

**Melbourne**176 Harrick Road  
Keilor Park, Vic 3042  
Tel: +61 3 9365 1000**Sydney**Unit 3/87 Station Road  
Seven Hills, NSW 2147  
Tel: +61 2 9624 2777Email: [emc-general@emctech.com.au](mailto:emc-general@emctech.com.au)Web: [www.emctech.com.au](http://www.emctech.com.au)

# RADIO TEST REPORT

**REPORT NUMBER: M2405011-5****TEST STANDARD: FCC PART 15 SUBPART C  
SECTION 15.247****ISED RSS-247 SECTION 5.0****CLIENT: REDARC ELECTRONICS PTY  
LTD****DEVICE: TOW-PRO LINK™ ADHESIVE  
MOUNTED USB REMOTE****MODEL: EBRHX-ADH-RH****FCC ID: 2BAH6-EBRHXADHRH****IC: 30290-EBRHXADHRH****DATE OF ISSUE: 17 JULY 2024**

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## REVISION TABLE

Version	Sec/Para Changed	Change Made	Date
1		Initial issue of document	17/07/2024



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## CONTENTS

1	Test Summary .....	7
2	Test Facility .....	7
2.1	General .....	7
2.2	Test Laboratory/Accreditations .....	7
3	Test Equipment Calibration .....	8
4	Measurement Uncertainty .....	8
5	Device Details.....	9
5.1	EUT (Transmitter) Details .....	9
5.2	EUT (Host) Details .....	9
5.3	Test Configuration .....	9
5.4	Modifications .....	9
5.5	Deviations from the Standard .....	9
6	Results.....	10
6.1	§15.203/ RSS-Gen 6.8 Antenna Requirement .....	10
6.2	§15.205/ RSS-Gen 8.10/ RSS-247 3.3 Restricted Bands of Operation .....	10
6.3	§15.207/ RSS-Gen 8.8 Conducted Limits .....	10
6.4	§15.209/ RSS-Gen 8.9 Radiated Emission Limits; General Requirements .....	10
6.5	§15.247(a)(2)/ RSS-247 5.2(a) 6 dB bandwidth .....	10
6.5.1	Test Procedure .....	10
6.5.2	Limits.....	10
6.5.3	Results .....	10
6.6	§15.247(b)(3)/ RSS-247 5.4(d) Peak Output Power .....	12
6.6.1	Test Procedure .....	12
6.6.2	Limits.....	12
6.6.3	Results .....	12
6.7	§15.247(d)/ RSS-247 5.5 Out-of-Band/Spurious Emissions .....	14
6.7.1	Test procedure .....	14
6.7.2	Test setup .....	15
6.7.3	Evaluation of field strength.....	16
6.7.4	Limits.....	16
6.7.5	Transmitter Spurious Emissions: 9 kHz to 30 MHz .....	17
6.7.6	Transmitter Spurious Emissions: 30 - 1000 MHz .....	19
6.7.7	Transmitter Spurious Emissions: 1 - 18 GHz.....	22
6.7.8	Transmitter Spurious Emissions: 18 – 26 GHz.....	28
6.8	§15.247(d)/ RSS-247 5.5 Band Edge Emission Measurements .....	32
6.9	§15.247(e)/ RSS-247 5.2(b) Power Spectral Density.....	34
6.9.1	Test procedure .....	34
6.9.2	Limits.....	34
6.9.3	Results .....	34
6.10	§15.247(i)/ RSS-Gen 3.4/RSS-102 Maximum Permissible Exposure .....	36

6.11	§15.215/ RSS-Gen 6.7 Occupied Bandwidth – 99% power .....	36
6.11.1	Test procedure .....	36
6.11.2	Limits .....	36
6.11.3	Results .....	36

## GRAPHS

Graph 6-1: 6 dB bandwidth, 2402 MHz .....	11
Graph 6-2: 6 dB bandwidth, 2440 MHz .....	11
Graph 6-3: 6 dB bandwidth, 2480 MHz .....	12
Graph 6-4: Maximum EIRP, 2402 MHz .....	13
Graph 6-5: Maximum EIRP, 2440 MHz .....	13
Graph 6-6: Maximum EIRP, 2480MHz .....	14
Graph 6-7: Transmitter Spurious Emissions, 9 kHz – 30 MHz, 2402 MHz .....	17
Graph 6-8: Transmitter Spurious Emissions, 9 kHz – 30 MHz, 2440 MHz .....	17
Graph 6-9: Transmitter Spurious Emissions, 9 kHz – 30 MHz, 2480 MHz .....	18
Graph 6-10: Transmitter Spurious Emissions, 30 – 1000 MHz, 2402 MHz .....	19
Graph 6-11: Transmitter Spurious Emissions, 30 – 1000 MHz, 2440 MHz .....	20
Graph 6-12: Transmitter Spurious Emissions, 30 – 1000 MHz, 2480 MHz .....	21
Graph 6-13: Transmitter Spurious Emissions, 1 – 18 GHz, 2402 MHz, Peak .....	22
Graph 6-14: Transmitter Spurious Emissions, 1 – 18 GHz, 2440 MHz, Peak .....	23
Graph 6-15: Transmitter Spurious Emissions, 1 – 18 GHz, 2480 MHz, Peak .....	24
Graph 6-16: Transmitter Spurious Emissions, 1 – 18 GHz, 2402 MHz, Average .....	25
Graph 6-17: Transmitter Spurious Emissions, 1 – 18 GHz, 2440 MHz, Average .....	26
Graph 6-18: Transmitter Spurious Emissions, 1 – 18 GHz, 2480 MHz, Average .....	27
Graph 6-19: Transmitter Spurious Emissions, 18 – 26 GHz, 2402 MHz, Peak .....	28
Graph 6-20: Transmitter Spurious Emissions, 18 – 26 GHz, 2440 MHz, Peak .....	28
Graph 6-21: Transmitter Spurious Emissions, 18 – 26 GHz, 2480 MHz, Peak .....	29
Graph 6-22: Transmitter Spurious Emissions, 18 – 26 GHz, 2402 MHz, Average .....	30
Graph 6-23: Transmitter Spurious Emissions, 18 – 26 GHz, 2440 MHz, Average .....	30
Graph 6-24: Transmitter Spurious Emissions, 18 – 26 GHz, 2480 MHz, Average .....	31
Graph 6-25: Band Edge Emission, Lower Band-edge .....	32
Graph 6-26: Band Edge Emission, Upper Band-edge, Peak .....	33
Graph 6-27: Band Edge Emission, Upper Band-edge, Average .....	33
Graph 6-28: Radiated - Power Spectral Density, 2402 MHz .....	34
Graph 6-29: Radiated - Power Spectral Density, 2440 MHz .....	35
Graph 6-30: Radiated - Power Spectral Density, 2480 MHz .....	35
Graph 6-31: Occupied bandwidth, 2402 MHz .....	36
Graph 6-32: Occupied bandwidth, 2440 MHz .....	37
Graph 6-33: Occupied bandwidth, 2480 MHz .....	37

## TABLES

Table 6-1: 6 dB Bandwidth .....	10
Table 6-2: Maximum peak power .....	12
Table 6-3: Transmitter Spurious Emissions, 30 – 1000 MHz, 2402 MHz .....	19
Table 6-4: Transmitter Spurious Emissions, 30 – 1000 MHz, 2440 MHz .....	20
Table 6-5: Transmitter Spurious Emissions, 30 – 1000 MHz, 2480 MHz .....	21
Table 6-6: Transmitter Spurious Emissions, 1 – 18 GHz, 2402 MHz, Peak .....	22
Table 6-7: Transmitter Spurious Emissions, 1 – 18 GHz, 2440 MHz, Peak .....	23
Table 6-8: Transmitter Spurious Emissions, 1 – 18 GHz, 2480 MHz, Peak .....	24
Table 6-9: Transmitter Spurious Emissions, 1 – 18 GHz, 2402 MHz, Average .....	25
Table 6-10: Transmitter Spurious Emissions, 1 – 18 GHz, 2440 MHz, Average .....	26
Table 6-11: Transmitter Spurious Emissions, 1 – 18 GHz, 2480 MHz, Average .....	27
Table 6-12: Band Edge Emission, Lower Band-edge .....	32
Table 6-13: Band Edge Emission, Upper Band-edge .....	33
Table 6-14: Power spectral density .....	34
Table 6-15: Occupied Bandwidth .....	36

## TEST CERTIFICATE

Device: TOW-PRO LINK™ Adhesive Mounted USB Remote  
Model: EBRHX-ADH-RH  
Serial Number: N/A  
Sample Number: S01522  
PCB Version: PCB3367-6  
Manufacturer: REDARC Electronics Pty Ltd

Radio: Bluetooth Low Energy (Nordic nRF52833)  
FCC ID: 2BAH6-EBRHXADHRH  
IC: 30290-EBRHXADHRH

Tested for: REDARC Electronics Pty Ltd  
Address: 23 Brodie Rd Adelaide Australia 5160  
Contact: Simon Gallasch  
Phone Number: +61 8 7093 3732  
Email: sgallasch@redarc.com.au



Standard: FCC Part 15, Subpart C, Section 15.247 Operation within the bands 902-928 MHz, 2400-2483.5 MHz, and 5725-5850 MHz

ISED RSS-247, Issue 3, Section 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

Result: The TOW-PRO LINK™ Adhesive Mounted USB Remote complied with the applicable requirements of the above standards. Refer to Report M2405011-5 for full details.

Test Date: 9-10 May 2023

Issue Date: 17 July 2024

Test Engineers:   
Ashish Nath   
Ian Paul Ng

Attestation: *I hereby certify that the device(s) described herein were tested as described in this report and that the data included is that which was obtained during such testing.*

Authorized Signatory:   
Ian Paul Ng  
Senior Test Engineer

**Issued by:** EMC Technologies Pty. Ltd.,  
176 Harrick Road, Keilor Park, VIC, 3042, Australia.  
**Phone:** +61 3 9365 1000

**E-mail:** [emc-general@emctech.com.au](mailto:emc-general@emctech.com.au)

**Web:** [www.emctech.com.au](http://www.emctech.com.au)



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## RADIO TEST REPORT

### 1 TEST SUMMARY

Sec.	Description	FCC	ISED	Result(s)
6.1	Antenna Requirement	§15.203	RSS-Gen 6.8	Complied
6.2	Restricted Bands of Operation	§15.205	RSS-Gen 8.10	Complied
6.3	Conducted Limits	§15.207	RSS-Gen 8.8	Not Applicable
6.4	Radiated emission limits; general requirements	§15.209	RSS-Gen 8.9	Complied
6.5	6 dB Bandwidth	§15.247(a)(2)	RSS-247 5.2(a)	Complied
6.6	Peak Output Power	§15.247(b)(3)	RSS-247 5.4(d)	Complied
6.7	Out-of-Band/Spurious Emissions	§15.247(d)	RSS-247 5.5	Complied
6.8	Band-Edge Emission Measurements	§15.247(d)	RSS-247 5.5	Complied
6.9	Power spectral density	§15.247(e)	RSS-247 5.2(b)	Complied
6.10	Maximum Permissible Exposure	§15.247(i)	RSS-102	Complied
6.11	Occupied Bandwidth – 99% power	§15.215	RSS-Gen 6.7	Complied

### 2 TEST FACILITY

#### 2.1 General

EMC Technologies Pty Ltd is accredited by the FCC as a test laboratory able to perform compliance testing for the public. EMC Technologies Pty Ltd has also been designated as a Conformity Assessment Body (CAB) by Australian Communications and Media Authority (ACMA) under the APECTEL MRA and is designated to perform compliance testing on equipment subject to Declaration of Conformity (DoC) and Certification under Parts 15 and 18 of the FCC Commission's rules – **Registration Number 494713 & Designation number AU0001.**

EMC Technologies Pty Ltd is also an ISED Canada recognized testing laboratory – **ISED company number: 3569B and CAB identifier number: AU0001.**

#### 2.2 Test Laboratory/Accreditations

NATA is the Australian National laboratory accreditation body and has accredited EMC Technologies to operate to the IEC/ISO17025 requirements. A major requirement for accreditation is the assessment of the company and its personnel as being technically competent in testing to the standards. This requires fully documented test procedures, continued calibration of all equipment to the National Standard at the National Measurements Institute (NMI) and an internal quality system similar to ISO 9002. NATA has mutual recognition agreements with the National Voluntary Laboratory Accreditation Program (NVLAP) and the American Association for Laboratory Accreditation (A<sup>2</sup>LA).

All testing in this report has been conducted in accordance with EMC Technologies' scope of NATA accreditation to ISO 17025 for both testing and calibration and ISO 17020 for Inspection – **Accreditation Number 5292.**

The current full scope of accreditation can be found on the NATA website: [www.nata.com.au](http://www.nata.com.au)

### 3 TEST EQUIPMENT CALIBRATION

Measurement instrumentation and transducers were calibrated in accordance with the applicable standards by an independent NATA registered laboratory such as Keysight Technologies (Australia) Pty Ltd or the National Measurement Institute (NMI) or in-house. All equipment calibration is traceable to Australian national standards at the National Measurements Institute.

Equipment Type	Make/Model/Serial Number	Last Cal. dd/mm/yyyy	Due Date dd/mm/yyyy	Cal. Interval
Chamber	Frankonia SAC-3-2 (R-144)	25/03/2024	25/03/2027	3 Year* <sup>1</sup>
EMI Receiver	R&S ESW26 Sn: 101306 (R-143)	02/08/2023	02/08/2024	1 Year* <sup>2</sup>
Antennas	EMCO 6502 Active Loop Antenna Sn: 2021 (A-310)	20/09/2022	20/09/2024	2 Year* <sup>2</sup>
	SUNAR JB1 Biconilog hybrid Antenna Sn. A052518 (A-434)	14/03/2023	14/03/2025	2 Year* <sup>2</sup>
	EMCO 3115 Horn Antenna Sn: 9501-4398 (A-406)	10/01/2022	10/01/2025	3 Year* <sup>1</sup>
	ETS-Lindgren 3160-09 Horn Antenna Sn: 66032 (A307)	18/01/2024	18/01/2027	3 Year* <sup>1</sup>
Cables* <sup>3</sup>	Huber & Suhner Sucoflex 104A Sn: 503061/4A (CL131124)	10/11/2023	10/11/2024	1 Year* <sup>1</sup>
	Huber & Suhner Sucoflex 102 Sn: 27319/2 (C-273)	22/01/2024	22/01/2025	1 Year* <sup>1</sup>

Note \*1. Internal NATA calibration.

Note \*2. External NATA / A2LA calibration.

Note \*3. Cables are verified before measurements are taken.

### 4 MEASUREMENT UNCERTAINTY

EMC Technologies has evaluated the equipment and the methods used to perform the emissions testing. The estimated measurement uncertainties for emissions tests shown within this report are as follows:

<b>Radiated Emissions:</b>	9 kHz to 30 MHz	±4.1 dB
	30 MHz to 300 MHz	±5.1 dB
	300 MHz to 1000 MHz	±4.7 dB
	1 GHz to 18 GHz	±4.6 dB
	18 GHz to 40 GHz	±4.6 dB
<b>Peak Output Power:</b>		±1.5 dB

The above expanded uncertainties are based on standard uncertainties multiplied by a coverage factor of k=2, providing a level of confidence of approximately 95%.

#### Application of measurement uncertainty for this report:

The referenced uncertainty standard specifies that determination of compliance shall be based on measurements without considering measurement instrumentation uncertainty. However, the measurement uncertainty shall appear in the test report.

## 5 Device Details

(Information supplied by the Client)

The EBRHX-ADH-RH USB Remote wirelessly connects to and controls the Main Unit of the Tow-Pro Link electric brake controller. It is powered via USB and can be mounted to the dashboard using the supplied non-permanent, reusable adhesive tape.

### 5.1 EUT (Transmitter) Details

<b>Radio:</b>	Nordic Semiconductor nRF52833
<b>Type:</b>	Bluetooth Low Energy (BLE)
<b>Frequency band:</b>	2402 – 2480 MHz
<b>Number of Channels:</b>	40
<b>Operating Frequency:</b>	Low Channel: 2402 MHz Mid Channel: 2440 MHz High Channel: 2480 MHz
<b>Modulation:</b>	Gaussian Frequency Shift Modulation (GFSK)
<b>Nominal Bandwidth:</b>	2 MHz
<b>Data Rate:</b>	2Mbit/s
<b>Antenna Model/Type:</b>	PCB Inverted F Antenna
<b>Antenna Peak Gain:</b>	1.1 dBi

### 5.2 EUT (Host) Details

<b>Test Sample:</b>	TOW-PRO LINK™ Adhesive Mounted USB Remote
<b>Model:</b>	EBRHX-ADH-RH
<b>Sample Number:</b>	S01522
<b>PCB Version:</b>	PCB3367-6
<b>Supply Rating:</b>	5V DC via USB

### 5.3 Test Configuration

Testing was performed with the EUT's Transceiver set to transmit continuously at Low Channel (2402 MHz), Mid Channel (2440 MHz) and High Channel (2480 MHz). Manufacturer has set the output power to **+6 dBm**.

### 5.4 Modifications

No modifications were required to achieve compliance.

### 5.5 Deviations from the Standard

No deviation from the standard.



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## 6 RESULTS

### 6.1 §15.203/ RSS-Gen 6.8 Antenna Requirement

The test sample's Bluetooth Transceiver incorporates a PCB Antenna and cannot be replaced by another type.

**Antenna Brand:** Not Applicable

**Antenna Type:** PCB Inverted F Antenna

**Antenna Peak Gain:** 1.1 dBi

**Connector:** Not Applicable

The above installation will prevent any unauthorized switching of antennas.

### 6.2 §15.205/ RSS-Gen 8.10/ RSS-247 3.3 Restricted Bands of Operation

The provisions of the §15.205/ RSS-Gen 8.10/ RSS-247 3.3 restricted bands of operation and §15.209 radiated emissions limits have been met, refer to section 6.7

### 6.3 §15.207/ RSS-Gen 8.8 Conducted Limits

The device is battery DC powered and does not connect directly or indirectly to the AC mains network. Test was not applicable.

### 6.4 §15.209/ RSS-Gen 8.9 Radiated Emission Limits; General Requirements

The provisions of the §15.205/ RSS-Gen 8.10/ RSS-247 3.3 restricted bands of operation and §15.209/ RSS-Gen 8.9 radiated emissions limits have been met, refer to section 6.7

### 6.5 §15.247(a)(2)/ RSS-247 5.2(a) 6 dB bandwidth

#### 6.5.1 Test Procedure

The tests were performed in accordance with ANSI C63.10: 2013 Clause 11.8 DTS bandwidth.

The 6 dB bandwidth was measured while the device was transmitting with typical modulation applied. The resolution bandwidth of 100 kHz and the video bandwidth of 300 kHz were utilised when measuring the bandwidth.

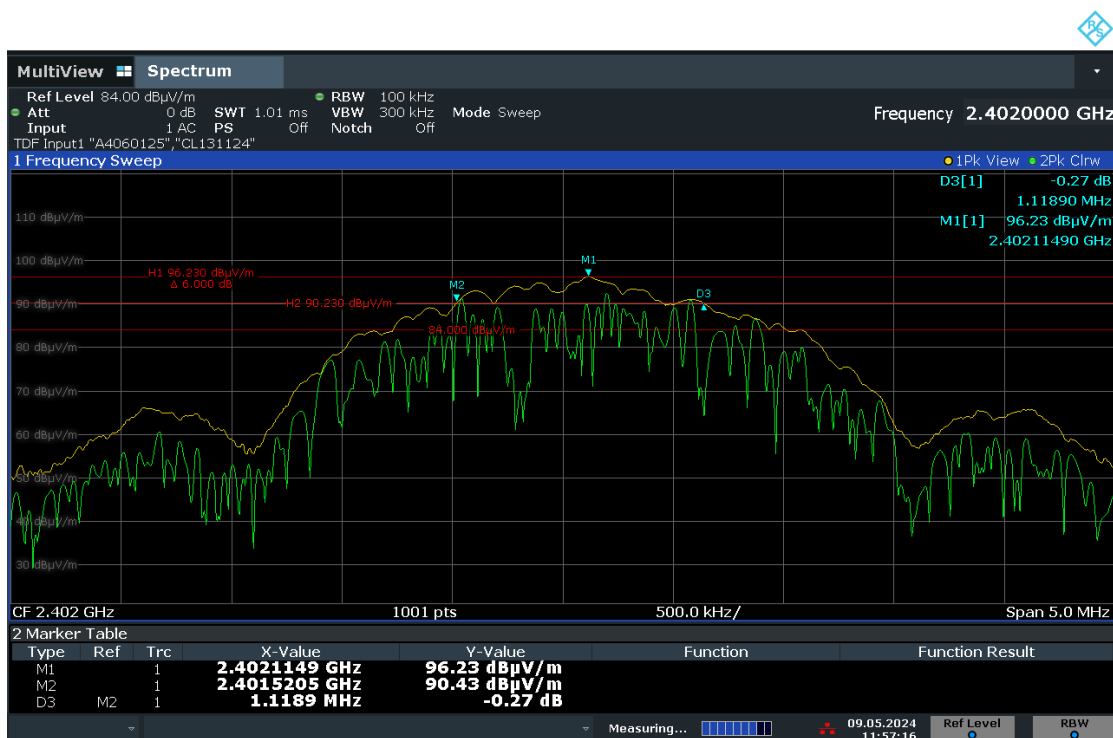
#### 6.5.2 Limits

In the band 2400-2483.5MHz, the minimum 6 dB bandwidth shall be at least 500 kHz.

#### 6.5.3 Results

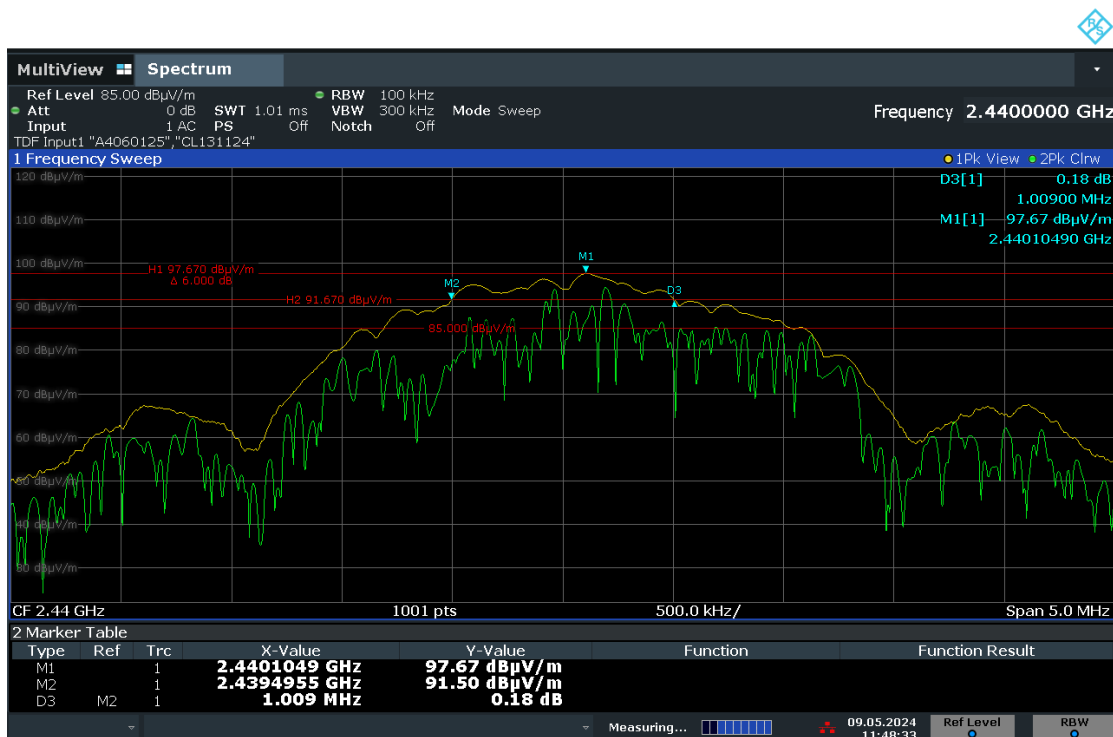
Table 6-1: 6 dB Bandwidth

Frequency (MHz)	6 dB Bandwidth (kHz)	Limit (kHz)
2402	1118.9	≥ 500
2440	1009.0	≥ 500
2480	1128.9	≥ 500



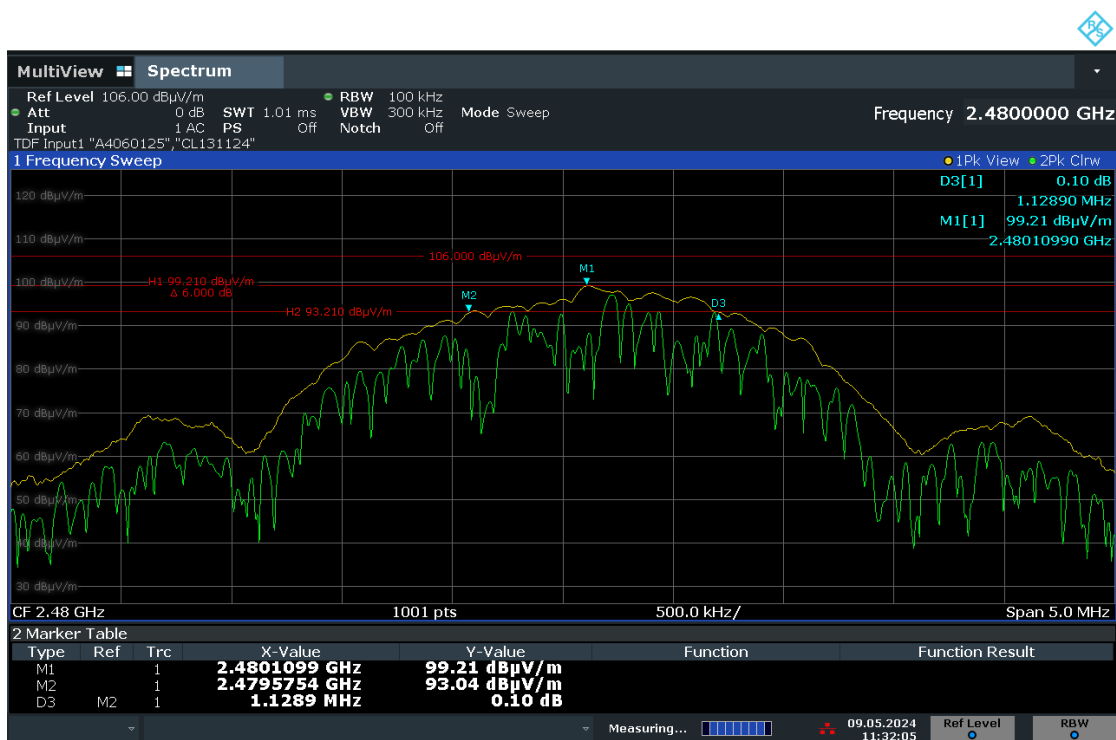
11:57:17 09.05.2024

Graph 6-1: 6 dB bandwidth, 2402 MHz



11:48:34 09.05.2024

Graph 6-2: 6 dB bandwidth, 2440 MHz



11:32:05 09.05.2024

Graph 6-3: 6 dB bandwidth, 2480 MHz

## 6.6 §15.247(b)(3)/ RSS-247 5.4(d) Peak Output Power

### 6.6.1 Test Procedure

The maximum peak conducted output power was measured in accordance with ANSI C63.10: 2013 clause 11.9.1.1.

### 6.6.2 Limits

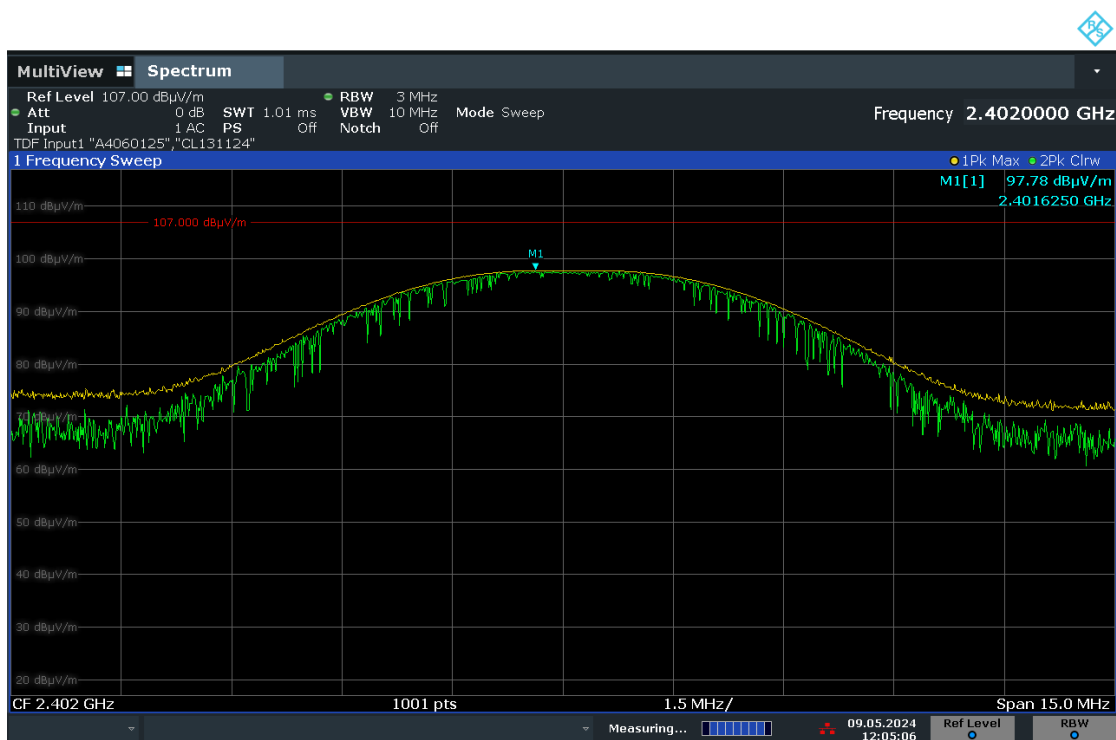
The maximum peak conducted output power at 2400-2483.5 MHz is 1 Watt or 30 dBm.

### 6.6.3 Results

Table 6-2: Maximum peak power

Freq. (MHz)	E-Field @ 3 m (dBμV/m)	EIRP (dBm)	Antenna Gain (dBi)	Equivalent Conducted Output Power (dBm)	Limit (dBm)	Results
2402	97.78	2.55	1.1	1.45	30	Complied
2440	98.86	3.63	1.1	2.53	30	Complied
2480	100.58	5.35	1.1	4.25	30	Complied

The measured radiated field strength is converted to equivalent conducted output power for checking compliance (KDB 558074 D01 Section 3).



12:05:07 09.05.2024

Graph 6-4: Maximum EIRP, 2402 MHz



11:44:04 09.05.2024

Graph 6-5: Maximum EIRP, 2440 MHz



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11:19:29 09.05.2024

Graph 6-6: Maximum EIRP, 2480MHz

## 6.7 §15.247(d)/ RSS-247 5.5 Out-of-Band/Spurious Emissions

### 6.7.1 Test procedure

Radiated out-of-band/spurious emissions measurements were performed in a semi-anechoic chamber compliant with ANSI C63.4: 2014.

The test frequency range was sub-divided into smaller bands with the defined resolution bandwidths to permit reliable display and identification of emissions.

Frequency range (MHz)	Measurement Bandwidth (kHz)	Measurement Distance (m)	Antenna
0.009 to 0.150	0.2	3	0.6 metre loop antenna
0.150 to 30	9	3	
30 to 1000	120	3	
1000 to 18 000	1000	3	Biconilog hybrid
18 000 to 40 000	1000	1	Standard gain or broadband horn

EUT was set at a height of 0.8 m for measurements below 1000 MHz and set at a height of 1.5 m for measurements above 1000 MHz.

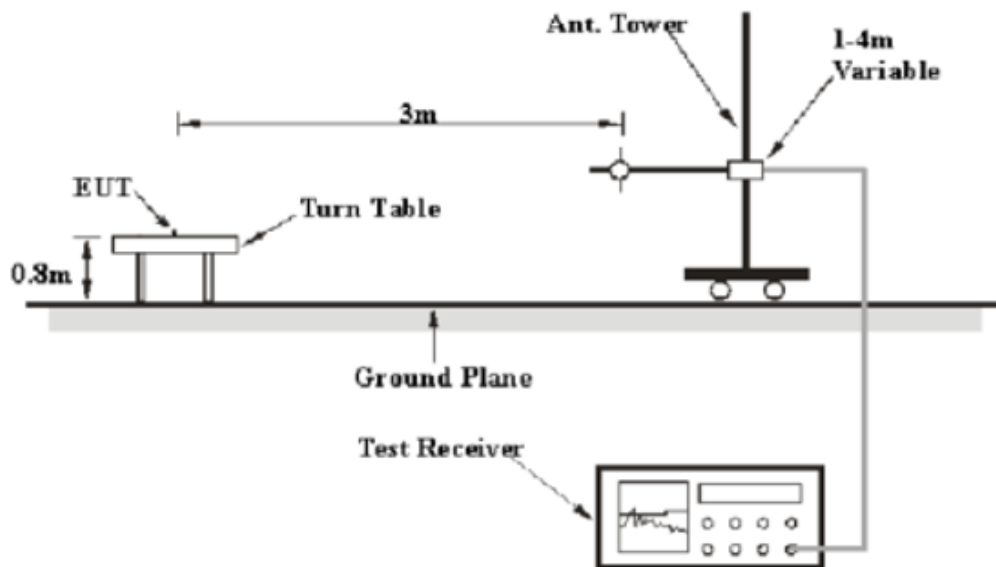
The sample was slowly rotated with the spectrum analyser set to Max-Hold. This was performed for at least two antenna heights. When an emission was located, it was positively identified, and its maximum level was found by rotating the automated turntable and by varying the antenna height. For below 1000 MHz the emissions were measured with a Quasi-Peak detector, and for above 1000 MHz the emissions were measured with Peak and Average detectors.

Measurements on the worst axis are presented.

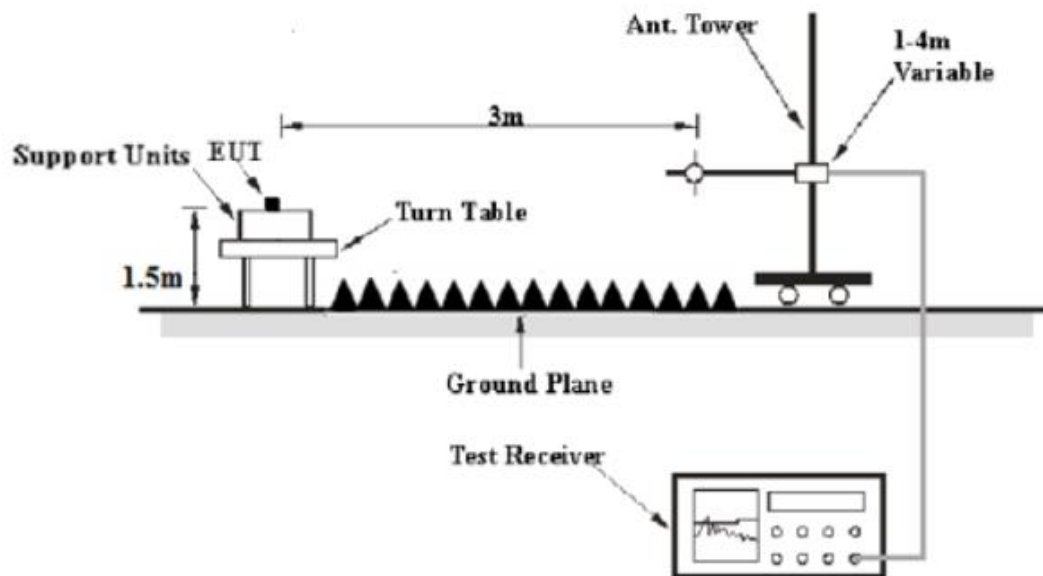
The measurement data for each frequency range was corrected for cable losses, antenna factors and preamplifier gain. This process was performed for both horizontal and vertical polarisations of the measurement antenna.

## 6.7.2 Test setup

**Below 1 GHz:**



**Above 1GHz:**



### 6.7.3 Evaluation of field strength

Field strengths were calculated automatically by the software using pre-stored calibration data. The method of calculation is shown below:

$$E = V + AF - G + L$$

Where:  $E$  = Radiated Field Strength in dB $\mu$ V/m.

$V$  = EMI Receiver Voltage in dB $\mu$ V.

$AF$  = Antenna Factor in dB/m (stored as a data array).

$G$  = Preamplifier Gain in dB (stored as a data array).

$L$  = Cable loss in dB (stored as a data array of Insertion Loss versus frequency).

### 6.7.4 Limits

The limit applied is in accordance with the out-of-band/spurious emissions limit defined in §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.

The in-band peak PSD in 100 kHz bandwidth were measured on all three channels. The maximum PSD level was used to establish the limit. However, the general limits of §15.209 apply for the restricted bands of operation defined in §15.205.

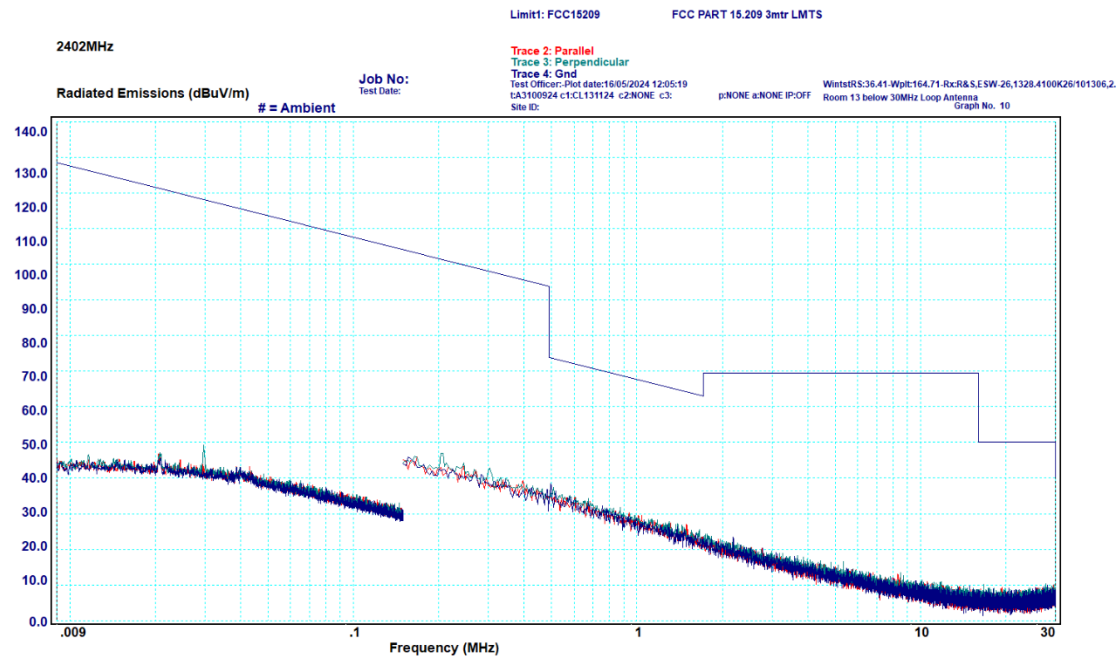


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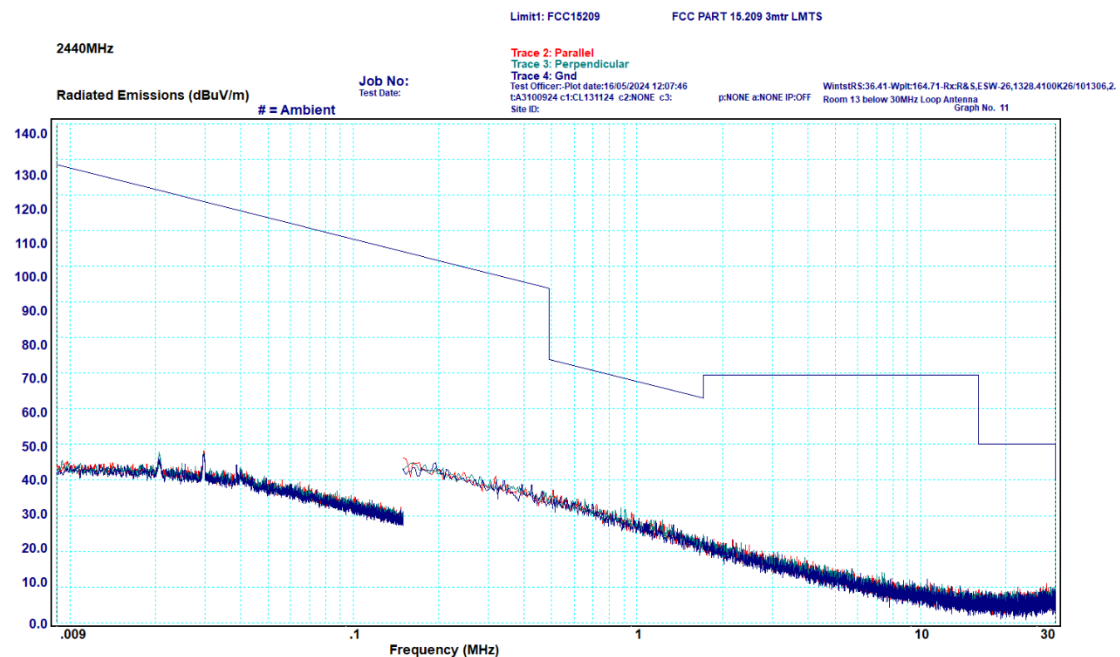
### 6.7.5 Transmitter Spurious Emissions: 9 kHz to 30 MHz

All emissions measured in the frequency band 9kHz - 30MHz complied with the requirements of the standard.



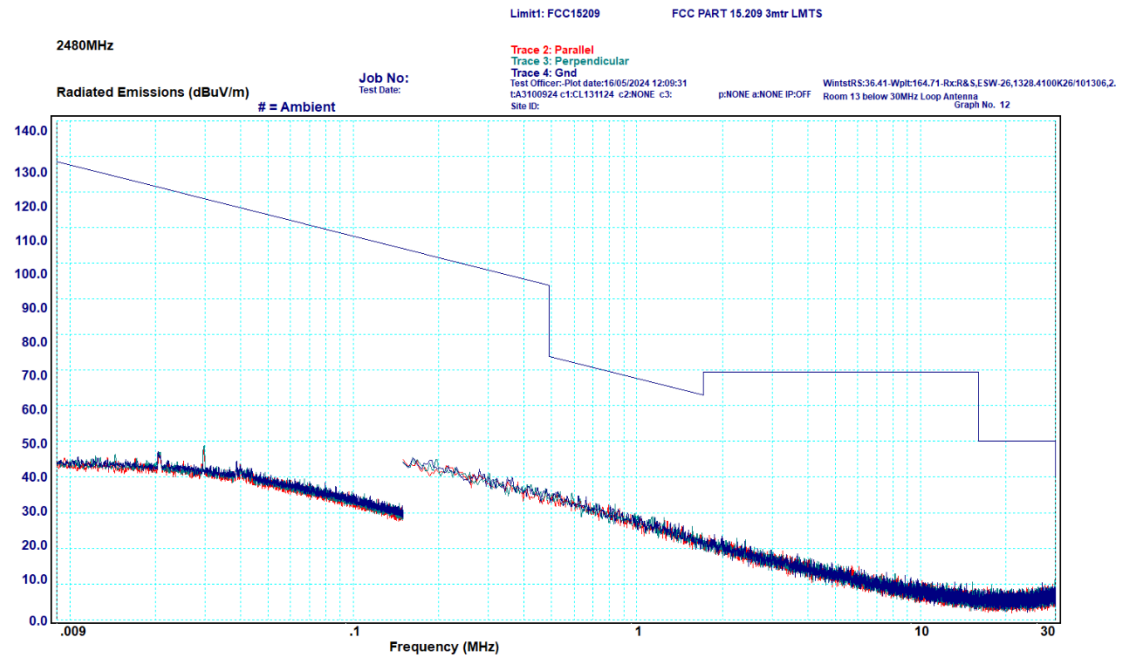
Graph 6-7: Transmitter Spurious Emissions, 9 kHz – 30 MHz, 2402 MHz

No peaks were measured within 10 dB of the limit.



Graph 6-8: Transmitter Spurious Emissions, 9 kHz – 30 MHz, 2440 MHz

No peaks were measured within 10 dB of the limit.

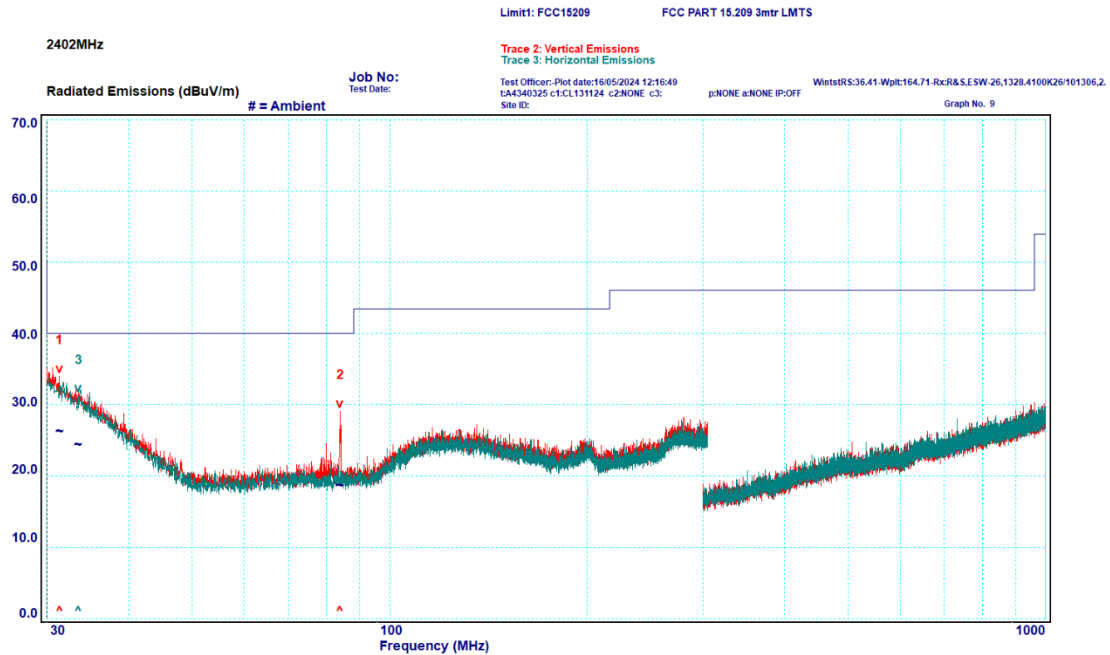


Graph 6-9: Transmitter Spurious Emissions, 9 kHz – 30 MHz, 2480 MHz

No peaks were measured within 10 dB of the limit.

### 6.7.6 Transmitter Spurious Emissions: 30 - 1000 MHz

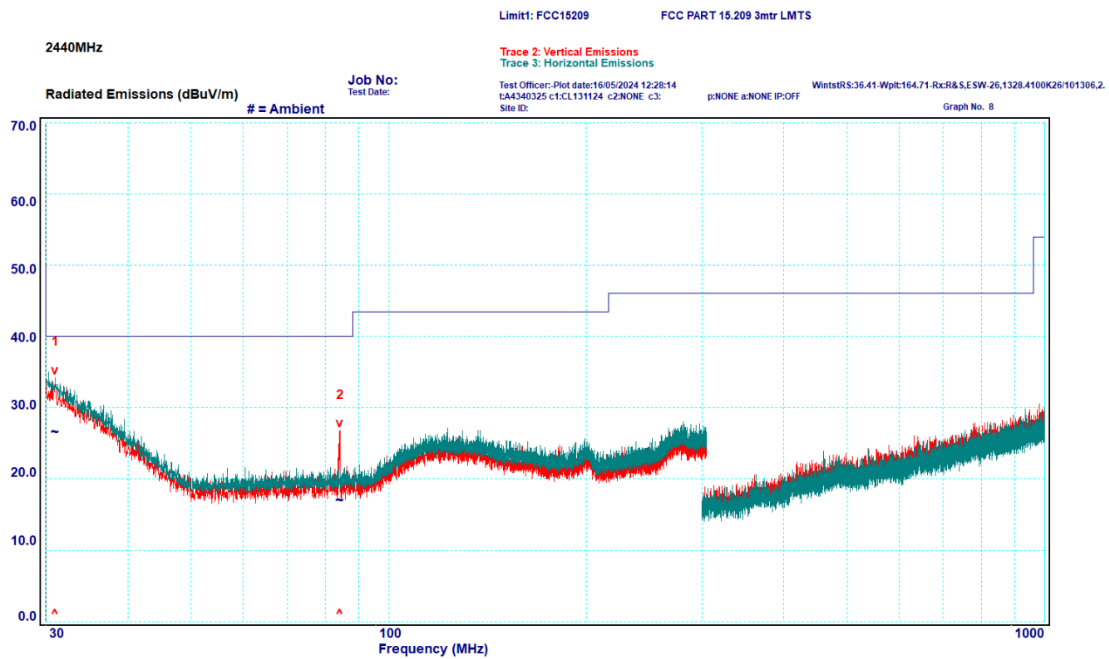
All emissions measured in the frequency band 30 – 1000 MHz complied with the requirements of the standard.



Graph 6-10: Transmitter Spurious Emissions, 30 – 1000 MHz, 2402 MHz

Table 6-3: Transmitter Spurious Emissions, 30 – 1000 MHz, 2402 MHz

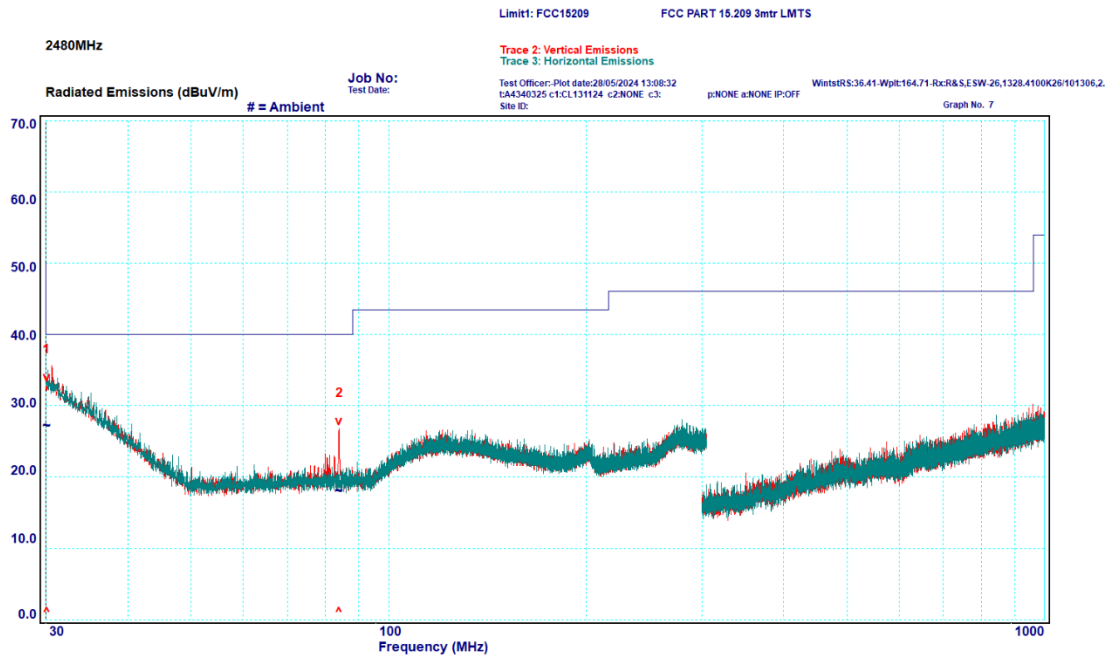
Peak	Frequency (MHz)	Polarisation	Quasi-Peak		
			Level (dBμV/m)	Limit (dBμV/m)	Margin (dB)
1	31.37	Vertical	26.7	40	-13.3
2	84	Vertical	19.1	40	-20.9
3	33.54	Horizontal	24.8	40	-15.2



Graph 6-11: Transmitter Spurious Emissions, 30 – 1000 MHz, 2440 MHz

Table 6-4: Transmitter Spurious Emissions, 30 – 1000 MHz, 2440 MHz

Peak	Frequency (MHz)	Polarisation	Quasi-Peak		
			Level (dB $\mu$ V/m)	Limit (dB $\mu$ V/m)	Margin (dB)
1	31.02	Vertical	27.0	40	-13.0
2	84.20	Vertical	17.5	40	-22.5



Graph 6-12: Transmitter Spurious Emissions, 30 – 1000 MHz, 2480 MHz

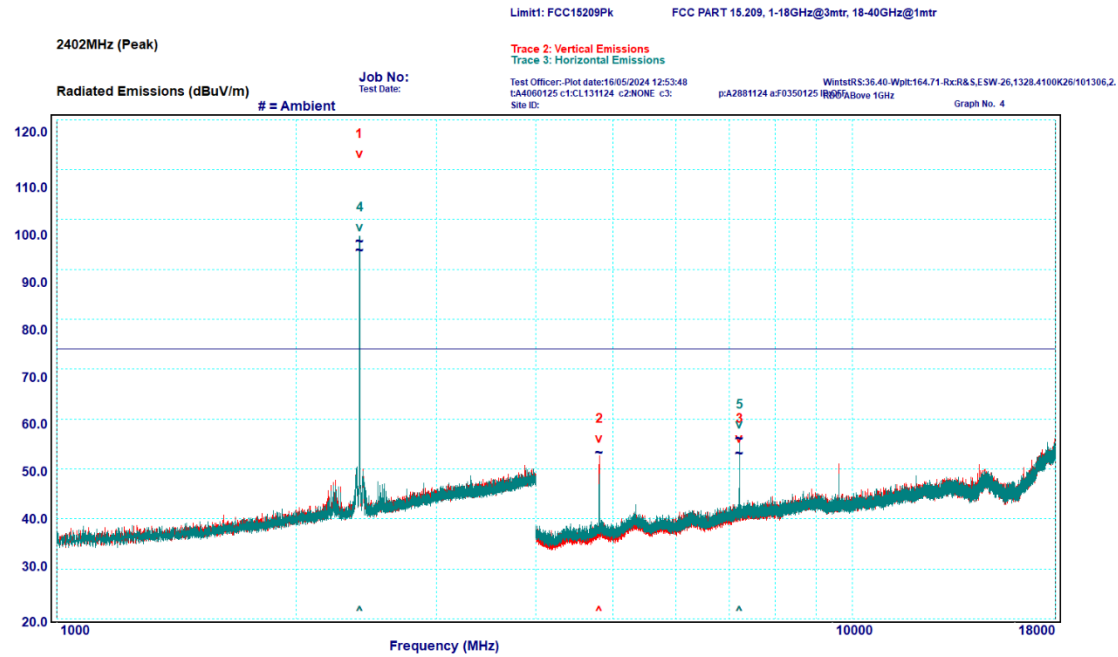
Table 6-5: Transmitter Spurious Emissions, 30 – 1000 MHz, 2480 MHz

Peak	Frequency (MHz)	Polarisation	Quasi-Peak		
			Level (dB $\mu$ V/m)	Limit (dB $\mu$ V/m)	Margin (dB)
1	30.10	Vertical	27.7	40	-12.3
2	84.03	Vertical	18.6	40	-21.4

### 6.7.7 Transmitter Spurious Emissions: 1 - 18 GHz

All emissions measured in the frequency band 1 – 18 GHz complied with the requirements of the standard.

#### Peak Measurement:

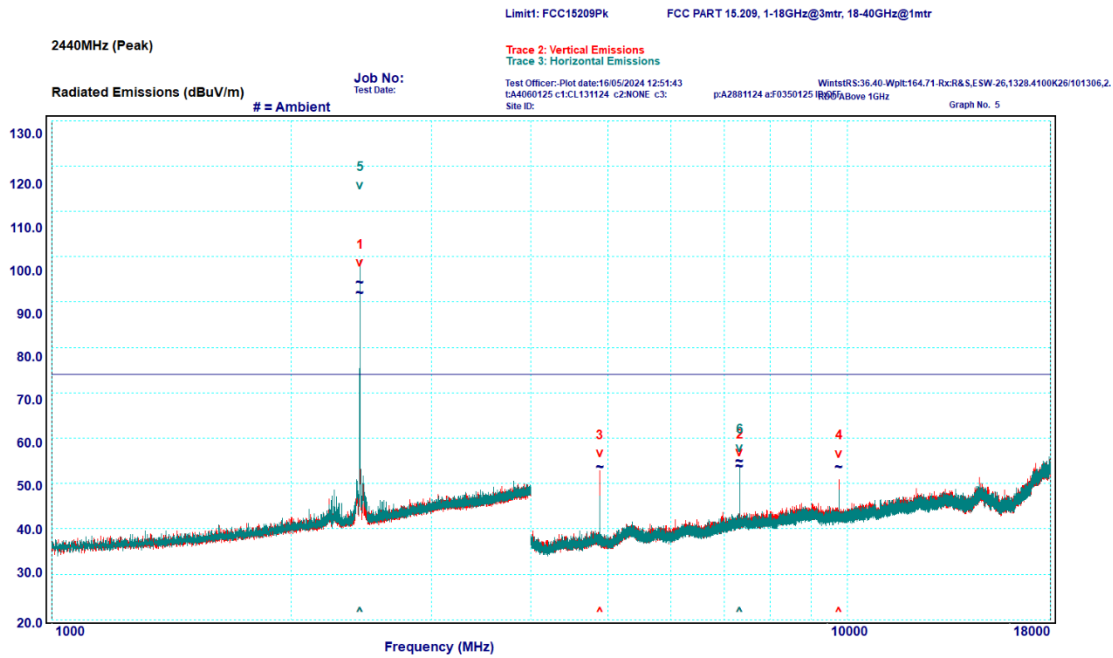


Graph 6-13: Transmitter Spurious Emissions, 1 – 18 GHz, 2402 MHz, Peak

Table 6-6: Transmitter Spurious Emissions, 1 – 18 GHz, 2402 MHz, Peak

Peak	Frequency (MHz)	Polarisation	Peak		
			Level (dBμV/m)	Limit (dBμV/m)	Margin (dB)
1*	2401.65	Vertical	N/A	N/A	N/A
2	4805.17	Vertical	53.6	74	-20.4
3	7207.67	Vertical	53.5	74	-20.5
4*	2402.58	Horizontal	N/A	N/A	N/A
5	7204.81	Horizontal	56.5	74	-17.5

\*Note: Peaks above the limit are the fundamental transmission and not subject to the spurious emissions limit of the standard

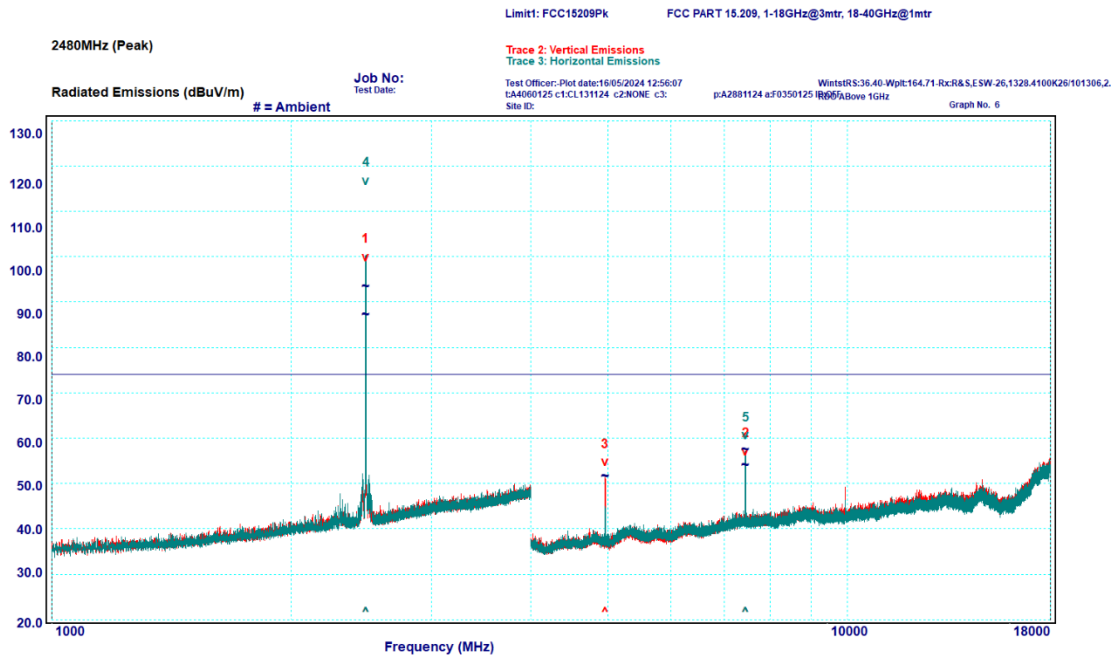


Graph 6-14: Transmitter Spurious Emissions, 1 – 18 GHz, 2440 MHz, Peak

Table 6-7: Transmitter Spurious Emissions, 1 – 18 GHz, 2440 MHz, Peak

Peak	Frequency (MHz)	Polarisation	Peak		
			Level (dB $\mu$ V/m)	Limit (dB $\mu$ V/m)	Margin (dB)
1*	2440.59	Vertical	N/A	N/A	N/A
2	7318.5	Vertical	54.2	74	-19.8
3	4881.16	Vertical	54.1	74	-19.9
4	9758.39	Vertical	54	74	-20
5*	2439.61	Horizontal	N/A	N/A	N/A
6	7318.81	Horizontal	55.3	74	-18.7

\*Note: Peaks above the limit are the fundamental transmission and not subject to the spurious emissions limit of the standard



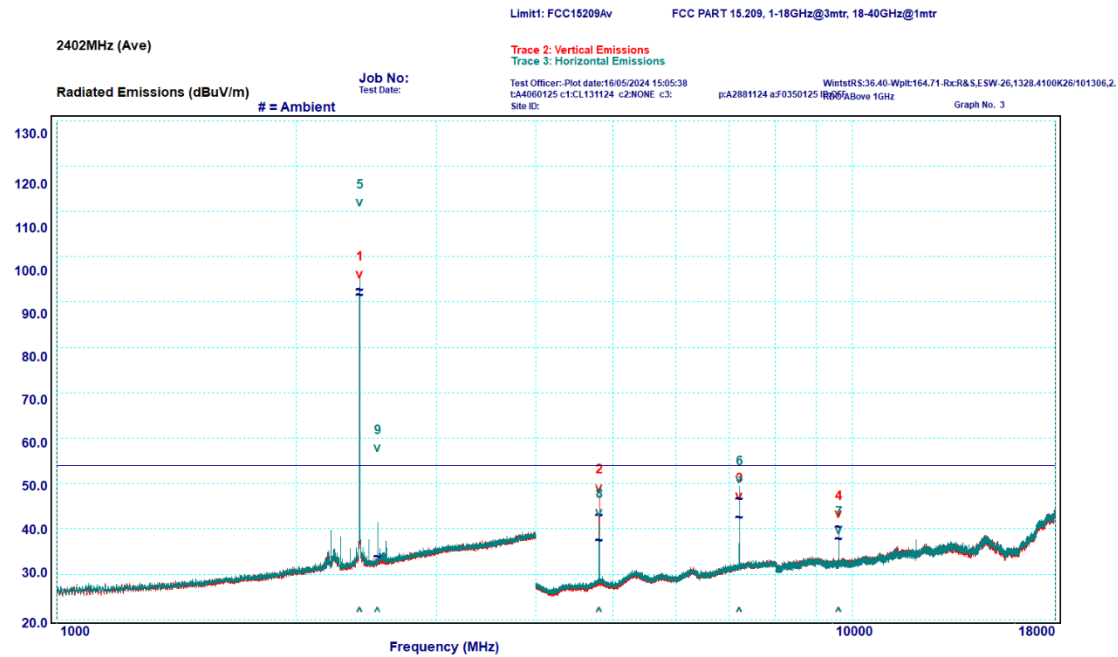
Graph 6-15: Transmitter Spurious Emissions, 1 – 18 GHz, 2480 MHz, Peak

Table 6-8: Transmitter Spurious Emissions, 1 – 18 GHz, 2480 MHz, Peak

Peak	Frequency (MHz)	Polarisation	Peak		
			Level (dB $\mu$ V/m)	Limit (dB $\mu$ V/m)	Margin (dB)
1*	2479.6	Vertical	N/A	N/A	N/A
2	7441.77	Vertical	54.5	74	-19.5
3	4959.41	Vertical	52.1	74	-21.9
4*	2480.59	Horizontal	N/A	N/A	N/A
5	7441.7	Horizontal	58	74	-16

\*Note: Peaks above the limit are the fundamental transmission and not subject to the spurious emissions limit of the standard

## Average Measurement:

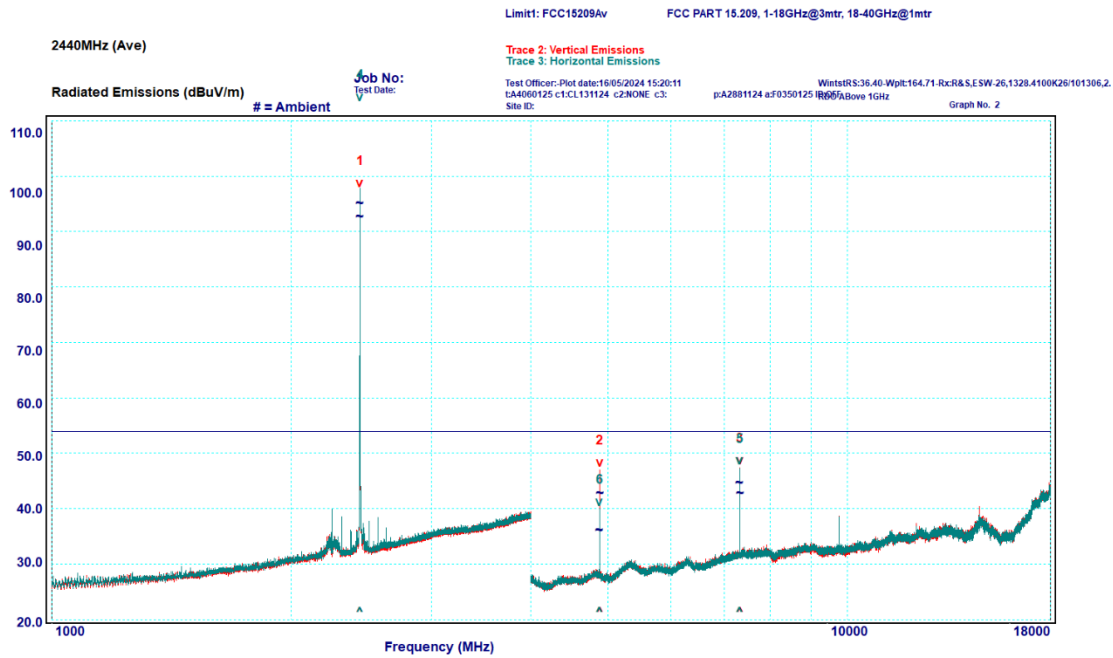


Graph 6-16: Transmitter Spurious Emissions, 1 – 18 GHz, 2402 MHz, Average

Table 6-9: Transmitter Spurious Emissions, 1 – 18 GHz, 2402 MHz, Average

Peak	Frequency (MHz)	Polarisation	Average		
			Level (dB $\mu$ V/m)	Limit (dB $\mu$ V/m)	Margin (dB)
1*	2402.17	Vertical	N/A	N/A	N/A
2	4804.38	Vertical	43.5	54	-10.5
3	7205.18	Vertical	43	54	-11
4	9610.31	Vertical	40.9	54	-13.1
5*	2402.18	Horizontal	N/A	N/A	N/A
6	7207.34	Horizontal	47	54	-7
7	9606.38	Horizontal	38.1	54	-15.9
8	4804.12	Horizontal	37.8	54	-16.2
9	2530.21	Horizontal	34.2	54	-19.8

\*Note: Peaks above the limit are the fundamental transmission and not subject to the spurious emissions limit of the standard

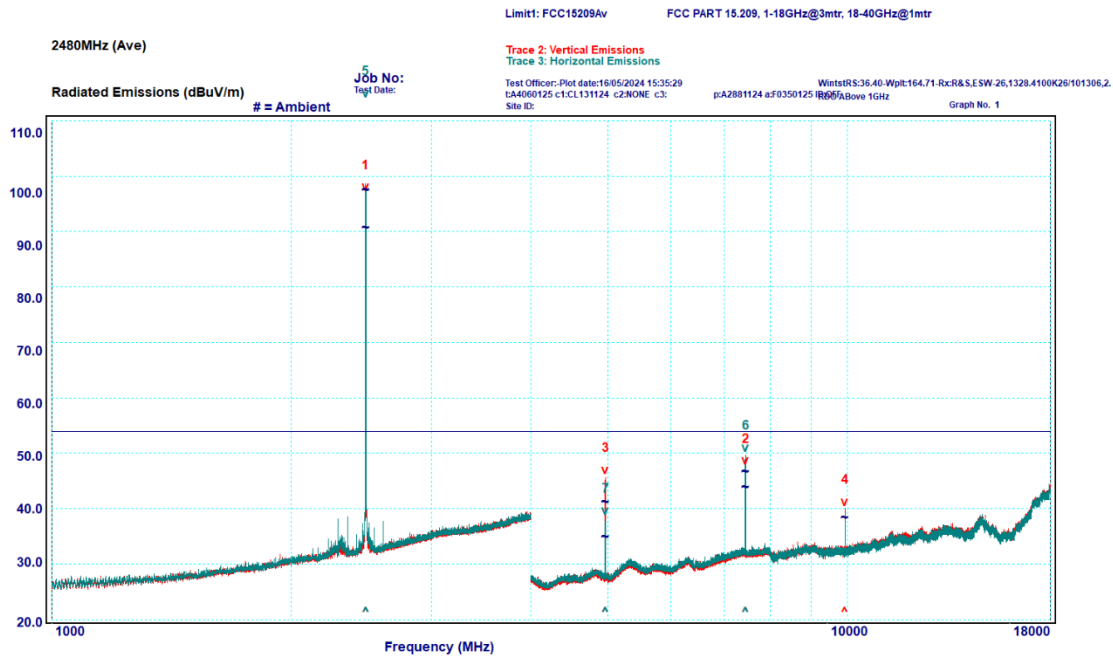


Graph 6-17: Transmitter Spurious Emissions, 1 – 18 GHz, 2440 MHz, Average

Table 6-10: Transmitter Spurious Emissions, 1 – 18 GHz, 2440 MHz, Average

Peak	Frequency (MHz)	Polarisation	Average		
			Level (dB $\mu$ V/m)	Limit (dB $\mu$ V/m)	Margin (dB)
1*	2440.15	Vertical	N/A	N/A	N/A
2	4881.24	Vertical	43.3	54	-10.7
3	7321.66	Vertical	43.2	54	-10.8
4*	2440.16	Horizontal	N/A	N/A	N/A
5	7319.04	Horizontal	45.1	54	-8.9
6	4880.18	Horizontal	36.5	54	-17.5

\*Note: Peaks above the limit are the fundamental transmission and not subject to the spurious emissions limit of the standard



Graph 6-18: Transmitter Spurious Emissions, 1 – 18 GHz, 2480 MHz, Average

Table 6-11: Transmitter Spurious Emissions, 1 – 18 GHz, 2480 MHz, Average

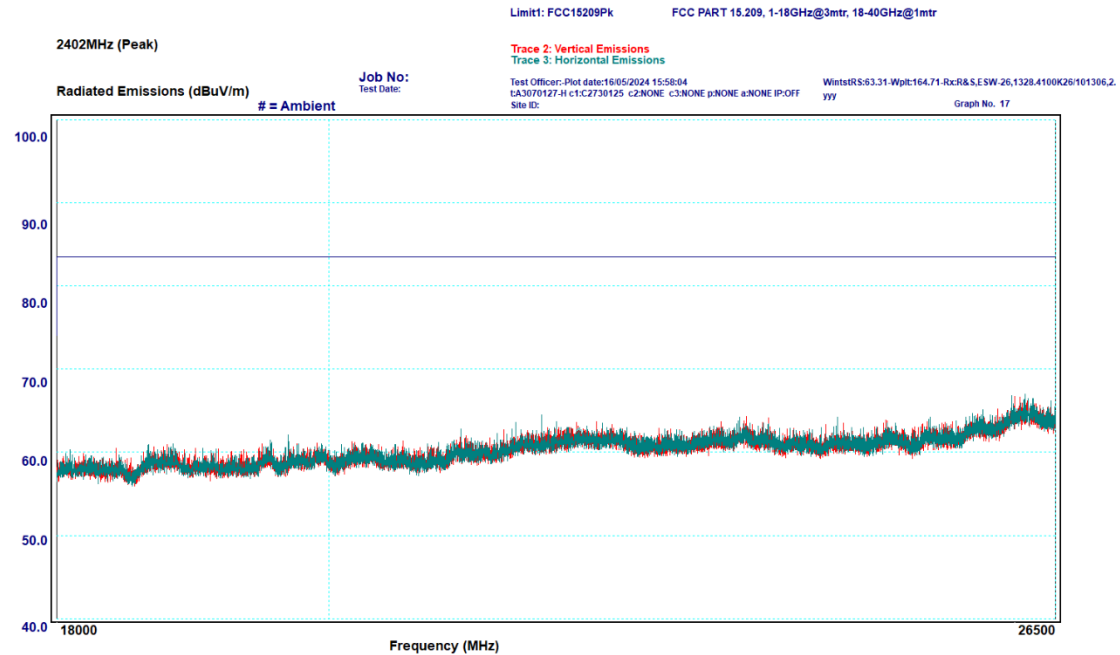
Peak	Frequency (MHz)	Polarisation	Average		
			Level (dB $\mu$ V/m)	Limit (dB $\mu$ V/m)	Margin (dB)
1*	2480.15	Vertical	N/A	N/A	N/A
2	7441.44	Vertical	44.4	54	-9.6
3	4960.31	Vertical	41.7	54	-12.3
4	9919.29	Vertical	38.9	54	-15.1
5*	2480.19	Horizontal	N/A	N/A	N/A
6	7441.4	Horizontal	47.2	54	-6.8
7	4960.29	Horizontal	35.4	54	-18.6

\*Note: Peaks above the limit are the fundamental transmission and not subject to the spurious emissions limit of the standard

### 6.7.8 Transmitter Spurious Emissions: 18 – 26 GHz

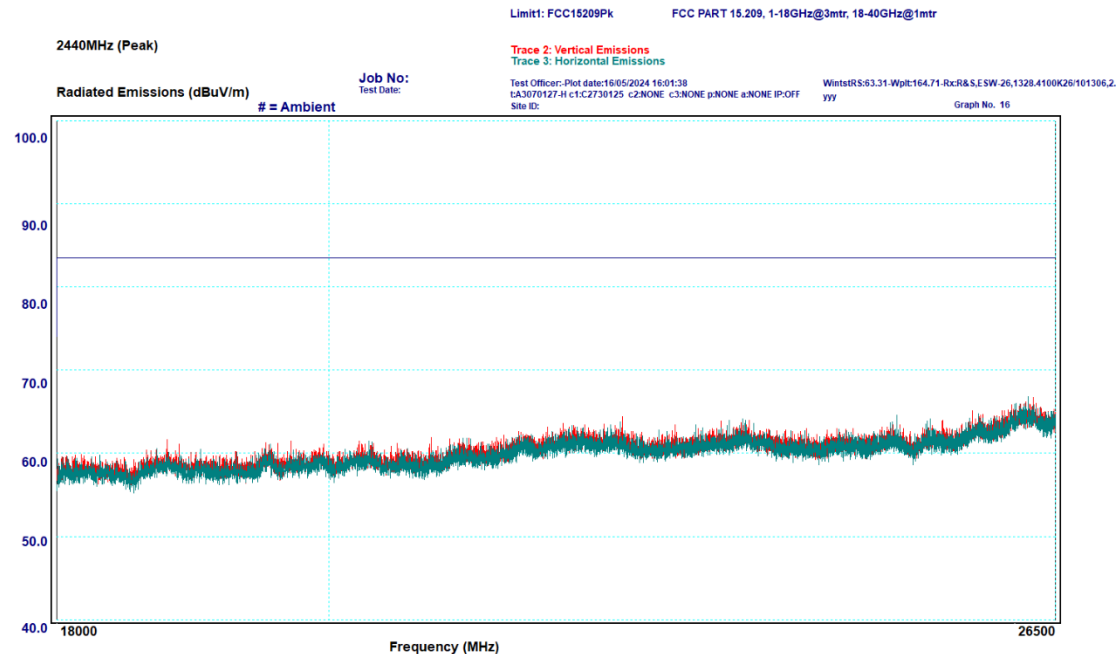
All emissions measured in the frequency band 18 – 26 GHz complied with the requirements of the standard.

#### Peak Measurement:



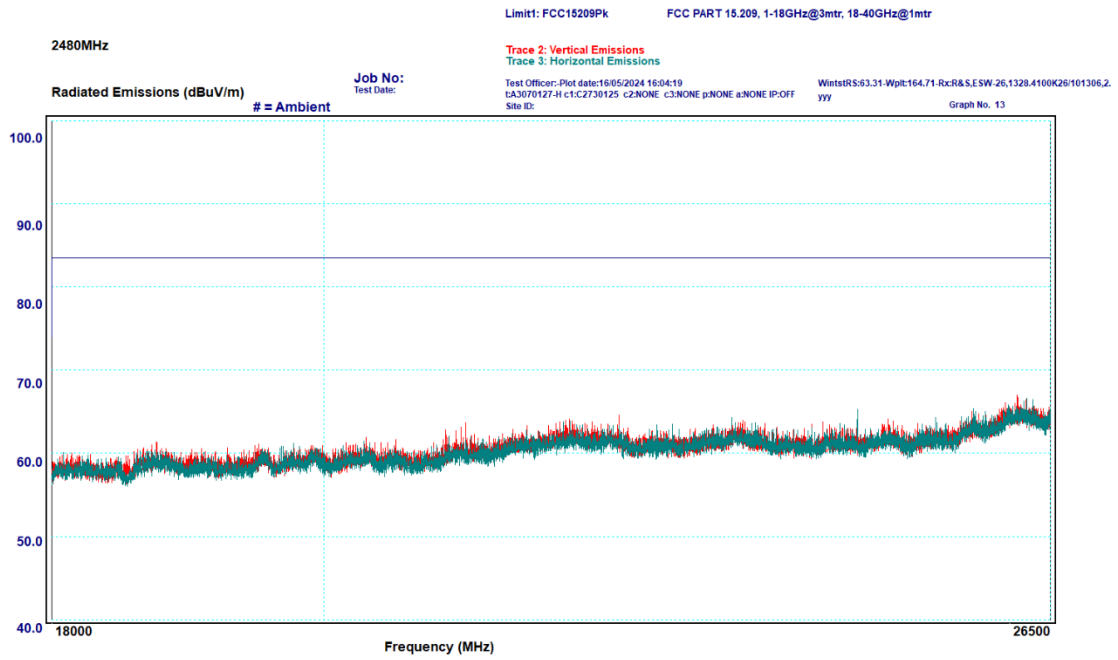
Graph 6-19: Transmitter Spurious Emissions, 18 – 26 GHz, 2402 MHz, Peak

No peaks were measured within 10 dB of the limit.



Graph 6-20: Transmitter Spurious Emissions, 18 – 26 GHz, 2440 MHz, Peak

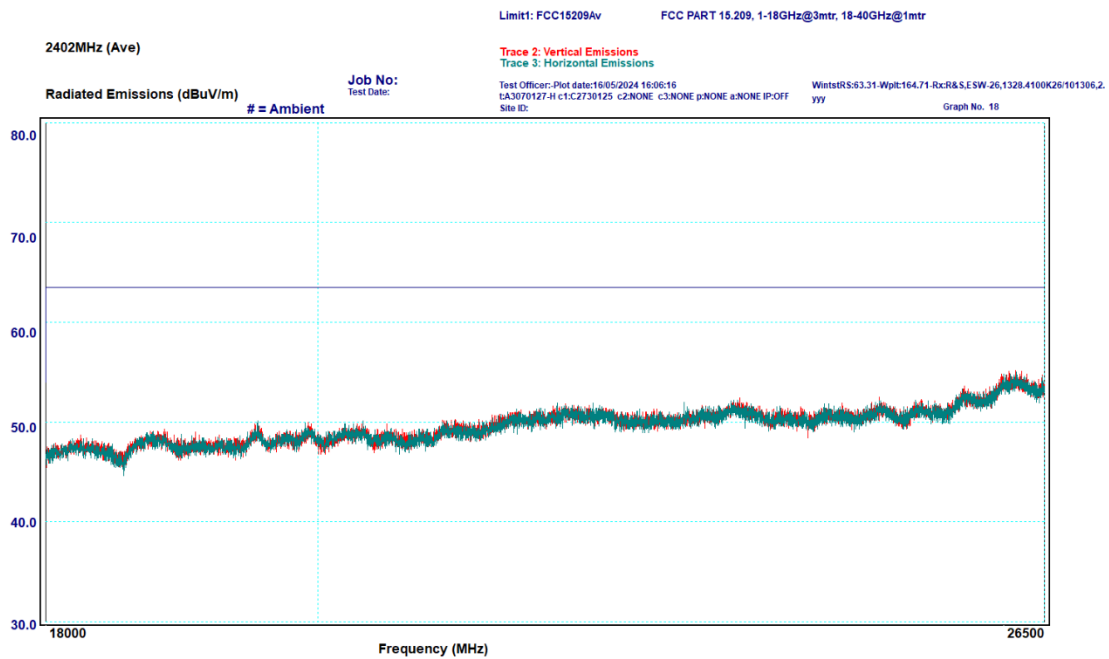
No peaks were measured within 10 dB of the limit.



Graph 6-21: Transmitter Spurious Emissions, 18 – 26 GHz, 2480 MHz, Peak

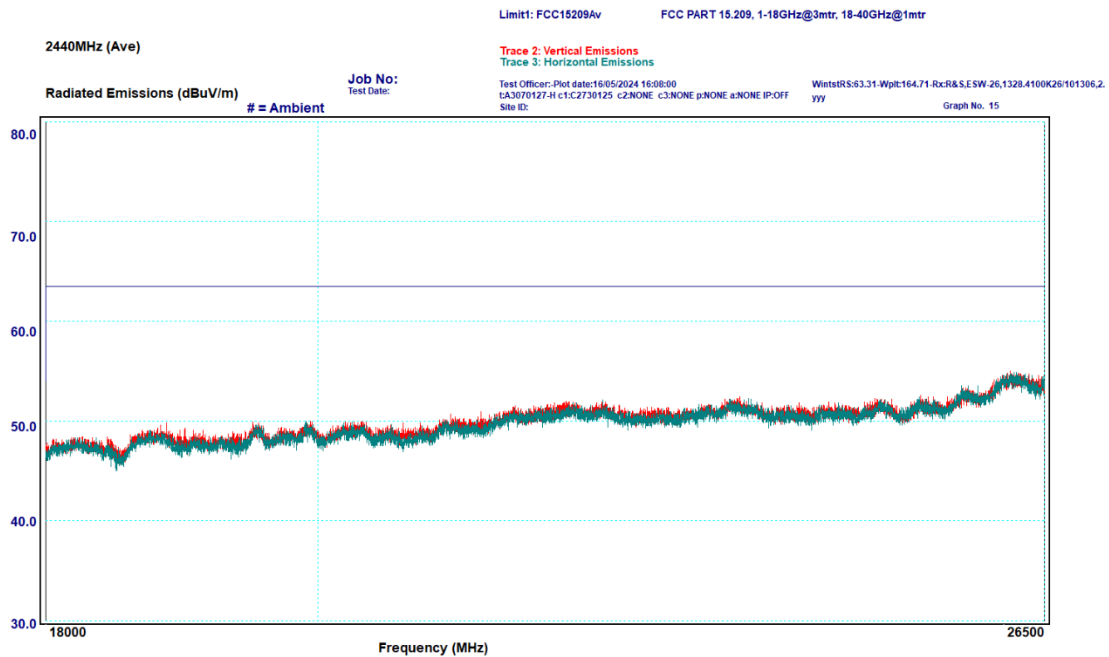
No peaks were measured within 10 dB of the limit.

## Average Measurement:



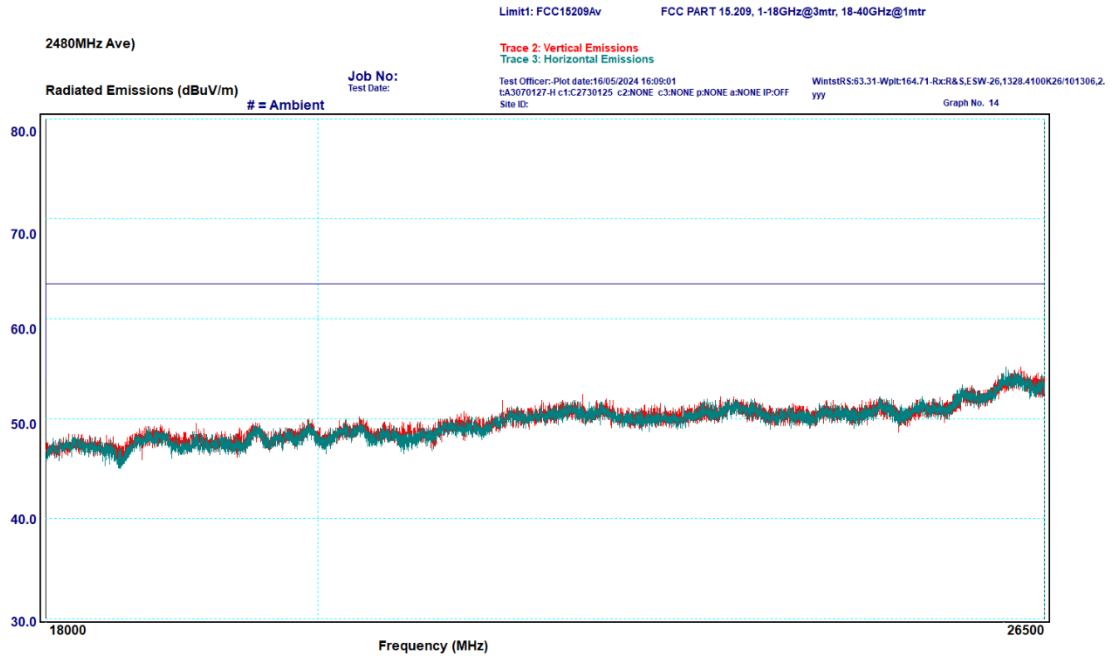
Graph 6-22: Transmitter Spurious Emissions, 18 – 26 GHz, 2402 MHz, Average

No peaks were measured within 10 dB of the limit.



Graph 6-23: Transmitter Spurious Emissions, 18 – 26 GHz, 2440 MHz, Average

No peaks were measured within 10 dB of the limit.

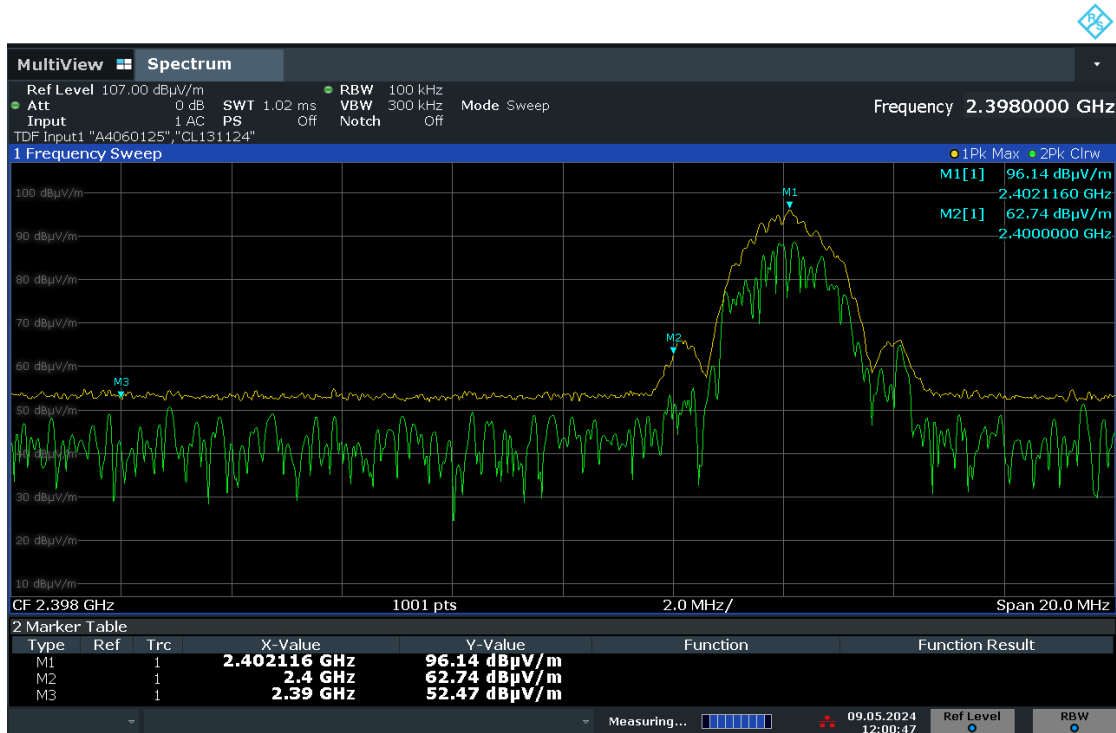


Graph 6-24: Transmitter Spurious Emissions, 18 – 26 GHz, 2480 MHz, Average

No peaks were measured within 10 dB of the limit.

## 6.8 §15.247(d)/ RSS-247 5.5 Band Edge Emission Measurements

Band-edge radiated measurements were done in accordance with ANSI C63.10 clause 6.10. All emissions measured near the lower and higher band edge complied with the requirements of §15.247/ RSS-247 5.0.

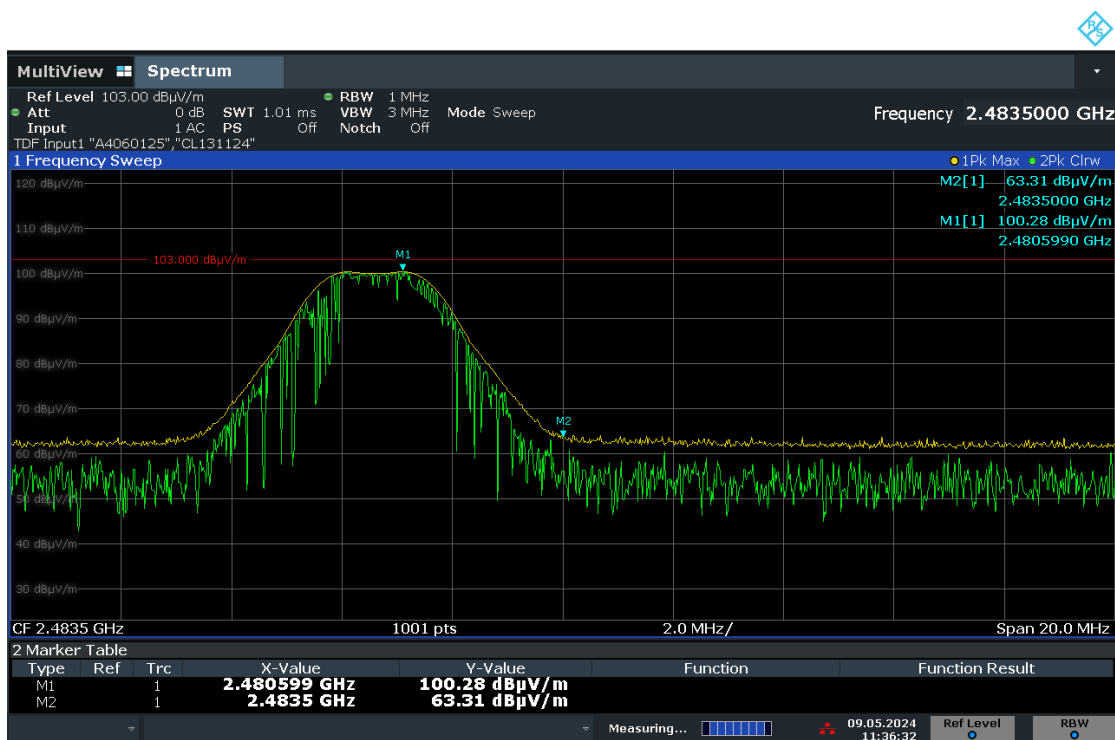


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Graph 6-25: Band Edge Emission, Lower Band-edge

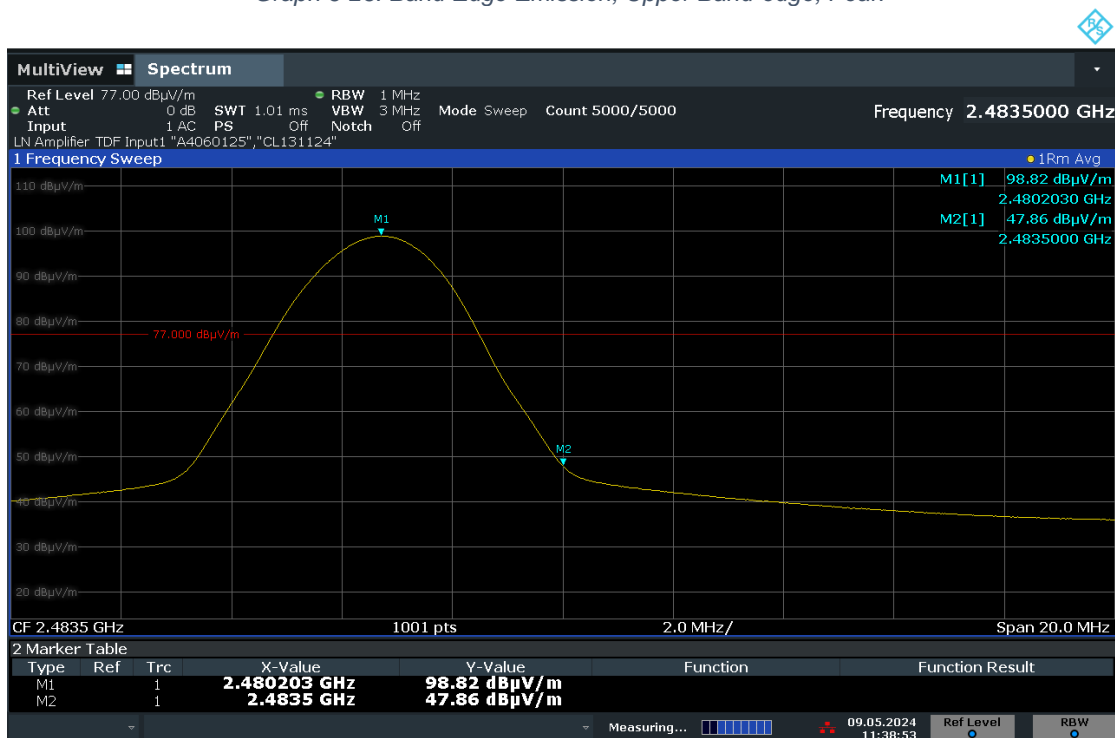
Table 6-12: Band Edge Emission, Lower Band-edge

Measurement Type	Freq (MHz)	Measurement (dBμV/m)	Limit (dBμV/m)	Result
Peak	2400	62.74	74	Complied



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Graph 6-26: Band Edge Emission, Upper Band-edge, Peak



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Graph 6-27: Band Edge Emission, Upper Band-edge, Average

Table 6-13: Band Edge Emission, Upper Band-edge

Measurement Type	Freq (MHz)	Measurement (dBμV/m)	Limit (dBμV/m)	Result
Peak	2483.5	63.31	74	Complied
Average	2483.5	47.86	54	Complied

## 6.9 §15.247(e)/ RSS-247 5.2(b) Power Spectral Density

### 6.9.1 Test procedure

Maximum power spectral density level in the fundamental emission was measured in accordance with ANSI C63.10: 2013 Clause 11.10

### 6.9.2 Limits

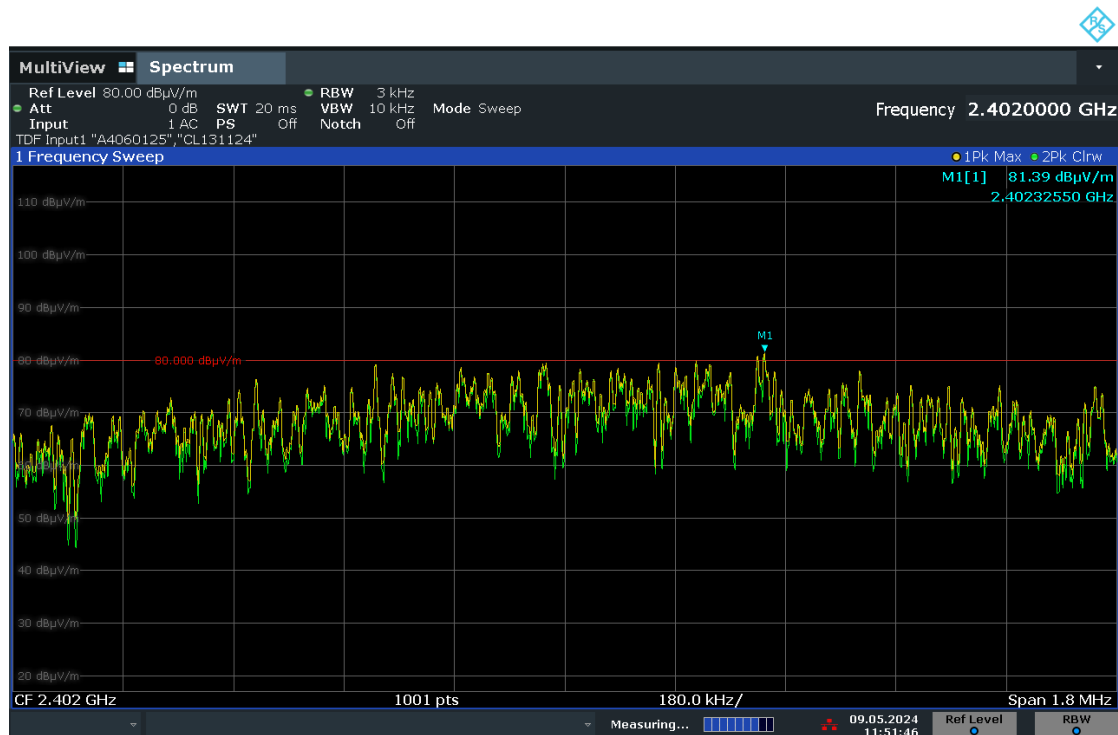
The maximum peak conducted power spectral density (PSD) is 8 dBm per 3 kHz.

### 6.9.3 Results

Table 6-14: Power spectral density

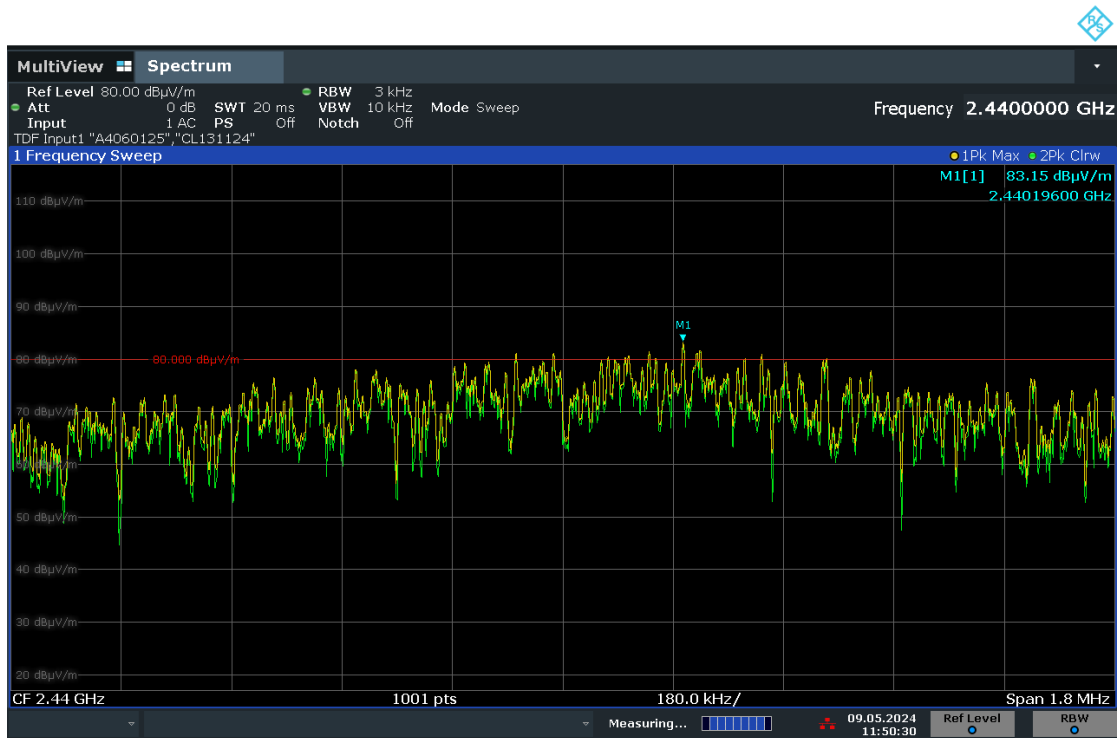
Freq. (MHz)	E-Field @ 3 m (dB $\mu$ V/m)	EIRP (dBm)	Antenna Gain (dBi)	Equivalent Conducted Output PSD (dBm)	Limit (dBm)	Results
2402	81.39	-13.84	1.1	-14.94	8	Complied
2440	83.15	-12.08	1.1	-13.18	8	Complied
2480	85.34	-9.89	1.1	-10.99	8	Complied

The measured radiated field strength is converted to equivalent conducted output power for checking compliance (KDB 558074 D01 Section 3).



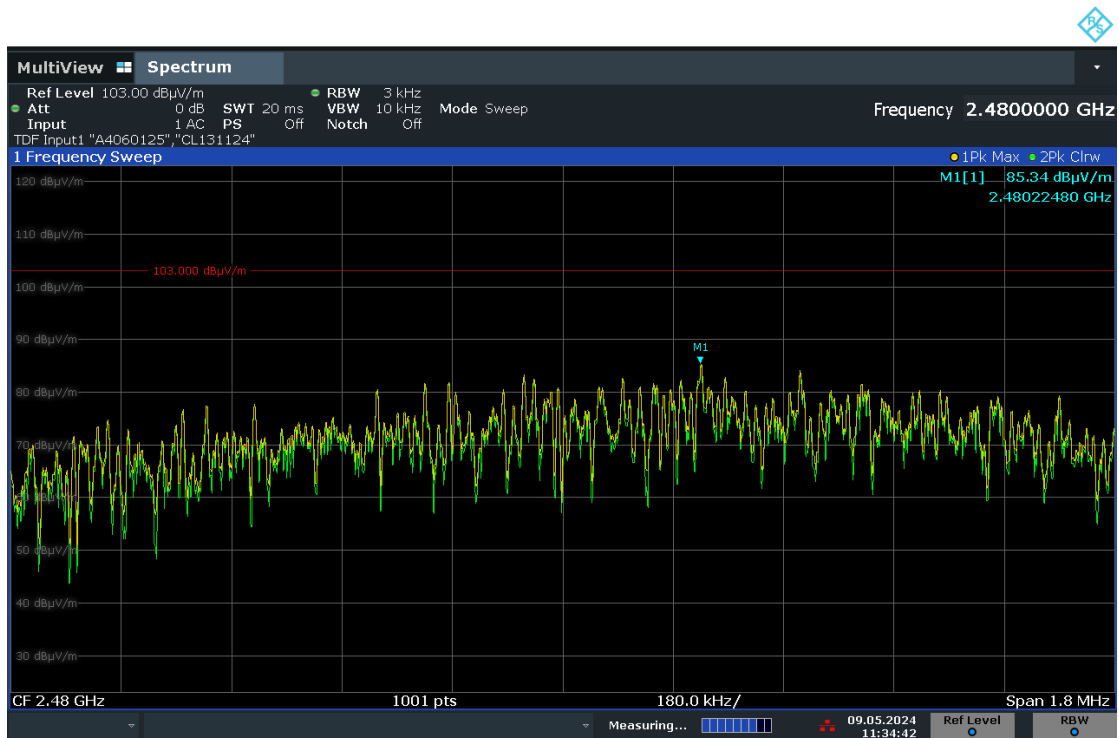
11:51:46 09.05.2024

Graph 6-28: Radiated - Power Spectral Density, 2402 MHz



11:50:30 09.05.2024

Graph 6-29: Radiated - Power Spectral Density, 2440 MHz



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Graph 6-30: Radiated - Power Spectral Density, 2480 MHz



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## 6.10 §15.247(i)/ RSS-Gen 3.4/RSS-102 Maximum Permissible Exposure

The EUT complied with the applicable maximum permissible exposure levels. Refer to EMC Technologies report M2405011-2 and M2405011-3.

## 6.11 §15.215/ RSS-Gen 6.7 Occupied Bandwidth – 99% power

### 6.11.1 Test procedure

The bandwidth containing 99% power of the transmitted signal was measured using the procedure from ANSI C63.10 section 6.9.

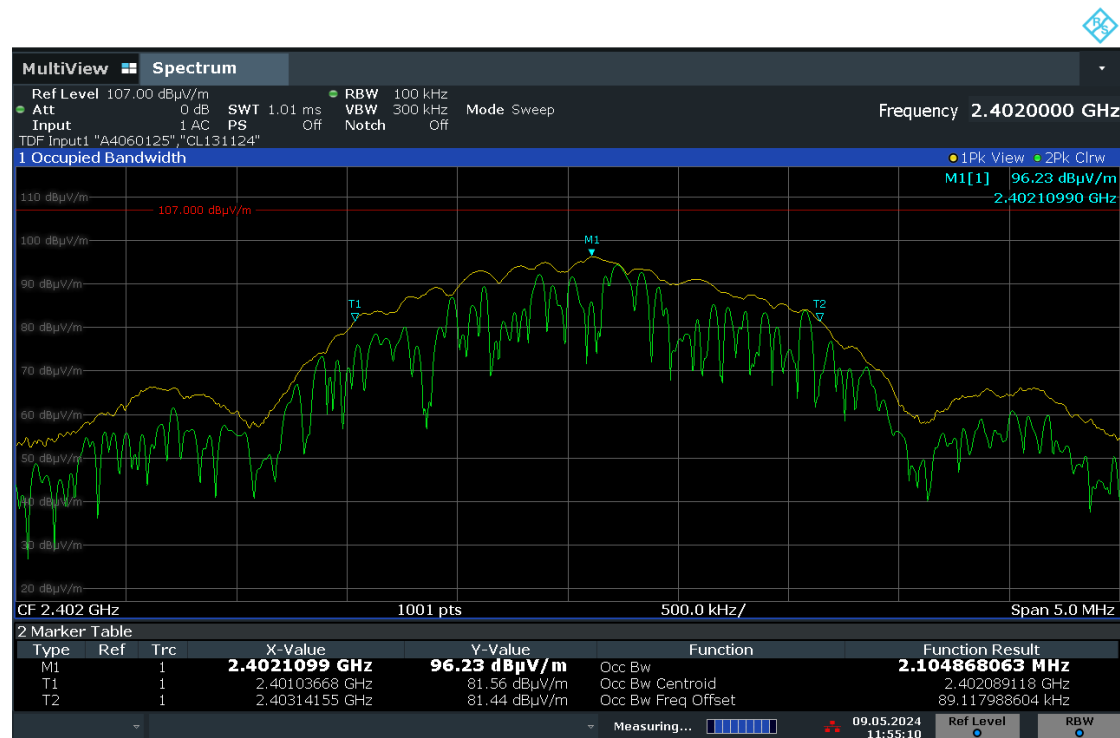
### 6.11.2 Limits

The 99% power should be contained within the frequency band 2400 – 2483.5 MHz.

### 6.11.3 Results

Table 6-15: Occupied Bandwidth

Freq. (MHz)	99% Bandwidth (MHz)	Lower Frequency (MHz)	Upper Frequency (MHz)	Result
2402	2.104	2.4010	2.4031	Complied
2440	2.102	2.4390	2.4411	Complied
2480	2.095	2.4790	2.4811	Complied



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Graph 6-31: Occupied bandwidth, 2402 MHz



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Graph 6-32: Occupied bandwidth, 2440 MHz



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Graph 6-33: Occupied bandwidth, 2480 MHz

**END OF REPORT**