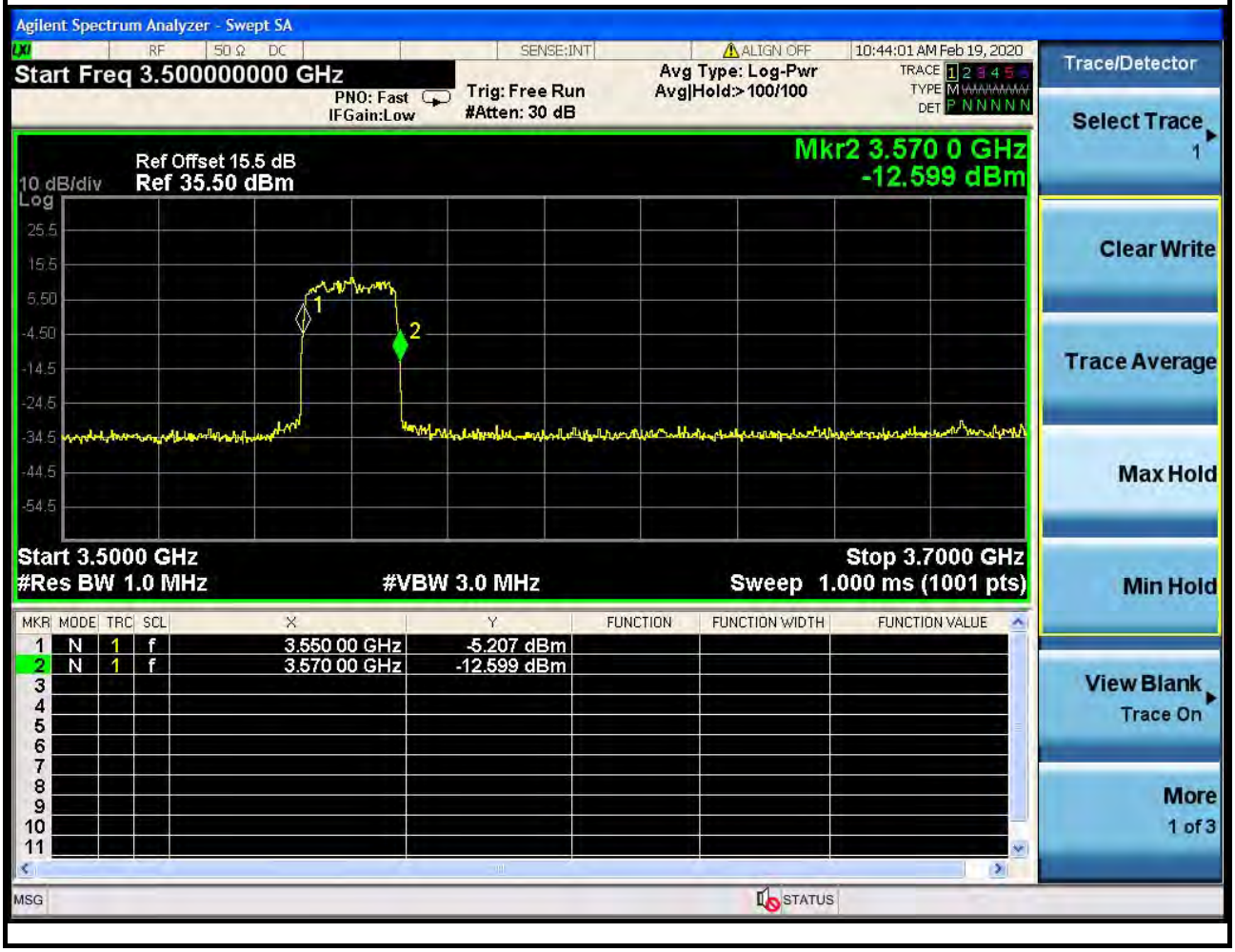
```
                    "maxEirp": 9,
                    "operationFrequencyRange": {
                        "highFrequency": 3570000000,
                        "lowFrequency": 3550000000
                    }
                }
            }
        ]
}
2020-02-21T06:24:42.055Z - INFO - engine sent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

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

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



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



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

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

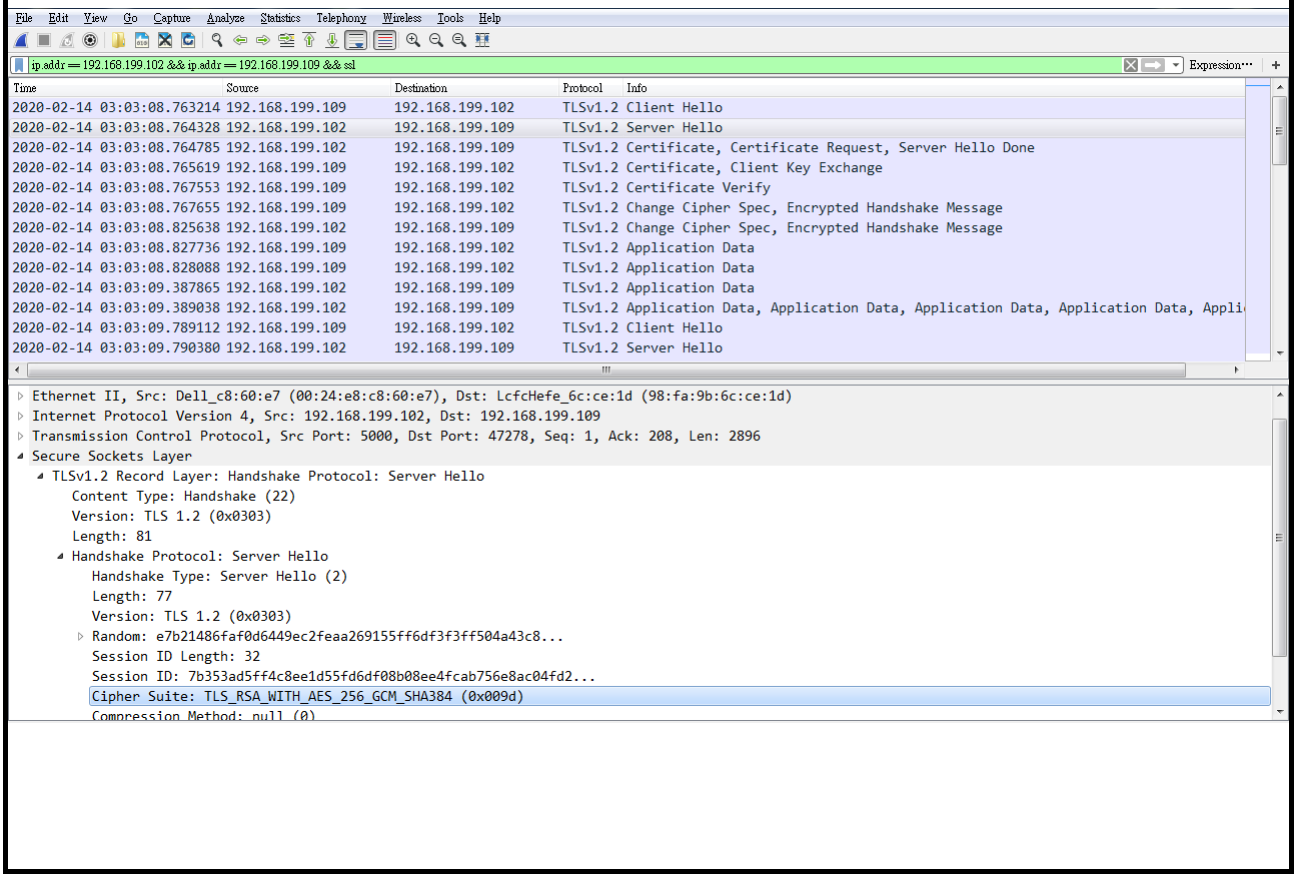
RF measurement plot for WINNF.PT.C.HBT Test Case ID_BW20M_Grant maxEirp 22_Port 1

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

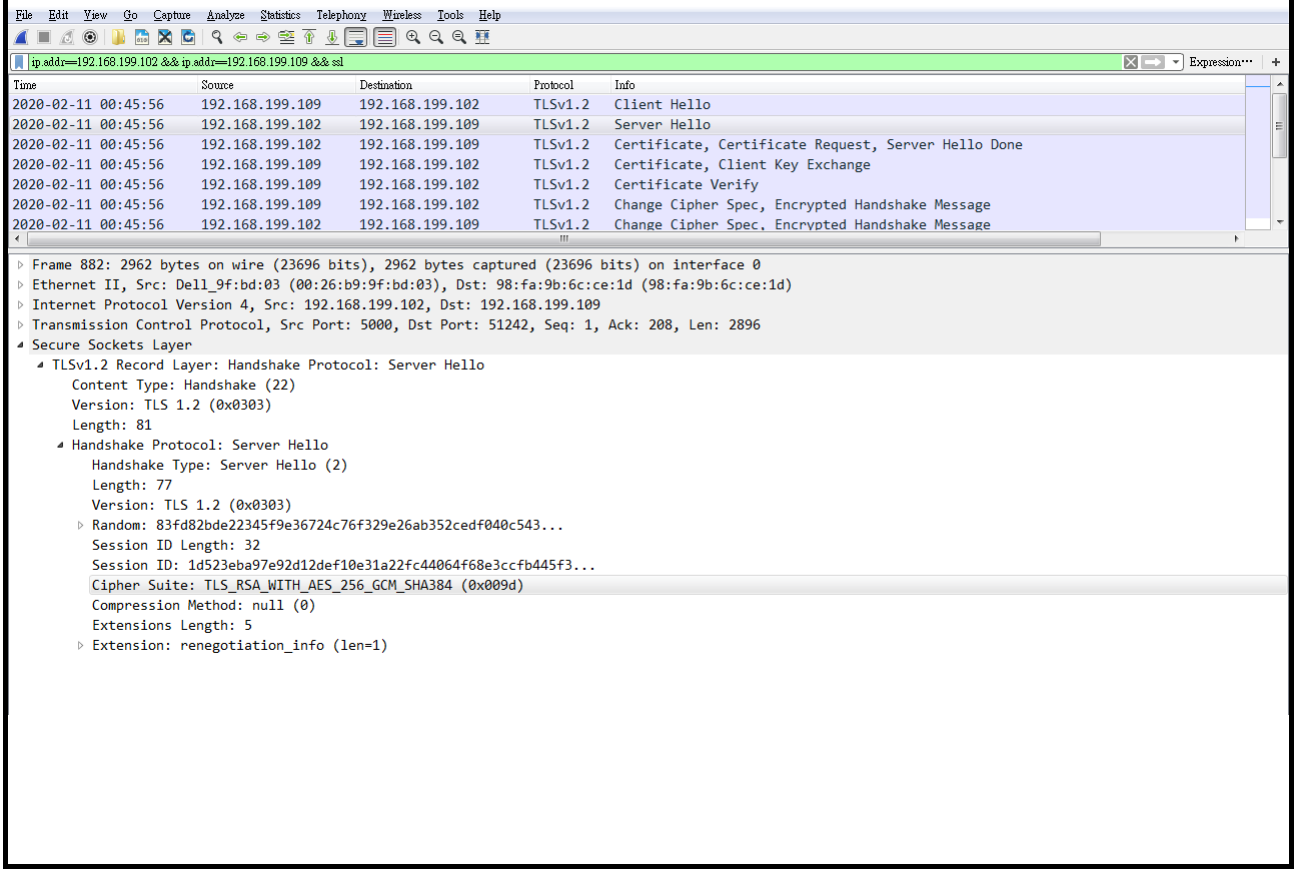
RF measurement plot for WINNF.PT.C.HBT Test Case ID_BW20M_Grant maxEirp 9_Port 1

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

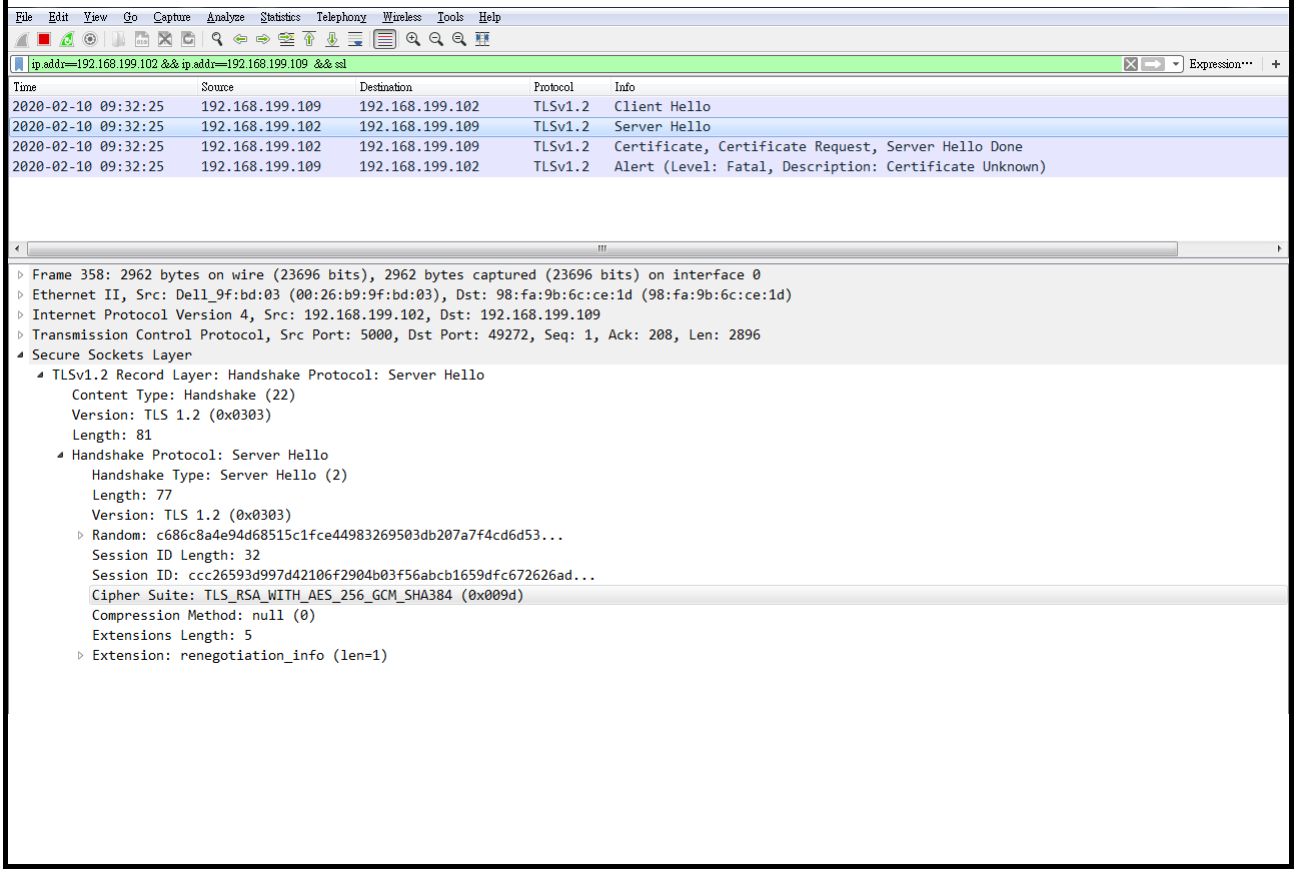
Wireshark Plots for WINNF.FT.C.SCS.1 Test Case ID



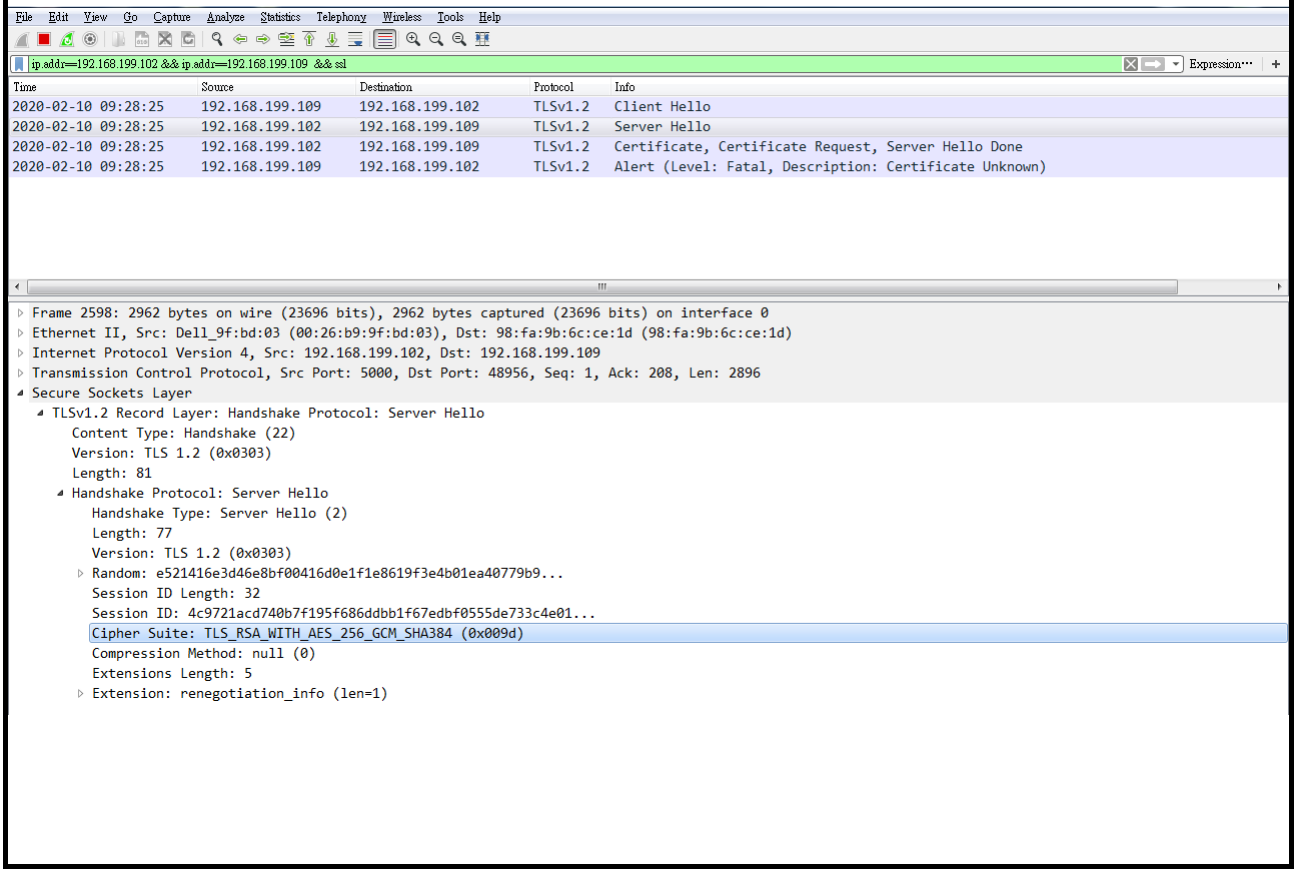
Wireshark Plots for WINNF.FT.C.SCS.2 Test Case ID



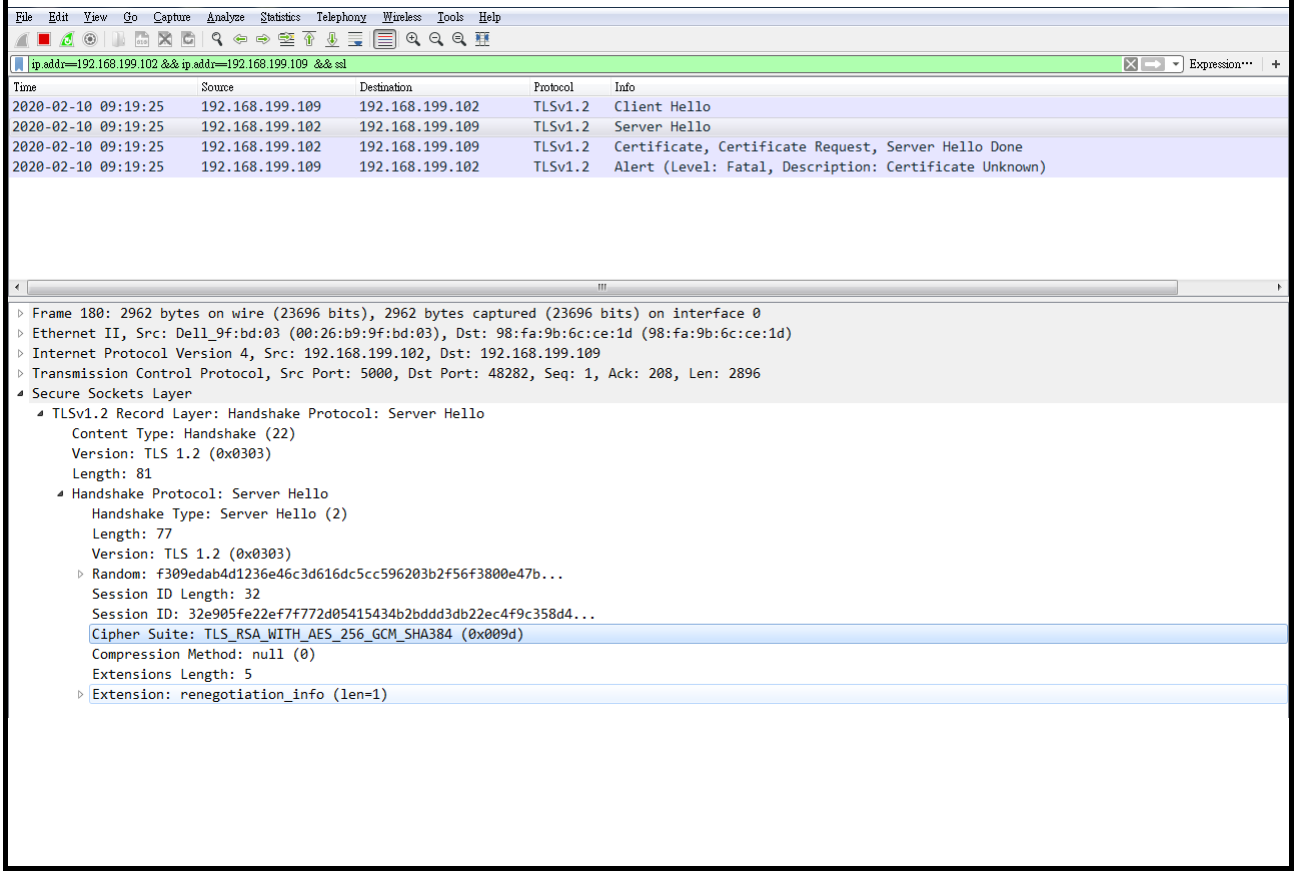
Wireshark Plots for WINNF.FT.C.SCS.3 Test Case ID



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



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



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