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RADIO TEST REPORT

REPORT NUMBER: M2001003-1

TEST STANDARD: FCC PART 15 SUBPART C SECTION 15.247
ISED RSS-247 SECTION 5.0

CLIENT: DIGITAL MINING TECHNOLOGY

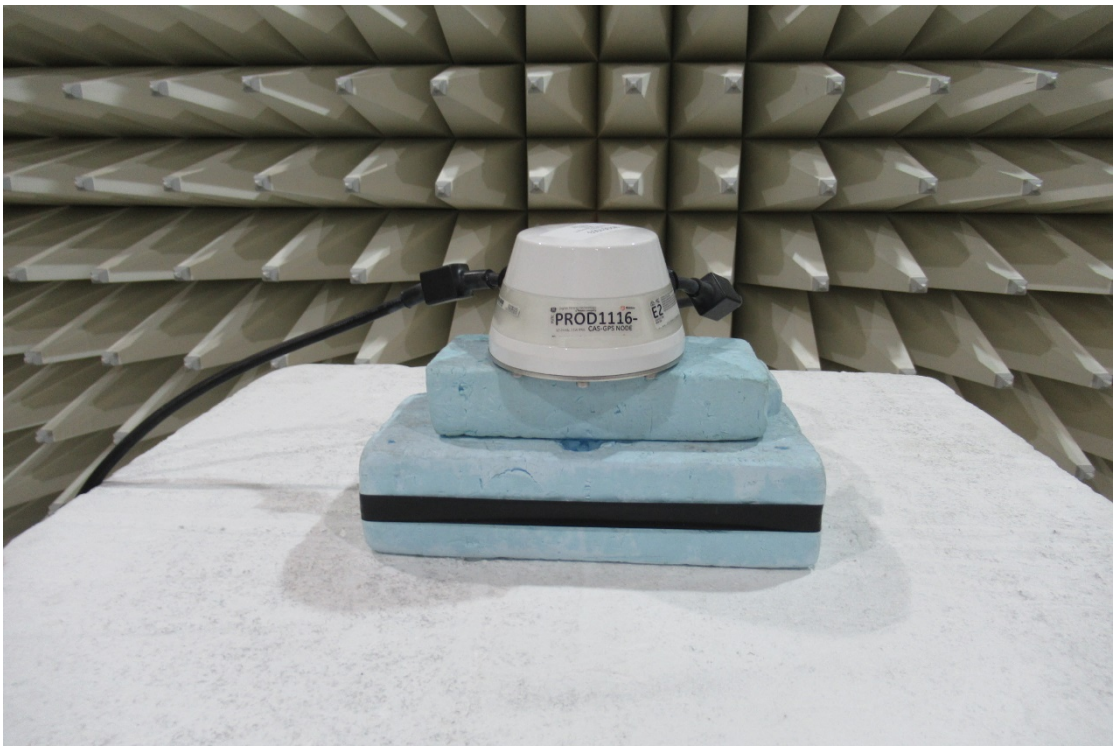
DEVICE: CAS-GPS NODE

MODEL: PROD1116-E2

FCC ID: YIY-PROD11162

IC ID: 8903A-PROD11162

DATE OF ISSUE: 15 APRIL 2020



Equipment Under Test (EUT): CAS-GPS Node

REVISION TABLE

Version	Sec/Para Changed	Change Made	Date
1		Initial issue of document	15/04/2020

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RADIO TEST REPROT

CERTIFICATE OF COMPLIANCE

Device:	CAS-GPS Node
Model Number:	PROD1116-E2
Serial Number:	116320010035
Equivalent Model Numbers:	PROD1116-E2X PROD1116-S2, PROD1116-L2, PROD1116-P2 PROD1116-S2X, PROD1116-L2X, PROD1116-P2X
Manufacturer:	DIGITAL MINING TECHNOLOGY
Radio Module:	Time of Flight, 2.4 GHz nanoPAN 5375 RF Module
Part Number:	MN5375V2
FCC ID:	YIY-PROD11162
IC ID:	8903A-PROD11162
Tested for:	DIGITAL MINING TECHNOLOGY
Address:	3 CO-WYN CLOSE, FOUNTAINDALE NSW 2258, AUSTRALIA
Phone Number:	+61 2 4336 1800
Contact:	P C SHIVALINGAM
Email:	Pc.Shivalingam@wabtec.com
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 2, 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 CAS-GPS Node complied with the applicable requirements above standards. Refer to Report M2001003-1 for full details.
Test Date(s):	14 – 17 January and 06 February 2020
Issue Date:	15 April 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:	Chris Zombolas Managing Director EMC Technologies Pty Ltd

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RADIO REPORT FOR CERTIFICATION

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^2LA).

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

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)	17/07/2017	17/07/2020	3 Year*1
EMI Receiver	R&S ESW26 Sn: 101306 (R-143)	27/05/2019	14/05/2020	1 Year*2
Antennas	EMCO 6502 Active Loop Antenna Sn: 9311-2801 (A-231)	16/11/2018	16/11/2020	2 Year*2
	SUNOL JB1 Sn. A061917 (A-425)	09/04/2019	09/04/2021	2 Year*2
	EMCO 3115 Horn Antenna Sn: 9501-4398 (A-406)	16/01/2019	16/01/2022	3 Year*1
	ETS-Lindgren 3160-09 Horn Antenna Sn. 66032 (A-307)	12/06/2018	12/06/2021	3 Year*1
Cables*3	Huber & Suhner Sucoflex 104A Sn: 503055 (C-457)	03/01/2020	03/01/2021	1 Year*1
	Huber & Suhner Sucoflex 104A Sn: 507100 (C-478)	03/01/2020	03/01/2021	1 Year*1
	Huber & Suhner Sucoflex 104A Sn: 503061 (C-463)	03/01/2020	03/01/2021	1 Year*1

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:

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
	18 GHz to 40 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)

CAS-GPS Intelligent multi-purpose node comprises of a high-performance GPS receiver, Vehicle to Vehicle (V2V) radio transceiver, high accuracy Ranging RF transceiver (ToF), RS-232/485 communications, Digital Input (2) / Output (1), Personal Area Network (PAN) and internal battery.

5.1 EUT (Transmitter) Details

Radio:	Time of Flight, 2.4 GHz nanoPAN 5375 RF Module
Manufacturer:	Nanotron Technologies GmbH
Frequency band:	2400 - 2483.5 MHz
Number of Channels:	1
Operating Frequency:	2437 or 2442 MHz
Nominal Bandwidth:	22 or 80 MHz (*declared by client*)
Modulation:	CSS
Antenna:	Integral PCB antenna
Antenna gain:	2 dBi (max)

5.2 EUT (Host) Details

Test Sample:	CAS-GPS Node
Model Number:	PROD1116-E2
Serial Number:	116320010035
Variant Model:	PROD1116-E2, CAS-GPS Light Vehicle Expandable Node. PROD1116-E2X, CAS-GPS Light Vehicle Expandable Node XTD PROD1116-L2, CAS-GPS Light Vehicle Node PROD1116-L2X, CAS-GPS Light Vehicle Node XTD PROD1116-S2, CAS-GPS Type S Node PROD1116-S2X, CAS-GPS Type S Node XTD PROD1116-P2, CAS-GPS Type P Node PROD1116-P2X, CAS-GPS Type P Node XTD
Supply Rating:	12V/24V DC, 3A/1.5A
Manufacturer:	Digital Mining Technology

5.3 Test Configuration

Testing was performed with the EUT set to transmit continuously with modulation applied. TOF parameter “Power: 100” was set via PT Manager 0.03.121.

5.4 Modifications

No modifications were required to achieve compliance.

5.5 Deviations from the Standard

Note any deviations to the standard

6 RESULTS

6.1 §15.203/ RSS-Gen 6.8 Antenna Requirement

CAS-GPS Node with 2.4 GHz nanoPAN 5375 RF Module incorporates two integral PCB antennas and cannot be replaced by another type.

Antenna Type: PCB Chip
Antenna gain: 2.0 dBi
Connector: Not Applicable

The above installation will prevent any unauthorised 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.

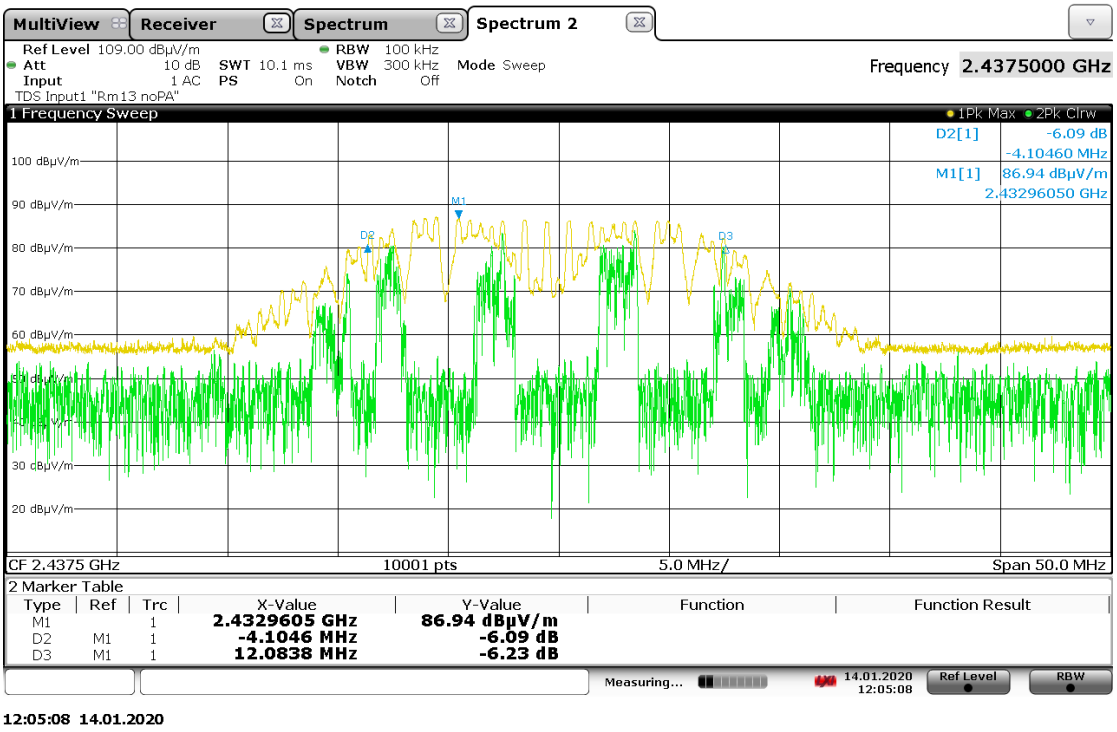
6.5.2 Limits

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

6.5.3 Results

Table 6-1: 6dB Bandwidth

Frequency [MHz]	Nominal Bandwidth	6 dB Bandwidth [kHz]	Limit [kHz]
2437	22 MHz	**16187**	>= 500
2442	80 MHz	**53184**	>= 500



Graph 6-1: 6 dB bandwidth, 22 MHz Bandwidth

Graph 6-2: 6 dB bandwidth, 80 MHz Bandwidth

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

6.6.1 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 11.9.2.2.4.

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.

6.6.2 Limits

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

6.6.3 Results

Table 6-2: Duty Cycle

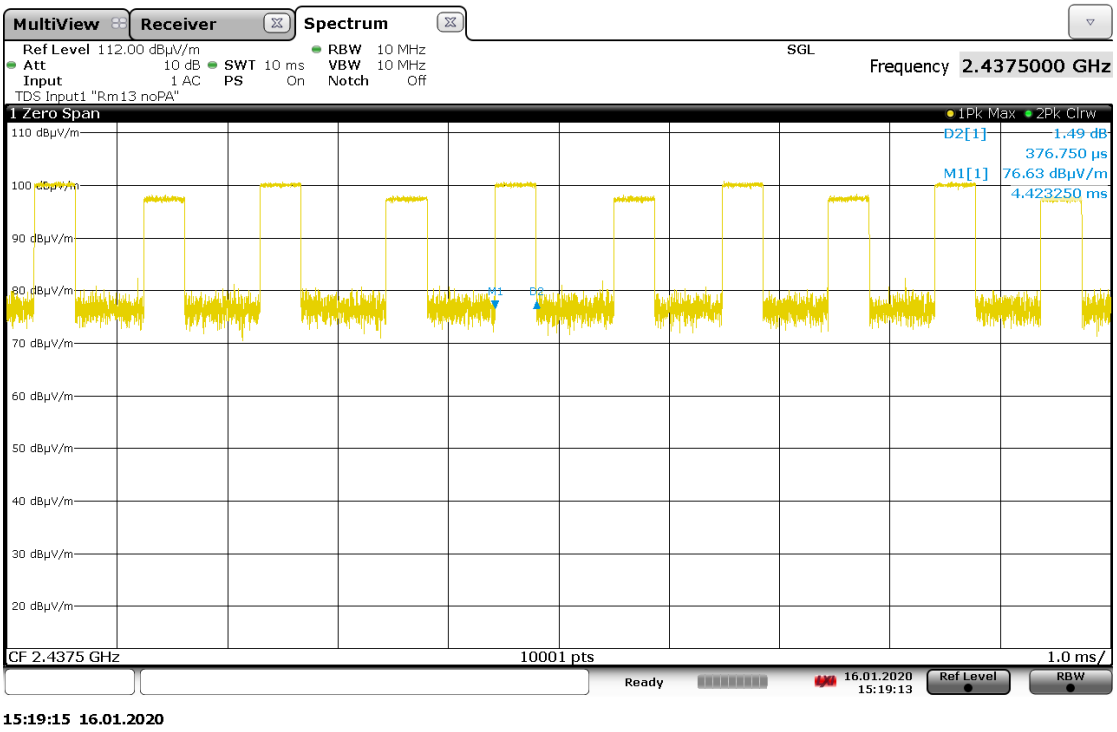
Frequency [MHz]	Nominal Bandwidth	Single Pulse Time [ms]	Number of Pulses in 100 ms	Duty Cycle (D)	Correction Factor (dB)*
2437	22 MHz	0.37675	98	36.92%	4.327
2442	80 MHz	0.37669	103	38.80%	4.112

Note: Correction factor = 10 * log (1/D)

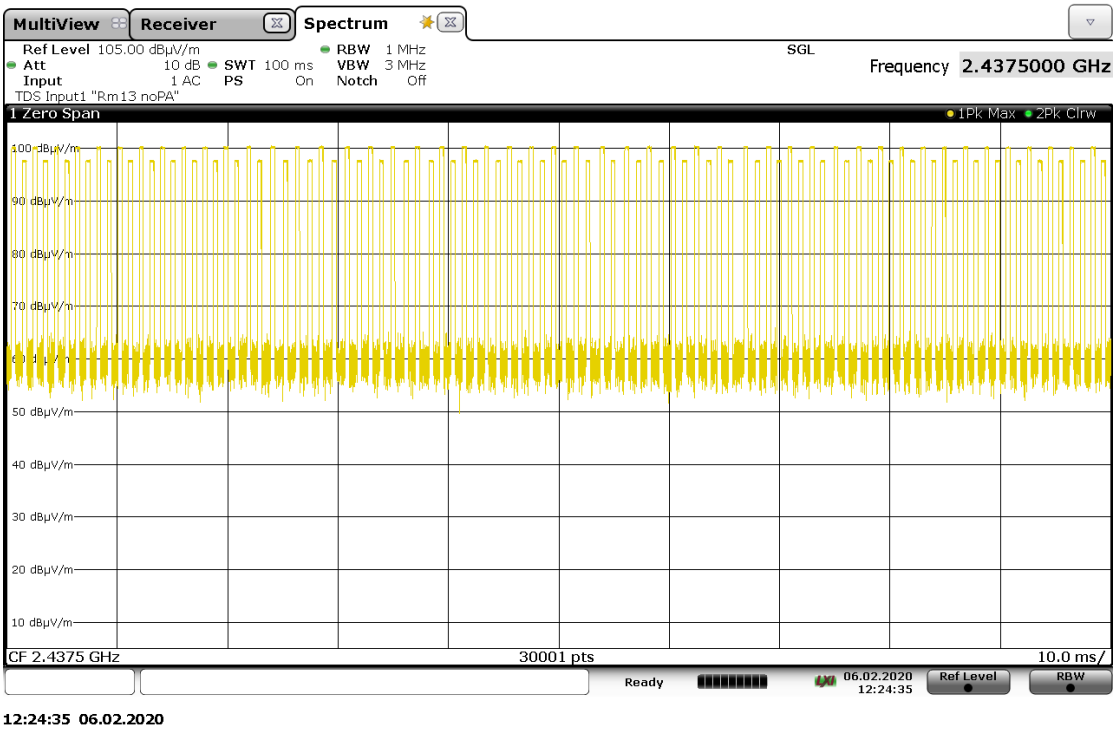
Table 6-3: Maximum peak power

Freq. [MHz]	E-Field @ 3 m		Correction Factor (dB)	EIRP (dBm)	Antenna Gain (dBi)	Equivalent Conducted Output Power (dBm)	Limit (dBm)	Results
	dBuV/m	dBm						
2437	92.95	-2.28	4.327	2.05	2	0.05	30	Complied
2442	93.75	-1.48	4.11	2.63	2	0.63	30	Complied

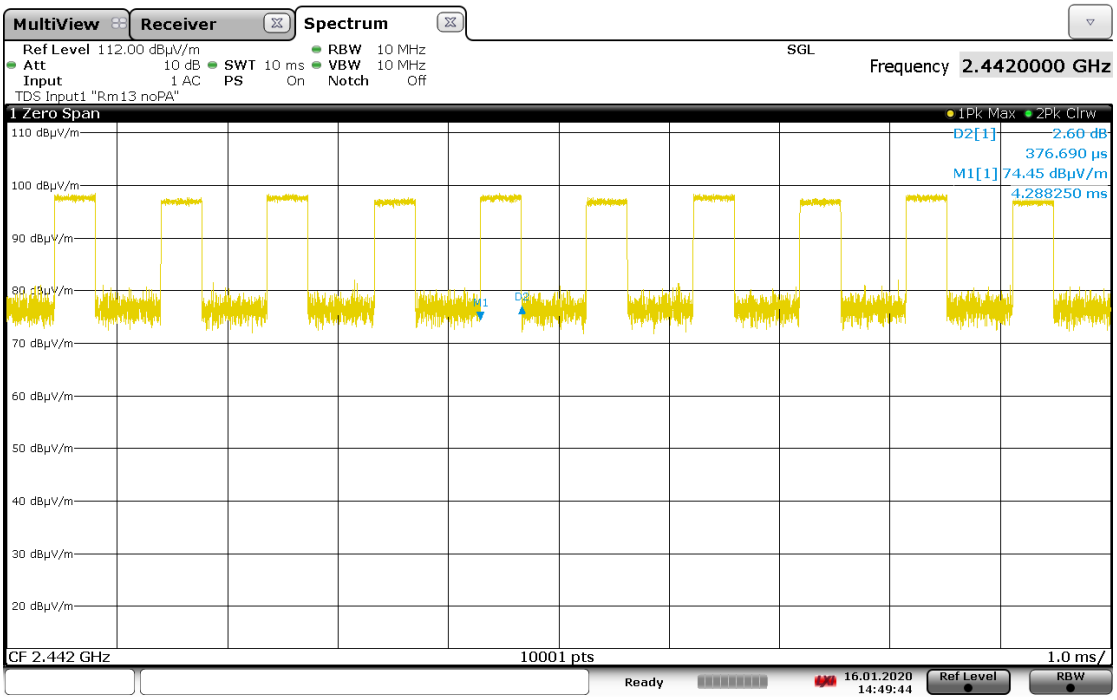
The measured radiated field strength is converted to equivalent conducted output power for checking compliance (KDB 558074 D01 Section 3).



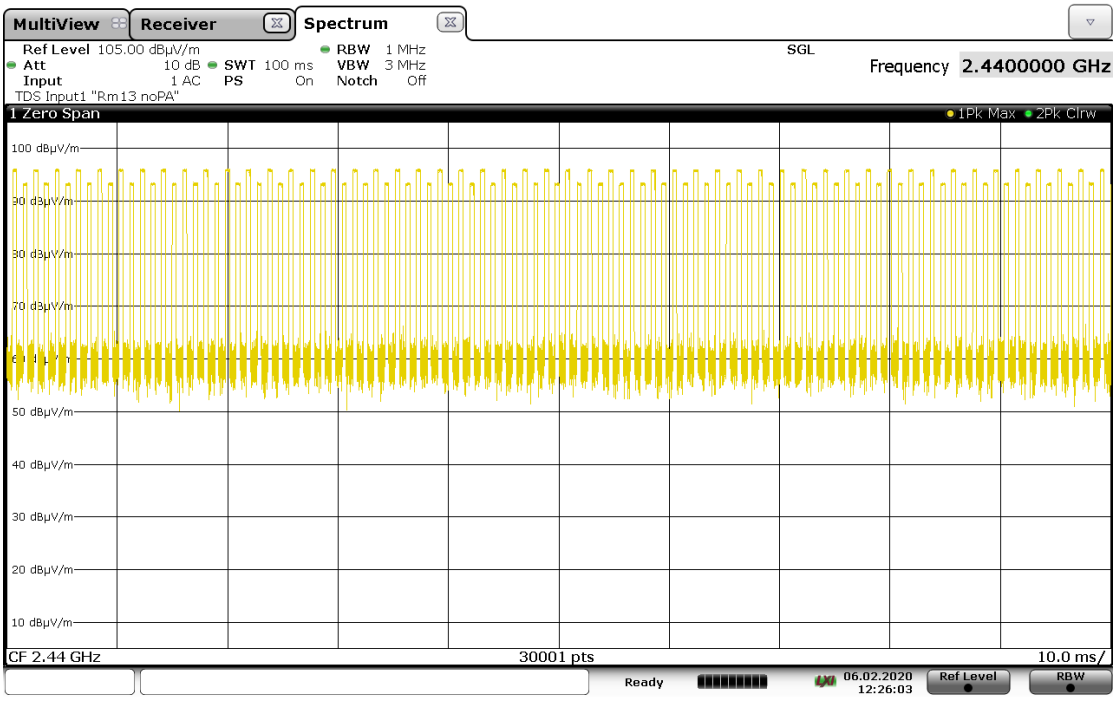
Graph 6-3: Single Pulse, 22 MHz Bandwidth



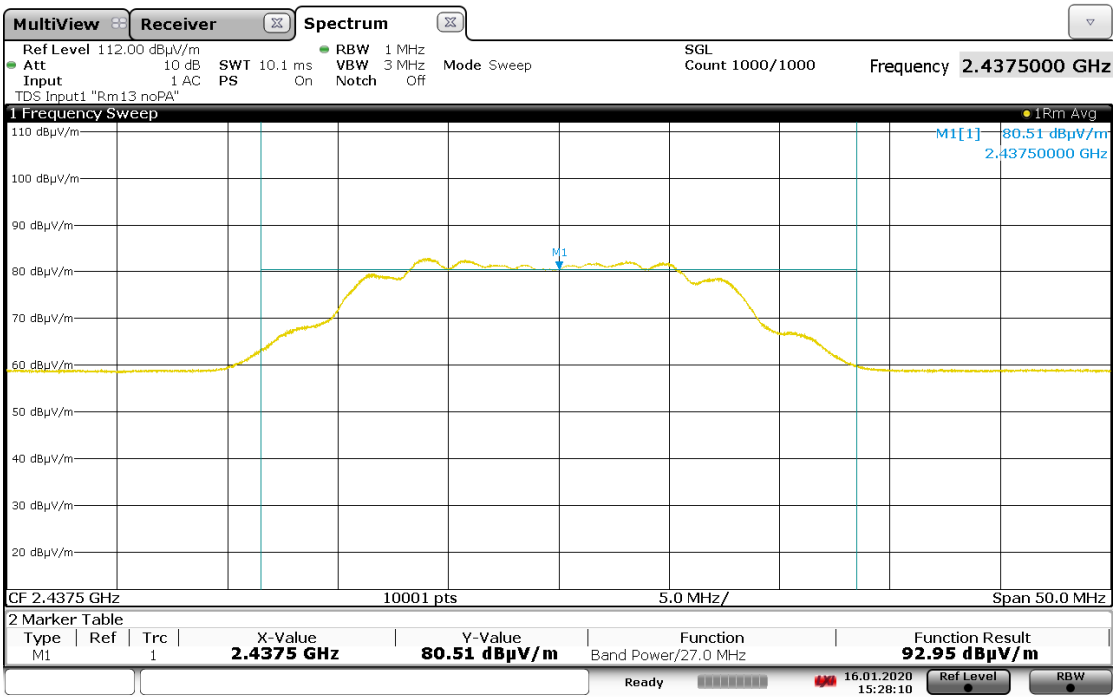
Graph 6-4: Number of Pulses, 22 MHz Bandwidth



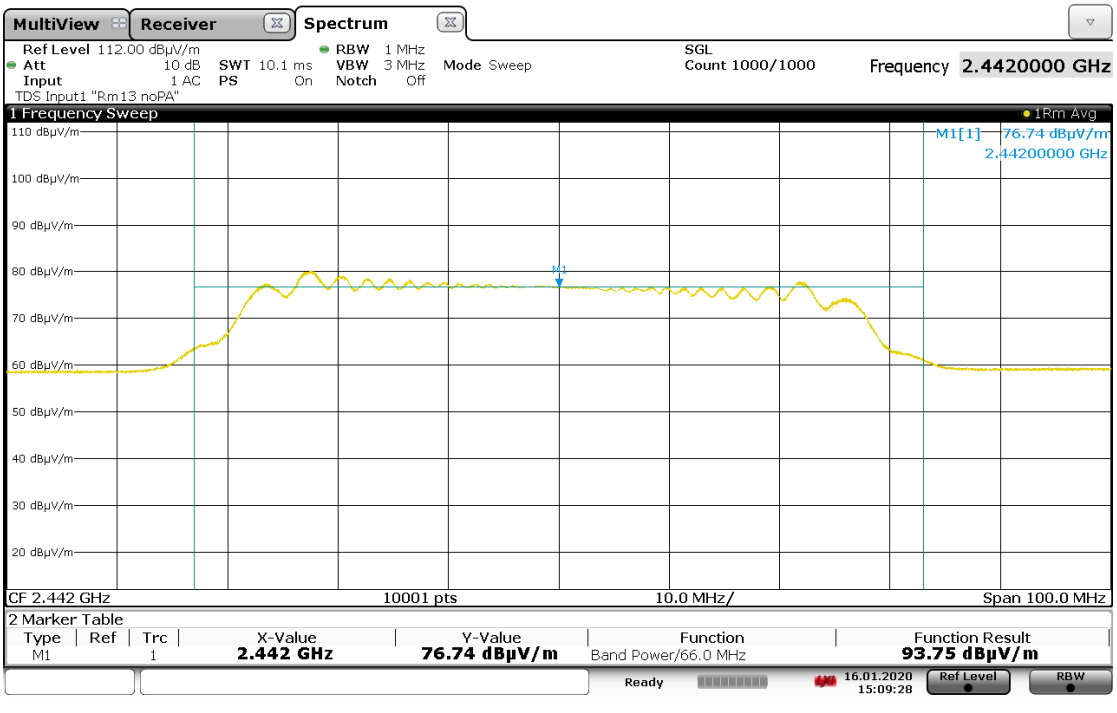
Graph 6-5: Single Pulse, 80 MHz Bandwidth



Graph 6-6: Number of Pulses, 80 MHz Bandwidth



Graph 6-7: Max EIRP Power, 22 MHz Bandwidth



Graph 6-8: Max EIRP Power, 80 MHz Bandwidth

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	Biconilog hybrid
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.

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

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 Evaluation of field strength

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

$$\boldsymbol{E = V + AF - G + L}$$

Where: E = Radiated Field Strength in dBµV/m.
V = EMI Receiver Voltage in dBµV/m.
AF = Antenna Factor in dB (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).

6.7.3 Limits

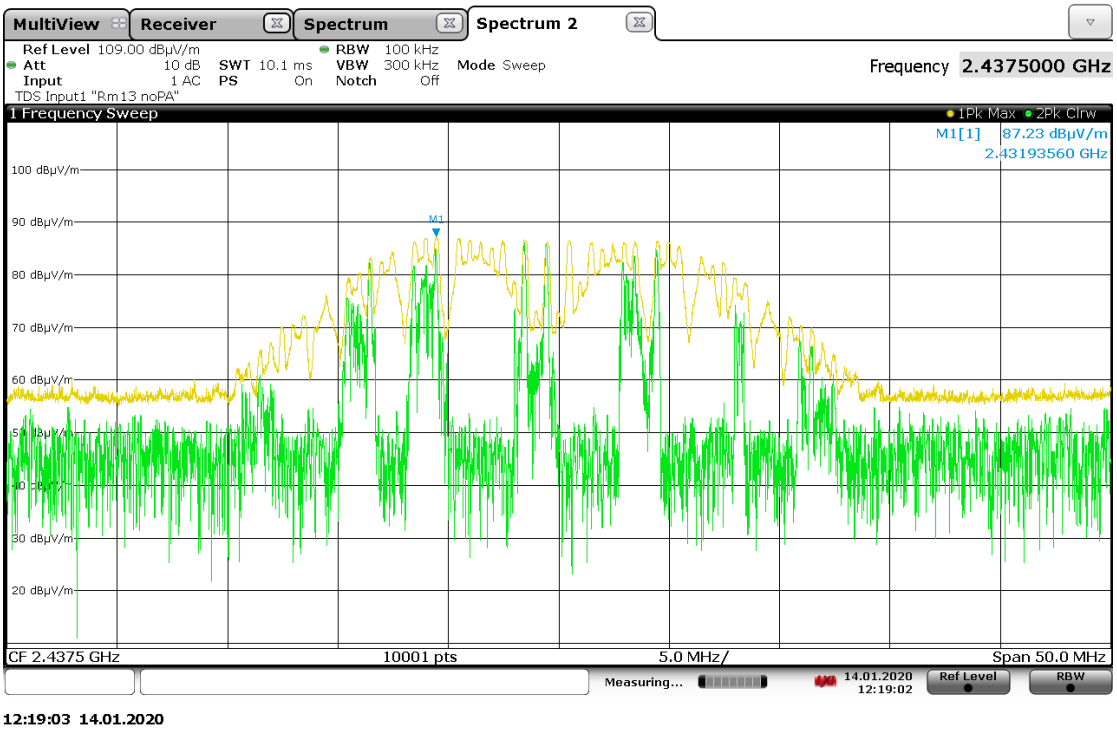
The limit applied is in accordance with the out-of-band/spurious emissions limit defined in §15.247(d).

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.

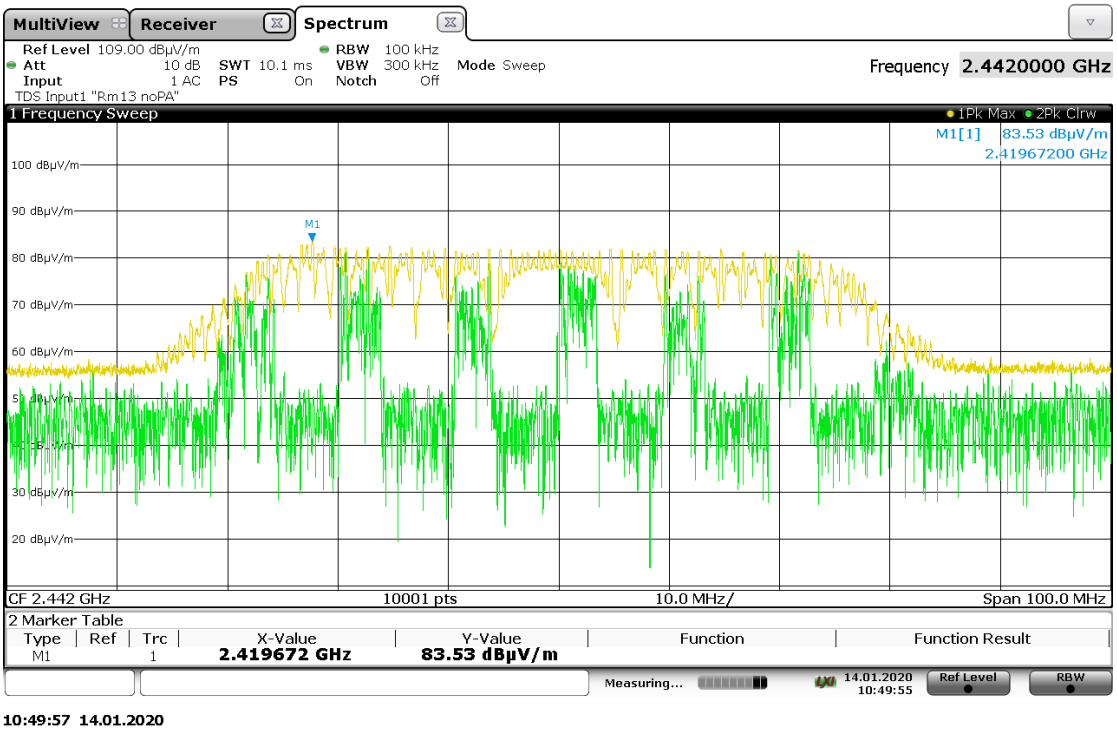
The in-band peak PSD in 100 kHz bandwidth were measured on all three channels. The maximum PSD level was used to establish the limit. However, the general limits of §15.209 apply for the restricted bands of operation defined in §15.205.

Table 6-4: 100 kHz reference level measurement

Freq. (MHz)	Nominal Bandwidth	Peak at 3 m (dBµV/m)	Limit at 3m (dBµV/m)
2437	22 MHz	87.23	67.23
2442	80 MHz	83.53	-



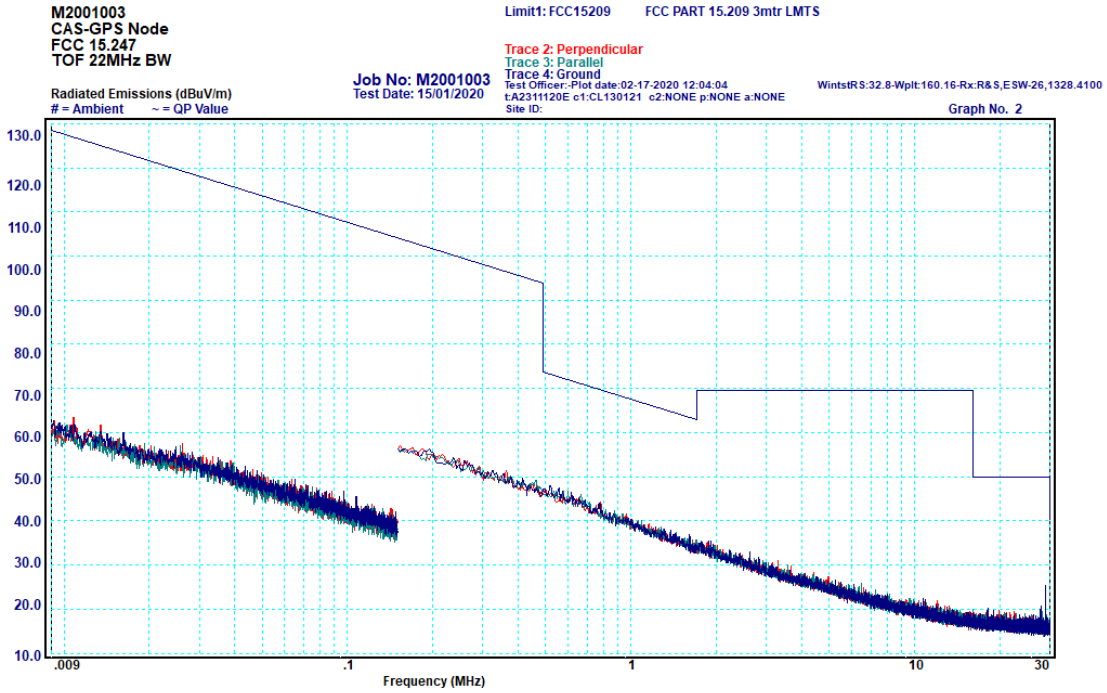
Graph 6-9: 100 kHz bandwidth reference level, 22 MHz Bandwidth



Graph 6-10: 100 kHz bandwidth reference level, 80 MHz Bandwidth

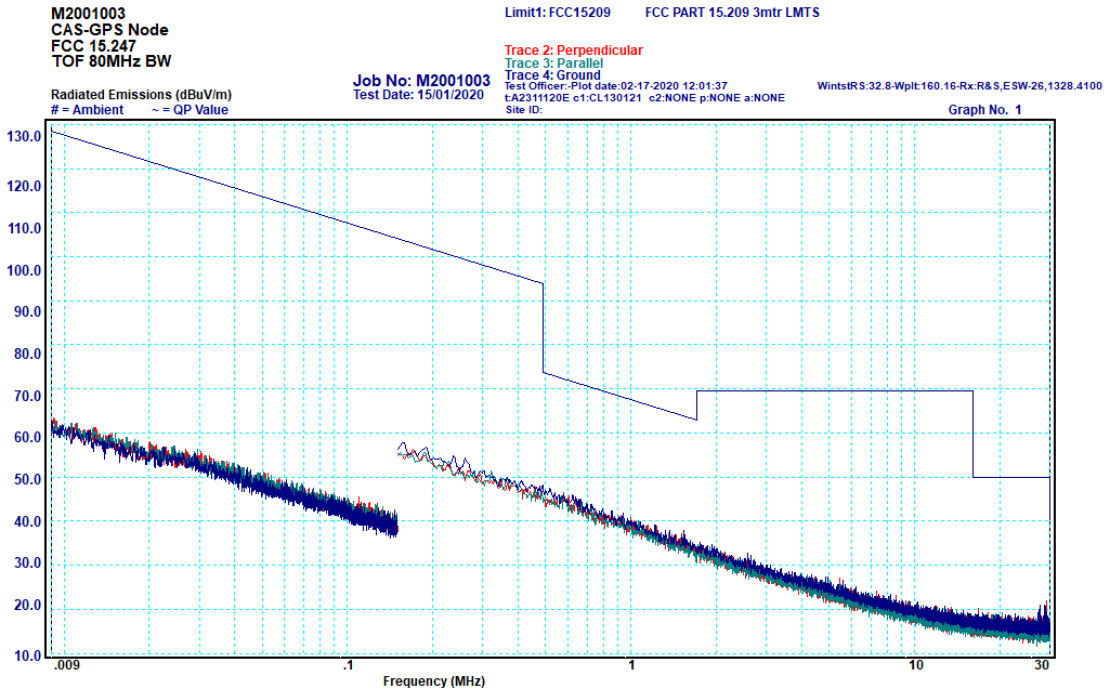
6.7.4 Transmitter Spurious Emissions: 9 kHz to 30 MHz

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



Graph 6-11: Transmitter Spurious Emissions, 9kHz – 30 MHz, 22 MHz Bandwidth

No peaks were measured within 10 dB of the limit.

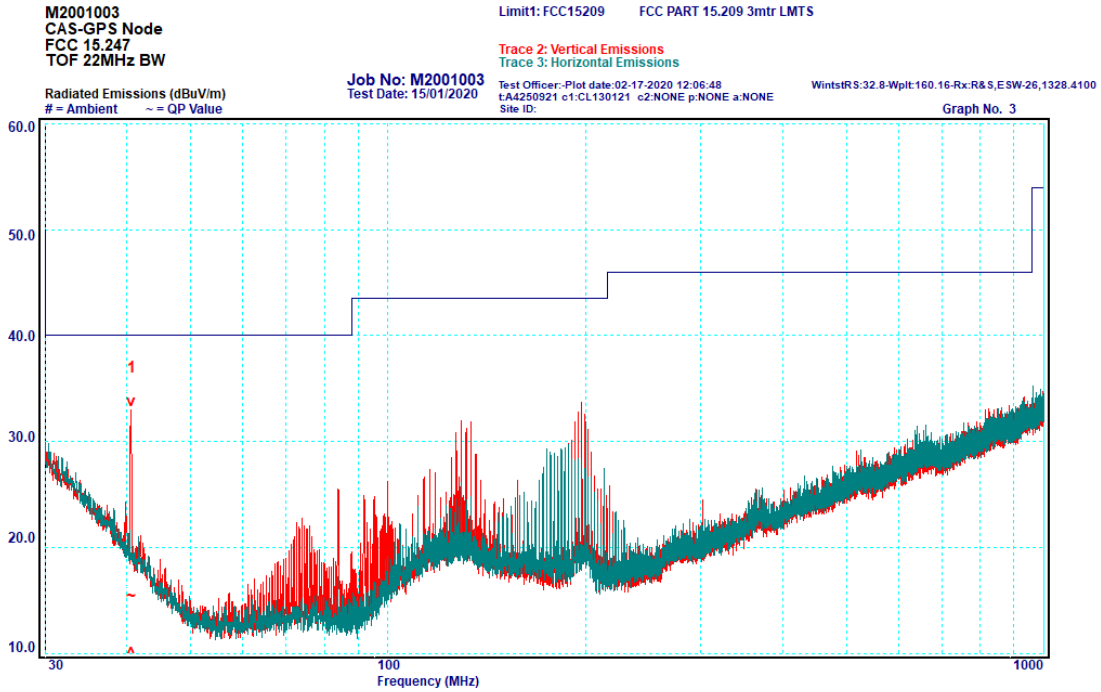


Graph 6-12: Transmitter Spurious Emissions, 9kHz – 30 MHz, 80 MHz Bandwidth

No peaks were measured within 10 dB of the limit.

6.7.5 Transmitter Spurious Emissions: 30 - 1000 MHz

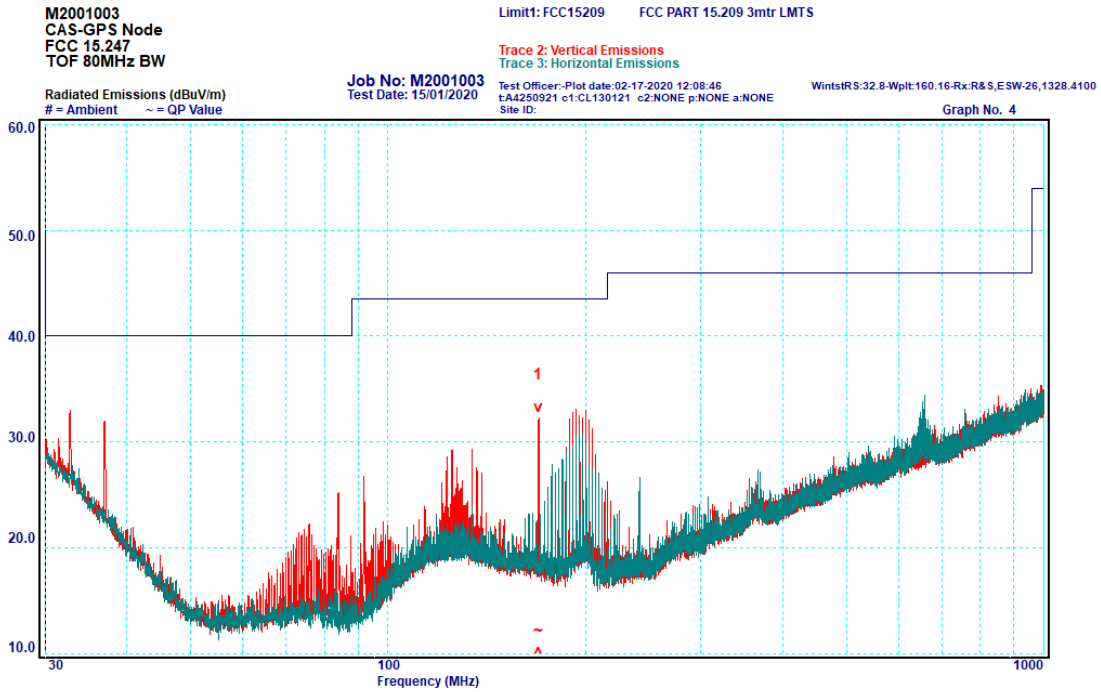
All emissions measured in the frequency band 30 – 1000 MHz complied with the requirements of the standard.



Graph 6-13: Transmitter Spurious Emissions, 30 – 1000 MHz, 22 MHz Bandwidth

Table 6-5: Transmitter Spurious Emissions, 30 – 1000 MHz, 22 MHz Bandwidth

Peak	Frequency [MHz]	Polarisation	Quasi Peak		
			Level [dBµV/m]	Limit [dBµV/m]	Margin [dB]
1	40.69	Vertical	15.4	40.0	-24.6



Graph 6-14: Transmitter Spurious Emissions, 30 – 1000 MHz, 80 MHz Bandwidth

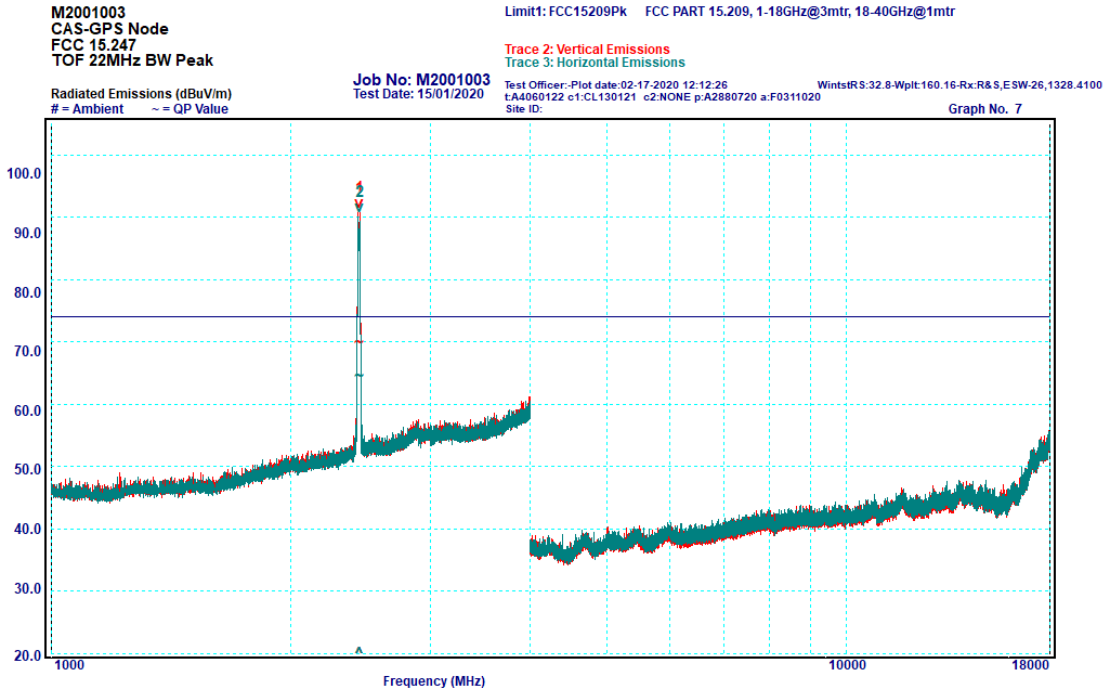
Table 6-6: Transmitter Spurious Emissions, 30 – 1000 MHz, 80 MHz Bandwidth

Peak	Frequency [MHz]	Polarisation	Quasi Peak		
			Level [dBµV/m]	Limit [dBµV/m]	Margin [dB]
1	169.55	Vertical	12.1	43.5	-31.4

6.7.6 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:

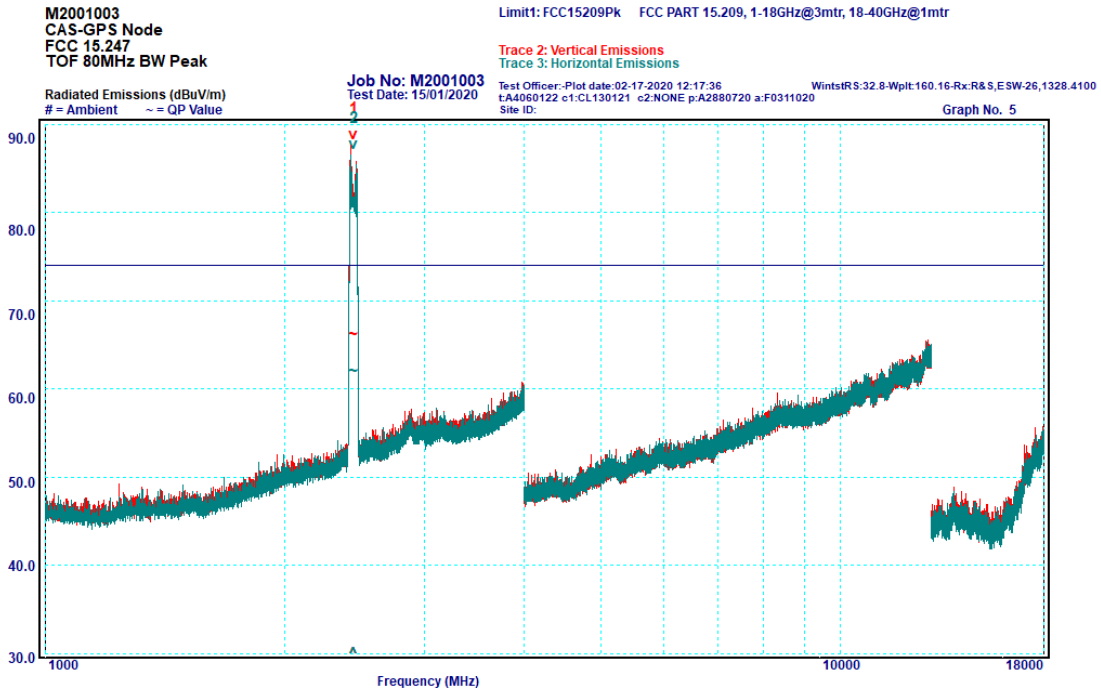


Graph 6-15: Transmitter Spurious Emissions, 1 – 18 GHz, 22 MHz Bandwidth, Peak

Table 6-7: Transmitter Spurious Emissions, 1 – 18 GHz, 22 MHz Bandwidth, Peak

Peak	Frequency [MHz]	Polarisation	Peak		
			Level [dBµV/m]	Limit [dBµV/m]	Margin [dB]
1*	2437.5	Vertical	N/A	N/A	N/A
2*	2437.5	Horizontal	N/A	N/A	N/A

*Note: Peaks are the fundamental transmission and not subject to the spurious limits of the standard



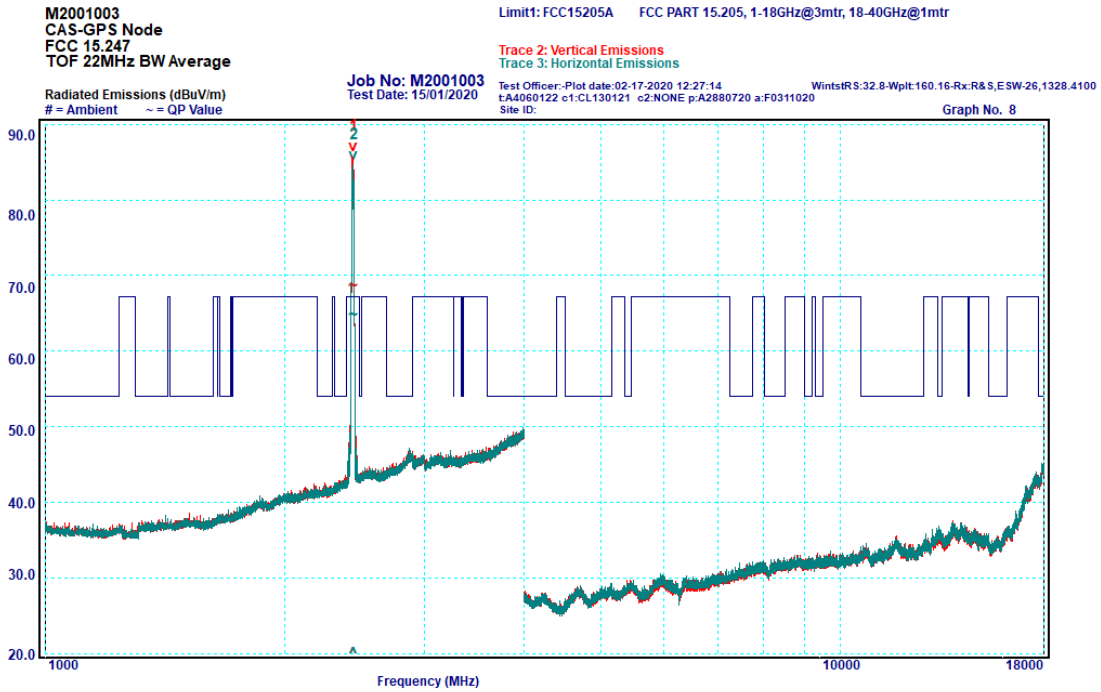
Graph 6-16: Transmitter Spurious Emissions, 1 – 18 GHz, 80 MHz Bandwidth, Peak

Table 6-8: Transmitter Spurious Emissions, 1 – 18 GHz, 80 MHz Bandwidth, Peak

Peak	Frequency [MHz]	Polarisation	Peak		
			Level [dBµV/m]	Limit [dBµV/m]	Margin [dB]
1*	2442	Vertical	N/A	N/A	N/A
2*	2442	Horizontal	N/A	N/A	N/A

*Note: Peaks are the fundamental transmission and not subject to the spurious limits of the standard

Average Measurement:

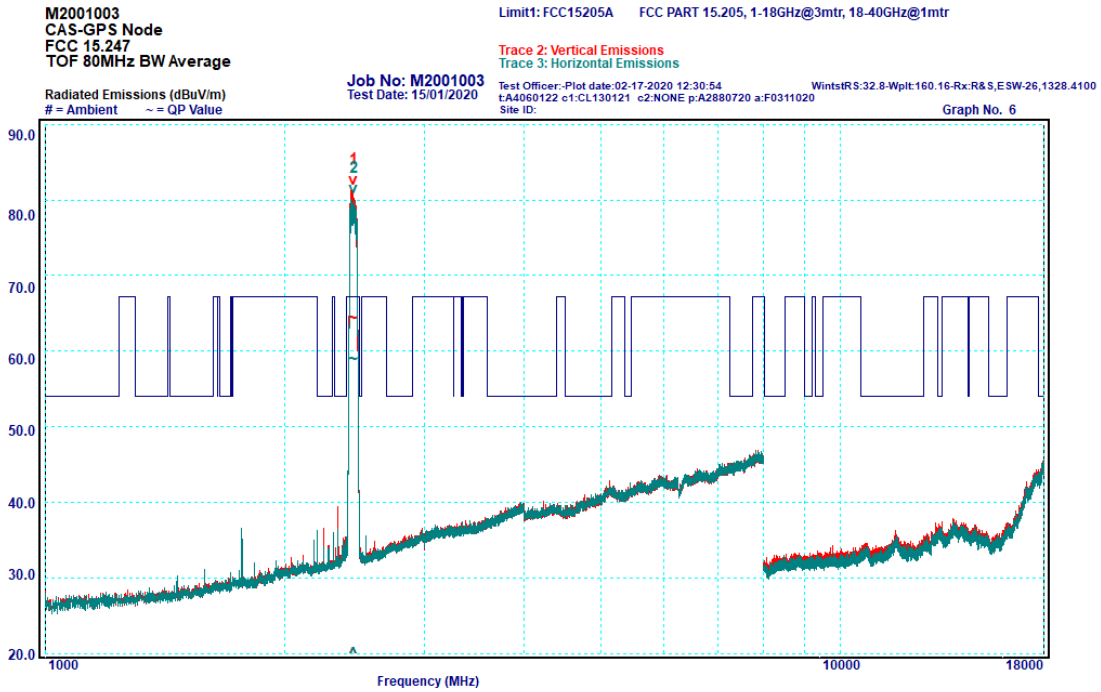


Graph 6-17: Transmitter Spurious Emissions, 1 – 18 GHz, 22 MHz Bandwidth, Average

Table 6-9: Transmitter Spurious Emissions, 1 – 18 GHz, 22 MHz Bandwidth, Average

Peak	Frequency [MHz]	Polarisation	Peak		
			Level [dBµV/m]	Limit [dBµV/m]	Margin [dB]
1*	2437.5	Vertical	N/A	N/A	N/A
2*	2437.5	Horizontal	N/A	N/A	N/A

*Note: Peaks are the fundamental transmission and not subject to the spurious limits of the standard



Graph 6-18: Transmitter Spurious Emissions, 1 – 18 GHz, 80 MHz Bandwidth, Average

Table 6-10: Transmitter Spurious Emissions, 1 – 18 GHz, 80 MHz Bandwidth, Average

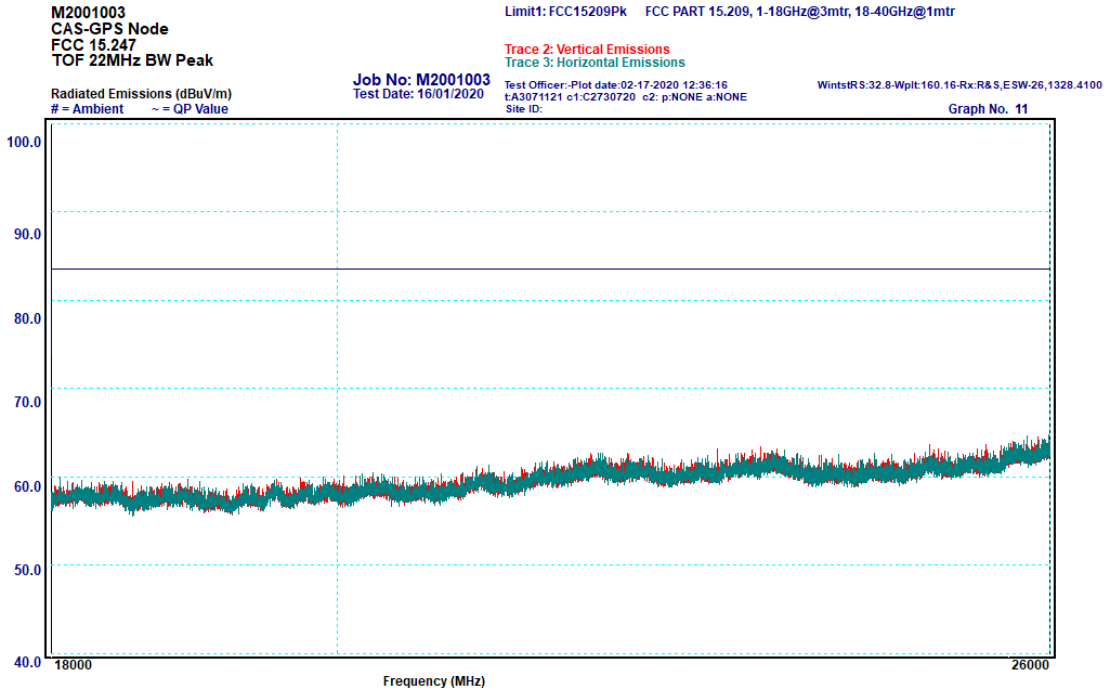
Peak	Frequency [MHz]	Polarisation	Peak		
			Level [dBµV/m]	Limit [dBµV/m]	Margin [dB]
1*	2442	Vertical	N/A	N/A	N/A
2*	2442	Horizontal	N/A	N/A	N/A

*Note: Peaks are the fundamental transmission and not subject to the spurious limits of the standard

6.7.7 Transmitter Spurious Emissions: 18 – 26 GHz

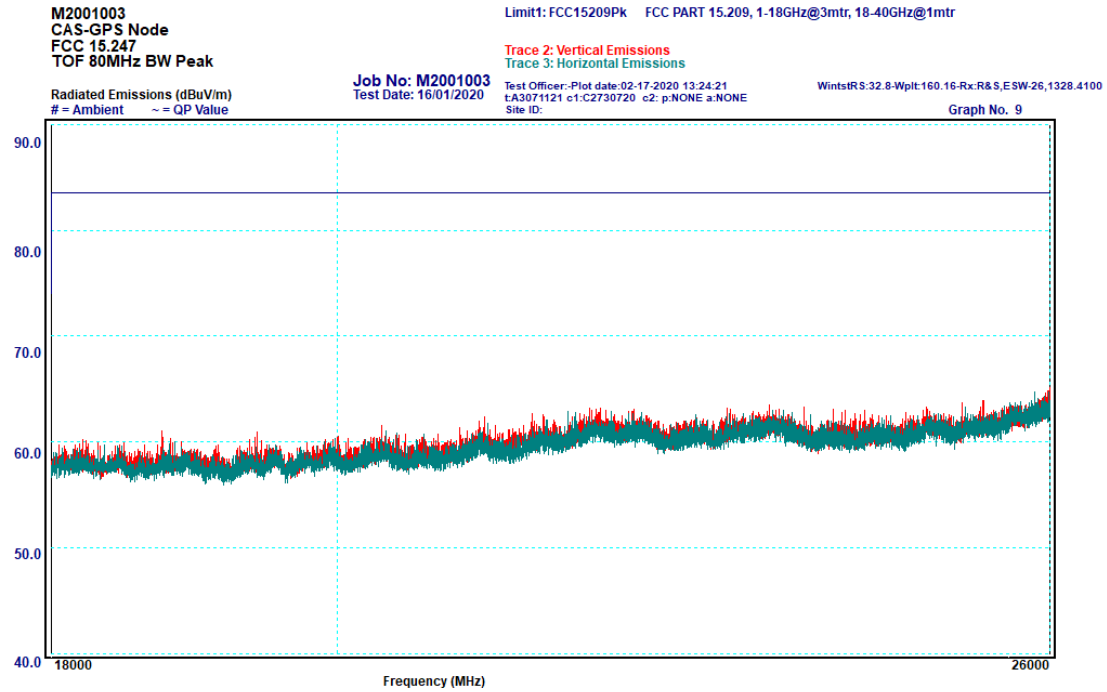
All emissions measured in the frequency band 18 – 26 GHz complied with the requirements of the standard.

Peak Measurement:



Graph 6-19: Transmitter Spurious Emissions, 18 – 26 GHz, 22 MHz Bandwidth, Peak

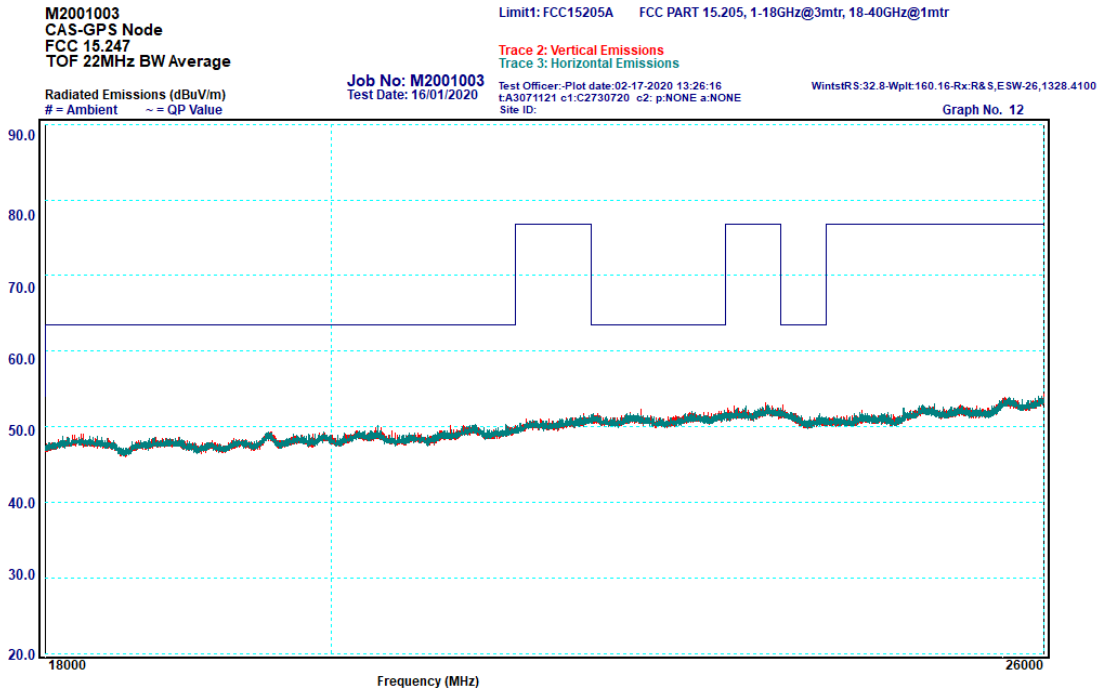
No peaks were measured within 10 dB of the limit.



Graph 6-20: Transmitter Spurious Emissions, 18 – 26 GHz, 80 MHz Bandwidth, Peak

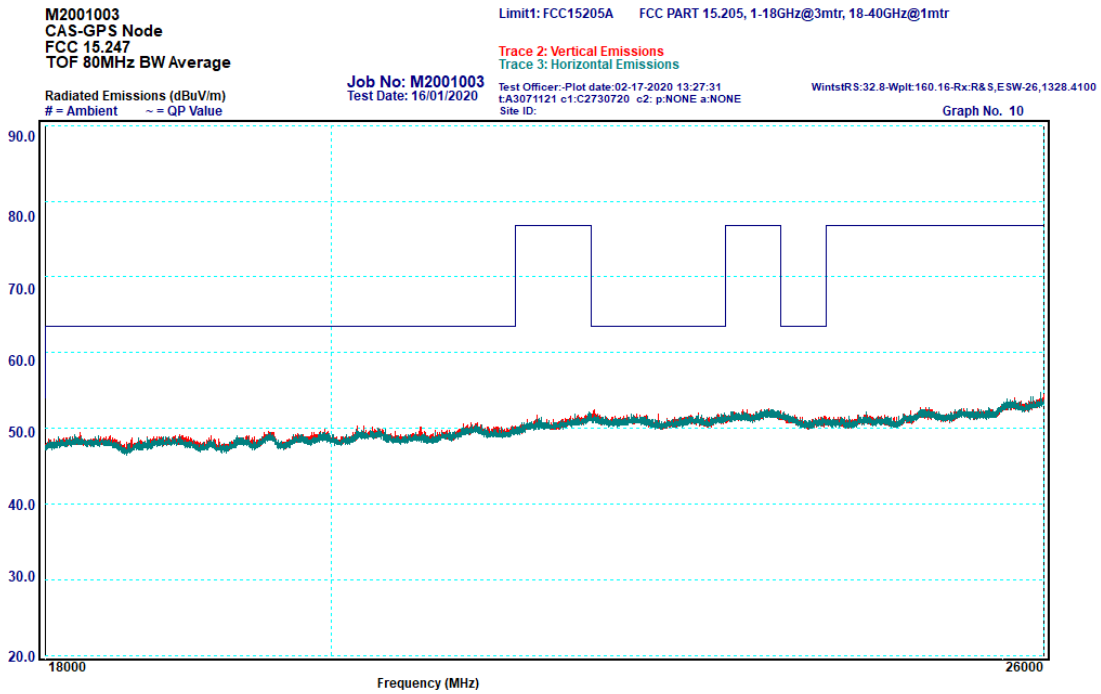
No peaks were measured within 10 dB of the limit.

Average Measurement:



Graph 6-21: Transmitter Spurious Emissions, 18 – 26 GHz, 22 MHz Bandwidth, Average

No peaks were measured within 10 dB of the limit.



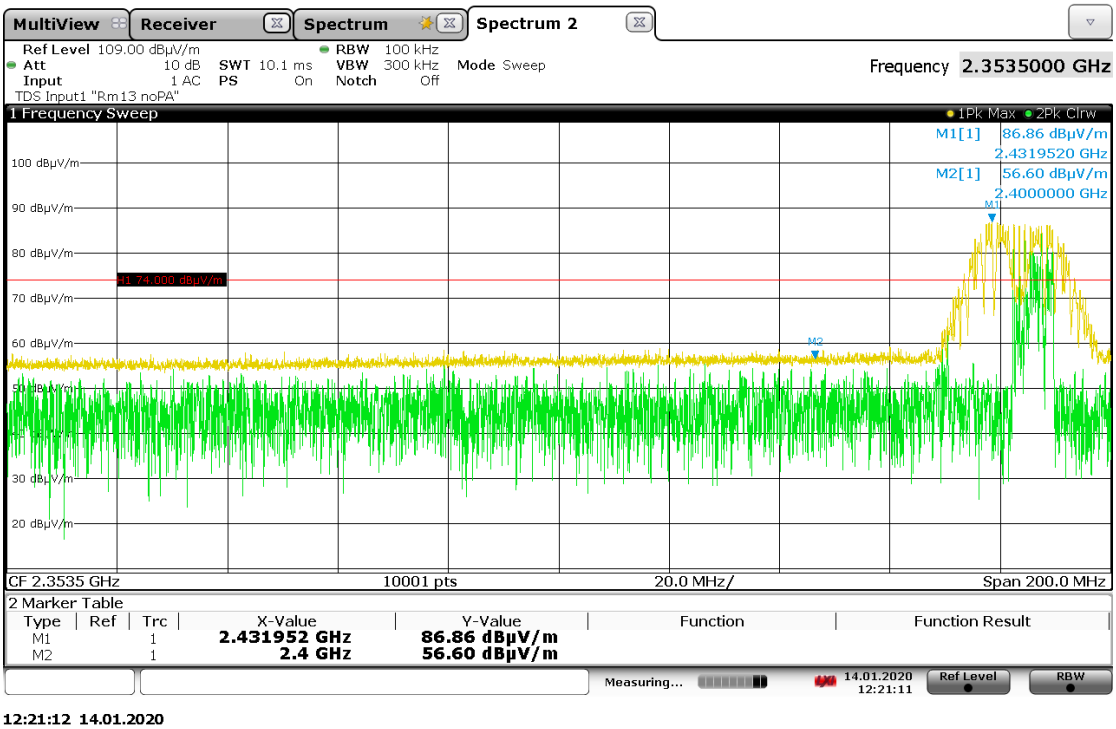
Graph 6-22: Transmitter Spurious Emissions, 18 – 26 GHz, 80 MHz Bandwidth, Average

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 measurements were done using radiated in accordance to 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.

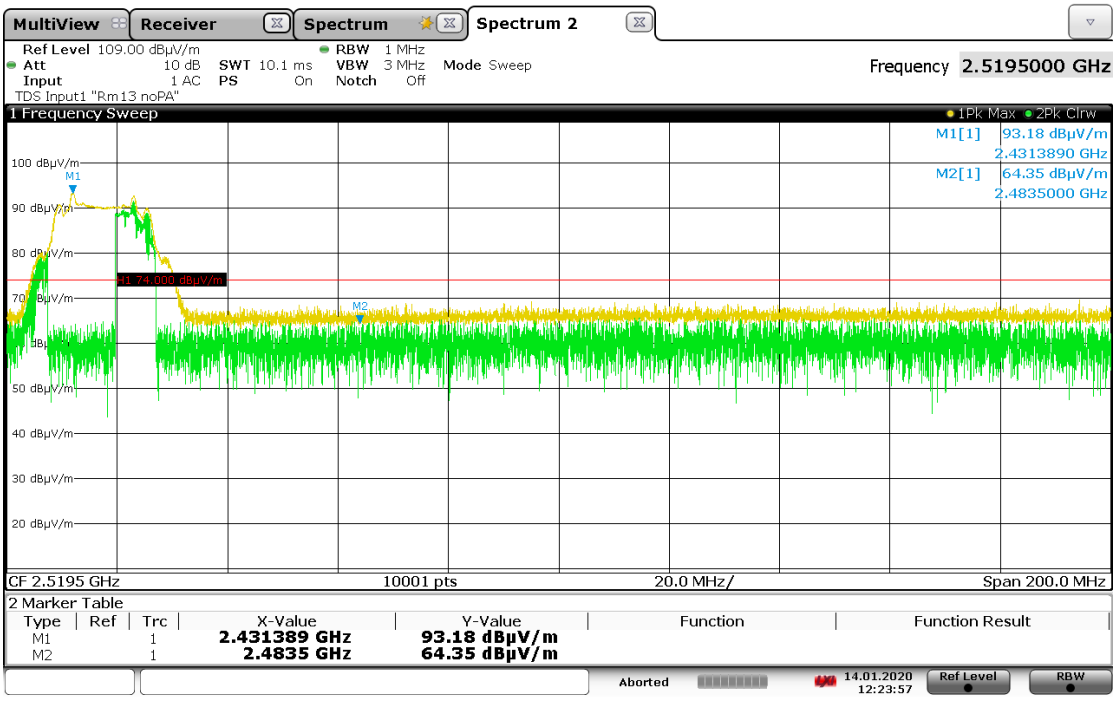
22 MHz Nominal Bandwidth:



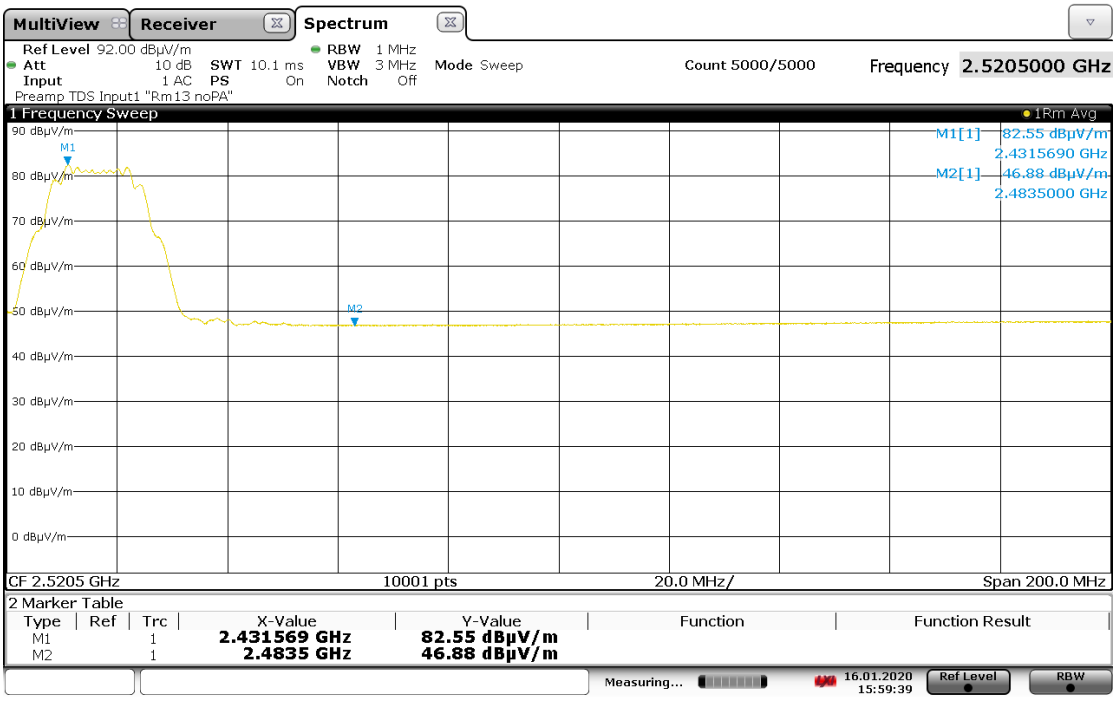
Graph 6-23: 22 MHz Bandwidth, Lower Band-edge, Peak

Table 6-11: 22 MHz Nominal Bandwidth, Lower Band-edge

Measurement Type	Freq [MHz]	Measurement M2 [dBuV/m]	Measurement in-band M1 [dBuV/m]	Delta-Peak in-band [dB]	Result
Peak	2400	56.60	86.86	-30.26	Complied



Graph 6-24: 22 MHz Bandwidth, Upper Band edge, Peak

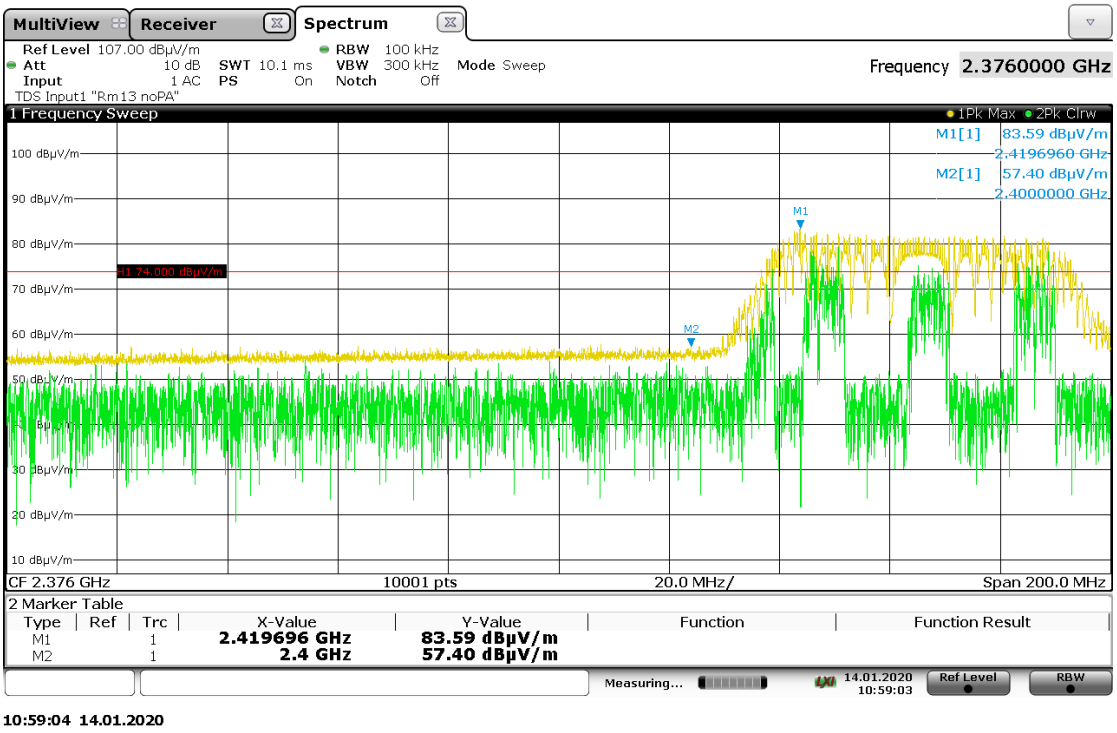


Graph 6-25: 22 MHz Nominal Bandwidth, Upper Band edge, Average

Table 6-12: 22 MHz Nominal Bandwidth, Band edge

Measurement Type	Freq [MHz]	Measurement [dBuV/m]	Limit [dBuV/m]	Result
Peak	2483.5	64.35	74.0	Complied
Average	2483.5	46.88	54.0	Complied

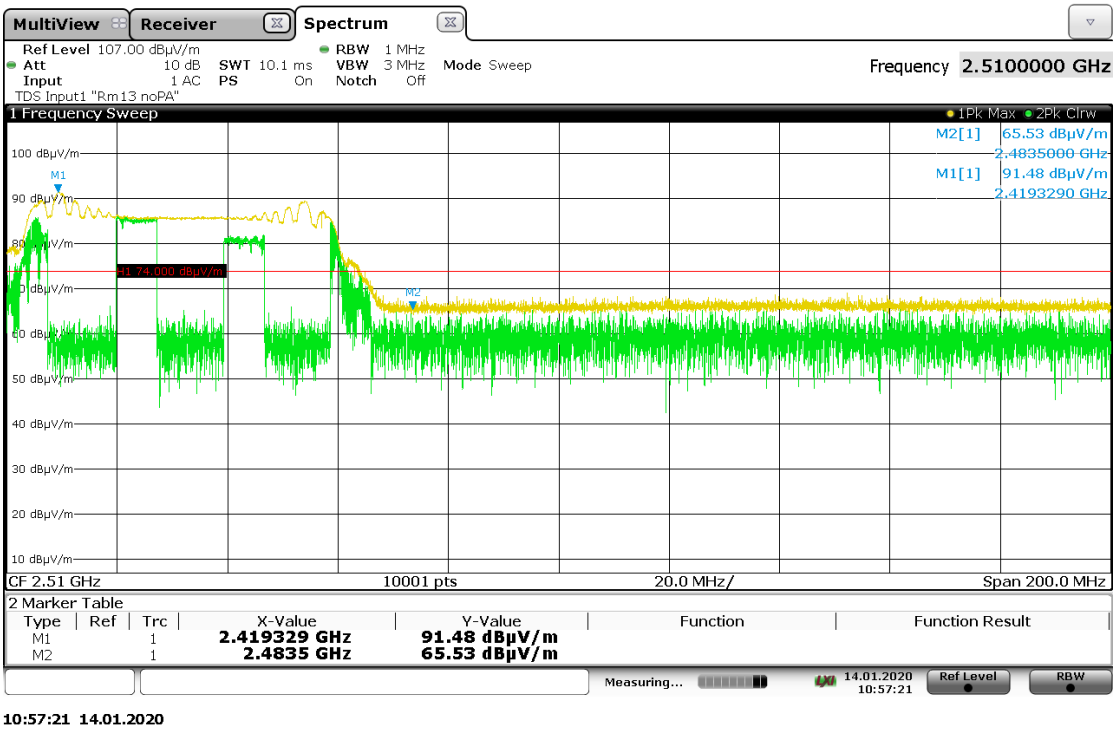
80 MHz Nominal Bandwidth:



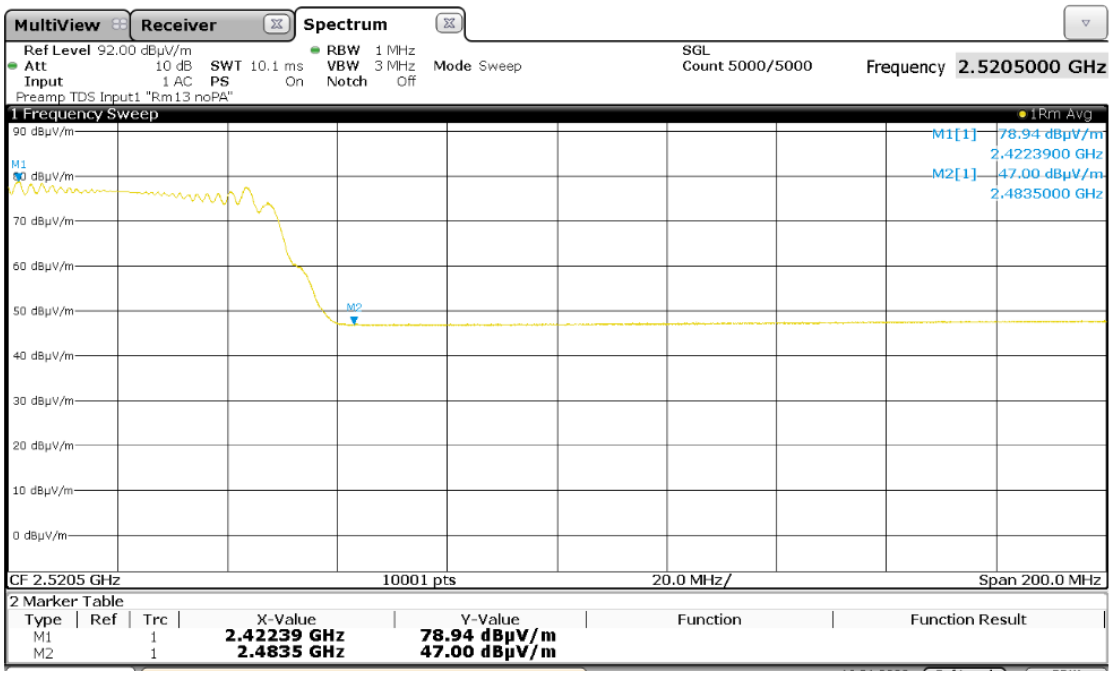
Graph 6-26: 80 MHz Bandwidth, Lower Band-edge, Peak

Table 6-13: 80 MHz Nominal Bandwidth, Lower Band-edge

Measurement Type	Freq [MHz]	Measurement M2 [dBuV/m]	Measurement in-band M1 [dBuV/m]	Delta-Peak in-band [dB]	Result
Peak	2400	57.40	83.59	-26.19	Complied



Graph 6-27: 80 MHz Bandwidth, Upper Band edge, Peak



Graph 6-28: 80 MHz Bandwidth, Upper Band edge, Average

Table 6-14: 80 MHz Bandwidth, Band edge

Measurement Type	Freq [MHz]	Measurement [dBuV/m]	Limit [dBuV/m]	Result
Peak	2483.5	65.53	74.0	Complied
Average	2483.5	47.00	54.0	Complied

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

6.9.1 Test procedure

The tests were performed in accordance with ANSI C63.10: 2013 Clause 11.10 Maximum power spectral density level in the fundamental emissions.

Power spectral density measurements were made at 3 metres. The measurement resolution bandwidth was 3 kHz. The orientation of the EUT and the measurement antenna height and polarisation that produced the highest EIRP was used.

Power spectral density measurements were done at radiated method. The measurement resolution bandwidth was 3 kHz.

6.9.2 Limits

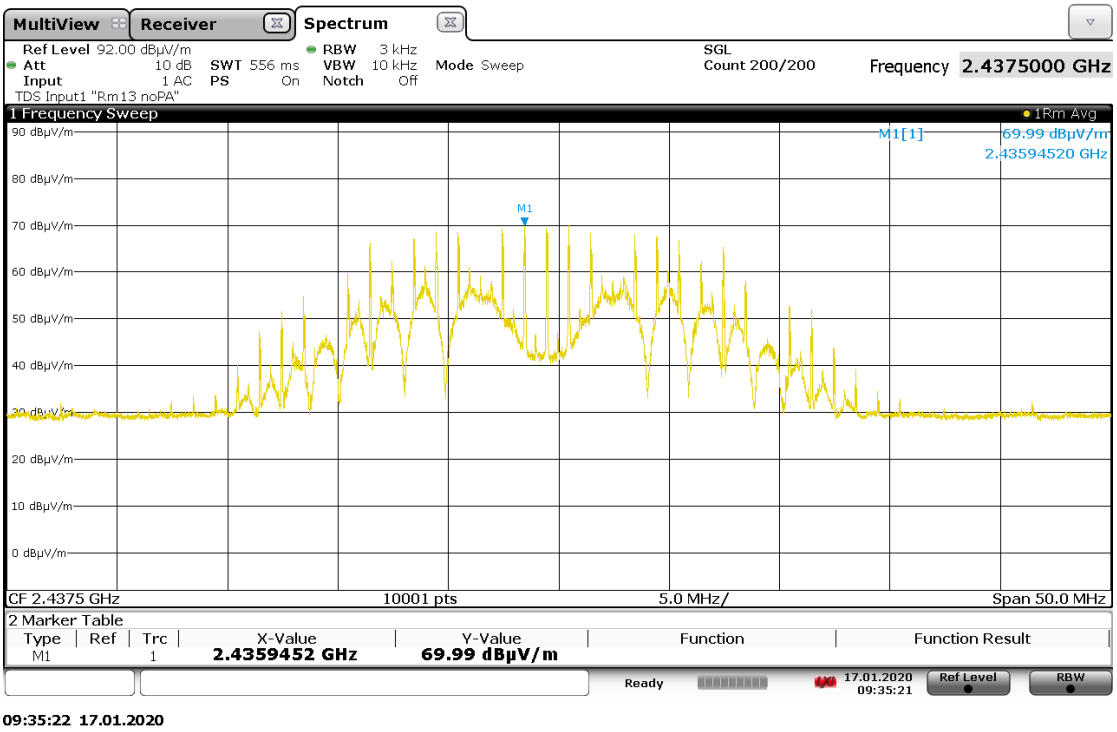
The maximum peak conducted power spectral density (PSD) is 8 dBm per 3 kHz.

6.9.3 Results

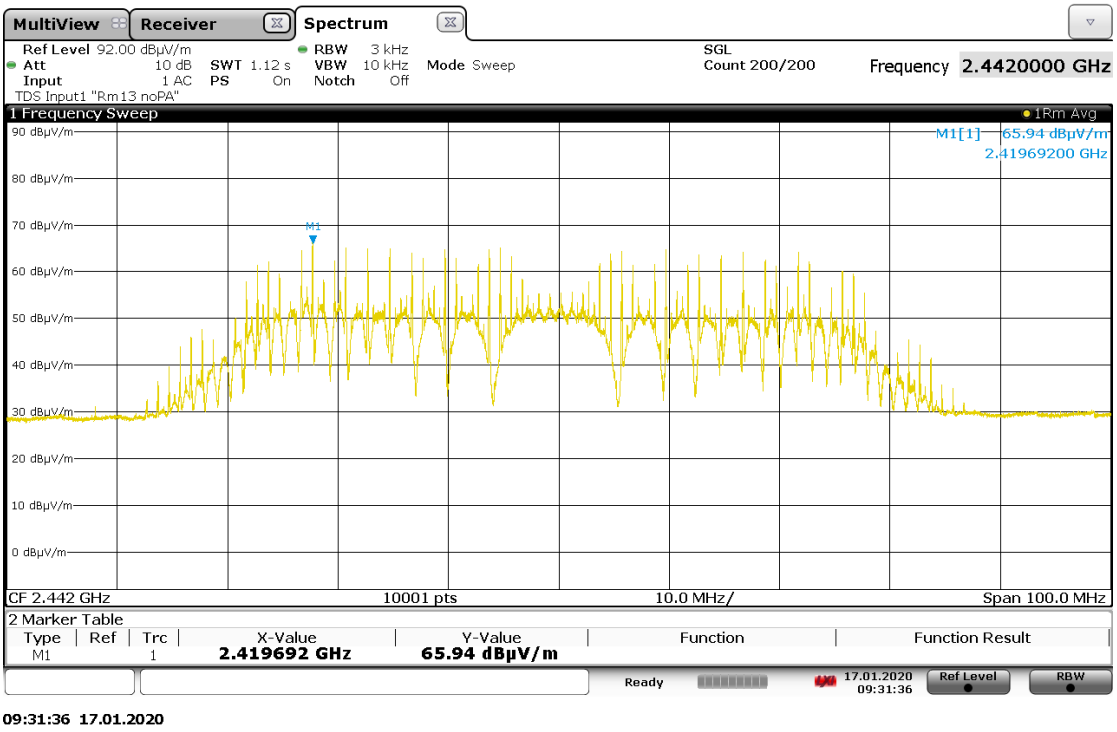
The measured radiated field strength is converted to equivalent conducted output power spectral density for checking compliance (KDB 558074 D01 Section 3).

Table 6-15: Power spectral density

Freq. [MHz]	E-Field@ 3 m		Correction Factor (dB)	EIRP (dBm)	Antenna Gain (dBi)	Equivalent Conducted Output PSD (dBm)	Limit (dBm)	Results
	dBuV/m	dBm						
2437	69.99	-25.24	4.327	-20.91	2	-22.91	8	Complied
2442	65.94	-29.29	4.11	-25.18	2	-27.18	8	Complied



Graph 6-29: Radiated – Power Spectral Density, 22 MHz Bandwidth



Graph 6-30: Radiated – Power Spectral Density, 80 MHz Bandwidth

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 M2001003-4 and M2001003-5

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.

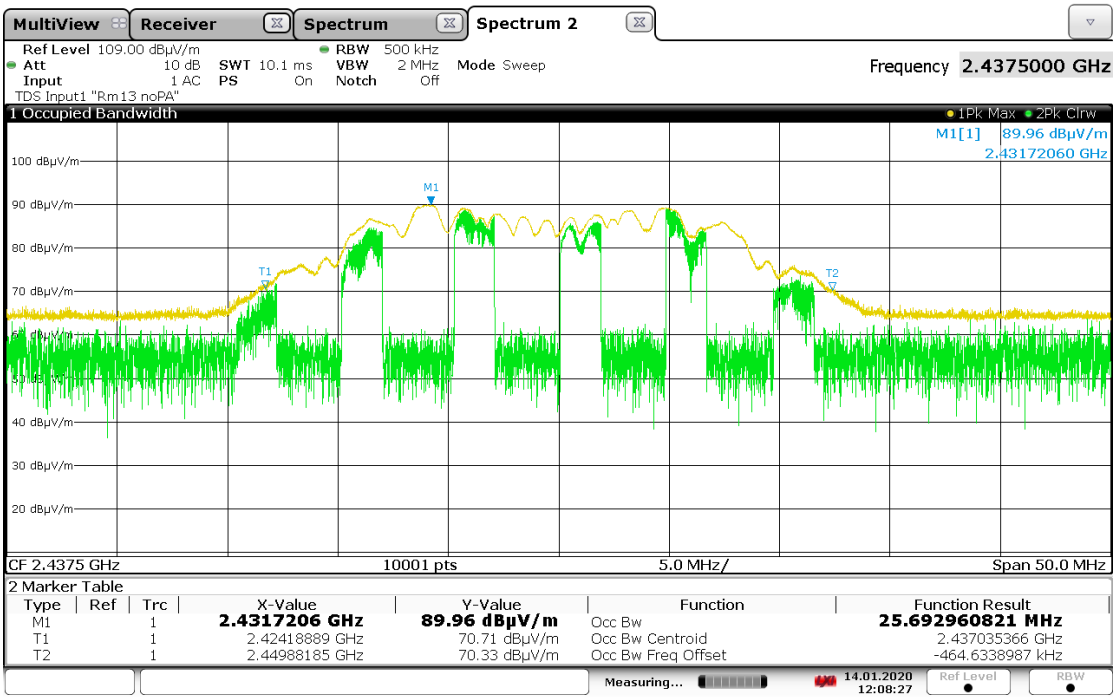
6.11.2 Limits

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

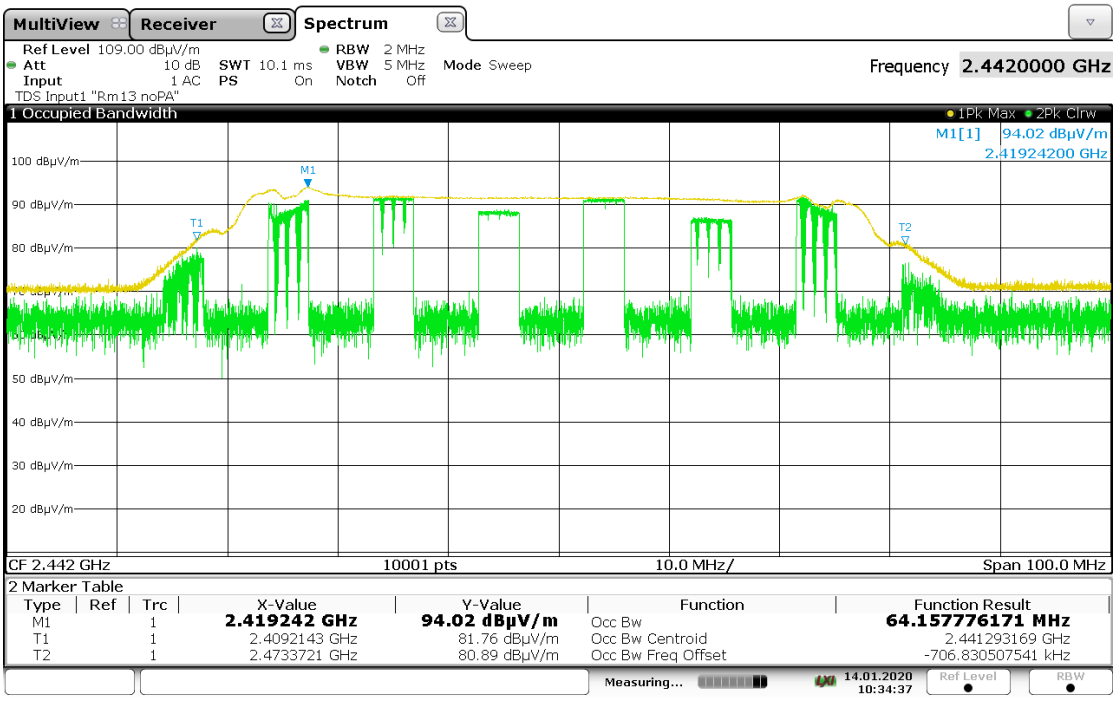
6.11.3 Results

Table 6-16: Occupied Bandwidth

Freq. [MHz]	Nominal Bandwidth	99% Bandwidth [MHz]	Low Frequency [MHz]	High Frequency [MHz]	Result
2437	22 MHz	25.69	2424.19	2449.88	Complied
2442	80 MHz	64.16	2409.21	2473.37	Complied



Graph 6-31: Occupied bandwidth, 22 MHz Bandwidth



Graph 6-32: Occupied bandwidth, 80 MHz Bandwidth

END OF REPORT