



LCIE



Accreditation
N°1-7429
Scope available on
www.cofrac.fr

Template : February 2nd, 2026

TEST REPORT

N°: 29688429-819291

Version: 02

Subject

Radio spectrum tests according to the standards:
FCC CFR 47 Part 15.247 
ANSI C63.10-2020 + Cor. 1-2023 + C63.10a-2024 + Errata to C63.10a-2024
RSS-247 & RSS-Gen

Issued to

VOLUNTIS SAS
58 Avenue de Wagram
75017 – PARIS
FRANCE

Apparatus under test

-  Product
-  Trade mark
-  Manufacturer
-  Family range
-  Model under test
-  Serial number
-  FCCID
-  IC

HEROTRACKER SENSE
APTAR
APTAR Digital Health
-
HTS V1.2_US
APP6300033
2BUWP-HTSV12
NC

Conclusion

See Test Program chapter

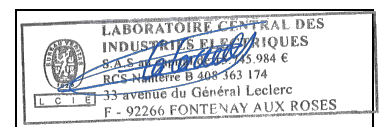
Test date
Test location
FCC Test site
ISED Test site
Sample receipt date
Composition of document
Document issued on

January 29, 2026 to February 05, 2026
LCIE Fontenay aux Roses & LCIE Ecuelles
FR0010 - 157910 (FAR)
6230B (FAR)
January 29, 2026
44 pages
April 23, 2026

Written by :
Sarah Saadi
Tests operator



Approved by :
Julien PALARD
Technical manager



Reproduction of this document is only authorized in its complete form. Any partial reproduction or any insertion of results in an accompanying text with a view to their distribution must receive prior and formal agreement from LCIE. This document results from tests carried out on a specimen, sample or test piece. It does not prejudice the conformity of all the products manufactured to the object tested. Unless otherwise indicated or rule specified by the test method, the decision of conformity does not take into account measurement uncertainty. It in no way prejudices a certification decision. The accreditation of the COFRAC Testing Section attests to the technical competence of the laboratories for the tests covered by the accreditation only. If certain tests mentioned in this report were carried out outside the framework of COFRAC accreditation, they are identified by the symbol .

LCIE
Laboratoire Central des Industries Electriques
Une société Bureau Veritas

33, Avenue du Général Leclerc
92260 Fontenay-aux-Roses
FRANCE

Tél. + 33 1 40 95 60 60
contact@lcie.fr
www.lcie.fr



PUBLICATION HISTORY

Version	Date	Author	Modification
01	February 26, 2026	Laurent Deneux	Creation of the document
02	April 23, 2026	Saadi Sarah	Added of the FCCID and change the FCC test site number (from FR0010 - 582868 (FAR) to FR0010 - 157910 (FAR)) Change of applicant on 1 st page

Each new edition of this test report replaces and cancels the previous edition. The control of the old editions of report is under responsibility of client.



SUMMARY

1.	TEST PROGRAM	4
2.	EQUIPMENT UNDER TEST: CONFIGURATION (DECLARED BY PROVIDER)	5
3.	LABORATORY EQUIPMENT AND METHODOLOGY	10
4.	DUTY CYCLE	12
5.	OCCUPIED BANDWIDTH.....	15
6.	6DB BANDWIDTH	18
7.	MAXIMUM CONDUCTED OUTPUT POWER	21
8.	POWER SPECTRAL DENSITY	24
9.	UNWANTED EMISSIONS IN NON-RESTRICTED FREQUENCY BANDS	27
10.	UNWANTED EMISSIONS IN RESTRICTED FREQUENCY BANDS	32
11.	UNCERTAINTIES CHART	43



1. TEST PROGRAM

References

- 47 CFR Part 15.247 (January 28, 2026)[Pb](#)
- RSS 247 Issue 4
- RSS Gen Issue 5
- KDB 558074 D01 DTS Meas Guidance v05r02[Pb](#)
- KDB 662911 D01 Multiple Transmitter Output v02r01[Pb](#)
- ANSI C63.10-2020 + Cor. 1-2023 + C63.10a-2024 + Errata to C63.10a-2024

Radio requirement:

Clause - Test Description		Test result - Comments
Occupied Bandwidth	<i>ISED</i>	PASS
6dB Bandwidth	<i>FCC & ISED</i>	PASS
Maximum Conducted Output Power	<i>FCC & ISED</i>	PASS
Power Spectral Density	<i>FCC & ISED</i>	PASS
Unwanted Emissions in Non-Restricted Frequency Bands	<i>FCC & ISED</i>	PASS
Unwanted Emissions in Restricted Frequency Bands	<i>FCC & ISED</i>	PASS
Receiver Radiated Emissions	<i>ISED</i>	PASS(1)
This table is a summary of test report, see conclusion of each clause of this test report for detail.		

(1) Testing covered the receive mode, and receiver spurious emissions are considered to be the same as transmitter.

PASS: EUT complies with standard's requirement

FAIL: EUT does not comply with standard's requirement

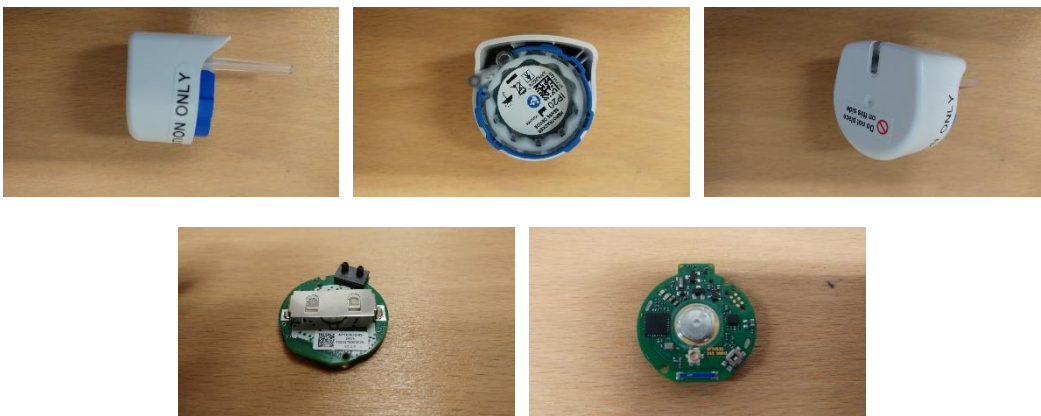
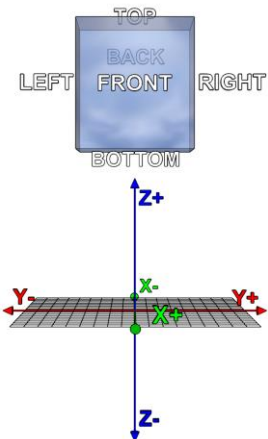
NA: Not Applicable

NP: Test Not Performed

2. EQUIPMENT UNDER TEST: CONFIGURATION (DECLARED BY PROVIDER)

2.1. HARDWARE IDENTIFICATION (EUT AND AUXILIARIES):

Equipment under test (EUT):

Model under test:	HTS V1.2_US
Serial Number:	APP6300033
 	
Dimensions:	3.5cm x 3.5cm x 4.5cm (Length x Width x Height)
Type:	Panel / Rack / Cabinet (considered like table-top)

Power supply:

Name	Type	Rating	Reference / Sn	Comments
Supply1	Battery	PILE 3V_CR2032	-	-

NC: Not communicated by provider

Inputs/outputs - Cable:

Access	Type	Length used (m)	Declared <3m	Shielded	Comments
Supply1	-	-	-	-	-

NC: Not communicated by provider

Auxiliary equipment used during test:

Type	Reference	Sn	Comments
LCIE Laptop	DELL PRO_PC14250	-	-

NC: Not communicated by provider



Equipment information (declaration of provider):

Bluetooth Low Energy:	v4.2
Chipset / RF Module	Nordic_NRF52810
Frequency band:	[2400 – 2483.5] MHz
Spectrum Modulation:	DSSS (Tested like it – international agreements)
Number of Channel:	40
Spacing channel:	2MHz
Channel bandwidth:	1MHz
Antenna Type:	Internal
Antenna connector:	Temporary for tests
Antenna requirements §15.203	The transmitter uses an integral PCB antenna permanently connected
Transmit chains:	1
Receiver chains	1

CHANNEL PLAN			
Channel	Frequency (MHz)	Channel	Frequency (MHz)
Cmin: 0	2402	Cmid: 20	2442
1	2404	21	2444
2	2406	22	2446
3	2408	23	2448
4	2410	24	2450
5	2412	25	2452
6	2414	26	2454
7	2416	27	2456
8	2418	28	2458
9	2420	29	2460
10	2422	30	2462
11	2424	31	2464
12	2426	32	2466
13	2428	33	2468
14	2430	34	2470
15	2432	35	2472
16	2434	36	2474
17	2436	37	2476
18	2438	38	2478
19	2440	Cmax: 39	2480

DATA RATE			
Available	Data Rate (Mbps)	Modulation Type	Worst Case Modulation
☒	0.25	GFSK (1MHz)	☒
☐	1	GFSK (1MHz)	☐
☐	2	GFSK (2MHz)	☐





Antenna Characteristic			
Antenna reference	Gain (dBi)	Frequency Band (MHz)	Impedance(Ω)
NC	2	2400-2483.5	50

Hardware information			
Highest internal frequency (PLL, Quartz, Clock, Microprocessor...):		F _{Highest} :	2480 MHz
Firmware (if applicable):		V:	V2.2.5
Software (if applicable):		V:	NC
Equipment intended:	Mobile		
Type of equipment:	Plug-in		
Equipment sample:	Production model		
Duty cycle:	Continuous duty		
Operating temperature range:	T _{min} :	5 °C	
	T _{nom} :	20°C	
	T _{max} :	40 °C	
Operating voltage:	V _{nom} :	PILE CR2032_3Vdc	

NC: Not communicated by provider

2.2. RUNNING MODE

Test mode	Description of test mode
Test mode 1	Permanent emission with modulation on a fixed channel in the data rate that produced the highest power. Following commands with the specific test software "J-Link RTT viewer V8.18" are used to set the product with a software power target at 0dBm.
Test mode 2	Permanent reception

Test	Running mode
Occupied Bandwidth	Test mode 1
6dB Bandwidth	Test mode 1
Maximum Conducted Output Power	Test mode 1
Power Spectral Density	Test mode 1
Conducted Spurious Emission at the Band Edge	Test mode 1
Unwanted Emissions in Non-Restricted Frequency Bands	Test mode 1
AC Power Line Conducted Emission	Test mode 1
Unwanted Emissions in Restricted Frequency Bands	Test mode 1
Receiver Radiated Emissions	Test mode 2 (1)

(1) Testing covered the receive mode, and receiver spurious emissions are considered to be the same as transmitter.

2.3. EQUIPMENT LABELLING

Label


2.4. EQUIPMENT MODIFICATIONS DURING THE TESTS

None



3. LABORATORY EQUIPMENT AND METHODOLOGY

3.1. CALIBRATION DATE

The calibration intervals are extended at +4 months. This extended interval is based on the fact that there is sufficient calibration data to statistically establish a trend or based on experience of use of the test equipment to assure good measurement results for a longer period. The symbol -/- replaces the date for equipment checking before test or that have none impact on the test or that have no calibration required by the standard.

3.2. FIELD STRENGTH CALCULATION

The field strength is calculated by adding the Antenna Factor and Cable Factor, and subtracting the Amplifier Gain (if any) from the measured reading. The basic equation with a sample calculation is as follow:

$$FS = RA + AF + CF - AG$$

Where:

FS = Field Strength

RA = Receiver Amplitude

AF = Antenna Factor

CF = Cable Factor

AG = Amplifier Gain

Example:

Assume a receiver reading of 52.5dBμV is obtained. The antenna factor of 7.4 and a cable factor of 1.1 are added. The amplifier gain of 29dB is subtracted, giving a field strength of 32 dBμV/m.

$$FS = 52.5 + 7.4 + 1.1 - 29 = 32 \text{ dB}\mu\text{V/m}$$

The 32 dBμV/m value can be mathematically converted to its corresponding level in μV/m.

$$\text{Level in } \mu\text{V/m} = \text{Common Antilogarithm } [(32\text{dB}\mu\text{V/m})/20] = 39.8 \mu\text{V/m}.$$

3.3. TEST DISTANCE EXTRAPOLATION – FCC

The field strength is extrapolated to the new measurement distance using formula from §6.4.4 de l'ANSI C63.10 and FCC Part15.31 (p), the choice of equation is made according to the distances of the limit and the measurement,

$$FS_{\text{limit}} = FS_{\text{max}} - 40 \log \left(\frac{d_{\text{near field}}}{d_{\text{measure}}} \right) - 20 \log \left(\frac{d_{\text{limit}}}{d_{\text{near field}}} \right) \quad (2)$$

$$FS_{\text{limit}} = FS_{\text{max}} - 20 \log \left(\frac{d_{\text{limit}}}{d_{\text{measure}}} \right) \quad (3)$$

$$FS_{\text{limit}} = FS_{\text{max}} - 40 \log \left(\frac{d_{\text{limit}}}{d_{\text{measure}}} \right) \quad (4)$$

where

FS_{limit}	is the calculation of field strength at the limit distance, expressed in dBμV/m
FS_{max}	is the measured field strength, expressed in dBμV/m
$d_{\text{near field}}$	is the $\lambda/2\pi$ distance
d_{measure}	is the distance of the measurement point from the EUT
d_{limit}	is the reference limit distance

3.4. TEST DISTANCE EXTRAPOLATION – ISED

The field strength is extrapolated to the new measurement distance using formula from §6.5-6.6 RSS-GEN:

Below 30MHz,

$$FS_{\text{limit}} = FS_{\text{max}} - 40 \log \left(\frac{d_{\text{limit}}}{d_{\text{measure}}} \right)$$

Above 30MHz,

$$FS_{\text{limit}} = FS_{\text{max}} - 20 \log \left(\frac{d_{\text{limit}}}{d_{\text{measure}}} \right)$$

Where:

FS_{limit} is the calculation of field strength at the limit distance, expressed in dBμV/m
 FS_{max} is the measured field strength, expressed in dBμV/m
 d_{measure} is the distance of the measurement point from the EUT
 d_{limit} is the reference limit distance

4. DUTY CYCLE

4.1. TEST CONDITIONS

Date of test : January 29, 2026
Test performed by : Julien PALARD
Relative humidity (%) : 28
Ambient temperature (°C) : 22

4.2. TEST SETUP

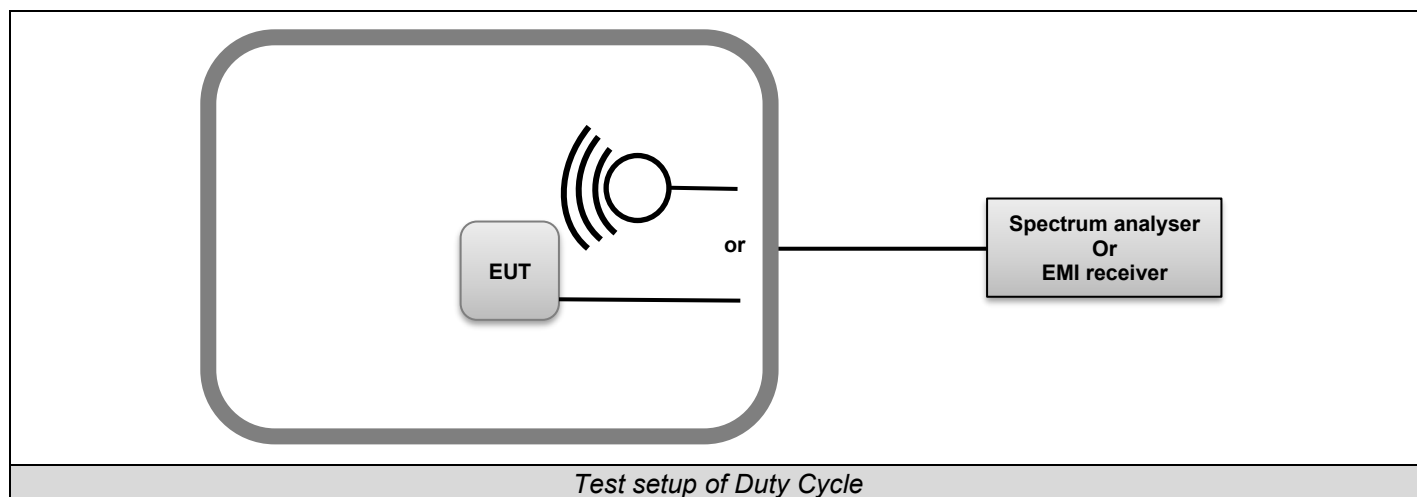
The Equipment Under Test is installed on a table.
Measurement is performed with a spectrum analyzer in conducted method.

The EUT is turned ON, the center frequency of the spectrum analyzer is set to the fundamental frequency.
The captured power is measured and recorded.

Test Procedure:

ANSI C63.10 § 11.6

- Zero-span mode
- $RBW \geq OBW$ if possible; otherwise, set RBW to the largest available value
- $VBW \geq RBW$
- Detector = Peak
- Trace mode = Max Hold.
- Sweep time $> 3 \times$ Period time anticipated
- Sweep = Single
- Trigger Video



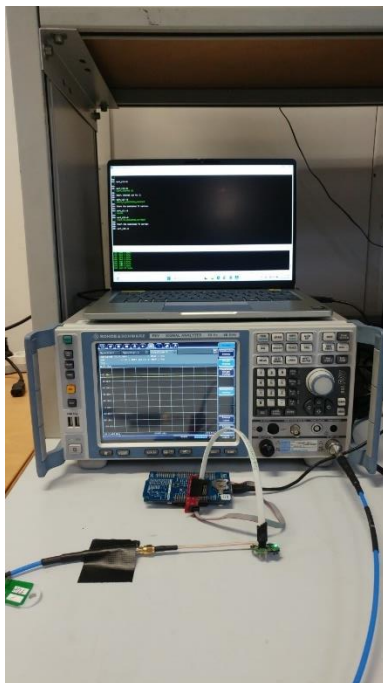


Photo of Duty Cycle

4.3. LIMIT

None

4.4. TEST EQUIPMENT LIST

DESCRIPTION	MANUFACTURER	MODEL	N° LCIE	Cal_Date	Cal_Due
R&S Commander Software	ROHDE & SCHWARZ	Version 1.6.4	L1000116-FAR	-	-
EMI receiver	ROHDE & SCHWARZ	FSV40GHz	A4060061	2024/07	2026/07
Cable SONDE 025 + Attenuateur 20dB	PASTERNAK	PE350-150CM	A5329970	2025/07	2026/07
Thermo-hygrometer	OREGON	-	B4204075	2024/05	2026/05

4.5. DIVERGENCE, ADDITION OR SUPPRESSION ON THE TEST SPECIFICATION

None

4.6. RESULTS

Duty Cycle			
Cmin			
BLE - 1Mbits/s			
Spectrum Spectrum 2 Spectrum 3 Ref Level 12.40 dBm Offset 23.80 dB RBW 2 MHz Att 9 dB SWT 10 s VBW 2 MHz SGL 1Pk Max 10 dBm 0 dBm -10 dBm -20 dBm -30 dBm -40 dBm -50 dBm -60 dBm -70 dBm -80 dBm CF 2.402 GHz 32001 pts 1.0 s/ Date: 29.JAN.2026 14:02:02			
Test Period (ms)	Total Time ON (ms)	Duty Cycle (%)	Duty Cycle Factor (dB)
10000	10000	100	0
Duty Cycle (%) = (Total Time ON / Test Period) * 100		Duty Factor (dB) = 10*log(100 / Duty Cycle(%))	
Therefore, for average measurements a correction factor, Duty Factor, is use in all tests.			

5. OCCUPIED BANDWIDTH

5.1. TEST CONDITIONS

Date of test : January 29, 2026
Test performed by : Julien PALARD
Relative humidity (%) : 28
Ambient temperature (°C) : 22

5.2. TEST SETUP

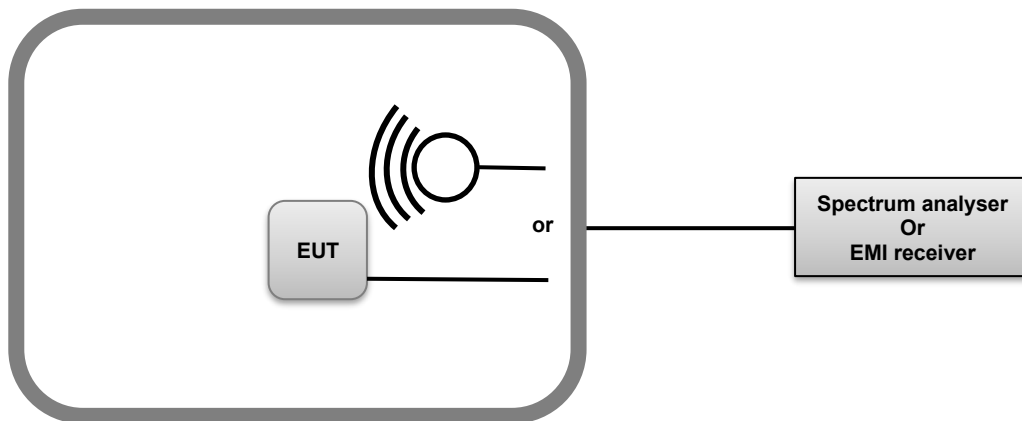
The Equipment Under Test is installed on a table.
Measurement is performed with a spectrum analyzer in conducted method.

The EUT is turned ON, the center frequency of the spectrum analyzer is set to the fundamental frequency. The captured power is measured and recorded; the measurement is repeated until all frequencies required were complete.

Test Procedure:

ANSI C63.10 § 6.9.2 and RSS-Gen Issue 5 § 6.7

- RBW used in the range of 1% to 5% of the anticipated emission bandwidth
- Set the video bandwidth (VBW) $\geq 3 \times$ RBW.
- Detector = Peak.
- Trace mode = Max Hold.
- Sweep = Auto couple.
- Allow the trace to stabilize.
- OBW 99% function of spectrum analyzer used



Test setup of Occupied Bandwidth

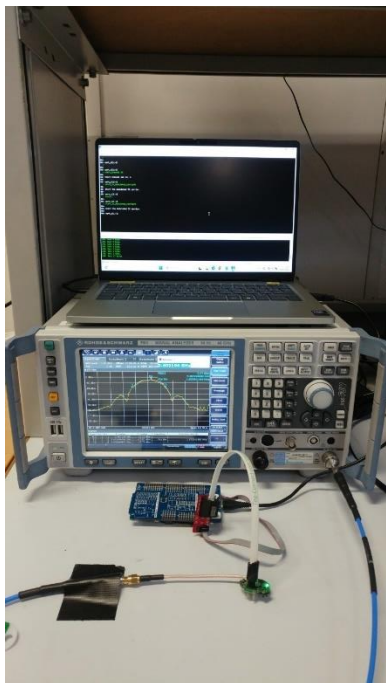


Photo of Occupied bandwidth

5.3. LIMIT

None

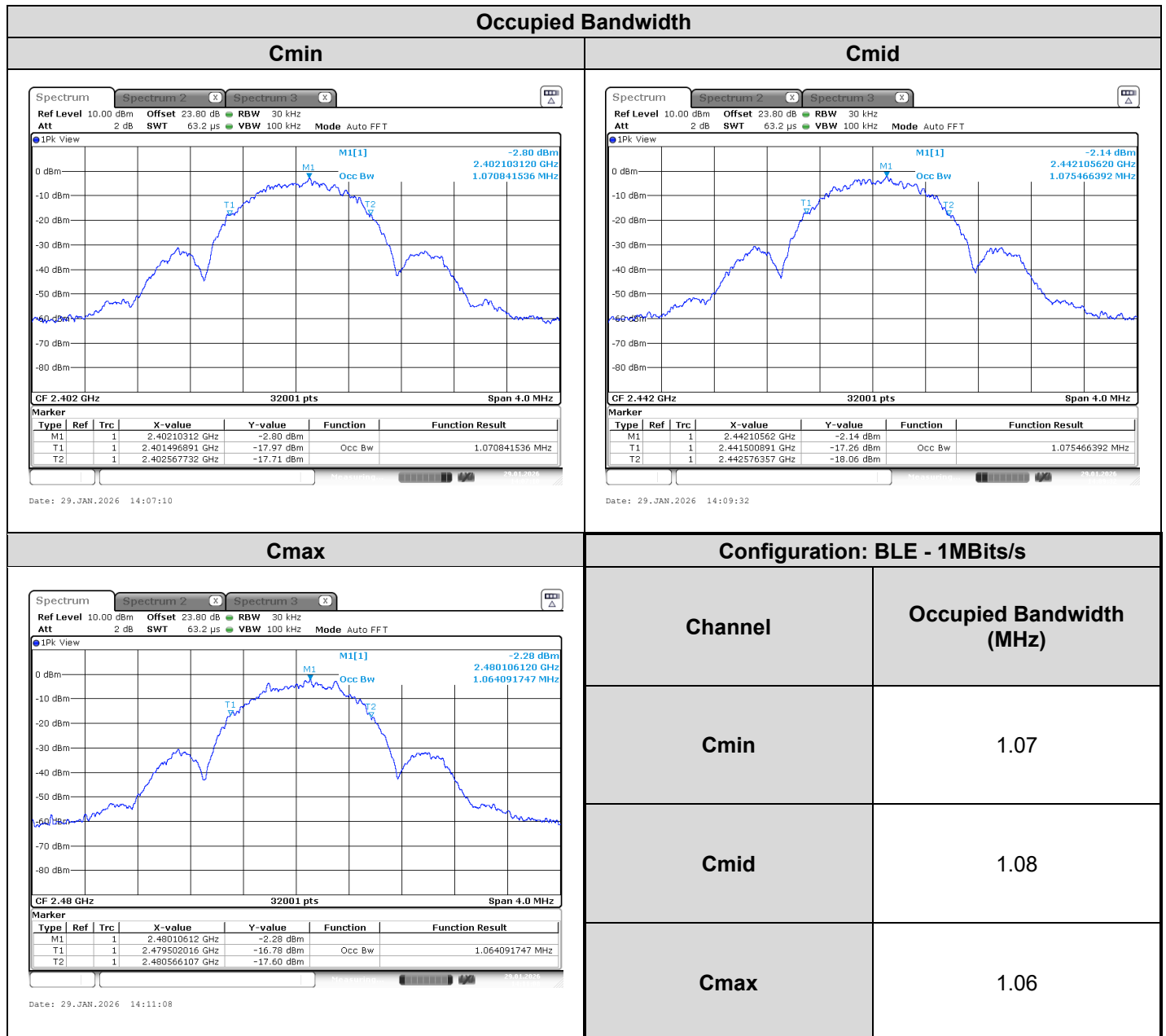
5.4. TEST EQUIPMENT LIST

DESCRIPTION	MANUFACTURER	MODEL	N° LCIE	Cal_Date	Cal_Due
R&S Commander Software	ROHDE & SCHWARZ	Version 1.6.4	L1000116-FAR	-	-
EMI receiver	ROHDE & SCHWARZ	FSV40GHz	A4060061	2024/07	2026/07
Cable SONDE 025 + Attenuateur 20dB	PASTERNAK	PE350-150CM	A5329970	2025/07	2026/07
Thermo-hygrometer	OREGON	-	B4204075	2024/05	2026/05

5.5. DIVERGENCE, ADDITION OR SUPPRESSION ON THE TEST SPECIFICATION

None

5.6. RESULTS



5.7. CONCLUSION

Occupied Channel Bandwidth measurement performed on the sample of the product **HTS V1.2_US**, Sn: **APP6300033**, in configuration and description presented in this test report, show levels **compliant** to the **RSS-GEN** limits.

6. 6dB BANDWIDTH

6.1. TEST CONDITIONS

Date of test : January 29, 2026
Test performed by : Julien PALARD
Relative humidity (%) : 28
Ambient temperature (°C) : 22

6.2. TEST SETUP

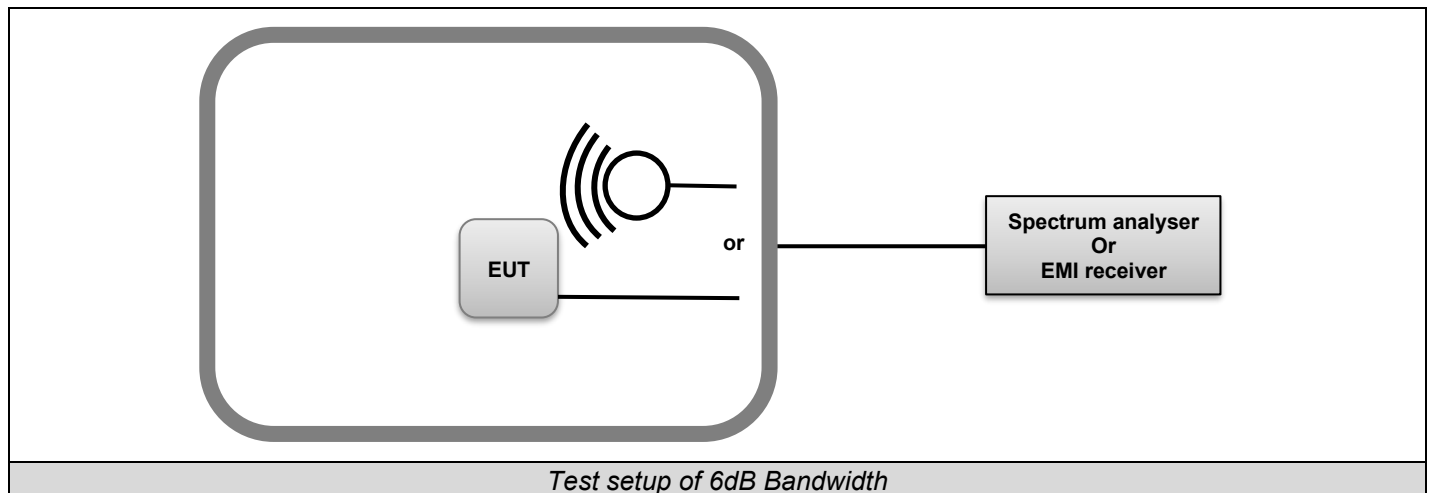
The Equipment Under Test is installed on a table.
Measurement is performed with a spectrum analyzer in conducted method.

The EUT is turned ON, the center frequency of the spectrum analyzer is set to the fundamental frequency. The captured power is measured and recorded; the measurement is repeated until all frequencies required were complete.

Test Procedure:

KDB 558074 D01 DTS Meas Guidance v05r02 § 8.2

- Set resolution bandwidth (RBW) = 100kHz.
- Set the video bandwidth (VBW) $\geq 3 \times$ RBW.
- Detector = Peak.
- Trace mode = max hold.
- Sweep = auto couple.
- Allow the trace to stabilize.
- Measure the maximum width of the emission that is constrained by the frequencies associated with the two outermost amplitude points (upper and lower) that are attenuated by 6 dB relative to the maximum level measured in the fundamental emission. Compare the resultant bandwidth with the RBW setting of the analyzer.



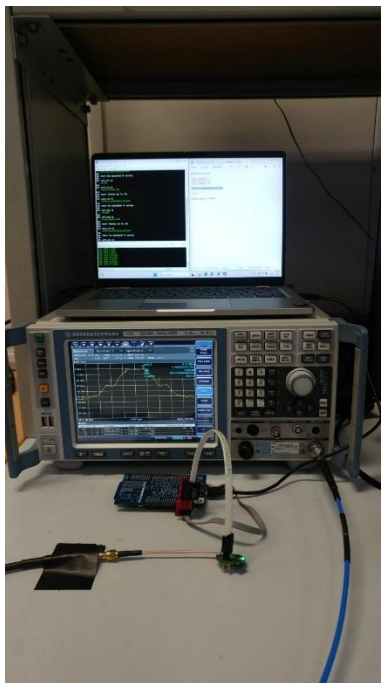


Photo of 6dB bandwidth

6.3. LIMIT

Frequency range	6dB bandwidth
2400MHz to 2483.5MHz	≥500kHz

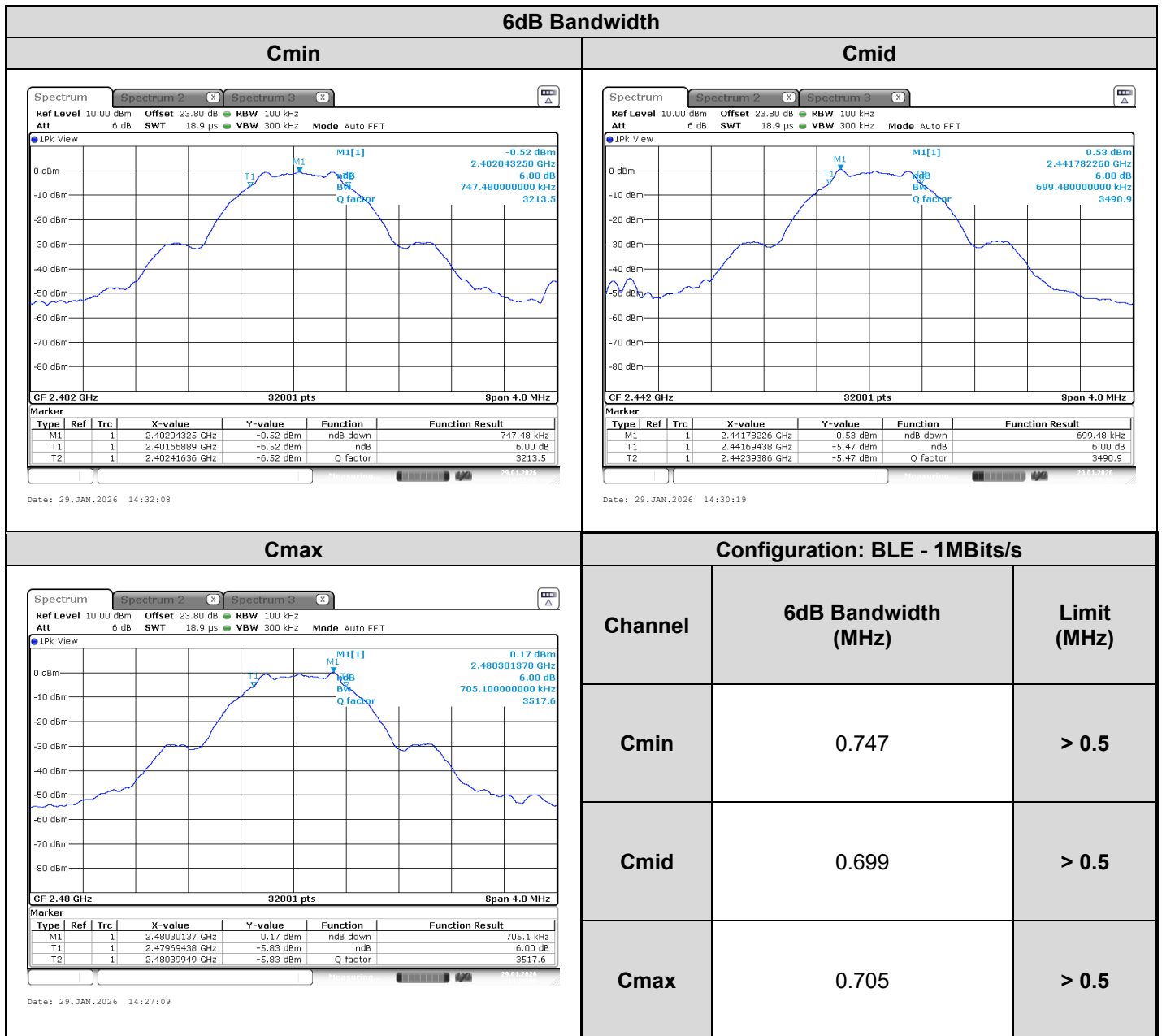
6.4. TEST EQUIPMENT LIST

DESCRIPTION	MANUFACTURER	MODEL	N° LCIE	Cal_Date	Cal_Due
R&S Commander Software	ROHDE & SCHWARZ	Version 1.6.4	L1000116-FAR	-	-
EMI receiver	ROHDE & SCHWARZ	FSV40GHz	A4060061	2024/07	2026/07
Cable SONDE 025 + Attenuateur 20dB	PASTERNAK	PE350-150CM	A5329970	2025/07	2026/07
Thermo-hygrometer	OREGON	-	B4204075	2024/05	2026/05

6.5. DIVERGENCE, ADDITION OR SUPPRESSION ON THE TEST SPECIFICATION

None

6.6. RESULTS



6.7. CONCLUSION

6dB Bandwidth measurement performed on the sample of the product **HTS V1.2_US**, Sn: **APP6300033**, in configuration and description presented in this test report, show levels **compliant** to the **47 CFR PART 15.247 & RSS 247** limits.

7. MAXIMUM CONDUCTED OUTPUT POWER

7.1. TEST CONDITIONS

Date of test : January 29, 2026
Test performed by : Julien PALARD
Relative humidity (%) : 28
Ambient temperature (°C) : 22

7.2. TEST SETUP

The Equipment Under Test is installed on a table.
Measurement is performed with a spectrum analyzer in conducted method.

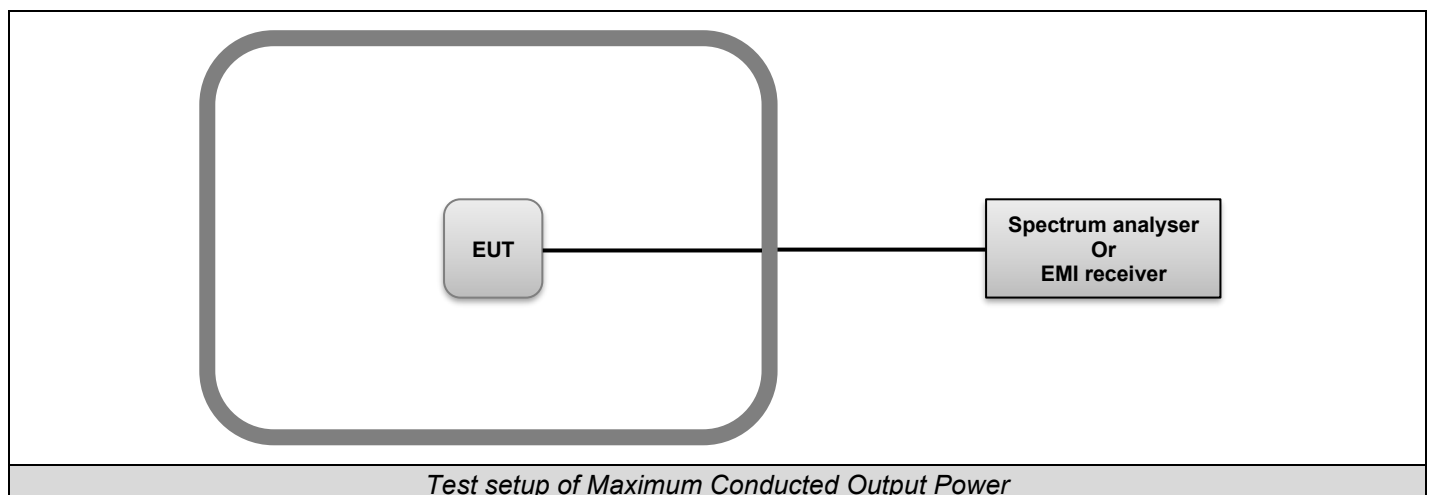
The EUT is turned ON, the center frequency of the spectrum analyzer is set to the fundamental frequency. The captured power is measured and recorded; the measurement is repeated until all frequencies required were complete.

Test Procedure used: KDB 558074 D01 DTS Meas Guidance v05r02 § 8.3.1.1

KDB 558074 D01 DTS Meas Guidance v05r02 § 8.3.1.1

This procedure shall be used when the measurement instrument has available a resolution bandwidth that is greater than the DTS bandwidth.

- Set the RBW $\geq$ DTS bandwidth.
- Set VBW $\geq 3 \times$ RBW.
- Set span $\geq 3 \times$ RBW
- Sweep time = auto couple.
- Detector = peak.
- Trace mode = max hold.
- Allow trace to fully stabilize.
- Use peak marker function to determine the peak amplitude level.



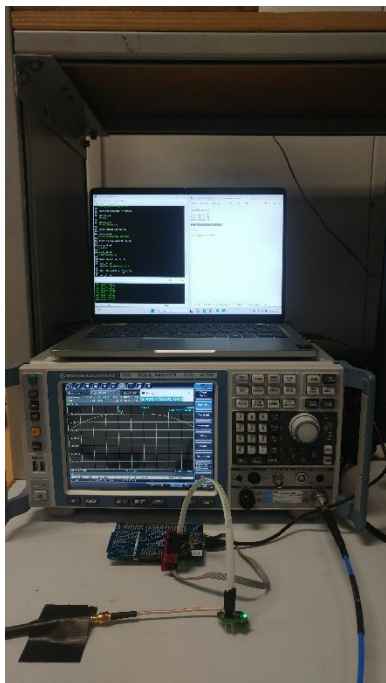


Photo of Maximum Conducted Output Power

7.3. LIMIT

Frequency range	Maximum Conducted Output Power
2400MHz to 2483.5MHz	≤30dBm*

*Remark: Limits are reduced by G-6dBi if Overall Antenna Gain above 6dBi

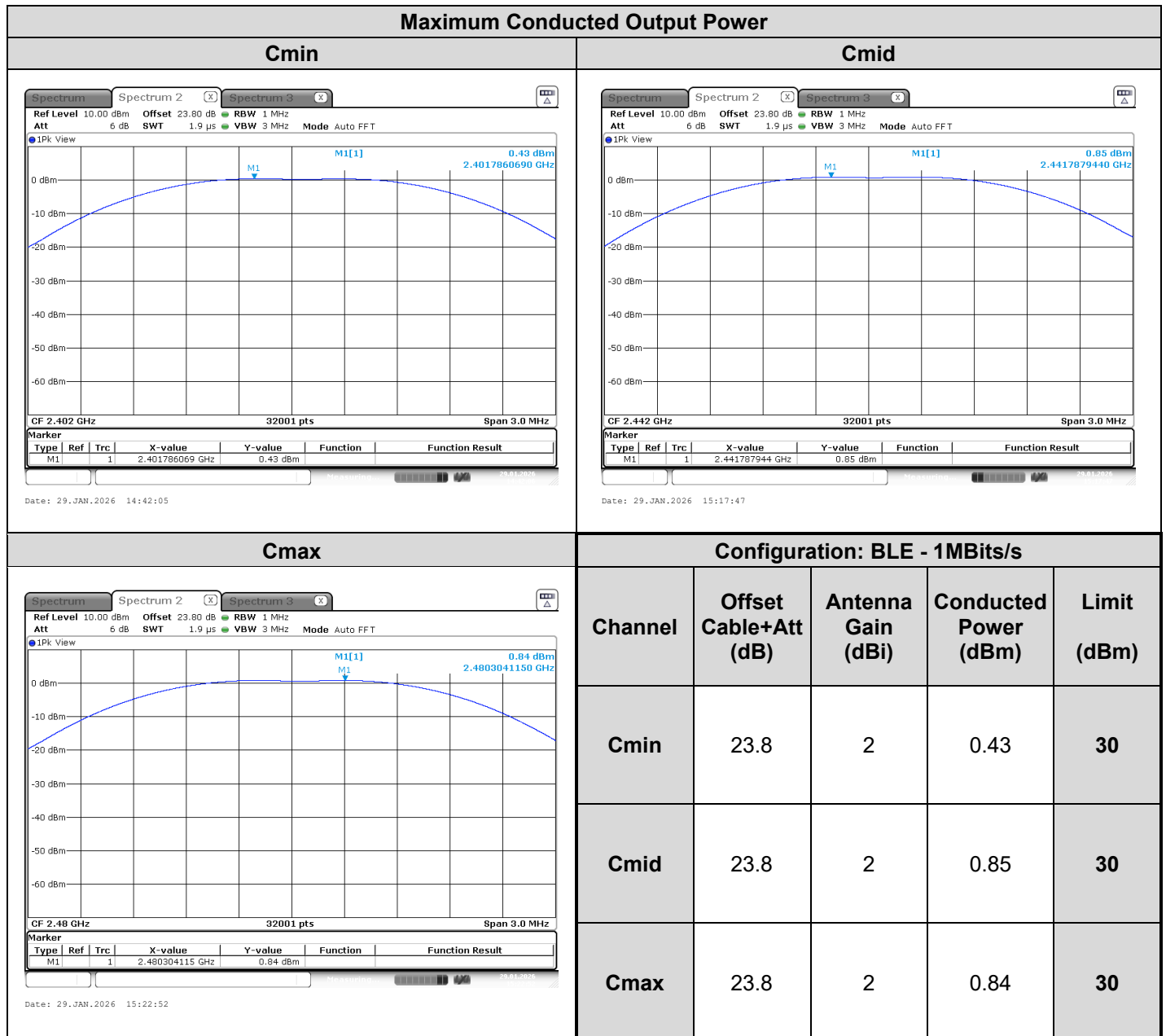
7.4. TEST EQUIPMENT LIST

DESCRIPTION	MANUFACTURER	MODEL	N° LCIE	Cal_Date	Cal_Due
R&S Commander Software	ROHDE & SCHWARZ	Version 1.6.4	L1000116-FAR	-	-
EMI receiver	ROHDE & SCHWARZ	FSV40GHz	A4060061	2024/07	2026/07
Cable SONDE 025 + Attenuateur 20dB	PASTERNAK	PE350-150CM	A5329970	2025/07	2026/07
Thermo-hygrometer	OREGON	-	B4204075	2024/05	2026/05

7.5. DIVERGENCE, ADDITION OR SUPPRESSION ON THE TEST SPECIFICATION

None

7.6. RESULTS



7.7. CONCLUSION

Maximum Output Conducted Power measurement performed on the sample of the product **HTS V1.2_US**, Sn: **APP6300033**, in configuration and description presented in this test report, show levels **compliant** to the **47 CFR PART 15.247 & RSS 247** limits.

8. POWER SPECTRAL DENSITY

8.1. TEST CONDITIONS

Date of test : January 29, 2026
Test performed by : Julien PALARD
Relative humidity (%) : 28
Ambient temperature (°C) : 22

8.2. TEST SETUP

The Equipment Under Test is installed on a table.
Measurement is performed with a spectrum analyzer in conducted method.

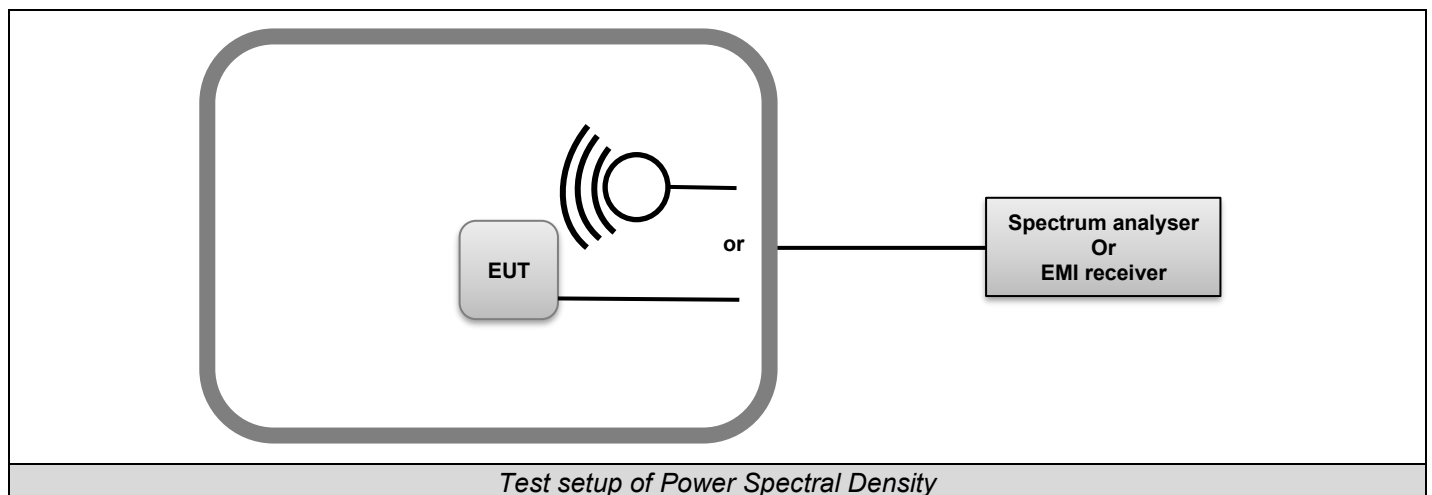
The EUT is turned ON, the center frequency of the spectrum analyzer is set to the fundamental frequency. The captured power is measured and recorded; the measurement is repeated until all frequencies required were complete.

Test Procedure used: KDB 558074 D01 DTS Meas Guidance v05r02 § 8.4 (Method PKPSD)

KDB 558074 D01 DTS Meas Guidance v05r02 § 8.4 (Method PKPSD)

Subclause 11.10 of ANSI C63.10 is applicable

- Set analyzer center frequency to DTS channel center frequency.
- Set the span > 1.5 times the DTS bandwidth.
- Set the RBW to: 3 kHz.
- Set the VBW $\geq 3 \times$ RBW.
- Detector = peak.
- Sweep time = auto couple.
- Trace mode = max hold.
- Allow trace to fully stabilize.
- Use the peak marker function to determine the maximum amplitude level within the RBW.
- If measured value exceeds limit, reduce RBW (no less than 3 kHz) and repeat.



Test setup of Power Spectral Density

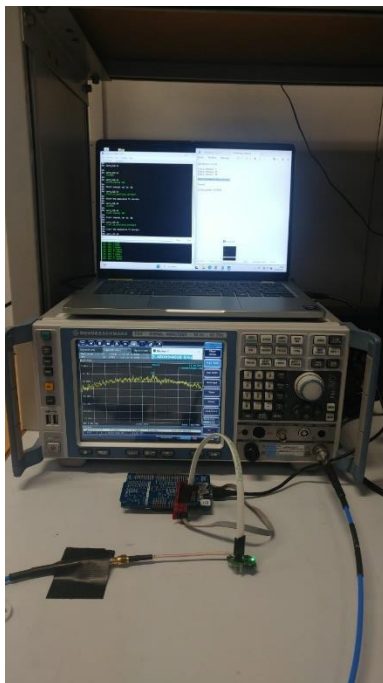


Photo of Power Spectral Density

8.3. LIMIT

Frequency range	Power Spectral Density
2400MHz to 2483.5MHz	$\leq 8\text{dBm} / 3\text{kHz}^*$

*Remark: Limits are reduced by G-6dBi if Overall Antenna Gain above 6dBi

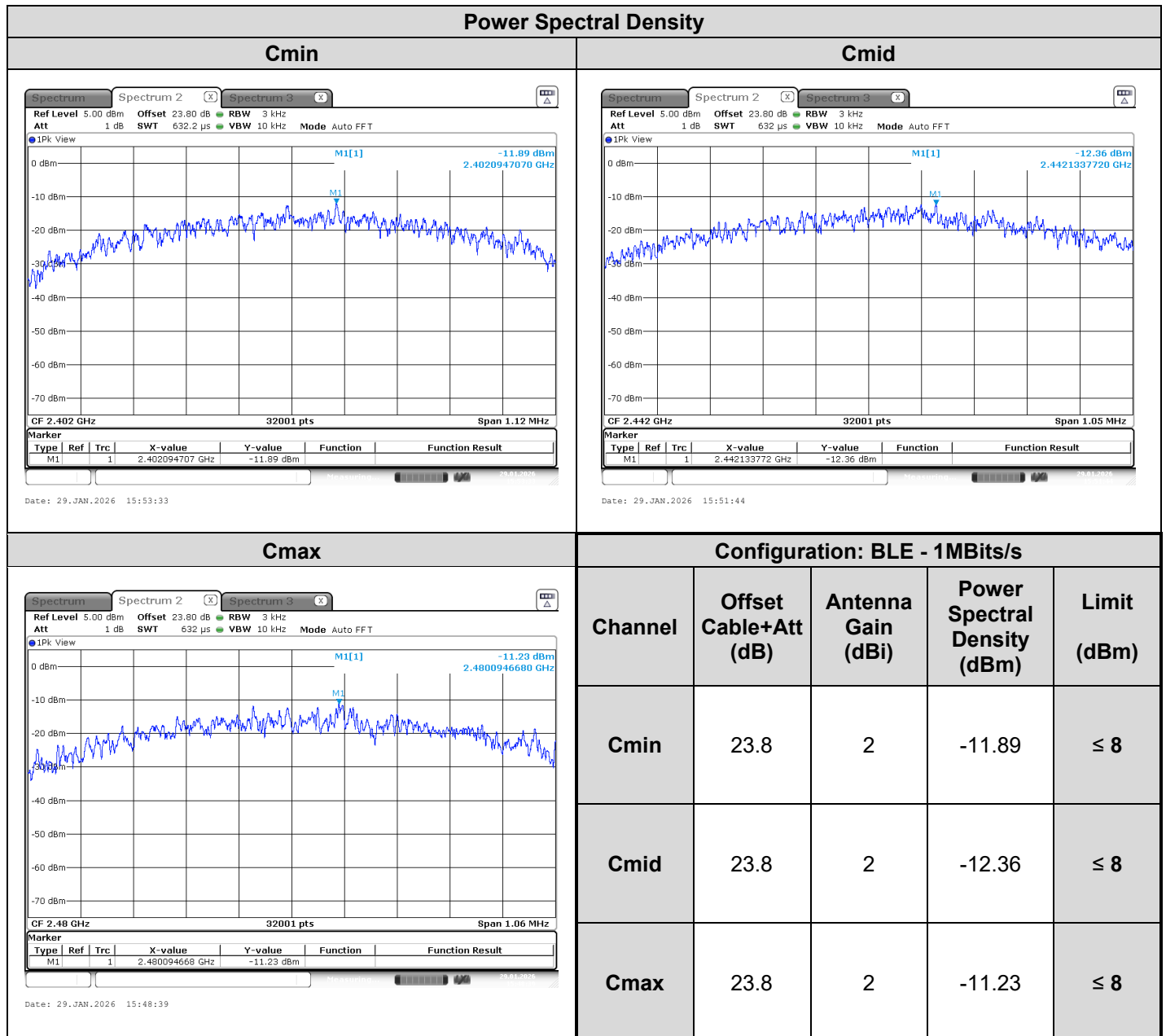
8.4. TEST EQUIPMENT LIST

DESCRIPTION	MANUFACTURER	MODEL	N° LCIE	Cal_Date	Cal_Due
R&S Commander Software	ROHDE & SCHWARZ	Version 1.6.4	L1000116-FAR	-	-
EMI receiver	ROHDE & SCHWARZ	FSV40GHz	A4060061	2024/07	2026/07
Cable SONDE 025 + Attenuateur 20dB	PASTERNAK	PE350-150CM	A5329970	2025/07	2026/07
Thermo-hygrometer	OREGON	-	B4204075	2024/05	2026/05

8.5. DIVERGENCE, ADDITION OR SUPPRESSION ON THE TEST SPECIFICATION

None

8.6. RESULTS



8.7. CONCLUSION

Power Spectral Density measurement performed on the sample of the product **HTS V1.2_US**, Sn: **APP6300033**, in configuration and description presented in this test report, show levels **compliant** to the **47 CFR PART 15.247 & RSS 247** limits.

9. UNWANTED EMISSIONS IN NON-RESTRICTED FREQUENCY BANDS

9.1. TEST CONDITIONS

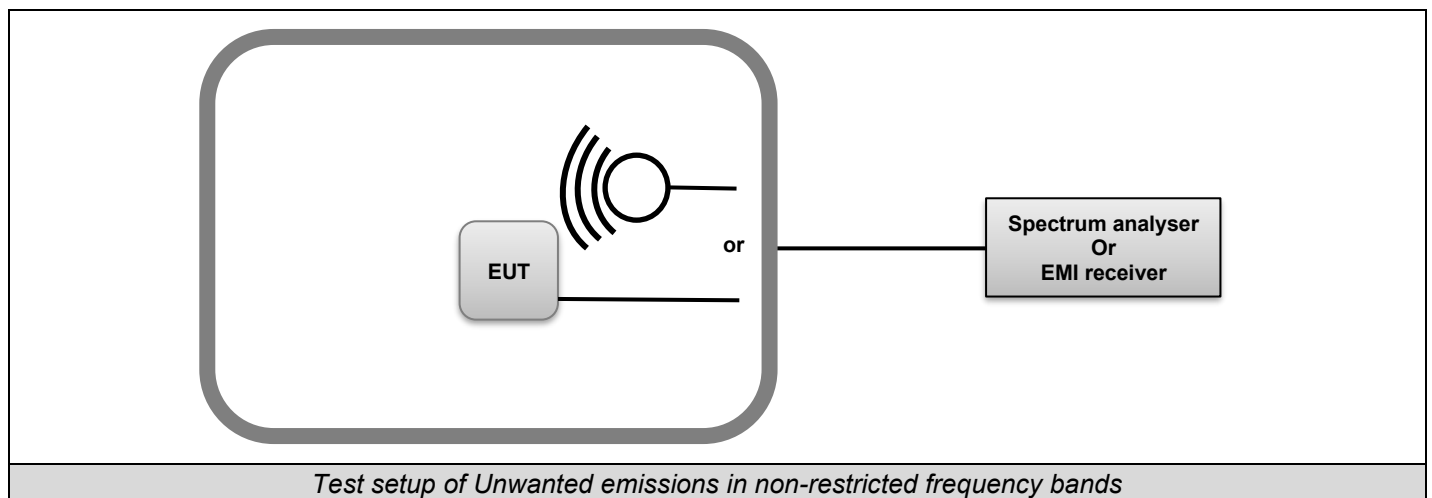
Date of test : January 30, 2026
Test performed by : Julien PALARD
Relative humidity (%) : 29
Ambient temperature (°C) : 23

9.2. TEST SETUP

The Equipment Under Test is installed on a table.
Measurement is performed with a spectrum analyzer in conducted method.

The EUT is turned ON, the captured power is measured and recorded; the measurement is repeated until all frequencies required were complete.

Test Procedure:
KDB 558074 D01 DTS Meas Guidance v05r02 § 8.5



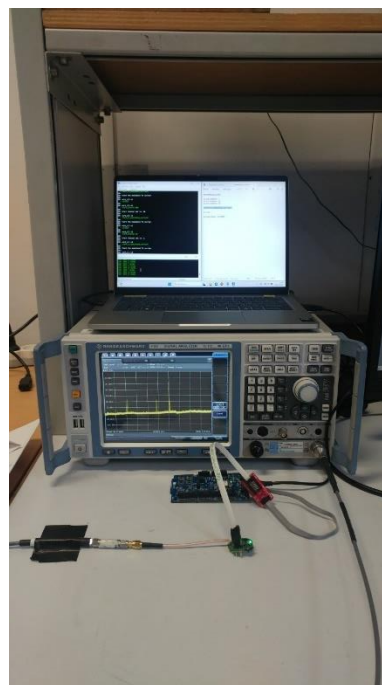
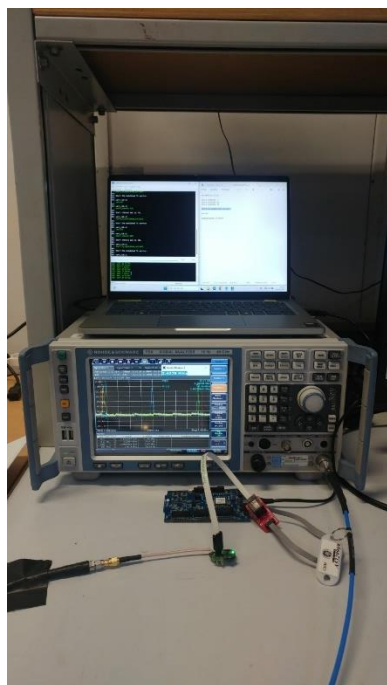


Photo of Unwanted emissions in non-restricted frequency bands

9.3. LIMIT

All Spurious Emissions must be at least 20dB below the Fundamental Radiator Level at the Band Edge of operating frequency band and in non-restricted bands.

9.4. TEST EQUIPMENT LIST

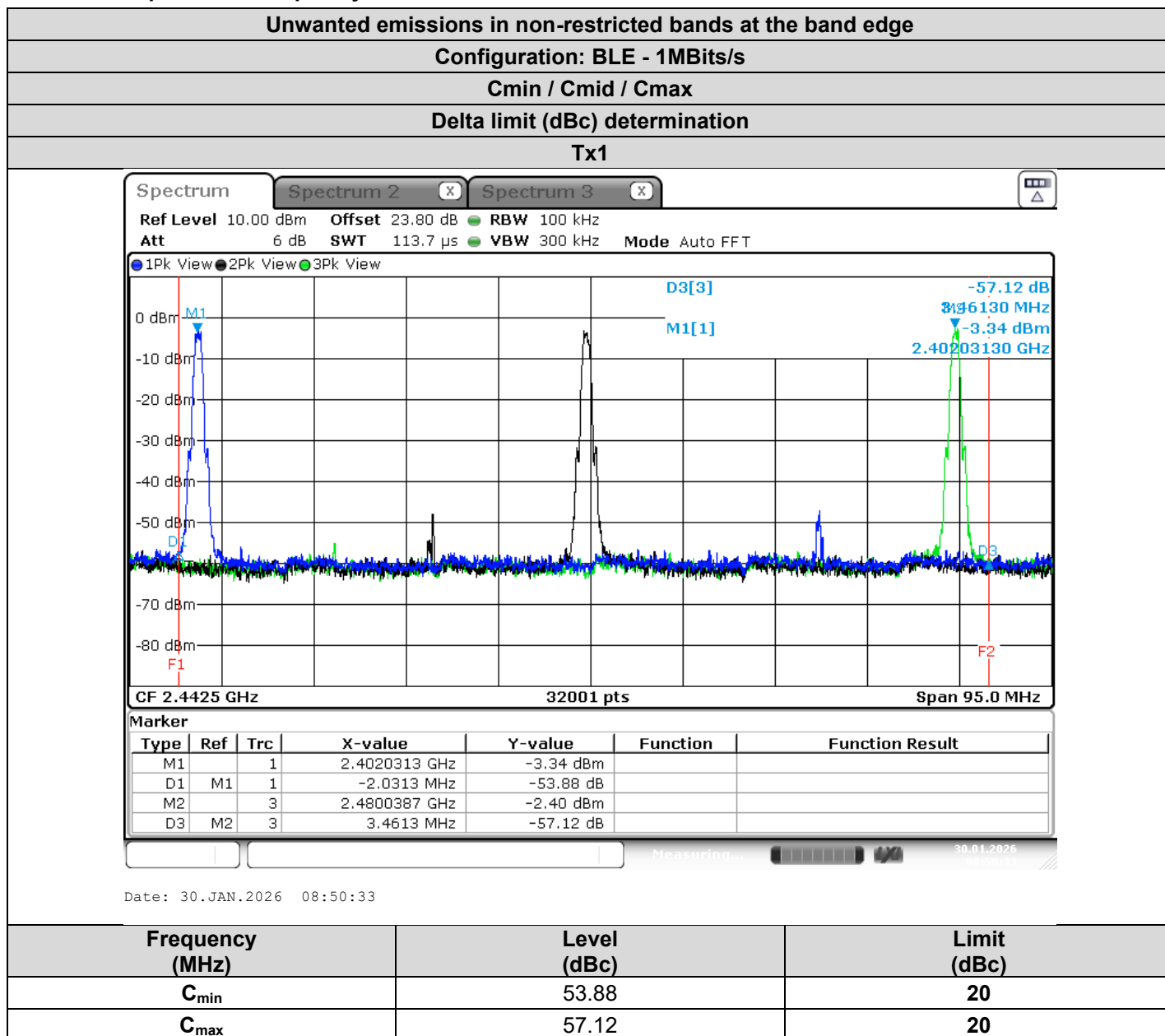
DESCRIPTION	MANUFACTURER	MODEL	N° LCIE	Cal_Date	Cal_Due
R&S Commander	ROHDE & SCHWARZ	V1.6.4	L1000116-FAR	-	-
BAT EMC	NEXIO	V3.21.0.32	L1000115-FAR		
EMI receiver	ROHDE & SCHWARZ	FSV40GHz	A4060061	2024/07	2026/07
Cable SONDE 025 + Attenuateur 20dB	PASTERNAK	PE350-150CM	A5329970	2025/07	2026/07
Câble	PASTERNAK	PE360-150CM	A5330099	2025/04	2026/04
Attenuator 3dB Cable Spurious Conducted	-	WA54-3-12	A7122223	2024/01	2026/01
High Pass Filter 2,4GHz	WAINWRIGHT	WHK12-2494	A7484068	2024/01	2026/01
Thermo-hygrometer	OREGON	-	B4204075	2024/05	2026/05

9.5. DIVERGENCE, ADDITION OR SUPPRESSION ON THE TEST SPECIFICATION

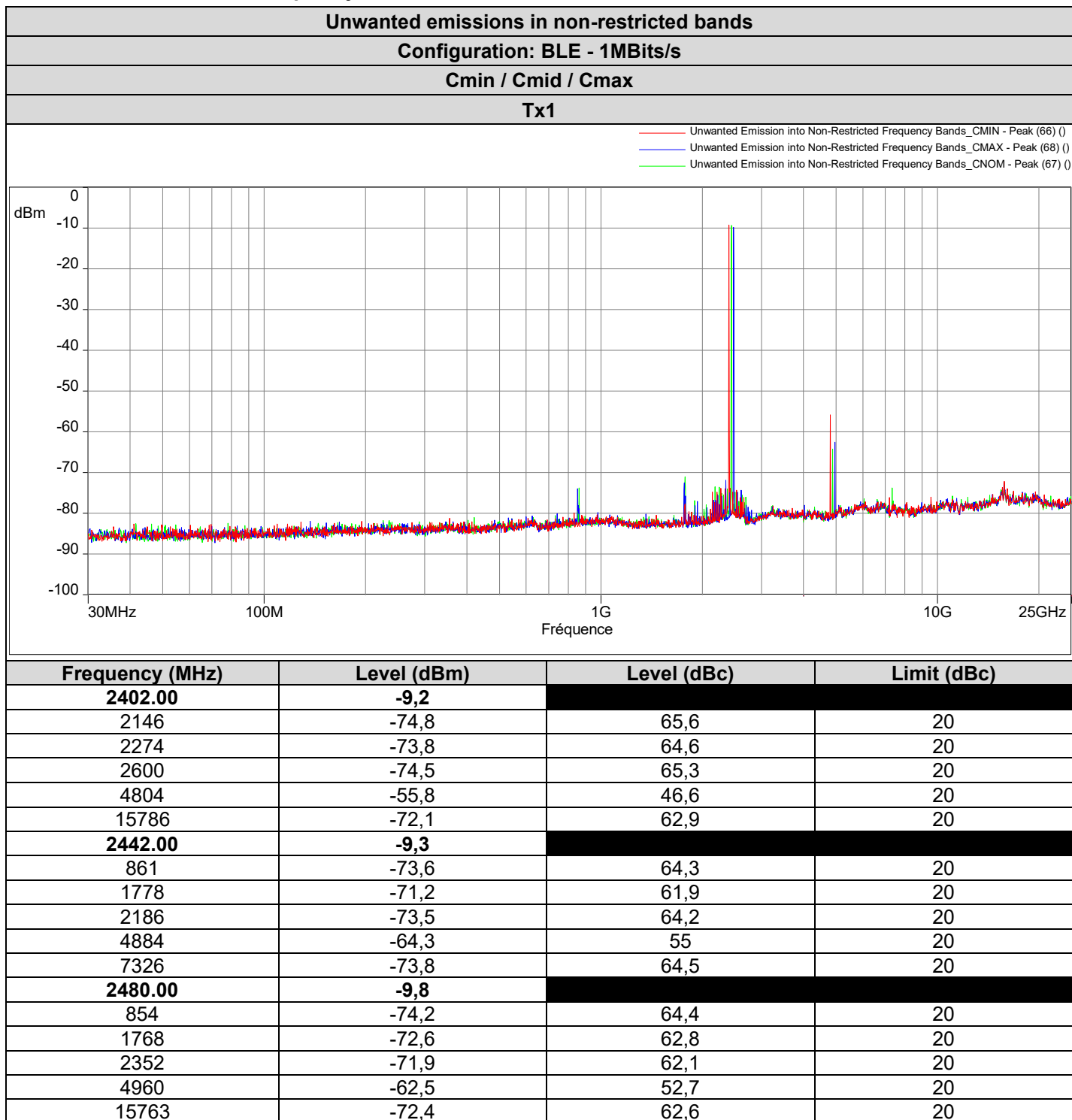
None

9.6. RESULTS

9.6.1. Operational frequency band



9.6.2. Non restricted frequency bands





9.7. CONCLUSION

Unwanted emissions in non-restricted bands and at the band edge measurement performed on the sample of the product **HTS V1.2_US**, Sn: **APP6300033**, in configuration and description presented in this test report, show levels **compliant** to the **47 CFR PART 15.247 & RSS 247** limits.

10. UNWANTED EMISSIONS IN RESTRICTED FREQUENCY BANDS

10.1. TEST CONDITIONS

Date of test : February 05, 2026
 Test performed by : Laurent DENEUX
 Relative humidity (%) : 45
 Ambient temperature (°C) : 17

10.2. TEST SETUP

Test procedure:
 ANSI C63.10 & FCC Part 15 subpart C

Following frequency ranges, test setup parameters are different and specified in this table:

Frequency range:	9kHz to 30MHz	
Test:	Pre-Characterization	Qualification
Antenna Polarization:	Parallel, Perpendicular and Ground parallel	
Antenna Height:	1m	
Antenna Type:	Loop	
RBW Filter:	200Hz below 150kHz / 9kHz above 150kHz	
Maximization:	Turntable rotation of 360 degrees range and all axis of EUT used in normal configuration	
EUT height:	1.0m	
Test site:	Open Area Test Site	
Distance EUT - Antenna:	3m	
Detector:	Peak	

Frequency range:	30MHz to 1GHz	
Test:	Qualification	
Antenna Polarization:	Horizontal and Vertical	
Antenna Height:	Varied from 1m to 4m	
Antenna Type:	30-200MHz : Biconic & 200-1GHz : bilog	
Min. Antenna Beamwidth:	Schwarzbeck VHBB9124 / w@10m - 12.3m < 200MHz	
	Schwarzbeck VULB 9160 / w@10m - 8.5m < 1GHz	
RBW Filter:	100kHz	
Maximization:	Turntable rotation of 360 degrees range	
EUT height:	1.5m	
Test site:	Open Area Test Site	
Distance EUT - Antenna:	10m	
Method:	NSA (Detector Peak)	
Radiated Power:	E.R.P	

Frequency range:	1GHz to 14GHz
Test:	Qualification
Antenna Polarization:	Horizontal and Vertical
Antenna Height:	Centered on EUT
Antenna Type:	Horn
Min. Antenna Beamwidth:	ETS-Lindgren 3115 / w@3m - 1.7m<14GHz / 0.9m<18GHz
RBW Filter:	1MHz
Maximization:	Turntable rotation of 360 degrees range
EUT height:	1.5m
Test site:	Open Aera Test Site
Distance EUT - Antenna:	3m
Method:	Substitution (Detector RMS)
Radiated Power:	E.I.R.P

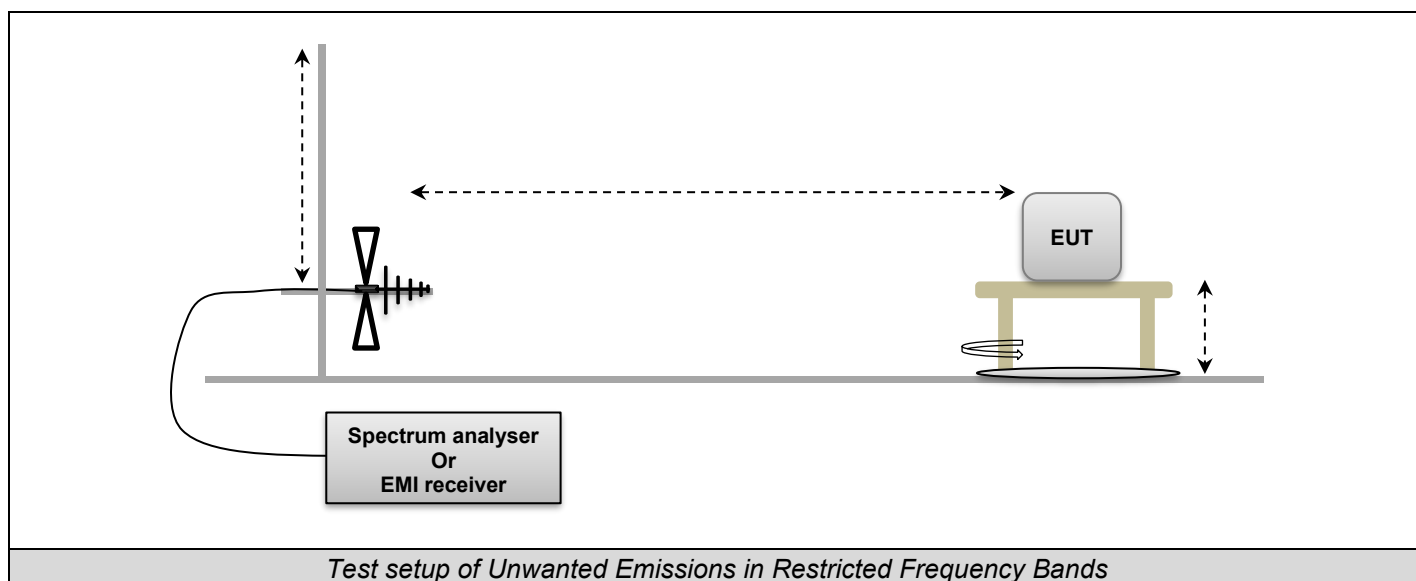




Photo of Unwanted Emissions in Restricted Frequency Bands

10.3. LIMIT

Measure at 300m		
Frequency range	Level	Detector
9kHz-490kHz	67.6dB μ V/m /F(kHz)	QPeak
Measure at 30m		
Frequency range	Level	Detector
490kHz-1.705MHz	87.6dB μ V/m /F(kHz)	QPeak
1.705MHz-30MHz	29.5dB μ V/m	QPeak
Measure at 10m		
Frequency range	Level	Detector
30MHz to 88MHz	29.5dB μ V/m	QPeak
88MHz to 216MHz	33dB μ V/m	QPeak
216MHz to 960MHz	35.5B μ V/m	QPeak
960MHz to 1000MHz	43.5dB μ V/m	QPeak
Above 1000MHz	63.5dB μ V/m	Peak
	43.5dB μ V/m	Average
Measure at 3m		
Frequency range	Level	Detector
30MHz to 88MHz	40dB μ V/m	QPeak
88MHz to 216MHz	43.5dB μ V/m	QPeak
216MHz to 960MHz	46B μ V/m	QPeak
960MHz to 1000MHz	54dB μ V/m	QPeak
Above 1000MHz	74dB μ V/m	Peak
	54dB μ V/m	Average



10.4. TEST EQUIPMENT LIST

Description	Manufacturer	Model	Identifier	Cal. Date	Cal. Due
OATS	-	-	F2000400	2024/03	2027/03
Receiver	ROHDE & SCHWARZ	ESU	A2642018	2025/12	2027/12
Preamplifier	BONN	BLNA 3018-8F305	A7080053	2026/01	2028/01
Preamplifier	Hewlett Packard	8449b	A4069002	2025/07	2027/07
Antenna bilog	Schwarzbeck	VULB9160	C2040150	2026/01	2028/01
Antenne bico	Schwarzbeck	VHBB9124 + BBA 9106	C2040295	2024/01	2026/02
Horn antenna	ETS	3115	C2042016	2026/01	2028/01
Loop antenna	R&S	HFH2-Z2	C2040269	2025/01	2027/01
Cable	-	-	A5329449	2025/11	2026/11
Cable	-	-	A5330051	2024/12	2026/02
Cable			A5329368	2025/04	2026/04
Cable	-	-	A5329948	2025/04	2026/04
Cable	-	-	A5330084	2025/11	2026/11
Cable	-	-	A5330106	2025/06	2027/06
Cable	-	-	A5330105	2025/06	2027/06
Filter hight pass 4GHz	-	-	A7484037	2025/04	2027/04
Hydro-Thermometer	RS-PRO	RS-235	B3281020	01/04/2025	2027/04
Table	-	-	D3044037	-	-
Table	-	-	D3044038	-	-

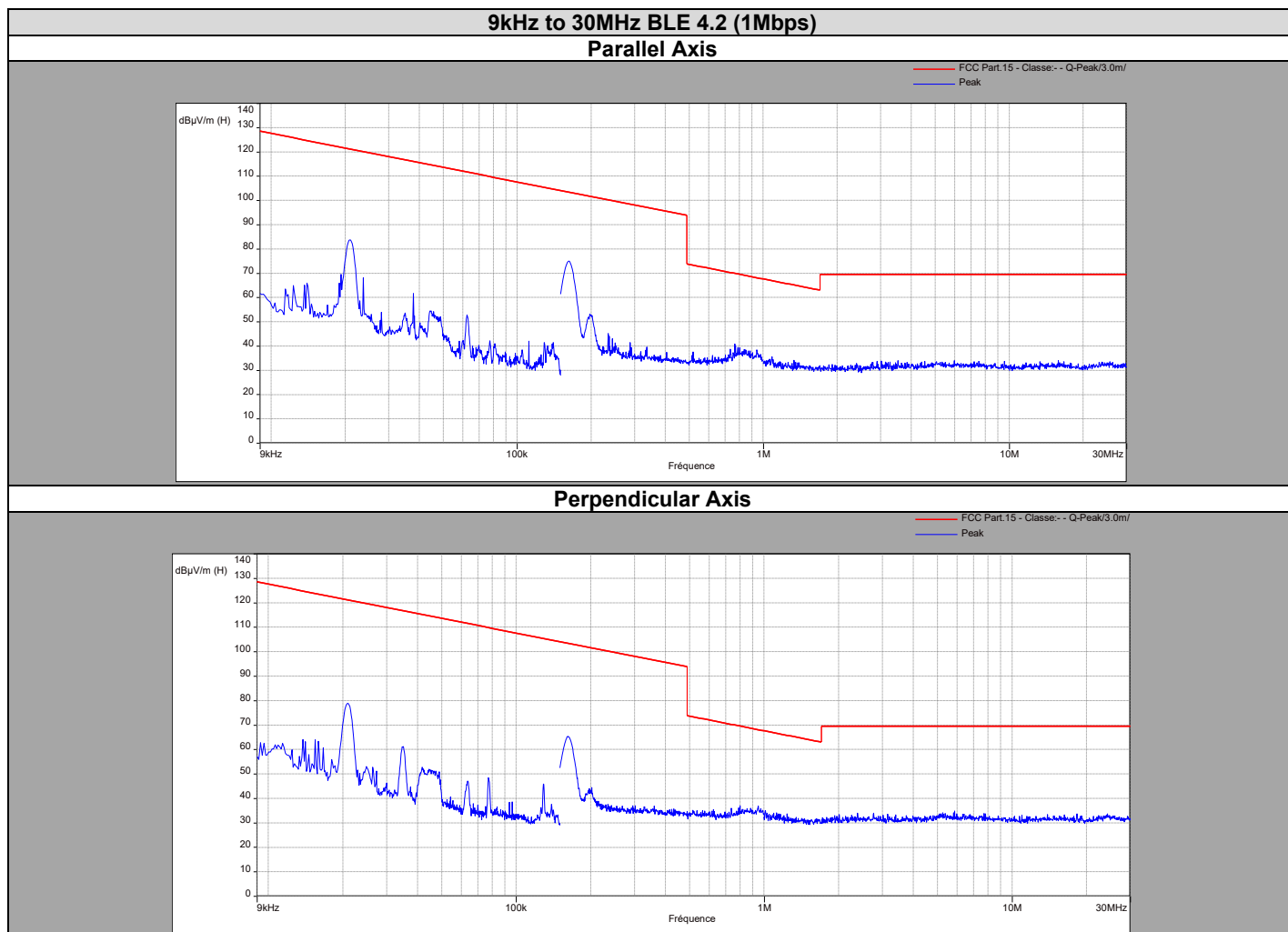
10.5. DIVERGENCE, ADDITION OR SUPPRESSION ON THE TEST SPECIFICATION

None

10.6. RESULTS

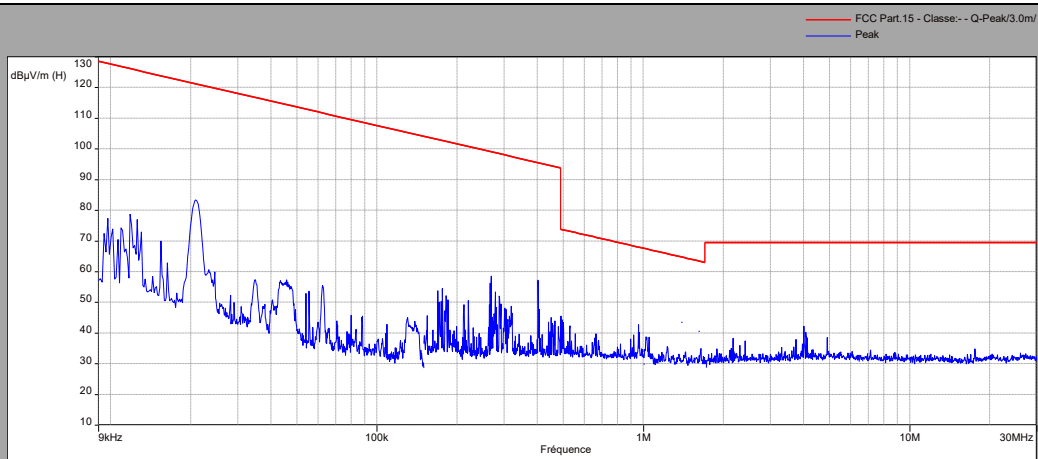
For all following measurements, worst case is presented with different configurations and modulations of EUT.

10.6.1. 9kHz to 30MHz



9kHz to 30MHz BLE 4.2 (1Mbps)

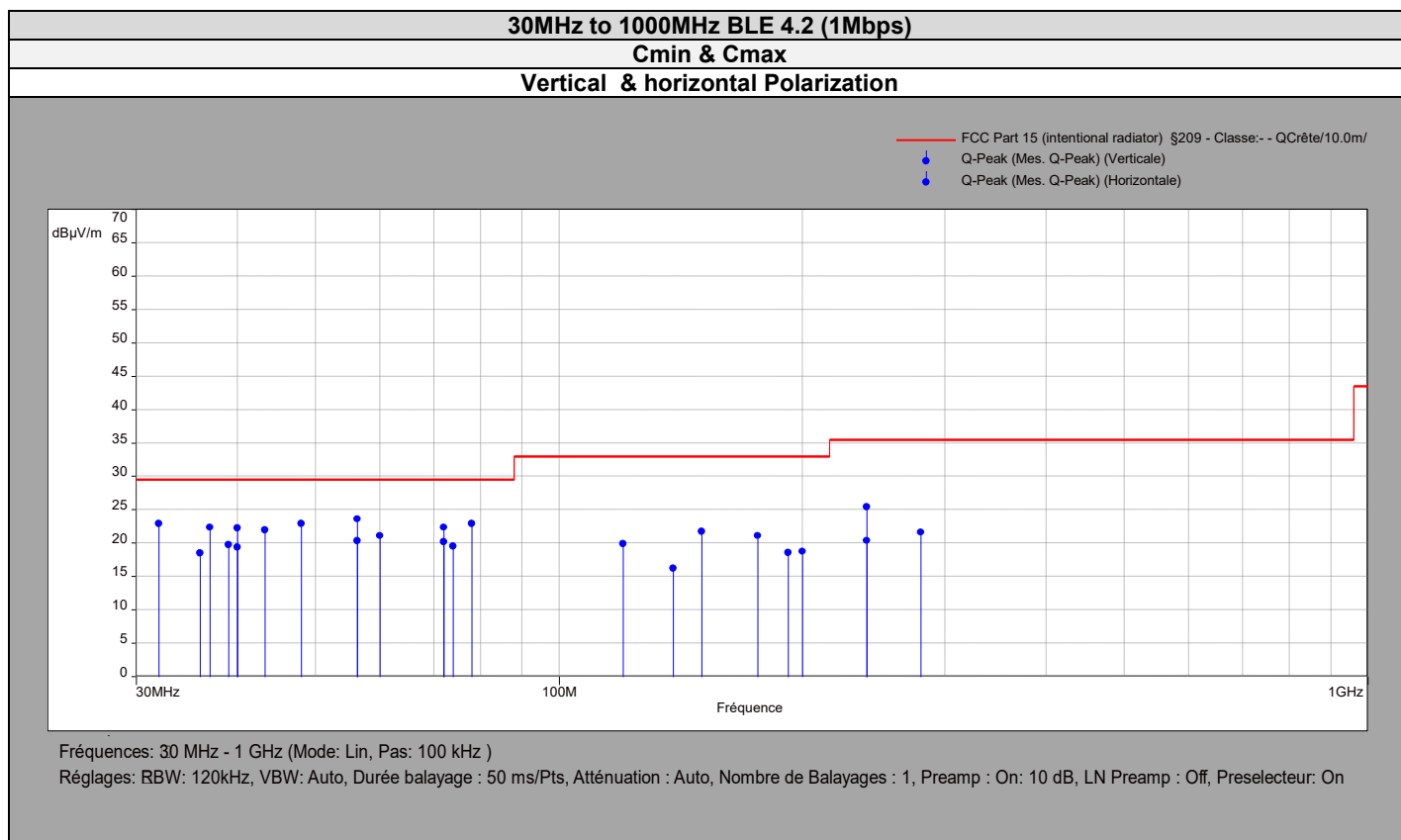
Ground Parallel Axis



9kHz to 30MHz BLE 4.2 (1Mbps)

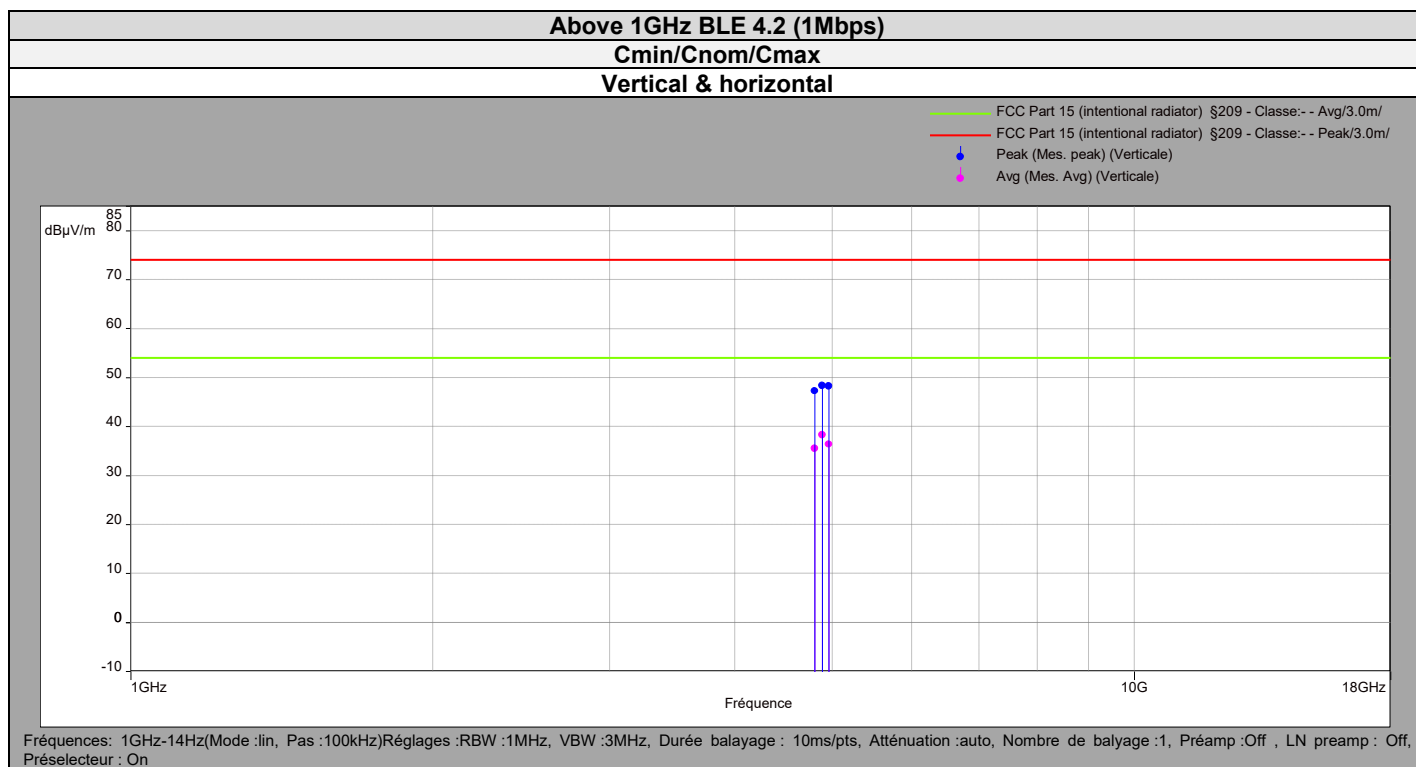
Polarization	Frequency (MHz)	Peak Level (dBµV/m)	QPeak Level (dBµV/m)	Limit (dBµV/m)
all emissions were more than 20 dB below the limit				

10.6.2. 30MHz to 1GHz



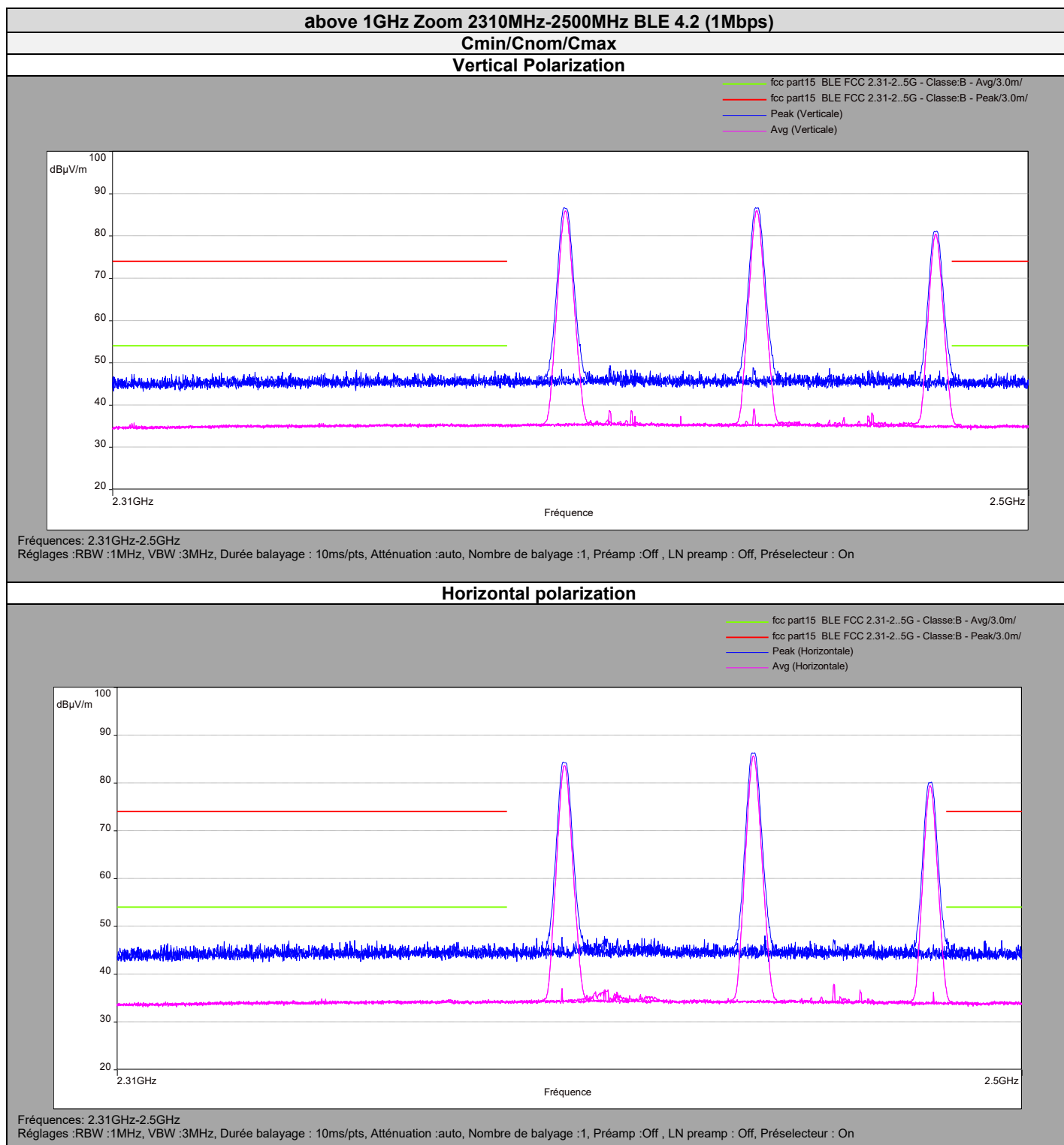
30MHz to 1000MHz BLE 4.2 (1Mbps)				
Polarization	Frequency (MHz)	QPeak Level (dBµV/m)	Limit (dBµV/m)	Margin (dBµV/m)
Vertical	32	22,88	29,5	6,62
Vertical	37	22,4	29,5	7,1
Vertical	40	22,21	29,5	7,29
Vertical	43,3	21,98	29,5	7,52
Vertical	56,3	23,61	29,5	5,89
Vertical	72	20,14	29,5	9,36
Vertical	78,02	22,92	29,5	6,58
Horizontal	78,02	22,92	29,5	6,58
Horizontal	56,3	20,3	29,5	9,2
Horizontal	72	22,38	29,5	7,12

10.6.3. 1GHz to 14GHz



Above 1GHz BLE 4.2 (1Mbps)								
Cmin/Cnom/Cmax								
Polarization	Frequency (MHz)	Average Level (dBμV/m)	Average Level + Duty Cycle Factor (dBμV/m)	Average Limit (dBμV/m)	Average Margin Level (dBμV/m)	Peak Level (dBμV/m)	Peak Limit (dBμV/m)	Peak Margin Level (dBμV/m)
Vertical	4804,6	35,49	35,49	54	18,51	47,31	74	26,69
Vertical	4884	38,25	38,25	54	15,75	48,29	74	25,71
Vertical	4960	36,47	36,47	54	17,53	48,23	74	25,77

10.6.4. At the band edge





Above 1GHz BLE 4.2 (1Mbps)								
Cmin/Cnom/Cmax								
Polarization	Frequency (MHz)	Average Level (dBμV/m)	Average Level + Duty Cycle Factor (dBμV/m)	Average Limit (dBμV/m)	Average Margin Level (dBμV/m)	Peak Level (dBμV/m)	Peak Limit (dBμV/m)	Peak Margin Level (dBμV/m)
Horizontal	2390	35,2	35,2	54	18,8	47,6	74	26,4
Vertical	2390	34,4	34,4	54	19,6	46,4	74	27,6
Horizontal	2483.5	36	36	54	18	46,9	74	27,1
Vertical	2483.5	35,8	35,8	54	18,2	47,5	74	26,5

10.7. CONCLUSION

Unwanted emissions in non-restricted bands measurement performed on the sample of the product **HTS V1.2_US**, Sn: **APP6300033**, in configuration and description presented in this test report, show levels **compliant** to the **47 CFR PART 15.247 & RSS 247** limits.

11. UNCERTAINTIES CHART

<i>Kind of measurement</i>	<i>Wide uncertainty laboratory</i>
Occupied Channel Bandwidth	±2.8 %
Humidity	±3.2 %
Power Spectral Density, Conducted	±1.7 dB
Radio frequency	±0.3 ppm
RF power, conducted	±1.2 dB
RF power, radiated (Full anechoic chamber above 1GHz)	±3.7 dB
RF power, radiated (Semi anechoic chamber & open test site)	±5.6 dB
Spurious emission, conducted	±2.3 dB
Spurious emission, radiated (Full anechoic chamber above 1GHz)	±3.8 dB
Spurious emission, radiated (Semi anechoic chamber & open test site)	±5.7 dB
Temperature	±0.75 °C
Time	±2.3 %
Voltage	±1.7 %

The uncertainty values calculated by the laboratory are lower than limit uncertainty values defined by the standard. The conformity of the sample is directly established by the applicable limit values. This table includes all uncertainties maximum feasible for testing in the laboratory, whether or not made in this report.



----- **END OF REPORT** -----