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RADIO TEST REPORT

REPORT NUMBER: M2005002-5

TEST STANDARD: FCC PART 15 SUBPART C SECTION 15.247

ISED RSS-247 SECTION 5.0

CLIENT: DEFINIUM TECHNOLOGIES PTY LTD

DEVICE: COOLER GUARDIAN

MODEL: DT1104-0100

FCC ID: 2AW4U-DT1104-0100

IC: 26329-DT11040100

DATE OF ISSUE: 19 NOVEMBER 2020

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REVISION TABLE

Version	Sec/Para Changed	Change Made	Date
1		Initial issue of document	19/11/2020

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GRAPHS

TABLES

CERTIFICATE OF COMPLIANCE

Device:	Cooler Guardian
Model:	DT1104-0100
Manufacturer:	Definium Technologies Pty Ltd
Radio Module:	Semtech SX1262 LoRa Transceiver (FHSS)
FCC ID:	2AW4U-DT1104-0100
IC:	26329-DT11040100
Tested for:	Definium Technologies Pty Ltd
Address:	Unit 6, 16-18 Goodman Court, Invermay Tasmania, 7248
Phone Number:	+61 03 6334 1048
Contact:	Tony Oetterli
Email:	toetterli@definium.net
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 Cooler Guardian complied with the applicable requirements above standards. Refer to Report M2005002-5 for full details.
Test Date(s):	21 & 25 May, 6, 7 & 8 July, 2020
Issue Date:	19 November 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	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	20dB bandwidth	§15.247(a)(1)(i)	§RSS-247 5.1(a)	Complied
6.6	Channel Separation	§15.247(a)(1)	§RSS-247 5.1(b)	Complied
6.7	Number of channels and time of occupancy	§15.247(a)(1)(i)	§RSS-247 5.1(c)	Complied
6.8	Peak Output Power	§15.247(b)(2)	§RSS-247 5.4(a)	Complied
6.9	Out-of-Band/Spurious Emissions	§15.247(d)	§RSS-247 5.5	Complied
6.10	Band-Edge Emission Measurements	§15.247(d)	§RSS-247 5.5	Complied
6.11	Maximum Permissible Exposure	§15.247(i)	§RSS-102	Complied
6.12	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 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^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 ESR7 Sn: 101804 (R-142)	06/08/2019	06/08/2020	1 Year*2
	R&S ESW26 Sn: 101306 (R-143)	05/06/2020	05/06/2021	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)	04/09/2019	04/09/2021	2 Year*2
	EMCO 3115 Horn Antenna Sn: 8908-3282 (A-004)	16/01/2019	16/01/2022	3 Year*1
Cables*3	Huber & Suhner Sucoflex 104A Sn: 503061 (C-463)	03/01/2020	03/01/2021	1 Year*1
	Huber & Suhner Sucoflex 104A Sn: 507099 (C-479)	03/01/2020	03/01/2021	1 Year*1
	Huber & Suhner Sucoflex 104A Sn: 503055 (C-457)	04/06/2020	04/06/2021	1 Year*1
	Huber & Suhner Sucoflex 104A Sn: 800448 (C-520)	04/06/2020	04/06/2021	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:

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 device is Lora IoT temperature and humidity sensor.

5.1 EUT (Transmitter) Details

Radio:	Semtech SX1262 LoRa Transceiver
Manufacturer:	Semtech Corporation
Frequency band:	902 MHz – 928 MHz
Number of Channels:	64
Operating Frequency:	902.3 MHz to 914.9 MHz Low Channel: 902.3 MHz Mid Channel: 908.5 MHz High Channel: 914.9 MHz
Nominal Bandwidth:	125 kHz (*declared by client*)
Modulation:	LoRa* (FHSS)
Data Rate:	980 bits per second
Antenna:	PulseLarsen W3113 PCB Helical Trace
Antenna Peak Gain:	0.8 dBi

*Note: LoRa is Semtech's proprietary spread-spectrum modulation technique derived from existing Chirp Spread Spectrum (CSS) technology.

5.2 EUT (Host) Details

Test Sample:	Cooler Guardian
Model:	DT1104-0100
Serial Number:	000025
Firmware Version:	1.1.0
Supply Rating:	3.6 V DC, 1.0A
Manufacturer:	Definium Technologies Pty Ltd

5.3 Test Configuration

Testing was performed with the transceiver set to transmit continuously at Low channel (902.3MHz), Mid Channel (908.5 MHz) and High Channel (914.9 MHz).

The following commands were used to set up the transceiver via a serial connection software (**Tera Term, Version 4.105**):

"lora 0 10 1"

"mod 902300000 9 0" / "mod 908500000 9 0" / "mod 914900000 9 0"

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/ RSS-Gen 6.8 – Antenna Requirement

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

Antenna Type: PCB Helical Trace
Antenna gain: 0.8 dBi
Connector: Not Applicable

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 6.9

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 6.9.

6.5 §15.247(a)/RSS-247 5.1(a) – 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 6.250 kHz and the video bandwidth of 20 kHz were utilised when measuring the bandwidth.

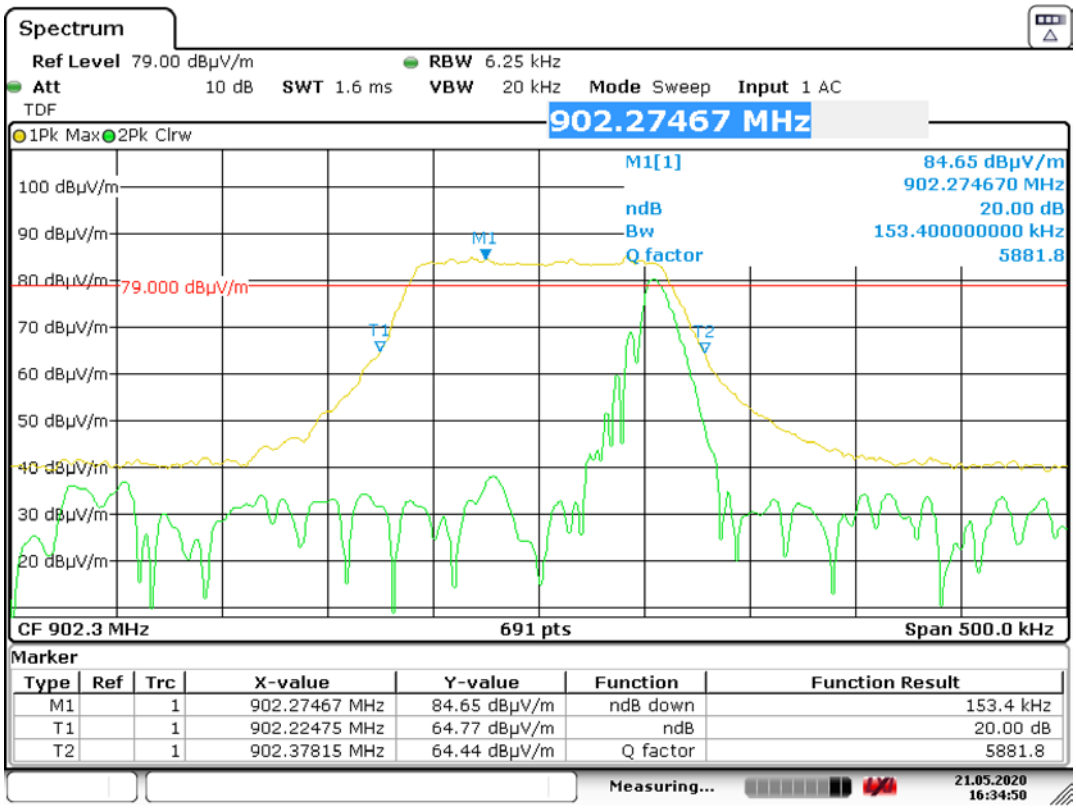
6.5.2 Limits

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

6.5.3 Results

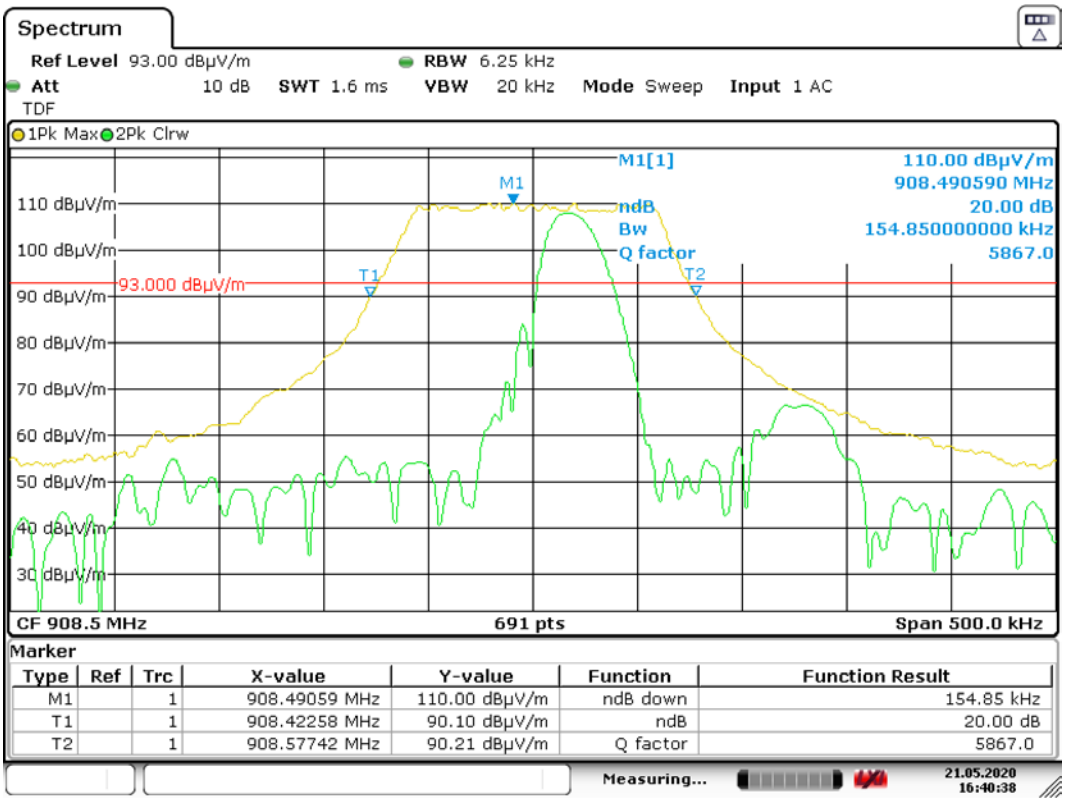
Table 6-1: 20 dB Bandwidth

Frequency [MHz]	20 dB Bandwidth [kHz]
902.3	153.40
908.5	154.85
914.9	152.68



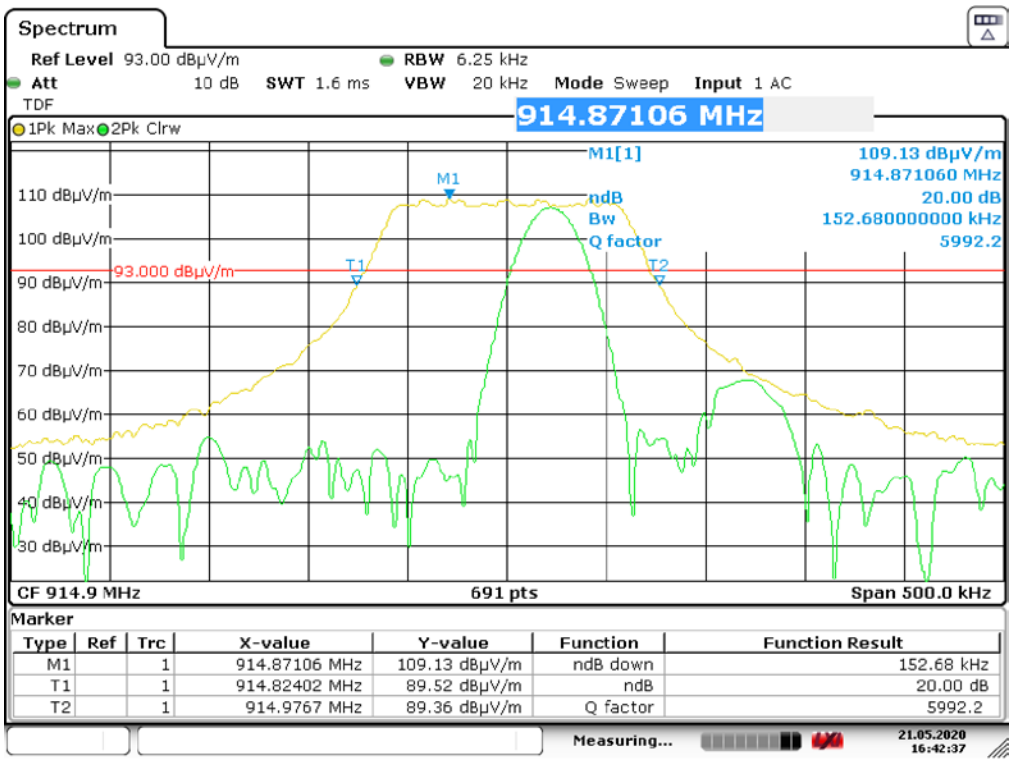
Date: 21.MAY.2020 16:34:50

Graph 6-1: 20 dB bandwidth, 902.3 MHz



Date: 21.MAY.2020 16:40:39

Graph 6-2: 20 dB bandwidth, 908.5 MHz



Graph 6-3: 20 dB bandwidth, 914.9 MHz

6.6 §15.247(a)(1)/§RSS-247 5.1(b) – 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.

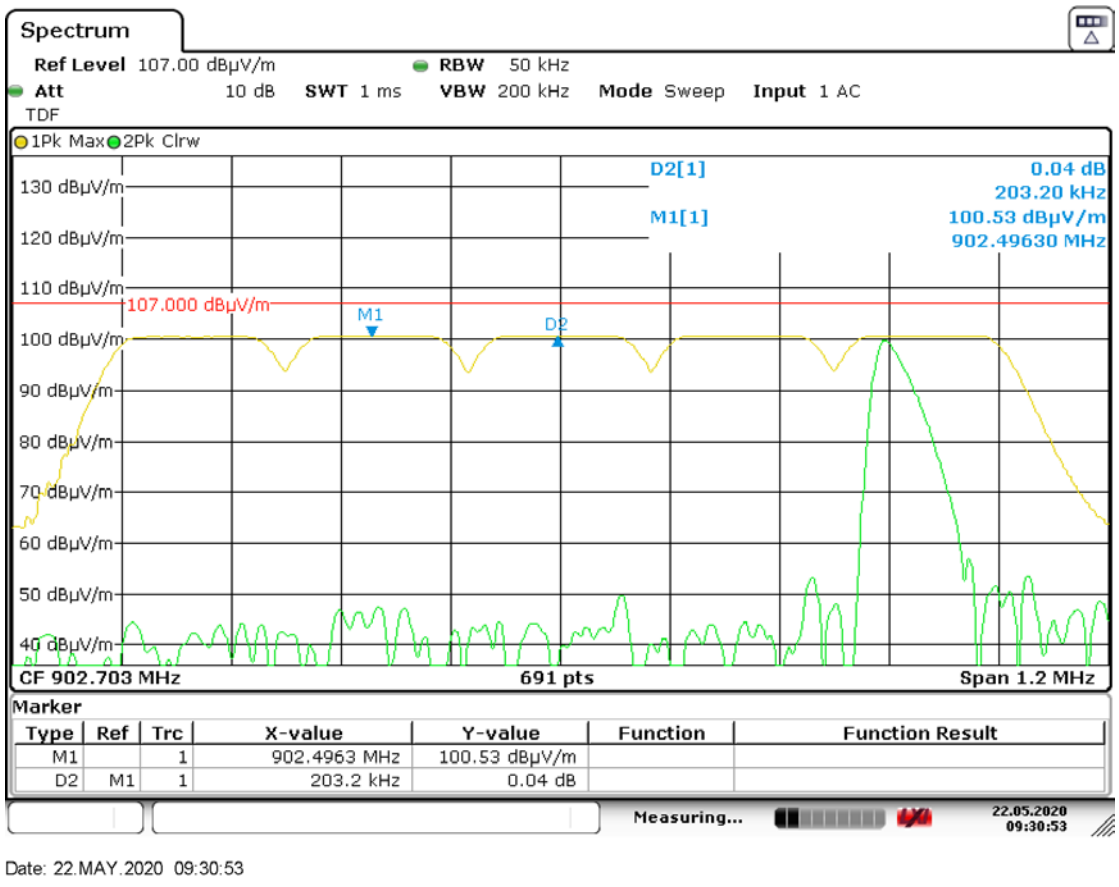
6.6.2 Limits

In the band 902 - 928 MHz, the channel separation must be more than 25 kHz or the 20-dB bandwidth, whichever is greater.

6.6.3 Results

Table 6-2: Channel Separation

Channel Separation [kHz]	Limit [kHz]	Result
203.2	154.85	Complied



Graph 6-4: Channel Separation

6.7 §15.247(a)(1)(i)/§RSS-247 5.1(c) – 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.

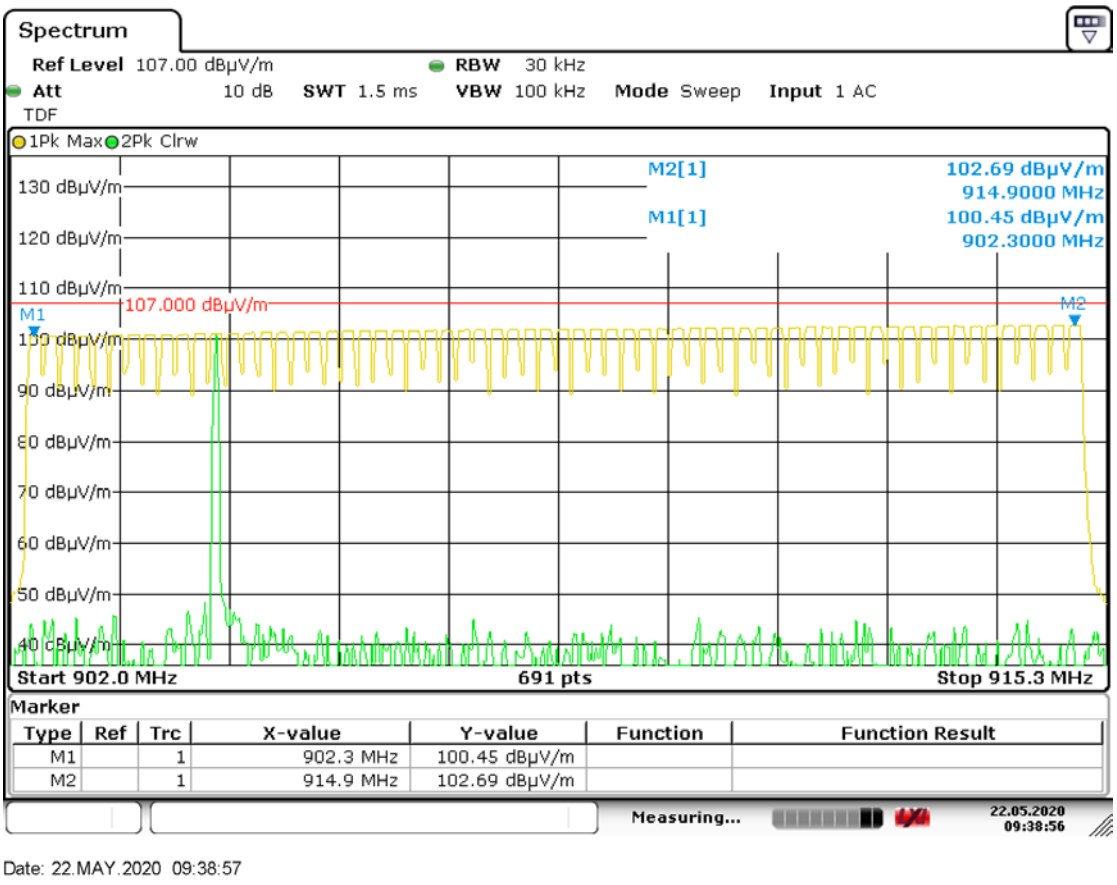
6.7.2 Limits

In the band 902 – 928 MHz, frequency hopping systems operation bands shall use at least 50 hopping frequencies. The average time of occupancy on any channel shall not be greater than 0.4 seconds within a period of 20 seconds.

6.7.3 Results

Table 6-3: Number of Channels

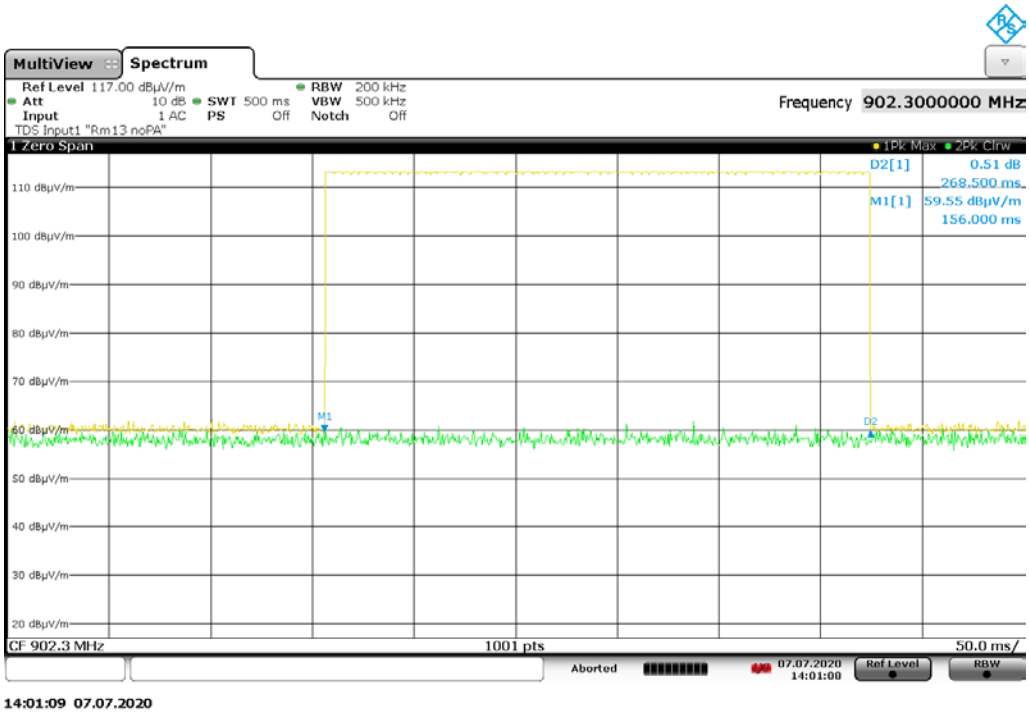
Number of Channels	Limit	Result
64	≥50	Complied



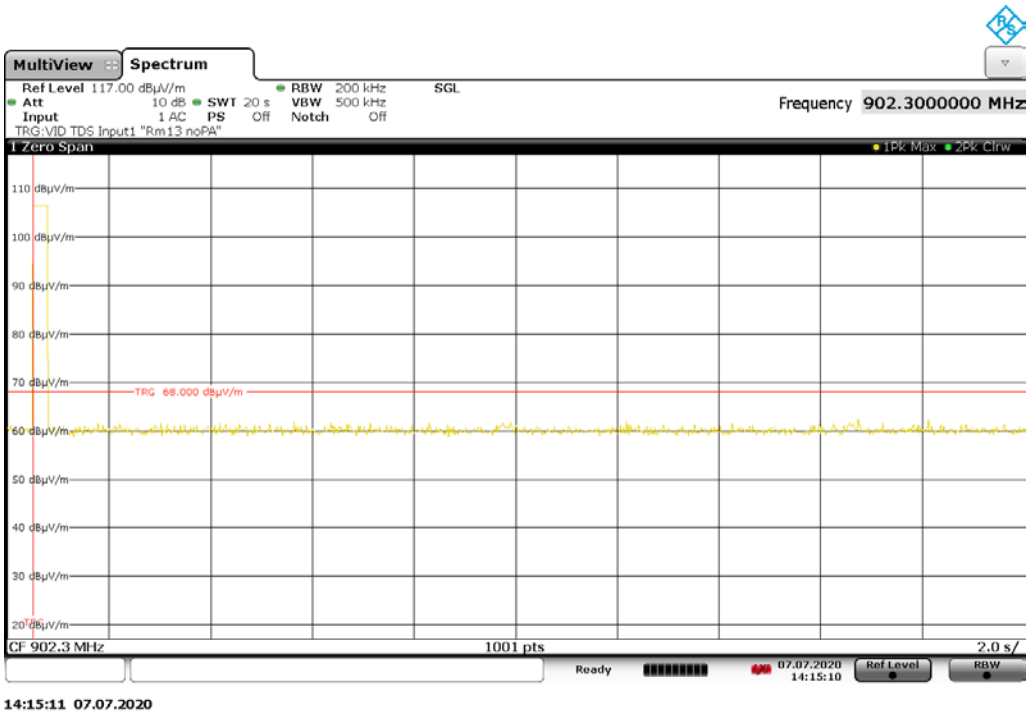
Graph 6-5: Number of Channels

Table 6-4: Average Time of Occupancy

Occupancy time for a single hop (ms)	Observed Period (ms)	No of Hops in Observed Period	Average time of occupancy (ms)	Limit (ms)	Result
268.5	20000	1	268.5	≤400	Complied



Graph 6-6: Duration of one pulse



Graph 6-7: Number of pulses in 20 seconds

6.8 §15.247(b)(2)/ RSS-247 5.4(a) – 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

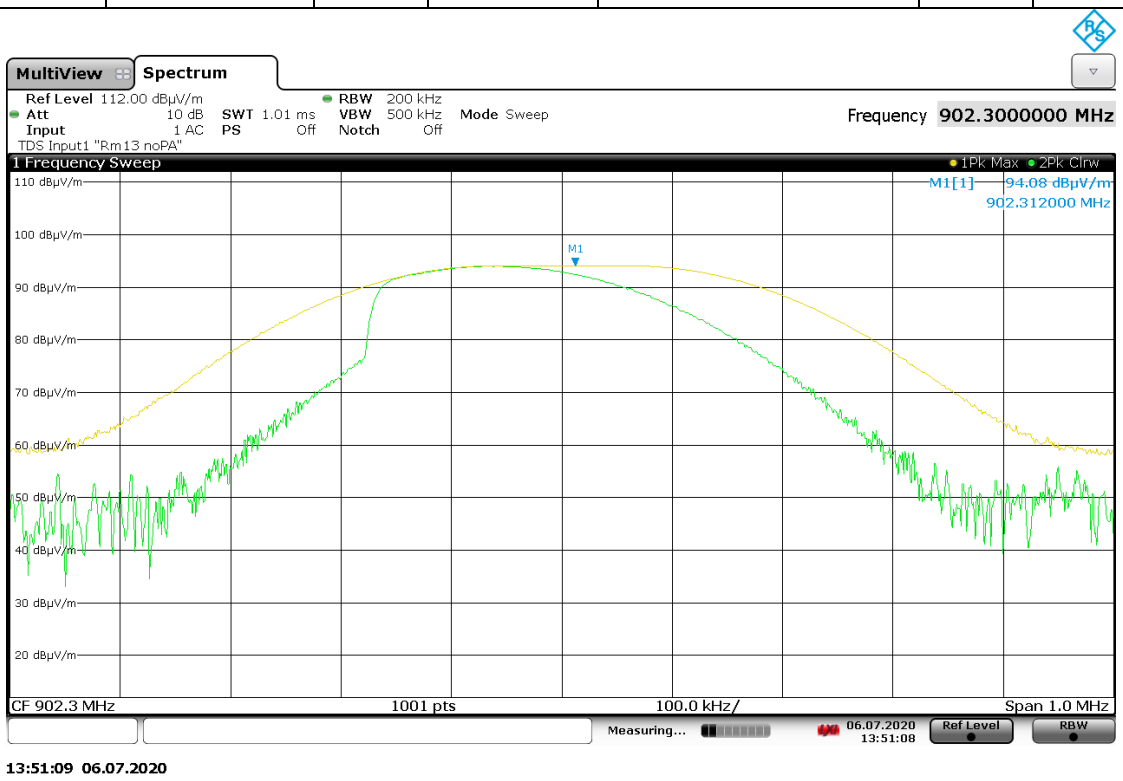
The maximum conducted output power at 902 - 928 MHz is 1W/30 dBm.

6.8.3 Results

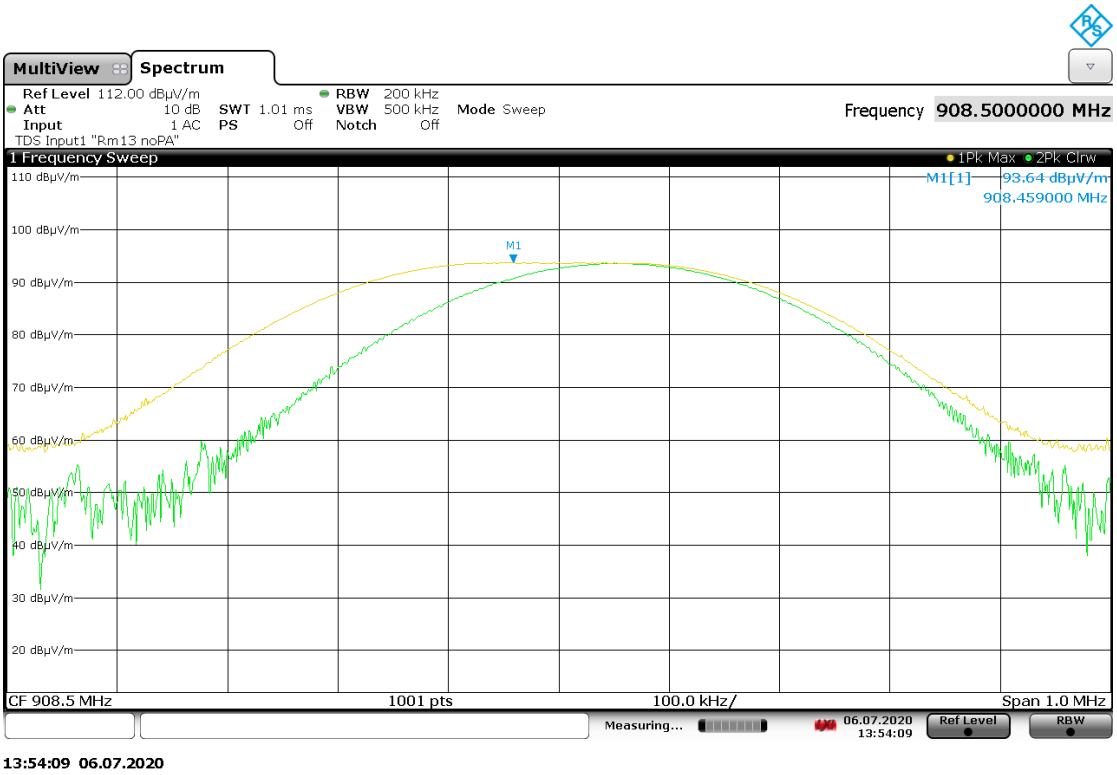
The measured radiated field strength is converted to equivalent conducted output power for checking compliance.

Table 6-5: Maximum peak power

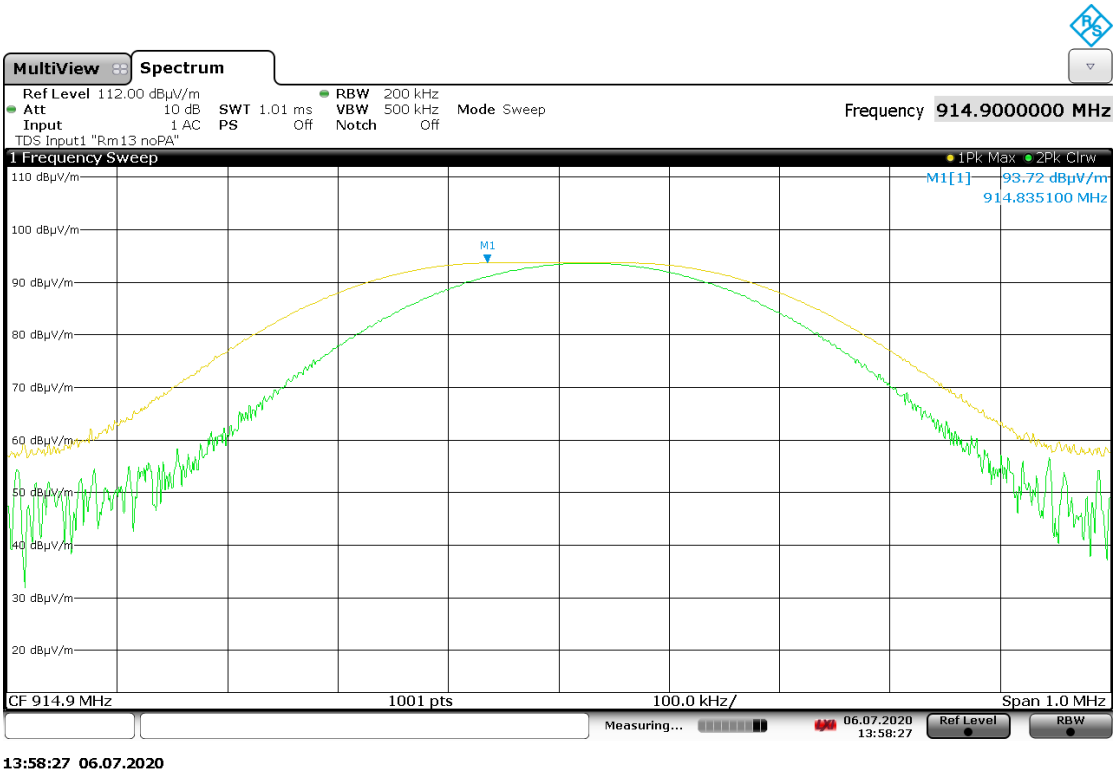
Frequency (MHz)	E-Field @ 3 m (dBuV/m)	EIRP (dBm)	Antenna Gain (dBi)	Equivalent Conducted Output Power (dBm)	Limit (dBm)	Results
902.3	94.08	-1.15	0.8	-1.95	30	Complied
908.5	93.64	-1.59	0.8	-2.39	30	Complied
914.9	93.72	-1.51	0.8	-2.31	30	Complied



Graph 6-8: Maximum EIRP, 902.3 MHz



Graph 6-9: Maximum EIRP, 908.5 MHz



Graph 6-10: Maximum EIRP, 914.9 MHz

6.9 15.247(d)/ RSS-247 5.5 – 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	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 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.

6.9.2 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).

6.9.3 Limits

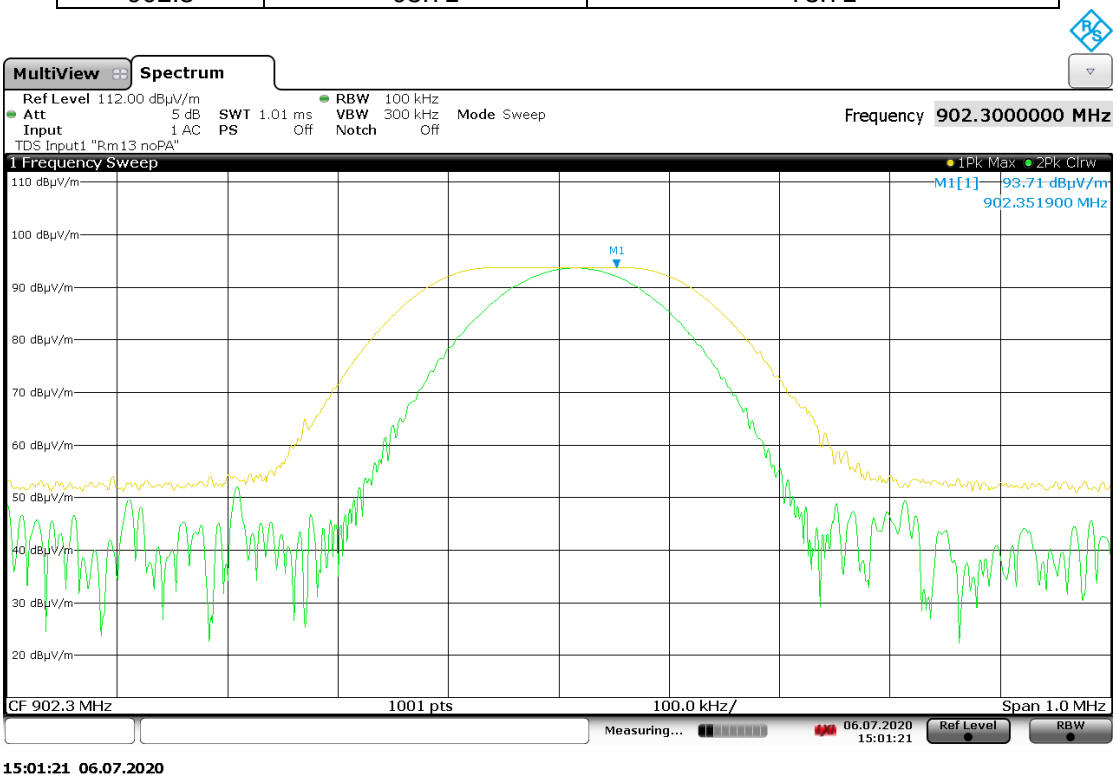
The limit applied is in accordance with the out-of-band/spurious emissions limit defined in §15.247(d).

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. The maximum PSD level was used to establish the limit for nonrestricted frequency bands. However, the general limits of §15.209/§RSS-Gen 8.10 apply for the restricted bands of operation defined in §15.205.

Table 6-6: 100 kHz reference level measurement

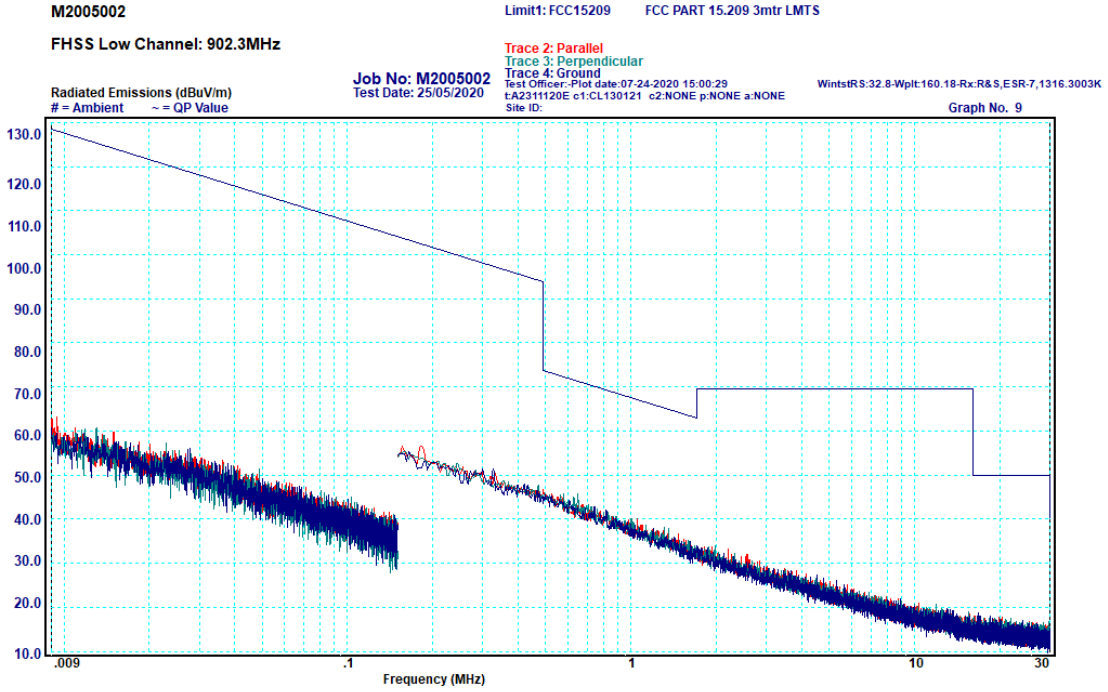
Freq. (MHz)	Peak at 3 m (dBµV/m)	Established Limit at 3m (dBµV/m)
902.3	93.71	73.71



Graph 6-11: 100 kHz bandwidth reference level

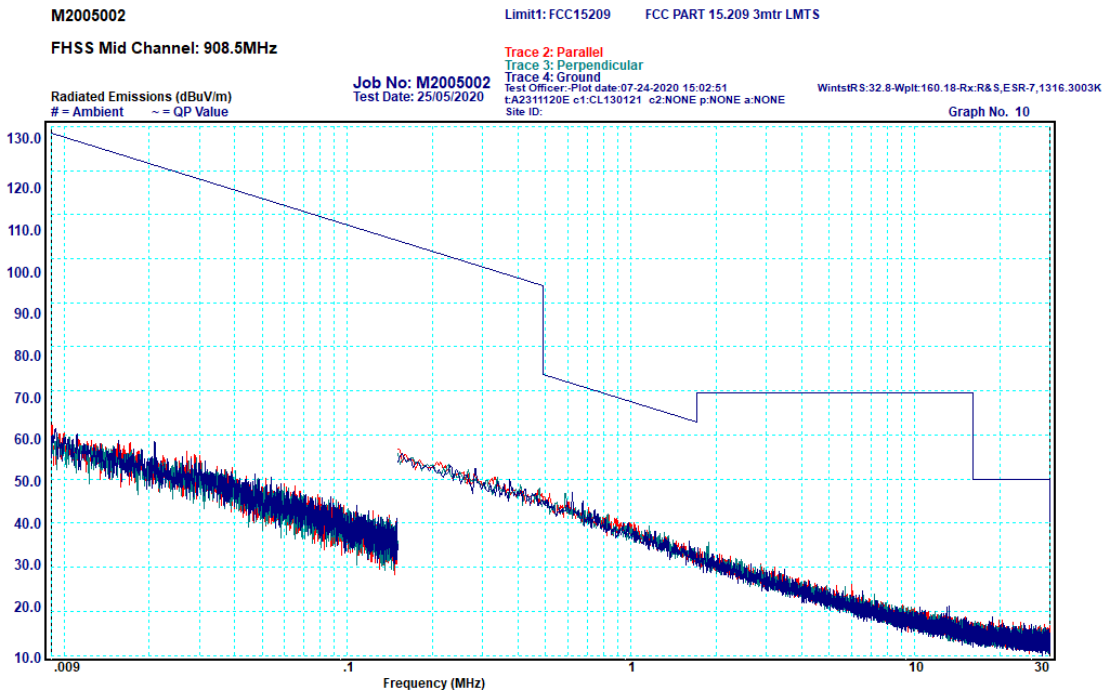
6.9.4 Transmitter Spurious Emissions: 9 kHz - 30 MHz

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



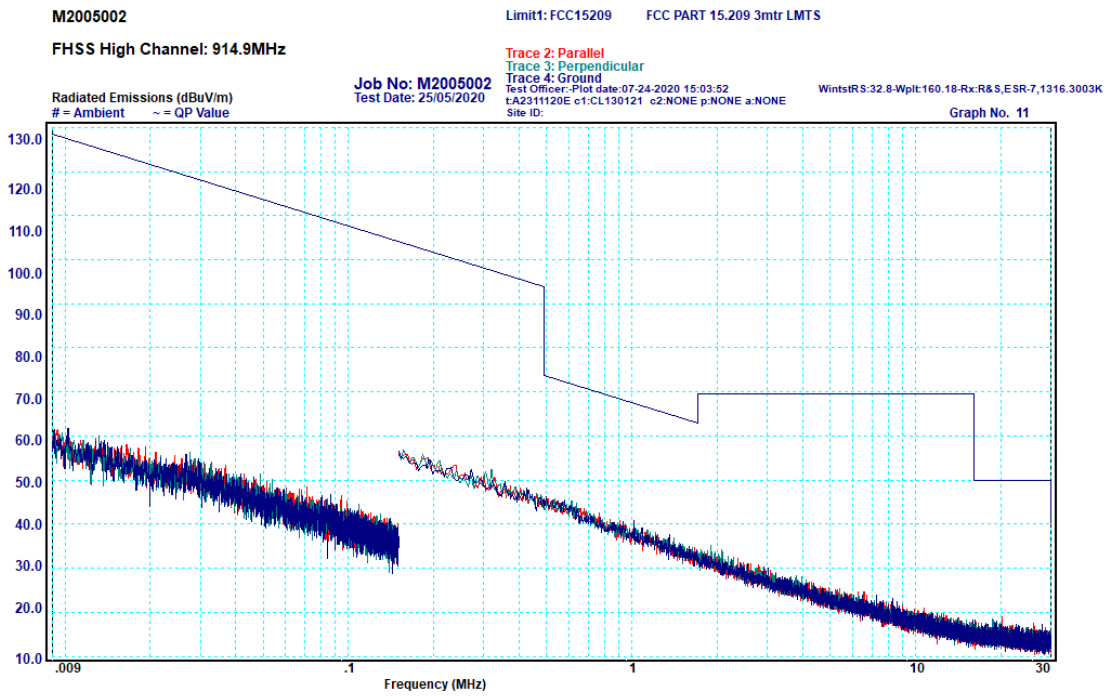
Graph 6-12: Transmitter Spurious Emissions, 9kHz - 30 MHz, 902.3 MHz

No peaks were measured within 10 dB of the limit.



Graph 6-13: Transmitter Spurious Emissions, 9kHz - 30 MHz, 908.5 MHz

No peaks were measured within 10 dB of the limit.

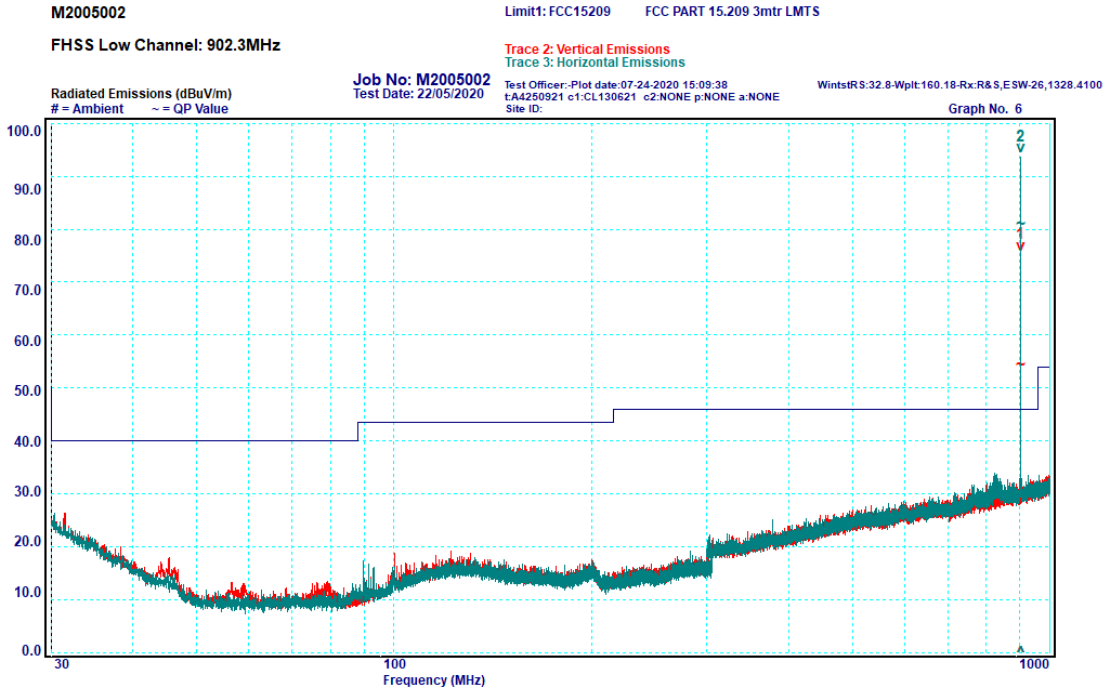


Graph 6-14: Transmitter Spurious Emissions, 9kHz - 30 MHz, 914.9 MHz

No peaks were measured within 10 dB of the limit.

6.9.5 Transmitter Spurious Emissions: 30 - 1000 MHz

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

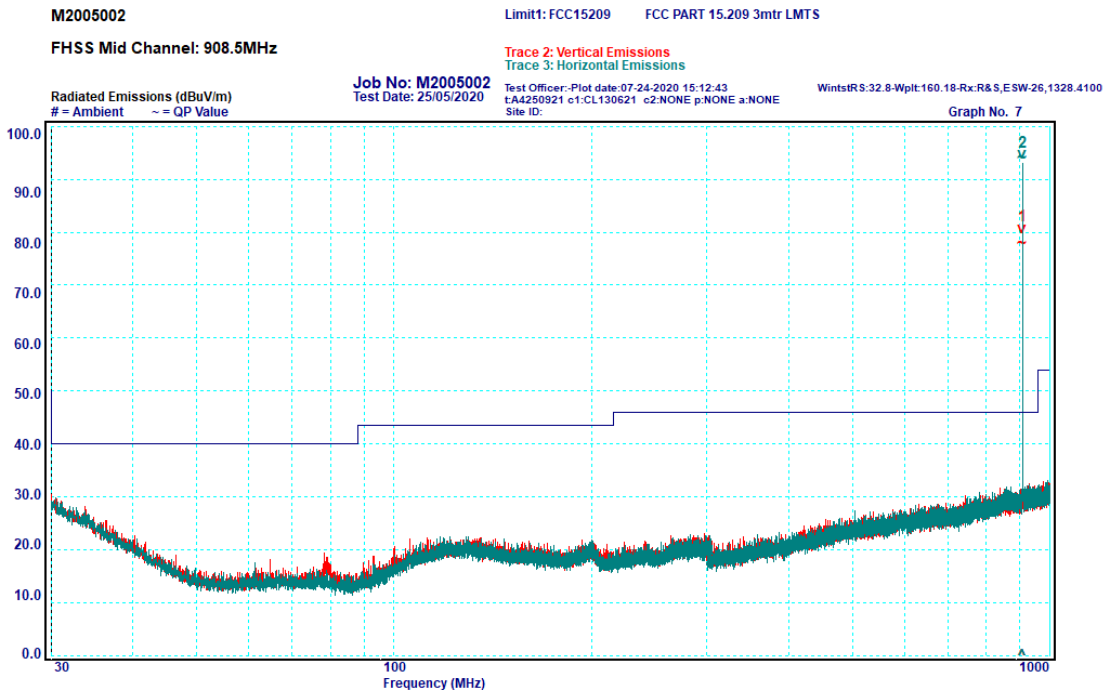


Graph 6-15: Transmitter Spurious Emissions, 30 - 1000 MHz, 902.3 MHz

Table 6-7: Transmitter Spurious Emissions, 30 - 1000 MHz, 902.3 MHz

Peak	Frequency [MHz]	Polarisation	Quasi Peak		
			Level [dBµV/m]	Limit [dBµV/m]	Margin [dB]
1*	902.3	Vertical	N/A	N/A	N/A
2*	902.3	Horizontal	N/A	N/A	N/A

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

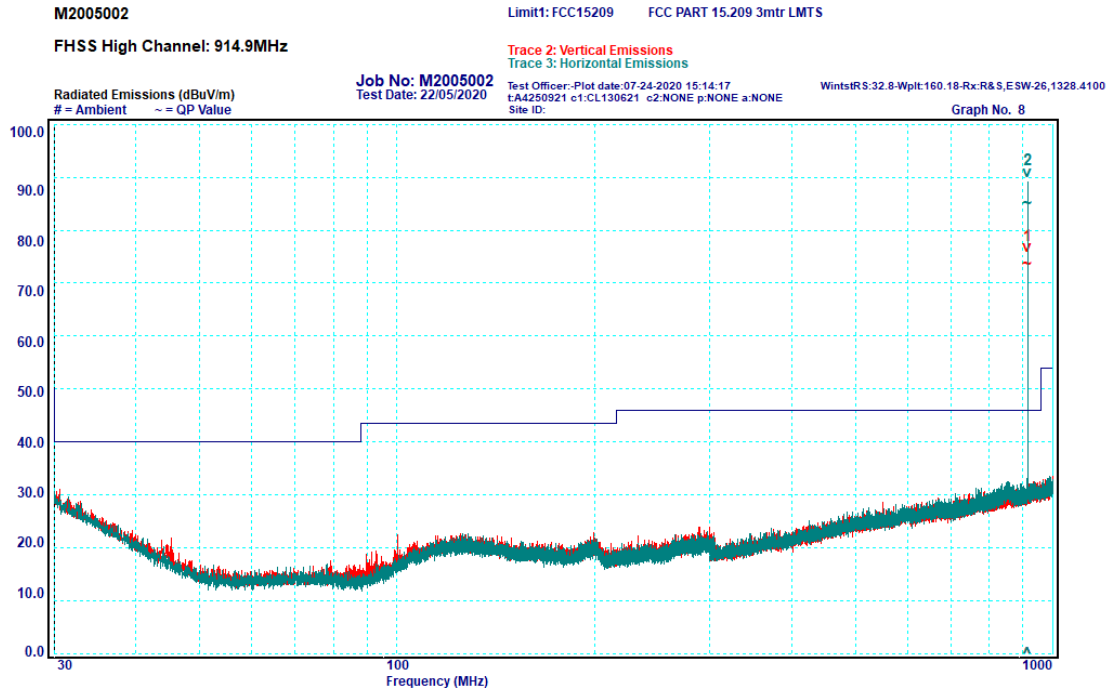


Graph 6-16: Transmitter Spurious Emissions, 30 - 1000 MHz, 908.5 MHz

Table 6-8: Transmitter Spurious Emissions, 30 - 1000 MHz, 908.5 MHz

Peak	Frequency [MHz]	Polarisation	Quasi Peak		
			Level [dBµV/m]	Limit [dBµV/m]	Margin [dB]
1*	908.5	Vertical	N/A	N/A	N/A
2*	908.5	Horizontal	N/A	N/A	N/A

*Peaks are the fundamental transmissions and are not subject to the spurious emissions limit of the standard



Graph 6-17: Transmitter Spurious Emissions, 30 - 1000 MHz, 914.9 MHz

Table 6-9: Transmitter Spurious Emissions, 30 - 1000 MHz, 914.9 MHz

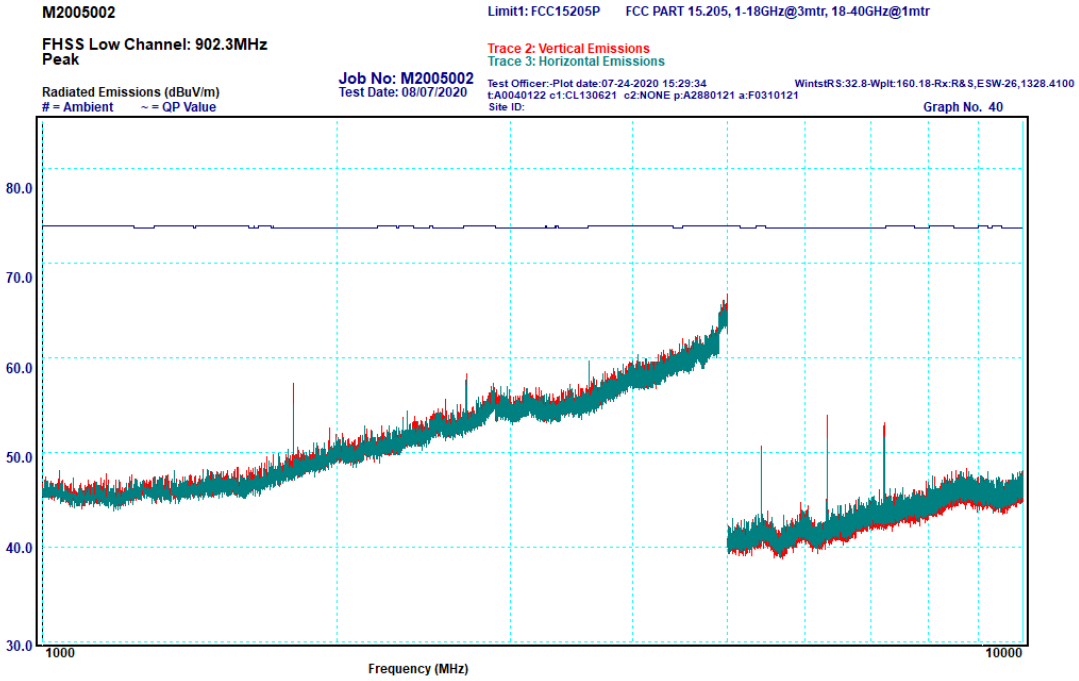
Peak	Frequency [MHz]	Polarisation	Quasi Peak		
			Level [dBµV/m]	Limit [dBµV/m]	Margin [dB]
1*	914.9	Vertical	N/A	N/A	N/A
2*	914.9	Horizontal	N/A	N/A	N/A

*Peaks are the fundamental transmissions and are not subject to the spurious emissions limit of the standard

6.9.6 Transmitter Spurious Emissions: 1 - 10 GHz

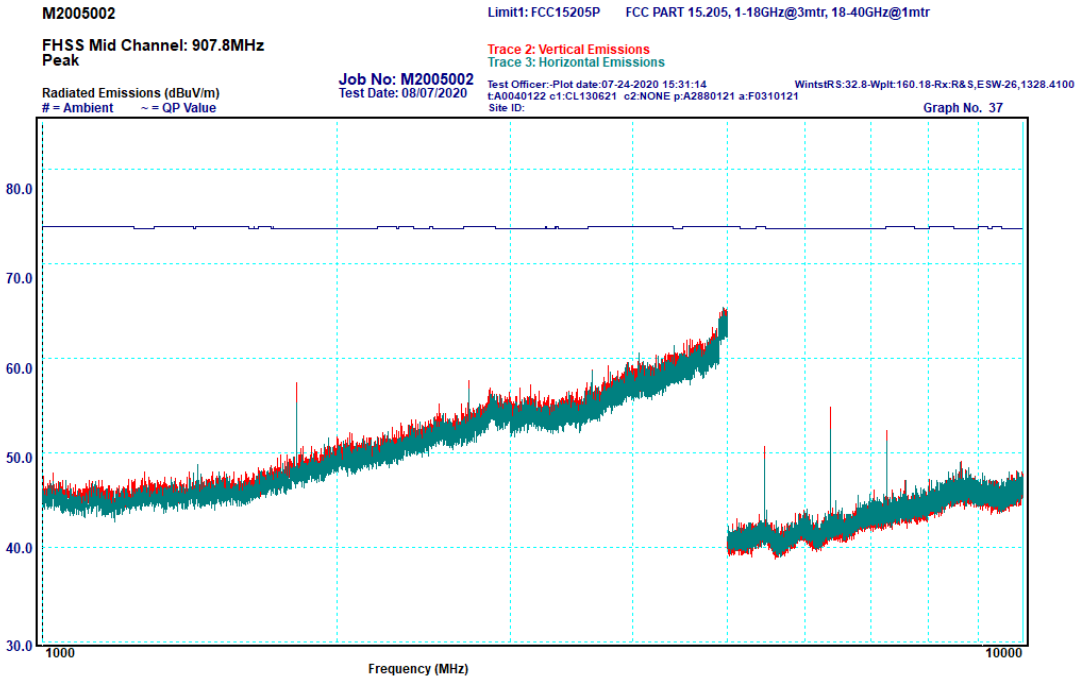
All emissions measured in the frequency band 1 – 10 GHz complied with the requirements of the standard.

Peak Measurements:



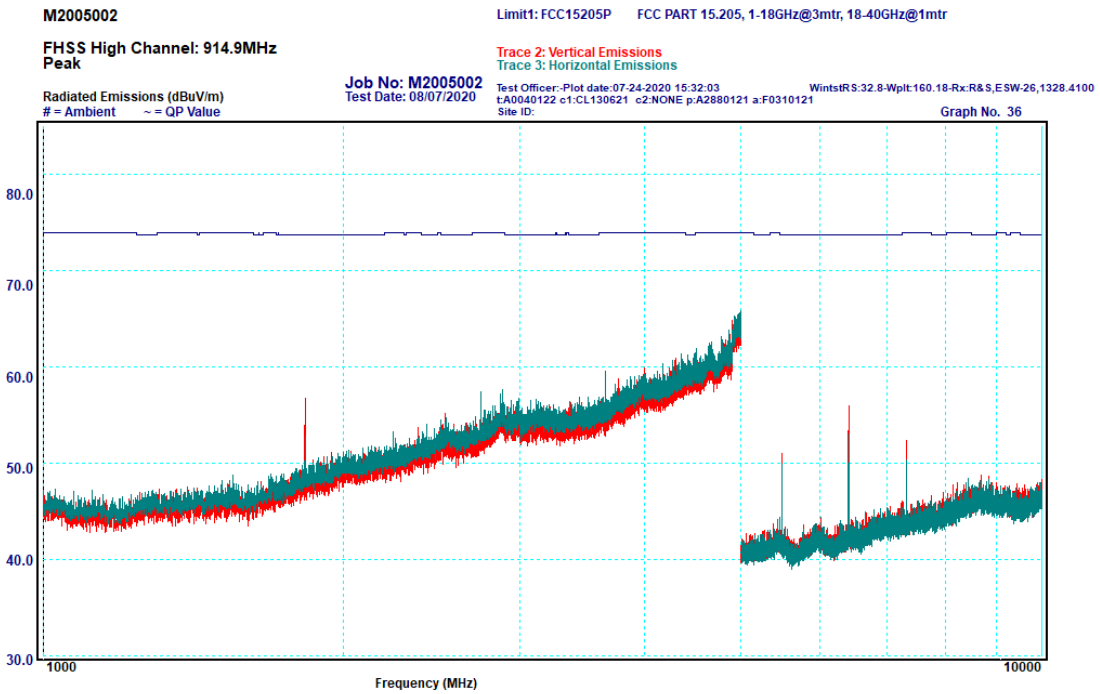
Graph 6-18: Transmitter Spurious Emissions, 1 - 10 GHz, Peak, 902.3 MHz

No peaks were measured within 10 dB of the limit.



Graph 6-19: Transmitter Spurious Emissions, 1 - 10 GHz, Peak, 908.5 MHz

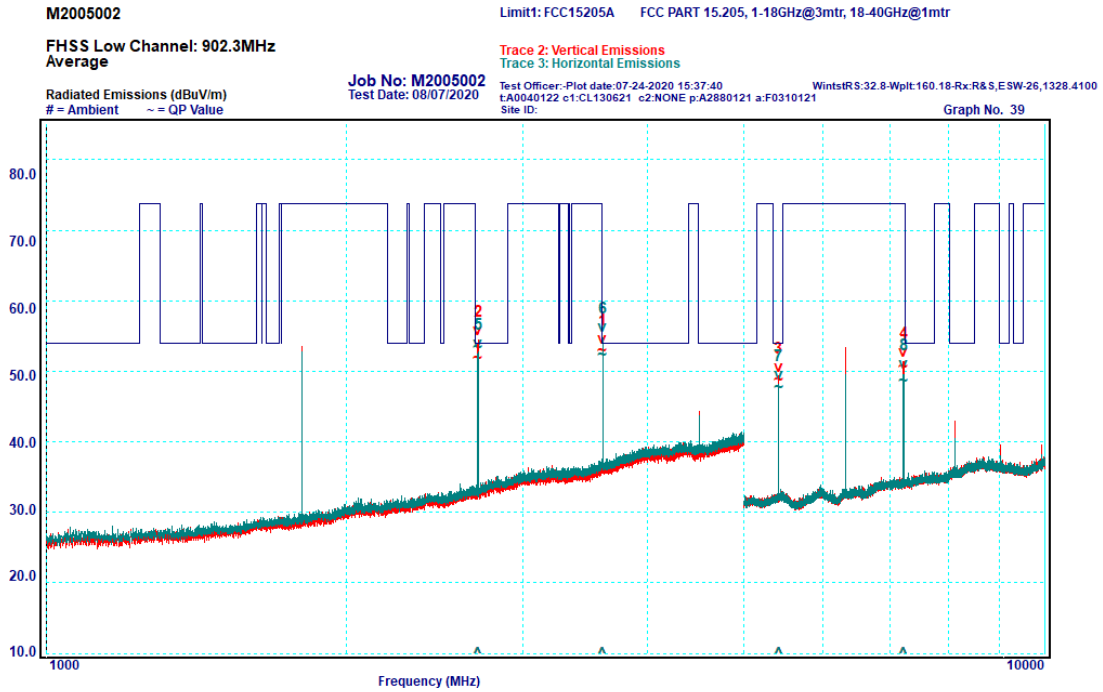
No peaks were measured within 10 dB of the limit.



Graph 6-20: Transmitter Spurious Emissions, 1 - 10 GHz, Peak, 914.9 MHz

No peaks were measured within 10 dB of the limit.

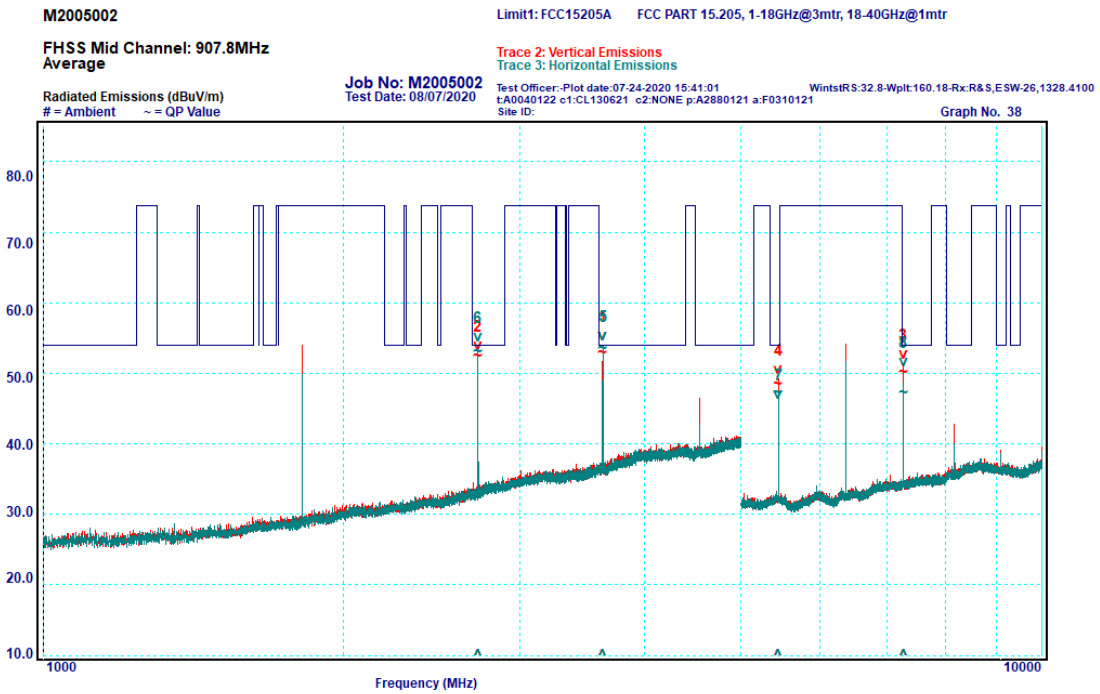
Average Measurements:



Graph 6-21: Transmitter Spurious Emissions, 1 - 10 GHz, Average, 902.3 MHz

Table 6-10: Transmitter Spurious Emissions, 1 -10 GHz, Average, 902.3 MHz

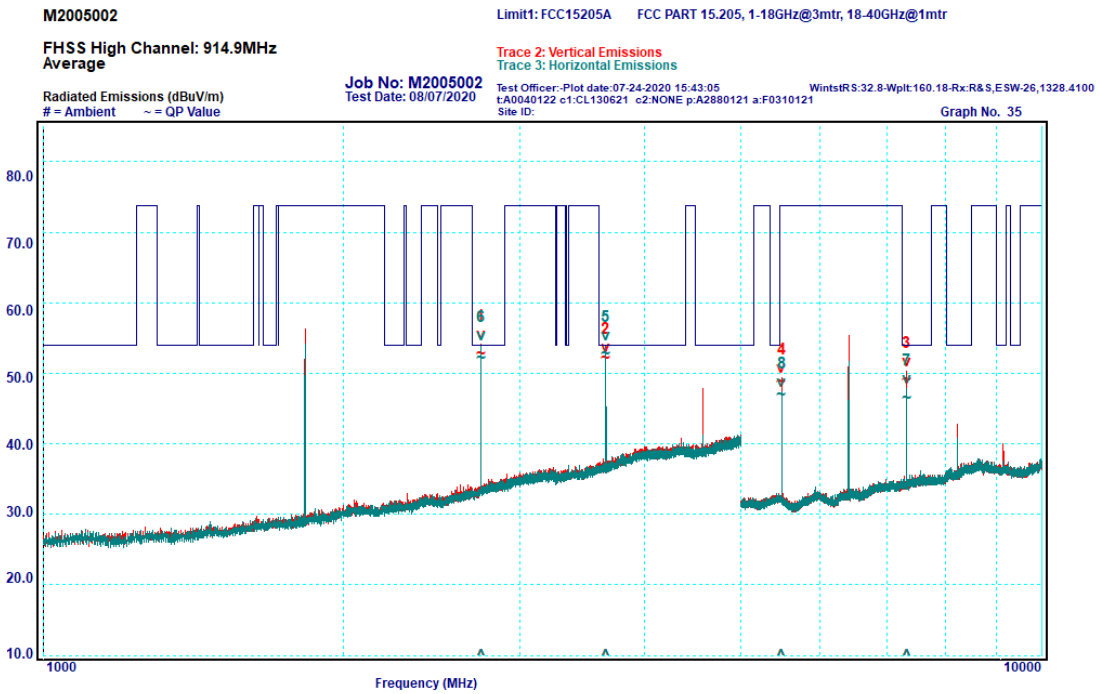
Peak	Frequency [MHz]	Polarisation	Average		
			Level [dBµV/m]	Limit [dBµV/m]	Margin [dB]
1	3609.22	Vertical	52.8	54	-1.2
2	2706.89	Vertical	51.8	54	-2.2
3	5413.8	Vertical	48.7	54	-5.3
4	7218.44	Vertical	50.6	73.7	-23.1
5	2706.91	Horizontal	53.3	54	-0.7
6	3609.21	Horizontal	52.2	54	-1.8
7	5413.82	Horizontal	47.6	54	-6.4
8	7218.42	Horizontal	48.6	73.7	-25.1



Graph 6-22: Transmitter Spurious Emissions, 1 - 10 GHz, Average, 908.5 MHz

Table 6-11: Transmitter Spurious Emissions, 1 -10 GHz, Average, 908.5 MHz

Peak	Frequency [MHz]	Polarisation	Average		
			Level [dBµV/m]	Limit [dBµV/m]	Margin [dB]
1	3633.9	Vertical	53	54	-1
2	2725.53	Vertical	52.5	54	-1.5
3	7267.94	Vertical	50.2	54	-3.8
4	5451.03	Vertical	48.5	54	-5.5
5	3634.01	Horizontal	53.6	54	-0.4
6	2725.5	Horizontal	53.1	54	-0.9
7	5450.99	Horizontal	47.2	54	-6.8
8	7268	Horizontal	47.2	54	-6.8



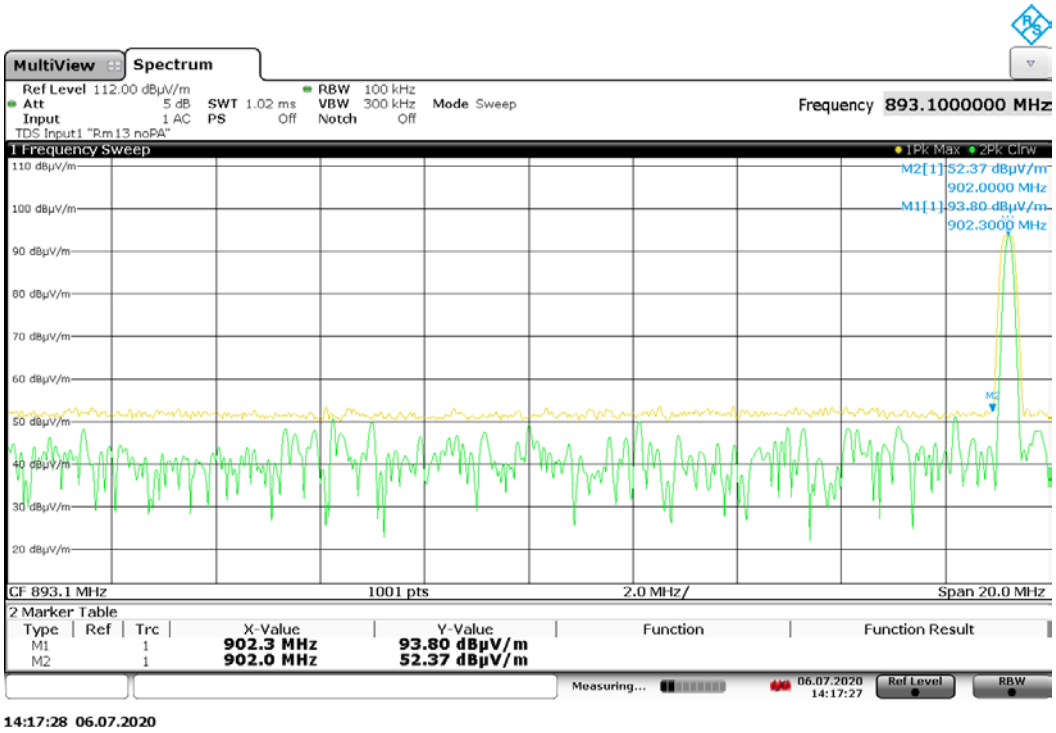
Graph 6-23: Transmitter Spurious Emissions, 1 - 10 GHz, Average, 914.9 MHz

Table 6-12: Transmitter Spurious Emissions, 1 -10 GHz, Average, 914.9 MHz

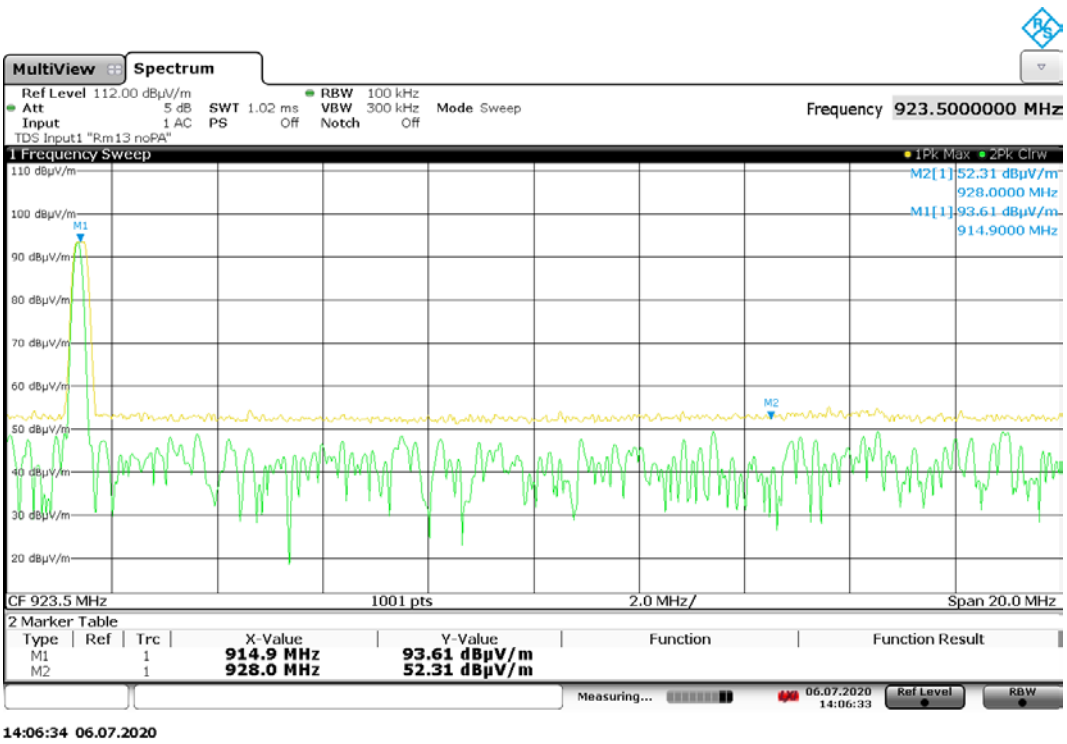
Peak	Frequency [MHz]	Polarisation	Average		
			Level [dBµV/m]	Limit [dBµV/m]	Margin [dB]
1	2744.71	Vertical	52.8	54	-1.2
2	3659.61	Vertical	52.1	54	-1.9
3	7319.19	Vertical	49.1	54	-4.9
4	5489.34	Vertical	48.8	73.7	-24.9
5	3659.61	Horizontal	52.7	54	-1.3
6	2744.68	Horizontal	52.2	54	-1.8
7	7319.19	Horizontal	46.5	54	-7.5
8	5489.39	Horizontal	46.9	73.7	-26.8

6.10 §15.247(d)/ §RSS-247 5.5 – Band Edge Emission Measurements

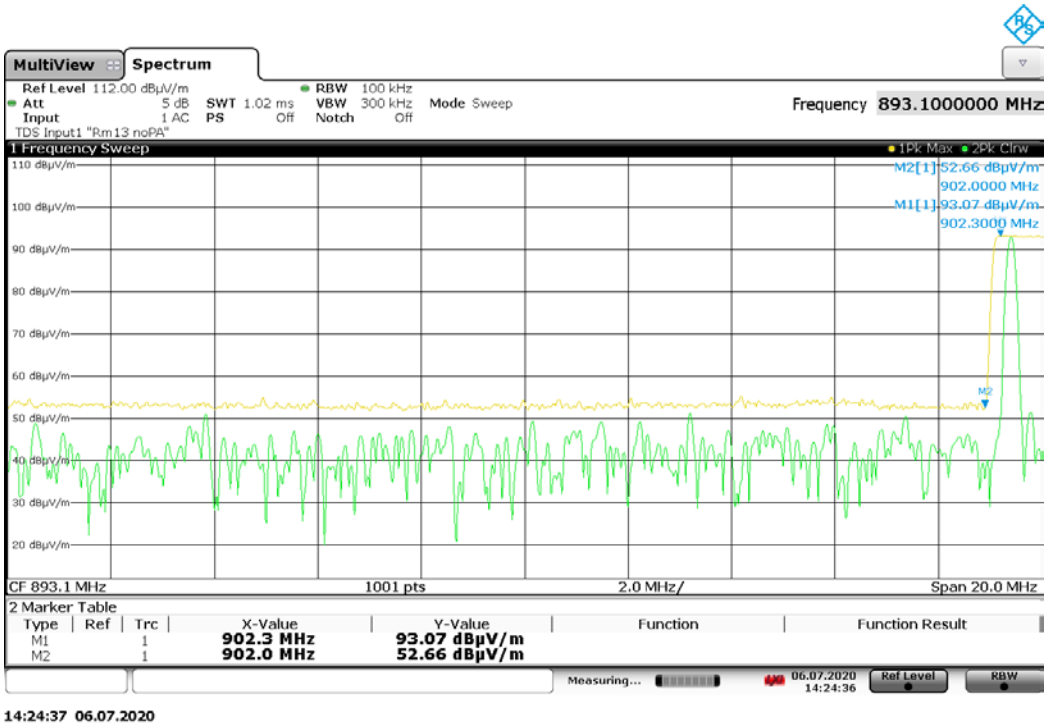
Band-edge measurements were done using radiated in accordance to ANSI C63.10 clause 6.10. All emissions measured near the lower and higher band edge complied with the requirements of §15.247/ RSS-247 5.0. There were no restricted Band-edges.



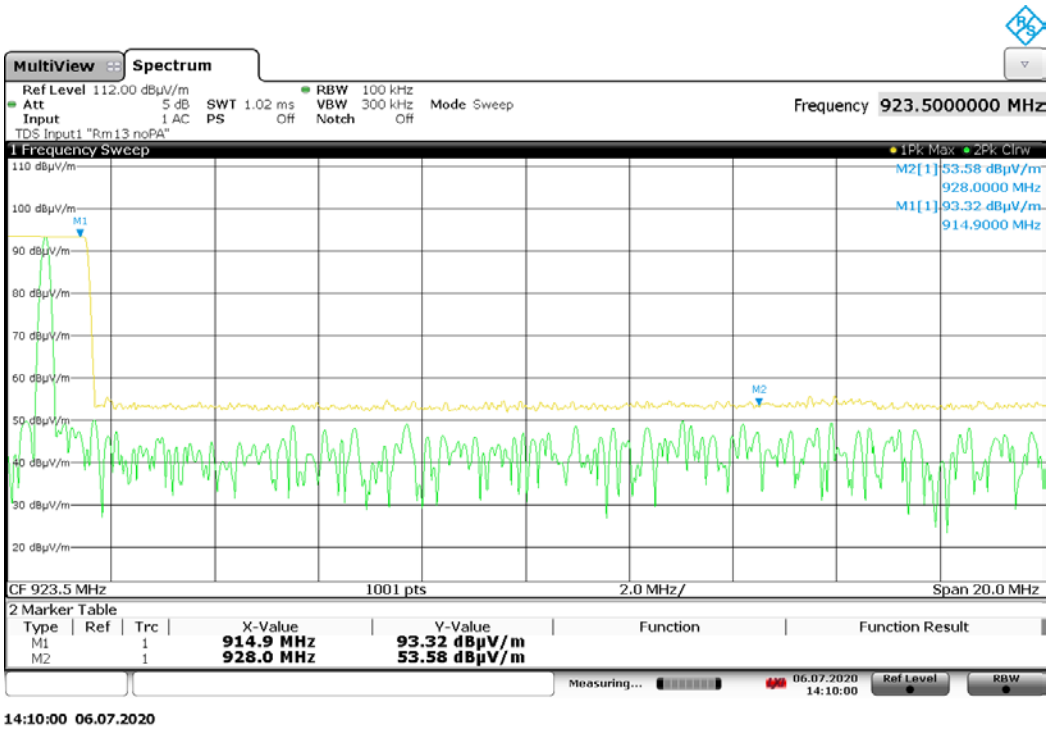
Graph 6-24: Emissions near the lower band edge (Authorised-band), 902.3 MHz, Hopping off



Graph 6-25: Emissions near the higher band edge (Authorised-band), 914.9 MHz, Hopping off



Graph 6-26: Emissions near the lower band edge (Authorised-band), 902.3 MHz, Hopping on



Graph 6-27: Emissions near the Higher band edge (Authorised-band), 914.9 MHz, Hopping on

Table 6-13: Band edge Measurement

Measurement Type	Freq [MHz]	Measurement [dBuV/m]	Limit [dBuV/m]	Result
Peak - Hop off	902	52.37	73.71	Complied
Peak - Hop off	928	52.31	73.71	Complied
Peak - Hop on	902	52.66	73.71	Complied
Peak - Hop on	928	53.58	73.71	Complied

6.11 §15.247(i)/§RSS-102 – Radio frequency exposure

The EUT complied with the applicable radio frequency exposure levels. Refer to EMC Technologies report M2005002-8 (RSS-102 report) and M2005002-9 (FCC 2.1091 report).

6.12 §15.215/§RSS-Gen 6.7 – 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.

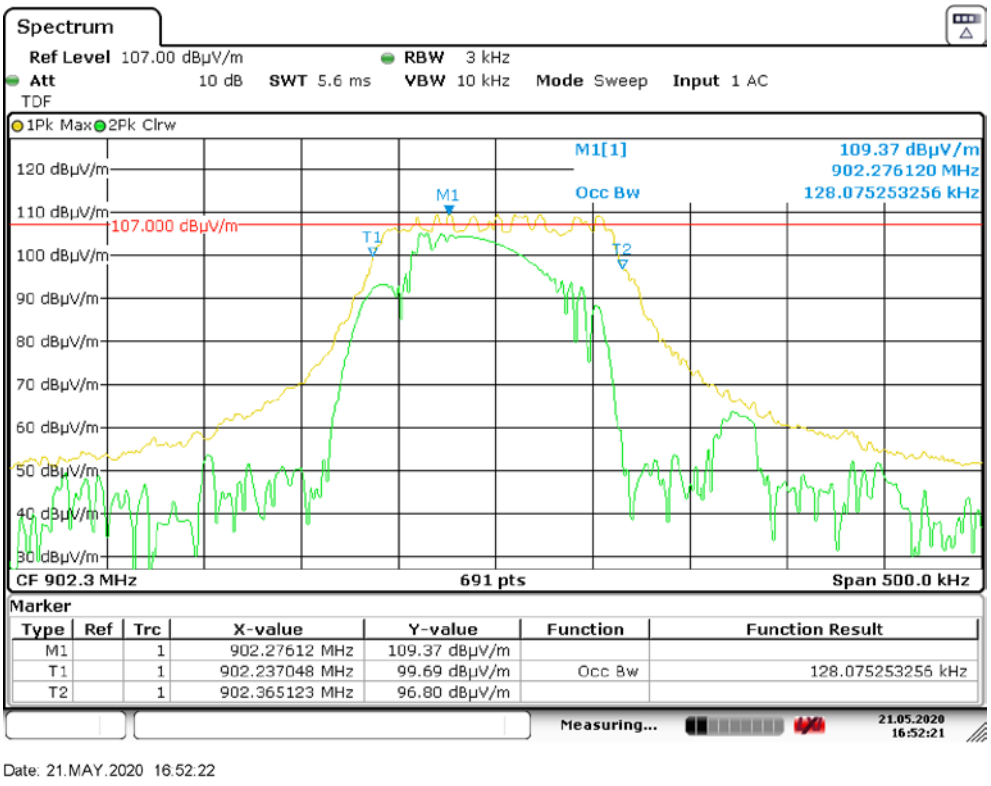
6.12.2 Limits

The 99% power bandwidth should be contained within the frequency band 902 - 928 MHz.

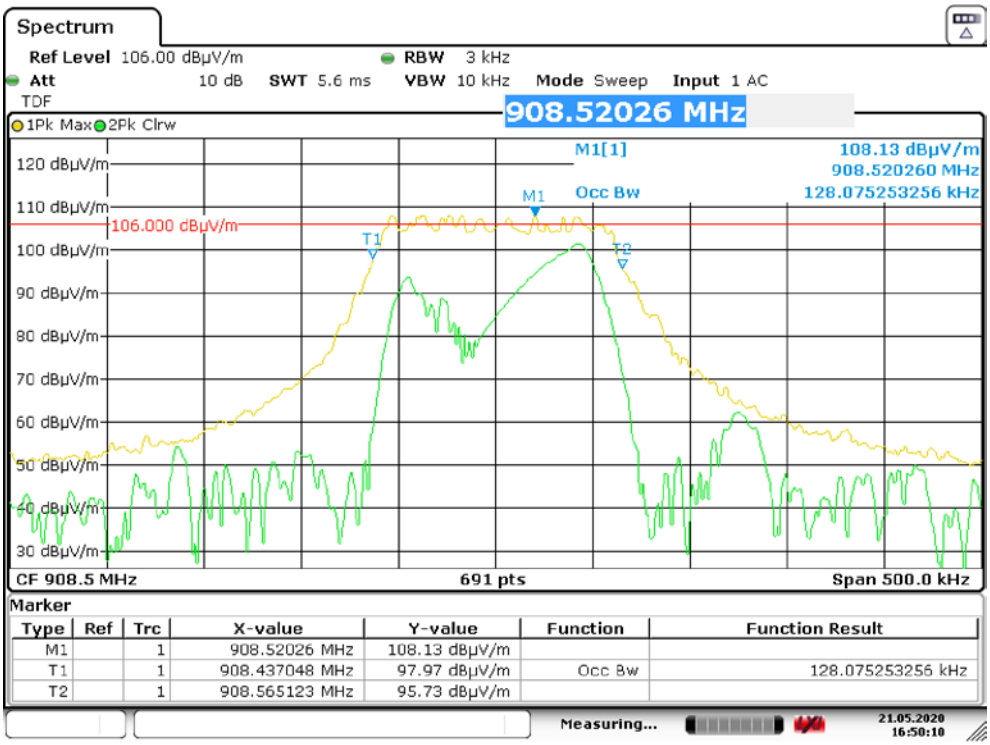
6.12.3 Results

Table 6-14: Occupied bandwidth

Frequency [MHz]	99% Bandwidth [kHz]	Low Frequency [MHz]	High Frequency [MHz]	Result
902.3	128.07	902.23	902.36	Complied
908.5	128.07	908.43	908.56	Complied
914.9	128.07	914.83	914.96	Complied



Graph 6-28: Occupied bandwidth, 902.3 MHz



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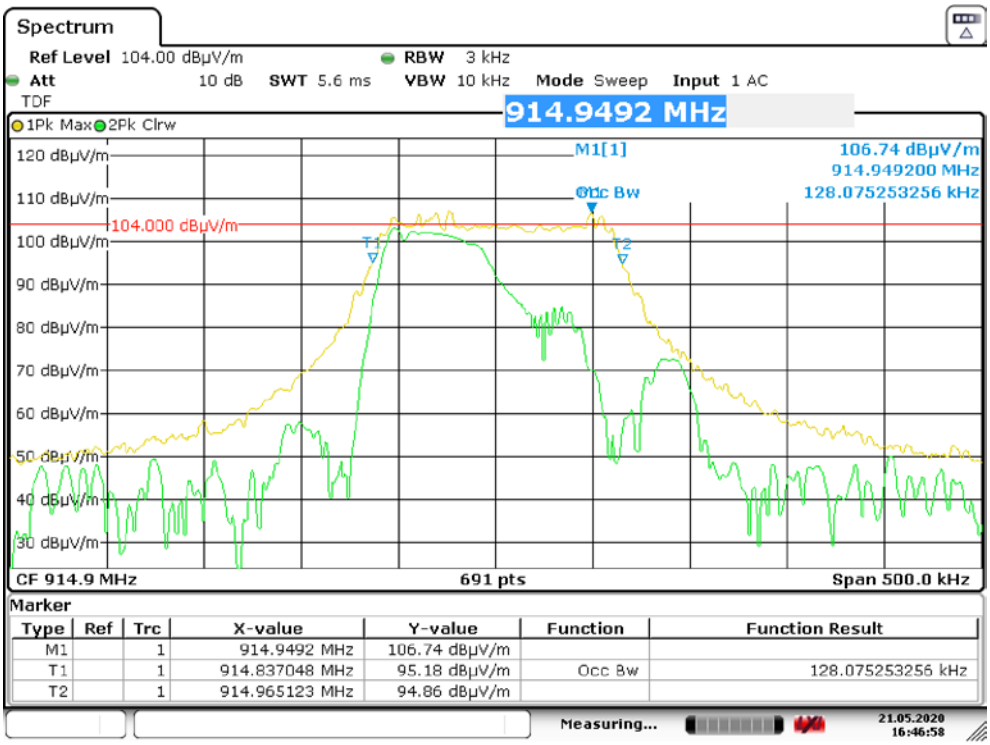
Graph 6-29: Occupied bandwidth, 908.5 MHz



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Graph 6-30: Occupied bandwidth, 914.9 MHz

END OF REPORT