

RRA-EMIESS25D916AGR-05Av1

This report cancels and replaces the test report N° RRA-EMIESS25D916AGR-05Av0

Certification Radio test report

According to the standard:

CFR 47 FCC PART 15

RSS GEN – Issue 5

RSS 247 – Issue 3

Equipment under test:***SafeScanPro***
GPR2**FCC ID: QG2-30024****IC NUMBER: 6252A-30024****Company:****AGRIDENT GMBH****Distribution:** Mr OTTO**(Company:** AGRIDENT GMBH)**Number of pages:** 38 with 3 annexes

Ed.	Date	Modified Page(s)	Technical Verification and Quality Approval	
			Name and Function	Visa
1	16-Mar-26	1	B. VOVAR, Radio Technician	

Duplication of this document is only permitted for an integral photographic facsimile. It includes the number of pages referenced here above.

This document is the result of testing a specimen or a sample of the product submitted. It does not imply an assessment of the conformity of the whole manufactured products of the tested sample.

Information in italics are declared by the manufacturer/customer and are under his responsibility

S51 RTY 000 INT 00015 [05]

DESIGNATION OF PRODUCT: *SafeScanPro*

Serial number (S/N): *7CK00030WC000017*

Reference / model (P/N): *GPR2*

Firmware version: *2.0.1, Jul 30 2025 - 090813*

MANUFACTURER: *AGRIDENT GMBH*

COMPANY SUBMITTING THE PRODUCT:

Company: AGRIDENT GMBH

Address: DAHLKAMPSANGER 2
30890 BARSINGHAUSEN
GERMANY

Responsible: Mr OTTO

Person(s) present during the tests: Mr LANGOUET

DATE(S) OF TEST: From 4-Aug-25 to 14-Oct-25

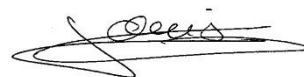
TESTING LOCATION: EMITECH ANGERS laboratory at BEAUCOUZE (49) FRANCE

FCC Accredited under US-EU MRA Designation Number: FR0009
Test Firm Registration Number: 873677

ISED Accredited under CANADA-EU MRA Designation Number: FR0001
Industry Canada Registration Number: 4452A

TESTED BY: S. LOUIS

VISA:

A handwritten signature in black ink, appearing to read "O. Louis", with a long horizontal flourish extending to the left.

WRITTEN BY: S. LOUIS

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REVISIONS HISTORY

Revision	Date	Modified pages	Modifications
0	28-Oct-25	/	Creation
1	02-Mar-26	1	Modification of FCC ID and IC Number

1. INTRODUCTION

This report presents the results of radio test carried out on the following radio equipment: **SafeScanPro GPR2**, in accordance with normative reference.

The equipment under test integrates:

- WiFi 2.4 GHz transceiver radio function not already certified,
- BLE transceiver radio part function not already certified,
- 134.2kHz RFID Reader function not already certified.

This report concerns only Bluetooth Low Energy radio part.

All tests were performed with AC/USB-C adapter to supply the equipment.

2. PRODUCT DESCRIPTION

Category of equipment (ISED):	I
Class:	B
Utilization:	General use
Antenna type and gain:	Integral Antenna Low Channel :3.66 dBi Central Channel :3.79 dBi High Channel: 3.50 dBi
Operating frequency range:	From 2400 MHz to 2483.5 MHz
Number of channels:	40
Channel spacing:	2MHz
Modulation:	GFSK
Power source:	7.4Vdc by lithium battery AC/USB-C Adapter

Power level, frequency range and channels characteristics are not user adjustable.
The details pictures of the product and the circuit boards are joined with this file.

3. NORMATIVE REFERENCE

The standards and testing methods related throughout this report are those listed below.

They are applied on the whole test report even though the extensions (version, date and amendment) are not repeated.

CFR 47 FCC Part 15 (2025) Radio Frequency Devices

ANSI C63.10 2020 + Corrigendum (2023) + Amendment 1 (2024)
Procedures for Compliance Testing of Unlicensed Wireless Devices.

558074 D01 15.247 Meas Guidance v05r02
Guidance for compliance measurements on digital transmission system, frequency hopping spread spectrum system, and hybrid system devices operating under section 15.247 of the FCC rules.

RSP-100 Issue 12, August 2019
Certification of Radio Apparatus and Broadcasting equipment

RSS-Gen Issue 5, April 2018
General Requirements for Compliance of Radio Apparatus

RSS-247 Issue 3, August 2023
Digital Transmission Systems (DTSS), Frequency Hopping Systems (FHSs) and Licence-Exempt Local Area Network (LE-LAN) Devices

4. TEST METHODOLOGY

Radio performance tests procedures given in CFR 47 part 15:

Subpart C – Intentional Radiators

- Paragraph 203: Antenna requirement
- Paragraph 205: Restricted bands of operation
- Paragraph 207: Conducted limits
- Paragraph 209: Radiated emission limits; general requirements
- Paragraph 215: Additional provisions to the general radiated emission limitations
- Paragraph 247: Operation within the bands 902-928 MHz, 2400-2483.5 MHz and 5725-5850 MHz

Radio performance tests procedures given in RSS-Gen:

- Paragraph 2 - General
- Paragraph 3 - Normative publications and related documents
- Paragraph 4 - Labelling requirements
- Paragraph 6 - General administrative and technical requirements
- Paragraph 8 - Licence-exempt Radio Apparatus

Radio performance tests procedures given in RSS-247:

- Paragraph 3 - Certification requirements
- Paragraph 4 - Measurement method
- Paragraph 5 - Standard specifications for frequency hopping systems and digital transmission systems operating in the bands 902-928 MHz, 2400-2483.5 MHz and 5725-5850 MHz

5. TEST EQUIPMENT CALIBRATION DATES

Emitech Number	Model	Type	Last calibration (DD/MM/YYYY)	Calibration interval (years)	Next calibration due (DD/MM/YYYY)
0	BAT-EMC V3.18.0.26	Software	/	/	/
1406	EMCO 6502	Loop antenna	02/04/2025	1	02/04/2026
4087	Filtek LP03/1000-7GH	Low Pass Filter	07/02/2023	3	06/02/2026
7124	A.H. Systems SAS-572	Antenna	16/05/2025	3	15/05/2028
7190	R&S HL223	Antenna	10/04/2025	3	09/04/2028
7240	Emco 3110	Biconical antenna	10/04/2025	3	09/04/2028
7299	Microtronics BRM50702	Reject band filter	18/08/2025	3	17/08/2028
7566	Testo 608-H1	Meteo station	17/12/2024	2	17/12/2026
8508	California instruments 1251RP	Power source	(1)	(1)	(1)
8548	Midwest Microwave 10dB	Attenuator	08/02/2023	3	07/02/2026
8974	STORM MICROWAE k-20cm	cable	29/01/2024	2	28/01/2026
8975	STORM MICROWAE k-20cm	cable	29/01/2024	2	28/01/2026
9489	Absorber sheath current	Emitech	06/03/2024	2	06/03/2026
10771	EMCO 3117	Antenna	30/11/2022	3	30/11/2025
10789	MATURO	Turntable and mat controller NCD	/	/	/
11536	R&S EZ-25	High Pass Filter	10/03/2025	3	10/03/2028
12590	LUCIX Corp S005180M3201	Low-noise amplifier	23/05/2025	1	23/05/2026
14304	SUCOFLEX N-2.5m	cable	11/12/2024	2	11/12/2026
14831	Fluke 177	Multimeter	22/12/2023	2	21/12/2025
15666	R&S FSV40	Spectrum Analyzer	09/04/2025	2	09/04/2027
17008	R&S ESW44	Test receiver	29/09/2025	1	29/09/2026
19154	QOTANA DBLNA317202120S	Low-noise amplifier 18- 26GHz	02/10/2025	1	02/10/2026
19274	ASC - ASC805C	Low-noise amplifier	19/12/2024	1	19/12/2025
19383	Schwarzbeck NSLK 8127	LISN	30/01/2024	3	30/01/2027
19416	Testo 608-H1	Meteo station	26/04/2024	2	26/04/2026

(1) The equipment is not verified; instead, the output voltage is checked before each measurement with the calibrated multimeter.

Emitech Number	Model	Type	Last calibration (DD/MM/YYYY)	Calibration interval (years)	Next calibration due (DD/MM/YYYY)
19877	HYTEM - N - 5m	Cable	30/08/2024	2	30/08/2026
19887	HYTEM - N - 1m	Cable	30/08/2024	2	30/08/2026
19898	HYTEM - N - 2.5m	Cable	30/08/2024	2	30/08/2026
19907	HYTEM - N - 5.8m	Cable	30/08/2024	2	30/08/2026
20040	COMTEST FAR-2	Anechoic chamber	/	/	/
20042	EMITECH 3B	Outside Room	/	/	/
//	RS Commander V2.4.2	Software	/	/	/

6. TESTS RESULTS SUMMARY

6.1 CFR 47 part 15 requirements

Test procedure	Description of test	Respected criteria?				Comment
		Yes	No	NAp	NAs	
FCC Part 15.203	ANTENNA REQUIREMENT	X				Note 1
FCC Part 15.205	RESTRICTED BANDS OF OPERATION	X				
FCC Part 15.207	CONDUCTED LIMITS	X				
FCC Part 15.209	RADIATED EMISSION LIMITS; general requirements	X				Note 2
FCC Part 15.212	MODULAR TRANSMITTERS			X		
FCC part 15.215	ADDITIONAL PROVISIONS TO THE GENERAL RADIATED EMISSION LIMITATIONS					
	(a) Alternative to general radiated emission limits	X				
	(b) Unwanted emissions outside of §15.247 frequency bands	X				Note 3
	(c) 20 dB bandwidth and band-edge compliance	X				
FCC Part 15.247	OPERATION WITHIN THE BANDS 902-928 MHz, 2400-2483.5 MHz and 5725-5850 MHz					
	(a) (1) Hopping systems			X		
	(a) (2) Digital modulation techniques	X				Note 5
	(b) Maximum peak output power	X				Note 4
	(c) Operation with directional antenna gains > 6 dBi			X		
	(d) Intentional radiator	X				
	(e) Peak power spectral density	X				
	(f) Hybrid system			X		
	(g) Frequency hopping requirements			X		
	(h) Frequency hopping intelligence			X		
	(i) RF exposure compliance	X				See MPE report

NAp: Not Applicable

NAs: Not Asked

Note 1: Integral antenna without standard connector.

Note 2: See FCC part 15.247 (d).

Note 3: See FCC part 15.209. Unwanted emissions levels are all below the fundamental emission field strength level.

Note 4: Conducted measurement is not possible (integral antenna), so we used the radiated method.

Note 5: The minimum 6 dB bandwidth of the equipment is 616.5 kHz.

6.2 RSS-Gen requirements

Test procedure	Description of test	Respected criteria?				Comment
		Yes	No	NAp	NAs	
Paragraph 2	General	X				
Paragraph 3	Normative publications and related documents	X				
Paragraph 4	Labelling requirements	X				
Paragraph 6	General administrative and technical requirements	X				
§ 6.7	Occupied bandwidth (or 99% emission bandwidth) and x dB bandwidth	X				
Paragraph 8	Licence-exempt radio apparatus					
§ 8.1	Measurement Bandwidths and Detector Functions	X				
§ 8.2	Pulsed operation	X				
§ 8.3	Prohibition of amplifiers	X				
§ 8.4	User manual notice	X				See certification documents
§ 8.5	Measurement of licence-exempt devices on-site (in-situ)			X		
§ 8.6	Operating frequency range of devices in master/slave networks	X				
§ 8.7	Radio frequency identification (RFID) devices			X		
§ 8.8	AC power line conducted emissions limits	X				
§ 8.9	Transmitter emission limits	X				
§ 8.10	Restricted frequency bands	X				
§ 8.11	Frequency stability			X		

NAP: Not Applicable

NAs: Not Asked

6.3 RSS-247 requirements

Test Procedure RSS-247	Description of test	Respected criteria?				Comment
		Yes	No	NAp	NAs	
Paragraph 5	Standard specifications for frequency hopping system and digital transmission systems operating in the bands 902-928 MHz, 2400-2483.5 MHz and 5725-5850 MHz					
5.1	Frequency hopping systems (FHSS)			X		
5.2	Digital transmission systems	X				Note 1
5.3	Hybrid systems			X		
5.4	Transmitter output power and equivalent isotropically radiated power (e.i.r.p.) requirements	X				
5.5	Unwanted emissions	X				

NAP: Not Applicable

NAs: Not Asked

Note 1: The minimum 6 dB bandwidth of the equipment is 616.5 kHz.

7. MEASUREMENT UNCERTAINTY

To declare, or not, the compliance with the specifications, it was not explicitly taken into account of uncertainty associated with the result(s)

The reported expanded uncertainty of measurement is stated as the standard uncertainty of measurement multiplied by the coverage factor $k=2$, which for normal distribution corresponds to a coverage probability of approximately 95%.

PARAMETER	MAXIMAL EMITECH UNCERTAINTY	MINIMAL STANDARD UNCERTAINTY
Radio frequency	$\pm 1 \times 10^{-7}$	$\pm 1 \times 10^{-7}$
RF power, conducted		
RF power	$\pm 0.8\text{dB}$	$\pm 1\text{ dB}$
RF power (EN 300328 / EN 301893)	$\pm 1.2\text{dB}$	$\pm 1.5\text{ dB}$
Power spectral density	$\pm 2.7\text{dB}$	$\pm 3\text{ dB}$
Occupied bandwidth		
RF power	$\pm 3.8\%$	$\pm 5\%$
RF power (EN 300328 / EN 301893)	$\pm 3.8\%$	$\pm 5\%$
Maximum frequency deviation		
300 Hz < audio frequency < 6 kHz	$\pm 1.2\%$	$\pm 5\%$
6 kHz < audio frequency < 25 kHz	$\pm 1.2\%$	$\pm 3\text{ dB}$
Adjacent channel power	$\pm 1.6\text{ dB}$	$\pm 3\text{ dB}$
Sensitivity of receiver (conducted)	$\pm 1.9\text{ dB}$	$\pm 3\text{ dB}$
Blocking	$\pm 3.9\text{ dB}$	$\pm 4\text{ dB}$
Transient		
Amplitude	$\pm 8.5\%$	$\pm 20\%$
At the frequency	$\pm 166\text{ Hz}$	$\pm 250\text{ Hz}$
Conducted emission (spurious)		
$f \leq 1\text{ GHz}$	$\pm 0.8\text{ dB}$	$\pm 3\text{ dB}$
1 GHz - 12.75 GHz	$\pm 1.6\text{ dB}$	
Radiated power (ERP / EIRP / spurious)		
$f \leq 62.5\text{ MHz}$	$\pm 5.2\text{ dB}$	$\pm 6\text{ dB}$
62.5 MHz - 1 GHz	$\pm 5.4\text{ dB}$	$\pm 6\text{ dB}$
1 GHz - 18 GHz(–)	$\pm 5.2\text{ dB}$	$\pm 6\text{ dB}$
18 GHz – 40 GHz	$\pm 5.9\text{ dB}$	$\pm 6\text{ dB}$
40 GHz – 110 GHz	$\pm 5.9\text{ dB}$	Between ± 6 to 10 dB
180-1000 MHz / 1 – 12.75 GHz (EN 301908-1)	$\pm 2.8 / 2.7\text{ dB}$	$\pm 3\text{ dB}$
RF power (EN 300328 / EN 301893)	$\pm 5.3\text{ dB}$	$\pm 6\text{ dB}$
EIRP and power spectral density with diode	$\pm 5.4\text{ dB}$	$\pm 6\text{ dB}$
Radiated emission (magnetic field)		
9kHz – 30MHz	$\pm 4.3\text{ dB}$	$\pm 6\text{ dB}$
RF level for a given BER	$\pm 0.8\text{ dB}$	$\pm 1.5\text{ dB}$
Supply voltages	$\pm 2.9\%$	$\pm 3\%$
Temperature	$\pm 0.95\text{ °C}$	$\pm 1\text{ °C}$
Humidity	$\pm 4.6\%$	$\pm 5\%$
Time / Duty cycle (power probe)	$\pm 4.4\%$	$\pm 5\%$
Time (spectrum analyzer)	$\pm 0.3\%$	/
Adaptivity	$\pm 4.2\text{ dB}$	/

PARAMETER	MAXIMAL EMITECH UNCERTAINTY	MINIMAL STANDARD UNCERTAINTY
Conducted emission (FCC) (Artificial Mains Network) 150kHz – 30MHz	± 3.7 dB	/
Radiated emission (electric field for FCC standard) 9kHz – 30MHz	± 4.3 dB	/
30MHz – 1GHz	± 5.9 dB	/
1GHz – 18GHz	$\pm 4,8$ dB	/
18GHz – 40GHz	$\pm 5,9$ dB	/
40GHz – 140GHz	± 5.7 dB	/
Radiated power (EIRP / spurious) vehicle chamber n°19046		
1 GHz - 6 GHz	± 9.9 dB	± 6 dB
6 GHz - 18 GHz	± 5.9 dB	± 6 dB

8. AC CONDUCTED EMISSIONS

Temperature (°C) : 22

Humidity (%HR): 48

Date : October 14, 2025

Technician : S. LOUIS

Standard: FCC Part 15
RSS-Gen

Test procedure:

For FCC Part 15: Paragraph 15.207

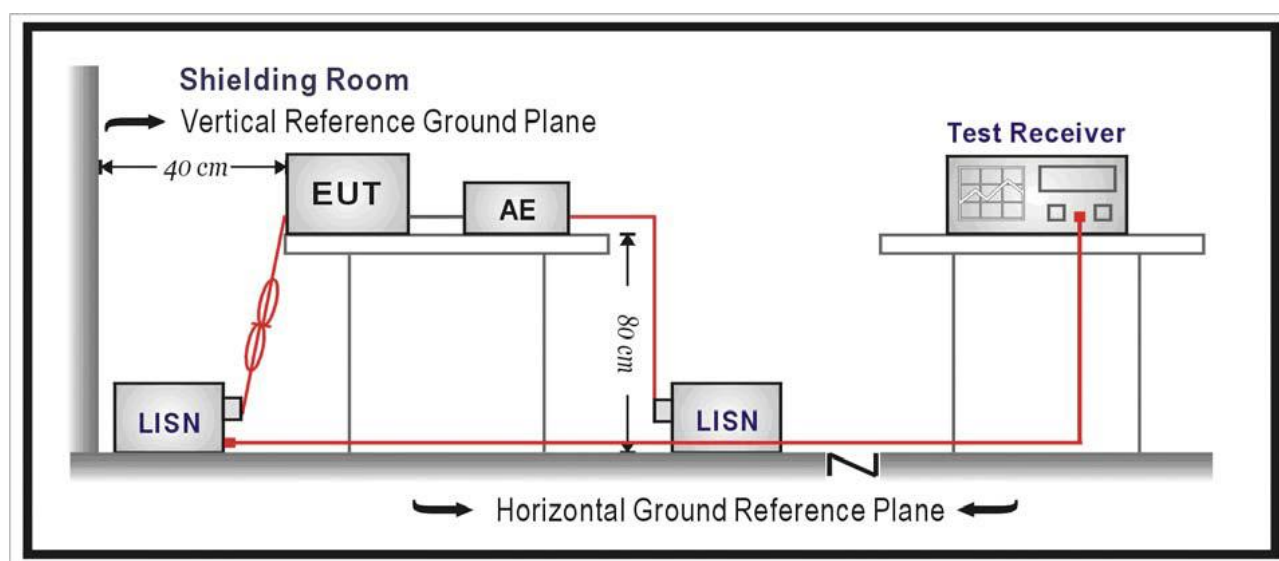
For RSS-Gen: Paragraph 8.8

Method of paragraph 6.2 of ANSI C63.10

Software used: BAT-EMC V3.18.0.26

Test set up:

The EUT is isolated and placed on a wooden table, 0.8 m over an horizontal reference plane and 0.4 m from a vertical reference plane. It is powered by an artificial main network placed on the ground reference plane. The equipment is powered with the AC power operating voltage of 120 V / 60 Hz.



Frequency range: 150 kHz - 30 MHz

Detection mode: Peak / Quasi-peak / Average

Bandwidth: 10 kHz / 9 kHz

Equipment under test operating condition:

The equipment under test is blocked in advertising discontinuous modulated transmission mode, at the highest output power level at which the transmitter is intended to operate.

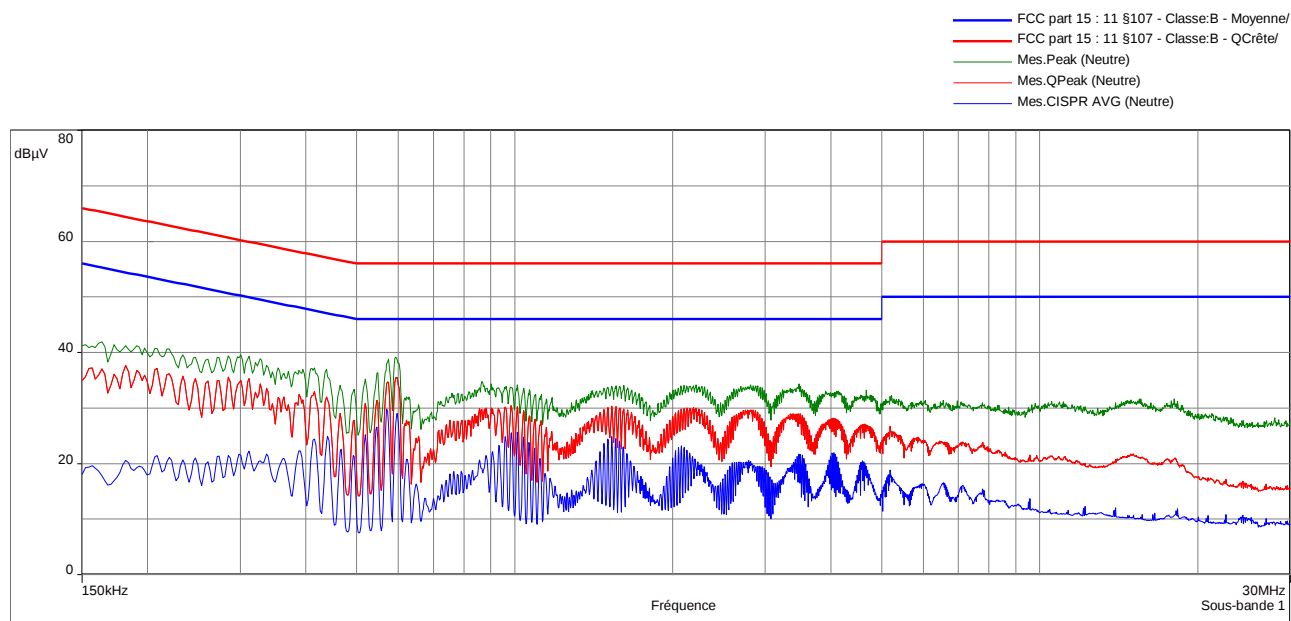
Results:

Sample N° 1:

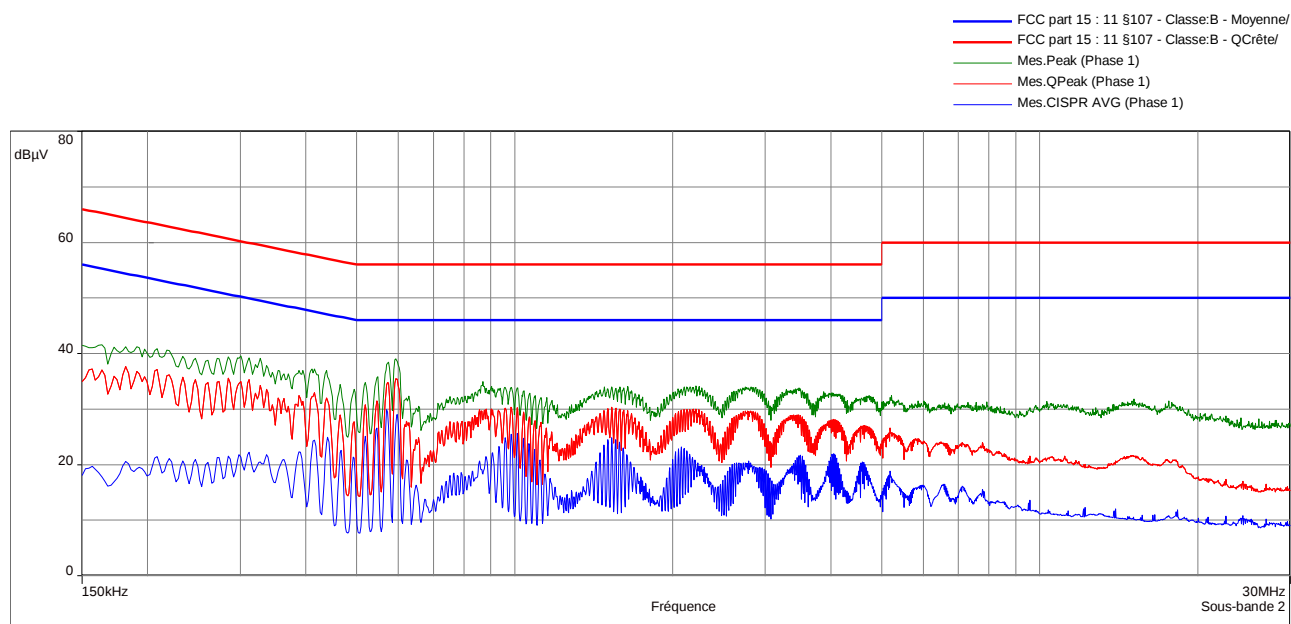
Measurement on the mains power supply:

The measurement is first realized with peak detector.

Curve N° 1: measurement on the Neutral with peak detector



Curve N° 2: measurement on the Line with peak detector



The highest frequencies are then analyzed with Quasi-peak detector and Average detector

Table N° 1: measurement on the Neutral, for the frequency range:

Frequency (MHz)	Quasi-peak (dBμV)	QP Limit (dBμV)	QP margin (dB)
0.181	37.6	64.4	26.8
0.573	34.7	56	21.3
0.597	35.5	56	20.5
0.984	30.4	56	25.6
1.531	30.3	56	25.7
2.103	29.9	56	26.1

Frequency (MHz)	Average (dBμV)	Average Limit (dBμV)	Average margin (dB)
0.181	21.4	54.4	33.0
0.573	29.8	46	16.2
0.597	29.0	46	17.0
0.984	25.6	46	20.4
1.531	24.8	46	21.2
2.103	23.2	46	22.8

Table N° 2: measurement on the Line, for the frequency range:

Frequency (MHz)	Quasi-peak (dBμV)	QP Limit (dBμV)	QP margin (dB)
0.312	35.3	60	24.7
0.415	32.9	57.5	24.6
0.573	34.7	56	21.3
0.597	35.4	56	20.6
0.984	30.4	56	25.6
1.531	30.3	56	25.7

Frequency (MHz)	Average (dBμV)	Average Limit (dBμV)	Average margin (dB)
0.312	22.2	50	27.8
0.415	24.4	47.5	23.1
0.573	29.9	46	16.1
0.597	29.0	46	17.0
0.984	25.4	46	20.6
1.531	24.8	46	21.2

Test conclusion:

RESPECTED STANDARD

9. OCCUPIED BANDWIDTH

Temperature (°C) : 25

Humidity (%HR): 39

Date : August 7, 2025

Technician : S. LOUIS

Standard: FCC Part 15
RSS-247

Test procedure:

Method of paragraphs 11.8 of ANSI C63.10 (6dB Measurement)

Method of paragraphs 6.9.3 of ANSI C63.10 (99% Measurement)

Test set up:

Radiated test

Test realized in near field.

Setting:

Measure	6dB	99%
Center frequency	The centre frequency of the channel under test	
Detector	Peak	
Span	2 to 5 times the OBW	1.5 to 5 times the OBW
RBW	100kHz	1% to 5% of the OBW
VBW	300kHz	3 x RBW
Trace	Max hold	
Sweep	Auto	

Test operating condition of the equipment:

The equipment under test is blocked in advertising discontinuous modulated transmission mode, at the highest output power level at which the transmitter is intended to operate.

Power source: 120 Vac by an external power supply

Percentage of voltage variation during the test (%): ± 1

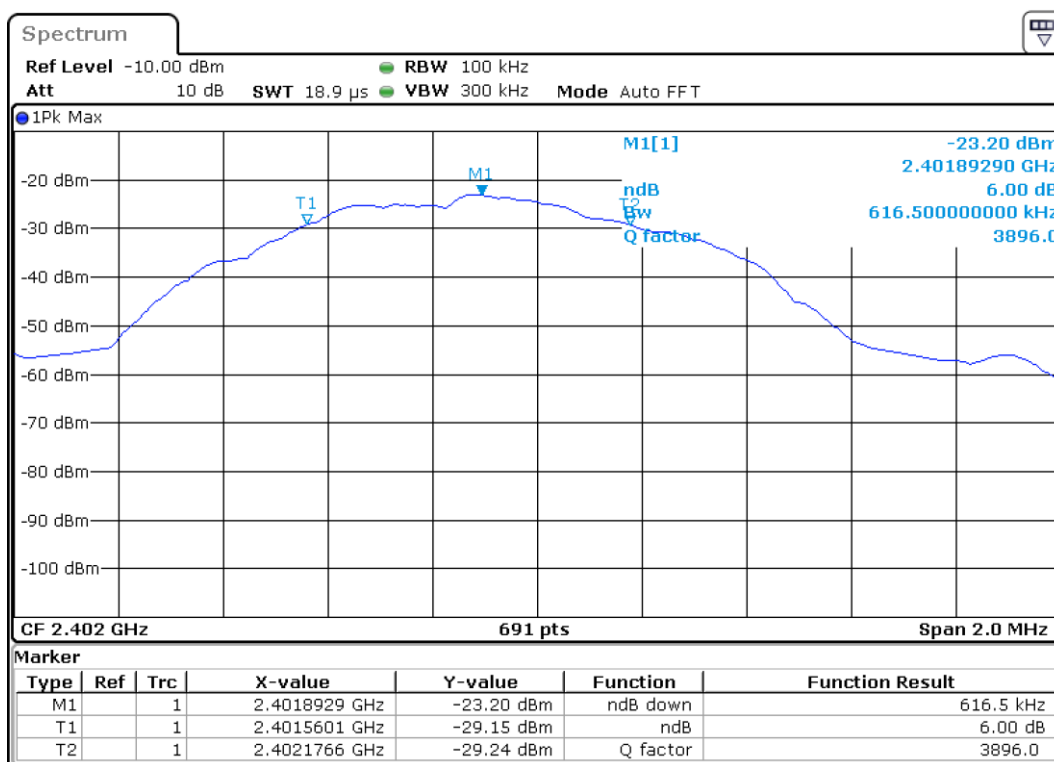
Results:

EUT	Channel	Frequency (MHz)	6 dB Emissions Bandwidth (kHz)
Sample 1	37	2402	616.5
Sample 1	38	2426	622.3
Sample 1	39	2480	616.5

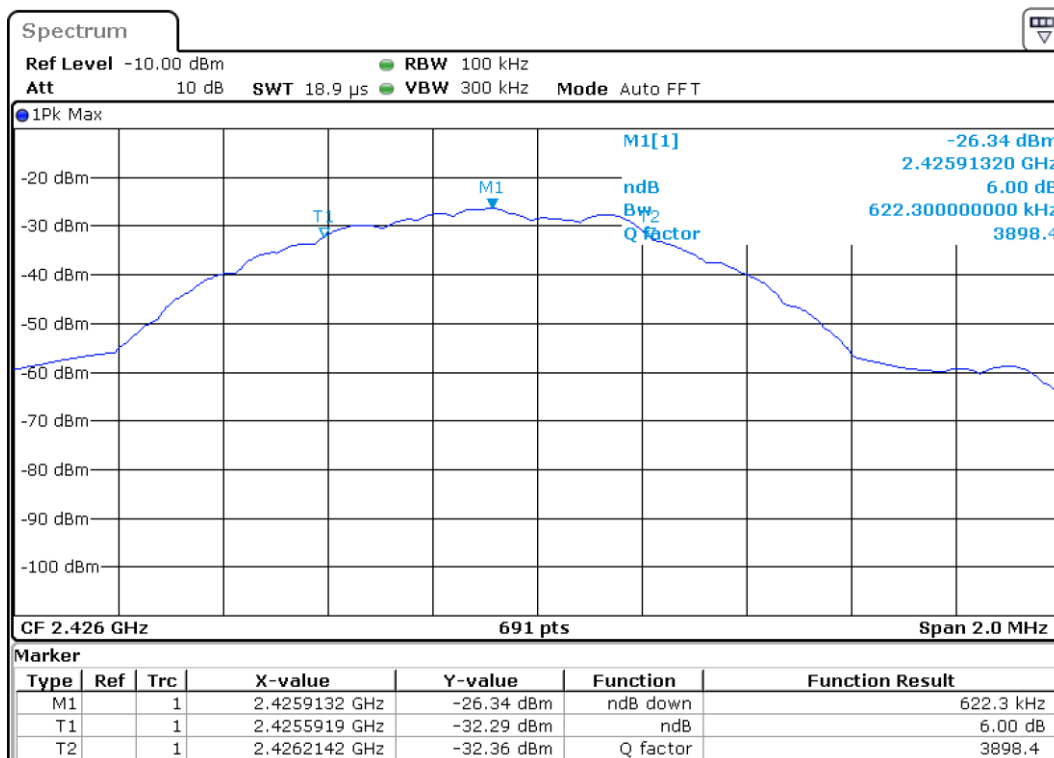
EUT	Channel	Frequency (MHz)	99% Emissions Bandwidth (MHz)
Sample 1	37	2402	1.028
Sample 1	38	2426	1.033
Sample 1	39	2480	1.028

Sample N° 1

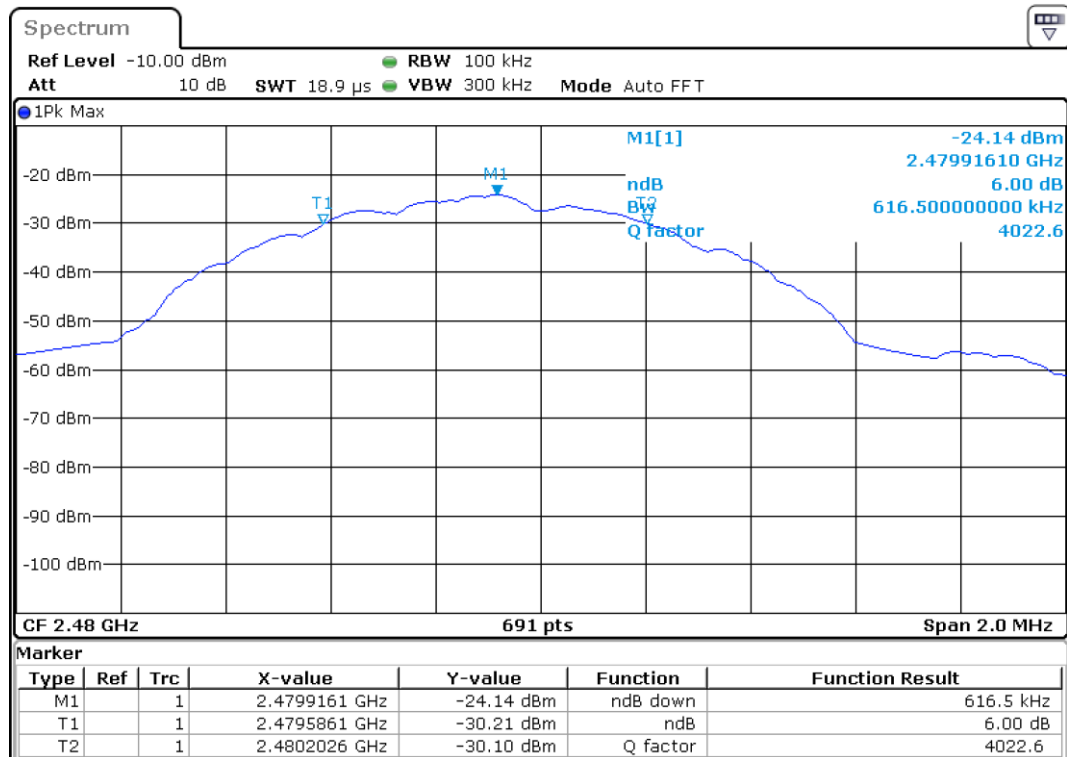
6dB bandwidth – Channel 2402 MHz



6dB bandwidth – Channel 2426 MHz



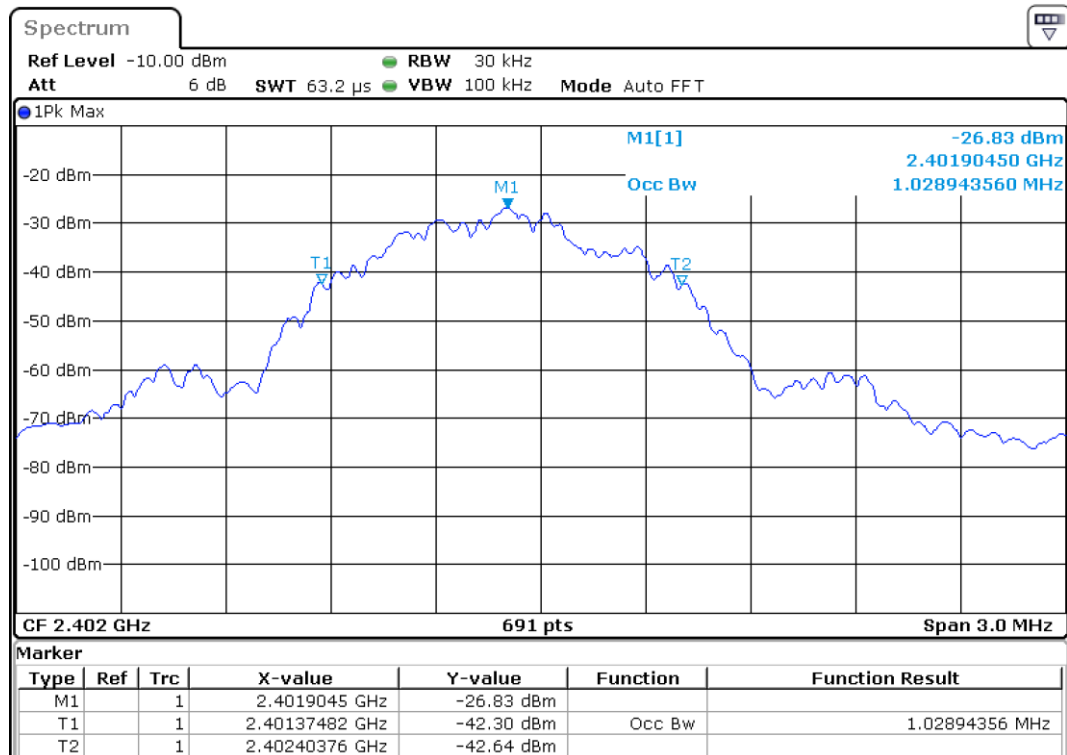
6dB bandwidth – Channel 2480 MHz



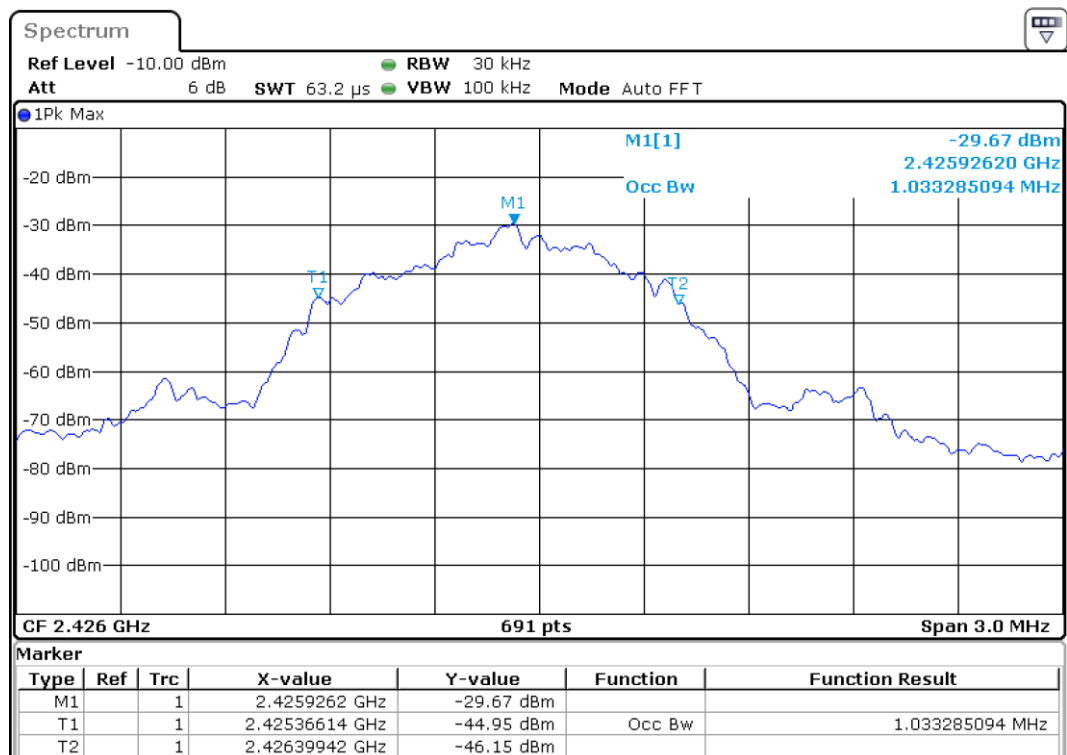
Limit:

Shall be at least 500 kHz

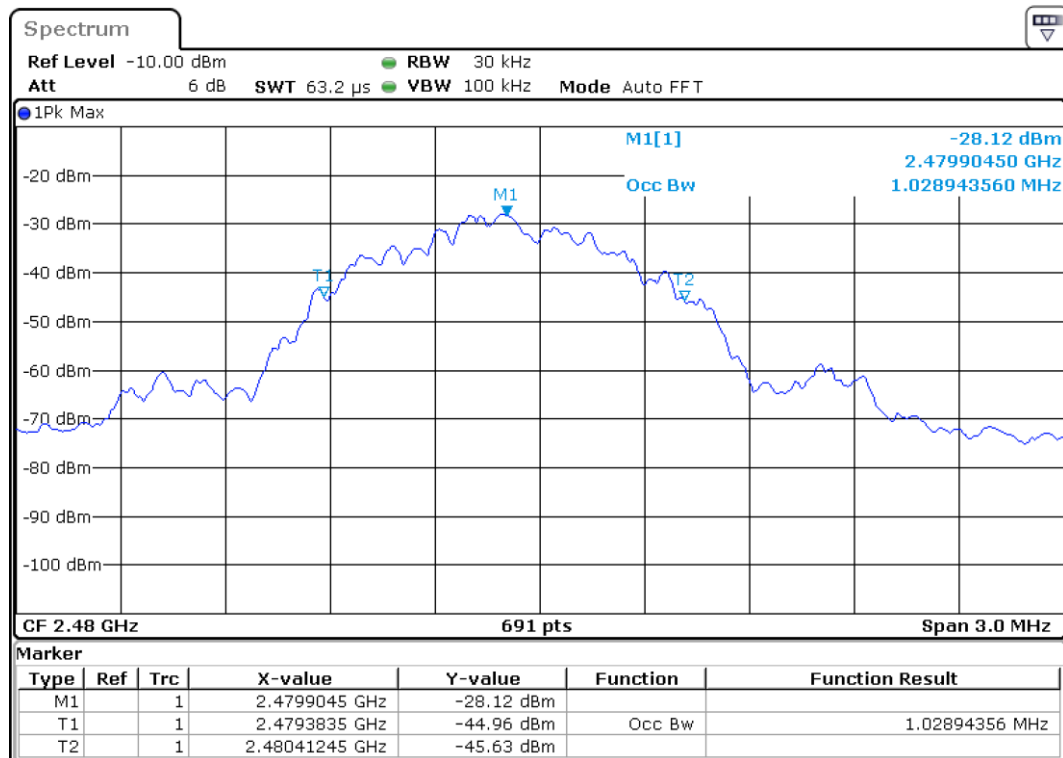
99% bandwidth – Channel 2402 MHz



99% bandwidth – Channel 2426 MHz



99% bandwidth – Channel 2480 MHz



Measure realized for reporting only

Test conclusion:

RESPECTED STANDARD

10. BAND EDGE

Temperature (°C) : 25

Humidity (%HR): 29

Date : August 7, 2025

Technician : S. LOUIS

Standard: FCC Part 15
RSS-247

Test procedure:

DTS:

Method of paragraph 11.13.2 of ANSI C63.10

Method of paragraph 11.13.3 of ANSI C63.10

Test set up:

Test realized in near field. All field strength measurements are correlated with the radiated maximum peak output power.

Test operating condition of the equipment:

The equipment under test is blocked in advertising discontinuous modulated transmission mode, at the highest output power level at which the transmitter is intended to operate.

Results:

Lower Band Edge: From 2398 MHz to 2400 MHz

Upper Band Edge: From 2483.5 MHz to 2485.5 MHz

Sample N° 1

Fundamental frequency (MHz)	Field Strength Level of fundamental (dBμV/m)	RBW (kHz)	Detector (Peak or Average)	Frequency of maximum Band-edges Emission (MHz)	Delta Marker (dB) (1)	Calculated Max Out-of-Band Emission Level (dBμV/m)	Limit (dBμV/m)	Margin (dB)
2402	105.6	100	Peak	2399.72	50.4	55.2	85.6	30.4
2480	104.4	1000	Peak	2483.51	52.3	52.1 (2)	54	1.9

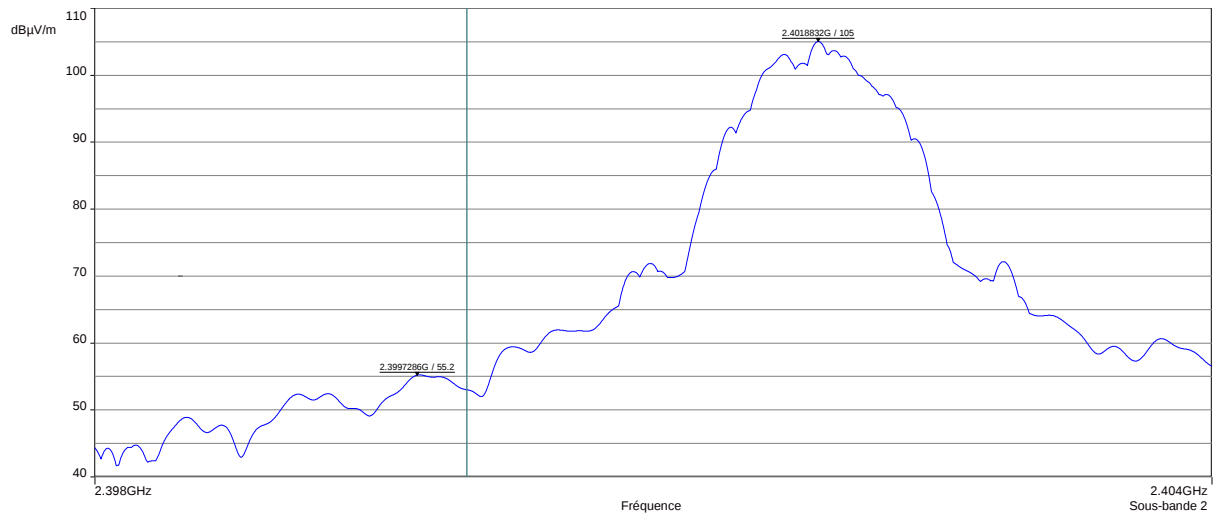
(1) Marker-Delta method

(2) The peak level is lower than the average limit (54 dBμV/m)

Sample N° 1 Channel 37 (F = 2402 MHz) – BLE

LEGEND:

- Results obtained with 100 kHz RBW
- Blue curve represent measure with a peak detector
- Green curve are the limit of the band. (2400 MHz)

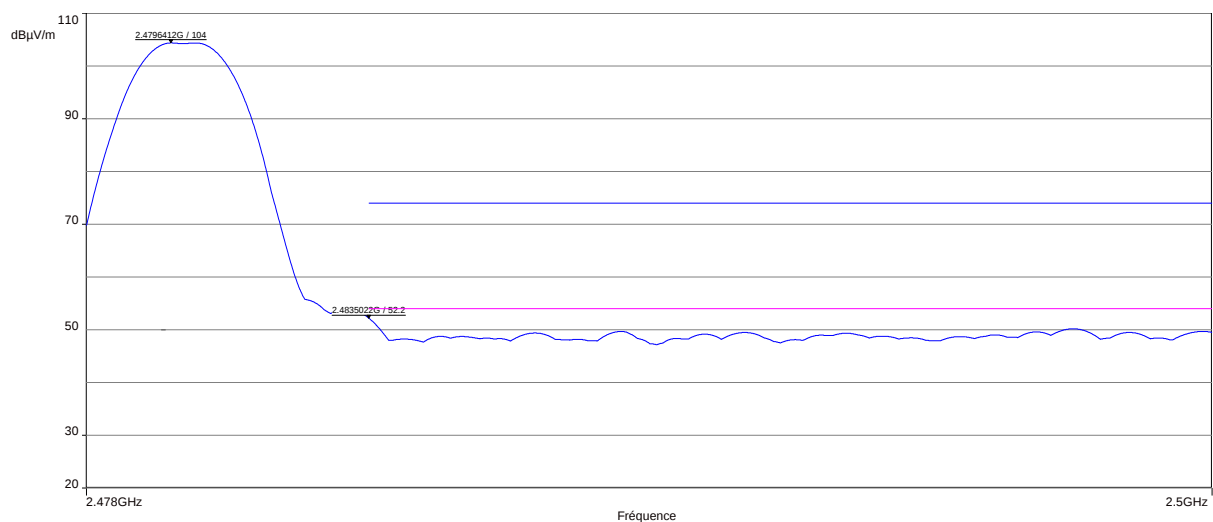


Sample N° 1 Channel 39 (F = 2480 MHz) – BLE

LEGEND:

- Results obtained with 1 MHz RBW
- Blue curve represent measure and limit with a peak detector
- Pink curve: limit with average detector.

High channel



Test conclusion:

RESPECTED STANDARD

11. PEAK CONDUCTED OUTPUT POWER**Temperature (°C) :** 25**Humidity (%HR):** 39**Date :** August 7, 2025**Technician :** S. LOUIS**Standard:** FCC Part 15
RSS-247**Test procedure:**

For FCC Part 15: paragraph 15.247 (b)

For RSS-247: paragraph 5.4

RBW≥DTS bandwidth method of paragraph 11.9.1.1 of ANSI C63.10

Test set up: (Refer Appendix 3)

First an exploratory radiated measurement was performed.

During this phase the product is oriented in three orthogonal planes.

Then the final measurement is realized with the product on the most critical orientation.

The system is tested in anechoic chamber, the EUT is placed on a rotating table, 1.5 m from a ground plane.

Zero degree azimuths correspond to the front of the device under test.

Distance of antenna: 3 meters**Antenna height:** 1 to 2.5 meters**Antenna polarization:** vertical and horizontal (only the highest level is recorded)

The measurement of the radiated electro-magnetic field is realized with an analyser and peak detector. The resolution bandwidth is adjusted at 3 MHz and video bandwidth at 10 MHz. (11.9.1.1 of ANSI C63.10)

Finally the radiated electro-magnetic field is converted in dBm with the following formula:

$$\text{EIRP(dBm)} = E \text{ (dB}\mu\text{V/m)} + 20\log(D) - 104.8;$$
 where D is the measurement distance in meters and antenna.**Antenna gain:** Low Channel :3.66 dBi
Central Channel :3.79 dBi
High Channel: 3.50 dBi

Equipment under test operating condition:

The equipment under test is blocked in advertising discontinuous modulated transmission mode, at the highest output power level at which the transmitter is intended to operate.

Power source: 120 Vac by an external power supply

Percentage of voltage variation during the test (%): ± 1

Results:

Sample N° 1 Channel 37 (F = 2402 MHz)

	Electro-magnetic field (dB μ V/m):	Maximum Peak conducted output power		Limit (W)
		(dBm)	(W)	
Nominal supply voltage:	105.6	6.71	0.00469	1

Polarization of test antenna: Vertical (height: 146 cm)

Position of equipment: Position 1 - (azimuth: 345 degrees)

Maximum Peak conducted output power:

EIRP(dBm) = E (dB μ V/m) + 20log(D) - 104.8; where D is the measurement distance in meters and antenna Gain = 3.66 dBi.

Sample N° 1 Channel 38 (F = 2426 MHz)

	Electro-magnetic field (dB μ V/m):	Maximum Peak conducted output power		Limit (W)
		(dBm)	(W)	
Nominal supply voltage:	104.2	5.18	0.00330	1

Polarization of test antenna: Vertical (height: 108 cm)

Position of equipment: Position 1 - (azimuth: 357 degrees)

Maximum Peak conducted output power:

EIRP(dBm) = E (dB μ V/m) + 20log(D) - 104.8; where D is the measurement distance in meters and antenna Gain = 3.79 dBi.

Sample N° 1 Channel 39 (F = 2480 MHz)

	Electro-magnetic field (dBμV/m):	Maximum Peak conducted output power		Limit (W)
		(dBm)	(W)	
Nominal supply voltage:	104.4	5.67	0.00369	1

Polarization of test antenna: Vertical (height: 105 cm)

Position of equipment: Position 1 - (azimuth: 340 degrees)

Maximum Peak conducted output power:

$EIRP(dBm) = E (dBμV/m) + 20\log(D) - 104.8$; where D is the measurement distance in meters and antenna

Gain = 3.50 dBi.

Test conclusion:

RESPECTED STANDARD

12. RADIATED SPURIOUS EMISSIONS**Temperature (°C) :** 24**Humidity (%HR):** 42**Date :** August 8, 2025**Technician :** S. LOUIS**Standard:** FCC Part 15
RSS-247**Test procedure:**

For FCC Part 15: paragraph 15.205, paragraph 15.209, paragraph 15.247 (d)

For RSS-247: paragraph 5.5

Emissions in non-restricted frequency bands method of paragraph 11.11 of ANSI C63.10

Emissions in restricted frequency bands method of paragraph 11.12 of ANSI C63.10

Test set up: (Refer Appendix 3)

First an exploratory radiated measurement was performed.

During this phase the product is oriented in three orthogonal planes.

Then the final measurement is realized with the product on the most critical orientation.

The measure is realized in semi anechoic room under 1 GHz and in anechoic chamber above 1 GHz.

When the system is tested in semi anechoic room, the EUT is placed on a rotating table, 0.8m from a ground plane.

When system is tested in anechoic chamber, the EUT is placed on a rotating table, 1.5 m from a ground plane.

Zero degree azimuths correspond to the front of the device under test.

Frequency range: From 9 kHz to 10th harmonic of the highest fundamental frequency (2480MHz)**Detection mode:** Quasi-peak ($F < 1 \text{ GHz}$)Peak / Average ($F > 1 \text{ GHz}$)**Bandwidth:** 200Hz ($9 \text{ kHz} < F < 150\text{kHz}$)
9 kHz ($150 \text{ kHz} < F < 30\text{MHz}$)
120 kHz ($30 \text{ MHz} < F < 1 \text{ GHz}$)
100 kHz / 1 MHz ($F > 1 \text{ GHz}$)**Distance of antenna:** 3 meters**Antenna height:** 1 to 2.5 meters**Antenna polarization:** vertical and horizontal (only the highest level is recorded)

Equipment under test operating condition:

The equipment under test is blocked in advertising discontinuous modulated transmission mode, at the highest output power level at which the transmitter is intended to operate.

Power source: 120 Vac by an external power supply

Percentage of voltage variation during the test (%): ± 1

Results:

Sample N° 1 Channel 37 (F = 2402 MHz)

Frequencies (MHz)	Detector P QP Av	RBW (kHz)	Position	Polarization H: Horizontal V: Vertical	Field strength Measured at 3m (dBμV/m)	Limits at 3 m (dBμV/m)	Margin (dB)
7206	P	100	3	H	60.8	84.2	23.4
12010 (1)	P	1000	2	V	58.3	74	15.7
12010 (1)	Av	1000	2	V	51.9	54	2.1

P= Peak, QP=Quasi-peak, Av=Average

(1) Restricted bands of operation in 15.205

(1) Restricted bands of operation as defined in Table 6 of RSS-Gen

Sample N° 1 Channel 38 (F = 2426 MHz)

Frequencies (MHz)	Detector P QP Av	RBW (kHz)	Position	Polarization H: Horizontal V: Vertical	Field strength Measured at 3m (dBμV/m)	Limits at 3 m (dBμV/m)	Margin (dB)
7278 (1)	P	1000	3	H	60.3	74	13.7
7278 (1)	Av	1000	3	H	53.8	54	0.2
12130 (1)	P	1000	1	H	58.3	74	15.7
12130 (1)	Av	1000	1	H	51.7	54	2.3

P= Peak, QP=Quasi-peak, Av=Average

(1) Restricted bands of operation in 15.205

(1) Restricted bands of operation as defined in Table 6 of RSS-Gen

Sample N° 1 Channel 39 (F = 2480 MHz)

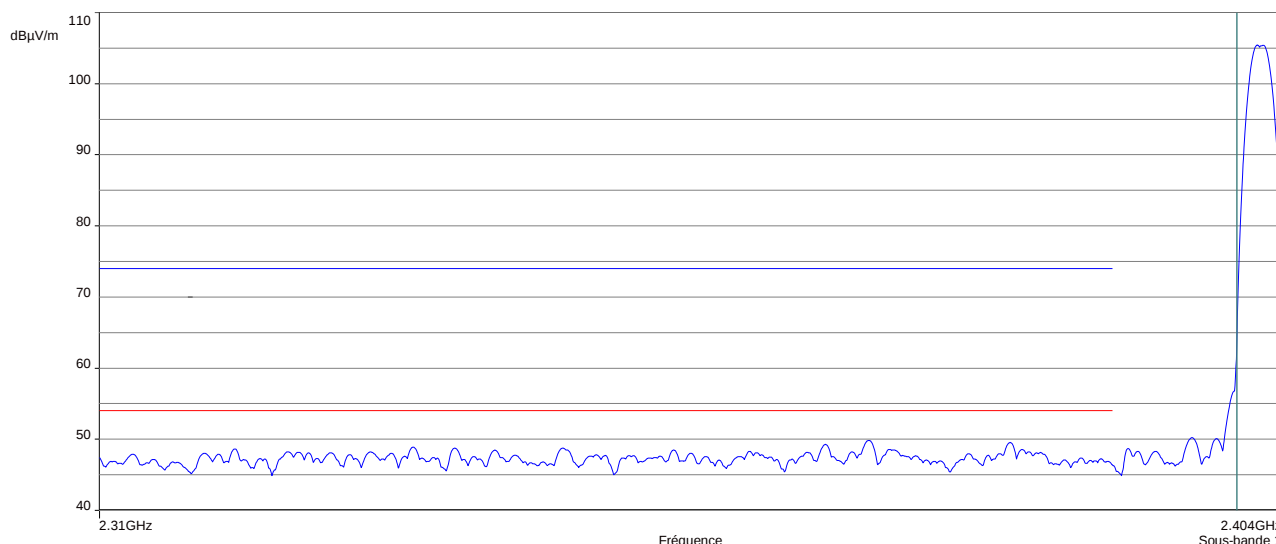
Frequencies (MHz)	Detector P QP Av	RBW (kHz)	Position	Polarization H: Horizontal V: Vertical	Field strength Measured at 3m (dBμV/m)	Limits at 3 m (dBμV/m)	Margin (dB)
7440 (1)	P	1000	3	H	60.1	74	13.9
7440 (1)	Av	1000	3	H	53.9	54	0.1
12400 (1)	P	1000	3	H	60.5	74	13.5
12400 (1)	Av	1000	3	H	53.7	54	0.3

P= Peak, QP=Quasi-peak, Av=Average

(1) Restricted bands of operation in 15.205

(1) Restricted bands of operation as defined in Table 6 of RSS-Gen

Band edge worst case measurement (band 2.31GHz to 2.39GHz)



Applicable limits: In any 100 kHz bandwidth outside the frequency band in which the spread spectrum or digitally modulated intentional radiator is operating, the radio frequency power that is produced by the intentional radiator shall be at least 20 dB below that in the 100 kHz bandwidth within the band that contains the highest level of the desired power.

The highest level recorded in a 100 kHz bandwidth is 104.2 dBμV/m on high channel.

So the applicable limit is 84.2 dBμV/m.

In addition, radiated emissions which fall in the restricted band, as defined in section 15.205 (a), must also comply with the radiated emission limits specified in section 15.209 (a) (see section 15.205 (c)).

In addition, radiated emissions which fall in the restricted band, as defined in Table 6 of RSS-Gen, must also comply with the radiated emission limits specified in Table 4 and Table 5 of RSS-Gen.

Test conclusion:

RESPECTED STANDARD

13. PEAK CONDUCTED POWER SPECTRAL DENSITY**Temperature (°C) :** 25**Humidity (%HR):** 39**Date :** August 7, 2025**Technician :** S. LOUIS**Standard:** FCC Part 15
RSS-247**Test procedure:**

For FCC Part 15: paragraph 15.247 (e), paragraph 15.247 (f)

For RSS-247: paragraph 5.2

PKPSD (Peak PSD) method of paragraph 11.10.2 of ANSI C63.10

Test set up: (Refer Appendix 3)

First an exploratory radiated measurement was performed.

During this phase the product is oriented in three orthogonal planes.

Then the final measurement is realized with the product on the most critical orientation.

The system is tested in anechoic chamber, the EUT is placed on a rotating table, 1.5 m from a ground plane.

Zero degree azimuths correspond to the front of the device under test.

Distance of antenna: 3 meters**Antenna height:** 1 to 2.5 meters**Antenna polarization:** vertical and horizontal (only the highest level is recorded)

The measurement of the radiated electro-magnetic field is realized with an analyser.

Span:	4 MHz
Resolution bandwidth:	3kHz
Video bandwidth:	10kHz
Detector:	Peak
Number of points:	8001
Sweep time:	Auto
Trace mode:	MaxHold

Then the peak marker function is used.

Finally the radiated electro-magnetic field is converted in dBm with the following formula:

$$\text{EIRP(dBm)} = E \text{ (dB}\mu\text{V/m)} + 20\log(D) - 104.8;$$
 where D is the measurement distance in meters and antenna

Antenna gain:	Low Channel :3.66 dBi
	Central Channel :3.79 dBi
	High Channel: 3.50 dBi

Equipment under test operating condition:

The equipment under test is blocked in advertising dis continuous modulated transmission mode, at the highest output power level at which the transmitter is intended to operate.

Power source: 120 Vac by an external power supply

Percentage of voltage variation during the test (%): ± 1

Results:

Sample N° 1 Channel 37 (F = 2402 MHz)

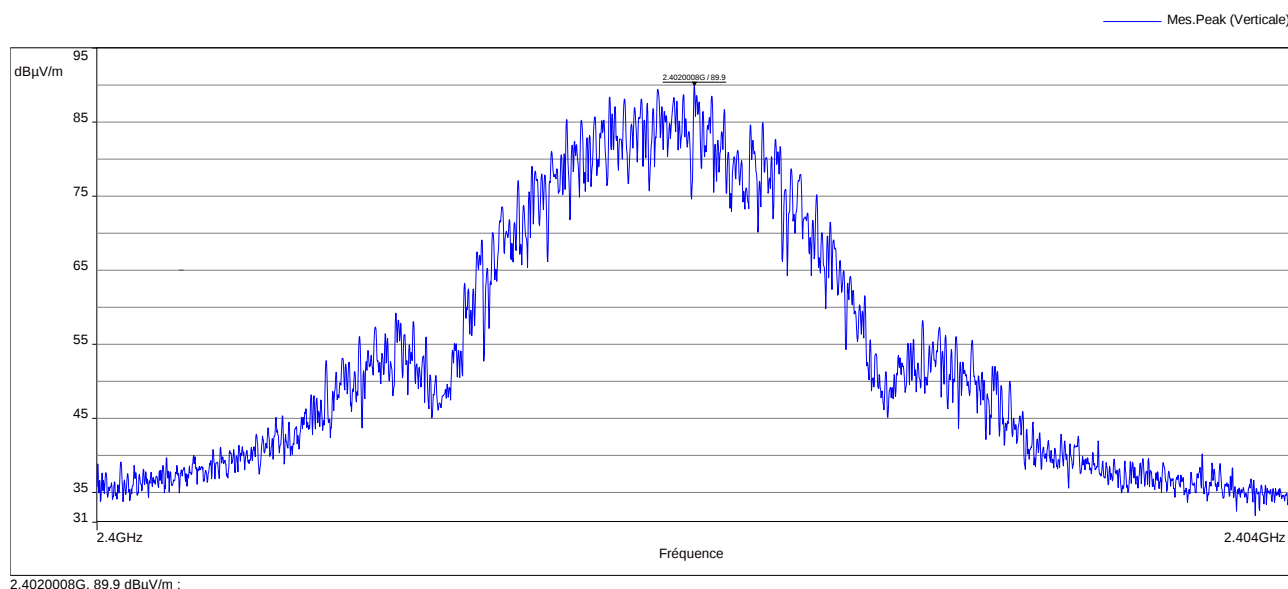
	Electro-magnetic field (dBμV/m):	Maximum Peak conducted power density (dBm / 3 kHz)	Limit (dBm / 3 kHz)
Nominal supply voltage:	89.9	-8.99	8

Polarization of test antenna: Vertical (height: 146 cm)

Position of equipment: Position 1 - (azimuth: 345 degrees)

Maximum Peak conducted power density:

$EIRP(dBm / 3 \text{ kHz}) = E (dB\mu V/m / 3 \text{ kHz}) + 20\log(D) - 104.8$; where D is the measurement distance in meters and antenna Gain = 3.66 dBi.



Sample N° 1 Channel 38 (F = 2426 MHz)

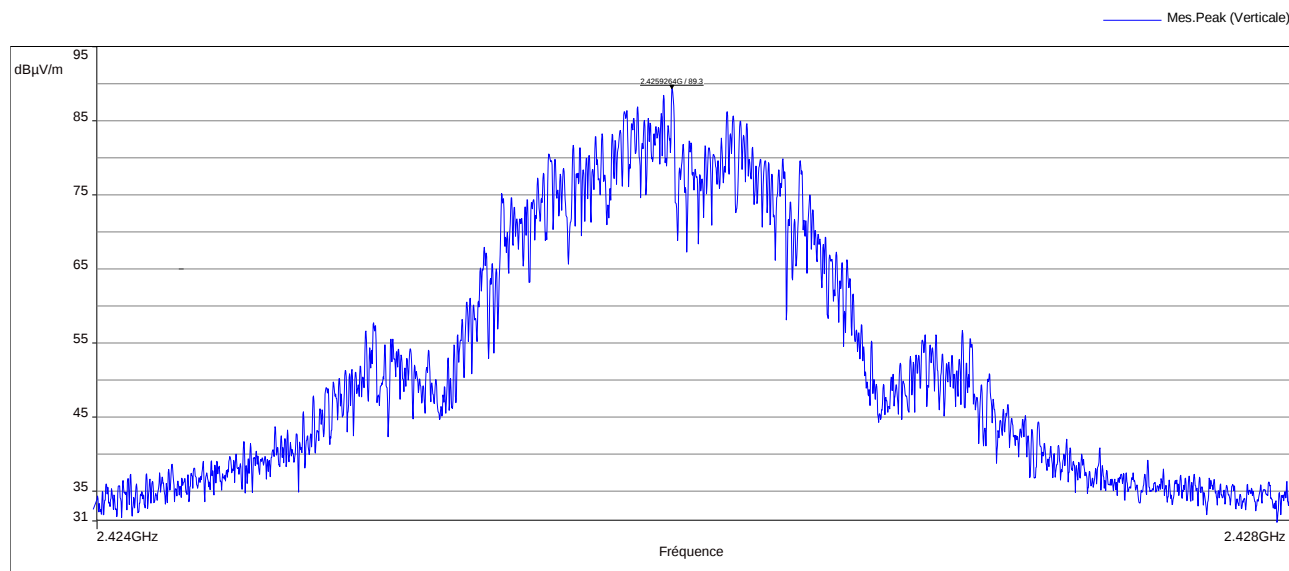
	Electro-magnetic field (dBμV/m):	Maximum Peak conducted power density (dBm / 3 kHz)	Limit (dBm / 3 kHz)
Nominal supply voltage:	89.3	-9.72	8

Polarization of test antenna: Vertical (height: 108 cm)

Position of equipment: Position 1 - (azimuth: 357 degrees)

Maximum Peak conducted power density:

$EIRP(dBm / 3 \text{ kHz}) = E (dB\mu V/m / 3 \text{ kHz}) + 20\log(D) - 104.8$; where D is the measurement distance in meters and antenna Gain = 3.79 dBi.



Sample N° 1 Channel 39 (F = 2480 MHz)

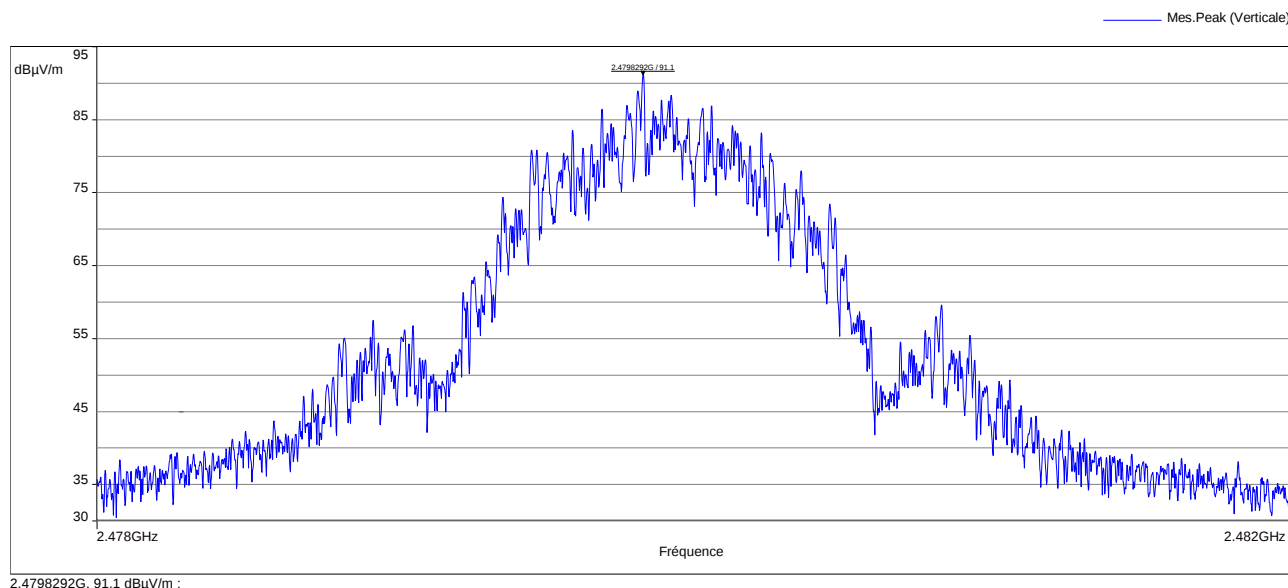
	Electro-magnetic field (dBμV/m):	Maximum Peak conducted power density (dBm / 3 kHz)	Limit (dBm / 3 kHz)
Nominal supply voltage:	91.1	-7.63	8

Polarization of test antenna: Vertical (height: 105 cm)

Position of equipment: Position 1 - (azimuth: 340 degrees)

Maximum Peak conducted power density:

$EIRP(dBm / 3 kHz) = E (dBμV/m / 3 kHz) + 20\log(D) - 104.8$; where D is the measurement distance in meters and antenna Gain = 3.50 dBi.



Test conclusion:

RESPECTED STANDARD

□□□ End of report, 3 appendixes to be forwarded □□□

APPENDIX 1: Calculation example for radiated spurious emission

Frequencies (MHz)	Level (dBμV/m) (1)	Margin (dB) (2)	Limit (dBμV/m)	Read level (dBμV)	Antenna Factor (dBm)	Cable Loss (dB)	Preamp Factor (dB)
2390 (Peak)	57.63	16.37	74	64.3	32.7	3.27	42.64
2390 (Av)	46.43	7.57	54	53.1	32.7	3.27	42.64

(1) Level (dBμV/m) = Antenna Factor (dBm) + Cable loss (dB) + Read level (dBμV) – Preamp Factor (dB)

(2) Margin (dB) = Limit (dBμV/m) - Level (dBμV/m)

For Peak Limit @ 2390MHz:

(1) Level (dBμV/m)

= Antenna Factor (dBm) + Cable loss (dB) + Read level (dBμV) – Preamp Factor (dB)

= 32.7 (dBm) + 3.27 (dB) + 64.3 (dBμV) - 42.64 (dB)

= 57.63 (dBμV/m)

(2) Margin (dB)

= Limit (dBμV/m) - Level (dBμV/m)

= 74 (dBμV/m) - 57.63 (dBμV/m)

= 16.37 (dB)

For Average Limit @ 2390MHz:

(1) Level (dBμV/m)

= Antenna Factor (dBm) + Cable loss (dB) + Read level (dBμV) – Preamp Factor (dB)

= 32.7 (dBm) + 3.27 (dB) + 53.1 (dBμV) - 42.64 (dB)

= 46.43 (dBμV/m)

(2) Margin (dB)

= Limit (dBμV/m) - Level (dBμV/m)

= 54 (dBμV/m) – 46.43 (dBμV/m)

= 7.57 (dB)

APPENDIX 2: Test equipment list

AC conducted emissions

TYPE	MANUFACTURER	EMITECH NUMBER
Outside Room	EMITECH	20042
Test receiver ESW44	Rohde & Schwarz	17008
LISN NSLK 8127	Schwarzbeck	19383
High-pass filter EZ-25	Rohde & Schwarz	11536
Absorber sheath current	Emitech	9489
Cable N-2.5M	SUCOFLEX	14304
Power source 1251RP	California instruments	8508
Multimeter 177	Fluke	14831
Meteo station 608-H1	Testo	19416
Software	BAT-EMC V3.18.0.26	0000

Occupied bandwidth

TYPE	MANUFACTURER	EMITECH NUMBER
Spectrum Analyzer FSV40	Rohde & Schwarz	15666
Antenna 3117	ETS-Lindgren	10771
Low-noise amplifier S005180M3201	LUCIX Corp.	12590
N-1M Cable	HYTEM	19887
N-2.5M Cable	HYTEM	19898
N-5M Cable	HYTEM	19877
N-5.8M Cable	HYTEM	19907
Attenuator 10dB	Midwest Microwave	8548
Power source 1251RP	California instruments	8508
Multimeter 177	Fluke	14831
Meteo station 608-H1	Testo	7566
Software	RS Commander V2.4.2	//

Band edge

TYPE	MANUFACTURER	EMITECH NUMBER
Full anechoic chamber 2	EMITECH	20040
Turntable and mat controller NCD	MATURO	10789
Spectrum Analyzer FSV40	Rohde & Schwarz	15666
Antenna 3117	ETS-Lindgren	10771
Low-noise amplifier S005180M3201	LUCIX Corp.	12590
N-1M Cable	HYTEM	19887
N-2.5M Cable	HYTEM	19898
N-5M Cable	HYTEM	19877
N-5.8M Cable	HYTEM	19907
Attenuator 10dB	Midwest Microwave	8548
Power source 1251RP	California instruments	8508
Multimeter 177	Fluke	14831
Software	BAT-EMC V3.18.0.26	0000

Peak conducted output power

TYPE	MANUFACTURER	EMITECH NUMBER
Full anechoic chamber 2	EMITECH	20040
Spectrum Analyzer FSV40	Rohde & Schwarz	15666
Antenna 3117	ETS-Lindgren	10771
Low-noise amplifier S005180M3201	LUCIX Corp.	12590
N-1M Cable	HYTEM	19887
N-2.5M Cable	HYTEM	19898
N-5M Cable	HYTEM	19877
N-5.8M Cable	HYTEM	19907
Attenuator 10dB	Midwest Microwave	8548
Power source 1251RP	California instruments	8508
Multimeter 177	Fluke	14831
Meteo station 608-H1	Testo	7566
Software	BAT-EMC V3.18.0.26	0000

Radiated spurious emissions

TYPE	MANUFACTURER	EMITECH NUMBER
Full anechoic chamber 2	EMITECH	20040
Turntable and mat controller NCD	MATURO	10789
Spectrum Analyzer FSV40	Rohde & Schwarz	15666
Loop antenna 6502	EMCO	1406
Biconical antenna 3110	Emco	7240
Log periodic antenna HL223	Rohde & Schwarz	7190
Antenna 3117	ETS-Lindgren	10771
Antenna SAS-572	A.H Systems	7124
Low-noise amplifier ASC805C	ASC	19274
Low-noise amplifier S005180M3201	LUCIX Corp.	12590
Low-noise amplifier DBLNA317202120S	QOTANA	19154
N-1M Cable	HYTEM	19887
N-2.5M Cable	HYTEM	19898
N-5M Cable	HYTEM	19877
N-5.8M Cable	HYTEM	19907
Cable k-20cm	STORM MICROWAE	8974
Cable k-20cm	STORM MICROWAE	8975
Low pass filter LP03/1000-7GH	Filtek	4087
Reject band filter BRM50702	Microtronics	7299
Power source 1251RP	California instruments	8508
Multimeter 177	Fluke	14831
Meteo station 608-H1	Testo	7566
Software	BAT-EMC V3.18.0.26	0000

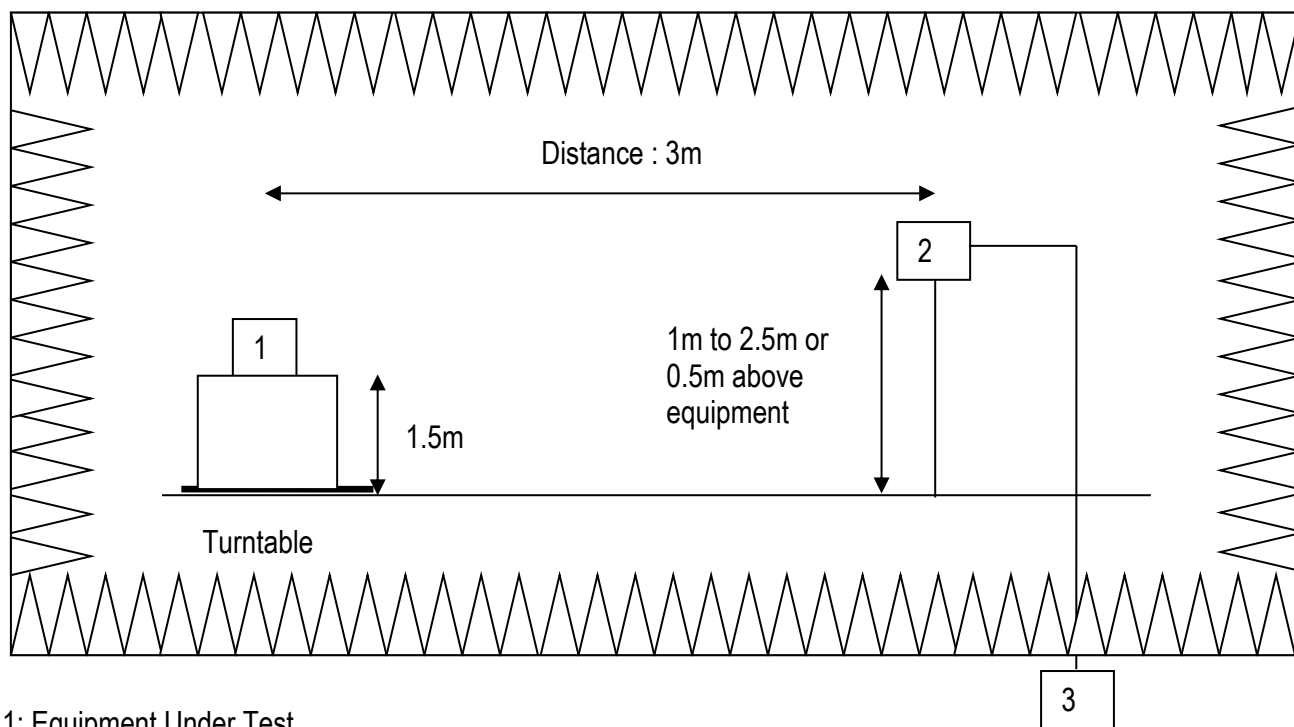
Peak conducted power spectral density

TYPE	MANUFACTURER	EMITECH NUMBER
Full anechoic chamber 2	EMITECH	20040
Spectrum Analyzer FSV40	Rohde & Schwarz	15666
Antenna 3117	ETS-Lindgren	10771
Low-noise amplifier S005180M3201	LUCIX Corp.	12590
N-1M Cable	HYTEM	19887
N-2.5M Cable	HYTEM	19898
N-5M Cable	HYTEM	19877
N-5.8M Cable	HYTEM	19907
Attenuator 10dB	Midwest Microwave	8548
Power source 1251RP	California instruments	8508
Multimeter 177	Fluke	14831
Meteo station 608-H1	Testo	7566
Software	BAT-EMC V3.18.0.26	0000

APPENDIX 3: Radiated Test Setup

Anechoic chamber setup

Above 1 GHz



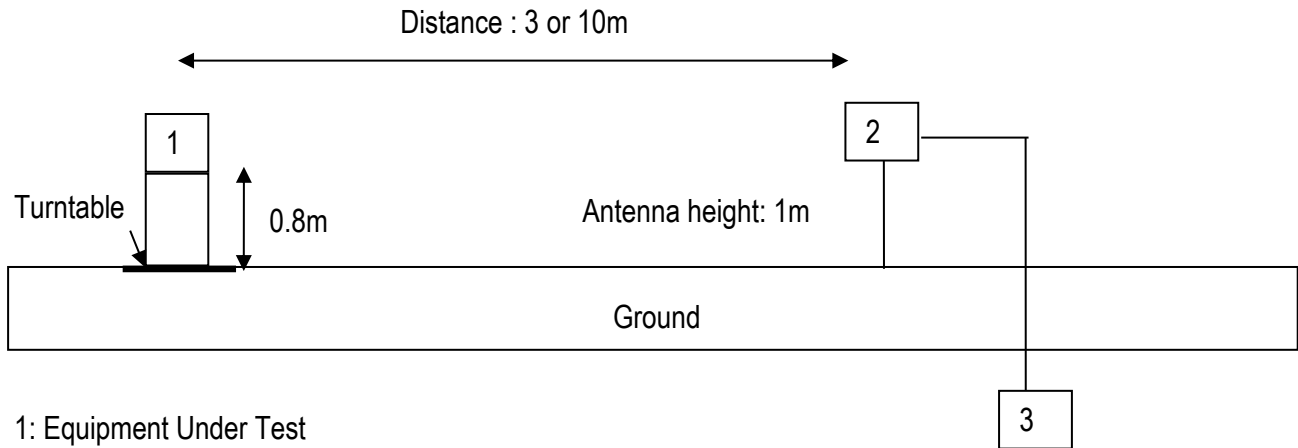
1: Equipment Under Test

2: Measurement antenna with tilt for variation from 1 to 2.5m or 0.5m above top of equipment

3: Measurement equipment

Open area setup

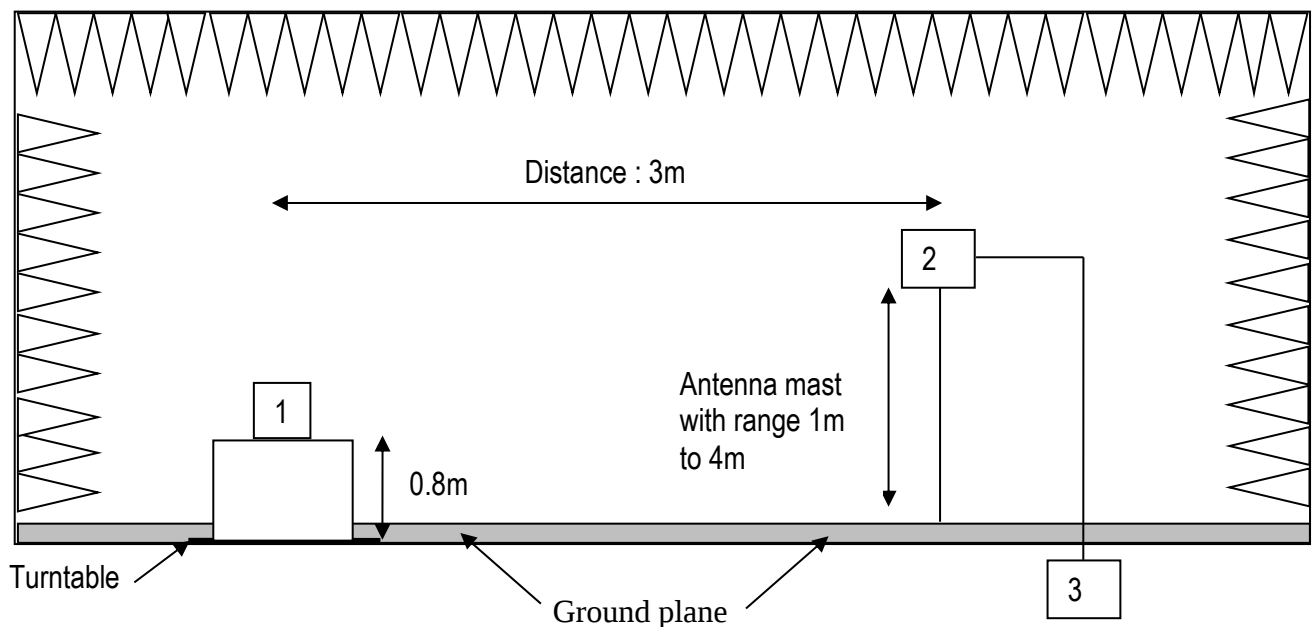
Below 30 MHz



- 1: Equipment Under Test
- 2: Measurement antenna
- 3: Measurement equipment

Semi anechoic chamber setup

Between 30 MHz and 1 GHz



- 1: Equipment Under Test
- 2: Measurement antenna
- 3: Measurement equipment