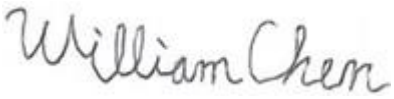
WINNF-TS-0122 Test Report

APPLICANT	Gemtek Technology Co., Ltd
EQUIPMENT	LTE Small Cell Base Station
BRAND NAME	Gemtek ; Accelleran
MODEL NAME	WLTGFC-105 ; E1012
FCC ID	MXF-WLTGFC105
REFERENCE	WINNF-TS-0122 Version V1.0.1
TEST DATE(S)	Jan. 7, 2019 ~ Jan. 8, 2019

We, SPORTON INTERNATIONAL INC. EMC & Wireless Communications Laboratory, would like to declare that the tested sample has been evaluated in accordance with the procedures and shown the compliance with the applicable technical standards.

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

Reviewed by: **Approved by:**



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Revision History

REPORT NO.	VERSION	DESCRIPTION	ISSUED DATE
FG8N2130	1.0	Initial issue of report	Jan. 11, 2019

1. Administration Data

1.1 Testing Laboratory

Test Site	SPORTON INTERNATIONAL INC.
Test Site Location	No.52, Huaya 1st Rd., Guishan Dist., Taoyuan City, Taiwan (R.O.C.) TEL: +886-3-327-3456 FAX: +886-3-328-4978

1.2 Applicant

Company Name	**Gemtek Technology Co., Ltd**
Address	No. 15-1 Zhonghua Road, Hsinchu Industrial Park, Hukou, Hsinchu, Taiwan, 30352.

2. General Information

2.1 Description of Equipment Under Test (EUT)

Product Feature & Specification	
Equipment Name	LTE Small Cell Base Station
Brand Name	Gemtek ; Accelleran
Model Name	WLTGFC-105 ; E1012
FCC ID	MXF-WLTGFC105
Professional Installation	☒ Yes ☐ No
CBSD Category	☒ Category A ☐ Category B
Unit Under Test in Test ID	☐ CBSD with Domain Proxy ☒ CBSD without Domain Proxy
HW Version	E1012-GC01
FW Version	x1000_R3.3.1_RC3
SW Version	x1000_R3.3.1_RC3

2.2 Summary of Test Result

Standard Section	Test Case ID	Test Case Title	Test Result
6.1.4.1.1	WINNF.FT.C.REG.1	Multi-Step registration	Pass
6.1.4.1.2	WINNF.FT.D.REG.2	Domain Proxy Multi-Step registration	N/A
6.1.4.1.3	WINNF.FT.C.REG.3 _waiver	Single-Step registration for Category A CBSD	Pass
6.1.4.1.4	WINNF.FT.D.REG.4	Domain Proxy Single-Step registration for Cat A CBSD	N/A
6.1.4.1.5	WINNF.FT.C.REG.5	Single-Step registration for CBSD with CPI signed data	N/A
6.1.4.1.6	WINNF.FT.D.REG.6	Domain Proxy Single-Step registration for CBSD with CPI signed data	N/A
6.1.4.1.7	WINNF.FT.C.REG.7	Registration due to change of an installation parameter	N/A
6.1.4.2.1	WINNF.FT.C.REG.8	Missing Required parameters (responseCode 102)	Pass
6.1.4.2.2	WINNF.FT.D.REG.9	Domain Proxy Missing Required parameters (responseCode 102)	N/A
6.1.4.2.3	WINNF.FT.C.REG.10	Pending registration (responseCode 200)	Pass
6.1.4.2.4	WINNF.FT.D.REG.11	Domain Proxy Pending registration (responseCode 200)	N/A
6.1.4.2.5	WINNF.FT.C.REG.12	Invalid parameter (responseCode 103)	Pass
6.1.4.2.6	WINNF.FT.D.REG.13	Domain Proxy Invalid parameters (responseCode 103)	N/A
6.1.4.2.7	WINNF.FT.C.REG.14	Blacklisted CBSD (responseCode 101)	Pass
6.1.4.2.8	WINNF.FT.D.REG.15	Domain Proxy Blacklisted CBSD (responseCode 101)	N/A
6.1.4.2.9	WINNF.FT.C.REG.16	Unsupported SAS protocol version (responseCode 100)	Pass
6.1.4.2.10	WINNF.FT.D.REG.17	Domain Proxy Unsupported SAS protocol version responseCode 100)	N/A
6.1.4.2.10	WINNF.FT.D.REG.17	Domain Proxy Unsupported SAS protocol version responseCode 100)	N/A
6.1.4.2.11	WINNF.FT.C.REG.18	Group Error (responseCode 201)	Pass
6.1.4.2.12	WINNF.FT.D.REG.19	Domain Proxy Group Error (responseCode 201)	N/A
6.1.4.3.1	WINNF.FT.C.REG.20	Category A CBSD location update	Pass

Standard Section	Test Case ID	Test Case Title	Test Result
6.3.4.2.1	WINNF.FT.D.GRA.1	Unsuccessful Grant responseCode=400 (INTERFERENCE)	Pass
6.3.4.2.2	WINNF.FT.C.GRA.2	Unsuccessful Grant responseCode=401 (GRANT_CONFLICT)	Pass
6.4.4.1.1	WINNF.FT.C.HBT.1	Heartbeat Success Case (first Heartbeat Response)	Pass
6.4.4.1.2	WINNF.FT.D.HBT.2	Domain Proxy Heartbeat Success Case (first Heartbeat Response)	N/A
6.4.4.2.1	WINNF.FT.C.HBT.3	Heartbeat responseCode=105 (DEREGISTER)	Pass
6.4.4.2.2	WINNF.FT.C.HBT.4	Heartbeat responseCode=500 (TERMINATED_GRANT)	Pass
6.4.4.2.3	WINNF.FT.C.HBT.5	Heartbeat responseCode=501 (SUSPENDED_GRANT) in First Heartbeat Response	Pass
6.4.4.2.4	WINNF.FT.C.HBT.6	Heartbeat responseCode=501 (SUSPENDED_GRANT) in Subsequent Heartbeat Response	Pass
6.4.4.2.5	WINNF.FT.C.HBT.7	Heartbeat responseCode=502 (UNSYNC_OP_PARAM)	Pass
6.4.4.2.6	WINNF.FT.D.HBT.8	Domain Proxy Heartbeat responseCode=500 (TEMINATED_GRANT)	N/A
6.4.4.3.1	WINNF.FT.C.HBT.9	Heartbeat Response Absent (First Heartbeat)	Pass
6.4.4.3.2	WINNF.FT.C.HBT.10	Heartbeat Response Absent (Subsequent Heartbeat)	Pass
6.4.4.4.1	WINNF.FT.C.HBT.11	Successful Grant Renewal in Heartbeat Test Case	Pass
6.5.4.2.1	WINNF.FT.C.MES.1	Registration Response contains measReportConfig	N/A
6.5.4.2.2	WINNF.FT.D.MES.2	Domain Proxy Registration Response contains measReportConfig	N/A
6.5.4.2.3	WINNF.FT.C.MES.3	Grant Response contains measReportConfig	N/A
6.5.4.2.4	WINNF.FT.C.MES.4	Heartbeat Response contains measReportConfig	N/A
6.5.4.2.5	WINNF.FT.D.MES.5	Domain Proxy Heartbeat Response contains measReportConfig	N/A

Standard Section	Test Case ID	Test Case Title	Test Result
6.6.4.1.1	WINNF.FT.C.RLQ.1	Successful Relinquishment	Pass
6.6.4.1.2	WINNF.FT.D.RLQ.2	Domain Proxy Successful Relinquishment	N/A
6.6.4.2.1	WINNF.FT.C.RLQ.3	Unsuccessful Relinquishment, responseCode=102	Pass
6.6.4.2.2	WINNF.FT.D.RLQ.4	Domain Proxy Unsuccessful Relinquishment, responseCode=102	N/A
6.6.4.3.1	WINNF.FT.C.RLQ.5	Unsuccessful Relinquishment, responseCode=103	Pass
6.6.4.3.2	WINNF.FT.D.RLQ.6	Domain Proxy Unsuccessful Relinquishment, responseCode=103	N/A
6.7.4.1.1	WINNF.FT.C.DRG.1	Successful Deregistration	Pass
6.7.4.1.2	WINNF.FT.D.DRG.2	Domain Proxy Successful Deregistration	N/A
6.7.4.2.1	WINNF.FT.C.DRG.3	Deregistration responseCode=102	Pass
6.7.4.2.2	WINNF.FT.D.DRG.4	Domain Proxy Deregistration responseCode=102	N/A
6.7.4.3.1	WINNF.FT.C.DRG.5	Deregistration responseCode=103	Pass
6.8.4.1.1	WINNF.FT.C.SCS.1	Successful TLS connection between UUT and SAS Test Harness	Pass
6.8.4.2.1	WINNF.FT.C.SCS.2	TLS failure due to revoked certificate	Pass
6.8.4.2.2	WINNF.FT.C.SCS.3	TLS failure due to expired server certificate	Pass
6.8.4.2.3	WINNF.FT.C.SCS.4	TLS failure when SAS Test Harness certificate is issue by unknown CA	Pass
6.8.4.2.4	WINNF.FT.C.SCS.5	TLS failure when certificate at the SAS Test Harness is corrupted	Pass
7.1.4.1.1	WINNF.PT.C.HBT	UUT RF Transmit Power Measurement	Pass

2.3 Support Equipment

Name	Manufacturer	Type/Model	Serial Number	FCC ID
Notebook	Acer	N16Q1	NXVE6TA00771612EDA7600	N/A
Switch	D-Link	DGS-3200-10	P1QW3C5000187	N/A
EPC	Gemtek	N/A	N/A	N/A
LTE UE	Gemtek	WLTFSM-136ACN	GMK180611005340	MXF-WLTFSM13643
PoE	PHIHONG	POE29U-1AT	N/A	N/A

2.4 Test Equipment List

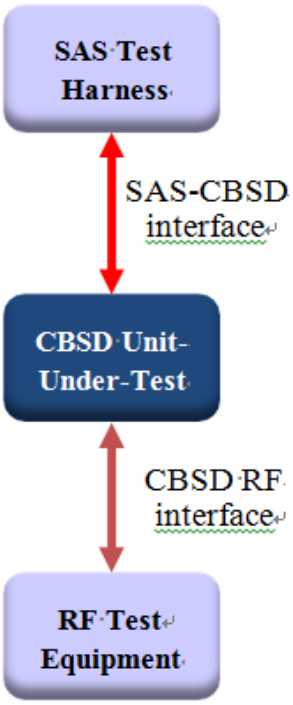
Name	Manufacturer	Type/Model	Serial Number	Calibration	
				Last Cal.	Due Date
Spectrum Analyzer	KeySight	N9010A	MY57120184	2018/11/23	2019/11/22

3. Measurement Environment

Measurement Environment Information	
EUT Type	Category A CBSD without Domain Proxy
SAS Test Harness version	v1.0.0.3
Operating System	Microsoft Windows 10
TLS version	1.2
Python version	2.7.13

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

3.1 Test configuration without Domain Proxy



3.2 [WINNF.FT.C.REG.1] Multi-Step registration

#	Test Execution Steps	Results	
1	Ensure the following conditions are met for test entry: • UUT has successfully completed SAS Discovery and Authentication with the SAS Test Harness • UUT is in the Unregistered state	--	--
2	CBSD sends correct Registration request information, as specified in [n.5], to the SAS Test Harness: • The required userId, fccId 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. Note: It is outside the scope of this document to test the Registration information that is supplied via another means.	PASS	--
3	• SAS Test Harness sends a CBSD Registration Response 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	PASS	--

3.3 [WINNF.FT.C.REG.3_waiver] Single-Step registration for Category A CBSD

#	Test Execution Steps	Results	
1	Ensure the following conditions are met for test entry: • UUT has successfully completed SAS Discovery and Authentication with SAS Test Harness • UUT is in the Unregistered state	--	--
2	CBSD sends Registration request to SAS Test Harness: all required and REG-Conditional parameter included (userId, fccId, cbsdSerialNumber, cbsdCategory, airInterface, installationParam, measCapability) for a Category A CBSD. • The required userId, fccId and cbsdSerialNumber and REG-Conditional cbsdCategory, airInterface, installationParam, and	PASS	--
	measCapability 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.		
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	PASS	--

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

#	Test Execution Steps	Results	
1	Ensure the following conditions are met for test entry: • UUT has successfully completed SAS Discovery and Authentication with SAS Test Harness • UUT is in the Unregistered state	--	--
2	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	--

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

#	Test Execution Steps	Results	
1	Ensure the following conditions are met for test entry: • UUT has successfully completed SAS Discovery and Authentication with SAS Test Harness • UUT is in the Unregistered state	--	--
2	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*=200) to further request messages from the UUT.	--	--
5	Monitor the RF output of the UUT from start of test until 60 seconds after Step 3 is complete. This is the end of the test. Verify: • UUT shall not transmit RF	PASS	--

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

#	Test Execution Steps	Results	
1	Ensure the following conditions are met for test entry: • UUT has successfully completed SAS Discovery and Authentication with SAS Test Harness • UUT is in the Unregistered state	--	--
2	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*=103) to further request messages from the UUT.	--	--
5	Monitor the RF output of the UUT from start of test until 60 seconds after Step 3 is complete. This is the end of the test. Verify: • UUT shall not transmit RF	PASS	--

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

#	Test Execution Steps	Results	
1	Ensure the following conditions are met for test entry: • UUT has successfully completed SAS Discovery and Authentication with SAS Test Harness • UUT is in the Unregistered state	--	--
2	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*=101) to further request messages from the UUT.	--	--
5	Monitor the RF output of the UUT from start of test until 60 seconds after Step 3 is complete. This is the end of the test. Verify: • UUT shall not transmit RF	PASS	--

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

#	Test Execution Steps	Results	
1	Ensure the following conditions are met for test entry: • UUT has successfully completed SAS Discovery and Authentication with SAS Test Harness • UUT is in the Unregistered state	--	--
2	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*=100) to further request messages from the UUT.	--	--
5	Monitor the RF output of the UUT from start of test until 60 seconds after Step 3 is complete. This is the end of the test. Verify: • UUT shall not transmit RF	PASS	--

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

#	Test Execution Steps	Results	
1	Ensure the following conditions are met for test entry: • UUT has successfully completed SAS Discovery and Authentication with SAS Test Harness • UUT is in the Unregistered state	--	--
2	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*=201) to further request messages from the UUT.	--	--
5	Monitor the RF output of the UUT from start of test until 60 seconds after Step 3 is complete. This is the end of the test. Verify: • UUT shall not transmit RF	PASS	--

3.10 [WINNF.FT.C.REG.20] Category A CBSD location update

This section is specific to Category A CBSDs that do not require professional installation. The requirement is for the Category A (non-professionally installed) to report to the SAS any location change exceeding a distance of 50m horizontally or 3m vertically within a 60 second window. It is left to the CBSD vendor and certification lab to generate the required evidence showing the UUT meets the requirement.

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

#	Test Execution Steps	Results	
1	Ensure the following conditions are met for test entry: • UUT has registered successfully with SAS Test Harness, with *cbsdId* = C	--	--
2	UUT sends valid Grant Request.	--	--
3	SAS Test Harness sends a Grant Response message, including • *cbsdId*=C • *responseCode* = R	--	--
4	After completion of step 3, SAS Test Harness 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	--

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

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

3.13 [WINNF.FT.C.HBT.1] Heartbeat Success Case (first Heartbeat Response)

#	Test Execution Steps	Results	
1	Ensure the following conditions are met for test entry: • UUT has registered successfully with SAS Test Harness, with *cbsdId* = C	--	--
2	UUT sends a message: • If message is type Spectrum Inquiry Request, go to step 3, or • If message is type Grant Request, go to step 5	--	--
3	UUT sends Spectrum Inquiry Request. Validate: • *cbsdId* = C • List of frequencyRange objects sent by UUT are within the CBRS frequency range	PASS	--
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 Grant Request message. Validate: • *cbsdId* = C • maxEIRP is at or below the limit appropriate for CBSD category as defined by Part 96 • operationFrequencyRange, F, sent by UUT is a valid range within the CBRS band	PASS	--
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”	PASS	--

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, and: • *cbsdId* = C • *grantId* = G • *operationState* = “AUTHORIZED” and SAS Test Harness responds with a Heartbeat Response message including the following parameters: • *cbsdId* = C • *grantId* = G • *transmitExpireTime* = current UTC time + 200 seconds • *responseCode* = 0	PASS	--
10	Monitor the RF output of the UUT from start of test until UUT transmission commences. Verify: • UUT does not transmit at any time prior to completion of the first heartbeat response • UUT transmits after step 8 is complete, and its transmission is limited to within the bandwidth range F.	PASS	--

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

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

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

#	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	--	--
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* = "AUTHORIZED"	PASS	--
3	SAS Test Harness sends a Heartbeat Response message, including the following parameters: • *cbsdId* = C • *grantId* = G • *transmitExpireTime* = T = current UTC time • *responseCode* = 500 (TERMINATED_GRANT)	--	--
4	After completion of step 3, SAS Test Harness shall not allow any further grants to the UUT.	--	--
5	Monitor the RF output of the UUT. Verify: • UUT shall stop transmission within (T + 60 seconds) of completion of step 3	PASS	--

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

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

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

#	Test Execution Steps	Results	

1	Ensure the following conditions are met for test entry:
	• UUT has registered successfully with SAS Test Harness
	• UUT has a valid single grant as follows:
	  ○ valid *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
		--	--

2	UUT sends a Heartbeat Request message. Verify Heartbeat Request message is sent within latest specified heartbeatInterval, and is formatted correctly, including: • *cbsdId* = C • *grantId* = G • *operationState* = “AUTHORIZED”	PASS	--
3	SAS Test Harness sends a Heartbeat Response message, including the following parameters: • *cbsdId* = C • *grantId* = G • *transmitExpireTime* = T = current UTC time • *responseCode* = 501 (SUSPENDED_GRANT)	--	--
4	After completion of step 3, SAS Test Harness shall not allow any further grants to the UUT.	--	--

5	Monitor the SAS-CBSD interface. Verify either A OR B occurs: A. UUT sends a Heartbeat Request message. Ensure message is sent within latest specified heartbeatInterval, and is correctly formatted with parameters: • *cbsdId* = C • *grantId* = G • *operationState* = "GRANTED" B. UUT sends a Relinquishment Request message. Ensure message is correctly formatted with parameters: • *cbdsId* = C • *grantId* = G Monitor the RF output of the UUT. Verify:	PASS	--
	• UUT shall stop transmission within (*T* + 60 seconds) of completion of step 3		

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

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

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

#	Test Execution Steps	Results	
1	Ensure the following conditions are met for test entry: • UUT has registered successfully with SAS Test Harness • UUT has a valid single grant as follows: ○ valid *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)	--	--
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	PASS	--
	• *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	PASS	--

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

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

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

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

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

3.22 [WINNF.FT.C.RLQ.1] Successful Relinquishment

#	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	--
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	--

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

#	Test Execution Steps	Results	
1	Ensure the following conditions are met for test entry: • UUT has successfully completed SAS Discovery and Authentication with SAS Test Harness • UUT 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 • No *grantId* • *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	--

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

#	Test Execution Steps	Results	
1	Ensure the following conditions are met for test entry: • UUT has successfully completed SAS Discovery and Authentication with SAS Test Harness • UUT has successfully registered with SAS Test Harness, with *cbsdId*=C • UUT has received a valid grant with *grantId* = G • UUT is in Grant State AUTHORIZED and is actively transmitting within the bounds of its grant.	--	--
	Invoke trigger to 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 • No *grantId* • *responseCode* = R	--	--
4	After completion of step 3, SAS Test Harness will not provide any positive response (*responseCode*=103) to further request messages from the UUT.	--	--
5	Monitor the RF output of 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	--

3.25 [WINNF.FT.C.DRG.1] Successful Deregistration

#	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	--
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	--

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

#	Test Execution Steps	Results	
1	Ensure the following conditions are met for test entry: • UUT has successfully completed SAS Discovery and Authentication with SAS Test Harness • UUT 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: A. UUT sending a Registration Request message, as this is not mandatory B. UUT sending a Deregistration Request message	PASS	--

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

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

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

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

2	• Make sure that Mutual authentication happens between UUT and the SAS Test Harness.
	• Make sure that UUT uses TLS v1.2
	• Make sure that cipher suites from one of the following is selected,
	  • TLS_RSA_WITH_AES_128_GCM_SHA256
	  • TLS_RSA_WITH_AES_256_GCM_SHA384
	  • TLS_ECDHE_ECDSA_WITH_AES_128_GCM_SHA2 56
	  • TLS_ECDHE_ECDSA_WITH_AES_256_GCM_SHA3 84
	  • TLS_ECDHE_RSA_WITH_AES_128_GCM_SHA256
		PASS	--

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

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

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

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

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

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

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

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

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

3.33 [WINNF.FT.C.HBT] UUT RF Transmit Power Measurement

#	Test Execution Steps	Results	
1	Ensure the following conditions are met for test entry: • UUT has successfully completed SAS Discovery and Authentication with the SAS Test Harness • UUT has registered with the SAS, with CBSD ID = C • UUT has a single valid grant G with parameters {lowFrequency = F_L, highFrequency = F_H, maxEirp = P_i}, with grant in AUTHORIZED state, and grantExpireTime set to a value far past the duration of this test case *Note: in order for the UUT to request a grant with the parameters {lowFrequency, highFrequency, maxEirp), the SAS Test Harness may need to provide appropriate guidance in the availableChannel object of the spectrumInquiry response message, and the operationParam object of the grant response message. Alternately, the UUT vendor may provide the ability to set those parameters on the UUT so that the UUT will request a grant with those parameters.*	--	--

2	UUT and SAS Test Harness perform a series of Heartbeat Request/Response cycles, which continues until the other test steps are complete. Messaging for each cycle is as follows:
	• UUT sends Heartbeat Request, including:
	  ○ *cbsdId* = C
	  ○ *grantId* = G
	• SAS Test Harness responds with Heartbeat Response, including:
	  ○ *cbsdId* = C
	  ○ *grantId* = G
	  ○ *transmitExpireTime* = current UTC time + 200 seconds
	  ○ *responseCode* = 0
		--	--

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

Appendix B. Test Log

1 [WINNF.FT.C.REG.1] Multi-Step registration

Report Clause 3.2 [WINNF.FT.C.REG.1] Multi-Step registration

2019-01-07T06:12:36.391Z - INFO - WINNF TEST HARNESS RELEASE: 1.0.0.3 - 2018-November-13

2019-01-07T06:12:36.391Z - INFO - the selected test from the user : WINNF.FT.C.REG.1 is starting now

2019-01-07T06:12:52.937Z - INFO - registration request from CBRS : {


```
    "registrationRequest": [
        {
            "airInterface": {
                "radioTechnology": "E_UTRA"
            },
            "callSign": "WAA206",
            "cbsdCategory": "A",
            "cbsdInfo": {
                "firmwareVersion": "x1000_R3.3.1_RC3",
                "hardwareVersion": "E1012-GC01",
                "model": "E1012",
                "softwareVersion": "x1000_R3.3.1_RC3",
                "vendor": "ACCELLERAN"
            },
            "cbsdSerialNumber": "ACC201228000001",
            "fccId": "MXF-WLTGFC105",
            "installationParam": {
                "antennaAzimuth": 0,
                "antennaBeamwidth": 360,
                "antennaDowntilt": 0,
                "antennaGain": 6,
                "height": 342.0,
                "heightType": "AMSL",
                "indoorDeployment": false,
                "latitude": 25.041347,
                "longitude": 121.37355
            },
            "userId": "pGPWTZ"
        }
    ]
}
```

2019-01-07T06:12:52.986Z - INFO - engine sent successfully, the response to CBRS : {

"registrationResponse": [
{
"cbsdId": "MXF-WLTGFC105Mock-SASACC201228000001",
"response": {
"responseCode": 0
}
}
]
}

2019-01-07T06:12:54.473Z - INFO - arrived to nstep starting question answer session with the technician

2019-01-07T06:12:54.473Z - INFO - the question is : Were there RF transmissions from the CBSD1 during the test? please choose one of the answers :

2019-01-07T06:14:00.190Z - INFO - for the question : Were there RF transmissions from the CBSD1 during the test? , the user choose n

2019-01-07T06:14:01.601Z - INFO - The final result of the test : WINNF.FT.C.REG.1 is - passed

2 [WINNF.FT.C.REG.3_waiver] Single-Step registration for Category A CBSD

Report Clause 3.3 [WINNF.FT.C.REG.3_waiver] Single-Step registration for Category A CBSD

2019-01-07T06:17:37.418Z - INFO - WINNF TEST HARNESS RELEASE: 1.0.0.3 - 2018-November-13

2019-01-07T06:17:37.428Z - INFO - the selected test from the user : WINNF.FT.C.REG.3_waiver is starting now

2019-01-07T06:17:53.948Z - INFO - registration request from CBRS : {


```
"registrationRequest": [
    {
        "airInterface": {
            "radioTechnology": "E_UTRA"
        },
        "callSign": "WAA206",
        "cbsdCategory": "A",
        "cbsdInfo": {
            "firmwareVersion": "x1000_R3.3.1_RC3",
            "hardwareVersion": "E1012-GC01",
            "model": "E1012",
            "softwareVersion": "x1000_R3.3.1_RC3",
            "vendor": "ACCELLERAN"
        },
        "cbsdSerialNumber": "ACC201228000001",
        "fccId": "MXF-WLTGFC105",
        "installationParam": {
            "antennaAzimuth": 0,
            "antennaBeamwidth": 360,
            "antennaDowntilt": 0,
            "antennaGain": 6,
            "height": 342.0,
            "heightType": "AMSL",
            "indoorDeployment": false,
            "latitude": 25.041347,
            "longitude": 121.37355
        },
        "userId": "pGPWTZ"
    }
```

]
}
2019-01-07T06:17:53.989Z - INFO - engine sent successfully, the response to CBRS : {
"registrationResponse": [
{
"cbsdId": "MXF-WLTGFC105Mock-SASACC201228000001",
"response": {
"responseCode": 0
}
}
]
}
2019-01-07T06:17:55.549Z - INFO - arrived to nstep starting question answer session with the technician
2019-01-07T06:17:55.549Z - INFO - the question is : Were there RF transmissions from the CBSD1 during the test? please choose one of the answers :
2019-01-07T06:19:05.641Z - INFO - for the question : Were there RF transmissions from the CBSD1 during the test? , the user choose n
2019-01-07T06:19:07.512Z - INFO - The final result of the test : WINNF.FT.C.REG.3_waiver is - passed

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

Report Clause 3.4 [WINNF.FT.C.REG.8] Missing Required parameters (responseCode 102)

```
2019-01-07T06:19:30.098Z - INFO - WINNF TEST HARNESS RELEASE: 1.0.0.3 - 2018-November-13
2019-01-07T06:19:30.098Z - INFO - the selected test from the user : WINNF.FT.C.REG.8 is starting now
2019-01-07T06:21:04.437Z - INFO - registration request from CBRS    : {
    "registrationRequest": [
        {
            "airInterface": {
                "radioTechnology": "E_UTRA"
            },
            "callSign": "WAA206",
            "cbsdCategory": "A",
            "cbsdInfo": {
                "firmwareVersion": "x1000_R3.3.1_RC3",
                "hardwareVersion": "E1012-GC01",
                "model": "E1012",
                "softwareVersion": "x1000_R3.3.1_RC3",
                "vendor": "ACCELLERAN"
            },
            "cbsdSerialNumber": "ACC201228000001",
            "fccId": "MXF-WLTGFC105",
            "installationParam": {
                "antennaAzimuth": 0,
                "antennaBeamwidth": 360,
                "antennaDowntilt": 0,
                "antennaGain": 6,
                "height": 342.0,
                "heightType": "AMSL",
                "indoorDeployment": false,
                "latitude": 25.041347,
                "longitude": 121.37355
            },
            "userId": "pGPWTZ"
        }
    ]
```

}
2019-01-07T06:21:04.497Z - INFO - engine sent successfully, the response to CBRS : {
"registrationResponse": [
{
"response": {
"responseCode": 102
}
}
]
}
2019-01-07T06:21:06.278Z - INFO - arrived to nstep starting question answer session with the technician
2019-01-07T06:21:06.278Z - INFO - the question is : Were there RF transmissions from the CBSD1 during the test? please choose one of the answers :
2019-01-07T06:22:26.058Z - INFO - for the question : Were there RF transmissions from the CBSD1 during the test? , the user choose n
2019-01-07T06:22:27.257Z - INFO - The final result of the test : WINNF.FT.C.REG.8 is - passed

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

Report Clause 3.5 [WINNF.FT.C.REG.10] Pending registration (responseCode 200)

2019-01-07T06:23:29.500Z - INFO - WINNF TEST HARNESS RELEASE: 1.0.0.3 - 2018-November-13

2019-01-07T06:23:29.502Z - INFO - the selected test from the user : WINNF.FT.C.REG.10 is starting now

2019-01-07T06:24:25.420Z - INFO - registration request from CBRS : {


```
"registrationRequest": [
    {
        "airInterface": {
            "radioTechnology": "E_UTRA"
        },
        "callSign": "WAA206",
        "cbsdCategory": "A",
        "cbsdInfo": {
            "firmwareVersion": "x1000_R3.3.1_RC3",
            "hardwareVersion": "E1012-GC01",
            "model": "E1012",
            "softwareVersion": "x1000_R3.3.1_RC3",
            "vendor": "ACCELLERAN"
        },
        "cbsdSerialNumber": "ACC201228000001",
        "fccId": "MXF-WLTGFC105",
        "installationParam": {
            "antennaAzimuth": 0,
            "antennaBeamwidth": 360,
            "antennaDowntilt": 0,
            "antennaGain": 6,
            "height": 342.0,
            "heightType": "AMSL",
            "indoorDeployment": false,
            "latitude": 25.041347,
            "longitude": 121.37355
        },
        "userId": "pGPWTZ"
    }
]
```

}
2019-01-07T06:24:25.440Z - INFO - engine sent successfully, the response to CBRS : {
"registrationResponse": [
{
"response": {
"responseCode": 200
}
}
]
}
2019-01-07T06:24:26.611Z - INFO - arrived to nstep starting question answer session with the technician
2019-01-07T06:24:26.611Z - INFO - the question is : Were there RF transmissions from the CBSD1 during the test? please choose one of the answers :
2019-01-07T06:25:31.420Z - INFO - for the question : Were there RF transmissions from the CBSD1 during the test? , the user choose n
2019-01-07T06:25:32.640Z - INFO - The final result of the test : WINNF.FT.C.REG.10 is - passed

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

Report Clause 3.6 [WINNF.FT.C.REG.12] Invalid parameter (responseCode 103)

2019-01-07T06:25:54.714Z - INFO - WINNF TEST HARNESS RELEASE: 1.0.0.3 - 2018-November-13

2019-01-07T06:25:54.716Z - INFO - the selected test from the user : WINNF.FT.C.REG.12 is starting now

2019-01-07T06:27:32.641Z - INFO - registration request from CBRS : {


```
"registrationRequest": [
    {
        "airInterface": {
            "radioTechnology": "E_UTRA"
        },
        "callSign": "WAA206",
        "cbsdCategory": "A",
        "cbsdInfo": {
            "firmwareVersion": "x1000_R3.3.1_RC3",
            "hardwareVersion": "E1012-GC01",
            "model": "E1012",
            "softwareVersion": "x1000_R3.3.1_RC3",
            "vendor": "ACCELLERAN"
        },
        "cbsdSerialNumber": "ACC201228000001",
        "fccId": "MXF-WLTGFC105",
        "installationParam": {
            "antennaAzimuth": 0,
            "antennaBeamwidth": 360,
            "antennaDowntilt": 0,
            "antennaGain": 6,
            "height": 342.0,
            "heightType": "AMSL",
            "indoorDeployment": false,
            "latitude": 25.041347,
            "longitude": 121.37355
        },
        "userId": "pGPWTZ"
    }
]
```

}
2019-01-07T06:27:32.691Z - INFO - engine sent successfully, the response to CBRS : {
"registrationResponse": [
{
"response": {
"responseCode": 103
}
}
]
}
2019-01-07T06:27:33.871Z - INFO - arrived to nstep starting question answer session with the technician
2019-01-07T06:27:33.871Z - INFO - the question is : Were there RF transmissions from the CBSD1 during the test? please choose one of the answers :
2019-01-07T06:28:34.987Z - INFO - for the question : Were there RF transmissions from the CBSD1 during the test? , the user choose n
2019-01-07T06:28:35.957Z - INFO - The final result of the test : WINNF.FT.C.REG.12 is - passed

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

Report Clause 3.7 [WINNF.FT.C.REG.14] Blacklisted CBSD (responseCode 101)

2019-01-07T06:28:55.351Z - INFO - WINNF TEST HARNESS RELEASE: 1.0.0.3 - 2018-November-13

2019-01-07T06:28:55.351Z - INFO - the selected test from the user : WINNF.FT.C.REG.14 is starting now

2019-01-07T06:30:47.519Z - INFO - registration request from CBRS : {


```
"registrationRequest": [
    {
        "airInterface": {
            "radioTechnology": "E_UTRA"
        },
        "callSign": "WAA206",
        "cbsdCategory": "A",
        "cbsdInfo": {
            "firmwareVersion": "x1000_R3.3.1_RC3",
            "hardwareVersion": "E1012-GC01",
            "model": "E1012",
            "softwareVersion": "x1000_R3.3.1_RC3",
            "vendor": "ACCELLERAN"
        },
        "cbsdSerialNumber": "ACC201228000001",
        "fccId": "MXF-WLTGFC105",
        "installationParam": {
            "antennaAzimuth": 0,
            "antennaBeamwidth": 360,
            "antennaDowntilt": 0,
            "antennaGain": 6,
            "height": 342.0,
            "heightType": "AMSL",
            "indoorDeployment": false,
            "latitude": 25.041347,
            "longitude": 121.37355
        },
        "userId": "pGPWTZ"
    }
]
```

}
2019-01-07T06:30:47.569Z - INFO - engine sent successfully, the response to CBRS : {
"registrationResponse": [
{
"response": {
"responseCode": 101
}
}
]
}
2019-01-07T06:30:48.845Z - INFO - arrived to nstep starting question answer session with the technician
2019-01-07T06:30:48.845Z - INFO - the question is : Were there RF transmissions from the CBSD1 during the test? please choose one of the answers :
2019-01-07T06:31:49.720Z - INFO - for the question : Were there RF transmissions from the CBSD1 during the test? , the user choose n
2019-01-07T06:31:51.051Z - INFO - The final result of the test : WINNF.FT.C.REG.14 is - passed

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

Report Clause 3.8 [WINNF.FT.C.REG.16] Unsupported SAS protocol version (responseCode 100)

2019-01-07T06:32:16.627Z - INFO - WINNF TEST HARNESS RELEASE: 1.0.0.3 - 2018-November-13

2019-01-07T06:32:16.628Z - INFO - the selected test from the user : WINNF.FT.C.REG.16 is starting now

2019-01-07T06:34:13.207Z - INFO - registration request from CBRS : {


```
"registrationRequest": [
    {
        "airInterface": {
            "radioTechnology": "E_UTRA"
        },
        "callSign": "WAA206",
        "cbsdCategory": "A",
        "cbsdInfo": {
            "firmwareVersion": "x1000_R3.3.1_RC3",
            "hardwareVersion": "E1012-GC01",
            "model": "E1012",
            "softwareVersion": "x1000_R3.3.1_RC3",
            "vendor": "ACCELLERAN"
        },
        "cbsdSerialNumber": "ACC201228000001",
        "fccId": "MXF-WLTGFC105",
        "installationParam": {
            "antennaAzimuth": 0,
            "antennaBeamwidth": 360,
            "antennaDowntilt": 0,
            "antennaGain": 6,
            "height": 342.0,
            "heightType": "AMSL",
            "indoorDeployment": false,
            "latitude": 25.041347,
            "longitude": 121.37355
        },
        "userId": "pGPWTZ"
    }
]
```

}
2019-01-07T06:34:13.256Z - INFO - engine sent successfully, the response to CBRS : {
"registrationResponse": [
{
"response": {
"responseCode": 100
}
}
]
}
2019-01-07T06:34:14.990Z - INFO - arrived to nstep starting question answer session with the technician
2019-01-07T06:34:14.990Z - INFO - the question is : Were there RF transmissions from the CBSD1 during the test? please choose one of the answers :
2019-01-07T06:35:21.069Z - INFO - for the question : Were there RF transmissions from the CBSD1 during the test? , the user choose n
2019-01-07T06:35:22.299Z - INFO - The final result of the test : WINNF.FT.C.REG.16 is - passed

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

Report Clause 3.9 [WINNF.FT.C.REG.18] Group Error (responseCode 201)

```
2019-01-07T06:37:40.490Z - INFO - WINNF TEST HARNESS RELEASE: 1.0.0.3 - 2018-November-13
2019-01-07T06:37:40.490Z - INFO - the selected test from the user : WINNF.FT.C.REG.18 is starting now
2019-01-07T06:37:57.174Z - INFO - registration request from CBRS    : {
    "registrationRequest": [
        {
            "airInterface": {
                "radioTechnology": "E_UTRA"
            },
            "callSign": "WAA206",
            "cbsdCategory": "A",
            "cbsdInfo": {
                "firmwareVersion": "x1000_R3.3.1_RC3",
                "hardwareVersion": "E1012-GC01",
                "model": "E1012",
                "softwareVersion": "x1000_R3.3.1_RC3",
                "vendor": "ACCELLERAN"
            },
            "cbsdSerialNumber": "ACC201228000001",
            "fccId": "MXF-WLTGFC105",
            "installationParam": {
                "antennaAzimuth": 0,
                "antennaBeamwidth": 360,
                "antennaDowntilt": 0,
                "antennaGain": 6,
                "height": 342.0,
                "heightType": "AMSL",
                "indoorDeployment": false,
                "latitude": 25.041347,
                "longitude": 121.37355
            },
            "userId": "pGPWTZ"
        }
    ]
}
```

2019-01-07T06:37:57.233Z - INFO - engine sent successfully, the response to CBRS : {
"registrationResponse": [
{
"response": {
"responseCode": 201
}
}
]
}
2019-01-07T06:37:58.598Z - INFO - arrived to nstep starting question answer session with the technician
2019-01-07T06:37:58.598Z - INFO - the question is : Were there RF transmissions from the CBSD1 during the test? please choose one of the answers :
2019-01-07T06:39:01.279Z - INFO - for the question : Were there RF transmissions from the CBSD1 during the test? , the user choose n
2019-01-07T06:39:02.750Z - INFO - The final result of the test : WINNF.FT.C.REG.18 is - passed

9 [WINNF.FT.C.REG.20] Category A CBSD location update

According to “Accelleran E1000 Series SAS Guide v0.4” page.8jo

From all the above, a change of location always causes a de-registration, powering down, powering up and re-registration towards the SAS which in all cases, regardless on whether the location has changed more than 50m horizontally/3m vertically or not, the new location is sent to SAS in a new registration. The location update is in practice a change in an installation parameter similar to the conditions of the conditional testcase condition C6. The associated test WINNF.FT.C.REG.7 is not valid for CBSDs requiring a deregistration prior to allowing a parameter change to be made (for example, (i) bring CBSD out of service (deregister), (ii) change registration parameter, (iii) bring CBSD back into service (register)). This means that the location update procedure stated in certification is always implicitly done as a new registration and therefore the testcase associated to location update **WINNF.FT.C.REG.20 inherits the verdict of the normal registration testcase WINNF.FT.C.REG.3.**

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

Report Clause 3.11 [WINNF.FT.C.GRA.1] Unsuccessful Grant responseCode=400 (INTERFERENCE)

2019-01-07T06:39:32.710Z - INFO - WINNF TEST HARNESS RELEASE: 1.0.0.3 - 2018-November-13

2019-01-07T06:39:32.710Z - INFO - the selected test from the user : WINNF.FT.C.GRA.1 is starting now

2019-01-07T06:41:00.782Z - INFO - registration request from CBRS : {


```
"registrationRequest": [
    {
        "airInterface": {
            "radioTechnology": "E_UTRA"
        },
        "callSign": "WAA206",
        "cbsdCategory": "A",
        "cbsdInfo": {
            "firmwareVersion": "x1000_R3.3.1_RC3",
            "hardwareVersion": "E1012-GC01",
            "model": "E1012",
            "softwareVersion": "x1000_R3.3.1_RC3",
            "vendor": "ACCELLERAN"
        },
        "cbsdSerialNumber": "ACC201228000001",
        "fccId": "MXF-WLTGFC105",
        "installationParam": {
            "antennaAzimuth": 0,
            "antennaBeamwidth": 360,
            "antennaDowntilt": 0,
            "antennaGain": 6,
            "height": 342.0,
            "heightType": "AMSL",
            "indoorDeployment": false,
            "latitude": 25.041347,
            "longitude": 121.37355
        },
        "userId": "pGPWTZ"
    }
]
```

```
}
2019-01-07T06:41:00.852Z - INFO - engine sent successfully, the response to CBRS  : {
    "registrationResponse": [
        {
            "cbsdId": "MXF-WLTGFC105Mock-SASACC201228000001",
            "response": {
                "responseCode": 0
            }
        }
    ]
}
2019-01-07T06:41:00.943Z - INFO - spectrumInquiry request from CBRS  : {
    "spectrumInquiryRequest": [
        {
            "cbsdId": "MXF-WLTGFC105Mock-SASACC201228000001",
            "inquiredSpectrum": [
                {
                    "highFrequency": 3700000000,
                    "lowFrequency": 3550000000
                }
            ]
        }
    ]
}
2019-01-07T06:41:00.953Z - INFO - engine sent successfully, the response to CBRS  : {
    "spectrumInquiryResponse": [
        {
            "availableChannel": [
                {
                    "channelType": "GAA",
                    "frequencyRange": {
                        "highFrequency": 3700000000,
                        "lowFrequency": 3550000000
                    },
                    "ruleApplied": "FCC_PART_96"
                }
```

```
            ],
            "cbsdId": "MXF-WLTGFC105Mock-SASACC201228000001",
            "response": {
                "responseCode": 0
            }
        }
    ]
}
2019-01-07T06:41:01.193Z - INFO - grant request from CBRS    : {
    "grantRequest": [
        {
            "cbsdId": "MXF-WLTGFC105Mock-SASACC201228000001",
            "operationParam": {
                "maxEirp": 17,
                "operationFrequencyRange": {
                    "highFrequency": 3570000000,
                    "lowFrequency": 3550000000
                }
            }
        }
    ]
}
2019-01-07T06:41:01.213Z - INFO - engine sent successfully, the response to CBRS    : {
    "grantResponse": [
        {
            "cbsdId": "MXF-WLTGFC105Mock-SASACC201228000001",
            "response": {
                "responseCode": 400
            }
        }
    ]
}
2019-01-07T06:41:02.862Z - INFO - arrived to nstep starting question answer session with the technician
2019-01-07T06:41:02.862Z - INFO - the question is : Were there RF transmissions from the CBSD1 during the test? please choose one of the answers :
2019-01-07T06:42:09.571Z - INFO - for the question : Were there RF transmissions from the CBSD1 during
```

the test? , the user choose n

2019-01-07T06:42:11.740Z - INFO - The final result of the test : WINNF.FT.C.GRA.1 is - passed

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

Report Clause 3.12 [WINNF.FT.C.GRA.2] Unsuccessful Grant responseCode=401 (GRANT_CONFLICT)

```
2019-01-07T06:42:30.381Z - INFO - WINNF TEST HARNESS RELEASE: 1.0.0.3 - 2018-November-13
2019-01-07T06:42:30.381Z - INFO - the selected test from the user : WINNF.FT.C.GRA.2 is starting now
2019-01-07T06:44:06.423Z - INFO - registration request from CBRS    : {
    "registrationRequest": [
        {
            "airInterface": {
                "radioTechnology": "E_UTRA"
            },
            "callSign": "WAA206",
            "cbsdCategory": "A",
            "cbsdInfo": {
                "firmwareVersion": "x1000_R3.3.1_RC3",
                "hardwareVersion": "E1012-GC01",
                "model": "E1012",
                "softwareVersion": "x1000_R3.3.1_RC3",
                "vendor": "ACCELLERAN"
            },
            "cbsdSerialNumber": "ACC201228000001",
            "fccId": "MXF-WLTGFC105",
            "installationParam": {
                "antennaAzimuth": 0,
                "antennaBeamwidth": 360,
                "antennaDowntilt": 0,
                "antennaGain": 6,
                "height": 342.0,
                "heightType": "AMSL",
                "indoorDeployment": false,
                "latitude": 25.041347,
                "longitude": 121.37355
            },
            "userId": "pGPWTZ"
        }
    ]
```

```
}
2019-01-07T06:44:06.473Z - INFO - engine sent successfully, the response to CBRS    : {
      "registrationResponse": [
            {
                  "cbsdId": "MXF-WLTGFC105Mock-SASACC201228000001",
                  "response": {
                        "responseCode": 0
                  }
            }
      ]
}
2019-01-07T06:44:06.602Z - INFO - spectrumInquiry request from CBRS    : {
      "spectrumInquiryRequest": [
            {
                  "cbsdId": "MXF-WLTGFC105Mock-SASACC201228000001",
                  "inquiredSpectrum": [
                        {
                              "highFrequency": 3700000000,
                              "lowFrequency": 3550000000
                        }
                  ]
            }
      ]
}
2019-01-07T06:44:06.612Z - INFO - engine sent successfully, the response to CBRS    : {
      "spectrumInquiryResponse": [
            {
                  "availableChannel": [
                        {
                              "channelType": "GAA",
                              "frequencyRange": {
                                    "highFrequency": 3700000000,
                                    "lowFrequency": 3550000000
                              },
                              "ruleApplied": "FCC_PART_96"
                        }
```

```
            ],
            "cbsdId": "MXF-WLTGFC105Mock-SASACC201228000001",
            "response": {
                "responseCode": 0
            }
        }
    ]
}
2019-01-07T06:44:06.832Z - INFO - grant request from CBRS    : {
    "grantRequest": [
        {
            "cbsdId": "MXF-WLTGFC105Mock-SASACC201228000001",
            "operationParam": {
                "maxEirp": 17,
                "operationFrequencyRange": {
                    "highFrequency": 3570000000,
                    "lowFrequency": 3550000000
                }
            }
        }
    ]
}
2019-01-07T06:44:06.842Z - INFO - engine sent successfully, the response to CBRS    : {
    "grantResponse": [
        {
            "cbsdId": "MXF-WLTGFC105Mock-SASACC201228000001",
            "response": {
                "responseCode": 401
            }
        }
    ]
}
2019-01-07T06:44:08.525Z - INFO - arrived to nstep starting question answer session with the technician
2019-01-07T06:44:08.525Z - INFO - the question is : Were there RF transmissions from the CBSD1 during the test? please choose one of the answers :
2019-01-07T06:45:08.980Z - INFO - for the question : Were there RF transmissions from the CBSD1 during
```

the test? , the user choose n

2019-01-07T06:45:10.131Z - INFO - The final result of the test : WINNF.FT.C.GRA.2 is - passed

12 [WINNF.FT.C.HBT.1] Heartbeat Success Case (first Heartbeat Response)

Report Clause 3.13 [WINNF.FT.C.HBT.1] Heartbeat Success Case (first Heartbeat Response)

2019-01-07T07:31:21.308Z - INFO - WINNF TEST HARNESS RELEASE: 1.0.0.3 - 2018-November-13

2019-01-07T07:31:21.308Z - INFO - the selected test from the user : WINNF.FT.C.HBT.1 is starting now

2019-01-07T07:31:38.665Z - INFO - registration request from CBRS : {


```
"registrationRequest": [
    {
        "airInterface": {
            "radioTechnology": "E_UTRA"
        },
        "callSign": "WAA206",
        "cbsdCategory": "A",
        "cbsdInfo": {
            "firmwareVersion": "x1000_R3.3.1_RC3",
            "hardwareVersion": "E1012-GC01",
            "model": "E1012",
            "softwareVersion": "x1000_R3.3.1_RC3",
            "vendor": "ACCELLERAN"
        },
        "cbsdSerialNumber": "ACC201228000001",
        "fccId": "MXF-WLTGFC105",
        "installationParam": {
            "antennaAzimuth": 0,
            "antennaBeamwidth": 360,
            "antennaDowntilt": 0,
            "antennaGain": 6,
            "height": 588.0,
            "heightType": "AMSL",
            "indoorDeployment": false,
            "latitude": 25.041935,
            "longitude": 121.375383
        },
        "userId": "pGPWTZ"
    }
]
```

```
}
2019-01-07T07:31:38.686Z - INFO - engine sent successfully, the response to CBRS  : {
    "registrationResponse": [
        {
            "cbsdId": "MXF-WLTGFC105Mock-SASACC201228000001",
            "response": {
                "responseCode": 0
            }
        }
    ]
}
2019-01-07T07:31:38.786Z - INFO - spectrumInquiry request from CBRS  : {
    "spectrumInquiryRequest": [
        {
            "cbsdId": "MXF-WLTGFC105Mock-SASACC201228000001",
            "inquiredSpectrum": [
                {
                    "highFrequency": 3700000000,
                    "lowFrequency": 3550000000
                }
            ]
        }
    ]
}
2019-01-07T07:31:38.796Z - INFO - engine sent successfully, the response to CBRS  : {
    "spectrumInquiryResponse": [
        {
            "availableChannel": [
                {
                    "channelType": "GAA",
                    "frequencyRange": {
                        "highFrequency": 3700000000,
                        "lowFrequency": 3550000000
                    },
                    "ruleApplied": "FCC_PART_96"
                }
```

```
            ],
            "cbsdId": "MXF-WLTGFC105Mock-SASACC201228000001",
            "response": {
                "responseCode": 0
            }
        }
    ]
}
2019-01-07T07:31:39.006Z - INFO - grant request from CBRS    : {
    "grantRequest": [
        {
            "cbsdId": "MXF-WLTGFC105Mock-SASACC201228000001",
            "operationParam": {
                "maxEirp": 17,
                "operationFrequencyRange": {
                    "highFrequency": 3570000000,
                    "lowFrequency": 3550000000
                }
            }
        }
    ]
}
2019-01-07T07:31:39.016Z - INFO - engine sent successfully, the response to CBRS    : {
    "grantResponse": [
        {
            "cbsdId": "MXF-WLTGFC105Mock-SASACC201228000001",
            "channelType": "GAA",
            "grantExpireTime": "2019-01-14T07:31:39Z",
            "grantId": "638253639",
            "heartbeatInterval": 60,
            "response": {
                "responseCode": 0
            }
        }
    ]
}
```

2019-01-07T07:31:39.115Z - INFO - heartbeat request from CBRS : {
"heartbeatRequest": [
{
"cbsdId": "MXF-WLTGFC105Mock-SASACC201228000001",
"grantId": "638253639",
"operationState": "GRANTED"
}
]
}
2019-01-07T07:31:39.125Z - INFO - engine sent successfully, the response to CBRS : {
"heartbeatResponse": [
{
"cbsdId": "MXF-WLTGFC105Mock-SASACC201228000001",
"grantId": "638253639",
"response": {
"responseCode": 0
},
"transmitExpireTime": "2019-01-07T07:34:59Z"
}
]
}
2019-01-07T07:32:38.243Z - INFO - heartbeat request from CBRS : {
"heartbeatRequest": [
{
"cbsdId": "MXF-WLTGFC105Mock-SASACC201228000001",
"grantId": "638253639",
"operationState": "AUTHORIZED"
}
]
}
2019-01-07T07:32:38.243Z - INFO - Time interval between two heartbeat request messages is: 59.127, limit is: 65.0
2019-01-07T07:32:38.253Z - INFO - engine sent successfully, the response to CBRS : {
"heartbeatResponse": [
{
"cbsdId": "MXF-WLTGFC105Mock-SASACC201228000001",

```
                "grantId": "638253639",
                "response": {
                    "responseCode": 0
                },
                "transmitExpireTime": "2019-01-07T07:35:58Z"
            }
        ]
}
2019-01-07T07:33:37.250Z - INFO - heartbeat request from CBRS    : {
    "heartbeatRequest": [
        {
            "cbsdId": "MXF-WLTGFC105Mock-SASACC201228000001",
            "grantId": "638253639",
            "operationState": "AUTHORIZED"
        }
    ]
}
2019-01-07T07:33:37.250Z - INFO - Time interval between two heartbeat request messages is: 59.007,
limit is: 65.0
2019-01-07T07:33:37.250Z - INFO - engine sent successfully, the response to CBRS    : {
    "heartbeatResponse": [
        {
            "cbsdId": "MXF-WLTGFC105Mock-SASACC201228000001",
            "grantId": "638253639",
            "response": {
                "responseCode": 0
            },
            "transmitExpireTime": "2019-01-07T07:36:57Z"
        }
    ]
}
2019-01-07T07:34:36.255Z - INFO - heartbeat request from CBRS    : {
    "heartbeatRequest": [
        {
            "cbsdId": "MXF-WLTGFC105Mock-SASACC201228000001",
            "grantId": "638253639",
```

"operationState": "AUTHORIZED"
}
]
}
2019-01-07T07:34:36.265Z - INFO - Time interval between two heartbeat request messages is: 59.015, limit is: 65.0
2019-01-07T07:34:36.265Z - INFO - engine sent successfully, the response to CBRS : {
"heartbeatResponse": [
{
"cbsdId": "MXF-WLTGFC105Mock-SASACC201228000001",
"grantId": "638253639",
"response": {
"responseCode": 0
},
"transmitExpireTime": "2019-01-07T07:37:56Z"
}
]
}
2019-01-07T07:35:35.259Z - INFO - heartbeat request from CBRS : {
"heartbeatRequest": [
{
"cbsdId": "MXF-WLTGFC105Mock-SASACC201228000001",
"grantId": "638253639",
"operationState": "AUTHORIZED"
}
]
}
2019-01-07T07:35:35.269Z - INFO - Time interval between two heartbeat request messages is: 59.005, limit is: 65.0
2019-01-07T07:35:35.279Z - INFO - engine sent successfully, the response to CBRS : {
"heartbeatResponse": [
{
"cbsdId": "MXF-WLTGFC105Mock-SASACC201228000001",
"grantId": "638253639",
"response": {
"responseCode": 0

```
            },
            "transmitExpireTime": "2019-01-07T07:38:55Z"
        }
    ]
}
2019-01-07T07:36:34.267Z - INFO - heartbeat request from CBRS    : {
    "heartbeatRequest": [
        {
            "cbsdId": "MXF-WLTGFC105Mock-SASACC201228000001",
            "grantId": "638253639",
            "operationState": "AUTHORIZED"
        }
    ]
}
2019-01-07T07:36:34.267Z - INFO - Time interval between two heartbeat request messages is: 58.998,
limit is: 65.0
2019-01-07T07:36:34.278Z - INFO - engine sent successfully, the response to CBRS    : {
    "heartbeatResponse": [
        {
            "cbsdId": "MXF-WLTGFC105Mock-SASACC201228000001",
            "grantId": "638253639",
            "response": {
                "responseCode": 0
            },
            "transmitExpireTime": "2019-01-07T07:39:54Z"
        }
    ]
}
2019-01-07T07:36:35.907Z - INFO - arrived to nstep starting question answer session with the technician
2019-01-07T07:36:35.907Z - INFO - the question is : Did CBSD1 transmit power prior to AUTHORIZED
state (first successful HBT response)? please choose one of the answers :
2019-01-07T07:37:11.677Z - INFO - for the question : Did CBSD1 transmit power prior to AUTHORIZED
state (first successful HBT response)? , the user choose n
2019-01-07T07:37:11.677Z - INFO - the question is : Did CBSD1 transmit only within the frequency range
specified in its grantRequest message? please choose one of the answers :
2019-01-07T07:37:18.407Z - INFO - for the question : Did CBSD1 transmit only within the frequency range
```

specified in its grantRequest message? , the user choose y

2019-01-07T07:37:19.267Z - INFO - The final result of the test : WINNF.FT.C.HBT.1 is - passed

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

Report Clause 3.14 [WINNF.FT.C.HBT.3] Heartbeat responseCode=105 (DEREGISTER)

2019-01-07T07:40:02.012Z - INFO - WINNF TEST HARNESS RELEASE: 1.0.0.3 - 2018-November-13

2019-01-07T07:40:02.012Z - INFO - the selected test from the user : WINNF.FT.C.HBT.3 is starting now

2019-01-07T07:40:21.420Z - INFO - registration request from CBRS : {


```
"registrationRequest": [
    {
        "airInterface": {
            "radioTechnology": "E_UTRA"
        },
        "callSign": "WAA206",
        "cbsdCategory": "A",
        "cbsdInfo": {
            "firmwareVersion": "x1000_R3.3.1_RC3",
            "hardwareVersion": "E1012-GC01",
            "model": "E1012",
            "softwareVersion": "x1000_R3.3.1_RC3",
            "vendor": "ACCELLERAN"
        },
        "cbsdSerialNumber": "ACC201228000001",
        "fccId": "MXF-WLTGFC105",
        "installationParam": {
            "antennaAzimuth": 0,
            "antennaBeamwidth": 360,
            "antennaDowntilt": 0,
            "antennaGain": 6,
            "height": 490.0,
            "heightType": "AMSL",
            "indoorDeployment": false,
            "latitude": 25.041802,
            "longitude": 121.374278
        },
        "userId": "pGPWTZ"
    }
]
```

```
}
2019-01-07T07:40:21.473Z - INFO - engine sent successfully, the response to CBRS    : {
    "registrationResponse": [
        {
            "cbsdId": "MXF-WLTGFC105Mock-SASACC201228000001",
            "response": {
                "responseCode": 0
            }
        }
    ]
}
2019-01-07T07:40:21.585Z - INFO - spectrumInquiry request from CBRS    : {
    "spectrumInquiryRequest": [
        {
            "cbsdId": "MXF-WLTGFC105Mock-SASACC201228000001",
            "inquiredSpectrum": [
                {
                    "highFrequency": 3700000000,
                    "lowFrequency": 3550000000
                }
            ]
        }
    ]
}
2019-01-07T07:40:21.605Z - INFO - engine sent successfully, the response to CBRS    : {
    "spectrumInquiryResponse": [
        {
            "availableChannel": [
                {
                    "channelType": "GAA",
                    "frequencyRange": {
                        "highFrequency": 3700000000,
                        "lowFrequency": 3550000000
                    },
                    "ruleApplied": "FCC_PART_96"
                }
```

```
            ],
            "cbsdId": "MXF-WLTGFC105Mock-SASACC201228000001",
            "response": {
                "responseCode": 0
            }
        }
    ]
}
2019-01-07T07:40:21.825Z - INFO - grant request from CBRS    : {
    "grantRequest": [
        {
            "cbsdId": "MXF-WLTGFC105Mock-SASACC201228000001",
            "operationParam": {
                "maxEirp": 17,
                "operationFrequencyRange": {
                    "highFrequency": 3570000000,
                    "lowFrequency": 3550000000
                }
            }
        }
    ]
}
2019-01-07T07:40:21.825Z - INFO - engine sent successfully, the response to CBRS    : {
    "grantResponse": [
        {
            "cbsdId": "MXF-WLTGFC105Mock-SASACC201228000001",
            "channelType": "GAA",
            "grantExpireTime": "2019-01-14T07:40:21Z",
            "grantId": "42159784",
            "heartbeatInterval": 60,
            "response": {
                "responseCode": 0
            }
        }
    ]
}
```

2019-01-07T07:40:21.934Z - INFO - heartbeat request from CBRS : {
"heartbeatRequest": [
{
"cbsdId": "MXF-WLTGFC105Mock-SASACC201228000001",
"grantId": "42159784",
"operationState": "GRANTED"
}
]
}
2019-01-07T07:40:21.944Z - INFO - engine sent successfully, the response to CBRS : {
"heartbeatResponse": [
{
"cbsdId": "MXF-WLTGFC105Mock-SASACC201228000001",
"grantId": "42159784",
"response": {
"responseCode": 0
},
"transmitExpireTime": "2019-01-07T07:43:41Z"
}
]
}
2019-01-07T07:41:21.068Z - INFO - heartbeat request from CBRS : {
"heartbeatRequest": [
{
"cbsdId": "MXF-WLTGFC105Mock-SASACC201228000001",
"grantId": "42159784",
"operationState": "AUTHORIZED"
}
]
}
2019-01-07T07:41:21.078Z - INFO - Time interval between two heartbeat request messages is: 59.143, limit is: 65.0
2019-01-07T07:41:21.078Z - INFO - engine sent successfully, the response to CBRS : {
"heartbeatResponse": [
{
"cbsdId": "MXF-WLTGFC105Mock-SASACC201228000001",

```
                "grantId": "42159784",
                "response": {
                    "responseCode": 0
                },
                "transmitExpireTime": "2019-01-07T07:44:41Z"
            }
        ]
}
2019-01-07T07:42:20.082Z - INFO - heartbeat request from CBRS    : {
    "heartbeatRequest": [
        {
            "cbsdId": "MXF-WLTGFC105Mock-SASACC201228000001",
            "grantId": "42159784",
            "operationState": "AUTHORIZED"
        }
    ]
}
2019-01-07T07:42:20.082Z - INFO - Time interval between two heartbeat request messages is: 59.005,
limit is: 65.0
2019-01-07T07:42:20.092Z - INFO - engine sent successfully, the response to CBRS    : {
    "heartbeatResponse": [
        {
            "cbsdId": "MXF-WLTGFC105Mock-SASACC201228000001",
            "grantId": "42159784",
            "response": {
                "responseCode": 0
            },
            "transmitExpireTime": "2019-01-07T07:45:40Z"
        }
    ]
}
2019-01-07T07:43:19.092Z - INFO - heartbeat request from CBRS    : {
    "heartbeatRequest": [
        {
            "cbsdId": "MXF-WLTGFC105Mock-SASACC201228000001",
            "grantId": "42159784",
```

```
                "operationState": "AUTHORIZED"
            }
        ]
}
2019-01-07T07:43:19.092Z - INFO - Time interval between two heartbeat request messages is: 59.009,
limit is: 65.0
2019-01-07T07:43:19.092Z - INFO - engine sent successfully, the response to CBRS    : {
    "heartbeatResponse": [
        {
            "cbsdId": "MXF-WLTGFC105Mock-SASACC201228000001",
            "grantId": "42159784",
            "response": {
                "responseCode": 105
            },
            "transmitExpireTime": "2019-01-07T07:43:19Z"
        }
    ]
}
2019-01-07T07:43:20.701Z - INFO - arrived to nstep starting question answer session with the technician
2019-01-07T07:43:20.701Z - INFO - the question is : Did the CBSD stop RF transmission within 60 seconds
of receiving Heartbeat response with responseCode = 105? please choose one of the answers :
2019-01-07T07:43:35.871Z - INFO - for the question : Did the CBSD stop RF transmission within 60
seconds of receiving Heartbeat response with responseCode = 105? , the user choose y
2019-01-07T07:43:37.321Z - INFO - The final result of the test : WINNF.FT.C.HBT.3 is - passed
```

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

Report Clause 3.15 [WINNF.FT.C.HBT.4] Heartbeat responseCode=500 (TERMINATED_GRANT)

```
2019-01-07T07:47:06.657Z - INFO - WINNF TEST HARNESS RELEASE: 1.0.0.3 - 2018-November-13
2019-01-07T07:47:06.657Z - INFO - the selected test from the user : WINNF.FT.C.HBT.4 is starting now
2019-01-07T07:47:22.726Z - INFO - registration request from CBRS    : {
    "registrationRequest": [
        {
            "airInterface": {
                "radioTechnology": "E_UTRA"
            },
            "callSign": "WAA206",
            "cbsdCategory": "A",
            "cbsdInfo": {
                "firmwareVersion": "x1000_R3.3.1_RC3",
                "hardwareVersion": "E1012-GC01",
                "model": "E1012",
                "softwareVersion": "x1000_R3.3.1_RC3",
                "vendor": "ACCELLERAN"
            },
            "cbsdSerialNumber": "ACC201228000001",
            "fccId": "MXF-WLTGFC105",
            "installationParam": {
                "antennaAzimuth": 0,
                "antennaBeamwidth": 360,
                "antennaDowntilt": 0,
                "antennaGain": 6,
                "height": 457.0,
                "heightType": "AMSL",
                "indoorDeployment": false,
                "latitude": 25.04173,
                "longitude": 121.373956
            },
            "userId": "pGPWTZ"
        }
    ]
```

```
}
2019-01-07T07:47:22.766Z - INFO - engine sent successfully, the response to CBRS    : {
    "registrationResponse": [
        {
            "cbsdId": "MXF-WLTGFC105Mock-SASACC201228000001",
            "response": {
                "responseCode": 0
            }
        }
    ]
}
2019-01-07T07:47:22.875Z - INFO - spectrumInquiry request from CBRS    : {
    "spectrumInquiryRequest": [
        {
            "cbsdId": "MXF-WLTGFC105Mock-SASACC201228000001",
            "inquiredSpectrum": [
                {
                    "highFrequency": 3700000000,
                    "lowFrequency": 3550000000
                }
            ]
        }
    ]
}
2019-01-07T07:47:22.875Z - INFO - engine sent successfully, the response to CBRS    : {
    "spectrumInquiryResponse": [
        {
            "availableChannel": [
                {
                    "channelType": "GAA",
                    "frequencyRange": {
                        "highFrequency": 3700000000,
                        "lowFrequency": 3550000000
                    },
                    "ruleApplied": "FCC_PART_96"
                }
```

```
            ],
            "cbsdId": "MXF-WLTGFC105Mock-SASACC201228000001",
            "response": {
                "responseCode": 0
            }
        }
    ]
}
2019-01-07T07:47:23.105Z - INFO - grant request from CBRS    : {
    "grantRequest": [
        {
            "cbsdId": "MXF-WLTGFC105Mock-SASACC201228000001",
            "operationParam": {
                "maxEirp": 17,
                "operationFrequencyRange": {
                    "highFrequency": 3570000000,
                    "lowFrequency": 3550000000
                }
            }
        }
    ]
}
2019-01-07T07:47:23.115Z - INFO - engine sent successfully, the response to CBRS    : {
    "grantResponse": [
        {
            "cbsdId": "MXF-WLTGFC105Mock-SASACC201228000001",
            "channelType": "GAA",
            "grantExpireTime": "2019-01-14T07:47:23Z",
            "grantId": "379036043",
            "heartbeatInterval": 60,
            "response": {
                "responseCode": 0
            }
        }
    ]
}
```

2019-01-07T07:47:23.236Z - INFO - heartbeat request from CBRS : {
"heartbeatRequest": [
{
"cbsdId": "MXF-WLTGFC105Mock-SASACC201228000001",
"grantId": "379036043",
"operationState": "GRANTED"
}
]
}
2019-01-07T07:47:23.236Z - INFO - engine sent successfully, the response to CBRS : {
"heartbeatResponse": [
{
"cbsdId": "MXF-WLTGFC105Mock-SASACC201228000001",
"grantId": "379036043",
"response": {
"responseCode": 0
},
"transmitExpireTime": "2019-01-07T07:50:43Z"
}
]
}
2019-01-07T07:48:22.381Z - INFO - heartbeat request from CBRS : {
"heartbeatRequest": [
{
"cbsdId": "MXF-WLTGFC105Mock-SASACC201228000001",
"grantId": "379036043",
"operationState": "AUTHORIZED"
}
]
}
2019-01-07T07:48:22.391Z - INFO - Time interval between two heartbeat request messages is: 59.145, limit is: 65.0
2019-01-07T07:48:22.391Z - INFO - engine sent successfully, the response to CBRS : {
"heartbeatResponse": [
{
"cbsdId": "MXF-WLTGFC105Mock-SASACC201228000001",

```
                "grantId": "379036043",
                "response": {
                    "responseCode": 0
                },
                "transmitExpireTime": "2019-01-07T07:51:42Z"
            }
        ]
}
2019-01-07T07:49:21.387Z - INFO - heartbeat request from CBRS    : {
    "heartbeatRequest": [
        {
            "cbsdId": "MXF-WLTGFC105Mock-SASACC201228000001",
            "grantId": "379036043",
            "operationState": "AUTHORIZED"
        }
    ]
}
2019-01-07T07:49:21.387Z - INFO - Time interval between two heartbeat request messages is: 59.006,
limit is: 65.0
2019-01-07T07:49:21.397Z - INFO - engine sent successfully, the response to CBRS    : {
    "heartbeatResponse": [
        {
            "cbsdId": "MXF-WLTGFC105Mock-SASACC201228000001",
            "grantId": "379036043",
            "response": {
                "responseCode": 0
            },
            "transmitExpireTime": "2019-01-07T07:52:41Z"
        }
    ]
}
2019-01-07T07:50:20.372Z - INFO - heartbeat request from CBRS    : {
    "heartbeatRequest": [
        {
            "cbsdId": "MXF-WLTGFC105Mock-SASACC201228000001",
            "grantId": "379036043",
```

"operationState": "AUTHORIZED"
}
]
}
2019-01-07T07:50:20.372Z - INFO - Time interval between two heartbeat request messages is: 58.986, limit is: 65.0
2019-01-07T07:50:20.382Z - INFO - engine sent successfully, the response to CBRS : {
"heartbeatResponse": [
{
"cbsdId": "MXF-WLTGFC105Mock-SASACC201228000001",
"grantId": "379036043",
"response": {
"responseCode": 0
},
"transmitExpireTime": "2019-01-07T07:53:40Z"
}
]
}
2019-01-07T07:51:19.387Z - INFO - heartbeat request from CBRS : {
"heartbeatRequest": [
{
"cbsdId": "MXF-WLTGFC105Mock-SASACC201228000001",
"grantId": "379036043",
"operationState": "AUTHORIZED"
}
]
}
2019-01-07T07:51:19.387Z - INFO - Time interval between two heartbeat request messages is: 59.014, limit is: 65.0
2019-01-07T07:51:19.397Z - INFO - engine sent successfully, the response to CBRS : {
"heartbeatResponse": [
{
"cbsdId": "MXF-WLTGFC105Mock-SASACC201228000001",
"grantId": "379036043",
"response": {
"responseCode": 0

```
                },
                "transmitExpireTime": "2019-01-07T07:54:39Z"
            }
        ]
}
2019-01-07T07:52:18.391Z - INFO - heartbeat request from CBRS    : {
        "heartbeatRequest": [
            {
                "cbsdId": "MXF-WLTGFC105Mock-SASACC201228000001",
                "grantId": "379036043",
                "operationState": "AUTHORIZED"
            }
        ]
}
2019-01-07T07:52:18.391Z - INFO - Time interval between two heartbeat request messages is: 59.004,
limit is: 65.0
2019-01-07T07:52:18.401Z - INFO - engine sent successfully, the response to CBRS    : {
        "heartbeatResponse": [
            {
                "cbsdId": "MXF-WLTGFC105Mock-SASACC201228000001",
                "grantId": "379036043",
                "response": {
                    "responseCode": 500
                },
                "transmitExpireTime": "2019-01-07T07:52:18Z"
            }
        ]
}
2019-01-07T07:52:19.411Z - INFO - arrived to nstep starting question answer session with the technician
2019-01-07T07:52:19.411Z - INFO - the question is : Did the CBSD1 stop RF transmission within 60
seconds of receiving Heartbeat response with responseCode = 500? please choose one of the answers :
2019-01-07T07:52:45.288Z - INFO - for the question : Did the CBSD1 stop RF transmission within 60
seconds of receiving Heartbeat response with responseCode = 500? , the user choose y
2019-01-07T07:52:45.808Z - INFO - The final result of the test : WINNF.FT.C.HBT.4 is - passed
```

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

Report Clause 3.16 [WINNF.FT.C.HBT.5] Heartbeat responseCode=501 (SUSPENDED_GRANT) in First Heartbeat Response

```
2019-01-07T07:55:02.858Z - INFO - WINNF TEST HARNESS RELEASE: 1.0.0.3 - 2018-November-13
2019-01-07T07:55:02.868Z - INFO - the selected test from the user : WINNF.FT.C.HBT.5 is starting now
2019-01-07T07:55:19.224Z - INFO - registration request from CBRS    : {
    "registrationRequest": [
        {
            "airInterface": {
                "radioTechnology": "E_UTRA"
            },
            "callSign": "WAA206",
            "cbsdCategory": "A",
            "cbsdInfo": {
                "firmwareVersion": "x1000_R3.3.1_RC3",
                "hardwareVersion": "E1012-GC01",
                "model": "E1012",
                "softwareVersion": "x1000_R3.3.1_RC3",
                "vendor": "ACCELLERAN"
            },
            "cbsdSerialNumber": "ACC201228000001",
            "fccId": "MXF-WLTGFC105",
            "installationParam": {
                "antennaAzimuth": 0,
                "antennaBeamwidth": 360,
                "antennaDowntilt": 0,
                "antennaGain": 6,
                "height": 439.0,
                "heightType": "AMSL",
                "indoorDeployment": false,
                "latitude": 25.041696,
                "longitude": 121.373781
            },
            "userId": "pGPWTZ"
        }
```

```
    ]
}
2019-01-07T07:55:19.285Z - INFO - engine sent successfully, the response to CBRS    : {
    "registrationResponse": [
        {
            "cbsdId": "MXF-WLTGFC105Mock-SASACC201228000001",
            "response": {
                "responseCode": 0
            }
        }
    ]
}
2019-01-07T07:55:19.404Z - INFO - spectrumInquiry request from CBRS    : {
    "spectrumInquiryRequest": [
        {
            "cbsdId": "MXF-WLTGFC105Mock-SASACC201228000001",
            "inquiredSpectrum": [
                {
                    "highFrequency": 3700000000,
                    "lowFrequency": 3550000000
                }
            ]
        }
    ]
}
2019-01-07T07:55:19.414Z - INFO - engine sent successfully, the response to CBRS    : {
    "spectrumInquiryResponse": [
        {
            "availableChannel": [
                {
                    "channelType": "GAA",
                    "frequencyRange": {
                        "highFrequency": 3700000000,
                        "lowFrequency": 3550000000
                    },
                    "ruleApplied": "FCC_PART_96"
```

```
                }
            ],
            "cbsdId": "MXF-WLTGFC105Mock-SASACC201228000001",
            "response": {
                "responseCode": 0
            }
        }
    ]
}
2019-01-07T07:55:19.644Z - INFO - grant request from CBRS    : {
    "grantRequest": [
        {
            "cbsdId": "MXF-WLTGFC105Mock-SASACC201228000001",
            "operationParam": {
                "maxEirp": 17,
                "operationFrequencyRange": {
                    "highFrequency": 3570000000,
                    "lowFrequency": 3550000000
                }
            }
        }
    ]
}
2019-01-07T07:55:19.654Z - INFO - engine sent successfully, the response to CBRS    : {
    "grantResponse": [
        {
            "cbsdId": "MXF-WLTGFC105Mock-SASACC201228000001",
            "channelType": "GAA",
            "grantExpireTime": "2019-01-14T07:55:19Z",
            "grantId": "355391946",
            "heartbeatInterval": 60,
            "response": {
                "responseCode": 0
            }
        }
    ]
```

}
2019-01-07T07:55:19.755Z - INFO - heartbeat request from CBRS : {
"heartbeatRequest": [
{
"cbsdId": "MXF-WLTGFC105Mock-SASACC201228000001",
"grantId": "355391946",
"operationState": "GRANTED"
}
]
}
2019-01-07T07:55:19.765Z - INFO - engine sent successfully, the response to CBRS : {
"heartbeatResponse": [
{
"cbsdId": "MXF-WLTGFC105Mock-SASACC201228000001",
"grantId": "355391946",
"response": {
"responseCode": 501
},
"transmitExpireTime": "2019-01-07T07:55:19Z"
}
]
}
2019-01-07T07:56:18.869Z - INFO - heartbeat request from CBRS : {
"heartbeatRequest": [
{
"cbsdId": "MXF-WLTGFC105Mock-SASACC201228000001",
"grantId": "355391946",
"operationState": "GRANTED"
}
]
}
2019-01-07T07:56:18.869Z - INFO - Time interval between two heartbeat request messages is: 59.115, limit is: 65.0
2019-01-07T07:56:18.869Z - INFO - engine sent successfully, the response to CBRS : {
"heartbeatResponse": [
{

"cbsdId": "MXF-WLTGFC105Mock-SASACC201228000001",
"grantId": "355391946",
"response": {
"responseCode": 501
},
"transmitExpireTime": "2019-01-07T07:56:18Z"
}
]
}

2019-01-07T07:56:20.529Z - INFO - arrived to nstep starting question answer session with the technician

2019-01-07T07:56:20.529Z - INFO - the question is : Did the CBSD transmit at any time during the test? please choose one of the answers :

2019-01-07T07:57:19.757Z - INFO - for the question : Did the CBSD transmit at any time during the test? , the user choose n

2019-01-07T07:57:20.788Z - INFO - The final result of the test : WINNF.FT.C.HBT.5 is - passed

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

Report Clause 3.17 [WINNF.FT.C.HBT.6] Heartbeat responseCode=501 (SUSPENDED_GRANT) in Subsequent Heartbeat Response

```
2019-01-07T08:07:25.029Z - INFO - WINNF TEST HARNESS RELEASE: 1.0.0.3 - 2018-November-13
2019-01-07T08:07:25.039Z - INFO - the selected test from the user : WINNF.FT.C.HBT.6 is starting now
2019-01-07T08:07:41.177Z - INFO - registration request from CBRS    : {
    "registrationRequest": [
        {
            "airInterface": {
                "radioTechnology": "E_UTRA"
            },
            "callSign": "WAA206",
            "cbsdCategory": "A",
            "cbsdInfo": {
                "firmwareVersion": "x1000_R3.3.1_RC3",
                "hardwareVersion": "E1012-GC01",
                "model": "E1012",
                "softwareVersion": "x1000_R3.3.1_RC3",
                "vendor": "ACCELLERAN"
            },
            "cbsdSerialNumber": "ACC201228000001",
            "fccId": "MXF-WLTGFC105",
            "installationParam": {
                "antennaAzimuth": 0,
                "antennaBeamwidth": 360,
                "antennaDowntilt": 0,
                "antennaGain": 6,
                "height": 429.0,
                "heightType": "AMSL",
                "indoorDeployment": false,
                "latitude": 25.041672,
                "longitude": 121.373687
            },
            "userId": "pGPWTZ"
        }
```

```
    ]
}
2019-01-07T08:07:41.226Z - INFO - engine sent successfully, the response to CBRS    : {
    "registrationResponse": [
        {
            "cbsdId": "MXF-WLTGFC105Mock-SASACC201228000001",
            "response": {
                "responseCode": 0
            }
        }
    ]
}
2019-01-07T08:07:41.325Z - INFO - spectrumInquiry request from CBRS    : {
    "spectrumInquiryRequest": [
        {
            "cbsdId": "MXF-WLTGFC105Mock-SASACC201228000001",
            "inquiredSpectrum": [
                {
                    "highFrequency": 3700000000,
                    "lowFrequency": 3550000000
                }
            ]
        }
    ]
}
2019-01-07T08:07:41.329Z - INFO - engine sent successfully, the response to CBRS    : {
    "spectrumInquiryResponse": [
        {
            "availableChannel": [
                {
                    "channelType": "GAA",
                    "frequencyRange": {
                        "highFrequency": 3700000000,
                        "lowFrequency": 3550000000
                    },
                    "ruleApplied": "FCC_PART_96"
```

```
                }
            ],
            "cbsdId": "MXF-WLTGFC105Mock-SASACC201228000001",
            "response": {
                "responseCode": 0
            }
        }
    ]
}
2019-01-07T08:07:41.526Z - INFO - grant request from CBRS    : {
    "grantRequest": [
        {
            "cbsdId": "MXF-WLTGFC105Mock-SASACC201228000001",
            "operationParam": {
                "maxEirp": 17,
                "operationFrequencyRange": {
                    "highFrequency": 3570000000,
                    "lowFrequency": 3550000000
                }
            }
        }
    ]
}
2019-01-07T08:07:41.530Z - INFO - engine sent successfully, the response to CBRS    : {
    "grantResponse": [
        {
            "cbsdId": "MXF-WLTGFC105Mock-SASACC201228000001",
            "channelType": "GAA",
            "grantExpireTime": "2019-01-14T08:07:41Z",
            "grantId": "690203986",
            "heartbeatInterval": 60,
            "response": {
                "responseCode": 0
            }
        }
    ]
```

```
}
2019-01-07T08:07:41.638Z - INFO - heartbeat request from CBRS    : {
      "heartbeatRequest": [
            {
                  "cbsdId": "MXF-WLTGFC105Mock-SASACC201228000001",
                  "grantId": "690203986",
                  "operationState": "GRANTED"
            }
      ]
}
2019-01-07T08:07:41.645Z - INFO - engine sent successfully, the response to CBRS    : {
      "heartbeatResponse": [
            {
                  "cbsdId": "MXF-WLTGFC105Mock-SASACC201228000001",
                  "grantId": "690203986",
                  "response": {
                        "responseCode": 0
                  },
                  "transmitExpireTime": "2019-01-07T08:11:01Z"
            }
      ]
}
2019-01-07T08:08:40.776Z - INFO - heartbeat request from CBRS    : {
      "heartbeatRequest": [
            {
                  "cbsdId": "MXF-WLTGFC105Mock-SASACC201228000001",
                  "grantId": "690203986",
                  "operationState": "AUTHORIZED"
            }
      ]
}
2019-01-07T08:08:40.776Z - INFO - Time interval between two heartbeat request messages is: 59.136,
limit is: 65.0
2019-01-07T08:08:40.783Z - INFO - engine sent successfully, the response to CBRS    : {
      "heartbeatResponse": [
            {
```

```
                "cbsdId": "MXF-WLTGFC105Mock-SASACC201228000001",
                "grantId": "690203986",
                "response": {
                    "responseCode": 0
                },
                "transmitExpireTime": "2019-01-07T08:12:00Z"
            }
        ]
}
2019-01-07T08:09:39.802Z - INFO - heartbeat request from CBRS    : {
    "heartbeatRequest": [
            {
                "cbsdId": "MXF-WLTGFC105Mock-SASACC201228000001",
                "grantId": "690203986",
                "operationState": "AUTHORIZED"
            }
    ]
}
2019-01-07T08:09:39.805Z - INFO - Time interval between two heartbeat request messages is: 59.026,
limit is: 65.0
2019-01-07T08:09:39.812Z - INFO - engine sent successfully, the response to CBRS    : {
    "heartbeatResponse": [
            {
                "cbsdId": "MXF-WLTGFC105Mock-SASACC201228000001",
                "grantId": "690203986",
                "response": {
                    "responseCode": 0
                },
                "transmitExpireTime": "2019-01-07T08:12:59Z"
            }
    ]
}
2019-01-07T08:10:38.792Z - INFO - heartbeat request from CBRS    : {
    "heartbeatRequest": [
            {
                "cbsdId": "MXF-WLTGFC105Mock-SASACC201228000001",
```

```
                "grantId": "690203986",
                "operationState": "AUTHORIZED"
            }
        ]
}
2019-01-07T08:10:38.793Z - INFO - Time interval between two heartbeat request messages is: 58.991,
limit is: 65.0
2019-01-07T08:10:38.799Z - INFO - engine sent successfully, the response to CBRS    : {
    "heartbeatResponse": [
            {
                "cbsdId": "MXF-WLTGFC105Mock-SASACC201228000001",
                "grantId": "690203986",
                "response": {
                    "responseCode": 501
                },
                "transmitExpireTime": "2019-01-07T08:10:38Z"
            }
        ]
}
2019-01-07T08:10:38.944Z - INFO - relinquishment request from CBRS    : {
    "relinquishmentRequest": [
            {
                "cbsdId": "MXF-WLTGFC105Mock-SASACC201228000001",
                "grantId": "690203986"
            }
        ]
}
2019-01-07T08:10:38.959Z - INFO - engine sent successfully, the response to CBRS    : {
    "relinquishmentResponse": [
            {
                "cbsdId": "MXF-WLTGFC105Mock-SASACC201228000001",
                "grantId": "690203986",
                "response": {
                    "responseCode": 0
                }
            }
```

```
    ]
}
2019-01-07T08:10:40.153Z - INFO - arrived to nstep starting question answer session with the technician
2019-01-07T08:10:40.154Z - INFO - the question is : Did the CBSD stop RF transmission within 60 seconds of receiving Heartbeat response with responseCode = 501? please choose one of the answers :
2019-01-07T08:10:56.938Z - INFO - for the question : Did the CBSD stop RF transmission within 60 seconds of receiving Heartbeat response with responseCode = 501? , the user choose y
2019-01-07T08:10:58.032Z - INFO - The final result of the test : WINNF.FT.C.HBT.6 is - passed
```

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

Report Clause 3.18 [WINNF.FT.C.HBT.7] Heartbeat responseCode=502 (UNSYNC_OP_PARAM)

2019-01-07T08:12:11.927Z - INFO - WINNF TEST HARNESS RELEASE: 1.0.0.3 - 2018-November-13

2019-01-07T08:12:11.927Z - INFO - the selected test from the user : WINNF.FT.C.HBT.7 is starting now

2019-01-07T08:12:58.579Z - INFO - registration request from CBRS : {


```
"registrationRequest": [
    {
        "airInterface": {
            "radioTechnology": "E_UTRA"
        },
        "callSign": "WAA206",
        "cbsdCategory": "A",
        "cbsdInfo": {
            "firmwareVersion": "x1000_R3.3.1_RC3",
            "hardwareVersion": "E1012-GC01",
            "model": "E1012",
            "softwareVersion": "x1000_R3.3.1_RC3",
            "vendor": "ACCELLERAN"
        },
        "cbsdSerialNumber": "ACC201228000001",
        "fccId": "MXF-WLTGFC105",
        "installationParam": {
            "antennaAzimuth": 0,
            "antennaBeamwidth": 360,
            "antennaDowntilt": 0,
            "antennaGain": 6,
            "height": 429.0,
            "heightType": "AMSL",
            "indoorDeployment": false,
            "latitude": 25.041672,
            "longitude": 121.373687
        },
        "userId": "pGPWTZ"
    }
]
```

```
}
2019-01-07T08:12:58.640Z - INFO - engine sent successfully, the response to CBRS    : {
      "registrationResponse": [
            {
                  "cbsdId": "MXF-WLTGFC105Mock-SASACC201228000001",
                  "response": {
                        "responseCode": 0
                  }
            }
      ]
}
2019-01-07T08:12:58.750Z - INFO - spectrumInquiry request from CBRS    : {
      "spectrumInquiryRequest": [
            {
                  "cbsdId": "MXF-WLTGFC105Mock-SASACC201228000001",
                  "inquiredSpectrum": [
                        {
                              "highFrequency": 3700000000,
                              "lowFrequency": 3550000000
                        }
                  ]
            }
      ]
}
2019-01-07T08:12:58.759Z - INFO - engine sent successfully, the response to CBRS    : {
      "spectrumInquiryResponse": [
            {
                  "availableChannel": [
                        {
                              "channelType": "GAA",
                              "frequencyRange": {
                                    "highFrequency": 3700000000,
                                    "lowFrequency": 3550000000
                              },
                              "ruleApplied": "FCC_PART_96"
                        }
```

```
            ],
            "cbsdId": "MXF-WLTGFC105Mock-SASACC201228000001",
            "response": {
                "responseCode": 0
            }
        }
    ]
}
2019-01-07T08:12:58.990Z - INFO - grant request from CBRS    : {
    "grantRequest": [
        {
            "cbsdId": "MXF-WLTGFC105Mock-SASACC201228000001",
            "operationParam": {
                "maxEirp": 17,
                "operationFrequencyRange": {
                    "highFrequency": 3570000000,
                    "lowFrequency": 3550000000
                }
            }
        }
    ]
}
2019-01-07T08:12:59.000Z - INFO - engine sent successfully, the response to CBRS    : {
    "grantResponse": [
        {
            "cbsdId": "MXF-WLTGFC105Mock-SASACC201228000001",
            "channelType": "GAA",
            "grantExpireTime": "2019-01-14T08:12:59Z",
            "grantId": "567630285",
            "heartbeatInterval": 60,
            "response": {
                "responseCode": 0
            }
        }
    ]
}
```

2019-01-07T08:12:59.089Z - INFO - heartbeat request from CBRS : {
"heartbeatRequest": [
{
"cbsdId": "MXF-WLTGFC105Mock-SASACC201228000001",
"grantId": "567630285",
"operationState": "GRANTED"
}
]
}
2019-01-07T08:12:59.099Z - INFO - engine sent successfully, the response to CBRS : {
"heartbeatResponse": [
{
"cbsdId": "MXF-WLTGFC105Mock-SASACC201228000001",
"grantId": "567630285",
"response": {
"responseCode": 0
},
"transmitExpireTime": "2019-01-07T08:16:19Z"
}
]
}
2019-01-07T08:13:58.237Z - INFO - heartbeat request from CBRS : {
"heartbeatRequest": [
{
"cbsdId": "MXF-WLTGFC105Mock-SASACC201228000001",
"grantId": "567630285",
"operationState": "AUTHORIZED"
}
]
}
2019-01-07T08:13:58.237Z - INFO - Time interval between two heartbeat request messages is: 59.148, limit is: 65.0
2019-01-07T08:13:58.237Z - INFO - engine sent successfully, the response to CBRS : {
"heartbeatResponse": [
{
"cbsdId": "MXF-WLTGFC105Mock-SASACC201228000001",

```
                "grantId": "567630285",
                "response": {
                    "responseCode": 0
                },
                "transmitExpireTime": "2019-01-07T08:17:18Z"
            }
        ]
}
2019-01-07T08:14:57.227Z - INFO - heartbeat request from CBRS    : {
    "heartbeatRequest": [
        {
            "cbsdId": "MXF-WLTGFC105Mock-SASACC201228000001",
            "grantId": "567630285",
            "operationState": "AUTHORIZED"
        }
    ]
}
2019-01-07T08:14:57.237Z - INFO - Time interval between two heartbeat request messages is: 58.99, limit is: 65.0
2019-01-07T08:14:57.237Z - INFO - engine sent successfully, the response to CBRS    : {
    "heartbeatResponse": [
        {
            "cbsdId": "MXF-WLTGFC105Mock-SASACC201228000001",
            "grantId": "567630285",
            "response": {
                "responseCode": 0
            },
            "transmitExpireTime": "2019-01-07T08:18:17Z"
        }
    ]
}
2019-01-07T08:15:56.250Z - INFO - heartbeat request from CBRS    : {
    "heartbeatRequest": [
        {
            "cbsdId": "MXF-WLTGFC105Mock-SASACC201228000001",
            "grantId": "567630285",
```

```
                "operationState": "AUTHORIZED"
            }
        ]
}
2019-01-07T08:15:56.250Z - INFO - Time interval between two heartbeat request messages is: 59.023,
limit is: 65.0
2019-01-07T08:15:56.250Z - INFO - engine sent successfully, the response to CBRS    : {
    "heartbeatResponse": [
        {
            "cbsdId": "MXF-WLTGFC105Mock-SASACC201228000001",
            "grantId": "567630285",
            "response": {
                "responseCode": 502
            },
            "transmitExpireTime": "2019-01-07T08:15:56Z"
        }
    ]
}
2019-01-07T08:15:56.421Z - INFO - relinquishment request from CBRS    : {
    "relinquishmentRequest": [
        {
            "cbsdId": "MXF-WLTGFC105Mock-SASACC201228000001",
            "grantId": "567630285"
        }
    ]
}
2019-01-07T08:15:56.421Z - INFO - engine sent successfully, the response to CBRS    : {
    "relinquishmentResponse": [
        {
            "cbsdId": "MXF-WLTGFC105Mock-SASACC201228000001",
            "grantId": "567630285",
            "response": {
                "responseCode": 0
            }
        }
    ]
```

}
2019-01-07T08:15:57.664Z - INFO - arrived to nstep starting question answer session with the technician
2019-01-07T08:15:57.664Z - INFO - the question is : Did the CBSD stop RF transmission within 60 seconds of receiving Heartbeat response with responseCode = 502? please choose one of the answers :
2019-01-07T08:15:59.834Z - INFO - for the question : Did the CBSD stop RF transmission within 60 seconds of receiving Heartbeat response with responseCode = 502? , the user choose y
2019-01-07T08:16:00.944Z - INFO - The final result of the test : WINNF.FT.C.HBT.7 is - passed

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

Report Clause 3.19 [WINNF.FT.C.HBT.9] Heartbeat Response Absent (First Heartbeat)

```
2019-01-07T08:18:52.417Z - INFO - WINNF TEST HARNESS RELEASE: 1.0.0.3 - 2018-November-13
2019-01-07T08:18:52.417Z - INFO - the selected test from the user : WINNF.FT.C.HBT.9 is starting now
2019-01-07T08:19:07.457Z - INFO - registration request from CBRS    : {
    "registrationRequest": [
        {
            "airInterface": {
                "radioTechnology": "E_UTRA"
            },
            "callSign": "WAA206",
            "cbsdCategory": "A",
            "cbsdInfo": {
                "firmwareVersion": "x1000_R3.3.1_RC3",
                "hardwareVersion": "E1012-GC01",
                "model": "E1012",
                "softwareVersion": "x1000_R3.3.1_RC3",
                "vendor": "ACCELLERAN"
            },
            "cbsdSerialNumber": "ACC201228000001",
            "fccId": "MXF-WLTGFC105",
            "installationParam": {
                "antennaAzimuth": 0,
                "antennaBeamwidth": 360,
                "antennaDowntilt": 0,
                "antennaGain": 6,
                "height": 429.0,
                "heightType": "AMSL",
                "indoorDeployment": false,
                "latitude": 25.041672,
                "longitude": 121.373687
            },
            "userId": "pGPWTZ"
        }
    ]
```

```
}
2019-01-07T08:19:07.487Z - INFO - engine sent successfully, the response to CBRS    : {
    "registrationResponse": [
        {
            "cbsdId": "MXF-WLTGFC105Mock-SASACC201228000001",
            "response": {
                "responseCode": 0
            }
        }
    ]
}
2019-01-07T08:19:07.598Z - INFO - spectrumInquiry request from CBRS    : {
    "spectrumInquiryRequest": [
        {
            "cbsdId": "MXF-WLTGFC105Mock-SASACC201228000001",
            "inquiredSpectrum": [
                {
                    "highFrequency": 3700000000,
                    "lowFrequency": 3550000000
                }
            ]
        }
    ]
}
2019-01-07T08:19:07.598Z - INFO - engine sent successfully, the response to CBRS    : {
    "spectrumInquiryResponse": [
        {
            "availableChannel": [
                {
                    "channelType": "GAA",
                    "frequencyRange": {
                        "highFrequency": 3700000000,
                        "lowFrequency": 3550000000
                    },
                    "ruleApplied": "FCC_PART_96"
                }
```

```
            ],
            "cbsdId": "MXF-WLTGFC105Mock-SASACC201228000001",
            "response": {
                "responseCode": 0
            }
        }
    ]
}
2019-01-07T08:19:07.828Z - INFO - grant request from CBRS    : {
    "grantRequest": [
        {
            "cbsdId": "MXF-WLTGFC105Mock-SASACC201228000001",
            "operationParam": {
                "maxEirp": 17,
                "operationFrequencyRange": {
                    "highFrequency": 3570000000,
                    "lowFrequency": 3550000000
                }
            }
        }
    ]
}
2019-01-07T08:19:07.838Z - INFO - engine sent successfully, the response to CBRS    : {
    "grantResponse": [
        {
            "cbsdId": "MXF-WLTGFC105Mock-SASACC201228000001",
            "channelType": "GAA",
            "grantExpireTime": "2019-01-14T08:19:07Z",
            "grantId": "505929885",
            "heartbeatInterval": 60,
            "response": {
                "responseCode": 0
            }
        }
    ]
}
```

2019-01-07T08:19:07.957Z - INFO - heartbeat request from CBRS : {
"heartbeatRequest": [
{
"cbsdId": "MXF-WLTGFC105Mock-SASACC201228000001",
"grantId": "505929885",
"operationState": "GRANTED"
}
]
}
2019-01-07T08:22:27.976Z - INFO - engine sent successfully, the response to CBRS : {
"heartbeatResponse": [
{
"cbsdId": "MXF-WLTGFC105Mock-SASACC201228000001",
"grantId": "505929885",
"response": {
"responseCode": 501
},
"transmitExpireTime": "2019-01-07T08:22:27Z"
}
]
}
2019-01-07T08:22:29.305Z - INFO - arrived to nstep starting question answer session with the technician
2019-01-07T08:22:29.305Z - INFO - the question is : Were there RF transmissions from the CBSD during the test? please choose one of the answers :
2019-01-07T08:22:34.858Z - INFO - for the question : Were there RF transmissions from the CBSD during the test? , the user choose n
2019-01-07T08:22:35.417Z - INFO - The final result of the test : WINNF.FT.C.HBT.9 is - passed

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

Report Clause 3.20 [WINNF.FT.C.HBT.10] Heartbeat Response Absent (Subsequent Heartbeat)

2019-01-07T08:44:01.178Z - INFO - WINNF TEST HARNESS RELEASE: 1.0.0.3 - 2018-November-13

2019-01-07T08:44:01.178Z - INFO - the selected test from the user : WINNF.FT.C.HBT.10 is starting now

2019-01-07T08:44:17.124Z - INFO - registration request from CBRS : {


```
"registrationRequest": [
    {
        "airInterface": {
            "radioTechnology": "E_UTRA"
        },
        "callSign": "WAA206",
        "cbsdCategory": "A",
        "cbsdInfo": {
            "firmwareVersion": "x1000_R3.3.1_RC3",
            "hardwareVersion": "E1012-GC01",
            "model": "E1012",
            "softwareVersion": "x1000_R3.3.1_RC3",
            "vendor": "ACCELLERAN"
        },
        "cbsdSerialNumber": "ACC201228000001",
        "fccId": "MXF-WLTGFC105",
        "installationParam": {
            "antennaAzimuth": 0,
            "antennaBeamwidth": 360,
            "antennaDowntilt": 0,
            "antennaGain": 6,
            "height": 429.0,
            "heightType": "AMSL",
            "indoorDeployment": false,
            "latitude": 25.041672,
            "longitude": 121.373687
        },
        "userId": "pGPWTZ"
    }
]
```

```
}
2019-01-07T08:44:17.174Z - INFO - engine sent successfully, the response to CBRS  : {
    "registrationResponse": [
        {
            "cbsdId": "MXF-WLTGFC105Mock-SASACC201228000001",
            "response": {
                "responseCode": 0
            }
        }
    ]
}
2019-01-07T08:44:17.283Z - INFO - spectrumInquiry request from CBRS  : {
    "spectrumInquiryRequest": [
        {
            "cbsdId": "MXF-WLTGFC105Mock-SASACC201228000001",
            "inquiredSpectrum": [
                {
                    "highFrequency": 3700000000,
                    "lowFrequency": 3550000000
                }
            ]
        }
    ]
}
2019-01-07T08:44:17.293Z - INFO - engine sent successfully, the response to CBRS  : {
    "spectrumInquiryResponse": [
        {
            "availableChannel": [
                {
                    "channelType": "GAA",
                    "frequencyRange": {
                        "highFrequency": 3700000000,
                        "lowFrequency": 3550000000
                    },
                    "ruleApplied": "FCC_PART_96"
                }
```

```
            ],
            "cbsdId": "MXF-WLTGFC105Mock-SASACC201228000001",
            "response": {
                "responseCode": 0
            }
        }
    ]
}
2019-01-07T08:44:17.523Z - INFO - grant request from CBRS    : {
    "grantRequest": [
        {
            "cbsdId": "MXF-WLTGFC105Mock-SASACC201228000001",
            "operationParam": {
                "maxEirp": 17,
                "operationFrequencyRange": {
                    "highFrequency": 3570000000,
                    "lowFrequency": 3550000000
                }
            }
        }
    ]
}
2019-01-07T08:44:17.533Z - INFO - engine sent successfully, the response to CBRS    : {
    "grantResponse": [
        {
            "cbsdId": "MXF-WLTGFC105Mock-SASACC201228000001",
            "channelType": "GAA",
            "grantExpireTime": "2019-01-14T08:44:17Z",
            "grantId": "741515596",
            "heartbeatInterval": 60,
            "response": {
                "responseCode": 0
            }
        }
    ]
}
```

2019-01-07T08:44:17.654Z - INFO - heartbeat request from CBRS : {
"heartbeatRequest": [
{
"cbsdId": "MXF-WLTGFC105Mock-SASACC201228000001",
"grantId": "741515596",
"operationState": "GRANTED"
}
]
}
2019-01-07T08:44:17.664Z - INFO - engine sent successfully, the response to CBRS : {
"heartbeatResponse": [
{
"cbsdId": "MXF-WLTGFC105Mock-SASACC201228000001",
"grantId": "741515596",
"response": {
"responseCode": 0
},
"transmitExpireTime": "2019-01-07T08:47:37Z"
}
]
}
2019-01-07T08:45:16.813Z - INFO - heartbeat request from CBRS : {
"heartbeatRequest": [
{
"cbsdId": "MXF-WLTGFC105Mock-SASACC201228000001",
"grantId": "741515596",
"operationState": "AUTHORIZED"
}
]
}
2019-01-07T08:45:16.813Z - INFO - Time interval between two heartbeat request messages is: 59.16, limit is: 65.0
2019-01-07T08:45:16.813Z - INFO - engine sent successfully, the response to CBRS : {
"heartbeatResponse": [
{
"cbsdId": "MXF-WLTGFC105Mock-SASACC201228000001",

```
                "grantId": "741515596",
                "response": {
                    "responseCode": 0
                },
                "transmitExpireTime": "2019-01-07T08:48:36Z"
            }
        ]
}
2019-01-07T08:46:15.815Z - INFO - heartbeat request from CBRS    : {
    "heartbeatRequest": [
        {
            "cbsdId": "MXF-WLTGFC105Mock-SASACC201228000001",
            "grantId": "741515596",
            "operationState": "AUTHORIZED"
        }
    ]
}
2019-01-07T08:46:15.815Z - INFO - Time interval between two heartbeat request messages is: 59.001,
limit is: 65.0
2019-01-07T08:46:15.825Z - INFO - LAST HBT RESPONSE THAT SET TRANSMIT_EXPIRE_TIME WAS
AT:    2019-01-07 08:45:16.814000
2019-01-07T08:47:14.813Z - INFO - heartbeat request from CBRS    : {
    "heartbeatRequest": [
        {
            "cbsdId": "MXF-WLTGFC105Mock-SASACC201228000001",
            "grantId": "741515596",
            "operationState": "AUTHORIZED"
        }
    ]
}
2019-01-07T08:47:14.813Z - INFO - request message received while HBT is absent, sleep 146 sec before
responding
2019-01-07T08:48:13.813Z - INFO - heartbeat request from CBRS    : {
    "heartbeatRequest": [
        {
            "cbsdId": "MXF-WLTGFC105Mock-SASACC201228000001",
```

"grantId": "741515596",
"operationState": "AUTHORIZED"
}
]
}
2019-01-07T08:48:13.813Z - INFO - request message received while HBT is absent, sleep 87 sec before responding
2019-01-07T08:48:36.963Z - INFO - relinquishment request from CBRS : {
"relinquishmentRequest": [
{
"cbsdId": "MXF-WLTGFC105Mock-SASACC201228000001",
"grantId": "741515596"
}
]
}
2019-01-07T08:48:36.963Z - INFO - request message received while HBT is absent, sleep 63 sec before responding
2019-01-07T08:49:35.835Z - INFO - engine sent successfully, the response to CBRS : {
"heartbeatResponse": [
{
"cbsdId": "MXF-WLTGFC105Mock-SASACC201228000001",
"grantId": "741515596",
"response": {
"responseCode": 501
},
"transmitExpireTime": "2019-01-07T08:49:35Z"
}
]
}
2019-01-07T08:49:37.266Z - INFO - arrived to nstep starting question answer session with the technician
2019-01-07T08:49:37.266Z - INFO - the question is : Did the CBSD stop RF transmissions within (transmitExpireTime + 60seconds) of last valid heartbeat response? please choose one of the answers :
2019-01-07T08:49:39.976Z - INFO - engine sent successfully, the response to CBRS : "list index out of range"
2019-01-07T08:49:40.825Z - INFO - engine sent successfully, the response to CBRS : "list index out of range"

2019-01-07T08:49:40.825Z - INFO - engine sent successfully, the response to CBRS : "list index out of range"
2019-01-07T08:51:45.568Z - INFO - for the question : Did the CBSD stop RF transmissions within (transmitExpireTime + 60seconds) of last valid heartbeat response? , the user choose y
2019-01-07T08:51:47.778Z - INFO - The final result of the test : WINNF.FT.C.HBT.10 is - passed

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

Report Clause 3.21 [WINNF.FT.C.HBT.11] Successful Grant Renewal in Heartbeat Test Case

2019-01-07T08:52:54.220Z - INFO - WINNF TEST HARNESS RELEASE: 1.0.0.3 - 2018-November-13

2019-01-07T08:52:54.220Z - INFO - the selected test from the user : WINNF.FT.C.HBT.11 is starting now

2019-01-07T08:56:04.493Z - INFO - registration request from CBRS : {


```
"registrationRequest": [
    {
        "airInterface": {
            "radioTechnology": "E_UTRA"
        },
        "callSign": "WAA206",
        "cbsdCategory": "A",
        "cbsdInfo": {
            "firmwareVersion": "x1000_R3.3.1_RC3",
            "hardwareVersion": "E1012-GC01",
            "model": "E1012",
            "softwareVersion": "x1000_R3.3.1_RC3",
            "vendor": "ACCELLERAN"
        },
        "cbsdSerialNumber": "ACC201228000001",
        "fccId": "MXF-WLTGFC105",
        "installationParam": {
            "antennaAzimuth": 0,
            "antennaBeamwidth": 360,
            "antennaDowntilt": 0,
            "antennaGain": 6,
            "height": 429.0,
            "heightType": "AMSL",
            "indoorDeployment": false,
            "latitude": 25.041672,
            "longitude": 121.373687
        },
        "userId": "pGPWTZ"
    }
]
```

```
}
2019-01-07T08:56:04.523Z - INFO - engine sent successfully, the response to CBRS    : {
    "registrationResponse": [
        {
            "cbsdId": "MXF-WLTGFC105Mock-SASACC201228000001",
            "response": {
                "responseCode": 0
            }
        }
    ]
}
2019-01-07T08:56:04.642Z - INFO - spectrumInquiry request from CBRS    : {
    "spectrumInquiryRequest": [
        {
            "cbsdId": "MXF-WLTGFC105Mock-SASACC201228000001",
            "inquiredSpectrum": [
                {
                    "highFrequency": 3700000000,
                    "lowFrequency": 3550000000
                }
            ]
        }
    ]
}
2019-01-07T08:56:04.653Z - INFO - engine sent successfully, the response to CBRS    : {
    "spectrumInquiryResponse": [
        {
            "availableChannel": [
                {
                    "channelType": "GAA",
                    "frequencyRange": {
                        "highFrequency": 3700000000,
                        "lowFrequency": 3550000000
                    },
                    "ruleApplied": "FCC_PART_96"
                }
```

```
            ],
            "cbsdId": "MXF-WLTGFC105Mock-SASACC201228000001",
            "response": {
                "responseCode": 0
            }
        }
    ]
}
2019-01-07T08:56:04.872Z - INFO - grant request from CBRS    : {
    "grantRequest": [
        {
            "cbsdId": "MXF-WLTGFC105Mock-SASACC201228000001",
            "operationParam": {
                "maxEirp": 17,
                "operationFrequencyRange": {
                    "highFrequency": 3570000000,
                    "lowFrequency": 3550000000
                }
            }
        }
    ]
}
2019-01-07T08:56:04.882Z - INFO - engine sent successfully, the response to CBRS    : {
    "grantResponse": [
        {
            "cbsdId": "MXF-WLTGFC105Mock-SASACC201228000001",
            "channelType": "GAA",
            "grantExpireTime": "2019-01-07T09:02:04Z",
            "grantId": "653534100",
            "heartbeatInterval": 60,
            "response": {
                "responseCode": 0
            }
        }
    ]
}
```

2019-01-07T08:56:04.983Z - INFO - heartbeat request from CBRS : {
"heartbeatRequest": [
{
"cbsdId": "MXF-WLTGFC105Mock-SASACC201228000001",
"grantId": "653534100",
"operationState": "GRANTED"
}
]
}
2019-01-07T08:56:04.983Z - INFO - engine sent successfully, the response to CBRS : {
"heartbeatResponse": [
{
"cbsdId": "MXF-WLTGFC105Mock-SASACC201228000001",
"grantId": "653534100",
"response": {
"responseCode": 0
},
"transmitExpireTime": "2019-01-07T08:59:24Z"
}
]
}
2019-01-07T08:57:04.122Z - INFO - heartbeat request from CBRS : {
"heartbeatRequest": [
{
"cbsdId": "MXF-WLTGFC105Mock-SASACC201228000001",
"grantId": "653534100",
"operationState": "AUTHORIZED"
}
]
}
2019-01-07T08:57:04.122Z - INFO - Time interval between two heartbeat request messages is: 59.14, limit is: 65.0
2019-01-07T08:57:04.132Z - INFO - engine sent successfully, the response to CBRS : {
"heartbeatResponse": [
{
"cbsdId": "MXF-WLTGFC105Mock-SASACC201228000001",

```
                "grantId": "653534100",
                "response": {
                    "responseCode": 0
                },
                "transmitExpireTime": "2019-01-07T09:00:24Z"
            }
        ]
}
2019-01-07T08:58:03.127Z - INFO - heartbeat request from CBRS    : {
    "heartbeatRequest": [
        {
            "cbsdId": "MXF-WLTGFC105Mock-SASACC201228000001",
            "grantId": "653534100",
            "operationState": "AUTHORIZED"
        }
    ]
}
2019-01-07T08:58:03.137Z - INFO - Time interval between two heartbeat request messages is: 59.004,
limit is: 65.0
2019-01-07T08:58:03.147Z - INFO - engine sent successfully, the response to CBRS    : {
    "heartbeatResponse": [
        {
            "cbsdId": "MXF-WLTGFC105Mock-SASACC201228000001",
            "grantId": "653534100",
            "response": {
                "responseCode": 0
            },
            "transmitExpireTime": "2019-01-07T09:01:23Z"
        }
    ]
}
2019-01-07T08:59:02.128Z - INFO - heartbeat request from CBRS    : {
    "heartbeatRequest": [
        {
            "cbsdId": "MXF-WLTGFC105Mock-SASACC201228000001",
            "grantId": "653534100",
```

"operationState": "AUTHORIZED"
}
]
}
2019-01-07T08:59:02.128Z - INFO - Time interval between two heartbeat request messages is: 59.001, limit is: 65.0
2019-01-07T08:59:02.138Z - INFO - engine sent successfully, the response to CBRS : {
"heartbeatResponse": [
{
"cbsdId": "MXF-WLTGFC105Mock-SASACC201228000001",
"grantId": "653534100",
"response": {
"responseCode": 0
},
"transmitExpireTime": "2019-01-07T09:02:04Z"
}
]
}
2019-01-07T09:00:01.131Z - INFO - heartbeat request from CBRS : {
"heartbeatRequest": [
{
"cbsdId": "MXF-WLTGFC105Mock-SASACC201228000001",
"grantId": "653534100",
"operationState": "AUTHORIZED"
}
]
}
2019-01-07T09:00:01.131Z - INFO - Time interval between two heartbeat request messages is: 59.003, limit is: 65.0
2019-01-07T09:00:01.141Z - INFO - engine sent successfully, the response to CBRS : {
"heartbeatResponse": [
{
"cbsdId": "MXF-WLTGFC105Mock-SASACC201228000001",
"grantId": "653534100",
"response": {
"responseCode": 0

```
            },
            "transmitExpireTime": "2019-01-07T09:02:04Z"
        }
    ]
}
2019-01-07T09:01:00.134Z - INFO - heartbeat request from CBRS    : {
    "heartbeatRequest": [
        {
            "cbsdId": "MXF-WLTGFC105Mock-SASACC201228000001",
            "grantId": "653534100",
            "operationState": "AUTHORIZED"
        }
    ]
}
2019-01-07T09:01:00.134Z - INFO - Time interval between two heartbeat request messages is: 59.004,
limit is: 65.0
2019-01-07T09:01:00.144Z - INFO - engine sent successfully, the response to CBRS    : {
    "heartbeatResponse": [
        {
            "cbsdId": "MXF-WLTGFC105Mock-SASACC201228000001",
            "grantId": "653534100",
            "response": {
                "responseCode": 0
            },
            "transmitExpireTime": "2019-01-07T09:02:04Z"
        }
    ]
}
2019-01-07T09:01:59.125Z - INFO - heartbeat request from CBRS    : {
    "heartbeatRequest": [
        {
            "cbsdId": "MXF-WLTGFC105Mock-SASACC201228000001",
            "grantId": "653534100",
            "grantRenew": true,
            "operationState": "AUTHORIZED"
        }
```

```
    ]
}
2019-01-07T09:01:59.125Z - INFO - Time interval between two heartbeat request messages is: 58.99, limit is: 65.0
2019-01-07T09:01:59.134Z - INFO - grantRenew received in HBT request message
2019-01-07T09:01:59.134Z - INFO - engine sent successfully, the response to CBRS    : {
    "heartbeatResponse": [
        {
            "cbsdId": "MXF-WLTGFC105Mock-SASACC201228000001",
            "grantExpireTime": "2019-01-07T09:07:59Z",
            "grantId": "653534100",
            "response": {
                "responseCode": 0
            },
            "transmitExpireTime": "2019-01-07T09:05:19Z"
        }
    ]
}
2019-01-07T09:02:58.128Z - INFO - heartbeat request from CBRS    : {
    "heartbeatRequest": [
        {
            "cbsdId": "MXF-WLTGFC105Mock-SASACC201228000001",
            "grantId": "653534100",
            "operationState": "AUTHORIZED"
        }
    ]
}
2019-01-07T09:02:58.138Z - INFO - Time interval between two heartbeat request messages is: 59.004, limit is: 65.0
2019-01-07T09:02:58.138Z - INFO - engine sent successfully, the response to CBRS    : {
    "heartbeatResponse": [
        {
            "cbsdId": "MXF-WLTGFC105Mock-SASACC201228000001",
            "grantId": "653534100",
            "response": {
                "responseCode": 0
```

},
"transmitExpireTime": "2019-01-07T09:06:18Z"
}
]
}
2019-01-07T09:02:59.969Z - INFO - arrived to nstep starting question answer session with the technician
2019-01-07T09:02:59.969Z - INFO - the question is : Did the CBSD renew its grant successfully? please choose one of the answers :
2019-01-07T09:03:41.979Z - INFO - for the question : Did the CBSD renew its grant successfully? , the user choose y
2019-01-07T09:03:43.398Z - INFO - The final result of the test : WINNF.FT.C.HBT.11 is - passed

21 [WINNF.FT.C.RLQ.1] Successful Relinquishment

Report Clause 3.22 [WINNF.FT.C.RLQ.1] Successful Relinquishment

2019-01-07T09:06:10.348Z - INFO - WINNF TEST HARNESS RELEASE: 1.0.0.3 - 2018-November-13
2019-01-07T09:06:10.348Z - INFO - the selected test from the user : WINNF.FT.C.RLQ.1 is starting now
2019-01-07T09:06:25.493Z - INFO - registration request from CBRS : {

```
"registrationRequest": [
    {
        "airInterface": {
            "radioTechnology": "E_UTRA"
        },
        "callSign": "WAA206",
        "cbsdCategory": "A",
        "cbsdInfo": {
            "firmwareVersion": "x1000_R3.3.1_RC3",
            "hardwareVersion": "E1012-GC01",
            "model": "E1012",
            "softwareVersion": "x1000_R3.3.1_RC3",
            "vendor": "ACCELLERAN"
        },
        "cbsdSerialNumber": "ACC201228000001",
        "fccId": "MXF-WLTGFC105",
        "installationParam": {
            "antennaAzimuth": 0,
            "antennaBeamwidth": 360,
            "antennaDowntilt": 0,
            "antennaGain": 6,
            "height": 429.0,
            "heightType": "AMSL",
            "indoorDeployment": false,
            "latitude": 25.041672,
            "longitude": 121.373687
        },
        "userId": "pGPWTZ"
    }
]
}
```

2019-01-07T09:06:25.533Z - INFO - engine sent successfully, the response to CBRS : {
"registrationResponse": [
{
"cbsdId": "MXF-WLTGFC105Mock-SASACC201228000001",
"response": {
"responseCode": 0
}
}
]
}
2019-01-07T09:06:25.644Z - INFO - spectrumInquiry request from CBRS : {
"spectrumInquiryRequest": [
{
"cbsdId": "MXF-WLTGFC105Mock-SASACC201228000001",
"inquiredSpectrum": [
{
"highFrequency": 3700000000,
"lowFrequency": 3550000000
}
]
}
]
}
2019-01-07T09:06:25.654Z - INFO - engine sent successfully, the response to CBRS : {
"spectrumInquiryResponse": [
{
"availableChannel": [
{
"channelType": "GAA",
"frequencyRange": {
"highFrequency": 3700000000,
"lowFrequency": 3550000000
},
"ruleApplied": "FCC_PART_96"
}
],

```
            "cbsdId": "MXF-WLTGFC105Mock-SASACC201228000001",
            "response": {
                "responseCode": 0
            }
        }
    ]
}
2019-01-07T09:06:25.874Z - INFO - grant request from CBRS    : {
    "grantRequest": [
        {
            "cbsdId": "MXF-WLTGFC105Mock-SASACC201228000001",
            "operationParam": {
                "maxEirp": 17,
                "operationFrequencyRange": {
                    "highFrequency": 3570000000,
                    "lowFrequency": 3550000000
                }
            }
        }
    ]
}
2019-01-07T09:06:25.884Z - INFO - engine sent successfully, the response to CBRS    : {
    "grantResponse": [
        {
            "cbsdId": "MXF-WLTGFC105Mock-SASACC201228000001",
            "channelType": "GAA",
            "grantExpireTime": "2019-01-14T09:06:25Z",
            "grantId": "36922808",
            "heartbeatInterval": 60,
            "response": {
                "responseCode": 0
            }
        }
    ]
}
2019-01-07T09:06:26.003Z - INFO - heartbeat request from CBRS    : {
```

"heartbeatRequest": [
{
"cbsdId": "MXF-WLTGFC105Mock-SASACC201228000001",
"grantId": "36922808",
"operationState": "GRANTED"
}
]
}
2019-01-07T09:06:26.013Z - INFO - engine sent successfully, the response to CBRS : {
"heartbeatResponse": [
{
"cbsdId": "MXF-WLTGFC105Mock-SASACC201228000001",
"grantId": "36922808",
"response": {
"responseCode": 0
},
"transmitExpireTime": "2019-01-07T09:09:46Z"
}
]
}
2019-01-07T09:07:25.171Z - INFO - heartbeat request from CBRS : {
"heartbeatRequest": [
{
"cbsdId": "MXF-WLTGFC105Mock-SASACC201228000001",
"grantId": "36922808",
"operationState": "AUTHORIZED"
}
]
}
2019-01-07T09:07:25.171Z - INFO - Time interval between two heartbeat request messages is: 59.168, limit is: 65.0
2019-01-07T09:07:25.181Z - INFO - engine sent successfully, the response to CBRS : {
"heartbeatResponse": [
{
"cbsdId": "MXF-WLTGFC105Mock-SASACC201228000001",
"grantId": "36922808",

```
                "response": {
                    "responseCode": 0
                },
                "transmitExpireTime": "2019-01-07T09:10:45Z"
            }
        ]
}
2019-01-07T09:07:43.252Z - INFO - relinquishment request from CBRS    : {
    "relinquishmentRequest": [
        {
            "cbsdId": "MXF-WLTGFC105Mock-SASACC201228000001",
            "grantId": "36922808"
        }
    ]
}
2019-01-07T09:07:43.252Z - INFO - engine sent successfully, the response to CBRS    : {
    "relinquishmentResponse": [
        {
            "cbsdId": "MXF-WLTGFC105Mock-SASACC201228000001",
            "grantId": "36922808",
            "response": {
                "responseCode": 0
            }
        }
    ]
}
2019-01-07T09:07:45.161Z - INFO - arrived to nstep starting question answer session with the technician
2019-01-07T09:07:45.161Z - INFO - the question is : Did CBSD1 cease RF transmission before receipt of
Relinquishment Request by Test Harness? please choose one of the answers :
2019-01-07T09:07:51.552Z - INFO - for the question : Did CBSD1 cease RF transmission before receipt of
Relinquishment Request by Test Harness? , the user choose y
2019-01-07T09:07:52.802Z - INFO - The final result of the test : WINNF.FT.C.RLQ.1 is - passed
```

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

Report Clause 3.23 [WINNF.FT.C.RLQ.3] Unsuccessful Relinquishment, responseCode=102

2019-01-07T09:10:58.779Z - INFO - WINNF TEST HARNESS RELEASE: 1.0.0.3 - 2018-November-13
2019-01-07T09:10:58.779Z - INFO - the selected test from the user : WINNF.FT.C.RLQ.3 is starting now
2019-01-07T09:11:19.191Z - INFO - registration request from CBRS : {

```
"registrationRequest": [
    {
        "airInterface": {
            "radioTechnology": "E_UTRA"
        },
        "callSign": "WAA206",
        "cbsdCategory": "A",
        "cbsdInfo": {
            "firmwareVersion": "x1000_R3.3.1_RC3",
            "hardwareVersion": "E1012-GC01",
            "model": "E1012",
            "softwareVersion": "x1000_R3.3.1_RC3",
            "vendor": "ACCELLERAN"
        },
        "cbsdSerialNumber": "ACC201228000001",
        "fccId": "MXF-WLTGFC105",
        "installationParam": {
            "antennaAzimuth": 0,
            "antennaBeamwidth": 360,
            "antennaDowntilt": 0,
            "antennaGain": 6,
            "height": 429.0,
            "heightType": "AMSL",
            "indoorDeployment": false,
            "latitude": 25.041672,
            "longitude": 121.373687
        },
        "userId": "pGPWTZ"
    }
]
```

```
}
2019-01-07T09:11:19.252Z - INFO - engine sent successfully, the response to CBRS    : {
    "registrationResponse": [
        {
            "cbsdId": "MXF-WLTGFC105Mock-SASACC201228000001",
            "response": {
                "responseCode": 0
            }
        }
    ]
}
2019-01-07T09:11:19.371Z - INFO - spectrumInquiry request from CBRS    : {
    "spectrumInquiryRequest": [
        {
            "cbsdId": "MXF-WLTGFC105Mock-SASACC201228000001",
            "inquiredSpectrum": [
                {
                    "highFrequency": 3700000000,
                    "lowFrequency": 3550000000
                }
            ]
        }
    ]
}
2019-01-07T09:11:19.381Z - INFO - engine sent successfully, the response to CBRS    : {
    "spectrumInquiryResponse": [
        {
            "availableChannel": [
                {
                    "channelType": "GAA",
                    "frequencyRange": {
                        "highFrequency": 3700000000,
                        "lowFrequency": 3550000000
                    },
                    "ruleApplied": "FCC_PART_96"
                }
```

```
            ],
            "cbsdId": "MXF-WLTGFC105Mock-SASACC201228000001",
            "response": {
                "responseCode": 0
            }
        }
    ]
}
2019-01-07T09:11:19.601Z - INFO - grant request from CBRS    : {
    "grantRequest": [
        {
            "cbsdId": "MXF-WLTGFC105Mock-SASACC201228000001",
            "operationParam": {
                "maxEirp": 17,
                "operationFrequencyRange": {
                    "highFrequency": 3570000000,
                    "lowFrequency": 3550000000
                }
            }
        }
    ]
}
2019-01-07T09:11:19.611Z - INFO - engine sent successfully, the response to CBRS    : {
    "grantResponse": [
        {
            "cbsdId": "MXF-WLTGFC105Mock-SASACC201228000001",
            "channelType": "GAA",
            "grantExpireTime": "2019-01-14T09:11:19Z",
            "grantId": "574115595",
            "heartbeatInterval": 60,
            "response": {
                "responseCode": 0
            }
        }
    ]
}
```

2019-01-07T09:11:19.732Z - INFO - heartbeat request from CBRS : {
"heartbeatRequest": [
{
"cbsdId": "MXF-WLTGFC105Mock-SASACC201228000001",
"grantId": "574115595",
"operationState": "GRANTED"
}
]
}
2019-01-07T09:11:19.742Z - INFO - engine sent successfully, the response to CBRS : {
"heartbeatResponse": [
{
"cbsdId": "MXF-WLTGFC105Mock-SASACC201228000001",
"grantId": "574115595",
"response": {
"responseCode": 0
},
"transmitExpireTime": "2019-01-07T09:14:39Z"
}
]
}
2019-01-07T09:12:18.887Z - INFO - heartbeat request from CBRS : {
"heartbeatRequest": [
{
"cbsdId": "MXF-WLTGFC105Mock-SASACC201228000001",
"grantId": "574115595",
"operationState": "AUTHORIZED"
}
]
}
2019-01-07T09:12:18.887Z - INFO - Time interval between two heartbeat request messages is: 59.155, limit is: 65.0
2019-01-07T09:12:18.897Z - INFO - engine sent successfully, the response to CBRS : {
"heartbeatResponse": [
{
"cbsdId": "MXF-WLTGFC105Mock-SASACC201228000001",

```
                "grantId": "574115595",
                "response": {
                    "responseCode": 0
                },
                "transmitExpireTime": "2019-01-07T09:15:38Z"
            }
        ]
}
2019-01-07T09:13:05.273Z - INFO - relinquishment request from CBRS    : {
    "relinquishmentRequest": [
        {
            "cbsdId": "MXF-WLTGFC105Mock-SASACC201228000001",
            "grantId": "574115595"
        }
    ]
}
2019-01-07T09:13:05.283Z - INFO - engine sent successfully, the response to CBRS    : {
    "relinquishmentResponse": [
        {
            "cbsdId": "MXF-WLTGFC105Mock-SASACC201228000001",
            "response": {
                "responseCode": 102,
                "responseData": [
                    "grantId"
                ]
            }
        }
    ]
}
2019-01-07T09:13:06.834Z - INFO - arrived to nstep starting question answer session with the technician
2019-01-07T09:13:06.834Z - INFO - the question is : Did CBSD1 cease RF transmission before receipt of Relinquishment Request by Test Harness? please choose one of the answers :
2019-01-07T09:13:08.915Z - INFO - for the question : Did CBSD1 cease RF transmission before receipt of Relinquishment Request by Test Harness? , the user choose y
2019-01-07T09:13:10.385Z - INFO - The final result of the test : WINNF.FT.C.RLQ.3 is - passed
```

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

Report Clause 3.24 [WINNF.FT.C.RLQ.5] Unsuccessful Relinquishment, responseCode=103

2019-01-07T09:15:46.109Z - INFO - WINNF TEST HARNESS RELEASE: 1.0.0.3 - 2018-November-13
2019-01-07T09:15:46.109Z - INFO - the selected test from the user : WINNF.FT.C.RLQ.5 is starting now
2019-01-07T09:16:03.032Z - INFO - registration request from CBRS : {

```
"registrationRequest": [
    {
        "airInterface": {
            "radioTechnology": "E_UTRA"
        },
        "callSign": "WAA206",
        "cbsdCategory": "A",
        "cbsdInfo": {
            "firmwareVersion": "x1000_R3.3.1_RC3",
            "hardwareVersion": "E1012-GC01",
            "model": "E1012",
            "softwareVersion": "x1000_R3.3.1_RC3",
            "vendor": "ACCELLERAN"
        },
        "cbsdSerialNumber": "ACC201228000001",
        "fccId": "MXF-WLTGFC105",
        "installationParam": {
            "antennaAzimuth": 0,
            "antennaBeamwidth": 360,
            "antennaDowntilt": 0,
            "antennaGain": 6,
            "height": 429.0,
            "heightType": "AMSL",
            "indoorDeployment": false,
            "latitude": 25.041672,
            "longitude": 121.373687
        },
        "userId": "pGPWTZ"
    }
]
```

```
}
2019-01-07T09:16:03.055Z - INFO - engine sent successfully, the response to CBRS    : {
      "registrationResponse": [
            {
                  "cbsdId": "MXF-WLTGFC105Mock-SASACC201228000001",
                  "response": {
                        "responseCode": 0
                  }
            }
      ]
}
2019-01-07T09:16:03.164Z - INFO - spectrumInquiry request from CBRS    : {
      "spectrumInquiryRequest": [
            {
                  "cbsdId": "MXF-WLTGFC105Mock-SASACC201228000001",
                  "inquiredSpectrum": [
                        {
                              "highFrequency": 3700000000,
                              "lowFrequency": 3550000000
                        }
                  ]
            }
      ]
}
2019-01-07T09:16:03.164Z - INFO - engine sent successfully, the response to CBRS    : {
      "spectrumInquiryResponse": [
            {
                  "availableChannel": [
                        {
                              "channelType": "GAA",
                              "frequencyRange": {
                                    "highFrequency": 3700000000,
                                    "lowFrequency": 3550000000
                              },
                              "ruleApplied": "FCC_PART_96"
                        }
```

```
            ],
            "cbsdId": "MXF-WLTGFC105Mock-SASACC201228000001",
            "response": {
                "responseCode": 0
            }
        }
    ]
}
2019-01-07T09:16:03.394Z - INFO - grant request from CBRS    : {
    "grantRequest": [
        {
            "cbsdId": "MXF-WLTGFC105Mock-SASACC201228000001",
            "operationParam": {
                "maxEirp": 17,
                "operationFrequencyRange": {
                    "highFrequency": 3570000000,
                    "lowFrequency": 3550000000
                }
            }
        }
    ]
}
2019-01-07T09:16:03.394Z - INFO - engine sent successfully, the response to CBRS    : {
    "grantResponse": [
        {
            "cbsdId": "MXF-WLTGFC105Mock-SASACC201228000001",
            "channelType": "GAA",
            "grantExpireTime": "2019-01-14T09:16:03Z",
            "grantId": "565148074",
            "heartbeatInterval": 60,
            "response": {
                "responseCode": 0
            }
        }
    ]
}
```

2019-01-07T09:16:03.515Z - INFO - heartbeat request from CBRS : {
"heartbeatRequest": [
{
"cbsdId": "MXF-WLTGFC105Mock-SASACC201228000001",
"grantId": "565148074",
"operationState": "GRANTED"
}
]
}
2019-01-07T09:16:03.535Z - INFO - engine sent successfully, the response to CBRS : {
"heartbeatResponse": [
{
"cbsdId": "MXF-WLTGFC105Mock-SASACC201228000001",
"grantId": "565148074",
"response": {
"responseCode": 0
},
"transmitExpireTime": "2019-01-07T09:19:23Z"
}
]
}
2019-01-07T09:17:02.661Z - INFO - heartbeat request from CBRS : {
"heartbeatRequest": [
{
"cbsdId": "MXF-WLTGFC105Mock-SASACC201228000001",
"grantId": "565148074",
"operationState": "AUTHORIZED"
}
]
}
2019-01-07T09:17:02.661Z - INFO - Time interval between two heartbeat request messages is: 59.147, limit is: 65.0
2019-01-07T09:17:02.671Z - INFO - engine sent successfully, the response to CBRS : {
"heartbeatResponse": [
{
"cbsdId": "MXF-WLTGFC105Mock-SASACC201228000001",

"grantId": "565148074",
"response": {
"responseCode": 0
},
"transmitExpireTime": "2019-01-07T09:20:22Z"
}
]
}
2019-01-07T09:17:17.243Z - INFO - relinquishment request from CBRS : {
"relinquishmentRequest": [
{
"cbsdId": "MXF-WLTGFC105Mock-SASACC201228000001",
"grantId": "565148074"
}
]
}
2019-01-07T09:17:17.253Z - INFO - engine sent successfully, the response to CBRS : {
"relinquishmentResponse": [
{
"cbsdId": "MXF-WLTGFC105Mock-SASACC201228000001",
"response": {
"responseCode": 103,
"responseData": [
"grantId"
]
}
}
]
}
2019-01-07T09:17:18.994Z - INFO - arrived to nstep starting question answer session with the technician
2019-01-07T09:17:18.994Z - INFO - the question is : Did CBSD1 cease RF transmission before receipt of Relinquishment Request by Test Harness? please choose one of the answers :
2019-01-07T09:17:21.905Z - INFO - for the question : Did CBSD1 cease RF transmission before receipt of Relinquishment Request by Test Harness? , the user choose y
2019-01-07T09:17:23.226Z - INFO - The final result of the test : WINNF.FT.C.RLQ.5 is - passed

24 [WINNF.FT.C.DRG.1] Successful Deregistration

Report Clause 3.25 [WINNF.FT.C.DRG.1] Successful Deregistration

2019-01-07T09:19:36.196Z - INFO - WINNF TEST HARNESS RELEASE: 1.0.0.3 - 2018-November-13
2019-01-07T09:19:36.196Z - INFO - the selected test from the user : WINNF.FT.C.DRG.1 is starting now
2019-01-07T09:19:52.190Z - INFO - registration request from CBRS : {

```
"registrationRequest": [
    {
        "airInterface": {
            "radioTechnology": "E_UTRA"
        },
        "callSign": "WAA206",
        "cbsdCategory": "A",
        "cbsdInfo": {
            "firmwareVersion": "x1000_R3.3.1_RC3",
            "hardwareVersion": "E1012-GC01",
            "model": "E1012",
            "softwareVersion": "x1000_R3.3.1_RC3",
            "vendor": "ACCELLERAN"
        },
        "cbsdSerialNumber": "ACC201228000001",
        "fccId": "MXF-WLTGFC105",
        "installationParam": {
            "antennaAzimuth": 0,
            "antennaBeamwidth": 360,
            "antennaDowntilt": 0,
            "antennaGain": 6,
            "height": 429.0,
            "heightType": "AMSL",
            "indoorDeployment": false,
            "latitude": 25.041672,
            "longitude": 121.373687
        },
        "userId": "pGPWTZ"
    }
]
}
```

2019-01-07T09:19:52.250Z - INFO - engine sent successfully, the response to CBRS : {
"registrationResponse": [
{
"cbsdId": "MXF-WLTGFC105Mock-SASACC201228000001",
"response": {
"responseCode": 0
}
}
]
}
2019-01-07T09:19:52.369Z - INFO - spectrumInquiry request from CBRS : {
"spectrumInquiryRequest": [
{
"cbsdId": "MXF-WLTGFC105Mock-SASACC201228000001",
"inquiredSpectrum": [
{
"highFrequency": 3700000000,
"lowFrequency": 3550000000
}
]
}
]
}
2019-01-07T09:19:52.381Z - INFO - engine sent successfully, the response to CBRS : {
"spectrumInquiryResponse": [
{
"availableChannel": [
{
"channelType": "GAA",
"frequencyRange": {
"highFrequency": 3700000000,
"lowFrequency": 3550000000
},
"ruleApplied": "FCC_PART_96"
}
],

```
            "cbsdId": "MXF-WLTGFC105Mock-SASACC201228000001",
            "response": {
                "responseCode": 0
            }
        }
    ]
}
2019-01-07T09:19:52.609Z - INFO - grant request from CBRS    : {
    "grantRequest": [
        {
            "cbsdId": "MXF-WLTGFC105Mock-SASACC201228000001",
            "operationParam": {
                "maxEirp": 17,
                "operationFrequencyRange": {
                    "highFrequency": 3570000000,
                    "lowFrequency": 3550000000
                }
            }
        }
    ]
}
2019-01-07T09:19:52.619Z - INFO - engine sent successfully, the response to CBRS    : {
    "grantResponse": [
        {
            "cbsdId": "MXF-WLTGFC105Mock-SASACC201228000001",
            "channelType": "GAA",
            "grantExpireTime": "2019-01-14T09:19:52Z",
            "grantId": "83533157",
            "heartbeatInterval": 60,
            "response": {
                "responseCode": 0
            }
        }
    ]
}
2019-01-07T09:19:52.740Z - INFO - heartbeat request from CBRS    : {
```

"heartbeatRequest": [
{
"cbsdId": "MXF-WLTGFC105Mock-SASACC201228000001",
"grantId": "83533157",
"operationState": "GRANTED"
}
]
}
2019-01-07T09:19:52.750Z - INFO - engine sent successfully, the response to CBRS : {
"heartbeatResponse": [
{
"cbsdId": "MXF-WLTGFC105Mock-SASACC201228000001",
"grantId": "83533157",
"response": {
"responseCode": 0
},
"transmitExpireTime": "2019-01-07T09:23:12Z"
}
]
}
2019-01-07T09:20:51.885Z - INFO - heartbeat request from CBRS : {
"heartbeatRequest": [
{
"cbsdId": "MXF-WLTGFC105Mock-SASACC201228000001",
"grantId": "83533157",
"operationState": "AUTHORIZED"
}
]
}
2019-01-07T09:20:51.885Z - INFO - Time interval between two heartbeat request messages is: 59.145, limit is: 65.0
2019-01-07T09:20:51.895Z - INFO - engine sent successfully, the response to CBRS : {
"heartbeatResponse": [
{
"cbsdId": "MXF-WLTGFC105Mock-SASACC201228000001",
"grantId": "83533157",

```
            "response": {
                "responseCode": 0
            },
            "transmitExpireTime": "2019-01-07T09:24:11Z"
        }
    ]
}
2019-01-07T09:21:19.246Z - INFO - relinquishment request from CBRS    : {
    "relinquishmentRequest": [
        {
            "cbsdId": "MXF-WLTGFC105Mock-SASACC201228000001",
            "grantId": "83533157"
        }
    ]
}
2019-01-07T09:21:19.256Z - INFO - engine sent successfully, the response to CBRS    : {
    "relinquishmentResponse": [
        {
            "cbsdId": "MXF-WLTGFC105Mock-SASACC201228000001",
            "grantId": "83533157",
            "response": {
                "responseCode": 0
            }
        }
    ]
}
2019-01-07T09:21:19.375Z - INFO - deregistration request from CBRS    : {
    "deregistrationRequest": [
        {
            "cbsdId": "MXF-WLTGFC105Mock-SASACC201228000001"
        }
    ]
}
2019-01-07T09:21:19.385Z - INFO - engine sent successfully, the response to CBRS    : {
    "deregistrationResponse": [
        {
```

"cbsdId": "MXF-WLTGFC105Mock-SASACC201228000001",
"response": {
"responseCode": 0
}
}
]
}

2019-01-07T09:21:21.046Z - INFO - arrived to nstep starting question answer session with the technician

2019-01-07T09:21:21.046Z - INFO - the question is : Did CBSD1 cease RF transmission before receipt of Relinquishment request (if sent) or Deregistration request at Test Harness? please choose one of the answers :

2019-01-07T09:21:32.730Z - INFO - for the question : Did CBSD1 cease RF transmission before receipt of Relinquishment request (if sent) or Deregistration request at Test Harness? , the user choose y

2019-01-07T09:21:46.384Z - INFO - The final result of the test : WINNF.FT.C.DRG.1 is - passed

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

Report Clause 3.26 [WINNF.FT.C.DRG.3] Deregistration responseCode=102

```
2019-01-07T09:23:50.884Z - INFO - WINNF TEST HARNESS RELEASE: 1.0.0.3 - 2018-November-13
2019-01-07T09:23:50.884Z - INFO - the selected test from the user : WINNF.FT.C.DRG.3 is starting now
2019-01-07T09:24:06.003Z - INFO - registration request from CBRS    : {
    "registrationRequest": [
        {
            "airInterface": {
                "radioTechnology": "E_UTRA"
            },
            "callSign": "WAA206",
            "cbsdCategory": "A",
            "cbsdInfo": {
                "firmwareVersion": "x1000_R3.3.1_RC3",
                "hardwareVersion": "E1012-GC01",
                "model": "E1012",
                "softwareVersion": "x1000_R3.3.1_RC3",
                "vendor": "ACCELLERAN"
            },
            "cbsdSerialNumber": "ACC201228000001",
            "fccId": "MXF-WLTGFC105",
            "installationParam": {
                "antennaAzimuth": 0,
                "antennaBeamwidth": 360,
                "antennaDowntilt": 0,
                "antennaGain": 6,
                "height": 429.0,
                "heightType": "AMSL",
                "indoorDeployment": false,
                "latitude": 25.041672,
                "longitude": 121.373687
            },
            "userId": "pGPWTZ"
        }
    ]
}
```

2019-01-07T09:24:06.042Z - INFO - engine sent successfully, the response to CBRS : {
"registrationResponse": [
{
"cbsdId": "MXF-WLTGFC105Mock-SASACC201228000001",
"response": {
"responseCode": 0
}
}
]
}
2019-01-07T09:24:06.163Z - INFO - spectrumInquiry request from CBRS : {
"spectrumInquiryRequest": [
{
"cbsdId": "MXF-WLTGFC105Mock-SASACC201228000001",
"inquiredSpectrum": [
{
"highFrequency": 3700000000,
"lowFrequency": 3550000000
}
]
}
]
}
2019-01-07T09:24:06.173Z - INFO - engine sent successfully, the response to CBRS : {
"spectrumInquiryResponse": [
{
"availableChannel": [
{
"channelType": "GAA",
"frequencyRange": {
"highFrequency": 3700000000,
"lowFrequency": 3550000000
},
"ruleApplied": "FCC_PART_96"
}
],

```
            "cbsdId": "MXF-WLTGFC105Mock-SASACC201228000001",
            "response": {
                "responseCode": 0
            }
        }
    ]
}
2019-01-07T09:24:06.372Z - INFO - grant request from CBRS    : {
    "grantRequest": [
        {
            "cbsdId": "MXF-WLTGFC105Mock-SASACC201228000001",
            "operationParam": {
                "maxEirp": 17,
                "operationFrequencyRange": {
                    "highFrequency": 3570000000,
                    "lowFrequency": 3550000000
                }
            }
        }
    ]
}
2019-01-07T09:24:06.382Z - INFO - engine sent successfully, the response to CBRS    : {
    "grantResponse": [
        {
            "cbsdId": "MXF-WLTGFC105Mock-SASACC201228000001",
            "channelType": "GAA",
            "grantExpireTime": "2019-01-14T09:24:06Z",
            "grantId": "510637921",
            "heartbeatInterval": 60,
            "response": {
                "responseCode": 0
            }
        }
    ]
}
2019-01-07T09:24:06.483Z - INFO - heartbeat request from CBRS    : {
```

"heartbeatRequest": [
{
"cbsdId": "MXF-WLTGFC105Mock-SASACC201228000001",
"grantId": "510637921",
"operationState": "GRANTED"
}
]
}
2019-01-07T09:24:06.483Z - INFO - engine sent successfully, the response to CBRS : {
"heartbeatResponse": [
{
"cbsdId": "MXF-WLTGFC105Mock-SASACC201228000001",
"grantId": "510637921",
"response": {
"responseCode": 0
},
"transmitExpireTime": "2019-01-07T09:27:26Z"
}
]
}
2019-01-07T09:25:05.624Z - INFO - heartbeat request from CBRS : {
"heartbeatRequest": [
{
"cbsdId": "MXF-WLTGFC105Mock-SASACC201228000001",
"grantId": "510637921",
"operationState": "AUTHORIZED"
}
]
}
2019-01-07T09:25:05.634Z - INFO - Time interval between two heartbeat request messages is: 59.141, limit is: 65.0
2019-01-07T09:25:05.634Z - INFO - engine sent successfully, the response to CBRS : {
"heartbeatResponse": [
{
"cbsdId": "MXF-WLTGFC105Mock-SASACC201228000001",
"grantId": "510637921",

```
                "response": {
                    "responseCode": 0
                },
                "transmitExpireTime": "2019-01-07T09:28:25Z"
            }
        ]
}
2019-01-07T09:25:34.240Z - INFO - relinquishment request from CBRS    : {
    "relinquishmentRequest": [
        {
            "cbsdId": "MXF-WLTGFC105Mock-SASACC201228000001",
            "grantId": "510637921"
        }
    ]
}
2019-01-07T09:25:34.250Z - INFO - engine sent successfully, the response to CBRS    : {
    "relinquishmentResponse": [
        {
            "cbsdId": "MXF-WLTGFC105Mock-SASACC201228000001",
            "grantId": "510637921",
            "response": {
                "responseCode": 0
            }
        }
    ]
}
2019-01-07T09:25:34.371Z - INFO - deregistration request from CBRS    : {
    "deregistrationRequest": [
        {
            "cbsdId": "MXF-WLTGFC105Mock-SASACC201228000001"
        }
    ]
}
2019-01-07T09:25:34.381Z - INFO - engine sent successfully, the response to CBRS    : {
    "deregistrationResponse": [
        {
```

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

2019-01-07T09:25:35.821Z - INFO - arrived to nstep starting question answer session with the technician

2019-01-07T09:25:35.821Z - INFO - the question is : Did CBSD1 cease RF transmission before receipt of Relinquishment request (if sent) or Deregistration request at Test Harness? please choose one of the answers :

2019-01-07T09:25:49.750Z - INFO - for the question : Did CBSD1 cease RF transmission before receipt of Relinquishment request (if sent) or Deregistration request at Test Harness? , the user choose y

2019-01-07T09:25:50.819Z - INFO - The final result of the test : WINNF.FT.C.DRG.3 is - passed

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

Report Clause 3.27 [WINNF.FT.C.DRG.5] Deregistration responseCode=103

```
2019-01-08T07:41:26.105Z - INFO - WINNF TEST HARNESS RELEASE: 1.0.0.3 - 2018-November-13
2019-01-08T07:41:26.105Z - INFO - the selected test from the user : WINNF.FT.C.DRG.5 is starting now
2019-01-08T07:41:43.006Z - INFO - registration request from CBRS    : {
    "registrationRequest": [
        {
            "airInterface": {
                "radioTechnology": "E_UTRA"
            },
            "callSign": "WAA206",
            "cbsdCategory": "A",
            "cbsdInfo": {
                "firmwareVersion": "x1000_R3.3.1_RC3",
                "hardwareVersion": "E1012-GC01",
                "model": "E1012",
                "softwareVersion": "x1000_R3.3.1_RC3",
                "vendor": "ACCELLERAN"
            },
            "cbsdSerialNumber": "ACC201228000001",
            "fccId": "MXF-WLTGFC105",
            "installationParam": {
                "antennaAzimuth": 0,
                "antennaBeamwidth": 360,
                "antennaDowntilt": 0,
                "antennaGain": 6,
                "height": 379.0,
                "heightType": "AMSL",
                "indoorDeployment": false,
                "latitude": 25.041713,
                "longitude": 121.373256
            },
            "userId": "pGPWTZ"
        }
    ]
}
```

2019-01-08T07:41:43.046Z - INFO - engine sent successfully, the response to CBRS : {
"registrationResponse": [
{
"cbsdId": "MXF-WLTGFC105Mock-SASACC201228000001",
"response": {
"responseCode": 0
}
}
]
}
2019-01-08T07:41:43.186Z - INFO - spectrumInquiry request from CBRS : {
"spectrumInquiryRequest": [
{
"cbsdId": "MXF-WLTGFC105Mock-SASACC201228000001",
"inquiredSpectrum": [
{
"highFrequency": 3700000000,
"lowFrequency": 3550000000
}
]
}
]
}
2019-01-08T07:41:43.206Z - INFO - engine sent successfully, the response to CBRS : {
"spectrumInquiryResponse": [
{
"availableChannel": [
{
"channelType": "GAA",
"frequencyRange": {
"highFrequency": 3700000000,
"lowFrequency": 3550000000
},
"ruleApplied": "FCC_PART_96"
}
],

```
            "cbsdId": "MXF-WLTGFC105Mock-SASACC201228000001",
            "response": {
                "responseCode": 0
            }
        }
    ]
}
2019-01-08T07:41:43.418Z - INFO - grant request from CBRS    : {
    "grantRequest": [
        {
            "cbsdId": "MXF-WLTGFC105Mock-SASACC201228000001",
            "operationParam": {
                "maxEirp": 17,
                "operationFrequencyRange": {
                    "highFrequency": 3570000000,
                    "lowFrequency": 3550000000
                }
            }
        }
    ]
}
2019-01-08T07:41:43.428Z - INFO - engine sent successfully, the response to CBRS    : {
    "grantResponse": [
        {
            "cbsdId": "MXF-WLTGFC105Mock-SASACC201228000001",
            "channelType": "GAA",
            "grantExpireTime": "2019-01-15T07:41:43Z",
            "grantId": "60488768",
            "heartbeatInterval": 60,
            "response": {
                "responseCode": 0
            }
        }
    ]
}
2019-01-08T07:41:43.559Z - INFO - heartbeat request from CBRS    : {
```

"heartbeatRequest": [
{
"cbsdId": "MXF-WLTGFC105Mock-SASACC201228000001",
"grantId": "60488768",
"operationState": "GRANTED"
}
]
}
2019-01-08T07:41:43.569Z - INFO - engine sent successfully, the response to CBRS : {
"heartbeatResponse": [
{
"cbsdId": "MXF-WLTGFC105Mock-SASACC201228000001",
"grantId": "60488768",
"response": {
"responseCode": 0
},
"transmitExpireTime": "2019-01-08T07:45:03Z"
}
]
}
2019-01-08T07:42:42.736Z - INFO - heartbeat request from CBRS : {
"heartbeatRequest": [
{
"cbsdId": "MXF-WLTGFC105Mock-SASACC201228000001",
"grantId": "60488768",
"operationState": "AUTHORIZED"
}
]
}
2019-01-08T07:42:42.746Z - INFO - Time interval between two heartbeat request messages is: 59.177, limit is: 65.0
2019-01-08T07:42:42.756Z - INFO - engine sent successfully, the response to CBRS : {
"heartbeatResponse": [
{
"cbsdId": "MXF-WLTGFC105Mock-SASACC201228000001",
"grantId": "60488768",

```
                "response": {
                    "responseCode": 0
                },
                "transmitExpireTime": "2019-01-08T07:46:02Z"
            }
        ]
}
2019-01-08T07:43:03.892Z - INFO - relinquishment request from CBRS    : {
    "relinquishmentRequest": [
        {
            "cbsdId": "MXF-WLTGFC105Mock-SASACC201228000001",
            "grantId": "60488768"
        }
    ]
}
2019-01-08T07:43:03.903Z - INFO - engine sent successfully, the response to CBRS    : {
    "relinquishmentResponse": [
        {
            "cbsdId": "MXF-WLTGFC105Mock-SASACC201228000001",
            "grantId": "60488768",
            "response": {
                "responseCode": 0
            }
        }
    ]
}
2019-01-08T07:43:04.032Z - INFO - deregistration request from CBRS    : {
    "deregistrationRequest": [
        {
            "cbsdId": "MXF-WLTGFC105Mock-SASACC201228000001"
        }
    ]
}
2019-01-08T07:43:04.042Z - INFO - engine sent successfully, the response to CBRS    : {
    "deregistrationResponse": [
        {
```

"response": {
"responseCode": 103,
"responseData": [
"cbsdId"
]
}
}
]
}

2019-01-08T07:43:05.903Z - INFO - arrived to nstep starting question answer session with the technician

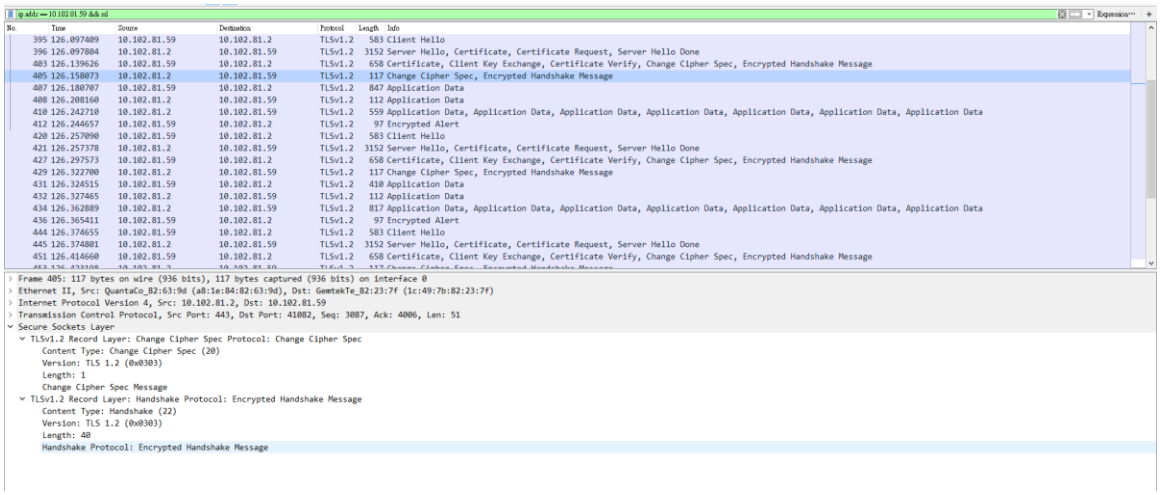
2019-01-08T07:43:05.903Z - INFO - the question is : Did CBSD1 cease RF transmission before receipt of Relinquishment request (if sent) or Deregistration request at Test Harness? please choose one of the answers :

2019-01-08T07:43:16.700Z - INFO - for the question : Did CBSD1 cease RF transmission before receipt of Relinquishment request (if sent) or Deregistration request at Test Harness? , the user choose y

2019-01-08T07:43:18.099Z - INFO - The final result of the test : WINNF.FT.C.DRG.5 is - passed

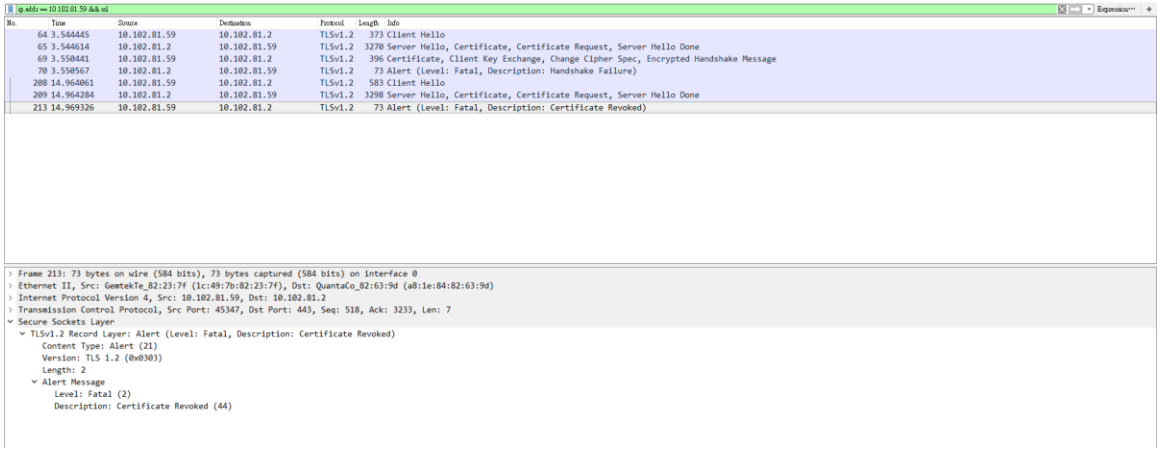
27 [WINNF.FT.C.SCS.1] Successful TLS connection between UUT and SAS Test Harness

Report Clause 3.28 [WINNF.FT.C.SCS.1] Successful TLS connection between UUT and SAS Test Harness



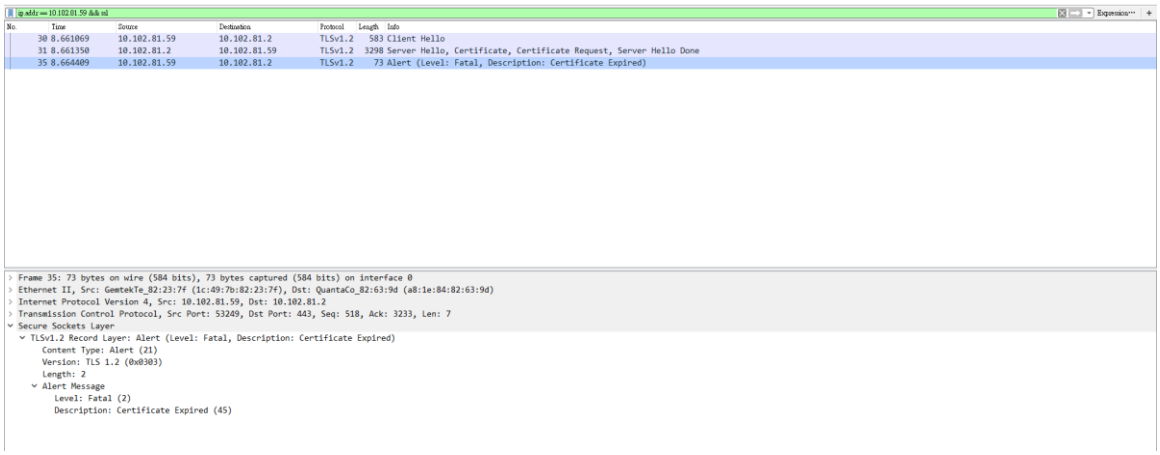
28 [WINNF.FT.C.SCS.2] TLS failure due to revoked certificate

Report Clause 3.29 [WINNF.FT.C.SCS.2] TLS failure due to revoked certificate



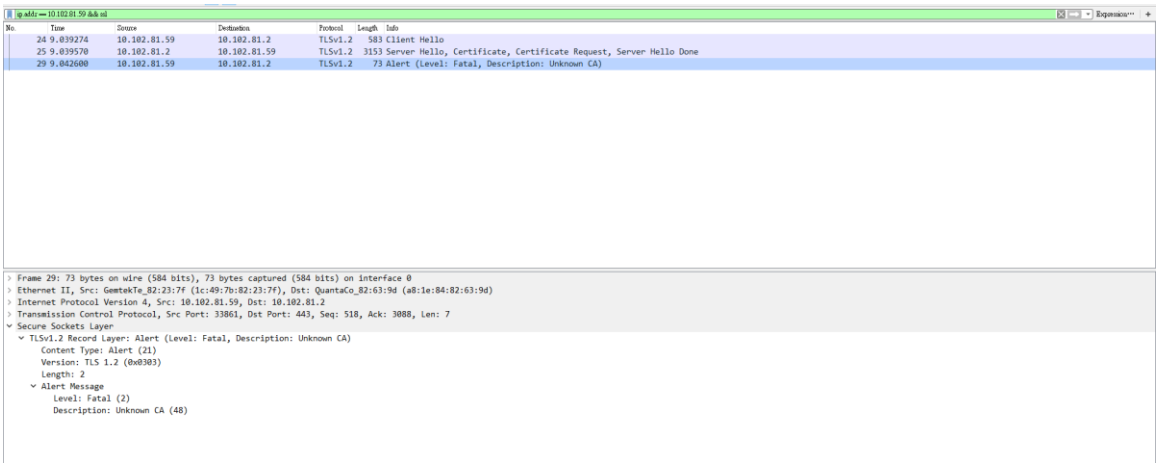
29 [WINNF.FT.C.SCS.3] TLS failure due to expired server certificate

Report Clause 3.30 [WINNF.FT.C.SCS.3] TLS failure due to expired server certificate

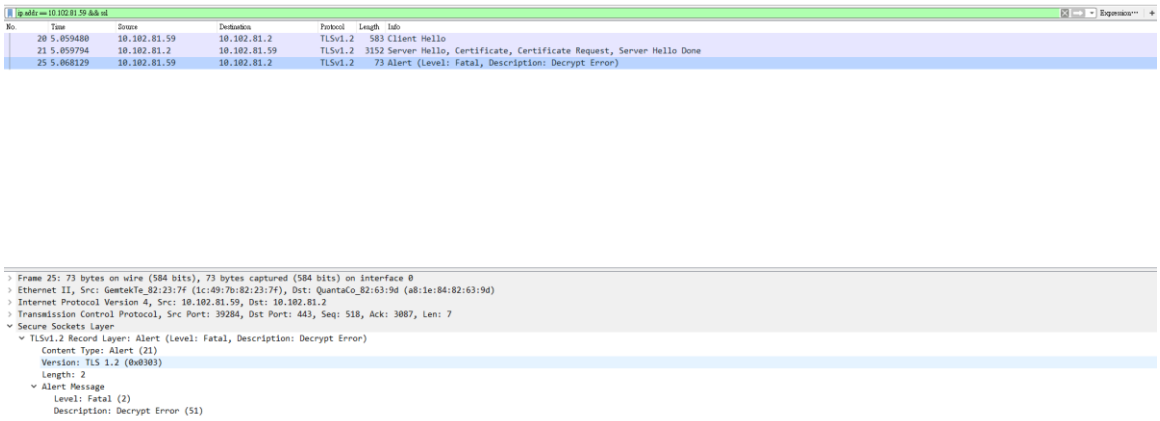


30 [WINNF.FT.C.SCS.4] TLS failure when SAS Test Harness certificate is issued by an unknown CA

Report Clause 3.31 [WINNF.FT.C.SCS.4] TLS failure when SAS Test Harness certificate is issued by an unknown CA



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

Report Clause 3.32 [WINNF.FT.C.SCS.5] TLS failure when certificate at the SAS Test Harness is corrupted


Appendix C. RF measurement plots

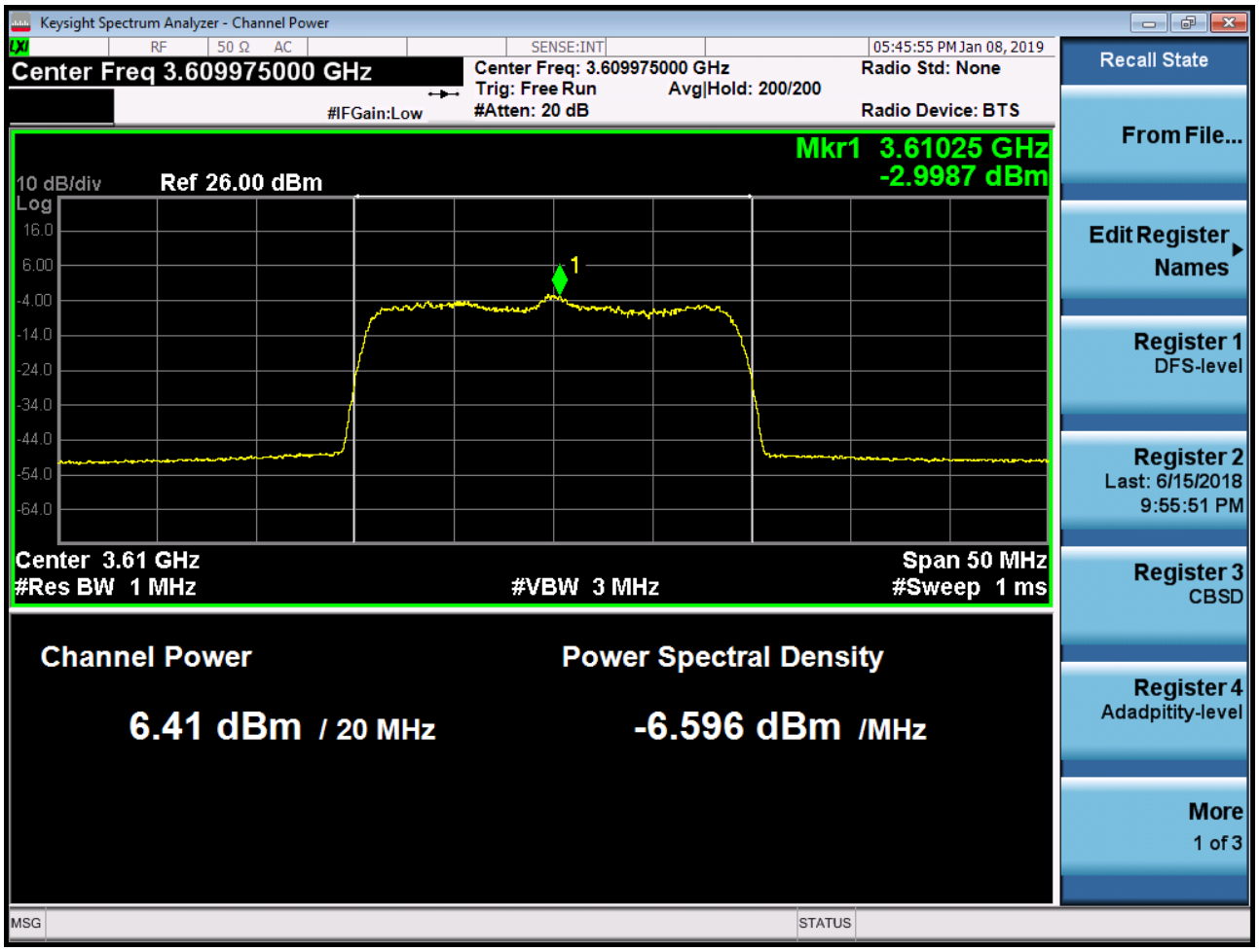
Report Clause 3.33 [WINNF.PT.C.HBT] UUT RF Transmit Power Measurement

This is single port conducted measurement result.

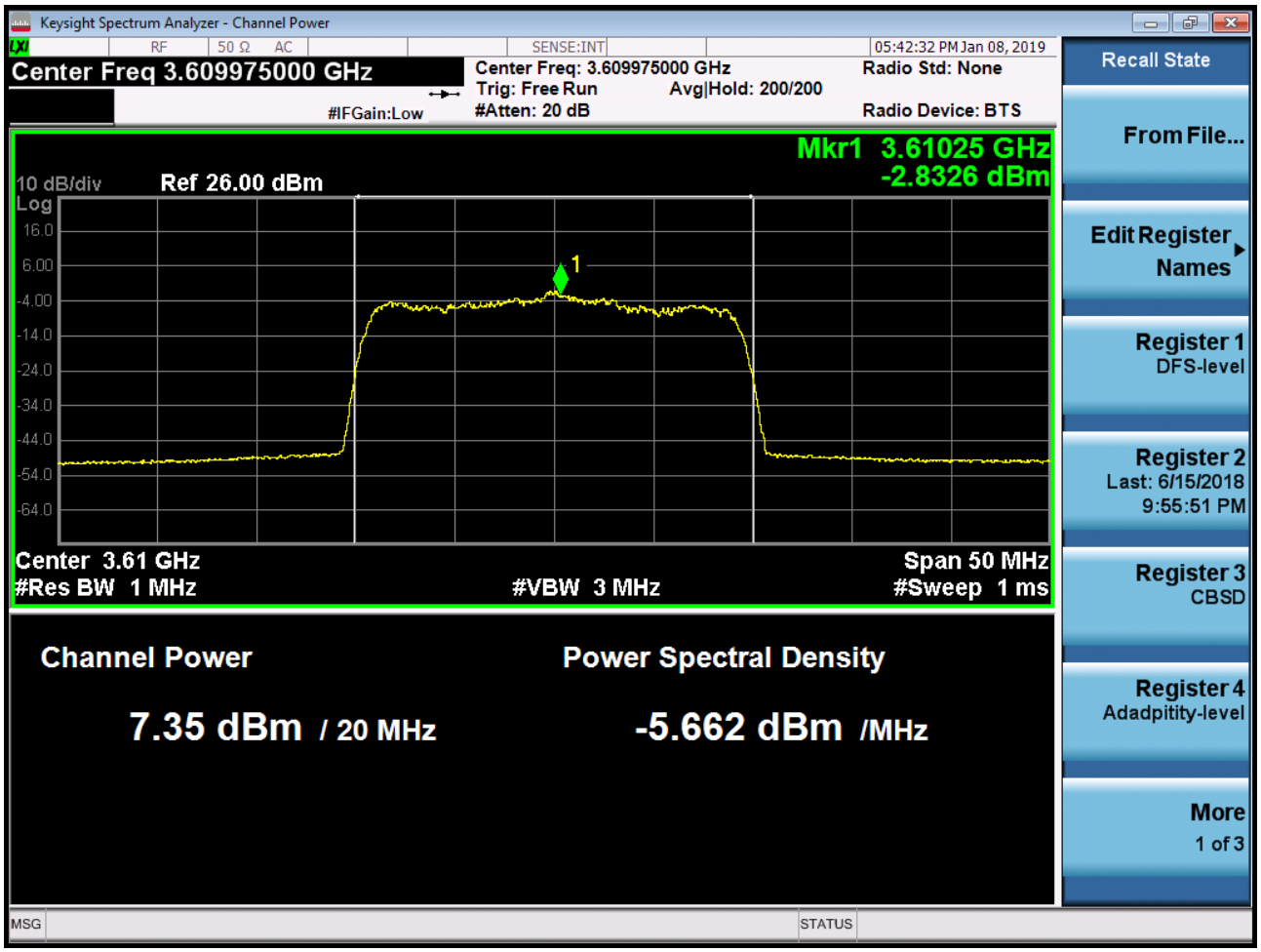
The measurement setup cable loss 12dB has been offset into the spectrum analyzer.

The CBSD antenna gain 6dBi is not included in the test plot.

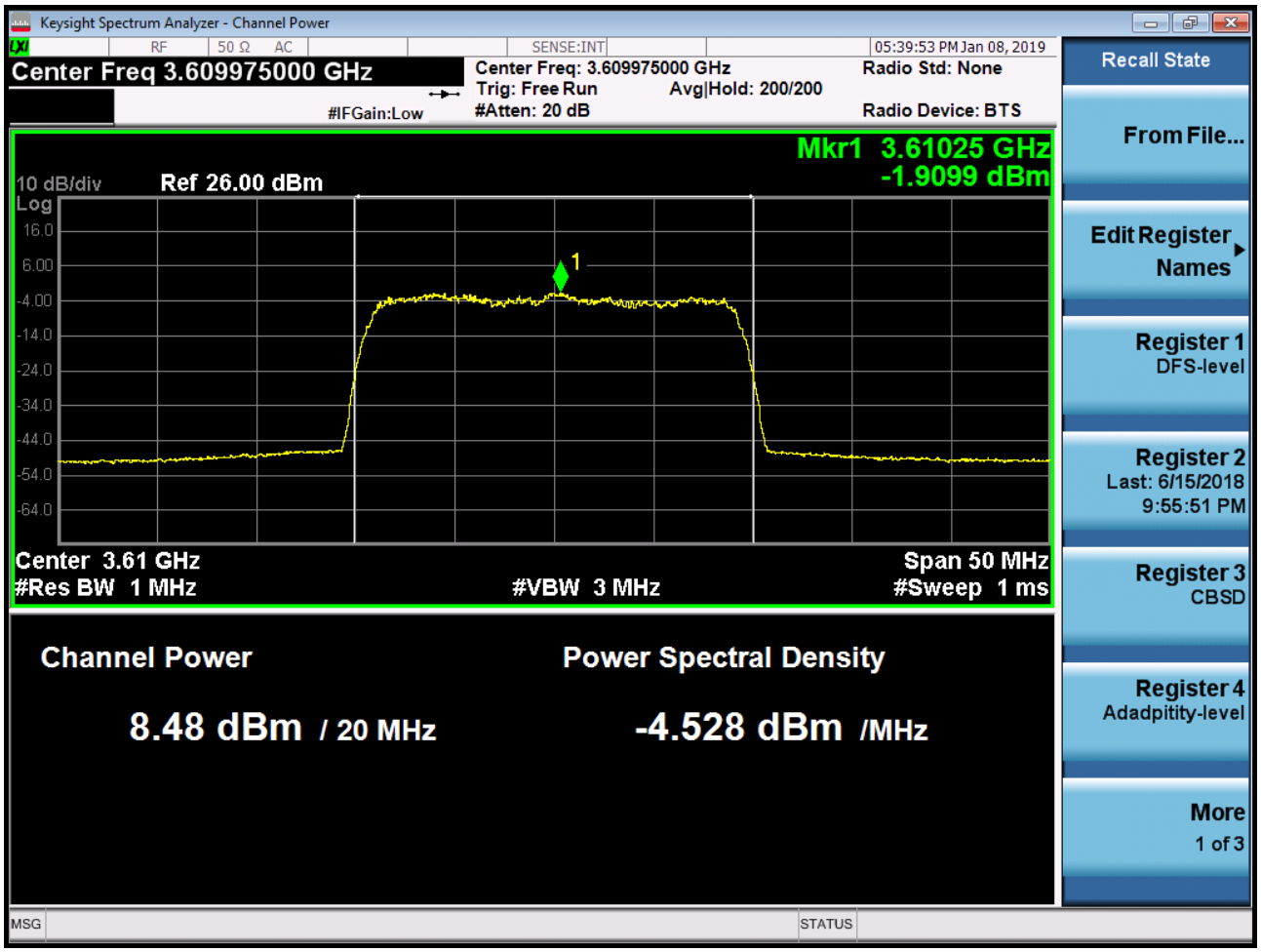
MaxEirp 13



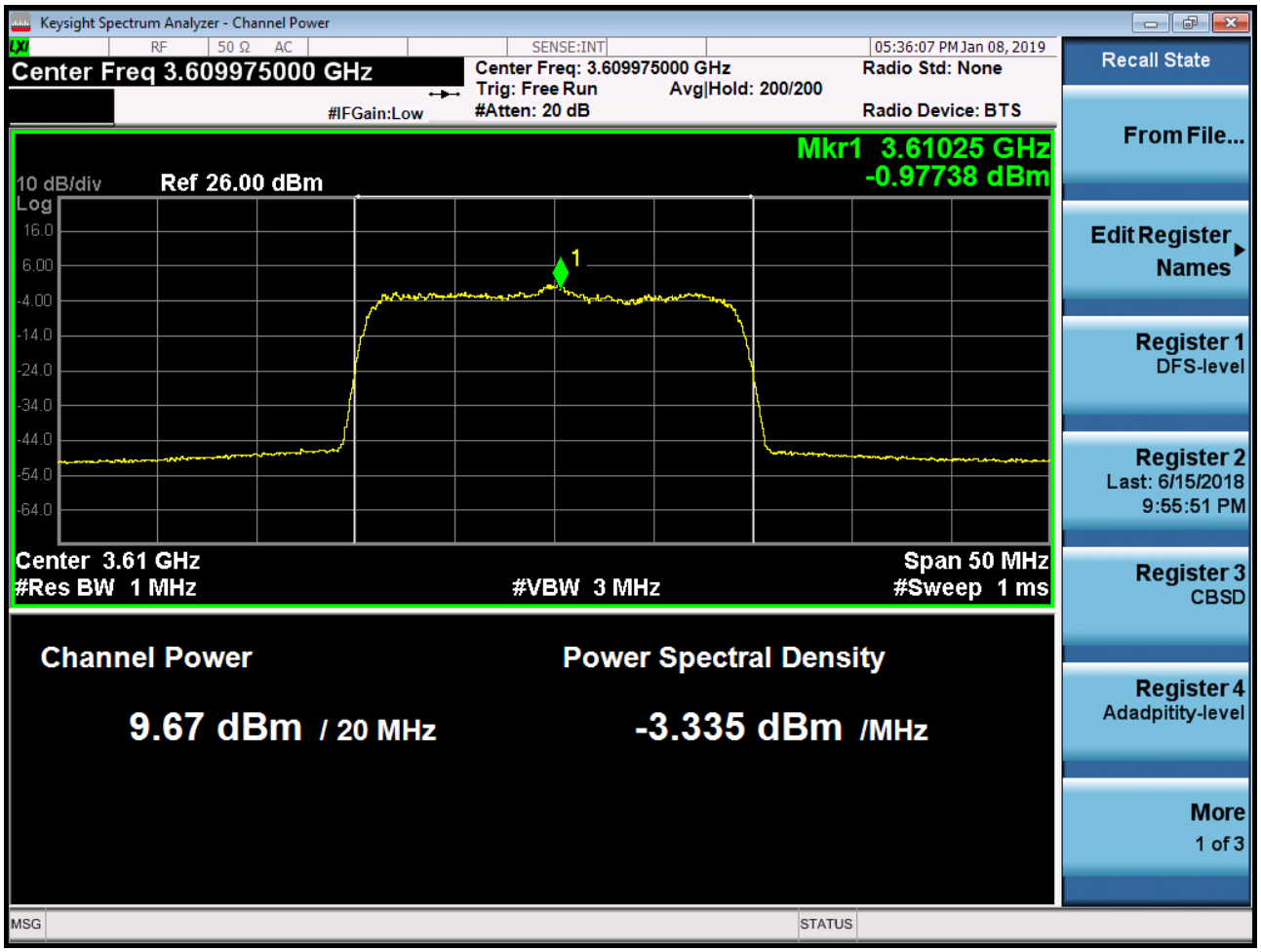
MaxEirp 14


Keysight Spectrum Analyzer - Channel Power
RF
50 Ω AC
SENSE:INT
05:42:32 PM Jan 08, 2019
Center Freq 3.609975000 GHz
Center Freq: 3.609975000 GHz
Trig: Free Run
Avg|Hold: 200/200
#IFGain:Low
#Atten: 20 dB
Radio Std: None
Radio Device: BTS
Mkr1 3.61025 GHz
-2.8326 dBm
10 dB/div
Log
Ref 26.00 dBm
16.0
6.00
-4.00
-14.0
-24.0
-34.0
-44.0
-54.0
-64.0
Center 3.61 GHz
#Res BW 1 MHz
#VBW 3 MHz
Span 50 MHz
#Sweep 1 ms
Channel Power
7.35 dBm / 20 MHz
Power Spectral Density
-5.662 dBm /MHz
MSG
STATUS
Recall State
From File...
Edit Register Names
Register 1
DFS-level
Register 2
Last: 6/15/2018
9:55:51 PM
Register 3
CBSD
Register 4
Adadpitity-level
More
1 of 3

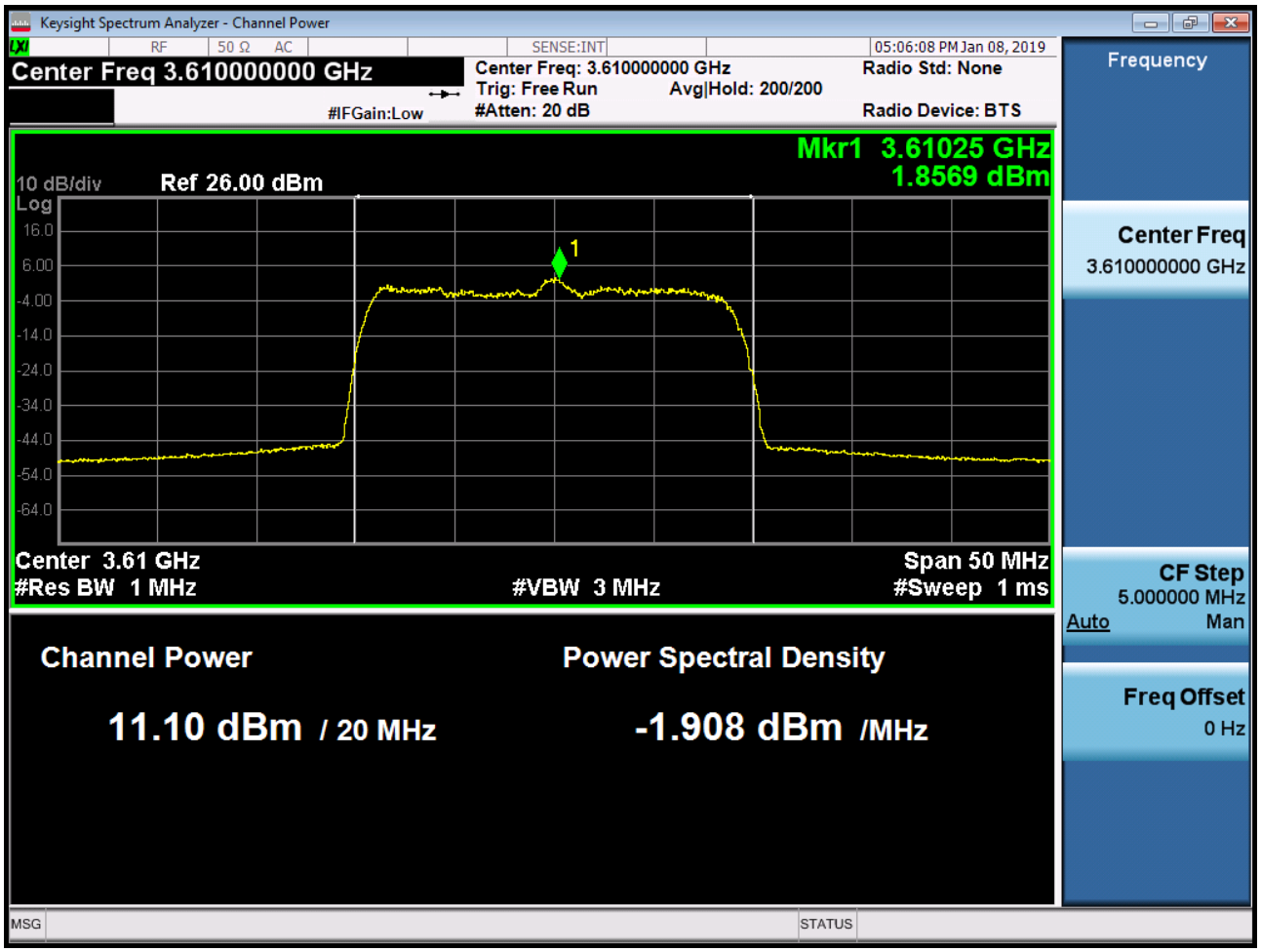
MaxEirp 15


Keysight Spectrum Analyzer - Channel Power
RF
50 Ω AC
SENSE:INT
05:39:53 PM Jan 08, 2019
Center Freq 3.609975000 GHz
Center Freq: 3.609975000 GHz
Trig: Free Run
Avg|Hold: 200/200
#IFGain:Low
#Atten: 20 dB
Radio Std: None
Radio Device: BTS
Mkr1 3.61025 GHz
-1.9099 dBm
10 dB/div
Log
Ref 26.00 dBm
16.0
6.00
-4.00
-14.0
-24.0
-34.0
-44.0
-54.0
-64.0
Center 3.61 GHz
#Res BW 1 MHz
#VBW 3 MHz
Span 50 MHz
#Sweep 1 ms
Channel Power
8.48 dBm / 20 MHz
Power Spectral Density
-4.528 dBm /MHz
MSG
STATUS
Recall State
From File...
Edit Register Names
Register 1
DFS-level
Register 2
Last: 6/15/2018
9:55:51 PM
Register 3
CBSD
Register 4
Adadpitity-level
More
1 of 3

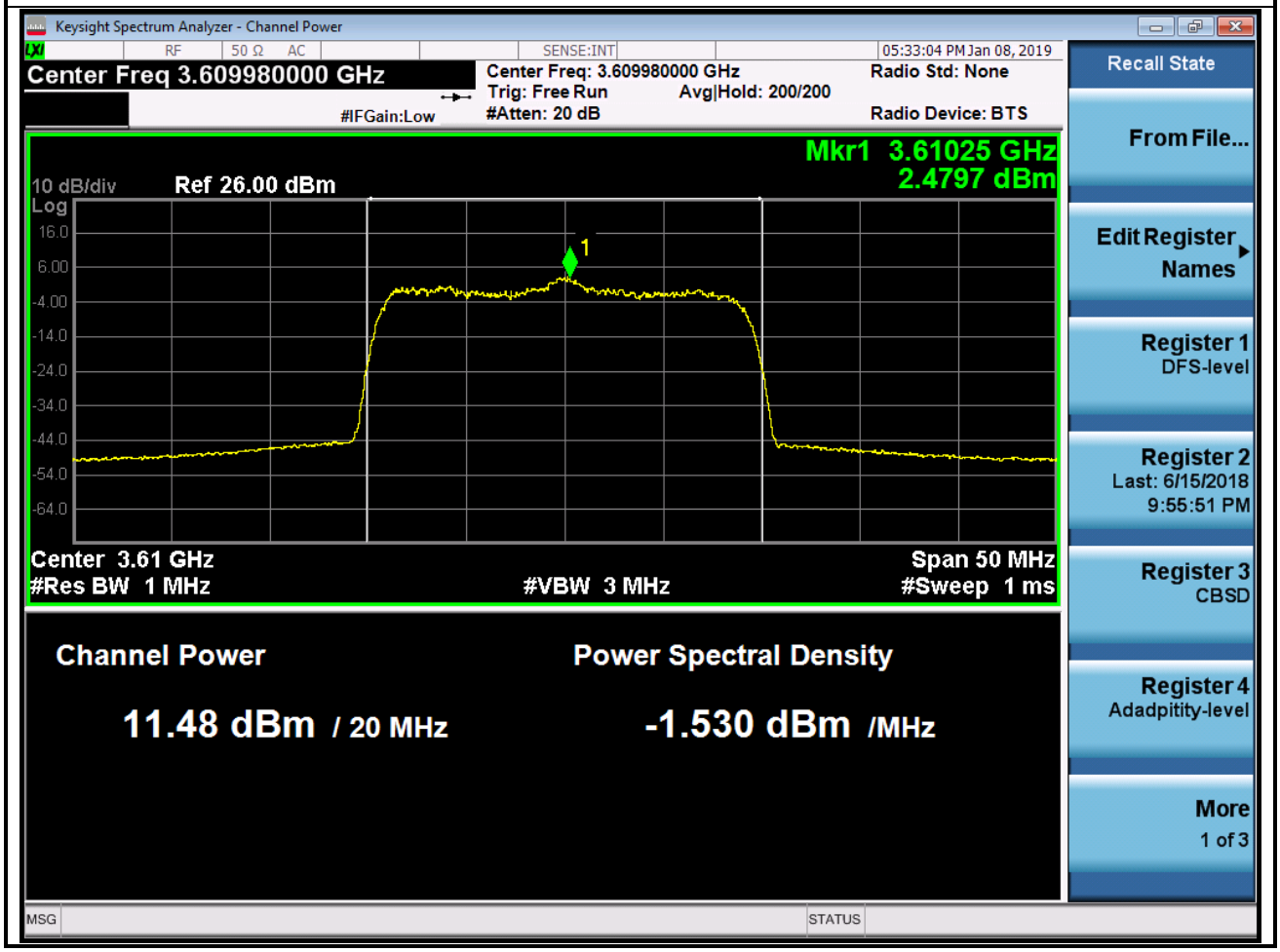
MaxEirp 16


Keysight Spectrum Analyzer - Channel Power
RF
50 Ω AC
SENSE:INT
05:36:07 PM Jan 08, 2019
Center Freq 3.609975000 GHz
Center Freq: 3.609975000 GHz
Trig: Free Run
Avg|Hold: 200/200
#IFGain:Low
#Atten: 20 dB
Radio Std: None
Radio Device: BTS
Mkr1 3.61025 GHz
-0.97738 dBm
10 dB/div
Log
Ref 26.00 dBm
16.0
6.00
-4.00
-14.0
-24.0
-34.0
-44.0
-54.0
-64.0
Center 3.61 GHz
#Res BW 1 MHz
#VBW 3 MHz
Span 50 MHz
#Sweep 1 ms
Channel Power
9.67 dBm / 20 MHz
Power Spectral Density
-3.335 dBm /MHz
MSG
STATUS
Recall State
From File...
Edit Register Names
Register 1
DFS-level
Register 2
Last: 6/15/2018
9:55:51 PM
Register 3
CBSD
Register 4
Adadpitity-level
More
1 of 3

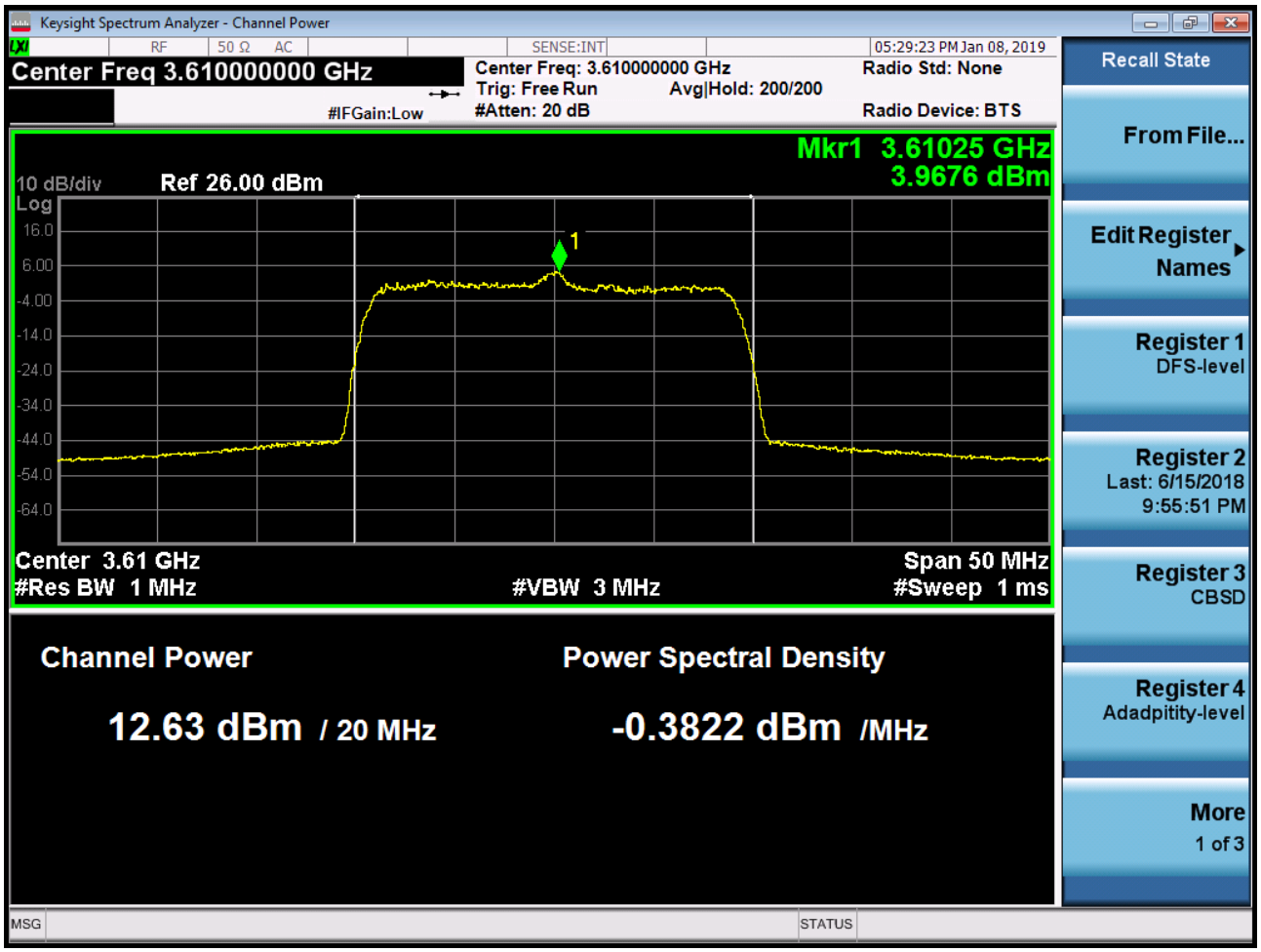
MaxEirp 17


Keysight Spectrum Analyzer - Channel Power
RF
50 Ω AC
SENSE:INT
05:06:08 PM Jan 08, 2019
Center Freq 3.610000000 GHz
Center Freq: 3.610000000 GHz
Trig: Free Run
Avg|Hold: 200/200
#IFGain:Low
#Atten: 20 dB
Radio Std: None
Radio Device: BTS
Frequency
Mkr1 3.61025 GHz
1.8569 dBm
10 dB/div
Log
Ref 26.00 dBm
16.0
6.00
-4.00
-14.0
-24.0
-34.0
-44.0
-54.0
-64.0
1
Center Freq
3.610000000 GHz
Center 3.61 GHz
#Res BW 1 MHz
#VBW 3 MHz
Span 50 MHz
#Sweep 1 ms
CF Step
5.000000 MHz
Auto
Man
Channel Power
11.10 dBm / 20 MHz
Power Spectral Density
-1.908 dBm /MHz
Freq Offset
0 Hz
MSG
STATUS

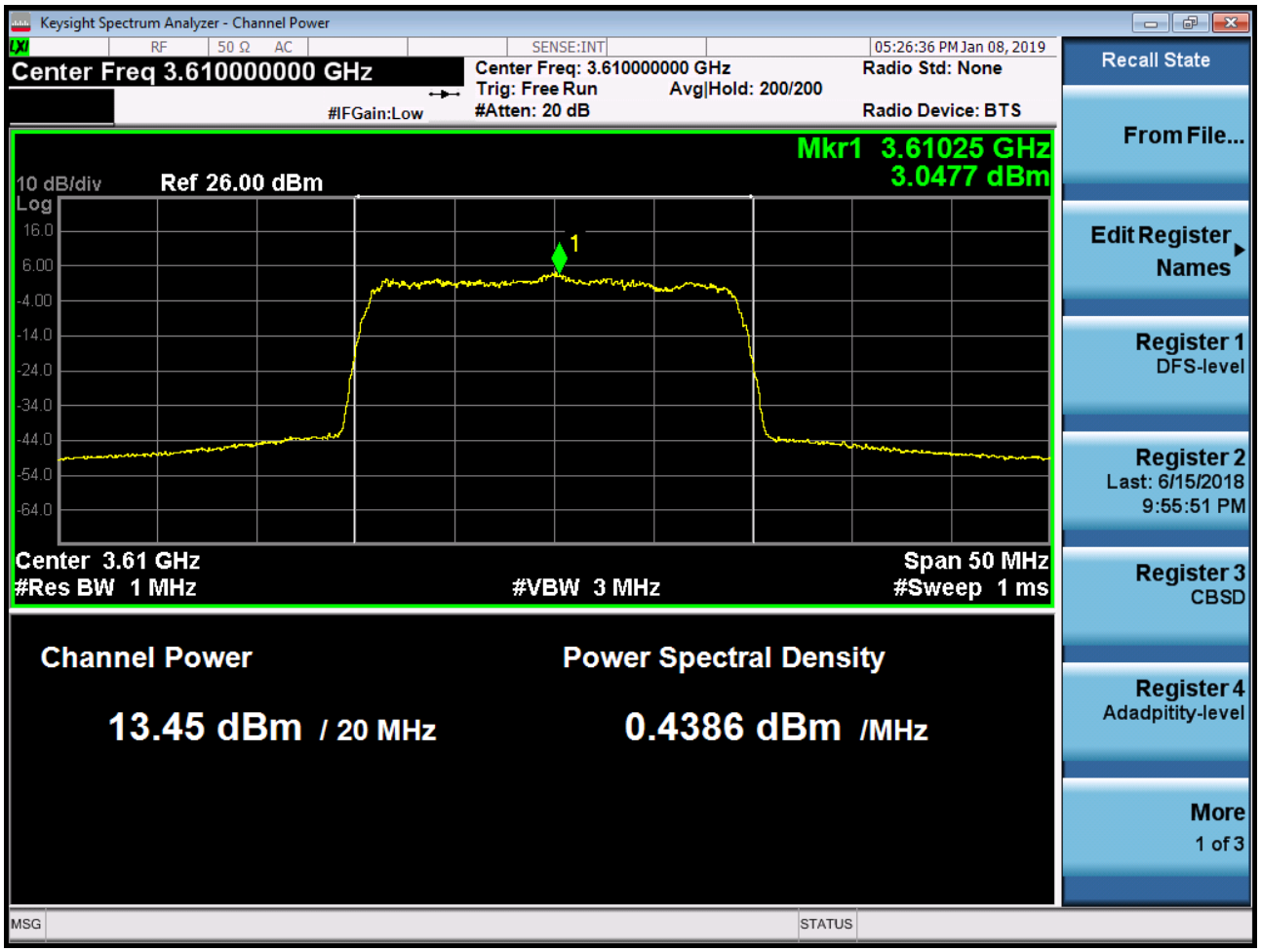
MaxEirp 18


Keysight Spectrum Analyzer - Channel Power
RF
50 Ω AC
SENSE:INT
05:33:04 PM Jan 08, 2019
Center Freq 3.609980000 GHz
Center Freq: 3.609980000 GHz
Trig: Free Run
Avg|Hold: 200/200
#IFGain:Low
#Atten: 20 dB
Radio Std: None
Radio Device: BTS
Mkr1 3.61025 GHz
2.4797 dBm
10 dB/div
Ref 26.00 dBm
Log
16.0
6.00
-4.00
-14.0
-24.0
-34.0
-44.0
-54.0
-64.0
1
Center 3.61 GHz
#Res BW 1 MHz
#VBW 3 MHz
Span 50 MHz
#Sweep 1 ms
Channel Power
11.48 dBm / 20 MHz
Power Spectral Density
-1.530 dBm /MHz
MSG
STATUS
Recall State
From File...
Edit Register Names
Register 1
DFS-level
Register 2
Last: 6/15/2018
9:55:51 PM
Register 3
CBSD
Register 4
Adadpitity-level
More
1 of 3

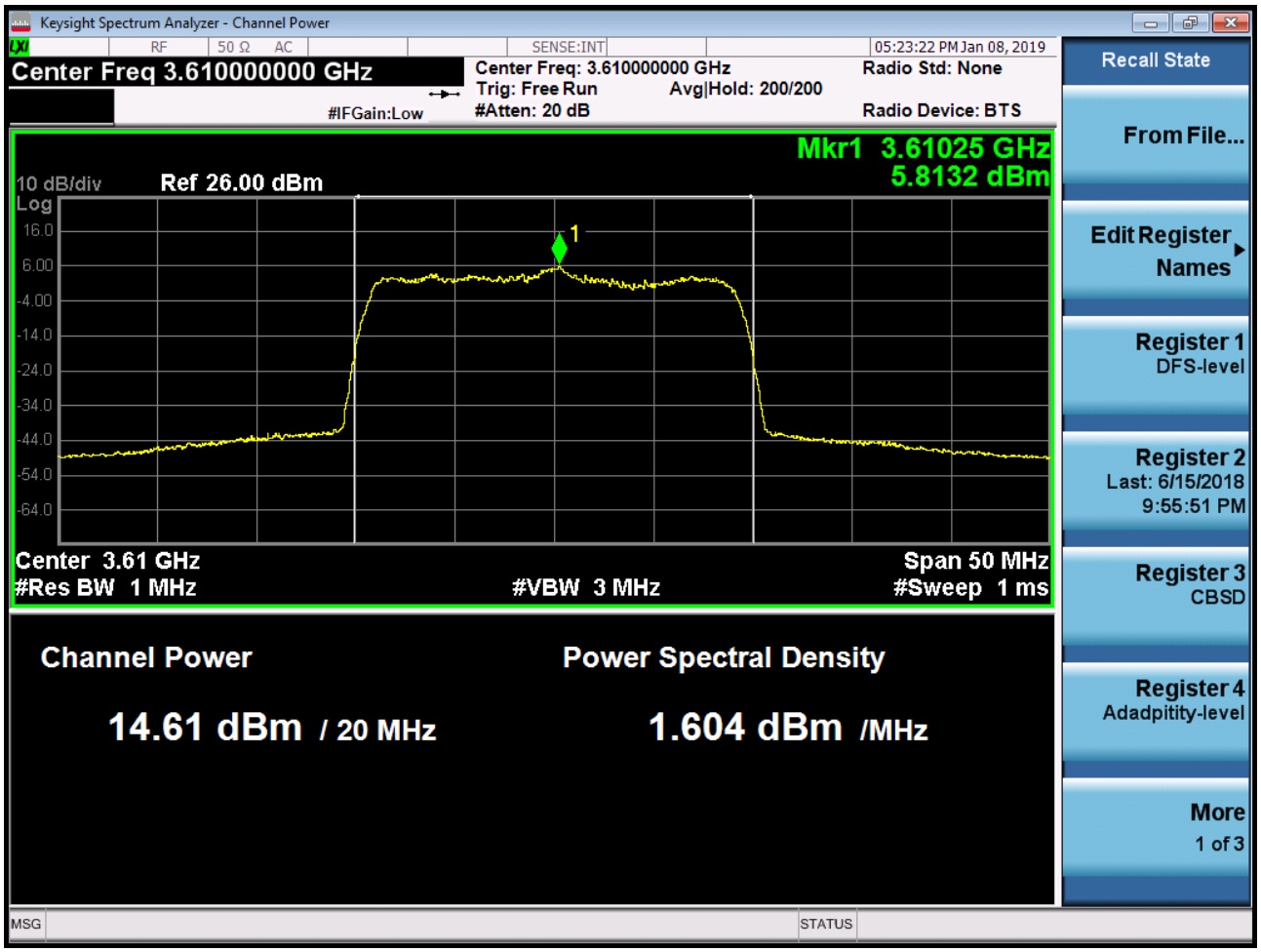
MaxEirp 19


Keysight Spectrum Analyzer - Channel Power
RF
50 Ω AC
SENSE:INT
05:29:23 PM Jan 08, 2019
Center Freq 3.610000000 GHz
Center Freq: 3.610000000 GHz
Trig: Free Run
Avg|Hold: 200/200
#IFGain:Low
#Atten: 20 dB
Radio Std: None
Radio Device: BTS
Mkr1 3.61025 GHz
3.9676 dBm
10 dB/div
Log
Ref 26.00 dBm
16.0
6.00
-4.00
-14.0
-24.0
-34.0
-44.0
-54.0
-64.0
Center 3.61 GHz
#Res BW 1 MHz
#VBW 3 MHz
Span 50 MHz
#Sweep 1 ms
Channel Power
12.63 dBm / 20 MHz
Power Spectral Density
-0.3822 dBm /MHz
Recall State
From File...
Edit Register Names
Register 1
DFS-level
Register 2
Last: 6/15/2018
9:55:51 PM
Register 3
CBSD
Register 4
Adadpitity-level
More
1 of 3
MSG
STATUS

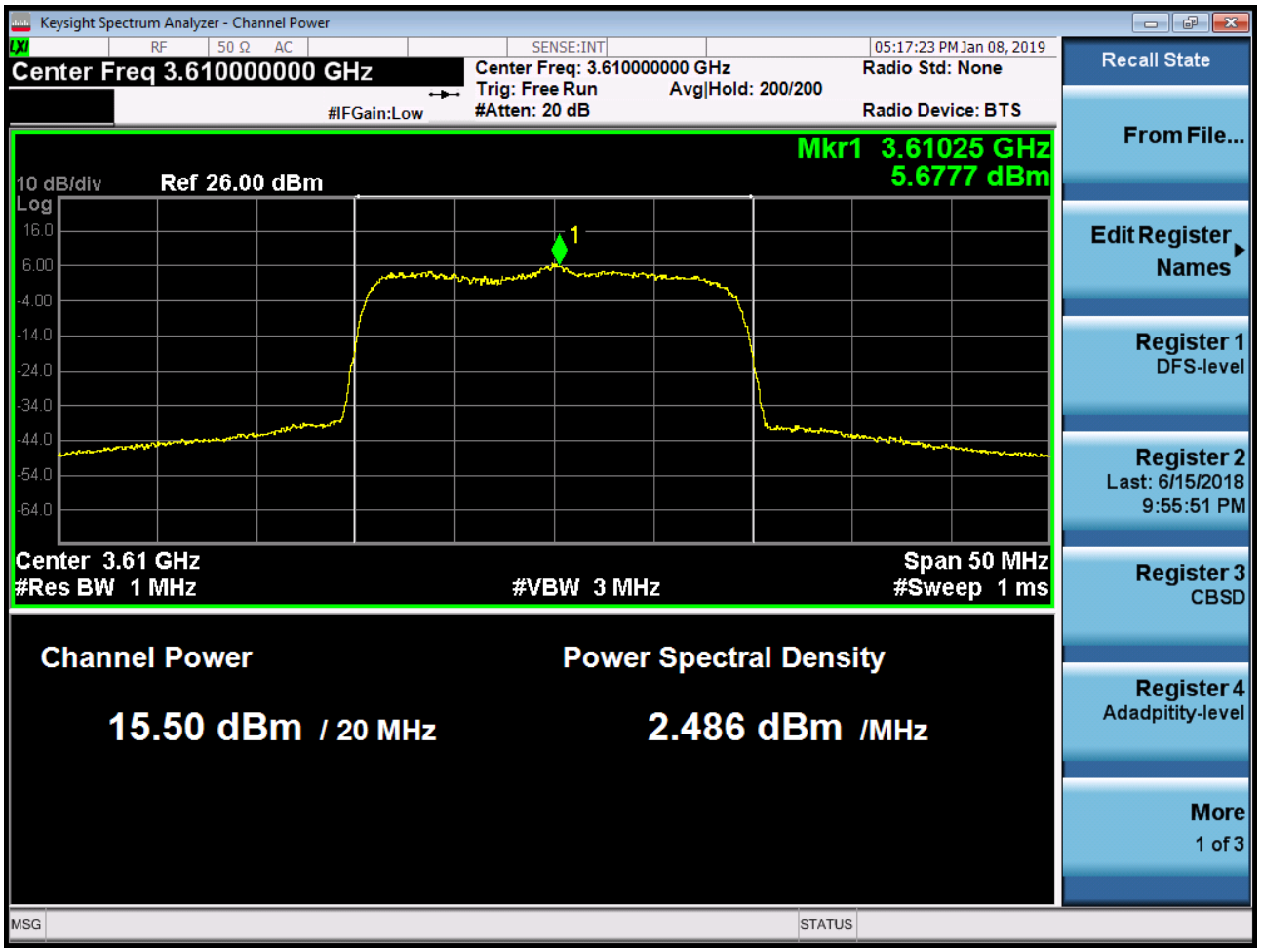
MaxEirp 20


Keysight Spectrum Analyzer - Channel Power
RF
50 Ω AC
SENSE:INT
05:26:36 PM Jan 08, 2019
Center Freq 3.610000000 GHz
Center Freq: 3.610000000 GHz
Trig: Free Run
Avg|Hold: 200/200
#IFGain:Low
#Atten: 20 dB
Radio Std: None
Radio Device: BTS
Mkr1 3.61025 GHz
3.0477 dBm
10 dB/div
Log
Ref 26.00 dBm
16.0
6.00
-4.00
-14.0
-24.0
-34.0
-44.0
-54.0
-64.0
Center 3.61 GHz
#Res BW 1 MHz
#VBW 3 MHz
Span 50 MHz
#Sweep 1 ms
Channel Power
13.45 dBm / 20 MHz
Power Spectral Density
0.4386 dBm /MHz
MSG
STATUS
Recall State
From File...
Edit Register Names
Register 1
DFS-level
Register 2
Last: 6/15/2018
9:55:51 PM
Register 3
CBSD
Register 4
Adadpitity-level
More
1 of 3

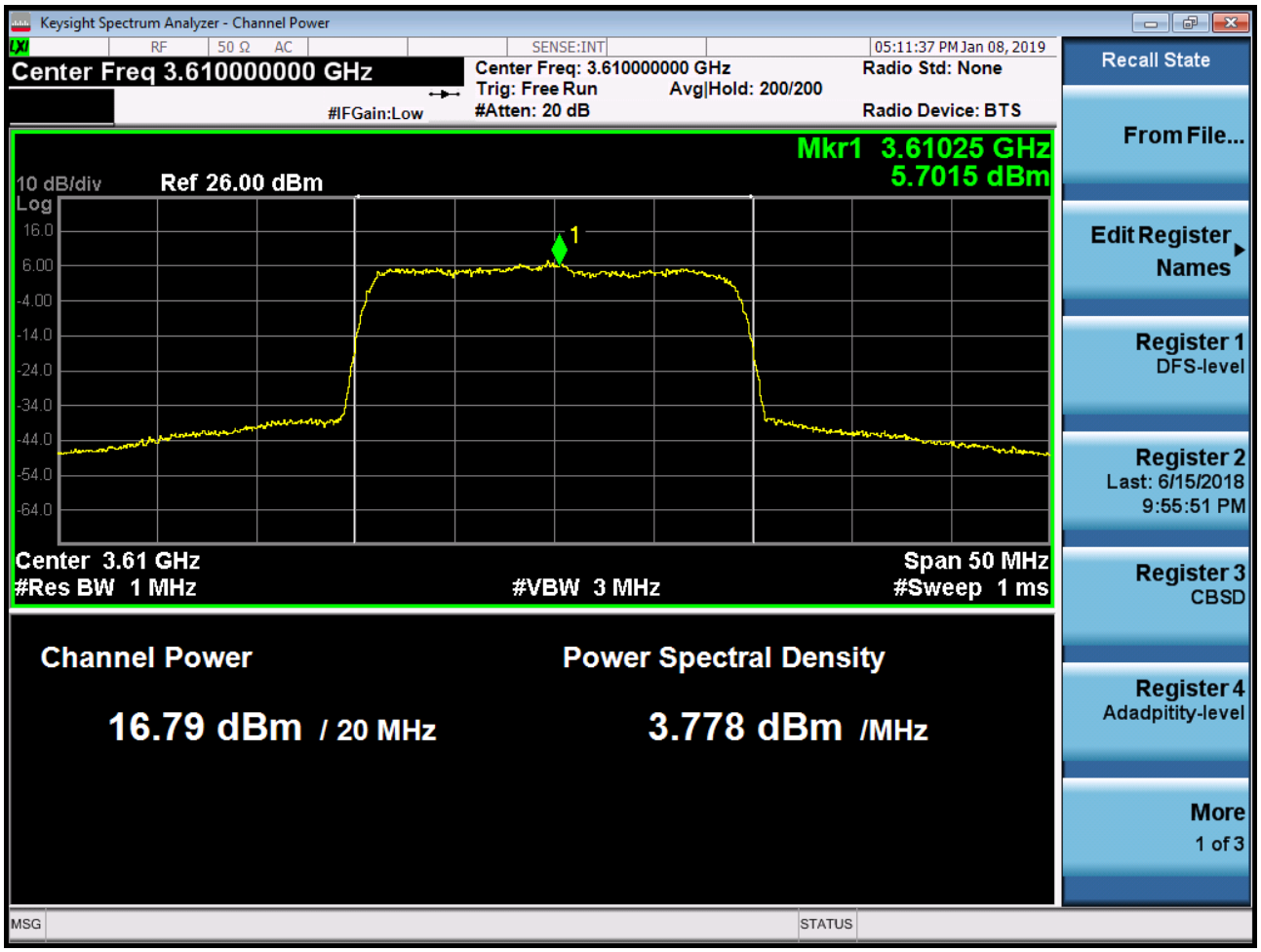
MaxEirp 21


Keysight Spectrum Analyzer - Channel Power
RF
50 Ω AC
SENSE:INT
05:23:22 PM Jan 08, 2019
Center Freq 3.610000000 GHz
Center Freq: 3.610000000 GHz
Trig: Free Run
Avg|Hold: 200/200
#IFGain:Low
#Atten: 20 dB
Radio Std: None
Radio Device: BTS
Mkr1 3.61025 GHz
5.8132 dBm
10 dB/div
Log
Ref 26.00 dBm
16.0
6.00
-4.00
-14.0
-24.0
-34.0
-44.0
-54.0
-64.0
Center 3.61 GHz
#Res BW 1 MHz
#VBW 3 MHz
Span 50 MHz
#Sweep 1 ms
Channel Power
14.61 dBm / 20 MHz
Power Spectral Density
1.604 dBm /MHz
MSG
STATUS
Recall State
From File...
Edit Register Names
Register 1
DFS-level
Register 2
Last: 6/15/2018
9:55:51 PM
Register 3
CBSD
Register 4
Adadpitity-level
More
1 of 3

MaxEirp 22


Keysight Spectrum Analyzer - Channel Power
RF
50 Ω AC
SENSE:INT
05:17:23 PM Jan 08, 2019
Center Freq 3.610000000 GHz
Center Freq: 3.610000000 GHz
Trig: Free Run
Avg|Hold: 200/200
#IFGain:Low
#Atten: 20 dB
Radio Std: None
Radio Device: BTS
Mkr1 3.61025 GHz
5.6777 dBm
10 dB/div
Log
Ref 26.00 dBm
16.0
6.00
-4.00
-14.0
-24.0
-34.0
-44.0
-54.0
-64.0
Center 3.61 GHz
#Res BW 1 MHz
#VBW 3 MHz
Span 50 MHz
#Sweep 1 ms
Channel Power
15.50 dBm / 20 MHz
Power Spectral Density
2.486 dBm /MHz
MSG
STATUS
Recall State
From File...
Edit Register Names
Register 1
DFS-level
Register 2
Last: 6/15/2018
9:55:51 PM
Register 3
CBSD
Register 4
Adadpitity-level
More
1 of 3

MaxEirp 23



-END OF TEST REPORT-