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## RADIO TEST REPORT

**REPORT NUMBER: M2007049-2**

**TEST STANDARD: FCC PART 15 SUBPART C  
SECTION 15.247**

**CLIENT: ANALYTICA LTD**

**DEVICE: PERICOACH**

**MODEL: PERICOACH**

**FCC ID: 2AXG8-PC4**

**DATE OF ISSUE: 13 OCTOBER 2020**

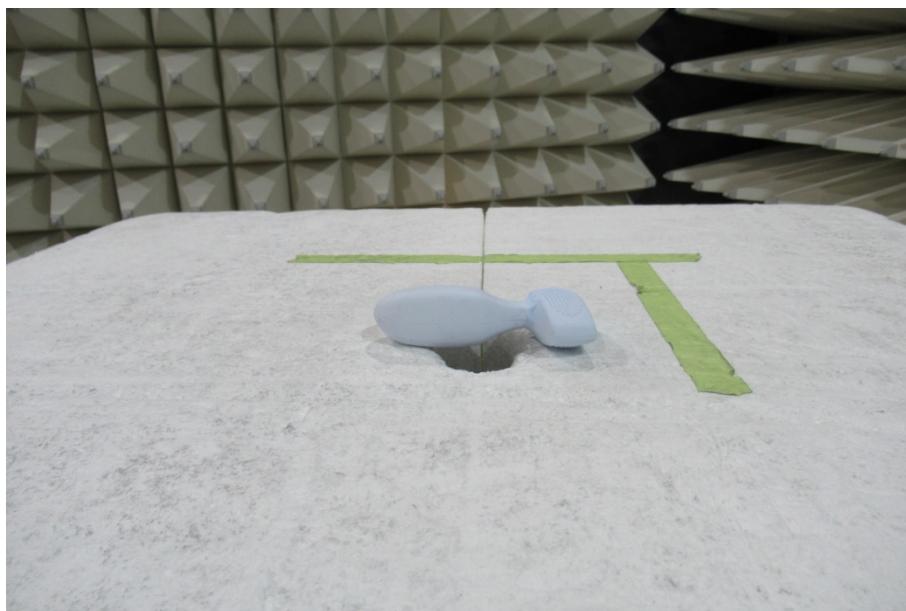
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**Equipment Under Test (EUT): PeriCoach**

## REVISION TABLE

Version	Sec/Para Changed	Change Made	Date
1		Initial issue of document	13/10/2020

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## CERTIFICATE OF COMPLIANCE

Device: PeriCoach  
Model: PeriCoach  
Manufacturer: Analytica Ltd

Radio Module: BT Chip TI CC2564C (Bluetooth)  
FCC ID: 2AXG8-PC4

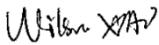
Tested for: Analytica Ltd  
Address: 320 Adelaide St, Brisbane, QLD 4000  
Phone Number: +61 407 093 364  
Contact: Tom Stamp  
Email: tom@bluecurve.com.au

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

Result: The PeriCoach complied with the applicable requirements above standards. Refer to Report M2007049-2 for full details.

Test Date(s): 17 – 26 August 2020

Issue Date: 13 October 2020

Test Engineer(s):   
\_\_\_\_\_  
Wilson Xiao

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.*

Authorised Signatory:   
\_\_\_\_\_  
Shabbir Ahmed, PhD  
Lead Engineer – RF & Wireless

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## RADIO REPORT FOR CERTIFICATION

### 1 TEST SUMMARY

Section	Description	FCC	Result(s)
6.1	Antenna Requirement	§15.203	Complied
6.2	Restricted Bands of Operation	§15.205	Complied
6.3	Conducted Limits	§15.207	Not Applicable
6.4	Radiated emission limits; general requirements	§15.209	Complied
6.5	20dB bandwidth	§15.247(a)(1)	Complied
6.6	Channel Separation	§15.247(a)(1)	Complied
6.7	Number of channels and time of occupancy	§15.247(a)(1)(iii)	Complied
6.8	Peak Output Power	§15.247(b)(1)	Complied
6.9	Out-of-Band/Spurious Emissions	§15.247(d)	Complied
6.10	Band-Edge Emission Measurements	§15.247(d)	Complied
6.11	Maximum Permissible Exposure	§15.247(i)	Complied
6.12	Occupied Bandwidth – 99% power	§15.215	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 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 NATA Accreditation

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)



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### 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)	10/08/2020	10/08/2023	3 Year <sup>*1</sup>
EMI Receiver	R&S ESW26 Sn: 101306 (R-143)	05/06/2020	05/06/2021	1 Year <sup>*2</sup>
Antennas	EMCO 6502 Active Loop Antenna Sn: 9311-2801 (A-231)	16/11/2018	16/11/2020	2 Year <sup>*2</sup>
	SUNOL JB1 Sn: A061917 (A-425)	04/09/2019	04/09/2021	2 Year <sup>*2</sup>
	EMCO 3115 Horn Antenna Sn: 8908-3282 (A-004)	16/01/2019	16/01/2022	3 Year <sup>*1</sup>
	ETS-Lindgren Horn Antenna Sn:66032 (A-307)	12/06/2018	12/06/2021	3 Year <sup>*2</sup>
Cables <sup>*3</sup>	Huber & Suhner Sucoflex 104A Sn: 503055 (C-457)	04/06/2020	04/06/2021	1 Year <sup>*1</sup>
	Huber & Suhner Sucoflex 104A Sn: 800448 (C-520)	04/06/2020	04/06/2021	1 Year <sup>*1</sup>
	Huber & Suhner Sucoflex 102DC Sn: 27319/2 (C-273)	06/01/2020	06/01/2021	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:

Conducted Emissions:	9 kHz to 30 MHz	±3.2 dB
Radiated Emissions:	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
Peak Output Power:		±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 taking into account measurement instrumentation uncertainty. However, the measurement uncertainty shall appear in the test report.

## 5 DEVICE DETAILS

(Information supplied by the Client)

The PeriCoach is a perineometer designed to treat stress, mild-moderate urge and mixed urinary incontinence in women, as well as pelvic organ prolapse by strengthening of the pelvic floor muscles through exercise. This device provides biofeedback via smart phone technology.

### 5.1 EUT (Transmitter) Details

<b>Radio:</b>	BT Chip TI CC2564C		
<b>Bluetooth Type</b>	Bluetooth (FHSS)		
<b>Number of Channels:</b>	79		
<b>Frequency Band:</b>	2400 – 2483.5 MHz		
	Low Channel: 2402 MHz		
<b>Operating Frequency:</b>	Mid Channel: 2441 MHz		
	High Channel: 2480 MHz		
<b>Nominal Bandwidth:</b>	1 MHz ( <i>declared by client</i> )		
<b>Modulation:</b>	GFSK (BR)	pi/4-DQPSK (2DR)	8-DPSK (3DR)
<b>Data Rate:</b>	1Mbps	2Mbps	3Mbps
<b>Antenna:</b>	Johanson Technology 2450AT42100 Chip antenna		
<b>Antenna Peak Gain:</b>	0 dBi		

### 5.2 EUT (Host) Details

<b>Test Sample:</b>	PeriCoach
<b>Model:</b>	PeriCoach
<b>Supply Rating:</b>	3.7 VDC (Lithium-polymer battery)
<b>Manufacturer:</b>	Analytica Ltd

### 5.3 Test Configuration

Testing was performed with the transceiver set to transmit continuously (100% Duty Cycle) at Low channel (2402 MHz), Mid Channel (2441 MHz) and High Channel (2483.5 MHz).

### 5.4 Modifications

No Modification was applied to achieve compliance.

### 5.5 Deviation from the Standard

Note any deviations to the standard

## 6 RESULTS

### 6.1 §15.203 Antenna Requirement

The transceiver incorporates an integral Chip antenna that cannot be replaced by another type.

**Antenna Type:** Chip Antenna

**Antenna gain:** 0 dBi

**Connector:** Not Applicable

### 6.2 §15.205 Restricted Bands of Operation

The provisions of the §15.205 restricted bands of operation and §15.209 radiated emissions limits have been met, refer to section 6.9

### 6.3 §15.207 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 Radiated emission limits; general requirements

The provisions of the §15.205 restricted bands of operation and §15.209 radiated emissions limits have been met, refer to section 6.9.

### 6.5 §15.247(a)(1) 20-dB bandwidth

#### 6.5.1 Test Procedure

The tests were performed in accordance with ANSI C63.10: 2013 Clause 6.9.2.

The 20 dB bandwidth was measured while the device was transmitting with typical modulation applied. The resolution bandwidth of 30 kHz and the video bandwidth of 100 kHz were utilised when measuring the bandwidth.

#### 6.5.2 Limits

The 20-dB bandwidth is used to determine channel frequency separation limits and required number of hopping frequencies.

#### 6.5.3 Results

Table 6-1: 20 dB Bandwidth

Modulation	Frequency [MHz]	20 dB Bandwidth [kHz]
GFSK (BR)	2402	953
	2441	953
	2480	959
pi/4-DQPSK (2DR)	2402	1380
	2441	1370
	2480	1390
8-DPSK (3DR)	2402	1360
	2441	1360
	2480	1390



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## 6.6 §15.247(a)(1) Channel Separation

### 6.6.1 Test procedure

The tests were performed in accordance with ANSI C63.10: 2013 Clause 7.8.2.

The channel separation was measured while the device was transmitting with typical hopping function enable.

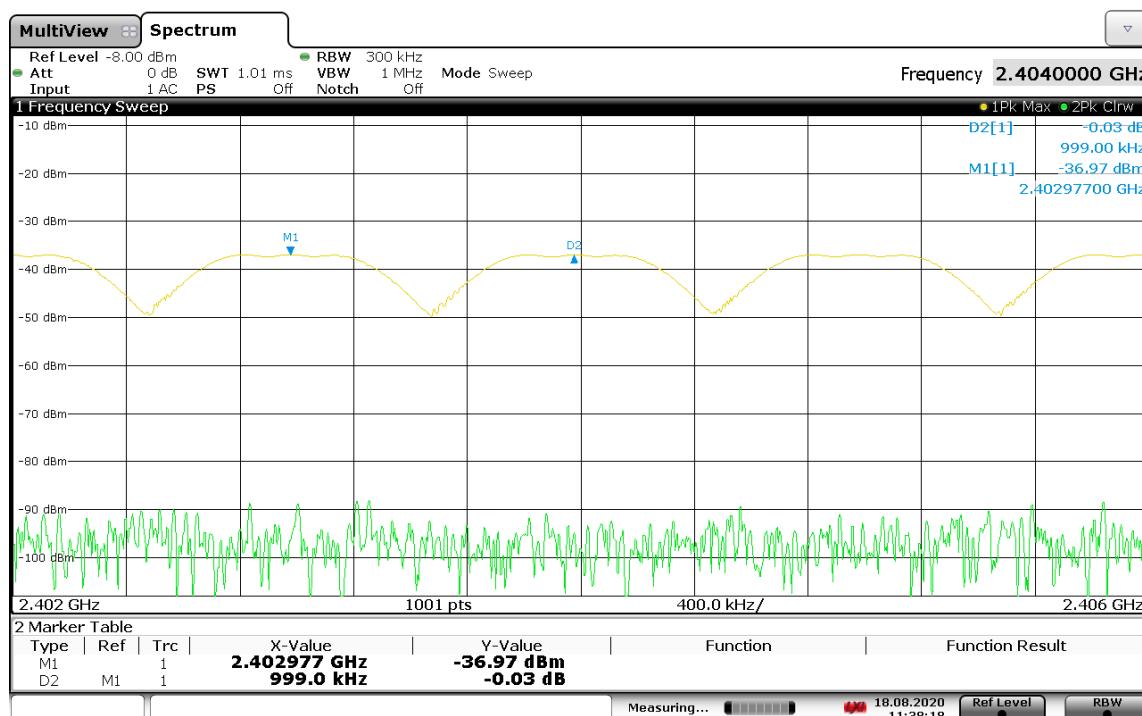
### 6.6.2 Limits

In the band 2400 – 2483.5 MHz with an output power no greater than 125 mW, the channel separation must be more than 25 kHz or two-thirds of the 20-dB bandwidth whichever is greater.

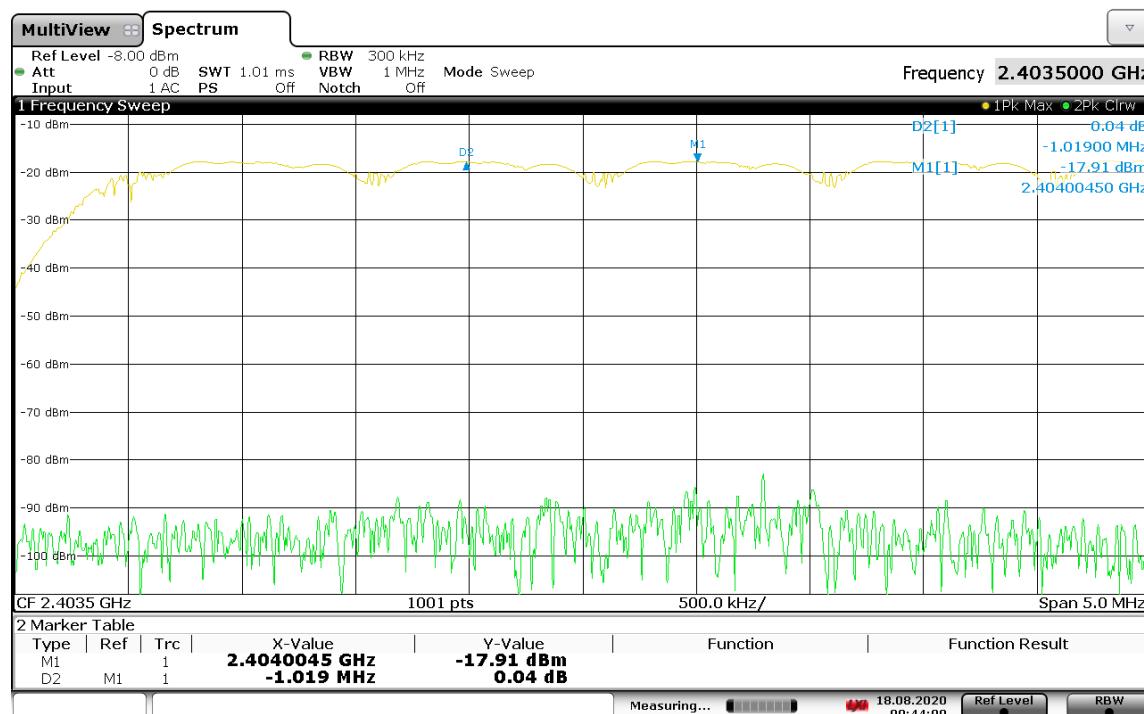
### 6.6.3 Results

Table 6-2: Channel Separation

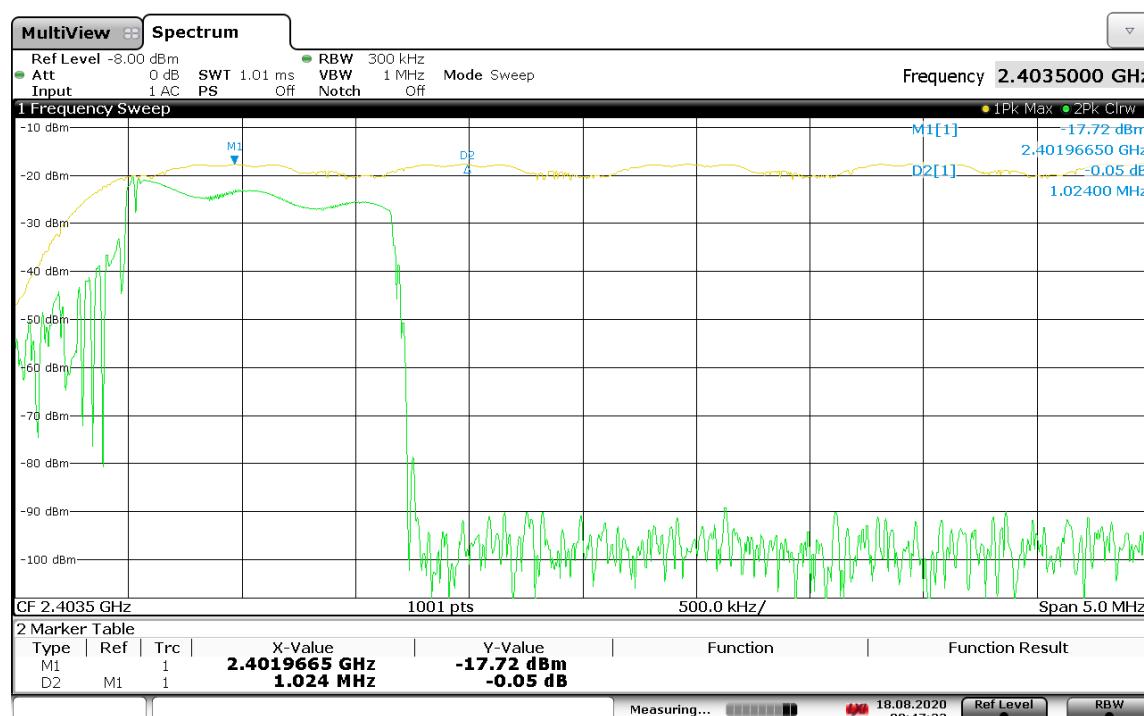
Modulation	Channel Separation [kHz]	Limit [kHz]	Result
GFSK (BR)	999	639	Complied
pi/4-DQPSK (2DR)	1019	927	Complied
8-DPSK (3DR)	1024	927	Complied



Graph 6-1: Channel Separation, GFSK



Graph 6-2: Channel Separation, pi/4-DQPSK



Graph 6-3: Channel Separation, 8-DPSK

## 6.7 §15.247(a)(1)(iii) Number of channels and time of occupancy

### 6.7.1 Test procedure

The tests were performed in accordance with ANSI C63.10: 2013 Clause 7.8.3 for Number of hopping frequencies and Clause 7.8.4 for Time of occupancy.

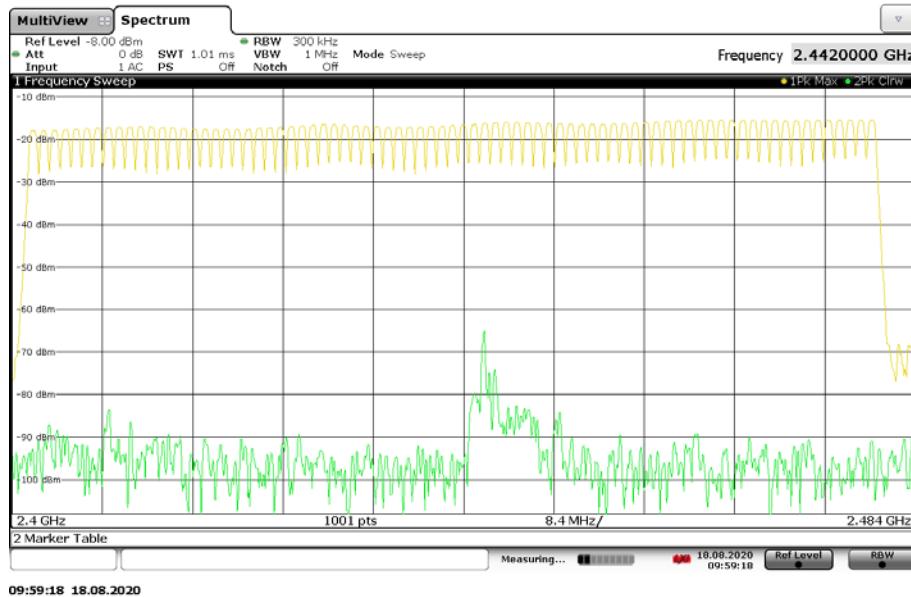
### 6.7.2 Limits

In the band 2400 – 2483.5 MHz, frequency hopping systems operation bands shall use at least 15 hopping frequencies. The average time of occupancy on any channel shall not be greater than 0.4 seconds within a period of 0.4 seconds multiplied by the number of hopping channels employed

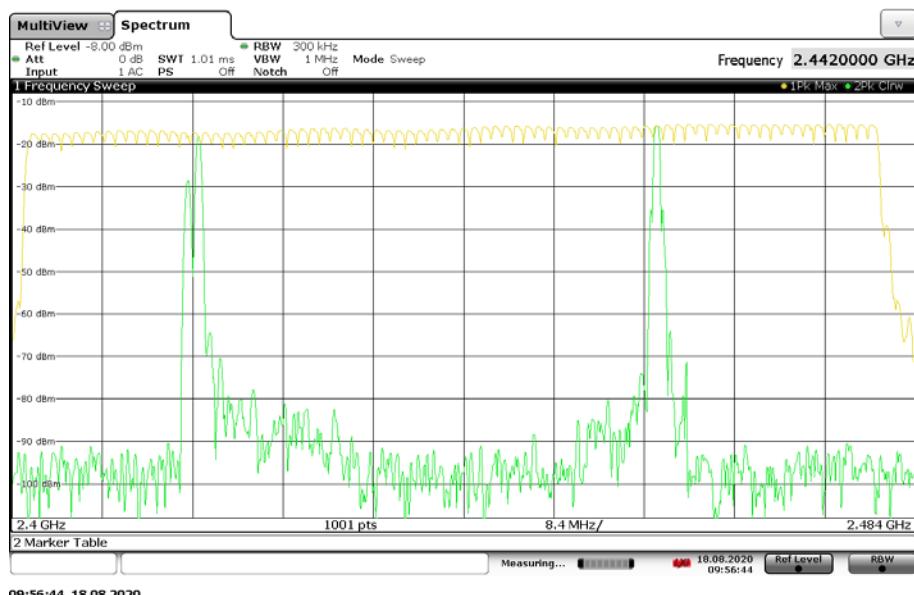
### 6.7.3 Results

Table 6-3: Number of Channels

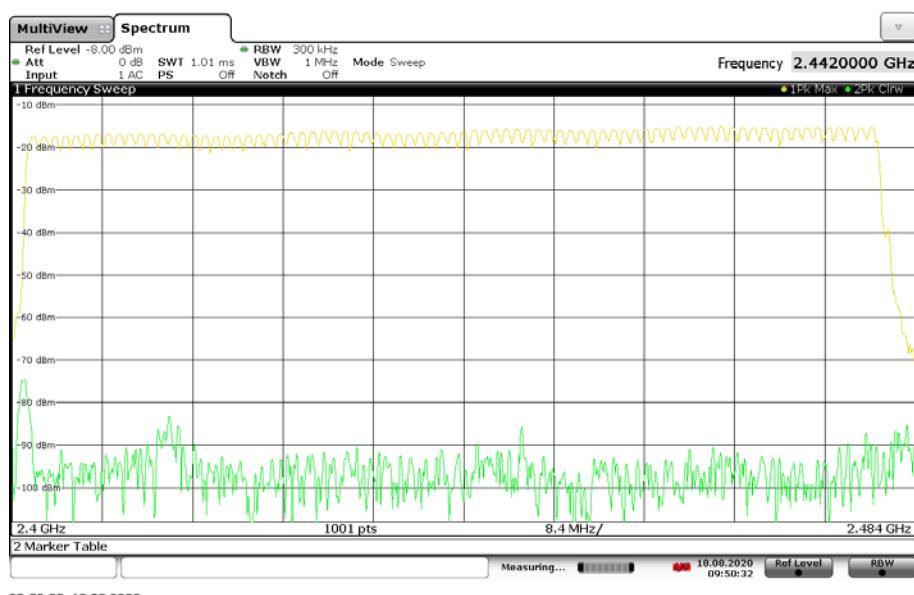
Modulation	Number of Channels	Limit	Result
GFSK (BR)	79	≥15	Complied
pi/4-DQPSK (2DR)	79	≥15	Complied
8-DPSK (3DR)	79	≥15	Complied



Graph 6-4: Number of Channels, GFSK



Graph 6-5: Number of Channels,  $\pi/4$ -DQPSK

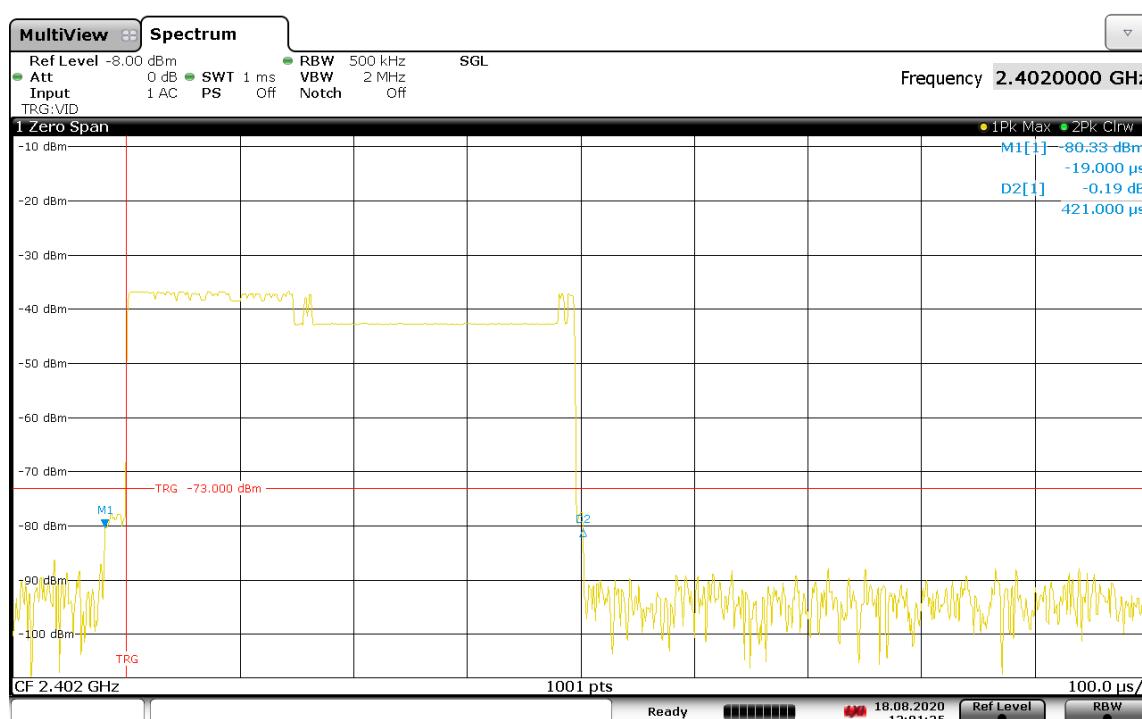
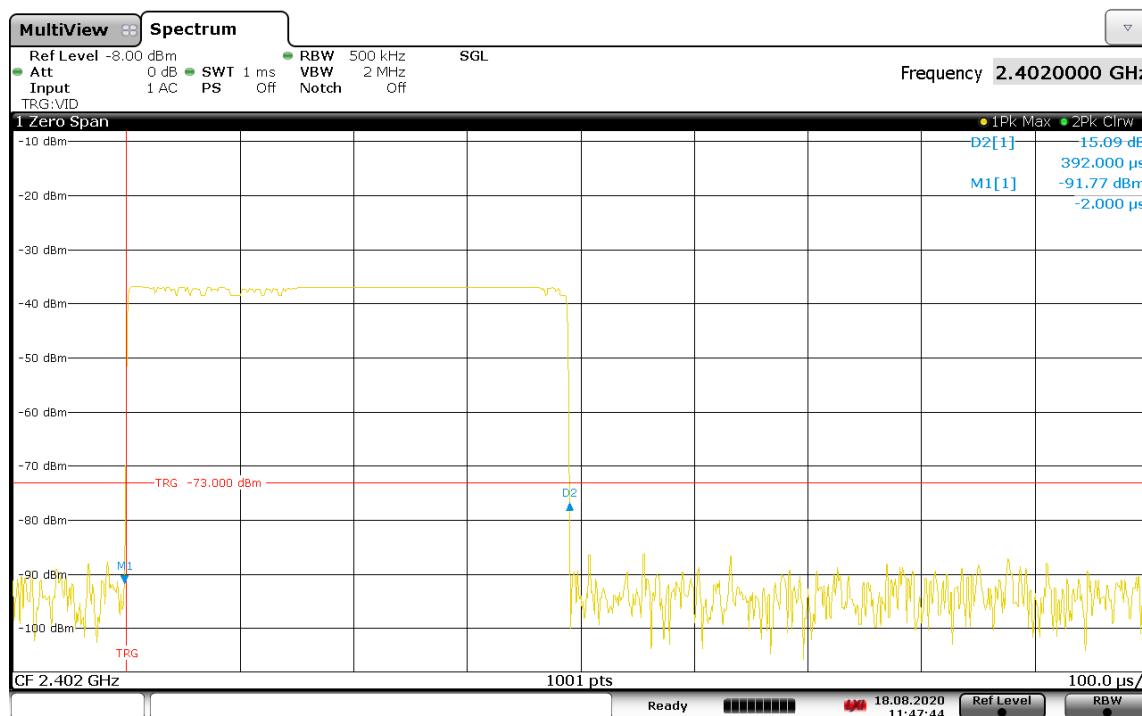


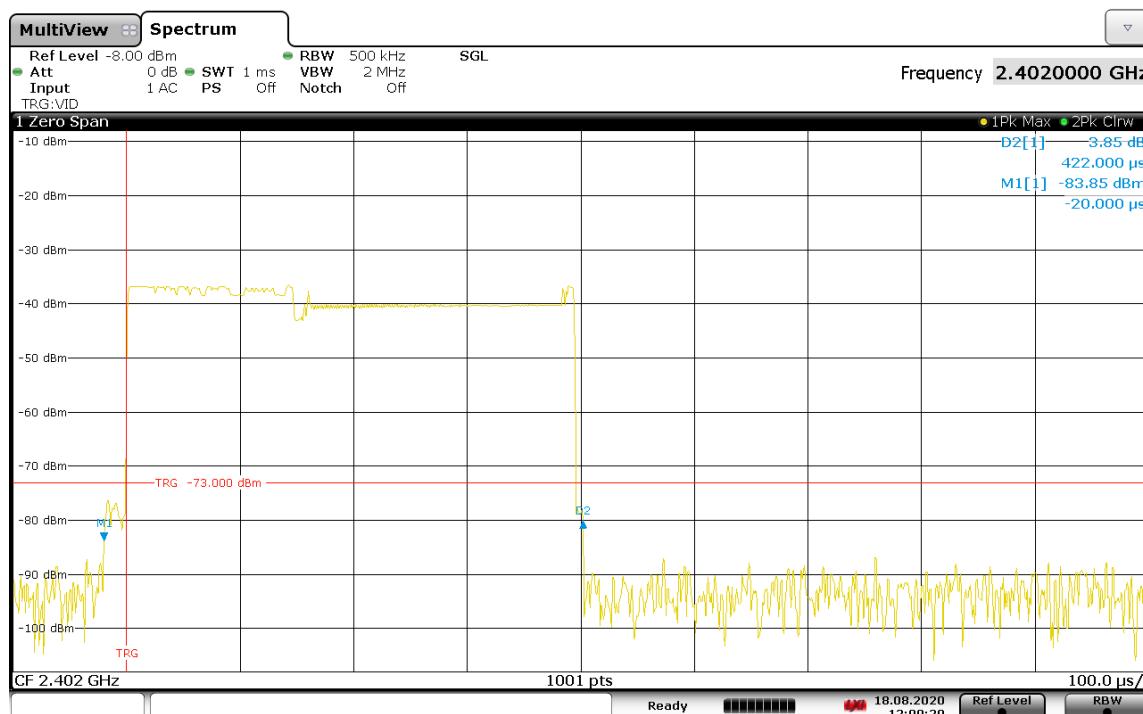
Graph 6-6: Number of Channels, 8-DPSK

Table 6-4: Average Time of Occupancy

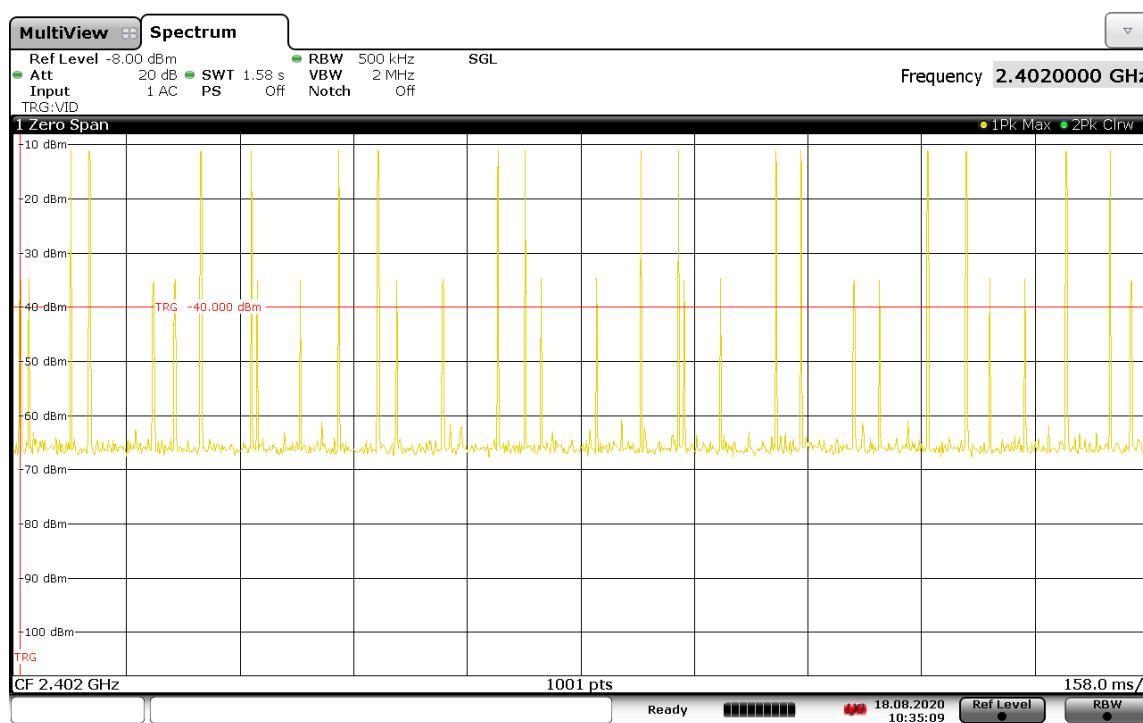
Modulation	Occupancy time for a single hop (ms)	Observed Period (s)	No of Hops in Observed Period	No of Hops in 31.6 Seconds*	Average time of occupancy (ms)	Limit (ms)	Result
GFSK (BR)	0.392	1.58	34	680	266.56	≤400	Complied
pi/4-DQPSK (2DR)	0.421	1.58	33	660	277.86	≤400	Complied
8-DPSK (3DR)	0.422	1.58	33	660	278.52	≤400	Complied

\*Note, a period of 0.4 seconds multiplied by number of hopping channels employed.





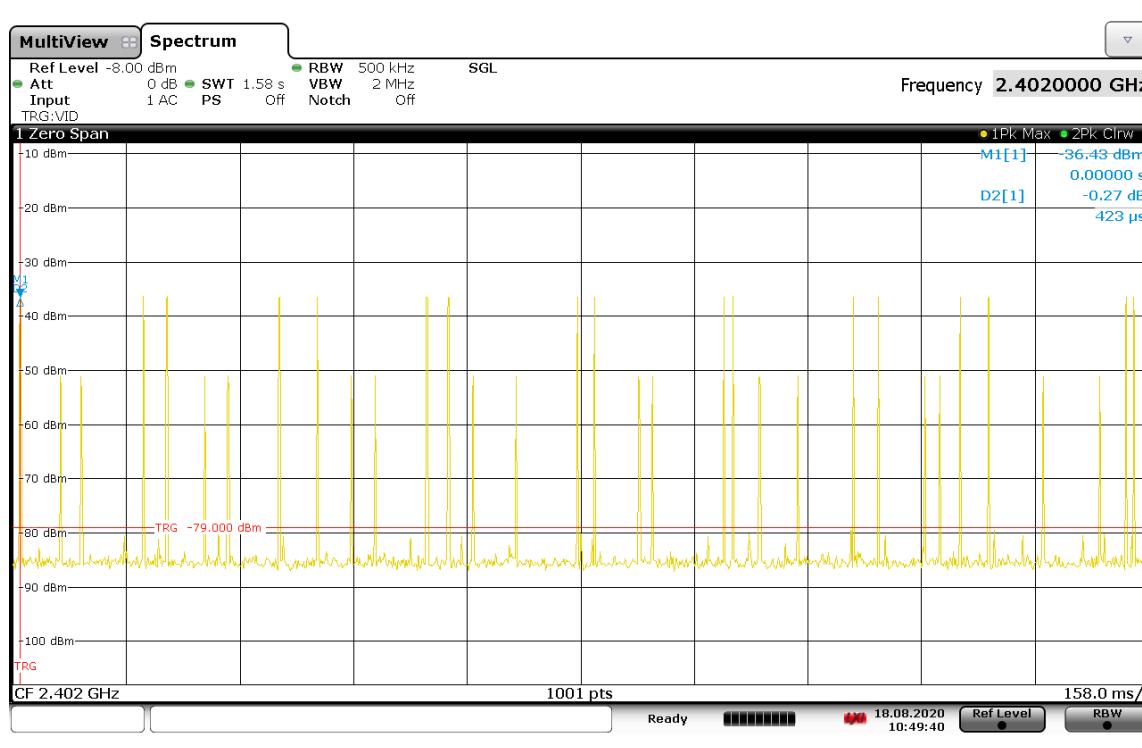
Graph 6-9: Duration of one pulse, 8-DPSK



Graph 6-10: Number of pulses in 1.58 seconds, GFSK



Graph 6-11: Number of pulses in 1.58 seconds, pi/4-DQPSK



Graph 6-12: Number of pulses in 1.58 seconds, 8-DPSK

## 6.8 §15.247(b)(1) Peak Output Power

### 6.8.1 Test procedure

The field strength of the fundamental transmitted frequency was measured inside a semi-anechoic chamber compliant with ANSI C63.4: 2014 in accordance to ANSI C63.10: 2013 clause 7.8.5.

The EUT was positioned on a test turn-table and rotated through 360° to determine the highest emissions. The measurement antenna was also varied between 1 and 4 metres height. Different orientations of the EUT (x, y and z-axis) and measurement antenna polarisations (vertical and horizontal) were investigated to produce the highest emission EIRP. All measurements were made at a distance of 3 metres. The fundamental emissions were measured using a peak detector.

### 6.8.2 Limits

The maximum conducted output power at 2400 – 2483.5 MHz is 125 mW or 21 dBm.

### 6.8.3 Results

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

Table 6-5: Maximum peak power

Modulation	Frequency (MHz)	E-Field @ 3 m (dBuV/m)	EIRP (dBm)	Antenna Gain (dBi)	Equivalent Conducted Output Power (dBm)	Limit (dBm)	Results
GFSK (BR)	2402	99.17	3.94	0	3.94	21	Complied
	2441	99.03	3.80	0	3.80	21	Complied
	2480	98.70	3.47	0	3.47	21	Complied
pi/4-DQPSK (2DR)	2402	100.43	5.20	0	5.20	21	Complied
	2441	101.29	6.06	0	6.06	21	Complied
	2480	101.10	5.87	0	5.87	21	Complied
8-DPSK (3DR)	2402	100.61	5.38	0	5.38	21	Complied
	2441	102.19	6.96	0	6.96	21	Complied
	2480	101.98	6.75	0	6.75	21	Complied

## 6.9 15.247(d) Out-of-Band/Spurious Emissions

### 6.9.1 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	Standard gain or broadband horn
18 000 to 40 000	1000	1	

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 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.

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.

EUT was investigated on all three axes (x, y, and z). Measurements on the worst axis are presented below.

Further, measurements were done for all modulation type GFSK, pi/4-DQPSK, 8-DPSK. Only the worst-case modulation: 8-DPSK is presented.

### 6.9.2 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. The maximum PSD level was used to establish the limit for nonrestricted frequency bands. However, the general limits of §15.209 apply for the restricted bands of operation defined in §15.205.

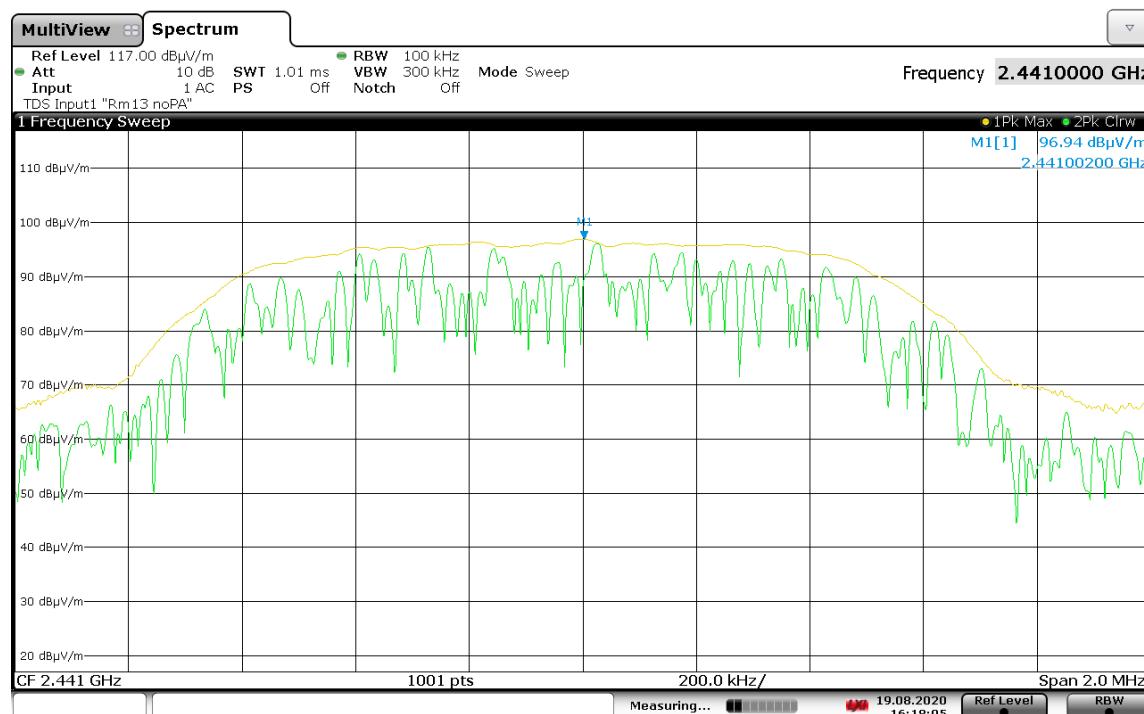
Table 6-6: 100 kHz reference level measurement

Modulation	Freq. (MHz)	Peak at 3 m (dB $\mu$ V/m)	Established Limit at 3m (dB $\mu$ V/m)
8-DPSK (3DR)	2441	96.94	76.94



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16:18:06 19.08.2020

Graph 6-13: 100 kHz bandwidth reference level

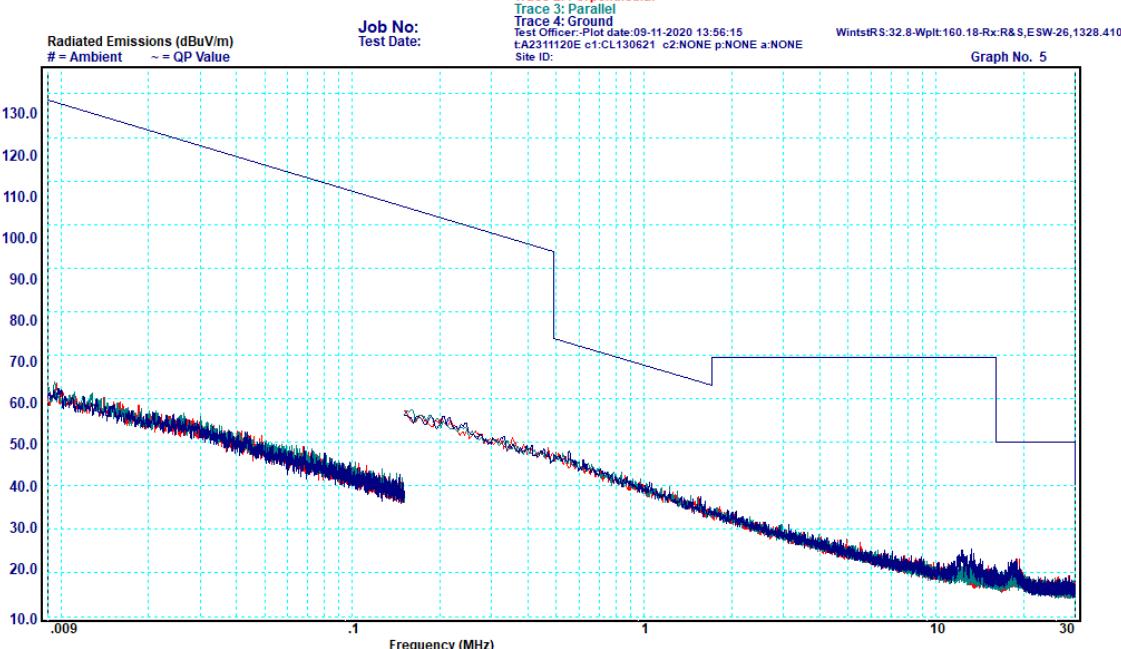
### 6.9.3 Transmitter Spurious Emissions: 9 kHz - 30 MHz

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

M2007049

Limit1:FCC15209 FCC PART 15.209 3mtr LMTS

Low 2402 MHz



Graph 6-14: Transmitter Spurious Emissions, 9kHz - 30 MHz, 2402 MHz

No peaks were measured within 10 dB of the limit.

M2007049

Limit1:FCC15209 FCC PART 15.209 3mtr LMTS

Mid 2441 MHz

Job No:  
Test Date:

Trace 2: Perpendicular

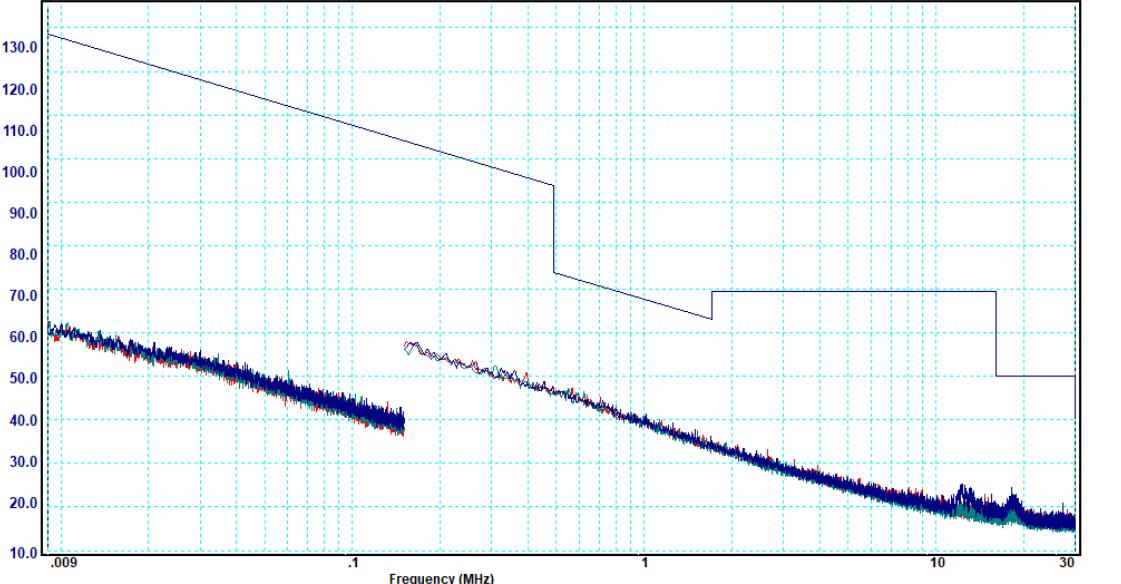
WinstR5:32.8-Wplt:160.18-Rx:R&amp;S,ESW-26,1328.4100

Radiated Emissions (dBuV/m)  
# = Ambient ~ = QP Value

Trace 3: Parallel

Graph No. 6

Trace 4: Ground



Graph 6-15: Transmitter Spurious Emissions, 9kHz - 30 MHz, 2441 MHz

No peaks were measured within 10 dB of the limit.

M2007049

Limit: FCC15209 FCC PART 15.209 3mtr LMTS

High 2480 MHz

Radiated Emissions (dBuV/m)  
# = Ambient ~ = QP Value

Job No:  
Test Date:

Trace 2: Perpendicular

Trace 3: Parallel

Trace 4: Ground

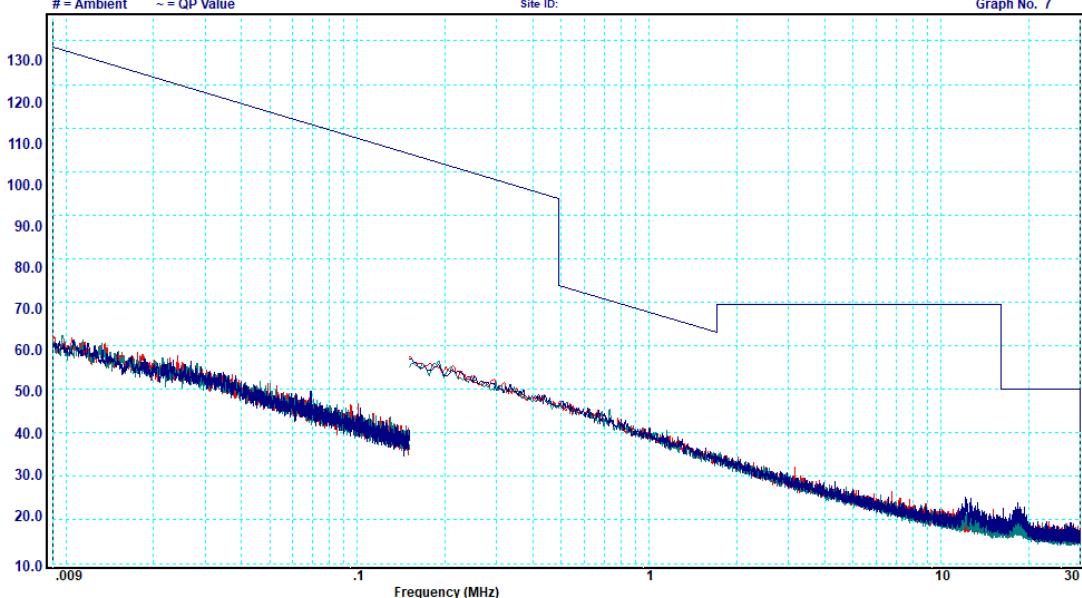
Test Officer: Plot date: 09-11-2020 13:57:31

t: A2311120E c1: CL130621 c2: NONE p: NONE a: NONE

Site ID:

Winstr5:32.8-Wplt:160.18-Rx:R&amp;S,ESW-26,1328.4100

Graph No. 7



Graph 6-16: Transmitter Spurious Emissions, 9kHz - 30 MHz, 2480 MHz

No peaks were measured within 10 dB of the limit.

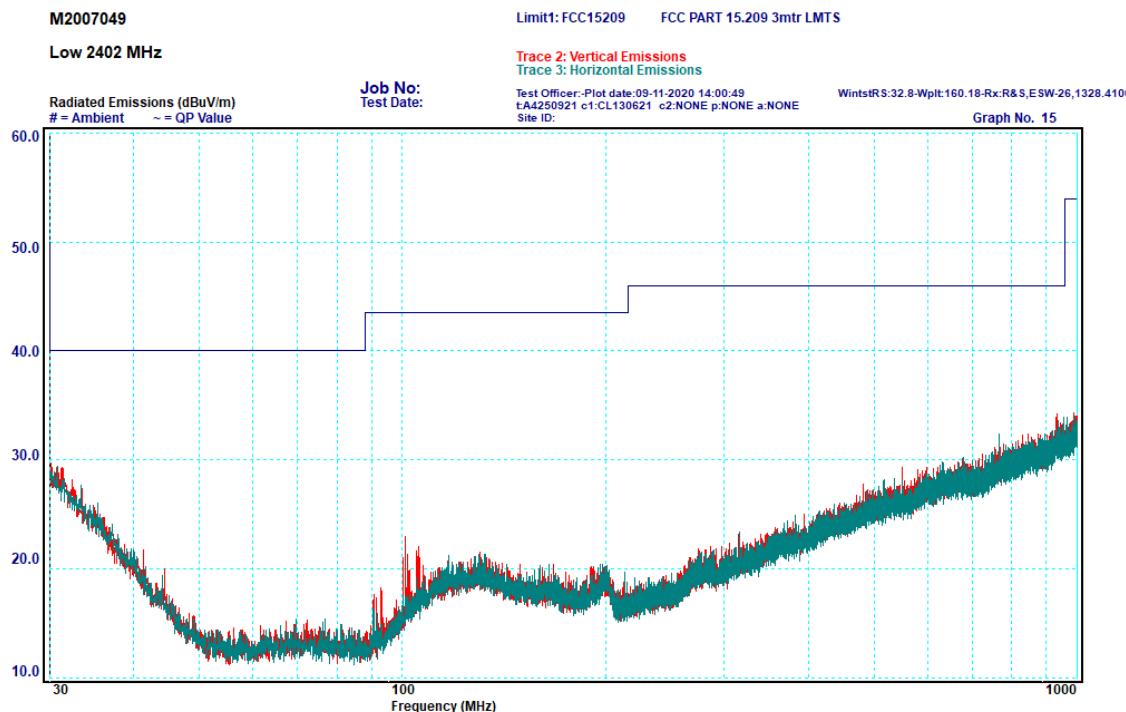


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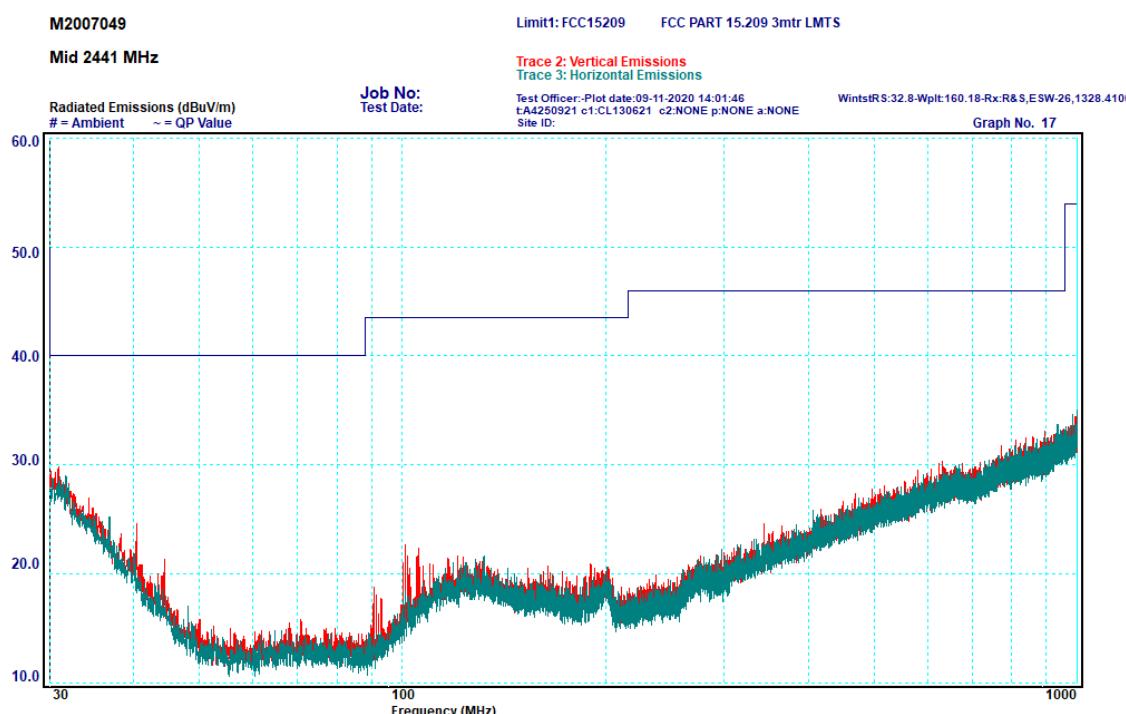
#### 6.9.4 Transmitter Spurious Emissions: 30 - 1000 MHz

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



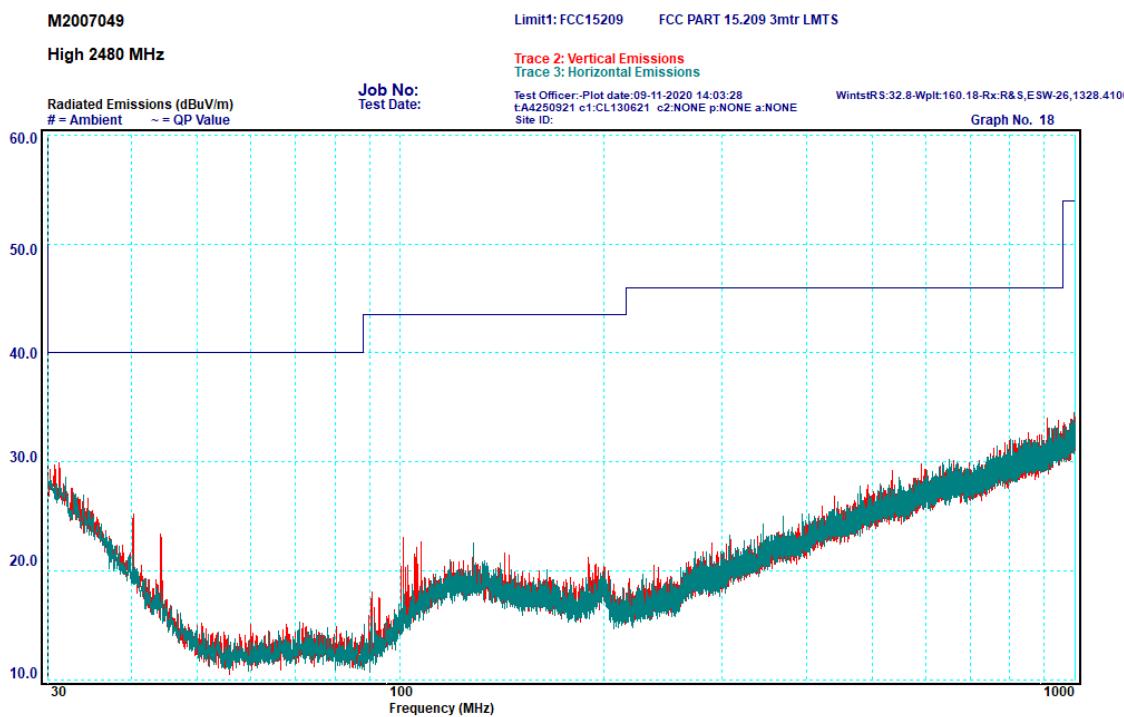
Graph 6-17: Transmitter Spurious Emissions, 30 - 1000 MHz, 2402 MHz

No peaks were measured within 10 dB of the limit.



Graph 6-18: Transmitter Spurious Emissions, 30 - 1000 MHz, 2441 MHz

No peaks were measured within 10 dB of the limit.



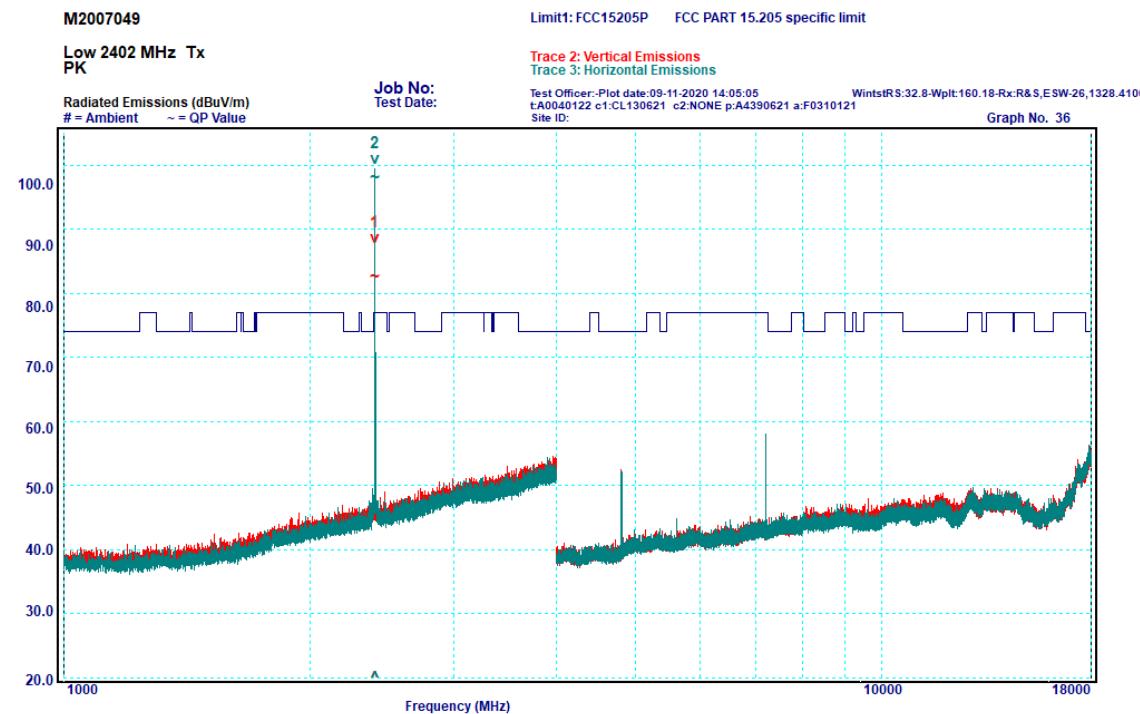
Graph 6-19: Transmitter Spurious Emissions, 30 - 1000 MHz, 2480 MHz

No peaks were measured within 10 dB of the limit.

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

All emissions measured in the frequency band 1 – 10 GHz complied with the requirements of the standard.

#### Peak Measurements:

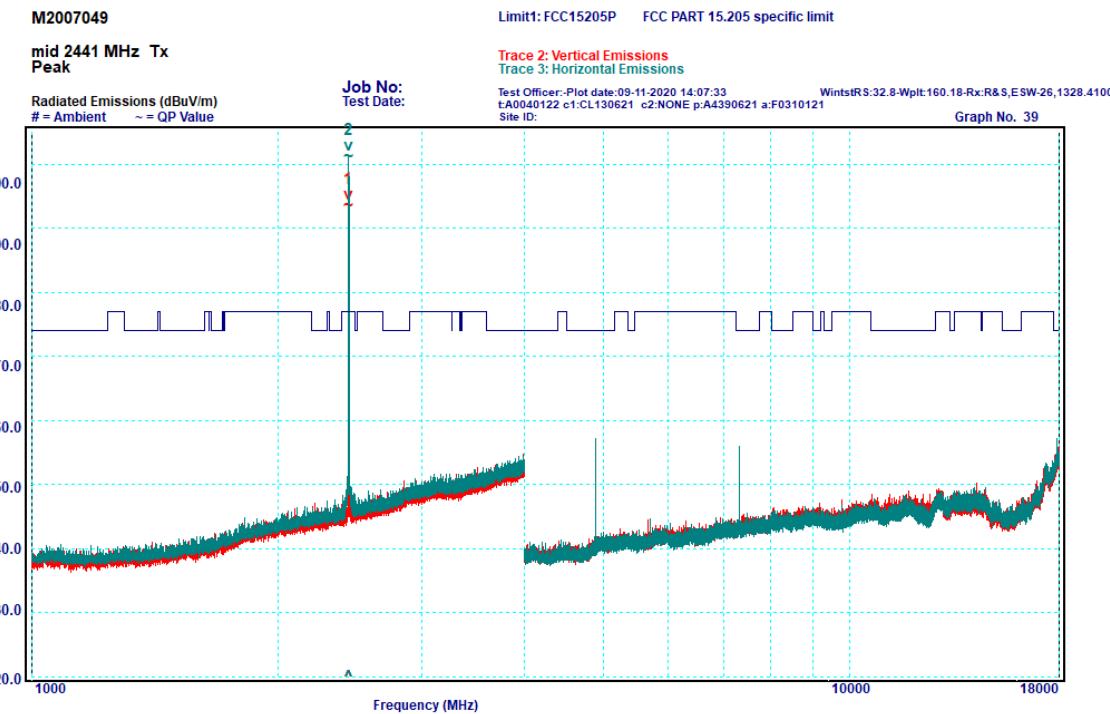


Graph 6-20: Transmitter Spurious Emissions, 1 - 18 GHz, 2402 MHz, Peak

Table 6-7: Transmitter Spurious Emissions, 1 – 18 GHz, 2402 MHz, Peak

Peak	Frequency [MHz]	Polarisation	Peak		
			Level [dB $\mu$ V/m]	Limit [dB $\mu$ V/m]	Margin [dB]
1*	2402	Vertical	N/A	N/A	N/A
2*	2402	Horizontal	N/A	N/A	N/A

\*Peaks 1 and 2 are the fundamental transmissions and are not subject to the spurious emissions limit of the standard.



Graph 6-21: Transmitter Spurious Emissions, 1 - 18 GHz, 2441 MHz, Peak

Table 6-8: Transmitter Spurious Emissions, 1 – 18 GHz, 2441 MHz, Peak

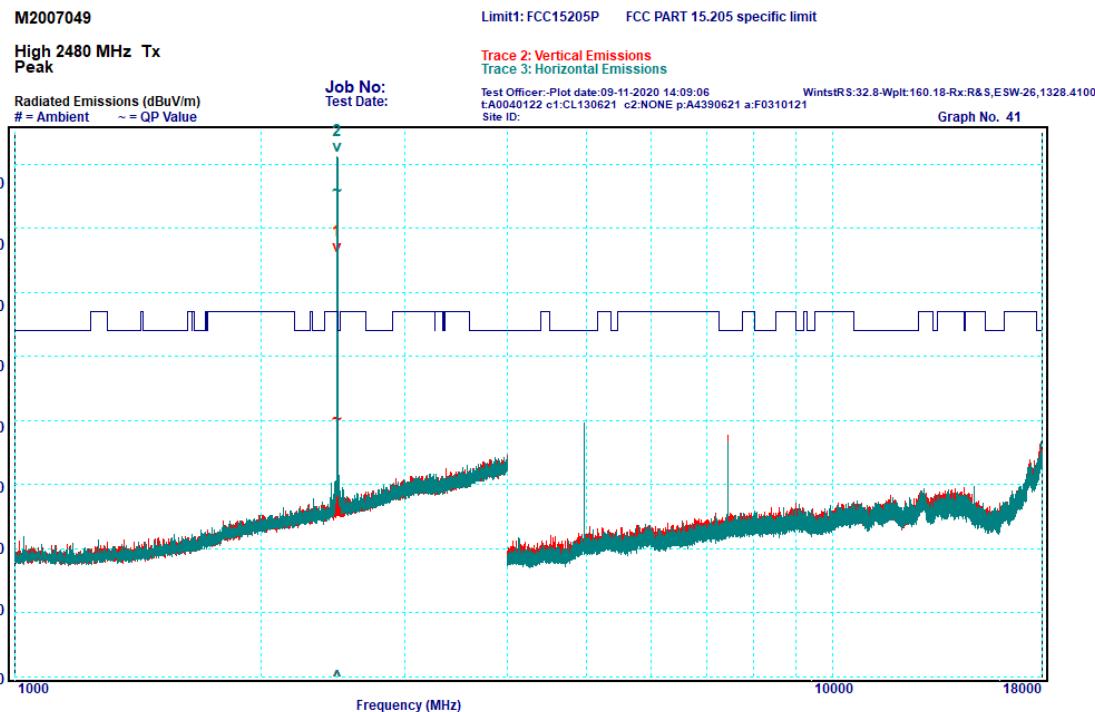
Peak	Frequency [MHz]	Polarisation	Peak		
			Level [dB $\mu$ V/m]	Limit [dB $\mu$ V/m]	Margin [dB]
1*	2441	Vertical	N/A	N/A	N/A
2*	2441	Horizontal	N/A	N/A	N/A

\*Peaks 1 and 2 are the fundamental transmissions and are not subject to the spurious emissions limit of the standard.



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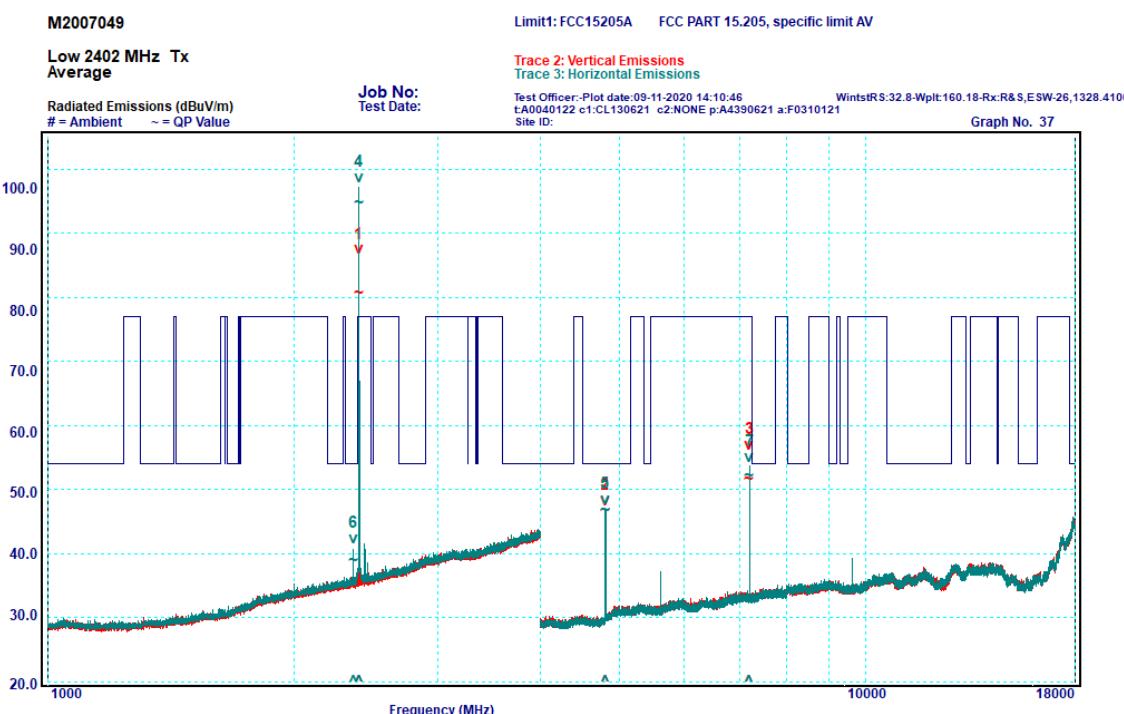
Graph 6-22: Transmitter Spurious Emissions, 1 - 18 GHz, 2480 MHz, Peak

Table 6-9: 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*	2480	Vertical	N/A	N/A	N/A
2*	2480	Horizontal	N/A	N/A	N/A

\*Peaks 1 and 2 are the fundamental transmissions and are not subject to the spurious emissions limit of the standard.

### Average Measurements:



Graph 6-23: Transmitter Spurious Emissions, 1 - 18 GHz, 2402 MHz, Average

Table 6-10: 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*	2401.97	Vertical	N/A	N/A	N/A
2	4803.9	Vertical	46.6	54	-7.4
3	7205.91	Vertical	51.6	76.9	-25.3
4*	2401.98	Horizontal	N/A	N/A	N/A
5	4803.97	Horizontal	46.6	54	-7.4
6	2362.96	Horizontal	39	54	-15
7	7205.96	Horizontal	52.1	76.9	-24.8

\*Peaks 1 and 4 are the fundamental transmissions and are not subject to the spurious emissions limit of the standard.

M2007049

mid 2441 MHz Tx  
Average

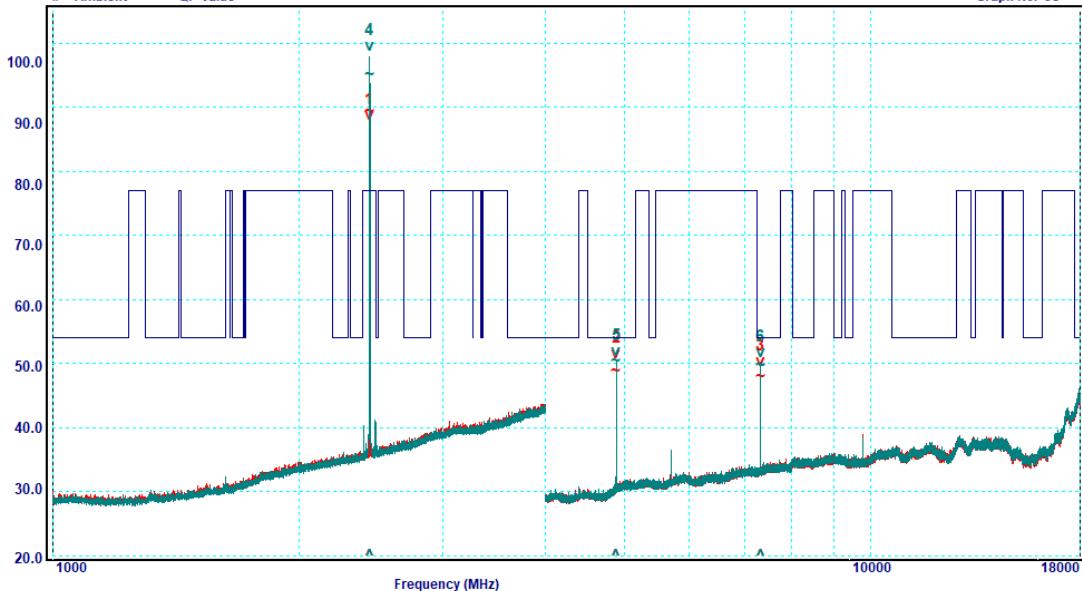
Radiated Emissions (dB $\mu$ V/m)  
# = Ambient ~ = QP Value

Limit1: FCC15205A FCC PART 15.205, specific limit AV

Trace 2: Vertical Emissions  
Trace 3: Horizontal Emissions

Test Officer: Plot date:09-11-2020 14:14:15  
t:0040122 c1:CL130621 c2:NONE p:A4390621 a:F0310121  
WinstRS:32.8-Wplt:160.18-Rx:R&S,ESW-26,1328.4100  
Site ID:

Graph No. 38



Graph 6-24: Transmitter Spurious Emissions, 1 - 18 GHz, 2441 MHz, Average

Table 6-11: Transmitter Spurious Emissions, 1 -18 GHz, 2441MHz, Average

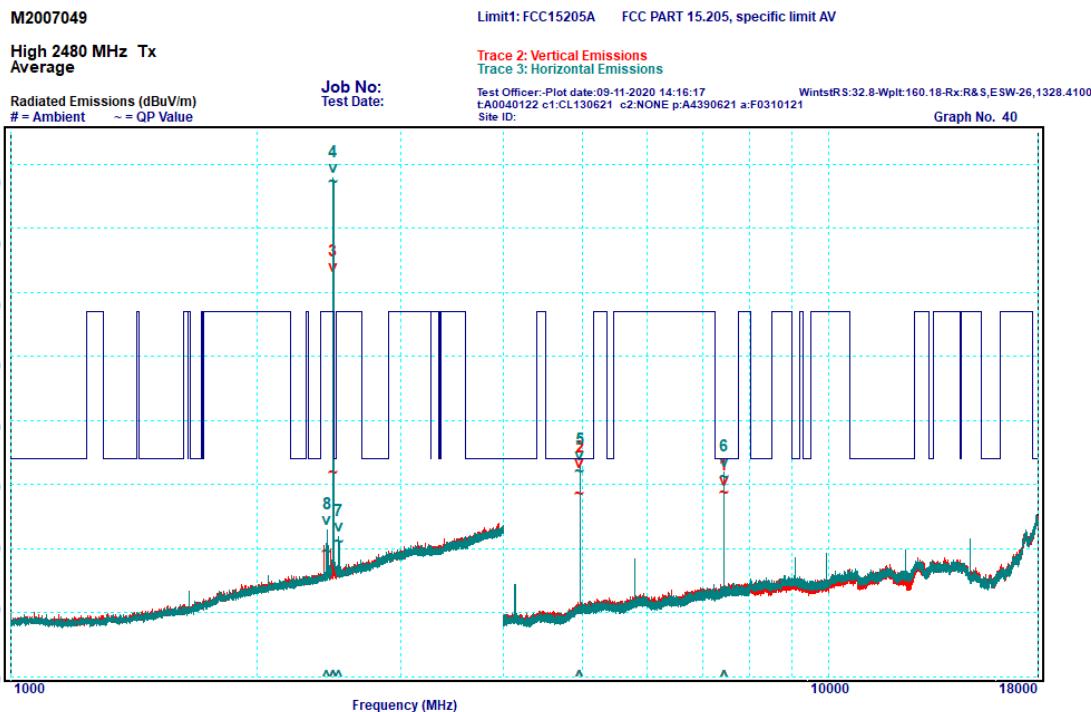
Peak	Frequency [MHz]	Polarisation	Average		
			Level [dB $\mu$ V/m]	Limit [dB $\mu$ V/m]	Margin [dB]
1*	2440.97	Vertical	N/A	N/A	N/A
2	4881.96	Vertical	48.9	54	-5.1
3	7322.89	Vertical	47.9	54	-6.1
4*	2440.96	Horizontal	N/A	N/A	N/A
5	4881.95	Horizontal	50.3	54	-3.7
6	7322.99	Horizontal	49.7	54	-4.3

\*Peaks 1 and 4 are the fundamental transmissions and are not subject to the spurious emissions limit of the standard.



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Graph 6-25: Transmitter Spurious Emissions, 1 - 18 GHz, 2480 MHz, Average

Table 6-12: Transmitter Spurious Emissions, 1 - 18 GHz, 2480 MHz, Average

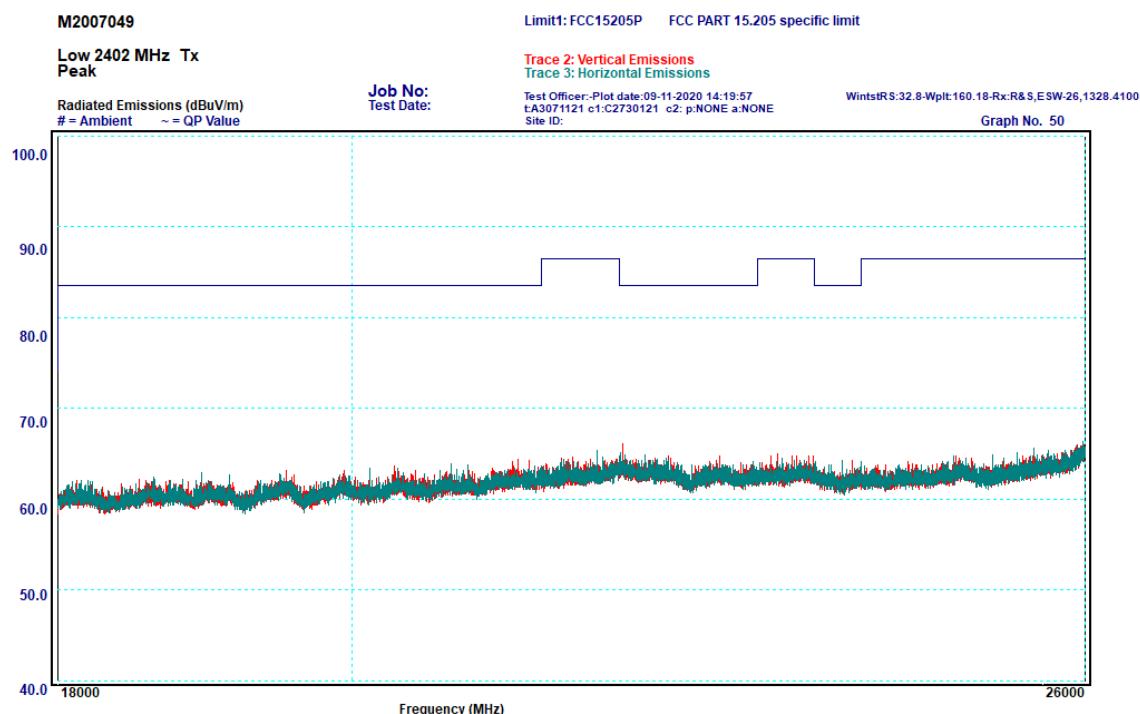
Peak	Frequency [MHz]	Polarisation	Average		
			Level [dB $\mu$ V/m]	Limit [dB $\mu$ V/m]	Margin [dB]
1	7439.91	Vertical	48.6	54	-5.4
2	4959.91	Vertical	48.4	54	-5.6
3*	2479.95	Vertical	N/A	N/A	N/A
4*	2479.97	Horizontal	N/A	N/A	N/A
5	4959.9	Horizontal	52	54	-2
6	7439.88	Horizontal	51	54	-3
7	2518.96	Horizontal	40.9	76.9	-36
8	2434.68	Horizontal	39.4	76.9	-37.5

\*Peaks 3 and 4 are the fundamental transmissions and are not subject to the spurious emissions limit of the standard.

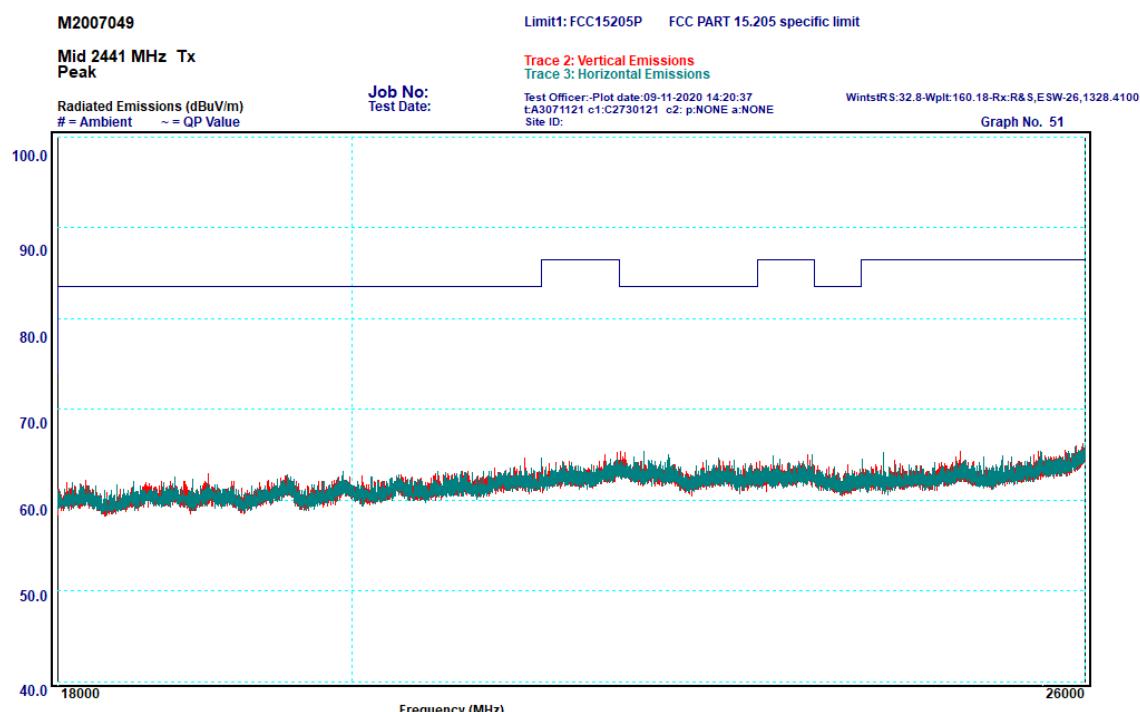
### 6.9.6 Transmitter Spurious Emissions: 18 - 26 GHz

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

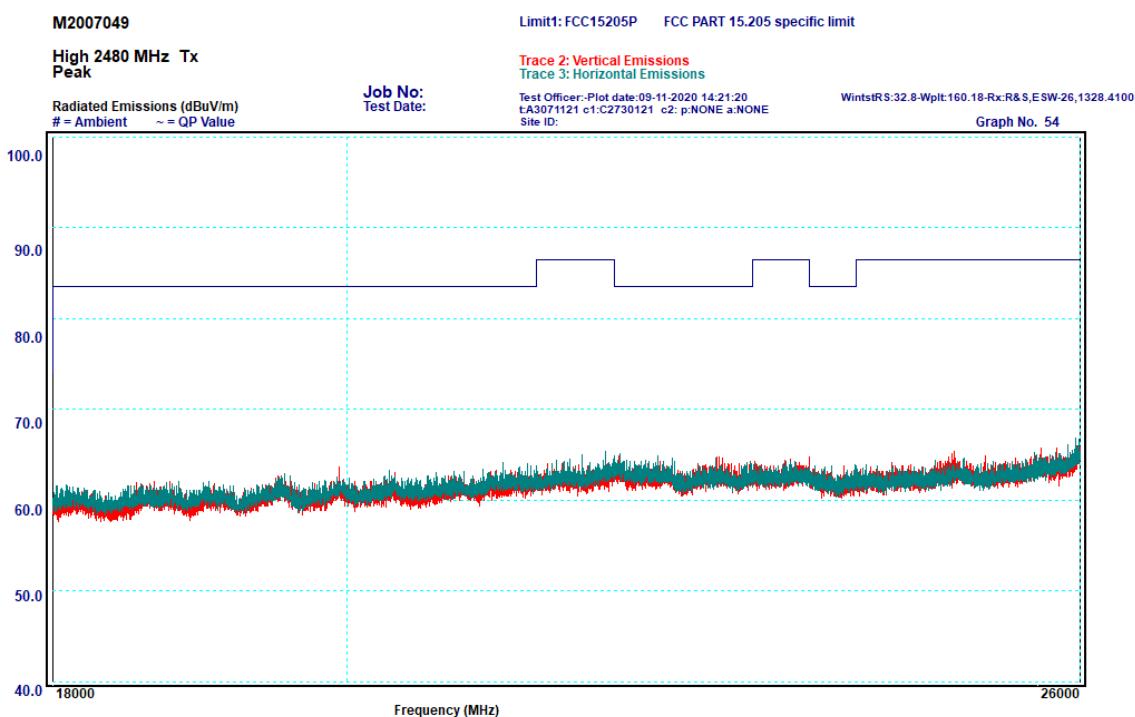
#### Peak Measurements:



Graph 6-26: Transmitter Spurious Emissions, 18 – 26 GHz, 2402 MHz, Peak  
No peaks were measured within 10 dB of the limit.

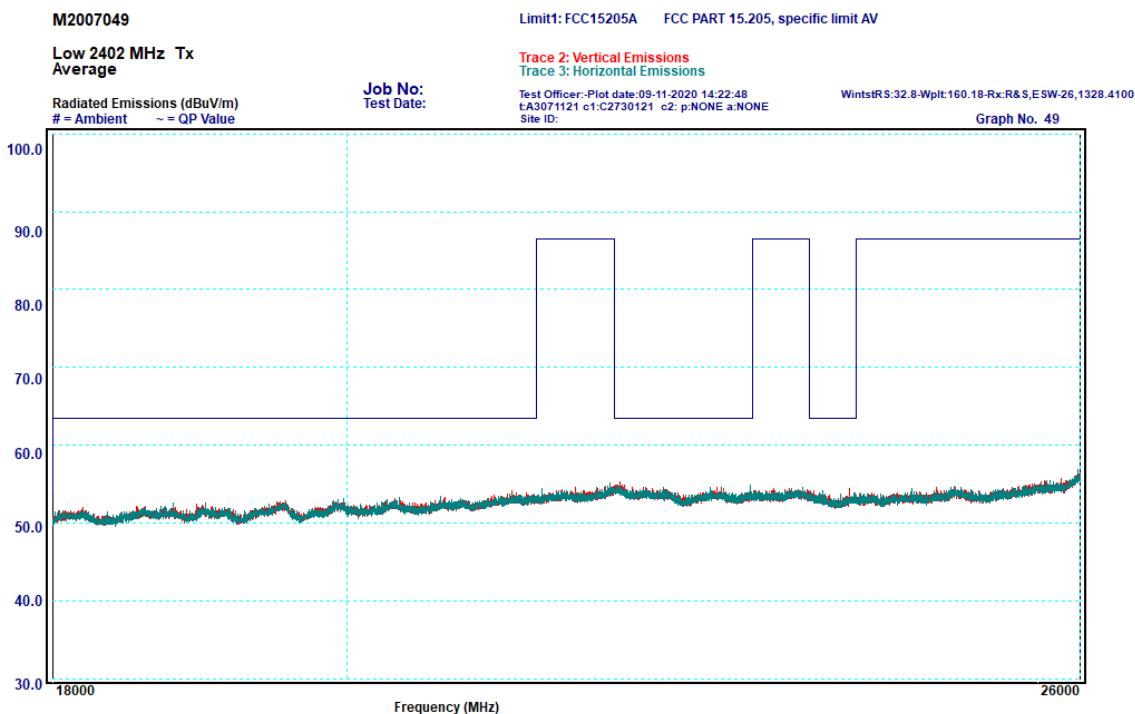


Graph 6-27: Transmitter Spurious Emissions, 18 – 26 GHz, 2441 MHz, Peak  
No peaks were measured within 10 dB of the limit.

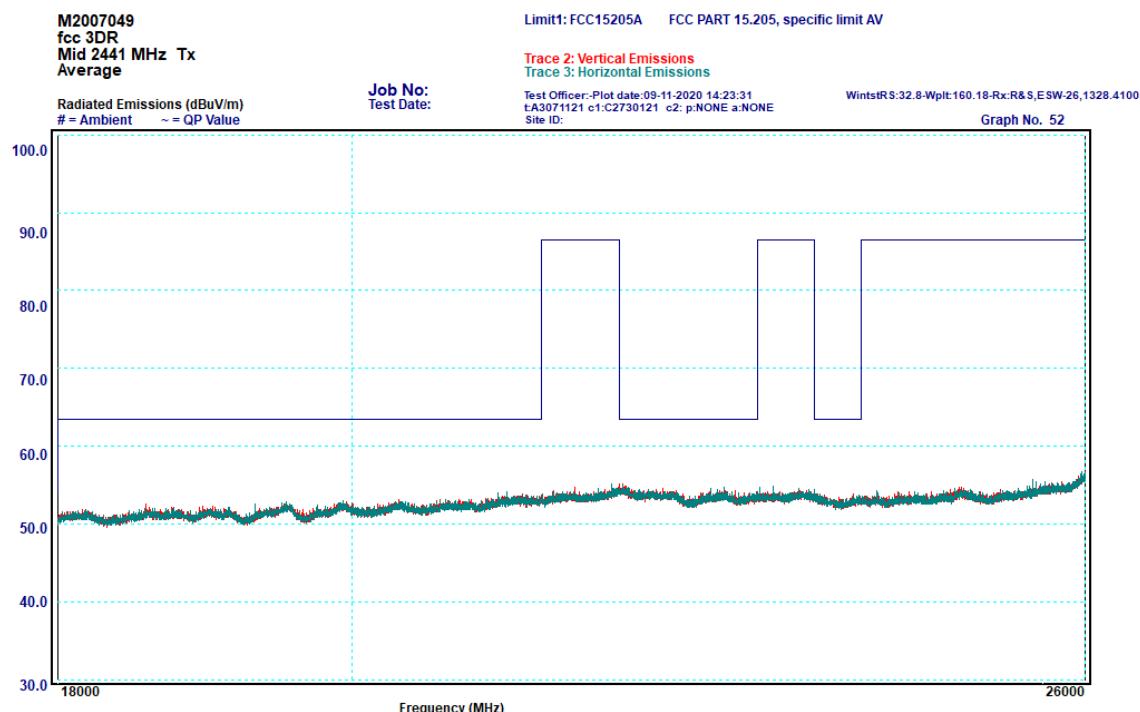


Graph 6-28: Transmitter Spurious Emissions, 18 – 26 GHz, 2480 MHz, Peak  
No peaks were measured within 10 dB of the limit.

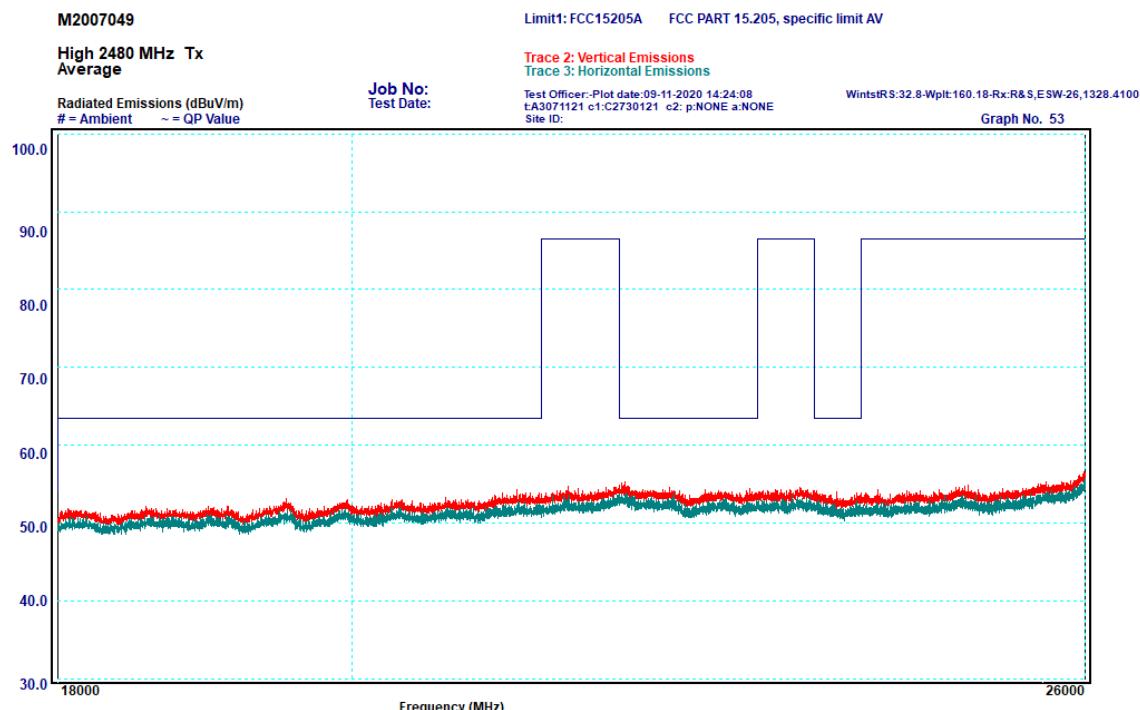
### Average Measurements:



Graph 6-29: Transmitter Spurious Emissions, 18 – 26 GHz, 2402 MHz, Average  
No peaks were measured within 10 dB of the limit.



Graph 6-30: Transmitter Spurious Emissions, 18 – 26 GHz, 2441 MHz, Average  
No peaks were measured within 10 dB of the limit.



Graph 6-31: Transmitter Spurious Emissions, 18 – 26 GHz, 2480 MHz, Average  
No peaks were measured within 10 dB of the limit.

## 6.10 §15.247(d) Band Edge Emission Measurements

Band-edge measurements were done using radiated in accordance to ANSI C63.10 clause 6.10. All emissions measured near the lower and upper band edge complied with the requirements of §15.247. Authorised-band band-edges were measured in the lower end and Restricted-band band-edges were measured in the upper end.

Table 6-13: Band edge Measurement, Lower Band Edge

Modulation	Measurement Type	Freq [MHz]	Measurement [dBuV/m]	Limit [dBuV/m]	Result
GFSK (BR)	Peak - Hop off	2400	59.43	76.94	Complied
	Peak - Hop on	2400	58.63	76.94	Complied
pi/4-DQPSK (2DR)	Peak - Hop off	2400	58.94	76.94	Complied
	Peak - Hop on	2400	59.18	76.94	Complied
8-DPSK (3DR)	Peak - Hop off	2400	59.16	76.94	Complied
	Peak - Hop on	2400	58.89	76.94	Complied

Table 6-14: Band edge Measurement, Upper Band Edge, Peak

Modulation	Measurement Type	Freq [MHz]	Measurement [dBuV/m]	Limit [dBuV/m]	Result
GFSK (BR)	Peak - Hop off	2483.5	58.94	74	Complied
	Peak - Hop on	2483.5	60.10	74	Complied
pi/4-DQPSK (2DR)	Peak - Hop off	2483.5	61.09	74	Complied
	Peak - Hop on	2483.5	59.99	74	Complied
8-DPSK (3DR)	Peak - Hop off	2483.5	61.88	74	Complied
	Peak - Hop on	2483.5	59.31	74	Complied

Table 6-15: Band edge Measurement, Upper Band Edge, Average

Modulation	Measurement Type	Freq [MHz]	Measurement [dBuV/m]	Limit [dBuV/m]	Result
GFSK (BR)	Average - Hop off	2483.5	47.53	54	Complied
	Average - Hop on	2483.5	47.44	54	Complied
pi/4-DQPSK (2DR)	Average - Hop off	2483.5	48.53	54	Complied
	Average - Hop on	2483.5	47.41	54	Complied
8-DPSK (3DR)	Average - Hop off	2483.5	48.73	54	Complied
	Average - Hop on	2483.5	47.61	54	Complied

## 6.11 §15.247(i) Radio frequency exposure

The EUT complied with the applicable radio frequency exposure levels. Refer to EMC Technologies report M2007049-6.

## 6.12 §15.215 Occupied bandwidth – 99% power

### 6.12.1 Test procedure

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

### 6.12.2 Limits

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

### 6.12.3 Results

Table 6-16: Occupied bandwidth

Modulation	Frequency [MHz]	99% Bandwidth [kHz]	Low Frequency [MHz]	High Frequency [MHz]	Result
GFSK (BR)	2402	922.89	2401.50	2402.43	Complied
	2441	911.49	2440.51	2441.42	Complied
	2480	909.80	2479.50	2480.41	Complied
pi/4-DQPSK (2DR)	2402	1224	2401.35	2402.57	Complied
	2441	1225	2440.35	2441.58	Complied
	2480	1294	2479.32	2480.61	Complied
8-DPSK (3DR)	2402	1222	2401.35	2402.57	Complied
	2441	1225	2440.35	2441.57	Complied
	2480	1292	2479.32	2480.61	Complied

**END OF REPORT**



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