

TEST REPORT

Ref. n.	FCCTR_187619-0	Issue Date:	30/04/2026	Pages:	58
Test object	Type test according to Standards 47 CFR FCC Part 15 Subpart C §15.247				
Applicant	Vodafone Automotive S.p.A. Via Astico 41 - 21100 Varese - Italy Tel.: +39 0332 825111; +39 0332 825238				
Trade mark	 vodafone				
Manufacturer	Vodafone Automotive S.p.A.				
Product	HUB BLE				
Tested model	1090				
FCC Identification number	NWD1090				
Date of test samples receipt	17/03/2026				
No. of tested samples	1 – Sampled by the Manufacturer				
Test date	From 23/03/2026 to 31/03/2026				
Testing site	PRSLAB S.r.l. Unipersonale - Via Campagna 92 - 22020 Faloppio - Como - Italy				
FCC designation number	IT0012				
Test results	PASS				
Verifications carried out by	Daniele Aosani Laboratory Engineer				
Approved by	Luana Parisi Reviewer				

The test results reported in this test report shall refer only to the samples tested.

The sample has been provided by the customer and the results apply to the sample as received.

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PRS refuses any responsibility about information provided by the customer contained in this test report.

Any not Accredited test methods are clearly identified in the test report.

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0. RELEASE CONTROL RECORD

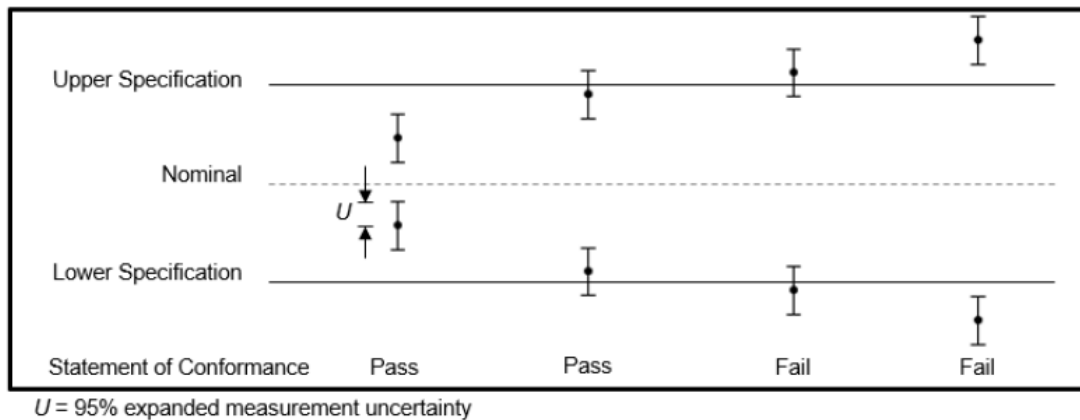
TEST REPORT NUMBER	REASON OF CHANGE	DATE OF ISSUE
FCCTR_187619-0	Original release	30/04/2026

This document is valid in last revision that deletes and replaces the previous one

1. DECISION RULE

PRS LAB specifies that, if the decision rules of conformity of the test results are not indicated in detail in the standard/s object of tests, it takes as a decision rule for the declaration of conformity the simple binary system ($w = 0$) stated in the ILAC-G8-09:2019 document.

The decision rule is applicable for all parts of standard



Statements of conformity are reported as:

- Pass: the measured value is below the acceptance limit, $AL=TL$.
- Fail: the measured value is above the acceptance limit, $AL=TL$.

Definitions

- Guard Band (w): interval between a tolerance limit and a corresponding acceptance limit where length $w=|TL-AL|$.
- Tolerance Limit (TL) (Specification Limit): specified upper or lower bound of permissible values of a property.
- Acceptance Limit (AL): specified upper or lower bound of permissible measured quantity values.

2. INFORMATION PROVIDED BY CUSTOMER

- None

3. GENERAL REMARKS

- The EUT was supplied by the manufacturer with a soldered SMA cable and with the programming port, these modifications are to allow the execution of tests and the setting of the BLE part, the final product does not have these components.

4. TECHNICAL INFORMATION OF EQUIPMENT UNDER TEST (EUT)

4.1 EUT Identification

DESCRIPTION	HUB BLE
MODEL NAME	1090
SERIAL NO.	032
PRSLAB INTERNAL REFERENCE	BC 70/2026 2/3
TRADEMARK	
MANUFACTURER	Vodafone Automotive S.p.A.
COUNTRY OF MANUFACTURER	Italy
SINGLE UNIT OR SYSTEM	Single
POWER SOURCE	Vehicle battery
POWER SUPPLY NOMINAL VOLTAGE	12Vdc
MAX ABSORBED CURRENT OR MAX POWER	2mA
OPERATING TEMPERATURE	-40°C ÷ +85°C
SOFTWARE VERSION (Information provided by Customer)	1.0.0-1.0.0
HARDWARE VERSION (Information provided by Customer)	4M1090AAA
DIMENSIONS	44.25 x 23.95 x 10.45 mm
EUT STANDING	☐ WALL; ☐ CEILING; ☐ TABLE; ☐ FLOOR; ☐ RACK MOUNTED; ☐ BODY WORN; ☐ HANDLED; ☐ PORTABLE; ☐ MOBILE; ☒ VEHICLE
HIGHEST INTERNAL FREQUENCY (Information provided by Customer)	☐ <108MHz; ☐ 108MHz<F<500MHz; ☐ 500MHz<F<1GHz; ☒ F>1GHz; F= 2480MHz

4.2 Bluetooth Low Energy module technical data

MODULE MANUFACTURER	 life.augmented
MODULE NAME	STM32WBA65
ETS CATEGORY	Bluetooth Low Energy
TYPE OF RADIO DEVICE	Transceiver
FREQUENCY BAND	2400 ÷ 2483.5MHz
NUMBER OF CHANNELS	40
CHANNEL BANDWIDTH	2MHz
CHANNEL SPACING	2MHz
DATA RATE	2Mbps
TYPE OF MODULATION	GFSK
RX SENSITIVITY	-96dBm
ANTENNA TYPE (Information provided by Customer)	Chip antenna
ANTENNA GAIN (Information provided by Customer)	2.5dBi
ANTENNA MODEL (Information provided by Customer)	ANT3216R24003KM1
ANTENNA MANUFACTURER (Information provided by Customer)	

4.2.1 Channel List Bluetooth Low Energy

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

4.3 Ports identification

	PORT	DESCRIPTION	CONNECTION	NOTES
☒	Enclosure port	Plastic	Snap	---
☐	AC mains power port	Port not present	---	---
☒	DC power port	12Vdc	---	>3m
☐	Wired network port	Port not present	---	---
☒	Signal/control port	COM Cobra Bus	---	>3m
☒	Antenna port	☒ Internal; ☐ External	---	---

Note: During the tests all cables must be what provided the manufacturer or the same that used in the real employment of the EUT.

4.4 Modifications incorporated in E.U.T.

The following items are the modifications introduced in the equipment under test:

- None

4.5 Auxiliary equipment

- Auxiliary laboratory laptop used to set radio channels.

5. OPERATING MODES AND TEST CONDITIONS

In the following table there are the operating conditions adopted during tests identified by an indicator (#) at which has been referred the item "Operating condition of the equipment under test"

OPERATING CONDITION	DESCRIPTION
#1	Continuous transmission, modulated carrier at low channel 2402MHz
#2	Continuous transmission, modulated carrier at mid channel 2440MHz
#3	Continuous transmission, modulated carrier at high channel 2480MHz

Special Test Software: Special software by the Applicant to operate the EUT at each channel frequency continuously. For example, the transmitter will be operated at each of the lowest, middle and highest frequencies individually continuously during testing.

Special Hardware Used: None

Transmitter Test Antenna: The EUT was tested with one antenna mounted in a typical manner for its normal intended use as external antenna equipment.

6. REFERENCE STANDARDS

REFERENCE STANDARD	DESCRIPTION
47 CFR FCC Part 15 Subpart C §15.247	Radio Frequency Devices – Intentional Radiators Operation within the bands 902-928 MHz, 2400-2483.5 MHz, and 5725-5850 MHz
KDB 558074 D01	Guidance for compliance measurements on Digital Transmission Systems (DTS), Frequency Hopping Spread Spectrum System (DSS) and Hybrid System Device (DSS) operating under §15.247 of the FCC rules.
ANSI C63.10:2020	American National Standard of Procedures for Compliance Testing of Unlicensed Wireless Devices
ANSI C63.4:2014	American National Standard for Methods of Measuring of Radio-Noise Emissions from Low-Voltage Electrical and Electronic Equipment in the Range of 9 kHz – 40 GHz

7. UNITS OF MEASUREMENTS

Conducted EMI Data is in dB μ V; dB referenced to one microvolt

Radiated EMI Data is in dB μ V/m; dB/m referenced to one microvolt per meter

Sample Calculation:

RFS = Radiated Field Strength,

FSM = Field Strength Measured,

A.F. = Receive antenna factor,

Gain = amplification gains and/or cable losses.

$$\text{RFS (dB}\mu\text{V/m @ 3m)} = \text{FSM (dB}\mu\text{V)} + \text{A.F. (dB/m)} - \text{Gain (dB)}$$

8. SUMMARY OF TEST RESULTS

EUT PORT	DESCRIPTION OF PHENOMENA	BASIC STANDARD	OPERATING CONDITION ¹	RESULTS
Antenna port	Antenna requirement	FCC Part 15 §15.203	---	PASS
	Maximum Peak Output Power	FCC Part 15 §15.247 (b) (3)	#1, #2, #3	PASS
	6dB Bandwidth	FCC Part 15 §15.247 (a) (2)	#1, #2, #3	PASS
	Power Spectral Density	FCC Part 15 §15.247 (e)	#1, #2, #3	PASS
	Band-Edge	FCC Part 15 § 15.247 (d)	#1, #2, #3	PASS
	RF radiated Spurious Emissions at the Transmitter Antenna Terminal	FCC Part 15 § 15.247 (d)	#1, #2, #3	PASS
	Transmitter Radiated Emissions <1GHz	FCC Part 15 § 15.247 (d) & § 15.249 (a)	#1, #2, #3	PASS
	Transmitter Radiated Emissions >1GHz	FCC Part 15 § 15.247 (d) & § 15.249 (a)	#1, #2, #3	PASS

Note: ¹ Ref. Tab. Of Section 5

FCC classifies Bluetooth LE as a system using digital modulation techniques.

9. TESTS RESULTS

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TEST 1.	ANTENNA REQUIREMENTS
REFERENCE DOCUMENT	According to §15.203 / 15.204 An intentional radiator shall be designed to ensure that no antenna other than that furnished by the responsible party shall be used with the device. The use of a permanently attached antenna or of an antenna that uses a unique coupling to the intentional radiator shall be considered sufficient to comply with the provisions of this section. The manufacturer may design the unit so that a broken antenna can be replaced by the user, but the use of a standard antenna jack or electrical connector is prohibited. This requirement does not apply to carrier current devices or to devices operated under the provisions of Sec. 15.211, Sec. 15.213, Sec. 15.217, Sec. 15.219, or Sec. 15.221. Further, this requirement does not apply to intentional radiators that must be professionally installed, such as perimeter protection systems and some field disturbance sensors, or to other intentional radiators which, in accordance with Sec. 15.31(d), must be measured at the installation site. However, the installer shall be responsible for ensuring that the proper antenna is employed so that the limits in this part are not exceeded

Antenna Requirements
The EUT has internal chip uses a proprietary coupling, ensuring compliance with the requirements.
RESULT: PASS

TEST 2.	MAXIMUM PEAK OUTPUT POWER
REFERENCE DOCUMENT	According to §15.247(b) (3) For systems using digital modulation in the 902-928 MHz, 2400-2483.5 MHz, and 5725-5850 MHz bands: 1 Watt. As an alternative to a peak power measurement, compliance with the one Watt limit can be based on a measurement of the maximum conducted output power. Maximum Conducted Output Power is defined as the total transmit power delivered to all antennas and antenna elements averaged across all symbols in the signalling alphabet when the transmitter is operating at its maximum power control level. Power must be summed across all antennas and antenna elements. The average must not include any time intervals during which the transmitter is off or is transmitting at a reduced power level. If multiple modes of operation are possible (e.g., alternative modulation methods), the maximum conducted output power is the highest total transmit power occurring in any mode.

• TEST LOCATION	Semi-Anechoic Chamber					
• DISTANCE OF MEASUREMENT	3m					
• TYPE OF MEASUREMENT	Radiated					
• TEST EQUIPMENT USED FOR TEST	Instrument	Manufacturer	Model	Serial n°	Calibrated On	Due to
	MXE Emi Receiver	Keysight	N9038A	MY57290150	01/2026	01/2027
	Semi-Anechoic Chamber	Siemens	B83117-D6019-T232	003-005-134/94C	02/2026	02/2027
	Horn antenna	Electro Metrics	EM-6961	100437	10/2023	10/2026
	Software EMC	Rohde & Schwarz	EMC32-E	V 8.40.0	N.A.	
• TESTED PORT	Antenna					
• TEST METHOD	ANSI C63.10:2020 section 11.9					
• FREQUENCY RANGE	Carrier					
• UNCERTAINTY OF MEASURE	Level of confidence = 95% (k=2)					
	Expanded uncertainty = 5,15dB					

TEST CONDITIONS	REQUIRED	MEASURED
Ambient temperature	23°C ± 5°C	24 °C
Ambient humidity	25 - 75%rH	45%
Pressure	86 - 106kPa (860mbar - 1060mbar)	1014 mbar

OPERATING CONDITION: #1, #2, #3

RESULT: PASS

MEASUREMENT PARAMETER

Resolution bandwidth	$RBW \geq DTS \text{ bandwidth}$
Video bandwidth	$VBW \geq 3 \times RBW$
Span	$\text{span} \geq 3 \times RBW$
Sweep time	Auto couple
Detector	Peak
Trace-Mode	Max. hold

TEST DESCRIPTION

Measurement is made at a semi-anechoic chamber that incorporates a turntable allowing a EUT rotation of 360°. A continuously - rotating, remotely - controlled turntable is installed at the test site to support the EUT and facilitate determination of the direction of maximum radiation for each EUT emission frequency.

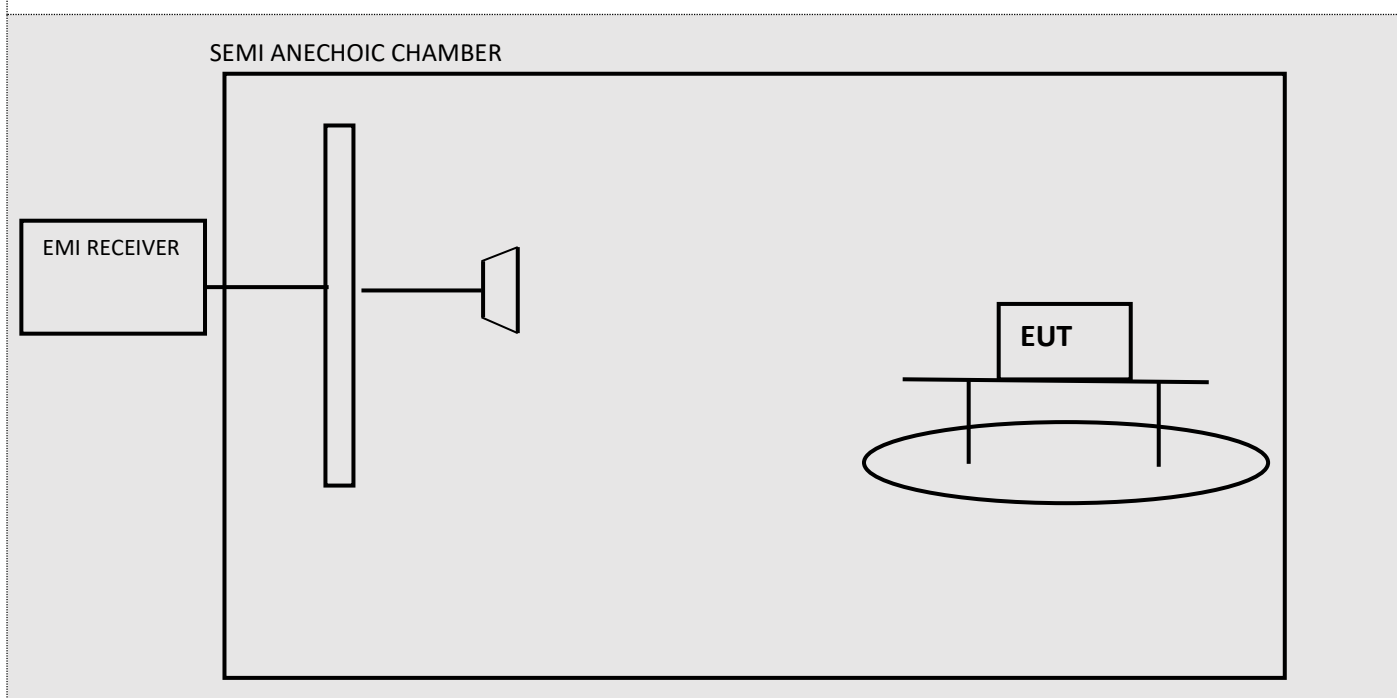
The EUT is placed at test table.

For emissions testing at or below 1 GHz, the table height is 80 cm above the reference ground plane. For emission measurements above 1 GHz, the table height is 1.5 m

Measurement is made with the antenna positioned in both the horizontal and vertical planes of polarization. The measurement antenna is varied in height (1m~4m) above the reference ground plane to obtain the maximum signal strength. Distance between EUT and antenna is 3m.

This investigation is performed with the EUT rotated 360°, the antenna height scanned between 1 m and 4 m, and the antenna rotated to repeat the measurements for both the horizontal and vertical antenna polarizations.

TEST SETUP BLOCK DIAGRAM



TEST RESULTS

Channel	Frequency (MHz)	EIRP (dBm)	Antenna Gain (dB)	Max Conducted Output power	Limit (dBm)	Result
37	2402	-1.22	2.51	-3.73	30	PASS
17	2440	-1.44	2.51	-3.95	30	PASS
39	2480	-1.76	2.51	-4.27	30	PASS

Note: ---

TEST 3.	POWER SPECTRAL DENSITY
REFERENCE DOCUMENT	According to §15,247) (e) For digitally modulated systems, the power spectral density conducted from the intentional radiator to the antenna shall not be greater than 8 dBm in any 3 kHz band during any time interval of continuous transmission. This power spectral density shall be determined in accordance with the provisions of paragraph (b) of this section. The same method of determining the conducted output power shall be used to determine the power spectral density.

• TEST LOCATION	Radio test area					
• TYPE OF MEASUREMENT	Conducted					
• TEST EQUIPMENT USED FOR TEST	Instrument	Manufacturer	Model	Serial n°	Calibrated On	Due to
	Emi Receiver	Rohde & Schwarz	ESU 40	100111	05/2025	05/2026
• TESTED PORT	Antenna					
• TEST METHOD	ANSI C63.10:2020 section 11.10					
• FREQUENCY RANGE	Carrier					

TEST CONDITIONS	REQUIRED	MEASURED
Ambient temperature	23°C ± 5°C	24 °C
Ambient humidity	25 - 75%rH	45%
Pressure	86 - 106kPa (860mbar - 1060mbar)	1014 mbar

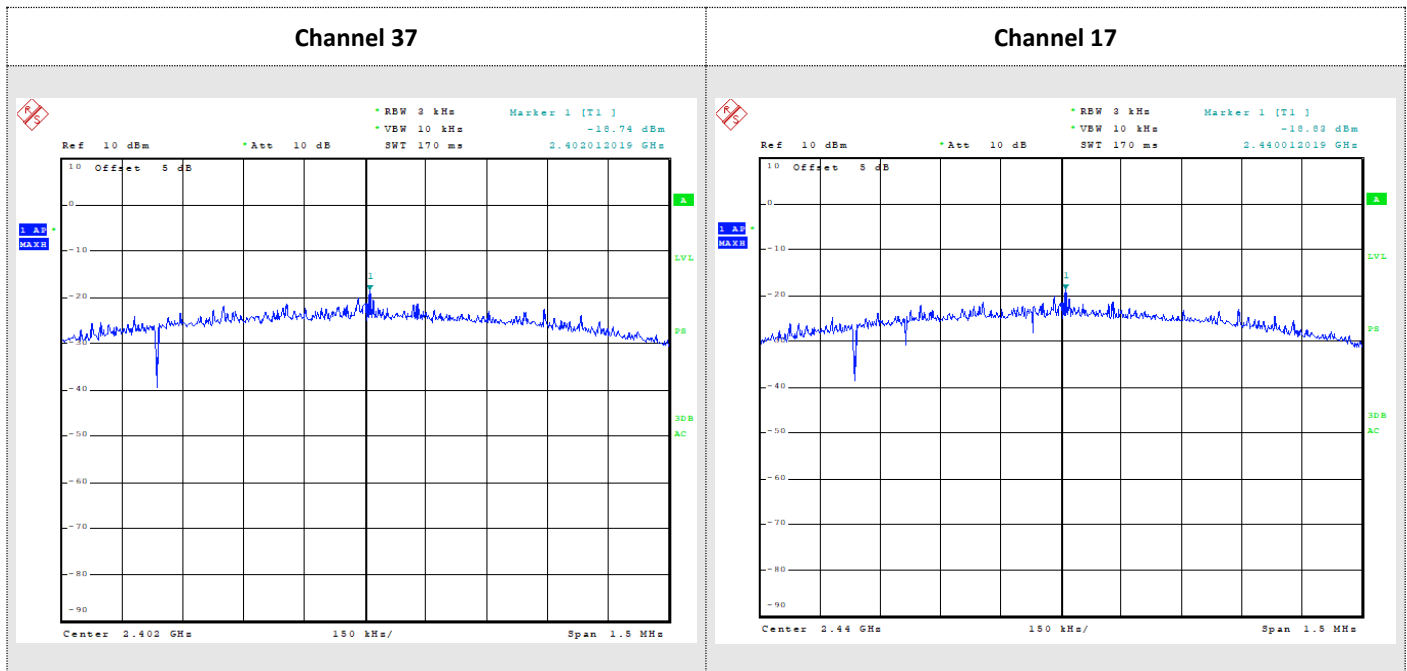
OPERATING CONDITION: #1, #2, #3
--

RESULT: PASS

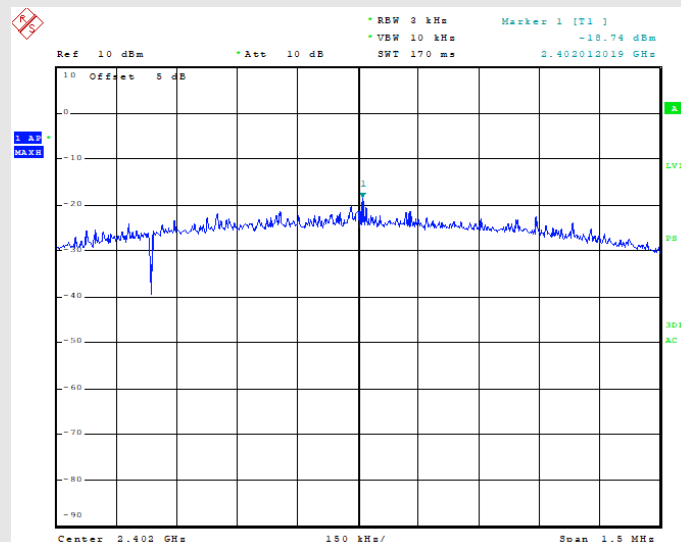
MEASUREMENT PARAMETER	
Resolution bandwidth	3kHz
Video bandwidth	10kHz
Span	1.5MHz
Sweep time	Auto couple
Detector	Peak
Trace-Mode	Max. hold

TEST DESCRIPTION
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 RESULTS



Channel 39



Mode	Channel	Frequency (MHz)	PSD (dBm)	Limit (dBm)	Margin (dB)	Result
DTS	37	2402	-18.74	8	26.74	PASS
	17	2440	-18.83	8	26.83	PASS
	39	2480	-18.74	8	26.74	PASS

TEST 4.	6dB CHANNEL BANDWIDTH
REFERENCE DOCUMENT	According to §15,247(a)(2) Systems using digital modulation techniques may operate in the 902-928MHz, 2400-2483.5MHz, and 5725-5850MHz bands, The minimum 6 dB bandwidth shall be at least 500 kHz.

• TEST LOCATION	Radio test area					
• TYPE OF MEASUREMENT	Radiated					
• TEST EQUIPMENT USED FOR TEST	Instrument	Manufacturer	Model	Serial n°	Calibrated On	Due to
	Emi Receiver	Rohde & Schwarz	ESU 40	100111	05/2025	05/2026
• TESTED PORT	Antenna					
• TEST METHOD	ANSI C63.10:2020 section 11.8 option 2					
• FREQUENCY RANGE	Carrier					

TEST CONDITIONS	REQUIRED	MEASURED
Ambient temperature	23°C ± 5°C	24 °C
Ambient humidity	25 - 75%rH	45%
Pressure	85 - 106kPa (860mbar - 1060mbar)	960 mbar

OPERATING CONDITION: #1, #2, #3

RESULT: PASS

MEASUREMENT PARAMETER – 6dB Bandwidth	
Resolution bandwidth	100kHz
Video bandwidth	300kHz
Span	5MHz
Sweep time	Auto couple
Detector	Peak
Trace-Mode	Max. hold

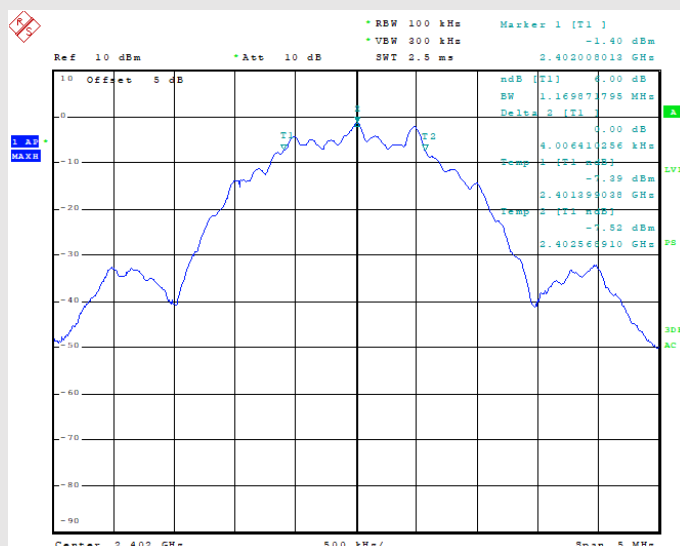
TEST DESCRIPTION
Allow the trace to stabilize. Measure the maximum width of the emission that is constrained by the frequencies associated with the two outermost amplitude points (upper and lower frequencies) that are attenuated by 6 dB relative to the maximum level measured in the fundamental emission

Measurement Result

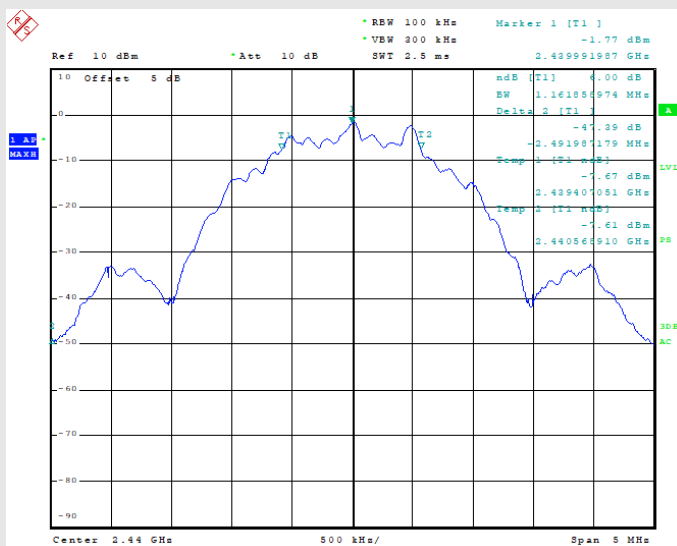
Channel	Frequency (MHz)	6dB Bandwidth (kHz)	Limits (kHz)	Verdict
37	2402	1170	>500	Within the limits
17	2440	1162	>500	Within the limits
39	2480	1186	>500	Within the limits

6dB Bandwidth

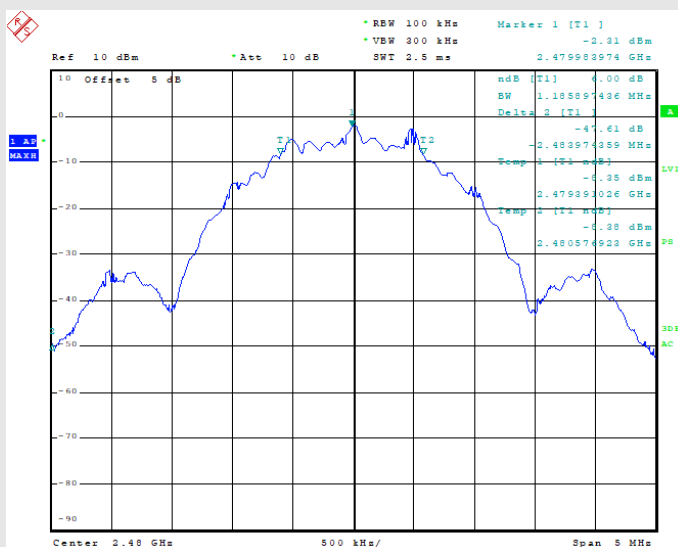
Channel 37



Channel 17



Channel 39



TEST 5.	BAND EDGE
REFERENCE DOCUMENT	According to §15,247(d) 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, based on either an RF conducted or a radiated measurement, provided the transmitter demonstrates compliance with the peak conducted power limits. If the transmitter complies with the conducted power limits based on the use of RMS averaging over a time interval, as permitted under paragraph (b)(3) of this section, the attenuation required under this paragraph shall be 30 dB instead of 20 dB. Attenuation below the general limits specified in Sec. 15,209(a) is not required. In addition, radiated emissions which fall in the restricted bands, as defined in Sec. 15,205(a), must also comply with the radiated emission limits specified in Sec. 15,209(a) (see Sec. 15,205(c)).

• TEST LOCATION	Radio test area					
• TYPE OF MEASUREMENT	Conducted					
• TEST EQUIPMENT USED FOR TEST	Instrument	Manufacturer	Model	Serial n°	Calibrated On	Due to
	Emi Receiver	Rohde & Schwarz	ESU 40	100111	05/2025	05/2026
• TESTED PORT	Antenna					
• TEST METHOD	ANSI C63.10:2020 section 11.13					
• FREQUENCY RANGE	Carrier					

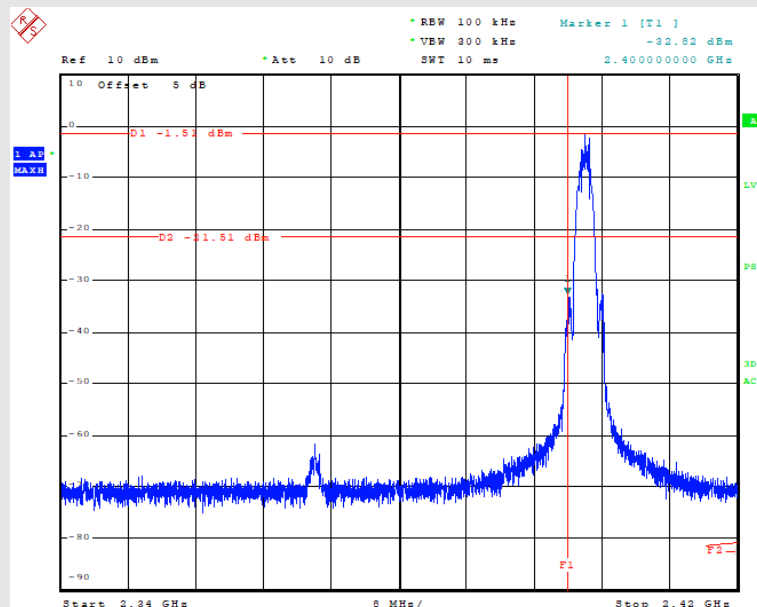
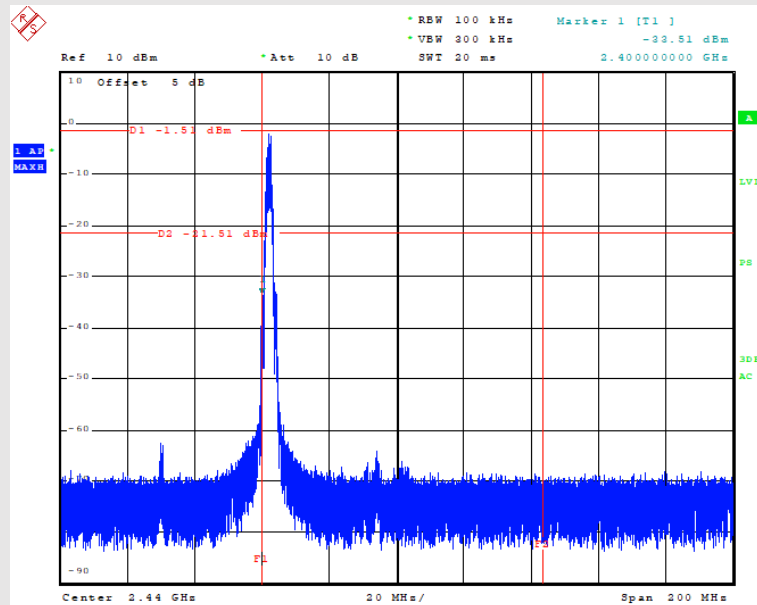
TEST CONDITIONS	REQUIRED	MEASURED
Ambient temperature	23°C ± 5°C	24 °C
Ambient humidity	25 - 75%rH	45%
Pressure	86 - 106kPa (860mbar - 1060mbar)	1014 mbar

OPERATING CONDITION: #1, #2, #3
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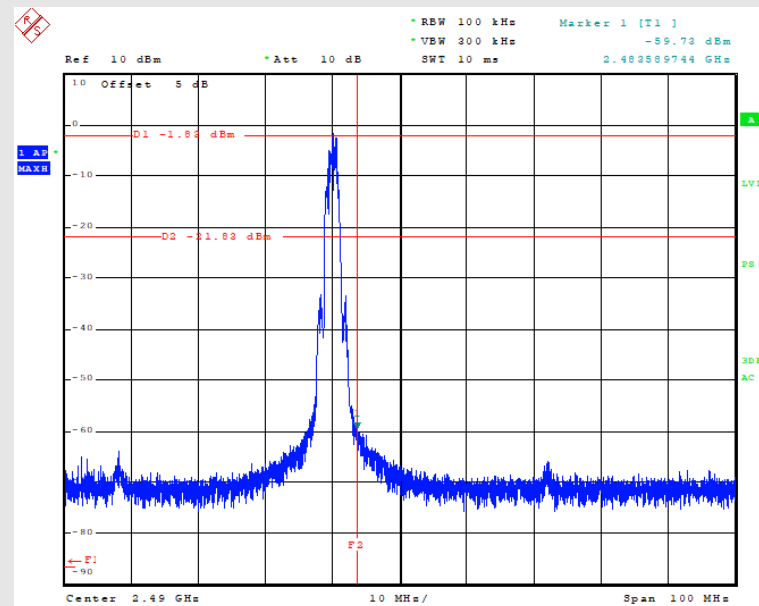
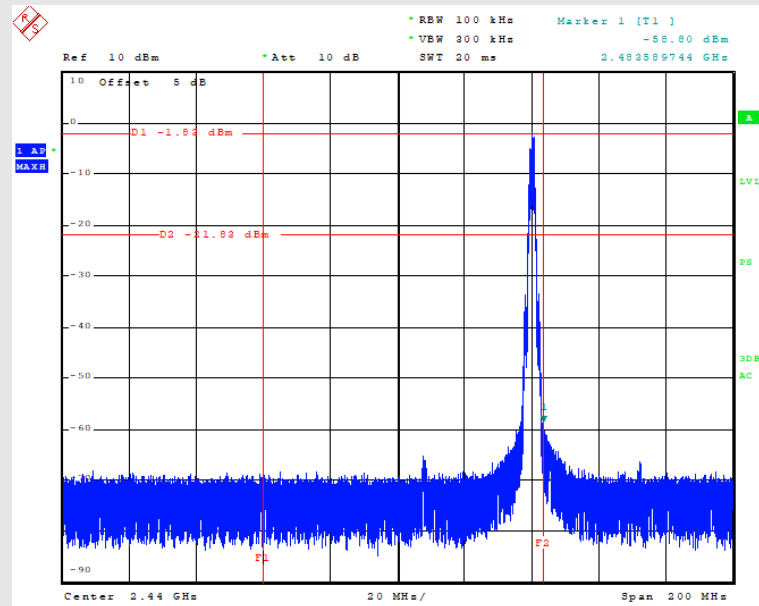
RESULT: PASS

TEST RESULTS

**CHANNEL 37
2402 MHZ**



CHANNEL 39
2480 MHZ



TEST 6.

RF RADIATED SPURIOUS EMISSIONS AT THE TRANSMITTER ANTENNA TERMINAL

REFERENCE DOCUMENT

According to § 15.247 (d) and § 15.209 (a)

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, based on either an RF conducted or a radiated measurement, provided the transmitter demonstrates compliance with the peak conducted power limits. If the transmitter complies with the conducted power limits based on the use of RMS averaging over a time interval, as permitted under paragraph (b)(3) of this section, the attenuation required under this paragraph shall be 30 Db instead of 20 Db. Attenuation below the general limits specified in §15.209(a) is not required. In addition, radiated emissions which fall in the restricted bands, as defined in §15.205(a), must also comply with the radiated emission limits specified in §15.209(a) (see §15.205(c)).

• TEST LOCATION	Radio test area					
• TYPE OF MEASUREMENT	Conducted					
• TEST EQUIPMENT USED FOR TEST	Instrument	Manufacturer	Model	Serial n°	Calibrated On	Due to
	Emi Receiver	Rohde & Schwarz	ESU 40	100111	05/2025	05/2026
• TESTED PORT	Antenna					
• TEST METHOD	ANSI C63.10:2020 section 11.12.2					
• FREQUENCY RANGE	30MHz – 26GHz					
• LIMITS	Acc. To ref. Std.					

TEST CONDITIONS	REQUIRED	MEASURED
Ambient temperature	23°C ± 5°C	24 °C
Ambient humidity	25 - 75%rH	45%
Pressure	86 - 106kPa (860mbar - 1060mbar)	1014 mbar

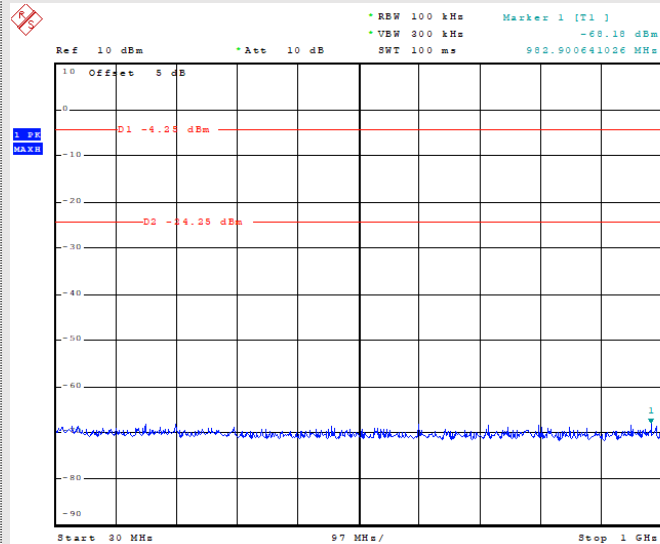
OPERATING CONDITION: #1, #2, #3

RESULT: **PASS**

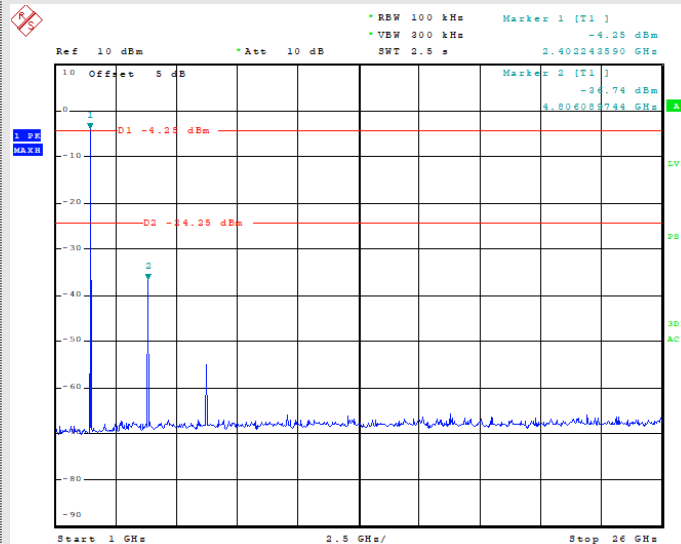
TEST RESULTS

Channel 37 - 2402MHz

Frequency range: 30MHz – 1GHz



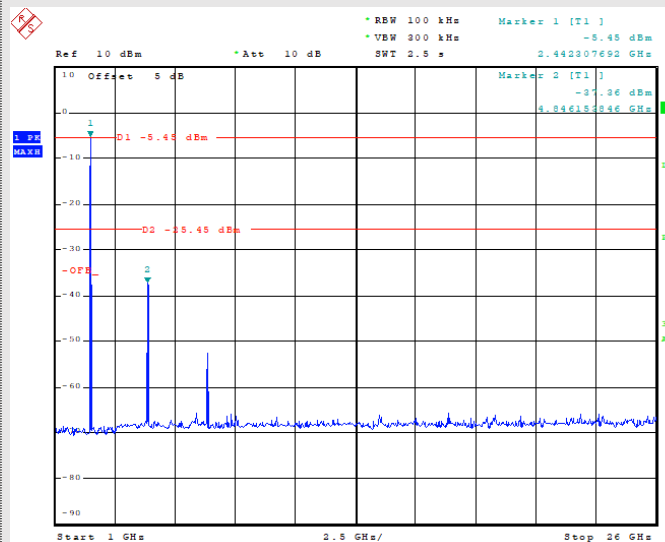
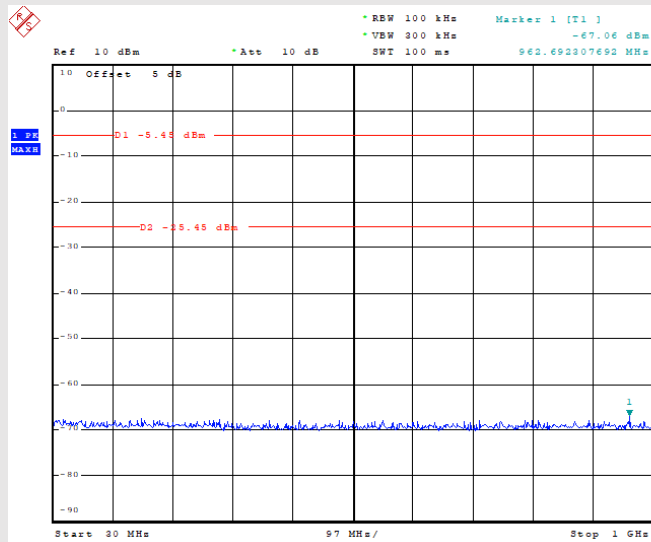
Frequency range: 1GHz – 26GHz



Channel 17 - 2440MHz

Frequency range: 30MHz – 1GHz

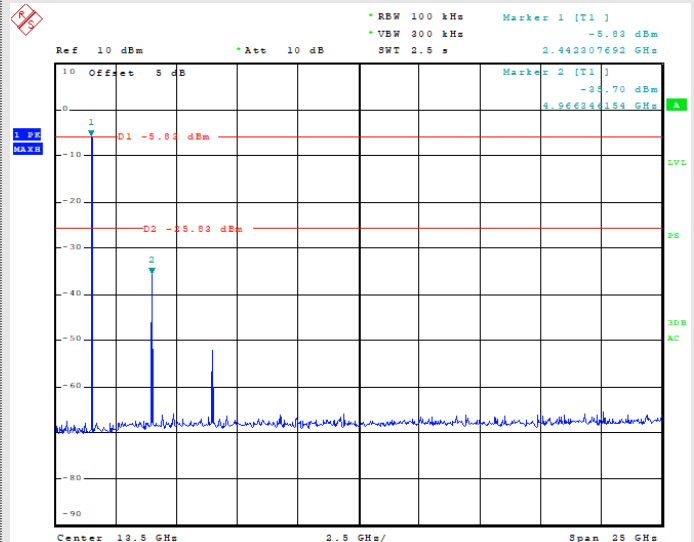
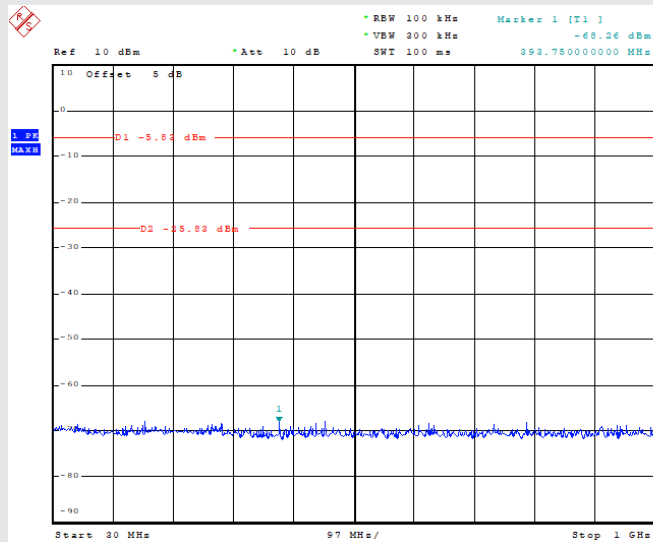
Frequency range: 1GHz – 10GHz



Channel 39 – 2480MHz

Frequency range: 30MHz – 1GHz

Frequency range: 1GHz – 10GHz



TEST 7.	TRANSMITTER RADIATED EMISSIONS < 1GHZ
REFERENCE DOCUMENT	According to § 15.247 (d) and § 15.209 (a) 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, based on either an RF conducted or a radiated measurement, provided the transmitter demonstrates compliance with the peak conducted power limits. If the transmitter complies with the conducted power limits based on the use of RMS averaging over a time interval, as permitted under paragraph (b)(3) of this section, the attenuation required under this paragraph shall be 30 Db instead of 20 Db. Attenuation below the general limits specified in §15.209(a) is not required. In addition, radiated emissions which fall in the restricted bands, as defined in §15.205(a), must also comply with the radiated emission limits specified in §15.209(a) (see §15.205(c)).

• TEST LOCATION	Semi-Anechoic Chamber					
• DISTANCE OF MEASUREMENT	3m					
• TYPE OF MEASUREMENT	Radiated					
• TEST EQUIPMENT USED FOR TEST	Instrument	Manufacturer	Model	Serial n°	Calibrated On	Due to
	MXE Emi Receiver	Keysight	N9038A	MY57290150	01/2026	01/2027
	Semi-Anechoic Chamber	Siemens	B83117-D6019-T232	003-005-134/94C	02/2026	02/2027
	Loop antenna	Rohde & Schwarz	HFH 2-Z2	841801/012	01/2025	01/2028
	Bi-log antenna	Chase	CBL6111C	2717	06/2025	06/2028
	Software EMC	Rohde & Schwarz	EMC32-E	V 8.40.0	N.A.	
• TESTED PORT	Enclosure					
• TEST METHOD	ANSI C63.10:2020 section 6.5 and 11.12					
• FREQUENCY RANGE	9kHz – 1GHz					
• LIMITS	Acc. To ref. Std.					
• UNCERTAINTY OF MEASURE	Level of confidence = 95% (k=2)					
	Expanded uncertainty 9kHz – 30MHz = 3,85 dB					
	Expanded uncertainty 30MHz – 1GHz = 5,96 dB					

TEST CONDITIONS	REQUIRED	MEASURED
Ambient temperature	23°C ± 5°C	24 °C
Ambient humidity	25 - 75%rH	45%
Pressure	86 - 106kPa (860mbar - 1060mbar)	1014 mbar

OPERATING CONDITION: #1, #2, #3

RESULT: PASS

MEASUREMENT PARAMETER

Frequency Range:	9kHz – 30MHz	30MHz – 1GHz
Resolution bandwidth:	200Hz	100kHz
Video bandwidth:	1kHz	300kHz
Span:	See plots below	See plots below
Sweep time	Auto couple	Auto couple
Detector:	Peak	Peak
Trace-Mode:	Max. hold	Max. hold

TEST DESCRIPTION

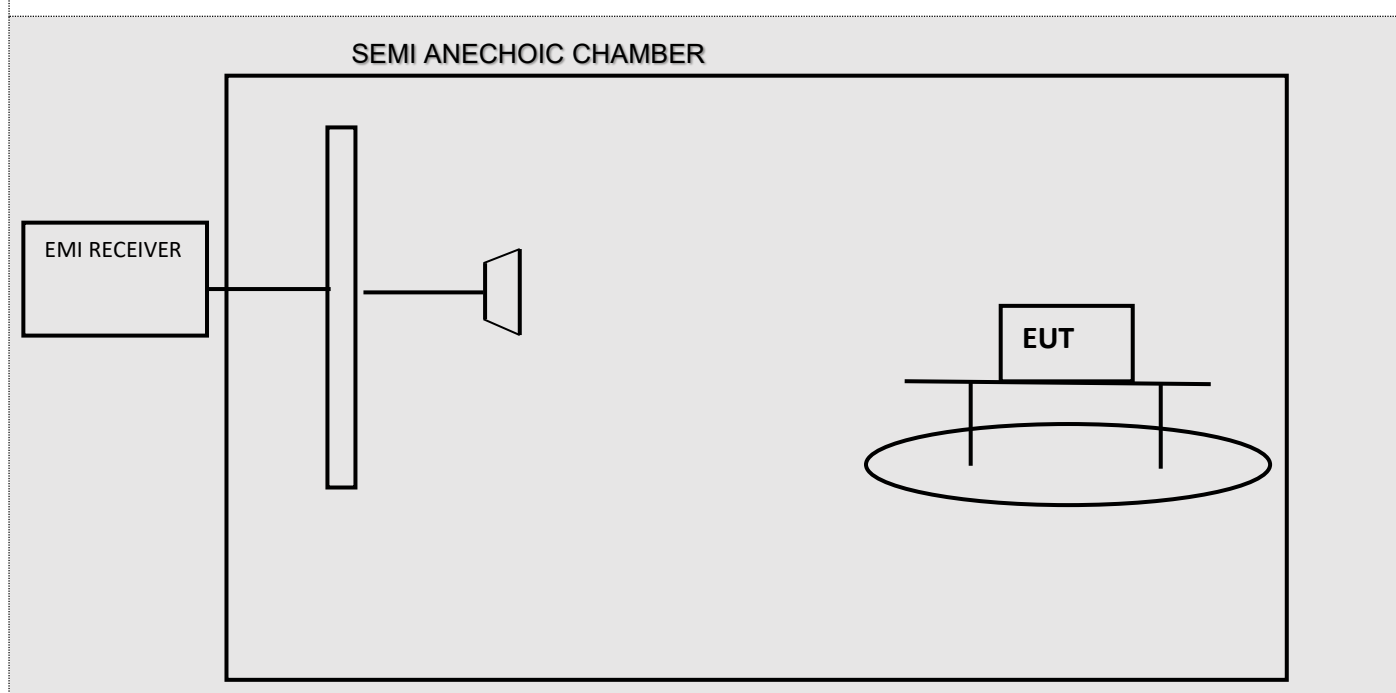
Measurement is made at a semi-anechoic chamber that incorporates a turntable allowing a EUT rotation of 360°. A continuously - rotating, remotely - controlled turntable is installed at the test site to support the EUT and facilitate determination of the direction of maximum radiation for each EUT emission frequency.

The EUT is placed at test table height is 80 cm above the reference ground plane.

Measurement is made with the antenna positioned in both the horizontal and vertical planes of polarization. The measurement antenna is varied in height (1m~4m) above the reference ground plane to obtain the maximum signal strength. Distance between EUT and antenna is 3m.

This investigation is performed with the EUT rotated 360°, the antenna height scanned between 1 m and 4 m, and the antenna rotated to repeat the measurements for both the horizontal and vertical antenna polarizations.

TEST SETUP BLOCK DIAGRAM

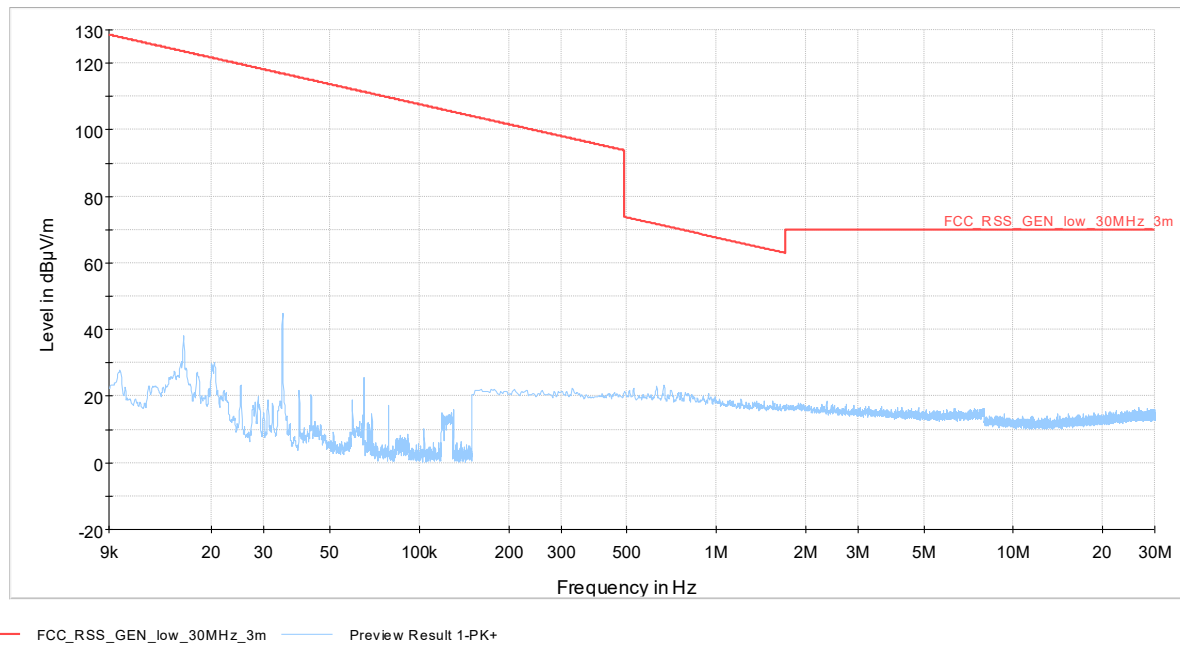


TEST RESULTS

DTS Carrier frequency 2402MHz

RX Antenna Polarization: ---

Frequency Range: 9kHz – 30MHz

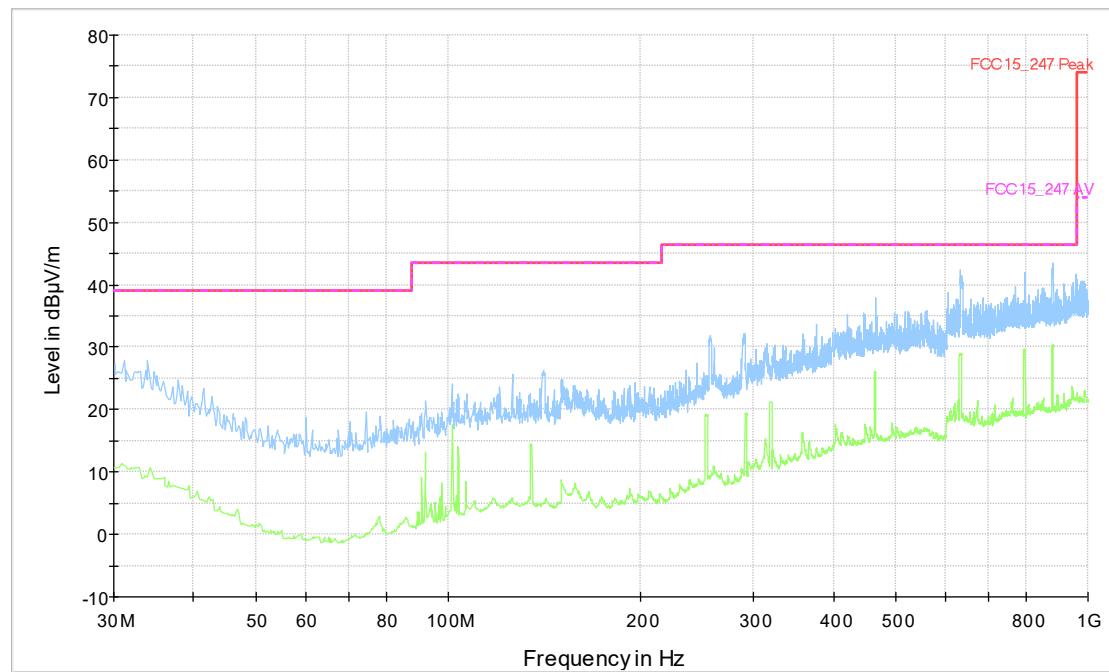


Final Result:

All emissions are below 10dB from the limit, for this reason no further assessments were carried out on the individual points

RX Antenna Polarization: Vertical

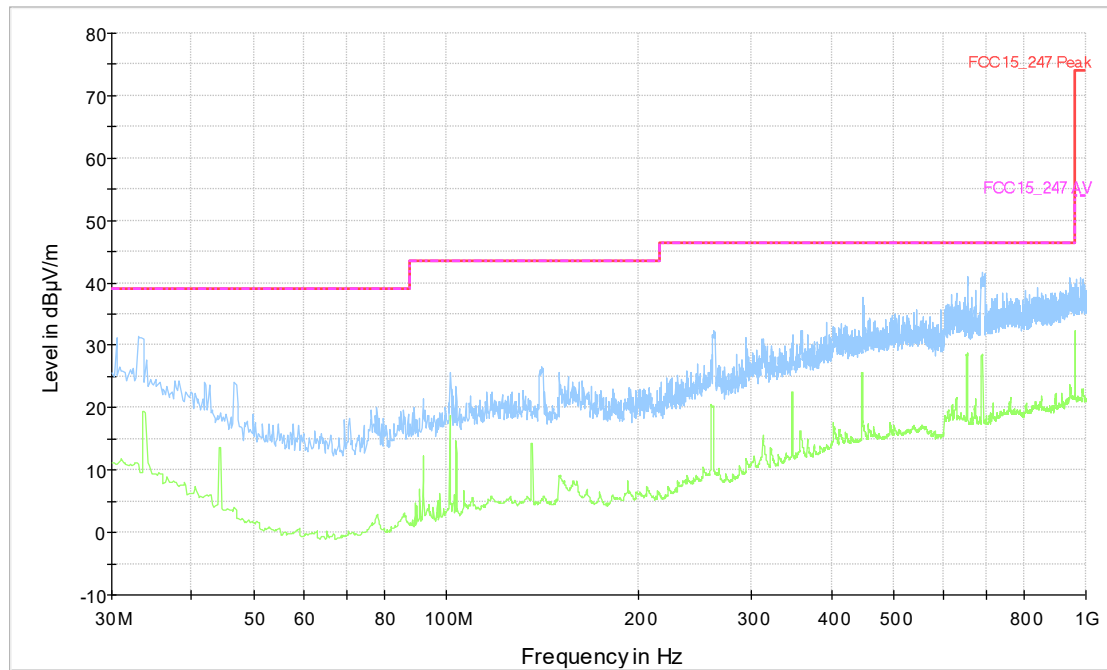
Frequency Range: 30MHz – 1GHz



Final Result:

RX Antenna Polarization: Horizontal

Frequency Range: 30MHz – 1GHz

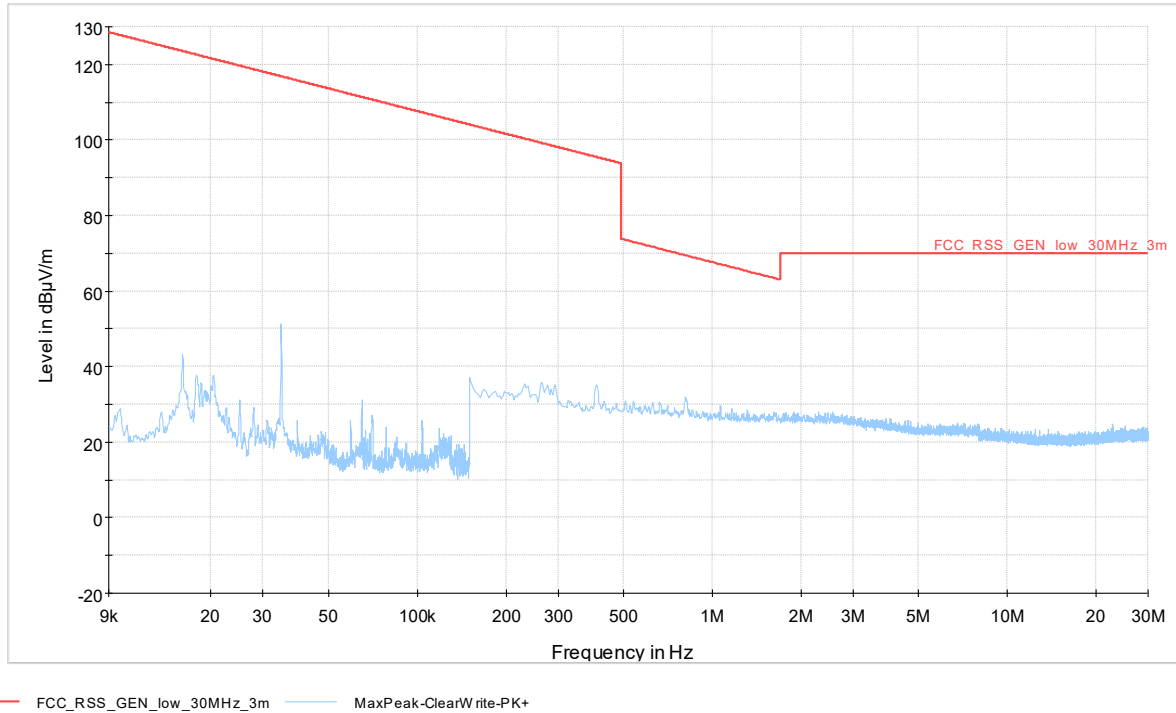


Final Result:

DTS Carrier frequency 2440MHz

RX Antenna Polarization: ---

Frequency Range: 9kHz – 30MHz

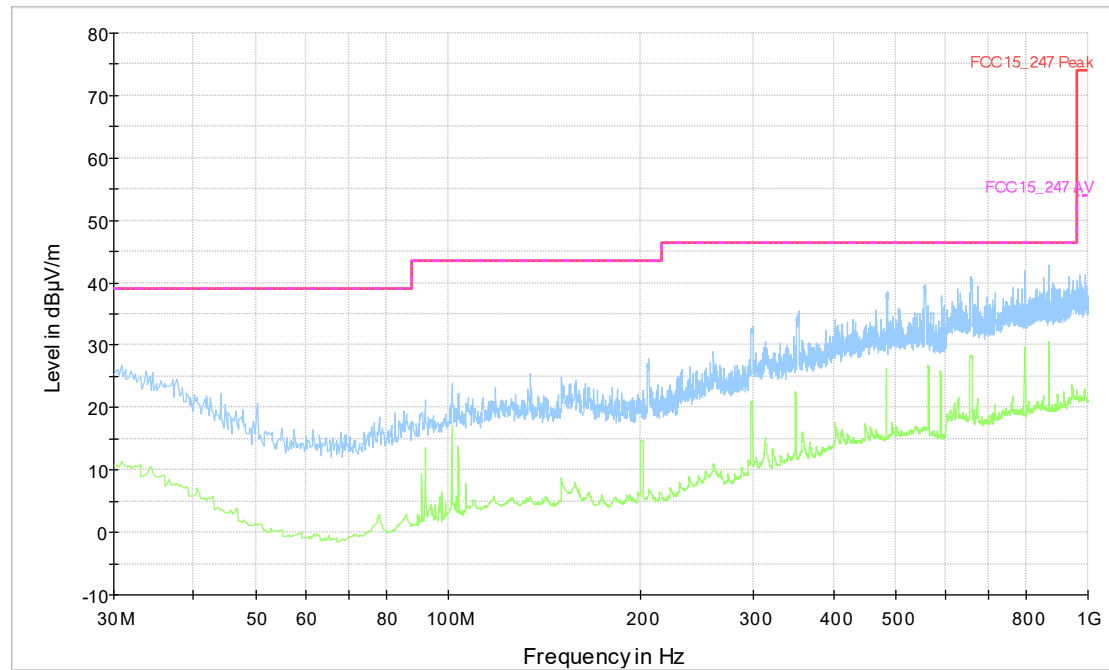


Final Result:

All emissions are below 10dB from the limit, for this reason no further assessments were carried out on the individual points

RX Antenna Polarization: Vertical

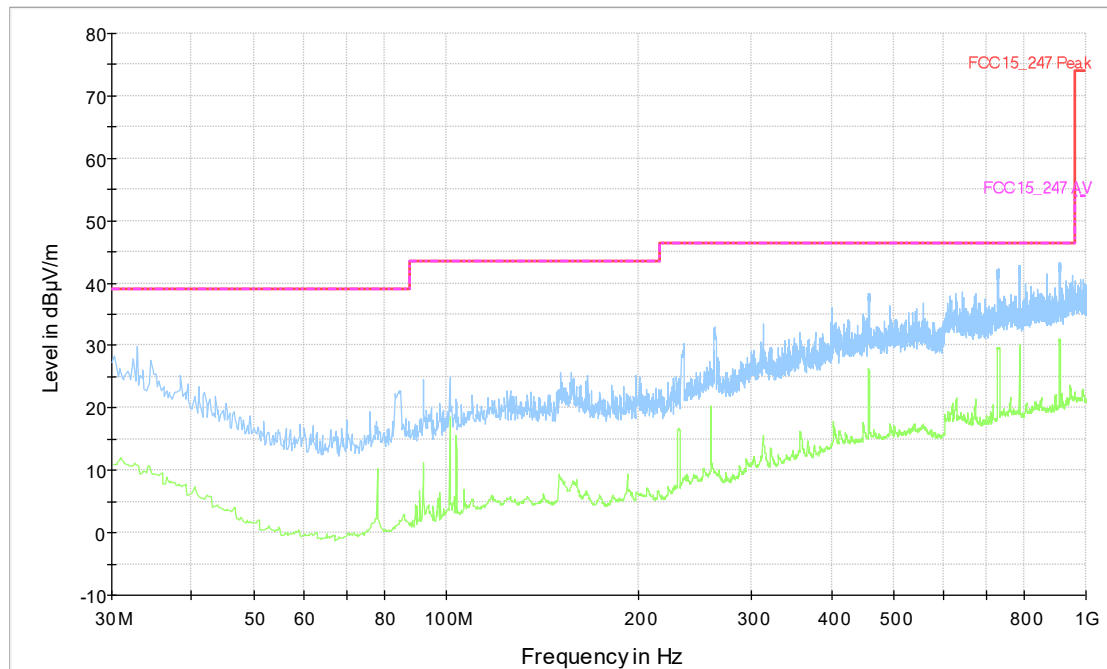
Frequency Range: 30MHz – 1GHz



Final Result:

RX Antenna Polarization: Horizontal

Frequency Range: 30MHz – 1GHz

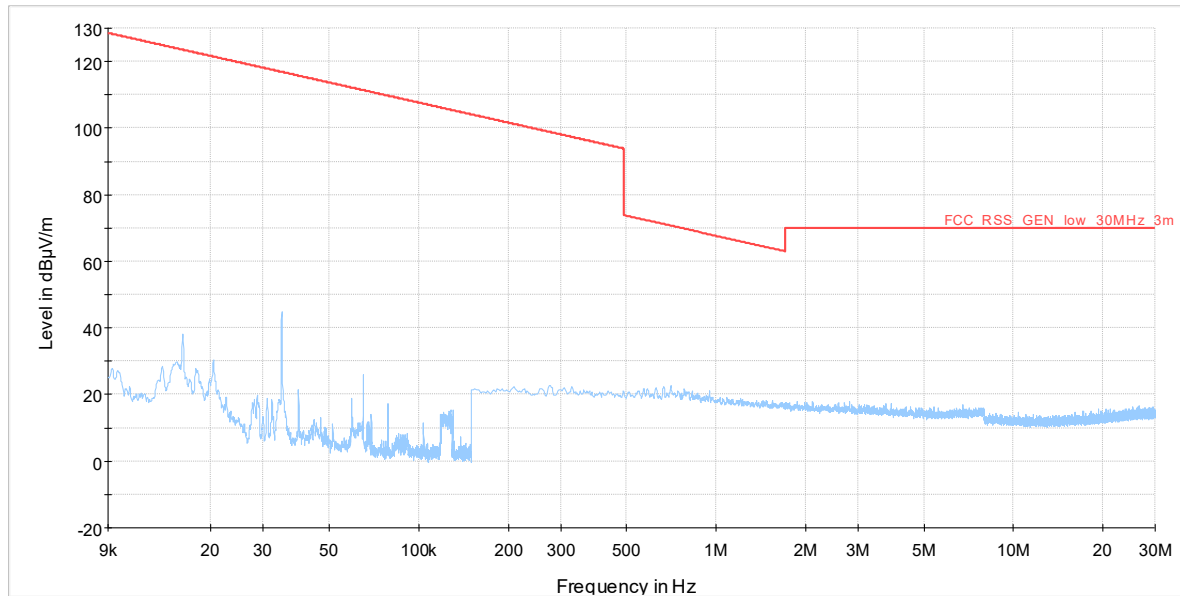


Final Result:

DTS Carrier frequency 2480MHz

RX Antenna Polarization: ---

Frequency Range: 9kHz – 30MHz



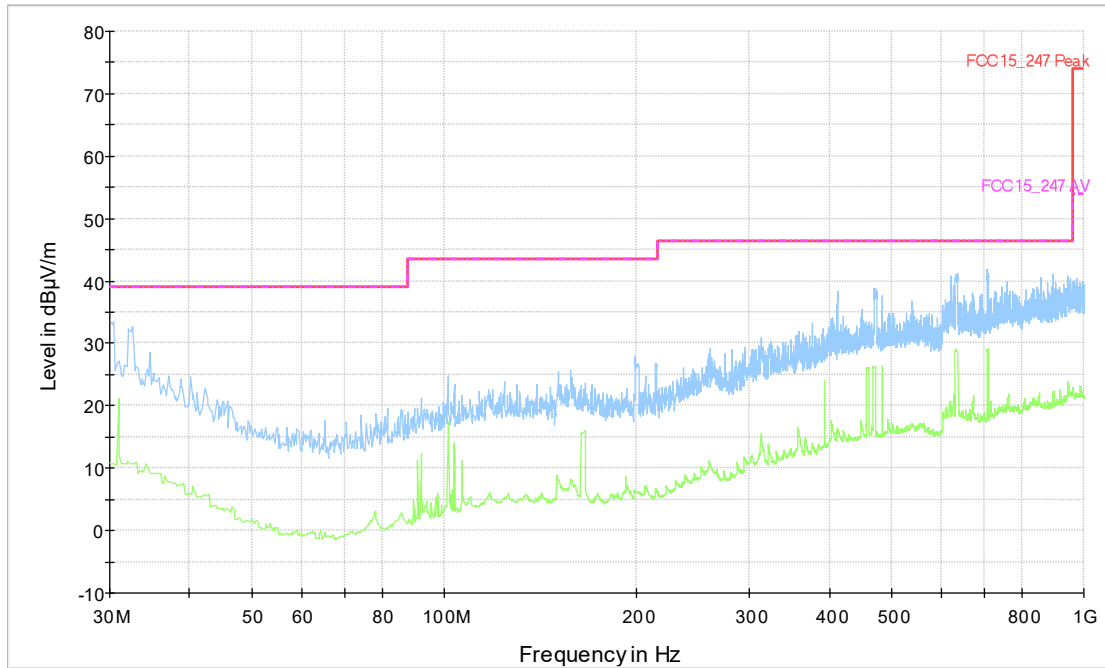
FCC_RSS_GEN_low_30MHz_3m Preview Result 1-PK+

Final Result:

All emissions are below 10dB from the limit, for this reason no further assessments were carried out on the individual points

RX Antenna Polarization: Vertical

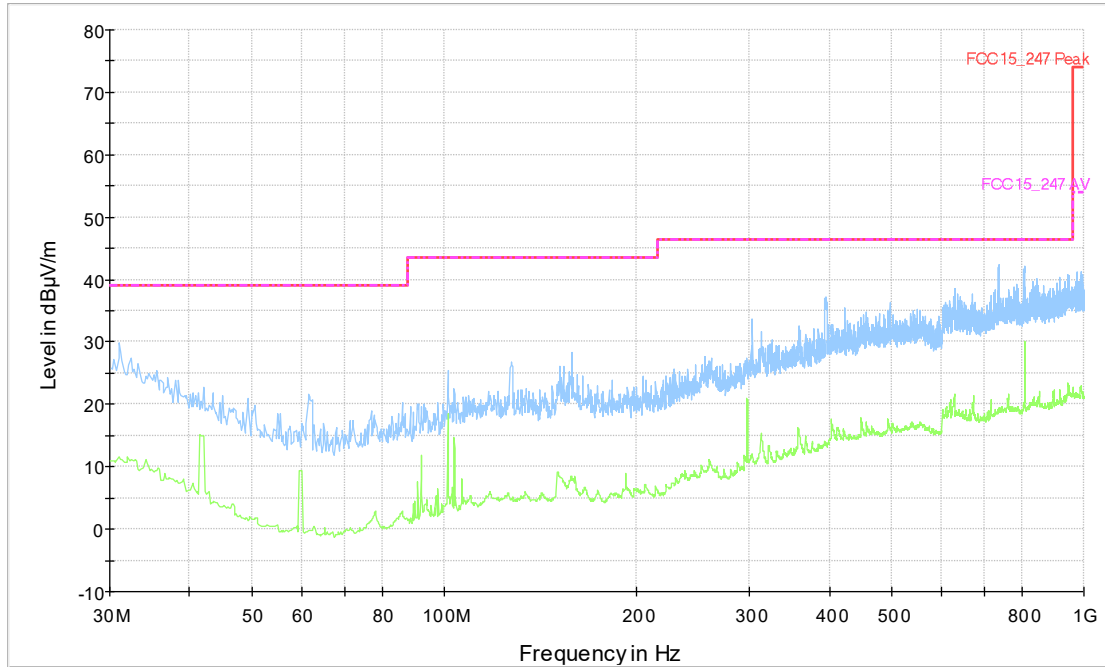
Frequency Range: 30MHz – 1GHz



Final Result:

RX Antenna Polarization: Horizontal

Frequency Range: 30MHz – 1GHz



Final Result:

TEST 8.	TRANSMITTER RADIATED EMISSIONS > 1GHZ
REFERENCE DOCUMENT	According to § 15.247 (d) and § 15.209 (a) 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, based on either an RF conducted or a radiated measurement, provided the transmitter demonstrates compliance with the peak conducted power limits. If the transmitter complies with the conducted power limits based on the use of RMS averaging over a time interval, as permitted under paragraph (b)(3) of this section, the attenuation required under this paragraph shall be 30 Db instead of 20 Db. Attenuation below the general limits specified in §15.209(a) is not required. In addition, radiated emissions which fall in the restricted bands, as defined in §15.205(a), must also comply with the radiated emission limits specified in §15.209(a) (see §15.205(c)).

• TEST SETUP	Acc. To ref. Std.					
• TEST LOCATION	Semi-Anechoic Chamber					
• DISTANCE OF MEASUREMENT	3m					
• TYPE OF MEASUREMENT	Radiated					
• TEST EQUIPMENT USED FOR TEST	Instrument	Manufacturer	Model	Serial n°	Calibrated On	Due to
	MXE Emi Receiver	Keysight	N9038A	MY57290150	01/2026	01/2027
	Semi-Anechoic Chamber	Siemens	B83117-D6019-T232	003-005-134/94C	02/2026	02/2027
	Horn antenna	Electro Metrics	EM-6961	100437	10/2023	10/2026
	Horn antenna + Low Noise Preamplifier	Bonn Elektronik	BLMA 1840-1A	262WL80452	09/2025	09/2027
	Software EMC	Rohde & Schwarz	EMC32-E	V 8.40.0	N.A.	
• TESTED PORT	Antenna					
• TEST METHOD	ANSI C63.10:2020 section 6.6 and 11.12					
• FREQUENCY RANGE	1GHz – 26GHz					
• LIMITS	Acc. To ref. Std.					
• UNCERTAINTY OF MEASURE	Level of confidence = 95% (k=2)					
	Expanded uncertainty 1GHz – 18GHz = 5,15 dB					
	Expanded uncertainty 18GHz – 26GHz = 5,82 dB					

TEST CONDITIONS	REQUIRED	MEASURED
Ambient temperature	23°C ± 5°C	24 °C
Ambient humidity	25 - 75%rH	45%
Pressure	86 - 106kPa (860mbar - 1060mbar)	1014 mbar

OPERATING CONDITION: #1, #2, #3

RESULT: PASS

MEASUREMENT PARAMETER 1GHz - 10GHz

Resolution bandwidth:	1MHz
Video bandwidth:	3MHz
Span:	See plots below
Sweep time	Auto couple
Detector:	Peak
Trace-Mode:	Max. hold

TEST DESCRIPTION

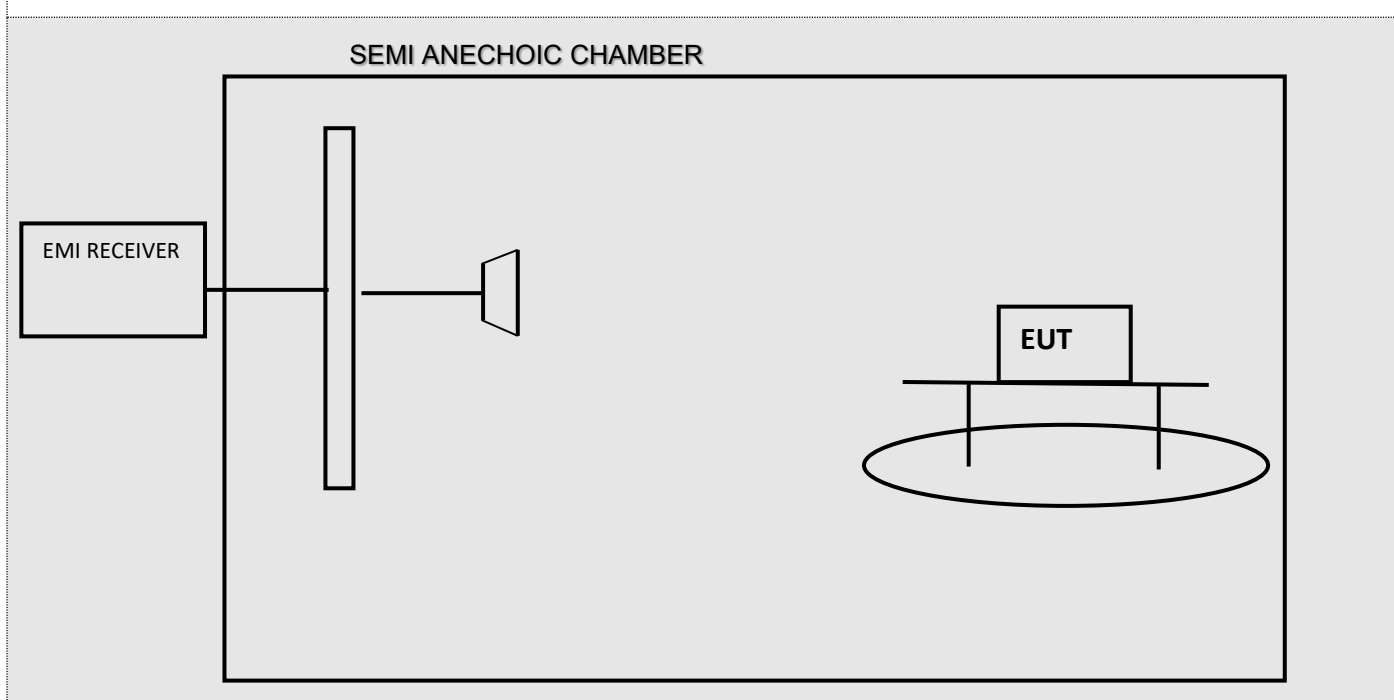
Measurement is made at a semi-anechoic chamber that incorporates a turntable allowing a EUT rotation of 360°. A continuously - rotating, remotely - controlled turntable is installed at the test site to support the EUT and facilitate determination of the direction of maximum radiation for each EUT emission frequency.

The EUT is placed at test table height is 1.5 m

Measurement is made with the antenna positioned in both the horizontal and vertical planes of polarization. The measurement antenna is varied in height (1m~4m) above the reference ground plane to obtain the maximum signal strength. Distance between EUT and antenna is 3m.

This investigation is performed with the EUT rotated 360°, the antenna height scanned between 1 m and 4 m, and the antenna rotated to repeat the measurements for both the horizontal and vertical antenna polarizations.

TEST SETUP BLOCK DIAGRAM

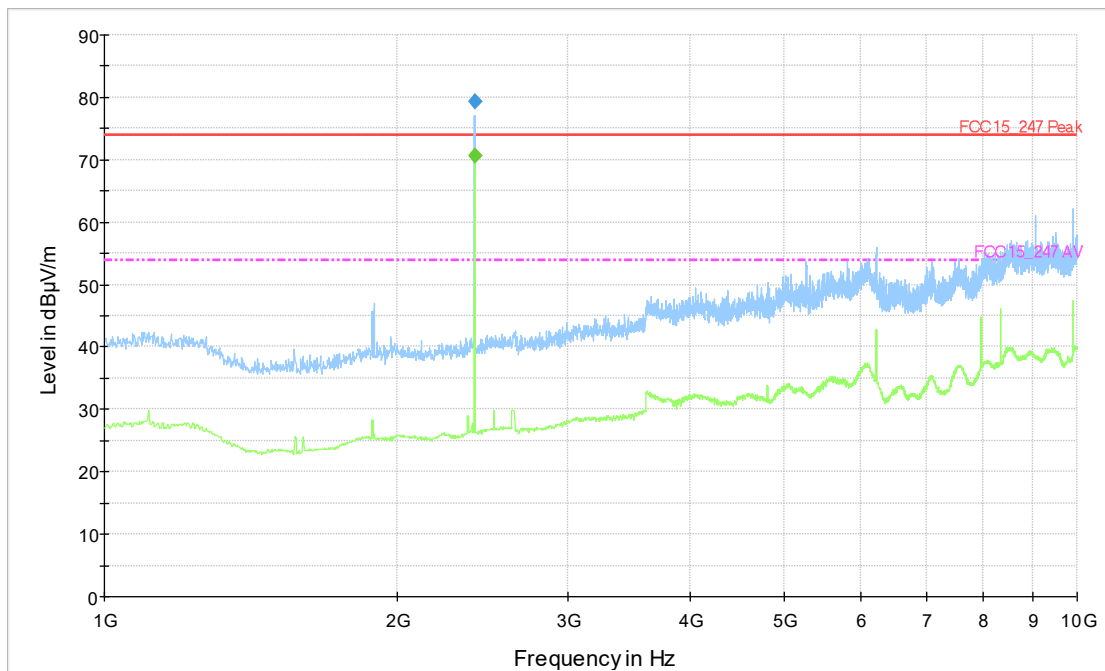


TEST RESULTS

DTS Carrier frequency 2402MHz

RX Antenna Polarization: Vertical

Frequency Range: 1GHz – 10GHz



Final Result:

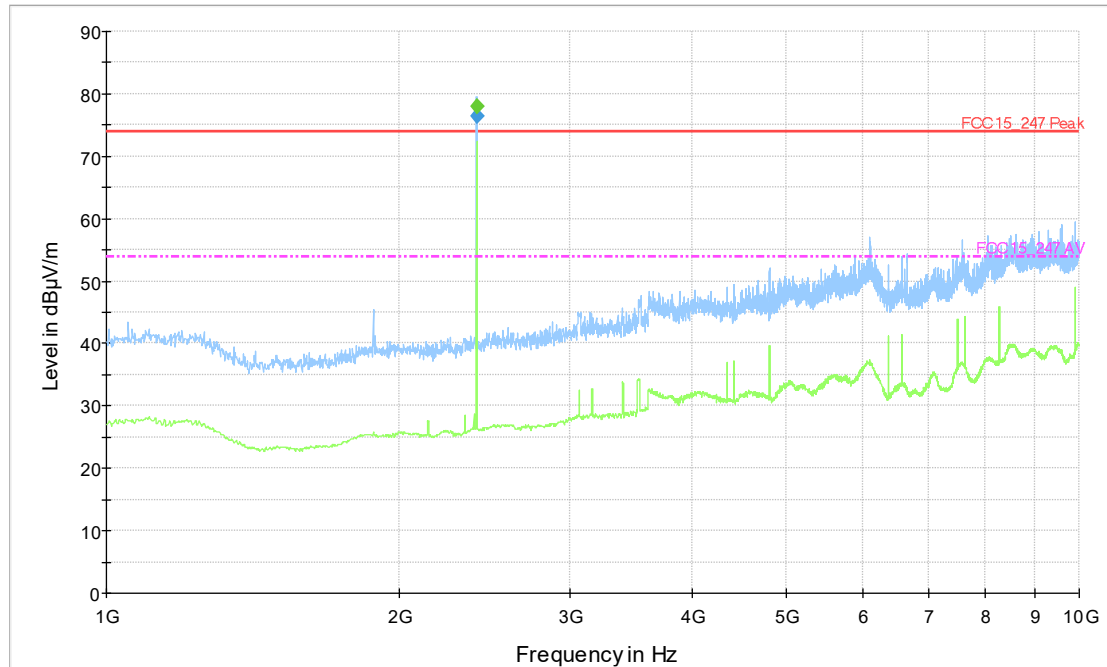
Frequency (MHz)	QuasiPeak (dBμV/m)	Height (cm)	Azimuth (deg)	Margin (dB)	Limit (dBμV/m)
2402.500000	79.2	254.7	172.0	-5.2	74.00

Frequency (MHz)	Average (dBμV/m)	Height (cm)	Azimuth (deg)	Margin (dB)	Limit (dBμV/m)
2402.000000	70.6	232.9	172.0	-16.60	54.00

NOTE: Peak out of limits are due to Bluetooth carrier.

RX Antenna Polarization: Horizontal

Frequency Range: 1GHz – 10GHz



Final Result:

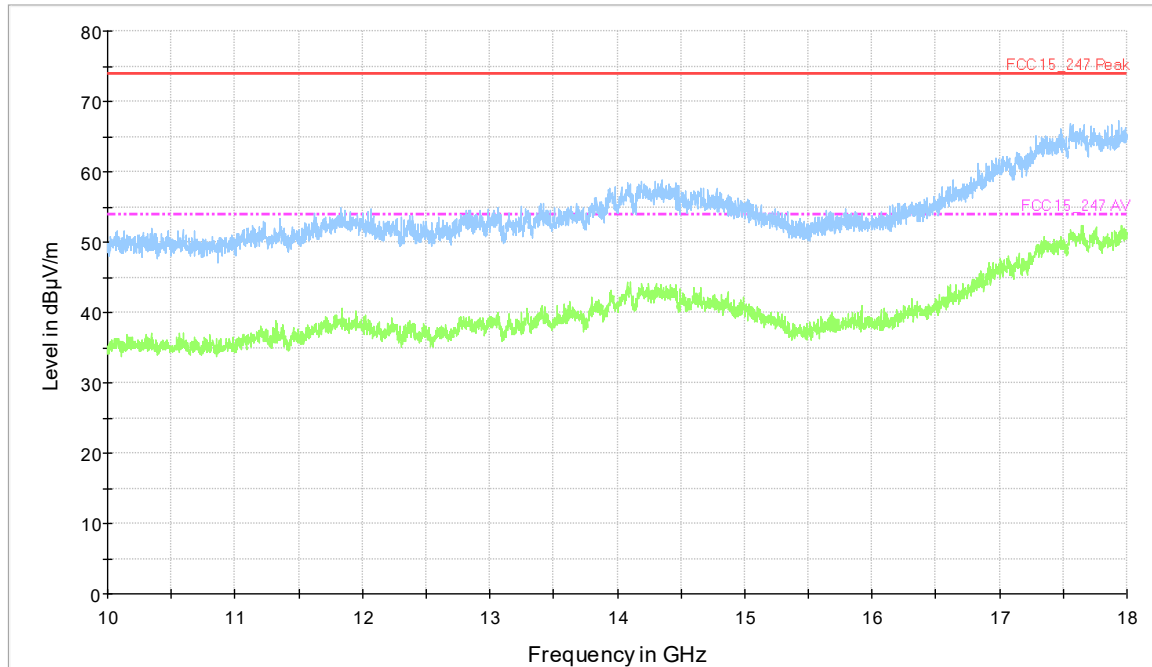
Frequency (MHz)	QuasiPeak (dBμV/m)	Height (cm)	Azimuth (deg)	Margin (dB)	Limit (dBμV/m)
2402.500000	76.5	99.8	187.0	-2.50	74.00

Frequency (MHz)	Average (dBμV/m)	Height (cm)	Azimuth (deg)	Margin (dB)	Limit (dBμV/m)
2402.000000	77.9	179.8	262.0	-23.90	54.00

NOTE: Peak out of limits are due to Bluetooth carrier.

RX Antenna Polarization: Vertical

Frequency Range: 10GHz – 18GHz

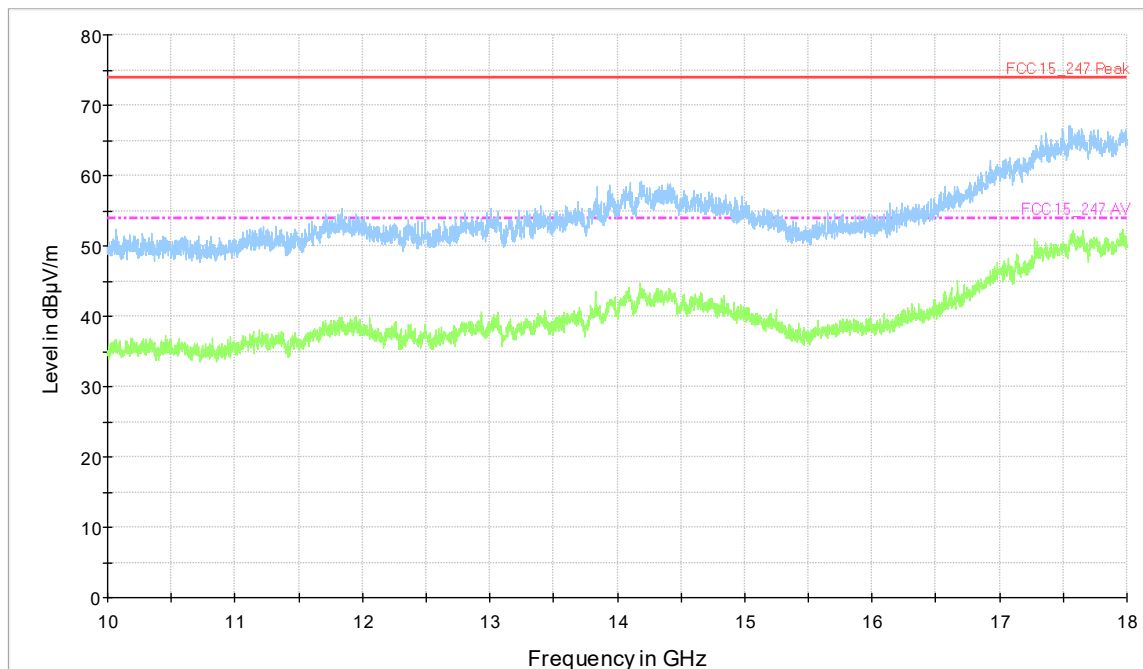


Final Result:

All emissions are below 10dB from the limit, for this reason no further assessments were carried out on the individual points

RX Antenna Polarization: Horizontal

Frequency Range: 10GHz – 18GHz

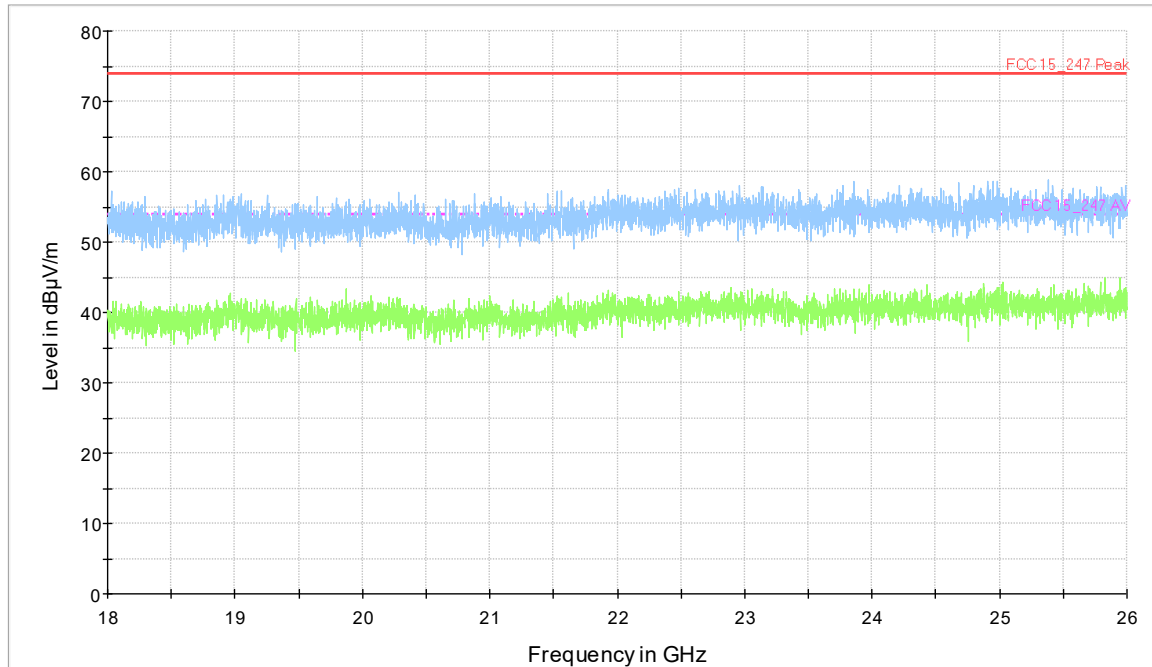


Final Result:

All emissions are below 10dB from the limit, for this reason no further assessments were carried out on the individual points

RX Antenna Polarization: Vertical

Frequency Range: 18GHz – 26GHz

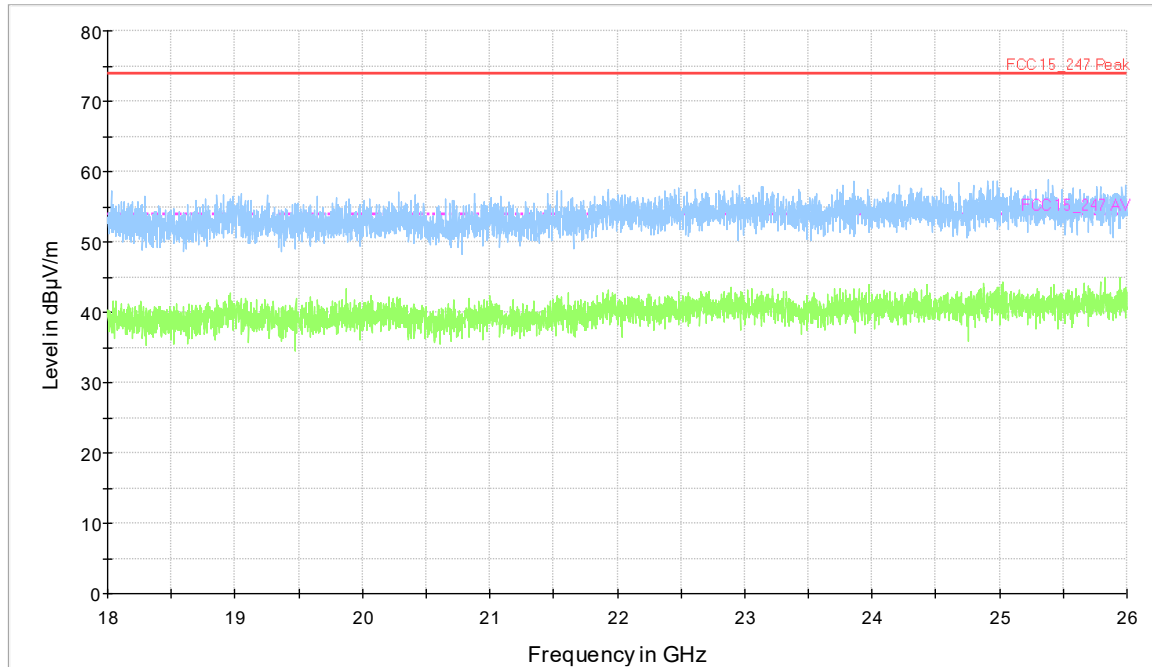


Final Result:

All emissions are below 10dB from the limit, for this reason no further assessments were carried out on the individual points

RX Antenna Polarization: Horizontal

Frequency Range: 18GHz – 26GHz



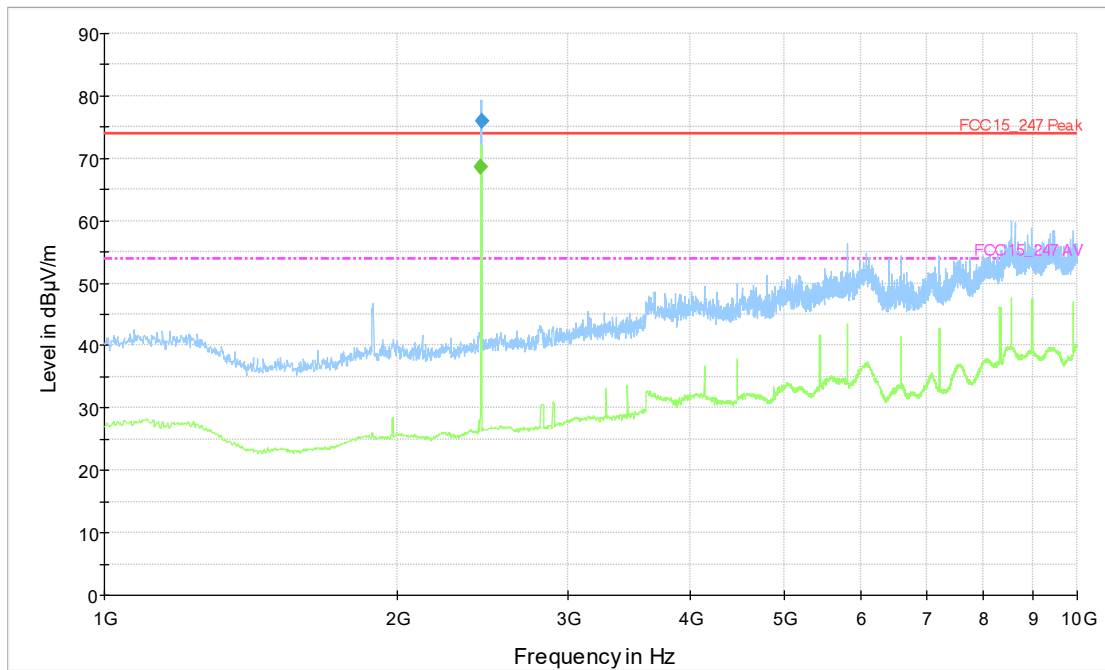
Final Result:

All emissions are below 10dB from the limit, for this reason no further assessments were carried out on the individual points

DTS Carrier frequency 2440MHz

RX Antenna Polarization: Vertical

Frequency Range: 1GHz – 10GHz



Final Result:

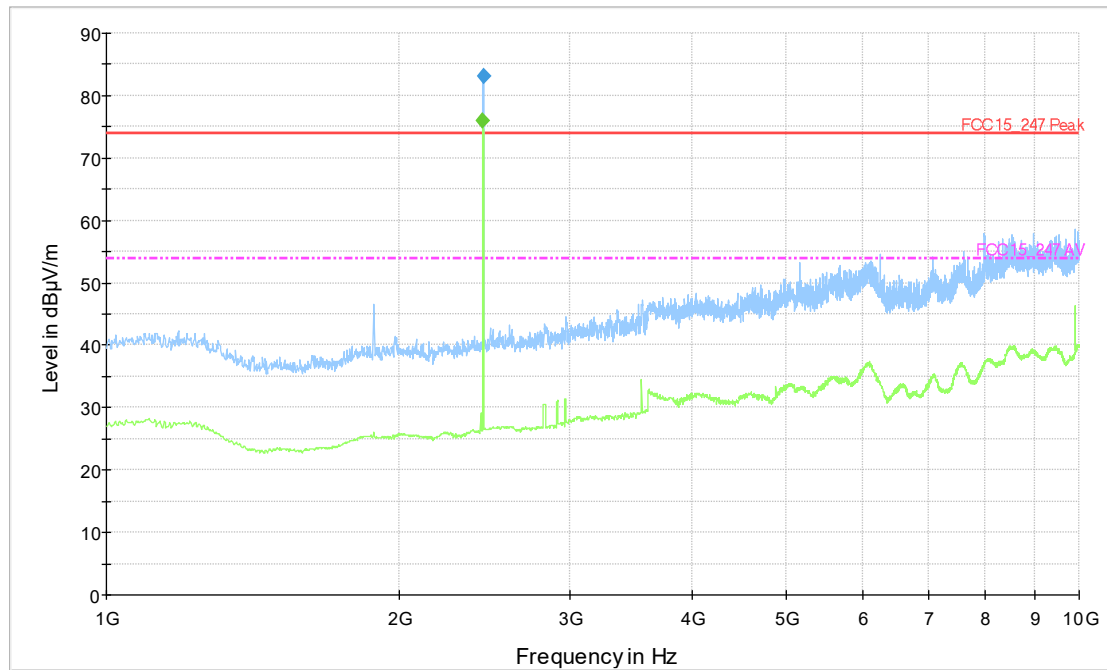
Frequency (MHz)	QuasiPeak (dBμV/m)	Height (cm)	Azimuth (deg)	Margin (dB)	Limit (dBμV/m)
2440.500000	75.9	105.0	-8.0	-1.90	74.00

Frequency (MHz)	Average (dBμV/m)	Height (cm)	Azimuth (deg)	Margin (dB)	Limit (dBμV/m)
2440.000000	68.7	104.8	-8.0	-14.70	54.00

NOTE: Peak out of limits are due to Bluetooth carrier.

RX Antenna Polarization: Horizontal

Frequency Range: 1GHz – 10GHz



Final Result:

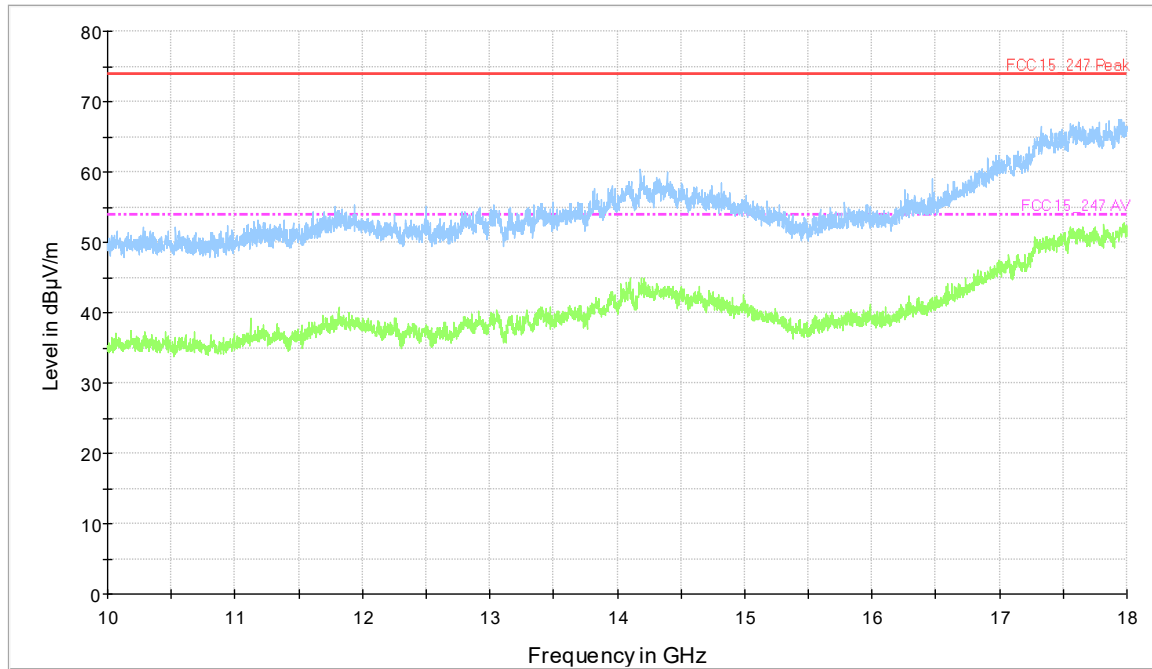
Frequency (MHz)	QuasiPeak (dBμV/m)	Height (cm)	Azimuth (deg)	Margin (dB)	Limit (dBμV/m)
2440.500000	83.1	104.7	187.0	-9.10	74.00

Frequency (MHz)	Average (dBμV/m)	Height (cm)	Azimuth (deg)	Margin (dB)	Limit (dBμV/m)
2440.000000	75.9	105.0	187.0	-21.90	54.00

NOTE: Peak out of limits are due to Bluetooth carrier.

RX Antenna Polarization: Vertical

Frequency Range: 10GHz – 18GHz

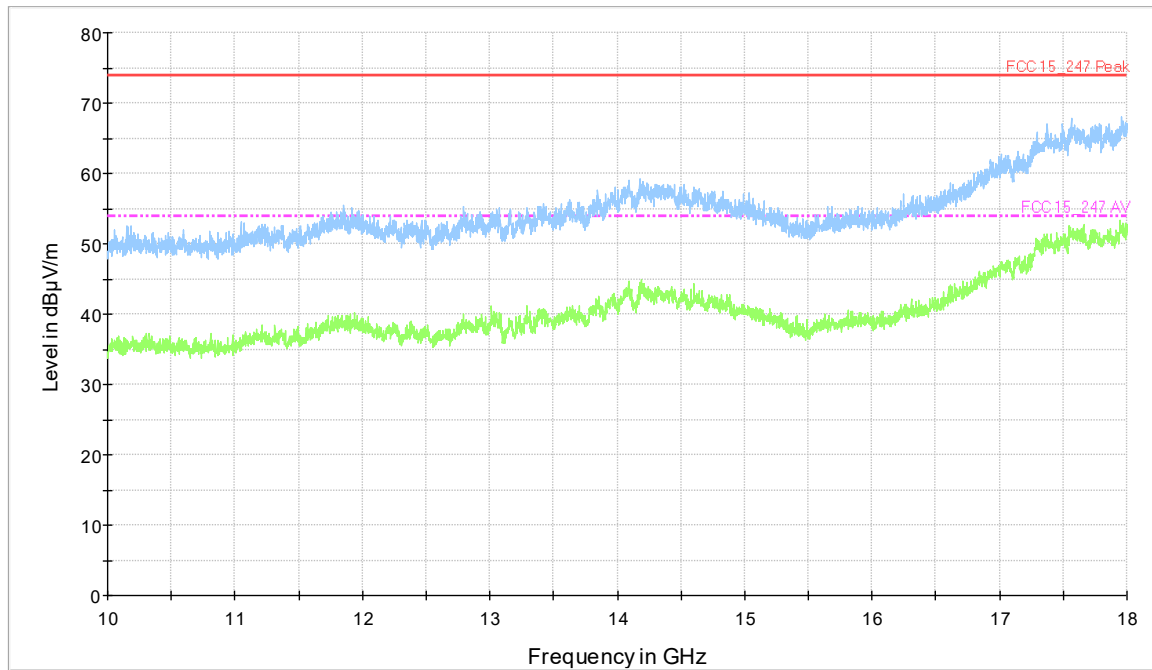


Final Result:

All emissions are below 10dB from the limit, for this reason no further assessments were carried out on the individual points

RX Antenna Polarization: Horizontal

Frequency Range: 10GHz – 18GHz

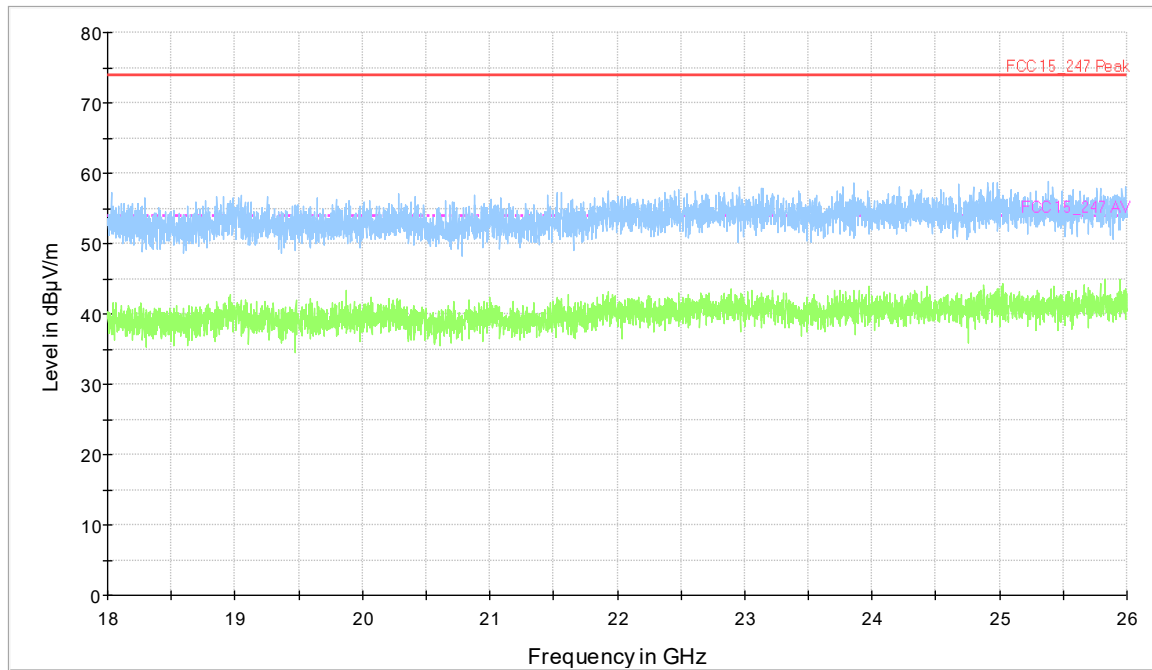


Final Result:

All emissions are below 10dB from the limit, for this reason no further assessments were carried out on the individual points

RX Antenna Polarization: Vertical

Frequency Range: 18GHz – 26GHz

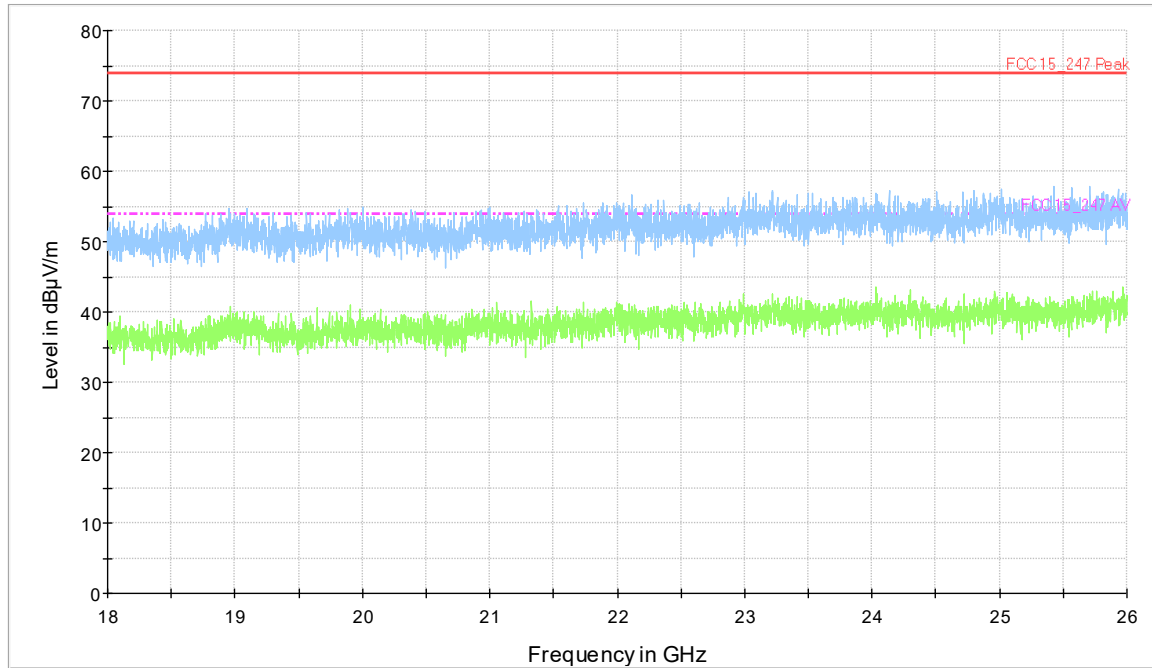


Final Result:

All emissions are below 10dB from the limit, for this reason no further assessments were carried out on the individual points

RX Antenna Polarization: Horizontal

Frequency Range: 18GHz – 26GHz



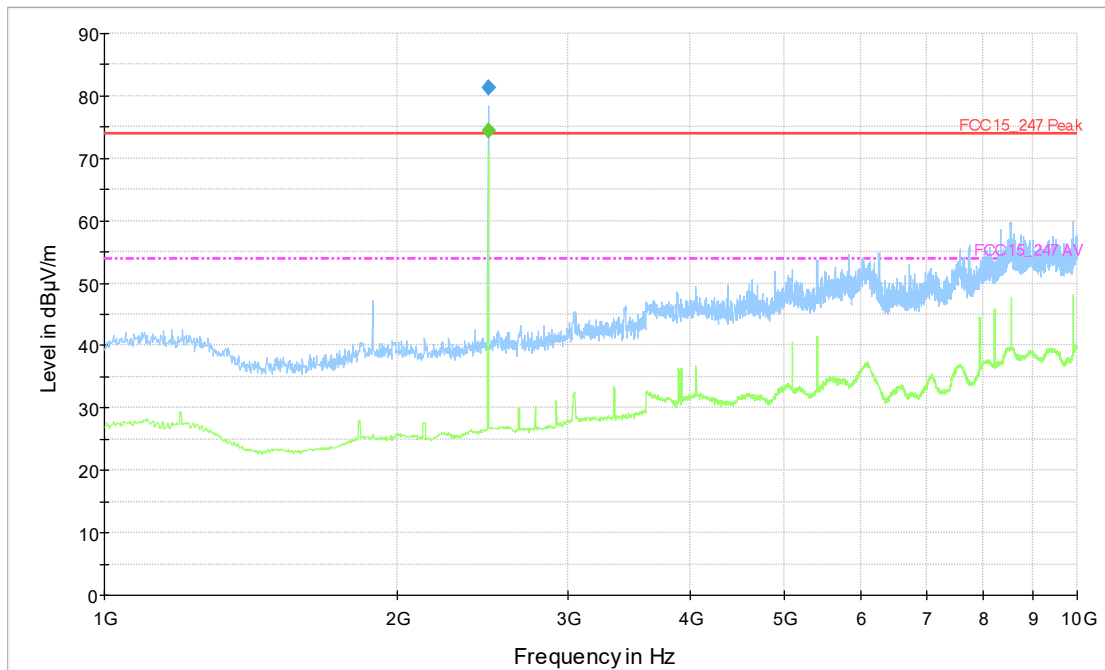
Final Result:

All emissions are below 10dB from the limit, for this reason no further assessments were carried out on the individual points

DTS Carrier frequency 2480MHz

RX Antenna Polarization: Vertical

Frequency Range: 1GHz – 10GHz



Final Result:

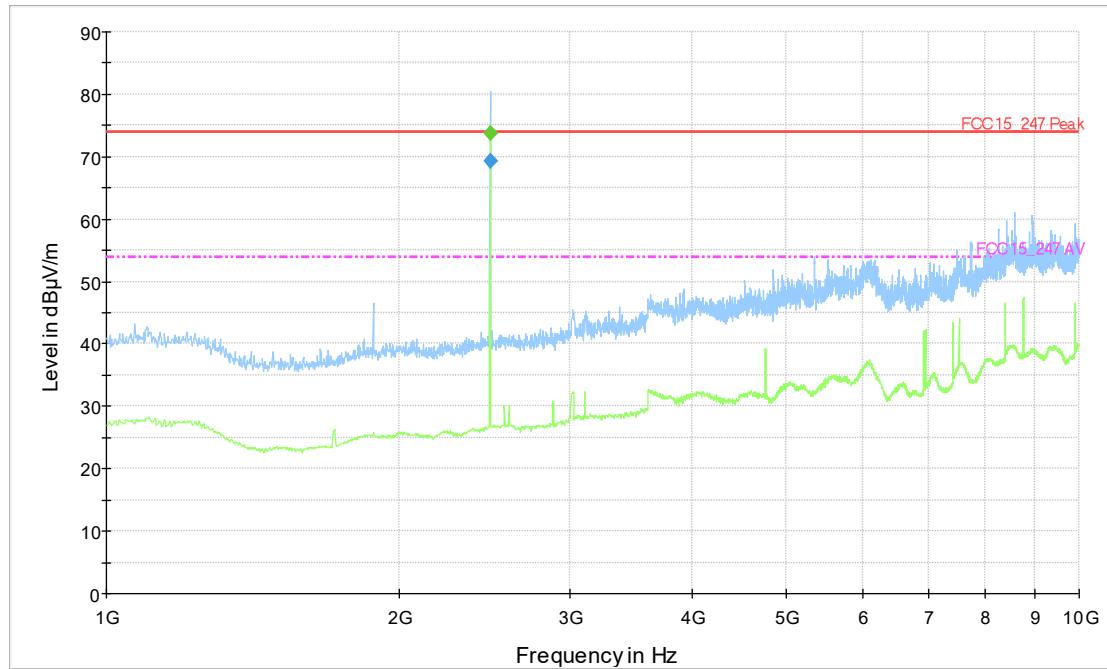
Frequency (MHz)	QuasiPeak (dBμV/m)	Height (cm)	Azimuth (deg)	Margin (dB)	Limit (dBμV/m)
2480.500000	81.4	254.7	172.0	-7.40	74.00

Frequency (MHz)	Average (dBμV/m)	Height (cm)	Azimuth (deg)	Margin (dB)	Limit (dBμV/m)
2480.000000	74.4	254.7	172.0	-20.40	54.00

NOTE: Peak out of limits are due to Bluetooth carrier.

RX Antenna Polarization: Horizontal

Frequency Range: 1GHz – 10GHz



Final Result:

Frequency (MHz)	QuasiPeak (dBμV/m)	Height (cm)	Azimuth (deg)	Margin (dB)	Limit (dBμV/m)
2480.500000	69.4	99.8	264.0	4.60	74.00

Frequency (MHz)	Average (dBμV/m)	Height (cm)	Azimuth (deg)	Margin (dB)	Limit (dBμV/m)
2480.000000	73.8	104.9	271.0	-19.80	54.00

NOTE: Peak out of limits are due to Bluetooth carrier.

RX Antenna Polarization: Vertical

Frequency Range: 10GHz – 18GHz

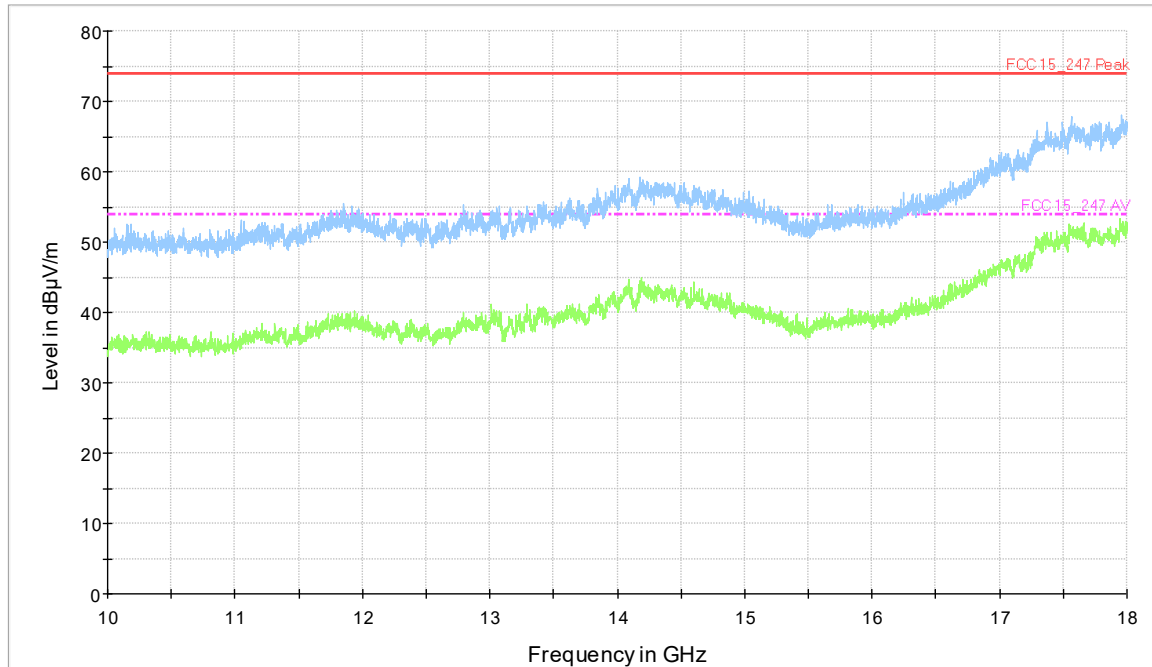


Final Result:

All emissions are below 10dB from the limit, for this reason no further assessments were carried out on the individual points

RX Antenna Polarization: Horizontal

Frequency Range: 10GHz – 18GHz

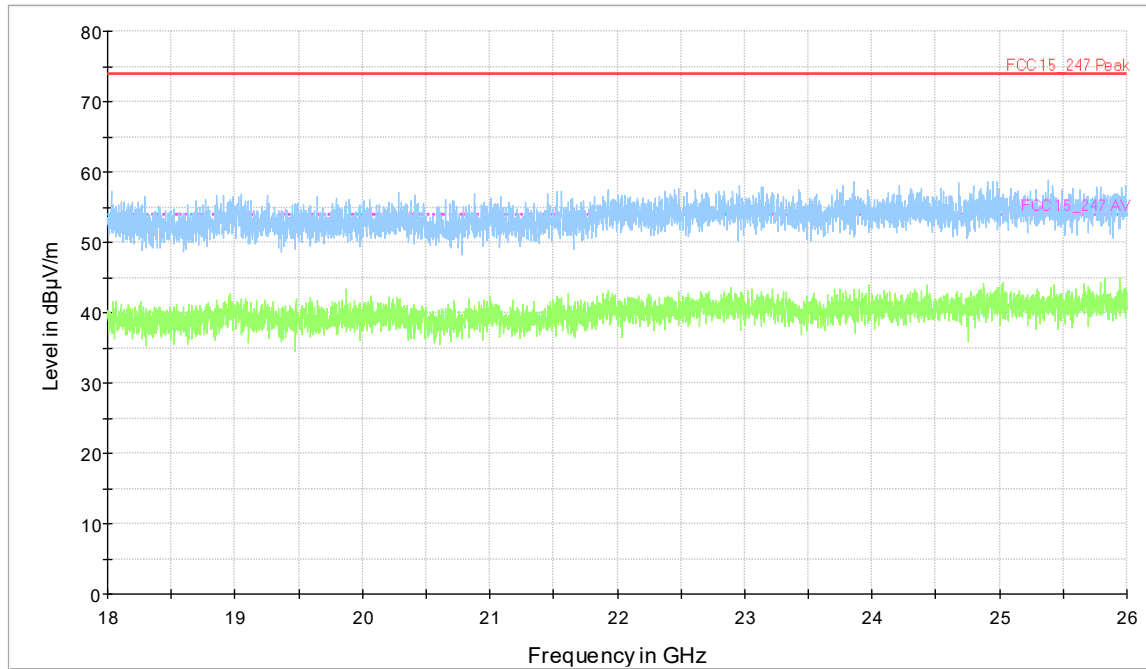


Final Result:

All emissions are below 10dB from the limit, for this reason no further assessments were carried out on the individual points

RX Antenna Polarization: Vertical

Frequency Range: 18GHz – 26GHz

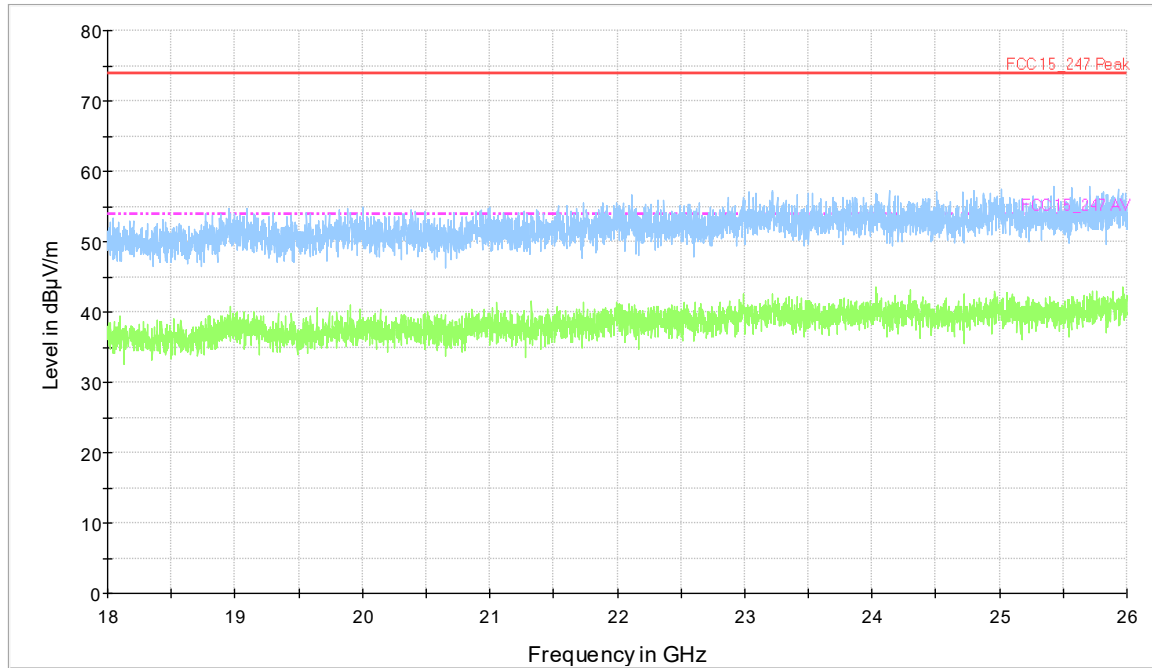


Final Result:

All emissions are below 10dB from the limit, for this reason no further assessments were carried out on the individual points

RX Antenna Polarization: Horizontal

Frequency Range: 18GHz – 26GHz



Final Result:

All emissions are below 10dB from the limit, for this reason no further assessments were carried out on the individual points

END OF TEST REPORT