



Test report

REP174802-3TRFWL

Date of issue: October 2, 2026

Applicant:

Airspan Networks Inc.

Product:

Remote Unit

Model:

N3RU-36

FCC ID:

OJFE62-N3-36

Variant(s):

None

Specifications:



WINNT-TS-0122 V1.0.2

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

Nemko San Diego, a testing laboratory, is an authorized test lab (ATL) by the CBRS Alliance for standard WINNT-TS-0122.

Lab and test locations

Company name	Nemko USA Inc.
Address	2210 Faraday Ave, Suite 150
City	Carlsbad
State	California
Postal code	92008
Country	USA
Telephone	+1 760 444 3500
Website	www.nemko.com
FCC Site Number	Test Firm Registration Number: 392943; Designation Number: US5058
ISED Test Site	2040B-3
Tested by	Ka Poon, Wireless Test Engineer
Reviewed by	James Cunningham, EMC/WL Manager
Review date	October 2, 2026
Reviewer signature	James.Cunningham Digitally signed by James.Cunningham DN: cn=James.Cunningham, email=James.Cunningham@nemko.com Reason: I am approving this document Date: 2026.10.02 11:46:21 -07'00'

Limits of responsibility

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

This test report has been completed in accordance with the requirements of ISO/IEC 17025. All results contain in this report are within Nemko USA's ISO/IEC 17025 accreditation.

This test report has been completed in accordance with the requirements of WINNF-TS-0122 [Test and Certification for Citizens Broadband Radio Service (CBRS); Conformance and Performance Test Technical Specification; CBSD/DP as Unit Under Test (UUT)] . Nemko San Diego has successfully completed the requirements to become a WinnForum CBRS Approved Lab and a CBRS Alliance Authorized Test Lab: <https://cbrs.wirelessinnovation.org/cbsd-certification-program>

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Section 1 Report summary

1.1 Test specifications

WINNF-TS-0122 V1.0.2

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

1.2 Scope

This report documents the CBRS SAS testing of the Airspan Domain Proxy.

1.3 Statement of compliance

Testing was performed against all relevant requirements of the test standard(s).

Results obtained indicate that the product under test complies in full with the tested requirements.

The test results relate only to the item(s) tested.

See “Section 2 Summary of test results” for full details.

1.4 Test report revision history

Table 1.4-1: Test report revision history

Revision #	Issue Date	Details of changes made to test report
REP174802-3TRFWL	October 2, 2026	Original report issued

Section 2 Summary of test results

2.1 Sample information

Receipt date	07-Jun-26
Nemko project number	PRJ0100171

2.2 Testing period

Test start date	06-Jun-26
Test end date	06-July-26

2.3 Test results

Per customer declaration, the UUT supports the following features:

Table 2.3-1: Supported features

Feature	Supported
CBSD	
Domain Proxy	x
Single-step registration without CPI-signed data in registration message	x
Single-step registration with CPI-signed data in registration message	x
Multi-step registration	
UUT supports RECEIVED_POWER_WITHOUT_GRANT measurement report type	
UUT supports RECEIVED_POWER_WITH_GRANT measurement report type	
UUT supports parameter change being made at the UUT prior to sending a deregistration	

Table 2.3-2: Test applicability and verdicts

Section	Test case ID	Test case title	Applicable	Verdict
6.1.4.1.1	WINNF.FT.C.REG.1	Multi-Step registration	N/A	N/A
6.1.4.1.2	WINNF.FT.D.REG.2	Domain Proxy Multi-Step registration	N/A	N/A
6.1.4.1.3	WINNF.FT.C.REG.3	Single-Step registration for Category A CBSD	N/A	N/A
6.1.4.1.4	WINNF.FT.D.REG.4_waiver	Domain Proxy Single-Step registration for Cat A CBSD	M	PASS
6.1.4.1.5	WINNF.FT.C.REG.5	Single-Step registration for CBSD with CPI signed data	N/A	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	N/A
6.1.4.1.7	WINNF.FT.C.REG.7	Registration due to change of an installation parameter	N/A	N/A
6.1.4.2.1	WINNF.FT.C.REG.8	Missing Required parameters (responseCode 102)	N/A	N/A
6.1.4.2.2	WINNF.FT.D.REG.9	Domain Proxy Missing Required parameters (responseCode 102)	M	PASS
6.1.4.2.3	WINNF.FT.C.REG.10	Pending registration (responseCode 200)	N/A	N/A
6.1.4.2.4	WINNF.FT.D.REG.11	Domain Proxy Pending registration (responseCode 200)	M	PASS
6.1.4.2.5	WINNF.FT.C.REG.12	Invalid parameter (responseCode 103)	N/A	N/A
6.1.4.2.6	WINNF.FT.D.REG.13	Domain Proxy Invalid parameters (responseCode 103)	M	PASS
6.1.4.2.7	WINNF.FT.C.REG.14	Blacklisted CBSD (responseCode 101)	N/A	N/A
6.1.4.2.8	WINNF.FT.D.REG.15	Domain Proxy Blacklisted CBSD (responseCode 101)	M	PASS
6.1.4.2.9	WINNF.FT.C.REG.16	Unsupported SAS protocol version (responseCode 100)	N/A	N/A
6.1.4.2.10	WINNF.FT.D.REG.17	Domain Proxy Unsupported SAS protocol version responseCode 100)	M	PASS
6.1.4.2.11	WINNF.FT.C.REG.18	Group Error (responseCode 201)	N/A	N/A
6.1.4.2.12	WINNF.FT.D.REG.19	Domain Proxy Group Error (responseCode 201)	M	PASS
6.1.4.3.1	WINNF.FT.C.REG.20	Category A CBSD location update	M	PASS
6.3.4.2.1	WINNF.FT.D.GRA.1	Unsuccessful Grant responseCode=400 (INTERFERENCE	M	PASS
6.3.4.2.2	WINNF.FT.C.GRA.2	Unsuccessful Grant responseCode=401	M	PASS
6.4.4.1.1	WINNF.FT.C.HBT.1	Heartbeat Success Case (first Heartbeat Response)	N/A	N/A
6.4.4.1.2	WINNF.FT.D.HBT.2	Domain Proxy Heartbeat Success Case (first Heartbeat Response)	M	PASS
6.4.4.2.1	WINNF.FT.C.HBT.3	Heartbeat responseCode=105 (DEREGISTER)	M	PASS
6.4.4.2.2	WINNF.FT.C.HBT.4	Heartbeat responseCode=500 (TERMINATED_GRANT)	N/A	N/A
6.4.4.2.3	WINNF.FT.C.HBT.5	Heartbeat responseCode=501 (SUSPENDED_GRANT) in First Heartbeat Response	M	PASS
6.4.4.2.4	WINNF.FT.C.HBT.6	Heartbeat responseCode=501 (SUSPENDED_GRANT) in Subsequent Heartbeat Response	M	PASS
6.4.4.2.5	WINNF.FT.C.HBT.7	Heartbeat responseCode=502 (UNSYNC_OP_PARAM)	M	PASS
6.4.4.2.6	WINNF.FT.D.HBT.8	Domain Proxy Heartbeat responseCode=500 (TERMINATED_GRANT)	M	PASS
6.4.4.3.1	WINNF.FT.C.HBT.9	Heartbeat Response Absent (First Heartbeat)	M	PASS
6.4.4.3.2	WINNF.FT.C.HBT.10	Heartbeat Response Absent (Subsequent Heartbeat)	M	PASS
6.4.4.4.1	WINNF.FT.C.HBT.11	Successful Grant Renewal in Heartbeat Test Case	O	Not tested
6.5.4.2.1	WINNF.FT.C.MES.1	Registration Response contains measReportConfig	N/A	N/A
6.5.4.2.2	WINNF.FT.D.MES.2	Domain Proxy Registration Response contains measReportConfig	N/A	N/A
6.5.4.2.3	WINNF.FT.C.MES.3	Grant Response contains measReportConfig	N/A	N/A
6.5.4.2.4	WINNF.FT.C.MES.4	Heartbeat Response contains measReportConfig	N/A	N/A
6.5.4.2.5	WINNF.FT.D.MES.5	Domain Proxy Heartbeat Response contains measReportConfig	N/A	N/A
6.6.4.1.1	WINNF.FT.C.RLQ.1	Successful Relinquishment	N/A	N/A
6.6.4.1.2	WINNF.FT.D.RLQ.2	Domain Proxy Successful Relinquishment	M	PASS
6.6.4.2.1	WINNF.FT.C.RLQ.3	Unsuccessful Relinquishment, responseCode=102	N/A	N/A
6.6.4.2.2	WINNF.FT.D.RLQ.4	Domain Proxy Unsuccessful Relinquishment, responseCode=102	O	Not tested
6.6.4.3.1	WINNF.FT.C.RLQ.5	Unsuccessful Relinquishment, responseCode=103	N/A	N/A
6.6.4.3.2	WINNF.FT.D.RLQ.6	Domain Proxy Unsuccessful Relinquishment, responseCode=103	O	Not tested
6.7.4.1.1	WINNF.FT.C.DRG.1	Successful Deregistration	N/A	N/A
6.7.4.1.2	WINNF.FT.D.DRG.2	Domain Proxy Successful Deregistration	M	PASS
6.7.4.2.1	WINNF.FT.C.DRG.3	Deregistration responseCode=102	N/A	N/A
6.7.4.2.2	WINNF.FT.D.DRG.4	Domain Proxy Deregistration responseCode=102	O	Not tested
6.7.4.3.1	WINNF.FT.C.DRG.5	Deregistration responseCode=103	O	Not tested
6.6.4.3.2	WINNF.FT.D.RLQ.6	Domain Proxy Unsuccessful Relinquishment, responseCode=103	O	Not tested
6.8.4.1.1	WINNF.FT.C.SCS.1	Successful TLS connection between UUT and SAS Test Harness	M	PASS
6.8.4.2.1	WINNF.FT.C.SCS.2	TLS failure due to revoked certificate	M	PASS
6.8.4.2.2	WINNF.FT.C.SCS.3	TLS failure due to expired server certificate	M	PASS
6.8.4.2.3	WINNF.FT.C.SCS.4	TLS failure when SAS Test Harness certificate is issue by unknown CA	M	PASS
6.8.4.2.4	WINNF.FT.C.SCS.5	TLS failure when certificate at the SAS Test Harness is corrupted	M	PASS
7.1.4.1.1	WINNF.FT.C.HBT	UUT RF Transmit Power Measurement	M	PASS

Section 3 Equipment under test (EUT) details

3.1 Disclaimer

This section contains information provided by the applicant and has been utilized to support the test plan. Inaccurate information provided by the applicant can affect the validity of the results within this test report. Nemko accepts no responsibility for the information contained within this section and the impact it may have on the test plan and resulting measurements.

3.2 Applicant

Company name	Airspan Networks Inc.
Address	6652 Pinecrest Drive, Suite 200
City	Plano
State	TX
Postal/Zip code	75024
Country	USA

3.3 Manufacturer

Company name	Airspan Networks Inc.
Address	6652 Pinecrest Drive, Suite 200
City	Plano
State	TX
Postal/Zip code	75024
Country	USA

3.4 EUT information

Product name	Remote Unit
Model	N3RU-36
Variant(s)	None
FCC ID:	OJFE62-N3-36
Serial number	N/A
Software details	N/A
Hardware details	N/A

3.5 Technical information

Frequency band	CBRS band: 3550 – 3700 MHz
Modulation type(s)	4G LTE, 5G NR
Bandwidth(s) (MHz)	10, 20, 40, 60, 80, 100
Power requirements	48 VDC; Maximum Power Consumption 85 W

3.6 Product description and theory of operation

The UUT is a Domain Proxy.

3.7 UUT exercise details

All testing was performed with WinnForum SAS test harness version 1.0.0.3.

3.8 EUT setup details

Table 3.8-1: EUT sub assemblies

Description	Brand name	Model/Part number	Serial number	Rev.
None	N/A	N/A	N/A	N/A

Table 3.8-2: EUT interface ports

Description	Qty.
DC Power	1
Fiber	2
Ethernet (Service Port)	1

Table 3.8-3: Support equipment

Description	Brand name	Model/Part number	Serial number	Rev.
DC Power Supply	Hewlett Packard	6554A	N/A	--
Mobile Edge 1000	DELL EMC	E73S	N/A	--
A3 Access Unit	Airspan	E62-A3	3626180099	--
Laptop	Hewlett Packard	EliteBook	N/A	--
Ethernet Switch, 6-Port 2.5G	NICGIGA	S25-0402-N	202604000625	--
PoE, Single Port	PHIHONG	POE36U-1AT-R	N/A	--
External Antenna, GNSS	Microchip	IGM-1100x	SJC204700050	--

Table 3.8-4: Inter-connection cables

Cable description	From	To	Length (m)
Ethernet, RJ45	Laptop	Ethernet Switch, 6-Port 2.5G	2
Ethernet, RJ45	Mobile Edge 1000	Ethernet Switch, 6-Port 2.5G	2
Ethernet, RJ45	A3 Access Unit	Ethernet Switch, 6-Port 2.5G	2
Ethernet, RJ45	External Antenna, GNSS	PoE, Single Port	30
Ethernet, RJ45	PoE, Single Port	Mobile Edge 1000	2
Fiber	Mobile Edge 1000	A3 Access Unit	9
Fiber	A3 Access Unit	EUT	9
DC Power	DC Power Supply	EUT	2

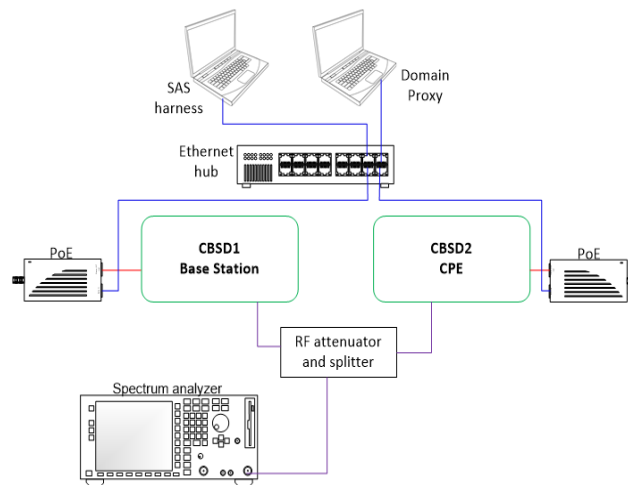


Figure 3.8-1: Test setup diagram

Section 4 Engineering considerations

4.1 Modifications incorporated in the EUT

None.

4.2 Technical judgement

None.

4.3 Deviations from laboratory test procedures

None.

Section 5 Test conditions

5.1 Atmospheric conditions

Temperature	15–30 °C
Relative humidity	20–75 %
Air pressure	86–106 kPa

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

5.2 Power supply range

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

Section 6 Measurement uncertainty

6.1 Uncertainty of measurement

Nemko USA Inc. has calculated measurement uncertainty and is documented in EMC/MUC/001 “Uncertainty in EMC measurements.” Measurement uncertainty was calculated using the methods described in CISPR 16-4-2 Specification for radio disturbance and immunity measuring apparatus and methods – Part 4-2: Uncertainties, statistics, and limit modelling – Measurement instrumentation uncertainty. The expression of Uncertainty in EMC testing. Measurement uncertainty calculations assume a coverage factor of $K=2$ with 95% certainty.

Table 6.1-1: Measurement uncertainty calculations

Measurement	Measurement uncertainty (dB)
All antenna port measurements	0.55

- Notes: Compliance assessment:
- compliance is deemed to occur if no measured disturbance level exceeds the relevant limit;
 - non-compliance is deemed to occur if any measured disturbance level exceeds the relevant limit

Section 7 Test equipment

7.1 Test equipment list

Table 7.1-1: Test equipment list

Equipment	Manufacturer	Model no.	Asset no.	Cal cycle	Next cal.
Spectrum Analyzer	Rohde & Schwarz	FSP 7	E1017	1 year	01-29-2027
SAS Test Harness Test Bed Computer	DELL	Latitude E7470	IT2303	NCR	N/A
Splitter	Mini Circuits	ZFRSC-123-S	E1215	VBU	Verified
30 dB Attenuator	Centric RF	C407-30	E1202	VBU	Verified
SAS Test Harness Software	WinnForum	1.0.0.3	N/A	NCR	N/A
Wireless Router	NETGEAR	R7800	N/A	NCR	N/A

Notes: N/A – not applicable
NCR – no calibration required
VOU – verify on use

Section 8 Testing data

8.1 6.1.4.1.6 [WINNF.FT.D.REG.4_waiver] Domain Proxy Single-Step registration for Cat A CBSD

8.1.1 Test date

Verdict	Pass
Test date	July 7, 2026

8.1.2 Observations, settings and special notes

None

8.1.3 Test data

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

8.2 6.1.4.2.2 [WINNF.FT.C.REG.9] Domain Proxy Missing Required parameters (responseCode 102)

8.2.1 Test date

Verdict	Pass
Test date	July 7, 2026

8.2.2 Observations, settings and special notes

None

8.2.3 Test data

#	Test Execution Steps	Pass	Fail
1	Ensure the following conditions are met for test entry: - UUT has successfully completed SAS Discovery and Authentication with SAS Test Harness - UUT is in the Unregistered state	-	-
2	The DP with two CBSDs sends a Registration request in the form of one 2-element Array or as individual messages to SAS Test Harness.	-	-
3	SAS Test Harness sends a CBSD Registration Response in the form of one 2-element Array or as individual messages as follows: - SAS response does not include a cbsdId. - responseCode = Ri for CBSD1 and CBSD2	-	-
4	After completion of step 3, SAS Test Harness will not provide any positive response (responseCode=0) to further request messages from the UUT.	-	-

5	Monitor the RF output of each UUT from start of test until 60 seconds after Step 3 is complete. This is the end of the test. Verify: UUT shall not transmit RF	☒	☐
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8.3 6.1.4.2.4 [WINNF.FT.D.REG.11] Domain Proxy Pending registration (responseCode 200)

8.3.1 Test date

Verdict	Pass
Test date	July 7, 2026

8.3.2 Observations, settings and special notes

None

8.3.3 Test data

#	Test Execution Steps	Pass	Fail
1	Ensure the following conditions are met for test entry: - UUT has successfully completed SAS Discovery and Authentication with SAS Test Harness - UUT is in the Unregistered state	—	—
2	The DP with two CBSDs sends a Registration request in the form of one 2-element Array or as individual messages to SAS Test Harness.	—	—
3	SAS Test Harness sends a CBSD Registration Response in the form of one 2-element Array or as individual messages as follows: - SAS response does not include a cbsdId. - responseCode (Ri) = 200 for CBSD1 and CBSD2	—	—
4	After completion of step 3, SAS Test Harness will not provide any positive response (responseCode=0) to further request messages from the UUT.	—	—
5	Monitor the RF output of each UUT from start of test until 60 seconds after Step 3 is complete. This is the end of the test. Verify: UUT shall not transmit RF	☒	☐

8.4 6.1.4.2.6 [WINNF.FT.D.REG.13] Domain Proxy Invalid parameters (responseCode 103)

8.4.1 Test date

Verdict	Pass
Test date	July 7, 2026

8.4.2 Observations, settings and special notes

None

8.4.3 Test data

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

8.5 6.1.4.2.8[WINNF.FT.D.REG.15] Domain Proxy Blacklisted CBSD (responseCode 101)

8.5.1 Test date

Verdict	Pass
Test date	July 7, 2026

8.5.2 Observations, settings and special notes

None

8.5.3 Test data

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

8.6 6.1.4.2.10 [WINNF.FT.D.REG.17] Domain Proxy Unsupported SAS protocol version responseCode 100)

8.6.1 Test date

Verdict	Pass
Test date	July 7, 2026

8.6.2 Observations, settings and special notes

None

8.6.3 Test data

#	Test Execution Steps	Pass	Fail
1	Ensure the following conditions are met for test entry: • UUT has successfully completed SAS Discovery and Authentication with SAS Test Harness • UUT is in the Unregistered state	–	–
2	The DP with two CBSDs sends a Registration request in the form of one 2-element Array or as individual messages to SAS Test Harness.	–	–
3	SAS Test Harness sends a CBSD Registration Response in the form of one 2-element Array or as individual messages as follows: • SAS response does not include a cbsdId. • responseCode (Ri) = 100 for CBSD1 and CBSD2	–	–
4	After completion of step 3, SAS Test Harness will not provide any positive response (responseCode=0) to further request messages from the UUT.	–	–
5	Monitor the RF output of each UUT from start of test until 60 seconds after Step 3 is complete. This is the end of the test. Verify: • UUT shall not transmit RF	☒	☐

8.7 6.1.4.2.12 [WINNF.FT.D.REG.19] Domain Proxy Group Error (responseCode 201)

8.7.1 Test date

Verdict	Pass
Test date	July 7, 2026

8.7.2 Observations, settings and special notes

None

8.7.3 Test data

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

8.8 6.1.4.3.1 [WINNT.FT.C.REG.20] Category A CBSD Location Update

8.8.1 Test date

Verdict	Pass
Test date	July 8, 2026

8.8.2 Observations, settings and special notes

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.

The test case ID is provided as a means to ensure that evidence is provided showing compliance to this requirement

8.8.3 Test data

The test was performed using the power measurement script defined in WINNF.PT.C.HBT.1. The CBSD was successfully registered with the test harness, and a heartbeat exchange was completed resulting in authorization for transmission. The CBSD location parameters (latitude and longitude) were subsequently modified to simulate a change in the registered operating location.

Following the location update, the CBSD initiated a deregistration procedure and performed a system reboot. Upon restart, the CBSD initiated a new registration procedure and successfully submitted a Registration Request containing the updated latitude and longitude parameters.

8.9 6.3.4.2.1 [WINNF.FT.C.GRA.1] Unsuccessful Grant responseCode=400 (INTERFERENCE)

8.9.1 Test date

Verdict	Pass
Test date	July 8, 2026

8.9.2 Observations, settings and special notes

None

8.9.3 Test data

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

8.10 6.3.4.2.2 [WINNF.FT.C.GRA.2] Unsuccessful Grant responseCode=401 (GRANT_CONFLICT)

8.10.1 Test date

Verdict	Pass
Test date	July 8, 2026

8.10.2 Observations, settings and special notes

None

8.10.3 Test data

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

8.11 6.4.4.1.2 [WINNF.FT.D.HBT.2] Domain Proxy Heartbeat Success Case (first Heartbeat Response)

8.11.1 Test date

Verdict	Pass
Test date	July 7, 2026

8.11.2 Observations, settings and special notes

None

8.11.3 Test data

Step	Test Execution Steps	Pass	Fail
1	Ensure the following conditions are met for test entry: DP has two CBSD registered successfully with SAS Test Harness, with cbsdId = Ci, i={1,2}	–	–
2	DP sends a message: - If message is a Spectrum Inquiry Request, go to step 3 - If message is a Grant Request, go to step 5	–	–
3	DP sends a Spectrum Inquiry Request message for each CBSD. This may occur in a separate message per CBSD, or together in a single message with array of 2. Verify Spectrum Inquiry Request message is formatted correctly for each CBSD, including for CBSDi, i={1,2}: - cbsdId = Ci - List of frequencyRange objects sent by DP are within the CBRs frequency range	☒	☐
4	If a separate Spectrum Inquiry Request message was sent for each CBSD, the SAS Test Harness shall respond to each Spectrum Inquiry Request message with a separate Spectrum Inquiry Response message. If a single Spectrum Inquiry Request message was sent containing a 2-object array (one per CBSD), the SAS Test Harness shall respond with a single Spectrum Inquiry Response message containing a 2-object array. Verify parameters for each CBSD within the Spectrum Inquiry Response message are as follows, for CBSDi, i={1,2}: - cbsdId = Ci - availableChannel is an array of availableChannel objects - responseCode = 0	–	–
5	DP sends a Grant Request message for each CBSD. This may occur in a separate message per CBSD, or together in a single message with array of 2. Verify Grant Request message is formatted correctly for each CBSD, including for CBSDi, i={1,2}: - cbsdId = C - maxEIRP is at or below the limit appropriate for CBSD category as defined by Part 96 - operationFrequencyRange, Fi, sent by UUT is a valid range within the CBRs band	☒	☐
6	If a separate Grant Request message was sent for each CBSD, the SAS Test Harness shall respond to each Grant Request message with a separate Grant Response message. If a single Grant Request message was sent containing a 2-object array (one per CBSD), the SAS Test Harness shall respond with a single Grant Response message containing a 2-object array. Verify parameters for each CBSD within the Grant Response message are as follows, for CBSDi, i={1,2}: - cbsdId = Ci - grantId = Gi = a valid grant ID - grantExpireTime = UTC time greater than duration of the test - responseCode = 0	–	–
7	Ensure DP sends first Heartbeat Request message for each CBSD. This may occur in a separate message per CBSD, or together in a single message with array of 2. Verify Heartbeat Request message is formatted correctly for each CBSD, including, for CBSDi i={1,2}: - cbsdId = Ci, i={1,2}; - grantId = Gi, i={1,2} - operationState = "GRANTED"	☒	☐
8	If a separate Grant Request message was sent for each CBSD, the SAS Test Harness shall respond to each Grant Request message with a separate Grant Response message. If a single Grant Request message was sent containing a 2-object array (one per CBSD), the SAS Test Harness shall respond with a single Grant Response message containing a 2-object array. Verify parameters for each CBSD within the Grant Response message are as follows, for CBSDi, i={1,2}: - cbsdId = Ci - grantId = Gi = a valid grant ID - grantExpireTime = UTC time greater than duration of the test - responseCode = 0	–	–
9	For further Heartbeat Request messages sent from UUT after completion of step 8, validate message is sent within latest specified heartbeatInterval for CBSDi:	☒	☐

- cbsdId = Ci
- grantId = Gi
- operationState = "AUTHORIZED" and SAS Test Harness responds with a Heartbeat Response message including the following parameters:
- cbsdId = Ci
- grantId = Gi
- transmitExpireTime = current UTC time + 200 seconds
- responseCode = 0

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.

8.12 6.4.4.2.1 [WINNF.FT.C.HBT.3] Heartbeat responseCode=105 (DEREGISTER)

8.12.1 Test date

Verdict	Pass
Test date	July 8, 2026

8.12.2 Observations, settings and special notes

None

8.12.3 Test data

Step	Test Execution Steps	Pass	Fail
1	Ensure the following conditions are met for test entry: • UUT has registered successfully with SAS Test Harness • UUT has a valid single grant as follows: ○ 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"	☒	☐
3	SAS Test Harness sends a Heartbeat Response message, including the following parameters: • cbsdId = C • grantId = G • transmitExpireTime = T = Current UTC time • responseCode = 105 (DEREGISTER)	-	-
4	After completion of step 3, SAS Test Harness shall not allow any further grants to the UUT.		
5	Monitor the RF output of the UUT. Verify: • UUT shall stop transmission within (T + 60 seconds) of completion of step 3	☒	☐

8.13 6.4.4.2.3 [WINNF.FT.C.HBT.5] Heartbeat responseCode=501 (SUSPENDED_GRANT) in First Heartbeat Response

8.13.1 Test date

Verdict	Pass
Test date	July 8, 2026

8.13.2 Observations, settings and special notes

None

8.13.3 Test data

#	Test Execution Steps	Pass	Fail
1	Ensure the following conditions are met for test entry: • UUT has registered successfully with SAS Test Harness • UUT has a valid single grant as follows: ◦ valid cbsdId = C ◦ valid grantId = G ◦ grant is for frequency range F, power P ◦ grantExpireTime = UTC time greater than duration of the test • UUT is in GRANTED but not AUTHORIZED state (i.e. has not performed its first Heartbeat Request) UUT sends a Heartbeat Request message. Ensure Heartbeat Request message is formatted correctly, including:	-	-
2	• cbsdId = C • grantId = G • operationState = "GRANTED"	☒	☐
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: • cbsdId = C • grantId = G Monitor the RF output of the UUT from start of test until 60 seconds after Step 3 is complete. This is the end of the test. Verify: • UUT does not transmit at any time	☒	☐

8.14 6.4.4.2.4 [WINNF.FT.C.HBT.6] Heartbeat responseCode=501 (SUSPENDED_GRANT) in Subsequent Heartbeat Response

8.14.1 Test date

Verdict	Pass
Test date	July 8, 2026

8.14.2 Observations, settings and special notes

None

8.14.3 Test data

#	Test Execution Steps	Pass	Fail
1	Ensure the following conditions are met for test entry:	-	-

	• UUT has registered successfully with SAS Test Harness • UUT has a valid single grant as follows: ◦ 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 , power P		
	UUT sends a Heartbeat Request message.		
	Verify Heartbeat Request message is sent within latest specified heartbeatInterval, and is formatted correctly, including:		
2	• cbsdId = C • grantId = G • operationState = "AUTHORIZED"	☒	☐
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: • cbsdId = C • grantId = G	☒	☐
	Monitor the RF output of the UUT from start of test until 60 seconds after Step 3 is complete. This is the end of the test.		
	Verify:		
	• UUT shall stop transmission within (T + 60 seconds) of completion of step 3		

8.15 6.4.4.2.5 [WINNF.FT.C.HBT.7] Heartbeat responseCode=502 (UNSYNC_OP_PARAM)

8.15.1 Test date

Verdict	Pass
Test date	July 8, 2026

8.15.2 Observations, settings and special notes

None

8.15.3 Test data

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

8.16 6.4.4.2.6 [WINNF.FT.D.HBT.8] Domain Proxy Heartbeat responseCode=500 (TERMINATED GRANT)

8.16.1 Test date

Verdict	Pass
Test date	July 7, 2026

8.16.2 Observations, settings and special notes

None

8.16.3 Test data

#	Test Execution Steps	Pass	Fail
1	Ensure the following conditions are met for test entry: - DP has two CBSD registered successfully with SAS Test Harness - Each CBSD {1,2} has a valid single grant as follows: - valid cbsdId = Ci, i={1,2} - valid grantId = Gi, i={1,2} - grant is for frequency range Fi, power Pi - grantExpireTime = UTC time greater than duration of the test - Both CBSD are in AUTHORIZED state and transmitting within their granted bandwidth on RF interface DP sends a Heartbeat Request message for each CBSD. This may occur in a separate message per CBSD, or together in a single message with array of size 2. Verify Heartbeat Request message is sent within latest specified heartbeatInterval, and is formatted correctly for each CBSD, including, for CBSDi i={1,2}: - cbsdId = Ci, i={1,2}; - grantId = Gi, i={1,2} - operationState = "AUTHORIZED"	-	-
2	If separate Heartbeat Request message was sent for each CBSD by the DP, the SAS Test Harness shall respond to each Heartbeat Request message with a separate Heartbeat Response message.	☒	☐
3	If a single Heartbeat Request message was sent by the DP containing a 2-object array (one per CBSD), the SAS Test Harness shall respond with a single Heartbeat Response message containing a 2-object array.		
	Parameters for each CBSD within the Heartbeat Response message should be as follows, for CBSDi:		
	- cbsdId = Ci - grantId = Gi - For CBSD1: - transmitExpireTime = current UTC time + 200 seconds - responseCode = 0 - For CBSD2: - 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.		
	If CBSD sends further Heartbeat Request messages for CBSD1, SAS Test Harness shall respond with a Heartbeat Response message with parameters: - cbsdId = C1 - grantId = G1 - transmitExpireTime = current UTC time + 200 seconds - responseCode = 0 - Heartbeat Request message is within heartbeatInterval of previous Heartbeat Request message	-	-
5	Monitor the RF output of CBSD2. Verify: CBSD2 shall stop transmission within bandwidth F2 within (T + 60 seconds) of completion of step 3	☒	☐

8.17 6.4.4.3.1 [WINNF.FT.C.HBT.9] Heartbeat Response Absent (First Heartbeat)

8.17.1 Test date

Verdict	Pass
Test date	July 8, 2026

8.17.2 Observations, settings and special notes

None

8.17.3 Test data

Step	Test Execution Steps	Pass	Fail
1	Ensure the following conditions are met for test entry: - UUT has registered successfully with SAS Test Harness - UUT has a valid single grant as follows: - 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 - operationState = "GRANTED"	☒	☐
3	After completion of Step 2, SAS Test Harness does not respond to any further messages from UUT to simulate loss of network connection	–	–
4	Monitor the RF output of the UUT from start of test to 60 seconds after step 3. Verify: At any time during the test, UUT shall not transmit on RF interface	☒	☐

8.18 6.4.4.3.2 [WINNF.FT.C.HBT.10] Heartbeat Response Absent (Subsequent Heartbeat)

8.18.1 Test date

Verdict	Pass
Test date	July 8, 2026

8.18.2 Observations, settings and special notes

None

8.18.3 Test data

Step	Test Execution Steps	Pass	Fail
1	Ensure the following conditions are met for test entry: - UUT has registered successfully with SAS Test Harness - UUT has a valid single grant as follows: - 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 the latest specified heartbeatInterval, and is formatted correctly, including: - cbsdId = C - grantId = G - operationState = "AUTHORIZED"	☒	☐
3	SAS Test Harness sends a Heartbeat Response message, with the following parameters: - cbsdId = C - grantId = G - transmitExpireTime = current UTC time + 200 seconds - responseCode = 0	–	–
4	After completion of Step 3, SAS Test Harness does not respond to any further messages from UUT	–	–

5	Monitor the RF output of the UUT. Verify: UUT shall stop all transmission on RF interface within (transmitExpireTime + 60 seconds), using the transmitExpireTime sent in Step 3.	☒	☐
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8.19 6.6.4.1.2 [WINNF.FT.D.RLQ.2] Domain Proxy Successful Relinquishment

8.19.1 Test date

Verdict	Pass
Test date	July 7, 2026

8.19.2 Observations, settings and special notes

None

8.19.3 Test data

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

8.20 6.7.4.1.2 [WINNF.FT.D.DRG.2] Successful Deregistration

8.20.1 Test date

Verdict	Pass
Test date	July 7, 2026

8.20.2 Observations, settings and special notes

None

8.20.3 Test data

Step	Test Execution Steps	Pass	Fail
1	Ensure the following conditions are met for test entry: - Each UUT has successfully registered with SAS Test Harness - Each UUT is in the authorized state - DP has successfully completed SAS Discovery and Authentication with SAS Test Harness - DP has successfully registered 2 CBSD with SAS Test Harness, each with cbsdId=Ci, i={1,2}	–	–

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

8.21 6.8.4.1.1 [WINNF.FT.C.SCS.1] Successful TLS connection between UUT and SAS Test Harness

8.21.1 Test date

Verdict	Pass
Test date	July 8, 2026

8.21.2 Observations, settings and special notes

None

8.21.3 Test data

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

8.22 6.8.4.2.1 [WINNF.FT.C.SCS.2] TLS failure due to revoked certificate

8.22.1 Test date

Verdict	Pass
Test date	July 8, 2026

8.22.2 Observations, settings and special notes

None

8.22.3 Test data

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

8.23 6.8.4.2.2 [WINNF.FT.C.SCS.3] TLS failure due to expired server certificate

8.23.1 Test date

Verdict	Pass
Test date	July 8, 2026

8.23.2 Observations, settings and special notes

None

8.23.3 Test data

Step	Test Execution Steps	Pass	Fail
1	Verify in Wireshark the following in the captured packets: - Wireshark "Protocol" column shows "TLSv1.2" - CBSD/DP UUT sends "Client Hello" message to WInnForum SAS Test Harness - WInnForum SAS Test Harness sends "Server Hello" message to CBSD/DP UUT. - The "Server Hello" message "Handshake Protocol" IE includes the "Cipher Suite" IE. - Verify the "Cipher Suite" shown in Wireshark is one of the following: TLS_RSA_WITH_AES_128_GCM_SHA256, TLS_RSA_WITH_AES_256_GCM_SHA384, TLS_ECDHE_ECDSA_WITH_AES_128_GCM_SHA256, TLS_ECDHE_ECDSA_WITH_AES_256_GCM_SHA384, TLS_ECDHE_RSA_WITH_AES_128_GCM_SHA256	☒	☐

4. "Application Data" messages are exchanged between WinnForum SAS Test Harness and CBSD/DP UUT.		
2	Verify that WinnForum SAS Test Harness Command Prompt does not show any Request Message from CBSD/DP UUT	☒ ☐

8.24 6.8.4.2.3 [WINNF.FT.C.SCS.4] TLS failure when SAS Test Harness certificate is issued by an unknown CA

8.24.1 Test date

Verdict	Pass
Test date	July 8, 2026

8.24.2 Observations, settings and special notes

None

8.24.3 Test data

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

8.25 6.8.4.2.4 [WINNF.FT.C.SCS.5] TLS failure when certificate at the SAS Test Harness is corrupted

8.25.1 Test date

Verdict	Pass
Test date	July 8, 2026

8.25.2 Observations, settings and special notes

None

8.25.3 Test data

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

8.26 7.1.4.1.1 [WINNF.PT.C.HBT.1] UUT RF Transmit Power Measurement

8.26.1 Test date

Verdict	Pass
Test date	July 8, 2026

8.26.2 Observations, settings and special notes

CBSD Vendor declaration of parameters:

Maximum rated power of UUT (EIRP, dBm/MHz)	EIRP: 25 dBm
Occupied bandwidth for the test case	40 MHz
maxEirp values for the test case	25 dBm/MHz, 20 dBm/MHz, 15 dBm/MHz, 10 dBm/MHz, 5 dBm/MHz
Antenna gain	5 dBi

8.26.3 Test data

To demonstrate compliance, the following parameters shall be chosen:

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

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

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

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

#	Test Execution Steps	Pass	Fail
1	Ensure the following conditions are met for test entry: - UUT has successfully completed SAS Discovery and Authentication with the SAS Test Harness - UUT has registered with the SAS, with CBSD ID = C - UUT has a single valid grant G with parameters {lowFrequency = FL, highFrequency = FH, maxEirp = Pi}, with grant in AUTHORIZED state, and grantExpireTime set to a value far past the duration of this test case <i>Note: in order for the UUT to request a grant with the parameters {lowFrequency, highFrequency, maxEirp}, the SAS Test Harness may need to provide appropriate guidance in the availableChannel object of the spectrumInquiry response message, and the operationParam object of the grant response message. Alternately, the UUT vendor may provide the ability to set those parameters on the UUT so that the UUT will request a grant with those parameters.</i> UUT and SAS Test Harness perform a series of Heartbeat Request/Response cycles, which continues until the other test steps are complete. Messaging for each cycle is as follows: - UUT sends Heartbeat Request, including: - cbsdId = C - grantId = G	-	-
2	- 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. <i>Note: it may be required for the vendor to provide a method or configuration to bring the UUT to a mode which is required by the measurement methodology. Any such mode is vendor-specific and depends upon UUT behavior and the measurement methodology.</i>	☒	☐

Power measurement results

Starting Frequency: 3.55GHz

Granted maxEIRP = 25 dBm/MHz

Starting Frequency [MHz]	Bandwidth [MHz]	Granted maxEIRP [dBm/MHz]	Tx Channel Power (dBm)	Antena gain (dBi)	maxEIRP [dBm/MHz]
3,550.00	40	25	11.58	5	$Tx=11.58+5.0= 16.58$ dBm/MHz

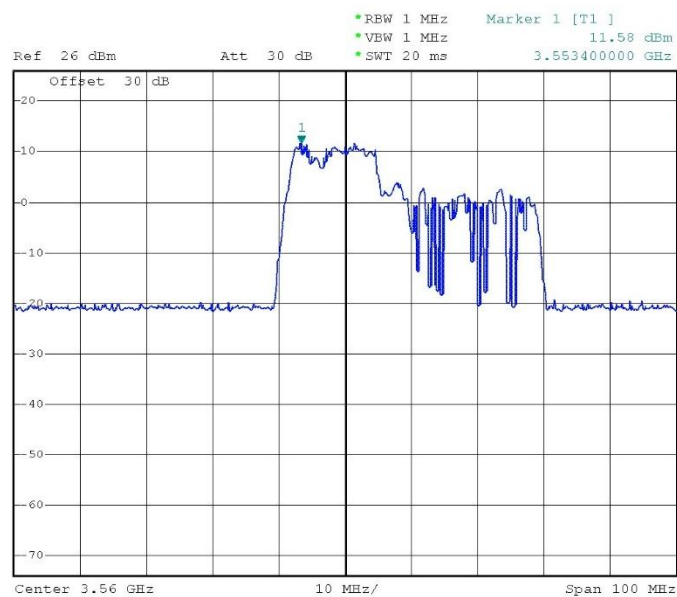


Figure 8.26-1: Granted maxEIRP = 25 dBm/MHz

Starting Frequency: 3.55GHz

Granted maxEIRP = 20 dBm/MHz

Starting Frequency [MHz]	Bandwidth [MHz]	Granted maxEIRP [dBm/MHz]	Tx Channel Power (dBm)	Antena gain (dBi)	maxEIRP [dBm/MHz]
3,550.00	40	20	11.23	5	$Tx=11.23+5.0= 16.23$ dBm/MHz

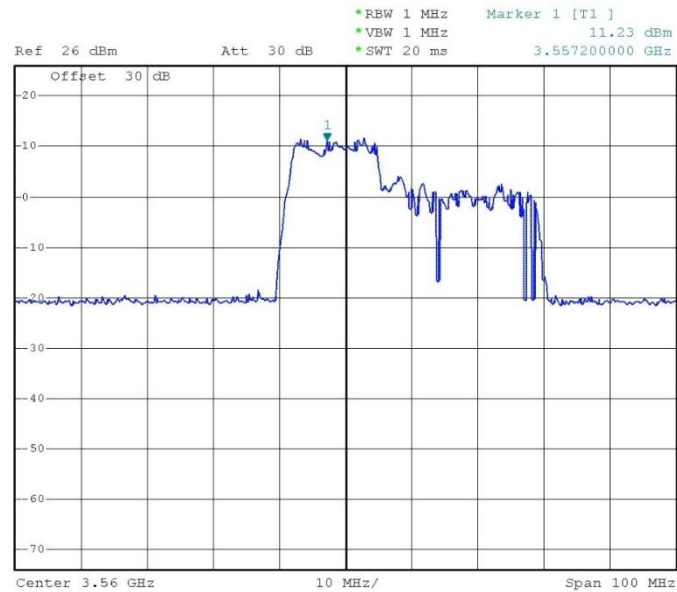


Figure 8.26-2: Granted maxEIRP = 20 dBm/MHz

Starting Frequency: 3.55GHz
 Granted maxEIRP = 15 dBm/MHz

Starting Frequency [MHz]	Bandwidth [MHz]	Granted maxEIRP [dBm/MHz]	Tx Channel Power (dBm)	Antenna gain (dBi)	maxEIRP [dBm/MHz]
3,550.00	40	15	6.96	5	Tx=6.96+5.0= 11.96 dBm/MHz

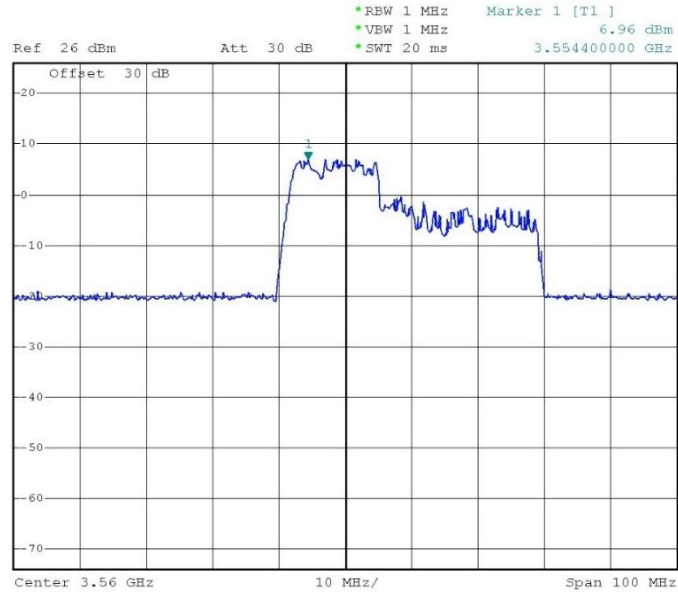


Figure 8.26-3: Granted maxEIRP = 15 dBm/MHz

Starting Frequency: 3.55GHz
 Granted maxEIRP = 10 dBm/MHz

Starting Frequency [MHz]	Bandwidth [MHz]	Granted maxEIRP [dBm/MHz]	Tx Channel Power (dBm)	Antenna gain (dBi)	maxEIRP [dBm/MHz]
3,550.00	40	10	1.88	5	Tx=1.88+5.0= 6.88 dBm/MHz

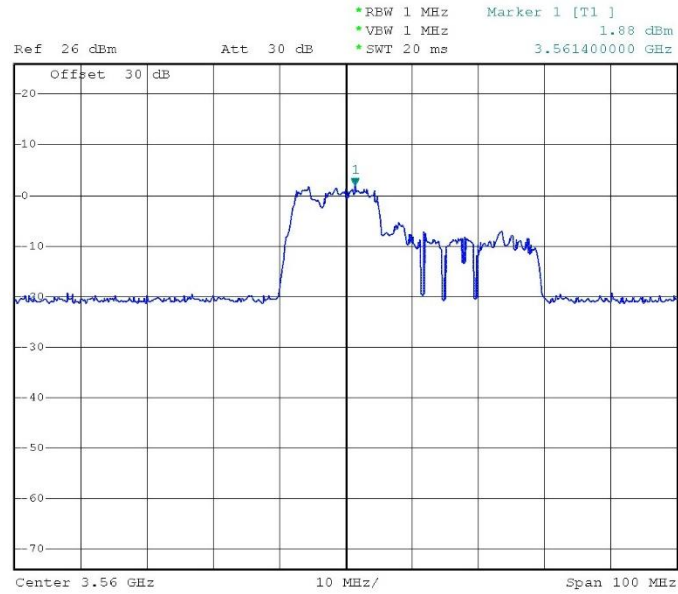


Figure 8.26-4: Granted maxEIRP = 10 dBm/MHz

Starting Frequency: 3.55GHz
 Granted maxEIRP = 5 dBm/MHz

Starting Frequency [MHz]	Bandwidth [MHz]	Granted maxEIRP [dBm/MHz]	Tx Channel Power (dBm)	Antenna gain (dBi)	maxEIRP [dBm/MHz]
3,550.00	40	5	-1.47	5	$T_x = -1.47 + 5.0 = 3.53 \text{ dBm/MHz}$

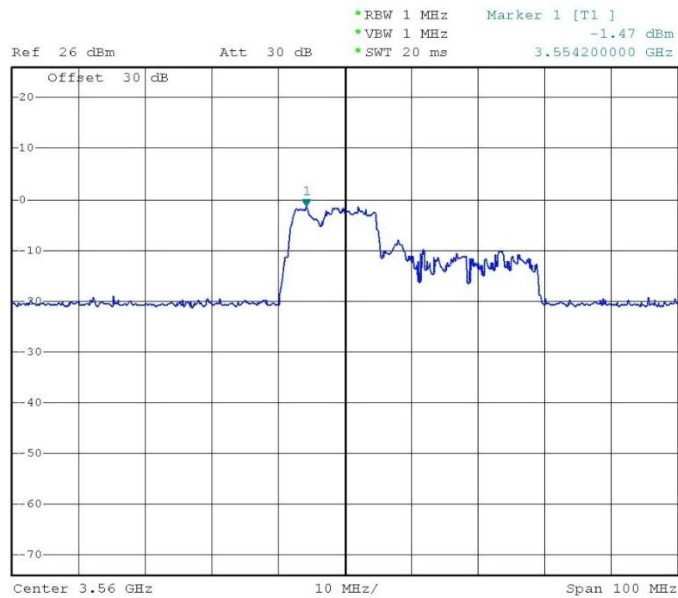


Figure 8.26-5: Granted maxEIRP = 5 dBm/MHz

Section 9 Testing data

9.1 Log file for test case ID: WINNF.FT.D.REG.4_waiver

2026-07-07T19:34:35.783Z - INFO - WINNF TEST HARNESS RELEASE: 1.0.0.3 - 2018-November-13

2026-07-07T19:34:35.785Z - INFO - the selected test from the user : WINNF.FT.D.REG.4_waiver is starting now

2026-07-07T19:35:11.552Z - INFO - registration request from CBRS : {

```
"registrationRequest": [
  {
    "airInterface": {
      "radioTechnology": "NR"
    },
    "cbsdCategory": "A",
    "cbsdInfo": {
      "model": "RN-620",
      "vendor": "Airspar Networks"
    },
    "cbsdSerialNumber": "11-00:a0:0a:11:5f:e2",
    "fcclId": "SCW-Temp",
    "installationParam": {
      "antennaGain": 5,
      "eirpCapability": 29,
      "height": 5,
      "heightType": "AGL",
      "indoorDeployment": true,
      "latitude": 3.313883066177368,
      "longitude": 117.29134368896484
    },
    "measCapability": [],
    "userId": "NPLxLI"
  }
]
```

2026-07-07T19:35:11.588Z - INFO - engine sent successfully, the response to CBRS : {

```
"registrationResponse": [
  {
    "cbsdId": "SCW-TempMock-SAS11-00:a0:0a:11:5f:e2",
    "response": {
      "responseCode": 0
    }
  }
]
```

2026-07-07T19:35:12.134Z - INFO - spectrumInquiry request from CBRS : {

```
"spectrumInquiryRequest": [
  {
    "cbsdId": "SCW-TempMock-SAS11-00:a0:0a:11:5f:e2",
    "inquiredSpectrum": [
      {
        "highFrequency": 3560000000,
        "lowFrequency": 3550000000
      },
      {
        "highFrequency": 3570000000,
        "lowFrequency": 3560000000
      },
      {
        "highFrequency": 3580000000,
        "lowFrequency": 3570000000
      },
      {
        "highFrequency": 3590000000,
        "lowFrequency": 3580000000
      }
    ]
  }
]
```

```

    {
      "highFrequency": 3600000000,
      "lowFrequency": 3590000000
    },
    {
      "highFrequency": 3610000000,
      "lowFrequency": 3600000000
    },
    {
      "highFrequency": 3620000000,
      "lowFrequency": 3610000000
    },
    {
      "highFrequency": 3630000000,
      "lowFrequency": 3620000000
    },
    {
      "highFrequency": 3640000000,
      "lowFrequency": 3630000000
    },
    {
      "highFrequency": 3650000000,
      "lowFrequency": 3640000000
    },
    {
      "highFrequency": 3660000000,
      "lowFrequency": 3650000000
    },
    {
      "highFrequency": 3670000000,
      "lowFrequency": 3660000000
    },
    {
      "highFrequency": 3680000000,
      "lowFrequency": 3670000000
    },
    {
      "highFrequency": 3690000000,
      "lowFrequency": 3680000000
    },
    {
      "highFrequency": 3700000000,
      "lowFrequency": 3690000000
    }
  ]
}
]
}
}
2026-07-07T19:35:12.135Z - INFO - engine sent successfully, the response to CBRS : {
  "spectrumInquiryResponse": [
    {
      "availableChannel": [
        {
          "channelType": "GAA",
          "frequencyRange": {
            "highFrequency": 3555000000,
            "lowFrequency": 3550000000
          },
          "ruleApplied": "FCC_PART_96"
        }
      ],
      "cbsId": "SCW-TempMock-SAS11-00:a0:0a:11:5f:e2",
      "response": {
        "responseCode": 0
      }
    }
  ]
}

```

```

    }
  ]
}
2026-07-07T19:35:23.687Z - INFO - registration request from CBRS : {
  "registrationRequest": [
    {
      "airInterface": {
        "radioTechnology": "NR"
      },
      "cbsdCategory": "A",
      "cbsdInfo": {
        "model": "RN-620",
        "vendor": "Airspan Networks"
      },
      "cbsdSerialNumber": "12-00:a0:0a:11:5f:c2",
      "fcid": "SCW-Temp",
      "installationParam": {
        "antennaGain": 5,
        "eirpCapability": 29,
        "height": 1,
        "heightType": "AGL",
        "indoorDeployment": true,
        "latitude": 3.313883066177368,
        "longitude": 117.29069519042969
      },
      "measCapability": [],
      "userId": "NPLxLI"
    }
  ]
}
2026-07-07T19:35:23.736Z - INFO - engine sent successfully, the response to CBRS : {
  "registrationResponse": [
    {
      "cbsdId": "SCW-TempMock-SAS12-00:a0:0a:11:5f:c2",
      "response": {
        "responseCode": 0
      }
    }
  ]
}
2026-07-07T19:35:25.101Z - INFO - arrived to nstep starting question answer session with the technician
2026-07-07T19:35:25.107Z - INFO - the question is : Were there RF transmissions from the CBSD1 during the test? please choose one of the answers :
2026-07-07T19:35:31.474Z - INFO - for the question : Were there RF transmissions from the CBSD1 during the test? , the user choose n
2026-07-07T19:35:31.476Z - INFO - the question is : Were there RF transmissions from the CBSD2 during the test? please choose one of the answers :
2026-07-07T19:35:38.457Z - INFO - for the question : Were there RF transmissions from the CBSD2 during the test? , the user choose n
2026-07-07T19:35:38.812Z - INFO - The final result of the test : WINNF.FT.D.REG.4_waiver is - passed

```

9.2 Log file for test case ID: WINNF.FT.D.REG.9

```

2026-07-07T19:38:35.905Z - INFO - WINNF TEST HARNESS RELEASE: 1.0.0.3 - 2018-November-13
2026-07-07T19:38:35.907Z - INFO - the selected test from the user : WINNF.FT.D.REG.9 is starting now
2026-07-07T19:38:54.828Z - INFO - registration request from CBRS : {
  "registrationRequest": [
    {
      "airInterface": {
        "radioTechnology": "NR"
      },
      "cbsdCategory": "A",
      "cbsdInfo": {
        "model": "RN-620",
        "vendor": "Airspan Networks"
      },
      "cbsdSerialNumber": "11-00:a0:0a:11:5f:e2",
      "fcid": "SCW-Temp",
      "installationParam": {

```

```

        "antennaGain": 5,
        "eirpCapability": 29,
        "height": 5,
        "heightType": "AGL",
        "indoorDeployment": true,
        "latitude": 3.313883066177368,
        "longitude": 117.29134368896484
    },
    "measCapability": [],
    "userId": "NPLxLI"
}
]
}
2026-07-07T19:38:54.861Z - INFO - engine sent successfully, the response to CBRS : {
  "registrationResponse": [
    {
      "response": {
        "responseCode": 102
      }
    }
  ]
}
}
2026-07-07T19:39:05.953Z - INFO - registration request from CBRS : {
  "registrationRequest": [
    {
      "airInterface": {
        "radioTechnology": "NR"
      },
      "cbsdCategory": "A",
      "cbsdInfo": {
        "model": "RN-620",
        "vendor": "Airspan Networks"
      },
      "cbsdSerialNumber": "11-00:a0:0a:11:5f:e2",
      "fcid": "SCW-Temp",
      "installationParam": {
        "antennaGain": 5,
        "eirpCapability": 29,
        "height": 5,
        "heightType": "AGL",
        "indoorDeployment": true,
        "latitude": 3.313883066177368,
        "longitude": 117.29134368896484
      },
      "measCapability": [],
      "userId": "NPLxLI"
    }
  ]
}
}
2026-07-07T19:39:05.954Z - INFO - engine sent successfully, the response to CBRS : {
  "registrationResponse": [
    {
      "response": {
        "responseCode": 200
      }
    }
  ]
}
}
2026-07-07T19:39:06.963Z - INFO - registration request from CBRS : {
  "registrationRequest": [
    {
      "airInterface": {
        "radioTechnology": "NR"
      },
      "cbsdCategory": "A",

```

```

    "cbdsInfo": {
      "model": "RN-620",
      "vendor": "Airsan Networks"
    },
    "cbdsSerialNumber": "12-00:a0:0a:11:5f:c2",
    "fccId": "SCW-Temp",
    "installationParam": {
      "antennaGain": 5,
      "eirpCapability": 29,
      "height": 1,
      "heightType": "AGL",
      "indoorDeployment": true,
      "latitude": 3.313883066177368,
      "longitude": 117.29069519042969
    },
    "measCapability": [],
    "userId": "NPLxLI"
  }
}
}
2026-07-07T19:39:07.023Z - INFO - engine sent successfully, the response to CBRS : {
  "registrationResponse": [
    {
      "response": {
        "responseCode": 102
      }
    }
  ]
}
}
2026-07-07T19:39:08.121Z - INFO - arrived to nstep starting question answer session with the technician
2026-07-07T19:39:08.125Z - INFO - the question is : Were there RF transmissions from the CBSD1 during the test? please choose one of the answers :
2026-07-07T19:39:11.710Z - INFO - for the question : Were there RF transmissions from the CBSD1 during the test? , the user choose n
2026-07-07T19:39:11.710Z - INFO - the question is : Were there RF transmissions from the CBSD2 during the test? please choose one of the answers :
2026-07-07T19:39:13.887Z - INFO - for the question : Were there RF transmissions from the CBSD2 during the test? , the user choose n
2026-07-07T19:39:14.260Z - INFO - The final result of the test : WINNF.FT.D.REG.9 is - passed

```

9.3 Log file for test case ID: WINNF.FT.D.REG.11

```

2026-07-07T19:41:04.618Z - INFO - WINNF TEST HARNESS RELEASE: 1.0.0.3 - 2018-November-13
2026-07-07T19:41:04.619Z - INFO - the selected test from the user : WINNF.FT.D.REG.11 is starting now
2026-07-07T19:41:44.000Z - INFO - registration request from CBRS : {
  "registrationRequest": [
    {
      "airInterface": {
        "radioTechnology": "NR"
      },
      "cbdsCategory": "A",
      "cbdsInfo": {
        "model": "RN-620",
        "vendor": "Airsan Networks"
      },
      "cbdsSerialNumber": "11-00:a0:0a:11:5f:e2",
      "fccId": "SCW-Temp",
      "installationParam": {
        "antennaGain": 5,
        "eirpCapability": 29,
        "height": 5,
        "heightType": "AGL",
        "indoorDeployment": true,
        "latitude": 3.313883066177368,
        "longitude": 117.29134368896484
      },
      "measCapability": [],
      "userId": "NPLxLI"
    }
  ]
}

```

```

    ]
  }
2026-07-07T19:41:44.053Z - INFO - engine sent successfully, the response to CBRS : {
  "registrationResponse": [
    {
      "response": {
        "responseCode": 200
      }
    }
  ]
}
2026-07-07T19:41:55.638Z - INFO - registration request from CBRS : {
  "registrationRequest": [
    {
      "airInterface": {
        "radioTechnology": "NR"
      },
      "cbsdCategory": "A",
      "cbsdInfo": {
        "model": "RN-620",
        "vendor": "Airspan Networks"
      },
      "cbsdSerialNumber": "12-00:a0:0a:11:5f:c2",
      "fcid": "SCW-Temp",
      "installationParam": {
        "antennaGain": 5,
        "eirpCapability": 29,
        "height": 1,
        "heightType": "AGL",
        "indoorDeployment": true,
        "latitude": 3.313883066177368,
        "longitude": 117.29069519042969
      },
      "measCapability": [],
      "userId": "NPLxLI"
    }
  ]
}
2026-07-07T19:41:55.697Z - INFO - engine sent successfully, the response to CBRS : {
  "registrationResponse": [
    {
      "response": {
        "responseCode": 200
      }
    }
  ]
}
2026-07-07T19:41:56.964Z - INFO - arrived to nstep starting question answer session with the technician
2026-07-07T19:41:56.970Z - INFO - the question is : Were there RF transmissions from the CBSD1 during the test? please choose one of the answers :
2026-07-07T19:42:05.845Z - INFO - for the question : Were there RF transmissions from the CBSD1 during the test? , the user choose n
2026-07-07T19:42:05.846Z - INFO - the question is : Were there RF transmissions from the CBSD2 during the test? please choose one of the answers :
2026-07-07T19:42:07.003Z - INFO - for the question : Were there RF transmissions from the CBSD2 during the test? , the user choose n
2026-07-07T19:42:07.538Z - INFO - The final result of the test : WINNF.FT.D.REG.11 is - passed

```

9.4 Log file for test case ID: WINNF.FT.D.REG.13

```

2026-07-07T19:42:26.105Z - INFO - WINNF TEST HARNESS RELEASE: 1.0.0.3 - 2018-November-13
2026-07-07T19:42:26.105Z - INFO - the selected test from the user : WINNF.FT.D.REG.13 is starting now
2026-07-07T19:42:43.884Z - INFO - registration request from CBRS : {
  "registrationRequest": [
    {
      "airInterface": {
        "radioTechnology": "NR"
      },
      "cbsdCategory": "A",

```

```

    "cbsdInfo": {
      "model": "RN-620",
      "vendor": "Airspar Networks"
    },
    "cbsdSerialNumber": "11-00:a0:0a:11:5f:e2",
    "fcclId": "SCW-Temp",
    "installationParam": {
      "antennaGain": 5,
      "eirpCapability": 29,
      "height": 5,
      "heightType": "AGL",
      "indoorDeployment": true,
      "latitude": 3.313883066177368,
      "longitude": 117.29134368896484
    },
    "measCapability": [],
    "userId": "NPLxLI"
  }
}
}
2026-07-07T19:42:43.937Z - INFO - engine sent successfully, the response to CBRS : {
  "registrationResponse": [
    {
      "cbsdId": "SCW-TempMock-SAS11-00:a0:0a:11:5f:e2",
      "response": {
        "responseCode": 0
      }
    }
  ]
}
}
2026-07-07T19:42:44.486Z - INFO - spectrumInquiry request from CBRS : {
  "spectrumInquiryRequest": [
    {
      "cbsdId": "SCW-TempMock-SAS11-00:a0:0a:11:5f:e2",
      "inquiredSpectrum": [
        {
          "highFrequency": 3560000000,
          "lowFrequency": 3550000000
        },
        {
          "highFrequency": 3570000000,
          "lowFrequency": 3560000000
        },
        {
          "highFrequency": 3580000000,
          "lowFrequency": 3570000000
        },
        {
          "highFrequency": 3590000000,
          "lowFrequency": 3580000000
        },
        {
          "highFrequency": 3600000000,
          "lowFrequency": 3590000000
        },
        {
          "highFrequency": 3610000000,
          "lowFrequency": 3600000000
        },
        {
          "highFrequency": 3620000000,
          "lowFrequency": 3610000000
        },
        {
          "highFrequency": 3630000000,

```

```

        "lowFrequency": 3620000000
      },
      {
        "highFrequency": 3640000000,
        "lowFrequency": 3630000000
      },
      {
        "highFrequency": 3650000000,
        "lowFrequency": 3640000000
      },
      {
        "highFrequency": 3660000000,
        "lowFrequency": 3650000000
      },
      {
        "highFrequency": 3670000000,
        "lowFrequency": 3660000000
      },
      {
        "highFrequency": 3680000000,
        "lowFrequency": 3670000000
      },
      {
        "highFrequency": 3690000000,
        "lowFrequency": 3680000000
      },
      {
        "highFrequency": 3700000000,
        "lowFrequency": 3690000000
      }
    ]
  }
}
2026-07-07T19:42:44.487Z - INFO - engine sent successfully, the response to CBRS : {
  "spectrumInquiryResponse": [
    {
      "availableChannel": [
        {
          "channelType": "GAA",
          "frequencyRange": {
            "highFrequency": 3555000000,
            "lowFrequency": 3550000000
          },
          "ruleApplied": "FCC_PART_96"
        }
      ],
      "cbsId": "SCW-TempMock-SAS11-00:a0:0a:11:5f:e2",
      "response": {
        "responseCode": 0
      }
    }
  ]
}
2026-07-07T19:42:56.012Z - INFO - spectrumInquiry request from CBRS : {
  "spectrumInquiryRequest": [
    {
      "cbsId": "SCW-TempMock-SAS11-00:a0:0a:11:5f:e2",
      "inquiredSpectrum": [
        {
          "highFrequency": 3560000000,
          "lowFrequency": 3550000000
        },
        {
          "highFrequency": 3570000000,

```

```

        "lowFrequency": 3560000000
    },
    {
        "highFrequency": 3580000000,
        "lowFrequency": 3570000000
    },
    {
        "highFrequency": 3590000000,
        "lowFrequency": 3580000000
    },
    {
        "highFrequency": 3600000000,
        "lowFrequency": 3590000000
    },
    {
        "highFrequency": 3610000000,
        "lowFrequency": 3600000000
    },
    {
        "highFrequency": 3620000000,
        "lowFrequency": 3610000000
    },
    {
        "highFrequency": 3630000000,
        "lowFrequency": 3620000000
    },
    {
        "highFrequency": 3640000000,
        "lowFrequency": 3630000000
    },
    {
        "highFrequency": 3650000000,
        "lowFrequency": 3640000000
    },
    {
        "highFrequency": 3660000000,
        "lowFrequency": 3650000000
    },
    {
        "highFrequency": 3670000000,
        "lowFrequency": 3660000000
    },
    {
        "highFrequency": 3680000000,
        "lowFrequency": 3670000000
    },
    {
        "highFrequency": 3690000000,
        "lowFrequency": 3680000000
    },
    {
        "highFrequency": 3700000000,
        "lowFrequency": 3690000000
    }
    ]
}
]
}
2026-07-07T19:42:56.013Z - INFO - engine sent successfully, the response to CBRS : {
  "spectrumInquiryResponse": [
    {
      "availableChannel": [
        {
          "channelType": "GAA",
          "frequencyRange": {

```

```

        "highFrequency": 3555000000,
        "lowFrequency": 3550000000
    },
    "ruleApplied": "FCC_PART_96"
}
],
"cbsdId": "SCW-TempMock-SAS11-00:a0:0a:11:5f:e2",
"response": {
    "responseCode": 0
}
}
]
}
2026-07-07T19:42:56.130Z - INFO - registration request from CBRS : {
  "registrationRequest": [
    {
      "airInterface": {
        "radioTechnology": "NR"
      },
      "cbsdCategory": "A",
      "cbsdInfo": {
        "model": "RN-620",
        "vendor": "Airspar Networks"
      },
      "cbsdSerialNumber": "12-00:a0:0a:11:5f:c2",
      "fcclId": "SCW-Temp",
      "installationParam": {
        "antennaGain": 5,
        "eirpCapability": 29,
        "height": 1,
        "heightType": "AGL",
        "indoorDeployment": true,
        "latitude": 3.313883066177368,
        "longitude": 117.29069519042969
      },
      "measCapability": [],
      "userId": "NPLxLI"
    }
  ]
}
2026-07-07T19:42:56.154Z - INFO - engine sent successfully, the response to CBRS : {
  "registrationResponse": [
    {
      "response": {
        "responseCode": 103
      }
    }
  ]
}
2026-07-07T19:42:57.358Z - INFO - arrived to nstep starting question answer session with the technician
2026-07-07T19:42:57.362Z - INFO - the question is : Were there RF transmissions from the CBSD1 during the test? please choose one of the answers :
2026-07-07T19:43:04.937Z - INFO - for the question : Were there RF transmissions from the CBSD1 during the test? , the user choose n
2026-07-07T19:43:04.937Z - INFO - the question is : Were there RF transmissions from the CBSD2 during the test? please choose one of the answers :
2026-07-07T19:43:06.163Z - INFO - for the question : Were there RF transmissions from the CBSD2 during the test? , the user choose n
2026-07-07T19:43:06.746Z - INFO - The final result of the test : WINNF.FT.D.REG.13 is - passed

```

9.5 Log file for test case ID: WINNF.FT.D.REG.15

```

2026-07-07T19:43:23.158Z - INFO - WINNF TEST HARNESS RELEASE: 1.0.0.3 - 2018-November-13
2026-07-07T19:43:23.161Z - INFO - the selected test from the user : WINNF.FT.D.REG.15 is starting now
2026-07-07T19:43:42.826Z - INFO - registration request from CBRS : {
  "registrationRequest": [
    {
      "airInterface": {
        "radioTechnology": "NR"
      }
    }
  ]
}

```

```

    },
    "cbsdCategory": "A",
    "cbsdInfo": {
      "model": "RN-620",
      "vendor": "Airspan Networks"
    },
    "cbsdSerialNumber": "11-00:a0:0a:11:5f:e2",
    "fcclid": "SCW-Temp",
    "installationParam": {
      "antennaGain": 5,
      "eirpCapability": 29,
      "height": 5,
      "heightType": "AGL",
      "indoorDeployment": true,
      "latitude": 3.313883066177368,
      "longitude": 117.29134368896484
    },
    "measCapability": [],
    "userId": "NPLxLI"
  }
]
}
}
2026-07-07T19:43:42.871Z - INFO - engine sent successfully, the response to CBRS : {
  "registrationResponse": [
    {
      "cbsdId": "SCW-TempMock-SAS11-00:a0:0a:11:5f:e2",
      "response": {
        "responseCode": 0
      }
    }
  ]
}
}
2026-07-07T19:43:43.420Z - INFO - spectrumInquiry request from CBRS : {
  "spectrumInquiryRequest": [
    {
      "cbsdId": "SCW-TempMock-SAS11-00:a0:0a:11:5f:e2",
      "inquiredSpectrum": [
        {
          "highFrequency": 3560000000,
          "lowFrequency": 3550000000
        },
        {
          "highFrequency": 3570000000,
          "lowFrequency": 3560000000
        },
        {
          "highFrequency": 3580000000,
          "lowFrequency": 3570000000
        },
        {
          "highFrequency": 3590000000,
          "lowFrequency": 3580000000
        },
        {
          "highFrequency": 3600000000,
          "lowFrequency": 3590000000
        },
        {
          "highFrequency": 3610000000,
          "lowFrequency": 3600000000
        },
        {
          "highFrequency": 3620000000,
          "lowFrequency": 3610000000
        }
      ]
    }
  ]
}

```

```

    {
      "highFrequency": 3630000000,
      "lowFrequency": 3620000000
    },
    {
      "highFrequency": 3640000000,
      "lowFrequency": 3630000000
    },
    {
      "highFrequency": 3650000000,
      "lowFrequency": 3640000000
    },
    {
      "highFrequency": 3660000000,
      "lowFrequency": 3650000000
    },
    {
      "highFrequency": 3670000000,
      "lowFrequency": 3660000000
    },
    {
      "highFrequency": 3680000000,
      "lowFrequency": 3670000000
    },
    {
      "highFrequency": 3690000000,
      "lowFrequency": 3680000000
    },
    {
      "highFrequency": 3700000000,
      "lowFrequency": 3690000000
    }
  ]
}
]
}
2026-07-07T19:43:43.421Z - INFO - engine sent successfully, the response to CBRS : {
  "spectrumInquiryResponse": [
    {
      "availableChannel": [
        {
          "channelType": "GAA",
          "frequencyRange": {
            "highFrequency": 3555000000,
            "lowFrequency": 3550000000
          },
          "ruleApplied": "FCC_PART_96"
        }
      ],
      "cbsdId": "SCW-TempMock-SAS11-00:a0:0a:11:5f:e2",
      "response": {
        "responseCode": 0
      }
    }
  ]
}
2026-07-07T19:43:53.940Z - INFO - registration request from CBRS : {
  "registrationRequest": [
    {
      "airInterface": {
        "radioTechnology": "NR"
      },
      "cbsdCategory": "A",
      "cbsdInfo": {
        "model": "RN-620",

```

```

        "vendor": "Airspan Networks"
      },
      "cbsdSerialNumber": "12-00:a0:0a:11:5f:c2",
      "fcclId": "SCW-Temp",
      "installationParam": {
        "antennaGain": 5,
        "eirpCapability": 29,
        "height": 1,
        "heightType": "AGL",
        "indoorDeployment": true,
        "latitude": 3.313883066177368,
        "longitude": 117.29069519042969
      },
      "measCapability": [],
      "userId": "NPLxLI"
    }
  ]
}
2026-07-07T19:43:54.006Z - INFO - engine sent successfully, the response to CBRS : {
  "registrationResponse": [
    {
      "response": {
        "responseCode": 101
      }
    }
  ]
}
2026-07-07T19:43:55.384Z - INFO - arrived to nstep starting question answer session with the technician
2026-07-07T19:43:55.388Z - INFO - the question is : Were there RF transmissions from the CBSD1 during the test? please choose one of the answers :
2026-07-07T19:44:01.867Z - INFO - for the question : Were there RF transmissions from the CBSD1 during the test? , the user choose n
2026-07-07T19:44:01.868Z - INFO - the question is : Were there RF transmissions from the CBSD2 during the test? please choose one of the answers :
2026-07-07T19:44:03.141Z - INFO - for the question : Were there RF transmissions from the CBSD2 during the test? , the user choose n
2026-07-07T19:44:03.677Z - INFO - The final result of the test : WINNF.FT.D.REG.15 is - passed

```

9.6 Log file for test case ID: WINNF.FT.D.REG.17

```

2026-07-07T19:44:16.115Z - INFO - WINNF TEST HARNESS RELEASE: 1.0.0.3 - 2018-November-13
2026-07-07T19:44:16.115Z - INFO - the selected test from the user : WINNF.FT.D.REG.17 is starting now
2026-07-07T19:44:36.230Z - INFO - registration request from CBRS : {
  "registrationRequest": [
    {
      "airInterface": {
        "radioTechnology": "NR"
      },
      "cbsdCategory": "A",
      "cbsdInfo": {
        "model": "RN-620",
        "vendor": "Airspan Networks"
      },
      "cbsdSerialNumber": "11-00:a0:0a:11:5f:e2",
      "fcclId": "SCW-Temp",
      "installationParam": {
        "antennaGain": 5,
        "eirpCapability": 29,
        "height": 5,
        "heightType": "AGL",
        "indoorDeployment": true,
        "latitude": 3.313883066177368,
        "longitude": 117.29134368896484
      },
      "measCapability": [],
      "userId": "NPLxLI"
    }
  ]
}

```

2026-07-07T19:44:36.296Z - INFO - engine sent successfully, the response to CBRS : {

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

2026-07-07T19:44:47.888Z - INFO - registration request from CBRS : {

```
"registrationRequest": [
  {
    "airInterface": {
      "radioTechnology": "NR"
    },
    "cbsdCategory": "A",
    "cbsdInfo": {
      "model": "RN-620",
      "vendor": "Airspar Networks"
    },
    "cbsdSerialNumber": "11-00:a0:0a:11:5f:e2",
    "fccId": "SCW-Temp",
    "installationParam": {
      "antennaGain": 5,
      "eirpCapability": 29,
      "height": 5,
      "heightType": "AGL",
      "indoorDeployment": true,
      "latitude": 3.313883066177368,
      "longitude": 117.29134368896484
    },
    "measCapability": [],
    "userId": "NPLxLI"
  }
]
```

2026-07-07T19:44:47.891Z - INFO - engine sent successfully, the response to CBRS : {

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

2026-07-07T19:44:47.994Z - INFO - registration request from CBRS : {

```
"registrationRequest": [
  {
    "airInterface": {
      "radioTechnology": "NR"
    },
    "cbsdCategory": "A",
    "cbsdInfo": {
      "model": "RN-620",
      "vendor": "Airspar Networks"
    },
    "cbsdSerialNumber": "12-00:a0:0a:11:5f:c2",
    "fccId": "SCW-Temp",
    "installationParam": {
      "antennaGain": 5,
      "eirpCapability": 29,
      "height": 1,
      "heightType": "AGL",
      "indoorDeployment": true,
      "latitude": 3.313883066177368,

```

```

        "longitude": 117.29069519042969
      },
      "measCapability": [],
      "userId": "NPLxLI"
    }
  ]
}
2026-07-07T19:44:48.046Z - INFO - engine sent successfully, the response to CBRS : {
  "registrationResponse": [
    {
      "response": {
        "responseCode": 100
      }
    }
  ]
}
2026-07-07T19:44:49.410Z - INFO - arrived to nstep starting question answer session with the technician
2026-07-07T19:44:49.414Z - INFO - the question is : Were there RF transmissions from the CBSD1 during the test? please choose one of the answers :
2026-07-07T19:44:55.220Z - INFO - for the question : Were there RF transmissions from the CBSD1 during the test? , the user choose n
2026-07-07T19:44:55.220Z - INFO - the question is : Were there RF transmissions from the CBSD2 during the test? please choose one of the answers :
2026-07-07T19:44:55.581Z - INFO - for the question : Were there RF transmissions from the CBSD2 during the test? , the user choose n
2026-07-07T19:44:56.069Z - INFO - The final result of the test : WINNF.FT.D.REG.17 is - passed

```

9.7 Log file for test case ID: WINNF.FT.D.REG.19

```

2026-07-07T19:45:19.305Z - INFO - WINNF TEST HARNESS RELEASE: 1.0.0.3 - 2018-November-13
2026-07-07T19:45:19.306Z - INFO - the selected test from the user : WINNF.FT.D.REG.19 is starting now
2026-07-07T19:45:35.391Z - INFO - registration request from CBRS : {
  "registrationRequest": [
    {
      "airInterface": {
        "radioTechnology": "NR"
      },
      "cbsdCategory": "A",
      "cbsdInfo": {
        "model": "RN-620",
        "vendor": "Airspan Networks"
      },
      "cbsdSerialNumber": "11-00:a0:0a:11:5f:e2",
      "fcid": "SCW-Temp",
      "installationParam": {
        "antennaGain": 5,
        "eirpCapability": 29,
        "height": 5,
        "heightType": "AGL",
        "indoorDeployment": true,
        "latitude": 3.313883066177368,
        "longitude": 117.29134368896484
      },
      "measCapability": [],
      "userId": "NPLxLI"
    }
  ]
}
2026-07-07T19:45:35.424Z - INFO - engine sent successfully, the response to CBRS : {
  "registrationResponse": [
    {
      "cbsdId": "SCW-TempMock-SAS11-00:a0:0a:11:5f:e2",
      "response": {
        "responseCode": 0
      }
    }
  ]
}
2026-07-07T19:45:35.973Z - INFO - spectrumInquiry request from CBRS : {

```

```
"spectrumInquiryRequest": [
  {
    "cbsdId": "SCW-TempMock-SAS11-00:a0:0a:11:5f:e2",
    "inquiredSpectrum": [
      {
        "highFrequency": 3560000000,
        "lowFrequency": 3550000000
      },
      {
        "highFrequency": 3570000000,
        "lowFrequency": 3560000000
      },
      {
        "highFrequency": 3580000000,
        "lowFrequency": 3570000000
      },
      {
        "highFrequency": 3590000000,
        "lowFrequency": 3580000000
      },
      {
        "highFrequency": 3600000000,
        "lowFrequency": 3590000000
      },
      {
        "highFrequency": 3610000000,
        "lowFrequency": 3600000000
      },
      {
        "highFrequency": 3620000000,
        "lowFrequency": 3610000000
      },
      {
        "highFrequency": 3630000000,
        "lowFrequency": 3620000000
      },
      {
        "highFrequency": 3640000000,
        "lowFrequency": 3630000000
      },
      {
        "highFrequency": 3650000000,
        "lowFrequency": 3640000000
      },
      {
        "highFrequency": 3660000000,
        "lowFrequency": 3650000000
      },
      {
        "highFrequency": 3670000000,
        "lowFrequency": 3660000000
      },
      {
        "highFrequency": 3680000000,
        "lowFrequency": 3670000000
      },
      {
        "highFrequency": 3690000000,
        "lowFrequency": 3680000000
      },
      {
        "highFrequency": 3700000000,
        "lowFrequency": 3690000000
      }
    ]
  }
]
```

```

    }
  ]
}
2026-07-07T19:45:35.974Z - INFO - engine sent successfully, the response to CBRS : {
  "spectrumInquiryResponse": [
    {
      "availableChannel": [
        {
          "channelType": "GAA",
          "frequencyRange": {
            "highFrequency": 3555000000,
            "lowFrequency": 3550000000
          },
          "ruleApplied": "FCC_PART_96"
        }
      ],
      "cbsdId": "SCW-TempMock-SAS11-00:a0:0a:11:5f:e2",
      "response": {
        "responseCode": 0
      }
    }
  ]
}
2026-07-07T19:45:46.522Z - INFO - registration request from CBRS : {
  "registrationRequest": [
    {
      "airInterface": {
        "radioTechnology": "NR"
      },
      "cbsdCategory": "A",
      "cbsdInfo": {
        "model": "RN-620",
        "vendor": "Airspar Networks"
      },
      "cbsdSerialNumber": "12-00:a0:0a:11:5f:c2",
      "fcclId": "SCW-Temp",
      "installationParam": {
        "antennaGain": 5,
        "eirpCapability": 29,
        "height": 1,
        "heightType": "AGL",
        "indoorDeployment": true,
        "latitude": 3.313883066177368,
        "longitude": 117.29069519042969
      },
      "measCapability": [],
      "userId": "NPLxLI"
    }
  ]
}
2026-07-07T19:45:46.578Z - INFO - engine sent successfully, the response to CBRS : {
  "registrationResponse": [
    {
      "response": {
        "responseCode": 201
      }
    }
  ]
}
2026-07-07T19:45:48.536Z - INFO - arrived to nstep starting question answer session with the technician
2026-07-07T19:45:48.540Z - INFO - the question is : Were there RF transmissions from the CBSD1 during the test? please choose one of the answers :
2026-07-07T19:45:54.292Z - INFO - for the question : Were there RF transmissions from the CBSD1 during the test? , the user choose n
2026-07-07T19:45:54.292Z - INFO - the question is : Were there RF transmissions from the CBSD2 during the test? please choose one of the answers :
2026-07-07T19:45:56.493Z - INFO - for the question : Were there RF transmissions from the CBSD2 during the test? , the user choose n
2026-07-07T19:45:56.890Z - INFO - The final result of the test : WINNF.FT.D.REG.19 is - passed

```

9.8 Log file for test case ID: WINNF.FT.C.REG.20

```

2026-07-08T20:26:11.055Z - INFO - WINNF TEST HARNESS RELEASE: 1.0.0.3 - 2018-November-13
2026-07-08T20:26:11.055Z - INFO - Selected spectrum frequency is {'lowFrequency': 3550000000L, 'highFrequency': 3590000000L}
2026-07-08T20:26:11.055Z - INFO - Granted Spectrum Max Eirp = 25dBm/MHz
2026-07-08T20:26:11.056Z - INFO - the selected test from the user : PowerMeasTest is starting now
2026-07-08T20:26:56.933Z - INFO - registration request from CBRS : {
  "registrationRequest": [
    {
      "airInterface": {
        "radioTechnology": "NR"
      },
      "cbsdCategory": "A",
      "cbsdInfo": {
        "model": "RN-620",
        "vendor": "Airspan Networks"
      },
      "cbsdSerialNumber": "11-00:a0:0a:11:5f:e2",
      "fcclId": "SCW-Temp",
      "installationParam": {
        "antennaGain": 5,
        "eirpCapability": 29,
        "height": 5,
        "heightType": "AGL",
        "indoorDeployment": true,
        "latitude": 3.313883066177368,
        "longitude": 117.29134368896484
      },
      "measCapability": [],
      "userId": "NPLxLI"
    }
  ]
}
2026-07-08T20:26:56.974Z - INFO - engine sent successfully, the response to CBRS : {
  "registrationResponse": [
    {
      "cbsdId": "SCW-TempMock-SAS11-00:a0:0a:11:5f:e2",
      "response": {
        "responseCode": 0
      }
    }
  ]
}
2026-07-08T20:26:57.523Z - INFO - spectrumInquiry request from CBRS : {
  "spectrumInquiryRequest": [
    {
      "cbsdId": "SCW-TempMock-SAS11-00:a0:0a:11:5f:e2",
      "inquiredSpectrum": [
        {
          "highFrequency": 3560000000,
          "lowFrequency": 3550000000
        },
        {
          "highFrequency": 3570000000,
          "lowFrequency": 3560000000
        },
        {
          "highFrequency": 3580000000,
          "lowFrequency": 3570000000
        },
        {
          "highFrequency": 3590000000,
          "lowFrequency": 3580000000
        }
      ]
    }
  ]
}

```

```

        "highFrequency": 3600000000,
        "lowFrequency": 3590000000
    },
    {
        "highFrequency": 3610000000,
        "lowFrequency": 3600000000
    },
    {
        "highFrequency": 3620000000,
        "lowFrequency": 3610000000
    },
    {
        "highFrequency": 3630000000,
        "lowFrequency": 3620000000
    },
    {
        "highFrequency": 3640000000,
        "lowFrequency": 3630000000
    },
    {
        "highFrequency": 3650000000,
        "lowFrequency": 3640000000
    },
    {
        "highFrequency": 3660000000,
        "lowFrequency": 3650000000
    },
    {
        "highFrequency": 3670000000,
        "lowFrequency": 3660000000
    },
    {
        "highFrequency": 3680000000,
        "lowFrequency": 3670000000
    },
    {
        "highFrequency": 3690000000,
        "lowFrequency": 3680000000
    },
    {
        "highFrequency": 3700000000,
        "lowFrequency": 3690000000
    }
    ]
}
]

```

2026-07-08T20:26:57.539Z - INFO - The requested spectrum is in the range, SpectrumInquiry response code is 0

2026-07-08T20:26:57.539Z - INFO - The requested spectrum is in the range, SpectrumInquiry response code is 0

2026-07-08T20:26:57.540Z - INFO - The requested spectrum is in the range, SpectrumInquiry response code is 0

2026-07-08T20:26:57.542Z - INFO - The requested spectrum is in the range, SpectrumInquiry response code is 0

2026-07-08T20:26:57.543Z - INFO - engine sent successfully, the response to CBRS : {

```

"spectrumInquiryResponse": [
  {
    "availableChannel": [
      {
        "channelType": "GAA",
        "frequencyRange": {
          "highFrequency": 3560000000,
          "lowFrequency": 3550000000
        },
        "maxEirp": 25,
        "ruleApplied": "FCC_PART_96"
      },
    ],
  }
]

```

```

        "channelType": "GAA",
        "frequencyRange": {
            "highFrequency": 3570000000,
            "lowFrequency": 3560000000
        },
        "maxEirp": 25,
        "ruleApplied": "FCC_PART_96"
    },
    {
        "channelType": "GAA",
        "frequencyRange": {
            "highFrequency": 3580000000,
            "lowFrequency": 3570000000
        },
        "maxEirp": 25,
        "ruleApplied": "FCC_PART_96"
    },
    {
        "channelType": "GAA",
        "frequencyRange": {
            "highFrequency": 3590000000,
            "lowFrequency": 3580000000
        },
        "maxEirp": 25,
        "ruleApplied": "FCC_PART_96"
    }
    ],
    "cbsdId": "SCW-TempMock-SAS11-00:a0:0a:11:5f:e2",
    "response": {
        "responseCode": 0
    }
}
]
}
2026-07-08T20:26:58.053Z - INFO - grant request from CBRS : {
  "grantRequest": [
    {
      "cbsdId": "SCW-TempMock-SAS11-00:a0:0a:11:5f:e2",
      "operationParam": {
        "maxEirp": 19,
        "operationFrequencyRange": {
          "highFrequency": 3590000000,
          "lowFrequency": 3550000000
        }
      }
    }
  ]
}
}
2026-07-08T20:26:58.066Z - INFO - engine sent successfully, the response to CBRS : {
  "grantResponse": [
    {
      "cbsdId": "SCW-TempMock-SAS11-00:a0:0a:11:5f:e2",
      "channelType": "GAA",
      "grantExpireTime": "2026-07-15T20:26:58Z",
      "grantId": "46448818",
      "heartbeatInterval": 60,
      "response": {
        "responseCode": 0
      }
    }
  ]
}
}
2026-07-08T20:26:58.575Z - INFO - heartbeat request from CBRS : {
  "heartbeatRequest": [
    {

```

```

        "cbsdId": "SCW-TempMock-SAS11-00:a0:0a:11:5f:e2",
        "grantId": "46448818",
        "operationState": "GRANTED"
    }
}
}
2026-07-08T20:26:58.588Z - INFO - engine sent successfully, the response to CBRS : {
  "heartbeatResponse": [
    {
      "cbsdId": "SCW-TempMock-SAS11-00:a0:0a:11:5f:e2",
      "grantId": "46448818",
      "response": {
        "responseCode": 0
      },
      "transmitExpireTime": "2026-07-08T20:30:18Z"
    }
  ]
}
2026-07-08T20:27:42.769Z - INFO - heartbeat request from CBRS : {
  "heartbeatRequest": [
    {
      "cbsdId": "SCW-TempMock-SAS11-00:a0:0a:11:5f:e2",
      "grantId": "46448818",
      "operationState": "AUTHORIZED"
    }
  ]
}
2026-07-08T20:27:42.776Z - INFO - engine sent successfully, the response to CBRS : {
  "heartbeatResponse": [
    {
      "cbsdId": "SCW-TempMock-SAS11-00:a0:0a:11:5f:e2",
      "grantId": "46448818",
      "response": {
        "responseCode": 0
      },
      "transmitExpireTime": "2026-07-08T20:31:02Z"
    }
  ]
}
2026-07-08T20:28:25.249Z - INFO - heartbeat request from CBRS : {
  "heartbeatRequest": [
    {
      "cbsdId": "SCW-TempMock-SAS11-00:a0:0a:11:5f:e2",
      "grantId": "46448818",
      "operationState": "AUTHORIZED"
    }
  ]
}
2026-07-08T20:28:25.269Z - INFO - engine sent successfully, the response to CBRS : {
  "heartbeatResponse": [
    {
      "cbsdId": "SCW-TempMock-SAS11-00:a0:0a:11:5f:e2",
      "grantId": "46448818",
      "response": {
        "responseCode": 0
      },
      "transmitExpireTime": "2026-07-08T20:31:45Z"
    }
  ]
}
2026-07-08T20:28:26.278Z - INFO - deregistration request from CBRS : {
  "deregistrationRequest": [
    {
      "cbsdId": "SCW-TempMock-SAS11-00:a0:0a:11:5f:e2"
    }
  ]
}

```

```

    ]
  }
2026-07-08T20:28:26.289Z - INFO - engine sent successfully, the response to CBRS : {
  "deregistrationResponse": [
    {
      "cbsdId": "SCW-TempMock-SAS11-00:a0:0a:11:5f:e2",
      "response": {
        "responseCode": 0
      }
    }
  ]
}
2026-07-08T20:28:27.299Z - INFO - registration request from CBRS : {
  "registrationRequest": [
    {
      "airInterface": {
        "radioTechnology": "NR"
      },
      "cbsdCategory": "A",
      "cbsdInfo": {
        "model": "RN-620",
        "vendor": "Airspar Networks"
      },
      "cbsdSerialNumber": "11-00:a0:0a:11:5f:e2",
      "fcid": "SCW-Temp",
      "installationParam": {
        "antennaGain": 5,
        "eirpCapability": 29,
        "height": 5,
        "heightType": "AGL",
        "indoorDeployment": true,
        "latitude": 3.313883066177368,
        "longitude": 117.29134368896484
      },
      "measCapability": [],
      "userId": "NPLxLI"
    }
  ]
}
2026-07-08T20:28:27.381Z - INFO - engine sent successfully, the response to CBRS : {
  "registrationResponse": [
    {
      "cbsdId": "SCW-TempMock-SAS11-00:a0:0a:11:5f:e2",
      "response": {
        "responseCode": 0
      }
    }
  ]
}
2026-07-08T20:28:50.434Z - INFO - registration request from CBRS : {
  "registrationRequest": [
    {
      "airInterface": {
        "radioTechnology": "NR"
      },
      "cbsdCategory": "A",
      "cbsdInfo": {
        "model": "RN-620",
        "vendor": "Airspar Networks"
      },
      "cbsdSerialNumber": "11-00:a0:0a:11:5f:e2",
      "fcid": "SCW-Temp",
      "installationParam": {
        "antennaGain": 5,
        "eirpCapability": 29,

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    "height": 1,
    "heightType": "AGL",
    "indoorDeployment": true,
    "latitude": 3.313883066177368,
    "longitude": 117.29069519042969
  },
  "measCapability": [],
  "userId": "NPLxLI"
}
]
}
2026-07-08T20:28:50.493Z - INFO - engine sent successfully, the response to CBRS : {
  "registrationResponse": [
    {
      "cbsdId": "SCW-TempMock-SAS11-00:a0:0a:11:5f:e2",
      "response": {
        "responseCode": 0
      }
    }
  ]
}
2026-07-08T20:28:51.502Z - INFO - spectrumInquiry request from CBRS : {
  "spectrumInquiryRequest": [
    {
      "cbsdId": "SCW-TempMock-SAS11-00:a0:0a:11:5f:e2",
      "inquiredSpectrum": [
        {
          "highFrequency": 3560000000,
          "lowFrequency": 3550000000
        },
        {
          "highFrequency": 3570000000,
          "lowFrequency": 3560000000
        },
        {
          "highFrequency": 3580000000,
          "lowFrequency": 3570000000
        },
        {
          "highFrequency": 3590000000,
          "lowFrequency": 3580000000
        },
        {
          "highFrequency": 3600000000,
          "lowFrequency": 3590000000
        },
        {
          "highFrequency": 3610000000,
          "lowFrequency": 3600000000
        },
        {
          "highFrequency": 3620000000,
          "lowFrequency": 3610000000
        },
        {
          "highFrequency": 3630000000,
          "lowFrequency": 3620000000
        },
        {
          "highFrequency": 3640000000,
          "lowFrequency": 3630000000
        },
        {
          "highFrequency": 3650000000,
          "lowFrequency": 3640000000
        }
      ]
    }
  ]
}

```

```

    },
    {
      "highFrequency": 3660000000,
      "lowFrequency": 3650000000
    },
    {
      "highFrequency": 3670000000,
      "lowFrequency": 3660000000
    },
    {
      "highFrequency": 3680000000,
      "lowFrequency": 3670000000
    },
    {
      "highFrequency": 3690000000,
      "lowFrequency": 3680000000
    },
    {
      "highFrequency": 3700000000,
      "lowFrequency": 3690000000
    }
  ]
}
}
}
2026-07-08T20:28:51.526Z - INFO - The requested spectrum is in the range, SpectrumInquiry response code is 0
2026-07-08T20:28:51.529Z - INFO - The requested spectrum is in the range, SpectrumInquiry response code is 0
2026-07-08T20:28:51.532Z - INFO - The requested spectrum is in the range, SpectrumInquiry response code is 0
2026-07-08T20:28:51.535Z - INFO - The requested spectrum is in the range, SpectrumInquiry response code is 0
2026-07-08T20:28:51.542Z - INFO - engine sent successfully, the response to CBRS : {
  "spectrumInquiryResponse": [
    {
      "availableChannel": [
        {
          "channelType": "GAA",
          "frequencyRange": {
            "highFrequency": 3560000000,
            "lowFrequency": 3550000000
          },
          "maxEirp": 25,
          "ruleApplied": "FCC_PART_96"
        },
        {
          "channelType": "GAA",
          "frequencyRange": {
            "highFrequency": 3570000000,
            "lowFrequency": 3560000000
          },
          "maxEirp": 25,
          "ruleApplied": "FCC_PART_96"
        },
        {
          "channelType": "GAA",
          "frequencyRange": {
            "highFrequency": 3580000000,
            "lowFrequency": 3570000000
          },
          "maxEirp": 25,
          "ruleApplied": "FCC_PART_96"
        },
        {
          "channelType": "GAA",
          "frequencyRange": {
            "highFrequency": 3590000000,
            "lowFrequency": 3580000000
          }
        }
      ]
    }
  ]
}

```

```

        },
        "maxEirp": 25,
        "ruleApplied": "FCC_PART_96"
    }
},
"cbstdId": "SCW-TempMock-SAS11-00:a0:0a:11:5f:e2",
"response": {
    "responseCode": 0
}
}
]
}
2026-07-08T20:28:52.551Z - INFO - grant request from CBRS : {
    "grantRequest": [
        {
            "cbstdId": "SCW-TempMock-SAS11-00:a0:0a:11:5f:e2",
            "operationParam": {
                "maxEirp": 19,
                "operationFrequencyRange": {
                    "highFrequency": 3590000000,
                    "lowFrequency": 3550000000
                }
            }
        }
    ]
}
2026-07-08T20:28:52.565Z - INFO - engine sent successfully, the response to CBRS : {
    "grantResponse": [
        {
            "cbstdId": "SCW-TempMock-SAS11-00:a0:0a:11:5f:e2",
            "channelType": "GAA",
            "grantExpireTime": "2026-07-15T20:28:52Z",
            "grantId": "755490830",
            "heartbeatInterval": 60,
            "response": {
                "responseCode": 0
            }
        }
    ]
}
2026-07-08T20:28:53.572Z - INFO - heartbeat request from CBRS : {
    "heartbeatRequest": [
        {
            "cbstdId": "SCW-TempMock-SAS11-00:a0:0a:11:5f:e2",
            "grantId": "755490830",
            "operationState": "GRANTED"
        }
    ]
}
2026-07-08T20:28:53.591Z - INFO - engine sent successfully, the response to CBRS : {
    "heartbeatResponse": [
        {
            "cbstdId": "SCW-TempMock-SAS11-00:a0:0a:11:5f:e2",
            "grantId": "755490830",
            "response": {
                "responseCode": 0
            },
            "transmitExpireTime": "2026-07-08T20:32:13Z"
        }
    ]
}
2026-07-08T20:31:29.545Z - INFO - heartbeat request from CBRS : {
    "heartbeatRequest": [
        {
            "cbstdId": "SCW-TempMock-SAS11-00:a0:0a:11:5f:e2",

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        "grantId": "755490830",
        "operationState": "AUTHORIZED"
    }
}
}
2026-07-08T20:31:29.559Z - INFO - relinquishment request from CBRS : {
  "relinquishmentRequest": [
    {
      "cbsdId": "SCW-TempMock-SAS11-00:a0:0a:11:5f:e2",
      "grantId": "755490830"
    }
  ]
}
}
2026-07-08T20:31:29.581Z - INFO - engine sent successfully, the response to CBRS : {
  "heartbeatResponse": [
    {
      "cbsdId": "SCW-TempMock-SAS11-00:a0:0a:11:5f:e2",
      "grantId": "755490830",
      "response": {
        "responseCode": 0
      },
      "transmitExpireTime": "2026-07-08T20:34:49Z"
    }
  ]
}
}
2026-07-08T20:31:29.586Z - INFO - engine sent successfully, the response to CBRS : {
  "relinquishmentResponse": [
    {
      "cbsdId": "SCW-TempMock-SAS11-00:a0:0a:11:5f:e2",
      "grantId": "755490830",
      "response": {
        "responseCode": 0
      }
    }
  ]
}
}
}

```

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

```

2026-07-08T16:29:02.263Z - INFO - WINNF TEST HARNESS RELEASE: 1.0.0.3 - 2018-November-13
2026-07-08T16:29:02.265Z - INFO - the selected test from the user : WINNF.FT.C.GRA.1 is starting now
2026-07-08T16:29:23.398Z - INFO - registration request from CBRS : {
  "registrationRequest": [
    {
      "airInterface": {
        "radioTechnology": "NR"
      },
      "cbsdCategory": "A",
      "cbsdInfo": {
        "model": "RN-620",
        "vendor": "Airspan Networks"
      },
      "cbsdSerialNumber": "11-00:a0:0a:11:5f:e2",
      "fcclId": "SCW-Temp",
      "installationParam": {
        "antennaGain": 5,
        "eirpCapability": 29,
        "height": 5,
        "heightType": "AGL",
        "indoorDeployment": true,
        "latitude": 3.313883066177368,
        "longitude": 117.29134368896484
      },
      "measCapability": [],
      "userId": "NPLxLI"
    }
  ]
}

```

```

    }
  ]
}
2026-07-08T16:29:23.438Z - INFO - engine sent successfully, the response to CBRS : {
  "registrationResponse": [
    {
      "cbsdId": "SCW-TempMock-SAS11-00:a0:0a:11:5f:e2",
      "response": {
        "responseCode": 0
      }
    }
  ]
}
}
2026-07-08T16:29:23.982Z - INFO - spectrumInquiry request from CBRS : {
  "spectrumInquiryRequest": [
    {
      "cbsdId": "SCW-TempMock-SAS11-00:a0:0a:11:5f:e2",
      "inquiredSpectrum": [
        {
          "highFrequency": 3560000000,
          "lowFrequency": 3550000000
        },
        {
          "highFrequency": 3570000000,
          "lowFrequency": 3560000000
        },
        {
          "highFrequency": 3580000000,
          "lowFrequency": 3570000000
        },
        {
          "highFrequency": 3590000000,
          "lowFrequency": 3580000000
        },
        {
          "highFrequency": 3600000000,
          "lowFrequency": 3590000000
        },
        {
          "highFrequency": 3610000000,
          "lowFrequency": 3600000000
        },
        {
          "highFrequency": 3620000000,
          "lowFrequency": 3610000000
        },
        {
          "highFrequency": 3630000000,
          "lowFrequency": 3620000000
        },
        {
          "highFrequency": 3640000000,
          "lowFrequency": 3630000000
        },
        {
          "highFrequency": 3650000000,
          "lowFrequency": 3640000000
        },
        {
          "highFrequency": 3660000000,
          "lowFrequency": 3650000000
        },
        {
          "highFrequency": 3670000000,
          "lowFrequency": 3660000000
        }
      ]
    }
  ]
}

```

```

    },
    {
      "highFrequency": 3680000000,
      "lowFrequency": 3670000000
    },
    {
      "highFrequency": 3690000000,
      "lowFrequency": 3680000000
    },
    {
      "highFrequency": 3700000000,
      "lowFrequency": 3690000000
    }
  ]
}
]
}
}
2026-07-08T16:29:23.989Z - INFO - engine sent successfully, the response to CBRS : {
  "spectrumInquiryResponse": [
    {
      "availableChannel": [
        {
          "channelType": "GAA",
          "frequencyRange": {
            "highFrequency": 3560000000,
            "lowFrequency": 3550000000
          },
          "ruleApplied": "FCC_PART_96"
        },
        {
          "channelType": "GAA",
          "frequencyRange": {
            "highFrequency": 3570000000,
            "lowFrequency": 3560000000
          },
          "ruleApplied": "FCC_PART_96"
        },
        {
          "channelType": "GAA",
          "frequencyRange": {
            "highFrequency": 3580000000,
            "lowFrequency": 3570000000
          },
          "ruleApplied": "FCC_PART_96"
        },
        {
          "channelType": "GAA",
          "frequencyRange": {
            "highFrequency": 3590000000,
            "lowFrequency": 3580000000
          },
          "ruleApplied": "FCC_PART_96"
        },
        {
          "channelType": "GAA",
          "frequencyRange": {
            "highFrequency": 3600000000,
            "lowFrequency": 3590000000
          },
          "ruleApplied": "FCC_PART_96"
        },
        {
          "channelType": "GAA",
          "frequencyRange": {
            "highFrequency": 3610000000,

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        "lowFrequency": 3600000000
      },
      "ruleApplied": "FCC_PART_96"
    },
    {
      "channelType": "GAA",
      "frequencyRange": {
        "highFrequency": 3620000000,
        "lowFrequency": 3610000000
      },
      "ruleApplied": "FCC_PART_96"
    },
    {
      "channelType": "GAA",
      "frequencyRange": {
        "highFrequency": 3630000000,
        "lowFrequency": 3620000000
      },
      "ruleApplied": "FCC_PART_96"
    },
    {
      "channelType": "GAA",
      "frequencyRange": {
        "highFrequency": 3640000000,
        "lowFrequency": 3630000000
      },
      "ruleApplied": "FCC_PART_96"
    },
    {
      "channelType": "GAA",
      "frequencyRange": {
        "highFrequency": 3650000000,
        "lowFrequency": 3640000000
      },
      "ruleApplied": "FCC_PART_96"
    },
    {
      "channelType": "GAA",
      "frequencyRange": {
        "highFrequency": 3660000000,
        "lowFrequency": 3650000000
      },
      "ruleApplied": "FCC_PART_96"
    },
    {
      "channelType": "GAA",
      "frequencyRange": {
        "highFrequency": 3670000000,
        "lowFrequency": 3660000000
      },
      "ruleApplied": "FCC_PART_96"
    },
    {
      "channelType": "GAA",
      "frequencyRange": {
        "highFrequency": 3680000000,
        "lowFrequency": 3670000000
      },
      "ruleApplied": "FCC_PART_96"
    },
    {
      "channelType": "GAA",
      "frequencyRange": {
        "highFrequency": 3690000000,
        "lowFrequency": 3680000000
      },

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    },
    "ruleApplied": "FCC_PART_96"
  },
  {
    "channelType": "GAA",
    "frequencyRange": {
      "highFrequency": 3700000000,
      "lowFrequency": 3690000000
    },
    "ruleApplied": "FCC_PART_96"
  }
],
"cbstdId": "SCW-TempMock-SAS11-00:a0:0a:11:5f:e2",
"response": {
  "responseCode": 0
}
}
]
}
2026-07-08T16:29:24.496Z - INFO - grant request from CBRS : {
  "grantRequest": [
    {
      "cbstdId": "SCW-TempMock-SAS11-00:a0:0a:11:5f:e2",
      "operationParam": {
        "maxEirp": 19,
        "operationFrequencyRange": {
          "highFrequency": 3590000000,
          "lowFrequency": 3550000000
        }
      }
    }
  ]
}
}
2026-07-08T16:29:24.515Z - INFO - engine sent successfully, the response to CBRS : {
  "grantResponse": [
    {
      "cbstdId": "SCW-TempMock-SAS11-00:a0:0a:11:5f:e2",
      "response": {
        "responseCode": 400
      }
    }
  ]
}
}
2026-07-08T16:29:26.464Z - INFO - arrived to nstep starting question answer session with the technician
2026-07-08T16:29:26.470Z - INFO - the question is : Were there RF transmissions from the CBS1 during the test? please choose one of the answers :
2026-07-08T16:29:47.105Z - INFO - for the question : Were there RF transmissions from the CBS1 during the test? , the user choose n
2026-07-08T16:29:48.299Z - INFO - The final result of the test : WINNF.FT.C.GRA.1 is - passed

```

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

```

2026-07-08T16:30:51.782Z - INFO - WINNF TEST HARNESS RELEASE: 1.0.0.3 - 2018-November-13
2026-07-08T16:30:51.783Z - INFO - the selected test from the user : WINNF.FT.C.GRA.2 is starting now
2026-07-08T16:30:59.671Z - INFO - registration request from CBRS : {
  "registrationRequest": [
    {
      "airInterface": {
        "radioTechnology": "NR"
      },
      "cbstdCategory": "A",
      "cbstdInfo": {
        "model": "RN-620",
        "vendor": "Airspar Networks"
      },
      "cbstdSerialNumber": "11-00:a0:0a:11:5f:e2",
      "fcclId": "SCW-Temp",

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    "installationParam": {
      "antennaGain": 5,
      "eirpCapability": 29,
      "height": 5,
      "heightType": "AGL",
      "indoorDeployment": true,
      "latitude": 3.313883066177368,
      "longitude": 117.29134368896484
    },
    "measCapability": [],
    "userId": "NPLxLI"
  }
}
}
2026-07-08T16:30:59.707Z - INFO - engine sent successfully, the response to CBRS : {
  "registrationResponse": [
    {
      "cbsdId": "SCW-TempMock-SAS11-00:a0:0a:11:5f:e2",
      "response": {
        "responseCode": 0
      }
    }
  ]
}
}
2026-07-08T16:31:00.256Z - INFO - spectrumInquiry request from CBRS : {
  "spectrumInquiryRequest": [
    {
      "cbsdId": "SCW-TempMock-SAS11-00:a0:0a:11:5f:e2",
      "inquiredSpectrum": [
        {
          "highFrequency": 3560000000,
          "lowFrequency": 3550000000
        },
        {
          "highFrequency": 3570000000,
          "lowFrequency": 3560000000
        },
        {
          "highFrequency": 3580000000,
          "lowFrequency": 3570000000
        },
        {
          "highFrequency": 3590000000,
          "lowFrequency": 3580000000
        },
        {
          "highFrequency": 3600000000,
          "lowFrequency": 3590000000
        },
        {
          "highFrequency": 3610000000,
          "lowFrequency": 3600000000
        },
        {
          "highFrequency": 3620000000,
          "lowFrequency": 3610000000
        },
        {
          "highFrequency": 3630000000,
          "lowFrequency": 3620000000
        },
        {
          "highFrequency": 3640000000,
          "lowFrequency": 3630000000
        }
      ]
    }
  ]
}

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    {
      "highFrequency": 3650000000,
      "lowFrequency": 3640000000
    },
    {
      "highFrequency": 3660000000,
      "lowFrequency": 3650000000
    },
    {
      "highFrequency": 3670000000,
      "lowFrequency": 3660000000
    },
    {
      "highFrequency": 3680000000,
      "lowFrequency": 3670000000
    },
    {
      "highFrequency": 3690000000,
      "lowFrequency": 3680000000
    },
    {
      "highFrequency": 3700000000,
      "lowFrequency": 3690000000
    }
  ]
}
]
}
}
2026-07-08T16:31:00.275Z - INFO - engine sent successfully, the response to CBRS : {
  "spectrumInquiryResponse": [
    {
      "availableChannel": [
        {
          "channelType": "GAA",
          "frequencyRange": {
            "highFrequency": 3560000000,
            "lowFrequency": 3550000000
          },
          "ruleApplied": "FCC_PART_96"
        },
        {
          "channelType": "GAA",
          "frequencyRange": {
            "highFrequency": 3570000000,
            "lowFrequency": 3560000000
          },
          "ruleApplied": "FCC_PART_96"
        },
        {
          "channelType": "GAA",
          "frequencyRange": {
            "highFrequency": 3580000000,
            "lowFrequency": 3570000000
          },
          "ruleApplied": "FCC_PART_96"
        },
        {
          "channelType": "GAA",
          "frequencyRange": {
            "highFrequency": 3590000000,
            "lowFrequency": 3580000000
          },
          "ruleApplied": "FCC_PART_96"
        },
        {

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    "channelType": "GAA",
    "frequencyRange": {
      "highFrequency": 3600000000,
      "lowFrequency": 3590000000
    },
    "ruleApplied": "FCC_PART_96"
  },
  {
    "channelType": "GAA",
    "frequencyRange": {
      "highFrequency": 3610000000,
      "lowFrequency": 3600000000
    },
    "ruleApplied": "FCC_PART_96"
  },
  {
    "channelType": "GAA",
    "frequencyRange": {
      "highFrequency": 3620000000,
      "lowFrequency": 3610000000
    },
    "ruleApplied": "FCC_PART_96"
  },
  {
    "channelType": "GAA",
    "frequencyRange": {
      "highFrequency": 3630000000,
      "lowFrequency": 3620000000
    },
    "ruleApplied": "FCC_PART_96"
  },
  {
    "channelType": "GAA",
    "frequencyRange": {
      "highFrequency": 3640000000,
      "lowFrequency": 3630000000
    },
    "ruleApplied": "FCC_PART_96"
  },
  {
    "channelType": "GAA",
    "frequencyRange": {
      "highFrequency": 3650000000,
      "lowFrequency": 3640000000
    },
    "ruleApplied": "FCC_PART_96"
  },
  {
    "channelType": "GAA",
    "frequencyRange": {
      "highFrequency": 3660000000,
      "lowFrequency": 3650000000
    },
    "ruleApplied": "FCC_PART_96"
  },
  {
    "channelType": "GAA",
    "frequencyRange": {
      "highFrequency": 3670000000,
      "lowFrequency": 3660000000
    },
    "ruleApplied": "FCC_PART_96"
  },
  {
    "channelType": "GAA",

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    "frequencyRange": {
      "highFrequency": 3680000000,
      "lowFrequency": 3670000000
    },
    "ruleApplied": "FCC_PART_96"
  },
  {
    "channelType": "GAA",
    "frequencyRange": {
      "highFrequency": 3690000000,
      "lowFrequency": 3680000000
    },
    "ruleApplied": "FCC_PART_96"
  },
  {
    "channelType": "GAA",
    "frequencyRange": {
      "highFrequency": 3700000000,
      "lowFrequency": 3690000000
    },
    "ruleApplied": "FCC_PART_96"
  }
],
"cbid": "SCW-TempMock-SAS11-00:a0:0a:11:5f:e2",
"response": {
  "responseCode": 0
}
}
]
}
2026-07-08T16:31:00.782Z - INFO - grant request from CBRS : {
  "grantRequest": [
    {
      "cbid": "SCW-TempMock-SAS11-00:a0:0a:11:5f:e2",
      "operationParam": {
        "maxEirp": 19,
        "operationFrequencyRange": {
          "highFrequency": 3590000000,
          "lowFrequency": 3550000000
        }
      }
    }
  ]
}
}
2026-07-08T16:31:00.803Z - INFO - engine sent successfully, the response to CBRS : {
  "grantResponse": [
    {
      "cbid": "SCW-TempMock-SAS11-00:a0:0a:11:5f:e2",
      "response": {
        "responseCode": 401
      }
    }
  ]
}
}
2026-07-08T16:31:01.874Z - INFO - arrived to nstep starting question answer session with the technician
2026-07-08T16:31:01.878Z - INFO - the question is : Were there RF transmissions from the CBSD1 during the test? please choose one of the answers :
2026-07-08T16:31:29.592Z - INFO - for the question : Were there RF transmissions from the CBSD1 during the test? , the user choose n
2026-07-08T16:31:29.960Z - INFO - The final result of the test : WINNF.FT.C.GRA.2 is - passed

```

9.11 Log file for test case ID: WINNF.FT.D.HBT.2

```

2026-07-07T22:37:20.378Z - INFO - WINNF TEST HARNESS RELEASE: 1.0.0.3 - 2018-November-13
2026-07-07T22:37:20.378Z - INFO - the selected test from the user : WINNF.FT.D.HBT.2 is starting now
2026-07-07T22:37:40.427Z - INFO - registration request from CBRS : {
  "registrationRequest": [

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{
  "airInterface": {
    "radioTechnology": "NR"
  },
  "cbsdCategory": "A",
  "cbsdInfo": {
    "model": "RN-620",
    "vendor": "Airspar Networks"
  },
  "cbsdSerialNumber": "11-00:a0:0a:11:5f:e2",
  "fcclId": "SCW-Temp",
  "installationParam": {
    "antennaGain": 5,
    "eirpCapability": 29,
    "height": 5,
    "heightType": "AGL",
    "indoorDeployment": true,
    "latitude": 3.313883066177368,
    "longitude": 117.29134368896484
  },
  "measCapability": [],
  "userId": "NPLxLI"
}
]
}
2026-07-07T22:37:40.460Z - INFO - engine sent successfully, the response to CBRS : {
  "registrationResponse": [
    {
      "cbsdId": "SCW-TempMock-SAS11-00:a0:0a:11:5f:e2",
      "response": {
        "responseCode": 0
      }
    }
  ]
}
}
2026-07-07T22:37:41.007Z - INFO - spectrumInquiry request from CBRS : {
  "spectrumInquiryRequest": [
    {
      "cbsdId": "SCW-TempMock-SAS11-00:a0:0a:11:5f:e2",
      "inquiredSpectrum": [
        {
          "highFrequency": 3560000000,
          "lowFrequency": 3550000000
        },
        {
          "highFrequency": 3570000000,
          "lowFrequency": 3560000000
        },
        {
          "highFrequency": 3580000000,
          "lowFrequency": 3570000000
        },
        {
          "highFrequency": 3590000000,
          "lowFrequency": 3580000000
        },
        {
          "highFrequency": 3600000000,
          "lowFrequency": 3590000000
        },
        {
          "highFrequency": 3610000000,
          "lowFrequency": 3600000000
        },
        {

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        "highFrequency": 3620000000,
        "lowFrequency": 3610000000
    },
    {
        "highFrequency": 3630000000,
        "lowFrequency": 3620000000
    },
    {
        "highFrequency": 3640000000,
        "lowFrequency": 3630000000
    },
    {
        "highFrequency": 3650000000,
        "lowFrequency": 3640000000
    },
    {
        "highFrequency": 3660000000,
        "lowFrequency": 3650000000
    },
    {
        "highFrequency": 3670000000,
        "lowFrequency": 3660000000
    },
    {
        "highFrequency": 3680000000,
        "lowFrequency": 3670000000
    },
    {
        "highFrequency": 3690000000,
        "lowFrequency": 3680000000
    },
    {
        "highFrequency": 3700000000,
        "lowFrequency": 3690000000
    }
    ]
}
]
}
2026-07-07T22:37:41.036Z - INFO - engine sent successfully, the response to CBRS : {
  "spectrumInquiryResponse": [
    {
      "availableChannel": [
        {
          "channelType": "GAA",
          "frequencyRange": {
            "highFrequency": 3560000000,
            "lowFrequency": 3550000000
          },
          "ruleApplied": "FCC_PART_96"
        },
        {
          "channelType": "GAA",
          "frequencyRange": {
            "highFrequency": 3570000000,
            "lowFrequency": 3560000000
          },
          "ruleApplied": "FCC_PART_96"
        },
        {
          "channelType": "GAA",
          "frequencyRange": {
            "highFrequency": 3580000000,
            "lowFrequency": 3570000000
          },
          "ruleApplied": "FCC_PART_96"
        }
      ]
    }
  ]
}

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    "ruleApplied": "FCC_PART_96"
  },
  {
    "channelType": "GAA",
    "frequencyRange": {
      "highFrequency": 3590000000,
      "lowFrequency": 3580000000
    },
    "ruleApplied": "FCC_PART_96"
  },
  {
    "channelType": "GAA",
    "frequencyRange": {
      "highFrequency": 3600000000,
      "lowFrequency": 3590000000
    },
    "ruleApplied": "FCC_PART_96"
  },
  {
    "channelType": "GAA",
    "frequencyRange": {
      "highFrequency": 3610000000,
      "lowFrequency": 3600000000
    },
    "ruleApplied": "FCC_PART_96"
  },
  {
    "channelType": "GAA",
    "frequencyRange": {
      "highFrequency": 3620000000,
      "lowFrequency": 3610000000
    },
    "ruleApplied": "FCC_PART_96"
  },
  {
    "channelType": "GAA",
    "frequencyRange": {
      "highFrequency": 3630000000,
      "lowFrequency": 3620000000
    },
    "ruleApplied": "FCC_PART_96"
  },
  {
    "channelType": "GAA",
    "frequencyRange": {
      "highFrequency": 3640000000,
      "lowFrequency": 3630000000
    },
    "ruleApplied": "FCC_PART_96"
  },
  {
    "channelType": "GAA",
    "frequencyRange": {
      "highFrequency": 3650000000,
      "lowFrequency": 3640000000
    },
    "ruleApplied": "FCC_PART_96"
  },
  {
    "channelType": "GAA",
    "frequencyRange": {
      "highFrequency": 3660000000,
      "lowFrequency": 3650000000
    },
    "ruleApplied": "FCC_PART_96"
  }

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    },
    {
      "channelType": "GAA",
      "frequencyRange": {
        "highFrequency": 3670000000,
        "lowFrequency": 3660000000
      },
      "ruleApplied": "FCC_PART_96"
    },
    {
      "channelType": "GAA",
      "frequencyRange": {
        "highFrequency": 3680000000,
        "lowFrequency": 3670000000
      },
      "ruleApplied": "FCC_PART_96"
    },
    {
      "channelType": "GAA",
      "frequencyRange": {
        "highFrequency": 3690000000,
        "lowFrequency": 3680000000
      },
      "ruleApplied": "FCC_PART_96"
    },
    {
      "channelType": "GAA",
      "frequencyRange": {
        "highFrequency": 3700000000,
        "lowFrequency": 3690000000
      },
      "ruleApplied": "FCC_PART_96"
    }
  ],
  "cbsId": "SCW-TempMock-SAS11-00:a0:0a:11:5f:e2",
  "response": {
    "responseCode": 0
  }
}
]
}
2026-07-07T22:37:41.546Z - INFO - grant request from CBRS : {
  "grantRequest": [
    {
      "cbsId": "SCW-TempMock-SAS11-00:a0:0a:11:5f:e2",
      "operationParam": {
        "maxEirp": 19,
        "operationFrequencyRange": {
          "highFrequency": 3590000000,
          "lowFrequency": 3550000000
        }
      }
    }
  ]
}
]
}
2026-07-07T22:37:41.565Z - INFO - engine sent successfully, the response to CBRS : {
  "grantResponse": [
    {
      "cbsId": "SCW-TempMock-SAS11-00:a0:0a:11:5f:e2",
      "channelType": "GAA",
      "grantExpireTime": "2026-07-14T22:37:41Z",
      "grantId": "735132001",
      "heartbeatInterval": 60,
      "response": {
        "responseCode": 0
      }
    }
  ]
}

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    }
  }
}
2026-07-07T22:37:42.573Z - INFO - heartbeat request from CBRS : {
  "heartbeatRequest": [
    {
      "cbsdId": "SCW-TempMock-SAS11-00:a0:0a:11:5f:e2",
      "grantId": "735132001",
      "operationState": "GRANTED"
    }
  ]
}
2026-07-07T22:37:42.591Z - INFO - engine sent successfully, the response to CBRS : {
  "heartbeatResponse": [
    {
      "cbsdId": "SCW-TempMock-SAS11-00:a0:0a:11:5f:e2",
      "grantId": "735132001",
      "response": {
        "responseCode": 0
      },
      "transmitExpireTime": "2026-07-07T22:41:02Z"
    }
  ]
}
2026-07-07T22:38:21.213Z - INFO - registration request from CBRS : {
  "registrationRequest": [
    {
      "airInterface": {
        "radioTechnology": "NR"
      },
      "cbsdCategory": "A",
      "cbsdInfo": {
        "model": "RN-620",
        "vendor": "Airspan Networks"
      },
      "cbsdSerialNumber": "12-00:a0:0a:11:5f:c2",
      "fcclId": "SCW-Temp",
      "installationParam": {
        "antennaGain": 5,
        "eirpCapability": 29,
        "height": 1,
        "heightType": "AGL",
        "indoorDeployment": true,
        "latitude": 3.313883066177368,
        "longitude": 117.29069519042969
      },
      "measCapability": [],
      "userId": "NPLxLI"
    }
  ]
}
2026-07-07T22:38:21.276Z - INFO - engine sent successfully, the response to CBRS : {
  "registrationResponse": [
    {
      "cbsdId": "SCW-TempMock-SAS12-00:a0:0a:11:5f:c2",
      "response": {
        "responseCode": 0
      }
    }
  ]
}
2026-07-07T22:38:22.282Z - INFO - spectrumInquiry request from CBRS : {
  "spectrumInquiryRequest": [
    {

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```
"cbsdId": "SCW-TempMock-SAS12-00:a0:0a:11:5f:c2",
"inquiredSpectrum": [
  {
    "highFrequency": 3560000000,
    "lowFrequency": 3550000000
  },
  {
    "highFrequency": 3570000000,
    "lowFrequency": 3560000000
  },
  {
    "highFrequency": 3580000000,
    "lowFrequency": 3570000000
  },
  {
    "highFrequency": 3590000000,
    "lowFrequency": 3580000000
  },
  {
    "highFrequency": 3600000000,
    "lowFrequency": 3590000000
  },
  {
    "highFrequency": 3610000000,
    "lowFrequency": 3600000000
  },
  {
    "highFrequency": 3620000000,
    "lowFrequency": 3610000000
  },
  {
    "highFrequency": 3630000000,
    "lowFrequency": 3620000000
  },
  {
    "highFrequency": 3640000000,
    "lowFrequency": 3630000000
  },
  {
    "highFrequency": 3650000000,
    "lowFrequency": 3640000000
  },
  {
    "highFrequency": 3660000000,
    "lowFrequency": 3650000000
  },
  {
    "highFrequency": 3670000000,
    "lowFrequency": 3660000000
  },
  {
    "highFrequency": 3680000000,
    "lowFrequency": 3670000000
  },
  {
    "highFrequency": 3690000000,
    "lowFrequency": 3680000000
  },
  {
    "highFrequency": 3700000000,
    "lowFrequency": 3690000000
  }
]
}
```

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}
2026-07-07T22:38:22.305Z - INFO - engine sent successfully, the response to CBRS : {
  "spectrumInquiryResponse": [
    {
      "availableChannel": [
        {
          "channelType": "GAA",
          "frequencyRange": {
            "highFrequency": 3560000000,
            "lowFrequency": 3550000000
          },
          "ruleApplied": "FCC_PART_96"
        },
        {
          "channelType": "GAA",
          "frequencyRange": {
            "highFrequency": 3570000000,
            "lowFrequency": 3560000000
          },
          "ruleApplied": "FCC_PART_96"
        },
        {
          "channelType": "GAA",
          "frequencyRange": {
            "highFrequency": 3580000000,
            "lowFrequency": 3570000000
          },
          "ruleApplied": "FCC_PART_96"
        },
        {
          "channelType": "GAA",
          "frequencyRange": {
            "highFrequency": 3590000000,
            "lowFrequency": 3580000000
          },
          "ruleApplied": "FCC_PART_96"
        },
        {
          "channelType": "GAA",
          "frequencyRange": {
            "highFrequency": 3600000000,
            "lowFrequency": 3590000000
          },
          "ruleApplied": "FCC_PART_96"
        },
        {
          "channelType": "GAA",
          "frequencyRange": {
            "highFrequency": 3610000000,
            "lowFrequency": 3600000000
          },
          "ruleApplied": "FCC_PART_96"
        },
        {
          "channelType": "GAA",
          "frequencyRange": {
            "highFrequency": 3620000000,
            "lowFrequency": 3610000000
          },
          "ruleApplied": "FCC_PART_96"
        },
        {
          "channelType": "GAA",
          "frequencyRange": {
            "highFrequency": 3630000000,

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        "lowFrequency": 3620000000
      },
      "ruleApplied": "FCC_PART_96"
    },
    {
      "channelType": "GAA",
      "frequencyRange": {
        "highFrequency": 3640000000,
        "lowFrequency": 3630000000
      },
      "ruleApplied": "FCC_PART_96"
    },
    {
      "channelType": "GAA",
      "frequencyRange": {
        "highFrequency": 3650000000,
        "lowFrequency": 3640000000
      },
      "ruleApplied": "FCC_PART_96"
    },
    {
      "channelType": "GAA",
      "frequencyRange": {
        "highFrequency": 3660000000,
        "lowFrequency": 3650000000
      },
      "ruleApplied": "FCC_PART_96"
    },
    {
      "channelType": "GAA",
      "frequencyRange": {
        "highFrequency": 3670000000,
        "lowFrequency": 3660000000
      },
      "ruleApplied": "FCC_PART_96"
    },
    {
      "channelType": "GAA",
      "frequencyRange": {
        "highFrequency": 3680000000,
        "lowFrequency": 3670000000
      },
      "ruleApplied": "FCC_PART_96"
    },
    {
      "channelType": "GAA",
      "frequencyRange": {
        "highFrequency": 3690000000,
        "lowFrequency": 3680000000
      },
      "ruleApplied": "FCC_PART_96"
    },
    {
      "channelType": "GAA",
      "frequencyRange": {
        "highFrequency": 3700000000,
        "lowFrequency": 3690000000
      },
      "ruleApplied": "FCC_PART_96"
    }
  ],
  "cbsdId": "SCW-TempMock-SAS12-00:a0:0a:11:5f:c2",
  "response": {
    "responseCode": 0
  }
}

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    }
  ]
}
2026-07-07T22:38:23.315Z - INFO - grant request from CBRs : {
  "grantRequest": [
    {
      "cbsdId": "SCW-TempMock-SAS12-00:a0:0a:11:5f:c2",
      "operationParam": {
        "maxEirp": 19,
        "operationFrequencyRange": {
          "highFrequency": 3590000000,
          "lowFrequency": 3550000000
        }
      }
    }
  ]
}
2026-07-07T22:38:23.332Z - INFO - engine sent successfully, the response to CBRs : {
  "grantResponse": [
    {
      "cbsdId": "SCW-TempMock-SAS12-00:a0:0a:11:5f:c2",
      "channelType": "GAA",
      "grantExpireTime": "2026-07-14T22:38:23Z",
      "grantId": "707660402",
      "heartbeatInterval": 60,
      "response": {
        "responseCode": 0
      }
    }
  ]
}
2026-07-07T22:38:24.339Z - INFO - heartbeat request from CBRs : {
  "heartbeatRequest": [
    {
      "cbsdId": "SCW-TempMock-SAS12-00:a0:0a:11:5f:c2",
      "grantId": "707660402",
      "operationState": "GRANTED"
    }
  ]
}
2026-07-07T22:38:24.358Z - INFO - engine sent successfully, the response to CBRs : {
  "heartbeatResponse": [
    {
      "cbsdId": "SCW-TempMock-SAS12-00:a0:0a:11:5f:c2",
      "grantId": "707660402",
      "response": {
        "responseCode": 0
      },
      "transmitExpireTime": "2026-07-07T22:41:44Z"
    }
  ]
}
2026-07-07T22:38:32.371Z - INFO - heartbeat request from CBRs : {
  "heartbeatRequest": [
    {
      "cbsdId": "SCW-TempMock-SAS11-00:a0:0a:11:5f:e2",
      "grantId": "735132001",
      "operationState": "AUTHORIZED"
    }
  ]
}
2026-07-07T22:38:32.375Z - INFO - Time interval between two heartbeat request messages is: 49.797, limit is: 65.0
2026-07-07T22:38:32.388Z - INFO - engine sent successfully, the response to CBRs : {
  "heartbeatResponse": [
    {

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        "cbsdId": "SCW-TempMock-SAS11-00:a0:0a:11:5f:e2",
        "grantId": "735132001",
        "response": {
            "responseCode": 0
        },
        "transmitExpireTime": "2026-07-07T22:41:52Z"
    }
}
}
2026-07-07T22:39:06.423Z - INFO - heartbeat request from CBRS : {
    "heartbeatRequest": [
        {
            "cbsdId": "SCW-TempMock-SAS12-00:a0:0a:11:5f:c2",
            "grantId": "707660402",
            "operationState": "AUTHORIZED"
        }
    ]
}
}
2026-07-07T22:39:06.426Z - INFO - Time interval between two heartbeat request messages is: 42.083, limit is: 65.0
2026-07-07T22:39:06.440Z - INFO - engine sent successfully, the response to CBRS : {
    "heartbeatResponse": [
        {
            "cbsdId": "SCW-TempMock-SAS12-00:a0:0a:11:5f:c2",
            "grantId": "707660402",
            "response": {
                "responseCode": 0
            },
            "transmitExpireTime": "2026-07-07T22:42:26Z"
        }
    ]
}
}
2026-07-07T22:39:09.448Z - INFO - heartbeat request from CBRS : {
    "heartbeatRequest": [
        {
            "cbsdId": "SCW-TempMock-SAS11-00:a0:0a:11:5f:e2",
            "grantId": "735132001",
            "operationState": "AUTHORIZED"
        }
    ]
}
}
2026-07-07T22:39:09.453Z - INFO - Time interval between two heartbeat request messages is: 37.078, limit is: 65.0
2026-07-07T22:39:09.467Z - INFO - engine sent successfully, the response to CBRS : {
    "heartbeatResponse": [
        {
            "cbsdId": "SCW-TempMock-SAS11-00:a0:0a:11:5f:e2",
            "grantId": "735132001",
            "response": {
                "responseCode": 0
            },
            "transmitExpireTime": "2026-07-07T22:42:29Z"
        }
    ]
}
}
2026-07-07T22:39:53.509Z - INFO - heartbeat request from CBRS : {
    "heartbeatRequest": [
        {
            "cbsdId": "SCW-TempMock-SAS12-00:a0:0a:11:5f:c2",
            "grantId": "707660402",
            "operationState": "AUTHORIZED"
        }
    ]
}
}
2026-07-07T22:39:53.513Z - INFO - Time interval between two heartbeat request messages is: 47.087, limit is: 65.0
2026-07-07T22:39:53.529Z - INFO - engine sent successfully, the response to CBRS : {
    "heartbeatResponse": [

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    {
      "cbsdId": "SCW-TempMock-SAS12-00:a0:0a:11:5f:c2",
      "grantId": "707660402",
      "response": {
        "responseCode": 0
      },
      "transmitExpireTime": "2026-07-07T22:43:13Z"
    }
  ]
}
2026-07-07T22:39:55.038Z - INFO - heartbeat request from CBRs : {
  "heartbeatRequest": [
    {
      "cbsdId": "SCW-TempMock-SAS11-00:a0:0a:11:5f:e2",
      "grantId": "735132001",
      "operationState": "AUTHORIZED"
    }
  ]
}
2026-07-07T22:39:55.042Z - INFO - Time interval between two heartbeat request messages is: 45.588, limit is: 65.0
2026-07-07T22:39:55.056Z - INFO - engine sent successfully, the response to CBRs : {
  "heartbeatResponse": [
    {
      "cbsdId": "SCW-TempMock-SAS11-00:a0:0a:11:5f:e2",
      "grantId": "735132001",
      "response": {
        "responseCode": 0
      },
      "transmitExpireTime": "2026-07-07T22:43:15Z"
    }
  ]
}
2026-07-07T22:40:30.595Z - INFO - heartbeat request from CBRs : {
  "heartbeatRequest": [
    {
      "cbsdId": "SCW-TempMock-SAS11-00:a0:0a:11:5f:e2",
      "grantId": "735132001",
      "operationState": "AUTHORIZED"
    }
  ]
}
2026-07-07T22:40:30.599Z - INFO - Time interval between two heartbeat request messages is: 35.558, limit is: 65.0
2026-07-07T22:40:30.614Z - INFO - engine sent successfully, the response to CBRs : {
  "heartbeatResponse": [
    {
      "cbsdId": "SCW-TempMock-SAS11-00:a0:0a:11:5f:e2",
      "grantId": "735132001",
      "response": {
        "responseCode": 0
      },
      "transmitExpireTime": "2026-07-07T22:43:50Z"
    }
  ]
}
2026-07-07T22:40:36.125Z - INFO - heartbeat request from CBRs : {
  "heartbeatRequest": [
    {
      "cbsdId": "SCW-TempMock-SAS12-00:a0:0a:11:5f:c2",
      "grantId": "707660402",
      "operationState": "AUTHORIZED"
    }
  ]
}
2026-07-07T22:40:36.131Z - INFO - Time interval between two heartbeat request messages is: 42.616, limit is: 65.0
2026-07-07T22:40:36.145Z - INFO - engine sent successfully, the response to CBRs : {

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"heartbeatResponse": [
  {
    "cbsdId": "SCW-TempMock-SAS12-00:a0:0a:11:5f:c2",
    "grantId": "707660402",
    "response": {
      "responseCode": 0
    },
    "transmitExpireTime": "2026-07-07T22:43:56Z"
  }
]
}
2026-07-07T22:41:15.687Z - INFO - heartbeat request from CBRS : {
  "heartbeatRequest": [
    {
      "cbsdId": "SCW-TempMock-SAS11-00:a0:0a:11:5f:e2",
      "grantId": "735132001",
      "operationState": "AUTHORIZED"
    }
  ]
}
2026-07-07T22:41:15.691Z - INFO - Time interval between two heartbeat request messages is: 45.092, limit is: 65.0
2026-07-07T22:41:15.710Z - INFO - engine sent successfully, the response to CBRS : {
  "heartbeatResponse": [
    {
      "cbsdId": "SCW-TempMock-SAS11-00:a0:0a:11:5f:e2",
      "grantId": "735132001",
      "response": {
        "responseCode": 0
      },
      "transmitExpireTime": "2026-07-07T22:44:35Z"
    }
  ]
}
2026-07-07T22:41:19.219Z - INFO - heartbeat request from CBRS : {
  "heartbeatRequest": [
    {
      "cbsdId": "SCW-TempMock-SAS12-00:a0:0a:11:5f:c2",
      "grantId": "707660402",
      "operationState": "AUTHORIZED"
    }
  ]
}
2026-07-07T22:41:19.223Z - INFO - Time interval between two heartbeat request messages is: 43.093, limit is: 65.0
2026-07-07T22:41:19.240Z - INFO - engine sent successfully, the response to CBRS : {
  "heartbeatResponse": [
    {
      "cbsdId": "SCW-TempMock-SAS12-00:a0:0a:11:5f:c2",
      "grantId": "707660402",
      "response": {
        "responseCode": 0
      },
      "transmitExpireTime": "2026-07-07T22:44:39Z"
    }
  ]
}
2026-07-07T22:42:04.657Z - INFO - heartbeat request from CBRS : {
  "heartbeatRequest": [
    {
      "cbsdId": "SCW-TempMock-SAS11-00:a0:0a:11:5f:e2",
      "grantId": "735132001",
      "operationState": "AUTHORIZED"
    }
  ]
}
2026-07-07T22:42:04.661Z - INFO - engine sent successfully, the response to CBRS : {

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"heartbeatResponse": [
  {
    "cbsdId": "SCW-TempMock-SAS11-00:a0:0a:11:5f:e2",
    "grantId": "735132001",
    "response": {
      "responseCode": 0
    },
    "transmitExpireTime": "2026-07-07T22:45:24Z"
  }
]
}
}
2026-07-07T22:42:08.671Z - INFO - heartbeat request from CBRs : {
  "heartbeatRequest": [
    {
      "cbsdId": "SCW-TempMock-SAS12-00:a0:0a:11:5f:c2",
      "grantId": "707660402",
      "operationState": "AUTHORIZED"
    }
  ]
}
}
2026-07-07T22:42:08.677Z - INFO - Time interval between two heartbeat request messages is: 49.453, limit is: 65.0
2026-07-07T22:42:08.693Z - INFO - engine sent successfully, the response to CBRs : {
  "heartbeatResponse": [
    {
      "cbsdId": "SCW-TempMock-SAS12-00:a0:0a:11:5f:c2",
      "grantId": "707660402",
      "response": {
        "responseCode": 0
      },
      "transmitExpireTime": "2026-07-07T22:45:28Z"
    }
  ]
}
}
2026-07-07T22:42:10.497Z - INFO - arrived to nstep starting question answer session with the technician
2026-07-07T22:42:10.505Z - INFO - the question is : Did CBSD1 transmit power prior to AUTHORIZED state (first successful HBT response)? please choose
one of the answers :
2026-07-07T22:42:20.813Z - INFO - for the question : Did CBSD1 transmit power prior to AUTHORIZED state (first successful HBT response)? , the user choose
n
2026-07-07T22:42:20.815Z - INFO - the question is : Did CBSD1 transmit only within the frequency range specified in its grantRequest message? please
choose one of the answers :
2026-07-07T22:42:29.663Z - INFO - for the question : Did CBSD1 transmit only within the frequency range specified in its grantRequest message? , the user
choose y
2026-07-07T22:42:29.664Z - INFO - the question is : Did CBSD2 transmit power prior to AUTHORIZED state (first successful HBT response)? please choose
one of the answers :
2026-07-07T22:42:34.970Z - INFO - for the question : Did CBSD2 transmit power prior to AUTHORIZED state (first successful HBT response)? , the user choose
n
2026-07-07T22:42:34.973Z - INFO - the question is : Did CBSD2 transmit only within the frequency range specified in its grantRequest message? please
choose one of the answers :
2026-07-07T22:43:12.795Z - INFO - for the question : Did CBSD2 transmit only within the frequency range specified in its grantRequest message? , the user
choose y
2026-07-07T22:43:14.141Z - INFO - The final result of the test : WINNF.FT.D.HBT.2 is - passed

```

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

```

2026-07-08T16:32:02.115Z - INFO - WINNF TEST HARNESS RELEASE: 1.0.0.3 - 2018-November-13
2026-07-08T16:32:02.115Z - INFO - the selected test from the user : WINNF.FT.C.HBT.3 is starting now
2026-07-08T16:32:18.502Z - INFO - registration request from CBRs : {
  "registrationRequest": [
    {
      "airInterface": {
        "radioTechnology": "NR"
      },
      "cbsdCategory": "A",
      "cbsdInfo": {
        "model": "RN-620",

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    "vendor": "Airspan Networks"
  },
  "cbsdSerialNumber": "11-00:a0:0a:11:5f:e2",
  "fcclId": "SCW-Temp",
  "installationParam": {
    "antennaGain": 5,
    "eirpCapability": 29,
    "height": 5,
    "heightType": "AGL",
    "indoorDeployment": true,
    "latitude": 3.313883066177368,
    "longitude": 117.29134368896484
  },
  "measCapability": [],
  "userId": "NPLxLI"
}
]
}
2026-07-08T16:32:18.539Z - INFO - engine sent successfully, the response to CBRS : {
  "registrationResponse": [
    {
      "cbsdId": "SCW-TempMock-SAS11-00:a0:0a:11:5f:e2",
      "response": {
        "responseCode": 0
      }
    }
  ]
}
}
2026-07-08T16:32:19.088Z - INFO - spectrumInquiry request from CBRS : {
  "spectrumInquiryRequest": [
    {
      "cbsdId": "SCW-TempMock-SAS11-00:a0:0a:11:5f:e2",
      "inquiredSpectrum": [
        {
          "highFrequency": 3560000000,
          "lowFrequency": 3550000000
        },
        {
          "highFrequency": 3570000000,
          "lowFrequency": 3560000000
        },
        {
          "highFrequency": 3580000000,
          "lowFrequency": 3570000000
        },
        {
          "highFrequency": 3590000000,
          "lowFrequency": 3580000000
        },
        {
          "highFrequency": 3600000000,
          "lowFrequency": 3590000000
        },
        {
          "highFrequency": 3610000000,
          "lowFrequency": 3600000000
        },
        {
          "highFrequency": 3620000000,
          "lowFrequency": 3610000000
        },
        {
          "highFrequency": 3630000000,
          "lowFrequency": 3620000000
        }
      ]
    }
  ]
}

```

```

    {
      "highFrequency": 3640000000,
      "lowFrequency": 3630000000
    },
    {
      "highFrequency": 3650000000,
      "lowFrequency": 3640000000
    },
    {
      "highFrequency": 3660000000,
      "lowFrequency": 3650000000
    },
    {
      "highFrequency": 3670000000,
      "lowFrequency": 3660000000
    },
    {
      "highFrequency": 3680000000,
      "lowFrequency": 3670000000
    },
    {
      "highFrequency": 3690000000,
      "lowFrequency": 3680000000
    },
    {
      "highFrequency": 3700000000,
      "lowFrequency": 3690000000
    }
  ]
}
]
}
}
2026-07-08T16:32:19.115Z - INFO - engine sent successfully, the response to CBRS : {
  "spectrumInquiryResponse": [
    {
      "availableChannel": [
        {
          "channelType": "GAA",
          "frequencyRange": {
            "highFrequency": 3560000000,
            "lowFrequency": 3550000000
          },
          "ruleApplied": "FCC_PART_96"
        },
        {
          "channelType": "GAA",
          "frequencyRange": {
            "highFrequency": 3570000000,
            "lowFrequency": 3560000000
          },
          "ruleApplied": "FCC_PART_96"
        },
        {
          "channelType": "GAA",
          "frequencyRange": {
            "highFrequency": 3580000000,
            "lowFrequency": 3570000000
          },
          "ruleApplied": "FCC_PART_96"
        },
        {
          "channelType": "GAA",
          "frequencyRange": {
            "highFrequency": 3590000000,
            "lowFrequency": 3580000000
          }
        }
      ]
    }
  ]
}

```

```
{
  "ruleApplied": "FCC_PART_96"
},
{
  "channelType": "GAA",
  "frequencyRange": {
    "highFrequency": 3600000000,
    "lowFrequency": 3590000000
  },
  "ruleApplied": "FCC_PART_96"
},
{
  "channelType": "GAA",
  "frequencyRange": {
    "highFrequency": 3610000000,
    "lowFrequency": 3600000000
  },
  "ruleApplied": "FCC_PART_96"
},
{
  "channelType": "GAA",
  "frequencyRange": {
    "highFrequency": 3620000000,
    "lowFrequency": 3610000000
  },
  "ruleApplied": "FCC_PART_96"
},
{
  "channelType": "GAA",
  "frequencyRange": {
    "highFrequency": 3630000000,
    "lowFrequency": 3620000000
  },
  "ruleApplied": "FCC_PART_96"
},
{
  "channelType": "GAA",
  "frequencyRange": {
    "highFrequency": 3640000000,
    "lowFrequency": 3630000000
  },
  "ruleApplied": "FCC_PART_96"
},
{
  "channelType": "GAA",
  "frequencyRange": {
    "highFrequency": 3650000000,
    "lowFrequency": 3640000000
  },
  "ruleApplied": "FCC_PART_96"
},
{
  "channelType": "GAA",
  "frequencyRange": {
    "highFrequency": 3660000000,
    "lowFrequency": 3650000000
  },
  "ruleApplied": "FCC_PART_96"
},
{
  "channelType": "GAA",
  "frequencyRange": {
    "highFrequency": 3670000000,
    "lowFrequency": 3660000000
  }
}
```

```

        "ruleApplied": "FCC_PART_96"
      },
      {
        "channelType": "GAA",
        "frequencyRange": {
          "highFrequency": 3680000000,
          "lowFrequency": 3670000000
        },
        "ruleApplied": "FCC_PART_96"
      },
      {
        "channelType": "GAA",
        "frequencyRange": {
          "highFrequency": 3690000000,
          "lowFrequency": 3680000000
        },
        "ruleApplied": "FCC_PART_96"
      },
      {
        "channelType": "GAA",
        "frequencyRange": {
          "highFrequency": 3700000000,
          "lowFrequency": 3690000000
        },
        "ruleApplied": "FCC_PART_96"
      }
    ],
    "cbsdId": "SCW-TempMock-SAS11-00:a0:0a:11:5f:e2",
    "response": {
      "responseCode": 0
    }
  }
}
}
2026-07-08T16:32:19.624Z - INFO - grant request from CBRS : {
  "grantRequest": [
    {
      "cbsdId": "SCW-TempMock-SAS11-00:a0:0a:11:5f:e2",
      "operationParam": {
        "maxEirp": 19,
        "operationFrequencyRange": {
          "highFrequency": 3590000000,
          "lowFrequency": 3550000000
        }
      }
    }
  ]
}
}
2026-07-08T16:32:19.641Z - INFO - engine sent successfully, the response to CBRS : {
  "grantResponse": [
    {
      "cbsdId": "SCW-TempMock-SAS11-00:a0:0a:11:5f:e2",
      "channelType": "GAA",
      "grantExpireTime": "2026-07-15T16:32:19Z",
      "grantId": "409913846",
      "heartbeatInterval": 60,
      "response": {
        "responseCode": 0
      }
    }
  ]
}
}
2026-07-08T16:32:20.651Z - INFO - heartbeat request from CBRS : {
  "heartbeatRequest": [
    {

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```

        "cbsdId": "SCW-TempMock-SAS11-00:a0:0a:11:5f:e2",
        "grantId": "409913846",
        "operationState": "GRANTED"
    }
}
}
2026-07-08T16:32:20.671Z - INFO - engine sent successfully, the response to CBRS : {
  "heartbeatResponse": [
    {
      "cbsdId": "SCW-TempMock-SAS11-00:a0:0a:11:5f:e2",
      "grantId": "409913846",
      "response": {
        "responseCode": 0
      },
      "transmitExpireTime": "2026-07-08T16:35:40Z"
    }
  ]
}
}
2026-07-08T16:32:52.704Z - INFO - heartbeat request from CBRS : {
  "heartbeatRequest": [
    {
      "cbsdId": "SCW-TempMock-SAS11-00:a0:0a:11:5f:e2",
      "grantId": "409913846",
      "operationState": "AUTHORIZED"
    }
  ]
}
}
2026-07-08T16:32:52.709Z - INFO - Time interval between two heartbeat request messages is: 32.053, limit is: 65.0
2026-07-08T16:32:52.723Z - INFO - engine sent successfully, the response to CBRS : {
  "heartbeatResponse": [
    {
      "cbsdId": "SCW-TempMock-SAS11-00:a0:0a:11:5f:e2",
      "grantId": "409913846",
      "response": {
        "responseCode": 0
      },
      "transmitExpireTime": "2026-07-08T16:36:12Z"
    }
  ]
}
}
}
2026-07-08T16:33:25.756Z - INFO - heartbeat request from CBRS : {
  "heartbeatRequest": [
    {
      "cbsdId": "SCW-TempMock-SAS11-00:a0:0a:11:5f:e2",
      "grantId": "409913846",
      "operationState": "AUTHORIZED"
    }
  ]
}
}
}
2026-07-08T16:33:25.759Z - INFO - Time interval between two heartbeat request messages is: 33.051, limit is: 65.0
2026-07-08T16:33:25.773Z - INFO - engine sent successfully, the response to CBRS : {
  "heartbeatResponse": [
    {
      "cbsdId": "SCW-TempMock-SAS11-00:a0:0a:11:5f:e2",
      "grantId": "409913846",
      "response": {
        "responseCode": 0
      },
      "transmitExpireTime": "2026-07-08T16:36:45Z"
    }
  ]
}
}
}
2026-07-08T16:34:05.809Z - INFO - heartbeat request from CBRS : {
  "heartbeatRequest": [
    {

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```

    "cbsdId": "SCW-TempMock-SAS11-00:a0:0a:11:5f:e2",
    "grantId": "409913846",
    "operationState": "AUTHORIZED"
  }
}
}
2026-07-08T16:34:05.812Z - INFO - Time interval between two heartbeat request messages is: 40.054, limit is: 65.0
2026-07-08T16:34:05.828Z - INFO - engine sent successfully, the response to CBRS : {
  "heartbeatResponse": [
    {
      "cbsdId": "SCW-TempMock-SAS11-00:a0:0a:11:5f:e2",
      "grantId": "409913846",
      "response": {
        "responseCode": 105
      },
      "transmitExpireTime": "2026-07-08T16:34:05Z"
    }
  ]
}
}
2026-07-08T16:34:07.085Z - INFO - arrived to nstep starting question answer session with the technician
2026-07-08T16:34:07.089Z - 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 :
2026-07-08T16:34:19.002Z - INFO - for the question : Did the CBSD stop RF transmission within 60 seconds of receiving Heartbeat response with
responseCode = 105? , the user choose y
2026-07-08T16:34:19.953Z - INFO - The final result of the test : WINNF.FT.C.HBT.3 is - passed

```

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

```

2026-07-08T16:34:44.601Z - INFO - WINNF TEST HARNESS RELEASE: 1.0.0.3 - 2018-November-13
2026-07-08T16:34:44.601Z - INFO - the selected test from the user : WINNF.FT.C.HBT.5 is starting now
2026-07-08T16:35:04.937Z - INFO - registration request from CBRS : {
  "registrationRequest": [
    {
      "airInterface": {
        "radioTechnology": "NR"
      },
      "cbsdCategory": "A",
      "cbsdInfo": {
        "model": "RN-620",
        "vendor": "Airspar Networks"
      },
      "cbsdSerialNumber": "11-00:a0:0a:11:5f:e2",
      "fcclId": "SCW-Temp",
      "installationParam": {
        "antennaGain": 5,
        "eirpCapability": 29,
        "height": 5,
        "heightType": "AGL",
        "indoorDeployment": true,
        "latitude": 3.313883066177368,
        "longitude": 117.29134368896484
      },
      "measCapability": [],
      "userId": "NPLxLI"
    }
  ]
}
}
2026-07-08T16:35:04.990Z - INFO - engine sent successfully, the response to CBRS : {
  "registrationResponse": [
    {
      "cbsdId": "SCW-TempMock-SAS11-00:a0:0a:11:5f:e2",
      "response": {
        "responseCode": 0
      }
    }
  ]
}
}

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```
]
}
2026-07-08T16:35:05.539Z - INFO - spectrumInquiry request from CBRs : {
  "spectrumInquiryRequest": [
    {
      "cbsdId": "SCW-TempMock-SAS11-00:a0:0a:11:5f:e2",
      "inquiredSpectrum": [
        {
          "highFrequency": 3560000000,
          "lowFrequency": 3550000000
        },
        {
          "highFrequency": 3570000000,
          "lowFrequency": 3560000000
        },
        {
          "highFrequency": 3580000000,
          "lowFrequency": 3570000000
        },
        {
          "highFrequency": 3590000000,
          "lowFrequency": 3580000000
        },
        {
          "highFrequency": 3600000000,
          "lowFrequency": 3590000000
        },
        {
          "highFrequency": 3610000000,
          "lowFrequency": 3600000000
        },
        {
          "highFrequency": 3620000000,
          "lowFrequency": 3610000000
        },
        {
          "highFrequency": 3630000000,
          "lowFrequency": 3620000000
        },
        {
          "highFrequency": 3640000000,
          "lowFrequency": 3630000000
        },
        {
          "highFrequency": 3650000000,
          "lowFrequency": 3640000000
        },
        {
          "highFrequency": 3660000000,
          "lowFrequency": 3650000000
        },
        {
          "highFrequency": 3670000000,
          "lowFrequency": 3660000000
        },
        {
          "highFrequency": 3680000000,
          "lowFrequency": 3670000000
        },
        {
          "highFrequency": 3690000000,
          "lowFrequency": 3680000000
        },
        {
          "highFrequency": 3700000000,
```

```

        "lowFrequency": 3690000000
      }
    ]
  }
}
}
2026-07-08T16:35:05.569Z - INFO - engine sent successfully, the response to CBRS : {
  "spectrumInquiryResponse": [
    {
      "availableChannel": [
        {
          "channelType": "GAA",
          "frequencyRange": {
            "highFrequency": 3560000000,
            "lowFrequency": 3550000000
          },
          "ruleApplied": "FCC_PART_96"
        },
        {
          "channelType": "GAA",
          "frequencyRange": {
            "highFrequency": 3570000000,
            "lowFrequency": 3560000000
          },
          "ruleApplied": "FCC_PART_96"
        },
        {
          "channelType": "GAA",
          "frequencyRange": {
            "highFrequency": 3580000000,
            "lowFrequency": 3570000000
          },
          "ruleApplied": "FCC_PART_96"
        },
        {
          "channelType": "GAA",
          "frequencyRange": {
            "highFrequency": 3590000000,
            "lowFrequency": 3580000000
          },
          "ruleApplied": "FCC_PART_96"
        },
        {
          "channelType": "GAA",
          "frequencyRange": {
            "highFrequency": 3600000000,
            "lowFrequency": 3590000000
          },
          "ruleApplied": "FCC_PART_96"
        },
        {
          "channelType": "GAA",
          "frequencyRange": {
            "highFrequency": 3610000000,
            "lowFrequency": 3600000000
          },
          "ruleApplied": "FCC_PART_96"
        },
        {
          "channelType": "GAA",
          "frequencyRange": {
            "highFrequency": 3620000000,
            "lowFrequency": 3610000000
          },
          "ruleApplied": "FCC_PART_96"
        }
      ]
    }
  ]
}

```

```

},
{
  "channelType": "GAA",
  "frequencyRange": {
    "highFrequency": 3630000000,
    "lowFrequency": 3620000000
  },
  "ruleApplied": "FCC_PART_96"
},
{
  "channelType": "GAA",
  "frequencyRange": {
    "highFrequency": 3640000000,
    "lowFrequency": 3630000000
  },
  "ruleApplied": "FCC_PART_96"
},
{
  "channelType": "GAA",
  "frequencyRange": {
    "highFrequency": 3650000000,
    "lowFrequency": 3640000000
  },
  "ruleApplied": "FCC_PART_96"
},
{
  "channelType": "GAA",
  "frequencyRange": {
    "highFrequency": 3660000000,
    "lowFrequency": 3650000000
  },
  "ruleApplied": "FCC_PART_96"
},
{
  "channelType": "GAA",
  "frequencyRange": {
    "highFrequency": 3670000000,
    "lowFrequency": 3660000000
  },
  "ruleApplied": "FCC_PART_96"
},
{
  "channelType": "GAA",
  "frequencyRange": {
    "highFrequency": 3680000000,
    "lowFrequency": 3670000000
  },
  "ruleApplied": "FCC_PART_96"
},
{
  "channelType": "GAA",
  "frequencyRange": {
    "highFrequency": 3690000000,
    "lowFrequency": 3680000000
  },
  "ruleApplied": "FCC_PART_96"
},
{
  "channelType": "GAA",
  "frequencyRange": {
    "highFrequency": 3700000000,
    "lowFrequency": 3690000000
  },
  "ruleApplied": "FCC_PART_96"
}

```

```

    },
    "cbsdId": "SCW-TempMock-SAS11-00:a0:0a:11:5f:e2",
    "response": {
      "responseCode": 0
    }
  }
}
}
2026-07-08T16:35:06.078Z - INFO - grant request from CBRS : {
  "grantRequest": [
    {
      "cbsdId": "SCW-TempMock-SAS11-00:a0:0a:11:5f:e2",
      "operationParam": {
        "maxEirp": 19,
        "operationFrequencyRange": {
          "highFrequency": 3590000000,
          "lowFrequency": 3550000000
        }
      }
    }
  ]
}
}
2026-07-08T16:35:06.096Z - INFO - engine sent successfully, the response to CBRS : {
  "grantResponse": [
    {
      "cbsdId": "SCW-TempMock-SAS11-00:a0:0a:11:5f:e2",
      "channelType": "GAA",
      "grantExpireTime": "2026-07-15T16:35:06Z",
      "grantId": "583713777",
      "heartbeatInterval": 60,
      "response": {
        "responseCode": 0
      }
    }
  ]
}
}
2026-07-08T16:35:06.605Z - INFO - heartbeat request from CBRS : {
  "heartbeatRequest": [
    {
      "cbsdId": "SCW-TempMock-SAS11-00:a0:0a:11:5f:e2",
      "grantId": "583713777",
      "operationState": "GRANTED"
    }
  ]
}
}
2026-07-08T16:35:06.625Z - INFO - engine sent successfully, the response to CBRS : {
  "heartbeatResponse": [
    {
      "cbsdId": "SCW-TempMock-SAS11-00:a0:0a:11:5f:e2",
      "grantId": "583713777",
      "response": {
        "responseCode": 501
      },
      "transmitExpireTime": "2026-07-08T16:35:06Z"
    }
  ]
}
}
2026-07-08T16:35:16.138Z - INFO - heartbeat request from CBRS : {
  "heartbeatRequest": [
    {
      "cbsdId": "SCW-TempMock-SAS11-00:a0:0a:11:5f:e2",
      "grantId": "583713777",
      "operationState": "GRANTED"
    }
  ]
}
}

```

```

}
2026-07-08T16:35:16.144Z - INFO - Time interval between two heartbeat request messages is: 9.533, limit is: 65.0
2026-07-08T16:35:16.161Z - INFO - engine sent successfully, the response to CBRS : {
  "heartbeatResponse": [
    {
      "cbsdId": "SCW-TempMock-SAS11-00:a0:0a:11:5f:e2",
      "grantId": "583713777",
      "response": {
        "responseCode": 501
      },
      "transmitExpireTime": "2026-07-08T16:35:16Z"
    }
  ]
}
2026-07-08T16:35:17.809Z - INFO - arrived to nstep starting question answer session with the technician
2026-07-08T16:35:17.812Z - INFO - the question is : Did the CBSD transmit at any time during the test? please choose one of the answers :
2026-07-08T16:35:43.484Z - INFO - for the question : Did the CBSD transmit at any time during the test? , the user choose n
2026-07-08T16:35:44.384Z - INFO - The final result of the test : WINNF.FT.C.HBT.5 is - passed

```

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

```

2026-07-08T16:36:21.348Z - INFO - WINNF TEST HARNESS RELEASE: 1.0.0.3 - 2018-November-13
2026-07-08T16:36:21.349Z - INFO - the selected test from the user : WINNF.FT.C.HBT.6 is starting now
2026-07-08T16:36:38.301Z - INFO - registration request from CBRS : {
  "registrationRequest": [
    {
      "airInterface": {
        "radioTechnology": "NR"
      },
      "cbsdCategory": "A",
      "cbsdInfo": {
        "model": "RN-620",
        "vendor": "Airspan Networks"
      },
      "cbsdSerialNumber": "11-00:a0:0a:11:5f:e2",
      "fcId": "SCW-Temp",
      "installationParam": {
        "antennaGain": 5,
        "eirpCapability": 29,
        "height": 5,
        "heightType": "AGL",
        "indoorDeployment": true,
        "latitude": 3.313883066177368,
        "longitude": 117.29134368896484
      },
      "measCapability": [],
      "userId": "NPLxLI"
    }
  ]
}
2026-07-08T16:36:38.355Z - INFO - engine sent successfully, the response to CBRS : {
  "registrationResponse": [
    {
      "cbsdId": "SCW-TempMock-SAS11-00:a0:0a:11:5f:e2",
      "response": {
        "responseCode": 0
      }
    }
  ]
}
2026-07-08T16:36:38.903Z - INFO - spectrumInquiry request from CBRS : {
  "spectrumInquiryRequest": [
    {
      "cbsdId": "SCW-TempMock-SAS11-00:a0:0a:11:5f:e2",
      "inquiredSpectrum": [

```

```

    {
      "highFrequency": 3560000000,
      "lowFrequency": 3550000000
    },
    {
      "highFrequency": 3570000000,
      "lowFrequency": 3560000000
    },
    {
      "highFrequency": 3580000000,
      "lowFrequency": 3570000000
    },
    {
      "highFrequency": 3590000000,
      "lowFrequency": 3580000000
    },
    {
      "highFrequency": 3600000000,
      "lowFrequency": 3590000000
    },
    {
      "highFrequency": 3610000000,
      "lowFrequency": 3600000000
    },
    {
      "highFrequency": 3620000000,
      "lowFrequency": 3610000000
    },
    {
      "highFrequency": 3630000000,
      "lowFrequency": 3620000000
    },
    {
      "highFrequency": 3640000000,
      "lowFrequency": 3630000000
    },
    {
      "highFrequency": 3650000000,
      "lowFrequency": 3640000000
    },
    {
      "highFrequency": 3660000000,
      "lowFrequency": 3650000000
    },
    {
      "highFrequency": 3670000000,
      "lowFrequency": 3660000000
    },
    {
      "highFrequency": 3680000000,
      "lowFrequency": 3670000000
    },
    {
      "highFrequency": 3690000000,
      "lowFrequency": 3680000000
    },
    {
      "highFrequency": 3700000000,
      "lowFrequency": 3690000000
    }
  ]
}

```

2026-07-08T16:36:38.927Z - INFO - engine sent successfully, the response to CBRS : {

```
"spectrumInquiryResponse": [
  {
    "availableChannel": [
      {
        "channelType": "GAA",
        "frequencyRange": {
          "highFrequency": 3560000000,
          "lowFrequency": 3550000000
        },
        "ruleApplied": "FCC_PART_96"
      },
      {
        "channelType": "GAA",
        "frequencyRange": {
          "highFrequency": 3570000000,
          "lowFrequency": 3560000000
        },
        "ruleApplied": "FCC_PART_96"
      },
      {
        "channelType": "GAA",
        "frequencyRange": {
          "highFrequency": 3580000000,
          "lowFrequency": 3570000000
        },
        "ruleApplied": "FCC_PART_96"
      },
      {
        "channelType": "GAA",
        "frequencyRange": {
          "highFrequency": 3590000000,
          "lowFrequency": 3580000000
        },
        "ruleApplied": "FCC_PART_96"
      },
      {
        "channelType": "GAA",
        "frequencyRange": {
          "highFrequency": 3600000000,
          "lowFrequency": 3590000000
        },
        "ruleApplied": "FCC_PART_96"
      },
      {
        "channelType": "GAA",
        "frequencyRange": {
          "highFrequency": 3610000000,
          "lowFrequency": 3600000000
        },
        "ruleApplied": "FCC_PART_96"
      },
      {
        "channelType": "GAA",
        "frequencyRange": {
          "highFrequency": 3620000000,
          "lowFrequency": 3610000000
        },
        "ruleApplied": "FCC_PART_96"
      },
      {
        "channelType": "GAA",
        "frequencyRange": {
          "highFrequency": 3630000000,
          "lowFrequency": 3620000000
        },
        "ruleApplied": "FCC_PART_96"
      }
    ]
  }
]
```

```

    "ruleApplied": "FCC_PART_96"
  },
  {
    "channelType": "GAA",
    "frequencyRange": {
      "highFrequency": 3640000000,
      "lowFrequency": 3630000000
    },
    "ruleApplied": "FCC_PART_96"
  },
  {
    "channelType": "GAA",
    "frequencyRange": {
      "highFrequency": 3650000000,
      "lowFrequency": 3640000000
    },
    "ruleApplied": "FCC_PART_96"
  },
  {
    "channelType": "GAA",
    "frequencyRange": {
      "highFrequency": 3660000000,
      "lowFrequency": 3650000000
    },
    "ruleApplied": "FCC_PART_96"
  },
  {
    "channelType": "GAA",
    "frequencyRange": {
      "highFrequency": 3670000000,
      "lowFrequency": 3660000000
    },
    "ruleApplied": "FCC_PART_96"
  },
  {
    "channelType": "GAA",
    "frequencyRange": {
      "highFrequency": 3680000000,
      "lowFrequency": 3670000000
    },
    "ruleApplied": "FCC_PART_96"
  },
  {
    "channelType": "GAA",
    "frequencyRange": {
      "highFrequency": 3690000000,
      "lowFrequency": 3680000000
    },
    "ruleApplied": "FCC_PART_96"
  },
  {
    "channelType": "GAA",
    "frequencyRange": {
      "highFrequency": 3700000000,
      "lowFrequency": 3690000000
    },
    "ruleApplied": "FCC_PART_96"
  }
],
"cbidId": "SCW-TempMock-SAS11-00:a0:0a:11:5f:e2",
"response": {
  "responseCode": 0
}
}
]

```

```

}
2026-07-08T16:36:39.434Z - INFO - grant request from CBRS : {
  "grantRequest": [
    {
      "cbsdId": "SCW-TempMock-SAS11-00:a0:0a:11:5f:e2",
      "operationParam": {
        "maxEirp": 19,
        "operationFrequencyRange": {
          "highFrequency": 3590000000,
          "lowFrequency": 3550000000
        }
      }
    }
  ]
}
2026-07-08T16:36:39.450Z - INFO - engine sent successfully, the response to CBRS : {
  "grantResponse": [
    {
      "cbsdId": "SCW-TempMock-SAS11-00:a0:0a:11:5f:e2",
      "channelType": "GAA",
      "grantExpireTime": "2026-07-15T16:36:39Z",
      "grantId": "581384388",
      "heartbeatInterval": 60,
      "response": {
        "responseCode": 0
      }
    }
  ]
}
2026-07-08T16:36:39.957Z - INFO - heartbeat request from CBRS : {
  "heartbeatRequest": [
    {
      "cbsdId": "SCW-TempMock-SAS11-00:a0:0a:11:5f:e2",
      "grantId": "581384388",
      "operationState": "GRANTED"
    }
  ]
}
2026-07-08T16:36:39.973Z - INFO - engine sent successfully, the response to CBRS : {
  "heartbeatResponse": [
    {
      "cbsdId": "SCW-TempMock-SAS11-00:a0:0a:11:5f:e2",
      "grantId": "581384388",
      "response": {
        "responseCode": 0
      },
      "transmitExpireTime": "2026-07-08T16:39:59Z"
    }
  ]
}
2026-07-08T16:37:28.038Z - INFO - heartbeat request from CBRS : {
  "heartbeatRequest": [
    {
      "cbsdId": "SCW-TempMock-SAS11-00:a0:0a:11:5f:e2",
      "grantId": "581384388",
      "operationState": "AUTHORIZED"
    }
  ]
}
2026-07-08T16:37:28.040Z - INFO - Time interval between two heartbeat request messages is: 48.081, limit is: 65.0
2026-07-08T16:37:28.055Z - INFO - engine sent successfully, the response to CBRS : {
  "heartbeatResponse": [
    {
      "cbsdId": "SCW-TempMock-SAS11-00:a0:0a:11:5f:e2",
      "grantId": "581384388",

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```

    "response": {
      "responseCode": 0
    },
    "transmitExpireTime": "2026-07-08T16:40:48Z"
  }
}
}
2026-07-08T16:38:05.092Z - INFO - heartbeat request from CBRS : {
  "heartbeatRequest": [
    {
      "cbsdId": "SCW-TempMock-SAS11-00:a0:0a:11:5f:e2",
      "grantId": "581384388",
      "operationState": "AUTHORIZED"
    }
  ]
}
2026-07-08T16:38:05.095Z - INFO - Time interval between two heartbeat request messages is: 37.055, limit is: 65.0
2026-07-08T16:38:05.111Z - INFO - engine sent successfully, the response to CBRS : {
  "heartbeatResponse": [
    {
      "cbsdId": "SCW-TempMock-SAS11-00:a0:0a:11:5f:e2",
      "grantId": "581384388",
      "response": {
        "responseCode": 0
      },
      "transmitExpireTime": "2026-07-08T16:41:25Z"
    }
  ]
}
2026-07-08T16:38:36.144Z - INFO - heartbeat request from CBRS : {
  "heartbeatRequest": [
    {
      "cbsdId": "SCW-TempMock-SAS11-00:a0:0a:11:5f:e2",
      "grantId": "581384388",
      "operationState": "AUTHORIZED"
    }
  ]
}
2026-07-08T16:38:36.148Z - INFO - Time interval between two heartbeat request messages is: 31.052, limit is: 65.0
2026-07-08T16:38:36.163Z - INFO - engine sent successfully, the response to CBRS : {
  "heartbeatResponse": [
    {
      "cbsdId": "SCW-TempMock-SAS11-00:a0:0a:11:5f:e2",
      "grantId": "581384388",
      "response": {
        "responseCode": 501
      },
      "transmitExpireTime": "2026-07-08T16:38:36Z"
    }
  ]
}
2026-07-08T16:38:46.177Z - INFO - heartbeat request from CBRS : {
  "heartbeatRequest": [
    {
      "cbsdId": "SCW-TempMock-SAS11-00:a0:0a:11:5f:e2",
      "grantId": "581384388",
      "operationState": "GRANTED"
    }
  ]
}
2026-07-08T16:38:46.183Z - INFO - Time interval between two heartbeat request messages is: 10.032, limit is: 65.0
2026-07-08T16:38:46.200Z - INFO - engine sent successfully, the response to CBRS : {
  "heartbeatResponse": [
    {
      "cbsdId": "SCW-TempMock-SAS11-00:a0:0a:11:5f:e2",

```

```

    "grantId": "581384388",
    "response": {
      "responseCode": 501
    },
    "transmitExpireTime": "2026-07-08T16:38:46Z"
  }
}

```

2026-07-08T16:38:47.523Z - INFO - arrived to nstep starting question answer session with the technician

2026-07-08T16:38:47.528Z - 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 :

2026-07-08T16:38:54.878Z - INFO - for the question : Did the CBSD stop RF transmission within 60 seconds of receiving Heartbeat response with responseCode = 501? , the user choose y

2026-07-08T16:38:55.295Z - INFO - The final result of the test : WINNF.FT.C.HBT.6 is - passed

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

2026-07-08T16:39:27.002Z - INFO - WINNF TEST HARNESS RELEASE: 1.0.0.3 - 2018-November-13

2026-07-08T16:39:27.003Z - INFO - the selected test from the user : WINNF.FT.C.HBT.7 is starting now

2026-07-08T16:39:46.312Z - INFO - registration request from CBRS : {

```

  "registrationRequest": [
    {
      "airInterface": {
        "radioTechnology": "NR"
      },
      "cbsdCategory": "A",
      "cbsdInfo": {
        "model": "RN-620",
        "vendor": "Airspan Networks"
      },
      "cbsdSerialNumber": "11-00:a0:0a:11:5f:e2",
      "fcid": "SCW-Temp",
      "installationParam": {
        "antennaGain": 5,
        "eirpCapability": 29,
        "height": 5,
        "heightType": "AGL",
        "indoorDeployment": true,
        "latitude": 3.313883066177368,
        "longitude": 117.29134368896484
      },
      "measCapability": [],
      "userId": "NPLxLI"
    }
  ]
}

```

2026-07-08T16:39:46.361Z - INFO - engine sent successfully, the response to CBRS : {

```

  "registrationResponse": [
    {
      "cbsdId": "SCW-TempMock-SAS11-00:a0:0a:11:5f:e2",
      "response": {
        "responseCode": 0
      }
    }
  ]
}

```

2026-07-08T16:39:46.910Z - INFO - spectrumInquiry request from CBRS : {

```

  "spectrumInquiryRequest": [
    {
      "cbsdId": "SCW-TempMock-SAS11-00:a0:0a:11:5f:e2",
      "inquiredSpectrum": [
        {
          "highFrequency": 3560000000,
          "lowFrequency": 3550000000
        }
      ]
    }
  ]
}

```

```

    {
      "highFrequency": 3570000000,
      "lowFrequency": 3560000000
    },
    {
      "highFrequency": 3580000000,
      "lowFrequency": 3570000000
    },
    {
      "highFrequency": 3590000000,
      "lowFrequency": 3580000000
    },
    {
      "highFrequency": 3600000000,
      "lowFrequency": 3590000000
    },
    {
      "highFrequency": 3610000000,
      "lowFrequency": 3600000000
    },
    {
      "highFrequency": 3620000000,
      "lowFrequency": 3610000000
    },
    {
      "highFrequency": 3630000000,
      "lowFrequency": 3620000000
    },
    {
      "highFrequency": 3640000000,
      "lowFrequency": 3630000000
    },
    {
      "highFrequency": 3650000000,
      "lowFrequency": 3640000000
    },
    {
      "highFrequency": 3660000000,
      "lowFrequency": 3650000000
    },
    {
      "highFrequency": 3670000000,
      "lowFrequency": 3660000000
    },
    {
      "highFrequency": 3680000000,
      "lowFrequency": 3670000000
    },
    {
      "highFrequency": 3690000000,
      "lowFrequency": 3680000000
    },
    {
      "highFrequency": 3700000000,
      "lowFrequency": 3690000000
    }
  ]
}
]
}
2026-07-08T16:39:46.934Z - INFO - engine sent successfully, the response to CBRS : {
  "spectrumInquiryResponse": [
    {
      "availableChannel": [
        {

```

```

"channelType": "GAA",
"frequencyRange": {
  "highFrequency": 3560000000,
  "lowFrequency": 3550000000
},
"ruleApplied": "FCC_PART_96"
},
{
  "channelType": "GAA",
  "frequencyRange": {
    "highFrequency": 3570000000,
    "lowFrequency": 3560000000
  },
  "ruleApplied": "FCC_PART_96"
},
{
  "channelType": "GAA",
  "frequencyRange": {
    "highFrequency": 3580000000,
    "lowFrequency": 3570000000
  },
  "ruleApplied": "FCC_PART_96"
},
{
  "channelType": "GAA",
  "frequencyRange": {
    "highFrequency": 3590000000,
    "lowFrequency": 3580000000
  },
  "ruleApplied": "FCC_PART_96"
},
{
  "channelType": "GAA",
  "frequencyRange": {
    "highFrequency": 3600000000,
    "lowFrequency": 3590000000
  },
  "ruleApplied": "FCC_PART_96"
},
{
  "channelType": "GAA",
  "frequencyRange": {
    "highFrequency": 3610000000,
    "lowFrequency": 3600000000
  },
  "ruleApplied": "FCC_PART_96"
},
{
  "channelType": "GAA",
  "frequencyRange": {
    "highFrequency": 3620000000,
    "lowFrequency": 3610000000
  },
  "ruleApplied": "FCC_PART_96"
},
{
  "channelType": "GAA",
  "frequencyRange": {
    "highFrequency": 3630000000,
    "lowFrequency": 3620000000
  },
  "ruleApplied": "FCC_PART_96"
},
{
  "channelType": "GAA",

```

```

    "frequencyRange": {
      "highFrequency": 3640000000,
      "lowFrequency": 3630000000
    },
    "ruleApplied": "FCC_PART_96"
  },
  {
    "channelType": "GAA",
    "frequencyRange": {
      "highFrequency": 3650000000,
      "lowFrequency": 3640000000
    },
    "ruleApplied": "FCC_PART_96"
  },
  {
    "channelType": "GAA",
    "frequencyRange": {
      "highFrequency": 3660000000,
      "lowFrequency": 3650000000
    },
    "ruleApplied": "FCC_PART_96"
  },
  {
    "channelType": "GAA",
    "frequencyRange": {
      "highFrequency": 3670000000,
      "lowFrequency": 3660000000
    },
    "ruleApplied": "FCC_PART_96"
  },
  {
    "channelType": "GAA",
    "frequencyRange": {
      "highFrequency": 3680000000,
      "lowFrequency": 3670000000
    },
    "ruleApplied": "FCC_PART_96"
  },
  {
    "channelType": "GAA",
    "frequencyRange": {
      "highFrequency": 3690000000,
      "lowFrequency": 3680000000
    },
    "ruleApplied": "FCC_PART_96"
  },
  {
    "channelType": "GAA",
    "frequencyRange": {
      "highFrequency": 3700000000,
      "lowFrequency": 3690000000
    },
    "ruleApplied": "FCC_PART_96"
  }
},
"cbidId": "SCW-TempMock-SAS11-00:a0:0a:11:5f:e2",
"response": {
  "responseCode": 0
}
}
]
}
2026-07-08T16:39:47.944Z - INFO - grant request from CBRS : {
  "grantRequest": [
    {

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        "cbsdId": "SCW-TempMock-SAS11-00:a0:0a:11:5f:e2",
        "operationParam": {
            "maxEirp": 19,
            "operationFrequencyRange": {
                "highFrequency": 3590000000,
                "lowFrequency": 3550000000
            }
        }
    }
}
]
}
}
2026-07-08T16:39:47.963Z - INFO - engine sent successfully, the response to CBRS : {
    "grantResponse": [
        {
            "cbsdId": "SCW-TempMock-SAS11-00:a0:0a:11:5f:e2",
            "channelType": "GAA",
            "grantExpireTime": "2026-07-15T16:39:47Z",
            "grantId": "720855957",
            "heartbeatInterval": 60,
            "response": {
                "responseCode": 0
            }
        }
    ]
}
}
2026-07-08T16:39:48.969Z - INFO - heartbeat request from CBRS : {
    "heartbeatRequest": [
        {
            "cbsdId": "SCW-TempMock-SAS11-00:a0:0a:11:5f:e2",
            "grantId": "720855957",
            "operationState": "GRANTED"
        }
    ]
}
}
2026-07-08T16:39:48.989Z - INFO - engine sent successfully, the response to CBRS : {
    "heartbeatResponse": [
        {
            "cbsdId": "SCW-TempMock-SAS11-00:a0:0a:11:5f:e2",
            "grantId": "720855957",
            "response": {
                "responseCode": 0
            },
            "transmitExpireTime": "2026-07-08T16:43:08Z"
        }
    ]
}
}
2026-07-08T16:40:28.528Z - INFO - heartbeat request from CBRS : {
    "heartbeatRequest": [
        {
            "cbsdId": "SCW-TempMock-SAS11-00:a0:0a:11:5f:e2",
            "grantId": "720855957",
            "operationState": "AUTHORIZED"
        }
    ]
}
}
2026-07-08T16:40:28.532Z - INFO - Time interval between two heartbeat request messages is: 39.559, limit is: 65.0
2026-07-08T16:40:28.546Z - INFO - engine sent successfully, the response to CBRS : {
    "heartbeatResponse": [
        {
            "cbsdId": "SCW-TempMock-SAS11-00:a0:0a:11:5f:e2",
            "grantId": "720855957",
            "response": {
                "responseCode": 0
            },
            "transmitExpireTime": "2026-07-08T16:43:48Z"
        }
    ]
}
}

```

```

    }
  ]
}
2026-07-08T16:41:15.589Z - INFO - heartbeat request from CBRS : {
  "heartbeatRequest": [
    {
      "cbsdId": "SCW-TempMock-SAS11-00:a0:0a:11:5f:e2",
      "grantId": "720855957",
      "operationState": "AUTHORIZED"
    }
  ]
}
2026-07-08T16:41:15.594Z - INFO - Time interval between two heartbeat request messages is: 47.062, limit is: 65.0
2026-07-08T16:41:15.608Z - INFO - engine sent successfully, the response to CBRS : {
  "heartbeatResponse": [
    {
      "cbsdId": "SCW-TempMock-SAS11-00:a0:0a:11:5f:e2",
      "grantId": "720855957",
      "response": {
        "responseCode": 0
      },
      "transmitExpireTime": "2026-07-08T16:44:35Z"
    }
  ]
}
2026-07-08T16:42:04.657Z - INFO - heartbeat request from CBRS : {
  "heartbeatRequest": [
    {
      "cbsdId": "SCW-TempMock-SAS11-00:a0:0a:11:5f:e2",
      "grantId": "720855957",
      "operationState": "AUTHORIZED"
    }
  ]
}
2026-07-08T16:42:04.661Z - INFO - Time interval between two heartbeat request messages is: 49.066, limit is: 65.0
2026-07-08T16:42:04.674Z - INFO - engine sent successfully, the response to CBRS : {
  "heartbeatResponse": [
    {
      "cbsdId": "SCW-TempMock-SAS11-00:a0:0a:11:5f:e2",
      "grantId": "720855957",
      "response": {
        "responseCode": 502
      },
      "transmitExpireTime": "2026-07-08T16:42:04Z"
    }
  ]
}
2026-07-08T16:42:05.681Z - INFO - relinquishment request from CBRS : {
  "relinquishmentRequest": [
    {
      "cbsdId": "SCW-TempMock-SAS11-00:a0:0a:11:5f:e2",
      "grantId": "720855957"
    }
  ]
}
2026-07-08T16:42:05.703Z - INFO - engine sent successfully, the response to CBRS : {
  "relinquishmentResponse": [
    {
      "cbsdId": "SCW-TempMock-SAS11-00:a0:0a:11:5f:e2",
      "grantId": "720855957",
      "response": {
        "responseCode": 0
      }
    }
  ]
}

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}
2026-07-08T16:42:07.293Z - INFO - arrived to nstep starting question answer session with the technician
2026-07-08T16:42:07.299Z - 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 :
2026-07-08T16:42:27.075Z - INFO - for the question : Did the CBSD stop RF transmission within 60 seconds of receiving Heartbeat response with
responseCode = 502? , the user choose y
2026-07-08T16:42:28.244Z - INFO - The final result of the test : WINNF.FT.C.HBT.7 is - passed

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9.16 Log file for test case ID: WINNF.FT.D.HBT.8

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2026-07-07T22:52:25.073Z - INFO - WINNF TEST HARNESS RELEASE: 1.0.0.3 - 2018-November-13
2026-07-07T22:52:25.075Z - INFO - the selected test from the user : WINNF.FT.D.HBT.8 is starting now
2026-07-07T22:52:42.950Z - INFO - registration request from CBRS : {

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  "registrationRequest": [
    {
      "airInterface": {
        "radioTechnology": "NR"
      },
      "cbsdCategory": "A",
      "cbsdInfo": {
        "model": "RN-620",
        "vendor": "Airspar Networks"
      },
      "cbsdSerialNumber": "11-00:a0:0a:11:5f:e2",
      "fcid": "SCW-Temp",
      "installationParam": {
        "antennaGain": 5,
        "eirpCapability": 29,
        "height": 5,
        "heightType": "AGL",
        "indoorDeployment": true,
        "latitude": 3.313883066177368,
        "longitude": 117.29134368896484
      },
      "measCapability": [],
      "userId": "NPLxLI"
    }
  ]
}
2026-07-07T22:52:42.982Z - INFO - engine sent successfully, the response to CBRS : {
  "registrationResponse": [
    {
      "cbsdId": "SCW-TempMock-SAS11-00:a0:0a:11:5f:e2",
      "response": {
        "responseCode": 0
      }
    }
  ]
}
2026-07-07T22:52:43.530Z - INFO - spectrumInquiry request from CBRS : {
  "spectrumInquiryRequest": [
    {
      "cbsdId": "SCW-TempMock-SAS11-00:a0:0a:11:5f:e2",
      "inquiredSpectrum": [
        {
          "highFrequency": 3560000000,
          "lowFrequency": 3550000000
        },
        {
          "highFrequency": 3570000000,
          "lowFrequency": 3560000000
        },
        {
          "highFrequency": 3580000000,
          "lowFrequency": 3570000000
        }
      ]
    }
  ]
}

```

```

    },
    {
      "highFrequency": 3590000000,
      "lowFrequency": 3580000000
    },
    {
      "highFrequency": 3600000000,
      "lowFrequency": 3590000000
    },
    {
      "highFrequency": 3610000000,
      "lowFrequency": 3600000000
    },
    {
      "highFrequency": 3620000000,
      "lowFrequency": 3610000000
    },
    {
      "highFrequency": 3630000000,
      "lowFrequency": 3620000000
    },
    {
      "highFrequency": 3640000000,
      "lowFrequency": 3630000000
    },
    {
      "highFrequency": 3650000000,
      "lowFrequency": 3640000000
    },
    {
      "highFrequency": 3660000000,
      "lowFrequency": 3650000000
    },
    {
      "highFrequency": 3670000000,
      "lowFrequency": 3660000000
    },
    {
      "highFrequency": 3680000000,
      "lowFrequency": 3670000000
    },
    {
      "highFrequency": 3690000000,
      "lowFrequency": 3680000000
    },
    {
      "highFrequency": 3700000000,
      "lowFrequency": 3690000000
    }
  ]
}
]
}
}
2026-07-07T22:52:43.553Z - INFO - engine sent successfully, the response to CBRS : {
  "spectrumInquiryResponse": [
    {
      "availableChannel": [
        {
          "channelType": "GAA",
          "frequencyRange": {
            "highFrequency": 3560000000,
            "lowFrequency": 3550000000
          },
          "ruleApplied": "FCC_PART_96"
        }
      ]
    }
  ]
}

```

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{
  "channelType": "GAA",
  "frequencyRange": {
    "highFrequency": 3570000000,
    "lowFrequency": 3560000000
  },
  "ruleApplied": "FCC_PART_96"
},
{
  "channelType": "GAA",
  "frequencyRange": {
    "highFrequency": 3580000000,
    "lowFrequency": 3570000000
  },
  "ruleApplied": "FCC_PART_96"
},
{
  "channelType": "GAA",
  "frequencyRange": {
    "highFrequency": 3590000000,
    "lowFrequency": 3580000000
  },
  "ruleApplied": "FCC_PART_96"
},
{
  "channelType": "GAA",
  "frequencyRange": {
    "highFrequency": 3600000000,
    "lowFrequency": 3590000000
  },
  "ruleApplied": "FCC_PART_96"
},
{
  "channelType": "GAA",
  "frequencyRange": {
    "highFrequency": 3610000000,
    "lowFrequency": 3600000000
  },
  "ruleApplied": "FCC_PART_96"
},
{
  "channelType": "GAA",
  "frequencyRange": {
    "highFrequency": 3620000000,
    "lowFrequency": 3610000000
  },
  "ruleApplied": "FCC_PART_96"
},
{
  "channelType": "GAA",
  "frequencyRange": {
    "highFrequency": 3630000000,
    "lowFrequency": 3620000000
  },
  "ruleApplied": "FCC_PART_96"
},
{
  "channelType": "GAA",
  "frequencyRange": {
    "highFrequency": 3640000000,
    "lowFrequency": 3630000000
  },
  "ruleApplied": "FCC_PART_96"
},
{

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        "channelType": "GAA",
        "frequencyRange": {
            "highFrequency": 3650000000,
            "lowFrequency": 3640000000
        },
        "ruleApplied": "FCC_PART_96"
    },
    {
        "channelType": "GAA",
        "frequencyRange": {
            "highFrequency": 3660000000,
            "lowFrequency": 3650000000
        },
        "ruleApplied": "FCC_PART_96"
    },
    {
        "channelType": "GAA",
        "frequencyRange": {
            "highFrequency": 3670000000,
            "lowFrequency": 3660000000
        },
        "ruleApplied": "FCC_PART_96"
    },
    {
        "channelType": "GAA",
        "frequencyRange": {
            "highFrequency": 3680000000,
            "lowFrequency": 3670000000
        },
        "ruleApplied": "FCC_PART_96"
    },
    {
        "channelType": "GAA",
        "frequencyRange": {
            "highFrequency": 3690000000,
            "lowFrequency": 3680000000
        },
        "ruleApplied": "FCC_PART_96"
    },
    {
        "channelType": "GAA",
        "frequencyRange": {
            "highFrequency": 3700000000,
            "lowFrequency": 3690000000
        },
        "ruleApplied": "FCC_PART_96"
    }
    ],
    "cbsId": "SCW-TempMock-SAS11-00:a0:0a:11:5f:e2",
    "response": {
        "responseCode": 0
    }
}
]
}
2026-07-07T22:52:44.063Z - INFO - grant request from CBRS : {
  "grantRequest": [
    {
      "cbsId": "SCW-TempMock-SAS11-00:a0:0a:11:5f:e2",
      "operationParam": {
        "maxEirp": 19,
        "operationFrequencyRange": {
          "highFrequency": 3590000000,
          "lowFrequency": 3550000000
        }
      }
    }
  ]
}

```

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    }
  }
}
2026-07-07T22:52:44.082Z - INFO - engine sent successfully, the response to CBRS : {
  "grantResponse": [
    {
      "cbsdId": "SCW-TempMock-SAS11-00:a0:0a:11:5f:e2",
      "channelType": "GAA",
      "grantExpireTime": "2026-07-14T22:52:44Z",
      "grantId": "628482590",
      "heartbeatInterval": 60,
      "response": {
        "responseCode": 0
      }
    }
  ]
}
2026-07-07T22:52:44.589Z - INFO - heartbeat request from CBRS : {
  "heartbeatRequest": [
    {
      "cbsdId": "SCW-TempMock-SAS11-00:a0:0a:11:5f:e2",
      "grantId": "628482590",
      "operationState": "GRANTED"
    }
  ]
}
2026-07-07T22:52:44.608Z - INFO - engine sent successfully, the response to CBRS : {
  "heartbeatResponse": [
    {
      "cbsdId": "SCW-TempMock-SAS11-00:a0:0a:11:5f:e2",
      "grantId": "628482590",
      "response": {
        "responseCode": 0
      },
      "transmitExpireTime": "2026-07-07T22:56:04Z"
    }
  ]
}
2026-07-07T22:52:56.141Z - INFO - registration request from CBRS : {
  "registrationRequest": [
    {
      "airInterface": {
        "radioTechnology": "NR"
      },
      "cbsdCategory": "A",
      "cbsdInfo": {
        "model": "RN-620",
        "vendor": "Airspar Networks"
      },
      "cbsdSerialNumber": "12-00:a0:0a:11:5f:c2",
      "fcclId": "SCW-Temp",
      "installationParam": {
        "antennaGain": 5,
        "eirpCapability": 29,
        "height": 1,
        "heightType": "AGL",
        "indoorDeployment": true,
        "latitude": 3.313883066177368,
        "longitude": 117.29069519042969
      },
      "measCapability": [],
      "userId": "NPLxLI"
    }
  ]
}

```

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}
2026-07-07T22:52:56.220Z - INFO - engine sent successfully, the response to CBRS : {
  "registrationResponse": [
    {
      "cbsdId": "SCW-TempMock-SAS12-00:a0:0a:11:5f:c2",
      "response": {
        "responseCode": 0
      }
    }
  ]
}
2026-07-07T22:52:57.227Z - INFO - spectrumInquiry request from CBRS : {
  "spectrumInquiryRequest": [
    {
      "cbsdId": "SCW-TempMock-SAS12-00:a0:0a:11:5f:c2",
      "inquiredSpectrum": [
        {
          "highFrequency": 3560000000,
          "lowFrequency": 3550000000
        },
        {
          "highFrequency": 3570000000,
          "lowFrequency": 3560000000
        },
        {
          "highFrequency": 3580000000,
          "lowFrequency": 3570000000
        },
        {
          "highFrequency": 3590000000,
          "lowFrequency": 3580000000
        },
        {
          "highFrequency": 3600000000,
          "lowFrequency": 3590000000
        },
        {
          "highFrequency": 3610000000,
          "lowFrequency": 3600000000
        },
        {
          "highFrequency": 3620000000,
          "lowFrequency": 3610000000
        },
        {
          "highFrequency": 3630000000,
          "lowFrequency": 3620000000
        },
        {
          "highFrequency": 3640000000,
          "lowFrequency": 3630000000
        },
        {
          "highFrequency": 3650000000,
          "lowFrequency": 3640000000
        },
        {
          "highFrequency": 3660000000,
          "lowFrequency": 3650000000
        },
        {
          "highFrequency": 3670000000,
          "lowFrequency": 3660000000
        },
        {

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        "highFrequency": 3680000000,
        "lowFrequency": 3670000000
    },
    {
        "highFrequency": 3690000000,
        "lowFrequency": 3680000000
    },
    {
        "highFrequency": 3700000000,
        "lowFrequency": 3690000000
    }
    ]
}
}
}
2026-07-07T22:52:57.250Z - INFO - engine sent successfully, the response to CBRS : {
  "spectrumInquiryResponse": [
    {
      "availableChannel": [
        {
          "channelType": "GAA",
          "frequencyRange": {
            "highFrequency": 3560000000,
            "lowFrequency": 3550000000
          },
          "ruleApplied": "FCC_PART_96"
        },
        {
          "channelType": "GAA",
          "frequencyRange": {
            "highFrequency": 3570000000,
            "lowFrequency": 3560000000
          },
          "ruleApplied": "FCC_PART_96"
        },
        {
          "channelType": "GAA",
          "frequencyRange": {
            "highFrequency": 3580000000,
            "lowFrequency": 3570000000
          },
          "ruleApplied": "FCC_PART_96"
        },
        {
          "channelType": "GAA",
          "frequencyRange": {
            "highFrequency": 3590000000,
            "lowFrequency": 3580000000
          },
          "ruleApplied": "FCC_PART_96"
        },
        {
          "channelType": "GAA",
          "frequencyRange": {
            "highFrequency": 3600000000,
            "lowFrequency": 3590000000
          },
          "ruleApplied": "FCC_PART_96"
        },
        {
          "channelType": "GAA",
          "frequencyRange": {
            "highFrequency": 3610000000,
            "lowFrequency": 3600000000
          },
          "ruleApplied": "FCC_PART_96"
        }
      ]
    }
  ]
}

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    "ruleApplied": "FCC_PART_96"
  },
  {
    "channelType": "GAA",
    "frequencyRange": {
      "highFrequency": 3620000000,
      "lowFrequency": 3610000000
    },
    "ruleApplied": "FCC_PART_96"
  },
  {
    "channelType": "GAA",
    "frequencyRange": {
      "highFrequency": 3630000000,
      "lowFrequency": 3620000000
    },
    "ruleApplied": "FCC_PART_96"
  },
  {
    "channelType": "GAA",
    "frequencyRange": {
      "highFrequency": 3640000000,
      "lowFrequency": 3630000000
    },
    "ruleApplied": "FCC_PART_96"
  },
  {
    "channelType": "GAA",
    "frequencyRange": {
      "highFrequency": 3650000000,
      "lowFrequency": 3640000000
    },
    "ruleApplied": "FCC_PART_96"
  },
  {
    "channelType": "GAA",
    "frequencyRange": {
      "highFrequency": 3660000000,
      "lowFrequency": 3650000000
    },
    "ruleApplied": "FCC_PART_96"
  },
  {
    "channelType": "GAA",
    "frequencyRange": {
      "highFrequency": 3670000000,
      "lowFrequency": 3660000000
    },
    "ruleApplied": "FCC_PART_96"
  },
  {
    "channelType": "GAA",
    "frequencyRange": {
      "highFrequency": 3680000000,
      "lowFrequency": 3670000000
    },
    "ruleApplied": "FCC_PART_96"
  },
  {
    "channelType": "GAA",
    "frequencyRange": {
      "highFrequency": 3690000000,
      "lowFrequency": 3680000000
    },
    "ruleApplied": "FCC_PART_96"
  }

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    },
    {
      "channelType": "GAA",
      "frequencyRange": {
        "highFrequency": 3700000000,
        "lowFrequency": 3690000000
      },
      "ruleApplied": "FCC_PART_96"
    }
  ],
  "cbsdId": "SCW-TempMock-SAS12-00:a0:0a:11:5f:c2",
  "response": {
    "responseCode": 0
  }
}
]
}
2026-07-07T22:52:58.259Z - INFO - grant request from CBRS : {
  "grantRequest": [
    {
      "cbsdId": "SCW-TempMock-SAS12-00:a0:0a:11:5f:c2",
      "operationParam": {
        "maxEirp": 19,
        "operationFrequencyRange": {
          "highFrequency": 3590000000,
          "lowFrequency": 3550000000
        }
      }
    }
  ]
}
}
2026-07-07T22:52:58.278Z - INFO - engine sent successfully, the response to CBRS : {
  "grantResponse": [
    {
      "cbsdId": "SCW-TempMock-SAS12-00:a0:0a:11:5f:c2",
      "channelType": "GAA",
      "grantExpireTime": "2026-07-14T22:52:58Z",
      "grantId": "663753193",
      "heartbeatInterval": 60,
      "response": {
        "responseCode": 0
      }
    }
  ]
}
}
2026-07-07T22:52:59.285Z - INFO - heartbeat request from CBRS : {
  "heartbeatRequest": [
    {
      "cbsdId": "SCW-TempMock-SAS12-00:a0:0a:11:5f:c2",
      "grantId": "663753193",
      "operationState": "GRANTED"
    }
  ]
}
}
2026-07-07T22:52:59.302Z - INFO - engine sent successfully, the response to CBRS : {
  "heartbeatResponse": [
    {
      "cbsdId": "SCW-TempMock-SAS12-00:a0:0a:11:5f:c2",
      "grantId": "663753193",
      "response": {
        "responseCode": 0
      },
      "transmitExpireTime": "2026-07-07T22:56:19Z"
    }
  ]
}
]

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}
2026-07-07T22:53:33.836Z - INFO - heartbeat request from CBRS : {
  "heartbeatRequest": [
    {
      "cbsdId": "SCW-TempMock-SAS11-00:a0:0a:11:5f:e2",
      "grantId": "628482590",
      "operationState": "AUTHORIZED"
    }
  ]
}
2026-07-07T22:53:33.839Z - INFO - Time interval between two heartbeat request messages is: 49.247, limit is: 65.0
2026-07-07T22:53:33.852Z - INFO - engine sent successfully, the response to CBRS : {
  "heartbeatResponse": [
    {
      "cbsdId": "SCW-TempMock-SAS11-00:a0:0a:11:5f:e2",
      "grantId": "628482590",
      "response": {
        "responseCode": 0
      },
      "transmitExpireTime": "2026-07-07T22:56:53Z"
    }
  ]
}
2026-07-07T22:53:41.865Z - INFO - heartbeat request from CBRS : {
  "heartbeatRequest": [
    {
      "cbsdId": "SCW-TempMock-SAS12-00:a0:0a:11:5f:c2",
      "grantId": "663753193",
      "operationState": "AUTHORIZED"
    }
  ]
}
2026-07-07T22:53:41.868Z - INFO - Time interval between two heartbeat request messages is: 42.579, limit is: 65.0
2026-07-07T22:53:41.880Z - INFO - engine sent successfully, the response to CBRS : {
  "heartbeatResponse": [
    {
      "cbsdId": "SCW-TempMock-SAS12-00:a0:0a:11:5f:c2",
      "grantId": "663753193",
      "response": {
        "responseCode": 0
      },
      "transmitExpireTime": "2026-07-07T22:57:01Z"
    }
  ]
}
2026-07-07T22:54:13.063Z - INFO - heartbeat request from CBRS : {
  "heartbeatRequest": [
    {
      "cbsdId": "SCW-TempMock-SAS12-00:a0:0a:11:5f:c2",
      "grantId": "663753193",
      "operationState": "AUTHORIZED"
    }
  ]
}
2026-07-07T22:54:13.068Z - INFO - Time interval between two heartbeat request messages is: 31.199, limit is: 65.0
2026-07-07T22:54:13.082Z - INFO - engine sent successfully, the response to CBRS : {
  "heartbeatResponse": [
    {
      "cbsdId": "SCW-TempMock-SAS12-00:a0:0a:11:5f:c2",
      "grantId": "663753193",
      "response": {
        "responseCode": 0
      },
      "transmitExpireTime": "2026-07-07T22:57:33Z"
    }
  ]
}

```

```

    ]
  }
2026-07-07T22:54:20.098Z - INFO - heartbeat request from CBRS : {
  "heartbeatRequest": [
    {
      "cbsdId": "SCW-TempMock-SAS11-00:a0:0a:11:5f:e2",
      "grantId": "628482590",
      "operationState": "AUTHORIZED"
    }
  ]
}
2026-07-07T22:54:20.101Z - INFO - Time interval between two heartbeat request messages is: 46.261, limit is: 65.0
2026-07-07T22:54:20.118Z - INFO - engine sent successfully, the response to CBRS : {
  "heartbeatResponse": [
    {
      "cbsdId": "SCW-TempMock-SAS11-00:a0:0a:11:5f:e2",
      "grantId": "628482590",
      "response": {
        "responseCode": 0
      },
      "transmitExpireTime": "2026-07-07T22:57:40Z"
    }
  ]
}
2026-07-07T22:54:46.147Z - INFO - heartbeat request from CBRS : {
  "heartbeatRequest": [
    {
      "cbsdId": "SCW-TempMock-SAS12-00:a0:0a:11:5f:c2",
      "grantId": "663753193",
      "operationState": "AUTHORIZED"
    }
  ]
}
2026-07-07T22:54:46.151Z - INFO - Time interval between two heartbeat request messages is: 33.083, limit is: 65.0
2026-07-07T22:54:46.168Z - INFO - engine sent successfully, the response to CBRS : {
  "heartbeatResponse": [
    {
      "cbsdId": "SCW-TempMock-SAS12-00:a0:0a:11:5f:c2",
      "grantId": "663753193",
      "response": {
        "responseCode": 500
      },
      "transmitExpireTime": "2026-07-07T22:54:46Z"
    }
  ]
}
2026-07-07T22:54:47.176Z - INFO - relinquishment request from CBRS : {
  "relinquishmentRequest": [
    {
      "cbsdId": "SCW-TempMock-SAS12-00:a0:0a:11:5f:c2",
      "grantId": "663753193"
    }
  ]
}
2026-07-07T22:54:47.180Z - INFO - engine sent successfully, the response to CBRS : {
  "relinquishmentResponse": [
    {
      "cbsdId": "SCW-TempMock-SAS12-00:a0:0a:11:5f:c2",
      "grantId": "663753193",
      "response": {
        "responseCode": 0
      }
    }
  ]
}
}

```

```

2026-07-07T22:54:47.240Z - INFO - deregistration request from CBRS : {
  "deregistrationRequest": [
    {
      "cbsdId": "SCW-TempMock-SAS12-00:a0:0a:11:5f:c2"
    }
  ]
}
2026-07-07T22:54:47.242Z - INFO - engine sent successfully, the response to CBRS : {
  "deregistrationResponse": [
    {
      "cbsdId": "SCW-TempMock-SAS12-00:a0:0a:11:5f:c2",
      "response": {
        "responseCode": 0
      }
    }
  ]
}
2026-07-07T22:54:57.296Z - INFO - heartbeat request from CBRS : {
  "heartbeatRequest": [
    {
      "cbsdId": "SCW-TempMock-SAS11-00:a0:0a:11:5f:e2",
      "grantId": "628482590",
      "operationState": "AUTHORIZED"
    }
  ]
}
2026-07-07T22:54:57.301Z - INFO - Time interval between two heartbeat request messages is: 37.199, limit is: 65.0
2026-07-07T22:54:57.315Z - INFO - engine sent successfully, the response to CBRS : {
  "heartbeatResponse": [
    {
      "cbsdId": "SCW-TempMock-SAS11-00:a0:0a:11:5f:e2",
      "grantId": "628482590",
      "response": {
        "responseCode": 0
      },
      "transmitExpireTime": "2026-07-07T22:58:17Z"
    }
  ]
}
2026-07-07T22:54:59.288Z - INFO - arrived to nstep starting question answer session with the technician
2026-07-07T22:54:59.293Z - INFO - the question is : Did the CBSD1 transmit power prior to AUTHORIZED state (first successful HBT response)? please choose one of the answers :
2026-07-07T22:55:10.237Z - INFO - for the question : Did the CBSD1 transmit power prior to AUTHORIZED state (first successful HBT response)? , the user choose n
2026-07-07T22:55:10.239Z - INFO - the question is : Did the CBSD2 stop RF transmission within 60 seconds of receiving Heartbeat response with responseCode = 500? please choose one of the answers :
2026-07-07T22:55:21.236Z - INFO - for the question : Did the CBSD2 stop RF transmission within 60 seconds of receiving Heartbeat response with responseCode = 500? , the user choose y
2026-07-07T22:55:22.408Z - INFO - The final result of the test : WINNF.FT.D.HBT.8 is - passed

```

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

```

2026-07-08T16:50:03.953Z - INFO - WINNF TEST HARNESS RELEASE: 1.0.0.3 - 2018-November-13
2026-07-08T16:50:03.953Z - INFO - the selected test from the user : WINNF.FT.C.HBT.9 is starting now
2026-07-08T16:50:17.630Z - INFO - registration request from CBRS : {
  "registrationRequest": [
    {

```

```

      "airInterface": {
        "radioTechnology": "NR"
      },
      "cbsdCategory": "A",
      "cbsdInfo": {
        "model": "RN-620",
        "vendor": "Airspan Networks"
      }
    }
  ]
}

```

```

    "cbsdSerialNumber": "11-00:a0:0a:11:5f:e2",
    "fcclId": "SCW-Temp",
    "installationParam": {
      "antennaGain": 5,
      "eirpCapability": 29,
      "height": 5,
      "heightType": "AGL",
      "indoorDeployment": true,
      "latitude": 3.313883066177368,
      "longitude": 117.29134368896484
    },
    "measCapability": [],
    "userId": "NPLxLI"
  }
}
}
2026-07-08T16:50:17.658Z - INFO - engine sent successfully, the response to CBRS : {
  "registrationResponse": [
    {
      "cbsdId": "SCW-TempMock-SAS11-00:a0:0a:11:5f:e2",
      "response": {
        "responseCode": 0
      }
    }
  ]
}
2026-07-08T16:50:18.206Z - INFO - spectrumInquiry request from CBRS : {
  "spectrumInquiryRequest": [
    {
      "cbsdId": "SCW-TempMock-SAS11-00:a0:0a:11:5f:e2",
      "inquiredSpectrum": [
        {
          "highFrequency": 3560000000,
          "lowFrequency": 3550000000
        },
        {
          "highFrequency": 3570000000,
          "lowFrequency": 3560000000
        },
        {
          "highFrequency": 3580000000,
          "lowFrequency": 3570000000
        },
        {
          "highFrequency": 3590000000,
          "lowFrequency": 3580000000
        },
        {
          "highFrequency": 3600000000,
          "lowFrequency": 3590000000
        },
        {
          "highFrequency": 3610000000,
          "lowFrequency": 3600000000
        },
        {
          "highFrequency": 3620000000,
          "lowFrequency": 3610000000
        },
        {
          "highFrequency": 3630000000,
          "lowFrequency": 3620000000
        },
        {
          "highFrequency": 3640000000,

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```

        "lowFrequency": 3630000000
      },
      {
        "highFrequency": 3650000000,
        "lowFrequency": 3640000000
      },
      {
        "highFrequency": 3660000000,
        "lowFrequency": 3650000000
      },
      {
        "highFrequency": 3670000000,
        "lowFrequency": 3660000000
      },
      {
        "highFrequency": 3680000000,
        "lowFrequency": 3670000000
      },
      {
        "highFrequency": 3690000000,
        "lowFrequency": 3680000000
      },
      {
        "highFrequency": 3700000000,
        "lowFrequency": 3690000000
      }
    ]
  }
}
}
2026-07-08T16:50:18.230Z - INFO - engine sent successfully, the response to CBRS : {
  "spectrumInquiryResponse": [
    {
      "availableChannel": [
        {
          "channelType": "GAA",
          "frequencyRange": {
            "highFrequency": 3560000000,
            "lowFrequency": 3550000000
          },
          "ruleApplied": "FCC_PART_96"
        },
        {
          "channelType": "GAA",
          "frequencyRange": {
            "highFrequency": 3570000000,
            "lowFrequency": 3560000000
          },
          "ruleApplied": "FCC_PART_96"
        },
        {
          "channelType": "GAA",
          "frequencyRange": {
            "highFrequency": 3580000000,
            "lowFrequency": 3570000000
          },
          "ruleApplied": "FCC_PART_96"
        },
        {
          "channelType": "GAA",
          "frequencyRange": {
            "highFrequency": 3590000000,
            "lowFrequency": 3580000000
          },
          "ruleApplied": "FCC_PART_96"
        }
      ]
    }
  ]
}

```

```

},
{
  "channelType": "GAA",
  "frequencyRange": {
    "highFrequency": 3600000000,
    "lowFrequency": 3590000000
  },
  "ruleApplied": "FCC_PART_96"
},
{
  "channelType": "GAA",
  "frequencyRange": {
    "highFrequency": 3610000000,
    "lowFrequency": 3600000000
  },
  "ruleApplied": "FCC_PART_96"
},
{
  "channelType": "GAA",
  "frequencyRange": {
    "highFrequency": 3620000000,
    "lowFrequency": 3610000000
  },
  "ruleApplied": "FCC_PART_96"
},
{
  "channelType": "GAA",
  "frequencyRange": {
    "highFrequency": 3630000000,
    "lowFrequency": 3620000000
  },
  "ruleApplied": "FCC_PART_96"
},
{
  "channelType": "GAA",
  "frequencyRange": {
    "highFrequency": 3640000000,
    "lowFrequency": 3630000000
  },
  "ruleApplied": "FCC_PART_96"
},
{
  "channelType": "GAA",
  "frequencyRange": {
    "highFrequency": 3650000000,
    "lowFrequency": 3640000000
  },
  "ruleApplied": "FCC_PART_96"
},
{
  "channelType": "GAA",
  "frequencyRange": {
    "highFrequency": 3660000000,
    "lowFrequency": 3650000000
  },
  "ruleApplied": "FCC_PART_96"
},
{
  "channelType": "GAA",
  "frequencyRange": {
    "highFrequency": 3670000000,
    "lowFrequency": 3660000000
  },
  "ruleApplied": "FCC_PART_96"
},
},

```

```

    {
      "channelType": "GAA",
      "frequencyRange": {
        "highFrequency": 3680000000,
        "lowFrequency": 3670000000
      },
      "ruleApplied": "FCC_PART_96"
    },
    {
      "channelType": "GAA",
      "frequencyRange": {
        "highFrequency": 3690000000,
        "lowFrequency": 3680000000
      },
      "ruleApplied": "FCC_PART_96"
    },
    {
      "channelType": "GAA",
      "frequencyRange": {
        "highFrequency": 3700000000,
        "lowFrequency": 3690000000
      },
      "ruleApplied": "FCC_PART_96"
    }
  ],
  "cbsdId": "SCW-TempMock-SAS11-00:a0:0a:11:5f:e2",
  "response": {
    "responseCode": 0
  }
}
}
}
2026-07-08T16:50:18.740Z - INFO - grant request from CBRS : {
  "grantRequest": [
    {
      "cbsdId": "SCW-TempMock-SAS11-00:a0:0a:11:5f:e2",
      "operationParam": {
        "maxEirp": 19,
        "operationFrequencyRange": {
          "highFrequency": 3590000000,
          "lowFrequency": 3550000000
        }
      }
    }
  ]
}
}
2026-07-08T16:50:18.759Z - INFO - engine sent successfully, the response to CBRS : {
  "grantResponse": [
    {
      "cbsdId": "SCW-TempMock-SAS11-00:a0:0a:11:5f:e2",
      "channelType": "GAA",
      "grantExpireTime": "2026-07-15T16:50:18Z",
      "grantId": "477792413",
      "heartbeatInterval": 60,
      "response": {
        "responseCode": 0
      }
    }
  ]
}
}
2026-07-08T16:50:19.270Z - INFO - heartbeat request from CBRS : {
  "heartbeatRequest": [
    {
      "cbsdId": "SCW-TempMock-SAS11-00:a0:0a:11:5f:e2",
      "grantId": "477792413",

```

```

        "operationState": "GRANTED"
    }
}
}
2026-07-08T16:50:40.329Z - INFO - relinquishment request from CBRS : {
  "relinquishmentRequest": [
    {
      "cbsdId": "SCW-TempMock-SAS11-00:a0:0a:11:5f:e2",
      "grantId": "477792413"
    }
  ]
}
}
2026-07-08T16:50:40.331Z - INFO - request message received while HBT is absent, sleep 183 sec before responding
2026-07-08T16:50:40.359Z - INFO - deregistration request from CBRS : {
  "deregistrationRequest": [
    {
      "cbsdId": "SCW-TempMock-SAS11-00:a0:0a:11:5f:e2"
    }
  ]
}
}
2026-07-08T16:50:40.359Z - INFO - request message received while HBT is absent, sleep 183 sec before responding
2026-07-08T16:50:51.042Z - INFO - registration request from CBRS : {
  "registrationRequest": [
    {
      "airInterface": {
        "radioTechnology": "NR"
      },
      "cbsdCategory": "A",
      "cbsdInfo": {
        "model": "RN-620",
        "vendor": "Airspan Networks"
      },
      "cbsdSerialNumber": "11-00:a0:0a:11:5f:e2",
      "fcid": "SCW-Temp",
      "installationParam": {
        "antennaGain": 5,
        "eirpCapability": 29,
        "height": 5,
        "heightType": "AGL",
        "indoorDeployment": true,
        "latitude": 3.313883066177368,
        "longitude": 117.29134368896484
      },
      "measCapability": [],
      "userId": "NPLxLI"
    }
  ]
}
}
2026-07-08T16:50:51.042Z - INFO - request message received while HBT is absent, sleep 173 sec before responding
2026-07-08T16:51:11.546Z - INFO - registration request from CBRS : {
  "registrationRequest": [
    {
      "airInterface": {
        "radioTechnology": "NR"
      },
      "cbsdCategory": "A",
      "cbsdInfo": {
        "model": "RN-620",
        "vendor": "Airspan Networks"
      },
      "cbsdSerialNumber": "11-00:a0:0a:11:5f:e2",
      "fcid": "SCW-Temp",
      "installationParam": {
        "antennaGain": 5,
        "eirpCapability": 29,

```

```

    "height": 5,
    "heightType": "AGL",
    "indoorDeployment": true,
    "latitude": 3.313883066177368,
    "longitude": 117.29134368896484
  },
  "measCapability": [],
  "userId": "NPLxLI"
}
]
}

```

2026-07-08T16:51:11.546Z - INFO - request message received while HBT is absent, sleep 152 sec before responding

2026-07-08T16:51:22.240Z - INFO - registration request from CBRS : {

```

  "registrationRequest": [
    {
      "airInterface": {
        "radioTechnology": "NR"
      },
      "cbsdCategory": "A",
      "cbsdInfo": {
        "model": "RN-620",
        "vendor": "Airsan Networks"
      },
      "cbsdSerialNumber": "11-00:a0:0a:11:5f:e2",
      "fcclId": "SCW-Temp",
      "installationParam": {
        "antennaGain": 5,
        "eirpCapability": 29,
        "height": 5,
        "heightType": "AGL",
        "indoorDeployment": true,
        "latitude": 3.313883066177368,
        "longitude": 117.29134368896484
      },
      "measCapability": [],
      "userId": "NPLxLI"
    }
  ]
}

```

2026-07-08T16:51:22.240Z - INFO - request message received while HBT is absent, sleep 142 sec before responding

2026-07-08T16:51:42.736Z - INFO - registration request from CBRS : {

```

  "registrationRequest": [
    {
      "airInterface": {
        "radioTechnology": "NR"
      },
      "cbsdCategory": "A",
      "cbsdInfo": {
        "model": "RN-620",
        "vendor": "Airsan Networks"
      },
      "cbsdSerialNumber": "11-00:a0:0a:11:5f:e2",
      "fcclId": "SCW-Temp",
      "installationParam": {
        "antennaGain": 5,
        "eirpCapability": 29,
        "height": 5,
        "heightType": "AGL",
        "indoorDeployment": true,
        "latitude": 3.313883066177368,
        "longitude": 117.29134368896484
      },
      "measCapability": [],
      "userId": "NPLxLI"
    }
  ]
}

```

```

    ]
  }
2026-07-08T16:51:42.737Z - INFO - request message received while HBT is absent, sleep 121 sec before responding
2026-07-08T16:51:53.470Z - INFO - registration request from CBRS : {
  "registrationRequest": [
    {
      "airInterface": {
        "radioTechnology": "NR"
      },
      "cbsdCategory": "A",
      "cbsdInfo": {
        "model": "RN-620",
        "vendor": "Airsan Networks"
      },
      "cbsdSerialNumber": "11-00:a0:0a:11:5f:e2",
      "fcclId": "SCW-Temp",
      "installationParam": {
        "antennaGain": 5,
        "eirpCapability": 29,
        "height": 5,
        "heightType": "AGL",
        "indoorDeployment": true,
        "latitude": 3.313883066177368,
        "longitude": 117.29134368896484
      },
      "measCapability": [],
      "userId": "NPLxLI"
    }
  ]
}
2026-07-08T16:51:53.470Z - INFO - request message received while HBT is absent, sleep 110 sec before responding
2026-07-08T16:52:13.959Z - INFO - registration request from CBRS : {
  "registrationRequest": [
    {
      "airInterface": {
        "radioTechnology": "NR"
      },
      "cbsdCategory": "A",
      "cbsdInfo": {
        "model": "RN-620",
        "vendor": "Airsan Networks"
      },
      "cbsdSerialNumber": "11-00:a0:0a:11:5f:e2",
      "fcclId": "SCW-Temp",
      "installationParam": {
        "antennaGain": 5,
        "eirpCapability": 29,
        "height": 5,
        "heightType": "AGL",
        "indoorDeployment": true,
        "latitude": 3.313883066177368,
        "longitude": 117.29134368896484
      },
      "measCapability": [],
      "userId": "NPLxLI"
    }
  ]
}
2026-07-08T16:52:13.959Z - INFO - request message received while HBT is absent, sleep 90 sec before responding
2026-07-08T16:53:39.296Z - INFO - engine sent successfully, the response to CBRS : {
  "heartbeatResponse": [
    {
      "cbsdId": "SCW-TempMock-SAS11-00:a0:0a:11:5f:e2",
      "grantId": "477792413",
      "response": {

```

```

    "responseCode": 501
  },
  "transmitExpireTime": "2026-07-08T16:53:39Z"
}
]
}
2026-07-08T16:53:40.667Z - INFO - arrived to nstep starting question answer session with the technician
2026-07-08T16:53:40.673Z - INFO - the question is : Were there RF transmissions from the CBSD during the test? please choose one of the answers :
2026-07-08T16:53:43.348Z - INFO - engine sent successfully, the response to CBRS : "list index out of range"
2026-07-08T16:53:43.371Z - INFO - engine sent successfully, the response to CBRS : "list index out of range"
2026-07-08T16:53:43.471Z - INFO - engine sent successfully, the response to CBRS : "for the CBRS with the cbsdSerialNumber :11-00:a0:0a:11:5f:e2 list index out of range"
2026-07-08T16:53:43.552Z - INFO - engine sent successfully, the response to CBRS : "for the CBRS with the cbsdSerialNumber :11-00:a0:0a:11:5f:e2 list index out of range"
2026-07-08T16:53:43.753Z - INFO - engine sent successfully, the response to CBRS : "for the CBRS with the cbsdSerialNumber :11-00:a0:0a:11:5f:e2 list index out of range"
2026-07-08T16:53:43.963Z - INFO - engine sent successfully, the response to CBRS : "for the CBRS with the cbsdSerialNumber :11-00:a0:0a:11:5f:e2 list index out of range"
2026-07-08T16:53:44.056Z - INFO - engine sent successfully, the response to CBRS : "for the CBRS with the cbsdSerialNumber :11-00:a0:0a:11:5f:e2 list index out of range"
2026-07-08T16:53:44.246Z - INFO - engine sent successfully, the response to CBRS : "for the CBRS with the cbsdSerialNumber :11-00:a0:0a:11:5f:e2 list index out of range"
2026-07-08T16:54:04.002Z - INFO - for the question : Were there RF transmissions from the CBSD during the test? , the user choose n
2026-07-08T16:54:04.497Z - INFO - The final result of the test : WINNF.FT.C.HBT.9 is - passed

```

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

```

2026-07-08T16:54:32.466Z - INFO - WINNF TEST HARNESS RELEASE: 1.0.0.3 - 2018-November-13
2026-07-08T16:54:32.467Z - INFO - the selected test from the user : WINNF.FT.C.HBT.10 is starting now
2026-07-08T16:55:14.177Z - INFO - registration request from CBRS : {
  "registrationRequest": [
    {
      "airInterface": {
        "radioTechnology": "NR"
      },
      "cbsdCategory": "A",
      "cbsdInfo": {
        "model": "RN-620",
        "vendor": "Airspar Networks"
      },
      "cbsdSerialNumber": "11-00:a0:0a:11:5f:e2",
      "fcid": "SCW-Temp",
      "installationParam": {
        "antennaGain": 5,
        "eirpCapability": 29,
        "height": 5,
        "heightType": "AGL",
        "indoorDeployment": true,
        "latitude": 3.313883066177368,
        "longitude": 117.29134368896484
      },
      "measCapability": [],
      "userId": "NPLxLI"
    }
  ]
}
2026-07-08T16:55:14.224Z - INFO - engine sent successfully, the response to CBRS : {
  "registrationResponse": [
    {
      "cbsdId": "SCW-TempMock-SAS11-00:a0:0a:11:5f:e2",
      "response": {
        "responseCode": 0
      }
    }
  ]
}

```

```

}
2026-07-08T16:55:14.767Z - INFO - spectrumInquiry request from CBRS : {
  "spectrumInquiryRequest": [
    {
      "cbsdId": "SCW-TempMock-SAS11-00:a0:0a:11:5f:e2",
      "inquiredSpectrum": [
        {
          "highFrequency": 3560000000,
          "lowFrequency": 3550000000
        },
        {
          "highFrequency": 3570000000,
          "lowFrequency": 3560000000
        },
        {
          "highFrequency": 3580000000,
          "lowFrequency": 3570000000
        },
        {
          "highFrequency": 3590000000,
          "lowFrequency": 3580000000
        },
        {
          "highFrequency": 3600000000,
          "lowFrequency": 3590000000
        },
        {
          "highFrequency": 3610000000,
          "lowFrequency": 3600000000
        },
        {
          "highFrequency": 3620000000,
          "lowFrequency": 3610000000
        },
        {
          "highFrequency": 3630000000,
          "lowFrequency": 3620000000
        },
        {
          "highFrequency": 3640000000,
          "lowFrequency": 3630000000
        },
        {
          "highFrequency": 3650000000,
          "lowFrequency": 3640000000
        },
        {
          "highFrequency": 3660000000,
          "lowFrequency": 3650000000
        },
        {
          "highFrequency": 3670000000,
          "lowFrequency": 3660000000
        },
        {
          "highFrequency": 3680000000,
          "lowFrequency": 3670000000
        },
        {
          "highFrequency": 3690000000,
          "lowFrequency": 3680000000
        },
        {
          "highFrequency": 3700000000,
          "lowFrequency": 3690000000
        }
      ]
    }
  ]
}

```

```

    }
  ]
}
}
2026-07-08T16:55:14.778Z - INFO - engine sent successfully, the response to CBRS : {
  "spectrumInquiryResponse": [
    {
      "availableChannel": [
        {
          "channelType": "GAA",
          "frequencyRange": {
            "highFrequency": 3560000000,
            "lowFrequency": 3550000000
          },
          "ruleApplied": "FCC_PART_96"
        },
        {
          "channelType": "GAA",
          "frequencyRange": {
            "highFrequency": 3570000000,
            "lowFrequency": 3560000000
          },
          "ruleApplied": "FCC_PART_96"
        },
        {
          "channelType": "GAA",
          "frequencyRange": {
            "highFrequency": 3580000000,
            "lowFrequency": 3570000000
          },
          "ruleApplied": "FCC_PART_96"
        },
        {
          "channelType": "GAA",
          "frequencyRange": {
            "highFrequency": 3590000000,
            "lowFrequency": 3580000000
          },
          "ruleApplied": "FCC_PART_96"
        },
        {
          "channelType": "GAA",
          "frequencyRange": {
            "highFrequency": 3600000000,
            "lowFrequency": 3590000000
          },
          "ruleApplied": "FCC_PART_96"
        },
        {
          "channelType": "GAA",
          "frequencyRange": {
            "highFrequency": 3610000000,
            "lowFrequency": 3600000000
          },
          "ruleApplied": "FCC_PART_96"
        },
        {
          "channelType": "GAA",
          "frequencyRange": {
            "highFrequency": 3620000000,
            "lowFrequency": 3610000000
          },
          "ruleApplied": "FCC_PART_96"
        }
      ]
    }
  ],
}

```

```

{
  "channelType": "GAA",
  "frequencyRange": {
    "highFrequency": 3630000000,
    "lowFrequency": 3620000000
  },
  "ruleApplied": "FCC_PART_96"
},
{
  "channelType": "GAA",
  "frequencyRange": {
    "highFrequency": 3640000000,
    "lowFrequency": 3630000000
  },
  "ruleApplied": "FCC_PART_96"
},
{
  "channelType": "GAA",
  "frequencyRange": {
    "highFrequency": 3650000000,
    "lowFrequency": 3640000000
  },
  "ruleApplied": "FCC_PART_96"
},
{
  "channelType": "GAA",
  "frequencyRange": {
    "highFrequency": 3660000000,
    "lowFrequency": 3650000000
  },
  "ruleApplied": "FCC_PART_96"
},
{
  "channelType": "GAA",
  "frequencyRange": {
    "highFrequency": 3670000000,
    "lowFrequency": 3660000000
  },
  "ruleApplied": "FCC_PART_96"
},
{
  "channelType": "GAA",
  "frequencyRange": {
    "highFrequency": 3680000000,
    "lowFrequency": 3670000000
  },
  "ruleApplied": "FCC_PART_96"
},
{
  "channelType": "GAA",
  "frequencyRange": {
    "highFrequency": 3690000000,
    "lowFrequency": 3680000000
  },
  "ruleApplied": "FCC_PART_96"
},
{
  "channelType": "GAA",
  "frequencyRange": {
    "highFrequency": 3700000000,
    "lowFrequency": 3690000000
  },
  "ruleApplied": "FCC_PART_96"
}
],

```

```

        "cbsdId": "SCW-TempMock-SAS11-00:a0:0a:11:5f:e2",
        "response": {
            "responseCode": 0
        }
    }
}
}
2026-07-08T16:55:15.283Z - INFO - grant request from CBRS : {
    "grantRequest": [
        {
            "cbsdId": "SCW-TempMock-SAS11-00:a0:0a:11:5f:e2",
            "operationParam": {
                "maxEirp": 19,
                "operationFrequencyRange": {
                    "highFrequency": 3590000000,
                    "lowFrequency": 3550000000
                }
            }
        }
    ]
}
}
2026-07-08T16:55:15.292Z - INFO - engine sent successfully, the response to CBRS : {
    "grantResponse": [
        {
            "cbsdId": "SCW-TempMock-SAS11-00:a0:0a:11:5f:e2",
            "channelType": "GAA",
            "grantExpireTime": "2026-07-15T16:55:15Z",
            "grantId": "702982861",
            "heartbeatInterval": 60,
            "response": {
                "responseCode": 0
            }
        }
    ]
}
}
2026-07-08T16:55:15.799Z - INFO - heartbeat request from CBRS : {
    "heartbeatRequest": [
        {
            "cbsdId": "SCW-TempMock-SAS11-00:a0:0a:11:5f:e2",
            "grantId": "702982861",
            "operationState": "GRANTED"
        }
    ]
}
}
2026-07-08T16:55:15.809Z - INFO - engine sent successfully, the response to CBRS : {
    "heartbeatResponse": [
        {
            "cbsdId": "SCW-TempMock-SAS11-00:a0:0a:11:5f:e2",
            "grantId": "702982861",
            "response": {
                "responseCode": 0
            },
            "transmitExpireTime": "2026-07-08T16:58:35Z"
        }
    ]
}
}
2026-07-08T16:56:05.371Z - INFO - heartbeat request from CBRS : {
    "heartbeatRequest": [
        {
            "cbsdId": "SCW-TempMock-SAS11-00:a0:0a:11:5f:e2",
            "grantId": "702982861",
            "operationState": "AUTHORIZED"
        }
    ]
}
}
}

```

```

2026-07-08T16:56:05.374Z - INFO - Time interval between two heartbeat request messages is: 49.572, limit is: 65.0
2026-07-08T16:56:05.388Z - INFO - engine sent successfully, the response to CBRS : {
  "heartbeatResponse": [
    {
      "cbsdId": "SCW-TempMock-SAS11-00:a0:0a:11:5f:e2",
      "grantId": "702982861",
      "response": {
        "responseCode": 0
      },
      "transmitExpireTime": "2026-07-08T16:59:25Z"
    }
  ]
}
2026-07-08T16:56:46.427Z - INFO - heartbeat request from CBRS : {
  "heartbeatRequest": [
    {
      "cbsdId": "SCW-TempMock-SAS11-00:a0:0a:11:5f:e2",
      "grantId": "702982861",
      "operationState": "AUTHORIZED"
    }
  ]
}
2026-07-08T16:56:46.431Z - INFO - Time interval between two heartbeat request messages is: 41.057, limit is: 65.0
2026-07-08T16:56:46.440Z - INFO - LAST HBT RESPONSE THAT SET TRANSMIT_EXPIRE_TIME WAS AT: 2026-07-08 16:56:05.371000
2026-07-08T16:58:26.551Z - INFO - heartbeat request from CBRS : {
  "heartbeatRequest": [
    {
      "cbsdId": "SCW-TempMock-SAS11-00:a0:0a:11:5f:e2",
      "grantId": "702982861",
      "operationState": "AUTHORIZED"
    }
  ]
}
2026-07-08T16:58:26.552Z - INFO - request message received while HBT is absent, sleep 104 sec before responding
2026-07-08T16:59:15.573Z - INFO - heartbeat request from CBRS : {
  "heartbeatRequest": [
    {
      "cbsdId": "SCW-TempMock-SAS11-00:a0:0a:11:5f:e2",
      "grantId": "702982861",
      "operationState": "AUTHORIZED"
    }
  ]
}
2026-07-08T16:59:15.573Z - INFO - request message received while HBT is absent, sleep 55 sec before responding
2026-07-08T16:59:44.575Z - INFO - relinquishment request from CBRS : {
  "relinquishmentRequest": [
    {
      "cbsdId": "SCW-TempMock-SAS11-00:a0:0a:11:5f:e2",
      "grantId": "702982861"
    }
  ]
}
2026-07-08T16:59:44.575Z - INFO - request message received while HBT is absent, sleep 26 sec before responding
2026-07-08T16:59:44.625Z - INFO - deregistration request from CBRS : {
  "deregistrationRequest": [
    {
      "cbsdId": "SCW-TempMock-SAS11-00:a0:0a:11:5f:e2"
    }
  ]
}
2026-07-08T16:59:44.625Z - INFO - request message received while HBT is absent, sleep 26 sec before responding
2026-07-08T17:00:06.454Z - INFO - engine sent successfully, the response to CBRS : {
  "heartbeatResponse": [
    {
      "cbsdId": "SCW-TempMock-SAS11-00:a0:0a:11:5f:e2",

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```

    "grantId": "702982861",
    "response": {
      "responseCode": 501
    },
    "transmitExpireTime": "2026-07-08T17:00:06Z"
  }
}

```

2026-07-08T17:00:08.088Z - INFO - arrived to nstep starting question answer session with the technician

2026-07-08T17:00:08.095Z - INFO - the question is : Did the CBSD stop RF transmissions within (transmitExpireTime + 60seconds) of last valid heartbeat response? please choose one of the answers :

2026-07-08T17:00:10.558Z - INFO - engine sent successfully, the response to CBRS : "list index out of range"

2026-07-08T17:00:10.596Z - INFO - engine sent successfully, the response to CBRS : "list index out of range"

2026-07-08T17:00:10.601Z - INFO - engine sent successfully, the response to CBRS : "list index out of range"

2026-07-08T17:00:10.647Z - INFO - engine sent successfully, the response to CBRS : "list index out of range"

2026-07-08T17:00:31.025Z - INFO - for the question : Did the CBSD stop RF transmissions within (transmitExpireTime + 60seconds) of last valid heartbeat response? , the user choose y

2026-07-08T17:00:31.671Z - INFO - The final result of the test : WINNF.FT.C.HBT.10 is - passed

9.19 Log file for test case ID: WINNF.FT.D.RLQ.2

2026-07-07T19:30:39.288Z - INFO - WINNF TEST HARNESS RELEASE: 1.0.0.3 - 2018-November-13

2026-07-07T19:30:39.289Z - INFO - the selected test from the user : WINNF.FT.D.RLQ.2 is starting now

2026-07-07T19:32:26.355Z - INFO - registration request from CBRS : {

```

  "registrationRequest": {
    {
      "airInterface": {
        "radioTechnology": "NR"
      },
      "cbsdCategory": "A",
      "cbsdInfo": {
        "model": "RN-620",
        "vendor": "Airspan Networks"
      },
      "cbsdSerialNumber": "11-00:a0:0a:11:5f:e2",
      "fccId": "SCW-Temp",
      "installationParam": {
        "antennaGain": 5,
        "eirpCapability": 29,
        "height": 5,
        "heightType": "AGL",
        "indoorDeployment": true,
        "latitude": 3.313883066177368,
        "longitude": 117.29134368896484
      },
      "measCapability": [],
      "userId": "NPLxLI"
    }
  }
}

```

2026-07-07T19:32:26.385Z - INFO - engine sent successfully, the response to CBRS : {

```

  "registrationResponse": {
    {
      "cbsdId": "SCW-TempMock-SAS11-00:a0:0a:11:5f:e2",
      "response": {
        "responseCode": 0
      }
    }
  }
}

```

2026-07-07T19:32:26.934Z - INFO - spectrumInquiry request from CBRS : {

```

  "spectrumInquiryRequest": {
    {
      "cbsdId": "SCW-TempMock-SAS11-00:a0:0a:11:5f:e2",
      "inquiredSpectrum": [

```

```

    {
      "highFrequency": 3560000000,
      "lowFrequency": 3550000000
    },
    {
      "highFrequency": 3570000000,
      "lowFrequency": 3560000000
    },
    {
      "highFrequency": 3580000000,
      "lowFrequency": 3570000000
    },
    {
      "highFrequency": 3590000000,
      "lowFrequency": 3580000000
    },
    {
      "highFrequency": 3600000000,
      "lowFrequency": 3590000000
    },
    {
      "highFrequency": 3610000000,
      "lowFrequency": 3600000000
    },
    {
      "highFrequency": 3620000000,
      "lowFrequency": 3610000000
    },
    {
      "highFrequency": 3630000000,
      "lowFrequency": 3620000000
    },
    {
      "highFrequency": 3640000000,
      "lowFrequency": 3630000000
    },
    {
      "highFrequency": 3650000000,
      "lowFrequency": 3640000000
    },
    {
      "highFrequency": 3660000000,
      "lowFrequency": 3650000000
    },
    {
      "highFrequency": 3670000000,
      "lowFrequency": 3660000000
    },
    {
      "highFrequency": 3680000000,
      "lowFrequency": 3670000000
    },
    {
      "highFrequency": 3690000000,
      "lowFrequency": 3680000000
    },
    {
      "highFrequency": 3700000000,
      "lowFrequency": 3690000000
    }
  ]
}

```

2026-07-07T19:32:26.957Z - INFO - engine sent successfully, the response to CBRS : {

```

"spectrumInquiryResponse": [
  {
    "availableChannel": [
      {
        "channelType": "GAA",
        "frequencyRange": {
          "highFrequency": 3560000000,
          "lowFrequency": 3550000000
        },
        "ruleApplied": "FCC_PART_96"
      },
      {
        "channelType": "GAA",
        "frequencyRange": {
          "highFrequency": 3570000000,
          "lowFrequency": 3560000000
        },
        "ruleApplied": "FCC_PART_96"
      },
      {
        "channelType": "GAA",
        "frequencyRange": {
          "highFrequency": 3580000000,
          "lowFrequency": 3570000000
        },
        "ruleApplied": "FCC_PART_96"
      },
      {
        "channelType": "GAA",
        "frequencyRange": {
          "highFrequency": 3590000000,
          "lowFrequency": 3580000000
        },
        "ruleApplied": "FCC_PART_96"
      },
      {
        "channelType": "GAA",
        "frequencyRange": {
          "highFrequency": 3600000000,
          "lowFrequency": 3590000000
        },
        "ruleApplied": "FCC_PART_96"
      },
      {
        "channelType": "GAA",
        "frequencyRange": {
          "highFrequency": 3610000000,
          "lowFrequency": 3600000000
        },
        "ruleApplied": "FCC_PART_96"
      },
      {
        "channelType": "GAA",
        "frequencyRange": {
          "highFrequency": 3620000000,
          "lowFrequency": 3610000000
        },
        "ruleApplied": "FCC_PART_96"
      },
      {
        "channelType": "GAA",
        "frequencyRange": {
          "highFrequency": 3630000000,
          "lowFrequency": 3620000000
        },
        "ruleApplied": "FCC_PART_96"
      }
    ]
  }
]

```

```

    "ruleApplied": "FCC_PART_96"
  },
  {
    "channelType": "GAA",
    "frequencyRange": {
      "highFrequency": 3640000000,
      "lowFrequency": 3630000000
    },
    "ruleApplied": "FCC_PART_96"
  },
  {
    "channelType": "GAA",
    "frequencyRange": {
      "highFrequency": 3650000000,
      "lowFrequency": 3640000000
    },
    "ruleApplied": "FCC_PART_96"
  },
  {
    "channelType": "GAA",
    "frequencyRange": {
      "highFrequency": 3660000000,
      "lowFrequency": 3650000000
    },
    "ruleApplied": "FCC_PART_96"
  },
  {
    "channelType": "GAA",
    "frequencyRange": {
      "highFrequency": 3670000000,
      "lowFrequency": 3660000000
    },
    "ruleApplied": "FCC_PART_96"
  },
  {
    "channelType": "GAA",
    "frequencyRange": {
      "highFrequency": 3680000000,
      "lowFrequency": 3670000000
    },
    "ruleApplied": "FCC_PART_96"
  },
  {
    "channelType": "GAA",
    "frequencyRange": {
      "highFrequency": 3690000000,
      "lowFrequency": 3680000000
    },
    "ruleApplied": "FCC_PART_96"
  },
  {
    "channelType": "GAA",
    "frequencyRange": {
      "highFrequency": 3700000000,
      "lowFrequency": 3690000000
    },
    "ruleApplied": "FCC_PART_96"
  }
],
"cbidId": "SCW-TempMock-SAS11-00:a0:0a:11:5f:e2",
"response": {
  "responseCode": 0
}
}
]

```

```

}
2026-07-07T19:32:27.467Z - INFO - grant request from CBRS : {
  "grantRequest": [
    {
      "cbsdId": "SCW-TempMock-SAS11-00:a0:0a:11:5f:e2",
      "operationParam": {
        "maxEirp": 19,
        "operationFrequencyRange": {
          "highFrequency": 3590000000,
          "lowFrequency": 3550000000
        }
      }
    }
  ]
}
2026-07-07T19:32:27.486Z - INFO - engine sent successfully, the response to CBRS : {
  "grantResponse": [
    {
      "cbsdId": "SCW-TempMock-SAS11-00:a0:0a:11:5f:e2",
      "channelType": "GAA",
      "grantExpireTime": "2026-07-14T19:32:27Z",
      "grantId": "164701046",
      "heartbeatInterval": 60,
      "response": {
        "responseCode": 0
      }
    }
  ]
}
2026-07-07T19:32:27.993Z - INFO - heartbeat request from CBRS : {
  "heartbeatRequest": [
    {
      "cbsdId": "SCW-TempMock-SAS11-00:a0:0a:11:5f:e2",
      "grantId": "164701046",
      "operationState": "GRANTED"
    }
  ]
}
2026-07-07T19:32:28.013Z - INFO - engine sent successfully, the response to CBRS : {
  "heartbeatResponse": [
    {
      "cbsdId": "SCW-TempMock-SAS11-00:a0:0a:11:5f:e2",
      "grantId": "164701046",
      "response": {
        "responseCode": 0
      },
      "transmitExpireTime": "2026-07-07T19:35:48Z"
    }
  ]
}
2026-07-07T19:32:40.532Z - INFO - registration request from CBRS : {
  "registrationRequest": [
    {
      "airInterface": {
        "radioTechnology": "NR"
      },
      "cbsdCategory": "A",
      "cbsdInfo": {
        "model": "RN-620",
        "vendor": "Airspar Networks"
      },
      "cbsdSerialNumber": "12-00:a0:0a:11:5f:c2",
      "fcid": "SCW-Temp",
      "installationParam": {
        "antennaGain": 5,

```

```

    "eirpCapability": 29,
    "height": 1,
    "heightType": "AGL",
    "indoorDeployment": true,
    "latitude": 3.313883066177368,
    "longitude": 117.29069519042969
  },
  "measCapability": [],
  "userId": "NPLxLI"
}
]
}
2026-07-07T19:32:40.589Z - INFO - engine sent successfully, the response to CBRS : {
  "registrationResponse": [
    {
      "cbsdId": "SCW-TempMock-SAS12-00:a0:0a:11:5f:c2",
      "response": {
        "responseCode": 0
      }
    }
  ]
}
}
2026-07-07T19:32:41.596Z - INFO - spectrumInquiry request from CBRS : {
  "spectrumInquiryRequest": [
    {
      "cbsdId": "SCW-TempMock-SAS12-00:a0:0a:11:5f:c2",
      "inquiredSpectrum": [
        {
          "highFrequency": 3560000000,
          "lowFrequency": 3550000000
        },
        {
          "highFrequency": 3570000000,
          "lowFrequency": 3560000000
        },
        {
          "highFrequency": 3580000000,
          "lowFrequency": 3570000000
        },
        {
          "highFrequency": 3590000000,
          "lowFrequency": 3580000000
        },
        {
          "highFrequency": 3600000000,
          "lowFrequency": 3590000000
        },
        {
          "highFrequency": 3610000000,
          "lowFrequency": 3600000000
        },
        {
          "highFrequency": 3620000000,
          "lowFrequency": 3610000000
        },
        {
          "highFrequency": 3630000000,
          "lowFrequency": 3620000000
        },
        {
          "highFrequency": 3640000000,
          "lowFrequency": 3630000000
        },
        {
          "highFrequency": 3650000000,

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```

        "lowFrequency": 3640000000
      },
      {
        "highFrequency": 3660000000,
        "lowFrequency": 3650000000
      },
      {
        "highFrequency": 3670000000,
        "lowFrequency": 3660000000
      },
      {
        "highFrequency": 3680000000,
        "lowFrequency": 3670000000
      },
      {
        "highFrequency": 3690000000,
        "lowFrequency": 3680000000
      },
      {
        "highFrequency": 3700000000,
        "lowFrequency": 3690000000
      }
    ]
  }
}

```

2026-07-07T19:32:41.615Z - INFO - engine sent successfully, the response to CBRS : {

```

"spectrumInquiryResponse": [
  {
    "availableChannel": [
      {
        "channelType": "GAA",
        "frequencyRange": {
          "highFrequency": 3560000000,
          "lowFrequency": 3550000000
        },
        "ruleApplied": "FCC_PART_96"
      },
      {
        "channelType": "GAA",
        "frequencyRange": {
          "highFrequency": 3570000000,
          "lowFrequency": 3560000000
        },
        "ruleApplied": "FCC_PART_96"
      },
      {
        "channelType": "GAA",
        "frequencyRange": {
          "highFrequency": 3580000000,
          "lowFrequency": 3570000000
        },
        "ruleApplied": "FCC_PART_96"
      },
      {
        "channelType": "GAA",
        "frequencyRange": {
          "highFrequency": 3590000000,
          "lowFrequency": 3580000000
        },
        "ruleApplied": "FCC_PART_96"
      },
      {
        "channelType": "GAA",
        "frequencyRange": {

```

```

    "highFrequency": 3600000000,
    "lowFrequency": 3590000000
  },
  "ruleApplied": "FCC_PART_96"
},
{
  "channelType": "GAA",
  "frequencyRange": {
    "highFrequency": 3610000000,
    "lowFrequency": 3600000000
  },
  "ruleApplied": "FCC_PART_96"
},
{
  "channelType": "GAA",
  "frequencyRange": {
    "highFrequency": 3620000000,
    "lowFrequency": 3610000000
  },
  "ruleApplied": "FCC_PART_96"
},
{
  "channelType": "GAA",
  "frequencyRange": {
    "highFrequency": 3630000000,
    "lowFrequency": 3620000000
  },
  "ruleApplied": "FCC_PART_96"
},
{
  "channelType": "GAA",
  "frequencyRange": {
    "highFrequency": 3640000000,
    "lowFrequency": 3630000000
  },
  "ruleApplied": "FCC_PART_96"
},
{
  "channelType": "GAA",
  "frequencyRange": {
    "highFrequency": 3650000000,
    "lowFrequency": 3640000000
  },
  "ruleApplied": "FCC_PART_96"
},
{
  "channelType": "GAA",
  "frequencyRange": {
    "highFrequency": 3660000000,
    "lowFrequency": 3650000000
  },
  "ruleApplied": "FCC_PART_96"
},
{
  "channelType": "GAA",
  "frequencyRange": {
    "highFrequency": 3670000000,
    "lowFrequency": 3660000000
  },
  "ruleApplied": "FCC_PART_96"
},
{
  "channelType": "GAA",
  "frequencyRange": {
    "highFrequency": 3680000000,

```

```

        "lowFrequency": 3670000000
      },
      "ruleApplied": "FCC_PART_96"
    },
    {
      "channelType": "GAA",
      "frequencyRange": {
        "highFrequency": 3690000000,
        "lowFrequency": 3680000000
      },
      "ruleApplied": "FCC_PART_96"
    },
    {
      "channelType": "GAA",
      "frequencyRange": {
        "highFrequency": 3700000000,
        "lowFrequency": 3690000000
      },
      "ruleApplied": "FCC_PART_96"
    }
  ],
  "cbsdId": "SCW-TempMock-SAS12-00:a0:0a:11:5f:c2",
  "response": {
    "responseCode": 0
  }
}
]
}
2026-07-07T19:32:42.624Z - INFO - grant request from CBRS : {
  "grantRequest": [
    {
      "cbsdId": "SCW-TempMock-SAS12-00:a0:0a:11:5f:c2",
      "operationParam": {
        "maxEirp": 19,
        "operationFrequencyRange": {
          "highFrequency": 3590000000,
          "lowFrequency": 3550000000
        }
      }
    }
  ]
}
}
2026-07-07T19:32:42.642Z - INFO - engine sent successfully, the response to CBRS : {
  "grantResponse": [
    {
      "cbsdId": "SCW-TempMock-SAS12-00:a0:0a:11:5f:c2",
      "channelType": "GAA",
      "grantExpireTime": "2026-07-14T19:32:42Z",
      "grantId": "947956489",
      "heartbeatInterval": 60,
      "response": {
        "responseCode": 0
      }
    }
  ]
}
}
2026-07-07T19:32:43.651Z - INFO - heartbeat request from CBRS : {
  "heartbeatRequest": [
    {
      "cbsdId": "SCW-TempMock-SAS12-00:a0:0a:11:5f:c2",
      "grantId": "947956489",
      "operationState": "GRANTED"
    }
  ]
}
}

```

```

2026-07-07T19:32:43.667Z - INFO - engine sent successfully, the response to CBRS : {
  "heartbeatResponse": [
    {
      "cbsdId": "SCW-TempMock-SAS12-00:a0:0a:11:5f:c2",
      "grantId": "947956489",
      "response": {
        "responseCode": 0
      },
      "transmitExpireTime": "2026-07-07T19:36:03Z"
    }
  ]
}
2026-07-07T19:33:05.188Z - INFO - heartbeat request from CBRS : {
  "heartbeatRequest": [
    {
      "cbsdId": "SCW-TempMock-SAS11-00:a0:0a:11:5f:e2",
      "grantId": "164701046",
      "operationState": "AUTHORIZED"
    }
  ]
}
2026-07-07T19:33:05.193Z - INFO - Time interval between two heartbeat request messages is: 37.196, limit is: 65.0
2026-07-07T19:33:05.207Z - INFO - engine sent successfully, the response to CBRS : {
  "heartbeatResponse": [
    {
      "cbsdId": "SCW-TempMock-SAS11-00:a0:0a:11:5f:e2",
      "grantId": "164701046",
      "response": {
        "responseCode": 0
      },
      "transmitExpireTime": "2026-07-07T19:36:25Z"
    }
  ]
}
2026-07-07T19:33:31.239Z - INFO - heartbeat request from CBRS : {
  "heartbeatRequest": [
    {
      "cbsdId": "SCW-TempMock-SAS12-00:a0:0a:11:5f:c2",
      "grantId": "947956489",
      "operationState": "AUTHORIZED"
    }
  ]
}
2026-07-07T19:33:31.243Z - INFO - Time interval between two heartbeat request messages is: 47.588, limit is: 65.0
2026-07-07T19:33:31.259Z - INFO - engine sent successfully, the response to CBRS : {
  "heartbeatResponse": [
    {
      "cbsdId": "SCW-TempMock-SAS12-00:a0:0a:11:5f:c2",
      "grantId": "947956489",
      "response": {
        "responseCode": 0
      },
      "transmitExpireTime": "2026-07-07T19:36:51Z"
    }
  ]
}
2026-07-07T19:33:31.301Z - INFO - relinquishment request from CBRS : {
  "relinquishmentRequest": [
    {
      "cbsdId": "SCW-TempMock-SAS11-00:a0:0a:11:5f:e2",
      "grantId": "164701046"
    }
  ]
}
2026-07-07T19:33:31.308Z - INFO - engine sent successfully, the response to CBRS : {

```

```

"relinquishmentResponse": [
  {
    "cbsdId": "SCW-TempMock-SAS11-00:a0:0a:11:5f:e2",
    "grantId": "164701046",
    "response": {
      "responseCode": 0
    }
  }
]
}
2026-07-07T19:33:31.855Z - INFO - deregistration request from CBRS : {
  "deregistrationRequest": [
    {
      "cbsdId": "SCW-TempMock-SAS11-00:a0:0a:11:5f:e2"
    }
  ]
}
2026-07-07T19:33:31.858Z - INFO - engine sent successfully, the response to CBRS : {
  "deregistrationResponse": [
    {
      "cbsdId": "SCW-TempMock-SAS11-00:a0:0a:11:5f:e2",
      "response": {
        "responseCode": 0
      }
    }
  ]
}
2026-07-07T19:33:37.871Z - INFO - relinquishment request from CBRS : {
  "relinquishmentRequest": [
    {
      "cbsdId": "SCW-TempMock-SAS12-00:a0:0a:11:5f:c2",
      "grantId": "947956489"
    }
  ]
}
2026-07-07T19:33:37.888Z - INFO - engine sent successfully, the response to CBRS : {
  "relinquishmentResponse": [
    {
      "cbsdId": "SCW-TempMock-SAS12-00:a0:0a:11:5f:c2",
      "grantId": "947956489",
      "response": {
        "responseCode": 0
      }
    }
  ]
}
2026-07-07T19:33:39.762Z - INFO - arrived to nstep starting question answer session with the technician
2026-07-07T19:33:39.769Z - INFO - the question is : Did CBSD1 cease RF transmission before receipt of Relinquishment Request by Test Harness? please
choose one of the answers :
2026-07-07T19:33:46.312Z - INFO - for the question : Did CBSD1 cease RF transmission before receipt of Relinquishment Request by Test Harness? , the user
choose y
2026-07-07T19:33:46.313Z - INFO - the question is : Did CBSD2 cease RF transmission before receipt of Relinquishment Request by Test Harness? please
choose one of the answers :
2026-07-07T19:33:47.059Z - INFO - for the question : Did CBSD2 cease RF transmission before receipt of Relinquishment Request by Test Harness? , the user
choose y
2026-07-07T19:33:47.569Z - INFO - The final result of the test : WINNF.FT.D.RLQ.2 is - passed

```

9.20 Log file for test case ID: WINNF.FT.D.DRG.2

```

2026-07-07T18:49:24.487Z - INFO - WINNF TEST HARNESS RELEASE: 1.0.0.3 - 2018-November-13
2026-07-07T18:49:24.490Z - INFO - the selected test from the user : WINNF.FT.D.DRG.2 is starting now
2026-07-07T18:49:42.605Z - INFO - registration request from CBRS : {

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```

  "registrationRequest": [
    {
      "airInterface": {

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    "radioTechnology": "NR"
  },
  "cbsdCategory": "A",
  "cbsdInfo": {
    "model": "RN-620",
    "vendor": "Airsan Networks"
  },
  "cbsdSerialNumber": "12-00:a0:0a:11:5f:c2",
  "fcclId": "SCW-Temp",
  "installationParam": {
    "antennaGain": 5,
    "eirpCapability": 29,
    "height": 1,
    "heightType": "AGL",
    "indoorDeployment": true,
    "latitude": 3.313883066177368,
    "longitude": 117.29069519042969
  },
  "measCapability": [],
  "userId": "NPLxLI"
}
]
}
2026-07-07T18:49:42.634Z - INFO - engine sent successfully, the response to CBRS : {
  "registrationResponse": [
    {
      "cbsdId": "SCW-TempMock-SAS12-00:a0:0a:11:5f:c2",
      "response": {
        "responseCode": 0
      }
    }
  ]
}
}
2026-07-07T18:49:42.648Z - INFO - registration request from CBRS : {
  "registrationRequest": [
    {
      "airInterface": {
        "radioTechnology": "NR"
      },
      "cbsdCategory": "A",
      "cbsdInfo": {
        "model": "RN-620",
        "vendor": "Airsan Networks"
      },
      "cbsdSerialNumber": "11-00:a0:0a:11:5f:e2",
      "fcclId": "SCW-Temp",
      "installationParam": {
        "antennaGain": 5,
        "eirpCapability": 29,
        "height": 5,
        "heightType": "AGL",
        "indoorDeployment": true,
        "latitude": 3.313883066177368,
        "longitude": 117.29134368896484
      },
      "measCapability": [],
      "userId": "NPLxLI"
    }
  ]
}
}
2026-07-07T18:49:42.670Z - INFO - engine sent successfully, the response to CBRS : {
  "registrationResponse": [
    {
      "cbsdId": "SCW-TempMock-SAS11-00:a0:0a:11:5f:e2",
      "response": {

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    "responseCode": 0
  }
}
]
}
2026-07-07T18:49:42.678Z - INFO - spectrumInquiry request from CBRS : {
"spectrumInquiryRequest": [
{
  "cbsId": "SCW-TempMock-SAS12-00:a0:0a:11:5f:c2",
  "inquiredSpectrum": [
    {
      "highFrequency": 3560000000,
      "lowFrequency": 3550000000
    },
    {
      "highFrequency": 3570000000,
      "lowFrequency": 3560000000
    },
    {
      "highFrequency": 3580000000,
      "lowFrequency": 3570000000
    },
    {
      "highFrequency": 3590000000,
      "lowFrequency": 3580000000
    },
    {
      "highFrequency": 3600000000,
      "lowFrequency": 3590000000
    },
    {
      "highFrequency": 3610000000,
      "lowFrequency": 3600000000
    },
    {
      "highFrequency": 3620000000,
      "lowFrequency": 3610000000
    },
    {
      "highFrequency": 3630000000,
      "lowFrequency": 3620000000
    },
    {
      "highFrequency": 3640000000,
      "lowFrequency": 3630000000
    },
    {
      "highFrequency": 3650000000,
      "lowFrequency": 3640000000
    },
    {
      "highFrequency": 3660000000,
      "lowFrequency": 3650000000
    },
    {
      "highFrequency": 3670000000,
      "lowFrequency": 3660000000
    },
    {
      "highFrequency": 3680000000,
      "lowFrequency": 3670000000
    },
    {
      "highFrequency": 3690000000,
      "lowFrequency": 3680000000
    }
  ]
}
```

```

    },
    {
      "highFrequency": 3700000000,
      "lowFrequency": 3690000000
    }
  ]
}
]
}
}
2026-07-07T18:49:42.690Z - INFO - engine sent successfully, the response to CBRS : {
  "spectrumInquiryResponse": [
    {
      "availableChannel": [
        {
          "channelType": "GAA",
          "frequencyRange": {
            "highFrequency": 3560000000,
            "lowFrequency": 3550000000
          },
          "ruleApplied": "FCC_PART_96"
        },
        {
          "channelType": "GAA",
          "frequencyRange": {
            "highFrequency": 3570000000,
            "lowFrequency": 3560000000
          },
          "ruleApplied": "FCC_PART_96"
        },
        {
          "channelType": "GAA",
          "frequencyRange": {
            "highFrequency": 3580000000,
            "lowFrequency": 3570000000
          },
          "ruleApplied": "FCC_PART_96"
        },
        {
          "channelType": "GAA",
          "frequencyRange": {
            "highFrequency": 3590000000,
            "lowFrequency": 3580000000
          },
          "ruleApplied": "FCC_PART_96"
        },
        {
          "channelType": "GAA",
          "frequencyRange": {
            "highFrequency": 3600000000,
            "lowFrequency": 3590000000
          },
          "ruleApplied": "FCC_PART_96"
        },
        {
          "channelType": "GAA",
          "frequencyRange": {
            "highFrequency": 3610000000,
            "lowFrequency": 3600000000
          },
          "ruleApplied": "FCC_PART_96"
        },
        {
          "channelType": "GAA",
          "frequencyRange": {
            "highFrequency": 3620000000,

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        "lowFrequency": 3610000000
      },
      "ruleApplied": "FCC_PART_96"
    },
    {
      "channelType": "GAA",
      "frequencyRange": {
        "highFrequency": 3630000000,
        "lowFrequency": 3620000000
      },
      "ruleApplied": "FCC_PART_96"
    },
    {
      "channelType": "GAA",
      "frequencyRange": {
        "highFrequency": 3640000000,
        "lowFrequency": 3630000000
      },
      "ruleApplied": "FCC_PART_96"
    },
    {
      "channelType": "GAA",
      "frequencyRange": {
        "highFrequency": 3650000000,
        "lowFrequency": 3640000000
      },
      "ruleApplied": "FCC_PART_96"
    },
    {
      "channelType": "GAA",
      "frequencyRange": {
        "highFrequency": 3660000000,
        "lowFrequency": 3650000000
      },
      "ruleApplied": "FCC_PART_96"
    },
    {
      "channelType": "GAA",
      "frequencyRange": {
        "highFrequency": 3670000000,
        "lowFrequency": 3660000000
      },
      "ruleApplied": "FCC_PART_96"
    },
    {
      "channelType": "GAA",
      "frequencyRange": {
        "highFrequency": 3680000000,
        "lowFrequency": 3670000000
      },
      "ruleApplied": "FCC_PART_96"
    },
    {
      "channelType": "GAA",
      "frequencyRange": {
        "highFrequency": 3690000000,
        "lowFrequency": 3680000000
      },
      "ruleApplied": "FCC_PART_96"
    },
    {
      "channelType": "GAA",
      "frequencyRange": {
        "highFrequency": 3700000000,
        "lowFrequency": 3690000000
      }
    }
  ]
}

```

```

    },
    "ruleApplied": "FCC_PART_96"
  }
],
"cbsdId": "SCW-TempMock-SAS12-00:a0:0a:11:5f:c2",
"response": {
  "responseCode": 0
}
}
]
}
2026-07-07T18:49:42.713Z - INFO - grant request from CBRS : {
  "grantRequest": [
    {
      "cbsdId": "SCW-TempMock-SAS12-00:a0:0a:11:5f:c2",
      "operationParam": {
        "maxEirp": 19,
        "operationFrequencyRange": {
          "highFrequency": 3590000000,
          "lowFrequency": 3550000000
        }
      }
    }
  ]
}
}
2026-07-07T18:49:42.717Z - INFO - spectrumInquiry request from CBRS : {
  "spectrumInquiryRequest": [
    {
      "cbsdId": "SCW-TempMock-SAS11-00:a0:0a:11:5f:e2",
      "inquiredSpectrum": [
        {
          "highFrequency": 3560000000,
          "lowFrequency": 3550000000
        },
        {
          "highFrequency": 3570000000,
          "lowFrequency": 3560000000
        },
        {
          "highFrequency": 3580000000,
          "lowFrequency": 3570000000
        },
        {
          "highFrequency": 3590000000,
          "lowFrequency": 3580000000
        },
        {
          "highFrequency": 3600000000,
          "lowFrequency": 3590000000
        },
        {
          "highFrequency": 3610000000,
          "lowFrequency": 3600000000
        },
        {
          "highFrequency": 3620000000,
          "lowFrequency": 3610000000
        },
        {
          "highFrequency": 3630000000,
          "lowFrequency": 3620000000
        },
        {
          "highFrequency": 3640000000,
          "lowFrequency": 3630000000
        }
      ]
    }
  ]
}

```

```

    },
    {
      "highFrequency": 3650000000,
      "lowFrequency": 3640000000
    },
    {
      "highFrequency": 3660000000,
      "lowFrequency": 3650000000
    },
    {
      "highFrequency": 3670000000,
      "lowFrequency": 3660000000
    },
    {
      "highFrequency": 3680000000,
      "lowFrequency": 3670000000
    },
    {
      "highFrequency": 3690000000,
      "lowFrequency": 3680000000
    },
    {
      "highFrequency": 3700000000,
      "lowFrequency": 3690000000
    }
  ]
}
]
}
}
2026-07-07T18:49:42.739Z - INFO - engine sent successfully, the response to CBRS : {
  "grantResponse": [
    {
      "cbsdId": "SCW-TempMock-SAS12-00:a0:0a:11:5f:c2",
      "channelType": "GAA",
      "grantExpireTime": "2026-07-14T18:49:42Z",
      "grantId": "310841568",
      "heartbeatInterval": 60,
      "response": {
        "responseCode": 0
      }
    }
  ]
}
}
2026-07-07T18:49:42.743Z - INFO - engine sent successfully, the response to CBRS : {
  "spectrumInquiryResponse": [
    {
      "availableChannel": [
        {
          "channelType": "GAA",
          "frequencyRange": {
            "highFrequency": 3560000000,
            "lowFrequency": 3550000000
          },
          "ruleApplied": "FCC_PART_96"
        },
        {
          "channelType": "GAA",
          "frequencyRange": {
            "highFrequency": 3570000000,
            "lowFrequency": 3560000000
          },
          "ruleApplied": "FCC_PART_96"
        }
      ],
      {
        "channelType": "GAA",

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    "frequencyRange": {
      "highFrequency": 3580000000,
      "lowFrequency": 3570000000
    },
    "ruleApplied": "FCC_PART_96"
  },
  {
    "channelType": "GAA",
    "frequencyRange": {
      "highFrequency": 3590000000,
      "lowFrequency": 3580000000
    },
    "ruleApplied": "FCC_PART_96"
  },
  {
    "channelType": "GAA",
    "frequencyRange": {
      "highFrequency": 3600000000,
      "lowFrequency": 3590000000
    },
    "ruleApplied": "FCC_PART_96"
  },
  {
    "channelType": "GAA",
    "frequencyRange": {
      "highFrequency": 3610000000,
      "lowFrequency": 3600000000
    },
    "ruleApplied": "FCC_PART_96"
  },
  {
    "channelType": "GAA",
    "frequencyRange": {
      "highFrequency": 3620000000,
      "lowFrequency": 3610000000
    },
    "ruleApplied": "FCC_PART_96"
  },
  {
    "channelType": "GAA",
    "frequencyRange": {
      "highFrequency": 3630000000,
      "lowFrequency": 3620000000
    },
    "ruleApplied": "FCC_PART_96"
  },
  {
    "channelType": "GAA",
    "frequencyRange": {
      "highFrequency": 3640000000,
      "lowFrequency": 3630000000
    },
    "ruleApplied": "FCC_PART_96"
  },
  {
    "channelType": "GAA",
    "frequencyRange": {
      "highFrequency": 3650000000,
      "lowFrequency": 3640000000
    },
    "ruleApplied": "FCC_PART_96"
  },
  {
    "channelType": "GAA",
    "frequencyRange": {

```

```

        "highFrequency": 3660000000,
        "lowFrequency": 3650000000
    },
    "ruleApplied": "FCC_PART_96"
},
{
    "channelType": "GAA",
    "frequencyRange": {
        "highFrequency": 3670000000,
        "lowFrequency": 3660000000
    },
    "ruleApplied": "FCC_PART_96"
},
{
    "channelType": "GAA",
    "frequencyRange": {
        "highFrequency": 3680000000,
        "lowFrequency": 3670000000
    },
    "ruleApplied": "FCC_PART_96"
},
{
    "channelType": "GAA",
    "frequencyRange": {
        "highFrequency": 3690000000,
        "lowFrequency": 3680000000
    },
    "ruleApplied": "FCC_PART_96"
},
{
    "channelType": "GAA",
    "frequencyRange": {
        "highFrequency": 3700000000,
        "lowFrequency": 3690000000
    },
    "ruleApplied": "FCC_PART_96"
}
},
"cbstdId": "SCW-TempMock-SAS11-00:a0:0a:11:5f:e2",
"response": {
    "responseCode": 0
}
}
]
}
2026-07-07T18:49:42.749Z - INFO - grant request from CBRS : {
    "grantRequest": [
        {
            "cbstdId": "SCW-TempMock-SAS11-00:a0:0a:11:5f:e2",
            "operationParam": {
                "maxEirp": 19,
                "operationFrequencyRange": {
                    "highFrequency": 3590000000,
                    "lowFrequency": 3550000000
                }
            }
        }
    ]
}
}
2026-07-07T18:49:42.753Z - INFO - engine sent successfully, the response to CBRS : {
    "grantResponse": [
        {
            "cbstdId": "SCW-TempMock-SAS11-00:a0:0a:11:5f:e2",
            "channelType": "GAA",
            "grantExpireTime": "2026-07-14T18:49:42Z",

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        "grantId": "815468309",
        "heartbeatInterval": 60,
        "response": {
            "responseCode": 0
        }
    }
}
}
2026-07-07T18:49:42.783Z - INFO - heartbeat request from CBRS : {
    "heartbeatRequest": [
        {
            "cbsdId": "SCW-TempMock-SAS12-00:a0:0a:11:5f:c2",
            "grantId": "310841568",
            "operationState": "GRANTED"
        }
    ]
}
}
2026-07-07T18:49:42.789Z - INFO - engine sent successfully, the response to CBRS : {
    "heartbeatResponse": [
        {
            "cbsdId": "SCW-TempMock-SAS12-00:a0:0a:11:5f:c2",
            "grantId": "310841568",
            "response": {
                "responseCode": 0
            },
            "transmitExpireTime": "2026-07-07T18:53:02Z"
        }
    ]
}
}
2026-07-07T18:49:42.799Z - INFO - heartbeat request from CBRS : {
    "heartbeatRequest": [
        {
            "cbsdId": "SCW-TempMock-SAS11-00:a0:0a:11:5f:e2",
            "grantId": "815468309",
            "operationState": "GRANTED"
        }
    ]
}
}
2026-07-07T18:49:42.802Z - INFO - engine sent successfully, the response to CBRS : {
    "heartbeatResponse": [
        {
            "cbsdId": "SCW-TempMock-SAS11-00:a0:0a:11:5f:e2",
            "grantId": "815468309",
            "response": {
                "responseCode": 0
            },
            "transmitExpireTime": "2026-07-07T18:53:02Z"
        }
    ]
}
}
2026-07-07T18:50:17.049Z - INFO - heartbeat request from CBRS : {
    "heartbeatRequest": [
        {
            "cbsdId": "SCW-TempMock-SAS11-00:a0:0a:11:5f:e2",
            "grantId": "815468309",
            "operationState": "AUTHORIZED"
        }
    ]
}
}
2026-07-07T18:50:17.052Z - INFO - Time interval between two heartbeat request messages is: 34.25, limit is: 65.0
2026-07-07T18:50:17.066Z - INFO - engine sent successfully, the response to CBRS : {
    "heartbeatResponse": [
        {
            "cbsdId": "SCW-TempMock-SAS11-00:a0:0a:11:5f:e2",
            "grantId": "815468309",

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    "response": {
      "responseCode": 0
    },
    "transmitExpireTime": "2026-07-07T18:53:37Z"
  }
}
}
2026-07-07T18:50:18.073Z - INFO - heartbeat request from CBRS : {
  "heartbeatRequest": [
    {
      "cbsdId": "SCW-TempMock-SAS12-00:a0:0a:11:5f:c2",
      "grantId": "310841568",
      "operationState": "AUTHORIZED"
    }
  ]
}
2026-07-07T18:50:18.076Z - INFO - Time interval between two heartbeat request messages is: 35.29, limit is: 65.0
2026-07-07T18:50:18.092Z - INFO - engine sent successfully, the response to CBRS : {
  "heartbeatResponse": [
    {
      "cbsdId": "SCW-TempMock-SAS12-00:a0:0a:11:5f:c2",
      "grantId": "310841568",
      "response": {
        "responseCode": 0
      },
      "transmitExpireTime": "2026-07-07T18:53:38Z"
    }
  ]
}
2026-07-07T18:50:50.125Z - INFO - heartbeat request from CBRS : {
  "heartbeatRequest": [
    {
      "cbsdId": "SCW-TempMock-SAS11-00:a0:0a:11:5f:e2",
      "grantId": "815468309",
      "operationState": "AUTHORIZED"
    }
  ]
}
2026-07-07T18:50:50.128Z - INFO - Time interval between two heartbeat request messages is: 33.076, limit is: 65.0
2026-07-07T18:50:50.141Z - INFO - engine sent successfully, the response to CBRS : {
  "heartbeatResponse": [
    {
      "cbsdId": "SCW-TempMock-SAS11-00:a0:0a:11:5f:e2",
      "grantId": "815468309",
      "response": {
        "responseCode": 0
      },
      "transmitExpireTime": "2026-07-07T18:54:10Z"
    }
  ]
}
2026-07-07T18:51:03.158Z - INFO - heartbeat request from CBRS : {
  "heartbeatRequest": [
    {
      "cbsdId": "SCW-TempMock-SAS12-00:a0:0a:11:5f:c2",
      "grantId": "310841568",
      "operationState": "AUTHORIZED"
    }
  ]
}
2026-07-07T18:51:03.163Z - INFO - Time interval between two heartbeat request messages is: 45.086, limit is: 65.0
2026-07-07T18:51:03.177Z - INFO - engine sent successfully, the response to CBRS : {
  "heartbeatResponse": [
    {
      "cbsdId": "SCW-TempMock-SAS12-00:a0:0a:11:5f:c2",

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        "grantId": "310841568",
        "response": {
            "responseCode": 0
        },
        "transmitExpireTime": "2026-07-07T18:54:23Z"
    }
}
}
2026-07-07T18:51:23.700Z - INFO - heartbeat request from CBRS : {
    "heartbeatRequest": [
        {
            "cbsdId": "SCW-TempMock-SAS11-00:a0:0a:11:5f:e2",
            "grantId": "815468309",
            "operationState": "AUTHORIZED"
        }
    ]
}
}
2026-07-07T18:51:23.703Z - INFO - Time interval between two heartbeat request messages is: 33.576, limit is: 65.0
2026-07-07T18:51:23.721Z - INFO - engine sent successfully, the response to CBRS : {
    "heartbeatResponse": [
        {
            "cbsdId": "SCW-TempMock-SAS11-00:a0:0a:11:5f:e2",
            "grantId": "815468309",
            "response": {
                "responseCode": 0
            },
            "transmitExpireTime": "2026-07-07T18:54:43Z"
        }
    ]
}
}
2026-07-07T18:51:44.244Z - INFO - heartbeat request from CBRS : {
    "heartbeatRequest": [
        {
            "cbsdId": "SCW-TempMock-SAS12-00:a0:0a:11:5f:c2",
            "grantId": "310841568",
            "operationState": "AUTHORIZED"
        }
    ]
}
}
2026-07-07T18:51:44.249Z - INFO - Time interval between two heartbeat request messages is: 41.086, limit is: 65.0
2026-07-07T18:51:44.266Z - INFO - engine sent successfully, the response to CBRS : {
    "heartbeatResponse": [
        {
            "cbsdId": "SCW-TempMock-SAS12-00:a0:0a:11:5f:c2",
            "grantId": "310841568",
            "response": {
                "responseCode": 0
            },
            "transmitExpireTime": "2026-07-07T18:55:04Z"
        }
    ]
}
}
2026-07-07T18:51:53.786Z - INFO - relinquishment request from CBRS : {
    "relinquishmentRequest": [
        {
            "cbsdId": "SCW-TempMock-SAS11-00:a0:0a:11:5f:e2",
            "grantId": "815468309"
        }
    ]
}
}
2026-07-07T18:51:53.789Z - INFO - relinquishment request from CBRS : {
    "relinquishmentRequest": [
        {
            "cbsdId": "SCW-TempMock-SAS12-00:a0:0a:11:5f:c2",
            "grantId": "310841568"
        }
    ]
}
}

```

```

    }
  ]
}
2026-07-07T18:51:53.828Z - INFO - engine sent successfully, the response to CBRS : {
  "relinquishmentResponse": [
    {
      "cbsdId": "SCW-TempMock-SAS11-00:a0:0a:11:5f:e2",
      "grantId": "815468309",
      "response": {
        "responseCode": 0
      }
    }
  ]
}
2026-07-07T18:51:53.832Z - INFO - engine sent successfully, the response to CBRS : {
  "relinquishmentResponse": [
    {
      "cbsdId": "SCW-TempMock-SAS12-00:a0:0a:11:5f:c2",
      "grantId": "310841568",
      "response": {
        "responseCode": 0
      }
    }
  ]
}
2026-07-07T18:51:53.836Z - INFO - deregistration request from CBRS : {
  "deregistrationRequest": [
    {
      "cbsdId": "SCW-TempMock-SAS11-00:a0:0a:11:5f:e2"
    }
  ]
}
2026-07-07T18:51:53.844Z - INFO - deregistration request from CBRS : {
  "deregistrationRequest": [
    {
      "cbsdId": "SCW-TempMock-SAS12-00:a0:0a:11:5f:c2"
    }
  ]
}
2026-07-07T18:51:53.858Z - INFO - engine sent successfully, the response to CBRS : {
  "deregistrationResponse": [
    {
      "cbsdId": "SCW-TempMock-SAS11-00:a0:0a:11:5f:e2",
      "response": {
        "responseCode": 0
      }
    }
  ]
}
2026-07-07T18:51:53.864Z - INFO - engine sent successfully, the response to CBRS : {
  "deregistrationResponse": [
    {
      "cbsdId": "SCW-TempMock-SAS12-00:a0:0a:11:5f:c2",
      "response": {
        "responseCode": 0
      }
    }
  ]
}
2026-07-07T18:51:55.697Z - INFO - arrived to nstep starting question answer session with the technician
2026-07-07T18:51:55.770Z - INFO - the question is : Did CBSD2 cease RF transmission before receipt of Relinquishment request (if sent) or Deregistration request at Test Harness? please choose one of the answers :
2026-07-07T18:52:16.249Z - INFO - for the question : Did CBSD2 cease RF transmission before receipt of Relinquishment request (if sent) or Deregistration request at Test Harness? , the user choose y

```

2026-07-07T18:52:16.250Z - 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 :

2026-07-07T18:52:18.575Z - 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 v

2026-07-07T18:52:20.831Z - INFO - The final result of the test : WINNF.FT.D.DRG.2 is - passed

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

The image shows a Wireshark capture of a TLS handshake. The packet list on the left shows 40 packets. The packet details pane on the right shows the structure of the selected packet (Frame 14), which is a TLS Client Hello. The packet bytes pane at the bottom shows the raw data of the packet.

Packet List:

No.	Time	Source	Destination	Protocol	Length	Info
14	9.723297100	10.7.3.210	10.7.3.191	TLSv1.2	262	Client Hello (SNI=mocksas.testharness.cbsd.winnf.github.com)
15	9.723850300	10.7.3.191	10.7.3.210	TLSv1.2	3157	Server Hello, Certificate, Certificate Request, Server Hello Done
20	9.758165000	10.7.3.210	10.7.3.191	TLSv1.2	1514	Certificate
21	9.758165000	10.7.3.210	10.7.3.191	TLSv1.2	622	Client Key Exchange, Certificate Verify, Change Cipher Spec, Encrypted Handshake Message
23	9.772840300	10.7.3.191	10.7.3.210	TLSv1.2	105	Change Cipher Spec, Encrypted Handshake Message
24	9.773390900	10.7.3.210	10.7.3.191	TLSv1.2	642	Application Data
25	9.811793300	10.7.3.191	10.7.3.210	TLSv1.2	100	Application Data
27	9.852931600	10.7.3.191	10.7.3.210	TLSv1.2	492	Application Data, Application Data, Application Data, Application Data, Application Data
31	20.898515900	10.7.3.210	10.7.3.191	TLSv1.2	642	Application Data
32	20.906805500	10.7.3.191	10.7.3.210	TLSv1.2	100	Application Data
34	20.907039600	10.7.3.191	10.7.3.210	TLSv1.2	165	Application Data, Application Data
36	20.907190600	10.7.3.191	10.7.3.210	TLSv1.2	122	Application Data
38	20.907369000	10.7.3.191	10.7.3.210	TLSv1.2	120	Application Data
40	20.907534200	10.7.3.191	10.7.3.210	TLSv1.2	85	Application Data

Frame 14 Details:

- Ethernet II, Src: SpiderCloudW11:0f:40:00:24:48:11:0f:40, Dst: Dell186:22:7b (34:ec:01:00:00:00:00:00:00)
- Internet Protocol Version 4, Src: 10.7.3.210, Dst: 10.7.3.191
- Transmission Control Protocol, Src Port: 52460, Dst Port: 5001, Seq: 1, Ack: 1, Len: 2
- Transport Layer Security
 - Client Hello (SNI=mocksas.testharness.cbsd.winnf.github.com)

Packet Bytes:

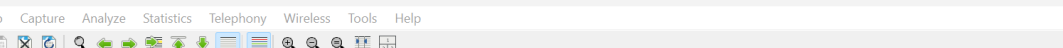
```

> Frame 14: Packet, 262 bytes on wire (2096 bits), 262 bytes captured (2096 bits) on int
> Ethernet II, Src: SpiderCloudW11:0f:40:00:24:48:11:0f:40, Dst: Dell186:22:7b (34:ec
> Internet Protocol Version 4, Src: 10.7.3.210, Dst: 10.7.3.191
> Transmission Control Protocol, Src Port: 52460, Dst Port: 5001, Seq: 1, Ack: 1, Len: 2
> Transport Layer Security
0000 34 e6 d7 86 22 7b 00 24 48 11 0f 40 08 00 45 00 4...{"$H:@.E
0001 00 f8 c0 bb 40 00 40 06 5d a6 ba 07 03 d2 0a 07 ...@.e ].....
0002 03 bf cc ec 13 89 17 81 53 22 a2 a3 1d 3d 50 18 ...S"==P-
0003 01 fe 52 37 00 00 16 03 01 00 cb 01 00 00 c7 03 ...R7.....
0004 03 90 6b b6 a6 03 23 b3 1f 16 ca 48 24 5f 92 a0 ...k-##...H$_.
0005 81 39 30 98 29 2e f9 cd 3b 1f cf 3e fd e1 11 cf ...90).>...
0006 db 00 00 08 00 9c 00 3d c0 2f 00 ff 01 00 00 96 .../.....
0007 00 00 00 2e 00 2c 00 00 29 6d 6f 63 6b 73 61 73 ........)mocksas
0008 2e 74 65 73 74 68 61 72 6e 65 73 73 2e 63 62 73 ...testhar ness.cbs
0009 64 2e 77 69 6e 6e 66 2e 67 69 74 68 75 62 2e 63 ...d.winnf. github.c
000a 6f 6d 00 00 00 04 03 00 01 02 00 0a 00 34 00 32 ...om.....4 2
000b 00 00 00 00 19 00 0b 00 0c 00 18 00 09 00 0a ...
000c 00 16 00 17 08 00 06 00 07 00 14 00 15 00 04 ...
000d 00 05 00 12 00 13 00 01 00 02 00 03 00 0f 00 10 ...
000e 00 11 00 00 20 00 1e 06 01 06 02 06 03 05 01 ...
000f 05 02 05 03 04 01 04 02 04 03 03 01 03 02 03 ...
0100 02 01 02 02 02 03 .....

```

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

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



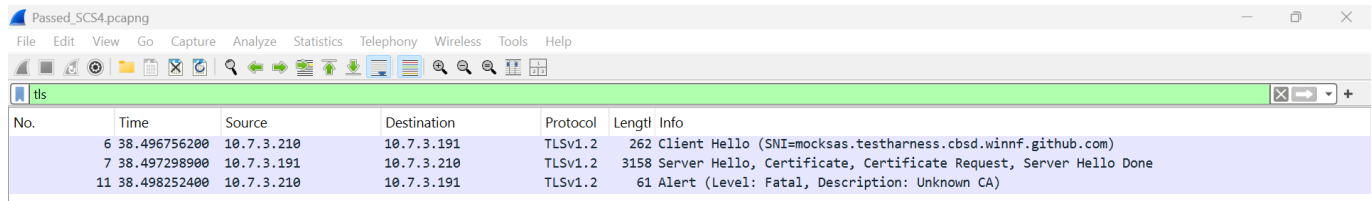
Passed_SC33.pcapng

File Edit View Go Capture Analyze Statistics Telephony Wireless Tools Help

tls

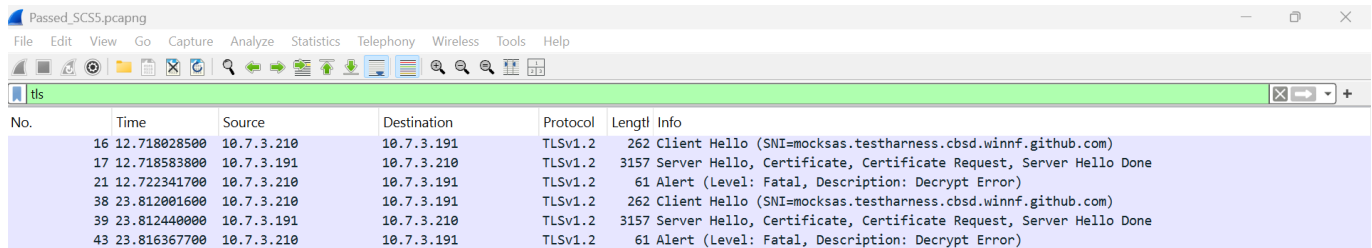
No.	Time	Source	Destination	Protocol	Length	Info
9	42.481278300	10.7.3.210	10.7.3.191	TLSv1.2	262	Client Hello (SNI=mocksas.testharness.cbsd.winnf.github.com)
10	42.481852400	10.7.3.191	10.7.3.210	TLSv1.2	3156	Server Hello, Certificate, Certificate Request, Server Hello Done
14	42.486023300	10.7.3.210	10.7.3.191	TLSv1.2	61	Alert (Level: Fatal, Description: Certificate Expired)
33	53.542258100	10.7.3.210	10.7.3.191	TLSv1.2	262	Client Hello (SNI=mocksas.testharness.cbsd.winnf.github.com)
34	53.542707300	10.7.3.191	10.7.3.210	TLSv1.2	3156	Server Hello, Certificate, Certificate Request, Server Hello Done
38	53.546397000	10.7.3.210	10.7.3.191	TLSv1.2	61	Alert (Level: Fatal, Description: Certificate Expired)

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



No.	Time	Source	Destination	Protocol	Length	Info
6	38.496756200	10.7.3.210	10.7.3.191	TLSv1.2	262	Client Hello (SNI=mocksas.testharness.cbsd.winnf.github.com)
7	38.497298900	10.7.3.191	10.7.3.210	TLSv1.2	3158	Server Hello, Certificate, Certificate Request, Server Hello Done
11	38.498252400	10.7.3.210	10.7.3.191	TLSv1.2	61	Alert (Level: Fatal, Description: Unknown CA)

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



No.	Time	Source	Destination	Protocol	Length	Info
16	12.718028500	10.7.3.210	10.7.3.191	TLSv1.2	262	Client Hello (SNI=mocksas.testharness.cbsd.winnf.github.com)
17	12.718583800	10.7.3.191	10.7.3.210	TLSv1.2	3157	Server Hello, Certificate, Certificate Request, Server Hello Done
21	12.722341700	10.7.3.210	10.7.3.191	TLSv1.2	61	Alert (Level: Fatal, Description: Decrypt Error)
38	23.812001600	10.7.3.210	10.7.3.191	TLSv1.2	262	Client Hello (SNI=mocksas.testharness.cbsd.winnf.github.com)
39	23.812440000	10.7.3.191	10.7.3.210	TLSv1.2	3157	Server Hello, Certificate, Certificate Request, Server Hello Done
43	23.816367700	10.7.3.210	10.7.3.191	TLSv1.2	61	Alert (Level: Fatal, Description: Decrypt Error)

9.26 Log file for PowerMeasTest (7.1.4.1.1)

Power measurement test for granted Max EIRP – 25 dbm/MHz

```

2026-07-07T16:35:36.210Z - INFO - WINNF TEST HARNESS RELEASE: 1.0.0.3 - 2018-November-13
2026-07-07T16:35:36.210Z - INFO - Selected spectrum frequency is {'lowFrequency': 3550000000L, 'highFrequency': 3590000000L}
2026-07-07T16:35:36.210Z - INFO - Granted Spectrum Max Eirp = 25dBm/MHz
2026-07-07T16:35:36.211Z - INFO - the selected test from the user : PowerMeasTest is starting now
2026-07-07T16:35:53.523Z - INFO - registration request from CBRS : {
  "registrationRequest": {
    {
      "airInterface": {
        "radioTechnology": "NR"
      },
      "cbsdCategory": "A",
      "cbsdInfo": {
        "model": "RN-620",
        "vendor": "Airspan Networks"
      },
      "cbsdSerialNumber": "11-00:a0:0a:11:5f:e2",
      "fcid": "SCW-Temp",
      "installationParam": {
        "antennaGain": 5,
        "eirpCapability": 29,
        "height": 5,
        "heightType": "AGL",
        "indoorDeployment": true,
        "latitude": 3.313883066177368,
        "longitude": 117.29134368896484
      },
      "measCapability": [],
      "userId": "NPLxLI"
    }
  }
}
2026-07-07T16:35:53.553Z - INFO - engine sent successfully, the response to CBRS : {
  "registrationResponse": {
    {
      "cbsdId": "SCW-TempMock-SAS11-00:a0:0a:11:5f:e2",
      "response": {
        "responseCode": 0
      }
    }
  }
}

```

```

    }
  }
]
}
2026-07-07T16:35:54.101Z - INFO - spectrumInquiry request from CBRS : {
  "spectrumInquiryRequest": [
    {
      "cbsdId": "SCW-TempMock-SAS11-00:a0:0a:11:5f:e2",
      "inquiredSpectrum": [
        {
          "highFrequency": 3560000000,
          "lowFrequency": 3550000000
        },
        {
          "highFrequency": 3570000000,
          "lowFrequency": 3560000000
        },
        {
          "highFrequency": 3580000000,
          "lowFrequency": 3570000000
        },
        {
          "highFrequency": 3590000000,
          "lowFrequency": 3580000000
        },
        {
          "highFrequency": 3600000000,
          "lowFrequency": 3590000000
        },
        {
          "highFrequency": 3610000000,
          "lowFrequency": 3600000000
        },
        {
          "highFrequency": 3620000000,
          "lowFrequency": 3610000000
        },
        {
          "highFrequency": 3630000000,
          "lowFrequency": 3620000000
        },
        {
          "highFrequency": 3640000000,
          "lowFrequency": 3630000000
        },
        {
          "highFrequency": 3650000000,
          "lowFrequency": 3640000000
        },
        {
          "highFrequency": 3660000000,
          "lowFrequency": 3650000000
        },
        {
          "highFrequency": 3670000000,
          "lowFrequency": 3660000000
        },
        {
          "highFrequency": 3680000000,
          "lowFrequency": 3670000000
        },
        {
          "highFrequency": 3690000000,
          "lowFrequency": 3680000000
        },
      ]
    }
  ]
}

```

```

    {
      "highFrequency": 3700000000,
      "lowFrequency": 3690000000
    }
  ]
}
}
}
2026-07-07T16:35:54.127Z - INFO - The requested spectrum is in the range, SpectrumInquiry response code is 0
2026-07-07T16:35:54.128Z - INFO - The requested spectrum is in the range, SpectrumInquiry response code is 0
2026-07-07T16:35:54.130Z - INFO - The requested spectrum is in the range, SpectrumInquiry response code is 0
2026-07-07T16:35:54.131Z - INFO - The requested spectrum is in the range, SpectrumInquiry response code is 0
2026-07-07T16:35:54.134Z - INFO - engine sent successfully, the response to CBRS : {
  "spectrumInquiryResponse": [
    {
      "availableChannel": [
        {
          "channelType": "GAA",
          "frequencyRange": {
            "highFrequency": 3560000000,
            "lowFrequency": 3550000000
          },
          "maxEirp": 25,
          "ruleApplied": "FCC_PART_96"
        },
        {
          "channelType": "GAA",
          "frequencyRange": {
            "highFrequency": 3570000000,
            "lowFrequency": 3560000000
          },
          "maxEirp": 25,
          "ruleApplied": "FCC_PART_96"
        },
        {
          "channelType": "GAA",
          "frequencyRange": {
            "highFrequency": 3580000000,
            "lowFrequency": 3570000000
          },
          "maxEirp": 25,
          "ruleApplied": "FCC_PART_96"
        },
        {
          "channelType": "GAA",
          "frequencyRange": {
            "highFrequency": 3590000000,
            "lowFrequency": 3580000000
          },
          "maxEirp": 25,
          "ruleApplied": "FCC_PART_96"
        }
      ],
      "cbsId": "SCW-TempMock-SAS11-00:a0:0a:11:5f:e2",
      "response": {
        "responseCode": 0
      }
    }
  ]
}
}
2026-07-07T16:35:54.642Z - INFO - grant request from CBRS : {
  "grantRequest": [
    {
      "cbsId": "SCW-TempMock-SAS11-00:a0:0a:11:5f:e2",
      "operationParam": {

```

```

        "maxEirp": 19,
        "operationFrequencyRange": {
            "highFrequency": 3590000000,
            "lowFrequency": 3550000000
        }
    }
}
]
}
}
2026-07-07T16:35:54.651Z - INFO - engine sent successfully, the response to CBRS : {
  "grantResponse": [
    {
      "cbsdId": "SCW-TempMock-SAS11-00:a0:0a:11:5f:e2",
      "channelType": "GAA",
      "grantExpireTime": "2026-07-14T16:35:54Z",
      "grantId": "5539821",
      "heartbeatInterval": 60,
      "response": {
        "responseCode": 0
      }
    }
  ]
}
}
2026-07-07T16:35:55.157Z - INFO - heartbeat request from CBRS : {
  "heartbeatRequest": [
    {
      "cbsdId": "SCW-TempMock-SAS11-00:a0:0a:11:5f:e2",
      "grantId": "5539821",
      "operationState": "GRANTED"
    }
  ]
}
}
2026-07-07T16:35:55.167Z - INFO - engine sent successfully, the response to CBRS : {
  "heartbeatResponse": [
    {
      "cbsdId": "SCW-TempMock-SAS11-00:a0:0a:11:5f:e2",
      "grantId": "5539821",
      "response": {
        "responseCode": 0
      },
      "transmitExpireTime": "2026-07-07T16:39:15Z"
    }
  ]
}
}
2026-07-07T16:36:27.703Z - INFO - heartbeat request from CBRS : {
  "heartbeatRequest": [
    {
      "cbsdId": "SCW-TempMock-SAS11-00:a0:0a:11:5f:e2",
      "grantId": "5539821",
      "operationState": "AUTHORIZED"
    }
  ]
}
}
2026-07-07T16:36:27.717Z - INFO - engine sent successfully, the response to CBRS : {
  "heartbeatResponse": [
    {
      "cbsdId": "SCW-TempMock-SAS11-00:a0:0a:11:5f:e2",
      "grantId": "5539821",
      "response": {
        "responseCode": 0
      },
      "transmitExpireTime": "2026-07-07T16:39:47Z"
    }
  ]
}
}

```

```

2026-07-07T16:37:05.756Z - INFO - heartbeat request from CBRS : {
  "heartbeatRequest": [
    {
      "cbsdId": "SCW-TempMock-SAS11-00:a0:0a:11:5f:e2",
      "grantId": "5539821",
      "operationState": "AUTHORIZED"
    }
  ]
}
2026-07-07T16:37:05.773Z - INFO - engine sent successfully, the response to CBRS : {
  "heartbeatResponse": [
    {
      "cbsdId": "SCW-TempMock-SAS11-00:a0:0a:11:5f:e2",
      "grantId": "5539821",
      "response": {
        "responseCode": 0
      },
      "transmitExpireTime": "2026-07-07T16:40:25Z"
    }
  ]
}
2026-07-07T16:37:51.930Z - INFO - heartbeat request from CBRS : {
  "heartbeatRequest": [
    {
      "cbsdId": "SCW-TempMock-SAS11-00:a0:0a:11:5f:e2",
      "grantId": "5539821",
      "operationState": "AUTHORIZED"
    }
  ]
}
2026-07-07T16:37:51.947Z - INFO - engine sent successfully, the response to CBRS : {
  "heartbeatResponse": [
    {
      "cbsdId": "SCW-TempMock-SAS11-00:a0:0a:11:5f:e2",
      "grantId": "5539821",
      "response": {
        "responseCode": 0
      },
      "transmitExpireTime": "2026-07-07T16:41:11Z"
    }
  ]
}
2026-07-07T16:38:23.980Z - INFO - heartbeat request from CBRS : {
  "heartbeatRequest": [
    {
      "cbsdId": "SCW-TempMock-SAS11-00:a0:0a:11:5f:e2",
      "grantId": "5539821",
      "operationState": "AUTHORIZED"
    }
  ]
}
2026-07-07T16:38:23.997Z - INFO - engine sent successfully, the response to CBRS : {
  "heartbeatResponse": [
    {
      "cbsdId": "SCW-TempMock-SAS11-00:a0:0a:11:5f:e2",
      "grantId": "5539821",
      "response": {
        "responseCode": 0
      },
      "transmitExpireTime": "2026-07-07T16:41:43Z"
    }
  ]
}
2026-07-07T16:38:57.530Z - INFO - heartbeat request from CBRS : {
  "heartbeatRequest": [

```

```

    {
      "cbsdId": "SCW-TempMock-SAS11-00:a0:0a:11:5f:e2",
      "grantId": "5539821",
      "operationState": "AUTHORIZED"
    }
  ]
}
2026-07-07T16:38:57.546Z - INFO - engine sent successfully, the response to CBRS : {
  "heartbeatResponse": [
    {
      "cbsdId": "SCW-TempMock-SAS11-00:a0:0a:11:5f:e2",
      "grantId": "5539821",
      "response": {
        "responseCode": 0
      },
      "transmitExpireTime": "2026-07-07T16:42:17Z"
    }
  ]
}
2026-07-07T16:39:35.585Z - INFO - heartbeat request from CBRS : {
  "heartbeatRequest": [
    {
      "cbsdId": "SCW-TempMock-SAS11-00:a0:0a:11:5f:e2",
      "grantId": "5539821",
      "operationState": "AUTHORIZED"
    }
  ]
}
2026-07-07T16:39:35.602Z - INFO - engine sent successfully, the response to CBRS : {
  "heartbeatResponse": [
    {
      "cbsdId": "SCW-TempMock-SAS11-00:a0:0a:11:5f:e2",
      "grantId": "5539821",
      "response": {
        "responseCode": 0
      },
      "transmitExpireTime": "2026-07-07T16:42:55Z"
    }
  ]
}
}

```

Power measurement test for granted Max EIRP – 20 dbm/MHz

```

2026-07-07T16:41:28.289Z - INFO - WINNF TEST HARNESS RELEASE: 1.0.0.3 - 2018-November-13
2026-07-07T16:41:28.289Z - INFO - Selected spectrum frequency is {'lowFrequency': 3550000000L, 'highFrequency': 3590000000L}
2026-07-07T16:41:28.289Z - INFO - Granted Spectrum Max Eirp = 20dBm/MHz
2026-07-07T16:41:28.289Z - INFO - the selected test from the user : PowerMeasTest is starting now
2026-07-07T16:42:29.476Z - INFO - registration request from CBRS : {
  "registrationRequest": [
    {
      "airInterface": {
        "radioTechnology": "NR"
      },
      "cbsdCategory": "A",
      "cbsdInfo": {
        "model": "RN-620",
        "vendor": "Airspan Networks"
      },
      "cbsdSerialNumber": "11-00:a0:0a:11:5f:e2",
      "fcid": "SCW-Temp",
      "installationParam": {
        "antennaGain": 5,
        "eirpCapability": 29,
        "height": 5,
        "heightType": "AGL",

```

```

        "indoorDeployment": true,
        "latitude": 3.313883066177368,
        "longitude": 117.29134368896484
    },
    "measCapability": [],
    "userId": "NPLxLI"
}
]
}
2026-07-07T16:42:29.513Z - INFO - engine sent successfully, the response to CBRS : {
  "registrationResponse": [
    {
      "cbsdId": "SCW-TempMock-SAS11-00:a0:0a:11:5f:e2",
      "response": {
        "responseCode": 0
      }
    }
  ]
}
}
2026-07-07T16:42:30.059Z - INFO - spectrumInquiry request from CBRS : {
  "spectrumInquiryRequest": [
    {
      "cbsdId": "SCW-TempMock-SAS11-00:a0:0a:11:5f:e2",
      "inquiredSpectrum": [
        {
          "highFrequency": 3560000000,
          "lowFrequency": 3550000000
        },
        {
          "highFrequency": 3570000000,
          "lowFrequency": 3560000000
        },
        {
          "highFrequency": 3580000000,
          "lowFrequency": 3570000000
        },
        {
          "highFrequency": 3590000000,
          "lowFrequency": 3580000000
        },
        {
          "highFrequency": 3600000000,
          "lowFrequency": 3590000000
        },
        {
          "highFrequency": 3610000000,
          "lowFrequency": 3600000000
        },
        {
          "highFrequency": 3620000000,
          "lowFrequency": 3610000000
        },
        {
          "highFrequency": 3630000000,
          "lowFrequency": 3620000000
        },
        {
          "highFrequency": 3640000000,
          "lowFrequency": 3630000000
        },
        {
          "highFrequency": 3650000000,
          "lowFrequency": 3640000000
        }
      ]
    }
  ]
}

```

```

    "highFrequency": 3660000000,
    "lowFrequency": 3650000000
  },
  {
    "highFrequency": 3670000000,
    "lowFrequency": 3660000000
  },
  {
    "highFrequency": 3680000000,
    "lowFrequency": 3670000000
  },
  {
    "highFrequency": 3690000000,
    "lowFrequency": 3680000000
  },
  {
    "highFrequency": 3700000000,
    "lowFrequency": 3690000000
  }
]
}
]
}
2026-07-07T16:42:30.063Z - INFO - The requested spectrum is in the range, SpectrumInquiry response code is 0
2026-07-07T16:42:30.065Z - INFO - The requested spectrum is in the range, SpectrumInquiry response code is 0
2026-07-07T16:42:30.065Z - INFO - The requested spectrum is in the range, SpectrumInquiry response code is 0
2026-07-07T16:42:30.065Z - INFO - The requested spectrum is in the range, SpectrumInquiry response code is 0
2026-07-07T16:42:30.066Z - INFO - engine sent successfully, the response to CBRS : {
  "spectrumInquiryResponse": [
    {
      "availableChannel": [
        {
          "channelType": "GAA",
          "frequencyRange": {
            "highFrequency": 3560000000,
            "lowFrequency": 3550000000
          },
          "maxEirp": 20,
          "ruleApplied": "FCC_PART_96"
        },
        {
          "channelType": "GAA",
          "frequencyRange": {
            "highFrequency": 3570000000,
            "lowFrequency": 3560000000
          },
          "maxEirp": 20,
          "ruleApplied": "FCC_PART_96"
        },
        {
          "channelType": "GAA",
          "frequencyRange": {
            "highFrequency": 3580000000,
            "lowFrequency": 3570000000
          },
          "maxEirp": 20,
          "ruleApplied": "FCC_PART_96"
        },
        {
          "channelType": "GAA",
          "frequencyRange": {
            "highFrequency": 3590000000,
            "lowFrequency": 3580000000
          },
          "maxEirp": 20,

```

```

        "ruleApplied": "FCC_PART_96"
    }
},
"cbstdId": "SCW-TempMock-SAS11-00:a0:0a:11:5f:e2",
"response": {
    "responseCode": 0
}
}
]
}
2026-07-07T16:42:30.572Z - INFO - grant request from CBRS : {
    "grantRequest": [
        {
            "cbstdId": "SCW-TempMock-SAS11-00:a0:0a:11:5f:e2",
            "operationParam": {
                "maxEirp": 19,
                "operationFrequencyRange": {
                    "highFrequency": 3590000000,
                    "lowFrequency": 3550000000
                }
            }
        }
    ]
}
}
2026-07-07T16:42:30.585Z - INFO - engine sent successfully, the response to CBRS : {
    "grantResponse": [
        {
            "cbstdId": "SCW-TempMock-SAS11-00:a0:0a:11:5f:e2",
            "channelType": "GAA",
            "grantExpireTime": "2026-07-14T16:42:30Z",
            "grantId": "920322448",
            "heartbeatInterval": 60,
            "response": {
                "responseCode": 0
            }
        }
    ]
}
}
2026-07-07T16:42:31.092Z - INFO - heartbeat request from CBRS : {
    "heartbeatRequest": [
        {
            "cbstdId": "SCW-TempMock-SAS11-00:a0:0a:11:5f:e2",
            "grantId": "920322448",
            "operationState": "GRANTED"
        }
    ]
}
}
2026-07-07T16:42:31.096Z - INFO - engine sent successfully, the response to CBRS : {
    "heartbeatResponse": [
        {
            "cbstdId": "SCW-TempMock-SAS11-00:a0:0a:11:5f:e2",
            "grantId": "920322448",
            "response": {
                "responseCode": 0
            },
            "transmitExpireTime": "2026-07-07T16:45:51Z"
        }
    ]
}
}
2026-07-07T16:43:08.255Z - INFO - heartbeat request from CBRS : {
    "heartbeatRequest": [
        {
            "cbstdId": "SCW-TempMock-SAS11-00:a0:0a:11:5f:e2",
            "grantId": "920322448",
            "operationState": "AUTHORIZED"
        }
    ]
}
}

```

```

    }
  ]
}
2026-07-07T16:43:08.269Z - INFO - engine sent successfully, the response to CBRS : {
  "heartbeatResponse": [
    {
      "cbsdId": "SCW-TempMock-SAS11-00:a0:0a:11:5f:e2",
      "grantId": "920322448",
      "response": {
        "responseCode": 0
      },
      "transmitExpireTime": "2026-07-07T16:46:28Z"
    }
  ]
}
2026-07-07T16:43:42.306Z - INFO - heartbeat request from CBRS : {
  "heartbeatRequest": [
    {
      "cbsdId": "SCW-TempMock-SAS11-00:a0:0a:11:5f:e2",
      "grantId": "920322448",
      "operationState": "AUTHORIZED"
    }
  ]
}
2026-07-07T16:43:42.325Z - INFO - engine sent successfully, the response to CBRS : {
  "heartbeatResponse": [
    {
      "cbsdId": "SCW-TempMock-SAS11-00:a0:0a:11:5f:e2",
      "grantId": "920322448",
      "response": {
        "responseCode": 0
      },
      "transmitExpireTime": "2026-07-07T16:47:02Z"
    }
  ]
}
2026-07-07T16:44:30.371Z - INFO - heartbeat request from CBRS : {
  "heartbeatRequest": [
    {
      "cbsdId": "SCW-TempMock-SAS11-00:a0:0a:11:5f:e2",
      "grantId": "920322448",
      "operationState": "AUTHORIZED"
    }
  ]
}
2026-07-07T16:44:30.390Z - INFO - engine sent successfully, the response to CBRS : {
  "heartbeatResponse": [
    {
      "cbsdId": "SCW-TempMock-SAS11-00:a0:0a:11:5f:e2",
      "grantId": "920322448",
      "response": {
        "responseCode": 0
      },
      "transmitExpireTime": "2026-07-07T16:47:50Z"
    }
  ]
}
2026-07-07T16:45:01.424Z - INFO - heartbeat request from CBRS : {
  "heartbeatRequest": [
    {
      "cbsdId": "SCW-TempMock-SAS11-00:a0:0a:11:5f:e2",
      "grantId": "920322448",
      "operationState": "AUTHORIZED"
    }
  ]
}

```

```

}
2026-07-07T16:45:01.440Z - INFO - engine sent successfully, the response to CBRS : {
  "heartbeatResponse": [
    {
      "cbsdId": "SCW-TempMock-SAS11-00:a0:0a:11:5f:e2",
      "grantId": "920322448",
      "response": {
        "responseCode": 0
      },
      "transmitExpireTime": "2026-07-07T16:48:21Z"
    }
  ]
}
2026-07-07T16:45:38.476Z - INFO - heartbeat request from CBRS : {
  "heartbeatRequest": [
    {
      "cbsdId": "SCW-TempMock-SAS11-00:a0:0a:11:5f:e2",
      "grantId": "920322448",
      "operationState": "AUTHORIZED"
    }
  ]
}
2026-07-07T16:45:38.493Z - INFO - engine sent successfully, the response to CBRS : {
  "heartbeatResponse": [
    {
      "cbsdId": "SCW-TempMock-SAS11-00:a0:0a:11:5f:e2",
      "grantId": "920322448",
      "response": {
        "responseCode": 0
      },
      "transmitExpireTime": "2026-07-07T16:48:58Z"
    }
  ]
}
2026-07-07T16:46:15.609Z - INFO - heartbeat request from CBRS : {
  "heartbeatRequest": [
    {
      "cbsdId": "SCW-TempMock-SAS11-00:a0:0a:11:5f:e2",
      "grantId": "920322448",
      "operationState": "AUTHORIZED"
    }
  ]
}
2026-07-07T16:46:15.628Z - INFO - engine sent successfully, the response to CBRS : {
  "heartbeatResponse": [
    {
      "cbsdId": "SCW-TempMock-SAS11-00:a0:0a:11:5f:e2",
      "grantId": "920322448",
      "response": {
        "responseCode": 0
      },
      "transmitExpireTime": "2026-07-07T16:49:35Z"
    }
  ]
}
2026-07-07T16:46:52.667Z - INFO - heartbeat request from CBRS : {
  "heartbeatRequest": [
    {
      "cbsdId": "SCW-TempMock-SAS11-00:a0:0a:11:5f:e2",
      "grantId": "920322448",
      "operationState": "AUTHORIZED"
    }
  ]
}
2026-07-07T16:46:52.683Z - INFO - engine sent successfully, the response to CBRS : {

```

```

"heartbeatResponse": [
  {
    "cbsdId": "SCW-TempMock-SAS11-00:a0:0a:11:5f:e2",
    "grantId": "920322448",
    "response": {
      "responseCode": 0
    },
    "transmitExpireTime": "2026-07-07T16:50:12Z"
  }
]
}
2026-07-07T16:47:40.730Z - INFO - heartbeat request from CBRS : {
  "heartbeatRequest": [
    {
      "cbsdId": "SCW-TempMock-SAS11-00:a0:0a:11:5f:e2",
      "grantId": "920322448",
      "operationState": "AUTHORIZED"
    }
  ]
}
2026-07-07T16:47:40.747Z - INFO - engine sent successfully, the response to CBRS : {
  "heartbeatResponse": [
    {
      "cbsdId": "SCW-TempMock-SAS11-00:a0:0a:11:5f:e2",
      "grantId": "920322448",
      "response": {
        "responseCode": 0
      },
      "transmitExpireTime": "2026-07-07T16:51:00Z"
    }
  ]
}
2026-07-07T16:47:44.256Z - INFO - relinquishment request from CBRS : {
  "relinquishmentRequest": [
    {
      "cbsdId": "SCW-TempMock-SAS11-00:a0:0a:11:5f:e2",
      "grantId": "920322448"
    }
  ]
}
2026-07-07T16:47:44.342Z - INFO - engine sent successfully, the response to CBRS : {
  "relinquishmentResponse": [
    {
      "cbsdId": "SCW-TempMock-SAS11-00:a0:0a:11:5f:e2",
      "grantId": "920322448",
      "response": {
        "responseCode": 0
      }
    }
  ]
}
2026-07-07T16:47:45.348Z - INFO - deregistration request from CBRS : {
  "deregistrationRequest": [
    {
      "cbsdId": "SCW-TempMock-SAS11-00:a0:0a:11:5f:e2"
    }
  ]
}
2026-07-07T16:47:45.404Z - INFO - engine sent successfully, the response to CBRS : {
  "deregistrationResponse": [
    {
      "cbsdId": "SCW-TempMock-SAS11-00:a0:0a:11:5f:e2",
      "response": {
        "responseCode": 0
      }
    }
  ]
}

```

```

    }
  ]
}

```

Power measurement test for granted Max EIRP – 15 dbm/MHz

2026-07-07T16:49:13.684Z - INFO - WINNF TEST HARNESS RELEASE: 1.0.0.3 - 2018-November-13

2026-07-07T16:49:13.684Z - INFO - Selected spectrum frequency is {'lowFrequency': 3550000000L, 'highFrequency': 3590000000L}

2026-07-07T16:49:13.684Z - INFO - Granted Spectrum Max Eirp = 15dBm/MHz

2026-07-07T16:49:13.686Z - INFO - the selected test from the user : PowerMeasTest is starting now

2026-07-07T16:59:00.775Z - INFO - registration request from CBRS : {

```

  "registrationRequest": [
    {
      "airInterface": {
        "radioTechnology": "NR"
      },
      "cbsdCategory": "A",
      "cbsdInfo": {
        "model": "RN-620",
        "vendor": "Airspan Networks"
      },
      "cbsdSerialNumber": "11-00:a0:0a:11:5f:e2",
      "fcclId": "SCW-Temp",
      "installationParam": {
        "antennaGain": 5,
        "eirpCapability": 29,
        "height": 5,
        "heightType": "AGL",
        "indoorDeployment": true,
        "latitude": 3.313883066177368,
        "longitude": 117.29134368896484
      },
      "measCapability": [],
      "userId": "NPLxLI"
    }
  ]
}

```

2026-07-07T16:59:00.813Z - INFO - engine sent successfully, the response to CBRS : {

```

  "registrationResponse": [
    {
      "cbsdId": "SCW-TempMock-SAS11-00:a0:0a:11:5f:e2",
      "response": {
        "responseCode": 0
      }
    }
  ]
}

```

2026-07-07T16:59:01.361Z - INFO - spectrumInquiry request from CBRS : {

```

  "spectrumInquiryRequest": [
    {
      "cbsdId": "SCW-TempMock-SAS11-00:a0:0a:11:5f:e2",
      "inquiredSpectrum": [
        {
          "highFrequency": 3560000000,
          "lowFrequency": 3550000000
        },
        {
          "highFrequency": 3570000000,
          "lowFrequency": 3560000000
        },
        {
          "highFrequency": 3580000000,
          "lowFrequency": 3570000000
        }
      ]
    }
  ]
}

```

```

        "highFrequency": 3590000000,
        "lowFrequency": 3580000000
    },
    {
        "highFrequency": 3600000000,
        "lowFrequency": 3590000000
    },
    {
        "highFrequency": 3610000000,
        "lowFrequency": 3600000000
    },
    {
        "highFrequency": 3620000000,
        "lowFrequency": 3610000000
    },
    {
        "highFrequency": 3630000000,
        "lowFrequency": 3620000000
    },
    {
        "highFrequency": 3640000000,
        "lowFrequency": 3630000000
    },
    {
        "highFrequency": 3650000000,
        "lowFrequency": 3640000000
    },
    {
        "highFrequency": 3660000000,
        "lowFrequency": 3650000000
    },
    {
        "highFrequency": 3670000000,
        "lowFrequency": 3660000000
    },
    {
        "highFrequency": 3680000000,
        "lowFrequency": 3670000000
    },
    {
        "highFrequency": 3690000000,
        "lowFrequency": 3680000000
    },
    {
        "highFrequency": 3700000000,
        "lowFrequency": 3690000000
    }
    ]
}

```

2026-07-07T16:59:01.384Z - INFO - The requested spectrum is in the range, SpectrumInquiry response code is 0

2026-07-07T16:59:01.387Z - INFO - The requested spectrum is in the range, SpectrumInquiry response code is 0

2026-07-07T16:59:01.388Z - INFO - The requested spectrum is in the range, SpectrumInquiry response code is 0

2026-07-07T16:59:01.391Z - INFO - The requested spectrum is in the range, SpectrumInquiry response code is 0

2026-07-07T16:59:01.395Z - INFO - engine sent successfully, the response to CBRS : {

```

"spectrumInquiryResponse": [
{
    "availableChannel": [
        {
            "channelType": "GAA",
            "frequencyRange": {
                "highFrequency": 3560000000,
                "lowFrequency": 3550000000
            },

```

```

        "maxEirp": 15,
        "ruleApplied": "FCC_PART_96"
    },
    {
        "channelType": "GAA",
        "frequencyRange": {
            "highFrequency": 3570000000,
            "lowFrequency": 3560000000
        },
        "maxEirp": 15,
        "ruleApplied": "FCC_PART_96"
    },
    {
        "channelType": "GAA",
        "frequencyRange": {
            "highFrequency": 3580000000,
            "lowFrequency": 3570000000
        },
        "maxEirp": 15,
        "ruleApplied": "FCC_PART_96"
    },
    {
        "channelType": "GAA",
        "frequencyRange": {
            "highFrequency": 3590000000,
            "lowFrequency": 3580000000
        },
        "maxEirp": 15,
        "ruleApplied": "FCC_PART_96"
    }
],
"cbsdId": "SCW-TempMock-SAS11-00:a0:0a:11:5f:e2",
"response": {
    "responseCode": 0
}
}
]
}
2026-07-07T16:59:01.904Z - INFO - grant request from CBRS : {
  "grantRequest": [
    {
      "cbsdId": "SCW-TempMock-SAS11-00:a0:0a:11:5f:e2",
      "operationParam": {
        "maxEirp": 15,
        "operationFrequencyRange": {
          "highFrequency": 3590000000,
          "lowFrequency": 3550000000
        }
      }
    }
  ]
}
}
2026-07-07T16:59:01.917Z - INFO - engine sent successfully, the response to CBRS : {
  "grantResponse": [
    {
      "cbsdId": "SCW-TempMock-SAS11-00:a0:0a:11:5f:e2",
      "channelType": "GAA",
      "grantExpireTime": "2026-07-14T16:59:01Z",
      "grantId": "96823781",
      "heartbeatInterval": 60,
      "response": {
        "responseCode": 0
      }
    }
  ]
}
]

```

```

}
2026-07-07T16:59:02.424Z - INFO - heartbeat request from CBRS : {
  "heartbeatRequest": [
    {
      "cbsdId": "SCW-TempMock-SAS11-00:a0:0a:11:5f:e2",
      "grantId": "96823781",
      "operationState": "GRANTED"
    }
  ]
}
2026-07-07T16:59:02.437Z - INFO - engine sent successfully, the response to CBRS : {
  "heartbeatResponse": [
    {
      "cbsdId": "SCW-TempMock-SAS11-00:a0:0a:11:5f:e2",
      "grantId": "96823781",
      "response": {
        "responseCode": 0
      },
      "transmitExpireTime": "2026-07-07T17:02:22Z"
    }
  ]
}
2026-07-07T16:59:50.490Z - INFO - heartbeat request from CBRS : {
  "heartbeatRequest": [
    {
      "cbsdId": "SCW-TempMock-SAS11-00:a0:0a:11:5f:e2",
      "grantId": "96823781",
      "operationState": "AUTHORIZED"
    }
  ]
}
2026-07-07T16:59:50.503Z - INFO - engine sent successfully, the response to CBRS : {
  "heartbeatResponse": [
    {
      "cbsdId": "SCW-TempMock-SAS11-00:a0:0a:11:5f:e2",
      "grantId": "96823781",
      "response": {
        "responseCode": 0
      },
      "transmitExpireTime": "2026-07-07T17:03:10Z"
    }
  ]
}
2026-07-07T17:00:33.546Z - INFO - heartbeat request from CBRS : {
  "heartbeatRequest": [
    {
      "cbsdId": "SCW-TempMock-SAS11-00:a0:0a:11:5f:e2",
      "grantId": "96823781",
      "operationState": "AUTHORIZED"
    }
  ]
}
2026-07-07T17:00:33.562Z - INFO - engine sent successfully, the response to CBRS : {
  "heartbeatResponse": [
    {
      "cbsdId": "SCW-TempMock-SAS11-00:a0:0a:11:5f:e2",
      "grantId": "96823781",
      "response": {
        "responseCode": 0
      },
      "transmitExpireTime": "2026-07-07T17:03:53Z"
    }
  ]
}
2026-07-07T17:01:13.604Z - INFO - heartbeat request from CBRS : {

```

```

"heartbeatRequest": [
  {
    "cbsdId": "SCW-TempMock-SAS11-00:a0:0a:11:5f:e2",
    "grantId": "96823781",
    "operationState": "AUTHORIZED"
  }
]
}
2026-07-07T17:01:13.618Z - INFO - engine sent successfully, the response to CBRS : {
  "heartbeatResponse": [
    {
      "cbsdId": "SCW-TempMock-SAS11-00:a0:0a:11:5f:e2",
      "grantId": "96823781",
      "response": {
        "responseCode": 0
      },
      "transmitExpireTime": "2026-07-07T17:04:33Z"
    }
  ]
}
2026-07-07T17:01:53.661Z - INFO - heartbeat request from CBRS : {
  "heartbeatRequest": [
    {
      "cbsdId": "SCW-TempMock-SAS11-00:a0:0a:11:5f:e2",
      "grantId": "96823781",
      "operationState": "AUTHORIZED"
    }
  ]
}
2026-07-07T17:01:53.677Z - INFO - engine sent successfully, the response to CBRS : {
  "heartbeatResponse": [
    {
      "cbsdId": "SCW-TempMock-SAS11-00:a0:0a:11:5f:e2",
      "grantId": "96823781",
      "response": {
        "responseCode": 0
      },
      "transmitExpireTime": "2026-07-07T17:05:13Z"
    }
  ]
}
2026-07-07T17:02:28.713Z - INFO - heartbeat request from CBRS : {
  "heartbeatRequest": [
    {
      "cbsdId": "SCW-TempMock-SAS11-00:a0:0a:11:5f:e2",
      "grantId": "96823781",
      "operationState": "AUTHORIZED"
    }
  ]
}
2026-07-07T17:02:28.730Z - INFO - engine sent successfully, the response to CBRS : {
  "heartbeatResponse": [
    {
      "cbsdId": "SCW-TempMock-SAS11-00:a0:0a:11:5f:e2",
      "grantId": "96823781",
      "response": {
        "responseCode": 0
      },
      "transmitExpireTime": "2026-07-07T17:05:48Z"
    }
  ]
}
2026-07-07T17:03:07.801Z - INFO - heartbeat request from CBRS : {
  "heartbeatRequest": [
    {

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        "cbsdId": "SCW-TempMock-SAS11-00:a0:0a:11:5f:e2",
        "grantId": "96823781",
        "operationState": "AUTHORIZED"
    }
}
]
}
2026-07-07T17:03:07.819Z - INFO - engine sent successfully, the response to CBRS : {
  "heartbeatResponse": [
    {
      "cbsdId": "SCW-TempMock-SAS11-00:a0:0a:11:5f:e2",
      "grantId": "96823781",
      "response": {
        "responseCode": 0
      },
      "transmitExpireTime": "2026-07-07T17:06:27Z"
    }
  ]
}
}
2026-07-07T17:03:47.861Z - INFO - heartbeat request from CBRS : {
  "heartbeatRequest": [
    {
      "cbsdId": "SCW-TempMock-SAS11-00:a0:0a:11:5f:e2",
      "grantId": "96823781",
      "operationState": "AUTHORIZED"
    }
  ]
}
}
2026-07-07T17:03:47.878Z - INFO - engine sent successfully, the response to CBRS : {
  "heartbeatResponse": [
    {
      "cbsdId": "SCW-TempMock-SAS11-00:a0:0a:11:5f:e2",
      "grantId": "96823781",
      "response": {
        "responseCode": 0
      },
      "transmitExpireTime": "2026-07-07T17:07:07Z"
    }
  ]
}
}
2026-07-07T17:04:34.924Z - INFO - heartbeat request from CBRS : {
  "heartbeatRequest": [
    {
      "cbsdId": "SCW-TempMock-SAS11-00:a0:0a:11:5f:e2",
      "grantId": "96823781",
      "operationState": "AUTHORIZED"
    }
  ]
}
}
2026-07-07T17:04:34.940Z - INFO - engine sent successfully, the response to CBRS : {
  "heartbeatResponse": [
    {
      "cbsdId": "SCW-TempMock-SAS11-00:a0:0a:11:5f:e2",
      "grantId": "96823781",
      "response": {
        "responseCode": 0
      },
      "transmitExpireTime": "2026-07-07T17:07:54Z"
    }
  ]
}
}
2026-07-07T17:05:08.976Z - INFO - heartbeat request from CBRS : {
  "heartbeatRequest": [
    {
      "cbsdId": "SCW-TempMock-SAS11-00:a0:0a:11:5f:e2",
      "grantId": "96823781",

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        "operationState": "AUTHORIZED"
    }
}
}
2026-07-07T17:05:08.993Z - INFO - engine sent successfully, the response to CBRS : {
  "heartbeatResponse": [
    {
      "cbsdId": "SCW-TempMock-SAS11-00:a0:0a:11:5f:e2",
      "grantId": "96823781",
      "response": {
        "responseCode": 0
      },
      "transmitExpireTime": "2026-07-07T17:08:28Z"
    }
  ]
}
}
2026-07-07T17:05:52.684Z - INFO - heartbeat request from CBRS : {
  "heartbeatRequest": [
    {
      "cbsdId": "SCW-TempMock-SAS11-00:a0:0a:11:5f:e2",
      "grantId": "96823781",
      "operationState": "AUTHORIZED"
    }
  ]
}
}
2026-07-07T17:05:52.703Z - INFO - engine sent successfully, the response to CBRS : {
  "heartbeatResponse": [
    {
      "cbsdId": "SCW-TempMock-SAS11-00:a0:0a:11:5f:e2",
      "grantId": "96823781",
      "response": {
        "responseCode": 0
      },
      "transmitExpireTime": "2026-07-07T17:09:12Z"
    }
  ]
}
}
2026-07-07T17:06:40.921Z - INFO - heartbeat request from CBRS : {
  "heartbeatRequest": [
    {
      "cbsdId": "SCW-TempMock-SAS11-00:a0:0a:11:5f:e2",
      "grantId": "96823781",
      "operationState": "AUTHORIZED"
    }
  ]
}
}
2026-07-07T17:06:40.938Z - INFO - engine sent successfully, the response to CBRS : {
  "heartbeatResponse": [
    {
      "cbsdId": "SCW-TempMock-SAS11-00:a0:0a:11:5f:e2",
      "grantId": "96823781",
      "response": {
        "responseCode": 0
      },
      "transmitExpireTime": "2026-07-07T17:10:00Z"
    }
  ]
}
}
2026-07-07T17:07:21.982Z - INFO - heartbeat request from CBRS : {
  "heartbeatRequest": [
    {
      "cbsdId": "SCW-TempMock-SAS11-00:a0:0a:11:5f:e2",
      "grantId": "96823781",
      "operationState": "AUTHORIZED"
    }
  ]
}
}

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    ]
  }
  2026-07-07T17:07:21.999Z - INFO - engine sent successfully, the response to CBRS : {
    "heartbeatResponse": [
      {
        "cbsdId": "SCW-TempMock-SAS11-00:a0:0a:11:5f:e2",
        "grantId": "96823781",
        "response": {
          "responseCode": 0
        },
        "transmitExpireTime": "2026-07-07T17:10:41Z"
      }
    ]
  }
  2026-07-07T17:08:10.148Z - INFO - heartbeat request from CBRS : {
    "heartbeatRequest": [
      {
        "cbsdId": "SCW-TempMock-SAS11-00:a0:0a:11:5f:e2",
        "grantId": "96823781",
        "operationState": "AUTHORIZED"
      }
    ]
  }
  2026-07-07T17:08:10.164Z - INFO - engine sent successfully, the response to CBRS : {
    "heartbeatResponse": [
      {
        "cbsdId": "SCW-TempMock-SAS11-00:a0:0a:11:5f:e2",
        "grantId": "96823781",
        "response": {
          "responseCode": 0
        },
        "transmitExpireTime": "2026-07-07T17:11:30Z"
      }
    ]
  }
  2026-07-07T17:08:43.197Z - INFO - heartbeat request from CBRS : {
    "heartbeatRequest": [
      {
        "cbsdId": "SCW-TempMock-SAS11-00:a0:0a:11:5f:e2",
        "grantId": "96823781",
        "operationState": "AUTHORIZED"
      }
    ]
  }
  2026-07-07T17:08:43.217Z - INFO - engine sent successfully, the response to CBRS : {
    "heartbeatResponse": [
      {
        "cbsdId": "SCW-TempMock-SAS11-00:a0:0a:11:5f:e2",
        "grantId": "96823781",
        "response": {
          "responseCode": 0
        },
        "transmitExpireTime": "2026-07-07T17:12:03Z"
      }
    ]
  }
  2026-07-07T17:09:30.262Z - INFO - heartbeat request from CBRS : {
    "heartbeatRequest": [
      {
        "cbsdId": "SCW-TempMock-SAS11-00:a0:0a:11:5f:e2",
        "grantId": "96823781",
        "operationState": "AUTHORIZED"
      }
    ]
  }
}

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2026-07-07T17:09:30.279Z - INFO - engine sent successfully, the response to CBRS : {
  "heartbeatResponse": [
    {
      "cbsdId": "SCW-TempMock-SAS11-00:a0:0a:11:5f:e2",
      "grantId": "96823781",
      "response": {
        "responseCode": 0
      },
      "transmitExpireTime": "2026-07-07T17:12:50Z"
    }
  ]
}
2026-07-07T17:10:01.311Z - INFO - heartbeat request from CBRS : {
  "heartbeatRequest": [
    {
      "cbsdId": "SCW-TempMock-SAS11-00:a0:0a:11:5f:e2",
      "grantId": "96823781",
      "operationState": "AUTHORIZED"
    }
  ]
}
2026-07-07T17:10:01.329Z - INFO - engine sent successfully, the response to CBRS : {
  "heartbeatResponse": [
    {
      "cbsdId": "SCW-TempMock-SAS11-00:a0:0a:11:5f:e2",
      "grantId": "96823781",
      "response": {
        "responseCode": 0
      },
      "transmitExpireTime": "2026-07-07T17:13:21Z"
    }
  ]
}
2026-07-07T17:10:38.381Z - INFO - heartbeat request from CBRS : {
  "heartbeatRequest": [
    {
      "cbsdId": "SCW-TempMock-SAS11-00:a0:0a:11:5f:e2",
      "grantId": "96823781",
      "operationState": "AUTHORIZED"
    }
  ]
}
2026-07-07T17:10:38.398Z - INFO - engine sent successfully, the response to CBRS : {
  "heartbeatResponse": [
    {
      "cbsdId": "SCW-TempMock-SAS11-00:a0:0a:11:5f:e2",
      "grantId": "96823781",
      "response": {
        "responseCode": 0
      },
      "transmitExpireTime": "2026-07-07T17:13:58Z"
    }
  ]
}
2026-07-07T17:11:18.950Z - INFO - heartbeat request from CBRS : {
  "heartbeatRequest": [
    {
      "cbsdId": "SCW-TempMock-SAS11-00:a0:0a:11:5f:e2",
      "grantId": "96823781",
      "operationState": "AUTHORIZED"
    }
  ]
}
2026-07-07T17:11:18.969Z - INFO - engine sent successfully, the response to CBRS : {
  "heartbeatResponse": [

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    {
      "cbsdId": "SCW-TempMock-SAS11-00:a0:0a:11:5f:e2",
      "grantId": "96823781",
      "response": {
        "responseCode": 0
      },
      "transmitExpireTime": "2026-07-07T17:14:38Z"
    }
  ]
}
2026-07-07T17:12:08.101Z - INFO - heartbeat request from CBRS : {
  "heartbeatRequest": [
    {
      "cbsdId": "SCW-TempMock-SAS11-00:a0:0a:11:5f:e2",
      "grantId": "96823781",
      "operationState": "AUTHORIZED"
    }
  ]
}
2026-07-07T17:12:08.118Z - INFO - engine sent successfully, the response to CBRS : {
  "heartbeatResponse": [
    {
      "cbsdId": "SCW-TempMock-SAS11-00:a0:0a:11:5f:e2",
      "grantId": "96823781",
      "response": {
        "responseCode": 0
      },
      "transmitExpireTime": "2026-07-07T17:15:28Z"
    }
  ]
}
2026-07-07T17:12:23.638Z - INFO - relinquishment request from CBRS : {
  "relinquishmentRequest": [
    {
      "cbsdId": "SCW-TempMock-SAS11-00:a0:0a:11:5f:e2",
      "grantId": "96823781"
    }
  ]
}
2026-07-07T17:12:23.650Z - INFO - engine sent successfully, the response to CBRS : {
  "relinquishmentResponse": [
    {
      "cbsdId": "SCW-TempMock-SAS11-00:a0:0a:11:5f:e2",
      "grantId": "96823781",
      "response": {
        "responseCode": 0
      }
    }
  ]
}
2026-07-07T17:12:24.657Z - INFO - deregistration request from CBRS : {
  "deregistrationRequest": [
    {
      "cbsdId": "SCW-TempMock-SAS11-00:a0:0a:11:5f:e2"
    }
  ]
}
2026-07-07T17:12:24.665Z - INFO - engine sent successfully, the response to CBRS : {
  "deregistrationResponse": [
    {
      "cbsdId": "SCW-TempMock-SAS11-00:a0:0a:11:5f:e2",
      "response": {
        "responseCode": 0
      }
    }
  ]
}

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    ]
  }
2026-07-07T17:12:54.197Z - INFO - registration request from CBRS : {
  "registrationRequest": [
    {
      "airInterface": {
        "radioTechnology": "NR"
      },
      "cbsdCategory": "A",
      "cbsdInfo": {
        "model": "RN-620",
        "vendor": "Airspar Networks"
      },
      "cbsdSerialNumber": "11-00:a0:0a:11:5f:e2",
      "fccId": "SCW-Temp",
      "installationParam": {
        "antennaGain": 5,
        "eirpCapability": 29,
        "height": 5,
        "heightType": "AGL",
        "indoorDeployment": true,
        "latitude": 3.313883066177368,
        "longitude": 117.29134368896484
      },
      "measCapability": [],
      "userId": "NPLxLI"
    }
  ]
}
2026-07-07T17:12:54.256Z - INFO - engine sent successfully, the response to CBRS : {
  "registrationResponse": [
    {
      "cbsdId": "SCW-TempMock-SAS11-00:a0:0a:11:5f:e2",
      "response": {
        "responseCode": 0
      }
    }
  ]
}
2026-07-07T17:12:55.265Z - INFO - spectrumInquiry request from CBRS : {
  "spectrumInquiryRequest": [
    {
      "cbsdId": "SCW-TempMock-SAS11-00:a0:0a:11:5f:e2",
      "inquiredSpectrum": [
        {
          "highFrequency": 3560000000,
          "lowFrequency": 3550000000
        },
        {
          "highFrequency": 3570000000,
          "lowFrequency": 3560000000
        },
        {
          "highFrequency": 3580000000,
          "lowFrequency": 3570000000
        },
        {
          "highFrequency": 3590000000,
          "lowFrequency": 3580000000
        },
        {
          "highFrequency": 3600000000,
          "lowFrequency": 3590000000
        },
        {

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    "highFrequency": 3610000000,
    "lowFrequency": 3600000000
  },
  {
    "highFrequency": 3620000000,
    "lowFrequency": 3610000000
  },
  {
    "highFrequency": 3630000000,
    "lowFrequency": 3620000000
  },
  {
    "highFrequency": 3640000000,
    "lowFrequency": 3630000000
  },
  {
    "highFrequency": 3650000000,
    "lowFrequency": 3640000000
  },
  {
    "highFrequency": 3660000000,
    "lowFrequency": 3650000000
  },
  {
    "highFrequency": 3670000000,
    "lowFrequency": 3660000000
  },
  {
    "highFrequency": 3680000000,
    "lowFrequency": 3670000000
  },
  {
    "highFrequency": 3690000000,
    "lowFrequency": 3680000000
  },
  {
    "highFrequency": 3700000000,
    "lowFrequency": 3690000000
  }
]
}
]
}
2026-07-07T17:12:55.288Z - INFO - The requested spectrum is in the range, SpectrumInquiry response code is 0
2026-07-07T17:12:55.293Z - INFO - The requested spectrum is in the range, SpectrumInquiry response code is 0
2026-07-07T17:12:55.296Z - INFO - The requested spectrum is in the range, SpectrumInquiry response code is 0
2026-07-07T17:12:55.298Z - INFO - The requested spectrum is in the range, SpectrumInquiry response code is 0
2026-07-07T17:12:55.299Z - INFO - engine sent successfully, the response to CBRS : {
  "spectrumInquiryResponse": [
    {
      "availableChannel": [
        {
          "channelType": "GAA",
          "frequencyRange": {
            "highFrequency": 3560000000,
            "lowFrequency": 3550000000
          },
          "maxEirp": 15,
          "ruleApplied": "FCC_PART_96"
        },
        {
          "channelType": "GAA",
          "frequencyRange": {
            "highFrequency": 3570000000,
            "lowFrequency": 3560000000
          }
        }
      ]
    }
  ]
}

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    },
    "maxEirp": 15,
    "ruleApplied": "FCC_PART_96"
  },
  {
    "channelType": "GAA",
    "frequencyRange": {
      "highFrequency": 3580000000,
      "lowFrequency": 3570000000
    },
    "maxEirp": 15,
    "ruleApplied": "FCC_PART_96"
  },
  {
    "channelType": "GAA",
    "frequencyRange": {
      "highFrequency": 3590000000,
      "lowFrequency": 3580000000
    },
    "maxEirp": 15,
    "ruleApplied": "FCC_PART_96"
  }
],
"cbid": "SCW-TempMock-SAS11-00:a0:0a:11:5f:e2",
"response": {
  "responseCode": 0
}
}
]
}
2026-07-07T17:12:56.306Z - INFO - grant request from CBRS : {
  "grantRequest": [
    {
      "cbid": "SCW-TempMock-SAS11-00:a0:0a:11:5f:e2",
      "operationParam": {
        "maxEirp": 15,
        "operationFrequencyRange": {
          "highFrequency": 3590000000,
          "lowFrequency": 3550000000
        }
      }
    }
  ]
}
}
2026-07-07T17:12:56.322Z - INFO - engine sent successfully, the response to CBRS : {
  "grantResponse": [
    {
      "cbid": "SCW-TempMock-SAS11-00:a0:0a:11:5f:e2",
      "channelType": "GAA",
      "grantExpireTime": "2026-07-14T17:12:56Z",
      "grantId": "266962600",
      "heartbeatInterval": 60,
      "response": {
        "responseCode": 0
      }
    }
  ]
}
}
2026-07-07T17:12:57.331Z - INFO - heartbeat request from CBRS : {
  "heartbeatRequest": [
    {
      "cbid": "SCW-TempMock-SAS11-00:a0:0a:11:5f:e2",
      "grantId": "266962600",
      "operationState": "GRANTED"
    }
  ]
}

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    ]
  }
  2026-07-07T17:12:57.348Z - INFO - engine sent successfully, the response to CBRS : {
    "heartbeatResponse": [
      {
        "cbsdId": "SCW-TempMock-SAS11-00:a0:0a:11:5f:e2",
        "grantId": "266962600",
        "response": {
          "responseCode": 0
        },
        "transmitExpireTime": "2026-07-07T17:16:17Z"
      }
    ]
  }
  2026-07-07T17:13:44.894Z - INFO - heartbeat request from CBRS : {
    "heartbeatRequest": [
      {
        "cbsdId": "SCW-TempMock-SAS11-00:a0:0a:11:5f:e2",
        "grantId": "266962600",
        "operationState": "AUTHORIZED"
      }
    ]
  }
  2026-07-07T17:13:44.911Z - INFO - engine sent successfully, the response to CBRS : {
    "heartbeatResponse": [
      {
        "cbsdId": "SCW-TempMock-SAS11-00:a0:0a:11:5f:e2",
        "grantId": "266962600",
        "response": {
          "responseCode": 0
        },
        "transmitExpireTime": "2026-07-07T17:17:04Z"
      }
    ]
  }
  2026-07-07T17:14:28.953Z - INFO - heartbeat request from CBRS : {
    "heartbeatRequest": [
      {
        "cbsdId": "SCW-TempMock-SAS11-00:a0:0a:11:5f:e2",
        "grantId": "266962600",
        "operationState": "AUTHORIZED"
      }
    ]
  }
  2026-07-07T17:14:29.000Z - INFO - engine sent successfully, the response to CBRS : {
    "heartbeatResponse": [
      {
        "cbsdId": "SCW-TempMock-SAS11-00:a0:0a:11:5f:e2",
        "grantId": "266962600",
        "response": {
          "responseCode": 0
        },
        "transmitExpireTime": "2026-07-07T17:17:48Z"
      }
    ]
  }
  2026-07-07T17:15:10.259Z - INFO - heartbeat request from CBRS : {
    "heartbeatRequest": [
      {
        "cbsdId": "SCW-TempMock-SAS11-00:a0:0a:11:5f:e2",
        "grantId": "266962600",
        "operationState": "AUTHORIZED"
      }
    ]
  }
}

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2026-07-07T17:15:10.276Z - INFO - engine sent successfully, the response to CBRS : {
  "heartbeatResponse": [
    {
      "cbsdId": "SCW-TempMock-SAS11-00:a0:0a:11:5f:e2",
      "grantId": "266962600",
      "response": {
        "responseCode": 0
      },
      "transmitExpireTime": "2026-07-07T17:18:30Z"
    }
  ]
}
2026-07-07T17:15:42.575Z - INFO - heartbeat request from CBRS : {
  "heartbeatRequest": [
    {
      "cbsdId": "SCW-TempMock-SAS11-00:a0:0a:11:5f:e2",
      "grantId": "266962600",
      "operationState": "AUTHORIZED"
    }
  ]
}
2026-07-07T17:15:42.592Z - INFO - engine sent successfully, the response to CBRS : {
  "heartbeatResponse": [
    {
      "cbsdId": "SCW-TempMock-SAS11-00:a0:0a:11:5f:e2",
      "grantId": "266962600",
      "response": {
        "responseCode": 0
      },
      "transmitExpireTime": "2026-07-07T17:19:02Z"
    }
  ]
}

```

Power measurement test for granted Max EIRP – 10 dbm/MHz

```

2026-07-07T17:27:22.049Z - INFO - WINNF TEST HARNESS RELEASE: 1.0.0.3 - 2018-November-13
2026-07-07T17:27:22.049Z - INFO - Selected spectrum frequency is {'lowFrequency': 3550000000L, 'highFrequency': 3590000000L}
2026-07-07T17:27:22.049Z - INFO - Granted Spectrum Max Eirp = 10dBm/MHz
2026-07-07T17:27:22.051Z - INFO - the selected test from the user : PowerMeasTest is starting now
2026-07-07T17:27:36.308Z - INFO - registration request from CBRS : {
  "registrationRequest": [
    {
      "airInterface": {
        "radioTechnology": "NR"
      },
      "cbsdCategory": "A",
      "cbsdInfo": {
        "model": "RN-620",
        "vendor": "Airspan Networks"
      },
      "cbsdSerialNumber": "11-00:a0:0a:11:5f:e2",
      "fcid": "SCW-Temp",
      "installationParam": {
        "antennaGain": 5,
        "eirpCapability": 29,
        "height": 5,
        "heightType": "AGL",
        "indoorDeployment": true,
        "latitude": 3.313883066177368,
        "longitude": 117.29134368896484
      },
      "measCapability": [],
      "userId": "NPLxLI"
    }
  ]
}

```

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}
2026-07-07T17:27:36.331Z - INFO - engine sent successfully, the response to CBRS : {
  "registrationResponse": [
    {
      "cbsdId": "SCW-TempMock-SAS11-00:a0:0a:11:5f:e2",
      "response": {
        "responseCode": 0
      }
    }
  ]
}
2026-07-07T17:27:36.878Z - INFO - spectrumInquiry request from CBRS : {
  "spectrumInquiryRequest": [
    {
      "cbsdId": "SCW-TempMock-SAS11-00:a0:0a:11:5f:e2",
      "inquiredSpectrum": [
        {
          "highFrequency": 3560000000,
          "lowFrequency": 3550000000
        },
        {
          "highFrequency": 3570000000,
          "lowFrequency": 3560000000
        },
        {
          "highFrequency": 3580000000,
          "lowFrequency": 3570000000
        },
        {
          "highFrequency": 3590000000,
          "lowFrequency": 3580000000
        },
        {
          "highFrequency": 3600000000,
          "lowFrequency": 3590000000
        },
        {
          "highFrequency": 3610000000,
          "lowFrequency": 3600000000
        },
        {
          "highFrequency": 3620000000,
          "lowFrequency": 3610000000
        },
        {
          "highFrequency": 3630000000,
          "lowFrequency": 3620000000
        },
        {
          "highFrequency": 3640000000,
          "lowFrequency": 3630000000
        },
        {
          "highFrequency": 3650000000,
          "lowFrequency": 3640000000
        },
        {
          "highFrequency": 3660000000,
          "lowFrequency": 3650000000
        },
        {
          "highFrequency": 3670000000,
          "lowFrequency": 3660000000
        },
        {

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        "highFrequency": 3680000000,
        "lowFrequency": 3670000000
    },
    {
        "highFrequency": 3690000000,
        "lowFrequency": 3680000000
    },
    {
        "highFrequency": 3700000000,
        "lowFrequency": 3690000000
    }
    ]
}
]
}
2026-07-07T17:27:36.898Z - INFO - The requested spectrum is in the range, SpectrumInquiry response code is 0
2026-07-07T17:27:36.900Z - INFO - The requested spectrum is in the range, SpectrumInquiry response code is 0
2026-07-07T17:27:36.901Z - INFO - The requested spectrum is in the range, SpectrumInquiry response code is 0
2026-07-07T17:27:36.901Z - INFO - The requested spectrum is in the range, SpectrumInquiry response code is 0
2026-07-07T17:27:36.904Z - INFO - engine sent successfully, the response to CBRS : {
  "spectrumInquiryResponse": [
    {
      "availableChannel": [
        {
          "channelType": "GAA",
          "frequencyRange": {
            "highFrequency": 3560000000,
            "lowFrequency": 3550000000
          },
          "maxEirp": 10,
          "ruleApplied": "FCC_PART_96"
        },
        {
          "channelType": "GAA",
          "frequencyRange": {
            "highFrequency": 3570000000,
            "lowFrequency": 3560000000
          },
          "maxEirp": 10,
          "ruleApplied": "FCC_PART_96"
        },
        {
          "channelType": "GAA",
          "frequencyRange": {
            "highFrequency": 3580000000,
            "lowFrequency": 3570000000
          },
          "maxEirp": 10,
          "ruleApplied": "FCC_PART_96"
        },
        {
          "channelType": "GAA",
          "frequencyRange": {
            "highFrequency": 3590000000,
            "lowFrequency": 3580000000
          },
          "maxEirp": 10,
          "ruleApplied": "FCC_PART_96"
        }
      ],
      "cbsId": "SCW-TempMock-SAS11-00:a0:0a:11:5f:e2",
      "response": {
        "responseCode": 0
      }
    }
  ]
}

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    ]
  }
  2026-07-07T17:27:37.410Z - INFO - grant request from CBRS : {
    "grantRequest": [
      {
        "cbsdId": "SCW-TempMock-SAS11-00:a0:0a:11:5f:e2",
        "operationParam": {
          "maxEirp": 10,
          "operationFrequencyRange": {
            "highFrequency": 3590000000,
            "lowFrequency": 3550000000
          }
        }
      }
    ]
  }
}
2026-07-07T17:27:37.417Z - INFO - engine sent successfully, the response to CBRS : {
  "grantResponse": [
    {
      "cbsdId": "SCW-TempMock-SAS11-00:a0:0a:11:5f:e2",
      "channelType": "GAA",
      "grantExpireTime": "2026-07-14T17:27:37Z",
      "grantId": "495115043",
      "heartbeatInterval": 60,
      "response": {
        "responseCode": 0
      }
    }
  ]
}
2026-07-07T17:27:37.924Z - INFO - heartbeat request from CBRS : {
  "heartbeatRequest": [
    {
      "cbsdId": "SCW-TempMock-SAS11-00:a0:0a:11:5f:e2",
      "grantId": "495115043",
      "operationState": "GRANTED"
    }
  ]
}
2026-07-07T17:27:37.940Z - INFO - engine sent successfully, the response to CBRS : {
  "heartbeatResponse": [
    {
      "cbsdId": "SCW-TempMock-SAS11-00:a0:0a:11:5f:e2",
      "grantId": "495115043",
      "response": {
        "responseCode": 0
      },
      "transmitExpireTime": "2026-07-07T17:30:57Z"
    }
  ]
}
2026-07-07T17:28:22.023Z - INFO - heartbeat request from CBRS : {
  "heartbeatRequest": [
    {
      "cbsdId": "SCW-TempMock-SAS11-00:a0:0a:11:5f:e2",
      "grantId": "495115043",
      "operationState": "AUTHORIZED"
    }
  ]
}
2026-07-07T17:28:22.038Z - INFO - engine sent successfully, the response to CBRS : {
  "heartbeatResponse": [
    {
      "cbsdId": "SCW-TempMock-SAS11-00:a0:0a:11:5f:e2",
      "grantId": "495115043",

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        "response": {
          "responseCode": 0
        },
        "transmitExpireTime": "2026-07-07T17:31:42Z"
      }
    ]
  }
}
2026-07-07T17:29:06.079Z - INFO - heartbeat request from CBRS : {
  "heartbeatRequest": [
    {
      "cbsdId": "SCW-TempMock-SAS11-00:a0:0a:11:5f:e2",
      "grantId": "495115043",
      "operationState": "AUTHORIZED"
    }
  ]
}
2026-07-07T17:29:06.095Z - INFO - engine sent successfully, the response to CBRS : {
  "heartbeatResponse": [
    {
      "cbsdId": "SCW-TempMock-SAS11-00:a0:0a:11:5f:e2",
      "grantId": "495115043",
      "response": {
        "responseCode": 0
      },
      "transmitExpireTime": "2026-07-07T17:32:26Z"
    }
  ]
}
2026-07-07T17:29:56.145Z - INFO - heartbeat request from CBRS : {
  "heartbeatRequest": [
    {
      "cbsdId": "SCW-TempMock-SAS11-00:a0:0a:11:5f:e2",
      "grantId": "495115043",
      "operationState": "AUTHORIZED"
    }
  ]
}
2026-07-07T17:29:56.161Z - INFO - engine sent successfully, the response to CBRS : {
  "heartbeatResponse": [
    {
      "cbsdId": "SCW-TempMock-SAS11-00:a0:0a:11:5f:e2",
      "grantId": "495115043",
      "response": {
        "responseCode": 0
      },
      "transmitExpireTime": "2026-07-07T17:33:16Z"
    }
  ]
}
2026-07-07T17:30:39.204Z - INFO - heartbeat request from CBRS : {
  "heartbeatRequest": [
    {
      "cbsdId": "SCW-TempMock-SAS11-00:a0:0a:11:5f:e2",
      "grantId": "495115043",
      "operationState": "AUTHORIZED"
    }
  ]
}
2026-07-07T17:30:39.223Z - INFO - engine sent successfully, the response to CBRS : {
  "heartbeatResponse": [
    {
      "cbsdId": "SCW-TempMock-SAS11-00:a0:0a:11:5f:e2",
      "grantId": "495115043",
      "response": {
        "responseCode": 0
      }
    }
  ]
}

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    },
    "transmitExpireTime": "2026-07-07T17:33:59Z"
  }
}
}
2026-07-07T17:31:14.260Z - INFO - heartbeat request from CBRS : {
  "heartbeatRequest": [
    {
      "cbsdId": "SCW-TempMock-SAS11-00:a0:0a:11:5f:e2",
      "grantId": "495115043",
      "operationState": "AUTHORIZED"
    }
  ]
}
2026-07-07T17:31:14.278Z - INFO - engine sent successfully, the response to CBRS : {
  "heartbeatResponse": [
    {
      "cbsdId": "SCW-TempMock-SAS11-00:a0:0a:11:5f:e2",
      "grantId": "495115043",
      "response": {
        "responseCode": 0
      },
      "transmitExpireTime": "2026-07-07T17:34:34Z"
    }
  ]
}
2026-07-07T17:32:03.318Z - INFO - heartbeat request from CBRS : {
  "heartbeatRequest": [
    {
      "cbsdId": "SCW-TempMock-SAS11-00:a0:0a:11:5f:e2",
      "grantId": "495115043",
      "operationState": "AUTHORIZED"
    }
  ]
}
2026-07-07T17:32:03.332Z - INFO - engine sent successfully, the response to CBRS : {
  "heartbeatResponse": [
    {
      "cbsdId": "SCW-TempMock-SAS11-00:a0:0a:11:5f:e2",
      "grantId": "495115043",
      "response": {
        "responseCode": 0
      },
      "transmitExpireTime": "2026-07-07T17:35:23Z"
    }
  ]
}
2026-07-07T17:32:45.372Z - INFO - heartbeat request from CBRS : {
  "heartbeatRequest": [
    {
      "cbsdId": "SCW-TempMock-SAS11-00:a0:0a:11:5f:e2",
      "grantId": "495115043",
      "operationState": "AUTHORIZED"
    }
  ]
}
2026-07-07T17:32:45.388Z - INFO - engine sent successfully, the response to CBRS : {
  "heartbeatResponse": [
    {
      "cbsdId": "SCW-TempMock-SAS11-00:a0:0a:11:5f:e2",
      "grantId": "495115043",
      "response": {
        "responseCode": 0
      },
      "transmitExpireTime": "2026-07-07T17:36:05Z"
    }
  ]
}

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    }
  ]
}
2026-07-07T17:33:34.436Z - INFO - heartbeat request from CBRS : {
  "heartbeatRequest": [
    {
      "cbsdId": "SCW-TempMock-SAS11-00:a0:0a:11:5f:e2",
      "grantId": "495115043",
      "operationState": "AUTHORIZED"
    }
  ]
}
2026-07-07T17:33:34.453Z - INFO - engine sent successfully, the response to CBRS : {
  "heartbeatResponse": [
    {
      "cbsdId": "SCW-TempMock-SAS11-00:a0:0a:11:5f:e2",
      "grantId": "495115043",
      "response": {
        "responseCode": 0
      },
      "transmitExpireTime": "2026-07-07T17:36:54Z"
    }
  ]
}
2026-07-07T17:34:19.999Z - INFO - heartbeat request from CBRS : {
  "heartbeatRequest": [
    {
      "cbsdId": "SCW-TempMock-SAS11-00:a0:0a:11:5f:e2",
      "grantId": "495115043",
      "operationState": "AUTHORIZED"
    }
  ]
}
2026-07-07T17:34:20.020Z - INFO - engine sent successfully, the response to CBRS : {
  "heartbeatResponse": [
    {
      "cbsdId": "SCW-TempMock-SAS11-00:a0:0a:11:5f:e2",
      "grantId": "495115043",
      "response": {
        "responseCode": 0
      },
      "transmitExpireTime": "2026-07-07T17:37:40Z"
    }
  ]
}
2026-07-07T17:35:03.571Z - INFO - relinquishment request from CBRS : {
  "relinquishmentRequest": [
    {
      "cbsdId": "SCW-TempMock-SAS11-00:a0:0a:11:5f:e2",
      "grantId": "495115043"
    }
  ]
}
2026-07-07T17:35:03.584Z - INFO - engine sent successfully, the response to CBRS : {
  "relinquishmentResponse": [
    {
      "cbsdId": "SCW-TempMock-SAS11-00:a0:0a:11:5f:e2",
      "grantId": "495115043",
      "response": {
        "responseCode": 0
      }
    }
  ]
}
2026-07-07T17:35:04.591Z - INFO - deregistration request from CBRS : {

```

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"deregistrationRequest": [
  {
    "cbsdId": "SCW-TempMock-SAS11-00:a0:0a:11:5f:e2"
  }
]
}
2026-07-07T17:35:04.598Z - INFO - engine sent successfully, the response to CBRS : {
  "deregistrationResponse": [
    {
      "cbsdId": "SCW-TempMock-SAS11-00:a0:0a:11:5f:e2",
      "response": {
        "responseCode": 0
      }
    }
  ]
}
}

```

Power measurement test for granted Max EIRP – 5 dbm/MHz

2026-07-07T17:35:26.401Z - INFO - WINNF TEST HARNESS RELEASE: 1.0.0.3 - 2018-November-13
 2026-07-07T17:35:26.403Z - INFO - Selected spectrum frequency is {'lowFrequency': 3550000000L, 'highFrequency': 3590000000L}
 2026-07-07T17:35:26.403Z - INFO - Granted Spectrum Max Eirp = 5dBm/MHz
 2026-07-07T17:35:26.404Z - INFO - the selected test from the user : PowerMeasTest is starting now
 2026-07-07T17:35:39.204Z - INFO - registration request from CBRS : {

```

"registrationRequest": [
  {
    "airInterface": {
      "radioTechnology": "NR"
    },
    "cbsdCategory": "A",
    "cbsdInfo": {
      "model": "RN-620",
      "vendor": "Airspan Networks"
    },
    "cbsdSerialNumber": "11-00:a0:0a:11:5f:e2",
    "fcclId": "SCW-Temp",
    "installationParam": {
      "antennaGain": 5,
      "eirpCapability": 29,
      "height": 5,
      "heightType": "AGL",
      "indoorDeployment": true,
      "latitude": 3.313883066177368,
      "longitude": 117.29134368896484
    },
    "measCapability": [],
    "userId": "NPLxLI"
  }
]
}
2026-07-07T17:35:39.230Z - INFO - engine sent successfully, the response to CBRS : {
  "registrationResponse": [
    {
      "cbsdId": "SCW-TempMock-SAS11-00:a0:0a:11:5f:e2",
      "response": {
        "responseCode": 0
      }
    }
  ]
}
}
2026-07-07T17:35:39.775Z - INFO - spectrumInquiry request from CBRS : {
  "spectrumInquiryRequest": [
    {
      "cbsdId": "SCW-TempMock-SAS11-00:a0:0a:11:5f:e2",
      "inquiredSpectrum": [

```

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    "highFrequency": 3560000000,
    "lowFrequency": 3550000000
  },
  {
    "highFrequency": 3570000000,
    "lowFrequency": 3560000000
  },
  {
    "highFrequency": 3580000000,
    "lowFrequency": 3570000000
  },
  {
    "highFrequency": 3590000000,
    "lowFrequency": 3580000000
  },
  {
    "highFrequency": 3600000000,
    "lowFrequency": 3590000000
  },
  {
    "highFrequency": 3610000000,
    "lowFrequency": 3600000000
  },
  {
    "highFrequency": 3620000000,
    "lowFrequency": 3610000000
  },
  {
    "highFrequency": 3630000000,
    "lowFrequency": 3620000000
  },
  {
    "highFrequency": 3640000000,
    "lowFrequency": 3630000000
  },
  {
    "highFrequency": 3650000000,
    "lowFrequency": 3640000000
  },
  {
    "highFrequency": 3660000000,
    "lowFrequency": 3650000000
  },
  {
    "highFrequency": 3670000000,
    "lowFrequency": 3660000000
  },
  {
    "highFrequency": 3680000000,
    "lowFrequency": 3670000000
  },
  {
    "highFrequency": 3690000000,
    "lowFrequency": 3680000000
  },
  {
    "highFrequency": 3700000000,
    "lowFrequency": 3690000000
  }
]
}

```

2026-07-07T17:35:39.786Z - INFO - The requested spectrum is in the range, SpectrumInquiry response code is 0

2026-07-07T17:35:39.789Z - INFO - The requested spectrum is in the range, SpectrumInquiry response code is 0

2026-07-07T17:35:39.789Z - INFO - The requested spectrum is in the range, SpectrumInquiry response code is 0

2026-07-07T17:35:39.790Z - INFO - The requested spectrum is in the range, SpectrumInquiry response code is 0

2026-07-07T17:35:39.793Z - INFO - engine sent successfully, the response to CBRS : {

```

"spectrumInquiryResponse": [
  {
    "availableChannel": [
      {
        "channelType": "GAA",
        "frequencyRange": {
          "highFrequency": 3560000000,
          "lowFrequency": 3550000000
        },
        "maxEirp": 5,
        "ruleApplied": "FCC_PART_96"
      },
      {
        "channelType": "GAA",
        "frequencyRange": {
          "highFrequency": 3570000000,
          "lowFrequency": 3560000000
        },
        "maxEirp": 5,
        "ruleApplied": "FCC_PART_96"
      },
      {
        "channelType": "GAA",
        "frequencyRange": {
          "highFrequency": 3580000000,
          "lowFrequency": 3570000000
        },
        "maxEirp": 5,
        "ruleApplied": "FCC_PART_96"
      },
      {
        "channelType": "GAA",
        "frequencyRange": {
          "highFrequency": 3590000000,
          "lowFrequency": 3580000000
        },
        "maxEirp": 5,
        "ruleApplied": "FCC_PART_96"
      }
    ],
    "cbsId": "SCW-TempMock-SAS11-00:a0:0a:11:5f:e2",
    "response": {
      "responseCode": 0
    }
  }
]
}
2026-07-07T17:35:40.302Z - INFO - grant request from CBRS : {
  "grantRequest": [
    {
      "cbsId": "SCW-TempMock-SAS11-00:a0:0a:11:5f:e2",
      "operationParam": {
        "maxEirp": 5,
        "operationFrequencyRange": {
          "highFrequency": 3590000000,
          "lowFrequency": 3550000000
        }
      }
    }
  ]
}
2026-07-07T17:35:40.313Z - INFO - engine sent successfully, the response to CBRS : {

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"grantResponse": [
  {
    "cbsdId": "SCW-TempMock-SAS11-00:a0:0a:11:5f:e2",
    "channelType": "GAA",
    "grantExpireTime": "2026-07-14T17:35:40Z",
    "grantId": "73432434",
    "heartbeatInterval": 60,
    "response": {
      "responseCode": 0
    }
  }
]
}
2026-07-07T17:35:40.822Z - INFO - heartbeat request from CBRS : {
  "heartbeatRequest": [
    {
      "cbsdId": "SCW-TempMock-SAS11-00:a0:0a:11:5f:e2",
      "grantId": "73432434",
      "operationState": "GRANTED"
    }
  ]
}
2026-07-07T17:35:40.834Z - INFO - engine sent successfully, the response to CBRS : {
  "heartbeatResponse": [
    {
      "cbsdId": "SCW-TempMock-SAS11-00:a0:0a:11:5f:e2",
      "grantId": "73432434",
      "response": {
        "responseCode": 0
      },
      "transmitExpireTime": "2026-07-07T17:39:00Z"
    }
  ]
}
2026-07-07T17:36:19.878Z - INFO - heartbeat request from CBRS : {
  "heartbeatRequest": [
    {
      "cbsdId": "SCW-TempMock-SAS11-00:a0:0a:11:5f:e2",
      "grantId": "73432434",
      "operationState": "AUTHORIZED"
    }
  ]
}
2026-07-07T17:36:19.894Z - INFO - engine sent successfully, the response to CBRS : {
  "heartbeatResponse": [
    {
      "cbsdId": "SCW-TempMock-SAS11-00:a0:0a:11:5f:e2",
      "grantId": "73432434",
      "response": {
        "responseCode": 0
      },
      "transmitExpireTime": "2026-07-07T17:39:39Z"
    }
  ]
}
2026-07-07T17:37:00.934Z - INFO - heartbeat request from CBRS : {
  "heartbeatRequest": [
    {
      "cbsdId": "SCW-TempMock-SAS11-00:a0:0a:11:5f:e2",
      "grantId": "73432434",
      "operationState": "AUTHORIZED"
    }
  ]
}
2026-07-07T17:37:00.953Z - INFO - engine sent successfully, the response to CBRS : {

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"heartbeatResponse": [
  {
    "cbsdId": "SCW-TempMock-SAS11-00:a0:0a:11:5f:e2",
    "grantId": "73432434",
    "response": {
      "responseCode": 0
    },
    "transmitExpireTime": "2026-07-07T17:40:20Z"
  }
]
}
2026-07-07T17:37:33.987Z - INFO - heartbeat request from CBRS : {
  "heartbeatRequest": [
    {
      "cbsdId": "SCW-TempMock-SAS11-00:a0:0a:11:5f:e2",
      "grantId": "73432434",
      "operationState": "AUTHORIZED"
    }
  ]
}
2026-07-07T17:37:34.005Z - INFO - engine sent successfully, the response to CBRS : {
  "heartbeatResponse": [
    {
      "cbsdId": "SCW-TempMock-SAS11-00:a0:0a:11:5f:e2",
      "grantId": "73432434",
      "response": {
        "responseCode": 0
      },
      "transmitExpireTime": "2026-07-07T17:40:54Z"
    }
  ]
}
2026-07-07T17:38:09.157Z - INFO - relinquishment request from CBRS : {
  "relinquishmentRequest": [
    {
      "cbsdId": "SCW-TempMock-SAS11-00:a0:0a:11:5f:e2",
      "grantId": "73432434"
    }
  ]
}
2026-07-07T17:38:09.168Z - INFO - engine sent successfully, the response to CBRS : {
  "relinquishmentResponse": [
    {
      "cbsdId": "SCW-TempMock-SAS11-00:a0:0a:11:5f:e2",
      "grantId": "73432434",
      "response": {
        "responseCode": 0
      }
    }
  ]
}
2026-07-07T17:38:09.233Z - INFO - deregistration request from CBRS : {
  "deregistrationRequest": [
    {
      "cbsdId": "SCW-TempMock-SAS11-00:a0:0a:11:5f:e2"
    }
  ]
}
2026-07-07T17:38:09.237Z - INFO - engine sent successfully, the response to CBRS : {
  "deregistrationResponse": [
    {
      "cbsdId": "SCW-TempMock-SAS11-00:a0:0a:11:5f:e2",
      "response": {
        "responseCode": 0
      }
    }
  ]
}

```

```

    }
  ]
}
2026-07-07T17:39:14.877Z - INFO - registration request from CBRS : {
  "registrationRequest": [
    {
      "airInterface": {
        "radioTechnology": "NR"
      },
      "cbsdCategory": "A",
      "cbsdInfo": {
        "model": "RN-620",
        "vendor": "Airspar Networks"
      },
      "cbsdSerialNumber": "11-00:a0:0a:11:5f:e2",
      "fcclid": "SCW-Temp",
      "installationParam": {
        "antennaGain": 5,
        "eirpCapability": 29,
        "height": 5,
        "heightType": "AGL",
        "indoorDeployment": true,
        "latitude": 3.313883066177368,
        "longitude": 117.29134368896484
      },
      "measCapability": [],
      "userId": "NPLxLI"
    }
  ]
}
2026-07-07T17:39:14.940Z - INFO - engine sent successfully, the response to CBRS : {
  "registrationResponse": [
    {
      "cbsdId": "SCW-TempMock-SAS11-00:a0:0a:11:5f:e2",
      "response": {
        "responseCode": 0
      }
    }
  ]
}
2026-07-07T17:39:15.948Z - INFO - spectrumInquiry request from CBRS : {
  "spectrumInquiryRequest": [
    {
      "cbsdId": "SCW-TempMock-SAS11-00:a0:0a:11:5f:e2",
      "inquiredSpectrum": [
        {
          "highFrequency": 3560000000,
          "lowFrequency": 3550000000
        },
        {
          "highFrequency": 3570000000,
          "lowFrequency": 3560000000
        },
        {
          "highFrequency": 3580000000,
          "lowFrequency": 3570000000
        },
        {
          "highFrequency": 3590000000,
          "lowFrequency": 3580000000
        },
        {
          "highFrequency": 3600000000,
          "lowFrequency": 3590000000
        }
      ]
    }
  ]
}

```

```

    {
      "highFrequency": 3610000000,
      "lowFrequency": 3600000000
    },
    {
      "highFrequency": 3620000000,
      "lowFrequency": 3610000000
    },
    {
      "highFrequency": 3630000000,
      "lowFrequency": 3620000000
    },
    {
      "highFrequency": 3640000000,
      "lowFrequency": 3630000000
    },
    {
      "highFrequency": 3650000000,
      "lowFrequency": 3640000000
    },
    {
      "highFrequency": 3660000000,
      "lowFrequency": 3650000000
    },
    {
      "highFrequency": 3670000000,
      "lowFrequency": 3660000000
    },
    {
      "highFrequency": 3680000000,
      "lowFrequency": 3670000000
    },
    {
      "highFrequency": 3690000000,
      "lowFrequency": 3680000000
    },
    {
      "highFrequency": 3700000000,
      "lowFrequency": 3690000000
    }
  ]
}
]
}

```

2026-07-07T17:39:15.973Z - INFO - The requested spectrum is in the range, SpectrumInquiry response code is 0

2026-07-07T17:39:15.976Z - INFO - The requested spectrum is in the range, SpectrumInquiry response code is 0

2026-07-07T17:39:15.980Z - INFO - The requested spectrum is in the range, SpectrumInquiry response code is 0

2026-07-07T17:39:15.982Z - INFO - The requested spectrum is in the range, SpectrumInquiry response code is 0

2026-07-07T17:39:15.986Z - INFO - engine sent successfully, the response to CBRS : {

```

"spectrumInquiryResponse": [
  {
    "availableChannel": [
      {
        "channelType": "GAA",
        "frequencyRange": {
          "highFrequency": 3560000000,
          "lowFrequency": 3550000000
        },
        "maxEirp": 5,
        "ruleApplied": "FCC_PART_96"
      },
      {
        "channelType": "GAA",
        "frequencyRange": {
          "highFrequency": 3570000000,

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        "lowFrequency": 3560000000
      },
      "maxEirp": 5,
      "ruleApplied": "FCC_PART_96"
    },
    {
      "channelType": "GAA",
      "frequencyRange": {
        "highFrequency": 3580000000,
        "lowFrequency": 3570000000
      },
      "maxEirp": 5,
      "ruleApplied": "FCC_PART_96"
    },
    {
      "channelType": "GAA",
      "frequencyRange": {
        "highFrequency": 3590000000,
        "lowFrequency": 3580000000
      },
      "maxEirp": 5,
      "ruleApplied": "FCC_PART_96"
    }
  ],
  "cbsdId": "SCW-TempMock-SAS11-00:a0:0a:11:5f:e2",
  "response": {
    "responseCode": 0
  }
}
]
}
}
2026-07-07T17:39:16.994Z - INFO - grant request from CBRS : {
  "grantRequest": [
    {
      "cbsdId": "SCW-TempMock-SAS11-00:a0:0a:11:5f:e2",
      "operationParam": {
        "maxEirp": 5,
        "operationFrequencyRange": {
          "highFrequency": 3590000000,
          "lowFrequency": 3550000000
        }
      }
    }
  ]
}
}
2026-07-07T17:39:17.009Z - INFO - engine sent successfully, the response to CBRS : {
  "grantResponse": [
    {
      "cbsdId": "SCW-TempMock-SAS11-00:a0:0a:11:5f:e2",
      "channelType": "GAA",
      "grantExpireTime": "2026-07-14T17:39:17Z",
      "grantId": "692741241",
      "heartbeatInterval": 60,
      "response": {
        "responseCode": 0
      }
    }
  ]
}
}
2026-07-07T17:39:18.016Z - INFO - heartbeat request from CBRS : {
  "heartbeatRequest": [
    {
      "cbsdId": "SCW-TempMock-SAS11-00:a0:0a:11:5f:e2",
      "grantId": "692741241",
      "operationState": "GRANTED"
    }
  ]
}

```

```

    }
  ]
}
2026-07-07T17:39:18.033Z - INFO - engine sent successfully, the response to CBRS : {
  "heartbeatResponse": [
    {
      "cbsdId": "SCW-TempMock-SAS11-00:a0:0a:11:5f:e2",
      "grantId": "692741241",
      "response": {
        "responseCode": 0
      },
      "transmitExpireTime": "2026-07-07T17:42:38Z"
    }
  ]
}
2026-07-07T17:39:52.563Z - INFO - heartbeat request from CBRS : {
  "heartbeatRequest": [
    {
      "cbsdId": "SCW-TempMock-SAS11-00:a0:0a:11:5f:e2",
      "grantId": "692741241",
      "operationState": "AUTHORIZED"
    }
  ]
}
2026-07-07T17:39:52.569Z - INFO - engine sent successfully, the response to CBRS : {
  "heartbeatResponse": [
    {
      "cbsdId": "SCW-TempMock-SAS11-00:a0:0a:11:5f:e2",
      "grantId": "692741241",
      "response": {
        "responseCode": 0
      },
      "transmitExpireTime": "2026-07-07T17:43:12Z"
    }
  ]
}
2026-07-07T17:40:36.609Z - INFO - heartbeat request from CBRS : {
  "heartbeatRequest": [
    {
      "cbsdId": "SCW-TempMock-SAS11-00:a0:0a:11:5f:e2",
      "grantId": "692741241",
      "operationState": "AUTHORIZED"
    }
  ]
}
2026-07-07T17:40:36.617Z - INFO - engine sent successfully, the response to CBRS : {
  "heartbeatResponse": [
    {
      "cbsdId": "SCW-TempMock-SAS11-00:a0:0a:11:5f:e2",
      "grantId": "692741241",
      "response": {
        "responseCode": 0
      },
      "transmitExpireTime": "2026-07-07T17:43:56Z"
    }
  ]
}
2026-07-07T17:41:09.647Z - INFO - heartbeat request from CBRS : {
  "heartbeatRequest": [
    {
      "cbsdId": "SCW-TempMock-SAS11-00:a0:0a:11:5f:e2",
      "grantId": "692741241",
      "operationState": "AUTHORIZED"
    }
  ]
}

```

```

}
2026-07-07T17:41:09.651Z - INFO - engine sent successfully, the response to CBRS : {
  "heartbeatResponse": [
    {
      "cbsdId": "SCW-TempMock-SAS11-00:a0:0a:11:5f:e2",
      "grantId": "692741241",
      "response": {
        "responseCode": 0
      },
      "transmitExpireTime": "2026-07-07T17:44:29Z"
    }
  ]
}
2026-07-07T17:41:50.684Z - INFO - heartbeat request from CBRS : {
  "heartbeatRequest": [
    {
      "cbsdId": "SCW-TempMock-SAS11-00:a0:0a:11:5f:e2",
      "grantId": "692741241",
      "operationState": "AUTHORIZED"
    }
  ]
}
2026-07-07T17:41:50.688Z - INFO - engine sent successfully, the response to CBRS : {
  "heartbeatResponse": [
    {
      "cbsdId": "SCW-TempMock-SAS11-00:a0:0a:11:5f:e2",
      "grantId": "692741241",
      "response": {
        "responseCode": 0
      },
      "transmitExpireTime": "2026-07-07T17:45:10Z"
    }
  ]
}
2026-07-07T17:42:26.226Z - INFO - heartbeat request from CBRS : {
  "heartbeatRequest": [
    {
      "cbsdId": "SCW-TempMock-SAS11-00:a0:0a:11:5f:e2",
      "grantId": "692741241",
      "operationState": "AUTHORIZED"
    }
  ]
}
2026-07-07T17:42:26.233Z - INFO - engine sent successfully, the response to CBRS : {
  "heartbeatResponse": [
    {
      "cbsdId": "SCW-TempMock-SAS11-00:a0:0a:11:5f:e2",
      "grantId": "692741241",
      "response": {
        "responseCode": 0
      },
      "transmitExpireTime": "2026-07-07T17:45:46Z"
    }
  ]
}
2026-07-07T17:43:02.266Z - INFO - heartbeat request from CBRS : {
  "heartbeatRequest": [
    {
      "cbsdId": "SCW-TempMock-SAS11-00:a0:0a:11:5f:e2",
      "grantId": "692741241",
      "operationState": "AUTHORIZED"
    }
  ]
}
2026-07-07T17:43:02.272Z - INFO - engine sent successfully, the response to CBRS : {

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"heartbeatResponse": [
  {
    "cbsdId": "SCW-TempMock-SAS11-00:a0:0a:11:5f:e2",
    "grantId": "692741241",
    "response": {
      "responseCode": 0
    },
    "transmitExpireTime": "2026-07-07T17:46:22Z"
  }
]
}
2026-07-07T17:43:38.302Z - INFO - heartbeat request from CBRS : {
  "heartbeatRequest": [
    {
      "cbsdId": "SCW-TempMock-SAS11-00:a0:0a:11:5f:e2",
      "grantId": "692741241",
      "operationState": "AUTHORIZED"
    }
  ]
}
2026-07-07T17:43:38.309Z - INFO - engine sent successfully, the response to CBRS : {
  "heartbeatResponse": [
    {
      "cbsdId": "SCW-TempMock-SAS11-00:a0:0a:11:5f:e2",
      "grantId": "692741241",
      "response": {
        "responseCode": 0
      },
      "transmitExpireTime": "2026-07-07T17:46:58Z"
    }
  ]
}
2026-07-07T17:44:10.542Z - INFO - heartbeat request from CBRS : {
  "heartbeatRequest": [
    {
      "cbsdId": "SCW-TempMock-SAS11-00:a0:0a:11:5f:e2",
      "grantId": "692741241",
      "operationState": "AUTHORIZED"
    }
  ]
}
2026-07-07T17:44:10.549Z - INFO - engine sent successfully, the response to CBRS : {
  "heartbeatResponse": [
    {
      "cbsdId": "SCW-TempMock-SAS11-00:a0:0a:11:5f:e2",
      "grantId": "692741241",
      "response": {
        "responseCode": 0
      },
      "transmitExpireTime": "2026-07-07T17:47:30Z"
    }
  ]
}
2026-07-07T17:44:45.584Z - INFO - heartbeat request from CBRS : {
  "heartbeatRequest": [
    {
      "cbsdId": "SCW-TempMock-SAS11-00:a0:0a:11:5f:e2",
      "grantId": "692741241",
      "operationState": "AUTHORIZED"
    }
  ]
}
2026-07-07T17:44:45.601Z - INFO - engine sent successfully, the response to CBRS : {
  "heartbeatResponse": [
    {

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        "cbsdId": "SCW-TempMock-SAS11-00:a0:0a:11:5f:e2",
        "grantId": "692741241",
        "response": {
            "responseCode": 0
        },
        "transmitExpireTime": "2026-07-07T17:48:05Z"
    }
}
}
2026-07-07T17:45:33.148Z - INFO - heartbeat request from CBRS : {
    "heartbeatRequest": [
        {
            "cbsdId": "SCW-TempMock-SAS11-00:a0:0a:11:5f:e2",
            "grantId": "692741241",
            "operationState": "AUTHORIZED"
        }
    ]
}
}
2026-07-07T17:45:33.177Z - INFO - engine sent successfully, the response to CBRS : {
    "heartbeatResponse": [
        {
            "cbsdId": "SCW-TempMock-SAS11-00:a0:0a:11:5f:e2",
            "grantId": "692741241",
            "response": {
                "responseCode": 0
            },
            "transmitExpireTime": "2026-07-07T17:48:53Z"
        }
    ]
}
}
2026-07-07T17:46:18.198Z - INFO - heartbeat request from CBRS : {
    "heartbeatRequest": [
        {
            "cbsdId": "SCW-TempMock-SAS11-00:a0:0a:11:5f:e2",
            "grantId": "692741241",
            "operationState": "AUTHORIZED"
        }
    ]
}
}
2026-07-07T17:46:18.214Z - INFO - engine sent successfully, the response to CBRS : {
    "heartbeatResponse": [
        {
            "cbsdId": "SCW-TempMock-SAS11-00:a0:0a:11:5f:e2",
            "grantId": "692741241",
            "response": {
                "responseCode": 0
            },
            "transmitExpireTime": "2026-07-07T17:49:38Z"
        }
    ]
}
}
2026-07-07T17:47:04.260Z - INFO - heartbeat request from CBRS : {
    "heartbeatRequest": [
        {
            "cbsdId": "SCW-TempMock-SAS11-00:a0:0a:11:5f:e2",
            "grantId": "692741241",
            "operationState": "AUTHORIZED"
        }
    ]
}
}
2026-07-07T17:47:04.279Z - INFO - engine sent successfully, the response to CBRS : {
    "heartbeatResponse": [
        {
            "cbsdId": "SCW-TempMock-SAS11-00:a0:0a:11:5f:e2",
            "grantId": "692741241",

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        "response": {
            "responseCode": 0
        },
        "transmitExpireTime": "2026-07-07T17:50:24Z"
    }
}
}
2026-07-07T17:47:31.809Z - INFO - relinquishment request from CBRS : {
    "relinquishmentRequest": [
        {
            "cbsdId": "SCW-TempMock-SAS11-00:a0:0a:11:5f:e2",
            "grantId": "692741241"
        }
    ]
}
}
2026-07-07T17:47:31.826Z - INFO - engine sent successfully, the response to CBRS : {
    "relinquishmentResponse": [
        {
            "cbsdId": "SCW-TempMock-SAS11-00:a0:0a:11:5f:e2",
            "grantId": "692741241",
            "response": {
                "responseCode": 0
            }
        }
    ]
}
}
2026-07-07T17:47:32.835Z - INFO - deregistration request from CBRS : {
    "deregistrationRequest": [
        {
            "cbsdId": "SCW-TempMock-SAS11-00:a0:0a:11:5f:e2"
        }
    ]
}
}
2026-07-07T17:47:32.851Z - INFO - engine sent successfully, the response to CBRS : {
    "deregistrationResponse": [
        {
            "cbsdId": "SCW-TempMock-SAS11-00:a0:0a:11:5f:e2",
            "response": {
                "responseCode": 0
            }
        }
    ]
}
}
}

```

}End of test report