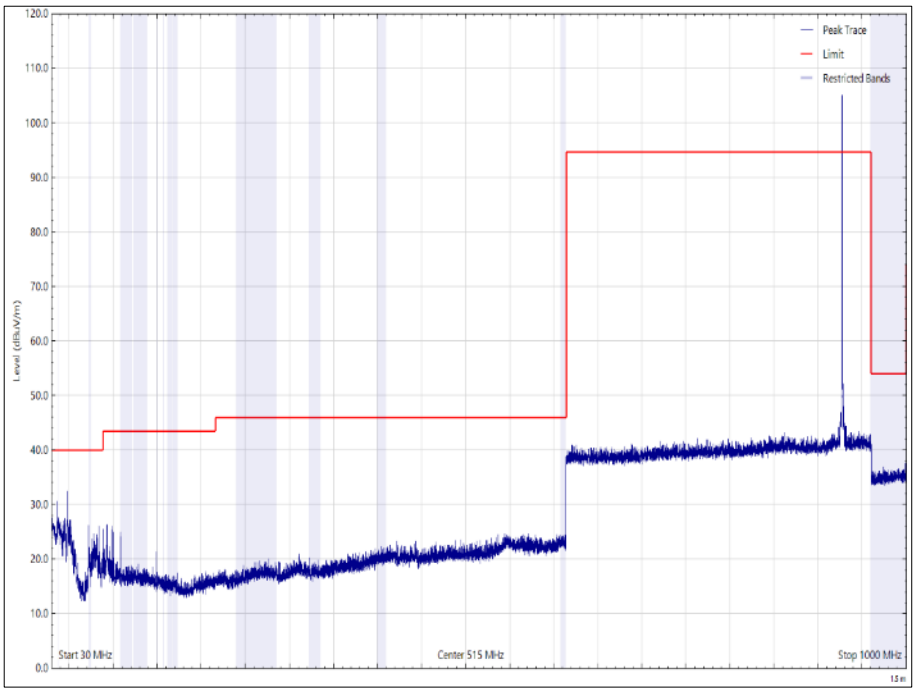

Figure 205 - 927.225 MHz, 30 MHz to 1 GHz - Antenna 2, Vertical, X Orientation

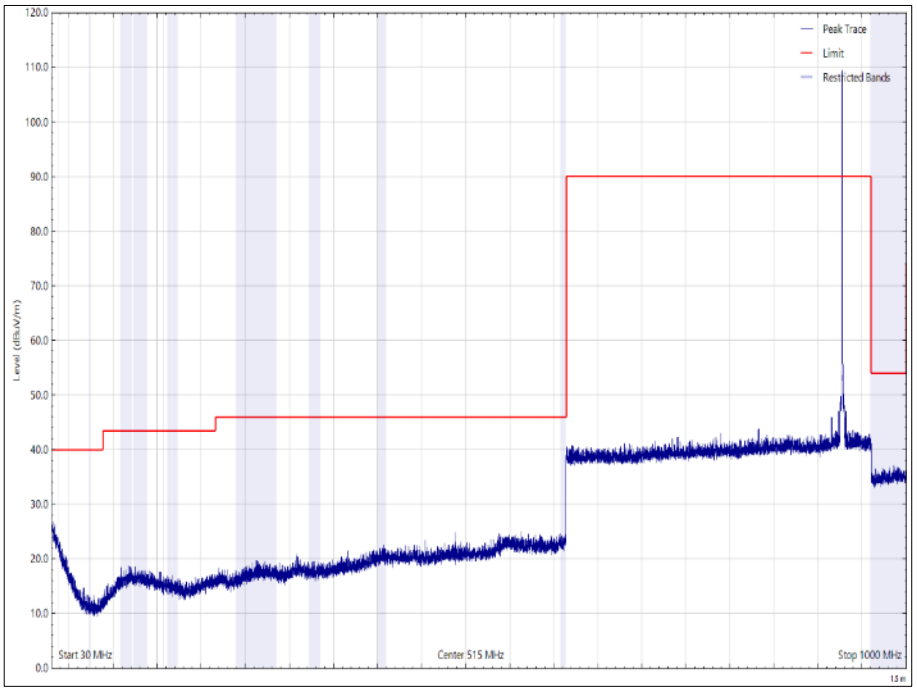

Figure 206 - 927.225 MHz, 30 MHz to 1 GHz - Antenna 1, Horizontal, Z Orientation

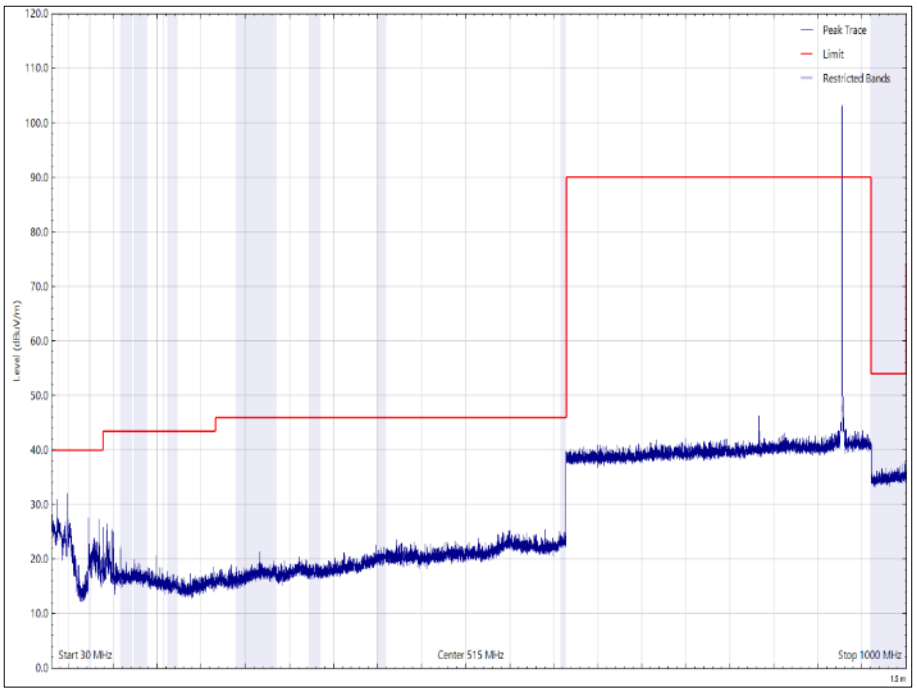

Figure 207 - 927.225 MHz, 30 MHz to 1 GHz - Antenna 1, Vertical, Z Orientation

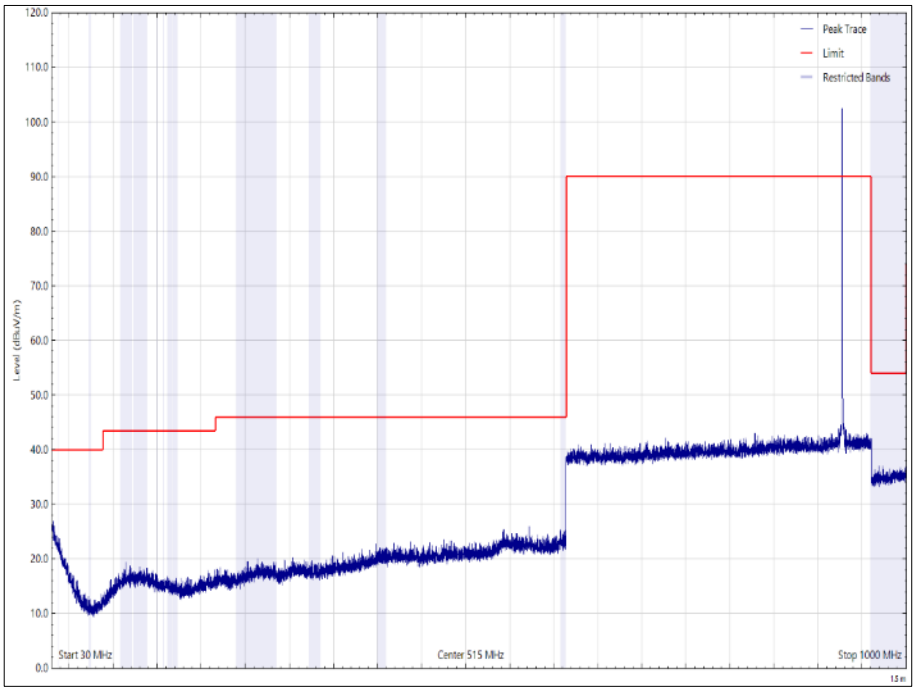

Figure 208 - 927.225 MHz, 30 MHz to 1 GHz - Antenna 1, Horizontal, Y Orientation

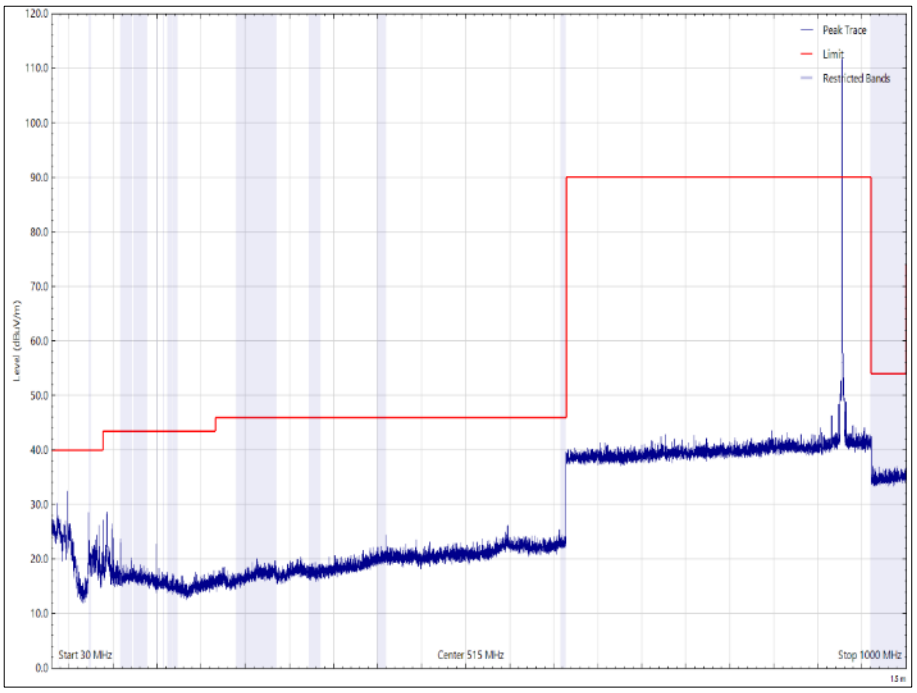

Figure 209 - 927.225 MHz, 30 MHz to 1 GHz - Antenna 1, Vertical, Y Orientation

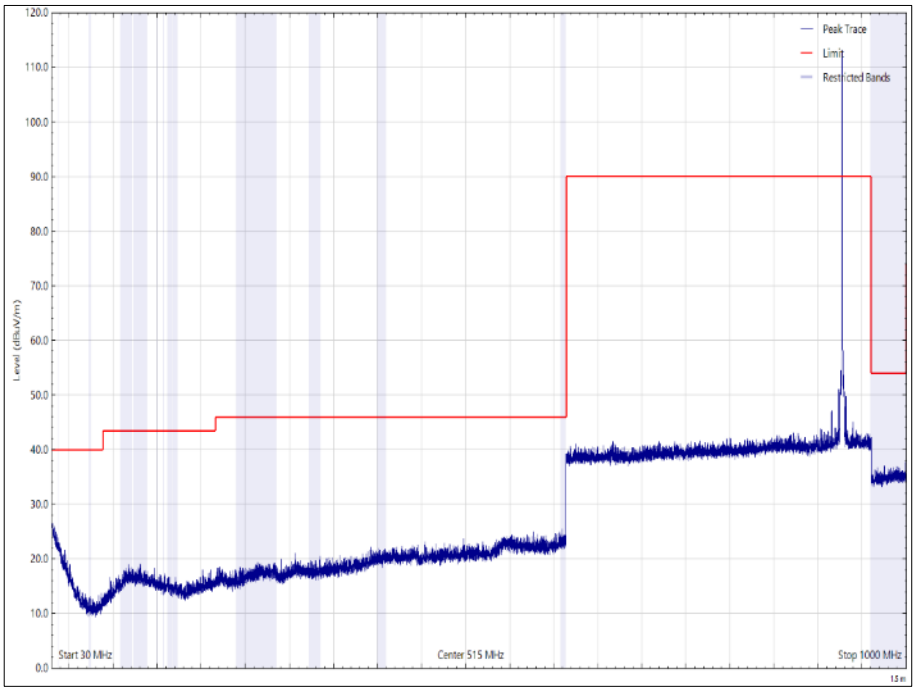

Figure 210 - 927.225 MHz, 30 MHz to 1 GHz - Antenna 1, Horizontal, X Orientation

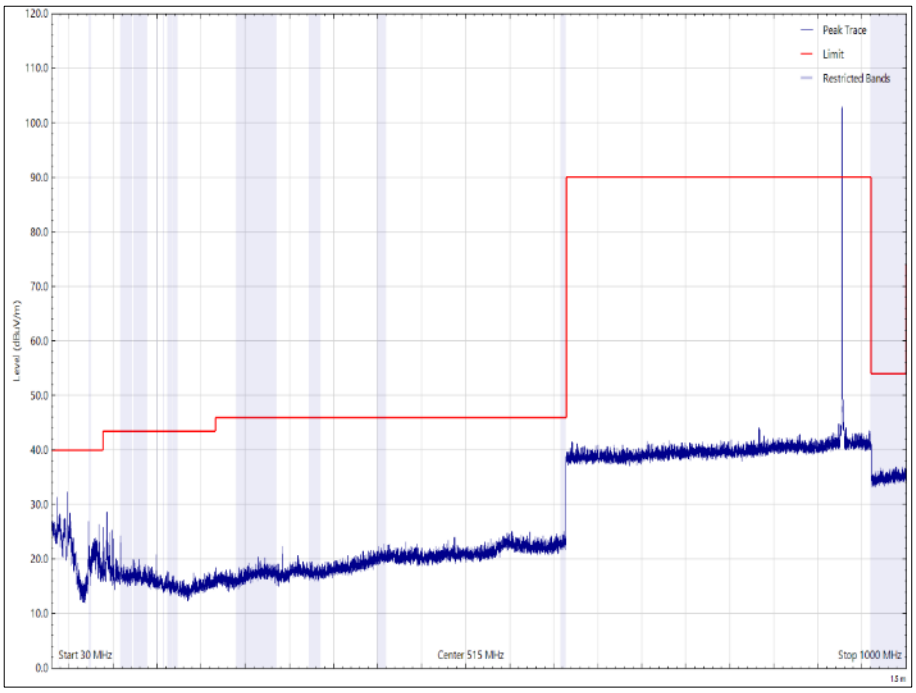

Figure 211 - 927.225 MHz, 30 MHz to 1 GHz - Antenna 1, Vertical, X Orientation

Frequency (MHz)	Level (dBµV/m)	Limit (dBµV/m)	Margin (dB)	Detector	Angle (°)	Height (cm)	Polarisation	Orientation
3708.888	44.90	53.98	-9.08	CISPR Average	333	150	Vertical	X - Antenna 1
4636.115	45.76	53.98	-8.22	CISPR Average	15	150	Vertical	X - Antenna 1
2781.663	44.51	53.98	-9.47	CISPR Average	144	168	Horizontal	X - Antenna 1
2781.686	48.23	53.98	-5.75	CISPR Average	125	201	Vertical	Y - Antenna 1
3708.904	49.91	53.98	-4.07	CISPR Average	106	150	Horizontal	Y - Antenna 1
4636.116	49.64	53.98	-4.34	CISPR Average	83	297	Horizontal	Y - Antenna 1
3708.897	50.65	53.98	-3.33	CISPR Average	260	150	Vertical	Z - Antenna 1
2781.693	45.58	53.98	-8.40	CISPR Average	239	196	Vertical	Z - Antenna 1
4636.123	50.42	53.98	-3.56	CISPR Average	277	297	Vertical	Z - Antenna 1
2781.664	44.83	53.98	-9.15	CISPR Average	275	177	Horizontal	Z - Antenna 1
3708.885	45.23	53.98	-8.75	CISPR Average	228	301	Horizontal	Z - Antenna 1
4636.132	47.98	53.98	-6.00	CISPR Average	311	268	Horizontal	Z - Antenna 1

Table 39 - 927.225 MHz - 1 GHz to 10 GHz

No other emissions were detected within 10 dB of the limit.

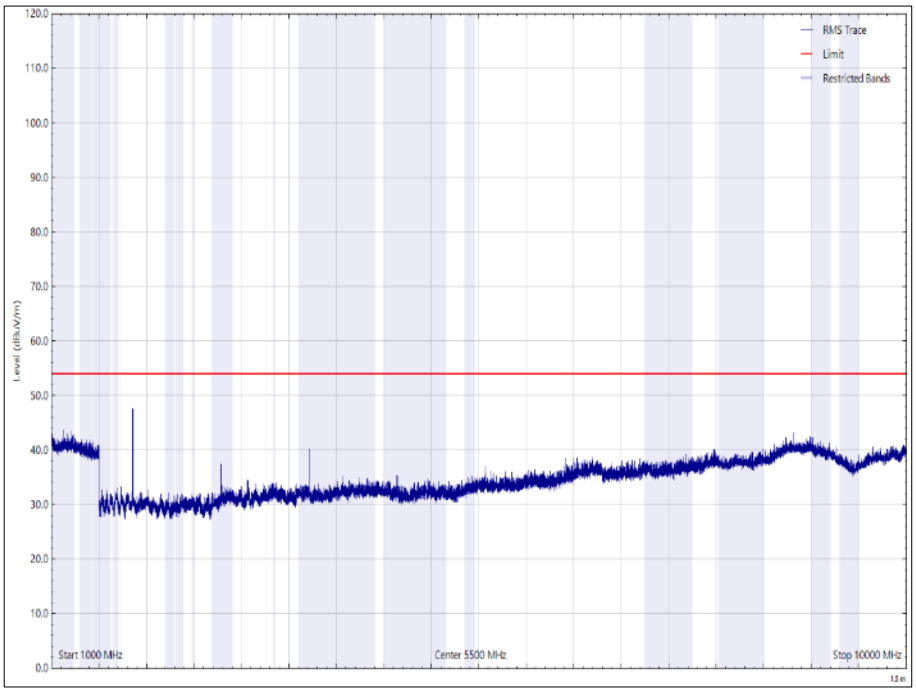

Figure 212 - 927.225 MHz - 1 GHz to 10 GHz - Antenna 2, Horizontal, Z Orientation - Average

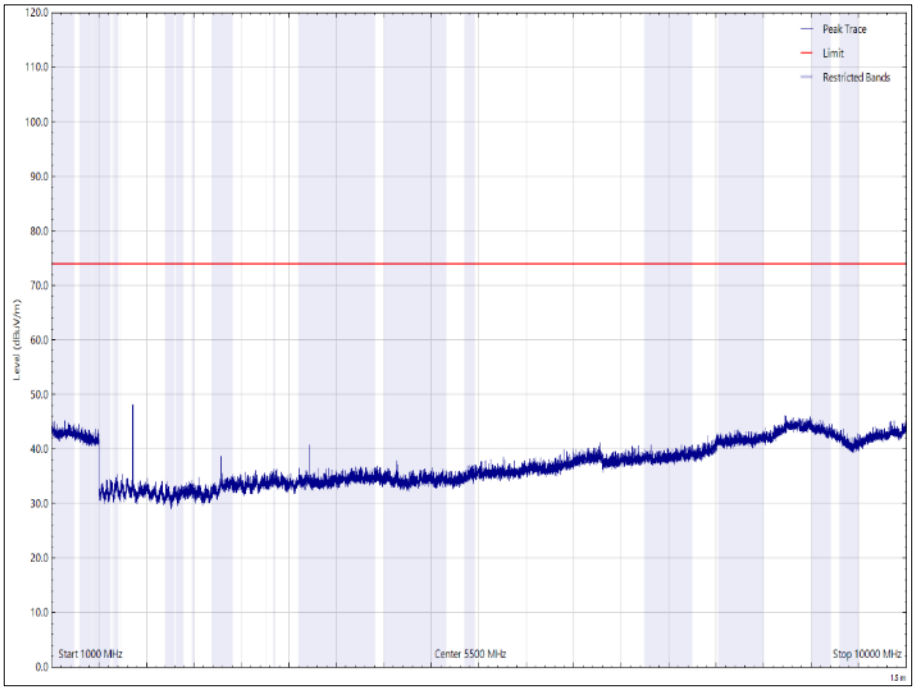

Figure 213 - 927.225 MHz - 1 GHz to 10 GHz - Antenna 2, Horizontal, Z Orientation - Peak

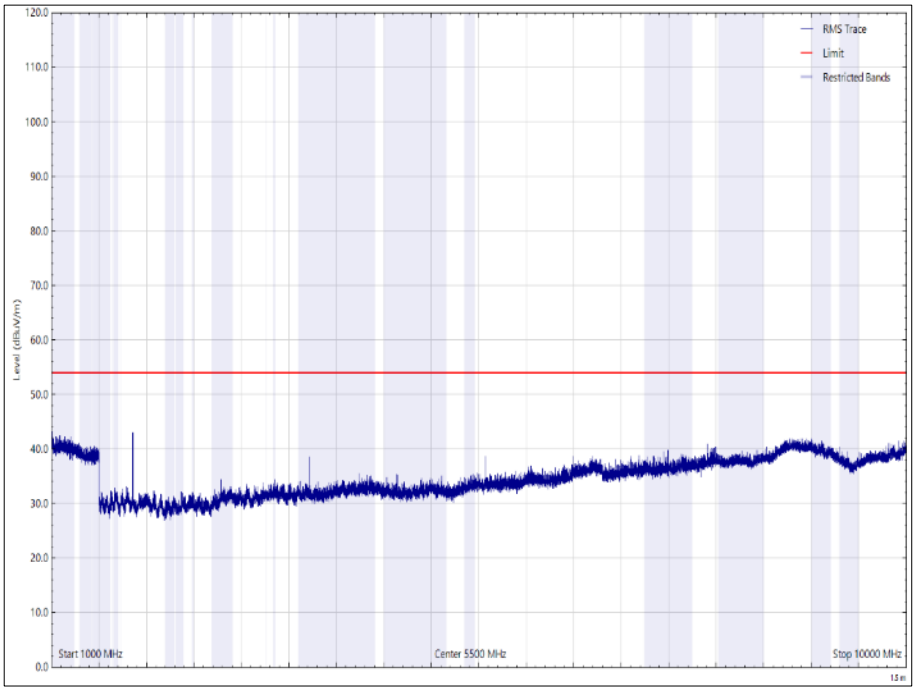

Figure 214 - 927.225 MHz - 1 GHz to 10 GHz - Antenna 2, Vertical, Z Orientation - Average

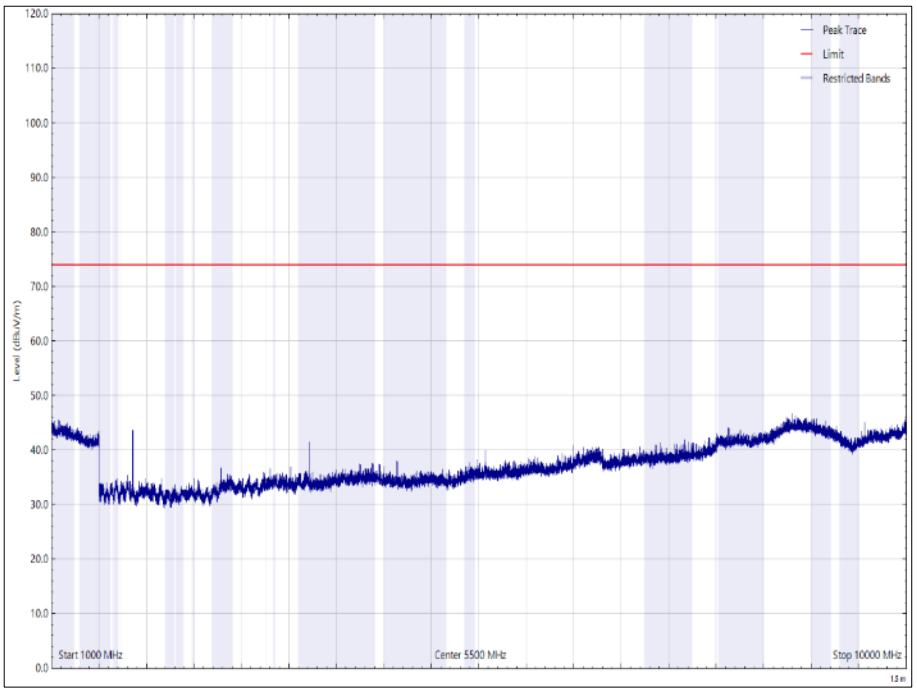

Figure 215 - 927.225 MHz - 1 GHz to 10 GHz - Antenna 2, Vertical, Z Orientation - Peak

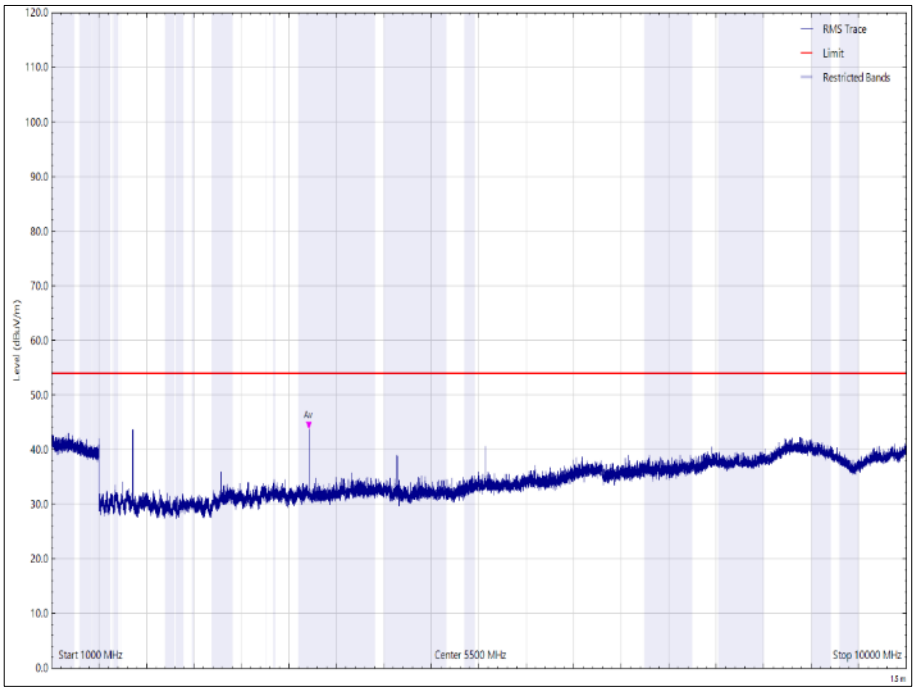

Figure 216 - 927.225 MHz - 1 GHz to 10 GHz - Antenna 2, Horizontal, Y Orientation - Average

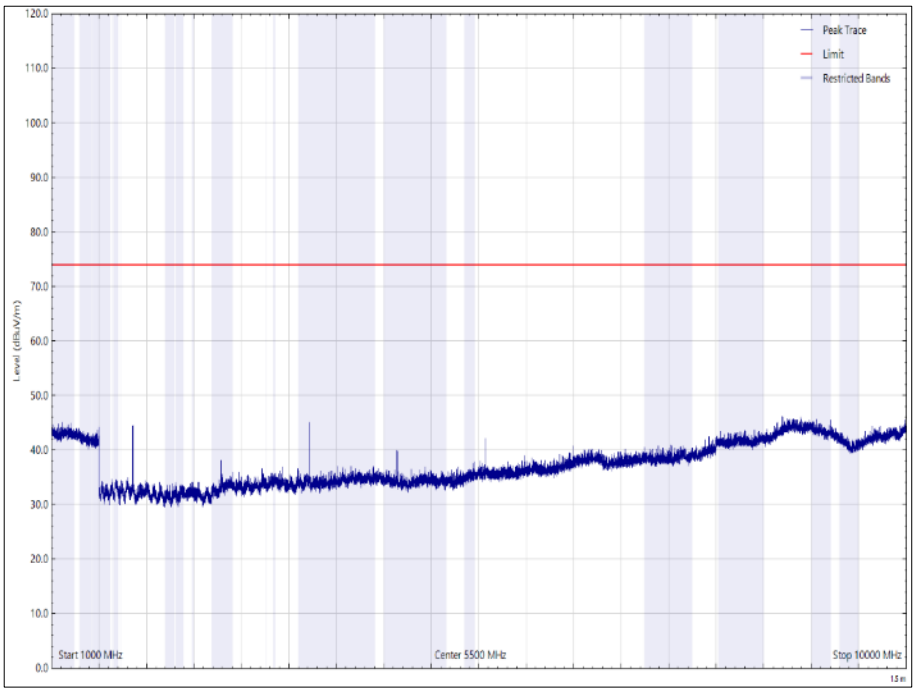

Figure 217 - 927.225 MHz - 1 GHz to 10 GHz - Antenna 2, Horizontal, Y Orientation - Peak

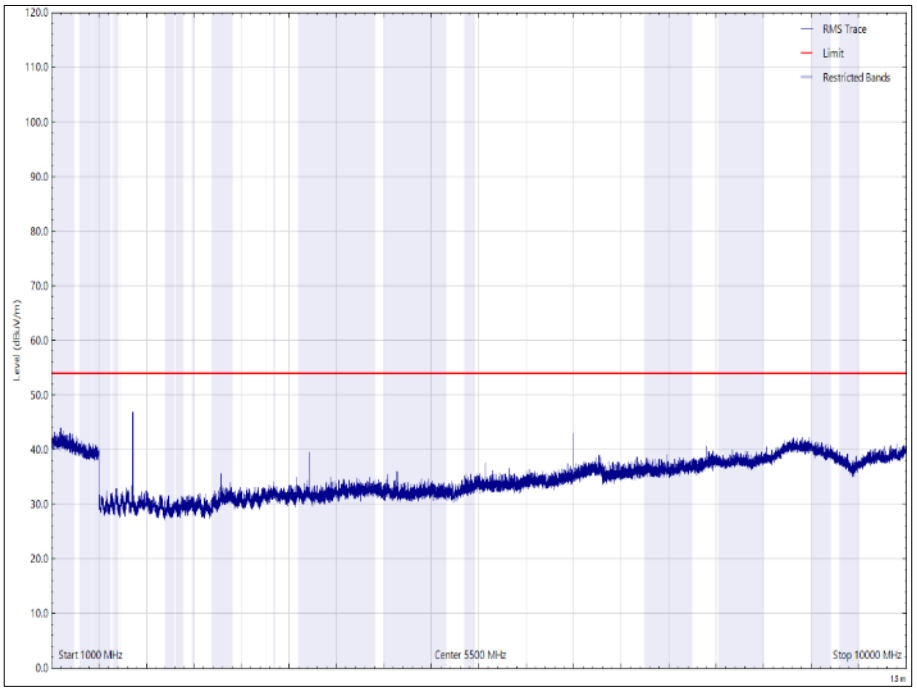

Figure 218 - 927.225 MHz - 1 GHz to 10 GHz - Antenna 2, Vertical, Y Orientation - Average

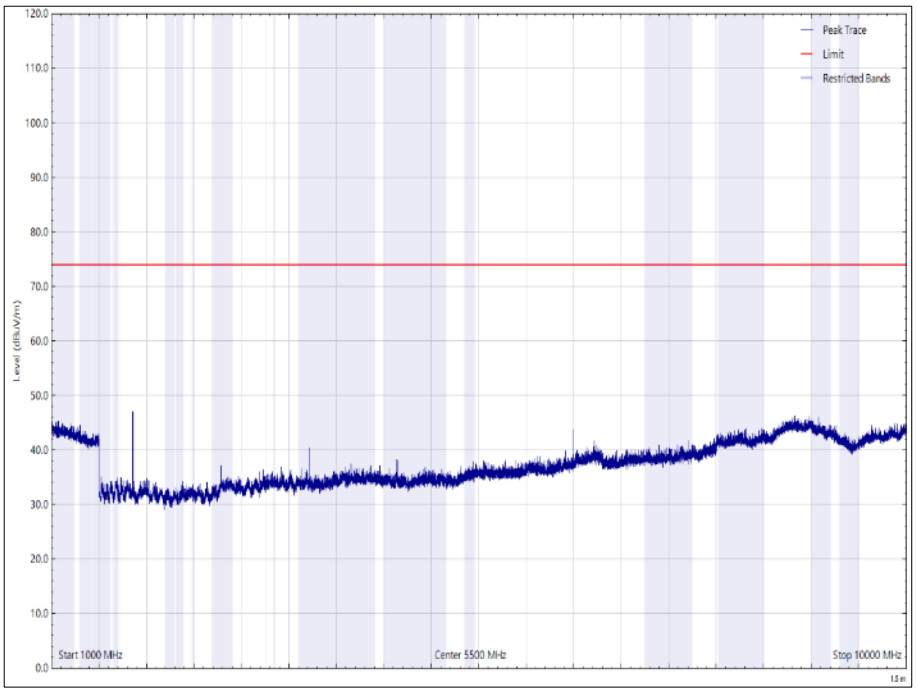

Figure 219 - 927.225 MHz - 1 GHz to 10 GHz - Antenna 2, Vertical, Y Orientation - Peak

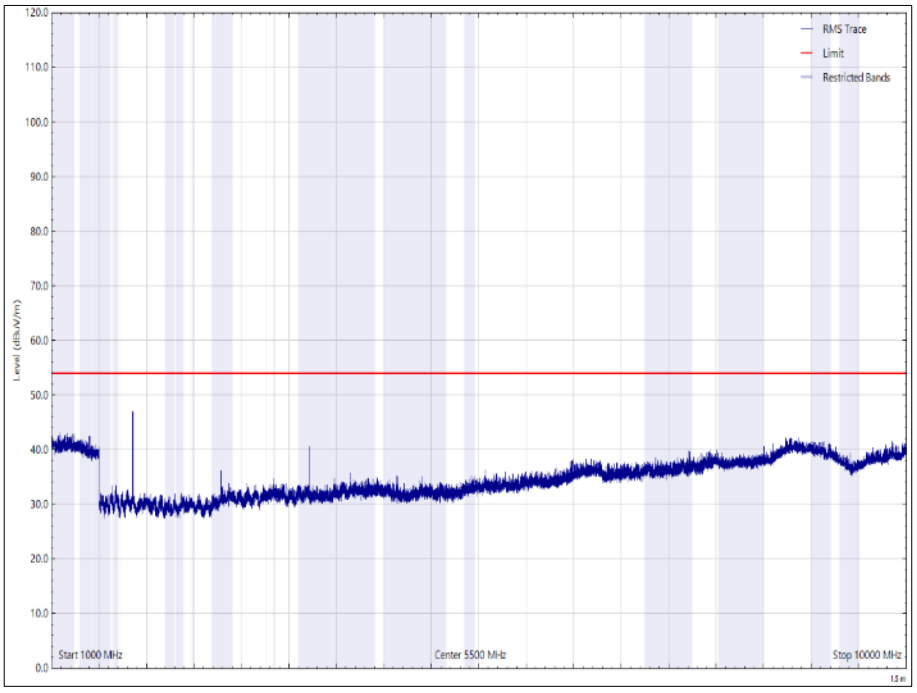

Figure 220 - 927.225 MHz - 1 GHz to 10 GHz - Antenna 2, Horizontal, X Orientation - Average

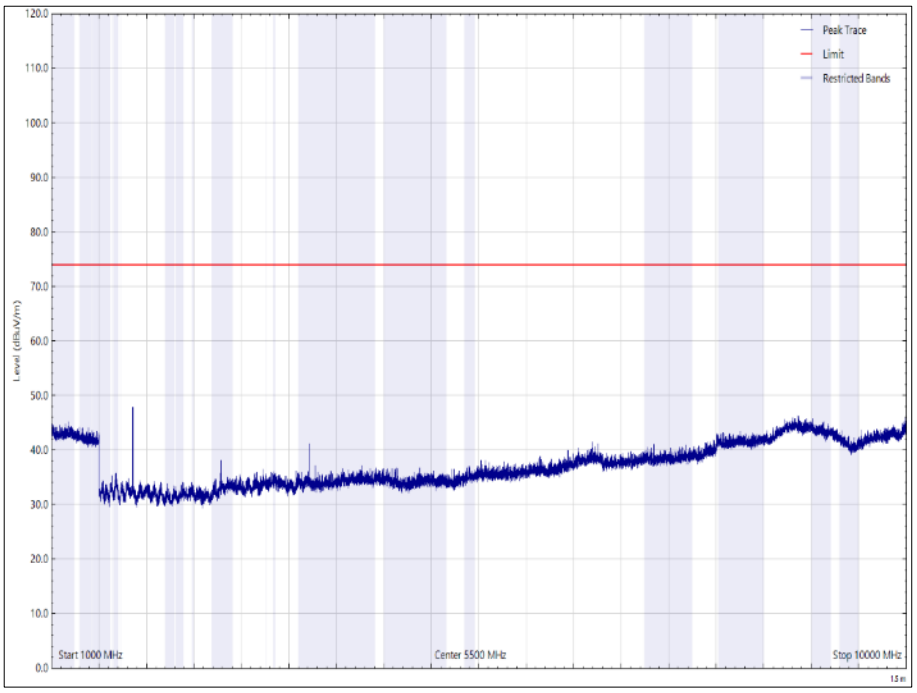

Figure 221 - 927.225 MHz - 1 GHz to 10 GHz - Antenna 2, Horizontal, X Orientation - Peak

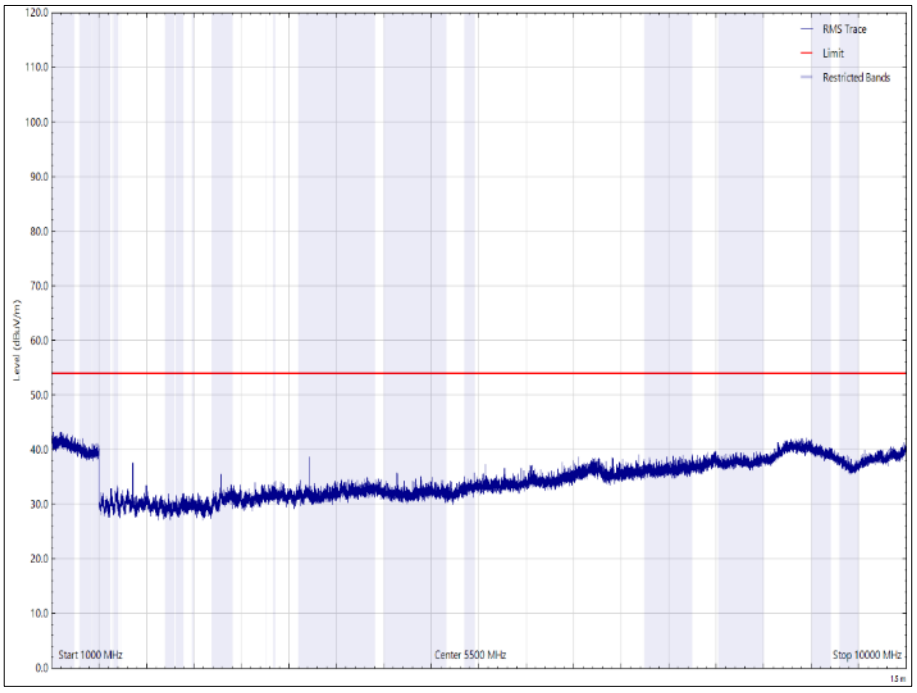

Figure 222 - 927.225 MHz - 1 GHz to 10 GHz - Antenna 2, Vertical, X Orientation - Average

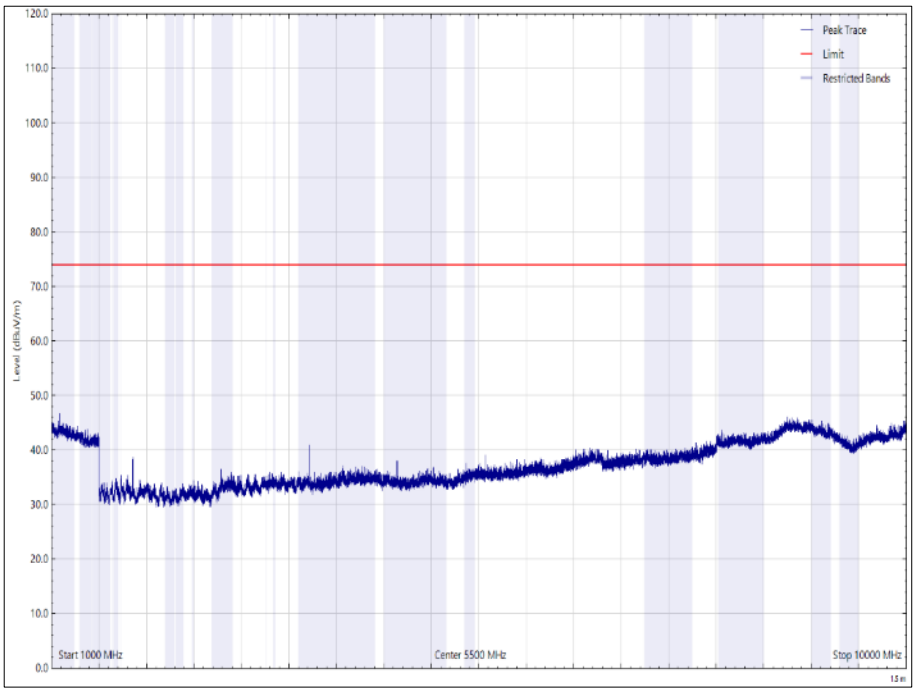

Figure 223 - 927.225 MHz - 1 GHz to 10 GHz - Antenna 2, Vertical, X Orientation - Peak

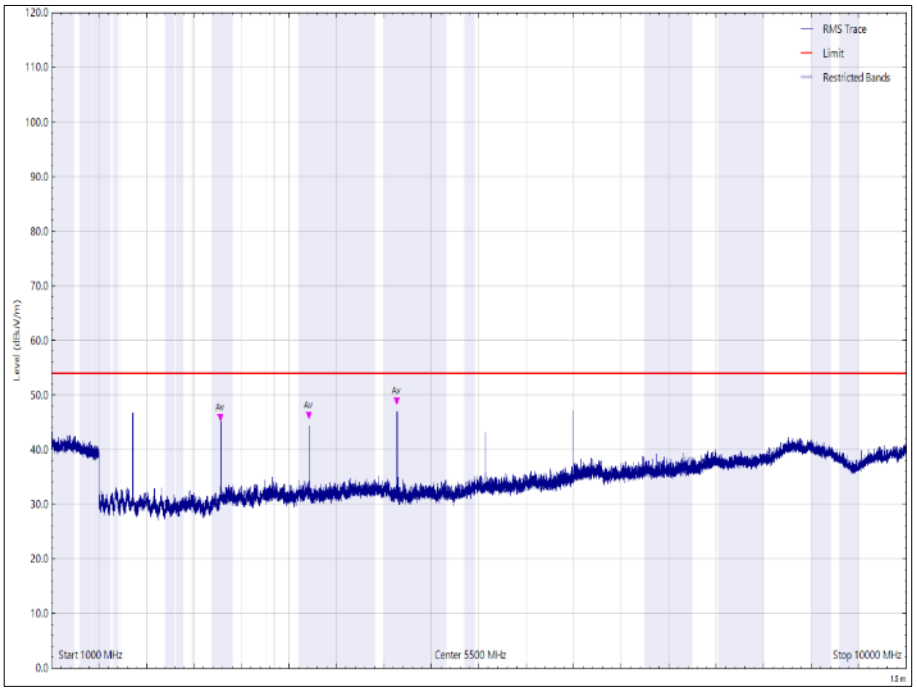

Figure 224 - 927.225 MHz - 1 GHz to 10 GHz - Antenna 1, Horizontal, Z Orientation - Average

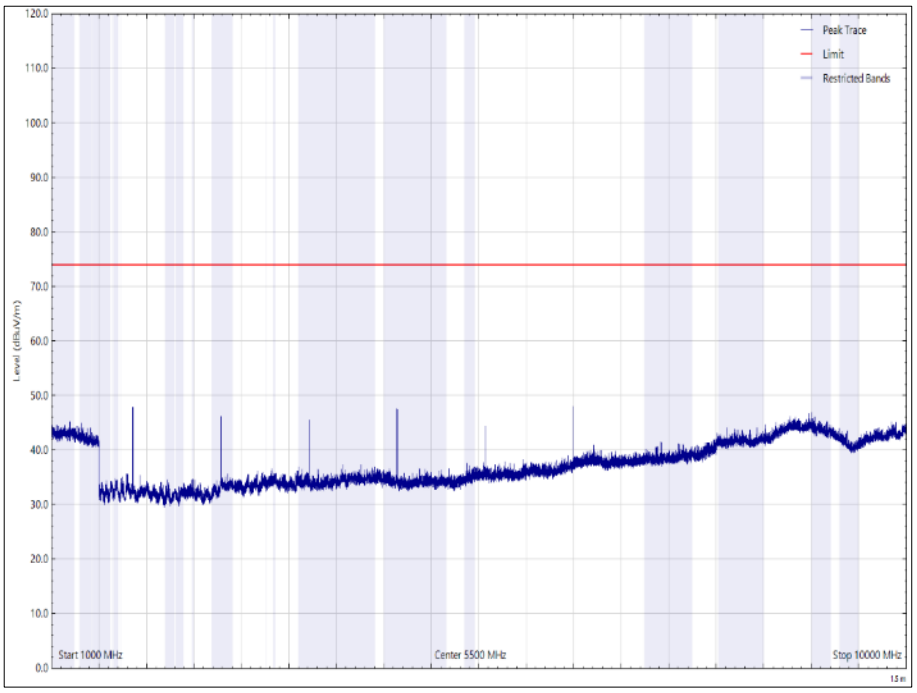

Figure 225 - 927.225 MHz - 1 GHz to 10 GHz - Antenna 1, Horizontal, Z Orientation - Peak

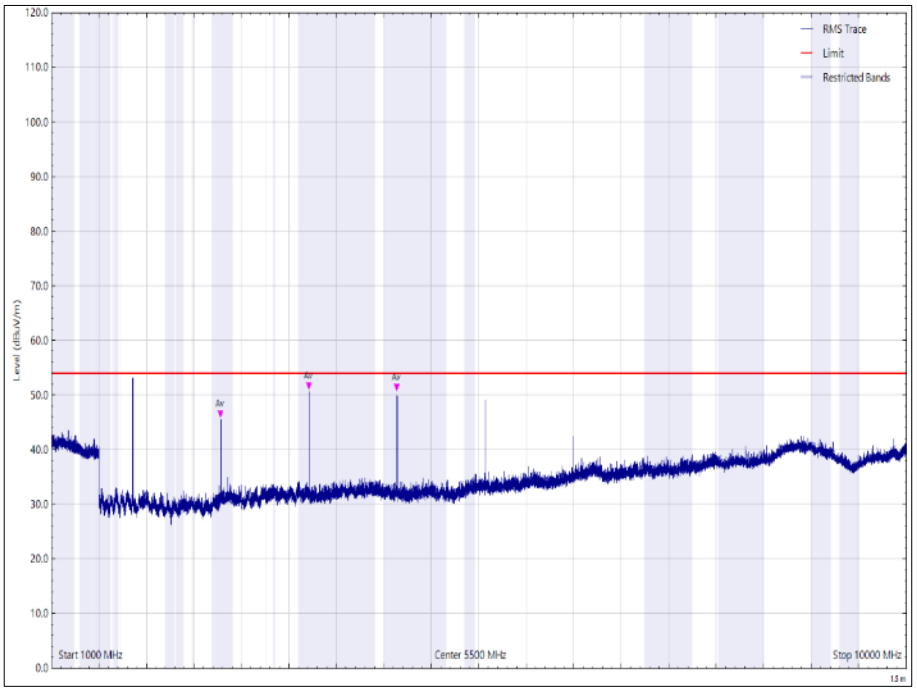

Figure 226 - 927.225 MHz - 1 GHz to 10 GHz - Antenna 1, Vertical, Z Orientation - Average

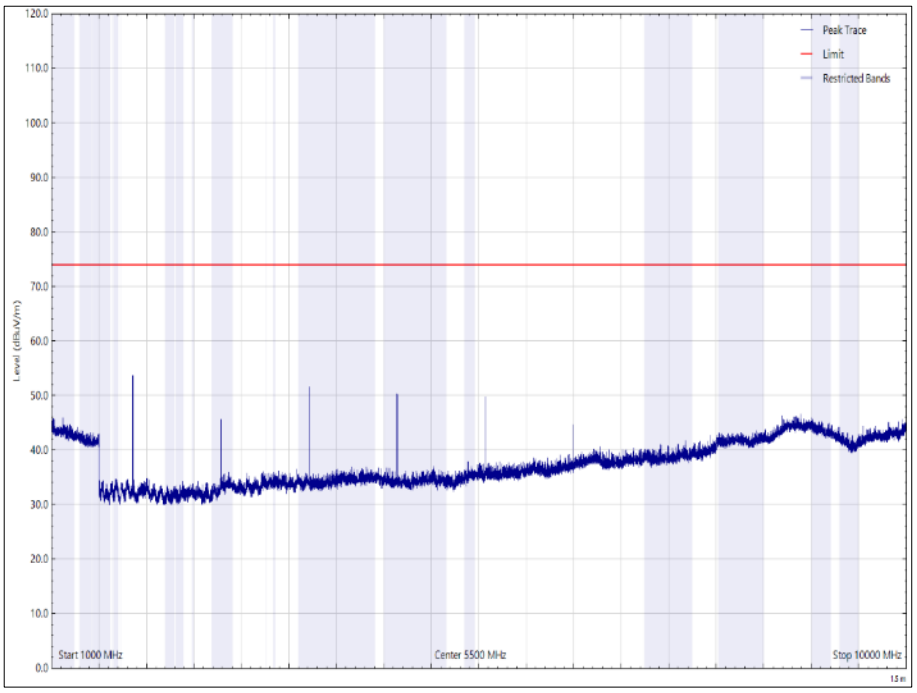

Figure 227 - 927.225 MHz - 1 GHz to 10 GHz - Antenna 1, Vertical, Z Orientation - Peak

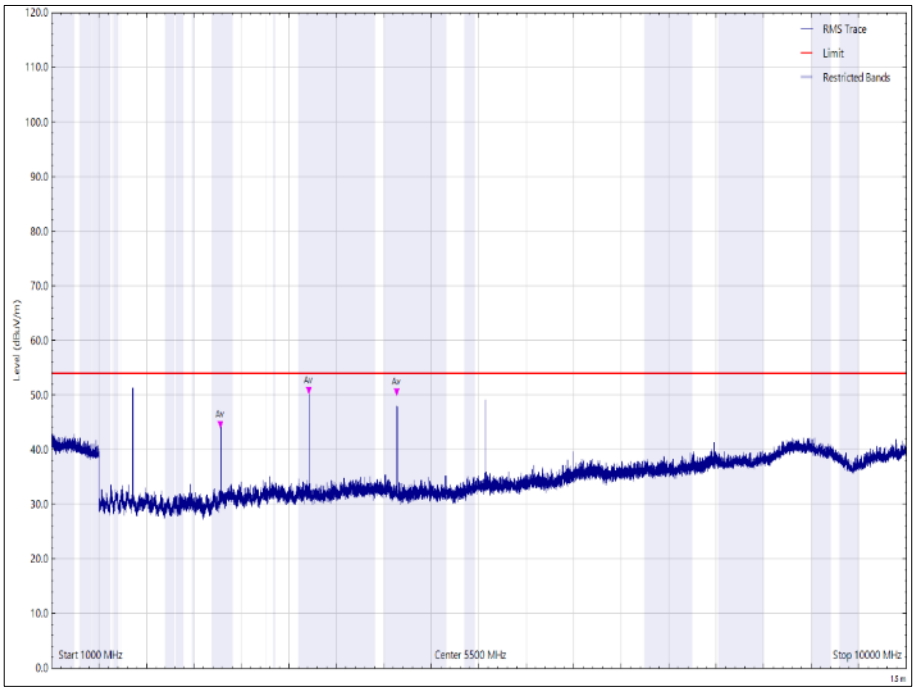

Figure 228 - 927.225 MHz - 1 GHz to 10 GHz - Antenna 1, Horizontal, Y Orientation - Average

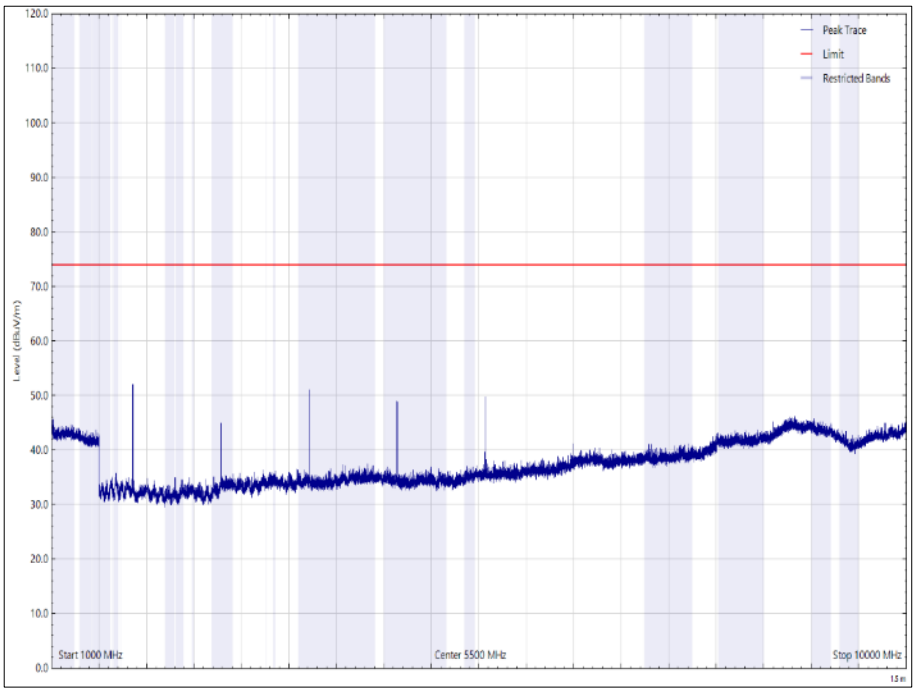

Figure 229 - 927.225 MHz - 1 GHz to 10 GHz - Antenna 1, Horizontal, Y Orientation - Peak

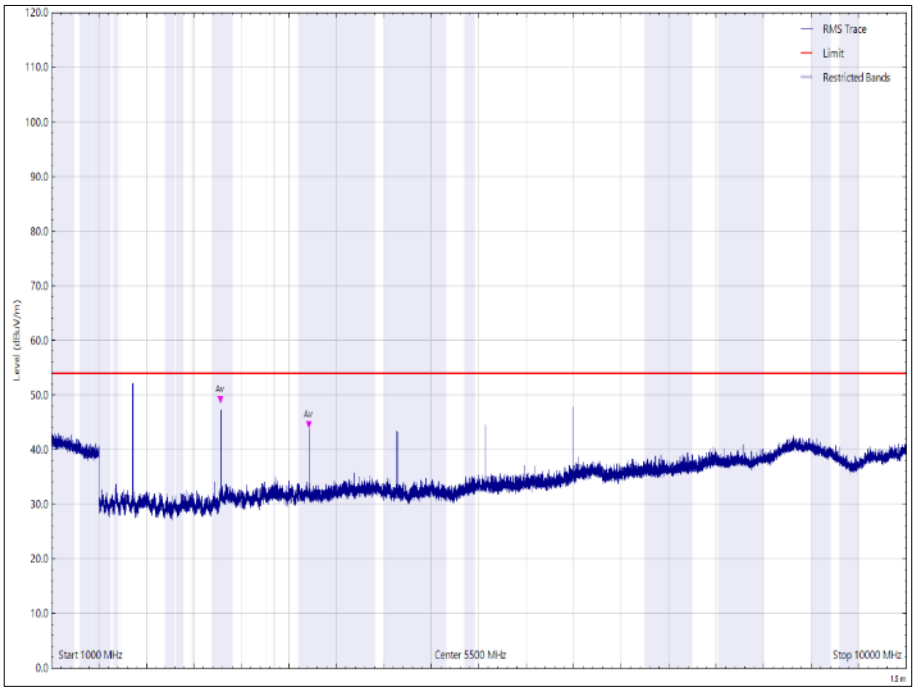

Figure 230 - 927.225 MHz - 1 GHz to 10 GHz - Antenna 1, Vertical, Y Orientation - Average

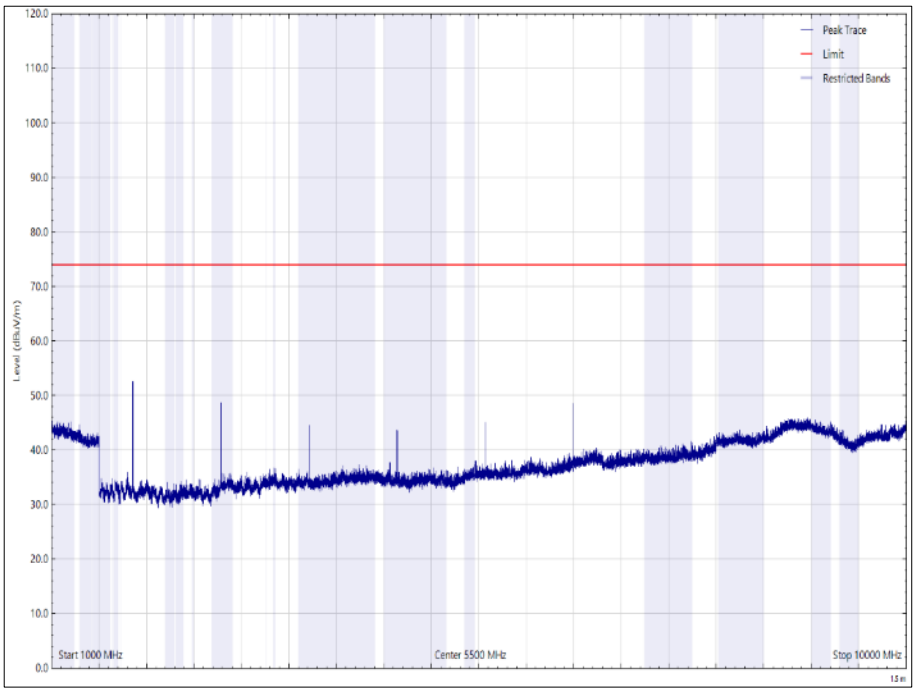

Figure 231 - 927.225 MHz - 1 GHz to 10 GHz - Antenna 1, Vertical, Y Orientation - Peak

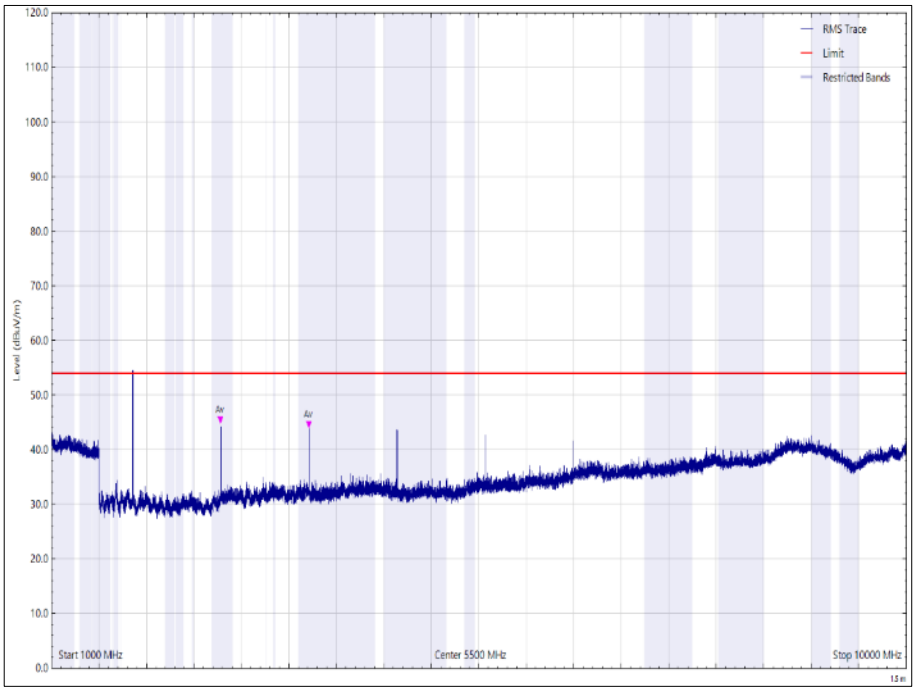

Figure 232 - 927.225 MHz - 1 GHz to 10 GHz - Antenna 1, Horizontal, X Orientation - Average

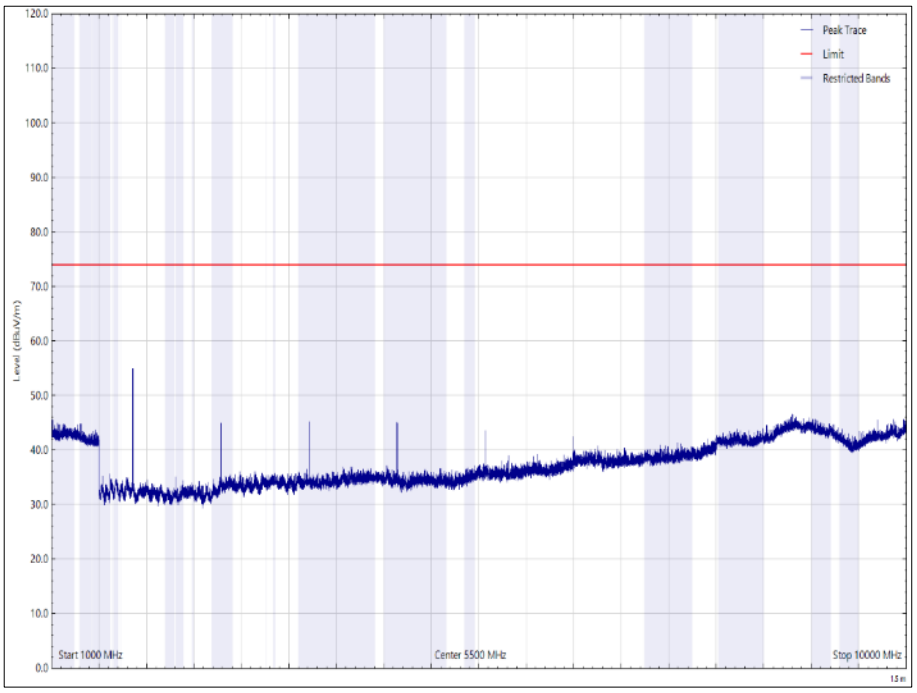

Figure 233 - 927.225 MHz - 1 GHz to 10 GHz - Antenna 1, Horizontal, X Orientation - Peak

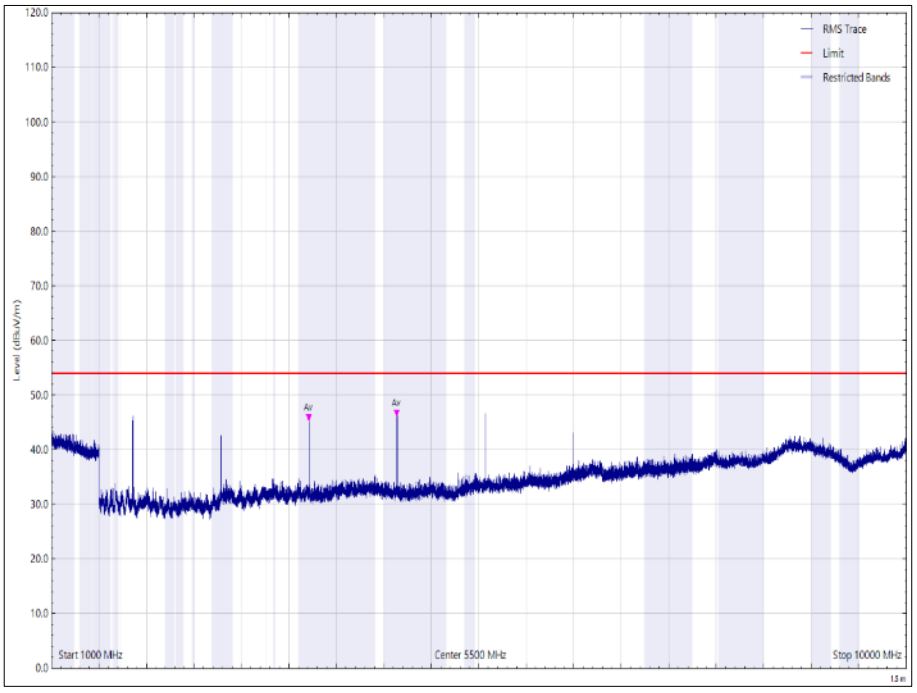

Figure 234 - 927.225 MHz - 1 GHz to 10 GHz - Antenna 1, Vertical, X Orientation - Average

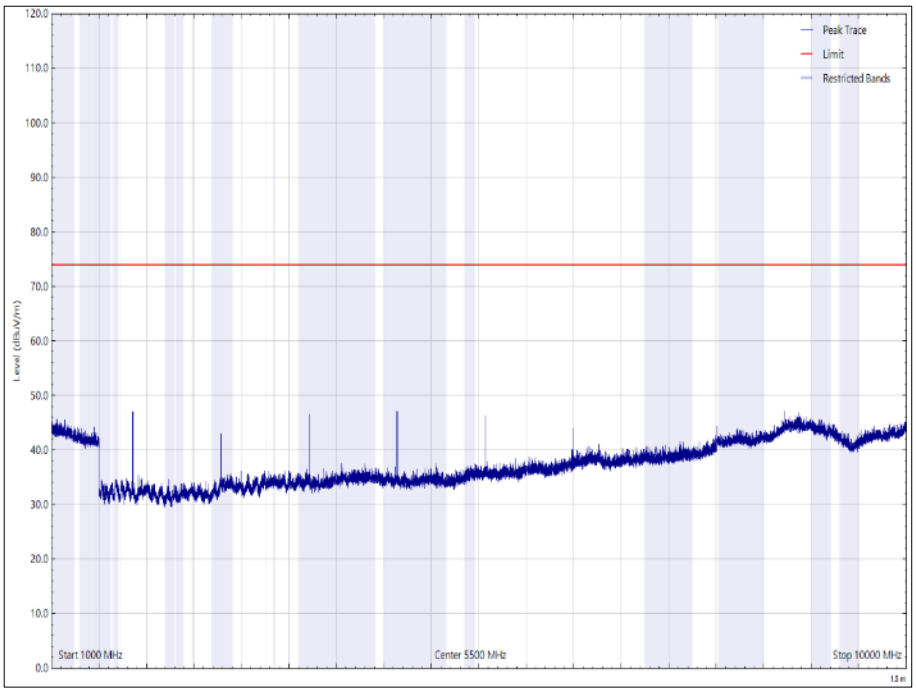

Figure 235 - 927.225 MHz - 1 GHz to 10 GHz - Antenna 1, Vertical, X Orientation - Peak

FCC 47 CFR Part 15, Limit Clause 15.247 (d)

In any 100 kHz bandwidth outside the frequency band in which the spread spectrum or digitally modulated intentional radiator is operating, the radio frequency power that is produced by the intentional radiator shall be at least 20 dB below that in the 100 kHz bandwidth within the band that contains the highest level of the desired power, based on either an RF conducted or a radiated measurement, provided the transmitter demonstrates compliance with the peak conducted power limits. If the transmitter complies with the conducted power limits based on the use of RMS averaging over a time interval, as permitted under paragraph (b)(3) of this section, the attenuation required under this paragraph shall be 30 dB instead of 20 dB.

Attenuation below the general limits specified in § 15.209(a) is not required. In addition, radiated emissions which fall in the restricted bands, as defined in § 15.205(a), must also comply with the radiated emission limits specified in 15.209(a)

ISED RSS-247, Limit Clause 5.5

In any 100 kHz bandwidth outside the frequency band in which the spread spectrum or digitally modulated device is operating, the RF power that is produced shall be at least 20 dB below that in the 100 kHz bandwidth within the band that contains the highest level of the desired power, based on either an RF conducted or a radiated measurement, provided that the transmitter demonstrates compliance with the peak conducted power limits. If the transmitter complies with the conducted power limits based on the use of root-mean-square averaging over a time interval, as permitted under Section 5.4(4), the attenuation required shall be 30 dB instead of 20 dB. Attenuation below the general field strength limits specified in RSS-Gen is not required.

In addition, radiated emissions which fall in the restricted bands, as defined in RSS-GEN, clause 8.10, must also comply with the radiated emission limits specified in RSS-GEN clause 8.9.

2.3.8 Test Location and Test Equipment Used

This test was carried out in EMC Chamber 12.

Instrument	Manufacturer	Type No	TE No	Calibration Period (months)	Calibration Expires
Antenna with attenuator (Bilog, 30 MHz to 3 GHz)	Schaffner	CBL6143	287	24	14-Oct-2022
Comb Generator	Schaffner	RSG1000	3034	-	TU
High Pass filter	Wainwright	WHKX12-1290-1500-18000-80SS	4962	12	27-May-2022
Emissions Software	TUV SUD	EmX V3.0.2	5125	-	Software
Cable (N-Type to N-Type, 8 m)	Teledyne	PR90-088-8MTR	5212	12	06-Sep-2022
Pre-Amplifier (1 GHz to 18 GHz)	Schwarzbeck	BBV 9718 C	5350	12	22-Sep-2022
Cable (N-Type to N-Type, 8 m)	Teledyne	PR90-088-8MTR	5450	6	06-Oct-2022
Thermo-hygro-Barometer	PCE Instruments	PCE-THB-40	5472	12	25-Mar-2023
Antenna (DRG, 1 GHz to 10 GHz)	Schwarzbeck	BBHA9120B	5611	12	15-Oct-2022
Turntable & Mast Controller	Maturo Gmbh	NCD/498/2799.01	5612	-	TU
Tilt Antenna Mast	Maturo Gmbh	TAM 4.0-P	5613	-	TU
Turntable	Maturo Gmbh	Turntable 1.5 SI-2t	5614	-	TU
Screened Room (12)	MVG	EMC-3	5621	36	11-Aug-2023
Test Receiver	Rohde & Schwarz	ESW44	5914	12	21-Feb-2023

Table 40

TU - Traceability Unscheduled

2.4 Authorised Band Edges

2.4.1 Specification Reference

FCC 47 CFR Part 15C, Clause 15.247 (d)
ISED RSS-247, Clause 5.5

2.4.2 Equipment Under Test and Modification State

SDS Module (US), S/N: US 2 - Modification State 0

2.4.3 Date of Test

02-May-2022

2.4.4 Test Method

The test was performed in accordance with ANSI C63.10, clause 6.10.4.

2.4.5 Environmental Conditions

Ambient Temperature	21.3 °C
Relative Humidity	41.7 %

2.4.6 Test Results

Radio chip/PCB combination - Standard

Mode	Frequency (MHz)	Band Edge Frequency (MHz)	Level (dBc)
Static	902.775 - Antenna 1	902	-45.17
Static	927.225 - Antenna 1	928	-44.82
Static	902.775 - Antenna 2	902	-45.39
Static	927.225 - Antenna 2	928	-45.63

Table 41

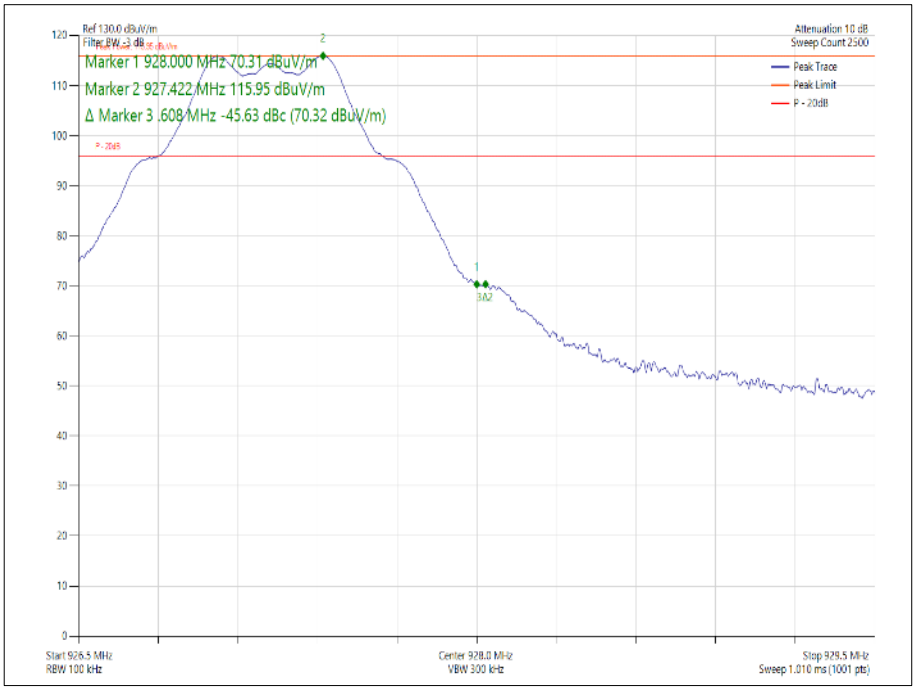

Figure 236 - Static, 927.225 - Antenna 2 MHz - Measured Frequency 928 MHz

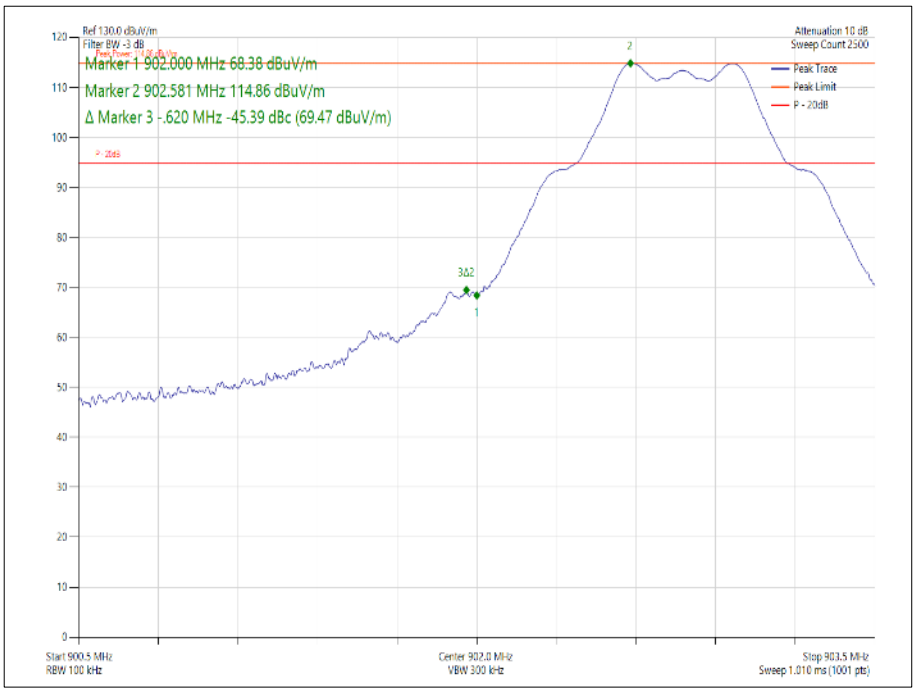

Figure 237 - Static, 902.775 - Antenna 2 MHz - Measured Frequency 902 MHz

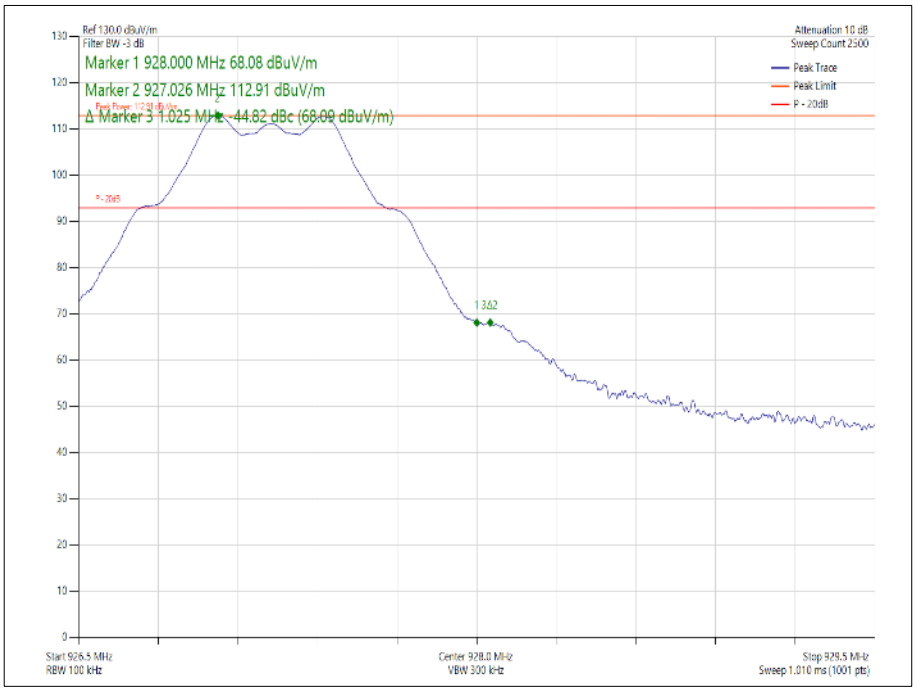

Figure 238 - Static, 927.225 - Antenna 1 MHz - Measured Frequency 928 MHz

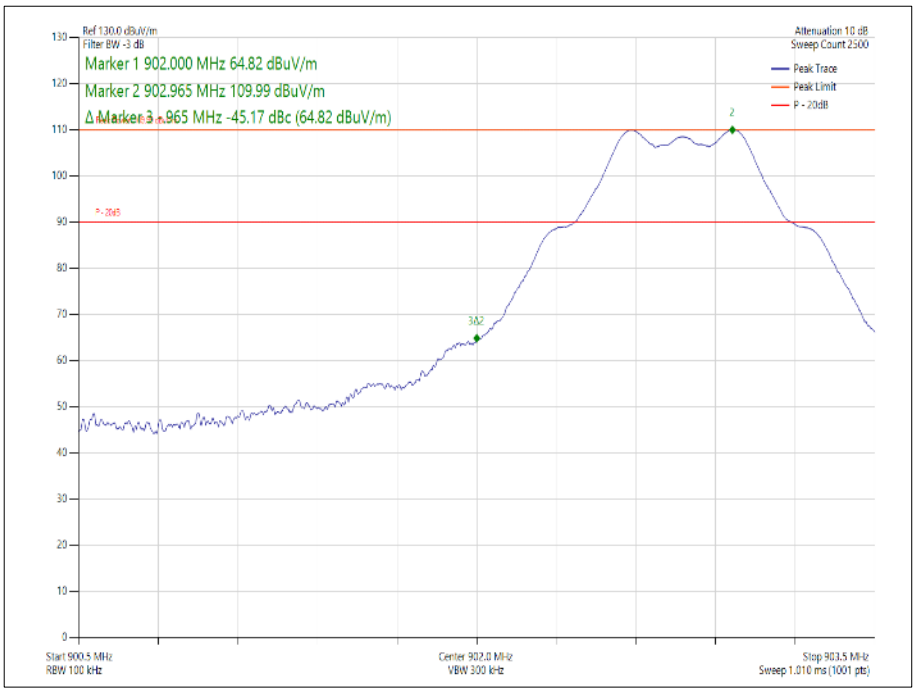

Figure 239 - Static, 902.775 - Antenna 1 MHz - Measured Frequency 902 MHz

Radio chip/PCB combination - Boost

Mode	Frequency (MHz)	Band Edge Frequency (MHz)	Level (dBc)
Static	902.775 - Antenna 1	902	-53.15
Static	927.225 - Antenna 1	928	-54.40
Static	902.775 - Antenna 2	902	-54.31
Static	927.225 - Antenna 2	928	-51.92

Table 42

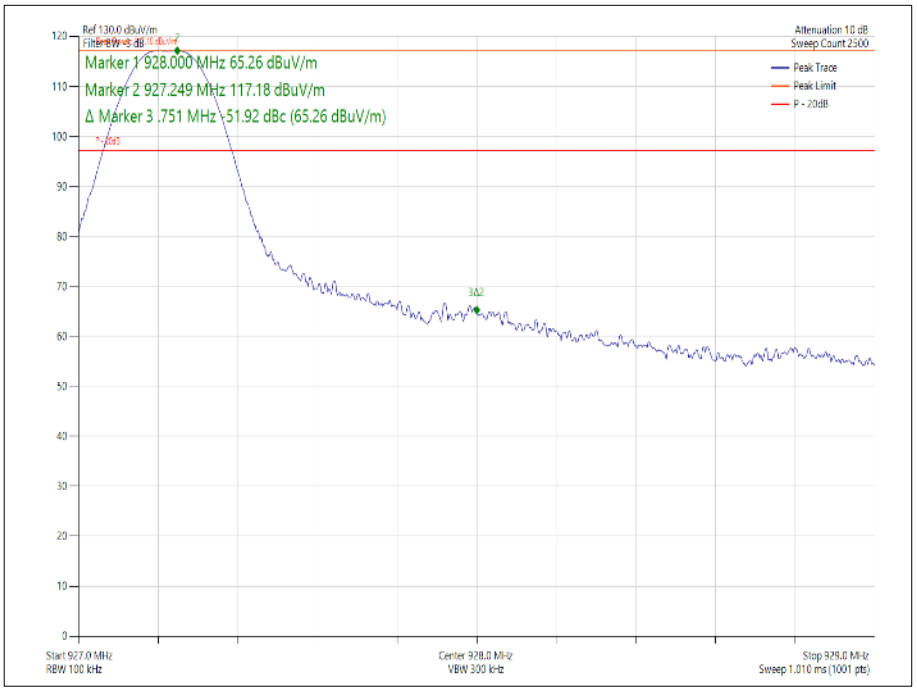

Figure 240 - Static, 927.225 - Antenna 2 MHz - Measured Frequency 928 MHz

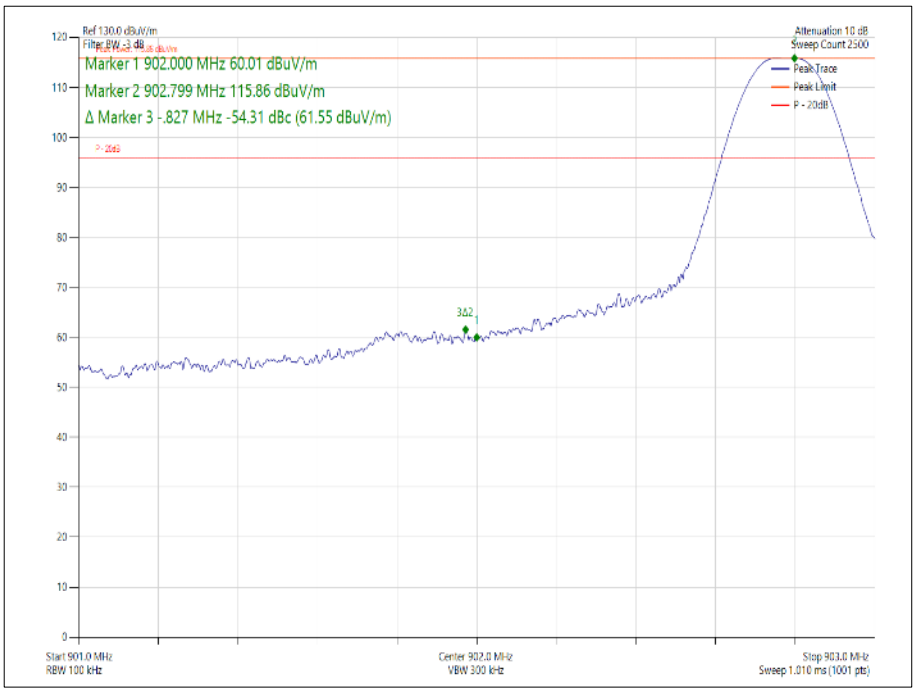

Figure 241 - Static, 902.775 - Antenna 2 MHz - Measured Frequency 902 MHz

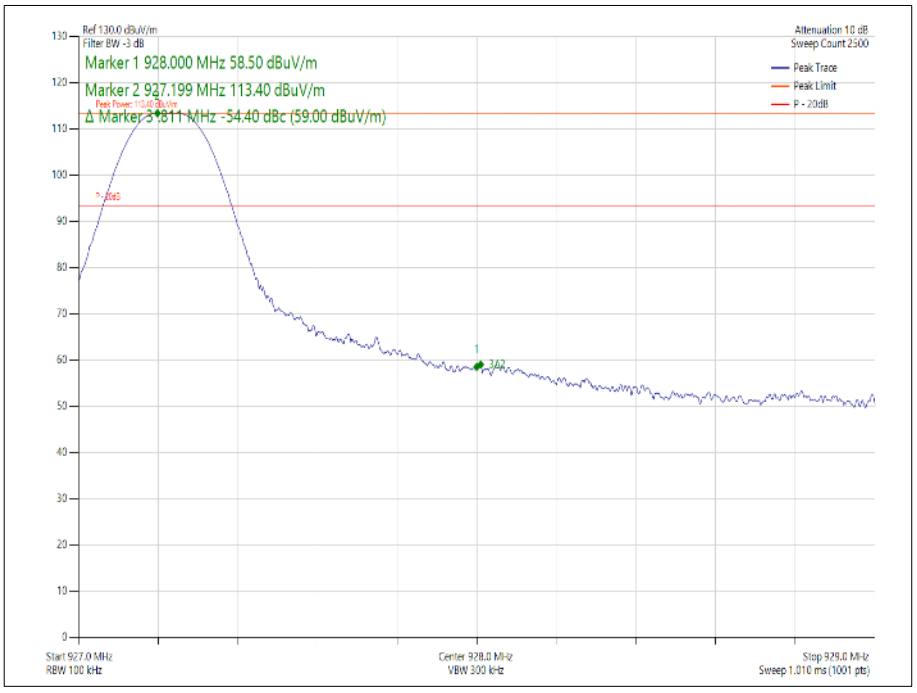

Figure 242 - Static, 927.225 - Antenna 1 MHz - Measured Frequency 928 MHz

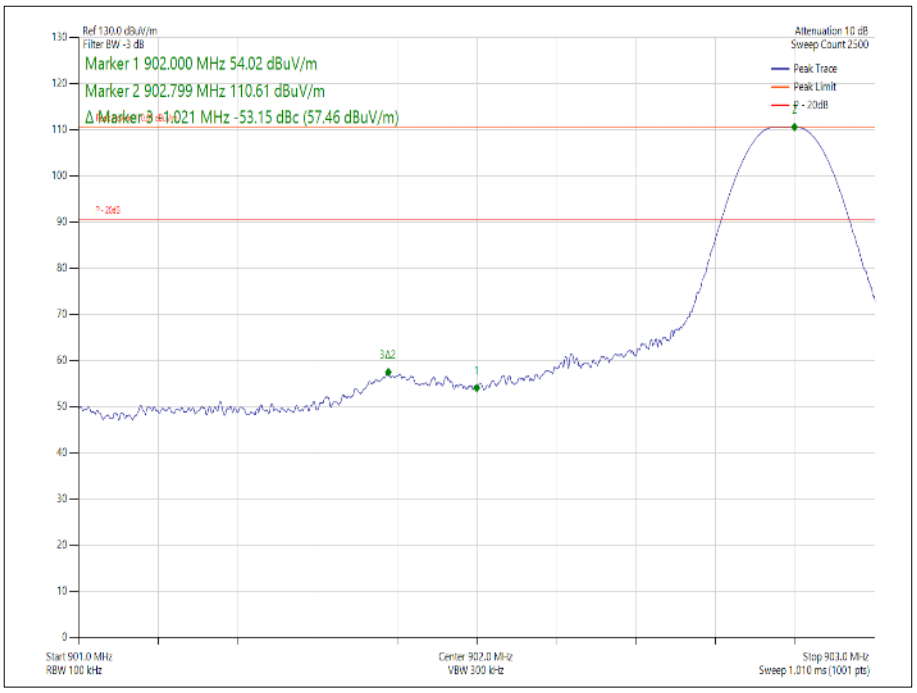

Figure 243 - Static, 902.775 - Antenna 1 MHz - Measured Frequency 902 MHz

FCC 47 CFR Part 15, Limit Clause 15.247 (d)

20 dB below the fundamental measured in a 100 kHz bandwidth using a peak detector. If the transmitter complies with the conducted power limits, based on the use of RMS averaging over a time interval, the attenuation required shall be 30 dB below the fundamental instead of 20 dB.

ISED RSS-247, Limit Clause 5.5

In any 100 kHz bandwidth outside the frequency band in which the spread spectrum or digitally modulated device is operating, the RF power that is produced shall be at least 20 dB below that in the 100 kHz bandwidth within the band that contains the highest level of the desired power, based on either an RF conducted or a radiated measurement, provided that the transmitter demonstrates compliance with the peak conducted power limits. If the transmitter complies with the conducted power limits based on the use of root-mean-square averaging over a time interval, as permitted under Section 5.4(4), the attenuation required shall be 30 dB instead of 20 dB. Attenuation below the general field strength limits specified in RSS-Gen is not required.

2.4.7 Test Location and Test Equipment Used

This test was carried out in EMC Chamber 12.

Instrument	Manufacturer	Type No	TE No	Calibration Period (months)	Calibration Expires
Antenna with attenuator (Bilog, 30 MHz to 3 GHz)	Schaffner	CBL6143	287	24	14-Oct-2022
Cable (SMA to SMA, 2 m)	Rhophase	3PS-1801A-2000-3PS	4113	12	27-Jan-2023
Emissions Software	TUV SUD	EmX V3.0.2	5125	-	Software
Cable (N-Type to N-Type, 8 m)	Teledyne	PR90-088-8MTR	5212	12	06-Sep-2022
Thermo-hygro-Barometer	PCE Instruments	PCE-THB-40	5472	12	25-Mar-2023
Turntable & Mast Controller	Maturo Gmbh	NCD/498/2799.01	5612	-	TU
Tilt Antenna Mast	Maturo Gmbh	TAM 4.0-P	5613	-	TU
Turntable	Maturo Gmbh	Turntable 1.5 SI-2t	5614	-	TU
Screened Room (12)	MVG	EMC-3	5621	36	11-Aug-2023
Test Receiver	Rohde & Schwarz	ESW44	5914	12	21-Feb-2023

Table 43

TU - Traceability Unscheduled

2.5 Power Spectral Density

2.5.1 Specification Reference

FCC 47 CFR Part 15C, Clause15.247 (e)
ISED RSS-247, Clause 5.2
ISED RSS-GEN, Clause 6.12

2.5.2 Equipment Under Test and Modification State

SDS Module (US), S/N: US 1 - Modification State 0

2.5.3 Date of Test

11-May-2022

2.5.4 Test Method

This test was performed in accordance with ANSI C63.10, clause 11.10.5 (AVGPSD-2).

2.5.5 Environmental Conditions

Ambient Temperature	23.6 °C
Relative Humidity	47.9 %

2.5.6 Test Results

Radio chip/PCB combination - Standard

Test Configuration			
Frequency Range:	902-928 MHz	Band:	900 MHz
Limit Clause(s):	15.247 (e) RSS-247 5.2 b)	Test Method(s):	C63.10 11.10.5
Additional Reference(s):	-		

DUT Configuration			
Mode:	Standard	Duty Cycle (%):	100.0
Data Rate:	-	DCCF (dB):	0.00
Antenna Configuration:	SISO	Peak Antenna Gain (dBi):	-
Active Port(s):	A (Ant 1)	Active Chain(s):	0

Test Frequency (MHz)	RBW (kHz)	PSD (dBm/RBW)					Limit (dBm/3 kHz)	Margin (dB)
		A	B	C	D	∑		
902.775	10.0	4.20	-	-	-	-	8.00	-3.80
915.000	5.1	2.18	-	-	-	-	8.00	-5.82
927.225	5.1	3.96	-	-	-	-	8.00	-4.04

Table 44 - Maximum Power Spectral Density Results

Test Configuration			
Frequency Range:	902-928 MHz	Band:	900 MHz
Limit Clause(s):	15.247 (e) RSS-247 5.2 b)	Test Method(s):	C63.10 11.10.5
Additional Reference(s):	-		

DUT Configuration			
Mode:	Standard	Duty Cycle (%):	100.0
Data Rate:	-	DCCF (dB):	0.00
Antenna Configuration:	SISO	Peak Antenna Gain (dBi):	-
Active Port(s):	B (Ant2)	Active Chain(s):	0

Test Frequency (MHz)	RBW (kHz)	PSD (dBm/RBW)					Limit (dBm/3 kHz)	Margin (dB)
		A	B	C	D	∑		
902.775	5.1	-	2.79	-	-	-	8.00	-5.21
915.000	5.1	-	3.33	-	-	-	8.00	-4.67
927.225	5.1	-	3.46	-	-	-	8.00	-4.54

Table 45 - Maximum Power Spectral Density Results

FCC 47 CFR Part 15, Limit Clause 15.247 (e)

The power spectral density conducted from the intentional radiator to the antenna shall not be greater than 8 dBm in any 3 kHz band during any time interval of continuous transmission.

ISED RSS-247, Limit Clause 5.2(b)

The transmitter power spectral density conducted from the transmitter to the antenna shall not be greater than 8 dBm in any 3 kHz band during any time interval of continuous transmission

2.5.7 Test Location and Test Equipment Used

This test was carried out in RF Laboratory 2.

Instrument	Manufacturer	Type No	TE No	Calibration Period (months)	Calibration Expires
Hygrometer	Rotronic	I-1000	3220	12	05-Nov-2022
Frequency Standard	Spectracom	SecureSync 1200-0408-0601	4393	6	30-Jun-2022
MXA Signal Analyser	Keysight Technologies	N9020B	5528	24	21-Mar-2024
Signal Conditioning Unit	TUV SUD	SCU001	5546	12	06-Apr-2023

Table 46

2.6 Frequency Hopping Systems - 20 dB Bandwidth

2.6.1 Specification Reference

FCC 47 CFR Part 15C, Clause 15.247 (a)(1)
ISED RSS-247, Clause 5.1
ISED RSS-GEN, Clause 6.7

2.6.2 Equipment Under Test and Modification State

SDS Module (US), S/N: US 1 - Modification State 0

2.6.3 Date of Test

26-May-2022

2.6.4 Test Method

The test was performed in accordance with ANSI C63.10, clause 6.9.2.

2.6.5 Environmental Conditions

Ambient Temperature	23.6 °C
Relative Humidity	45.0 %

2.6.6 Test Results

Radio chip/PCB combination - Boost

Test Configuration			
Frequency Range:	902-928 MHz	Band:	900 MHz
Limit Clause(s):	FCC 15.247 (a)(1)(i) RSS-247 5.1 (c)	Test Method(s):	C63.10 6.9.2
Additional Reference(s):	-		

DUT Configuration			
Mode:	Boost	Duty Cycle (%):	-
Antenna Configuration:	SISO	DCCF (dB):	-
Active Port(s):	A (Ant 1)	Peak Antenna Gain (dBi):	-

Test Frequency (MHz)	20 dB Bandwidth (kHz)			
	A	B	C	Limit (kHz)
902.775	110.5	-	-	500.0
915.000	108.1	-	-	500.0
927.225	108.5	-	-	500.0

Table 47 - 20 dB Bandwidth Results

Figure 244 - 902.775 MHz 20 dB Bandwidth

Figure 245 – 915.000 MHz 20 dB Bandwidth

Figure 246 - 927.225 MHz 20 dB Bandwidth

FCC 47 CFR Part 15 and ISED RSS-247 Limit Clause

None specified.

2.6.7 Test Location and Test Equipment Used

This test was carried out in RF Laboratory 1.

Instrument	Manufacturer	Type No	TE No	Calibration Period (months)	Calibration Expires
Hygrometer	Rotronic	I-1000	3220	12	05-Nov-2022
Network Analyser	Rohde & Schwarz	ZVA 40	3548	12	24-Feb-2023
Calibration Unit	Rohde & Schwarz	ZV-Z54	4368	12	24-Feb-2023
Frequency Standard	Spectracom	SecureSync 1200-0408-0601	4393	6	30-Jun-2022
Signal Analyser	Keysight Technologies	MXA	4994	24	10-Feb-2024
Attenuator 5W 20dB DC-18GHz	Aaren	AT40A-4041-D18-20	5500	12	04-May-2023
3.5mm Cable (1m)	Junkosha	MWX221/B	5837	12	23-Jul-2022

Table 48

2.7 Frequency Hopping Systems - Channel Separation

2.7.1 Specification Reference

FCC 47 CFR Part 15C, Clause 15.247 (a)(1)
ISED RSS-247, Clause 5.1

2.7.2 Equipment Under Test and Modification State

SDS Module (US), S/N: US 1 - Modification State 0

2.7.3 Date of Test

24-June-2022

2.7.4 Test Method

The test was performed in accordance with ANSI C63.10, clause 7.8.2.

The center frequency of each channel was obtained by finding the midpoint of the 20 dB bandwidth.

2.7.5 Environmental Conditions

Ambient Temperature	23.8 °C
Relative Humidity	45.0 %

2.7.6 Test Results

Radio chip/PCB combination - Boost

Test Configuration			
Frequency Range:	902-928 MHz	Band:	900 MHz
Limit Clause(s):	FCC 15.247(a)(1) RSS-247 5.1 b)	Test Method(s):	C63.10 7.8.2
Additional Reference(s):	-		

DUT Configuration			
Mode:	Boost	Duty Cycle (%):	-
Antenna Configuration:	SISO	DCCF (dB):	-
Active Port(s):	A (Ant 1)	Peak Antenna Gain (dBi):	-

Test Frequency (MHz)	20 dB Bandwidth (kHz)	Carrier Frequency Separation (kHz)	Limit (kHz)
915.000	108.5	162.5	≥108.5

Table 49 - Carrier Frequency Separation Results

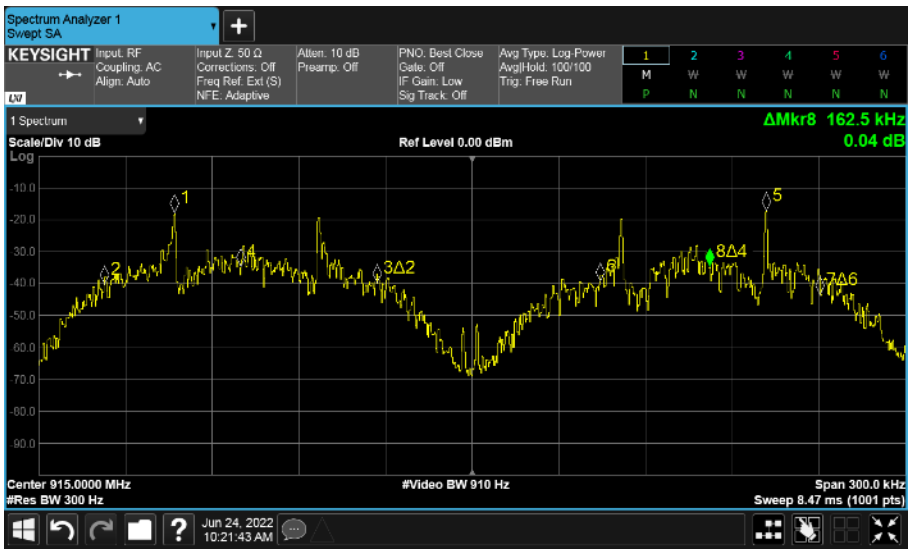

Figure 247 - Boost - 915 MHz CFS

FCC 47 CFR Part 15, Limit Clause 15.247 (a)(1)

Frequency hopping systems shall have hopping channel carrier frequencies separated by a minimum of 25 kHz or the 20 dB bandwidth of the hopping channel, whichever is greater.

Alternatively, frequency hopping systems operating in the band 2400-2483.5 MHz may have hopping channel carrier frequencies that are separated by 25 kHz or two-thirds of the 20 dB bandwidth of the hopping channel, whichever is greater, provided the systems operate with an output power no greater than 0.125 W.

ISED RSS-247, Limit Clause 5.1 (b)

FHSs shall have hopping channel carrier frequencies separated by a minimum of 25 kHz or the -20 dB bandwidth of the hopping channel, whichever is greater. Alternatively, FHSs operating in the band 2400-2483.5 MHz may have hopping channel carrier frequencies that are separated by 25 kHz or two thirds of the 20 dB bandwidth of the hopping channel, whichever is greater, provided that the systems operate with an output power no greater than 0.125 W.

2.7.7 Test Location and Test Equipment Used

This test was carried out in RF Laboratory 1.

Instrument	Manufacturer	Type No	TE No	Calibration Period (months)	Calibration Expires
Hygrometer	Rotronic	I-1000	3220	12	05-Nov-2022
Frequency Standard	Spectracom	SecureSync 1200-0408-0601	4393	6	30-Jun-2022
EXA	Keysight Technologies	N9010B	4968	24	19-Jan-2024
2.92mm 1m cable	Junkosha	MWX211/B	5415	12	23-Jul-2022
Attenuator 5W 30dB DC-18GHz	Aaren	AT40A-4041-D18-30	5503	12	18-May-2023

Table 50

2.8 Frequency Hopping Systems - Average Time of Occupancy

2.8.1 Specification Reference

FCC 47 CFR Part 15C, Clause 15.247 (a)(1)
ISED RSS-247, Clause 5.1

2.8.2 Equipment Under Test and Modification State

SDS Module (US), S/N: US 1 - Modification State 0

2.8.3 Date of Test

26-May-2022

2.8.4 Test Method

The test was performed in accordance with ANSI C63.10, clause 7.8.4.

2.8.5 Environmental Conditions

Ambient Temperature	23.6 °C
Relative Humidity	45.0 %

2.8.6 Test Results

Radio chip/PCB combination - Boost

Test Configuration			
Frequency Range:	902-928 MHz	Band:	900 MHz
Limit Clause(s):	FCC 15.247 (a)(1)(i) RSS-247 5.1 c)	Test Method(s):	C63.10 7.8.4
Additional Reference(s):	-		

DUT Configuration			
Mode:	Boost	Duty Cycle (%):	-
Antenna Configuration:	SISO	DCCF (dB):	-
Active Port(s):	A (Ant 1)	Peak Antenna Gain (dBi):	-

Test Frequency (MHz)	Time of Occupancy			Limit (ms)
	Dwell Time (ms)	Number of Transmissions	Time of Occupancy (ms)	
915.000	5.115	2	10.230	400.0

Table 51 - Time of Occupancy Results

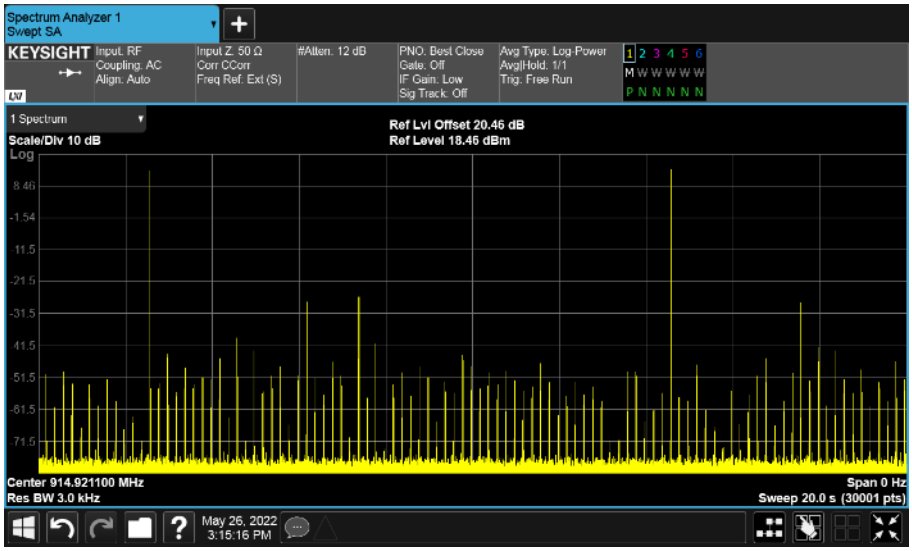

Figure 248 - Boost - 915 MHz Accumulated Transmit Time

FCC 47 CFR Part 15, Limit Clause 15.247 (a)(1)(i)

For frequency hopping systems operating in the 902–928 MHz band: if the 20 dB bandwidth of the hopping channel is less than 250 kHz, the system shall use at least 50 hopping frequencies and the average time of occupancy on any frequency shall not be greater than 0.4 seconds within a 20 second period; if the 20 dB bandwidth of the hopping channel is 250 kHz or greater, the system shall use at least 25 hopping frequencies and the average time of occupancy on any frequency shall not be greater than 0.4 seconds within a 10 second period.

Industry Canada RSS-247, Limit Clause 5.1 (c)

For FHSs in the band 902-928 MHz: if the 20 dB bandwidth of the hopping channel is less than 250 kHz, the system shall use at least 50 hopping channels and the average time of occupancy on any channel shall not be greater than 0.4 seconds within a 20-second period. If the 20 dB bandwidth of the hopping channel is 250 kHz or greater, the system shall use at least 25 hopping channels and the average time of occupancy on any channel shall not be greater than 0.4 seconds within a 10-second period. The maximum 20 dB bandwidth of the hopping channel shall be 500 kHz.

2.8.7 Test Location and Test Equipment Used

This test was carried out in RF Laboratory 1.

Instrument	Manufacturer	Type No	TE No	Calibration Period (months)	Calibration Expires
Hygrometer	Rotronic	I-1000	3220	12	05-Nov-2022
Network Analyser	Rohde & Schwarz	ZVA 40	3548	12	24-Feb-2023
Calibration Unit	Rohde & Schwarz	ZV-Z54	4368	12	24-Feb-2023
Frequency Standard	Spectracom	SecureSync 1200-0408-0601	4393	6	30-Jun-2022
Signal Analyser	Keysight Technologies	MXA	4994	24	10-Feb-2024
Attenuator 5W 20dB DC-18GHz	Aaren	AT40A-4041-D18-20	5500	12	04-May-2023
3.5mm Cable (1m)	Junkosha	MWX221/B	5837	12	23-Jul-2022

Table 52

2.9 Frequency Hopping Systems - Number of Hopping Channels

2.9.1 Specification Reference

FCC 47 CFR Part 15C, Clause 15.247 (a)(1)
ISED RSS-247, Clause 5.1

2.9.2 Equipment Under Test and Modification State

SDS Module (US), S/N: US 1 - Modification State 0

2.9.3 Date of Test

26-May-2022

2.9.4 Test Method

The test was performed in accordance with ANSI C63.10, clause 7.8.3.

2.9.5 Environmental Conditions

Ambient Temperature	23.6 °C
Relative Humidity	45.0 %

2.9.6 Test Results

Radio chip/PCB combination - Boost

Test Configuration			
Frequency Range:	902-928 MHz	Band:	900 MHz
Limit Clause(s):	FCC 15.247(a)(1)(i) RSS-247 5.1 c)	Test Method(s):	C63.10 7.8.3
Additional Reference(s):	-		

DUT Configuration			
Mode:	Boost	Duty Cycle (%):	-
Antenna Configuration:	-	DCCF (dB):	-
Active Port(s):	A (Ant 1)	Peak Antenna Gain (dBi):	-

Number of Hopping Frequencies	Limit
50	≥50.0

Table 53 - Number of Hopping Frequencies Results

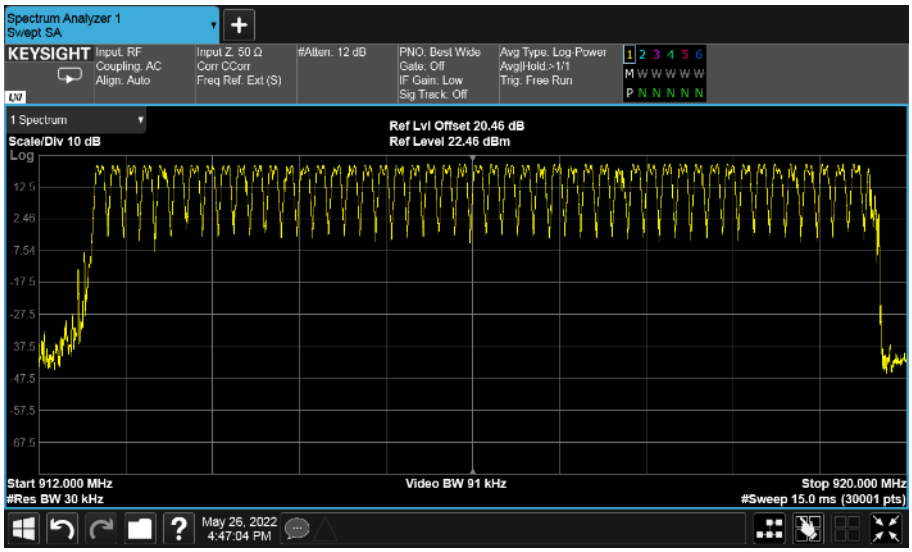

Figure 249 - Boost - Number of Hopping Channels

FCC 47 CFR Part 15, Limit Clause 15.247 (a)(1)(i)

For frequency hopping systems operating in the 902–928 MHz band: if the 20 dB bandwidth of the hopping channel is less than 250 kHz, the system shall use at least 50 hopping frequencies

ISED RSS-247, Limit Clause 5.1 (c)

For FHSs in the band 902-928 MHz: if the 20 dB bandwidth of the hopping channel is less than 250 kHz, the system shall use at least 50 hopping channels

2.9.7 Test Location and Test Equipment Used

This test was carried out in RF Laboratory 1.

Instrument	Manufacturer	Type No	TE No	Calibration Period (months)	Calibration Expires
Hygrometer	Rotronic	I-1000	3220	12	05-Nov-2022
Network Analyser	Rohde & Schwarz	ZVA 40	3548	12	24-Feb-2023
Calibration Unit	Rohde & Schwarz	ZV-Z54	4368	12	24-Feb-2023
Frequency Standard	Spectracom	SecureSync 1200-0408-0601	4393	6	30-Jun-2022
Signal Analyser	Keysight Technologies	MXA	4994	24	10-Feb-2024
Attenuator 5W 20dB DC-18GHz	Aaren	AT40A-4041-D18-20	5500	12	04-May-2023
3.5mm Cable (1m)	Junkosha	MWX221/B	5837	12	23-Jul-2022

Table 54

3 Photographs

3.1 Test Setup Photographs

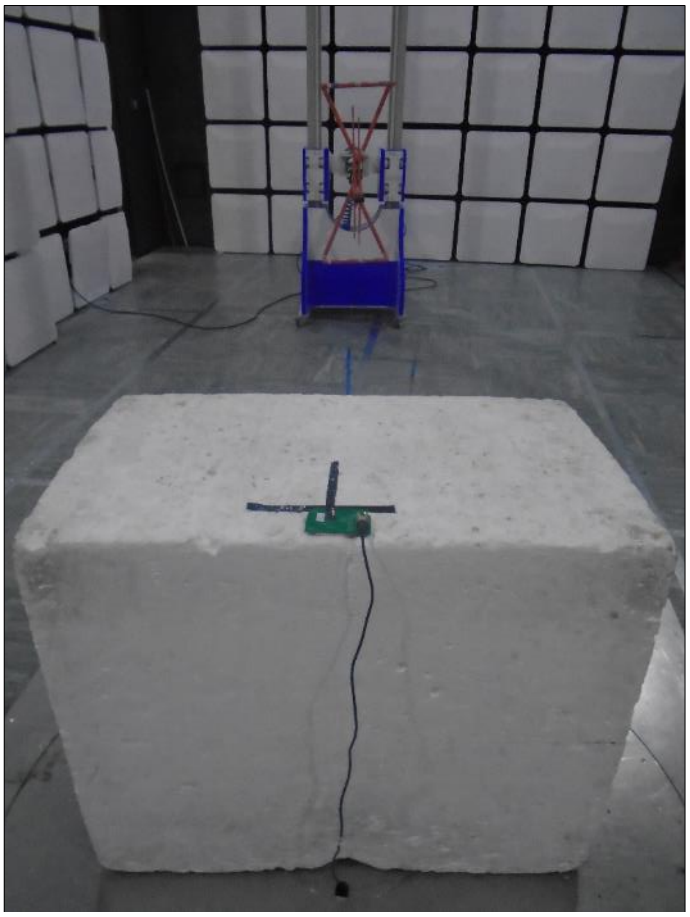

Figure 250 - Test Setup - 30 MHz to 1 GHz - X Orientation

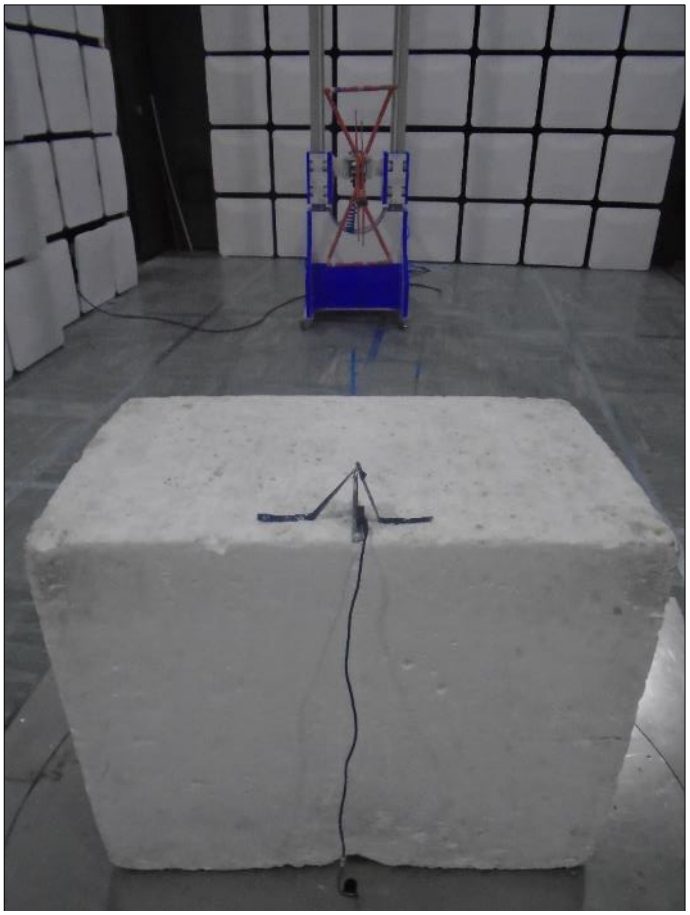

Figure 251 - Test Setup - 30 MHz to 1 GHz - Y Orientation

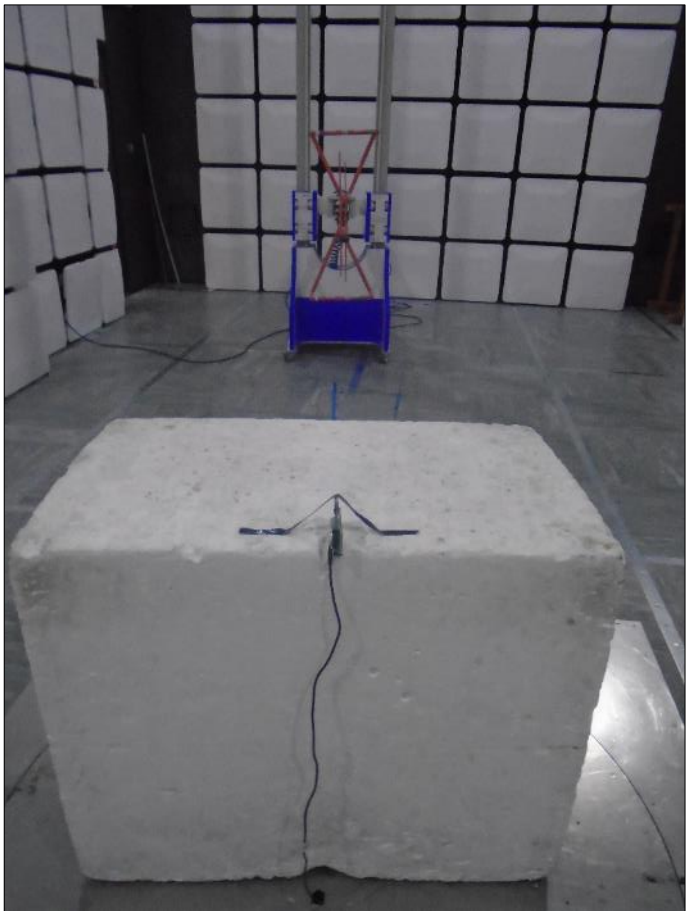

Figure 252 - Test Setup - 30 MHz to 1 GHz - Z Orientation

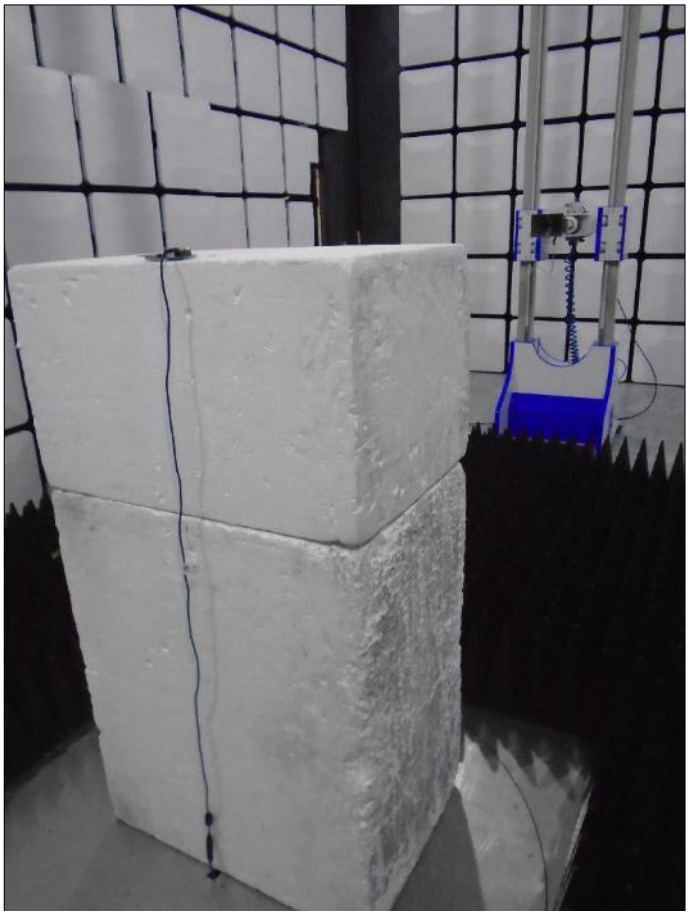

Figure 253 - Test Setup - 1 GHz to 10 GHz - X Orientation

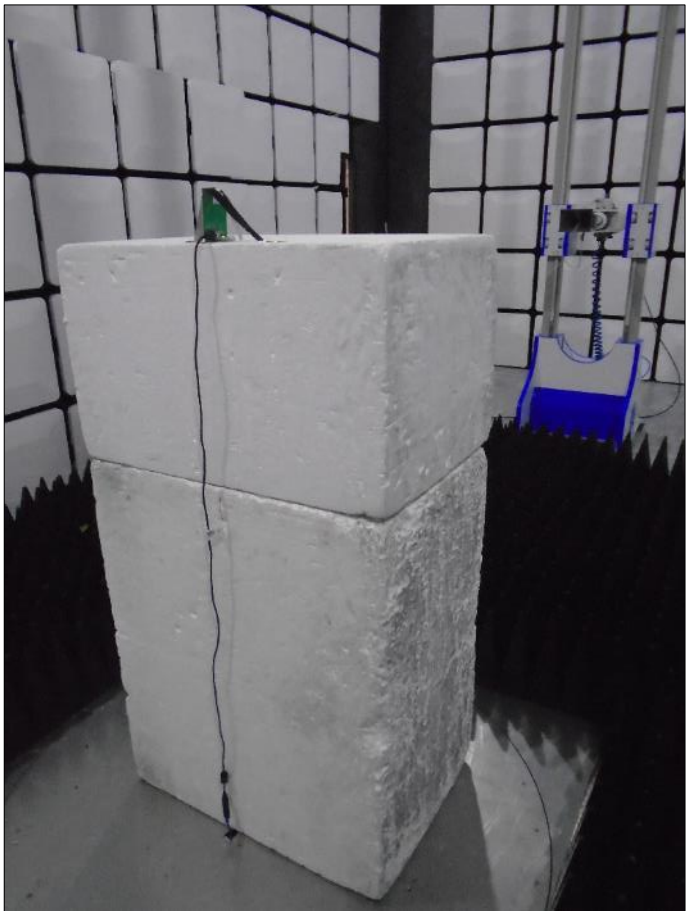

Figure 254 - Test Setup - 1 GHz to 10 GHz - Y Orientation

Figure 255 - Test Setup - 1 GHz to 10 GHz - Z Orientation

4 Measurement Uncertainty

For a 95% confidence level, the measurement uncertainties for defined systems are:

Test Name	Measurement Uncertainty
Emission Bandwidth	± 35.86 kHz
Maximum Conducted Output Power	± 1.38 dB
Spurious Radiated Emissions	30 MHz to 1 GHz: ± 5.2 dB 1 GHz to 40 GHz: ± 6.3 dB
Authorised Band Edges	30 MHz to 1 GHz: ± 5.2 dB 1 GHz to 40 GHz: ± 6.3 dB
Power Spectral Density	± 1.49 dB
Frequency Hopping Systems - 20 dB Bandwidth	± 4.76 kHz
Frequency Hopping Systems - Channel Separation	± 2.62 kHz
Frequency Hopping Systems - Average Time of Occupancy	-
Frequency Hopping Systems - Number of Hopping Channels	-

Table 55

Measurement Uncertainty Decision Rule – Accuracy Method

Determination of conformity with the specification limits is based on the decision rule according to IEC Guide 115:2007, Clause 4.4.3 and 4.5.1. (Procedure 2). The measurement results are directly compared with the test limit to determine conformance with the requirements of the standard.

Risk: The uncertainty of measurement about the measured result is negligible with regard to the final pass/fail decision. The measurement result can be directly compared with the test limit to determine conformance with the requirement (compare IEC Guide 115). The level of risk to falsely accept and falsely reject items is further described in ILAC-G8.