



Wireless test report – 390910-2TRFWL

Applicant:

J Plus, Inc.

Product name:

CBSD Cat-B High Power Outdoor Small Cell

Model:

JLT733A

Model variant:

N/A

FCC ID:

2AVGPJLT733A

Specifications:

WINNF-TS-0122, Version V1.0.0

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

WINNF-IN-00129, Version V1.0.0.0

WinnForum CBSD/DP UUT Security Test 6 Cases Tutorial

Date of issue: February 6, 2020

Test engineer(s):

Tom Tidwell, Wireless/EMC Specialist

Signature:

Reviewed by:

Juan M. Gonzalez/Business Dev. Manager

Signature:

Test location(s)

Company name	Nemko USA Inc.
Address	2210 Faraday Ave, Suite 150
City	Carlsbad
State	California
Postal code	92008
Country	USA
Telephone	+1 760 444 3500
Website	www.nemko.com
FCC Site Number	Test Firm Registration Number: 392943 Designation Number: US5058
ISED Test Site	2040B-3

Limits of responsibility

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

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

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

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Section 1. Report summary

1.1 Applicant and manufacturer

Company name	J Plus, Inc
Address	14788 NE 95 th St
City	Redmond
Province/State	Washington
Postal/Zip code	98052
Country	USA

Important note: All data presented in this test report was originally tested under Fujitsu Network communications, Inc. but it was never used for certification, now J Plus is taking over with all certifications and all test logs presented in this test reports are the original unmodified test logs and shows Fujitsu as the Vendor.

1.2 Test specifications

WINNF-TS-0122 Version V1.0.0	Test and Certification for Citizens Broadband Radio Service (CBRS); Conformance and Performance Test Technical Specification; CBSD/DP as Unit Under Test (UUT)
WINNF-IN-00129, Version V1.0.0.0	WInnForum CBSD/DP UUT Security Test 6 Cases Tutorial

1.3 Statement of compliance

In the configuration tested, the EUT was found compliant.

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

See "Summary of test results" for full details.

1.4 Exclusions

None

1.5 Test report revision history

Revision #	Date of issue	Details of changes made to test report
390910-2TRFWL	February 6, 2020	Original report issued

Section 2. Summary of test results

2.1 WINNF-TS-0122 requirements test results

Section	Test case ID	Test case title	Applicable	Verdict
6.1.4.1.1	WINNF.FT.C.REG.1	Multi-Step registration	M	Pass
6.1.4.1.5	WINNF.FT.C.REG.5	Single-Step registration for CBSD with CPI signed data	M	Pass
6.1.4.1.7	WINNF.FT.C.REG.7	Registration due to change of an installation parameter	M	Pass
6.1.4.2.1	WINNF.FT.C.REG.8	Missing Required parameters (responseCode 102)	M	Pass
6.1.4.2.3	WINNF.FT.C.REG.10	Pending registration (responseCode 200)	M	Pass
6.1.4.2.5	WINNF.FT.C.REG.12	Invalid parameter (responseCode 103)	M	Pass
6.1.4.2.7	WINNF.FT.C.REG.14	Blacklisted CBSD (responseCode 101)	M	Pass
6.1.4.2.9	WINNF.FT.C.REG.16	Unsupported SAS protocol version (responseCode 100)	M	Pass
6.1.4.2.11	WINNF.FT.C.REG.18	Group Error (responseCode 201)	M	Pass
6.3.4.2.1	WINNF.FT.C.GRA.1	Unsuccessful Grant responseCode=400 (INTERFERENCE	M	Pass
6.3.4.2.2	WINNF.FT.C.GRA.2	Unsuccessful Grant responseCode=401	M	Pass
6.4.4.1.1	WINNF.FT.C.HBT.1	Heartbeat Success Case (first Heartbeat Response)	M	Pass
6.4.4.2.1	WINNF.FT.C.HBT.3	Heartbeat responseCode=105 (DEREGISTER)	M	Pass
6.4.4.2.2	WINNF.FT.C.HBT.4	Heartbeat responseCode=500 (TERMINATED_GRANT)	M	Pass
6.4.4.2.3	WINNF.FT.C.HBT.5	Heartbeat responseCode=501 (SUSPENDED_GRANT) in First Heartbeat Response	M	Pass
6.4.4.2.4	WINNF.FT.C.HBT.6	Heartbeat responseCode=501 (SUSPENDED_GRANT) in Subsequent Heartbeat Response	M	Pass
6.4.4.2.5	WINNF.FT.C.HBT.7	Heartbeat responseCode=502 (UNSYNC_OP_PARAM)	M	Pass
6.4.4.3.1	WINNF.FT.C.HBT.9	Heartbeat Response Absent (First Heartbeat)	M	Pass
6.4.4.3.2	WINNF.FT.C.HBT.10	Heartbeat Response Absent (Subsequent Heartbeat)	M	Pass
6.4.4.4.1	WINNF.FT.C.HBT.11	Successful Grant Renewal in Heartbeat Test Case	O	Pass
6.5.4.2.1	WINNF.FT.C.MES.1	Registration Response contains measReportConfig	M	Pass
6.5.4.2.3	WINNF.FT.C.MES.3	Grant Response contains measReportConfig	M	Pass
6.5.4.2.4	WINNF.FT.C.MES.4	WINNF.FT.C.MES.4	M	Pass
6.6.4.1.1	WINNF.FT.C.RLQ.1	Successful Relinquishment	M	Pass
6.6.4.2.1	WINNF.FT.C.RLQ.3	Unsuccessful Relinquishment, responseCode=102	O	Pass
6.6.4.3.1	WINNF.FT.C.RLQ.5	Unsuccessful Relinquishment, responseCode=103	O	Pass
6.7.4.1.1	WINNF.FT.C.DRG.1	Successful Deregistration	M	Pass
6.7.4.2.1	WINNF.FT.C.DRG.3	Deregistration responseCode=102	O	Pass
6.7.4.3.1	WINNF.FT.C.DRG.5	Deregistration responseCode=103	O	Pass
6.8.4.1.1	WINNF.FT.C.SCS.1	Successful TLS connection between UUT and SAS Test Harness	M	Pass
6.8.4.2.1	WINNF.FT.C.SCS.2	TLS failure due to revoked certificate	M	Pass
6.8.4.2.2	WINNF.FT.C.SCS.3	TLS failure due to expired server certificate	M	Pass
6.8.4.2.3	WINNF.FT.C.SCS.4	TLS failure when SAS Test Harness certificate is issue by unknown CA	M	Pass
6.8.4.2.4	WINNF.FT.C.SCS.5	TLS failure when certificate at the SAS Test Harness is corrupted	M	Pass
7.1.4.1.1	WINNF.PT.C.HBT	UUT RF Transmit Power Measurement	M	Pass

Notes:

Section 3. Equipment under test (EUT) details

3.1 Sample information

Receipt date	November 28, 2018
Nemko sample ID number	364246

3.2 EUT information

Product name	CBSD Cat-B High Power Outdoor Small Cell			
Model	JLT733A			
Model variant	N/A			
FCC ID	2AVGPJLT733A			
Serial number	64A837260247			
Software Details of UUT	Version	: 6.4.0	Ver. Suffix	: g50-lt740ct-9732 Build Date : Wed Dec 5 08:35:48 KST 2018

3.3 Technical information

Frequency band	CBRS band: 3550–3700 MHz
Type of modulation	QPSK, QAM16, QAM64
BW	10 and 20 MHz
Power requirements	110 — 240 VAC, 50 — 60Hz

3.4 Product description and theory of operation

The UUT is a Category B CBSD.

3.5 UUT exercise details

The UUT was loaded with software Version: 6.4.0 Ver. Suffix: g50-lt740ct-9732 Build Date: Wed Dec 5 08:35:48 KST 2018 for all testing.
All testing was performed with WinnForum SAS test harness version 1.0.0.2

3.6 EUT setup diagram

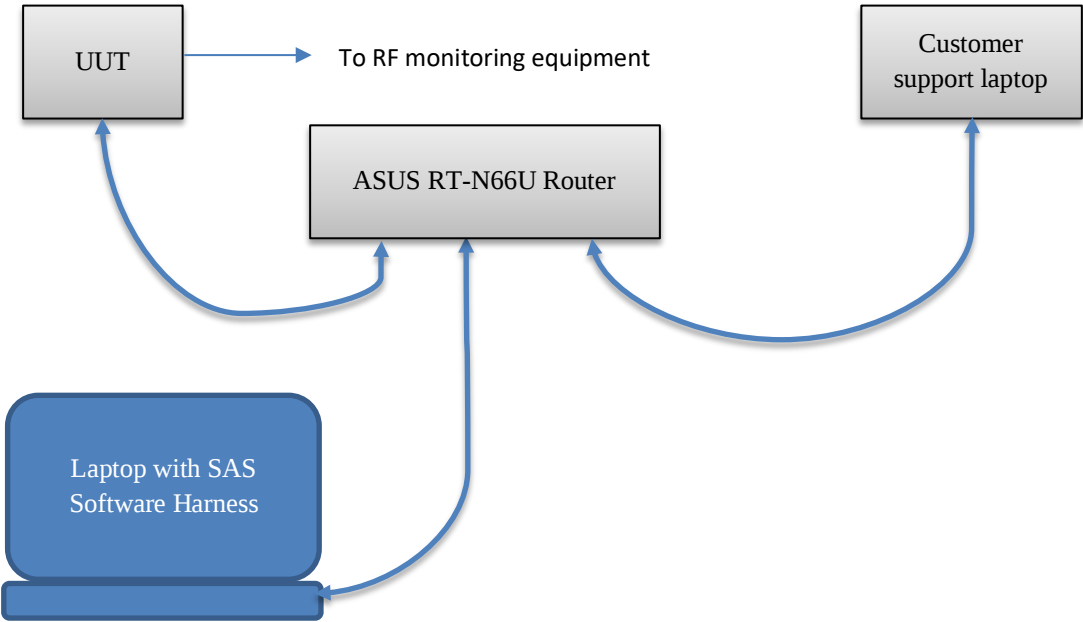


Figure 3.6-1: Setup diagram

3.7 EUT sub assemblies

Table 3.7-1: EUT sub assemblies + Auxiliary Equipment

Description	Brand name	Model/Part number	Serial number
Wireless Router	ASUS	RT-N66U	E4IA08020580
Support Laptop	Lenovo	PS2	XU100308-18062A

Section 4. Engineering considerations

4.1 Modifications incorporated in the EUT

There were no modifications performed to the EUT during this assessment.

4.2 Technical judgment

None

4.3 Deviations from laboratory tests procedures

No deviations were made from laboratory procedures.

Section 5. Test conditions

5.1 Atmospheric conditions

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

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

5.2 Power supply range

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

Section 6. Measurement uncertainty

6.1 Uncertainty of measurement

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

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

Table 6.1-1: Measurement uncertainty

Test name	Measurement uncertainty, dB
All antenna port measurements	0.55

Section 7. Test equipment

7.1 Test equipment list

Table 7.1-1: Equipment list

Equipment	Manufacturer	Model no.	Asset no.	Cal cycle	Next cal.
Spectrum Analyzer	Rohde & Schwarz	ESU 40	E1131	1 year	8/23/19
SAS Test Harness Test Bed Computer	DELL	E5430	DALL0009	N/A	N/A
SAS Test Harness Software	WinnForumq	1.0.0.2		N/A	N/A

Section 8. Testing data

8.1 6.1 CBSD Registration Process

8.1.1 Definitions and limits

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

8.1.2 6.1.4.1.1 [WINNF.FT.C.REG.1] Multi-step registration:

8.1.2.1 *Test date*

Start date December 5, 2018

8.1.2.2 *Observations, settings and special notes*

None

8.1.2.3 *Test data*

#	Test Execution Steps	Results	
1	Ensure the following conditions are met for test entry: • UUT has successfully completed SAS Discovery and Authentication with the SAS Test Harness • UUT is in the Unregistered state	-	-
	CBSD sends correct Registration request information, as specified in [n.5], to the SAS Test Harness:		
2	• The required userId, fcId and cbsdSerialNumber registration parameters shall be sent from the 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.	☒ Pass	☐ Fail
3	SAS Test Harness sends a CBSD Registration Response as follows: - cbsdId = C - measReportConfig shall not be included - responseCode = 0	-	-
4	After completion of step 3, SAS Test Harness will not provide any positive response (responseCode=0) to further request messages from the UUT.	-	-
5	Monitor the RF output of the UUT from start of test until 60 seconds after Step 3 is complete. This is the end of the test. Verify: UUT shall not transmit RF during monitoring time	☒ Pass	☐ Fail

8.1.3 6.1.4.1.5 [WINNF.FT.C.REG.5] Single-Step registration for CBSD with CPI signed data

All Category B devices, and Category A devices not able to determine its own location require installation by a CPI. This test is for devices where the CPI enters data into the CBSD and this information along with the CPI signature are sent in the request message. Excluded from this test are devices which require the CPI to enter the information into a SAS interface. These devices would use the multiple step registration test [WINNF.FT.C.REG.1].

If a waiver for the measurement capability has been obtained from the FCC for the CBSD, the WINNF.FT.C.REG.5_waiver test case shall be executed which is the same as above, but where measCapability is not required in the request message.

8.1.3.1 Test date

Start date	December 5, 2018
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8.1.3.2 Observations, settings and special notes

None

8.1.3.3 Test data

#	Test Execution Steps	Results	
1	Ensure the following conditions are met for test entry: - UUT has successfully completed SAS Discovery and Authentication with the SAS Test Harness - UUT is in the Unregistered state - All of the required and REG-Conditional parameters shall be configured and CPI signature provided	-	-
	CBSD sends Registration request to SAS Test Harness:		
2	- The required userId, fcId 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	☐ Fail
3	SAS Test Harness sends a CBSD Registration Response as follows: - cbsdId = C - measReportConfig shall not be included - responseCode = 0	-	-
4	After completion of step 3, SAS Test Harness will not provide any positive response (responseCode=0) to further request messages from the UUT.	-	-
5	Monitor the RF output of the UUT from start of test until 60 seconds after Step 3 is complete. This is the end of the test. Verify: UUT shall not transmit RF during monitoring time	☒ Pass	☐ Fail

8.1.4 6.1.4.1.7 [WINNF.FT.C.REG.7] Registration due to change of an installation parameter

8.1.4.1 Test date

Start date December 5, 2018

8.1.4.2 Observations, settings and special notes

None

8.1.4.3 Test data

Step	Test Execution Steps	Pass	Fail
1	Ensure the following conditions are met for test entry: • UUT has successfully completed SAS Discovery and Authentication with SAS Test Harness	–	–
2	UUT has successfully registered with SAS Test Harness	–	–
3	Change an installation parameters at the UUT (time T) o Tester needs to record the current time at which the parameter change is executed.	–	–
4	Monitor the SAS-CBSD interface. UUT sends a deregistrationRequest to the SAS Test Harness The deregistration request shall be sent within (T + 60 seconds) from step 3.	☒	☐

8.1.5 6.1.4.2.1 [WINNF.FT.C.REG.8] Missing Required parameters (responseCode 102)

8.1.5.1 Test date

Start date December 5, 2018

8.1.5.2 Observations, settings and special notes

None

8.1.5.3 Test data

#	Test Execution Steps	Results	
1	Ensure the following conditions are met for test entry: - UUT has successfully completed SAS Discovery and Authentication with the SAS Test Harness - UUT is in the Unregistered state	-	-
2	CBSD sends a Registration request to SAS Test Harness.	-	-
3	SAS Test Harness rejects the request by sending a CBSD Registration Response as follows: - SAS response does not include cbsdId - responseCode = R	-	-
4	After completion of step 3, SAS Test Harness will not provide any positive response (responseCode=0) to further request messages from the UUT.	-	-
5	Monitor the RF output of the UUT from start of test until 60 seconds after Step 3 is complete. This is the end of the test. Verify: UUT shall not transmit RF	☒ Pass	☐ Fail

8.1.6 6.1.4.2.3 [WINNF.FT.C.REG.10] Pending registration (responseCode 200)

8.1.6.1 Test date

Start date December 5, 2018

8.1.6.2 Observations, settings and special notes

None

8.1.6.3 Test data

#	Test Execution Steps	Results	
1	Ensure the following conditions are met for test entry: - UUT has successfully completed SAS Discovery and Authentication with the SAS Test Harness - UUT is in the Unregistered state	-	-
2	CBSD sends a Registration request to SAS Test Harness.	-	-
3	SAS Test Harness rejects the request by sending a CBSD Registration Response as follows: - SAS response does not include cbsdId - responseCode (R)= 200	-	-
4	After completion of step 3, SAS Test Harness will not provide any positive response (responseCode=0) to further request messages from the UUT.	-	-
5	Monitor the RF output of the UUT from start of test until 60 seconds after Step 3 is complete. This is the end of the test. Verify: UUT shall not transmit RF	☒ Pass	☐ Fail

8.1.7 6.1.4.2.5 [WINNF.FT.C.REG.12] Invalid parameter (responseCode 103)

8.1.7.1 Test date

Start date December 5, 2018

8.1.7.2 Observations, settings and special notes

None

8.1.7.3 Test data

#	Test Execution Steps	Results	
1	Ensure the following conditions are met for test entry: - UUT has successfully completed SAS Discovery and Authentication with the SAS Test Harness - UUT is in the Unregistered state	-	-
2	CBSD sends a Registration request to SAS Test Harness.	-	-
3	SAS Test Harness rejects the request by sending a CBSD Registration Response as follows: - SAS response does not include cbsdId - responseCode (R)= 103	-	-
4	After completion of step 3, SAS Test Harness will not provide any positive response (responseCode=0) to further request messages from the UUT.	-	-
5	Monitor the RF output of the UUT from start of test until 60 seconds after Step 3 is complete. This is the end of the test. Verify: UUT shall not transmit RF	☒ Pass	☐ Fail

8.1.8 6.1.4.2.7 [WINNF.FT.C.REG.14] Blacklisted CBSD (responseCode 101)

8.1.8.1 Test date

Start date December 5, 2018

8.1.8.2 Observations, settings and special notes

None

8.1.8.3 Test data

#	Test Execution Steps	Results	
1	Ensure the following conditions are met for test entry: - UUT has successfully completed SAS Discovery and Authentication with the SAS Test Harness - UUT is in the Unregistered state	-	-
2	CBSD sends a Registration request to SAS Test Harness.	-	-
3	SAS Test Harness rejects the request by sending a CBSD Registration Response as follows: - SAS response does not include cbsdId - responseCode (R) = 101	-	-
4	After completion of step 3, SAS Test Harness will not provide any positive response (responseCode=0) to further request messages from the UUT.	-	-
5	Monitor the RF output of the UUT from start of test until 60 seconds after Step 3 is complete. This is the end of the test. Verify: UUT shall not transmit RF	☒ Pass	☐ Fail

8.1.9 6.1.4.2.9 [WINNF.FT.C.REG.16] Unsupported SAS protocol version (responseCode 100)

8.1.9.1 Test date

Start date December 5, 2018

8.1.9.2 Observations, settings and special notes

None

8.1.9.3 Test data

#	Test Execution Steps	Results	
1	Ensure the following conditions are met for test entry: - UUT has successfully completed SAS Discovery and Authentication with the SAS Test Harness - UUT is in the Unregistered state	-	-
2	CBSD sends a Registration request to SAS Test Harness.	-	-
3	SAS Test Harness rejects the request by sending a CBSD Registration Response as follows: - SAS response does not include cbsdId - responseCode (R) = 100	-	-
4	After completion of step 3, SAS Test Harness will not provide any positive response (responseCode=0) to further request messages from the UUT.	-	-
5	Monitor the RF output of the UUT from start of test until 60 seconds after Step 3 is complete. This is the end of the test. Verify: UUT shall not transmit RF	☒ Pass	☐ Fail

8.1.10 6.1.4.2.11 [WINNF.FT.C.REG.18] Group Error (responseCode 201)

8.1.10.1 Test date

Start date December 5, 2018

8.1.10.2 Observations, settings and special notes

None

8.1.10.3 Test data

The registrationRequest groupingParam is an optional field and will be validated by the SAS Test Harness if provided in the Registration Request message. This test will validate that the CBSD will remain Unregistered after receiving 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 the SAS Test Harness - UUT is in the Unregistered state	-	-
2	CBSD sends a Registration request to SAS Test Harness.	-	-
3	SAS Test Harness rejects the request by sending a CBSD Registration Response as follows: - SAS response does not include cbsdId - responseCode (R) = 201	-	-
4	After completion of step 3, SAS Test Harness will not provide any positive response (responseCode=0) to further request messages from the UUT.	-	-
5	Monitor the RF output of the UUT from start of test until 60 seconds after Step 3 is complete. This is the end of the test. Verify: UUT shall not transmit RF	☒ Pass	☐ Fail

8.2 6.3 CBSD Spectrum Grant Process

8.2.1 Definitions and limits

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

8.2.2 6.3.4.2.1 [WINNF.FT.C.GRA.1] Unsuccessful Grant responseCode=400 (INTERFERENCE)

8.2.2.1 Test date

Start date December 6, 2018

8.2.2.2 Observations, settings and special notes

None

8.2.2.3 Test data

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

8.2.3 6.3.4.2.2 [WINNF.FT.C.GRA.2] Unsuccessful Grant responseCode=401 (GRANT_CONFLICT)

8.2.3.1 Test date

Start date December 6, 2018

8.2.3.2 Observations, settings and special notes

None

8.2.3.3 Test data

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

8.3 6.4 CBSD Heart Beat Process

8.3.1 Definitions and limits

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

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

8.3.2 6.4.4.1.1 [WINNF.FT.D.HBT.1] Heartbeat Success Case (first Heartbeat Response)

8.3.2.1 Test date

Start date December 6, 2018

8.3.2.2 Observations, settings and special notes

None

8.3.2.3 Test data

Step	Test Execution Steps	Pass	Fail
1	Ensure the following conditions are met for test entry: • UUT has registered successfully with SAS Test Harness, with cbsdId = C	–	–
2	UUT sends a message: • If message is a Spectrum Inquiry Request, go to step 3 • If message is a Grant Request, go to step 5	–	–
3	UUT sends a Spectrum Inquiry Request. Validate: Verify Spectrum Inquiry Request message is formatted correctly for each CBSDi, i={1,2}: • cbsdId = C • List of frequencyRange objects sent by UUT are within the CBRS frequency range	☒	☐
4	SAS Test Harness sends a Spectrum Inquiry Response message, including the following parameters: • cbsdId = C • availableChannel is an array of availableChannel objects • responseCode = 0	–	–
5	UUT sends a Grant Request. Validate: • cbsdId = C • maxEIRP is at or below the limit appropriate for CBSDi category as defined by Part 96 • operationFrequencyRange, Fi, sent by UUT is a valid range within the CBRS band	☒	☐
6	SAS Test Harness sends a Grant Response message, including the parameters: • cbsdId = C • grantId = G = a valid grant ID • grantExpireTime = UTC time greater than duration of the test • responseCode = 0	–	–
7	UUT sends a first Heartbeat Request message. Verify Heartbeat Request message is formatted correctly, including: • cbsdId = C • grantId = G • operationState = "GRANTED"	☒	☐
8	SAS Test Harness sends a Heartbeat Response message, with the following parameters: • cbsdId = C • grantId = G • transmitExpireTime = current UTC time + 200 seconds • responseCode = 0	–	–
9	For further Heartbeat Request messages sent from UUT after completion of step 8, validate message is sent within latest specified heartbeatInterval: • cbsdId = C • grantId = G • operationState = "AUTHORIZED" and SAS Test Harness responds with a Heartbeat Response message including the following parameters, for CBSDi • cbsdId = C • grantId = G • transmitExpireTime = current UTC time + 200 seconds • responseCode = 0	☒	☐
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.	☒	☐

8.3.3 6.4.4.2.1 [WINNF.FT.C.HBT.3] Heartbeat responseCode=105 (DEREGISTER)

8.3.3.1 Test date

Start date December 6, 2018

8.3.3.2 Observations, settings and special notes

None

8.3.3.3 Test data

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

8.3.4 6.4.4.2.2 [WINNF.FT.C.HBT.4] Heartbeat responseCode=500 (TERMINATED_GRANT)

8.3.4.1 Test date

Start date	December 6, 2018
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8.3.4.2 Observations, settings and special notes

None

8.3.4.3 Test data

#	Test Execution Steps	Results	
1	Ensure the following conditions are met for test entry: • UUT has registered successfully with SAS Test Harness • UUT has a valid single grant as follows: ○ valid cbsdId = C ○ valid grantId = G ○ grant is for frequency range F, power P ○ grantExpireTime = UTC time greater than duration of the test • UUT is in AUTHORIZED state and is transmitting within the grant bandwidth F on RF interface 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:	-	-
2	• cbsdId = C • grantId = G • operationState = "AUTHORIZED"	☒ Pass	☐ Fail
3	SAS Test Harness sends a Heartbeat Response message, including the following parameters: • cbsdId=C • grantId = G • transmitExpireTime = T = Current UTC time • responseCode = 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 from start of test until 60 seconds after Step 3 is complete. This is the end of the test. Verify: • UUT shall stop transmission within (T + 60 seconds) of completion of step 3	☒ Pass	☐ Fail

8.3.5 6.4.4.2.3 [WINNF.FT.C.HBT.5] Heartbeat responseCode=501 (SUSPENDED_GRANT) in First Heartbeat Response

8.3.5.1 Test date

Start date December 6, 2018

8.3.5.2 Observations, settings and special notes

None

8.3.5.3 Test data

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

8.3.6 6.4.4.2.4 [WINNF.FT.C.HBT.6] Heartbeat responseCode=501 (SUSPENDED_GRANT) in Subsequent Heartbeat Response

8.3.6.1 Test date

Start date December 6, 2018

8.3.6.2 Observations, settings and special notes

None

8.3.6.3 Test data

#	Test Execution Steps	Results	
1	Ensure the following conditions are met for test entry: • UUT has registered successfully with SAS Test Harness • UUT has a valid single grant as follows: - o valid cbsId = 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 , power P UUT sends a Heartbeat Request message. Verify Heartbeat Request message is sent within latest specified heartbeatInterval, and is formatted correctly, including:	-	-
2	• cbsId = C • grantId = G • operationState = "AUTHORIZED"	☒ Pass	☐ Fail
3	SAS Test Harness sends a Heartbeat Response message, including the following parameters: • cbsId=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: • cbsId = C • grantId = G • operationState = "GRANTED" B. UUT sends a Relinquishment request message. Ensure message is correctly formatted with parameters: • cbsId = C • grantId = G Monitor the RF output of the UUT from start of test until 60 seconds after Step 3 is complete. This is the end of the test. Verify: • UUT shall stop transmission within (T + 60 seconds) of completion of step 3	☒ Pass	☐ Fail

8.3.7 6.4.4.2.5 [WINNF.FT.C.HBT.7] Heartbeat responseCode=502 (UNSYNC_OP_PARAM)

8.3.7.1 Test date

Start date	December 6, 2018
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8.3.7.2 Observations, settings and special notes

None

8.3.7.3 Test data

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

8.3.8 6.4.4.3.1 [WINNF.FT.C.HBT.9] Heartbeat Response Absent (First Heartbeat)

8.3.8.1 Test date

Start date December 6, 2018

8.3.8.2 Observations, settings and special notes

None

8.3.8.3 Test data

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

8.3.9 6.4.4.3.2 [WINNF.FT.C.HBT.10] Heartbeat Response Absent (Subsequent Heartbeat)

8.3.9.1 Test date

Start date December 6, 2018

8.3.9.2 Observations, settings and special notes

None

8.3.9.3 Test data

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

8.3.10 6.4.4.4.1 [WINNF.FT.C.HBT.11] Successful Grant Renewal in Heartbeat Test Case

8.3.10.1 Test date

Start date December 6, 2018

8.3.10.2 Observations, settings and special notes

None

8.3.10.3 Test data

#	Test Execution Steps	Results	
1	Ensure the following conditions are met for test entry: • UUT has registered successfully with SAS Test Harness • UUT has a valid single grant as follows: - o valid cbsdId = C - o valid grantId = G - o grant is for frequency range F, power P • 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	☐ Fail
4	SAS Test Harness sends a Heartbeat Response message, with the following parameters: • cbsdId = C • grantId = G • transmitExpireTime = current UTC + 200 seconds • grantExpireTime = same as Step 1 • responseCode = 0	-	-
5	Go to Step 2		
6	Verify Heartbeat Request message is sent within the latest specified heartbeatInterval, and is formatted correctly, including: cbsdId = C grantId = G operationState = "AUTHORIZED" grantRenew = TRUE	☒ Pass	☐ Fail
6		-	-
7	SAS Test Harness sends a Heartbeat Response message, with the following parameters: • cbsdId = C • grantId = G • grantExpireTime = UTC time set far in the future • transmitExpireTime = current UTC time + 200 seconds • responseCode = 0	☒ Pass	☐ Fail
8	Continue to respond to any subsequentHeartbeat Request from CBSD with Heartbeat Response with the following parameters: cbsdID=C grantID=G transmitExpireTime=same as Step 7	-	-
9	Monitor RF transmission of UUT from start of test until Tgrant_expire + 60 seconds and ensure UUT continues to transmit throughout the time period.	☒ Pass	☐ Fail

8.4 6.5 CBSD Measurement Report

8.4.1 Definitions and limits

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

8.4.2 6.5.4.2.1 [WINNF.FT.C.MES.1] Registration Response contains measReportConfig

8.4.2.1 Test date

Start date December 6, 2018

8.4.2.2 Observations, settings and special notes

None

8.4.2.3 Test data

#	Test Execution Steps	Results	
1	Ensure the following conditions are met for test entry: UUT has successfully completed SAS Discovery and Authentication with SAS Test Harness UUT sends a Registration Request message. Validate the Registration Request message is formatted correctly, including:	-	-
2	- userId is present and correct - ffid is present and correct - cbsdSerialNumber is present and correct - measCapability= "RECEIVED_POWER_WITHOUT_GRANT"	☒ Pass	☐ Fail
3	SAS Test Harness sends a Registration Response message, with the following parameters: - cbsdId = C=valid cbsdId for this UUT - measReportConfig="RECEIVED_POWER_WITHOUT_GRANT" - responseCode=0	-	-
4	UUT sends a message: - If type message is 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. Verify message contains all required parameters properly formatted, and specifically: - cbsdId=C - measReport is present, and is a properly formatted rcvdPowerMeasReport.	☒ Pass	☐ Fail
6	SAS Test Harness sends a Spectrum Inquiry Response, with the following parameters:: - cbsdId=C - availableChannel is an array of availableChannel objects - responseCode=0.	-	-
7	UUT sends message type Grant Request message. Verify message contains all required parameters properly formatted, and specifically: - cbsdId=C - measReport is present, and is properly formatted rcvdPowerMeasReport.	☒ Pass	☐ Fail

8.4.3 6.5.4.2.3 [WINNF.FT.C.MES.3] Grant Response contains measReportConfig

8.4.3.1 Test date

Start date December 6, 2018

8.4.3.2 Observations, settings and special notes

None

8.4.3.3 Test data

Step	Test Execution Steps	Pass	Fail
1	Ensure the following conditions are met for test entry: • UUT has successfully completed SAS Discovery and Authentication with SAS Test Harness • UUT 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	☒	☐
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"	☒	☐
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	☒	☐
6	SAS Test Harness sends a Heartbeat Response message, containing all required parameters properly formatted, and specifically: • cbsdId = C • grantId = G • transmitExpireTime = current UTC time + 200 seconds • responseCode = 0 Go to Step 4, above	–	–

8.4.4 6.5.4.2.4 [WINNF.FT.C.MES.4] Heartbeat Response contains measReportConfig

8.4.4.1 Test date

Start date December 6, 2018

8.4.4.2 Observations, settings and special notes

None

8.4.4.3 Test data

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

8.5 6.6 CBSD Relinquishment Process

8.5.1 Definitions and limits

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

8.5.2 6.6.4.1.1 [WINNF.FT.C.RLQ.1] Successful Relinquishment

8.5.2.1 Test date

Start date December 6, 2018

8.5.2.2 Observations, settings and special notes

None

8.5.2.3 Test data

#	Test Execution Steps	Results	
1	Ensure the following conditions are met for test entry: • UUT has successfully completed SAS Discovery and Authentication with SAS Test Harness • UUT has successfully registered with SAS Test Harness, with cbsdId=C • UUT has received a valid grant with grantId = G • UUT is in Grant State AUTHORIZED and is actively transmitting within the bounds of its grant. Invoke trigger to relinquish UUT Grant from the SAS Test Harness	-	-
2	UUT sends a Relinquishment Request message. Verify message contains all required parameters properly formatted, and specifically: • cbsdId = C • GrantId = G	☒ Pass	☐ Fail
3	SAS Test Harness shall approve the request with a Relinquishment Response message with parameters: • cbsdId = C • grantId = G • 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 the UUT from start of test until 60 seconds after Step 3 is complete. This is the end of the test. Verify: • UUT shall stop RF transmission at any time between triggering the relinquishment and UUT sending the relinquishment request	☒ Pass	☐ Fail

8.5.3 6.6.4.2.1 [WINNF.FT.C.RLQ.3] Unsuccessful Relinquishment, responseCode=102

8.5.3.1 Test date

Start date December 6, 2018

8.5.3.2 Observations, settings and special notes

None

8.5.3.3 Test data

#	Test Execution Steps	Results	
1	Ensure the following conditions are met for test entry: • UUT has successfully completed SAS Discovery and Authentication with SAS Test Harness • UUT has successfully registered with SAS Test Harness, with cbsdId=C • UUT has received a valid grant with grantId = G • UUT is in Grant State AUTHORIZED and is actively transmitting within the bounds of its grant. Invoke trigger to relinquish UUT Grant from the SAS Test Harness	-	-
2	UUT sends a Relinquishment Request message. Verify message contains all required parameters properly formatted, and specifically: • cbsdId = C • GrantId = G	-	-
3	SAS Test Harness shall send a Relinquishment Response message with parameters: • cbsdId = C • grantId = G • responseCode = R	-	-
4	After completion of step 3, SAS Test Harness will not provide any positive response (responseCode=0) to further request messages from the UUT.	-	-
5	Monitor the RF output of the UUT from start of test until 60 seconds after Step 3 is complete. This is the end of the test. Verify: • UUT stopped RF transmission at any time between triggering the relinquishment and UUT sending the relinquishment request	☒ Pass	☐ Fail

8.5.4 6.6.4.3.1 [WINNF.FT.C.RLQ.5] Unsuccessful Relinquishment, responseCode=103

8.5.4.1 Test date

Start date December 6, 2018

8.5.4.2 Observations, settings and special notes

None

8.5.4.3 Test data

#	Test Execution Steps	Results	
1	Ensure the following conditions are met for test entry: • UUT has successfully completed SAS Discovery and Authentication with SAS Test Harness • UUT has successfully registered with SAS Test Harness, with cbsdId=C • UUT has received a valid grant with grantId = G • UUT is in Grant State AUTHORIZED and is actively transmitting within the bounds of its grant. Invoke trigger to relinquish UUT Grant from the SAS Test Harness	-	-
2	UUT sends a Relinquishment Request message. Verify message contains all required parameters properly formatted, and specifically: • cbsdId = C • GrantId = G	-	-
3	SAS Test Harness shall send a Relinquishment Response message with parameters: • cbsdId = C • grantId = G • responseCode = 103 • responseData = "grantId"	-	-
4	After completion of step 3, SAS Test Harness will not provide any positive response (responseCode=0) to further request messages from the UUT.	-	-
5	Monitor the RF output of the UUT from start of test until 60 seconds after Step 3 is complete. This is the end of the test. Verify: • UUT stopped RF transmission at any time between triggering the relinquishment and UUT sending the relinquishment request	☒ Pass	☐ Fail

8.6 6.7 CBSD Deregistration Process

8.6.1 Definitions and limits

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

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

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

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

8.6.1 6.7.4.1.1 [WINNF.FT.DRG.1] Successful Deregistration

8.6.1.1 Test date

Start date December 6, 2018

8.6.1.2 Observations, settings and special notes

None

8.6.1.3 Test data

#	Test Execution Steps	Results	
1	Ensure the following conditions are met for test entry: - UUT has successfully completed SAS Discovery and Authentication with SAS Test Harness - UUT has successfully registered with SAS Test Harness, with cbsdId=C - UUT has received a valid grant with grantId = G - UUT is in Grant State AUTHORIZED and is actively transmitting within the bounds of its grant. Invoke trigger to deregister UUT from the SAS Test Harness	-	-
2	UUT sends a Relinquishment request and receives Relinquishment response with responseCode=0	-	-
3	UUT sends Deregistration Request to SAS Test Harness with cbsdId = C.	☒ Pass	☐ Fail
4	SAS Test Harness shall approve the request with a Deregistration Response message with parameters: - cbsdId = C - responseCode = 0	-	-
5	After completion of step 3, SAS Test Harness will not provide any additional positive response (responseCode=0) to further request messages from the UUT.	-	-
6	Monitor the RF output of the UUT from start of test until 60 seconds after Step 4 is complete. This is the end of the test. Verify: - UUT stopped RF transmission at any time between triggering the deregistration and either A OR B occurs: A. UUT sending a Registration Request message, as this is not mandatory B. UUT sending a Deregistration Request message	☒ Pass	☐ Fail

8.6.2 6.7.4.2.1 [WINNF.FT.C.DRG.3] Deregistration responseCode=102

8.6.2.1 Test date

Start date December 6, 2018

8.6.2.2 Observations, settings and special notes

None

8.6.2.3 Test data

#	Test Execution Steps	Results	
1	Ensure the following conditions are met for test entry: - UUT has successfully completed SAS Discovery and Authentication with SAS Test Harness - UUT has successfully registered with SAS Test Harness, with cbsdId=C - UUT has received a valid grant with grantId = G - UUT is in Grant State AUTHORIZED and is actively transmitting within the bounds of its grant. Invoke trigger to deregister UUT from the SAS Test Harness	-	-
2	UUT sends a Relinquishment request and receives Relinquishment response with responseCode=0	-	-
3	UUT sends Deregistration Request to SAS Test Harness with cbsdId = C.	-	-
4	The SAS Test Harness sends the Deregistration Response Message to UUT with: - No cbsdId - responseCode = 102	-	-
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: C. UUT sending a Registration Request message, as this is not mandatory D. UUT sending a Deregistration Request message	☒ Pass	☐ Fail

8.6.3 6.7.4.3.1 [WINNF.FT.C.DRG.5] Deregistration responseCode=103

8.6.3.1 Test date

Start date December 6, 2018

8.6.3.2 Observations, settings and special notes

None

8.6.3.3 Test data

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

8.7 6.8 CBSD Security Validation

8.7.1 Definitions and limits

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

8.7.2 6.8.4.1.1 [WINNF.FT.C.SCS.1] Successful TLS connection between UUT and SAS Test Harness

8.7.2.1 *Test date*

Start date December 6, 2018

8.7.2.2 *Observations, settings and special notes*

None

8.7.2.3 *Test data*

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

8.7.3 6.8.4.2.1 [WINNF.FT.C.SCS.2] TLS failure due to revoked certificate

8.7.3.1 Test date

Start date December 6, 2018

8.7.3.2 Observations, settings and special notes

None

8.7.3.3 Test data

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

8.7.4 6.8.4.2.2 [WINNF.FT.C.SCS.3] TLS failure due to expired server certificate

8.7.4.1 Test date

Start date December 6, 2018

8.7.4.2 Observations, settings and special notes

None

8.7.4.3 Test data

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

Section 8	Testing data
Test name	6.8.4.2.3 [WINNF.FT.C.SCS.4] TLS failure when SAS Test Harness certificate is issued by an unknown CA
Specification	WINNF-TS-0122-V1.0.0 and WINNF-IN-00129-V1.0.0.0



8.7.5 6.8.4.2.3 [WINNF.FT.C.SCS.4] TLS failure when SAS Test Harness certificate is issued by an unknown CA

8.7.5.1 Test date

Start date December 6, 2018

8.7.5.2 Observations, settings and special notes

None

8.7.5.3 Test data

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

8.7.6 6.8.4.2.4 [WINNF.FT.C.SCS.5] TLS failure when certificate at the SAS Test Harness is corrupted

8.7.6.1 Test date

Start date December 6, 2018

8.7.6.2 Observations, settings and special notes

None

8.7.6.3 Test data

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

8.8 7.1 CBSD RF Power Measurement

8.8.1 Definitions and limits

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

8.8.2 7.1.4.1.1 [WINNF.PT.C.HBT.1] UUT RF Transmit Power Measurement

8.8.2.1 Test date

Start date	December 6, 2018
------------	------------------

8.8.2.2 Observations, settings and special notes

None

8.8.2.3 Test data

8.8.2.4 Observations, settings and special notes

CBSD Vendor declaration of parameters:

Maximum rated power of UUT (EIRP, dBm/MHz)	EIRP:47dBm/10MHz , PSD:37dBm/MHz
Transmit dynamic range of UUT (EIRP, dBm/MHz)	20 dB dynamic range (15 dBm to 35 dBm)
Occupied bandwidth for the test case	20 MHz
maxEirp values for the test case	47
Antenna gain	14dBi+10Log(2)

8.8.2.5 Test data

To demonstrate compliance, the following parameters shall be chosen:

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

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

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

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

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

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

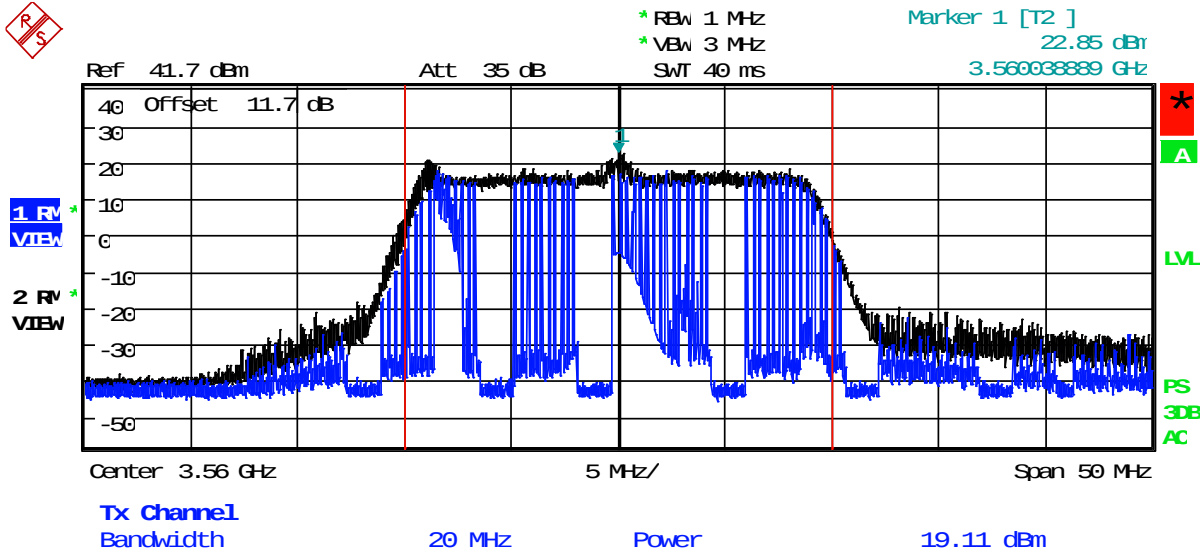
☐ Fail

Power measurement results - lowFrequency

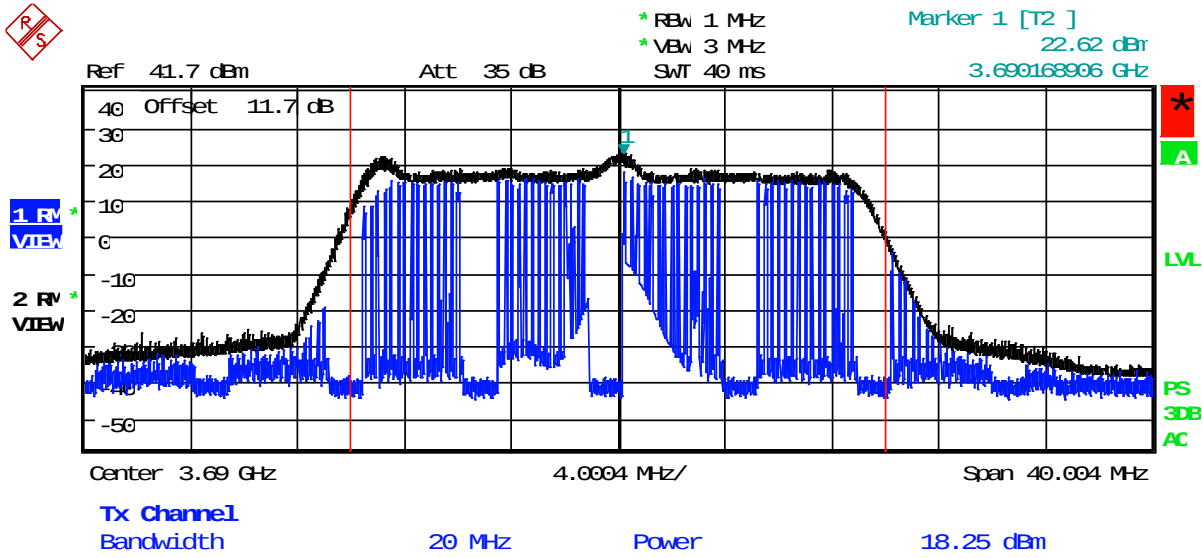
maxEIRP	Measured power (dBm)	Antenna gain (dBi)	EIRP (dBm)	EIRP (mW)
P3	-15.22	14+10Log(4)	4.78	3.00
P1	+19.11	14+10Log(4)	39.11	8147.04

Power measurement results - highFrequency

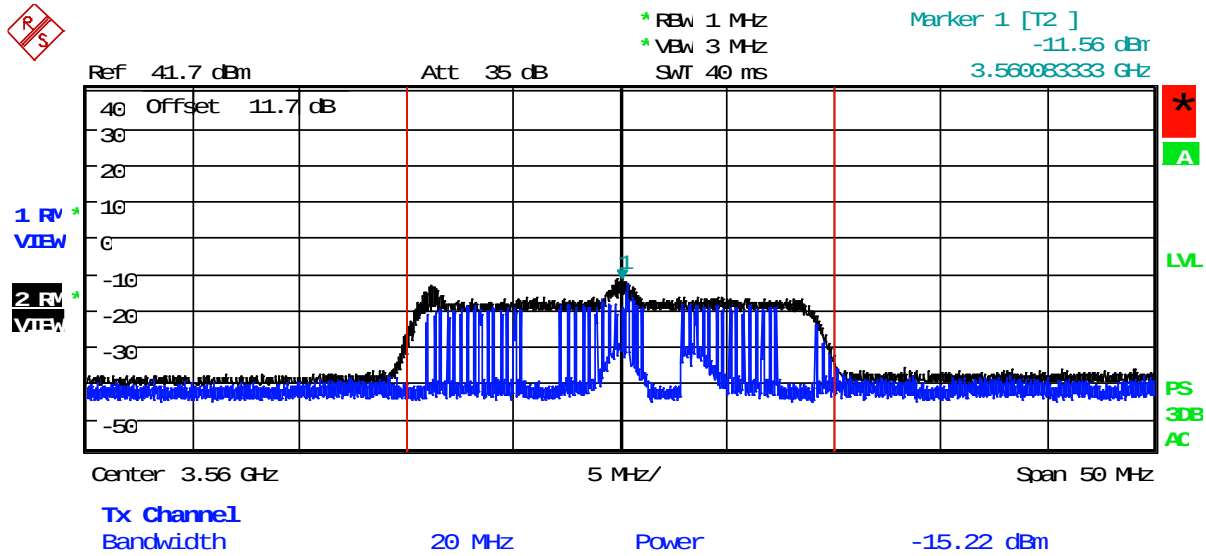
maxEIRP	Measured power (dBm)	Antenna gain (dBi)	EIRP (dBm)	EIRP (mW)
P4	-16.14	14+10Log(4)	3.86	2.43
P2	+18.25	14+10Log(4)	38.25	6683.44



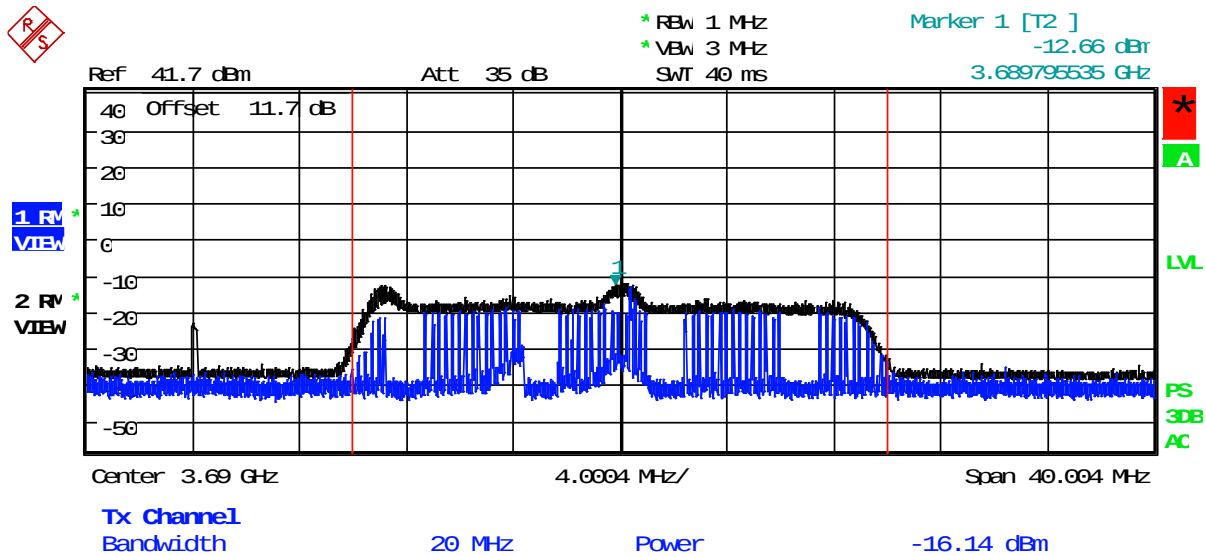
Plot 1 - Low Channel, PL2



Plot 2 - High Channel, PL2



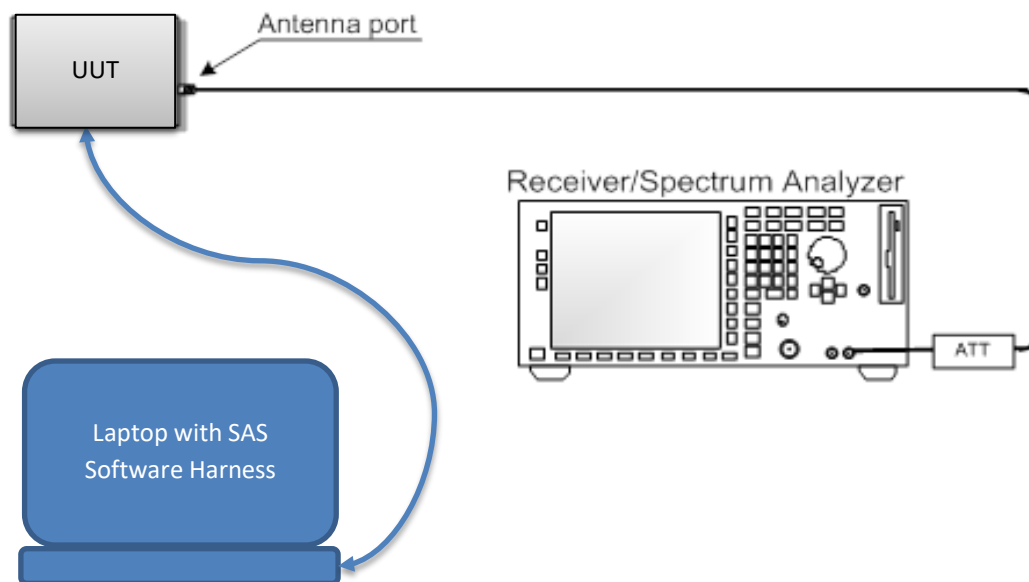
Plot 3 - Low Channel, PL1



Plot 4 - High Channel, PL1

Section 9. Block diagrams of test set-ups

9.1 Test equipment set-up



Section 10. Log files library

10.1 Log file for test case ID: WINNF.FT.C.REG.1

2018-12-06T00:14:03.869Z - INFO - WINNF TEST HARNESS RELEASE: 1.0.0.2 - 2018-May-24

2018-12-06T00:14:03.869Z - INFO - the selected test from the user : WINNF.FT.C.REG.1 is starting now

2018-12-06T00:23:19.359Z - INFO - registration request from CBRS : {

```
"registrationRequest": {  
  {  
    "airInterface": {  
      "radioTechnology": "E_UTRA",  
      "supportedSpec": "FFS"  
    },  
    "callSign": "WL9XKH",  
    "cbsdCategory": "B",  
    "cbsdInfo": {  
      "firmwareVersion": "0.8.0.3",  
      "hardwareVersion": "V0.2",  
      "model": "JLT733A",  
      "softwareVersion": "6.4.0",  
      "vendor": "Fujitsu"  
    },  
    "cbsdSerialNumber": "64A837260247",  
    "fccId": "fccIdTest",  
    "groupingParam": {  
      {  
        "groupId": "userIdTest",  
        "groupType": "INTERFERENCE_COORDINATION"  
      }  
    },  
  },  
}
```

```

"installationParam": {
  "antennaAzimuth": 0,
  "antennaBeamwidth": 360,
  "antennaDowntilt": 90,
  "antennaGain": 6,
  "antennaModel": "Unknown",
  "height": 0.0,
  "heightType": "AGL",
  "indoorDeployment": false,
  "latitude": 38.602145,
  "longitude": -104.890516
},
"measCapability": [
  "RECEIVED_POWER_WITHOUT_GRANT"
],
"userId": "userIdTest"
}
]
}

2018-12-06T00:23:19.391Z - INFO - engine sent successfully, the response to CBRS : {
  "registrationResponse": [
    {
      "cbsId": "fccIdTestMock-SAS64A837260247",
      "response": {
        "responseCode": 0
      }
    }
  ]
}

```

2018-12-06T00:23:21.220Z - INFO - arrived to nstep starting question answer session with the technician

2018-12-06T00:23:21.220Z - INFO - the question is : Were there RF transmissions from the CBSD1 during the test? please choose one of the answers :

2018-12-06T00:24:38.341Z - INFO - for the question : Were there RF transmissions from the CBSD1 during the test? , the user choose n

2018-12-06T00:25:17.878Z - INFO - The final result of the test : WINNF.FT.C.REG.1 is - passed and :the additional comments for the current test are : No transmission from JLT733 from start of test until 60 seconds after

10.2 Log file for test case ID: WINNF.FT.C.REG.5

2018-12-06T00:40:38.592Z - INFO - WINNF TEST HARNESS RELEASE: 1.0.0.2 - 2018-May-24

2018-12-06T00:40:38.592Z - INFO - the selected test from the user : WINNF.FT.C.REG.5 is starting now

2018-12-06T00:41:15.068Z - INFO - registration request from CBRS : {

```

"registrationRequest": {
  {
    "airInterface": {
      "radioTechnology": "E_UTRA",
      "supportedSpec": "FFS"
    },
    "callSign": "WL9XKH",
    "cbsdCategory": "B",
    "cbsdInfo": {
      "firmwareVersion": "0.8.0.3",
      "hardwareVersion": "V0.2",
      "model": "JLT733A",
      "softwareVersion": "6.4.0",
      "vendor": "Fujitsu"
    },
    "cbsdSerialNumber": "64A837260247",
    "cpiSignatureData": {
      "digitalSignature": "KmygNfuPr4LI3PdBBRxZSFTYGLSX0a0FzQCyv2qZ9CE_2bR2SjoyGk0y54TrubC33S2S_x0fII4mW43XN3j2bMRyV4Zpjfc7-
ImTy9d78z0ym_TxQafDfKvwKzcpBfVVmOiKuXS7OBMyOWHgHSzhuoGgjd7IiAepDnNEcAFhGcl4c1NBineFcDKsc44IMMtCrgS4KXnI9eiGTF54eqyPCDb8wLJx1QA
1OdMcKlFtrl37BubCT1f45-NEM3vQ4d3SG0zWjWCImUxfdAB0fjku5becG_wykREN9KFEMxGkcArQmSJClfcNcrpil5yaY532nBrL1L32DWNEBsE9vMeVA",
      "encodedCpiSignedData":
"eyJYnNkU2VyaWFsTnVtYmVyljoiNjRBODM3MjYwMjQ3IiwIZmNjSWQwOiJmY2NJZFRIc3QiLCJpbmN0YWxsYXRpb25QYXJhbSI6eyJhbnRlbnM5hQXppbXV0aCI6MC
wiYW50ZW5uYUJlYW13aWR0aCI6MzYwLCJhbnRlbnM5hRG93bnRpbHQiOiJkWLCjhbRlbnM5hR2Fpbil6NiwiYW50ZW5uYU1vZGVsIjojVW5rbm93biIsImhlaWdodCI
6MC4wLlCJoZWlnaHRUeXBlljoiQUdMliwiaW5kb29yRGVwbG95bWVudCI6ZmFsc2UsImxhdGloZWRIljozOC42MDIxNDUsImxvbmddpdHVkZSI6LTEwNC44OTA1MT
YwMDAwMDAwMX0sInByb2Zlc3Npb25hbEluc3RhbgXlckRhdGEiOensiY3BpSWQwOiJ0ZXN0X2NwaV9pZCIsImNwaU5hbWUiOiJ0ZXN0X2NwaV9uYW1lIiwiaW5zd
GFsbENlcnRp2mljYXRpb25UaW1lIjojMjAxOC0wOC0yMFQxMjowMDowMfoifX0",
      "protectedHeader": "eyJ0eXAiOiJKV1QiLCJhbGciOiJSUzI1NiJ9"
    },
    "fccId": "fccIdTest",
    "groupingParam": [
      {
        "groupId": "userIdTest",
        "groupType": "INTERFERENCE_COORDINATION"
      }
    ],
    "measCapability": [
      "RECEIVED_POWER_WITHOUT_GRANT"
    ],
    "userId": "userIdTest"
  }
}

```

2018-12-06T00:41:15.098Z - INFO - Registration message contains cpiSignatureData
 2018-12-06T00:41:15.098Z - INFO - protectedHeader = {u'alg': u'RS256', u'typ': u'JWT'}
 2018-12-06T00:41:15.098Z - INFO - encodedCpiSignedData contents = {

```
"installationParam": {
  "antennaAzimuth": 0,
  "heightType": "AGL",
  "antennaModel": "Unknown",
  "longitude": -104.890516,
  "height": 0.0,
  "indoorDeployment": false,
  "latitude": 38.602145,
  "antennaDowntilt": 90,
  "antennaBeamwidth": 360,
  "antennaGain": 6
},
"fccId": "fccIdTest",
"professionalInstallerData": {
  "cpiName": "test_cpi_name",
  "installCertificationTime": "2018-08-20T12:00:00Z",
  "cpId": "test_cpi_id"
},
"cbSdSerialNumber": "64A837260247"
}
```

2018-12-06T00:41:15.161Z - INFO - verified signature on cpiSignatureData
 2018-12-06T00:41:15.177Z - INFO - cpiSignatureData data successfully validated against jsonschema
 2018-12-06T00:41:15.177Z - INFO - engine sent successfully, the response to CBRS : {

```
"registrationResponse": [
  {
    "cbSdId": "fccIdTestMock-SAS64A837260247",
    "response": {
      "responseCode": 0
    }
  }
]
```

2018-12-06T00:41:16.990Z - INFO - arrived to nstep starting question answer session with the technician
 2018-12-06T00:41:16.990Z - INFO - the question is : Were there RF transmissions from the CBSD1 during the test? please choose one of the answers :
 2018-12-06T00:41:30.430Z - INFO - for the question : Were there RF transmissions from the CBSD1 during the test? , the user choose n
 2018-12-06T00:43:32.382Z - INFO - The final result of the test : WINNF.FT.C.REG.5 is - passed and :the additional comments for the current test are : There were no rf responses from the UUT from the start of test until 60 seconds after the start

10.3 Log file for test case ID: WINNF.FT.C.REG.7

2018-12-06T00:46:22.289Z - INFO - WINNF TEST HARNESS RELEASE: 1.0.0.2 - 2018-May-24

2018-12-06T00:46:22.289Z - INFO - the selected test from the user : WINNF.FT.C.REG.7 is starting now

2018-12-06T00:47:01.382Z - INFO - registration request from CBRS : {

```
"registrationRequest": [
  {
    "airInterface": {
      "radioTechnology": "E_UTRA",
      "supportedSpec": "FFS"
    },
    "callSign": "WL9XKH",
    "cbsdCategory": "B",
    "cbsdInfo": {
      "firmwareVersion": "0.8.0.3",
      "hardwareVersion": "V0.2",
      "model": "JLT733A",
      "softwareVersion": "6.4.0",
      "vendor": "Fujitsu"
    },
    "cbsdSerialNumber": "64A837260247",
    "fccId": "fccIdTest",
    "groupingParam": [
      {
        "groupId": "userIdTest",
        "groupType": "INTERFERENCE_COORDINATION"
      }
    ],
    "installationParam": {
      "antennaAzimuth": 0,
      "antennaBeamwidth": 360,
      "antennaDowntilt": 90,
      "antennaGain": 6,
      "antennaModel": "Unknown",
      "height": 0.0,
      "heightType": "AGL",
      "indoorDeployment": false,
      "latitude": 38.602145,
      "longitude": -104.890516
    },
    "measCapability": [
      "RECEIVED_POWER_WITHOUT_GRANT"
    ],
    "userId": "userIdTest"
  }
]
```

2018-12-06T00:47:01.446Z - INFO - engine sent successfully, the response to CBRS : {

```
"registrationResponse": [
  {
    "cbsdId": "fccIdTestMock-SAS64A837260247",
    "response": {
      "responseCode": 0
    }
  }
]
```

```

    }
  ]
}
2018-12-06T00:47:01.492Z - INFO - spectrumInquiry request from CBRS : {
  "spectrumInquiryRequest": [
    {
      "cbsdId": "fccIdTestMock-SAS64A837260247",
      "inquiredSpectrum": [
        {
          "highFrequency": 3700000000,
          "lowFrequency": 3550000000
        }
      ],
      "measReport": {
        "rcvdPowerMeasReports": [
          {
            "measBandwidth": 10000000,
            "measFrequency": 3550000000,
            "measRcvdPower": -100.0
          },
          {
            "measBandwidth": 10000000,
            "measFrequency": 3560000000,
            "measRcvdPower": -100.0
          },
          {
            "measBandwidth": 10000000,
            "measFrequency": 3570000000,
            "measRcvdPower": -100.0
          },
          {
            "measBandwidth": 10000000,
            "measFrequency": 3580000000,
            "measRcvdPower": -100.0
          },
          {
            "measBandwidth": 10000000,
            "measFrequency": 3590000000,
            "measRcvdPower": -100.0
          },
          {
            "measBandwidth": 10000000,
            "measFrequency": 3600000000,
            "measRcvdPower": -100.0
          },
          {
            "measBandwidth": 10000000,
            "measFrequency": 3610000000,
            "measRcvdPower": -100.0
          },
          {
            "measBandwidth": 10000000,
            "measFrequency": 3620000000,
            "measRcvdPower": -100.0
          }
        ]
      }
    }
  ]
}

```

```
"measBandwidth": 10000000,  
  "measFrequency": 3630000000,  
  "measRcvdPower": -100.0  
},  
{  
  "measBandwidth": 10000000,  
  "measFrequency": 3640000000,  
  "measRcvdPower": -100.0  
},  
{  
  "measBandwidth": 10000000,  
  "measFrequency": 3650000000,  
  "measRcvdPower": -100.0  
},  
{  
  "measBandwidth": 10000000,  
  "measFrequency": 3660000000,  
  "measRcvdPower": -100.0  
},  
{  
  "measBandwidth": 10000000,  
  "measFrequency": 3670000000,  
  "measRcvdPower": -100.0  
},  
{  
  "measBandwidth": 10000000,  
  "measFrequency": 3680000000,  
  "measRcvdPower": -100.0  
},  
{  
  "measBandwidth": 10000000,  
  "measFrequency": 3690000000,  
  "measRcvdPower": -100.0  
}  
]  
}  
}  
]  
  
2018-12-06T00:47:01.507Z - INFO - engine sent successfully, the response to CBRs : {  
  "spectrumInquiryResponse": [  
    {  
      "availableChannel": [  
        {  
          "channelType": "GAA",  
          "frequencyRange": {  
            "highFrequency": 3700000000,  
            "lowFrequency": 3550000000  
          },  
          "ruleApplied": "FCC_PART_96"  
        }  
      ],  
      "cbsId": "fccIdTestMock-SAS64A837260247",  
      "response": {  
        "responseCode": 0  
      }  
    }  
  ]  
}
```

```

    }
  ]
}
2018-12-06T00:47:01.887Z - INFO - grant request from CBRS : {
  "grantRequest": [
    {
      "cbsId": "fccIdTestMock-SAS64A837260247",
      "measReport": {
        "rcvdPowerMeasReports": [
          {
            "measBandwidth": 10000000,
            "measFrequency": 3550000000,
            "measRcvdPower": -100.0
          },
          {
            "measBandwidth": 10000000,
            "measFrequency": 3560000000,
            "measRcvdPower": -100.0
          },
          {
            "measBandwidth": 10000000,
            "measFrequency": 3570000000,
            "measRcvdPower": -100.0
          },
          {
            "measBandwidth": 10000000,
            "measFrequency": 3580000000,
            "measRcvdPower": -100.0
          },
          {
            "measBandwidth": 10000000,
            "measFrequency": 3590000000,
            "measRcvdPower": -100.0
          },
          {
            "measBandwidth": 10000000,
            "measFrequency": 3600000000,
            "measRcvdPower": -100.0
          },
          {
            "measBandwidth": 10000000,
            "measFrequency": 3610000000,
            "measRcvdPower": -100.0
          },
          {
            "measBandwidth": 10000000,
            "measFrequency": 3620000000,
            "measRcvdPower": -100.0
          },
          {
            "measBandwidth": 10000000,
            "measFrequency": 3630000000,
            "measRcvdPower": -100.0
          },
          {
            "measBandwidth": 10000000,

```

```

        "measFrequency": 3640000000,
        "measRcvdPower": -100.0
    },
    {
        "measBandwidth": 10000000,
        "measFrequency": 3650000000,
        "measRcvdPower": -100.0
    },
    {
        "measBandwidth": 10000000,
        "measFrequency": 3660000000,
        "measRcvdPower": -100.0
    },
    {
        "measBandwidth": 10000000,
        "measFrequency": 3670000000,
        "measRcvdPower": -100.0
    },
    {
        "measBandwidth": 10000000,
        "measFrequency": 3680000000,
        "measRcvdPower": -100.0
    },
    {
        "measBandwidth": 10000000,
        "measFrequency": 3690000000,
        "measRcvdPower": -100.0
    }
]
},
"operationParam": {
    "maxEirp": 29,
    "operationFrequencyRange": {
        "highFrequency": 3700000000,
        "lowFrequency": 3680000000
    }
}
}
]
}
2018-12-06T00:47:01.903Z - INFO - engine sent successfully, the response to CBRS : {
    "grantResponse": [
        {
            "cbsdId": "fccIdTestMock-SAS64A837260247",
            "channelType": "GAA",
            "grantExpireTime": "2018-12-13T00:47:01Z",
            "grantId": "765331589",
            "heartbeatInterval": 60,
            "response": {
                "responseCode": 0
            }
        }
    ]
}
2018-12-06T00:47:02.246Z - INFO - heartbeat request from CBRS : {
    "heartbeatRequest": [

```

```

{
  "cbsdId": "fccIdTestMock-SAS64A837260247",
  "grantId": "765331589",
  "grantRenew": false,
  "operationState": "GRANTED"
}
]
}
2018-12-06T00:47:02.262Z - INFO - engine sent successfully, the response to CBRS : {
  "heartbeatResponse": [
    {
      "cbsdId": "fccIdTestMock-SAS64A837260247",
      "grantId": "765331589",
      "response": {
        "responseCode": 0
      },
      "transmitExpireTime": "2018-12-06T00:50:22Z"
    }
  ]
}
2018-12-06T00:48:02.266Z - INFO - heartbeat request from CBRS : {
  "heartbeatRequest": [
    {
      "cbsdId": "fccIdTestMock-SAS64A837260247",
      "grantId": "765331589",
      "grantRenew": false,
      "operationState": "AUTHORIZED"
    }
  ]
}
2018-12-06T00:48:02.266Z - INFO - Time interval between two heartbeat request messages is: 60.02, limit is: 65.0
2018-12-06T00:48:02.282Z - INFO - engine sent successfully, the response to CBRS : {
  "heartbeatResponse": [
    {
      "cbsdId": "fccIdTestMock-SAS64A837260247",
      "grantId": "765331589",
      "response": {
        "responseCode": 0
      },
      "transmitExpireTime": "2018-12-06T00:51:22Z"
    }
  ]
}
2018-12-06T00:51:05.470Z - INFO - relinquishment request from CBRS : {
  "relinquishmentRequest": [
    {
      "cbsdId": "fccIdTestMock-SAS64A837260247",
      "grantId": "765331589"
    }
  ]
}
2018-12-06T00:51:05.470Z - INFO - engine sent successfully, the response to CBRS : {
  "relinquishmentResponse": [
    {
      "cbsdId": "fccIdTestMock-SAS64A837260247",
      "grantId": "765331589",

```

```

    "response": {
      "responseCode": 0
    }
  }
}
}
2018-12-06T00:51:05.516Z - INFO - deregistration request from CBRS : {
  "deregistrationRequest": [
    {
      "cbsdId": "fccIdTestMock-SAS64A837260247"
    }
  ]
}
2018-12-06T00:51:05.532Z - INFO - engine sent successfully, the response to CBRS : {
  "deregistrationResponse": [
    {
      "cbsdId": "fccIdTestMock-SAS64A837260247",
      "response": {
        "responseCode": 0
      }
    }
  ]
}
2018-12-06T00:51:06.691Z - INFO - arrived to nstep starting question answer session with the technician
2018-12-06T00:51:06.691Z - INFO - the question is : Did the CBSD stop RF transmissions upon sending the Deregister request? please choose one of the
answers :
2018-12-06T00:52:02.552Z - INFO - for the question : Did the CBSD stop RF transmissions upon sending the Deregister request? , the user choose y
2018-12-06T00:55:26.858Z - INFO - The final result of the test : WINNF.FT.C.REG.7 is - passed and :the additional comments for the current test are : The
CBSD ceased transmission within 10 seconds of sending the Deregister request

```

10.4 Log file for test case ID: WINNF.FT.C.REG.8

```

2018-12-06T00:56:15.003Z - INFO - WINNF TEST HARNESS RELEASE: 1.0.0.2 - 2018-May-24
2018-12-06T00:56:15.003Z - INFO - the selected test from the user : WINNF.FT.C.REG.8 is starting now
2018-12-06T00:57:36.744Z - INFO - registration request from CBRS : {
  "registrationRequest": [
    {
      "airInterface": {
        "radioTechnology": "E_UTRA",
        "supportedSpec": "FFS"
      },
      "callSign": "WL9XKH",
      "cbsdCategory": "B",
      "cbsdInfo": {
        "firmwareVersion": "0.8.0.3",
        "hardwareVersion": "V0.2",
        "model": "JLT733A",
        "softwareVersion": "6.4.0",
        "vendor": "Fujitsu"
      },
      "cbsdSerialNumber": "64A837260247",
      "fccId": "fccIdTest",
      "groupingParam": [
        {
          "groupId": "userIdTest",
          "groupType": "INTERFERENCE_COORDINATION"
        }
      ],
      "installationParam": {
        "antennaAzimuth": 0,
        "antennaBeamwidth": 360,
        "antennaDowntilt": 90,
        "antennaGain": 6,
        "antennaModel": "Unknown",

```

```

    "height": 0.0,
    "heightType": "AGL",
    "indoorDeployment": false,
    "latitude": 38.702145,
    "longitude": -104.890516
  },
  "measCapability": [
    "RECEIVED_POWER_WITHOUT_GRANT"
  ],
  "userId": "userIdTest"
}
}
}
2018-12-06T00:57:36.776Z - INFO - engine sent successfully, the response to CBRS : {
  "registrationResponse": [
    {
      "response": {
        "responseCode": 102
      }
    }
  ]
}
}
}
2018-12-06T00:57:37.858Z - INFO - arrived to nstep starting question answer session with the technician
2018-12-06T00:57:37.858Z - INFO - the question is : Were there RF transmissions from the CBSD1 during the test? please choose one of the answers :
2018-12-06T00:58:01.871Z - INFO - for the question : Were there RF transmissions from the CBSD1 during the test? , the user choose n
2018-12-06T00:58:45.914Z - INFO - The final result of the test : WINNF.FT.C.REG.8 is - passed and :the additional comments for the current test are : There were no transmissions from the CBSD from the start of the test until 60 seconds after the start of the test

```

10.5 Log file for test case ID: WINNF.FT.C.REG.10

2018-12-06T01:00:31.996Z - INFO - WINNF TEST HARNESS RELEASE: 1.0.0.2 - 2018-May-24
 2018-12-06T01:00:31.996Z - INFO - the selected test from the user : WINNF.FT.C.REG.10 is starting now
 2018-12-06T01:01:07.864Z - INFO - registration request from CBRS : {

```

  "registrationRequest": [
    {
      "airInterface": {
        "radioTechnology": "E_UTRA",
        "supportedSpec": "FFS"
      },
      "callSign": "WL9XKH",
      "cbsdCategory": "B",
      "cbsdInfo": {
        "firmwareVersion": "0.8.0.3",
        "hardwareVersion": "V0.2",
        "model": "JLT733A",
        "softwareVersion": "6.4.0",
        "vendor": "Fujitsu"
      },
      "cbsdSerialNumber": "64A837260247",
      "fccId": "fccIdTest",
      "groupingParam": [
        {
          "groupId": "userIdTest",
          "groupType": "INTERFERENCE_COORDINATION"
        }
      ],
      "installationParam": {
        "antennaAzimuth": 0,
        "antennaBeamwidth": 360,
        "antennaDowntilt": 90,
        "antennaGain": 6,

```

```

    "antennaModel": "Unknown",
    "height": 0.0,
    "heightType": "AGL",
    "indoorDeployment": false,
    "latitude": 38.702145,
    "longitude": -104.890516
  },
  "measCapability": [
    "RECEIVED_POWER_WITHOUT_GRANT"
  ],
  "userId": "userIdTest"
}
}
}
2018-12-06T01:01:07.911Z - INFO - engine sent successfully, the response to CBRS : {
  "registrationResponse": [
    {
      "response": {
        "responseCode": 200
      }
    }
  ]
}
}
2018-12-06T01:01:09.411Z - INFO - arrived to nstep starting question answer session with the technician
2018-12-06T01:01:09.411Z - INFO - the question is : Were there RF transmissions from the CBSD1 during the test? please choose one of the answers :
2018-12-06T01:01:21.680Z - INFO - for the question : Were there RF transmissions from the CBSD1 during the test? , the user choose n
2018-12-06T01:02:16.711Z - INFO - The final result of the test : WINNF.FT.C.REG.10 is - passed and :the additional comments for the current test are : There
were no transmissions from the CBSD from the start of the test until 60 seconds after the start of the test

```

10.6 Log file for test case ID: WINNF.FT.C.REG.12

2018-12-06T01:02:53.845Z - INFO - WINNF TEST HARNESS RELEASE: 1.0.0.2 - 2018-May-24

2018-12-06T01:02:53.845Z - INFO - the selected test from the user : WINNF.FT.C.REG.12 is starting now

2018-12-06T01:02:55.707Z - INFO - registration request from CBRS : {

```

"registrationRequest": [
  {
    "airInterface": {
      "radioTechnology": "E_UTRA",
      "supportedSpec": "FFS"
    },
    "callSign": "WL9XKH",
    "cbsdCategory": "B",
    "cbsdInfo": {
      "firmwareVersion": "0.8.0.3",
      "hardwareVersion": "V0.2",
      "model": "JLT733A",

```

```

    "softwareVersion": "6.4.0",

    "vendor": "Fujitsu"

  },

  "cbsdSerialNumber": "64A837260247",

  "fccId": "fccIdTest",

  "groupingParam": [

    {

      "groupId": "userIdTest",

      "groupType": "INTERFERENCE_COORDINATION"

    }

  ],

  "installationParam": {

    "antennaAzimuth": 0,

    "antennaBeamwidth": 360,

    "antennaDowntilt": 90,

    "antennaGain": 6,

    "antennaModel": "Unknown",

    "height": 0.0,

    "heightType": "AGL",

    "indoorDeployment": false,

    "latitude": 38.702145,

    "longitude": -104.890516

  },

  "measCapability": [

    "RECEIVED_POWER_WITHOUT_GRANT"

  ],

  "userId": "userIdTest"

}

]

}

2018-12-06T01:02:55.739Z - INFO - engine sent successfully, the response to CBRS : {

  "registrationResponse": [

    {

      "response": {

```

```

    "responseCode": 103
  }
}
]
}

2018-12-06T01:02:56.894Z - INFO - arrived to nstep starting question answer session with the technician

2018-12-06T01:02:56.894Z - INFO - the question is : Were there RF transmissions from the CBSD1 during the test? please choose one of the answers :

2018-12-06T01:03:11.154Z - INFO - for the question : Were there RF transmissions from the CBSD1 during the test? , the user choose n

2018-12-06T01:03:42.694Z - INFO - The final result of the test : WINNF.FT.C.REG.12 is - passed and :the additional comments for the current test are : There were no transmissions from the CBSD from the start of the test until 60 seconds from the start of the test

```

10.7 Log file for test case ID: WINNF.FT.C.REG.14

```

2018-12-06T01:04:38.658Z - INFO - WINNF TEST HARNESS RELEASE: 1.0.0.2 - 2018-May-24
2018-12-06T01:04:38.658Z - INFO - the selected test from the user : WINNF.FT.C.REG.14 is starting now
2018-12-06T01:04:42.131Z - INFO - registration request from CBRs : {
  "registrationRequest": [
    {
      "airInterface": {
        "radioTechnology": "E_UTRA",
        "supportedSpec": "FFS"
      },
      "callSign": "WL9XKH",
      "cbsdCategory": "B",
      "cbsdInfo": {
        "firmwareVersion": "0.8.0.3",
        "hardwareVersion": "V0.2",
        "model": "JLT733A",
        "softwareVersion": "6.4.0",
        "vendor": "Fujitsu"
      },
      "cbsdSerialNumber": "64A837260247",
      "fccId": "fccIdTest",
      "groupingParam": [
        {
          "groupId": "userIdTest",
          "groupType": "INTERFERENCE_COORDINATION"
        }
      ],
      "installationParam": {
        "antennaAzimuth": 0,
        "antennaBeamwidth": 360,
        "antennaDowntilt": 90,
        "antennaGain": 6,
        "antennaModel": "Unknown",
        "height": 0.0,
        "heightType": "AGL",
        "indoorDeployment": false,
        "latitude": 38.702145,

```

```

        "longitude": -104.890516
    },
    "measCapability": [
        "RECEIVED_POWER_WITHOUT_GRANT"
    ],
    "userId": "userIdTest"
}
}
}
2018-12-06T01:04:42.177Z - INFO - engine sent successfully, the response to CBRS : {
  "registrationResponse": {
    {
      "response": {
        "responseCode": 101
      }
    }
  }
}
}
2018-12-06T01:04:43.710Z - INFO - arrived to nstep starting question answer session with the technician
2018-12-06T01:04:43.710Z - INFO - the question is : Were there RF transmissions from the CBSD1 during the test? please choose one of the answers :
2018-12-06T01:05:47.786Z - INFO - for the question : Were there RF transmissions from the CBSD1 during the test? , the user choose n
2018-12-06T01:06:20.913Z - INFO - The final result of the test : WINNF.FT.C.REG.14 is - passed and :the additional comments for the current test are : There
were no transmissions from the CBSD from the start of the test until 60 seconds after the start of the test

```

10.8 Log file for test case ID: WINNF.FT.C.REG.16

```

2018-12-06T01:07:33.944Z - INFO - WINNF TEST HARNESS RELEASE: 1.0.0.2 - 2018-May-24
2018-12-06T01:07:33.944Z - INFO - the selected test from the user : WINNF.FT.C.REG.16 is starting now
2018-12-06T01:07:36.114Z - INFO - registration request from CBRS : {
  "registrationRequest": {
    {
      "airInterface": {
        "radioTechnology": "E_UTRA",
        "supportedSpec": "FFS"
      },
      "callSign": "WL9XKH",
      "cbsdCategory": "B",
      "cbsdInfo": {
        "firmwareVersion": "0.8.0.3",
        "hardwareVersion": "V0.2",
        "model": "JLT733A",
        "softwareVersion": "6.4.0",
        "vendor": "Fujitsu"
      },
      "cbsdSerialNumber": "64A837260247",
      "fccId": "fccIdTest",
      "groupingParam": [
        {
          "groupId": "userIdTest",
          "groupType": "INTERFERENCE_COORDINATION"
        }
      ],
      "installationParam": {
        "antennaAzimuth": 0,
        "antennaBeamwidth": 360,
        "antennaDowntilt": 90,

```

```

    "antennaGain": 6,
    "antennaModel": "Unknown",
    "height": 0.0,
    "heightType": "AGL",
    "indoorDeployment": false,
    "latitude": 38.702145,
    "longitude": -104.890516
  },
  "measCapability": [
    "RECEIVED_POWER_WITHOUT_GRANT"
  ],
  "userId": "userIdTest"
}
]
}
}
2018-12-06T01:07:36.161Z - INFO - engine sent successfully, the response to CBRS : {
  "registrationResponse": [
    {
      "response": {
        "responseCode": 100
      }
    }
  ]
}
}
2018-12-06T01:07:37.996Z - INFO - arrived to nstep starting question answer session with the technician
2018-12-06T01:07:37.996Z - INFO - the question is : Were there RF transmissions from the CBSD1 during the test? please choose one of the answers :
2018-12-06T01:08:45.901Z - INFO - for the question : Were there RF transmissions from the CBSD1 during the test? , the user choose n
2018-12-06T01:09:07.313Z - INFO - The final result of the test : WINNF.FT.C.REG.16 is - passed and :the additional comments for the current test are : There
were no transmissions from the CBSD from the start of the test until 60 seconds after the start of the test

```

10.9 Log file for test case ID: WINNF.FT.C.REG.18

```

2018-12-06T01:09:33.944Z - INFO - WINNF TEST HARNESS RELEASE: 1.0.0.2 - 2018-May-24
2018-12-06T01:09:33.944Z - INFO - the selected test from the user : WINNF.FT.C.REG.18 is starting now
2018-12-06T01:09:36.040Z - INFO - registration request from CBRS : {
  "registrationRequest": [
    {
      "airInterface": {
        "radioTechnology": "E_UTRA",
        "supportedSpec": "FFS"
      },
      "callSign": "WL9XKH",
      "cbsdCategory": "B",
      "cbsdInfo": {
        "firmwareVersion": "0.8.0.3",
        "hardwareVersion": "V0.2",
        "model": "JLT733A",
        "softwareVersion": "6.4.0",
        "vendor": "Fujitsu"
      },
      "cbsdSerialNumber": "64A837260247",
      "fcclId": "fcclIdTest",
      "groupingParam": [
        {
          "groupId": "userIdTest",
          "groupType": "INTERFERENCE_COORDINATION"
        }
      ]
    }
  ]
}

```

```

    }
  ],
  "installationParam": {
    "antennaAzimuth": 0,
    "antennaBeamwidth": 360,
    "antennaDowntilt": 90,
    "antennaGain": 6,
    "antennaModel": "Unknown",
    "height": 0.0,
    "heightType": "AGL",
    "indoorDeployment": false,
    "latitude": 38.702145,
    "longitude": -104.890516
  },
  "measCapability": [
    "RECEIVED_POWER_WITHOUT_GRANT"
  ],
  "userId": "userIdTest"
}
}
}

```

2018-12-06T01:09:36.088Z - INFO - engine sent successfully, the response to CBRS : {

```

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

```

2018-12-06T01:09:37.992Z - INFO - arrived to nstep starting question answer session with the technician

2018-12-06T01:09:37.992Z - INFO - the question is : Were there RF transmissions from the CBSD1 during the test? please choose one of the answers :

2018-12-06T01:10:38.529Z - INFO - for the question : Were there RF transmissions from the CBSD1 during the test? , the user choose n

2018-12-06T01:10:48.765Z - INFO - The final result of the test : WINNF.FT.C.REG.18 is - passed and :the additional comments for the current test are : There were no transmissions from the CBSD from the start of the test until 60 seconds after the start of the test

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

2018-12-06T16:26:56.651Z - INFO - WINNF TEST HARNESS RELEASE: 1.0.0.2 - 2018-May-24

2018-12-06T16:26:56.651Z - INFO - the selected test from the user : WINNF.FT.C.GRA.1 is starting now

2018-12-06T16:27:33.114Z - INFO - registration request from CBRS : {

```

  "registrationRequest": [
    {
      "airInterface": {
        "radioTechnology": "E_UTRA",
        "supportedSpec": "FFS"
      },
      "callSign": "WL9XKH",
      "cbsdCategory": "B",
      "cbsdInfo": {
        "firmwareVersion": "0.8.0.3",
        "hardwareVersion": "V0.2",
        "model": "JLT733A",
        "softwareVersion": "6.4.0",
        "vendor": "Fujitsu"
      }
    }
  ]
}

```

```

    },
    "cbsdSerialNumber": "64A837260247",
    "fccId": "fccIdTest",
    "groupingParam": [
      {
        "groupId": "userIdTest",
        "groupType": "INTERFERENCE_COORDINATION"
      }
    ],
    "installationParam": {
      "antennaAzimuth": 0,
      "antennaBeamwidth": 360,
      "antennaDowntilt": 90,
      "antennaGain": 6,
      "antennaModel": "Unknown",
      "height": 0.0,
      "heightType": "AGL",
      "indoorDeployment": false,
      "latitude": 38.702145,
      "longitude": -104.890516
    },
    "measCapability": [
      "RECEIVED_POWER_WITHOUT_GRANT"
    ],
    "userId": "userIdTest"
  }
}
}
2018-12-06T16:27:33.160Z - INFO - engine sent successfully, the response to CBRS : {
  "registrationResponse": [
    {
      "cbsdId": "fccIdTestMock-SAS64A837260247",
      "response": {
        "responseCode": 0
      }
    }
  ]
}
}
2018-12-06T16:27:33.207Z - INFO - spectrumInquiry request from CBRS : {
  "spectrumInquiryRequest": [
    {
      "cbsdId": "fccIdTestMock-SAS64A837260247",
      "inquiredSpectrum": [
        {
          "highFrequency": 3700000000,
          "lowFrequency": 3550000000
        }
      ],
      "measReport": {
        "rcvdPowerMeasReports": [
          {
            "measBandwidth": 10000000,
            "measFrequency": 3550000000,
            "measRcvdPower": -100.0
          }
        ]
      }
    }
  ]
}

```

```

    "measBandwidth": 10000000,
    "measFrequency": 3560000000,
    "measRcvdPower": -100.0
  },
  {
    "measBandwidth": 10000000,
    "measFrequency": 3570000000,
    "measRcvdPower": -100.0
  },
  {
    "measBandwidth": 10000000,
    "measFrequency": 3580000000,
    "measRcvdPower": -100.0
  },
  {
    "measBandwidth": 10000000,
    "measFrequency": 3590000000,
    "measRcvdPower": -100.0
  },
  {
    "measBandwidth": 10000000,
    "measFrequency": 3600000000,
    "measRcvdPower": -100.0
  },
  {
    "measBandwidth": 10000000,
    "measFrequency": 3610000000,
    "measRcvdPower": -100.0
  },
  {
    "measBandwidth": 10000000,
    "measFrequency": 3620000000,
    "measRcvdPower": -100.0
  },
  {
    "measBandwidth": 10000000,
    "measFrequency": 3630000000,
    "measRcvdPower": -100.0
  },
  {
    "measBandwidth": 10000000,
    "measFrequency": 3640000000,
    "measRcvdPower": -100.0
  },
  {
    "measBandwidth": 10000000,
    "measFrequency": 3650000000,
    "measRcvdPower": -100.0
  },
  {
    "measBandwidth": 10000000,
    "measFrequency": 3660000000,
    "measRcvdPower": -100.0
  },
  {
    "measBandwidth": 10000000,

```

```

        "measFrequency": 3670000000,
        "measRcvdPower": -100.0
    },
    {
        "measBandwidth": 10000000,
        "measFrequency": 3680000000,
        "measRcvdPower": -100.0
    },
    {
        "measBandwidth": 10000000,
        "measFrequency": 3690000000,
        "measRcvdPower": -100.0
    }
    ]
}
}
]
}
}
2018-12-06T16:27:33.223Z - INFO - engine sent successfully, the response to CBRS : {
  "spectrumInquiryResponse": [
    {
      "availableChannel": [
        {
          "channelType": "GAA",
          "frequencyRange": {
            "highFrequency": 3700000000,
            "lowFrequency": 3550000000
          },
          "ruleApplied": "FCC_PART_96"
        }
      ],
      "cbsdId": "fccIdTestMock-SAS64A837260247",
      "response": {
        "responseCode": 0
      }
    }
  ]
}
2018-12-06T16:27:33.598Z - INFO - grant request from CBRS : {
  "grantRequest": [
    {
      "cbsdId": "fccIdTestMock-SAS64A837260247",
      "measReport": {
        "rcvdPowerMeasReports": [
          {
            "measBandwidth": 10000000,
            "measFrequency": 3550000000,
            "measRcvdPower": -100.0
          },
          {
            "measBandwidth": 10000000,
            "measFrequency": 3560000000,
            "measRcvdPower": -100.0
          },
          {
            "measBandwidth": 10000000,

```

```

    "measFrequency": 3570000000,
    "measRcvdPower": -100.0
  },
  {
    "measBandwidth": 10000000,
    "measFrequency": 3580000000,
    "measRcvdPower": -100.0
  },
  {
    "measBandwidth": 10000000,
    "measFrequency": 3590000000,
    "measRcvdPower": -100.0
  },
  {
    "measBandwidth": 10000000,
    "measFrequency": 3600000000,
    "measRcvdPower": -100.0
  },
  {
    "measBandwidth": 10000000,
    "measFrequency": 3610000000,
    "measRcvdPower": -100.0
  },
  {
    "measBandwidth": 10000000,
    "measFrequency": 3620000000,
    "measRcvdPower": -100.0
  },
  {
    "measBandwidth": 10000000,
    "measFrequency": 3630000000,
    "measRcvdPower": -100.0
  },
  {
    "measBandwidth": 10000000,
    "measFrequency": 3640000000,
    "measRcvdPower": -100.0
  },
  {
    "measBandwidth": 10000000,
    "measFrequency": 3650000000,
    "measRcvdPower": -100.0
  },
  {
    "measBandwidth": 10000000,
    "measFrequency": 3660000000,
    "measRcvdPower": -100.0
  },
  {
    "measBandwidth": 10000000,
    "measFrequency": 3670000000,
    "measRcvdPower": -100.0
  },
  {
    "measBandwidth": 10000000,
    "measFrequency": 3680000000,

```

```

        "measRcvdPower": -100.0
      },
      {
        "measBandwidth": 10000000,
        "measFrequency": 3690000000,
        "measRcvdPower": -100.0
      }
    ]
  },
  "operationParam": {
    "maxEirp": 29,
    "operationFrequencyRange": {
      "highFrequency": 3700000000,
      "lowFrequency": 3680000000
    }
  }
}
]
}
}
2018-12-06T16:27:33.628Z - INFO - engine sent successfully, the response to CBRS : {
  "grantResponse": [
    {
      "cbsdId": "fccIdTestMock-SAS64A837260247",
      "response": {
        "responseCode": 400
      }
    }
  ]
}
}
2018-12-06T16:27:35.003Z - INFO - arrived to nstep starting question answer session with the technician
2018-12-06T16:27:35.003Z - INFO - the question is : Were there RF transmissions from the CBSD1 during the test? please choose one of the answers :
2018-12-06T16:28:00.181Z - INFO - for the question : Were there RF transmissions from the CBSD1 during the test? , the user choose n
2018-12-06T16:28:51.295Z - INFO - The final result of the test : WINNF.FT.C.GRA.1 is - passed and :the additional comments for the current test are : There
were no transmissions from the CBSD from the start of the test until 60 seconds after the start of the test

```

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

```

2018-12-06T16:29:29.089Z - INFO - WINNF TEST HARNESS RELEASE: 1.0.0.2 - 2018-May-24
2018-12-06T16:29:29.089Z - INFO - the selected test from the user : WINNF.FT.C.GRA.2 is starting now
2018-12-06T16:30:42.309Z - INFO - registration request from CBRS : {
  "registrationRequest": [
    {
      "airInterface": {
        "radioTechnology": "E_UTRA",
        "supportedSpec": "FFS"
      },
      "callSign": "WL9XKH",
      "cbsdCategory": "B",
      "cbsdInfo": {
        "firmwareVersion": "0.8.0.3",
        "hardwareVersion": "V0.2",
        "model": "JLT733A",
        "softwareVersion": "6.4.0",
        "vendor": "Fujitsu"
      },
      "cbsdSerialNumber": "64A837260247",

```

```

    "fccId": "fccIdTest",
    "groupingParam": [
      {
        "groupId": "userIdTest",
        "groupType": "INTERFERENCE_COORDINATION"
      }
    ],
    "installationParam": {
      "antennaAzimuth": 0,
      "antennaBeamwidth": 360,
      "antennaDowntilt": 90,
      "antennaGain": 6,
      "antennaModel": "Unknown",
      "height": 0.0,
      "heightType": "AGL",
      "indoorDeployment": false,
      "latitude": 38.702145,
      "longitude": -104.890516
    },
    "measCapability": [
      "RECEIVED_POWER_WITHOUT_GRANT"
    ],
    "userId": "userIdTest"
  }
}
}
2018-12-06T16:30:42.355Z - INFO - engine sent successfully, the response to CBRS : {
  "registrationResponse": [
    {
      "cbsId": "fccIdTestMock-SAS64A837260247",
      "response": {
        "responseCode": 0
      }
    }
  ]
}
}
2018-12-06T16:30:42.387Z - INFO - spectrumInquiry request from CBRS : {
  "spectrumInquiryRequest": [
    {
      "cbsId": "fccIdTestMock-SAS64A837260247",
      "inquiredSpectrum": [
        {
          "highFrequency": 3700000000,
          "lowFrequency": 3550000000
        }
      ],
      "measReport": {
        "rcvdPowerMeasReports": [
          {
            "measBandwidth": 10000000,
            "measFrequency": 3550000000,
            "measRcvdPower": -100.0
          },
          {
            "measBandwidth": 10000000,
            "measFrequency": 3560000000,

```

```

    "measRcvdPower": -100.0
  },
  {
    "measBandwidth": 10000000,
    "measFrequency": 3570000000,
    "measRcvdPower": -100.0
  },
  {
    "measBandwidth": 10000000,
    "measFrequency": 3580000000,
    "measRcvdPower": -100.0
  },
  {
    "measBandwidth": 10000000,
    "measFrequency": 3590000000,
    "measRcvdPower": -100.0
  },
  {
    "measBandwidth": 10000000,
    "measFrequency": 3600000000,
    "measRcvdPower": -100.0
  },
  {
    "measBandwidth": 10000000,
    "measFrequency": 3610000000,
    "measRcvdPower": -100.0
  },
  {
    "measBandwidth": 10000000,
    "measFrequency": 3620000000,
    "measRcvdPower": -100.0
  },
  {
    "measBandwidth": 10000000,
    "measFrequency": 3630000000,
    "measRcvdPower": -100.0
  },
  {
    "measBandwidth": 10000000,
    "measFrequency": 3640000000,
    "measRcvdPower": -100.0
  },
  {
    "measBandwidth": 10000000,
    "measFrequency": 3650000000,
    "measRcvdPower": -100.0
  },
  {
    "measBandwidth": 10000000,
    "measFrequency": 3660000000,
    "measRcvdPower": -100.0
  },
  {
    "measBandwidth": 10000000,
    "measFrequency": 3670000000,
    "measRcvdPower": -100.0
  }

```

```

    },
    {
      "measBandwidth": 10000000,
      "measFrequency": 3680000000,
      "measRcvdPower": -100.0
    },
    {
      "measBandwidth": 10000000,
      "measFrequency": 3690000000,
      "measRcvdPower": -100.0
    }
  ]
}
}
}
}
}
2018-12-06T16:30:42.403Z - INFO - engine sent successfully, the response to CBRS : {
  "spectrumInquiryResponse": [
    {
      "availableChannel": [
        {
          "channelType": "GAA",
          "frequencyRange": {
            "highFrequency": 3700000000,
            "lowFrequency": 3550000000
          },
          "ruleApplied": "FCC_PART_96"
        }
      ],
      "cbsdId": "fccIdTestMock-SAS64A837260247",
      "response": {
        "responseCode": 0
      }
    }
  ]
}
2018-12-06T16:30:42.778Z - INFO - grant request from CBRS : {
  "grantRequest": [
    {
      "cbsdId": "fccIdTestMock-SAS64A837260247",
      "measReport": {
        "rcvdPowerMeasReports": [
          {
            "measBandwidth": 10000000,
            "measFrequency": 3550000000,
            "measRcvdPower": -100.0
          },
          {
            "measBandwidth": 10000000,
            "measFrequency": 3560000000,
            "measRcvdPower": -100.0
          },
          {
            "measBandwidth": 10000000,
            "measFrequency": 3570000000,
            "measRcvdPower": -100.0
          }
        ]
      }
    }
  ]
}

```

```

},
{
  "measBandwidth": 10000000,
  "measFrequency": 3580000000,
  "measRcvdPower": -100.0
},
{
  "measBandwidth": 10000000,
  "measFrequency": 3590000000,
  "measRcvdPower": -100.0
},
{
  "measBandwidth": 10000000,
  "measFrequency": 3600000000,
  "measRcvdPower": -100.0
},
{
  "measBandwidth": 10000000,
  "measFrequency": 3610000000,
  "measRcvdPower": -100.0
},
{
  "measBandwidth": 10000000,
  "measFrequency": 3620000000,
  "measRcvdPower": -100.0
},
{
  "measBandwidth": 10000000,
  "measFrequency": 3630000000,
  "measRcvdPower": -100.0
},
{
  "measBandwidth": 10000000,
  "measFrequency": 3640000000,
  "measRcvdPower": -100.0
},
{
  "measBandwidth": 10000000,
  "measFrequency": 3650000000,
  "measRcvdPower": -100.0
},
{
  "measBandwidth": 10000000,
  "measFrequency": 3660000000,
  "measRcvdPower": -100.0
},
{
  "measBandwidth": 10000000,
  "measFrequency": 3670000000,
  "measRcvdPower": -100.0
},
{
  "measBandwidth": 10000000,
  "measFrequency": 3680000000,
  "measRcvdPower": -100.0
},
},

```

```
{
    {
        "measBandwidth": 10000000,
        "measFrequency": 3690000000,
        "measRcvdPower": -100.0
    }
}
},
"operationParam": {
    "maxEirp": 29,
    "operationFrequencyRange": {
        "highFrequency": 3700000000,
        "lowFrequency": 3680000000
    }
}
}
}
}
}
}
```

2018-12-06T16:30:42.809Z - INFO - engine sent successfully, the response to CBRS : {
 "grantResponse": [
 {
 "cbsId": "fcldTestMock-SAS64A837260247",
 "response": {
 "responseCode": 401
 }
]
 }
}

2018-12-06T16:30:44.740Z - INFO - arrived to nstep starting question answer session
2018-12-06T16:30:44.740Z - INFO - the question is : Were there RF transmissions from
2018-12-06T16:31:14.332Z - INFO - for the question : Were there RF transmissions from
2018-12-06T16:31:21.236Z - INFO - The final result of the test : WINNF.FT.C.GRA.2 is -
were no transmissions from the CBSD from the start of the test until 60 seconds after

10.12 Log file for test case ID: WINNF.FT.C.HBT.1

```
2018-12-06T16:32:08.982Z - INFO - WINNF TEST HARNESS RELEASE: 1.0.0.2 - 2018-May-24
2018-12-06T16:32:08.982Z - INFO - the selected test from the user : WINNF.FT.C.HBT.1 is starting now
2018-12-06T16:34:00.997Z - INFO - registration request from CBRS : {
```

```
"registrationRequest": {
  {
    "airInterface": {
      "radioTechnology": "E_UTRA",
      "supportedSpec": "FFS"
    },
    "callSign": "WL9XKH",
    "cbstdCategory": "B",
    "cbstdInfo": {
      "firmwareVersion": "0.8.0.3",
      "hardwareVersion": "V0.2",
      "model": "JLT733A",
      "softwareVersion": "6.4.0",
      "vendor": "Fujitsu"
    },
    },
    "cbstdSerialNumber": "64A837260247",
    "fcclid": "fcclidTest",
    "groupingParam": [
```

```

    {
      "groupId": "userIdTest",
      "groupType": "INTERFERENCE_COORDINATION"
    }
  ],
  "installationParam": {
    "antennaAzimuth": 0,
    "antennaBeamwidth": 360,
    "antennaDowntilt": 90,
    "antennaGain": 6,
    "antennaModel": "Unknown",
    "height": 0.0,
    "heightType": "AGL",
    "indoorDeployment": false,
    "latitude": 38.702145,
    "longitude": -104.890516
  },
  "measCapability": [
    "RECEIVED_POWER_WITHOUT_GRANT"
  ],
  "userId": "userIdTest"
}
]
}
2018-12-06T16:34:01.061Z - INFO - engine sent successfully, the response to CBRS : {
  "registrationResponse": [
    {
      "cbsdId": "fccIdTestMock-SAS64A837260247",
      "response": {
        "responseCode": 0
      }
    }
  ]
}
}
2018-12-06T16:34:01.108Z - INFO - spectrumInquiry request from CBRS : {
  "spectrumInquiryRequest": [
    {
      "cbsdId": "fccIdTestMock-SAS64A837260247",
      "inquiredSpectrum": [
        {
          "highFrequency": 3700000000,
          "lowFrequency": 3550000000
        }
      ],
      "measReport": {
        "rcvdPowerMeasReports": [
          {
            "measBandwidth": 10000000,
            "measFrequency": 3550000000,
            "measRcvdPower": -100.0
          },
          {
            "measBandwidth": 10000000,
            "measFrequency": 3560000000,
            "measRcvdPower": -100.0
          }
        ]
      }
    }
  ]
}

```

```

{
  "measBandwidth": 10000000,
  "measFrequency": 3570000000,
  "measRcvdPower": -100.0
},
{
  "measBandwidth": 10000000,
  "measFrequency": 3580000000,
  "measRcvdPower": -100.0
},
{
  "measBandwidth": 10000000,
  "measFrequency": 3590000000,
  "measRcvdPower": -100.0
},
{
  "measBandwidth": 10000000,
  "measFrequency": 3600000000,
  "measRcvdPower": -100.0
},
{
  "measBandwidth": 10000000,
  "measFrequency": 3610000000,
  "measRcvdPower": -100.0
},
{
  "measBandwidth": 10000000,
  "measFrequency": 3620000000,
  "measRcvdPower": -100.0
},
{
  "measBandwidth": 10000000,
  "measFrequency": 3630000000,
  "measRcvdPower": -100.0
},
{
  "measBandwidth": 10000000,
  "measFrequency": 3640000000,
  "measRcvdPower": -100.0
},
{
  "measBandwidth": 10000000,
  "measFrequency": 3650000000,
  "measRcvdPower": -100.0
},
{
  "measBandwidth": 10000000,
  "measFrequency": 3660000000,
  "measRcvdPower": -100.0
},
{
  "measBandwidth": 10000000,
  "measFrequency": 3670000000,
  "measRcvdPower": -100.0
},
{

```

```

    "measBandwidth": 10000000,
    "measFrequency": 3680000000,
    "measRcvdPower": -100.0
  },
  {
    "measBandwidth": 10000000,
    "measFrequency": 3690000000,
    "measRcvdPower": -100.0
  }
]
}
}
}
}

2018-12-06T16:34:01.122Z - INFO - engine sent successfully, the response to CBRS : {
  "spectrumInquiryResponse": [
    {
      "availableChannel": [
        {
          "channelType": "GAA",
          "frequencyRange": {
            "highFrequency": 3700000000,
            "lowFrequency": 3550000000
          },
          "ruleApplied": "FCC_PART_96"
        }
      ],
      "cbsId": "fccIdTestMock-SAS64A837260247",
      "response": {
        "responseCode": 0
      }
    }
  ]
}

2018-12-06T16:34:01.500Z - INFO - grant request from CBRS : {
  "grantRequest": [
    {
      "cbsId": "fccIdTestMock-SAS64A837260247",
      "measReport": {
        "rcvdPowerMeasReports": [
          {
            "measBandwidth": 10000000,
            "measFrequency": 3550000000,
            "measRcvdPower": -100.0
          },
          {
            "measBandwidth": 10000000,
            "measFrequency": 3560000000,
            "measRcvdPower": -100.0
          },
          {
            "measBandwidth": 10000000,
            "measFrequency": 3570000000,
            "measRcvdPower": -100.0
          },
          {

```

```

    "measBandwidth": 10000000,
    "measFrequency": 3580000000,
    "measRcvdPower": -100.0
  },
  {
    "measBandwidth": 10000000,
    "measFrequency": 3590000000,
    "measRcvdPower": -100.0
  },
  {
    "measBandwidth": 10000000,
    "measFrequency": 3600000000,
    "measRcvdPower": -100.0
  },
  {
    "measBandwidth": 10000000,
    "measFrequency": 3610000000,
    "measRcvdPower": -100.0
  },
  {
    "measBandwidth": 10000000,
    "measFrequency": 3620000000,
    "measRcvdPower": -100.0
  },
  {
    "measBandwidth": 10000000,
    "measFrequency": 3630000000,
    "measRcvdPower": -100.0
  },
  {
    "measBandwidth": 10000000,
    "measFrequency": 3640000000,
    "measRcvdPower": -100.0
  },
  {
    "measBandwidth": 10000000,
    "measFrequency": 3650000000,
    "measRcvdPower": -100.0
  },
  {
    "measBandwidth": 10000000,
    "measFrequency": 3660000000,
    "measRcvdPower": -100.0
  },
  {
    "measBandwidth": 10000000,
    "measFrequency": 3670000000,
    "measRcvdPower": -100.0
  },
  {
    "measBandwidth": 10000000,
    "measFrequency": 3680000000,
    "measRcvdPower": -100.0
  },
  {
    "measBandwidth": 10000000,

```

```

        "measFrequency": 3690000000,
        "measRcvdPower": -100.0
    }
}
},
"operationParam": {
    "maxEirp": 29,
    "operationFrequencyRange": {
        "highFrequency": 3700000000,
        "lowFrequency": 3680000000
    }
}
}
}
}
}
2018-12-06T16:34:01.516Z - INFO - engine sent successfully, the response to CBRS : {
    "grantResponse": [
        {
            "cbsdId": "fccIdTestMock-SAS64A837260247",
            "channelType": "GAA",
            "grantExpireTime": "2018-12-13T16:34:01Z",
            "grantId": "108071479",
            "heartbeatInterval": 60,
            "response": {
                "responseCode": 0
            }
        }
    ]
}
}
2018-12-06T16:34:01.861Z - INFO - heartbeat request from CBRS : {
    "heartbeatRequest": [
        {
            "cbsdId": "fccIdTestMock-SAS64A837260247",
            "grantId": "108071479",
            "grantRenew": false,
            "operationState": "GRANTED"
        }
    ]
}
}
2018-12-06T16:34:01.877Z - INFO - engine sent successfully, the response to CBRS : {
    "heartbeatResponse": [
        {
            "cbsdId": "fccIdTestMock-SAS64A837260247",
            "grantId": "108071479",
            "response": {
                "responseCode": 0
            },
            "transmitExpireTime": "2018-12-06T16:37:21Z"
        }
    ]
}
}
2018-12-06T16:35:01.894Z - INFO - heartbeat request from CBRS : {
    "heartbeatRequest": [
        {
            "cbsdId": "fccIdTestMock-SAS64A837260247",
            "grantId": "108071479",

```

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        "grantRenew": false,
        "operationState": "AUTHORIZED"
    }
}
}
2018-12-06T16:35:01.894Z - INFO - Time interval between two heartbeat request messages is: 60.034, limit is: 65.0
2018-12-06T16:35:01.911Z - INFO - engine sent successfully, the response to CBRS : {
  "heartbeatResponse": [
    {
      "cbsdId": "fccIdTestMock-SAS64A837260247",
      "grantId": "108071479",
      "response": {
        "responseCode": 0
      },
      "transmitExpireTime": "2018-12-06T16:38:21Z"
    }
  ]
}
}
2018-12-06T16:36:01.917Z - INFO - heartbeat request from CBRS : {
  "heartbeatRequest": [
    {
      "cbsdId": "fccIdTestMock-SAS64A837260247",
      "grantId": "108071479",
      "grantRenew": false,
      "operationState": "AUTHORIZED"
    }
  ]
}
}
2018-12-06T16:36:01.917Z - INFO - Time interval between two heartbeat request messages is: 60.022, limit is: 65.0
2018-12-06T16:36:01.931Z - INFO - engine sent successfully, the response to CBRS : {
  "heartbeatResponse": [
    {
      "cbsdId": "fccIdTestMock-SAS64A837260247",
      "grantId": "108071479",
      "response": {
        "responseCode": 0
      },
      "transmitExpireTime": "2018-12-06T16:39:21Z"
    }
  ]
}
}
2018-12-06T16:37:01.940Z - INFO - heartbeat request from CBRS : {
  "heartbeatRequest": [
    {
      "cbsdId": "fccIdTestMock-SAS64A837260247",
      "grantId": "108071479",
      "grantRenew": false,
      "operationState": "AUTHORIZED"
    }
  ]
}
}
2018-12-06T16:37:01.954Z - INFO - Time interval between two heartbeat request messages is: 60.023, limit is: 65.0
2018-12-06T16:37:01.954Z - INFO - engine sent successfully, the response to CBRS : {
  "heartbeatResponse": [
    {
      "cbsdId": "fccIdTestMock-SAS64A837260247",

```

```

    "grantId": "108071479",
    "response": {
      "responseCode": 0
    },
    "transmitExpireTime": "2018-12-06T16:40:21Z"
  }
}
}
2018-12-06T16:38:01.964Z - INFO - heartbeat request from CBRS : {
  "heartbeatRequest": [
    {
      "cbsdId": "fccIdTestMock-SAS64A837260247",
      "grantId": "108071479",
      "grantRenew": false,
      "operationState": "AUTHORIZED"
    }
  ]
}
2018-12-06T16:38:01.980Z - INFO - Time interval between two heartbeat request messages is: 60.025, limit is: 65.0
2018-12-06T16:38:01.980Z - INFO - engine sent successfully, the response to CBRS : {
  "heartbeatResponse": [
    {
      "cbsdId": "fccIdTestMock-SAS64A837260247",
      "grantId": "108071479",
      "response": {
        "responseCode": 0
      },
      "transmitExpireTime": "2018-12-06T16:41:21Z"
    }
  ]
}
2018-12-06T16:39:02.005Z - INFO - heartbeat request from CBRS : {
  "heartbeatRequest": [
    {
      "cbsdId": "fccIdTestMock-SAS64A837260247",
      "grantId": "108071479",
      "grantRenew": false,
      "operationState": "AUTHORIZED"
    }
  ]
}
2018-12-06T16:39:02.005Z - INFO - Time interval between two heartbeat request messages is: 60.04, limit is: 65.0
2018-12-06T16:39:02.020Z - INFO - engine sent successfully, the response to CBRS : {
  "heartbeatResponse": [
    {
      "cbsdId": "fccIdTestMock-SAS64A837260247",
      "grantId": "108071479",
      "response": {
        "responseCode": 0
      },
      "transmitExpireTime": "2018-12-06T16:42:22Z"
    }
  ]
}
2018-12-06T16:39:03.520Z - INFO - arrived to nstep starting question answer session with the technician

```

2018-12-06T16:39:03.520Z - INFO - the question is : Did the CBSD1 transmit power prior to AUTHORIZED state (first successful HBT response)? please choose one of the answers :

2018-12-06T16:39:38.276Z - INFO - for the question : Did the CBSD1 transmit power prior to AUTHORIZED state (first successful HBT response)? , the user choose n

2018-12-06T16:40:31.032Z - INFO - The final result of the test : WINNF.FT.C.HBT.1 is - passed and :the additional comments for the current test are : The CBSD did not transmit prior to the AUTHORIZED state

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

2018-12-06T16:41:11.384Z - INFO - WINNF TEST HARNESS RELEASE: 1.0.0.2 - 2018-May-24

2018-12-06T16:41:11.384Z - INFO - the selected test from the user : WINNF.FT.C.HBT.3 is starting now

2018-12-06T16:43:13.670Z - INFO - registration request from CBRs : {

```
"registrationRequest": [
  {
    "airInterface": {
      "radioTechnology": "E_UTRA",
      "supportedSpec": "FFS"
    },
    "callSign": "WL9XKH",
    "cbsdCategory": "B",
    "cbsdInfo": {
      "firmwareVersion": "0.8.0.3",
      "hardwareVersion": "V0.2",
      "model": "JLT733A",
      "softwareVersion": "6.4.0",
      "vendor": "Fujitsu"
    },
    "cbsdSerialNumber": "64A837260247",
    "fcclId": "fcclIdTest",
    "groupingParam": [
      {
        "groupId": "userIdTest",
        "groupType": "INTERFERENCE_COORDINATION"
      }
    ],
    "installationParam": {
      "antennaAzimuth": 0,
      "antennaBeamwidth": 360,
      "antennaDowntilt": 90,
      "antennaGain": 6,
      "antennaModel": "Unknown",
      "height": 0.0,
      "heightType": "AGL",
      "indoorDeployment": false,
      "latitude": 38.702145,
      "longitude": -104.890516
    },
    "measCapability": [
      "RECEIVED_POWER_WITHOUT_GRANT"
    ],
    "userId": "userIdTest"
  }
]
```

2018-12-06T16:43:13.717Z - INFO - engine sent successfully, the response to CBRs : {

```
"registrationResponse": [
  {
    "cbsdId": "fcclIdTestMock-SAS64A837260247",
    "response": {
      "responseCode": 0
    }
  }
]
```

2018-12-06T16:43:13.763Z - INFO - spectrumInquiry request from CBRs : {

```
"spectrumInquiryRequest": [
  {
    "cbsdId": "fcclIdTestMock-SAS64A837260247",
    "inquiredSpectrum": [
      {
        "highFrequency": 3700000000,
```

```

    "lowFrequency": 355000000
  }
],
"measReport": {
  "rcvdPowerMeasReports": [
    {
      "measBandwidth": 10000000,
      "measFrequency": 3550000000,
      "measRcvdPower": -100.0
    },
    {
      "measBandwidth": 10000000,
      "measFrequency": 3560000000,
      "measRcvdPower": -100.0
    },
    {
      "measBandwidth": 10000000,
      "measFrequency": 3570000000,
      "measRcvdPower": -100.0
    },
    {
      "measBandwidth": 10000000,
      "measFrequency": 3580000000,
      "measRcvdPower": -100.0
    },
    {
      "measBandwidth": 10000000,
      "measFrequency": 3590000000,
      "measRcvdPower": -100.0
    },
    {
      "measBandwidth": 10000000,
      "measFrequency": 3600000000,
      "measRcvdPower": -100.0
    },
    {
      "measBandwidth": 10000000,
      "measFrequency": 3610000000,
      "measRcvdPower": -100.0
    },
    {
      "measBandwidth": 10000000,
      "measFrequency": 3620000000,
      "measRcvdPower": -100.0
    },
    {
      "measBandwidth": 10000000,
      "measFrequency": 3630000000,
      "measRcvdPower": -100.0
    },
    {
      "measBandwidth": 10000000,
      "measFrequency": 3640000000,
      "measRcvdPower": -100.0
    },
    {
      "measBandwidth": 10000000,
      "measFrequency": 3650000000,
      "measRcvdPower": -100.0
    },
    {
      "measBandwidth": 10000000,
      "measFrequency": 3660000000,
      "measRcvdPower": -100.0
    },
    {
      "measBandwidth": 10000000,
      "measFrequency": 3670000000,
      "measRcvdPower": -100.0
    },
    {
      "measBandwidth": 10000000,
      "measFrequency": 3680000000,
      "measRcvdPower": -100.0
    }
  ]
}

```

```

    {
      "measBandwidth": 10000000,
      "measFrequency": 3690000000,
      "measRcvdPower": -100.0
    }
  ]
}
}
]
}
}
2018-12-06T16:43:13.779Z - INFO - engine sent successfully, the response to CBRS : {
  "spectrumInquiryResponse": [
    {
      "availableChannel": [
        {
          "channelType": "GAA",
          "frequencyRange": {
            "highFrequency": 3700000000,
            "lowFrequency": 3550000000
          },
          "ruleApplied": "FCC_PART_96"
        }
      ],
      "cbsdId": "fccIdTestMock-SAS64A837260247",
      "response": {
        "responseCode": 0
      }
    }
  ]
}
}
2018-12-06T16:43:14.170Z - INFO - grant request from CBRS : {
  "grantRequest": [
    {
      "cbsdId": "fccIdTestMock-SAS64A837260247",
      "measReport": {
        "rcvdPowerMeasReports": [
          {
            "measBandwidth": 10000000,
            "measFrequency": 3550000000,
            "measRcvdPower": -100.0
          },
          {
            "measBandwidth": 10000000,
            "measFrequency": 3560000000,
            "measRcvdPower": -100.0
          },
          {
            "measBandwidth": 10000000,
            "measFrequency": 3570000000,
            "measRcvdPower": -100.0
          },
          {
            "measBandwidth": 10000000,
            "measFrequency": 3580000000,
            "measRcvdPower": -100.0
          },
          {
            "measBandwidth": 10000000,
            "measFrequency": 3590000000,
            "measRcvdPower": -100.0
          },
          {
            "measBandwidth": 10000000,
            "measFrequency": 3600000000,
            "measRcvdPower": -100.0
          },
          {
            "measBandwidth": 10000000,
            "measFrequency": 3610000000,
            "measRcvdPower": -100.0
          },
          {
            "measBandwidth": 10000000,
            "measFrequency": 3620000000,
            "measRcvdPower": -100.0
          }
        ]
      }
    }
  ]
}

```

```

    },
    {
      "measBandwidth": 10000000,
      "measFrequency": 3630000000,
      "measRcvdPower": -100.0
    },
    {
      "measBandwidth": 10000000,
      "measFrequency": 3640000000,
      "measRcvdPower": -100.0
    },
    {
      "measBandwidth": 10000000,
      "measFrequency": 3650000000,
      "measRcvdPower": -100.0
    },
    {
      "measBandwidth": 10000000,
      "measFrequency": 3660000000,
      "measRcvdPower": -100.0
    },
    {
      "measBandwidth": 10000000,
      "measFrequency": 3670000000,
      "measRcvdPower": -100.0
    },
    {
      "measBandwidth": 10000000,
      "measFrequency": 3680000000,
      "measRcvdPower": -100.0
    },
    {
      "measBandwidth": 10000000,
      "measFrequency": 3690000000,
      "measRcvdPower": -100.0
    }
  ]
},
"operationParam": {
  "maxEirp": 29,
  "operationFrequencyRange": {
    "highFrequency": 3700000000,
    "lowFrequency": 3680000000
  }
}
}
}
}
2018-12-06T16:43:14.186Z - INFO - engine sent successfully, the response to CBRS : {
  "grantResponse": [
    {
      "cbsdId": "fccIdTestMock-SAS64A837260247",
      "channelType": "GAA",
      "grantExpireTime": "2018-12-13T16:43:14Z",
      "grantId": "156525521",
      "heartbeatInterval": 60,
      "response": {
        "responseCode": 0
      }
    }
  ]
}
}
2018-12-06T16:43:14.529Z - INFO - heartbeat request from CBRS : {
  "heartbeatRequest": [
    {
      "cbsdId": "fccIdTestMock-SAS64A837260247",
      "grantId": "156525521",
      "grantRenew": false,
      "operationState": "GRANTED"
    }
  ]
}
}
2018-12-06T16:43:14.545Z - INFO - engine sent successfully, the response to CBRS : {
  "heartbeatResponse": [
    {

```

```

        "cbsdid": "fccIdTestMock-SAS64A837260247",
        "grantId": "156525521",
        "response": {
            "responseCode": 0
        },
        "transmitExpireTime": "2018-12-06T16:46:34Z"
    }
}
}
2018-12-06T16:44:14.562Z - INFO - heartbeat request from CBRS : {
    "heartbeatRequest": [
        {
            "cbsdid": "fccIdTestMock-SAS64A837260247",
            "grantId": "156525521",
            "grantRenew": false,
            "operationState": "AUTHORIZED"
        }
    ]
}
}
2018-12-06T16:44:14.562Z - INFO - Time interval between two heartbeat request messages is: 60.034, limit is: 65.0
2018-12-06T16:44:14.578Z - INFO - engine sent successfully, the response to CBRS : {
    "heartbeatResponse": [
        {
            "cbsdid": "fccIdTestMock-SAS64A837260247",
            "grantId": "156525521",
            "response": {
                "responseCode": 0
            },
            "transmitExpireTime": "2018-12-06T16:47:34Z"
        }
    ]
}
}
2018-12-06T16:45:14.589Z - INFO - heartbeat request from CBRS : {
    "heartbeatRequest": [
        {
            "cbsdid": "fccIdTestMock-SAS64A837260247",
            "grantId": "156525521",
            "grantRenew": false,
            "operationState": "AUTHORIZED"
        }
    ]
}
}
2018-12-06T16:45:14.589Z - INFO - Time interval between two heartbeat request messages is: 60.027, limit is: 65.0
2018-12-06T16:45:14.605Z - INFO - engine sent successfully, the response to CBRS : {
    "heartbeatResponse": [
        {
            "cbsdid": "fccIdTestMock-SAS64A837260247",
            "grantId": "156525521",
            "response": {
                "responseCode": 0
            },
            "transmitExpireTime": "2018-12-06T16:48:34Z"
        }
    ]
}
}
2018-12-06T16:46:14.604Z - INFO - heartbeat request from CBRS : {
    "heartbeatRequest": [
        {
            "cbsdid": "fccIdTestMock-SAS64A837260247",
            "grantId": "156525521",
            "grantRenew": false,
            "operationState": "AUTHORIZED"
        }
    ]
}
}
2018-12-06T16:46:14.619Z - INFO - Time interval between two heartbeat request messages is: 60.014, limit is: 65.0
2018-12-06T16:46:14.619Z - INFO - engine sent successfully, the response to CBRS : {
    "heartbeatResponse": [
        {
            "cbsdid": "fccIdTestMock-SAS64A837260247",
            "grantId": "156525521",
            "response": {
                "responseCode": 105
            },
            "transmitExpireTime": "2018-12-06T16:46:14Z"
        }
    ]
}
}

```

```

    }
  ]
}
2018-12-06T16:46:15.907Z - INFO - arrived to nstep starting question answer session with the technician
2018-12-06T16:46:15.907Z - 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 :
2018-12-06T16:46:47.424Z - INFO - for the question : Did the CBSD stop RF transmission within 60 seconds of receiving Heartbeat response with responseCode = 105? , the user choose y
2018-12-06T16:47:51.576Z - INFO - The final result of the test : WINNF.FT.C.HBT.3 is - passed and :the additional comments for the current test are : The CBSD ceased transmission within 60 seconds of receiving the Heartbeat response responseCode = 105

```

10.14 Log file for test case ID:WINNF.FT.C.HBT.4

```

2018-12-06T16:48:12.862Z - INFO - WINNF TEST HARNESS RELEASE: 1.0.0.2 - 2018-May-24
2018-12-06T16:48:12.862Z - INFO - the selected test from the user : WINNF.FT.C.HBT.4 is starting now
2018-12-06T16:51:15.243Z - INFO - registration request from CBRS : {

```

```

  "registrationRequest": [
    {
      "airInterface": {
        "radioTechnology": "E_UTRA",
        "supportedSpec": "FFS"
      },
      "callSign": "WL9XKH",
      "cbsdCategory": "B",
      "cbsdInfo": {
        "firmwareVersion": "0.8.0.3",
        "hardwareVersion": "V0.2",
        "model": "JLT733A",
        "softwareVersion": "6.4.0",
        "vendor": "Fujitsu"
      },
      "cbsdSerialNumber": "64A837260247",
      "fccId": "fccIdTest",
      "groupingParam": [
        {
          "groupId": "userIdTest",
          "groupType": "INTERFERENCE_COORDINATION"
        }
      ],
      "installationParam": {
        "antennaAzimuth": 0,
        "antennaBeamwidth": 360,
        "antennaDowntilt": 90,
        "antennaGain": 6,
        "antennaModel": "Unknown",
        "height": 0.0,
        "heightType": "AGL",
        "indoorDeployment": false,
        "latitude": 38.702145,
        "longitude": -104.890516
      },
      "measCapability": [
        "RECEIVED_POWER_WITHOUT_GRANT"
      ],
      "userId": "userIdTest"
    }
  ]
}

```

```

2018-12-06T16:51:15.305Z - INFO - engine sent successfully, the response to CBRS : {

```

```

"registrationResponse": [
  {
    "cbsdId": "fccIdTestMock-SAS64A837260247",
    "response": {
      "responseCode": 0
    }
  }
]
}
2018-12-06T16:51:15.338Z - INFO - spectrumInquiry request from CBRS : {
"spectrumInquiryRequest": [
  {
    "cbsdId": "fccIdTestMock-SAS64A837260247",
    "inquiredSpectrum": [
      {
        "highFrequency": 3700000000,
        "lowFrequency": 3550000000
      }
    ],
    "measReport": {
      "rcvdPowerMeasReports": [
        {
          "measBandwidth": 10000000,
          "measFrequency": 3550000000,
          "measRcvdPower": -100.0
        },
        {
          "measBandwidth": 10000000,
          "measFrequency": 3560000000,
          "measRcvdPower": -100.0
        },
        {
          "measBandwidth": 10000000,
          "measFrequency": 3570000000,
          "measRcvdPower": -100.0
        },
        {
          "measBandwidth": 10000000,
          "measFrequency": 3580000000,
          "measRcvdPower": -100.0
        },
        {
          "measBandwidth": 10000000,
          "measFrequency": 3590000000,
          "measRcvdPower": -100.0
        },
        {
          "measBandwidth": 10000000,
          "measFrequency": 3600000000,
          "measRcvdPower": -100.0
        },
        {
          "measBandwidth": 10000000,
          "measFrequency": 3610000000,
          "measRcvdPower": -100.0
        }
      ]
    }
  }
]
}

```

```

    {
      "measBandwidth": 10000000,
      "measFrequency": 3620000000,
      "measRcvdPower": -100.0
    },
    {
      "measBandwidth": 10000000,
      "measFrequency": 3630000000,
      "measRcvdPower": -100.0
    },
    {
      "measBandwidth": 10000000,
      "measFrequency": 3640000000,
      "measRcvdPower": -100.0
    },
    {
      "measBandwidth": 10000000,
      "measFrequency": 3650000000,
      "measRcvdPower": -100.0
    },
    {
      "measBandwidth": 10000000,
      "measFrequency": 3660000000,
      "measRcvdPower": -100.0
    },
    {
      "measBandwidth": 10000000,
      "measFrequency": 3670000000,
      "measRcvdPower": -100.0
    },
    {
      "measBandwidth": 10000000,
      "measFrequency": 3680000000,
      "measRcvdPower": -100.0
    },
    {
      "measBandwidth": 10000000,
      "measFrequency": 3690000000,
      "measRcvdPower": -100.0
    }
  ]
}
}
}
}
2018-12-06T16:51:15.352Z - INFO - engine sent successfully, the response to CBRS : {
  "spectrumInquiryResponse": [
    {
      "availableChannel": [
        {
          "channelType": "GAA",
          "frequencyRange": {
            "highFrequency": 3700000000,
            "lowFrequency": 3550000000
          },
          "ruleApplied": "FCC_PART_96"
        }
      ]
    }
  ]
}

```

```

    }
  ],
  "cbsdId": "fccIdTestMock-SAS64A837260247",
  "response": {
    "responseCode": 0
  }
}
}
}
2018-12-06T16:51:15.730Z - INFO - grant request from CBRS : {
  "grantRequest": [
    {
      "cbsdId": "fccIdTestMock-SAS64A837260247",
      "measReport": {
        "rcvdPowerMeasReports": [
          {
            "measBandwidth": 10000000,
            "measFrequency": 3550000000,
            "measRcvdPower": -100.0
          },
          {
            "measBandwidth": 10000000,
            "measFrequency": 3560000000,
            "measRcvdPower": -100.0
          },
          {
            "measBandwidth": 10000000,
            "measFrequency": 3570000000,
            "measRcvdPower": -100.0
          },
          {
            "measBandwidth": 10000000,
            "measFrequency": 3580000000,
            "measRcvdPower": -100.0
          },
          {
            "measBandwidth": 10000000,
            "measFrequency": 3590000000,
            "measRcvdPower": -100.0
          },
          {
            "measBandwidth": 10000000,
            "measFrequency": 3600000000,
            "measRcvdPower": -100.0
          },
          {
            "measBandwidth": 10000000,
            "measFrequency": 3610000000,
            "measRcvdPower": -100.0
          },
          {
            "measBandwidth": 10000000,
            "measFrequency": 3620000000,
            "measRcvdPower": -100.0
          }
        ]
      }
    }
  ]
}

```

```

    "measBandwidth": 10000000,
    "measFrequency": 3630000000,
    "measRcvdPower": -100.0
  },
  {
    "measBandwidth": 10000000,
    "measFrequency": 3640000000,
    "measRcvdPower": -100.0
  },
  {
    "measBandwidth": 10000000,
    "measFrequency": 3650000000,
    "measRcvdPower": -100.0
  },
  {
    "measBandwidth": 10000000,
    "measFrequency": 3660000000,
    "measRcvdPower": -100.0
  },
  {
    "measBandwidth": 10000000,
    "measFrequency": 3670000000,
    "measRcvdPower": -100.0
  },
  {
    "measBandwidth": 10000000,
    "measFrequency": 3680000000,
    "measRcvdPower": -100.0
  },
  {
    "measBandwidth": 10000000,
    "measFrequency": 3690000000,
    "measRcvdPower": -100.0
  }
]
},
"operationParam": {
  "maxEirp": 29,
  "operationFrequencyRange": {
    "highFrequency": 3700000000,
    "lowFrequency": 3680000000
  }
}
}
}
]
}
}

2018-12-06T16:51:15.760Z - INFO - engine sent successfully, the response to CBRS : {
  "grantResponse": [
    {
      "cbsId": "fccIdTestMock-SAS64A837260247",
      "channelType": "GAA",
      "grantExpireTime": "2018-12-13T16:51:15Z",
      "grantId": "834909566",
      "heartbeatInterval": 60,
      "response": {
        "responseCode": 0
      }
    }
  ]
}

```

```

    }
  }
}
}
2018-12-06T16:51:16.105Z - INFO - heartbeat request from CBRS : {
  "heartbeatRequest": [
    {
      "cbsdId": "fccIdTestMock-SAS64A837260247",
      "grantId": "834909566",
      "grantRenew": false,
      "operationState": "GRANTED"
    }
  ]
}
2018-12-06T16:51:16.119Z - INFO - engine sent successfully, the response to CBRS : {
  "heartbeatResponse": [
    {
      "cbsdId": "fccIdTestMock-SAS64A837260247",
      "grantId": "834909566",
      "response": {
        "responseCode": 0
      },
      "transmitExpireTime": "2018-12-06T16:54:36Z"
    }
  ]
}
2018-12-06T16:52:16.131Z - INFO - heartbeat request from CBRS : {
  "heartbeatRequest": [
    {
      "cbsdId": "fccIdTestMock-SAS64A837260247",
      "grantId": "834909566",
      "grantRenew": false,
      "operationState": "AUTHORIZED"
    }
  ]
}
2018-12-06T16:52:16.131Z - INFO - Time interval between two heartbeat request messages is: 60.027, limit is: 65.0
2018-12-06T16:52:16.148Z - INFO - engine sent successfully, the response to CBRS : {
  "heartbeatResponse": [
    {
      "cbsdId": "fccIdTestMock-SAS64A837260247",
      "grantId": "834909566",
      "response": {
        "responseCode": 0
      },
      "transmitExpireTime": "2018-12-06T16:55:36Z"
    }
  ]
}
2018-12-06T16:53:16.148Z - INFO - heartbeat request from CBRS : {
  "heartbeatRequest": [
    {
      "cbsdId": "fccIdTestMock-SAS64A837260247",
      "grantId": "834909566",
      "grantRenew": false,
      "operationState": "AUTHORIZED"
    }
  ]
}

```

```

    }
  ]
}
2018-12-06T16:53:16.164Z - INFO - Time interval between two heartbeat request messages is: 60.017, limit is: 65.0
2018-12-06T16:53:16.164Z - INFO - engine sent successfully, the response to CBRS : {
  "heartbeatResponse": [
    {
      "cbsdId": "fccIdTestMock-SAS64A837260247",
      "grantId": "834909566",
      "response": {
        "responseCode": 0
      },
      "transmitExpireTime": "2018-12-06T16:56:36Z"
    }
  ]
}
2018-12-06T16:54:16.187Z - INFO - heartbeat request from CBRS : {
  "heartbeatRequest": [
    {
      "cbsdId": "fccIdTestMock-SAS64A837260247",
      "grantId": "834909566",
      "grantRenew": false,
      "operationState": "AUTHORIZED"
    }
  ]
}
2018-12-06T16:54:16.187Z - INFO - Time interval between two heartbeat request messages is: 60.039, limit is: 65.0
2018-12-06T16:54:16.203Z - INFO - engine sent successfully, the response to CBRS : {
  "heartbeatResponse": [
    {
      "cbsdId": "fccIdTestMock-SAS64A837260247",
      "grantId": "834909566",
      "response": {
        "responseCode": 0
      },
      "transmitExpireTime": "2018-12-06T16:57:36Z"
    }
  ]
}
2018-12-06T16:55:16.213Z - INFO - heartbeat request from CBRS : {
  "heartbeatRequest": [
    {
      "cbsdId": "fccIdTestMock-SAS64A837260247",
      "grantId": "834909566",
      "grantRenew": false,
      "operationState": "AUTHORIZED"
    }
  ]
}
2018-12-06T16:55:16.213Z - INFO - Time interval between two heartbeat request messages is: 60.025, limit is: 65.0
2018-12-06T16:55:16.229Z - INFO - engine sent successfully, the response to CBRS : {
  "heartbeatResponse": [
    {
      "cbsdId": "fccIdTestMock-SAS64A837260247",
      "grantId": "834909566",
      "response": {

```

```

        "responseCode": 0
      },
      "transmitExpireTime": "2018-12-06T16:58:36Z"
    }
  ]
}

```

2018-12-06T16:56:16.233Z - INFO - heartbeat request from CBRS : {

```

  "heartbeatRequest": [
    {
      "cbsdId": "fccIdTestMock-SAS64A837260247",
      "grantId": "834909566",
      "grantRenew": false,
      "operationState": "AUTHORIZED"
    }
  ]
}

```

2018-12-06T16:56:16.247Z - INFO - Time interval between two heartbeat request messages is: 60.02, limit is: 65.0

2018-12-06T16:56:16.247Z - INFO - engine sent successfully, the response to CBRS : {

```

  "heartbeatResponse": [
    {
      "cbsdId": "fccIdTestMock-SAS64A837260247",
      "grantId": "834909566",
      "response": {
        "responseCode": 500
      },
      "transmitExpireTime": "2018-12-06T16:56:16Z"
    }
  ]
}

```

2018-12-06T16:56:17.736Z - INFO - arrived to nstep starting question answer session with the technician

2018-12-06T16:56:17.736Z - INFO - the question is : Did the CBS1 stop RF transmission within 60 seconds of receiving Heartbeat response with responseCode = 500? please choose one of the answers :

2018-12-06T16:58:11.328Z - INFO - for the question : Did the CBS1 stop RF transmission within 60 seconds of receiving Heartbeat response with responseCode = 500? , the user choose y

2018-12-06T16:58:24.428Z - INFO - The final result of the test : WINNF.FT.C.HBT.4 is - passed and :the additional comments for the current test are : The CBS1 ceased transmission within 60 seconds of receiving the Heartbeat response responseCode = 105

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

2018-12-06T16:59:07.558Z - INFO - WINNF TEST HARNESS RELEASE: 1.0.0.2 - 2018-May-24

2018-12-06T16:59:07.558Z - INFO - the selected test from the user : WINNF.FT.C.HBT.5 is starting now

2018-12-06T17:00:54.364Z - INFO - registration request from CBRS : {

```

  "registrationRequest": [
    {
      "airInterface": {
        "radioTechnology": "E_UTRA",
        "supportedSpec": "FFS"
      },
      "callSign": "WL9XKH",
      "cbsdCategory": "B",
      "cbsdInfo": {
        "firmwareVersion": "0.8.0.3",
        "hardwareVersion": "V0.2",
        "model": "JLT733A",
        "softwareVersion": "6.4.0",
        "vendor": "Fujitsu"
      }
    }
  ]
}

```

```

    },
    "cbsdSerialNumber": "64A837260247",
    "fccId": "fccIdTest",
    "groupingParam": [
      {
        "groupId": "userIdTest",
        "groupType": "INTERFERENCE_COORDINATION"
      }
    ],
    "installationParam": {
      "antennaAzimuth": 0,
      "antennaBeamwidth": 360,
      "antennaDowntilt": 90,
      "antennaGain": 6,
      "antennaModel": "Unknown",
      "height": 0.0,
      "heightType": "AGL",
      "indoorDeployment": false,
      "latitude": 38.702145,
      "longitude": -104.890516
    },
    "measCapability": [
      "RECEIVED_POWER_WITHOUT_GRANT"
    ],
    "userId": "userIdTest"
  }
}
}
2018-12-06T17:00:54.410Z - INFO - engine sent successfully, the response to CBRS : {
  "registrationResponse": [
    {
      "cbsdId": "fccIdTestMock-SAS64A837260247",
      "response": {
        "responseCode": 0
      }
    }
  ]
}
}
2018-12-06T17:00:54.457Z - INFO - spectrumInquiry request from CBRS : {
  "spectrumInquiryRequest": [
    {
      "cbsdId": "fccIdTestMock-SAS64A837260247",
      "inquiredSpectrum": [
        {
          "highFrequency": 3700000000,
          "lowFrequency": 3550000000
        }
      ],
      "measReport": {
        "rcvdPowerMeasReports": [
          {
            "measBandwidth": 10000000,
            "measFrequency": 3550000000,
            "measRcvdPower": -100.0
          }
        ]
      }
    }
  ]
}

```

```

    "measBandwidth": 10000000,
    "measFrequency": 3560000000,
    "measRcvdPower": -100.0
  },
  {
    "measBandwidth": 10000000,
    "measFrequency": 3570000000,
    "measRcvdPower": -100.0
  },
  {
    "measBandwidth": 10000000,
    "measFrequency": 3580000000,
    "measRcvdPower": -100.0
  },
  {
    "measBandwidth": 10000000,
    "measFrequency": 3590000000,
    "measRcvdPower": -100.0
  },
  {
    "measBandwidth": 10000000,
    "measFrequency": 3600000000,
    "measRcvdPower": -100.0
  },
  {
    "measBandwidth": 10000000,
    "measFrequency": 3610000000,
    "measRcvdPower": -100.0
  },
  {
    "measBandwidth": 10000000,
    "measFrequency": 3620000000,
    "measRcvdPower": -100.0
  },
  {
    "measBandwidth": 10000000,
    "measFrequency": 3630000000,
    "measRcvdPower": -100.0
  },
  {
    "measBandwidth": 10000000,
    "measFrequency": 3640000000,
    "measRcvdPower": -100.0
  },
  {
    "measBandwidth": 10000000,
    "measFrequency": 3650000000,
    "measRcvdPower": -100.0
  },
  {
    "measBandwidth": 10000000,
    "measFrequency": 3660000000,
    "measRcvdPower": -100.0
  },
  {
    "measBandwidth": 10000000,

```

```

        "measFrequency": 3670000000,
        "measRcvdPower": -100.0
    },
    {
        "measBandwidth": 10000000,
        "measFrequency": 3680000000,
        "measRcvdPower": -100.0
    },
    {
        "measBandwidth": 10000000,
        "measFrequency": 3690000000,
        "measRcvdPower": -100.0
    }
    ]
}
}
]
}
}
2018-12-06T17:00:54.489Z - INFO - engine sent successfully, the response to CBRS : {
  "spectrumInquiryResponse": [
    {
      "availableChannel": [
        {
          "channelType": "GAA",
          "frequencyRange": {
            "highFrequency": 3700000000,
            "lowFrequency": 3550000000
          },
          "ruleApplied": "FCC_PART_96"
        }
      ],
      "cbsdId": "fccIdTestMock-SAS64A837260247",
      "response": {
        "responseCode": 0
      }
    }
  ]
}
2018-12-06T17:00:54.864Z - INFO - grant request from CBRS : {
  "grantRequest": [
    {
      "cbsdId": "fccIdTestMock-SAS64A837260247",
      "measReport": {
        "rcvdPowerMeasReports": [
          {
            "measBandwidth": 10000000,
            "measFrequency": 3550000000,
            "measRcvdPower": -100.0
          },
          {
            "measBandwidth": 10000000,
            "measFrequency": 3560000000,
            "measRcvdPower": -100.0
          },
          {
            "measBandwidth": 10000000,

```

```

    "measFrequency": 3570000000,
    "measRcvdPower": -100.0
  },
  {
    "measBandwidth": 10000000,
    "measFrequency": 3580000000,
    "measRcvdPower": -100.0
  },
  {
    "measBandwidth": 10000000,
    "measFrequency": 3590000000,
    "measRcvdPower": -100.0
  },
  {
    "measBandwidth": 10000000,
    "measFrequency": 3600000000,
    "measRcvdPower": -100.0
  },
  {
    "measBandwidth": 10000000,
    "measFrequency": 3610000000,
    "measRcvdPower": -100.0
  },
  {
    "measBandwidth": 10000000,
    "measFrequency": 3620000000,
    "measRcvdPower": -100.0
  },
  {
    "measBandwidth": 10000000,
    "measFrequency": 3630000000,
    "measRcvdPower": -100.0
  },
  {
    "measBandwidth": 10000000,
    "measFrequency": 3640000000,
    "measRcvdPower": -100.0
  },
  {
    "measBandwidth": 10000000,
    "measFrequency": 3650000000,
    "measRcvdPower": -100.0
  },
  {
    "measBandwidth": 10000000,
    "measFrequency": 3660000000,
    "measRcvdPower": -100.0
  },
  {
    "measBandwidth": 10000000,
    "measFrequency": 3670000000,
    "measRcvdPower": -100.0
  },
  {
    "measBandwidth": 10000000,
    "measFrequency": 3680000000,

```

```

    "measRcvdPower": -100.0
  },
  {
    "measBandwidth": 10000000,
    "measFrequency": 3690000000,
    "measRcvdPower": -100.0
  }
]
},
"operationParam": {
  "maxEirp": 29,
  "operationFrequencyRange": {
    "highFrequency": 3700000000,
    "lowFrequency": 3680000000
  }
}
}
}
]
}
}
2018-12-06T17:00:54.878Z - INFO - engine sent successfully, the response to CBRS : {
  "grantResponse": [
    {
      "cbsdId": "fccIdTestMock-SAS64A837260247",
      "channelType": "GAA",
      "grantExpireTime": "2018-12-13T17:00:54Z",
      "grantId": "621298988",
      "heartbeatInterval": 60,
      "response": {
        "responseCode": 0
      }
    }
  ]
}
}
2018-12-06T17:00:55.239Z - INFO - heartbeat request from CBRS : {
  "heartbeatRequest": [
    {
      "cbsdId": "fccIdTestMock-SAS64A837260247",
      "grantId": "621298988",
      "grantRenew": false,
      "operationState": "GRANTED"
    }
  ]
}
}
2018-12-06T17:00:55.253Z - INFO - engine sent successfully, the response to CBRS : {
  "heartbeatResponse": [
    {
      "cbsdId": "fccIdTestMock-SAS64A837260247",
      "grantId": "621298988",
      "response": {
        "responseCode": 501
      },
      "transmitExpireTime": "2018-12-06T17:00:55Z"
    }
  ]
}
}
2018-12-06T17:01:55.266Z - INFO - heartbeat request from CBRS : {

```

```
"heartbeatRequest": [
  {
    "cbsdId": "fccIdTestMock-SAS64A837260247",
    "grantId": "621298988",
    "grantRenew": false,
    "operationState": "GRANTED"
  }
]
}
```

2018-12-06T17:01:55.266Z - INFO - Time interval between two heartbeat request messages is: 60.027, limit is: 65.0

2018-12-06T17:01:55.282Z - INFO - engine sent successfully, the response to CBRS : {

```
"heartbeatResponse": [
  {
    "cbsdId": "fccIdTestMock-SAS64A837260247",
    "grantId": "621298988",
    "response": {
      "responseCode": 501
    },
    "transmitExpireTime": "2018-12-06T17:01:55Z"
  }
]
}
```

2018-12-06T17:01:57.094Z - INFO - arrived to nstep starting question answer session with the technician

2018-12-06T17:01:57.094Z - INFO - the question is : Did the CBSD transmit at any time during the test? please choose one of the answers :

2018-12-06T17:06:03.789Z - INFO - for the question : Did the CBSD transmit at any time during the test? , the user choose n

2018-12-06T17:06:24.431Z - INFO - The final result of the test : WINNF.FT.C.HBT.5 is - passed and :the additional comments for the current test are : The CBSD did not transmit at any time during the test

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

```
2018-12-06T17:07:02.124Z - INFO - WINNF TEST HARNESS RELEASE: 1.0.0.2 - 2018-May-24
2018-12-06T17:07:02.138Z - INFO - the selected test from the user : WINNF.FT.C.HBT.6 is starting now
2018-12-06T17:08:43.746Z - INFO - registration request from CBRS : {
  "registrationRequest": [
    {
      "airInterface": {
        "radioTechnology": "E_UTRA",
        "supportedSpec": "FFS"
      },
      "callSign": "WL9XKH",
      "cbsdCategory": "B",
      "cbsdInfo": {
        "firmwareVersion": "0.8.0.3",
        "hardwareVersion": "V0.2",
        "model": "JLT733A",
        "softwareVersion": "6.4.0",
        "vendor": "Fujitsu"
      },
      "cbsdSerialNumber": "64A837260247",
      "fccId": "fccIdTest",
      "groupingParam": [
        {
          "groupId": "userIdTest",
          "groupType": "INTERFERENCE_COORDINATION"
        }
      ],
      "installationParam": {
        "antennaAzimuth": 0,
        "antennaBeamwidth": 360,
        "antennaDowntilt": 90,
        "antennaGain": 6,
        "antennaModel": "Unknown",
        "height": 0.0,
        "heightType": "AGL",

```

```

        "indoorDeployment": false,
        "latitude": 38.702145,
        "longitude": -104.890516
    },
    "measCapability": [
        "RECEIVED_POWER_WITHOUT_GRANT"
    ],
    "userId": "userIdTest"
}
}
}
2018-12-06T17:08:43.792Z - INFO - engine sent successfully, the response to CBRS :{
  "registrationResponse": [
    {
      "cbsdId": "fcIdTestMock-SAS64A837260247",
      "response": {
        "responseCode": 0
      }
    }
  ]
}
}
2018-12-06T17:08:43.839Z - INFO - spectrumInquiry request from CBRS :{
  "spectrumInquiryRequest": [
    {
      "cbsdId": "fcIdTestMock-SAS64A837260247",
      "inquiredSpectrum": [
        {
          "highFrequency": 3700000000,
          "lowFrequency": 3550000000
        }
      ],
      "measReport": {
        "rcvdPowerMeasReports": [
          {
            "measBandwidth": 10000000,
            "measFrequency": 3550000000,
            "measRcvdPower": -100.0
          },
          {
            "measBandwidth": 10000000,
            "measFrequency": 3560000000,
            "measRcvdPower": -100.0
          },
          {
            "measBandwidth": 10000000,
            "measFrequency": 3570000000,
            "measRcvdPower": -100.0
          },
          {
            "measBandwidth": 10000000,
            "measFrequency": 3580000000,
            "measRcvdPower": -100.0
          },
          {
            "measBandwidth": 10000000,
            "measFrequency": 3590000000,
            "measRcvdPower": -100.0
          },
          {
            "measBandwidth": 10000000,
            "measFrequency": 3600000000,
            "measRcvdPower": -100.0
          },
          {
            "measBandwidth": 10000000,
            "measFrequency": 3610000000,
            "measRcvdPower": -100.0
          },
          {
            "measBandwidth": 10000000,
            "measFrequency": 3620000000,
            "measRcvdPower": -100.0
          },
          {
            "measBandwidth": 10000000,

```

[illegible]

```

    "measBandwidth": 10000000,
    "measFrequency": 3570000000,
    "measRcvdPower": -100.0
  },
  {
    "measBandwidth": 10000000,
    "measFrequency": 3580000000,
    "measRcvdPower": -100.0
  },
  {
    "measBandwidth": 10000000,
    "measFrequency": 3590000000,
    "measRcvdPower": -100.0
  },
  {
    "measBandwidth": 10000000,
    "measFrequency": 3600000000,
    "measRcvdPower": -100.0
  },
  {
    "measBandwidth": 10000000,
    "measFrequency": 3610000000,
    "measRcvdPower": -100.0
  },
  {
    "measBandwidth": 10000000,
    "measFrequency": 3620000000,
    "measRcvdPower": -100.0
  },
  {
    "measBandwidth": 10000000,
    "measFrequency": 3630000000,
    "measRcvdPower": -100.0
  },
  {
    "measBandwidth": 10000000,
    "measFrequency": 3640000000,
    "measRcvdPower": -100.0
  },
  {
    "measBandwidth": 10000000,
    "measFrequency": 3650000000,
    "measRcvdPower": -100.0
  },
  {
    "measBandwidth": 10000000,
    "measFrequency": 3660000000,
    "measRcvdPower": -100.0
  },
  {
    "measBandwidth": 10000000,
    "measFrequency": 3670000000,
    "measRcvdPower": -100.0
  },
  {
    "measBandwidth": 10000000,
    "measFrequency": 3680000000,
    "measRcvdPower": -100.0
  },
  {
    "measBandwidth": 10000000,
    "measFrequency": 3690000000,
    "measRcvdPower": -100.0
  }
]
},
"operationParam": {
  "maxEirp": 29,
  "operationFrequencyRange": {
    "highFrequency": 3700000000,
    "lowFrequency": 3680000000
  }
}
}
]

```

```

}
2018-12-06T17:08:44.262Z - INFO - engine sent successfully, the response to CBRS : {
  "grantResponse": [
    {
      "cbsdid": "fccIdTestMock-SAS64A837260247",
      "channelType": "GAA",
      "grantExpireTime": "2018-12-13T17:08:44Z",
      "grantId": "494015268",
      "heartbeatInterval": 60,
      "response": {
        "responseCode": 0
      }
    }
  ]
}
2018-12-06T17:08:44.605Z - INFO - heartbeat request from CBRS : {
  "heartbeatRequest": [
    {
      "cbsdid": "fccIdTestMock-SAS64A837260247",
      "grantId": "494015268",
      "grantRenew": false,
      "operationState": "GRANTED"
    }
  ]
}
2018-12-06T17:08:44.621Z - INFO - engine sent successfully, the response to CBRS : {
  "heartbeatResponse": [
    {
      "cbsdid": "fccIdTestMock-SAS64A837260247",
      "grantId": "494015268",
      "response": {
        "responseCode": 0
      },
      "transmitExpireTime": "2018-12-06T17:12:04Z"
    }
  ]
}
2018-12-06T17:09:44.642Z - INFO - heartbeat request from CBRS : {
  "heartbeatRequest": [
    {
      "cbsdid": "fccIdTestMock-SAS64A837260247",
      "grantId": "494015268",
      "grantRenew": false,
      "operationState": "AUTHORIZED"
    }
  ]
}
2018-12-06T17:09:44.642Z - INFO - Time interval between two heartbeat request messages is: 60.037, limit is: 65.0
2018-12-06T17:09:44.657Z - INFO - engine sent successfully, the response to CBRS : {
  "heartbeatResponse": [
    {
      "cbsdid": "fccIdTestMock-SAS64A837260247",
      "grantId": "494015268",
      "response": {
        "responseCode": 0
      },
      "transmitExpireTime": "2018-12-06T17:13:04Z"
    }
  ]
}
2018-12-06T17:10:44.663Z - INFO - heartbeat request from CBRS : {
  "heartbeatRequest": [
    {
      "cbsdid": "fccIdTestMock-SAS64A837260247",
      "grantId": "494015268",
      "grantRenew": false,
      "operationState": "AUTHORIZED"
    }
  ]
}
2018-12-06T17:10:44.663Z - INFO - Time interval between two heartbeat request messages is: 60.02, limit is: 65.0
2018-12-06T17:10:44.678Z - INFO - engine sent successfully, the response to CBRS : {
  "heartbeatResponse": [
    {
      "cbsdid": "fccIdTestMock-SAS64A837260247",

```

```

    "grantId": "494015268",
    "response": {
      "responseCode": 0
    },
    "transmitExpireTime": "2018-12-06T17:14:04Z"
  }
}
}
2018-12-06T17:11:44.697Z - INFO - heartbeat request from CBRS : {
  "heartbeatRequest": [
    {
      "cbsId": "fcIdTestMock-SAS64A837260247",
      "grantId": "494015268",
      "grantRenew": false,
      "operationState": "AUTHORIZED"
    }
  ]
}
2018-12-06T17:11:44.697Z - INFO - Time interval between two heartbeat request messages is: 60.034, limit is: 65.0
2018-12-06T17:11:44.713Z - INFO - engine sent successfully, the response to CBRS : {
  "heartbeatResponse": [
    {
      "cbsId": "fcIdTestMock-SAS64A837260247",
      "grantId": "494015268",
      "response": {
        "responseCode": 501
      },
      "transmitExpireTime": "2018-12-06T17:11:44Z"
    }
  ]
}
}
2018-12-06T17:12:44.711Z - INFO - heartbeat request from CBRS : {
  "heartbeatRequest": [
    {
      "cbsId": "fcIdTestMock-SAS64A837260247",
      "grantId": "494015268",
      "grantRenew": false,
      "operationState": "GRANTED"
    }
  ]
}
}
2018-12-06T17:12:44.727Z - INFO - Time interval between two heartbeat request messages is: 60.015, limit is: 65.0
2018-12-06T17:12:44.743Z - INFO - engine sent successfully, the response to CBRS : {
  "heartbeatResponse": [
    {
      "cbsId": "fcIdTestMock-SAS64A837260247",
      "grantId": "494015268",
      "response": {
        "responseCode": 501
      },
      "transmitExpireTime": "2018-12-06T17:12:44Z"
    }
  ]
}
}
2018-12-06T17:12:46.065Z - INFO - arrived to nstep starting question answer session with the technician
2018-12-06T17:12:46.065Z - 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 :
2018-12-06T17:13:11.786Z - INFO - for the question : Did the CBSD stop RF transmission within 60 seconds of receiving Heartbeat response with responseCode = 501? , the user choose y
2018-12-06T17:13:30.868Z - INFO - The final result of the test : WINNF.FT.C.HBT.6 is - passed and :the additional comments for the current test are : The CBSD ceased transmission within 60 seconds of receiving the Heartbeat response responseCode = 501

```

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

```

2018-12-06T17:15:07.190Z - INFO - WINNF TEST HARNESS RELEASE: 1.0.0.2 - 2018-May-24
2018-12-06T17:15:07.190Z - INFO - the selected test from the user : WINNF.FT.C.HBT.7 is starting now
2018-12-06T17:16:02.414Z - INFO - registration request from CBRS : {
  "registrationRequest": [
    {
      "airInterface": {
        "radioTechnology": "E_UTRA",
        "supportedSpec": "FFS"
      },
      "callSign": "WL9XKH",

```

```

"cbssdCategory": "B",
"cbssdInfo": {
  "firmwareVersion": "0.8.0.3",
  "hardwareVersion": "V0.2",
  "model": "JLT733A",
  "softwareVersion": "6.4.0",
  "vendor": "Fujitsu"
},
"cbssdSerialNumber": "64A837260247",
"fcid": "fcidTest",
"groupingParam": [
  {
    "groupId": "userIdTest",
    "groupType": "INTERFERENCE_COORDINATION"
  }
],
"installationParam": {
  "antennaAzimuth": 0,
  "antennaBeamwidth": 360,
  "antennaDowntilt": 90,
  "antennaGain": 6,
  "antennaModel": "Unknown",
  "height": 0.0,
  "heightType": "AGL",
  "indoorDeployment": false,
  "latitude": 38.702145,
  "longitude": -104.890516
},
"measCapability": [
  "RECEIVED_POWER_WITHOUT_GRANT"
],
"userId": "userIdTest"
}
}
2018-12-06T17:16:02.477Z - INFO - engine sent successfully, the response to CBRS : {
  "registrationResponse": [
    {
      "cbssdId": "fcidTestMock-SAS64A837260247",
      "response": {
        "responseCode": 0
      }
    }
  ]
}
2018-12-06T17:16:02.523Z - INFO - spectrumInquiry request from CBRS : {
  "spectrumInquiryRequest": [
    {
      "cbssdId": "fcidTestMock-SAS64A837260247",
      "inquiredSpectrum": [
        {
          "highFrequency": 3700000000,
          "lowFrequency": 3550000000
        }
      ],
      "measReport": {
        "rcvdPowerMeasReports": [
          {
            "measBandwidth": 10000000,
            "measFrequency": 3550000000,
            "measRcvdPower": -100.0
          },
          {
            "measBandwidth": 10000000,
            "measFrequency": 3560000000,
            "measRcvdPower": -100.0
          },
          {
            "measBandwidth": 10000000,
            "measFrequency": 3570000000,
            "measRcvdPower": -100.0
          },
          {
            "measBandwidth": 10000000,
            "measFrequency": 3580000000,

```

```

        "measRcvdPower": -100.0
    },
    {
        "measBandwidth": 10000000,
        "measFrequency": 3590000000,
        "measRcvdPower": -100.0
    },
    {
        "measBandwidth": 10000000,
        "measFrequency": 3600000000,
        "measRcvdPower": -100.0
    },
    {
        "measBandwidth": 10000000,
        "measFrequency": 3610000000,
        "measRcvdPower": -100.0
    },
    {
        "measBandwidth": 10000000,
        "measFrequency": 3620000000,
        "measRcvdPower": -100.0
    },
    {
        "measBandwidth": 10000000,
        "measFrequency": 3630000000,
        "measRcvdPower": -100.0
    },
    {
        "measBandwidth": 10000000,
        "measFrequency": 3640000000,
        "measRcvdPower": -100.0
    },
    {
        "measBandwidth": 10000000,
        "measFrequency": 3650000000,
        "measRcvdPower": -100.0
    },
    {
        "measBandwidth": 10000000,
        "measFrequency": 3660000000,
        "measRcvdPower": -100.0
    },
    {
        "measBandwidth": 10000000,
        "measFrequency": 3670000000,
        "measRcvdPower": -100.0
    },
    {
        "measBandwidth": 10000000,
        "measFrequency": 3680000000,
        "measRcvdPower": -100.0
    },
    {
        "measBandwidth": 10000000,
        "measFrequency": 3690000000,
        "measRcvdPower": -100.0
    }
    ]
}
}
]
}
2018-12-06T17:16:02.523Z - INFO - engine sent successfully, the response to CBRS : {
  "spectrumInquiryResponse": [
    {
      "availableChannel": [
        {
          "channelType": "GAA",
          "frequencyRange": {
            "highFrequency": 3700000000,
            "lowFrequency": 3500000000
          },
          "ruleApplied": "FCC_PART_96"
        }
      ]
    }
  ],

```

```

    "cbsdid": "fccIdTestMock-SAS64A837260247",
    "response": {
      "responseCode": 0
    }
  }
}
}
2018-12-06T17:16:02.898Z - INFO - grant request from CBRS : {
  "grantRequest": [
    {
      "cbsdid": "fccIdTestMock-SAS64A837260247",
      "measReport": {
        "rcvdPowerMeasReports": [
          {
            "measBandwidth": 10000000,
            "measFrequency": 3550000000,
            "measRcvdPower": -100.0
          },
          {
            "measBandwidth": 10000000,
            "measFrequency": 3560000000,
            "measRcvdPower": -100.0
          },
          {
            "measBandwidth": 10000000,
            "measFrequency": 3570000000,
            "measRcvdPower": -100.0
          },
          {
            "measBandwidth": 10000000,
            "measFrequency": 3580000000,
            "measRcvdPower": -100.0
          },
          {
            "measBandwidth": 10000000,
            "measFrequency": 3590000000,
            "measRcvdPower": -100.0
          },
          {
            "measBandwidth": 10000000,
            "measFrequency": 3600000000,
            "measRcvdPower": -100.0
          },
          {
            "measBandwidth": 10000000,
            "measFrequency": 3610000000,
            "measRcvdPower": -100.0
          },
          {
            "measBandwidth": 10000000,
            "measFrequency": 3620000000,
            "measRcvdPower": -100.0
          },
          {
            "measBandwidth": 10000000,
            "measFrequency": 3630000000,
            "measRcvdPower": -100.0
          },
          {
            "measBandwidth": 10000000,
            "measFrequency": 3640000000,
            "measRcvdPower": -100.0
          },
          {
            "measBandwidth": 10000000,
            "measFrequency": 3650000000,
            "measRcvdPower": -100.0
          },
          {
            "measBandwidth": 10000000,
            "measFrequency": 3660000000,
            "measRcvdPower": -100.0
          },
          {
            "measBandwidth": 10000000,

```

```

        "measFrequency": 3670000000,
        "measRcvdPower": -100.0
    },
    {
        "measBandwidth": 10000000,
        "measFrequency": 3680000000,
        "measRcvdPower": -100.0
    },
    {
        "measBandwidth": 10000000,
        "measFrequency": 3690000000,
        "measRcvdPower": -100.0
    }
]
},
"operationParam": {
    "maxEirp": 29,
    "operationFrequencyRange": {
        "highFrequency": 3700000000,
        "lowFrequency": 3680000000
    }
}
}
}
}
2018-12-06T17:16:02.914Z - INFO - engine sent successfully, the response to CBRS : {
  "grantResponse": [
    {
      "cbsdid": "fccIdTestMock-SAS64A837260247",
      "channelType": "GAA",
      "grantExpireTime": "2018-12-13T17:16:02Z",
      "grantId": "18741074",
      "heartbeatInterval": 60,
      "response": {
        "responseCode": 0
      }
    }
  ]
}
}
2018-12-06T17:16:03.273Z - INFO - heartbeat request from CBRS : {
  "heartbeatRequest": [
    {
      "cbsdid": "fccIdTestMock-SAS64A837260247",
      "grantId": "18741074",
      "grantRenew": false,
      "operationState": "GRANTED"
    }
  ]
}
}
2018-12-06T17:16:03.289Z - INFO - engine sent successfully, the response to CBRS : {
  "heartbeatResponse": [
    {
      "cbsdid": "fccIdTestMock-SAS64A837260247",
      "grantId": "18741074",
      "response": {
        "responseCode": 0
      },
      "transmitExpireTime": "2018-12-06T17:19:23Z"
    }
  ]
}
}
2018-12-06T17:17:03.289Z - INFO - heartbeat request from CBRS : {
  "heartbeatRequest": [
    {
      "cbsdid": "fccIdTestMock-SAS64A837260247",
      "grantId": "18741074",
      "grantRenew": false,
      "operationState": "AUTHORIZED"
    }
  ]
}
}
2018-12-06T17:17:03.303Z - INFO - Time interval between two heartbeat request messages is: 60.015, limit is: 65.0
2018-12-06T17:17:03.303Z - INFO - engine sent successfully, the response to CBRS : {
  "heartbeatResponse": [
    {

```

```

        "cbsdid": "fccIdTestMock-SAS64A837260247",
        "grantId": "18741074",
        "response": {
            "responseCode": 0
        },
        "transmitExpireTime": "2018-12-06T17:20:23Z"
    }
}
}
2018-12-06T17:18:03.321Z - INFO - heartbeat request from CBRS : {
    "heartbeatRequest": [
        {
            "cbsdid": "fccIdTestMock-SAS64A837260247",
            "grantId": "18741074",
            "grantRenew": false,
            "operationState": "AUTHORIZED"
        }
    ]
}
}
2018-12-06T17:18:03.321Z - INFO - Time interval between two heartbeat request messages is: 60.032, limit is: 65.0
2018-12-06T17:18:03.335Z - INFO - engine sent successfully, the response to CBRS : {
    "heartbeatResponse": [
        {
            "cbsdid": "fccIdTestMock-SAS64A837260247",
            "grantId": "18741074",
            "response": {
                "responseCode": 0
            },
            "transmitExpireTime": "2018-12-06T17:21:23Z"
        }
    ]
}
}
2018-12-06T17:19:03.354Z - INFO - heartbeat request from CBRS : {
    "heartbeatRequest": [
        {
            "cbsdid": "fccIdTestMock-SAS64A837260247",
            "grantId": "18741074",
            "grantRenew": false,
            "operationState": "AUTHORIZED"
        }
    ]
}
}
2018-12-06T17:19:03.354Z - INFO - Time interval between two heartbeat request messages is: 60.033, limit is: 65.0
2018-12-06T17:19:03.369Z - INFO - engine sent successfully, the response to CBRS : {
    "heartbeatResponse": [
        {
            "cbsdid": "fccIdTestMock-SAS64A837260247",
            "grantId": "18741074",
            "response": {
                "responseCode": 502
            },
            "transmitExpireTime": "2018-12-06T17:19:03Z"
        }
    ]
}
}
2018-12-06T17:19:03.369Z - INFO - relinquishment request from CBRS : {
    "relinquishmentRequest": [
        {
            "cbsdid": "fccIdTestMock-SAS64A837260247",
            "grantId": "18741074"
        }
    ]
}
}
2018-12-06T17:19:03.385Z - INFO - engine sent successfully, the response to CBRS : {
    "relinquishmentResponse": [
        {
            "cbsdid": "fccIdTestMock-SAS64A837260247",
            "grantId": "18741074",
            "response": {
                "responseCode": 0
            }
        }
    ]
}
}
2018-12-06T17:19:05.107Z - INFO - arrived to nstep starting question answer session with the technician

```

2018-12-06T17:19:05.107Z - 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 :
 2018-12-06T17:19:49.957Z - INFO - for the question : Did the CBSD stop RF transmission within 60 seconds of receiving Heartbeat response with responseCode = 502? , the user choose y
 2018-12-06T17:20:03.010Z - INFO - The final result of the test : WINNF.FT.C.HBT.7 is - passed and :the additional comments for the current test are : The CBSD ceased transmission within 60 seconds of receiving the Heartbeat response responseCode = 502

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

2018-12-06T17:21:17.019Z - INFO - WINNF TEST HARNESS RELEASE: 1.0.0.2 - 2018-May-24
 2018-12-06T17:21:17.019Z - INFO - the selected test from the user : WINNF.FT.C.HBT.9 is starting now
 2018-12-06T17:22:28.438Z - INFO - registration request from CBRS : {

```
"registrationRequest": [
  {
    "airInterface": {
      "radioTechnology": "E_UTRA",
      "supportedSpec": "FFS"
    },
    "callSign": "WL9XKH",
    "cbsdCategory": "B",
    "cbsdInfo": {
      "firmwareVersion": "0.8.0.3",
      "hardwareVersion": "V0.2",
      "model": "JLT733A",
      "softwareVersion": "6.4.0",
      "vendor": "Fujitsu"
    },
    "cbsdSerialNumber": "64A837260247",
    "fcid": "fcidTest",
    "groupingParam": [
      {
        "groupId": "userIdTest",
        "groupType": "INTERFERENCE_COORDINATION"
      }
    ],
    "installationParam": {
      "antennaAzimuth": 0,
      "antennaBeamwidth": 360,
      "antennaDowntilt": 90,
      "antennaGain": 6,
      "antennaModel": "Unknown",
      "height": 0.0,
      "heightType": "AGL",
      "indoorDeployment": false,
      "latitude": 38.702145,
      "longitude": -104.890516
    },
    "measCapability": [
      "RECEIVED_POWER_WITHOUT_GRANT"
    ],
    "userId": "userIdTest"
  }
]
```

2018-12-06T17:22:28.502Z - INFO - engine sent successfully, the response to CBRS : {

```
"registrationResponse": [
  {
    "cbsdid": "fcidTestMock-SAS64A837260247",
    "response": {
      "responseCode": 0
    }
  }
]
```

2018-12-06T17:22:28.532Z - INFO - spectrumInquiry request from CBRS : {

```
"spectrumInquiryRequest": [
  {
    "cbsdid": "fcidTestMock-SAS64A837260247",
    "inquiredSpectrum": [
      {
        "highFrequency": 3700000000,
        "lowFrequency": 3550000000
      }
    ]
  }
],
```

```

"measReport": {
  "rcvdPowerMeasReports": [
    {
      "measBandwidth": 10000000,
      "measFrequency": 3550000000,
      "measRcvdPower": -100.0
    },
    {
      "measBandwidth": 10000000,
      "measFrequency": 3560000000,
      "measRcvdPower": -100.0
    },
    {
      "measBandwidth": 10000000,
      "measFrequency": 3570000000,
      "measRcvdPower": -100.0
    },
    {
      "measBandwidth": 10000000,
      "measFrequency": 3580000000,
      "measRcvdPower": -100.0
    },
    {
      "measBandwidth": 10000000,
      "measFrequency": 3590000000,
      "measRcvdPower": -100.0
    },
    {
      "measBandwidth": 10000000,
      "measFrequency": 3600000000,
      "measRcvdPower": -100.0
    },
    {
      "measBandwidth": 10000000,
      "measFrequency": 3610000000,
      "measRcvdPower": -100.0
    },
    {
      "measBandwidth": 10000000,
      "measFrequency": 3620000000,
      "measRcvdPower": -100.0
    },
    {
      "measBandwidth": 10000000,
      "measFrequency": 3630000000,
      "measRcvdPower": -100.0
    },
    {
      "measBandwidth": 10000000,
      "measFrequency": 3640000000,
      "measRcvdPower": -100.0
    },
    {
      "measBandwidth": 10000000,
      "measFrequency": 3650000000,
      "measRcvdPower": -100.0
    },
    {
      "measBandwidth": 10000000,
      "measFrequency": 3660000000,
      "measRcvdPower": -100.0
    },
    {
      "measBandwidth": 10000000,
      "measFrequency": 3670000000,
      "measRcvdPower": -100.0
    },
    {
      "measBandwidth": 10000000,
      "measFrequency": 3680000000,
      "measRcvdPower": -100.0
    },
    {
      "measBandwidth": 10000000,
      "measFrequency": 3690000000,

```

```

        "measRcvdPower": -100.0
    }
}
}
}
}
}
2018-12-06T17:22:28.549Z - INFO - engine sent successfully, the response to CBRS : {
"spectrumInquiryResponse": [
{
"availableChannel": [
{
"channelType": "GAA",
"frequencyRange": {
"highFrequency": 3700000000,
"lowFrequency": 3550000000
},
"ruleApplied": "FCC_PART_96"
}
],
"cbstdid": "fccIdTestMock-SAS64A837260247",
"response": {
"responseCode": 0
}
}
]
}
}
2018-12-06T17:22:28.924Z - INFO - grant request from CBRS : {
"grantRequest": [
{
"cbstdid": "fccIdTestMock-SAS64A837260247",
"measReport": {
"rcvdPowerMeasReports": [
{
"measBandwidth": 10000000,
"measFrequency": 3550000000,
"measRcvdPower": -100.0
},
{
"measBandwidth": 10000000,
"measFrequency": 3560000000,
"measRcvdPower": -100.0
},
{
"measBandwidth": 10000000,
"measFrequency": 3570000000,
"measRcvdPower": -100.0
},
{
"measBandwidth": 10000000,
"measFrequency": 3580000000,
"measRcvdPower": -100.0
},
{
"measBandwidth": 10000000,
"measFrequency": 3590000000,
"measRcvdPower": -100.0
},
{
"measBandwidth": 10000000,
"measFrequency": 3600000000,
"measRcvdPower": -100.0
},
{
"measBandwidth": 10000000,
"measFrequency": 3610000000,
"measRcvdPower": -100.0
},
{
"measBandwidth": 10000000,
"measFrequency": 3620000000,
"measRcvdPower": -100.0
},
{
"measBandwidth": 10000000,

```

```

        "measFrequency": 3630000000,
        "measRcvdPower": -100.0
    },
    {
        "measBandwidth": 10000000,
        "measFrequency": 3640000000,
        "measRcvdPower": -100.0
    },
    {
        "measBandwidth": 10000000,
        "measFrequency": 3650000000,
        "measRcvdPower": -100.0
    },
    {
        "measBandwidth": 10000000,
        "measFrequency": 3660000000,
        "measRcvdPower": -100.0
    },
    {
        "measBandwidth": 10000000,
        "measFrequency": 3670000000,
        "measRcvdPower": -100.0
    },
    {
        "measBandwidth": 10000000,
        "measFrequency": 3680000000,
        "measRcvdPower": -100.0
    },
    {
        "measBandwidth": 10000000,
        "measFrequency": 3690000000,
        "measRcvdPower": -100.0
    }
    ]
},
"operationParam": {
    "maxEirp": 29,
    "operationFrequencyRange": {
        "highFrequency": 3700000000,
        "lowFrequency": 3680000000
    }
}
}
}
}
2018-12-06T17:22:28.940Z - INFO - engine sent successfully, the response to CBRS : {
  "grantResponse": [
    {
      "cbsdid": "fccIdTestMock-SAS64A837260247",
      "channelType": "GAA",
      "grantExpireTime": "2018-12-13T17:22:28Z",
      "grantId": "60222415",
      "heartbeatInterval": 60,
      "response": {
        "responseCode": 0
      }
    }
  ]
}
2018-12-06T17:22:29.299Z - INFO - heartbeat request from CBRS : {
  "heartbeatRequest": [
    {
      "cbsdid": "fccIdTestMock-SAS64A837260247",
      "grantId": "60222415",
      "grantRenew": false,
      "operationState": "GRANTED"
    }
  ]
}
2018-12-06T17:23:39.355Z - INFO - heartbeat request from CBRS : {
  "heartbeatRequest": [
    {
      "cbsdid": "fccIdTestMock-SAS64A837260247",
      "grantId": "60222415",
      "grantRenew": false,

```

```

        "operationState": "GRANTED"
    }
}
}
2018-12-06T17:23:39.355Z - INFO - request message received while HBT is absent, sleep 134 sec before responding
2018-12-06T17:24:49.365Z - INFO - heartbeat request from CBRS : {
  "heartbeatRequest": [
    {
      "cbsdId": "fccIdTestMock-SAS64A837260247",
      "grantId": "60222415",
      "grantRenew": false,
      "operationState": "GRANTED"
    }
  ]
}
}
2018-12-06T17:24:49.365Z - INFO - request message received while HBT is absent, sleep 64 sec before responding
2018-12-06T17:25:49.322Z - INFO - engine sent successfully, the response to CBRS : {
  "heartbeatResponse": [
    {
      "cbsdId": "fccIdTestMock-SAS64A837260247",
      "grantId": "60222415",
      "response": {
        "responseCode": 501
      },
      "transmitExpireTime": "2018-12-06T17:25:49Z"
    }
  ]
}
}
2018-12-06T17:25:50.480Z - INFO - arrived to nstep starting question answer session with the technician
2018-12-06T17:25:50.480Z - INFO - the question is : Were there RF transmissions from the CBSD during the test? please choose one of the answers :
2018-12-06T17:25:53.369Z - INFO - engine sent successfully, the response to CBRS : "list index out of range"
2018-12-06T17:25:53.384Z - INFO - engine sent successfully, the response to CBRS : "list index out of range"
2018-12-06T17:30:11.305Z - INFO - for the question : Were there RF transmissions from the CBSD during the test? , the user choose n
2018-12-06T17:30:26.220Z - INFO - The final result of the test : WINNF.FT.C.HBT.9 is - passed and :the additional comments for the current test are : The CBSD did not transmit at any time during the test

```

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

```

2018-12-06T17:31:26.344Z - INFO - WINNF TEST HARNESS RELEASE: 1.0.0.2 - 2018-May-24
2018-12-06T17:31:26.344Z - INFO - the selected test from the user : WINNF.FT.C.HBT.10 is starting now
2018-12-06T17:32:52.928Z - INFO - registration request from CBRS : {
  "registrationRequest": [
    {
      "airInterface": {
        "radioTechnology": "E_UTRA",
        "supportedSpec": "FFS"
      },
      "callSign": "WL9XKH",
      "cbsdCategory": "B",
      "cbsdInfo": {
        "firmwareVersion": "0.8.0.3",
        "hardwareVersion": "V0.2",
        "model": "JLT733A",
        "softwareVersion": "6.4.0",
        "vendor": "Fujitsu"
      },
      "cbsdSerialNumber": "64A837260247",
      "fccId": "fccIdTest",
      "groupingParam": [
        {
          "groupId": "userIdTest",
          "groupType": "INTERFERENCE_COORDINATION"
        }
      ],
      "installationParam": {
        "antennaAzimuth": 0,
        "antennaBeamwidth": 360,
        "antennaDowntilt": 90,
        "antennaGain": 6,
        "antennaModel": "Unknown",
        "height": 0.0,
        "heightType": "AGL",
        "indoorDeployment": false,

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        "latitude": 38.702145,
        "longitude": -104.890516
    },
    "measCapability": [
        "RECEIVED_POWER_WITHOUT_GRANT"
    ],
    "userId": "userIdTest"
  }
}
]
}
2018-12-06T17:32:52.992Z - INFO - engine sent successfully, the response to CBRS : {
  "registrationResponse": [
    {
      "cbsdId": "fccIdTestMock-SAS64A837260247",
      "response": {
        "responseCode": 0
      }
    }
  ]
}
]
}
2018-12-06T17:32:53.039Z - INFO - spectrumInquiry request from CBRS : {
  "spectrumInquiryRequest": [
    {
      "cbsdId": "fccIdTestMock-SAS64A837260247",
      "inquiredSpectrum": [
        {
          "highFrequency": 3700000000,
          "lowFrequency": 3550000000
        }
      ],
      "measReport": {
        "rcvdPowerMeasReports": [
          {
            "measBandwidth": 10000000,
            "measFrequency": 3550000000,
            "measRcvdPower": -100.0
          },
          {
            "measBandwidth": 10000000,
            "measFrequency": 3560000000,
            "measRcvdPower": -100.0
          },
          {
            "measBandwidth": 10000000,
            "measFrequency": 3570000000,
            "measRcvdPower": -100.0
          },
          {
            "measBandwidth": 10000000,
            "measFrequency": 3580000000,
            "measRcvdPower": -100.0
          },
          {
            "measBandwidth": 10000000,
            "measFrequency": 3590000000,
            "measRcvdPower": -100.0
          },
          {
            "measBandwidth": 10000000,
            "measFrequency": 3600000000,
            "measRcvdPower": -100.0
          },
          {
            "measBandwidth": 10000000,
            "measFrequency": 3610000000,
            "measRcvdPower": -100.0
          },
          {
            "measBandwidth": 10000000,
            "measFrequency": 3620000000,
            "measRcvdPower": -100.0
          },
          {
            "measBandwidth": 10000000,
            "measFrequency": 3630000000,
            "measRcvdPower": -100.0
          }
        ]
      }
    }
  ]
}

```

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        "measRcvdPower": -100.0
    },
    {
        "measBandwidth": 10000000,
        "measFrequency": 3640000000,
        "measRcvdPower": -100.0
    },
    {
        "measBandwidth": 10000000,
        "measFrequency": 3650000000,
        "measRcvdPower": -100.0
    },
    {
        "measBandwidth": 10000000,
        "measFrequency": 3660000000,
        "measRcvdPower": -100.0
    },
    {
        "measBandwidth": 10000000,
        "measFrequency": 3670000000,
        "measRcvdPower": -100.0
    },
    {
        "measBandwidth": 10000000,
        "measFrequency": 3680000000,
        "measRcvdPower": -100.0
    },
    {
        "measBandwidth": 10000000,
        "measFrequency": 3690000000,
        "measRcvdPower": -100.0
    }
    ]
}
}
]
}
}
2018-12-06T17:32:53.053Z - INFO - engine sent successfully, the response to CBRS : {
  "spectrumInquiryResponse": [
    {
      "availableChannel": [
        {
          "channelType": "GAA",
          "frequencyRange": {
            "highFrequency": 3700000000,
            "lowFrequency": 3500000000
          },
          "ruleApplied": "FCC_PART_96"
        }
      ],
      "cbsdId": "fccIdTestMock-SAS64A837260247",
      "response": {
        "responseCode": 0
      }
    }
  ]
}
}
2018-12-06T17:32:53.444Z - INFO - grant request from CBRS : {
  "grantRequest": [
    {
      "cbsdId": "fccIdTestMock-SAS64A837260247",
      "measReport": {
        "rcvdPowerMeasReports": [
          {
            "measBandwidth": 10000000,
            "measFrequency": 3550000000,
            "measRcvdPower": -100.0
          },
          {
            "measBandwidth": 10000000,
            "measFrequency": 3560000000,
            "measRcvdPower": -100.0
          },
          {
            "measBandwidth": 10000000,

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        "measFrequency": 3570000000,
        "measRcvdPower": -100.0
    },
    {
        "measBandwidth": 10000000,
        "measFrequency": 3580000000,
        "measRcvdPower": -100.0
    },
    {
        "measBandwidth": 10000000,
        "measFrequency": 3590000000,
        "measRcvdPower": -100.0
    },
    {
        "measBandwidth": 10000000,
        "measFrequency": 3600000000,
        "measRcvdPower": -100.0
    },
    {
        "measBandwidth": 10000000,
        "measFrequency": 3610000000,
        "measRcvdPower": -100.0
    },
    {
        "measBandwidth": 10000000,
        "measFrequency": 3620000000,
        "measRcvdPower": -100.0
    },
    {
        "measBandwidth": 10000000,
        "measFrequency": 3630000000,
        "measRcvdPower": -100.0
    },
    {
        "measBandwidth": 10000000,
        "measFrequency": 3640000000,
        "measRcvdPower": -100.0
    },
    {
        "measBandwidth": 10000000,
        "measFrequency": 3650000000,
        "measRcvdPower": -100.0
    },
    {
        "measBandwidth": 10000000,
        "measFrequency": 3660000000,
        "measRcvdPower": -100.0
    },
    {
        "measBandwidth": 10000000,
        "measFrequency": 3670000000,
        "measRcvdPower": -100.0
    },
    {
        "measBandwidth": 10000000,
        "measFrequency": 3680000000,
        "measRcvdPower": -100.0
    },
    {
        "measBandwidth": 10000000,
        "measFrequency": 3690000000,
        "measRcvdPower": -100.0
    }
}
},
"operationParam": {
    "maxEirp": 29,
    "operationFrequencyRange": {
        "highFrequency": 3700000000,
        "lowFrequency": 3680000000
    }
}
}
}

```

```

2018-12-06T17:32:53.460Z - INFO - engine sent successfully, the response to CBRS : {
  "grantResponse": [
    {
      "cbsdid": "fccIdTestMock-SAS64A837260247",
      "channelType": "GAA",
      "grantExpireTime": "2018-12-13T17:32:53Z",
      "grantId": "171495007",
      "heartbeatInterval": 60,
      "response": {
        "responseCode": 0
      }
    }
  ]
}
2018-12-06T17:32:53.808Z - INFO - heartbeat request from CBRS : {
  "heartbeatRequest": [
    {
      "cbsdid": "fccIdTestMock-SAS64A837260247",
      "grantId": "171495007",
      "grantRenew": false,
      "operationState": "GRANTED"
    }
  ]
}
2018-12-06T17:32:53.823Z - INFO - engine sent successfully, the response to CBRS : {
  "heartbeatResponse": [
    {
      "cbsdid": "fccIdTestMock-SAS64A837260247",
      "grantId": "171495007",
      "response": {
        "responseCode": 0
      },
      "transmitExpireTime": "2018-12-06T17:36:13Z"
    }
  ]
}
2018-12-06T17:33:53.828Z - INFO - heartbeat request from CBRS : {
  "heartbeatRequest": [
    {
      "cbsdid": "fccIdTestMock-SAS64A837260247",
      "grantId": "171495007",
      "grantRenew": false,
      "operationState": "AUTHORIZED"
    }
  ]
}
2018-12-06T17:33:53.844Z - INFO - Time interval between two heartbeat request messages is: 60.021, limit is: 65.0
2018-12-06T17:33:53.844Z - INFO - engine sent successfully, the response to CBRS : {
  "heartbeatResponse": [
    {
      "cbsdid": "fccIdTestMock-SAS64A837260247",
      "grantId": "171495007",
      "response": {
        "responseCode": 0
      },
      "transmitExpireTime": "2018-12-06T17:37:13Z"
    }
  ]
}
2018-12-06T17:34:53.865Z - INFO - heartbeat request from CBRS : {
  "heartbeatRequest": [
    {
      "cbsdid": "fccIdTestMock-SAS64A837260247",
      "grantId": "171495007",
      "grantRenew": false,
      "operationState": "AUTHORIZED"
    }
  ]
}
2018-12-06T17:34:53.865Z - INFO - Time interval between two heartbeat request messages is: 60.037, limit is: 65.0
2018-12-06T17:34:53.865Z - INFO - LAST HBT RESPONSE THAT SET TRANSMIT_EXPIRE_TIME WAS AT: 2018-12-06 17:33:53.829000
2018-12-06T17:36:03.921Z - INFO - heartbeat request from CBRS : {
  "heartbeatRequest": [
    {
      "cbsdid": "fccIdTestMock-SAS64A837260247",

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    "grantId": "171495007",
    "grantRenew": false,
    "operationState": "GRANTED"
  }
}
}
2018-12-06T17:36:03.921Z - INFO - request message received while HBT is absent, sleep 134 sec before responding
2018-12-06T17:37:13.928Z - INFO - heartbeat request from CBRS : {
  "heartbeatRequest": [
    {
      "cbsdId": "fccIdTestMock-SAS64A837260247",
      "grantId": "171495007",
      "grantRenew": false,
      "operationState": "GRANTED"
    }
  ]
}
}
2018-12-06T17:37:13.928Z - INFO - request message received while HBT is absent, sleep 64 sec before responding
2018-12-06T17:38:13.888Z - INFO - engine sent successfully, the response to CBRS : {
  "heartbeatResponse": [
    {
      "cbsdId": "fccIdTestMock-SAS64A837260247",
      "grantId": "171495007",
      "response": {
        "responseCode": 501
      },
      "transmitExpireTime": "2018-12-06T17:38:13Z"
    }
  ]
}
}
2018-12-06T17:38:15.904Z - INFO - arrived to nstep starting question answer session with the technician
2018-12-06T17:38:15.904Z - INFO - the question is : Did the CBSD stop RF transmissions within (transmitExpireTime + 60seconds) of last valid heartbeat response? please choose one of the answers :
2018-12-06T17:38:17.938Z - INFO - engine sent successfully, the response to CBRS : "list index out of range"
2018-12-06T17:38:17.938Z - INFO - engine sent successfully, the response to CBRS : "list index out of range"
2018-12-06T17:39:50.421Z - INFO - for the question : Did the CBSD stop RF transmissions within (transmitExpireTime + 60seconds) of last valid heartbeat response? , the user choose y
2018-12-06T17:40:41.068Z - INFO - The final result of the test : WINNF.FT.C.HBT.10 is - passed and :the additional comments for the current test are : The CBSD ceased transmission within (transmitExpireTime + 60 seconds) of last valid heartbeat response

```

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

```

2018-12-06T18:03:11.203Z - INFO - WINNF TEST HARNESS RELEASE: 1.0.0.2 - 2018-May-24
2018-12-06T18:03:11.203Z - INFO - the selected test from the user : WINNF.FT.C.HBT.11 is starting now
2018-12-06T18:05:29.703Z - INFO - registration request from CBRS : {
  "registrationRequest": [
    {
      "airInterface": {
        "radioTechnology": "E_UTRA",
        "supportedSpec": "FFS"
      },
      "callSign": "WL9XKH",
      "cbsdCategory": "B",
      "cbsdInfo": {
        "firmwareVersion": "0.8.0.3",
        "hardwareVersion": "V0.2",
        "model": "JLT733A",
        "softwareVersion": "6.4.0",
        "vendor": "Fujitsu"
      },
      "cbsdSerialNumber": "64A837260247",
      "fccId": "fccIdTest",
      "groupingParam": [
        {
          "groupId": "userIdTest",
          "groupType": "INTERFERENCE_COORDINATION"
        }
      ]
    }
  ]
}

```

```

    },
    "installationParam": {
      "antennaAzimuth": 0,
      "antennaBeamwidth": 360,
      "antennaDowntilt": 90,
      "antennaGain": 6,
      "antennaModel": "Unknown",
      "height": 0.0,
      "heightType": "AGL",
      "indoorDeployment": false,
      "latitude": 38.702145,
      "longitude": -104.890516
    },
    "measCapability": [
      "RECEIVED_POWER_WITHOUT_GRANT"
    ],
    "userId": "userIdTest"
  }
}
}
}
2018-12-06T18:05:29.750Z - INFO - engine sent successfully, the response to CBRS : {
  "registrationResponse": [
    {
      "cbsdId": "fccIdTestMock-SAS64A837260247",
      "response": {
        "responseCode": 0
      }
    }
  ]
}
}
2018-12-06T18:05:29.796Z - INFO - spectrumInquiry request from CBRS : {
  "spectrumInquiryRequest": [
    {
      "cbsdId": "fccIdTestMock-SAS64A837260247",
      "inquiredSpectrum": [
        {
          "highFrequency": 3700000000,
          "lowFrequency": 3550000000
        }
      ],
      "measReport": {
        "rcvdPowerMeasReports": [
          {
            "measBandwidth": 10000000,
            "measFrequency": 3550000000,
            "measRcvdPower": -100.0
          },
          {
            "measBandwidth": 10000000,
            "measFrequency": 3560000000,
            "measRcvdPower": -100.0
          },
          {
            "measBandwidth": 10000000,
            "measFrequency": 3570000000,
            "measRcvdPower": -100.0
          }
        ]
      }
    }
  ]
}

```

```

},
{
  "measBandwidth": 10000000,
  "measFrequency": 3580000000,
  "measRcvdPower": -100.0
},
{
  "measBandwidth": 10000000,
  "measFrequency": 3590000000,
  "measRcvdPower": -100.0
},
{
  "measBandwidth": 10000000,
  "measFrequency": 3600000000,
  "measRcvdPower": -100.0
},
{
  "measBandwidth": 10000000,
  "measFrequency": 3610000000,
  "measRcvdPower": -100.0
},
{
  "measBandwidth": 10000000,
  "measFrequency": 3620000000,
  "measRcvdPower": -100.0
},
{
  "measBandwidth": 10000000,
  "measFrequency": 3630000000,
  "measRcvdPower": -100.0
},
{
  "measBandwidth": 10000000,
  "measFrequency": 3640000000,
  "measRcvdPower": -100.0
},
{
  "measBandwidth": 10000000,
  "measFrequency": 3650000000,
  "measRcvdPower": -100.0
},
{
  "measBandwidth": 10000000,
  "measFrequency": 3660000000,
  "measRcvdPower": -100.0
},
{
  "measBandwidth": 10000000,
  "measFrequency": 3670000000,
  "measRcvdPower": -100.0
},
{
  "measBandwidth": 10000000,
  "measFrequency": 3680000000,
  "measRcvdPower": -100.0
},
},

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    {
      "measBandwidth": 10000000,
      "measFrequency": 3690000000,
      "measRcvdPower": -100.0
    }
  ]
}
}
}
}
}
2018-12-06T18:05:29.796Z - INFO - engine sent successfully, the response to CBRS : {
  "spectrumInquiryResponse": [
    {
      "availableChannel": [
        {
          "channelType": "GAA",
          "frequencyRange": {
            "highFrequency": 3700000000,
            "lowFrequency": 3550000000
          },
          "ruleApplied": "FCC_PART_96"
        }
      ],
      "cbsId": "fccIdTestMock-SAS64A837260247",
      "response": {
        "responseCode": 0
      }
    }
  ]
}
}
2018-12-06T18:05:30.171Z - INFO - grant request from CBRS : {
  "grantRequest": [
    {
      "cbsId": "fccIdTestMock-SAS64A837260247",
      "measReport": {
        "rcvdPowerMeasReports": [
          {
            "measBandwidth": 10000000,
            "measFrequency": 3550000000,
            "measRcvdPower": -100.0
          },
          {
            "measBandwidth": 10000000,
            "measFrequency": 3560000000,
            "measRcvdPower": -100.0
          },
          {
            "measBandwidth": 10000000,
            "measFrequency": 3570000000,
            "measRcvdPower": -100.0
          },
          {
            "measBandwidth": 10000000,
            "measFrequency": 3580000000,
            "measRcvdPower": -100.0
          }
        ]
      }
    }
  ]
}

```

```

{
  "measBandwidth": 10000000,
  "measFrequency": 3590000000,
  "measRcvdPower": -100.0
},
{
  "measBandwidth": 10000000,
  "measFrequency": 3600000000,
  "measRcvdPower": -100.0
},
{
  "measBandwidth": 10000000,
  "measFrequency": 3610000000,
  "measRcvdPower": -100.0
},
{
  "measBandwidth": 10000000,
  "measFrequency": 3620000000,
  "measRcvdPower": -100.0
},
{
  "measBandwidth": 10000000,
  "measFrequency": 3630000000,
  "measRcvdPower": -100.0
},
{
  "measBandwidth": 10000000,
  "measFrequency": 3640000000,
  "measRcvdPower": -100.0
},
{
  "measBandwidth": 10000000,
  "measFrequency": 3650000000,
  "measRcvdPower": -100.0
},
{
  "measBandwidth": 10000000,
  "measFrequency": 3660000000,
  "measRcvdPower": -100.0
},
{
  "measBandwidth": 10000000,
  "measFrequency": 3670000000,
  "measRcvdPower": -100.0
},
{
  "measBandwidth": 10000000,
  "measFrequency": 3680000000,
  "measRcvdPower": -100.0
},
{
  "measBandwidth": 10000000,
  "measFrequency": 3690000000,
  "measRcvdPower": -100.0
}
}

```

```

    },
    "operationParam": {
      "maxEirp": 29,
      "operationFrequencyRange": {
        "highFrequency": 3700000000,
        "lowFrequency": 3680000000
      }
    }
  }
}
]
}
2018-12-06T18:05:30.187Z - INFO - engine sent successfully, the response to CBRS : {
  "grantResponse": [
    {
      "cbsdId": "fccIdTestMock-SAS64A837260247",
      "channelType": "GAA",
      "grantExpireTime": "2018-12-06T18:11:30Z",
      "grantId": "327679748",
      "heartbeatInterval": 60,
      "response": {
        "responseCode": 0
      }
    }
  ]
}
2018-12-06T18:05:30.543Z - INFO - heartbeat request from CBRS : {
  "heartbeatRequest": [
    {
      "cbsdId": "fccIdTestMock-SAS64A837260247",
      "grantId": "327679748",
      "grantRenew": false,
      "operationState": "GRANTED"
    }
  ]
}
2018-12-06T18:05:30.559Z - INFO - engine sent successfully, the response to CBRS : {
  "heartbeatResponse": [
    {
      "cbsdId": "fccIdTestMock-SAS64A837260247",
      "grantId": "327679748",
      "response": {
        "responseCode": 0
      },
      "transmitExpireTime": "2018-12-06T18:08:50Z"
    }
  ]
}
2018-12-06T18:06:30.573Z - INFO - heartbeat request from CBRS : {
  "heartbeatRequest": [
    {
      "cbsdId": "fccIdTestMock-SAS64A837260247",
      "grantId": "327679748",
      "grantRenew": false,
      "operationState": "AUTHORIZED"
    }
  ]
}

```

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}
2018-12-06T18:06:30.573Z - INFO - Time interval between two heartbeat request messages is: 60.03, limit is: 65.0
2018-12-06T18:06:30.589Z - INFO - engine sent successfully, the response to CBRS : {
  "heartbeatResponse": [
    {
      "cbsdId": "fccIdTestMock-SAS64A837260247",
      "grantId": "327679748",
      "response": {
        "responseCode": 0
      },
      "transmitExpireTime": "2018-12-06T18:09:50Z"
    }
  ]
}
2018-12-06T18:07:30.595Z - INFO - heartbeat request from CBRS : {
  "heartbeatRequest": [
    {
      "cbsdId": "fccIdTestMock-SAS64A837260247",
      "grantId": "327679748",
      "grantRenew": false,
      "operationState": "AUTHORIZED"
    }
  ]
}
2018-12-06T18:07:30.595Z - INFO - Time interval between two heartbeat request messages is: 60.022, limit is: 65.0
2018-12-06T18:07:30.611Z - INFO - engine sent successfully, the response to CBRS : {
  "heartbeatResponse": [
    {
      "cbsdId": "fccIdTestMock-SAS64A837260247",
      "grantId": "327679748",
      "response": {
        "responseCode": 0
      },
      "transmitExpireTime": "2018-12-06T18:10:50Z"
    }
  ]
}
2018-12-06T18:08:30.627Z - INFO - heartbeat request from CBRS : {
  "heartbeatRequest": [
    {
      "cbsdId": "fccIdTestMock-SAS64A837260247",
      "grantId": "327679748",
      "grantRenew": false,
      "operationState": "AUTHORIZED"
    }
  ]
}
2018-12-06T18:08:30.627Z - INFO - Time interval between two heartbeat request messages is: 60.031, limit is: 65.0
2018-12-06T18:08:30.642Z - INFO - engine sent successfully, the response to CBRS : {
  "heartbeatResponse": [
    {
      "cbsdId": "fccIdTestMock-SAS64A837260247",
      "grantId": "327679748",
      "response": {
        "responseCode": 0
      },

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```

        "transmitExpireTime": "2018-12-06T18:11:30Z"
    }
}
}
2018-12-06T18:09:30.657Z - INFO - heartbeat request from CBRS : {
  "heartbeatRequest": [
    {
      "cbsdId": "fccIdTestMock-SAS64A837260247",
      "grantId": "327679748",
      "grantRenew": false,
      "operationState": "AUTHORIZED"
    }
  ]
}
2018-12-06T18:09:30.657Z - INFO - Time interval between two heartbeat request messages is: 60.03, limit is: 65.0
2018-12-06T18:09:30.657Z - INFO - engine sent successfully, the response to CBRS : {
  "heartbeatResponse": [
    {
      "cbsdId": "fccIdTestMock-SAS64A837260247",
      "grantId": "327679748",
      "response": {
        "responseCode": 0
      },
      "transmitExpireTime": "2018-12-06T18:11:30Z"
    }
  ]
}
2018-12-06T18:10:30.671Z - INFO - heartbeat request from CBRS : {
  "heartbeatRequest": [
    {
      "cbsdId": "fccIdTestMock-SAS64A837260247",
      "grantId": "327679748",
      "grantRenew": false,
      "operationState": "AUTHORIZED"
    }
  ]
}
2018-12-06T18:10:30.671Z - INFO - Time interval between two heartbeat request messages is: 60.014, limit is: 65.0
2018-12-06T18:10:30.686Z - INFO - engine sent successfully, the response to CBRS : {
  "heartbeatResponse": [
    {
      "cbsdId": "fccIdTestMock-SAS64A837260247",
      "grantId": "327679748",
      "response": {
        "responseCode": 0
      },
      "transmitExpireTime": "2018-12-06T18:11:30Z"
    }
  ]
}
2018-12-06T18:11:30.700Z - INFO - heartbeat request from CBRS : {
  "heartbeatRequest": [
    {
      "cbsdId": "fccIdTestMock-SAS64A837260247",
      "grantId": "327679748",
      "grantRenew": true,

```

```

    "operationState": "AUTHORIZED"
  }
}
}
2018-12-06T18:11:30.700Z - INFO - Time interval between two heartbeat request messages is: 60.029, limit is: 65.0
2018-12-06T18:11:30.714Z - INFO - grantRenew received in HBT request message
2018-12-06T18:11:30.714Z - INFO - engine sent successfully, the response to CBRS : {
  "heartbeatResponse": [
    {
      "cbsdId": "fccIdTestMock-SAS64A837260247",
      "grantExpireTime": "2018-12-06T18:17:30Z",
      "grantId": "327679748",
      "response": {
        "responseCode": 0
      },
      "transmitExpireTime": "2018-12-06T18:14:50Z"
    }
  ]
}
}
2018-12-06T18:12:30.727Z - INFO - heartbeat request from CBRS : {
  "heartbeatRequest": [
    {
      "cbsdId": "fccIdTestMock-SAS64A837260247",
      "grantId": "327679748",
      "grantRenew": false,
      "operationState": "AUTHORIZED"
    }
  ]
}
}
2018-12-06T18:12:30.727Z - INFO - Time interval between two heartbeat request messages is: 60.028, limit is: 65.0
2018-12-06T18:12:30.743Z - INFO - engine sent successfully, the response to CBRS : {
  "heartbeatResponse": [
    {
      "cbsdId": "fccIdTestMock-SAS64A837260247",
      "grantId": "327679748",
      "response": {
        "responseCode": 0
      },
      "transmitExpireTime": "2018-12-06T18:15:50Z"
    }
  ]
}
}
2018-12-06T18:12:32.525Z - INFO - arrived to nstep starting question answer session with the technician
2018-12-06T18:12:32.525Z - INFO - the question is : Did the CBSD renew its grant successfully? please choose one of the answers :
2018-12-06T18:13:03.730Z - INFO - for the question : Did the CBSD renew its grant successfully? , the user choose y
2018-12-06T18:13:21.466Z - INFO - The final result of the test : WINNF.FT.C.HBT.11 is - passed and :the additional comments for the current test are : CBSD
successfully renewed its grant

```

10.21 Log file for test case ID: WINNF.FT.C.MES.1

```

2018-12-06T18:26:22.157Z - INFO - WINNF TEST HARNESS RELEASE: 1.0.0.2 - 2018-May-24
2018-12-06T18:26:22.157Z - INFO - the selected test from the user : WINNF.FT.C.MES.1 is starting now
2018-12-06T18:27:29.496Z - INFO - registration request from CBRS : {
  "registrationRequest": [
    {
      "airInterface": {

```

```

    "radioTechnology": "E_UTRA",
    "supportedSpec": "FFS"
  },
  "callSign": "WL9XKH",
  "cbsdCategory": "B",
  "cbsdInfo": {
    "firmwareVersion": "0.8.0.3",
    "hardwareVersion": "V0.2",
    "model": "JLT733A",
    "softwareVersion": "6.4.0",
    "vendor": "Fujitsu"
  },
  "cbsdSerialNumber": "64A837260247",
  "fcclId": "fcclIdTest",
  "groupingParam": [
    {
      "groupId": "userIdTest",
      "groupType": "INTERFERENCE_COORDINATION"
    }
  ],
  "installationParam": {
    "antennaAzimuth": 0,
    "antennaBeamwidth": 360,
    "antennaDowntilt": 90,
    "antennaGain": 6,
    "antennaModel": "Unknown",
    "height": 0.0,
    "heightType": "AGL",
    "indoorDeployment": false,
    "latitude": 38.702145,
    "longitude": -104.890516
  },
  "measCapability": [
    "RECEIVED_POWER_WITHOUT_GRANT"
  ],
  "userId": "userIdTest"
}
]
}
2018-12-06T18:27:29.559Z - INFO - Response message contains measReportConfig
2018-12-06T18:27:29.559Z - INFO - engine sent successfully, the response to CBRS : {
  "registrationResponse": [
    {
      "cbsdId": "fcclIdTestMock-SAS64A837260247",
      "measReportConfig": [
        "RECEIVED_POWER_WITHOUT_GRANT"
      ],
      "response": {
        "responseCode": 0
      }
    }
  ]
}
}
2018-12-06T18:27:29.589Z - INFO - spectrumInquiry request from CBRS : {
  "spectrumInquiryRequest": [
    {

```

```

"cbstdId": "fccIdTestMock-SAS64A837260247",
"inquiredSpectrum": [
  {
    "highFrequency": 3700000000,
    "lowFrequency": 3550000000
  }
],
"measReport": {
  "rcvdPowerMeasReports": [
    {
      "measBandwidth": 10000000,
      "measFrequency": 3550000000,
      "measRcvdPower": -100.0
    },
    {
      "measBandwidth": 10000000,
      "measFrequency": 3560000000,
      "measRcvdPower": -100.0
    },
    {
      "measBandwidth": 10000000,
      "measFrequency": 3570000000,
      "measRcvdPower": -100.0
    },
    {
      "measBandwidth": 10000000,
      "measFrequency": 3580000000,
      "measRcvdPower": -100.0
    },
    {
      "measBandwidth": 10000000,
      "measFrequency": 3590000000,
      "measRcvdPower": -100.0
    },
    {
      "measBandwidth": 10000000,
      "measFrequency": 3600000000,
      "measRcvdPower": -100.0
    },
    {
      "measBandwidth": 10000000,
      "measFrequency": 3610000000,
      "measRcvdPower": -100.0
    },
    {
      "measBandwidth": 10000000,
      "measFrequency": 3620000000,
      "measRcvdPower": -100.0
    },
    {
      "measBandwidth": 10000000,
      "measFrequency": 3630000000,
      "measRcvdPower": -100.0
    },
    {
      "measBandwidth": 10000000,

```

```
"measFrequency": 3640000000,
    "measRcvdPower": -100.0
  },
  {
    "measBandwidth": 100000000,
    "measFrequency": 3650000000,
    "measRcvdPower": -100.0
  },
  {
    "measBandwidth": 100000000,
    "measFrequency": 3660000000,
    "measRcvdPower": -100.0
  },
  {
    "measBandwidth": 100000000,
    "measFrequency": 3670000000,
    "measRcvdPower": -100.0
  },
  {
    "measBandwidth": 100000000,
    "measFrequency": 3680000000,
    "measRcvdPower": -100.0
  },
  {
    "measBandwidth": 100000000,
    "measFrequency": 3690000000,
    "measRcvdPower": -100.0
  }
]
}
}
}
}

2018-12-06T18:27:29.605Z - INFO - engine sent successfully, the response to CBRS : {
  "spectrumInquiryResponse": [
    {
      "availableChannel": [
        {
          "channelType": "GAA",
          "frequencyRange": {
            "highFrequency": 3700000000,
            "lowFrequency": 3550000000
          },
          "ruleApplied": "FCC_PART_96"
        }
      ],
      "cbsId": "fccIdTestMock-SAS64A837260247",
      "response": {
        "responseCode": 0
      }
    }
  ]
}

2018-12-06T18:27:29.980Z - INFO - grant request from CBRS : {
  "grantRequest": [
    {
```

```

"cbssId": "fccIdTestMock-SAS64A837260247",
"measReport": {
  "rcvdPowerMeasReports": [
    {
      "measBandwidth": 10000000,
      "measFrequency": 3550000000,
      "measRcvdPower": -100.0
    },
    {
      "measBandwidth": 10000000,
      "measFrequency": 3560000000,
      "measRcvdPower": -100.0
    },
    {
      "measBandwidth": 10000000,
      "measFrequency": 3570000000,
      "measRcvdPower": -100.0
    },
    {
      "measBandwidth": 10000000,
      "measFrequency": 3580000000,
      "measRcvdPower": -100.0
    },
    {
      "measBandwidth": 10000000,
      "measFrequency": 3590000000,
      "measRcvdPower": -100.0
    },
    {
      "measBandwidth": 10000000,
      "measFrequency": 3600000000,
      "measRcvdPower": -100.0
    },
    {
      "measBandwidth": 10000000,
      "measFrequency": 3610000000,
      "measRcvdPower": -100.0
    },
    {
      "measBandwidth": 10000000,
      "measFrequency": 3620000000,
      "measRcvdPower": -100.0
    },
    {
      "measBandwidth": 10000000,
      "measFrequency": 3630000000,
      "measRcvdPower": -100.0
    },
    {
      "measBandwidth": 10000000,
      "measFrequency": 3640000000,
      "measRcvdPower": -100.0
    },
    {
      "measBandwidth": 10000000,
      "measFrequency": 3650000000,

```

```

        "measRcvdPower": -100.0
    },
    {
        "measBandwidth": 10000000,
        "measFrequency": 3660000000,
        "measRcvdPower": -100.0
    },
    {
        "measBandwidth": 10000000,
        "measFrequency": 3670000000,
        "measRcvdPower": -100.0
    },
    {
        "measBandwidth": 10000000,
        "measFrequency": 3680000000,
        "measRcvdPower": -100.0
    },
    {
        "measBandwidth": 10000000,
        "measFrequency": 3690000000,
        "measRcvdPower": -100.0
    }
]
},
"operationParam": {
    "maxEirp": 29,
    "operationFrequencyRange": {
        "highFrequency": 3700000000,
        "lowFrequency": 3680000000
    }
}
}
}
}
}
2018-12-06T18:27:29.996Z - INFO - engine sent successfully, the response to CBRS : {
    "grantResponse": [
        {
            "cbsdId": "fccIdTestMock-SAS64A837260247",
            "channelType": "GAA",
            "grantExpireTime": "2018-12-13T18:27:29Z",
            "grantId": "486798054",
            "heartbeatInterval": 60,
            "response": {
                "responseCode": 0
            }
        }
    ]
}
}
2018-12-06T18:27:31.733Z - INFO - arrived to nstep starting question answer session with the technician
2018-12-06T18:28:00.161Z - INFO - The final result of the test : WINNF.FT.C.MES.1 is – passed

```

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

2018-12-06T18:30:37.338Z - INFO - WINNF TEST HARNESS RELEASE: 1.0.0.2 - 2018-May-24

2018-12-06T18:30:37.338Z - INFO - the selected test from the user : WINNF.FT.C.MES.3 is starting now

2018-12-06T18:30:45.551Z - INFO - registration request from CBRS : {

```
"registrationRequest": [
  {
    "airInterface": {
      "radioTechnology": "E_UTRA",
      "supportedSpec": "FFS"
    },
    "callSign": "WL9XKH",
    "cbsdCategory": "B",
    "cbsdInfo": {
      "firmwareVersion": "0.8.0.3",
      "hardwareVersion": "V0.2",
      "model": "JLT733A",
      "softwareVersion": "6.4.0",
      "vendor": "Fujitsu"
    },
    "cbsdSerialNumber": "64A837260247",
    "fccId": "fccIdTest",
    "groupingParam": [
      {
        "groupId": "userIdTest",
        "groupType": "INTERFERENCE_COORDINATION"
      }
    ],
    "installationParam": {
      "antennaAzimuth": 0,
      "antennaBeamwidth": 360,
      "antennaDowntilt": 90,
      "antennaGain": 6,
      "antennaModel": "Unknown",
      "height": 0.0,
      "heightType": "AGL",
      "indoorDeployment": false,
      "latitude": 38.702145,
      "longitude": -104.890516
    },
    "measCapability": [
      "RECEIVED_POWER_WITH_GRANT"
    ],
    "userId": "userIdTest"
  }
]
```

2018-12-06T18:30:45.582Z - INFO - engine sent successfully, the response to CBRS : {

```
"registrationResponse": [
  {
    "cbsdId": "fccIdTestMock-SAS64A837260247",
    "response": {
      "responseCode": 0
    }
  }
]
```

2018-12-06T18:30:45.628Z - INFO - spectrumInquiry request from CBRS : {

```
"spectrumInquiryRequest": [
  {
    "cbsdId": "fccIdTestMock-SAS64A837260247",
    "inquiredSpectrum": [
      {
        "highFrequency": 3700000000,
        "lowFrequency": 3550000000
      }
    ]
  }
]
```

2018-12-06T18:30:45.644Z - INFO - engine sent successfully, the response to CBRS : {

```
"spectrumInquiryResponse": [
  {
```

```

    "availableChannel": [
      {
        "channelType": "GAA",
        "frequencyRange": {
          "highFrequency": 3700000000,
          "lowFrequency": 3550000000
        },
        "ruleApplied": "FCC_PART_96"
      }
    ],
    "cbsdid": "fccIdTestMock-SAS64A837260247",
    "response": {
      "responseCode": 0
    }
  }
}
}
2018-12-06T18:30:45.691Z - INFO - grant request from CBRS : {
  "grantRequest": [
    {
      "cbsdid": "fccIdTestMock-SAS64A837260247",
      "operationParam": {
        "maxEirp": 29,
        "operationFrequencyRange": {
          "highFrequency": 3700000000,
          "lowFrequency": 3680000000
        }
      }
    }
  ]
}
}
2018-12-06T18:30:45.707Z - INFO - Response message contains measReportConfig
2018-12-06T18:30:45.707Z - INFO - engine sent successfully, the response to CBRS : {
  "grantResponse": [
    {
      "cbsdid": "fccIdTestMock-SAS64A837260247",
      "channelType": "GAA",
      "grantExpireTime": "2018-12-13T18:30:45Z",
      "grantId": "971816811",
      "heartbeatInterval": 60,
      "measReportConfig": {
        "RECEIVED_POWER_WITH_GRANT"
      },
      "response": {
        "responseCode": 0
      }
    }
  ]
}
}
2018-12-06T18:30:46.362Z - INFO - heartbeat request from CBRS : {
  "heartbeatRequest": [
    {
      "cbsdid": "fccIdTestMock-SAS64A837260247",
      "grantId": "971816811",
      "grantRenew": false,
      "measReport": {
        "rcvdPowerMeasReports": [
          {
            "measBandwidth": 10000000,
            "measFrequency": 3550000000,
            "measRcvdPower": -100.0
          },
          {
            "measBandwidth": 10000000,
            "measFrequency": 3560000000,
            "measRcvdPower": -100.0
          },
          {
            "measBandwidth": 10000000,
            "measFrequency": 3570000000,
            "measRcvdPower": -100.0
          },
          {
            "measBandwidth": 10000000,
            "measFrequency": 3580000000,

```

```

        "measRcvdPower": -100.0
    },
    {
        "measBandwidth": 10000000,
        "measFrequency": 3590000000,
        "measRcvdPower": -100.0
    },
    {
        "measBandwidth": 10000000,
        "measFrequency": 3600000000,
        "measRcvdPower": -100.0
    },
    {
        "measBandwidth": 10000000,
        "measFrequency": 3610000000,
        "measRcvdPower": -100.0
    },
    {
        "measBandwidth": 10000000,
        "measFrequency": 3620000000,
        "measRcvdPower": -100.0
    },
    {
        "measBandwidth": 10000000,
        "measFrequency": 3630000000,
        "measRcvdPower": -100.0
    },
    {
        "measBandwidth": 10000000,
        "measFrequency": 3640000000,
        "measRcvdPower": -100.0
    },
    {
        "measBandwidth": 10000000,
        "measFrequency": 3650000000,
        "measRcvdPower": -100.0
    },
    {
        "measBandwidth": 10000000,
        "measFrequency": 3660000000,
        "measRcvdPower": -100.0
    },
    {
        "measBandwidth": 10000000,
        "measFrequency": 3670000000,
        "measRcvdPower": -100.0
    },
    {
        "measBandwidth": 10000000,
        "measFrequency": 3680000000,
        "measRcvdPower": -100.0
    },
    {
        "measBandwidth": 10000000,
        "measFrequency": 3690000000,
        "measRcvdPower": -100.0
    }
    ]
},
"operationState": "GRANTED"
}
}
}
2018-12-06T18:30:46.378Z - INFO - measReport received in heartbeat message
2018-12-06T18:30:46.394Z - INFO - engine sent successfully, the response to CBRS : {
  "heartbeatResponse": {
    {
      "cbsdid": "fccIdTestMock-SAS64A837260247",
      "grantId": "971816811",
      "response": {
        "responseCode": 0
      },
      "transmitExpireTime": "2018-12-06T18:34:06Z"
    }
  }
}
}

```

```

}
2018-12-06T18:31:46.417Z - INFO - heartbeat request from CBRS : {
  "heartbeatRequest": [
    {
      "cbsId": "fcIdTestMock-SAS64A837260247",
      "grantId": "971816811",
      "grantRenew": false,
      "measReport": {
        "rcvdPowerMeasReports": [
          {
            "measBandwidth": 10000000,
            "measFrequency": 3550000000,
            "measRcvdPower": -100.0
          },
          {
            "measBandwidth": 10000000,
            "measFrequency": 3560000000,
            "measRcvdPower": -100.0
          },
          {
            "measBandwidth": 10000000,
            "measFrequency": 3570000000,
            "measRcvdPower": -100.0
          },
          {
            "measBandwidth": 10000000,
            "measFrequency": 3580000000,
            "measRcvdPower": -100.0
          },
          {
            "measBandwidth": 10000000,
            "measFrequency": 3590000000,
            "measRcvdPower": -100.0
          },
          {
            "measBandwidth": 10000000,
            "measFrequency": 3600000000,
            "measRcvdPower": -100.0
          },
          {
            "measBandwidth": 10000000,
            "measFrequency": 3610000000,
            "measRcvdPower": -100.0
          },
          {
            "measBandwidth": 10000000,
            "measFrequency": 3620000000,
            "measRcvdPower": -100.0
          },
          {
            "measBandwidth": 10000000,
            "measFrequency": 3630000000,
            "measRcvdPower": -100.0
          },
          {
            "measBandwidth": 10000000,
            "measFrequency": 3640000000,
            "measRcvdPower": -100.0
          },
          {
            "measBandwidth": 10000000,
            "measFrequency": 3650000000,
            "measRcvdPower": -100.0
          },
          {
            "measBandwidth": 10000000,
            "measFrequency": 3660000000,
            "measRcvdPower": -100.0
          },
          {
            "measBandwidth": 10000000,
            "measFrequency": 3670000000,
            "measRcvdPower": -100.0
          },
          {

```

```

        "measBandwidth": 10000000,
        "measFrequency": 3680000000,
        "measRcvdPower": -100.0
    },
    {
        "measBandwidth": 10000000,
        "measFrequency": 3690000000,
        "measRcvdPower": -100.0
    }
]
},
"operationState": "AUTHORIZED"
}
}
}

```

2018-12-06T18:31:46.431Z - INFO - Time interval between two heartbeat request messages is: 60.054, limit is: 65.0

2018-12-06T18:31:46.447Z - INFO - engine sent successfully, the response to CBRS :{

```

"heartbeatResponse": [
  {
    "cbsdId": "fcIdTestMock-SAS64A837260247",
    "grantId": "971816811",
    "response": {
      "responseCode": 0
    },
    "transmitExpireTime": "2018-12-06T18:35:06Z"
  }
]
}

```

2018-12-06T18:32:46.493Z - INFO - heartbeat request from CBRS :{

```

"heartbeatRequest": [
  {
    "cbsdId": "fcIdTestMock-SAS64A837260247",
    "grantId": "971816811",
    "grantRenew": false,
    "measReport": {
      "rcvdPowerMeasReports": [
        {
          "measBandwidth": 10000000,
          "measFrequency": 3550000000,
          "measRcvdPower": -100.0
        },
        {
          "measBandwidth": 10000000,
          "measFrequency": 3560000000,
          "measRcvdPower": -100.0
        },
        {
          "measBandwidth": 10000000,
          "measFrequency": 3570000000,
          "measRcvdPower": -100.0
        },
        {
          "measBandwidth": 10000000,
          "measFrequency": 3580000000,
          "measRcvdPower": -100.0
        },
        {
          "measBandwidth": 10000000,
          "measFrequency": 3590000000,
          "measRcvdPower": -100.0
        },
        {
          "measBandwidth": 10000000,
          "measFrequency": 3600000000,
          "measRcvdPower": -100.0
        },
        {
          "measBandwidth": 10000000,
          "measFrequency": 3610000000,
          "measRcvdPower": -100.0
        },
        {
          "measBandwidth": 10000000,
          "measFrequency": 3620000000,
          "measRcvdPower": -100.0
        }
      ]
    }
  }
]

```

```

    },
    {
      "measBandwidth": 10000000,
      "measFrequency": 3630000000,
      "measRcvdPower": -100.0
    },
    {
      "measBandwidth": 10000000,
      "measFrequency": 3640000000,
      "measRcvdPower": -100.0
    },
    {
      "measBandwidth": 10000000,
      "measFrequency": 3650000000,
      "measRcvdPower": -100.0
    },
    {
      "measBandwidth": 10000000,
      "measFrequency": 3660000000,
      "measRcvdPower": -100.0
    },
    {
      "measBandwidth": 10000000,
      "measFrequency": 3670000000,
      "measRcvdPower": -100.0
    },
    {
      "measBandwidth": 10000000,
      "measFrequency": 3680000000,
      "measRcvdPower": -100.0
    },
    {
      "measBandwidth": 10000000,
      "measFrequency": 3690000000,
      "measRcvdPower": -100.0
    }
  ]
},
"operationState": "AUTHORIZED"
}
}
}
2018-12-06T18:32:46.493Z - INFO - Time interval between two heartbeat request messages is: 60.077, limit is: 65.0
2018-12-06T18:32:46.509Z - INFO - engine sent successfully, the response to CBRS : {
  "heartbeatResponse": [
    {
      "cbsId": "fcIdTestMock-SAS64A837260247",
      "grantId": "971816811",
      "response": {
        "responseCode": 0
      },
      "transmitExpireTime": "2018-12-06T18:36:06Z"
    }
  ]
}
}
2018-12-06T18:33:46.555Z - INFO - heartbeat request from CBRS : {
  "heartbeatRequest": [
    {
      "cbsId": "fcIdTestMock-SAS64A837260247",
      "grantId": "971816811",
      "grantRenew": false,
      "measReport": {
        "rcvdPowerMeasReports": [
          {
            "measBandwidth": 10000000,
            "measFrequency": 3550000000,
            "measRcvdPower": -100.0
          },
          {
            "measBandwidth": 10000000,
            "measFrequency": 3560000000,
            "measRcvdPower": -100.0
          },
          {
            "measBandwidth": 10000000,

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    "measFrequency": 3570000000,
    "measRcvdPower": -100.0
  },
  {
    "measBandwidth": 10000000,
    "measFrequency": 3580000000,
    "measRcvdPower": -100.0
  },
  {
    "measBandwidth": 10000000,
    "measFrequency": 3590000000,
    "measRcvdPower": -100.0
  },
  {
    "measBandwidth": 10000000,
    "measFrequency": 3600000000,
    "measRcvdPower": -100.0
  },
  {
    "measBandwidth": 10000000,
    "measFrequency": 3610000000,
    "measRcvdPower": -100.0
  },
  {
    "measBandwidth": 10000000,
    "measFrequency": 3620000000,
    "measRcvdPower": -100.0
  },
  {
    "measBandwidth": 10000000,
    "measFrequency": 3630000000,
    "measRcvdPower": -100.0
  },
  {
    "measBandwidth": 10000000,
    "measFrequency": 3640000000,
    "measRcvdPower": -100.0
  },
  {
    "measBandwidth": 10000000,
    "measFrequency": 3650000000,
    "measRcvdPower": -100.0
  },
  {
    "measBandwidth": 10000000,
    "measFrequency": 3660000000,
    "measRcvdPower": -100.0
  },
  {
    "measBandwidth": 10000000,
    "measFrequency": 3670000000,
    "measRcvdPower": -100.0
  },
  {
    "measBandwidth": 10000000,
    "measFrequency": 3680000000,
    "measRcvdPower": -100.0
  },
  {
    "measBandwidth": 10000000,
    "measFrequency": 3690000000,
    "measRcvdPower": -100.0
  }
]
},
"operationState": "AUTHORIZED"
}
}
}
2018-12-06T18:33:46.571Z - INFO - Time interval between two heartbeat request messages is: 60.061, limit is: 65.0
2018-12-06T18:33:46.586Z - INFO - engine sent successfully, the response to CBRS : {
  "heartbeatResponse": [
    {
      "cbsdId": "fcIdTestMock-SAS64A837260247",
      "grantId": "971816811",

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    "response": {
      "responseCode": 0
    },
    "transmitExpireTime": "2018-12-06T18:37:06Z"
  }
}
}
2018-12-06T18:34:46.619Z - INFO - heartbeat request from CBRS : {
  "heartbeatRequest": [
    {
      "cbsId": "fccIdTestMock-SAS64A837260247",
      "grantId": "971816811",
      "grantRenew": false,
      "measReport": {
        "rcvdPowerMeasReports": [
          {
            "measBandwidth": 10000000,
            "measFrequency": 3550000000,
            "measRcvdPower": -100.0
          },
          {
            "measBandwidth": 10000000,
            "measFrequency": 3560000000,
            "measRcvdPower": -100.0
          },
          {
            "measBandwidth": 10000000,
            "measFrequency": 3570000000,
            "measRcvdPower": -100.0
          },
          {
            "measBandwidth": 10000000,
            "measFrequency": 3580000000,
            "measRcvdPower": -100.0
          },
          {
            "measBandwidth": 10000000,
            "measFrequency": 3590000000,
            "measRcvdPower": -100.0
          },
          {
            "measBandwidth": 10000000,
            "measFrequency": 3600000000,
            "measRcvdPower": -100.0
          },
          {
            "measBandwidth": 10000000,
            "measFrequency": 3610000000,
            "measRcvdPower": -100.0
          },
          {
            "measBandwidth": 10000000,
            "measFrequency": 3620000000,
            "measRcvdPower": -100.0
          },
          {
            "measBandwidth": 10000000,
            "measFrequency": 3630000000,
            "measRcvdPower": -100.0
          },
          {
            "measBandwidth": 10000000,
            "measFrequency": 3640000000,
            "measRcvdPower": -100.0
          },
          {
            "measBandwidth": 10000000,
            "measFrequency": 3650000000,
            "measRcvdPower": -100.0
          },
          {
            "measBandwidth": 10000000,
            "measFrequency": 3660000000,
            "measRcvdPower": -100.0
          }
        ]
      }
    }
  ]
}

```

```

    {
      "measBandwidth": 10000000,
      "measFrequency": 3670000000,
      "measRcvdPower": -100.0
    },
    {
      "measBandwidth": 10000000,
      "measFrequency": 3680000000,
      "measRcvdPower": -100.0
    },
    {
      "measBandwidth": 10000000,
      "measFrequency": 3690000000,
      "measRcvdPower": -100.0
    }
  ]
},
"operationState": "AUTHORIZED"
}
}
}
2018-12-06T18:34:46.634Z - INFO - Time interval between two heartbeat request messages is: 60.065, limit is: 65.0
2018-12-06T18:34:46.651Z - INFO - engine sent successfully, the response to CBRS : {
  "heartbeatResponse": [
    {
      "cbsdId": "fccIdTestMock-SAS64A837260247",
      "grantId": "971816811",
      "response": {
        "responseCode": 0
      },
      "transmitExpireTime": "2018-12-06T18:38:06Z"
    }
  ]
}
}
2018-12-06T18:34:47.676Z - INFO - arrived to nstep starting question answer session with the technician
2018-12-06T18:34:56.664Z - INFO - The final result of the test : WINNF.FT.C.MES.3 is - passed

```

10.23 Log file for test case ID: WINNF.FT.C.MES.4

```

2018-12-06T18:35:41.200Z - INFO - WINNF TEST HARNESS RELEASE: 1.0.0.2 - 2018-May-24
2018-12-06T18:35:41.200Z - INFO - the selected test from the user : WINNF.FT.C.MES.4 is starting now
2018-12-06T18:39:26.384Z - INFO - registration request from CBRS : {
  "registrationRequest": [
    {
      "airInterface": {
        "radioTechnology": "E_UTRA",
        "supportedSpec": "FFS"
      },
      "callSign": "WL9XKH",
      "cbsdCategory": "B",
      "cbsdInfo": {
        "firmwareVersion": "0.8.0.3",
        "hardwareVersion": "V0.2",
        "model": "JLT733A",
        "softwareVersion": "6.4.0",
        "vendor": "Fujitsu"
      },
      "cbsdSerialNumber": "64A837260247",
      "fccId": "fccIdTest",
      "groupingParam": [
        {
          "groupId": "userIdTest",
          "groupType": "INTERFERENCE_COORDINATION"
        }
      ]
    }
  ]
}

```

```

    },
    "installationParam": {
      "antennaAzimuth": 0,
      "antennaBeamwidth": 360,
      "antennaDowntilt": 90,
      "antennaGain": 6,
      "antennaModel": "Unknown",
      "height": 0.0,
      "heightType": "AGL",
      "indoorDeployment": false,
      "latitude": 38.702145,
      "longitude": -104.890516
    },
    "measCapability": [
      "RECEIVED_POWER_WITH_GRANT"
    ],
    "userId": "userIdTest"
  }
}
}
}
2018-12-06T18:39:26.431Z - INFO - engine sent successfully, the response to CBRS : {
  "registrationResponse": [
    {
      "cbsdId": "fccIdTestMock-SAS64A837260247",
      "response": {
        "responseCode": 0
      }
    }
  ]
}
}
2018-12-06T18:39:26.463Z - INFO - spectrumInquiry request from CBRS : {
  "spectrumInquiryRequest": [
    {
      "cbsdId": "fccIdTestMock-SAS64A837260247",
      "inquiredSpectrum": [
        {
          "highFrequency": 3700000000,
          "lowFrequency": 3550000000
        }
      ]
    }
  ]
}
}
2018-12-06T18:39:26.479Z - INFO - engine sent successfully, the response to CBRS : {
  "spectrumInquiryResponse": [
    {
      "availableChannel": [
        {
          "channelType": "GAA",
          "frequencyRange": {
            "highFrequency": 3700000000,
            "lowFrequency": 3550000000
          },
          "ruleApplied": "FCC_PART_96"
        }
      ]
    }
  ],

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        "cbsdId": "fccIdTestMock-SAS64A837260247",
        "response": {
            "responseCode": 0
        }
    }
}
}
2018-12-06T18:39:26.540Z - INFO - grant request from CBRS : {
  "grantRequest": [
    {
      "cbsdId": "fccIdTestMock-SAS64A837260247",
      "operationParam": {
        "maxEirp": 29,
        "operationFrequencyRange": {
          "highFrequency": 3700000000,
          "lowFrequency": 3680000000
        }
      }
    }
  ]
}
2018-12-06T18:39:26.540Z - INFO - engine sent successfully, the response to CBRS : {
  "grantResponse": [
    {
      "cbsdId": "fccIdTestMock-SAS64A837260247",
      "channelType": "GAA",
      "grantExpireTime": "2018-12-13T18:39:26Z",
      "grantId": "910577003",
      "heartbeatInterval": 60,
      "response": {
        "responseCode": 0
      }
    }
  ]
}
2018-12-06T18:39:26.931Z - INFO - heartbeat request from CBRS : {
  "heartbeatRequest": [
    {
      "cbsdId": "fccIdTestMock-SAS64A837260247",
      "grantId": "910577003",
      "grantRenew": false,
      "measReport": {
        "rcvdPowerMeasReports": [
          {
            "measBandwidth": 10000000,
            "measFrequency": 3550000000,
            "measRcvdPower": -100.0
          },
          {
            "measBandwidth": 10000000,
            "measFrequency": 3560000000,
            "measRcvdPower": -100.0
          },
          {
            "measBandwidth": 10000000,
            "measFrequency": 3570000000,

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    "measRcvdPower": -100.0
  },
  {
    "measBandwidth": 10000000,
    "measFrequency": 3580000000,
    "measRcvdPower": -100.0
  },
  {
    "measBandwidth": 10000000,
    "measFrequency": 3590000000,
    "measRcvdPower": -100.0
  },
  {
    "measBandwidth": 10000000,
    "measFrequency": 3600000000,
    "measRcvdPower": -100.0
  },
  {
    "measBandwidth": 10000000,
    "measFrequency": 3610000000,
    "measRcvdPower": -100.0
  },
  {
    "measBandwidth": 10000000,
    "measFrequency": 3620000000,
    "measRcvdPower": -100.0
  },
  {
    "measBandwidth": 10000000,
    "measFrequency": 3630000000,
    "measRcvdPower": -100.0
  },
  {
    "measBandwidth": 10000000,
    "measFrequency": 3640000000,
    "measRcvdPower": -100.0
  },
  {
    "measBandwidth": 10000000,
    "measFrequency": 3650000000,
    "measRcvdPower": -100.0
  },
  {
    "measBandwidth": 10000000,
    "measFrequency": 3660000000,
    "measRcvdPower": -100.0
  },
  {
    "measBandwidth": 10000000,
    "measFrequency": 3670000000,
    "measRcvdPower": -100.0
  },
  {
    "measBandwidth": 10000000,
    "measFrequency": 3680000000,
    "measRcvdPower": -100.0
  }

```

```

    },
    {
      "measBandwidth": 10000000,
      "measFrequency": 3690000000,
      "measRcvdPower": -100.0
    }
  ]
},
"operationState": "GRANTED"
}
]
}
}
2018-12-06T18:39:26.931Z - INFO - Response message contains measReportConfig
2018-12-06T18:39:26.931Z - INFO - engine sent successfully, the response to CBRS : {
  "heartbeatResponse": [
    {
      "cbsdId": "fccIdTestMock-SAS64A837260247",
      "grantId": "910577003",
      "measReportConfig": [
        "RECEIVED_POWER_WITH_GRANT"
      ],
      "response": {
        "responseCode": 0
      },
      "transmitExpireTime": "2018-12-06T18:42:46Z"
    }
  ]
}
}
2018-12-06T18:40:26.983Z - INFO - heartbeat request from CBRS : {
  "heartbeatRequest": [
    {
      "cbsdId": "fccIdTestMock-SAS64A837260247",
      "grantId": "910577003",
      "grantRenew": false,
      "measReport": {
        "rcvdPowerMeasReports": [
          {
            "measBandwidth": 10000000,
            "measFrequency": 3550000000,
            "measRcvdPower": -100.0
          },
          {
            "measBandwidth": 10000000,
            "measFrequency": 3560000000,
            "measRcvdPower": -100.0
          },
          {
            "measBandwidth": 10000000,
            "measFrequency": 3570000000,
            "measRcvdPower": -100.0
          },
          {
            "measBandwidth": 10000000,
            "measFrequency": 3580000000,
            "measRcvdPower": -100.0
          }
        ]
      }
    }
  ]
}

```

```

{
  "measBandwidth": 10000000,
  "measFrequency": 3590000000,
  "measRcvdPower": -100.0
},
{
  "measBandwidth": 10000000,
  "measFrequency": 3600000000,
  "measRcvdPower": -100.0
},
{
  "measBandwidth": 10000000,
  "measFrequency": 3610000000,
  "measRcvdPower": -100.0
},
{
  "measBandwidth": 10000000,
  "measFrequency": 3620000000,
  "measRcvdPower": -100.0
},
{
  "measBandwidth": 10000000,
  "measFrequency": 3630000000,
  "measRcvdPower": -100.0
},
{
  "measBandwidth": 10000000,
  "measFrequency": 3640000000,
  "measRcvdPower": -100.0
},
{
  "measBandwidth": 10000000,
  "measFrequency": 3650000000,
  "measRcvdPower": -100.0
},
{
  "measBandwidth": 10000000,
  "measFrequency": 3660000000,
  "measRcvdPower": -100.0
},
{
  "measBandwidth": 10000000,
  "measFrequency": 3670000000,
  "measRcvdPower": -100.0
},
{
  "measBandwidth": 10000000,
  "measFrequency": 3680000000,
  "measRcvdPower": -100.0
},
{
  "measBandwidth": 10000000,
  "measFrequency": 3690000000,
  "measRcvdPower": -100.0
}
]

```

```

    },
    "operationState": "AUTHORIZED"
  }
}
}
2018-12-06T18:40:26.983Z - INFO - Time interval between two heartbeat request messages is: 60.052, limit is: 65.0
2018-12-06T18:40:27.000Z - INFO - measReport received in heartbeat message
2018-12-06T18:40:27.000Z - INFO - engine sent successfully, the response to CBRS : {
  "heartbeatResponse": [
    {
      "cbsdId": "fccIdTestMock-SAS64A837260247",
      "grantId": "910577003",
      "response": {
        "responseCode": 0
      },
      "transmitExpireTime": "2018-12-06T18:43:47Z"
    }
  ]
}
2018-12-06T18:41:27.063Z - INFO - heartbeat request from CBRS : {
  "heartbeatRequest": [
    {
      "cbsdId": "fccIdTestMock-SAS64A837260247",
      "grantId": "910577003",
      "grantRenew": false,
      "measReport": {
        "rcvdPowerMeasReports": [
          {
            "measBandwidth": 10000000,
            "measFrequency": 3550000000,
            "measRcvdPower": -100.0
          },
          {
            "measBandwidth": 10000000,
            "measFrequency": 3560000000,
            "measRcvdPower": -100.0
          },
          {
            "measBandwidth": 10000000,
            "measFrequency": 3570000000,
            "measRcvdPower": -100.0
          },
          {
            "measBandwidth": 10000000,
            "measFrequency": 3580000000,
            "measRcvdPower": -100.0
          },
          {
            "measBandwidth": 10000000,
            "measFrequency": 3590000000,
            "measRcvdPower": -100.0
          },
          {
            "measBandwidth": 10000000,
            "measFrequency": 3600000000,
            "measRcvdPower": -100.0
          }
        ]
      }
    }
  ]
}

```

```

    },
    {
      "measBandwidth": 10000000,
      "measFrequency": 3610000000,
      "measRcvdPower": -100.0
    },
    {
      "measBandwidth": 10000000,
      "measFrequency": 3620000000,
      "measRcvdPower": -100.0
    },
    {
      "measBandwidth": 10000000,
      "measFrequency": 3630000000,
      "measRcvdPower": -100.0
    },
    {
      "measBandwidth": 10000000,
      "measFrequency": 3640000000,
      "measRcvdPower": -100.0
    },
    {
      "measBandwidth": 10000000,
      "measFrequency": 3650000000,
      "measRcvdPower": -100.0
    },
    {
      "measBandwidth": 10000000,
      "measFrequency": 3660000000,
      "measRcvdPower": -100.0
    },
    {
      "measBandwidth": 10000000,
      "measFrequency": 3670000000,
      "measRcvdPower": -100.0
    },
    {
      "measBandwidth": 10000000,
      "measFrequency": 3680000000,
      "measRcvdPower": -100.0
    },
    {
      "measBandwidth": 10000000,
      "measFrequency": 3690000000,
      "measRcvdPower": -100.0
    }
  ]
},
"operationState": "AUTHORIZED"
}
]
}

```

2018-12-06T18:41:27.063Z - INFO - Time interval between two heartbeat request messages is: 60.08, limit is: 65.0

2018-12-06T18:41:27.079Z - INFO - engine sent successfully, the response to CBRS : {

```

  "heartbeatResponse": {
    {

```

```

    "cbsdId": "fccIdTestMock-SAS64A837260247",
    "grantId": "910577003",
    "response": {
      "responseCode": 0
    },
    "transmitExpireTime": "2018-12-06T18:44:47Z"
  }
}
}
2018-12-06T18:42:27.125Z - INFO - heartbeat request from CBRS : {
  "heartbeatRequest": [
    {
      "cbsdId": "fccIdTestMock-SAS64A837260247",
      "grantId": "910577003",
      "grantRenew": false,
      "measReport": {
        "rcvdPowerMeasReports": [
          {
            "measBandwidth": 10000000,
            "measFrequency": 3550000000,
            "measRcvdPower": -100.0
          },
          {
            "measBandwidth": 10000000,
            "measFrequency": 3560000000,
            "measRcvdPower": -100.0
          },
          {
            "measBandwidth": 10000000,
            "measFrequency": 3570000000,
            "measRcvdPower": -100.0
          },
          {
            "measBandwidth": 10000000,
            "measFrequency": 3580000000,
            "measRcvdPower": -100.0
          },
          {
            "measBandwidth": 10000000,
            "measFrequency": 3590000000,
            "measRcvdPower": -100.0
          },
          {
            "measBandwidth": 10000000,
            "measFrequency": 3600000000,
            "measRcvdPower": -100.0
          },
          {
            "measBandwidth": 10000000,
            "measFrequency": 3610000000,
            "measRcvdPower": -100.0
          },
          {
            "measBandwidth": 10000000,
            "measFrequency": 3620000000,
            "measRcvdPower": -100.0
          }
        ]
      }
    }
  ]
}

```

```

    },
    {
      "measBandwidth": 10000000,
      "measFrequency": 3630000000,
      "measRcvdPower": -100.0
    },
    {
      "measBandwidth": 10000000,
      "measFrequency": 3640000000,
      "measRcvdPower": -100.0
    },
    {
      "measBandwidth": 10000000,
      "measFrequency": 3650000000,
      "measRcvdPower": -100.0
    },
    {
      "measBandwidth": 10000000,
      "measFrequency": 3660000000,
      "measRcvdPower": -100.0
    },
    {
      "measBandwidth": 10000000,
      "measFrequency": 3670000000,
      "measRcvdPower": -100.0
    },
    {
      "measBandwidth": 10000000,
      "measFrequency": 3680000000,
      "measRcvdPower": -100.0
    },
    {
      "measBandwidth": 10000000,
      "measFrequency": 3690000000,
      "measRcvdPower": -100.0
    }
  ]
},
"operationState": "AUTHORIZED"
}
]
}
2018-12-06T18:42:27.125Z - INFO - Time interval between two heartbeat request messages is: 60.061, limit is: 65.0
2018-12-06T18:42:27.140Z - INFO - engine sent successfully, the response to CBRs : {
  "heartbeatResponse": [
    {
      "cbsId": "fccIdTestMock-SAS64A837260247",
      "grantId": "910577003",
      "response": {
        "responseCode": 0
      },
      "transmitExpireTime": "2018-12-06T18:45:47Z"
    }
  ]
}
2018-12-06T18:43:27.196Z - INFO - heartbeat request from CBRs : {

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```

"heartbeatRequest": [
{
  "cbsdId": "fccIdTestMock-SAS64A837260247",
  "grantId": "910577003",
  "grantRenew": false,
  "measReport": {
    "rcvdPowerMeasReports": [
      {
        "measBandwidth": 10000000,
        "measFrequency": 3550000000,
        "measRcvdPower": -100.0
      },
      {
        "measBandwidth": 10000000,
        "measFrequency": 3560000000,
        "measRcvdPower": -100.0
      },
      {
        "measBandwidth": 10000000,
        "measFrequency": 3570000000,
        "measRcvdPower": -100.0
      },
      {
        "measBandwidth": 10000000,
        "measFrequency": 3580000000,
        "measRcvdPower": -100.0
      },
      {
        "measBandwidth": 10000000,
        "measFrequency": 3590000000,
        "measRcvdPower": -100.0
      },
      {
        "measBandwidth": 10000000,
        "measFrequency": 3600000000,
        "measRcvdPower": -100.0
      },
      {
        "measBandwidth": 10000000,
        "measFrequency": 3610000000,
        "measRcvdPower": -100.0
      },
      {
        "measBandwidth": 10000000,
        "measFrequency": 3620000000,
        "measRcvdPower": -100.0
      },
      {
        "measBandwidth": 10000000,
        "measFrequency": 3630000000,
        "measRcvdPower": -100.0
      },
      {
        "measBandwidth": 10000000,
        "measFrequency": 3640000000,
        "measRcvdPower": -100.0
      }
    ]
  }
}

```

```

    },
    {
      "measBandwidth": 10000000,
      "measFrequency": 3650000000,
      "measRcvdPower": -100.0
    },
    {
      "measBandwidth": 10000000,
      "measFrequency": 3660000000,
      "measRcvdPower": -100.0
    },
    {
      "measBandwidth": 10000000,
      "measFrequency": 3670000000,
      "measRcvdPower": -100.0
    },
    {
      "measBandwidth": 10000000,
      "measFrequency": 3680000000,
      "measRcvdPower": -100.0
    },
    {
      "measBandwidth": 10000000,
      "measFrequency": 3690000000,
      "measRcvdPower": -100.0
    }
  ]
},
"operationState": "AUTHORIZED"
}
]
}
2018-12-06T18:43:27.196Z - INFO - Time interval between two heartbeat request messages is: 60.071, limit is: 65.0
2018-12-06T18:43:27.211Z - INFO - engine sent successfully, the response to CBRS : {
  "heartbeatResponse": [
    {
      "cbsId": "fccIdTestMock-SAS64A837260247",
      "grantId": "910577003",
      "response": {
        "responseCode": 0
      },
      "transmitExpireTime": "2018-12-06T18:46:47Z"
    }
  ]
}
2018-12-06T18:44:27.260Z - INFO - heartbeat request from CBRS : {
  "heartbeatRequest": [
    {
      "cbsId": "fccIdTestMock-SAS64A837260247",
      "grantId": "910577003",
      "grantRenew": false,
      "measReport": {
        "rcvdPowerMeasReports": [
          {
            "measBandwidth": 10000000,
            "measFrequency": 3550000000,

```

```

    "measRcvdPower": -100.0
  },
  {
    "measBandwidth": 10000000,
    "measFrequency": 3560000000,
    "measRcvdPower": -100.0
  },
  {
    "measBandwidth": 10000000,
    "measFrequency": 3570000000,
    "measRcvdPower": -100.0
  },
  {
    "measBandwidth": 10000000,
    "measFrequency": 3580000000,
    "measRcvdPower": -100.0
  },
  {
    "measBandwidth": 10000000,
    "measFrequency": 3590000000,
    "measRcvdPower": -100.0
  },
  {
    "measBandwidth": 10000000,
    "measFrequency": 3600000000,
    "measRcvdPower": -100.0
  },
  {
    "measBandwidth": 10000000,
    "measFrequency": 3610000000,
    "measRcvdPower": -100.0
  },
  {
    "measBandwidth": 10000000,
    "measFrequency": 3620000000,
    "measRcvdPower": -100.0
  },
  {
    "measBandwidth": 10000000,
    "measFrequency": 3630000000,
    "measRcvdPower": -100.0
  },
  {
    "measBandwidth": 10000000,
    "measFrequency": 3640000000,
    "measRcvdPower": -100.0
  },
  {
    "measBandwidth": 10000000,
    "measFrequency": 3650000000,
    "measRcvdPower": -100.0
  },
  {
    "measBandwidth": 10000000,
    "measFrequency": 3660000000,
    "measRcvdPower": -100.0
  }

```

```

    },
    {
      "measBandwidth": 10000000,
      "measFrequency": 3670000000,
      "measRcvdPower": -100.0
    },
    {
      "measBandwidth": 10000000,
      "measFrequency": 3680000000,
      "measRcvdPower": -100.0
    },
    {
      "measBandwidth": 10000000,
      "measFrequency": 3690000000,
      "measRcvdPower": -100.0
    }
  ]
},
"operationState": "AUTHORIZED"
}
]
}
2018-12-06T18:44:27.276Z - INFO - Time interval between two heartbeat request messages is: 60.065, limit is: 65.0
2018-12-06T18:44:27.292Z - INFO - engine sent successfully, the response to CBRS : {
  "heartbeatResponse": [
    {
      "cbsId": "fccIdTestMock-SAS64A837260247",
      "grantId": "910577003",
      "response": {
        "responseCode": 0
      },
      "transmitExpireTime": "2018-12-06T18:47:47Z"
    }
  ]
}
2018-12-06T18:44:29.053Z - INFO - arrived to nstep starting question answer session with the technician
2018-12-06T18:44:44.976Z - INFO - The final result of the test : WINNF.FT.C.MES.4 is – passed

```

10.24 Log file for test case ID: WINNF.FT.C.RLQ.1

2018-12-06T18:45:27.598Z - INFO - WINNF TEST HARNESS RELEASE: 1.0.0.2 - 2018-May-24

2018-12-06T18:45:27.598Z - INFO - the selected test from the user : WINNF.FT.C.RLQ.1 is starting now

2018-12-06T18:49:21.131Z - INFO - registration request from CBR5 : {

```
"registrationRequest": [
  {
    "airInterface": {
      "radioTechnology": "E_UTRA",
      "supportedSpec": "FFS"
    },
    "callSign": "WL9XKH",
    "cbsdCategory": "B",
    "cbsdInfo": {
      "firmwareVersion": "0.8.0.3",
      "hardwareVersion": "V0.2",
      "model": "JLT733A",
      "softwareVersion": "6.4.0",
      "vendor": "Fujitsu"
    },
    "cbsdSerialNumber": "64A837260247",
    "fccId": "fccIdTest",
    "groupingParam": [
      {
        "groupId": "userIdTest",
        "groupType": "INTERFERENCE_COORDINATION"
      }
    ],
    "installationParam": {
      "antennaAzimuth": 0,
      "antennaBeamwidth": 360,
```

```
"antennaDowntilt": 90,

"antennaGain": 6,

"antennaModel": "Unknown",

"height": 0.0,

"heightType": "AGL",

"indoorDeployment": false,

"latitude": 38.702145,

"longitude": -104.890516

},

"measCapability": [

  "RECEIVED_POWER_WITH_GRANT"

],

"userId": "userIdTest"

}

]

}
```

2018-12-06T18:49:21.194Z - INFO - engine sent successfully, the response to CBRS : {

```
"registrationResponse": [

  {

    "cbsdId": "fccIdTestMock-SAS64A837260247",

    "response": {

      "responseCode": 0

    }

  }

]

}
```

2018-12-06T18:49:21.240Z - INFO - spectrumInquiry request from CBRS : {

```
"spectrumInquiryRequest": [

  {

    "cbsdId": "fccIdTestMock-SAS64A837260247",
```

```
"inquiredSpectrum": [  
  {  
    "highFrequency": 3700000000,  
    "lowFrequency": 3550000000  
  }  
]  
}  
]
```

2018-12-06T18:49:21.240Z - INFO - engine sent successfully, the response to CBRS : {

```
"spectrumInquiryResponse": [  
  {  
    "availableChannel": [  
      {  
        "channelType": "GAA",  
        "frequencyRange": {  
          "highFrequency": 3700000000,  
          "lowFrequency": 3550000000  
        },  
        "ruleApplied": "FCC_PART_96"  
      }  
    ],  
    "cbsdId": "fccIdTestMock-SAS64A837260247",  
    "response": {  
      "responseCode": 0  
    }  
  }  
]  
}
```

2018-12-06T18:49:21.288Z - INFO - grant request from CBRS : {

```
"grantRequest": [  
  {  
    "cbsdId": "fccIdTestMock-SAS64A837260247",  
    "operationParam": {  
      "maxEirp": 29,  
      "operationFrequencyRange": {  
        "highFrequency": 3700000000,  
        "lowFrequency": 3680000000  
      }  
    }  
  }  
]  
}
```

2018-12-06T18:49:21.303Z - INFO - engine sent successfully, the response to CBRS : {

```
"grantResponse": [  
  {  
    "cbsdId": "fccIdTestMock-SAS64A837260247",  
    "channelType": "GAA",  
    "grantExpireTime": "2018-12-13T18:49:21Z",  
    "grantId": "892561011",  
    "heartbeatInterval": 60,  
    "response": {  
      "responseCode": 0  
    }  
  }  
]  
}
```

2018-12-06T18:49:21.963Z - INFO - heartbeat request from CBRS : {

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

```
"cbsId": "fccIdTestMock-SAS64A837260247",  
  
"grantId": "892561011",  
  
"grantRenew": false,  
  
"measReport": {  
  "rcvdPowerMeasReports": [  
    {  
      "measBandwidth": 10000000,  
      "measFrequency": 3550000000,  
      "measRcvdPower": -100.0  
    },  
    {  
      "measBandwidth": 10000000,  
      "measFrequency": 3560000000,  
      "measRcvdPower": -100.0  
    },  
    {  
      "measBandwidth": 10000000,  
      "measFrequency": 3570000000,  
      "measRcvdPower": -100.0  
    },  
    {  
      "measBandwidth": 10000000,  
      "measFrequency": 3580000000,  
      "measRcvdPower": -100.0  
    },  
    {  
      "measBandwidth": 10000000,  
      "measFrequency": 3590000000,  
      "measRcvdPower": -100.0  
    }  
  ]  
}
```

```
{  
  "measBandwidth": 10000000,  
  "measFrequency": 3600000000,  
  "measRcvdPower": -100.0  
},  
{  
  "measBandwidth": 10000000,  
  "measFrequency": 3610000000,  
  "measRcvdPower": -100.0  
},  
{  
  "measBandwidth": 10000000,  
  "measFrequency": 3620000000,  
  "measRcvdPower": -100.0  
},  
{  
  "measBandwidth": 10000000,  
  "measFrequency": 3630000000,  
  "measRcvdPower": -100.0  
},  
{  
  "measBandwidth": 10000000,  
  "measFrequency": 3640000000,  
  "measRcvdPower": -100.0  
},  
{  
  "measBandwidth": 10000000,  
  "measFrequency": 3650000000,  
  "measRcvdPower": -100.0  
},
```

```

    {
      "measBandwidth": 10000000,
      "measFrequency": 3660000000,
      "measRcvdPower": -100.0
    },
    {
      "measBandwidth": 10000000,
      "measFrequency": 3670000000,
      "measRcvdPower": -100.0
    },
    {
      "measBandwidth": 10000000,
      "measFrequency": 3680000000,
      "measRcvdPower": -100.0
    },
    {
      "measBandwidth": 10000000,
      "measFrequency": 3690000000,
      "measRcvdPower": -100.0
    }
  ]
},
"operationState": "GRANTED"
}
]
}

2018-12-06T18:49:21.980Z - INFO - engine sent successfully, the response to CBRS : {
  "heartbeatResponse": [
    {
      "cbsdId": "fccIdTestMock-SAS64A837260247",

```

```
"grantId": "892561011",  
  
"response": {  
  
  "responseCode": 0  
  
},  
  
"transmitExpireTime": "2018-12-06T18:52:41Z"  
  
}  
  
]  
  
}
```

2018-12-06T18:50:22.006Z - INFO - heartbeat request from CBRS : {

```
"heartbeatRequest": [  
  
  {  
  
    "cbsId": "fccIdTestMock-SAS64A837260247",  
  
    "grantId": "892561011",  
  
    "grantRenew": false,  
  
    "measReport": {  
  
      "rcvdPowerMeasReports": [  
  
        {  
  
          "measBandwidth": 10000000,  
  
          "measFrequency": 3550000000,  
  
          "measRcvdPower": -100.0  
  
        },  
  
        {  
  
          "measBandwidth": 10000000,  
  
          "measFrequency": 3560000000,  
  
          "measRcvdPower": -100.0  
  
        },  
  
        {  
  
          "measBandwidth": 10000000,  
  
          "measFrequency": 3570000000,  
  
          "measRcvdPower": -100.0  
  
        }  
  
      ]  
  
    }  
  
  ]  
  
}
```

```
},  
  
{  
  "measBandwidth": 10000000,  
  "measFrequency": 3580000000,  
  "measRcvdPower": -100.0  
},  
  
{  
  "measBandwidth": 10000000,  
  "measFrequency": 3590000000,  
  "measRcvdPower": -100.0  
},  
  
{  
  "measBandwidth": 10000000,  
  "measFrequency": 3600000000,  
  "measRcvdPower": -100.0  
},  
  
{  
  "measBandwidth": 10000000,  
  "measFrequency": 3610000000,  
  "measRcvdPower": -100.0  
},  
  
{  
  "measBandwidth": 10000000,  
  "measFrequency": 3620000000,  
  "measRcvdPower": -100.0  
},  
  
{  
  "measBandwidth": 10000000,  
  "measFrequency": 3630000000,  
  "measRcvdPower": -100.0
```

```
},  
  
{  
  
  "measBandwidth": 10000000,  
  
  "measFrequency": 3640000000,  
  
  "measRcvdPower": -100.0  
  
},  
  
{  
  
  "measBandwidth": 10000000,  
  
  "measFrequency": 3650000000,  
  
  "measRcvdPower": -100.0  
  
},  
  
{  
  
  "measBandwidth": 10000000,  
  
  "measFrequency": 3660000000,  
  
  "measRcvdPower": -100.0  
  
},  
  
{  
  
  "measBandwidth": 10000000,  
  
  "measFrequency": 3670000000,  
  
  "measRcvdPower": -100.0  
  
},  
  
{  
  
  "measBandwidth": 10000000,  
  
  "measFrequency": 3680000000,  
  
  "measRcvdPower": -100.0  
  
},  
  
{  
  
  "measBandwidth": 10000000,  
  
  "measFrequency": 3690000000,  
  
  "measRcvdPower": -100.0
```

```

    }
  ]
},
"operationState": "AUTHORIZED"
}
]
}

```

2018-12-06T18:50:22.006Z - INFO - Time interval between two heartbeat request messages is: 60.042, limit is: 65.0

2018-12-06T18:50:22.020Z - INFO - engine sent successfully, the response to CBRS : {

```

"heartbeatResponse": [
  {
    "cbsdId": "fccIdTestMock-SAS64A837260247",
    "grantId": "892561011",
    "response": {
      "responseCode": 0
    },
    "transmitExpireTime": "2018-12-06T18:53:42Z"
  }
]
}

```

2018-12-06T18:51:22.065Z - INFO - heartbeat request from CBRS : {

```

"heartbeatRequest": [
  {
    "cbsdId": "fccIdTestMock-SAS64A837260247",
    "grantId": "892561011",
    "grantRenew": false,
    "measReport": {
      "rcvdPowerMeasReports": [
        {
          "measBandwidth": 10000000,

```

```
"measFrequency": 3550000000,

"measRcvdPower": -100.0

},

{

"measBandwidth": 10000000,

"measFrequency": 3560000000,

"measRcvdPower": -100.0

},

{

"measBandwidth": 10000000,

"measFrequency": 3570000000,

"measRcvdPower": -100.0

},

{

"measBandwidth": 10000000,

"measFrequency": 3580000000,

"measRcvdPower": -100.0

},

{

"measBandwidth": 10000000,

"measFrequency": 3590000000,

"measRcvdPower": -100.0

},

{

"measBandwidth": 10000000,

"measFrequency": 3600000000,

"measRcvdPower": -100.0

},

{

"measBandwidth": 10000000,
```

```
"measFrequency": 3610000000,

"measRcvdPower": -100.0

},

{

"measBandwidth": 10000000,

"measFrequency": 3620000000,

"measRcvdPower": -100.0

},

{

"measBandwidth": 10000000,

"measFrequency": 3630000000,

"measRcvdPower": -100.0

},

{

"measBandwidth": 10000000,

"measFrequency": 3640000000,

"measRcvdPower": -100.0

},

{

"measBandwidth": 10000000,

"measFrequency": 3650000000,

"measRcvdPower": -100.0

},

{

"measBandwidth": 10000000,

"measFrequency": 3660000000,

"measRcvdPower": -100.0

},

{

"measBandwidth": 10000000,
```

```

    "measFrequency": 3670000000,

    "measRcvdPower": -100.0

  },

  {

    "measBandwidth": 10000000,

    "measFrequency": 3680000000,

    "measRcvdPower": -100.0

  },

  {

    "measBandwidth": 10000000,

    "measFrequency": 3690000000,

    "measRcvdPower": -100.0

  }

]

},

"operationState": "AUTHORIZED"

}

]

}

```

2018-12-06T18:51:22.065Z - INFO - Time interval between two heartbeat request messages is: 60.06, limit is: 65.0

2018-12-06T18:51:22.082Z - INFO - engine sent successfully, the response to CBRS : {

```

"heartbeatResponse": [

  {

    "cbsId": "fccIdTestMock-SAS64A837260247",

    "grantId": "892561011",

    "response": {

      "responseCode": 0

    },

    "transmitExpireTime": "2018-12-06T18:54:42Z"

  }

]

```

```

    ]
  }

2018-12-06T18:51:28.499Z - INFO - relinquishment request from CBRS : {

  "relinquishmentRequest": [

    {

      "cbsdId": "fccIdTestMock-SAS64A837260247",

      "grantId": "892561011"

    }

  ]

}

2018-12-06T18:51:28.515Z - INFO - engine sent successfully, the response to CBRS : {

  "relinquishmentResponse": [

    {

      "cbsdId": "fccIdTestMock-SAS64A837260247",

      "grantId": "892561011",

      "response": {

        "responseCode": 0

      }

    }

  ]

}

2018-12-06T18:51:29.667Z - INFO - arrived to nstep starting question answer session with the technician

2018-12-06T18:51:29.667Z - INFO - the question is : Did the CBSD1 stop RF transmission upon sending Relinquishment request? please choose one of the answers :

2018-12-06T18:51:39.871Z - INFO - for the question : Did the CBSD1 stop RF transmission upon sending Relinquishment request? , the user choose y

2018-12-06T18:52:10.562Z - INFO - The final result of the test : WINNF.FT.C.RLQ.1 is - passed and :the additional comments for the current test are : The CBSD ceased transmission immediately upon Reliquishment Request

```

10.25 Log file for test case ID: WINNF.FT.C.RLQ.3

2018-12-06T18:52:54.619Z - INFO - WINNF TEST HARNESS RELEASE: 1.0.0.2 - 2018-May-24

2018-12-06T18:52:54.619Z - INFO - the selected test from the user : WINNF.FT.C.RLQ.3 is starting now

2018-12-06T18:53:59.039Z - INFO - registration request from CBRS : {

```
"registrationRequest": [
  {
    "airInterface": {
      "radioTechnology": "E_UTRA",
      "supportedSpec": "FFS"
    },
    "callSign": "WL9XKH",
    "cbsdCategory": "B",
    "cbsdInfo": {
      "firmwareVersion": "0.8.0.3",
      "hardwareVersion": "V0.2",
      "model": "JLT733A",
      "softwareVersion": "6.4.0",
      "vendor": "Fujitsu"
    },
    "cbsdSerialNumber": "64A837260247",
    "fccId": "fccIdTest",
    "groupingParam": [
      {
        "groupId": "userIdTest",
        "groupType": "INTERFERENCE_COORDINATION"
      }
    ],
    "installationParam": {
      "antennaAzimuth": 0,
      "antennaBeamwidth": 360,
      "antennaDowntilt": 90,
      "antennaGain": 6,
      "antennaModel": "Unknown",
      "height": 0.0,
      "heightType": "AGL",
      "indoorDeployment": false,
      "latitude": 38.702145,
      "longitude": -104.890516
    },
    "measCapability": [
      "RECEIVED_POWER_WITHOUT_GRANT"
    ],
    "userId": "userIdTest"
  }
]
```

2018-12-06T18:53:59.085Z - INFO - engine sent successfully, the response to CBRS : {

```
"registrationResponse": [
  {
    "cbsdId": "fccIdTestMock-SAS64A837260247",
    "response": {
      "responseCode": 0
    }
  }
]
```

```

    }
  ]
}
2018-12-06T18:53:59.117Z - INFO - spectrumInquiry request from CBRS : {
  "spectrumInquiryRequest": [
    {
      "cbsdId": "fccIdTestMock-SAS64A837260247",
      "inquiredSpectrum": [
        {
          "highFrequency": 3700000000,
          "lowFrequency": 3550000000
        }
      ],
      "measReport": {
        "rcvdPowerMeasReports": [
          {
            "measBandwidth": 10000000,
            "measFrequency": 3550000000,
            "measRcvdPower": -100.0
          },
          {
            "measBandwidth": 10000000,
            "measFrequency": 3560000000,
            "measRcvdPower": -100.0
          },
          {
            "measBandwidth": 10000000,
            "measFrequency": 3570000000,
            "measRcvdPower": -100.0
          },
          {
            "measBandwidth": 10000000,
            "measFrequency": 3580000000,
            "measRcvdPower": -100.0
          },
          {
            "measBandwidth": 10000000,
            "measFrequency": 3590000000,
            "measRcvdPower": -100.0
          },
          {
            "measBandwidth": 10000000,
            "measFrequency": 3600000000,
            "measRcvdPower": -100.0
          },
          {
            "measBandwidth": 10000000,
            "measFrequency": 3610000000,
            "measRcvdPower": -100.0
          },
          {
            "measBandwidth": 10000000,
            "measFrequency": 3620000000,
            "measRcvdPower": -100.0
          }
        ]
      }
    }
  ]
}

```

```

        "measBandwidth": 10000000,
        "measFrequency": 3630000000,
        "measRcvdPower": -100.0
    },
    {
        "measBandwidth": 10000000,
        "measFrequency": 3640000000,
        "measRcvdPower": -100.0
    },
    {
        "measBandwidth": 10000000,
        "measFrequency": 3650000000,
        "measRcvdPower": -100.0
    },
    {
        "measBandwidth": 10000000,
        "measFrequency": 3660000000,
        "measRcvdPower": -100.0
    },
    {
        "measBandwidth": 10000000,
        "measFrequency": 3670000000,
        "measRcvdPower": -100.0
    },
    {
        "measBandwidth": 10000000,
        "measFrequency": 3680000000,
        "measRcvdPower": -100.0
    },
    {
        "measBandwidth": 10000000,
        "measFrequency": 3690000000,
        "measRcvdPower": -100.0
    }
    ]
}
}
]
}
2018-12-06T18:53:59.131Z - INFO - engine sent successfully, the response to CBRS : {
  "spectrumInquiryResponse": [
    {
      "availableChannel": [
        {
          "channelType": "GAA",
          "frequencyRange": {
            "highFrequency": 3700000000,
            "lowFrequency": 3550000000
          },
          "ruleApplied": "FCC_PART_96"
        }
      ],
      "cbsId": "fccIdTestMock-SAS64A837260247",
      "response": {
        "responseCode": 0
      }
    }
  ]
}

```

```

    }
  ]
}
2018-12-06T18:53:59.506Z - INFO - grant request from CBRS : {
  "grantRequest": [
    {
      "cbsId": "fccIdTestMock-SAS64A837260247",
      "measReport": {
        "rcvdPowerMeasReports": [
          {
            "measBandwidth": 10000000,
            "measFrequency": 3550000000,
            "measRcvdPower": -100.0
          },
          {
            "measBandwidth": 10000000,
            "measFrequency": 3560000000,
            "measRcvdPower": -100.0
          },
          {
            "measBandwidth": 10000000,
            "measFrequency": 3570000000,
            "measRcvdPower": -100.0
          },
          {
            "measBandwidth": 10000000,
            "measFrequency": 3580000000,
            "measRcvdPower": -100.0
          },
          {
            "measBandwidth": 10000000,
            "measFrequency": 3590000000,
            "measRcvdPower": -100.0
          },
          {
            "measBandwidth": 10000000,
            "measFrequency": 3600000000,
            "measRcvdPower": -100.0
          },
          {
            "measBandwidth": 10000000,
            "measFrequency": 3610000000,
            "measRcvdPower": -100.0
          },
          {
            "measBandwidth": 10000000,
            "measFrequency": 3620000000,
            "measRcvdPower": -100.0
          },
          {
            "measBandwidth": 10000000,
            "measFrequency": 3630000000,
            "measRcvdPower": -100.0
          },
          {
            "measBandwidth": 10000000,

```

```

        "measFrequency": 3640000000,
        "measRcvdPower": -100.0
    },
    {
        "measBandwidth": 10000000,
        "measFrequency": 3650000000,
        "measRcvdPower": -100.0
    },
    {
        "measBandwidth": 10000000,
        "measFrequency": 3660000000,
        "measRcvdPower": -100.0
    },
    {
        "measBandwidth": 10000000,
        "measFrequency": 3670000000,
        "measRcvdPower": -100.0
    },
    {
        "measBandwidth": 10000000,
        "measFrequency": 3680000000,
        "measRcvdPower": -100.0
    },
    {
        "measBandwidth": 10000000,
        "measFrequency": 3690000000,
        "measRcvdPower": -100.0
    }
]
},
"operationParam": {
    "maxEirp": 29,
    "operationFrequencyRange": {
        "highFrequency": 3700000000,
        "lowFrequency": 3680000000
    }
}
}
]
}
2018-12-06T18:53:59.523Z - INFO - engine sent successfully, the response to CBRS : {
    "grantResponse": [
        {
            "cbsdId": "fccIdTestMock-SAS64A837260247",
            "channelType": "GAA",
            "grantExpireTime": "2018-12-13T18:53:59Z",
            "grantId": "592290716",
            "heartbeatInterval": 60,
            "response": {
                "responseCode": 0
            }
        }
    ]
}
2018-12-06T18:53:59.867Z - INFO - heartbeat request from CBRS : {
    "heartbeatRequest": [

```

```

{
  "cbsdId": "fccIdTestMock-SAS64A837260247",
  "grantId": "592290716",
  "grantRenew": false,
  "operationState": "GRANTED"
}
]
}
2018-12-06T18:53:59.882Z - INFO - engine sent successfully, the response to CBRS : {
  "heartbeatResponse": [
    {
      "cbsdId": "fccIdTestMock-SAS64A837260247",
      "grantId": "592290716",
      "response": {
        "responseCode": 0
      },
      "transmitExpireTime": "2018-12-06T18:57:19Z"
    }
  ]
}
2018-12-06T18:54:59.890Z - INFO - heartbeat request from CBRS : {
  "heartbeatRequest": [
    {
      "cbsdId": "fccIdTestMock-SAS64A837260247",
      "grantId": "592290716",
      "grantRenew": false,
      "operationState": "AUTHORIZED"
    }
  ]
}
2018-12-06T18:54:59.890Z - INFO - Time interval between two heartbeat request messages is: 60.023, limit is: 65.0
2018-12-06T18:54:59.905Z - INFO - engine sent successfully, the response to CBRS : {
  "heartbeatResponse": [
    {
      "cbsdId": "fccIdTestMock-SAS64A837260247",
      "grantId": "592290716",
      "response": {
        "responseCode": 0
      },
      "transmitExpireTime": "2018-12-06T18:58:19Z"
    }
  ]
}
2018-12-06T18:55:19.427Z - INFO - relinquishment request from CBRS : {
  "relinquishmentRequest": [
    {
      "cbsdId": "fccIdTestMock-SAS64A837260247",
      "grantId": "592290716"
    }
  ]
}
2018-12-06T18:55:19.444Z - INFO - engine sent successfully, the response to CBRS : {
  "relinquishmentResponse": [
    {
      "cbsdId": "fccIdTestMock-SAS64A837260247",
      "response": {

```

```

        "responseCode": 102,
        "responseData": [
            "grantId"
        ]
    }
}
]
}

```

2018-12-06T18:55:20.878Z - INFO - arrived to nstep starting question answer session with the technician

2018-12-06T18:55:20.878Z - INFO - the question is : Did the CBSD1 stop RF transmission upon sending Relinquishment request? please choose one of the answers :

2018-12-06T18:55:25.913Z - INFO - for the question : Did the CBSD1 stop RF transmission upon sending Relinquishment request? , the user choose y

2018-12-06T18:56:04.556Z - INFO - The final result of the test : WINNF.FT.C.RLQ.3 is - passed and :the additional comments for the current test are : The CBSD ceased transmission immediately upon Relinquishment Request

10.26 Log file for test case ID: WINNF.FT.C.RLQ.5

2018-12-06T18:57:08.170Z - INFO - WINNF TEST HARNESS RELEASE: 1.0.0.2 - 2018-May-24

2018-12-06T18:57:08.170Z - INFO - the selected test from the user : WINNF.FT.C.RLQ.5 is starting now

2018-12-06T18:59:37.878Z - INFO - registration request from CBRS : {

```

"registrationRequest": [
{
    "airInterface": {
        "radioTechnology": "E_UTRA",
        "supportedSpec": "FFS"
    },
    "callSign": "WL9XKH",
    "cbsdCategory": "B",
    "cbsdInfo": {
        "firmwareVersion": "0.8.0.3",
        "hardwareVersion": "V0.2",
        "model": "JLT733A",
        "softwareVersion": "6.4.0",
        "vendor": "Fujitsu"
    },
    "cbsdSerialNumber": "64A837260247",
    "fcclId": "fcclIdTest",
    "groupingParam": [
        {
            "groupId": "userIdTest",
            "groupType": "INTERFERENCE_COORDINATION"
        }
    ],
    "installationParam": {
        "antennaAzimuth": 0,
        "antennaBeamwidth": 360,
        "antennaDowntilt": 90,
        "antennaGain": 6,
        "antennaModel": "Unknown",
        "height": 0.0,
        "heightType": "AGL",
        "indoorDeployment": false,
        "latitude": 38.702145,
        "longitude": -104.890516
    },
    "measCapability": [

```

```

    "RECEIVED_POWER_WITHOUT_GRANT"
  ],
  "userId": "userIdTest"
}
}
}
2018-12-06T18:59:37.941Z - INFO - engine sent successfully, the response to CBRS : {
  "registrationResponse": [
    {
      "cbsId": "fccIdTestMock-SAS64A837260247",
      "response": {
        "responseCode": 0
      }
    }
  ]
}
}
2018-12-06T18:59:37.989Z - INFO - spectrumInquiry request from CBRS : {
  "spectrumInquiryRequest": [
    {
      "cbsId": "fccIdTestMock-SAS64A837260247",
      "inquiredSpectrum": [
        {
          "highFrequency": 3700000000,
          "lowFrequency": 3550000000
        }
      ],
      "measReport": {
        "rcvdPowerMeasReports": [
          {
            "measBandwidth": 10000000,
            "measFrequency": 3550000000,
            "measRcvdPower": -100.0
          },
          {
            "measBandwidth": 10000000,
            "measFrequency": 3560000000,
            "measRcvdPower": -100.0
          },
          {
            "measBandwidth": 10000000,
            "measFrequency": 3570000000,
            "measRcvdPower": -100.0
          },
          {
            "measBandwidth": 10000000,
            "measFrequency": 3580000000,
            "measRcvdPower": -100.0
          },
          {
            "measBandwidth": 10000000,
            "measFrequency": 3590000000,
            "measRcvdPower": -100.0
          },
          {
            "measBandwidth": 10000000,
            "measFrequency": 3600000000,

```

```

        "measRcvdPower": -100.0
    },
    {
        "measBandwidth": 10000000,
        "measFrequency": 3610000000,
        "measRcvdPower": -100.0
    },
    {
        "measBandwidth": 10000000,
        "measFrequency": 3620000000,
        "measRcvdPower": -100.0
    },
    {
        "measBandwidth": 10000000,
        "measFrequency": 3630000000,
        "measRcvdPower": -100.0
    },
    {
        "measBandwidth": 10000000,
        "measFrequency": 3640000000,
        "measRcvdPower": -100.0
    },
    {
        "measBandwidth": 10000000,
        "measFrequency": 3650000000,
        "measRcvdPower": -100.0
    },
    {
        "measBandwidth": 10000000,
        "measFrequency": 3660000000,
        "measRcvdPower": -100.0
    },
    {
        "measBandwidth": 10000000,
        "measFrequency": 3670000000,
        "measRcvdPower": -100.0
    },
    {
        "measBandwidth": 10000000,
        "measFrequency": 3680000000,
        "measRcvdPower": -100.0
    },
    {
        "measBandwidth": 10000000,
        "measFrequency": 3690000000,
        "measRcvdPower": -100.0
    }
    ]
}
}
}
}
2018-12-06T18:59:38.003Z - INFO - engine sent successfully, the response to CBRS : {
  "spectrumInquiryResponse": [
    {
      "availableChannel": [

```

```

    {
      "channelType": "GAA",
      "frequencyRange": {
        "highFrequency": 3700000000,
        "lowFrequency": 3550000000
      },
      "ruleApplied": "FCC_PART_96"
    }
  ],
  "cbsdId": "fccIdTestMock-SAS64A837260247",
  "response": {
    "responseCode": 0
  }
}
]
}
2018-12-06T18:59:38.394Z - INFO - grant request from CBRS : {
  "grantRequest": [
    {
      "cbsdId": "fccIdTestMock-SAS64A837260247",
      "measReport": {
        "rcvdPowerMeasReports": [
          {
            "measBandwidth": 10000000,
            "measFrequency": 3550000000,
            "measRcvdPower": -100.0
          },
          {
            "measBandwidth": 10000000,
            "measFrequency": 3560000000,
            "measRcvdPower": -100.0
          },
          {
            "measBandwidth": 10000000,
            "measFrequency": 3570000000,
            "measRcvdPower": -100.0
          },
          {
            "measBandwidth": 10000000,
            "measFrequency": 3580000000,
            "measRcvdPower": -100.0
          },
          {
            "measBandwidth": 10000000,
            "measFrequency": 3590000000,
            "measRcvdPower": -100.0
          },
          {
            "measBandwidth": 10000000,
            "measFrequency": 3600000000,
            "measRcvdPower": -100.0
          },
          {
            "measBandwidth": 10000000,
            "measFrequency": 3610000000,
            "measRcvdPower": -100.0
          }
        ]
      }
    }
  ]
}

```

```

    },
    {
      "measBandwidth": 10000000,
      "measFrequency": 3620000000,
      "measRcvdPower": -100.0
    },
    {
      "measBandwidth": 10000000,
      "measFrequency": 3630000000,
      "measRcvdPower": -100.0
    },
    {
      "measBandwidth": 10000000,
      "measFrequency": 3640000000,
      "measRcvdPower": -100.0
    },
    {
      "measBandwidth": 10000000,
      "measFrequency": 3650000000,
      "measRcvdPower": -100.0
    },
    {
      "measBandwidth": 10000000,
      "measFrequency": 3660000000,
      "measRcvdPower": -100.0
    },
    {
      "measBandwidth": 10000000,
      "measFrequency": 3670000000,
      "measRcvdPower": -100.0
    },
    {
      "measBandwidth": 10000000,
      "measFrequency": 3680000000,
      "measRcvdPower": -100.0
    },
    {
      "measBandwidth": 10000000,
      "measFrequency": 3690000000,
      "measRcvdPower": -100.0
    }
  ]
},
"operationParam": {
  "maxEirp": 29,
  "operationFrequencyRange": {
    "highFrequency": 3700000000,
    "lowFrequency": 3680000000
  }
}
}
]
}
}
2018-12-06T18:59:38.411Z - INFO - engine sent successfully, the response to CBRS : {
  "grantResponse": [
    {

```

```

        "cbsdId": "fccIdTestMock-SAS64A837260247",
        "channelType": "GAA",
        "grantExpireTime": "2018-12-13T18:59:38Z",
        "grantId": "946715735",
        "heartbeatInterval": 60,
        "response": {
            "responseCode": 0
        }
    }
}
}
2018-12-06T18:59:38.753Z - INFO - heartbeat request from CBRS : {
    "heartbeatRequest": [
        {
            "cbsdId": "fccIdTestMock-SAS64A837260247",
            "grantId": "946715735",
            "grantRenew": false,
            "operationState": "GRANTED"
        }
    ]
}
2018-12-06T18:59:38.769Z - INFO - engine sent successfully, the response to CBRS : {
    "heartbeatResponse": [
        {
            "cbsdId": "fccIdTestMock-SAS64A837260247",
            "grantId": "946715735",
            "response": {
                "responseCode": 0
            },
            "transmitExpireTime": "2018-12-06T19:02:58Z"
        }
    ]
}
2018-12-06T19:00:38.779Z - INFO - heartbeat request from CBRS : {
    "heartbeatRequest": [
        {
            "cbsdId": "fccIdTestMock-SAS64A837260247",
            "grantId": "946715735",
            "grantRenew": false,
            "operationState": "AUTHORIZED"
        }
    ]
}
2018-12-06T19:00:38.779Z - INFO - Time interval between two heartbeat request messages is: 60.026, limit is: 65.0
2018-12-06T19:00:38.796Z - INFO - engine sent successfully, the response to CBRS : {
    "heartbeatResponse": [
        {
            "cbsdId": "fccIdTestMock-SAS64A837260247",
            "grantId": "946715735",
            "response": {
                "responseCode": 0
            },
            "transmitExpireTime": "2018-12-06T19:03:58Z"
        }
    ]
}
}

```

2018-12-06T19:00:59.838Z - INFO - relinquishment request from CBRS : {

```
"relinquishmentRequest": [
  {
    "cbsdId": "fccIdTestMock-SAS64A837260247",
    "grantId": "946715735"
  }
]
```

2018-12-06T19:00:59.838Z - INFO - engine sent successfully, the response to CBRS : {

```
"relinquishmentResponse": [
  {
    "cbsdId": "fccIdTestMock-SAS64A837260247",
    "response": {
      "responseCode": 103,
      "responseData": [
        "grantId"
      ]
    }
  }
]
```

2018-12-06T19:01:01.042Z - INFO - arrived to nstep starting question answer session with the technician

2018-12-06T19:01:01.042Z - INFO - the question is : Did the CBSD1 stop RF transmission upon sending Relinquishment request? please choose one of the answers :

2018-12-06T19:01:15.371Z - INFO - for the question : Did the CBSD1 stop RF transmission upon sending Relinquishment request? , the user choose y

2018-12-06T19:01:32.770Z - INFO - The final result of the test : WINNF.FT.C.RLQ.5 is - passed and :the additional comments for the current test are : The CBSD ceased transmission immediately upon Relinquishment Request

10.27 Log file for test case ID: WINNF.FT.C.DRG.1

2018-12-06T19:02:54.917Z - INFO - WINNF TEST HARNESS RELEASE: 1.0.0.2 - 2018-May-24

2018-12-06T19:02:54.917Z - INFO - the selected test from the user : WINNF.FT.C.DRG.1 is starting now

2018-12-06T19:03:58.644Z - INFO - registration request from CBRS : {

```
"registrationRequest": [
  {
    "airInterface": {
      "radioTechnology": "E_UTRA",
      "supportedSpec": "FFS"
    },
    "callSign": "WL9XKH",
    "cbsdCategory": "B",
    "cbsdInfo": {
      "firmwareVersion": "0.8.0.3",
      "hardwareVersion": "V0.2",
      "model": "JLT733A",
      "softwareVersion": "6.4.0",
      "vendor": "Fujitsu"
    },
    "cbsdSerialNumber": "64A837260247",
    "fccId": "fccIdTest",
    "groupingParam": [
      {
        "groupId": "userIdTest",
        "groupType": "INTERFERENCE_COORDINATION"
      }
    ]
  }
]
```

```

    }
  ],
  "installationParam": {
    "antennaAzimuth": 0,
    "antennaBeamwidth": 360,
    "antennaDowntilt": 90,
    "antennaGain": 6,
    "antennaModel": "Unknown",
    "height": 0.0,
    "heightType": "AGL",
    "indoorDeployment": false,
    "latitude": 38.702145,
    "longitude": -104.890516
  },
  "measCapability": [
    "RECEIVED_POWER_WITHOUT_GRANT"
  ],
  "userId": "userIdTest"
}
}
}
2018-12-06T19:03:58.691Z - INFO - engine sent successfully, the response to CBRS : {
  "registrationResponse": [
    {
      "cbsdId": "fccIdTestMock-SAS64A837260247",
      "response": {
        "responseCode": 0
      }
    }
  ]
}
}
2018-12-06T19:03:58.723Z - INFO - spectrumInquiry request from CBRS : {
  "spectrumInquiryRequest": [
    {
      "cbsdId": "fccIdTestMock-SAS64A837260247",
      "inquiredSpectrum": [
        {
          "highFrequency": 3700000000,
          "lowFrequency": 3550000000
        }
      ],
      "measReport": {
        "rcvdPowerMeasReports": [
          {
            "measBandwidth": 10000000,
            "measFrequency": 3550000000,
            "measRcvdPower": -100.0
          },
          {
            "measBandwidth": 10000000,
            "measFrequency": 3560000000,
            "measRcvdPower": -100.0
          },
          {
            "measBandwidth": 10000000,
            "measFrequency": 3570000000,

```

```

    "measRcvdPower": -100.0
  },
  {
    "measBandwidth": 10000000,
    "measFrequency": 3580000000,
    "measRcvdPower": -100.0
  },
  {
    "measBandwidth": 10000000,
    "measFrequency": 3590000000,
    "measRcvdPower": -100.0
  },
  {
    "measBandwidth": 10000000,
    "measFrequency": 3600000000,
    "measRcvdPower": -100.0
  },
  {
    "measBandwidth": 10000000,
    "measFrequency": 3610000000,
    "measRcvdPower": -100.0
  },
  {
    "measBandwidth": 10000000,
    "measFrequency": 3620000000,
    "measRcvdPower": -100.0
  },
  {
    "measBandwidth": 10000000,
    "measFrequency": 3630000000,
    "measRcvdPower": -100.0
  },
  {
    "measBandwidth": 10000000,
    "measFrequency": 3640000000,
    "measRcvdPower": -100.0
  },
  {
    "measBandwidth": 10000000,
    "measFrequency": 3650000000,
    "measRcvdPower": -100.0
  },
  {
    "measBandwidth": 10000000,
    "measFrequency": 3660000000,
    "measRcvdPower": -100.0
  },
  {
    "measBandwidth": 10000000,
    "measFrequency": 3670000000,
    "measRcvdPower": -100.0
  },
  {
    "measBandwidth": 10000000,
    "measFrequency": 3680000000,
    "measRcvdPower": -100.0
  }

```

```

    },
    {
      "measBandwidth": 10000000,
      "measFrequency": 3690000000,
      "measRcvdPower": -100.0
    }
  ]
}
}
]
}
}
2018-12-06T19:03:58.739Z - INFO - engine sent successfully, the response to CBRS : {
  "spectrumInquiryResponse": [
    {
      "availableChannel": [
        {
          "channelType": "GAA",
          "frequencyRange": {
            "highFrequency": 3700000000,
            "lowFrequency": 3550000000
          },
          "ruleApplied": "FCC_PART_96"
        }
      ],
      "cbsId": "fccIdTestMock-SAS64A837260247",
      "response": {
        "responseCode": 0
      }
    }
  ]
}
2018-12-06T19:03:59.114Z - INFO - grant request from CBRS : {
  "grantRequest": [
    {
      "cbsId": "fccIdTestMock-SAS64A837260247",
      "measReport": {
        "rcvdPowerMeasReports": [
          {
            "measBandwidth": 10000000,
            "measFrequency": 3550000000,
            "measRcvdPower": -100.0
          },
          {
            "measBandwidth": 10000000,
            "measFrequency": 3560000000,
            "measRcvdPower": -100.0
          },
          {
            "measBandwidth": 10000000,
            "measFrequency": 3570000000,
            "measRcvdPower": -100.0
          },
          {
            "measBandwidth": 10000000,
            "measFrequency": 3580000000,
            "measRcvdPower": -100.0
          }
        ]
      }
    }
  ]
}

```

```

},
{
  "measBandwidth": 10000000,
  "measFrequency": 3590000000,
  "measRcvdPower": -100.0
},
{
  "measBandwidth": 10000000,
  "measFrequency": 3600000000,
  "measRcvdPower": -100.0
},
{
  "measBandwidth": 10000000,
  "measFrequency": 3610000000,
  "measRcvdPower": -100.0
},
{
  "measBandwidth": 10000000,
  "measFrequency": 3620000000,
  "measRcvdPower": -100.0
},
{
  "measBandwidth": 10000000,
  "measFrequency": 3630000000,
  "measRcvdPower": -100.0
},
{
  "measBandwidth": 10000000,
  "measFrequency": 3640000000,
  "measRcvdPower": -100.0
},
{
  "measBandwidth": 10000000,
  "measFrequency": 3650000000,
  "measRcvdPower": -100.0
},
{
  "measBandwidth": 10000000,
  "measFrequency": 3660000000,
  "measRcvdPower": -100.0
},
{
  "measBandwidth": 10000000,
  "measFrequency": 3670000000,
  "measRcvdPower": -100.0
},
{
  "measBandwidth": 10000000,
  "measFrequency": 3680000000,
  "measRcvdPower": -100.0
},
{
  "measBandwidth": 10000000,
  "measFrequency": 3690000000,
  "measRcvdPower": -100.0
}

```

```

    ]
  },
  "operationParam": {
    "maxEirp": 29,
    "operationFrequencyRange": {
      "highFrequency": 3700000000,
      "lowFrequency": 3680000000
    }
  }
}
]
}
}
2018-12-06T19:03:59.128Z - INFO - engine sent successfully, the response to CBRS : {
  "grantResponse": [
    {
      "cbsdId": "fccIdTestMock-SAS64A837260247",
      "channelType": "GAA",
      "grantExpireTime": "2018-12-13T19:03:59Z",
      "grantId": "783652399",
      "heartbeatInterval": 60,
      "response": {
        "responseCode": 0
      }
    }
  ]
}
}
2018-12-06T19:03:59.489Z - INFO - heartbeat request from CBRS : {
  "heartbeatRequest": [
    {
      "cbsdId": "fccIdTestMock-SAS64A837260247",
      "grantId": "783652399",
      "grantRenew": false,
      "operationState": "GRANTED"
    }
  ]
}
}
2018-12-06T19:03:59.503Z - INFO - engine sent successfully, the response to CBRS : {
  "heartbeatResponse": [
    {
      "cbsdId": "fccIdTestMock-SAS64A837260247",
      "grantId": "783652399",
      "response": {
        "responseCode": 0
      },
      "transmitExpireTime": "2018-12-06T19:07:19Z"
    }
  ]
}
}
2018-12-06T19:04:59.516Z - INFO - heartbeat request from CBRS : {
  "heartbeatRequest": [
    {
      "cbsdId": "fccIdTestMock-SAS64A837260247",
      "grantId": "783652399",
      "grantRenew": false,
      "operationState": "AUTHORIZED"
    }
  ]
}
}

```

```

    ]
  }
2018-12-06T19:04:59.516Z - INFO - Time interval between two heartbeat request messages is: 60.027, limit is: 65.0
2018-12-06T19:04:59.530Z - INFO - engine sent successfully, the response to CBRS : {
  "heartbeatResponse": [
    {
      "cbsdId": "fccIdTestMock-SAS64A837260247",
      "grantId": "783652399",
      "response": {
        "responseCode": 0
      },
      "transmitExpireTime": "2018-12-06T19:08:19Z"
    }
  ]
}
2018-12-06T19:05:15.997Z - INFO - relinquishment request from CBRS : {
  "relinquishmentRequest": [
    {
      "cbsdId": "fccIdTestMock-SAS64A837260247",
      "grantId": "783652399"
    }
  ]
}
2018-12-06T19:05:16.013Z - INFO - engine sent successfully, the response to CBRS : {
  "relinquishmentResponse": [
    {
      "cbsdId": "fccIdTestMock-SAS64A837260247",
      "grantId": "783652399",
      "response": {
        "responseCode": 0
      }
    }
  ]
}
2018-12-06T19:05:16.045Z - INFO - deregistration request from CBRS : {
  "deregistrationRequest": [
    {
      "cbsdId": "fccIdTestMock-SAS64A837260247"
    }
  ]
}
2018-12-06T19:05:16.045Z - INFO - engine sent successfully, the response to CBRS : {
  "deregistrationResponse": [
    {
      "cbsdId": "fccIdTestMock-SAS64A837260247",
      "response": {
        "responseCode": 0
      }
    }
  ]
}
2018-12-06T19:05:17.220Z - INFO - arrived to nstep starting question answer session with the technician
2018-12-06T19:05:17.220Z - INFO - the question is : Did the CBSD stop RF transmissions upon sending the Deregister request? please choose one of the
answers :
2018-12-06T19:05:21.788Z - INFO - for the question : Did the CBSD stop RF transmissions upon sending the Deregister request? , the user choose y

```

2018-12-06T19:05:44.868Z - INFO - The final result of the test : WINNF.FT.C.DRG.1 is - passed and :the additional comments for the current test are : The CBSD ceased transmission immediately upon Deregistration Request

10.28 Log file for test case ID: WINNF.FT.C.DRG.3

2018-12-06T19:06:02.694Z - INFO - WINNF TEST HARNESS RELEASE: 1.0.0.2 - 2018-May-24

2018-12-06T19:06:02.694Z - INFO - the selected test from the user : WINNF.FT.C.DRG.3 is starting now

2018-12-06T19:07:51.362Z - INFO - registration request from CBRS : {

```
"registrationRequest": [
  {
    "airInterface": {
      "radioTechnology": "E_UTRA",
      "supportedSpec": "FFS"
    },
    "calSign": "WL9XKH",
    "cbsdCategory": "B",
    "cbsdInfo": {
      "firmwareVersion": "0.8.0.3",
      "hardwareVersion": "V0.2",
      "model": "JLT733A",
      "softwareVersion": "6.4.0",
      "vendor": "Fujitsu"
    },
    "cbsdSerialNumber": "64A837260247",
    "fccId": "fccIdTest",
    "groupingParam": [
      {
        "groupId": "userIdTest",
        "groupType": "INTERFERENCE_COORDINATION"
      }
    ],
    "installationParam": {
      "antennaAzimuth": 0,
      "antennaBeamwidth": 360,
      "antennaDowntilt": 90,
      "antennaGain": 6,
      "antennaModel": "Unknown",
      "height": 0.0,
      "heightType": "AGL",
      "indoorDeployment": false,
      "latitude": 38.702145,
      "longitude": -104.890516
    },
    "measCapability": [
      "RECEIVED_POWER_WITHOUT_GRANT"
    ],
    "userId": "userIdTest"
  }
]
```

2018-12-06T19:07:51.424Z - INFO - engine sent successfully, the response to CBRS : {

```
"registrationResponse": [
  {
    "cbsdId": "fccIdTestMock-SAS64A837260247",
    "response": {
      "responseCode": 0
    }
  }
]
```

```

    }
  }
]
}
2018-12-06T19:07:51.487Z - INFO - spectrumInquiry request from CBRS : {
  "spectrumInquiryRequest": [
    {
      "cbsdId": "fccIdTestMock-SAS64A837260247",
      "inquiredSpectrum": [
        {
          "highFrequency": 3700000000,
          "lowFrequency": 3550000000
        }
      ],
      "measReport": {
        "rcvdPowerMeasReports": [
          {
            "measBandwidth": 10000000,
            "measFrequency": 3550000000,
            "measRcvdPower": -100.0
          },
          {
            "measBandwidth": 10000000,
            "measFrequency": 3560000000,
            "measRcvdPower": -100.0
          },
          {
            "measBandwidth": 10000000,
            "measFrequency": 3570000000,
            "measRcvdPower": -100.0
          },
          {
            "measBandwidth": 10000000,
            "measFrequency": 3580000000,
            "measRcvdPower": -100.0
          },
          {
            "measBandwidth": 10000000,
            "measFrequency": 3590000000,
            "measRcvdPower": -100.0
          },
          {
            "measBandwidth": 10000000,
            "measFrequency": 3600000000,
            "measRcvdPower": -100.0
          },
          {
            "measBandwidth": 10000000,
            "measFrequency": 3610000000,
            "measRcvdPower": -100.0
          },
          {
            "measBandwidth": 10000000,
            "measFrequency": 3620000000,
            "measRcvdPower": -100.0
          }
        ]
      }
    }
  ]
}

```

```

    {
      "measBandwidth": 10000000,
      "measFrequency": 3630000000,
      "measRcvdPower": -100.0
    },
    {
      "measBandwidth": 10000000,
      "measFrequency": 3640000000,
      "measRcvdPower": -100.0
    },
    {
      "measBandwidth": 10000000,
      "measFrequency": 3650000000,
      "measRcvdPower": -100.0
    },
    {
      "measBandwidth": 10000000,
      "measFrequency": 3660000000,
      "measRcvdPower": -100.0
    },
    {
      "measBandwidth": 10000000,
      "measFrequency": 3670000000,
      "measRcvdPower": -100.0
    },
    {
      "measBandwidth": 10000000,
      "measFrequency": 3680000000,
      "measRcvdPower": -100.0
    },
    {
      "measBandwidth": 10000000,
      "measFrequency": 3690000000,
      "measRcvdPower": -100.0
    }
  ]
}
}
]
}

2018-10-06T19:07:51.503Z - INFO - engine sent successfully, the response to CBRS : {
  "spectrumInquiryResponse": [
    {
      "availableChannel": [
        {
          "channelType": "GAA",
          "frequencyRange": {
            "highFrequency": 3700000000,
            "lowFrequency": 3550000000
          },
          "ruleApplied": "FCC_PART_96"
        }
      ],
      "cbsId": "fcIdTestMock-SAS64A837260247",
      "response": {
        "responseCode": 0
      }
    }
  ]
}

```

```

    }
  }
]
}
2018-12-06T19:07:51.878Z - INFO - grant request from CBRS : {
  "grantRequest": [
    {
      "cbsdId": "fccIdTestMock-SAS64A837260247",
      "measReport": {
        "rcvdPowerMeasReports": [
          {
            "measBandwidth": 10000000,
            "measFrequency": 3550000000,
            "measRcvdPower": -100.0
          },
          {
            "measBandwidth": 10000000,
            "measFrequency": 3560000000,
            "measRcvdPower": -100.0
          },
          {
            "measBandwidth": 10000000,
            "measFrequency": 3570000000,
            "measRcvdPower": -100.0
          },
          {
            "measBandwidth": 10000000,
            "measFrequency": 3580000000,
            "measRcvdPower": -100.0
          },
          {
            "measBandwidth": 10000000,
            "measFrequency": 3590000000,
            "measRcvdPower": -100.0
          },
          {
            "measBandwidth": 10000000,
            "measFrequency": 3600000000,
            "measRcvdPower": -100.0
          },
          {
            "measBandwidth": 10000000,
            "measFrequency": 3610000000,
            "measRcvdPower": -100.0
          },
          {
            "measBandwidth": 10000000,
            "measFrequency": 3620000000,
            "measRcvdPower": -100.0
          },
          {
            "measBandwidth": 10000000,
            "measFrequency": 3630000000,
            "measRcvdPower": -100.0
          }
        ]
      }
    }
  ]
}

```

```

        "measBandwidth": 10000000,
        "measFrequency": 3640000000,
        "measRcvdPower": -100.0
    },
    {
        "measBandwidth": 10000000,
        "measFrequency": 3650000000,
        "measRcvdPower": -100.0
    },
    {
        "measBandwidth": 10000000,
        "measFrequency": 3660000000,
        "measRcvdPower": -100.0
    },
    {
        "measBandwidth": 10000000,
        "measFrequency": 3670000000,
        "measRcvdPower": -100.0
    },
    {
        "measBandwidth": 10000000,
        "measFrequency": 3680000000,
        "measRcvdPower": -100.0
    },
    {
        "measBandwidth": 10000000,
        "measFrequency": 3690000000,
        "measRcvdPower": -100.0
    }
    ]
},
"operationParam": {
    "maxEirp": 29,
    "operationFrequencyRange": {
        "highFrequency": 3700000000,
        "lowFrequency": 3680000000
    }
}
}
]
}
2018-12-06T19:07:51.894Z - INFO - engine sent successfully, the response to CBRS : {
    "grantResponse": [
        {
            "cbsdId": "fccIdTestMock-SAS64A837260247",
            "channelType": "GAA",
            "grantExpireTime": "2018-12-13T19:07:51Z",
            "grantId": "628640102",
            "heartbeatInterval": 60,
            "response": {
                "responseCode": 0
            }
        }
    ]
}
}
2018-12-06T19:07:52.237Z - INFO - heartbeat request from CBRS : {

```

```

"heartbeatRequest": [
  {
    "cbsdId": "fccIdTestMock-SAS64A837260247",
    "grantId": "628640102",
    "grantRenew": false,
    "operationState": "GRANTED"
  }
]
}
2018-12-06T19:07:52.253Z - INFO - engine sent successfully, the response to CBRS : {
  "heartbeatResponse": [
    {
      "cbsdId": "fccIdTestMock-SAS64A837260247",
      "grantId": "628640102",
      "response": {
        "responseCode": 0
      },
      "transmitExpireTime": "2018-12-06T19:11:12Z"
    }
  ]
}
2018-12-06T19:08:52.265Z - INFO - heartbeat request from CBRS : {
  "heartbeatRequest": [
    {
      "cbsdId": "fccIdTestMock-SAS64A837260247",
      "grantId": "628640102",
      "grantRenew": false,
      "operationState": "AUTHORIZED"
    }
  ]
}
2018-12-06T19:08:52.265Z - INFO - Time interval between two heartbeat request messages is: 60.027, limit is: 65.0
2018-12-06T19:08:52.280Z - INFO - engine sent successfully, the response to CBRS : {
  "heartbeatResponse": [
    {
      "cbsdId": "fccIdTestMock-SAS64A837260247",
      "grantId": "628640102",
      "response": {
        "responseCode": 0
      },
      "transmitExpireTime": "2018-12-06T19:12:12Z"
    }
  ]
}
2018-12-06T19:09:09.128Z - INFO - relinquishment request from CBRS : {
  "relinquishmentRequest": [
    {
      "cbsdId": "fccIdTestMock-SAS64A837260247",
      "grantId": "628640102"
    }
  ]
}
2018-12-06T19:09:09.144Z - INFO - engine sent successfully, the response to CBRS : {
  "relinquishmentResponse": [
    {
      "cbsdId": "fccIdTestMock-SAS64A837260247",

```

```

    "grantId": "628640102",
    "response": {
      "responseCode": 0
    }
  }
]
}
2018-12-06T19:09:09.190Z - INFO - deregistration request from CBRS : {
  "deregistrationRequest": [
    {
      "cbsdId": "fccIdTestMock-SAS64A837260247"
    }
  ]
}
2018-12-06T19:09:09.206Z - INFO - engine sent successfully, the response to CBRS : {
  "deregistrationResponse": [
    {
      "response": {
        "responseCode": 102
      }
    }
  ]
}
2018-12-06T19:09:10.283Z - INFO - arrived to nstep starting question answer session with the technician
2018-12-06T19:09:10.283Z - INFO - the question is : Did the CBSD stop RF transmissions upon sending the Deregister request? please choose one of the answers :
2018-12-06T19:09:16.443Z - INFO - for the question : Did the CBSD stop RF transmissions upon sending the Deregister request? , the user choose y
2018-12-06T19:09:32.230Z - INFO - The final result of the test : WINNF.FT.C.DRG.3 is - passed and :the additional comments for the current test are : The CBSD ceased transmission immediately upon sending Deregistration Request

```

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

```

2018-12-06T19:10:16.270Z - INFO - WINNF TEST HARNESS RELEASE: 1.0.0.2 - 2018-May-24
2018-12-06T19:10:16.270Z - INFO - the selected test from the user : WINNF.FT.C.DRG.5 is starting now
2018-12-06T19:11:42.349Z - INFO - registration request from CBRS : {
  "registrationRequest": [
    {
      "airInterface": {
        "radioTechnology": "E_UTRA",
        "supportedSpec": "FFS"
      },
      "callSign": "WL9XKH",
      "cbsdCategory": "B",
      "cbsdInfo": {
        "firmwareVersion": "0.8.0.3",
        "hardwareVersion": "V0.2",
        "model": "JLT733A",
        "softwareVersion": "6.4.0",
        "vendor": "Fujitsu"
      },
      "cbsdSerialNumber": "64A837260247",
      "fccId": "fccIdTest",
      "groupingParam": [
        {
          "groupId": "userIdTest",
          "groupType": "INTERFERENCE_COORDINATION"
        }
      ]
    }
  ]
}

```

```

    }
  ],
  "installationParam": {
    "antennaAzimuth": 0,
    "antennaBeamwidth": 360,
    "antennaDowntilt": 90,
    "antennaGain": 6,
    "antennaModel": "Unknown",
    "height": 0.0,
    "heightType": "AGL",
    "indoorDeployment": false,
    "latitude": 38.702145,
    "longitude": -104.890516
  },
  "measCapability": [
    "RECEIVED_POWER_WITHOUT_GRANT"
  ],
  "userId": "userIdTest"
}
]
}
}
2018-12-06T19:11:42.381Z - INFO - engine sent successfully, the response to CBRS : {
  "registrationResponse": [
    {
      "cbsdId": "fccIdTestMock-SAS64A837260247",
      "response": {
        "responseCode": 0
      }
    }
  ]
}
}
2018-12-06T19:11:42.427Z - INFO - spectrumInquiry request from CBRS : {
  "spectrumInquiryRequest": [
    {
      "cbsdId": "fccIdTestMock-SAS64A837260247",
      "inquiredSpectrum": [
        {
          "highFrequency": 3700000000,
          "lowFrequency": 3550000000
        }
      ],
      "measReport": {
        "rcvdPowerMeasReports": [
          {
            "measBandwidth": 10000000,
            "measFrequency": 3550000000,
            "measRcvdPower": -100.0
          },
          {
            "measBandwidth": 10000000,
            "measFrequency": 3560000000,
            "measRcvdPower": -100.0
          },
          {
            "measBandwidth": 10000000,
            "measFrequency": 3570000000,

```

```

    "measRcvdPower": -100.0
  },
  {
    "measBandwidth": 10000000,
    "measFrequency": 3580000000,
    "measRcvdPower": -100.0
  },
  {
    "measBandwidth": 10000000,
    "measFrequency": 3590000000,
    "measRcvdPower": -100.0
  },
  {
    "measBandwidth": 10000000,
    "measFrequency": 3600000000,
    "measRcvdPower": -100.0
  },
  {
    "measBandwidth": 10000000,
    "measFrequency": 3610000000,
    "measRcvdPower": -100.0
  },
  {
    "measBandwidth": 10000000,
    "measFrequency": 3620000000,
    "measRcvdPower": -100.0
  },
  {
    "measBandwidth": 10000000,
    "measFrequency": 3630000000,
    "measRcvdPower": -100.0
  },
  {
    "measBandwidth": 10000000,
    "measFrequency": 3640000000,
    "measRcvdPower": -100.0
  },
  {
    "measBandwidth": 10000000,
    "measFrequency": 3650000000,
    "measRcvdPower": -100.0
  },
  {
    "measBandwidth": 10000000,
    "measFrequency": 3660000000,
    "measRcvdPower": -100.0
  },
  {
    "measBandwidth": 10000000,
    "measFrequency": 3670000000,
    "measRcvdPower": -100.0
  },
  {
    "measBandwidth": 10000000,
    "measFrequency": 3680000000,
    "measRcvdPower": -100.0
  }

```

```

    },
    {
      "measBandwidth": 10000000,
      "measFrequency": 3690000000,
      "measRcvdPower": -100.0
    }
  ]
}
}
]
}
}
2018-12-06T19:11:42.443Z - INFO - engine sent successfully, the response to CBRS : {
  "spectrumInquiryResponse": [
    {
      "availableChannel": [
        {
          "channelType": "GAA",
          "frequencyRange": {
            "highFrequency": 3700000000,
            "lowFrequency": 3550000000
          },
          "ruleApplied": "FCC_PART_96"
        }
      ],
      "cbsId": "fccIdTestMock-SAS64A837260247",
      "response": {
        "responseCode": 0
      }
    }
  ]
}
2018-12-06T19:11:42.818Z - INFO - grant request from CBRS : {
  "grantRequest": [
    {
      "cbsId": "fccIdTestMock-SAS64A837260247",
      "measReport": {
        "rcvdPowerMeasReports": [
          {
            "measBandwidth": 10000000,
            "measFrequency": 3550000000,
            "measRcvdPower": -100.0
          },
          {
            "measBandwidth": 10000000,
            "measFrequency": 3560000000,
            "measRcvdPower": -100.0
          },
          {
            "measBandwidth": 10000000,
            "measFrequency": 3570000000,
            "measRcvdPower": -100.0
          },
          {
            "measBandwidth": 10000000,
            "measFrequency": 3580000000,
            "measRcvdPower": -100.0
          }
        ]
      }
    }
  ]
}

```

```

},
{
  "measBandwidth": 10000000,
  "measFrequency": 3590000000,
  "measRcvdPower": -100.0
},
{
  "measBandwidth": 10000000,
  "measFrequency": 3600000000,
  "measRcvdPower": -100.0
},
{
  "measBandwidth": 10000000,
  "measFrequency": 3610000000,
  "measRcvdPower": -100.0
},
{
  "measBandwidth": 10000000,
  "measFrequency": 3620000000,
  "measRcvdPower": -100.0
},
{
  "measBandwidth": 10000000,
  "measFrequency": 3630000000,
  "measRcvdPower": -100.0
},
{
  "measBandwidth": 10000000,
  "measFrequency": 3640000000,
  "measRcvdPower": -100.0
},
{
  "measBandwidth": 10000000,
  "measFrequency": 3650000000,
  "measRcvdPower": -100.0
},
{
  "measBandwidth": 10000000,
  "measFrequency": 3660000000,
  "measRcvdPower": -100.0
},
{
  "measBandwidth": 10000000,
  "measFrequency": 3670000000,
  "measRcvdPower": -100.0
},
{
  "measBandwidth": 10000000,
  "measFrequency": 3680000000,
  "measRcvdPower": -100.0
},
{
  "measBandwidth": 10000000,
  "measFrequency": 3690000000,
  "measRcvdPower": -100.0
}

```

```

    ]
  },
  "operationParam": {
    "maxEirp": 29,
    "operationFrequencyRange": {
      "highFrequency": 3700000000,
      "lowFrequency": 3680000000
    }
  }
}
]
}
2018-12-06T19:11:42.834Z - INFO - engine sent successfully, the response to CBRS : {
  "grantResponse": [
    {
      "cbsdId": "fccIdTestMock-SAS64A837260247",
      "channelType": "GAA",
      "grantExpireTime": "2018-12-13T19:11:42Z",
      "grantId": "512094106",
      "heartbeatInterval": 60,
      "response": {
        "responseCode": 0
      }
    }
  ]
}
2018-12-06T19:11:43.177Z - INFO - heartbeat request from CBRS : {
  "heartbeatRequest": [
    {
      "cbsdId": "fccIdTestMock-SAS64A837260247",
      "grantId": "512094106",
      "grantRenew": false,
      "operationState": "GRANTED"
    }
  ]
}
2018-12-06T19:11:43.193Z - INFO - engine sent successfully, the response to CBRS : {
  "heartbeatResponse": [
    {
      "cbsdId": "fccIdTestMock-SAS64A837260247",
      "grantId": "512094106",
      "response": {
        "responseCode": 0
      },
      "transmitExpireTime": "2018-12-06T19:15:03Z"
    }
  ]
}
2018-12-06T19:12:43.207Z - INFO - heartbeat request from CBRS : {
  "heartbeatRequest": [
    {
      "cbsdId": "fccIdTestMock-SAS64A837260247",
      "grantId": "512094106",
      "grantRenew": false,
      "operationState": "AUTHORIZED"
    }
  ]
}

```

```

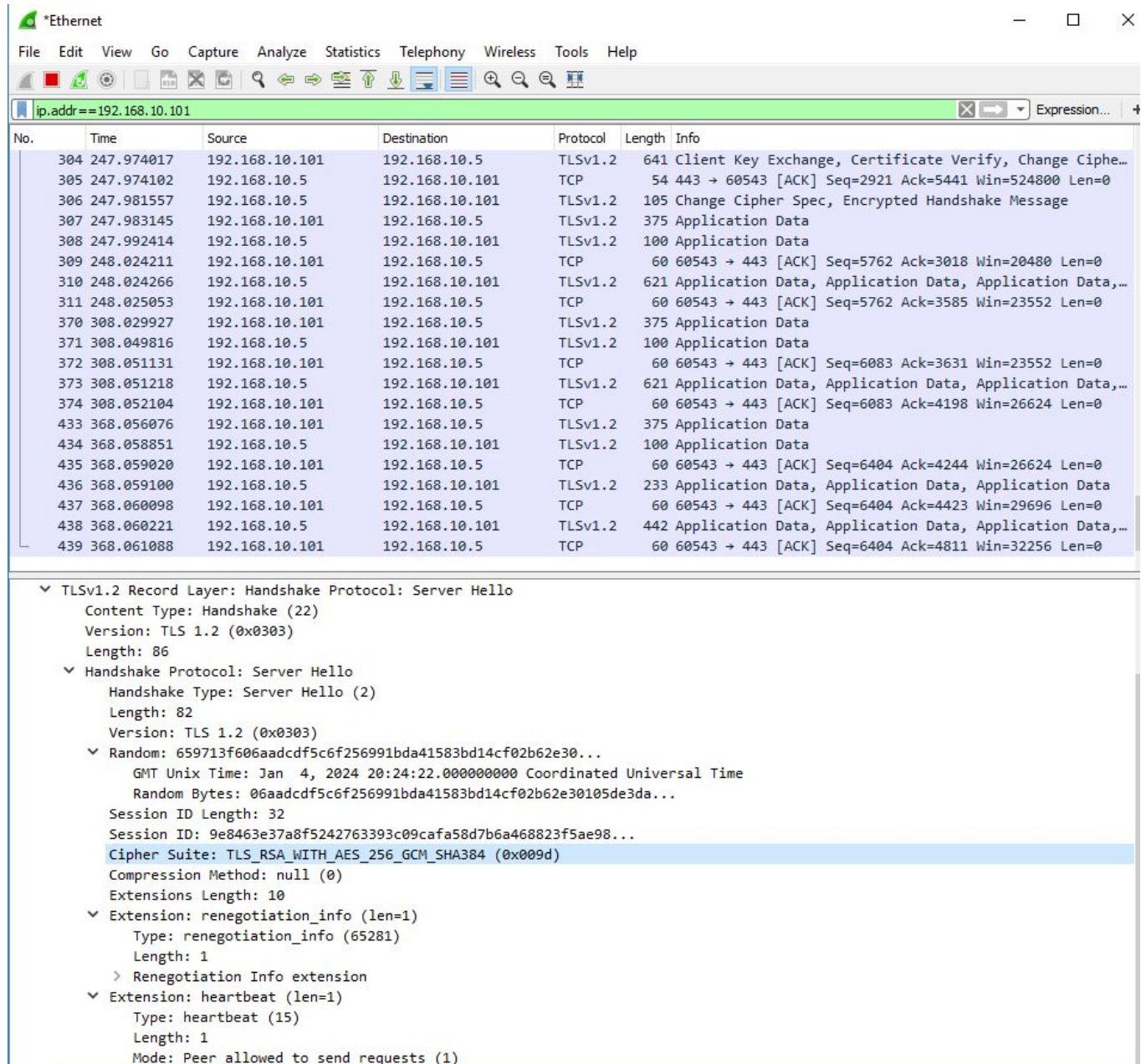
    ]
  }
2018-12-06T19:12:43.207Z - INFO - Time interval between two heartbeat request messages is: 60.029, limit is: 65.0
2018-12-06T19:12:43.223Z - INFO - engine sent successfully, the response to CBRS : {
  "heartbeatResponse": [
    {
      "cbsdId": "fccIdTestMock-SAS64A837260247",
      "grantId": "512094106",
      "response": {
        "responseCode": 0
      },
      "transmitExpireTime": "2018-12-06T19:16:03Z"
    }
  ]
}
2018-12-06T19:13:18.030Z - INFO - relinquishment request from CBRS : {
  "relinquishmentRequest": [
    {
      "cbsdId": "fccIdTestMock-SAS64A837260247",
      "grantId": "512094106"
    }
  ]
}
2018-12-06T19:13:18.046Z - INFO - engine sent successfully, the response to CBRS : {
  "relinquishmentResponse": [
    {
      "cbsdId": "fccIdTestMock-SAS64A837260247",
      "grantId": "512094106",
      "response": {
        "responseCode": 0
      }
    }
  ]
}
2018-12-06T19:13:18.094Z - INFO - deregistration request from CBRS : {
  "deregistrationRequest": [
    {
      "cbsdId": "fccIdTestMock-SAS64A837260247"
    }
  ]
}
2018-12-06T19:13:18.094Z - INFO - engine sent successfully, the response to CBRS : {
  "deregistrationResponse": [
    {
      "response": {
        "responseCode": 103,
        "responseData": [
          "cbsdId"
        ]
      }
    }
  ]
}
2018-12-06T19:13:19.654Z - INFO - arrived to nstep starting question answer session with the technician
2018-12-06T19:13:19.654Z - INFO - the question is : Did the CBSD stop RF transmissions upon sending the Deregister request? please choose one of the
answers :

```

2018-12-06T19:13:24.579Z - INFO - for the question : Did the CBSD stop RF transmissions upon sending the Deregister request?, the user choose y

2018-12-06T19:13:31.163Z - INFO - The final result of the test : WINNF.FT.C.DRG.5 is - passed and :the additional comments for the current test are : The CBSD ceased transmission immediately upon sending Deregistration Request

10.30 Wireshark capture screenshot for test case ID: WINNF.FT.C.SCS.1



Wireshark capture showing a TLSv1.2 handshake between 192.168.10.101 and 192.168.10.5. The packet list shows a Client Hello, Server Hello, and subsequent data exchanges. The packet details pane shows the structure of the Server Hello message, including the handshake type, version, random bytes, session ID, cipher suite, and extensions.

No.	Time	Source	Destination	Protocol	Length	Info
304	247.974017	192.168.10.101	192.168.10.5	TLSv1.2	641	Client Key Exchange, Certificate Verify, Change Cipher...
305	247.974102	192.168.10.5	192.168.10.101	TCP	54	443 → 60543 [ACK] Seq=2921 Ack=5441 Win=524800 Len=0
306	247.981557	192.168.10.5	192.168.10.101	TLSv1.2	105	Change Cipher Spec, Encrypted Handshake Message
307	247.983145	192.168.10.101	192.168.10.5	TLSv1.2	375	Application Data
308	247.992414	192.168.10.5	192.168.10.101	TLSv1.2	100	Application Data
309	248.024211	192.168.10.101	192.168.10.5	TCP	60	60543 → 443 [ACK] Seq=5762 Ack=3018 Win=20480 Len=0
310	248.024266	192.168.10.5	192.168.10.101	TLSv1.2	621	Application Data, Application Data, Application Data,...
311	248.025053	192.168.10.101	192.168.10.5	TCP	60	60543 → 443 [ACK] Seq=5762 Ack=3585 Win=23552 Len=0
370	308.029927	192.168.10.101	192.168.10.5	TLSv1.2	375	Application Data
371	308.049816	192.168.10.5	192.168.10.101	TLSv1.2	100	Application Data
372	308.051131	192.168.10.101	192.168.10.5	TCP	60	60543 → 443 [ACK] Seq=6083 Ack=3631 Win=23552 Len=0
373	308.051218	192.168.10.5	192.168.10.101	TLSv1.2	621	Application Data, Application Data, Application Data,...
374	308.052104	192.168.10.101	192.168.10.5	TCP	60	60543 → 443 [ACK] Seq=6083 Ack=4198 Win=26624 Len=0
433	368.056076	192.168.10.101	192.168.10.5	TLSv1.2	375	Application Data
434	368.058851	192.168.10.5	192.168.10.101	TLSv1.2	100	Application Data
435	368.059020	192.168.10.101	192.168.10.5	TCP	60	60543 → 443 [ACK] Seq=6404 Ack=4244 Win=26624 Len=0
436	368.059100	192.168.10.5	192.168.10.101	TLSv1.2	233	Application Data, Application Data, Application Data
437	368.060098	192.168.10.101	192.168.10.5	TCP	60	60543 → 443 [ACK] Seq=6404 Ack=4423 Win=29696 Len=0
438	368.060221	192.168.10.5	192.168.10.101	TLSv1.2	442	Application Data, Application Data, Application Data,...
439	368.061088	192.168.10.101	192.168.10.5	TCP	60	60543 → 443 [ACK] Seq=6404 Ack=4811 Win=32256 Len=0

▼ TLSv1.2 Record Layer: Handshake Protocol: Server Hello
 Content Type: Handshake (22)
 Version: TLS 1.2 (0x0303)
 Length: 86

▼ Handshake Protocol: Server Hello
 Handshake Type: Server Hello (2)
 Length: 82
 Version: TLS 1.2 (0x0303)

▼ Random: 659713f606aadcdf5c6f256991bda41583bd14cf02b62e30...
 GMT Unix Time: Jan 4, 2024 20:24:22.000000000 Coordinated Universal Time
 Random Bytes: 06aadcdf5c6f256991bda41583bd14cf02b62e30105de3da...
 Session ID Length: 32
 Session ID: 9e8463e37a8f5242763393c09cafa58d7b6a468823f5ae98...
 Cipher Suite: TLS_RSA_WITH_AES_256_GCM_SHA384 (0x009d)
 Compression Method: null (0)
 Extensions Length: 10

▼ Extension: renegotiation_info (len=1)
 Type: renegotiation_info (65281)
 Length: 1
 > Renegotiation Info extension

▼ Extension: heartbeat (len=1)
 Type: heartbeat (15)
 Length: 1
 Mode: Peer allowed to send requests (1)

10.31 Wireshark capture screenshot for test case ID: WINNF.FT.C.SCS.2

Capturing from Ethernet

File Edit View Go Capture Analyze Statistics Telephony Wireless Tools Help

ip.addr==192.168.10.101n

No.	Time	Source	Destination	Protocol	Length	Info
224	196.927585	192.168.10.101	192.168.10.5	TCP	60	59934 → 443 [ACK] Seq=1 Ack=1 Win=14848 Len=0
225	196.931286	192.168.10.101	192.168.10.5	TLSv1.2	571	Client Hello
226	196.931810	192.168.10.5	192.168.10.101	TLSv1.2	3122	Server Hello, Certificate, Certificate Request, Serve...
227	196.932551	192.168.10.101	192.168.10.5	TCP	60	59934 → 443 [ACK] Seq=518 Ack=1461 Win=17920 Len=0
228	196.932552	192.168.10.101	192.168.10.5	TCP	60	59934 → 443 [ACK] Seq=518 Ack=2921 Win=20480 Len=0
229	196.932639	192.168.10.101	192.168.10.5	TCP	60	59934 → 443 [ACK] Seq=518 Ack=3069 Win=23552 Len=0
230	196.938568	192.168.10.101	192.168.10.5	TLSv1.2	61	Alert (Level: Fatal, Description: Certificate Revoked)
231	196.939030	192.168.10.101	192.168.10.5	TCP	60	59934 → 443 [RST, ACK] Seq=525 Ack=3069 Win=23552 Len=0
269	226.943660	192.168.10.101	192.168.10.5	TCP	66	59935 → 443 [SYN] Seq=0 Win=14600 Len=0 MSS=1460 SACK...
270	226.943858	192.168.10.5	192.168.10.101	TCP	66	443 → 59935 [SYN, ACK] Seq=0 Ack=1 Win=65535 Len=0 MS...
271	226.945106	192.168.10.101	192.168.10.5	TCP	60	59935 → 443 [ACK] Seq=1 Ack=1 Win=14848 Len=0
272	226.948787	192.168.10.101	192.168.10.5	TLSv1.2	571	Client Hello
273	226.949184	192.168.10.5	192.168.10.101	TLSv1.2	3122	Server Hello, Certificate, Certificate Request, Serve...
274	226.950020	192.168.10.101	192.168.10.5	TCP	60	59935 → 443 [ACK] Seq=518 Ack=1461 Win=17920 Len=0
275	226.950022	192.168.10.101	192.168.10.5	TCP	60	59935 → 443 [ACK] Seq=518 Ack=2921 Win=20480 Len=0
276	226.950085	192.168.10.101	192.168.10.5	TCP	60	59935 → 443 [ACK] Seq=518 Ack=3069 Win=23552 Len=0
277	226.956049	192.168.10.101	192.168.10.5	TLSv1.2	61	Alert (Level: Fatal, Description: Certificate Revoked)
278	226.956527	192.168.10.5	192.168.10.101	TCP	54	443 → 59935 [FIN, ACK] Seq=3069 Ack=525 Win=65024 Len=0
279	226.956592	192.168.10.101	192.168.10.5	TCP	60	59935 → 443 [RST, ACK] Seq=525 Ack=3069 Win=23552 Len=0
280	226.957019	192.168.10.101	192.168.10.5	TCP	60	59935 → 443 [RST] Seq=525 Win=0 Len=0

> Frame 203: 61 bytes on wire (488 bits), 61 bytes captured (488 bits) on interface 0

> Ethernet II, Src: Junikore_26:02:47 (64:a8:37:26:02:47), Dst: Dell_37:69:b6 (f0:1f:af:37:69:b6)

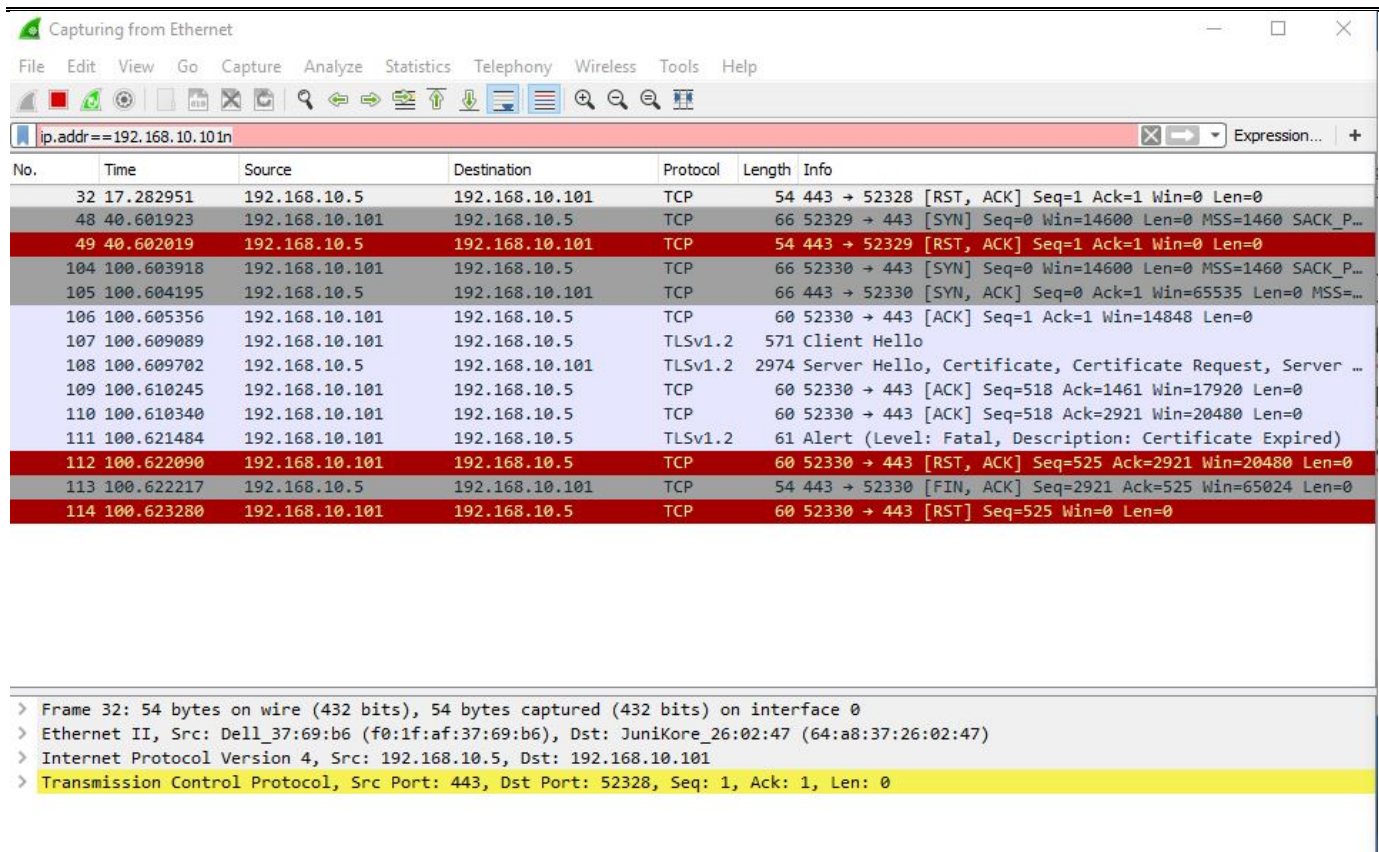
> Internet Protocol Version 4, Src: 192.168.10.101, Dst: 192.168.10.5

> Transmission Control Protocol, Src Port: 59933, Dst Port: 443, Seq: 518, Ack: 3069, Len: 7

Secure Sockets Layer

- ▼ TLSv1.2 Record Layer: Alert (Level: Fatal, Description: Certificate Revoked)
 - Content Type: Alert (21)
 - Version: TLS 1.2 (0x0303)
 - Length: 2
 - > Alert Message

10.32 Wireshark capture screenshot for test case ID: WINNF.FT.C.SCS.3



Capturing from Ethernet

File Edit View Go Capture Analyze Statistics Telephony Wireless Tools Help

ip.addr==192.168.10.101

No.	Time	Source	Destination	Protocol	Length	Info
32	17.282951	192.168.10.5	192.168.10.101	TCP	54	443 → 52328 [RST, ACK] Seq=1 Ack=1 Win=0 Len=0
48	40.601923	192.168.10.101	192.168.10.5	TCP	66	52329 → 443 [SYN] Seq=0 Win=14600 Len=0 MSS=1460 SACK_P...
49	40.602019	192.168.10.5	192.168.10.101	TCP	54	443 → 52329 [RST, ACK] Seq=1 Ack=1 Win=0 Len=0
104	100.603918	192.168.10.101	192.168.10.5	TCP	66	52330 → 443 [SYN] Seq=0 Win=14600 Len=0 MSS=1460 SACK_P...
105	100.604195	192.168.10.5	192.168.10.101	TCP	66	443 → 52330 [SYN, ACK] Seq=0 Ack=1 Win=65535 Len=0 MSS=...
106	100.605356	192.168.10.101	192.168.10.5	TCP	60	52330 → 443 [ACK] Seq=1 Ack=1 Win=14848 Len=0
107	100.609089	192.168.10.101	192.168.10.5	TLSv1.2	571	Client Hello
108	100.609702	192.168.10.5	192.168.10.101	TLSv1.2	2974	Server Hello, Certificate, Certificate Request, Server ...
109	100.610245	192.168.10.101	192.168.10.5	TCP	60	52330 → 443 [ACK] Seq=518 Ack=1461 Win=17920 Len=0
110	100.610340	192.168.10.101	192.168.10.5	TCP	60	52330 → 443 [ACK] Seq=518 Ack=2921 Win=20480 Len=0
111	100.621484	192.168.10.101	192.168.10.5	TLSv1.2	61	Alert (Level: Fatal, Description: Certificate Expired)
112	100.622090	192.168.10.101	192.168.10.5	TCP	60	52330 → 443 [RST, ACK] Seq=525 Ack=2921 Win=20480 Len=0
113	100.622217	192.168.10.5	192.168.10.101	TCP	54	443 → 52330 [FIN, ACK] Seq=2921 Ack=525 Win=65024 Len=0
114	100.623280	192.168.10.101	192.168.10.5	TCP	60	52330 → 443 [RST] Seq=525 Win=0 Len=0

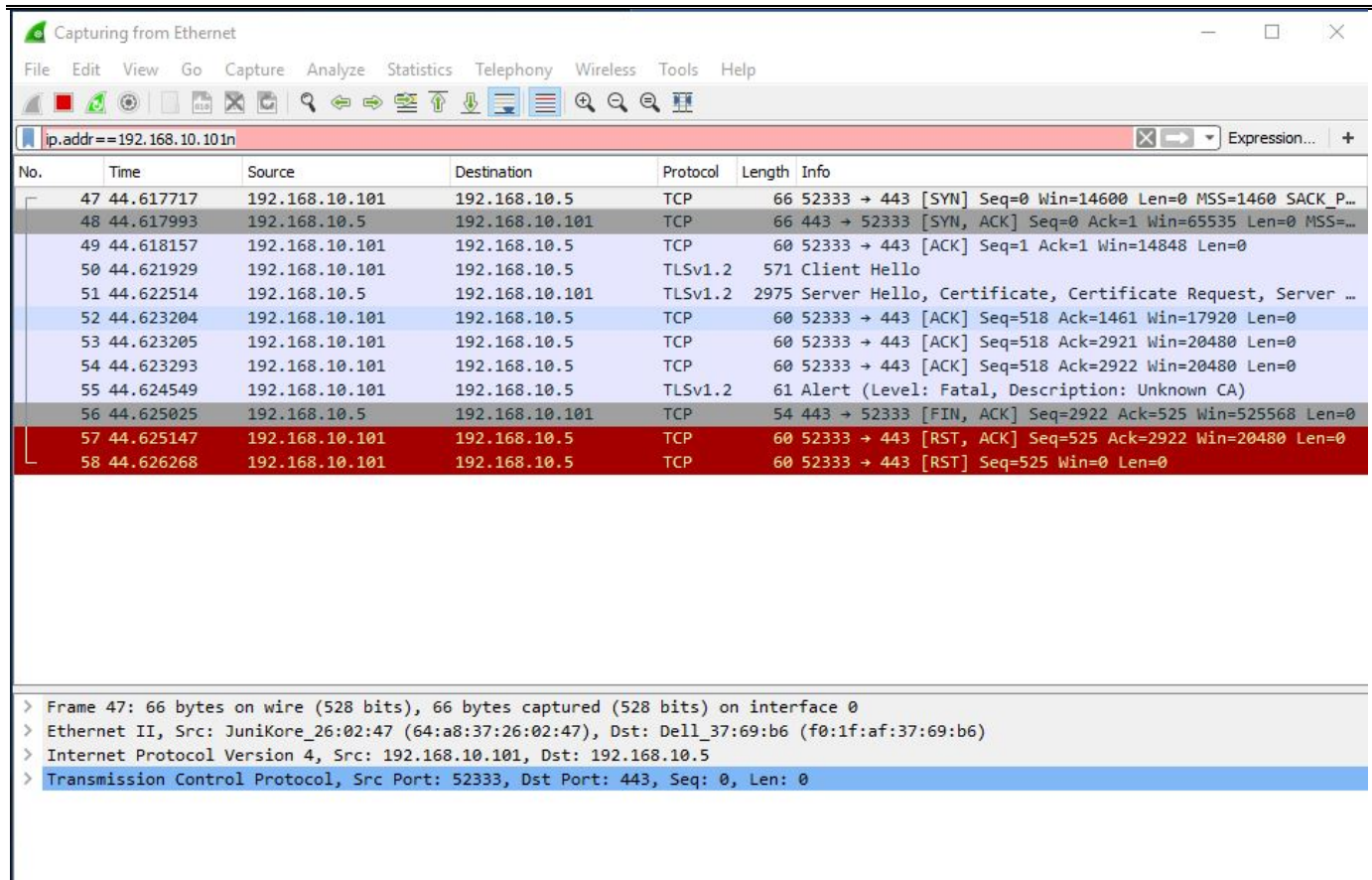
> Frame 32: 54 bytes on wire (432 bits), 54 bytes captured (432 bits) on interface 0

> Ethernet II, Src: Dell_37:69:b6 (f0:1f:af:37:69:b6), Dst: Junikore_26:02:47 (64:a8:37:26:02:47)

> Internet Protocol Version 4, Src: 192.168.10.5, Dst: 192.168.10.101

> Transmission Control Protocol, Src Port: 443, Dst Port: 52328, Seq: 1, Ack: 1, Len: 0

10.33 Wireshark capture screenshot for test case ID: WINNF.FT.C.SCS.4



Capturing from Ethernet

File Edit View Go Capture Analyze Statistics Telephony Wireless Tools Help

ip.addr==192.168.10.101

No.	Time	Source	Destination	Protocol	Length	Info
47	44.617717	192.168.10.101	192.168.10.5	TCP	66	52333 → 443 [SYN] Seq=0 Win=14600 Len=0 MSS=1460 SACK_P...
48	44.617993	192.168.10.5	192.168.10.101	TCP	66	443 → 52333 [SYN, ACK] Seq=0 Ack=1 Win=65535 Len=0 MSS=...
49	44.618157	192.168.10.101	192.168.10.5	TCP	60	52333 → 443 [ACK] Seq=1 Ack=1 Win=14848 Len=0
50	44.621929	192.168.10.101	192.168.10.5	TLSv1.2	571	Client Hello
51	44.622514	192.168.10.5	192.168.10.101	TLSv1.2	2975	Server Hello, Certificate, Certificate Request, Server ...
52	44.623204	192.168.10.101	192.168.10.5	TCP	60	52333 → 443 [ACK] Seq=518 Ack=1461 Win=17920 Len=0
53	44.623205	192.168.10.101	192.168.10.5	TCP	60	52333 → 443 [ACK] Seq=518 Ack=2921 Win=20480 Len=0
54	44.623293	192.168.10.101	192.168.10.5	TCP	60	52333 → 443 [ACK] Seq=518 Ack=2922 Win=20480 Len=0
55	44.624549	192.168.10.101	192.168.10.5	TLSv1.2	61	Alert (Level: Fatal, Description: Unknown CA)
56	44.625025	192.168.10.5	192.168.10.101	TCP	54	443 → 52333 [FIN, ACK] Seq=2922 Ack=525 Win=525568 Len=0
57	44.625147	192.168.10.101	192.168.10.5	TCP	60	52333 → 443 [RST, ACK] Seq=525 Ack=2922 Win=20480 Len=0
58	44.626268	192.168.10.101	192.168.10.5	TCP	60	52333 → 443 [RST] Seq=525 Win=0 Len=0

> Frame 47: 66 bytes on wire (528 bits), 66 bytes captured (528 bits) on interface 0

> Ethernet II, Src: Junikore_26:02:47 (64:a8:37:26:02:47), Dst: Dell_37:69:b6 (f0:1f:af:37:69:b6)

> Internet Protocol Version 4, Src: 192.168.10.101, Dst: 192.168.10.5

> Transmission Control Protocol, Src Port: 52333, Dst Port: 443, Seq: 0, Len: 0

10.34 Wireshark capture screenshot for test case ID: WINNF.FT.C.SCS.5

Capturing from Ethernet

File Edit View Go Capture Analyze Statistics Telephony Wireless Tools Help

ip.addr==192.168.10.101

No.	Time	Source	Destination	Protocol	Length	Info
12	20.575585	192.168.10.101	192.168.10.5	TCP	66	52336 → 443 [SYN] Seq=0 Win=14600 Len=0 MSS=1460 SACK_P...
13	20.575686	192.168.10.5	192.168.10.101	TCP	54	443 → 52336 [RST, ACK] Seq=1 Ack=1 Win=0 Len=0
71	80.577614	192.168.10.101	192.168.10.5	TCP	66	52337 → 443 [SYN] Seq=0 Win=14600 Len=0 MSS=1460 SACK_P...
72	80.577893	192.168.10.5	192.168.10.101	TCP	66	443 → 52337 [SYN, ACK] Seq=0 Ack=1 Win=65535 Len=0 MSS=...
73	80.579093	192.168.10.101	192.168.10.5	TCP	60	52337 → 443 [ACK] Seq=1 Ack=1 Win=14848 Len=0
74	80.582815	192.168.10.101	192.168.10.5	TLSv1.2	571	Client Hello
75	80.583351	192.168.10.5	192.168.10.101	TLSv1.2	2974	Server Hello, Certificate, Certificate Request, Server ...
76	80.583994	192.168.10.101	192.168.10.5	TCP	60	52337 → 443 [ACK] Seq=518 Ack=1461 Win=17920 Len=0
77	80.584064	192.168.10.101	192.168.10.5	TCP	60	52337 → 443 [ACK] Seq=518 Ack=2921 Win=20480 Len=0
78	80.595073	192.168.10.101	192.168.10.5	TLSv1.2	61	Alert (Level: Fatal, Description: Decrypt Error)
79	80.595677	192.168.10.5	192.168.10.101	TCP	54	443 → 52337 [FIN, ACK] Seq=2921 Ack=525 Win=65024 Len=0
80	80.595747	192.168.10.101	192.168.10.5	TCP	60	52337 → 443 [RST, ACK] Seq=525 Ack=2921 Win=20480 Len=0
81	80.595988	192.168.10.101	192.168.10.5	TCP	60	52337 → 443 [RST] Seq=525 Win=0 Len=0

> Frame 12: 66 bytes on wire (528 bits), 66 bytes captured (528 bits) on interface 0

> Ethernet II, Src: Junikore_26:02:47 (64:a8:37:26:02:47), Dst: Dell_37:69:b6 (f0:1f:af:37:69:b6)

> Internet Protocol Version 4, Src: 192.168.10.101, Dst: 192.168.10.5

> Transmission Control Protocol, Src Port: 52336, Dst Port: 443, Seq: 0, Len: 0

Thank you for choosing

