CFR 47 FCC PART 15 SUBPART C
ISED RSS-247 ISSUE 2

CERTIFICATION TEST REPORT

For

Kasa Smart Wi-Fi Outlet

MODEL NUMBER: KP200

FCC ID: 2AXJ4KP200V3

IC: 26583-KP200V3

HIVN: KP200V3

REPORT NUMBER: 4789827834-1

ISSUE DATE: February 22, 2021

Prepared for

TP-Link Corporation Limited
Room 901, 9/F. , New East Ocean Centre, 9 Science Museum Road, Tsim Sha Tsui, Kowloon, Hong Kong

Prepared by

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Revision History

Rev.	Issue Date	Revisions	Revised By
V0	02/22/2021	Initial Issue	

Summary of Test Results			
Clause	**Test Items**	**FCC/ISED Rules**	**Test Results**
1	6dB Bandwidth and 99% Occupied Bandwidth	FCC Part 15.247 (a) (2) RSS-247 Clause 5.2 (a) ISED RSS-Gen Clause 6.7	Pass
2	Conducted Output Power	FCC Part 15.247 (b) (3) RSS-247 Clause 5.4 (d)	Pass
3	Power Spectral Density	FCC Part 15.247 (e) RSS-247 Clause 5.2 (b)	Pass
4	Conducted Bandedge and Spurious Emission	FCC Part 15.247 (d) RSS-247 Clause 5.5	Pass
5	Radiated Bandedge and Spurious Emission	FCC Part 15.247 (d) FCC Part 15.209 FCC Part 15.205 RSS-247 Clause 5.5 RSS-GEN Clause 8.9	Pass
6	Conducted Emission Test for AC Power Port	FCC Part 15.207 RSS-GEN Clause 8.8	Pass
7	Antenna Requirement	FCC Part 15.203 RSS-GEN Clause 6.8	Pass

Note:
1.This test report is only published to and used by the applicant, and it is not for evidence purpose in China.
2. The measurement result for the sample received is <Pass> according to < CFR 47 FCC PART 15 SUBPART C >< ISED RSS-247 > when <Accuracy Method> decision rule is applied.

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1. ATTESTATION OF TEST RESULTS

Applicant Information

Company Name:	TP-Link Corporation Limited
Address:	Room 901, 9/F. , New East Ocean Centre, 9 Science Museum Road, Tsim Sha Tsui, Kowloon, Hong Kong

Manufacturer Information

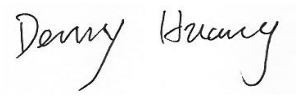
Company Name:	TP-Link Corporation Limited
Address:	Room 901, 9/F. , New East Ocean Centre, 9 Science Museum Road, Tsim Sha Tsui, Kowloon, Hong Kong

EUT Information

EUT Name:	Kasa Smart Wi-Fi Outlet
Model:	KP200
HVIN:	KP200V3
Brand Name:	tp-link
Sample Received Date:	February 5, 2021
Sample Status:	Normal
Sample ID:	3651825
Date of Tested:	February 6, 2021~ February 22, 2021

APPLICABLE STANDARDS	
STANDARD	**TEST RESULTS**
CFR 47 FCC PART 15 SUBPART C	PASS
ISED RSS-247 Issue 2	PASS
ISED RSS-GEN Issue 5	PASS

Prepared By:



Denny Huang
Project Engineer

Checked By:

Shawn Wen
Laboratory Leader

Approved By:

Stephen Guo

Laboratory Manager

2. TEST METHODOLOGY

The tests documented in this report were performed in accordance with KDB 558074 D01 15.247 Meas Guidance v05r02, KDB 414788 D01 Radiated Test Site v01r01, CFR 47 FCC Part 2, CFR 47 FCC Part 15, ANSI C63.10-2013, ISED RSS-247 Issue 2 and ISED RSS-GEN Issue 5.

3. FACILITIES AND ACCREDITATION

Accreditation Certificate	**A2LA (Certificate No.: 4102.01)** UL Verification Services (Guangzhou) Co., Ltd. Song Shan Lake Branch. has been assessed and proved to be in compliance with A2LA. **FCC (FCC Designation No.: CN1187)** UL Verification Services (Guangzhou) Co., Ltd. Song Shan Lake Branch. Has been recognized to perform compliance testing on equipment subject to the Commission's Delcaration of Conformity (DoC) and Certification rules **ISED (Company No.: 21320)** UL Verification Services (Guangzhou) Co., Ltd. Song Shan Lake Branch. has been registered and fully described in a report filed with ISED. The Company Number is 21320 and the test lab Conformity Assessment Body Identifier (CABID) is CN0046. **VCCI (Registration No.: G-20019, R-20004, C-20012 and T-20011)** UL Verification Services (Guangzhou) Co., Ltd. Song Shan Lake Branch. has been assessed and proved to be in compliance with VCCI, the Membership No. is 3793. Facility Name: Chamber D, the VCCI registration No. is G-20019 and R-20004 Shielding Room B , the VCCI registration No. is C-20012 and T-20011

Note 1: All tests measurement facilities use to collect the measurement data are located at Building 10, Innovation Technology Park, Song Shan Lake Hi tech Development Zone, Dongguan, 523808, China

Note 2: The test anechoic chamber in UL Verification Services (Guangzhou) Co., Ltd. Song Shan Lake Branch had been calibrated and compared to the open field sites and the test anechoic chamber is shown to be equivalent to or worst case from the open field site.

Note 3: For below 30 MHz, lab had performed measurements at test anechoic chamber and comparing to measurements obtained on an open field site. And these measurements below 30 MHz had been correlated to measurements performed on an OFS.

4. CALIBRATION AND UNCERTAINTY

4.1. MEASURING INSTRUMENT CALIBRATION

The measuring equipment utilized to perform the tests documented in this report has been calibrated in accordance with the manufacturer's recommendations and is traceable to recognize national standards.

4.2. MEASUREMENT UNCERTAINTY

Where relevant, the following measurement uncertainty levels have been estimated for tests performed on the apparatus:

Test Item	Uncertainty
Conduction emission	3.62 dB
Radiated Emission (Included Fundamental Emission) (9 kHz ~ 30 MHz)	2.2 dB
Radiated Emission (Included Fundamental Emission) (30 MHz ~ 1 GHz)	4.00 dB
Radiated Emission (Included Fundamental Emission) (1 GHz to 26 GHz)	5.78 dB (1 GHz ~ 18 GHz)
	5.23 dB (18 GHz ~ 26 GHz)
Duty Cycle	±0.028%
DTS and 99% Occupied Bandwidth	±0.0196%
Maximum Conducted Output Power	±0.686 dB
Maximum Power Spectral Density Level	±0.743 dB
Conducted Band-edge Compliance	±1.328 dB
Conducted Unwanted Emissions In Non-restricted Frequency Bands	±0.746 dB (9 kHz ~ 1 GHz)
	±1.328dB (1 GHz ~ 26 GHz)
Note: This uncertainty represents an expanded uncertainty expressed at approximately the 95% confidence level using a coverage factor of k=2.	

5. EQUIPMENT UNDER TEST

5.1. DESCRIPTION OF EUT

EUT Name	Kasa Smart Wi-Fi Outlet
Model	KP200
Radio Technology	WLAN (IEEE 802.11b/g/n HT20)
Operation frequency	IEEE 802.11b: 2412MHz ~ 2462MHz IEEE 802.11g: 2412MHz ~ 2462MHz IEEE 802.11n HT20: 2412MHz ~ 2462MHz
Modulation	IEEE 802.11b: DSSS (CCK, DQPSK, DBPSK) IEEE 802.11g: OFDM (64QAM, 16QAM, QPSK, BPSK) IEEE 802.11n HT20: OFDM (256QAM, 64QAM, 16QAM, QPSK, BPSK)
Rated Input	AC120 V, 60 Hz

5.2. CHANNEL LIST

Channel List for 802.11b/g/n (20 MHz)							
Channel	Frequency (MHz)	Channel	Frequency (MHz)	Channel	Frequency (MHz)	Channel	Frequency (MHz)
1	2412	4	2427	7	2442	10	2457
2	2417	5	2432	8	2447	11	2462
3	2422	6	2437	9	2452	/	/

5.3. MAXIMUM OUTPUT POWER

IEEE Std. 802.11	Frequency (MHz)	Channel Number	Maximum Conducted AVG Output Power (dBm)
b	2412 ~ 2462	1-11[11]	22.53
g	2412 ~ 2462	1-11[11]	21.93
n HT20	2412 ~ 2462	1-11[11]	21.56

5.4. TEST CHANNEL CONFIGURATION

Test Mode	Test Channel	Frequency (MHz)
802.11b	CH 1, CH 2 CH 6, CH 10, CH 11	2412, 2417, 2437, 2457, 2462
802.11g	CH 1, CH 2 CH 6, CH 10, CH 11	2412, 2417, 2437, 2457, 2462
802.11n HT20	CH 1, CH 2 CH 6, CH 10, CH 11	2412, 2417, 2437, 2457, 2462

5.5. THE WORSE CASE POWER SETTING PARAMETER

The Worse Case Power Setting Parameter under 2400 ~ 2483.5MHz Band											
Test Software		AmebaZ2_mptool_1V3									
Modulation Mode	Transmit Antenna Number	Test Software Setting Value									
		NCB: 20MHz					NCB: 40MHz				
		CH1	CH2	CH6	CH10	CH11	CH3	CH4	CH6	CH8	CH9
802.11b	1	100	111	101	115	113	/				
802.11g	1	115	127	127	120	106					
802.11n HT20	1	114	124	127	117	105					

5.6. THE WORSE CASE CONFIGURATIONS

The EUT was tested in the following configuration(s):

Controlled in test mode using a software application on the EUT supplied by customer. The application was used to enable a continuous transmission and to select the mode, test channels, bandwidth, data rates as required.

Test channels referring to section 5.4.

Maximum power setting referring to section 5.5.

Worst case Data Rates declared by the customer:

IEEE 802.11b / SISO – DBPSK / 1 Mbps
IEEE 802.11g / SISO – BPSK / 6 Mbps
IEEE 802.11n HT20 / MIMO – BPSK / MCS0

5.7. DESCRIPTION OF AVAILABLE ANTENNAS

Antenna	Frequency (MHz)	Antenna Type	MAX Antenna Gain (dBi)
1	2412 ~ 2462	IFA Antenna	0.67

Note: The value of the antenna gain was declared by customer.

Test Mode	Transmit and Receive Mode	Description
IEEE 802.11b	☒1TX, 1RX	ANT 1 can be used as transmitting/receiving antenna.
IEEE 802.11g	☒1TX, 1RX	ANT 1 can be used as transmitting/receiving antenna.
IEEE 802.11n HT20	☒1TX, 1RX	ANT 1 can be used as transmitting/receiving antenna.

5.8. DESCRIPTION OF TEST SETUP

SUPPORT EQUIPMENT

Item	Equipment	Brand Name	Model Name	Remarks
1	Laptop	ThinkPad	X230i	/
2	USB TO UART	/	/	/

I/O CABLES

Item	Port	Connector Type	Cable Type	Cable Length(m)	Remarks
1	USB	/	/	1	/

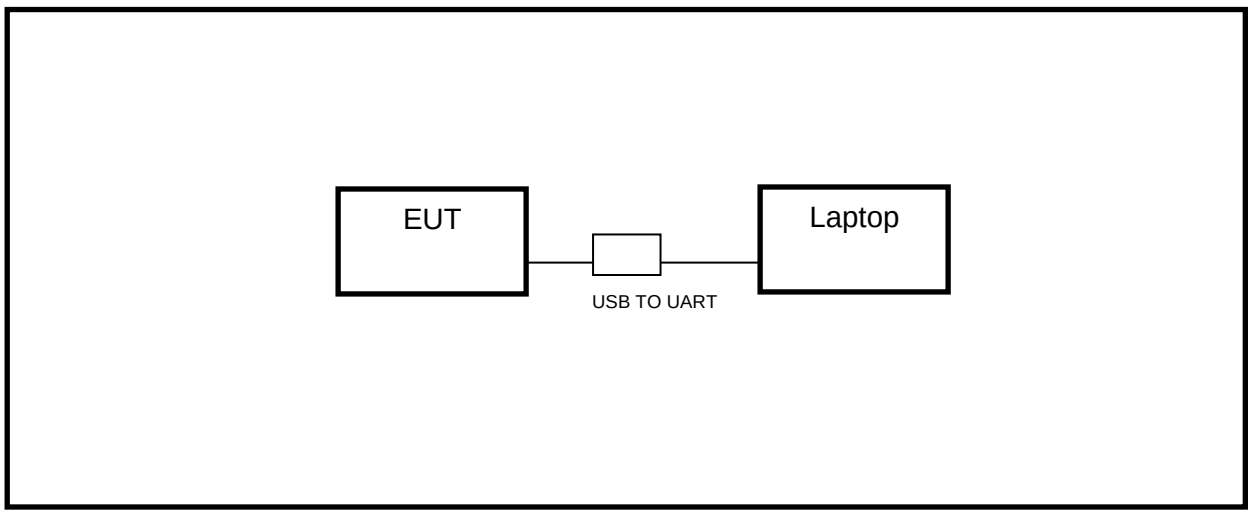
ACCESSORIES

Item	Accessory	Brand Name	Model Name	Description
/	/	/	/	/

TEST SETUP

The EUT can work in engineering mode with a software through a Laptop.

SETUP DIAGRAM FOR TESTS



6. MEASURING INSTRUMENT AND SOFTWARE USED

Conducted Emissions					
Equipment	Manufacturer	Model No.	Serial No.	Last Cal.	Due Date
EMI Test Receiver	R&S	ESR3	101961	Nov. 12, 2020	Nov. 11, 2021
Two-Line V-Network	R&S	ENV216	101983	Nov. 12, 2020	Nov. 11, 2021
Software					
Description			Manufacturer	Name	Version
Test Software for Conducted Emissions			Farad	EZ-EMC	Ver. UL-3A1
Radiated Emissions					
Equipment	Manufacturer	Model No.	Serial No.	Last Cal.	Due Date
MXE EMI Receiver	KESIGHT	N9038A	MY56400036	Nov. 12, 2020	Nov. 11, 2021
Hybrid Log Periodic Antenna	TDK	HLP-3003C	130960	Aug. 11, 2018	Aug. 10, 2021
Preamplifier	HP	8447D	2944A09099	Nov. 12, 2020	Nov. 11, 2021
EMI Measurement Receiver	R&S	ESR26	101377	Nov. 12, 2020	Nov. 11, 2021
Horn Antenna	TDK	HRN-0118	130939	Sept. 17, 2018	Sept. 17, 2021
Preamplifier	TDK	PA-02-0118	TRS-305-00067	Nov. 20, 2020	Nov. 19, 2021
Horn Antenna	Schwarzbeck	BBHA9170	#691	Aug. 11, 2018	Aug. 11, 2021
Preamplifier	TDK	PA-02-2	TRS-307-00003	Nov. 12, 2020	Nov. 11, 2021
Loop antenna	Schwarzbeck	1519B	00008	Jan.17, 2019	Jan.17,2022
Preamplifier	Mini-Circuits	ZX60-83LN-S+	SUP01201941	Nov. 20, 2020	Nov. 19, 2021
High Pass Filter	Wi	WHKX10-2700-3000-18000-40SS	23	Nov. 12, 2020	Nov. 11, 2021
Band Reject Filter	Wainwright	WRCJV8-2350-2400-2483.5-2533.5-40SS	4	Nov. 12, 2020	Nov. 11, 2021
Software					
Description			Manufacturer	Name	Version
Test Software for Radiated Emissions			Farad	EZ-EMC	Ver. UL-3A1

Other Instruments					
Equipment	Manufacturer	Model No.	Serial No.	Last Cal.	Next Cal.
Spectrum Analyzer	Keysight	N9030A	MY55410512	Nov.20, 2020	Nov.19, 2021
Dual Channel Power Meter	Keysight	N1912A	MY55416024	Nov.20, 2020	Nov.19, 2021
Power Sensor	Keysight	USB Wideband Power Sensor	MY5100022	Nov.20, 2020	Nov.19, 2021

7. ANTENNA PORT TEST RESULTS

7.1. ON TIME AND DUTY CYCLE

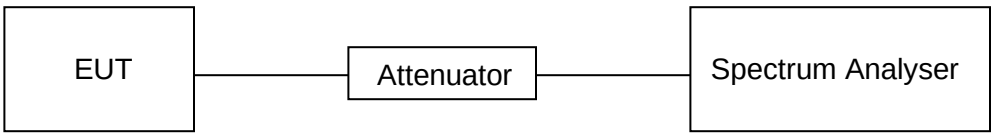
LIMITS

None; for reporting purposes only

PROCEDURE

Refer to ANSI C63.10-2013 clause 11.6 Zero – Span Spectrum Analyzer method.

TEST SETUP



TEST ENVIRONMENT

Temperature	25.9 °C	Relative Humidity	52.9 %
Atmosphere Pressure	101 kPa	Test Voltage	AC120 V, 60 Hz

RESULTS

Please refer to appendix G.

7.2. 6 dB DTS BANDWIDTH AND 99 % OCCUPIED BANDWIDTH

LIMITS

CFR 47 FCC Part15 (15.247) Subpart C ISED RSS-247 ISSUE 2			
Section	Test Item	Limit	Frequency Range (MHz)
CFR 47 FCC 15.247(a)(2) ISED RSS-247 5.2 (a)	6 dB Bandwidth	≥ 500 kHz	2400-2483.5
ISED RSS-Gen Clause 6.7	99 % Occupied Bandwidth	For reporting purposes only.	2400-2483.5

TEST PROCEDURE

Refer to ANSI C63.10-2013 clause 11.8 for DTS bandwidth and clause 6.9 for Occupied Bandwidth.

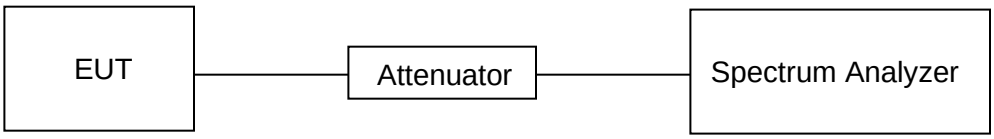
Connect the EUT to the spectrum analyser and use the following settings:

Center Frequency	The center frequency of the channel under test
Frequency Span	Between 1.5 times and 5.0 times the OBW
Detector	Peak
RBW	For 6 dB Bandwidth: 100 kHz For 99 % Occupied Bandwidth: 1 % to 5 % of the occupied bandwidth
VBW	For 6 dB Bandwidth: ≥3 × RBW For 99 % Occupied Bandwidth: ≥3 × RBW
Trace	Max hold
Sweep	Auto couple

a) Use the 99 % power bandwidth function of the instrument, allow the trace to stabilize and report the measured bandwidth.

b) Allow the trace to stabilize and measure the maximum width of the emission that is constrained by the frequencies associated with the two outermost amplitude points (upper and lower frequencies) that are attenuated by 6 dB relative to the maximum level measured in the fundamental emission.

TEST SETUP



TEST ENVIRONMENT

Temperature	25.9 °C	Relative Humidity	52.9 %
Atmosphere Pressure	101 kPa	Test Voltage	AC120 V,60 Hz

RESULTS

Please refer to appendix A & B.

7.3. CONDUCTED OUTPUT POWER

LIMITS

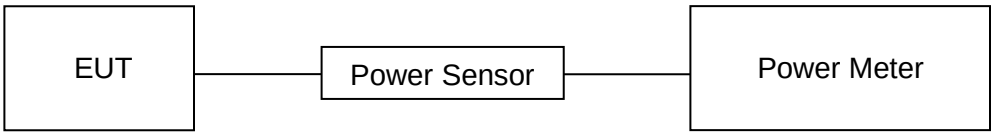
CFR 47 FCC Part15 (15.247) Subpart C ISED RSS-247 ISSUE 2			
Section	Test Item	Limit	Frequency Range (MHz)
CFR 47 FCC 15.247(b)(3) ISED RSS-247 5.4 (d)	Peak Output Power	1 watt or 30 dBm	2400-2483.5

TEST PROCEDURE

Refer to ANSI C63.10-2013 clause 11.9.

Connect the EUT to a low loss RF cable from the antenna port to the power sensor (video bandwidth is greater than the occupied bandwidth).
Measure peak emission level, the indicated level is the average output power, after any corrections for external attenuators and cables.

TEST SETUP



TEST ENVIRONMENT

Temperature	25.9 °C	Relative Humidity	52.9 %
Atmosphere Pressure	101 kPa	Test Voltage	AC120 V,60 Hz

RESULTS

Please refer to appendix C.

7.4. POWER SPECTRAL DENSITY

LIMITS

CFR 47 FCC Part15 (15.247) Subpart C ISED RSS-247 ISSUE 2			
Section	Test Item	Limit	Frequency Range (MHz)
CFR 47 FCC §15.247 (e) ISED RSS-247 5.2 (b)	Power Spectral Density	8 dBm/3 kHz	2400-2483.5

TEST PROCEDURE

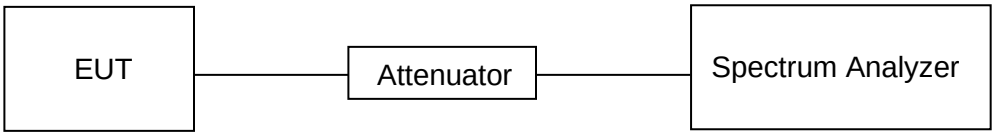
Refer to ANSI C63.10-2013 clause 11.10.

Connect the EUT to the spectrum analyser and use the following settings:

Center Frequency	The center frequency of the channel under test
Detector	PEAK
RBW	3 kHz ≤ RBW ≤ 100 kHz
VBW	≥3 × RBW
Span	1.5 x DTS bandwidth
Trace	Max hold
Sweep time	Auto couple

Allow trace to fully stabilize and use the peak marker function to determine the maximum amplitude level within the RBW.
If measured value exceeds limit, reduce RBW (no less than 3 kHz) and repeat.

TEST SETUP



TEST ENVIRONMENT

Temperature	25.9 °C	Relative Humidity	52.9 %
Atmosphere Pressure	101 kPa	Test Voltage	AC120 V,60 Hz

RESULTS

Please refer to appendix D.

7.5. CONDUCTED BANDEDGE AND SPURIOUS EMISSIONS

LIMITS

CFR 47 FCC Part15 (15.247) Subpart C ISED RSS-247 ISSUE 2		
Section	Test Item	Limit
CFR 47 FCC §15.247 (d) ISED RSS-247 5.5	Conducted Bandedge and Spurious Emissions	at least 30 dB below that in the 100 kHz bandwidth within the band that contains the highest level of the desired power

TEST PROCEDURE

Refer to ANSI C63.10-2013 clause 11.11 and 11.13.

Connect the EUT to the spectrum analyser and use the following settings for reference level measurement:

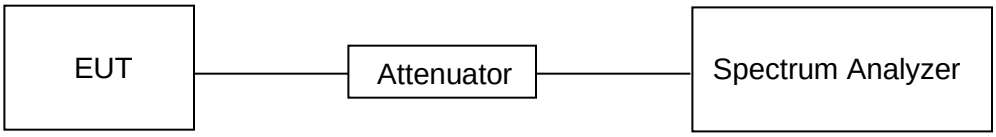
Center Frequency	The center frequency of the channel under test
Detector	Peak
RBW	100 kHz
VBW	≥3 × RBW
Span	1.5 x DTS bandwidth
Trace	Max hold
Sweep time	Auto couple.

Allow trace to fully stabilize and use the peak marker function to determine the maximum PSD level.
Change the settings for emission level measurement:

Span	Set the center frequency and span to encompass frequency range to be measured
Detector	Peak
RBW	100 kHz
VBW	≥3 × RBW
measurement points	≥span/RBW
Trace	Max hold
Sweep time	Auto couple.

Allow trace to fully stabilize and use the peak marker function to determine the maximum PSD level. Ensure that the amplitude of all unwanted emissions outside of the authorized frequency band (excluding restricted frequency bands) is attenuated by at least the minimum requirements specified in 11.11.

TEST SETUP



TEST ENVIRONMENT

Temperature	25.9 °C	Relative Humidity	52.9 %
Atmosphere Pressure	101 kPa	Test Voltage	AC120 V,60 Hz

RESULTS

Please refer to appendix E & F.

8. RADIATED TEST RESULTS

LIMITS

Please refer to CFR 47 FCC §15.205 and §15.209.

Please refer to ISED RSS-GEN Clause 8.9 and Clause 8.10.

Radiation Disturbance Test Limit for FCC (Class B) (9 kHz ~ 1 GHz)

Emissions radiated outside of the specified frequency bands above 30 MHz			
Frequency Range (MHz)	Field Strength Limit (uV/m) at 3 m	Field Strength Limit (dBuV/m) at 3 m	
		Quasi-Peak	
30 - 88	100	40	
88 - 216	150	43.5	
216 - 960	200	46	
Above 960	500	54	
Above 1000	500	Peak	Average
		74	54

FCC Emissions radiated outside of the specified frequency bands below 30 MHz		
Frequency (MHz)	Field strength (microvolts/meter)	Measurement distance (meters)
0.009-0.490	2400/F(kHz)	300
0.490-1.705	24000/F(kHz)	30
1.705-30.0	30	30

ISED General field strength limits at frequencies below 30 MHz

Table 6 – General field strength limits at frequencies below 30 MHz

Frequency	Magnetic field strength (H-Field) (µA/m)	Measurement distance (m)
9 - 490 kHz[Note 1]	6.37/F (F in kHz)	300
490 - 1705 kHz	63.7/F (F in kHz)	30
1.705 - 30 MHz	0.08	30

Note 1: The emission limits for the ranges 9-90 kHz and 110-490 kHz are based on measurements employing a linear average detector.

ISED Restricted bands please refer to ISED RSS-GEN Clause 8.10

Table 7 – Restricted frequency bands[Note 1]		
MHz	MHz	GHz
0.090 - 0.110	149.9 - 150.05	9.0 - 9.2
0.495 - 0.505	156.52475 - 156.52525	9.3 - 9.5
2.1735 - 2.1905	156.7 - 156.9	10.6 - 12.7
3.020 - 3.026	162.0125 - 167.17	13.25 - 13.4
4.125 - 4.128	167.72 - 173.2	14.47 - 14.5
4.17725 - 4.17775	240 – 285	15.35 - 16.2
4.20725 - 4.20775	322 - 335.4	17.7 - 21.4
5.677 - 5.683	399.9 - 410	22.01 - 23.12
6.215 - 6.218	608 - 614	23.6 - 24.0
6.26775 - 6.26825	960 - 1427	31.2 - 31.8
6.31175 - 6.31225	1435 - 1626.5	36.43 - 36.5
8.291 - 8.294	1645.5 - 1646.5	Above 38.6
8.362 - 8.366	1660 - 1710	
8.37625 - 8.38675	1718.8 - 1722.2	
8.41425 - 8.41475	2200 - 2300	
12.29 - 12.293	2310 - 2390	
12.51975 - 12.52025	2483.5 - 2500	
12.57675 - 12.57725	2655 - 2900	
13.36 - 13.41	3260 – 3267	
16.42 - 16.423	3332 - 3339	
16.69475 - 16.69525	3345.8 - 3358	
16.80425 - 16.80475	3500 - 4400	
25.5 - 25.67	4500 - 5150	
37.5 - 38.25	5350 - 5460	
73 - 74.6	7250 - 7750	
74.8 - 75.2	8025 – 8500	
108 – 138		

Note 1: Certain frequency bands listed in table 7 and in bands above 38.6 GHz are designated for licence-exempt applications. These frequency bands and the requirements that apply to related devices are set out in the 200 and 300 series of RSSs.

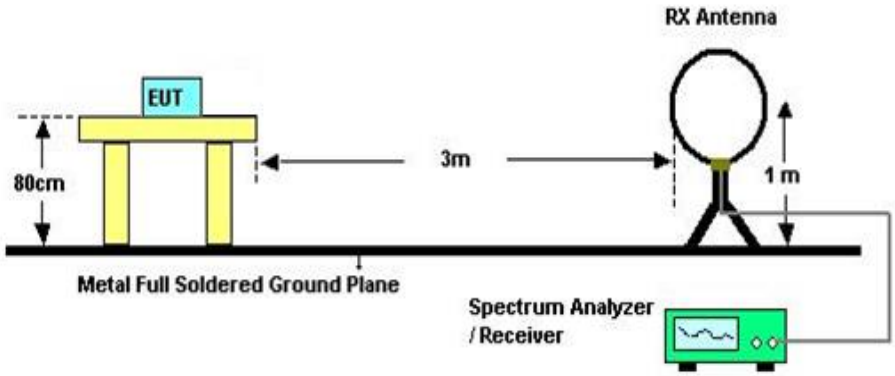
FCC Restricted bands of operation refer to FCC §15.205 (a):

MHz	MHz	MHz	GHz
0.090-0.110	16.42-16.423	399.9-410	4.5-5.15
[1]0.495-0.505	16.69475-16.69525	608-614	5.35-5.46
2.1735-2.1905	16.80425-16.80475	960-1240	7.25-7.75
4.125-4.128	25.5-25.67	1300-1427	8.025-8.5
4.17725-4.17775	37.5-38.25	1435-1626.5	9.0-9.2
4.20725-4.20775	73-74.6	1645.5-1646.5	9.3-9.5
6.215-6.218	74.8-75.2	1660-1710	10.6-12.7
6.26775-6.26825	108-121.94	1718.8-1722.2	13.25-13.4
6.31175-6.31225	123-138	2200-2300	14.47-14.5
8.291-8.294	149.9-150.05	2310-2390	15.35-16.2
8.362-8.366	156.52475-156.52525	2483.5-2500	17.7-21.4
8.37625-8.38675	156.7-156.9	2690-2900	22.01-23.12
8.41425-8.41475	162.0125-167.17	3260-3267	23.6-24.0
12.29-12.293	167.72-173.2	3332-3339	31.2-31.8
12.51975-12.52025	240-285	3345.8-3358	36.43-36.5
12.57675-12.57725	322-335.4	3600-4400	([2])
13.36-13.41			

Note: [1]Until February 1, 1999, this restricted band shall be 0.490-0.510 MHz.
[2]Above 38.6c

TEST SETUP AND PROCEDURE

Below 30 MHz



The setting of the spectrum analyser

RBW	200 Hz (From 9 kHz to 0.15 MHz) / 9 kHz (From 0.15 MHz to 30 MHz)
VBW	200 Hz (From 9 kHz to 0.15 MHz) / 9 kHz (From 0.15 MHz to 30 MHz)
Sweep	Auto
Trace	Max hold

1. The testing follows the guidelines in ANSI C63.10-2013 clause 6.4.

2. The EUT was arranged to its worst case and then turntable (from 0 degree to 360 degrees) to find the maximum reading. A pre-amp and a high pass filter are used for the test in order to get better signal level. Both Horizontal, Face-on and Face-off polarizations of the antenna are set to make the measurement.

3. The EUT was placed on a turntable with 80cm above ground.

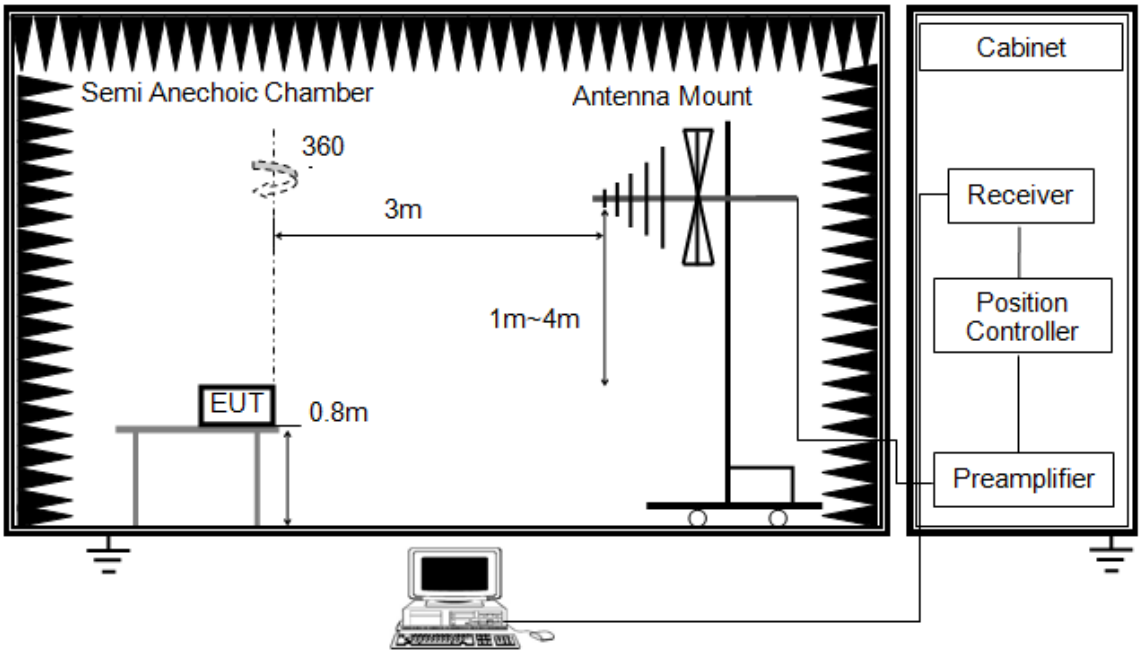
4. The EUT was set 3 meters from the interference receiving antenna, which was mounted on the top of a 1 m height antenna tower.

5. The radiated emission limits are based on measurements employing a CISPR quasi-peak detector except for the frequency bands 9-90 kHz, 110-490 kHz and above 1000 MHz. Radiated emission limits in these three bands are based on measurements employing an average detector.

6. For measurement below 1 GHz, the initial step in collecting conducted emission data is a spectrum analyzer peak detector mode pre-scanning the measurement frequency range. Significant peaks are then marked and then Quasi Peak and average detector mode re-measured. If the emission level of the EUT measured by the peak detector is 3 dB lower than the applicable limit, the peak emission level will be reported. Otherwise, the emission measurement will be repeated using the quasi-peak and average detector and reported.

7. Although these tests were performed other than open field site, adequate comparison measurements were confirmed against 30 m open field site. Therefore sufficient tests were made to demonstrate that the alternative site produces results that correlate with the ones of tests made in an open field site based on KDB 414788.

Below 1 GHz and above 30 MHz



The setting of the spectrum analyser

RBW	120 kHz
VBW	300 kHz
Sweep	Auto
Detector	Peak/QP
Trace	Max hold

1. The testing follows the guidelines in ANSI C63.10-2013 clause 6.5.

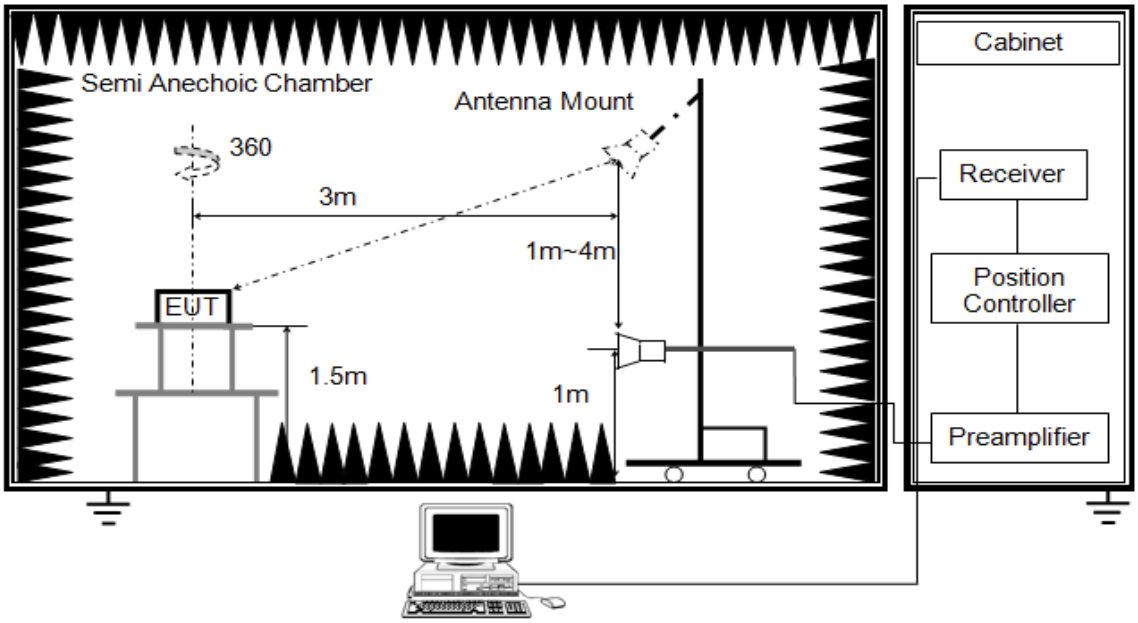
2. The EUT was arranged to its worst case and then tune the antenna tower (from 1 m to 4 m) and turntable (from 0 degree to 360 degrees) to find the maximum reading. A pre-amp and a high pass filter are used for the test in order to get better signal level. Both horizontal and vertical polarizations of the antenna are set to make the measurement.

3. The EUT was placed on a turntable with 80 cm above ground.

4. The EUT was set 3 meters from the interference receiving antenna, which was mounted on the top of a variable height antenna tower.

5. For measurement below 1 GHz, the initial step in collecting conducted emission data is a spectrum analyzer peak detector mode pre-scanning the measurement frequency range. Significant peaks are then marked and then Quasi Peak detector mode re-measured. If the emission level of the EUT measured by the peak detector is 3 dB lower than the applicable limit, the peak emission level will be reported. Otherwise, the emission measurement will be repeated using the quasi-peak detector and reported.

Above 1 GHz



The setting of the spectrum analyser

RBW	1 MHz
VBW	PEAK: 3 MHz AVG: see note 6
Sweep	Auto
Detector	Peak
Trace	Max hold

1. The testing follows the guidelines in ANSI C63.10-2013 clause 6.6.

2. The EUT was arranged to its worst case and then tune the antenna tower (from 1 m to 4 m) and turntable (from 0 degree to 360 degrees) to find the maximum reading. A pre-amp and a high pass filter are used for the test in order to get better signal level. Both horizontal and vertical polarizations of the antenna are set to make the measurement.

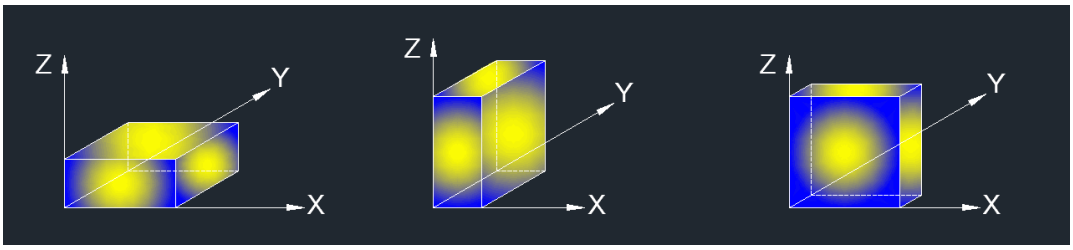
3. The EUT was placed on a turntable with 1.5 m above ground.

4. The EUT was set 3 meters from the interference receiving antenna, which was mounted on the top of a variable height antenna tower.

5. For measurement above 1 GHz, the emission measurement will be measured by the peak detector. This peak level, once corrected, must comply with the limit specified in Section 15.209.

6. For measurements above 1 GHz the resolution bandwidth is set to 1 MHz, then the video bandwidth is set to 3 MHz for peak measurements and 1 MHz resolution bandwidth with 1/T video bandwidth with peak detector for average measurements. For the Duty Cycle please refer to clause 7.1.ON TIME AND DUTY CYCLE.

X axis, Y axis, Z axis positions:



Note: For all radiated test, EUT in each of three orthogonal axis emissions had been tested, but only the worst case (Z axis) data recorded in the report.

TEST ENVIRONMENT

Temperature	23.3 °C	Relative Humidity	55.8 %
Atmosphere Pressure	101 kPa	Test Voltage	AC120 V,60 Hz

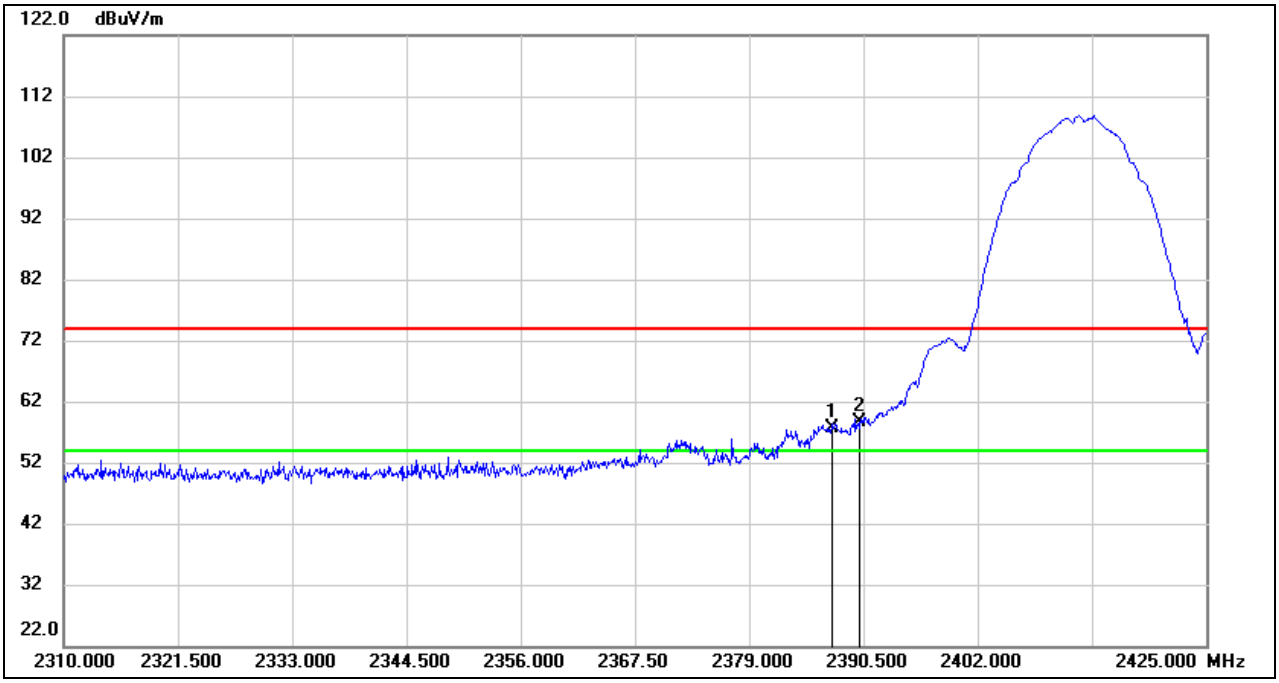
RESULTS

8.1. RESTRICTED BANDEDGE

8.1.1. 802.11b MODE

RESTRICTED BANDEDGE (CHANNEL 1, HORIZONTAL)

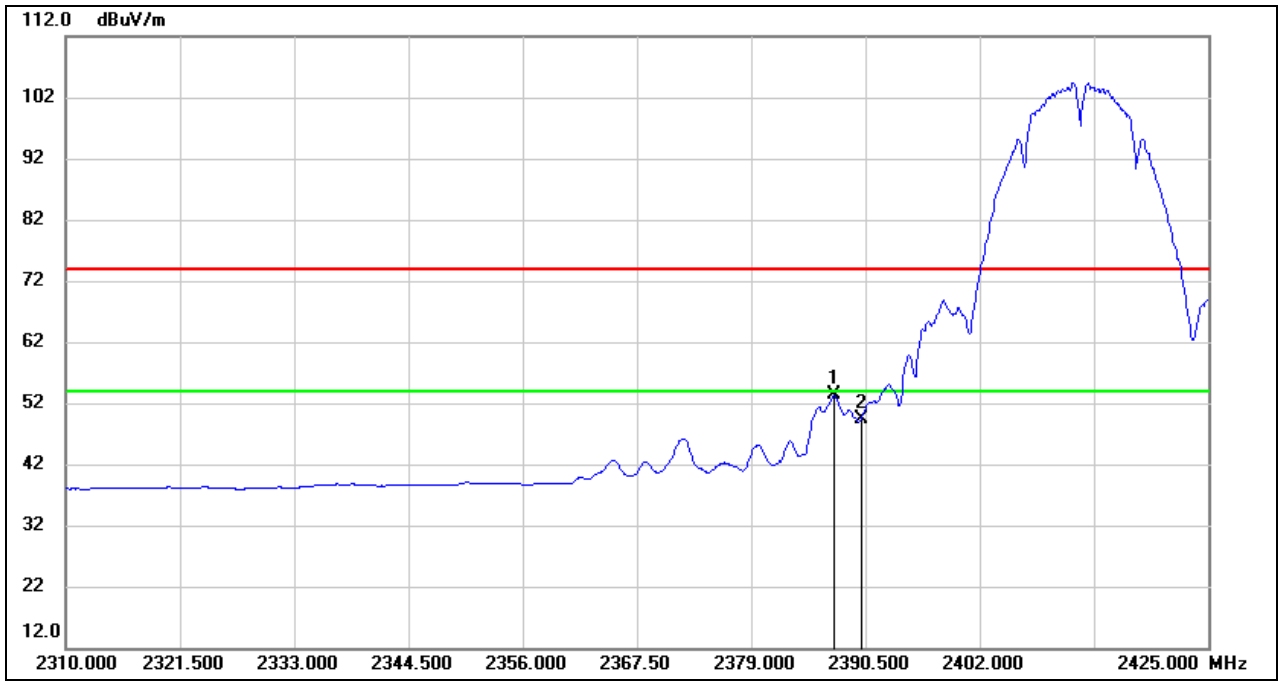
PEAK



No.	Frequency (MHz)	Reading (dBuV)	Correct (dB/m)	Result (dBuV/m)	Limit (dBuV/m)	Margin (dB)	Remark
1	2387.395	24.34	33.34	57.68	74.00	-16.32	peak
2	2390.000	25.19	33.35	58.54	74.00	-15.46	peak

Note: 1. Measurement = Reading Level + Correct Factor.
2. If Peak Result complies with AV limit, AV Result is deemed to comply with AV limit.
3. Peak: Peak detector.
4. Only the worst case emission was recorded, if it complies with the limit, the other emissions deemed to comply with the limit.

AVG

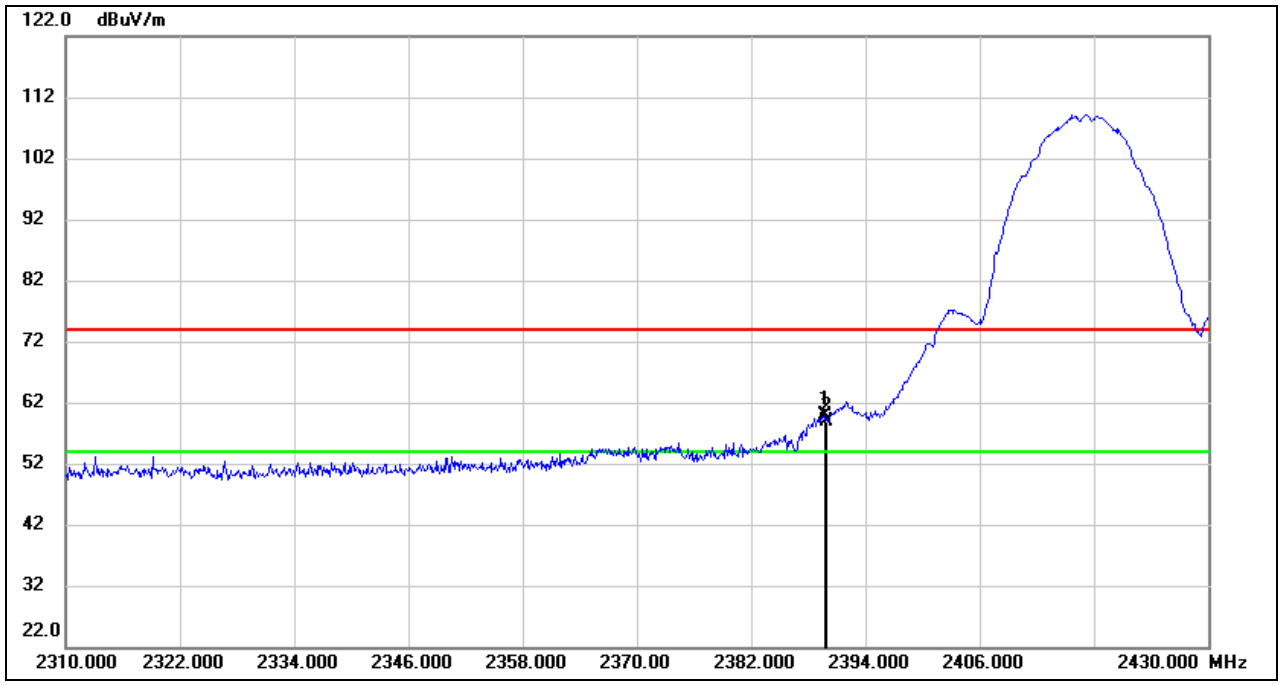


No.	Frequency	Reading	Correct	Result	Limit	Margin	Remark
	(MHz)	(dBuV)	(dB/m)	(dBuV/m)	(dBuV/m)	(dB)	
1	2387.395	20.04	33.34	53.38	74.00	-20.62	peak
2	2390.000	15.96	33.35	49.31	74.00	-24.69	peak

Note: 1. Measurement = Reading Level + Correct Factor.
2. If Peak Result complies with AV limit, AV Result is deemed to comply with AV limit.
3. Peak: Peak detector.
4. AVG: VBW=1/Ton, where: Ton is the transmitting duration.
5. For the transmitting duration, please refer to clause 7.1.
6. Only the worst case emission was recorded, if it complies with the limit, the other emissions deemed to comply with the limit.

RESTRICTED BANDEDGE (CHANNEL 2, HORIZONTAL)

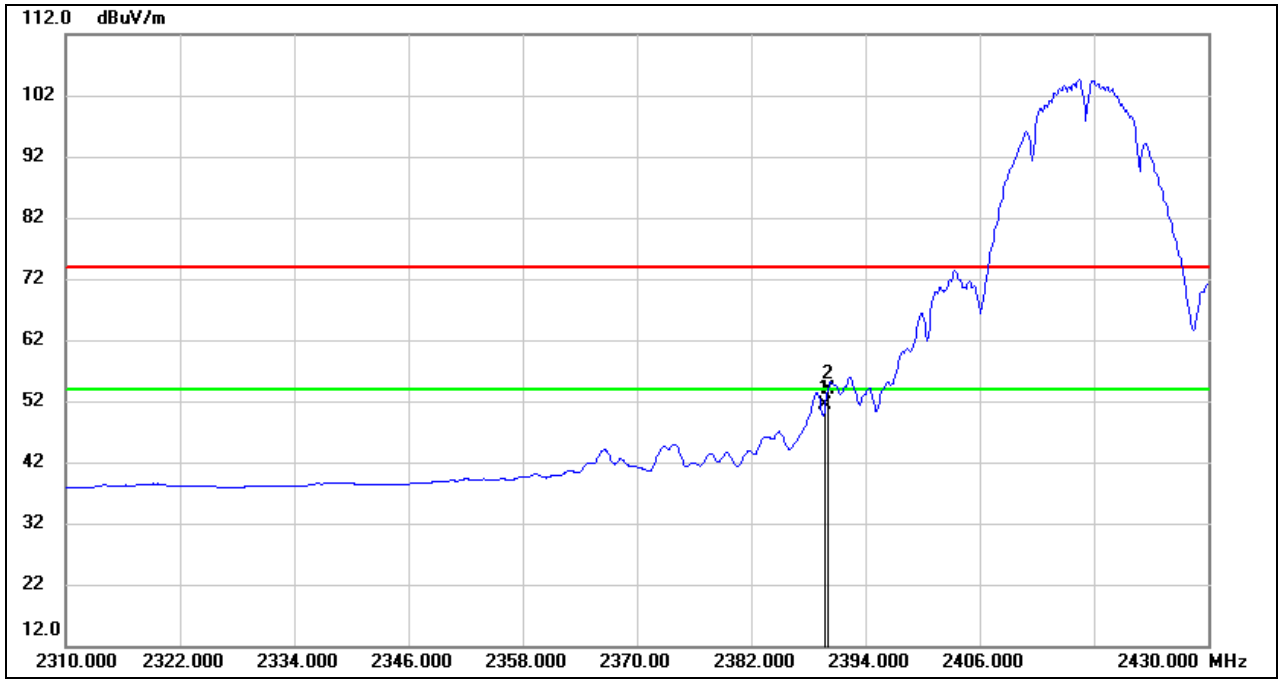
PEAK



No.	Frequency	Reading	Correct	Result	Limit	Margin	Remark
	(MHz)	(dBuV)	(dB/m)	(dBuV/m)	(dBuV/m)	(dB)	
1	2389.800	26.53	33.35	59.88	74.00	-14.12	peak
2	2390.000	25.46	33.35	58.81	74.00	-15.19	peak

Note: 1. Measurement = Reading Level + Correct Factor.
2. If Peak Result complies with AV limit, AV Result is deemed to comply with AV limit.
3. Peak: Peak detector.
4. Only the worst case emission was recorded, if it complies with the limit, the other emissions deemed to comply with the limit.

AVG

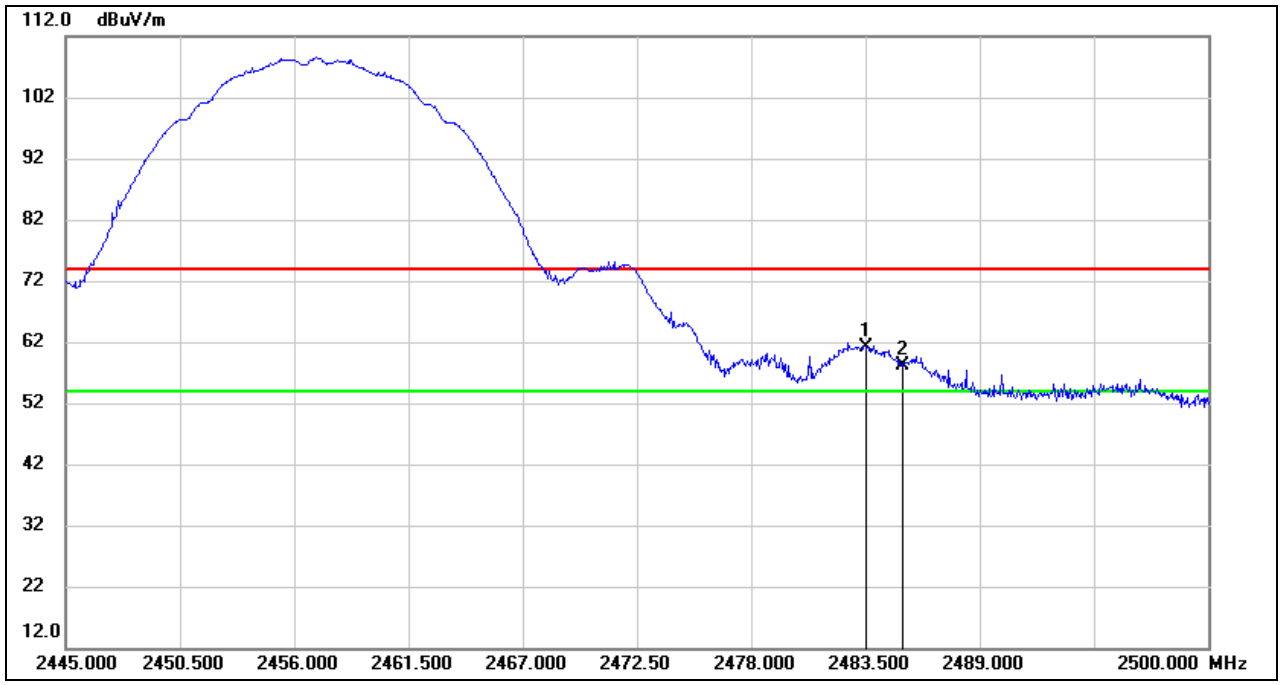


No.	Frequency (MHz)	Reading (dBuV)	Correct (dB/m)	Result (dBuV/m)	Limit (dBuV/m)	Margin (dB)	Remark
1	2389.800	18.04	33.35	51.39	54.00	-2.61	AVG
2	2390.000	20.54	33.35	53.89	54.00	-0.11	AVG

Note: 1. Measurement = Reading Level + Correct Factor.
2. If Peak Result complies with AV limit, AV Result is deemed to comply with AV limit.
3. Peak: Peak detector.
4. AVG: VBW=1/Ton, where: Ton is the transmitting duration.
5. For the transmitting duration, please refer to clause 7.1.
6. Only the worst case emission was recorded, if it complies with the limit, the other emissions deemed to comply with the limit.

RESTRICTED BANDEDGE (CHANNEL 10, HORIZONTAL)

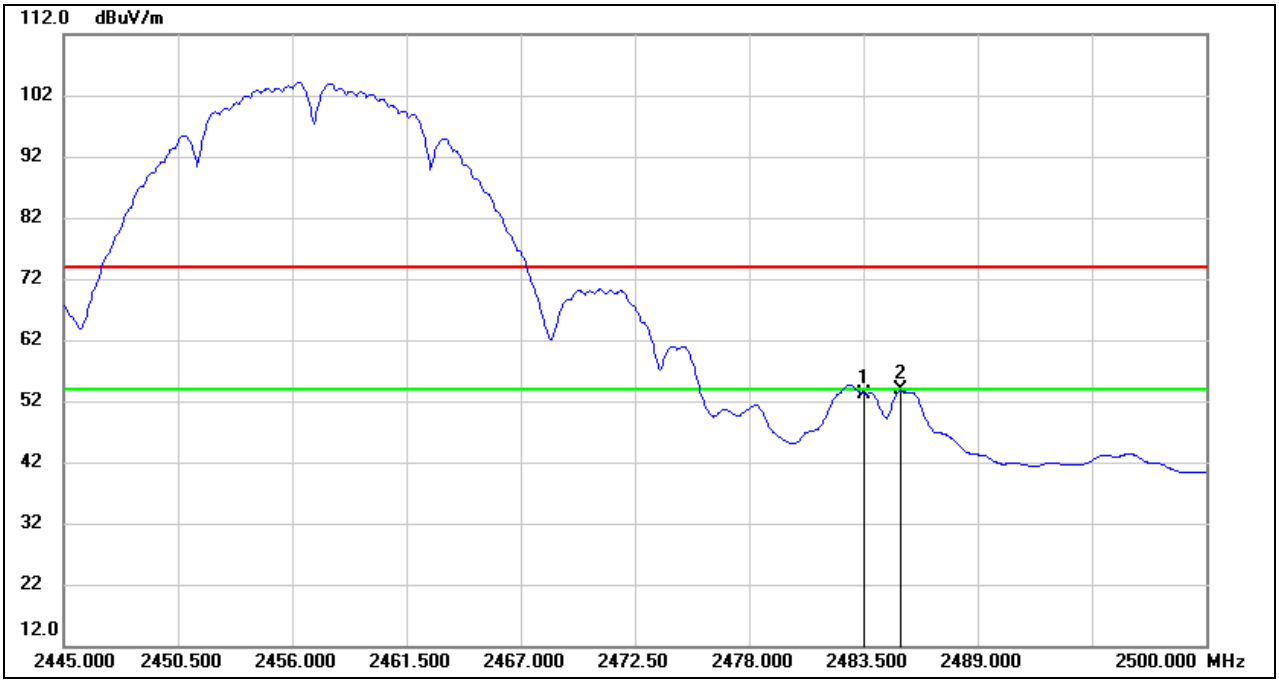
PEAK



No.	Frequency (MHz)	Reading (dBuV)	Correct (dB/m)	Result (dBuV/m)	Limit (dBuV/m)	Margin (dB)	Remark
1	2483.500	27.34	33.71	61.05	74.00	-12.95	peak
2	2485.315	24.52	33.71	58.23	74.00	-15.77	peak

Note: 1. Measurement = Reading Level + Correct Factor.
2. If Peak Result complies with AV limit, AV Result is deemed to comply with AV limit.
3. Peak: Peak detector.
4. Only the worst case emission was recorded, if it complies with the limit, the other emissions deemed to comply with the limit.

AVG

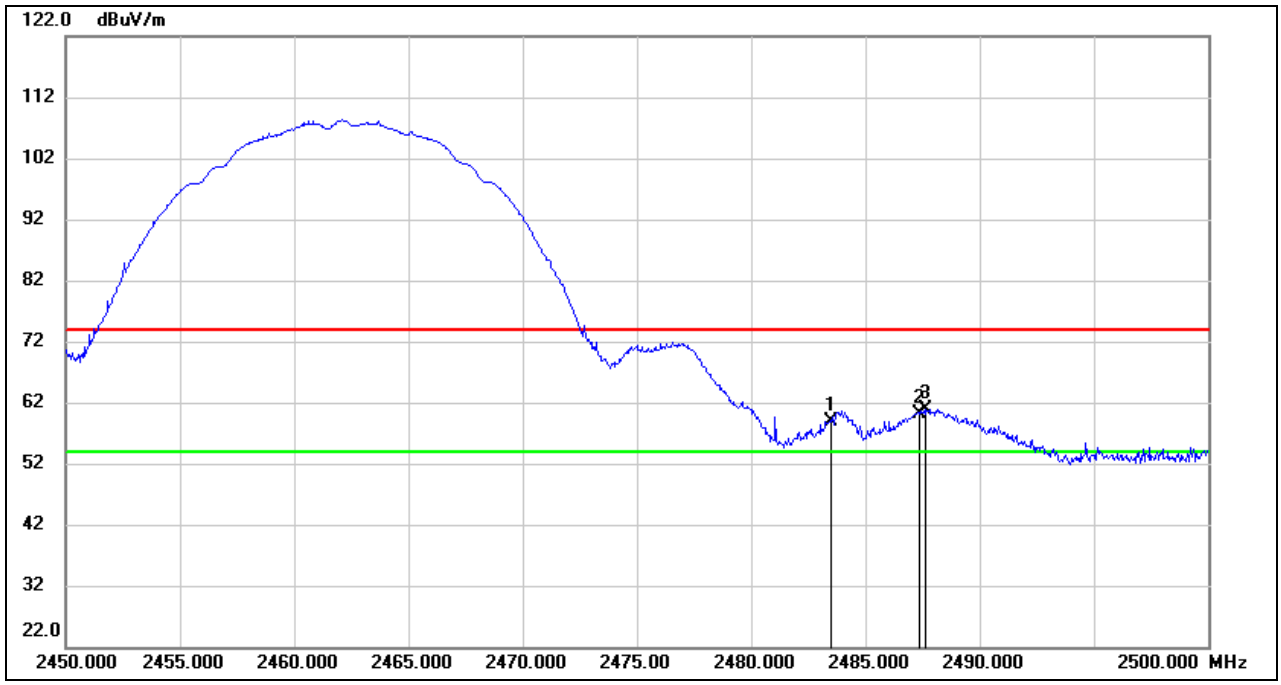


No.	Frequency (MHz)	Reading (dBuV)	Correct (dB/m)	Result (dBuV/m)	Limit (dBuV/m)	Margin (dB)	Remark
1	2483.500	19.39	33.71	53.10	54.00	-0.90	AVG
2	2485.315	20.07	33.71	53.78	54.00	-0.22	AVG

Note: 1. Measurement = Reading Level + Correct Factor.
2. If Peak Result complies with AV limit, AV Result is deemed to comply with AV limit.
3. Peak: Peak detector.
4. AVG: VBW=1/Ton, where: Ton is the transmitting duration.
5. For the transmitting duration, please refer to clause 7.1.
6. Only the worst case emission was recorded, if it complies with the limit, the other emissions deemed to comply with the limit.

RESTRICTED BANDEDGE (CHANNEL 11, HORIZONTAL)

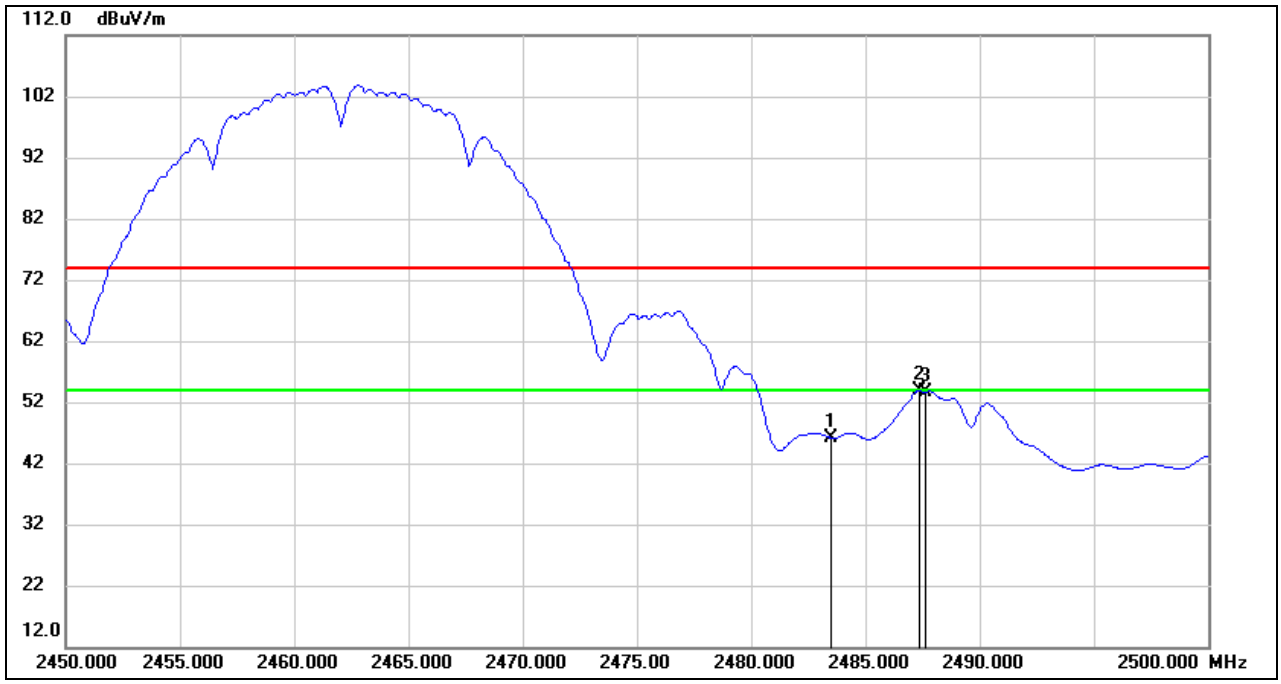
PEAK



No.	Frequency	Reading	Correct	Result	Limit	Margin	Remark
	(MHz)	(dBuV)	(dB/m)	(dBuV/m)	(dBuV/m)	(dB)	
1	2483.500	25.09	33.71	58.80	74.00	-15.20	peak
2	2487.350	26.47	33.72	60.19	74.00	-13.81	peak
3	2487.650	27.10	33.72	60.82	74.00	-13.18	peak

Note: 1. Measurement = Reading Level + Correct Factor.
2. If Peak Result complies with AV limit, AV Result is deemed to comply with AV limit.
3. Peak: Peak detector.
4. Only the worst case emission was recorded, if it complies with the limit, the other emissions deemed to comply with the limit.

AVG



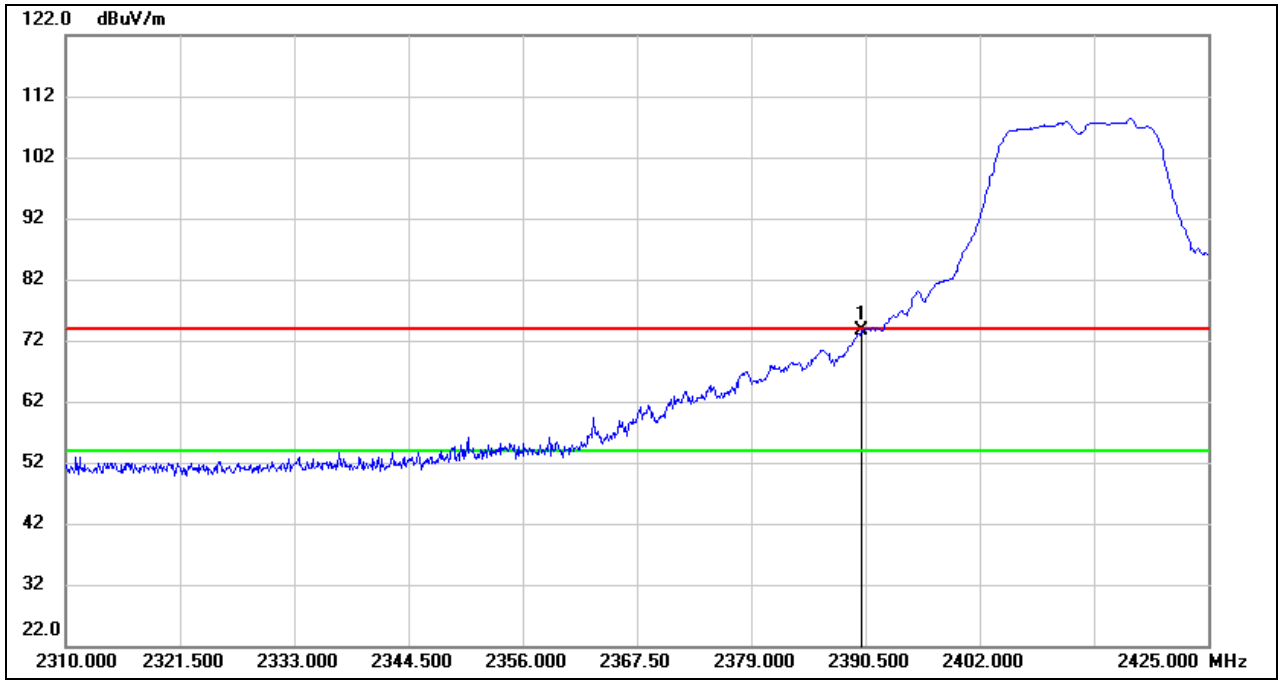
No.	Frequency (MHz)	Reading (dBuV)	Correct (dB/m)	Result (dBuV/m)	Limit (dBuV/m)	Margin (dB)	Remark
1	2483.500	12.43	33.71	46.14	54.00	-7.86	AVG
2	2487.350	20.16	33.72	53.88	54.00	-0.12	AVG
3	2487.650	19.90	33.72	53.62	54.00	-0.38	AVG

Note: 1. Measurement = Reading Level + Correct Factor.
2. If Peak Result complies with AV limit, AV Result is deemed to comply with AV limit.
3. Peak: Peak detector.
4. AVG: VBW=1/Ton, where: Ton is the transmitting duration.
5. For the transmitting duration, please refer to clause 7.1.
6. Only the worst case emission was recorded, if it complies with the limit, the other emissions deemed to comply with the limit.

8.1.1. 802.11g MODE

RESTRICTED BANDEDGE (CHANNEL 1, HORIZONTAL)

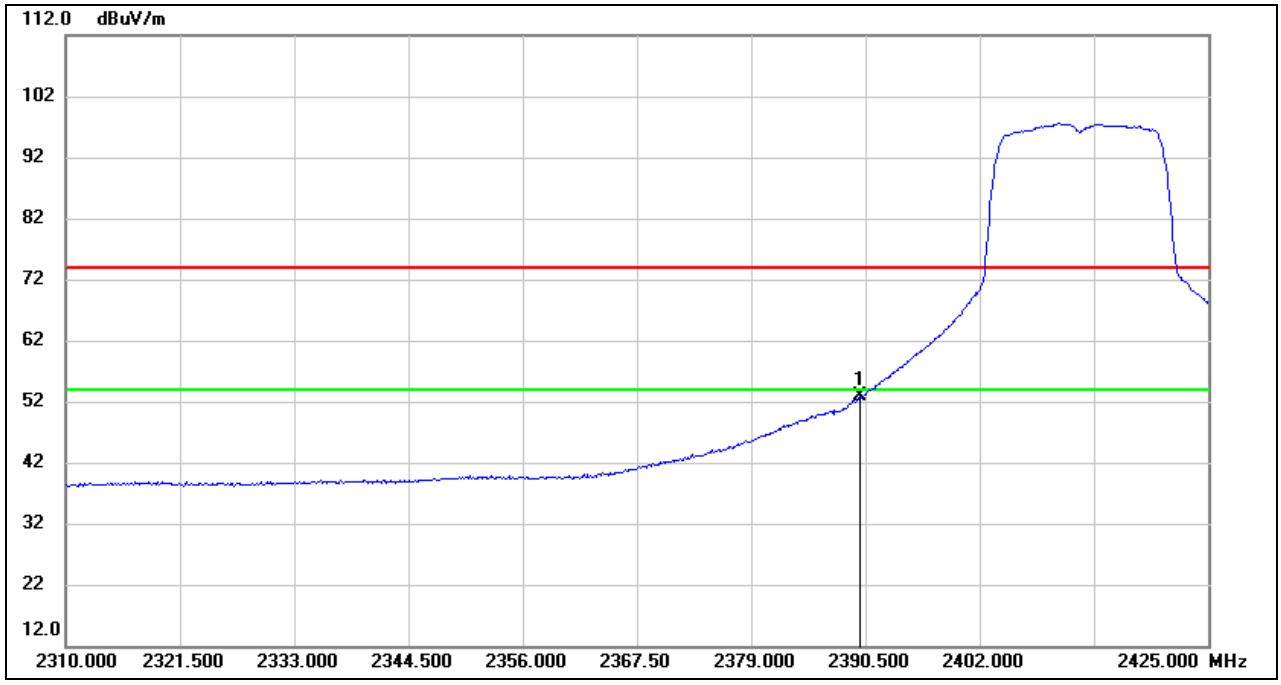
PEAK



No.	Frequency (MHz)	Reading (dBuV)	Correct (dB/m)	Result (dBuV/m)	Limit (dBuV/m)	Margin (dB)	Remark
1	2390.000	40.19	33.35	73.54	74.00	-0.46	peak

Note: 1. Measurement = Reading Level + Correct Factor.
2. If Peak Result complies with AV limit, AV Result is deemed to comply with AV limit.
3. Peak: Peak detector.
4. Only the worst case emission was recorded, if it complies with the limit, the other emissions deemed to comply with the limit.

AVG

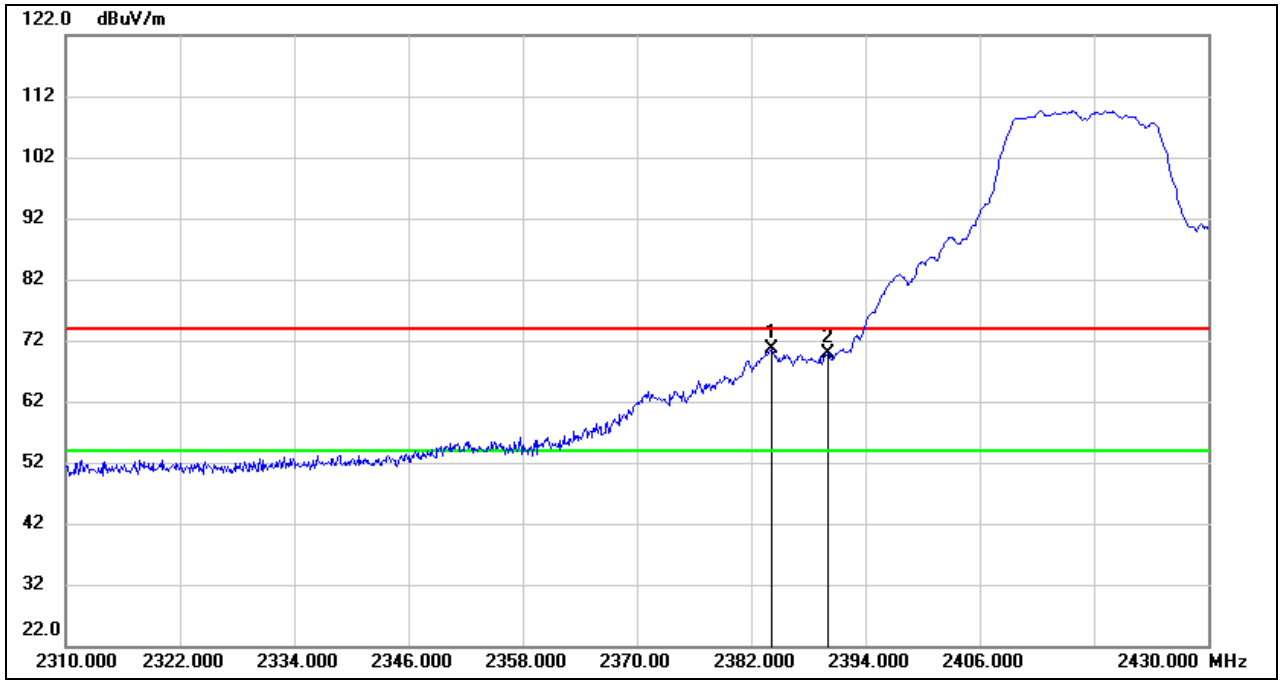


No.	Frequency (MHz)	Reading (dBuV)	Correct (dB/m)	Result (dBuV/m)	Limit (dBuV/m)	Margin (dB)	Remark
1	2390.000	19.47	33.35	52.82	54.00	-1.18	AVG

Note: 1. Measurement = Reading Level + Correct Factor.
2. If Peak Result complies with AV limit, AV Result is deemed to comply with AV limit.
3. Peak: Peak detector.
4. AVG: VBW=1/Ton, where: Ton is the transmitting duration.
5. For the transmitting duration, please refer to clause 7.1.
6. Only the worst case emission was recorded, if it complies with the limit, the other emissions deemed to comply with the limit.

RESTRICTED BANDEDGE (CHANNEL 2, HORIZONTAL)

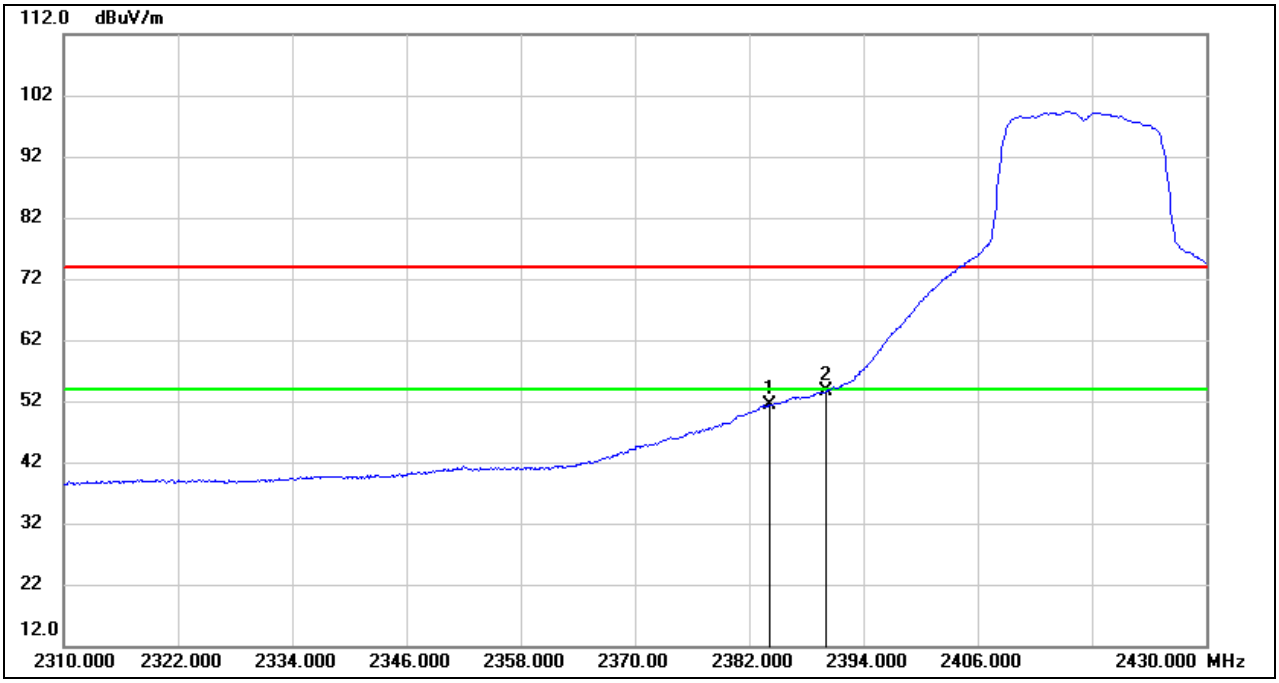
PEAK



No.	Frequency (MHz)	Reading (dBuV)	Correct (dB/m)	Result (dBuV/m)	Limit (dBuV/m)	Margin (dB)	Remark
1	2384.160	37.26	33.31	70.57	74.00	-3.43	peak
2	2390.000	36.42	33.35	69.77	74.00	-4.23	peak

Note: 1. Measurement = Reading Level + Correct Factor.
2. If Peak Result complies with AV limit, AV Result is deemed to comply with AV limit.
3. Peak: Peak detector.
4. Only the worst case emission was recorded, if it complies with the limit, the other emissions deemed to comply with the limit.

AVG

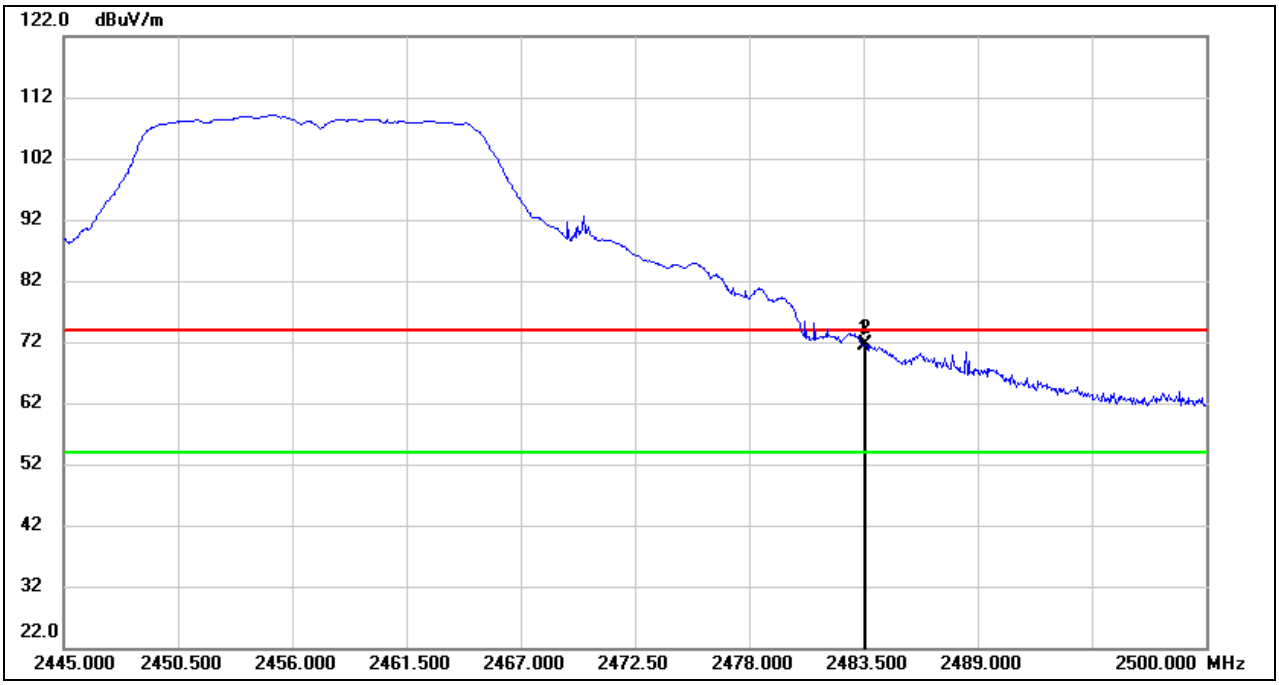


No.	Frequency (MHz)	Reading (dBuV)	Correct (dB/m)	Result (dBuV/m)	Limit (dBuV/m)	Margin (dB)	Remark
1	2384.160	17.96	33.31	51.27	54.00	-2.73	AVG
2	2390.000	20.22	33.35	53.57	54.00	-0.43	AVG

Note: 1. Measurement = Reading Level + Correct Factor.
2. If Peak Result complies with AV limit, AV Result is deemed to comply with AV limit.
3. Peak: Peak detector.
4. AVG: VBW=1/Ton, where: Ton is the transmitting duration.
5. For the transmitting duration, please refer to clause 7.1.
6. Only the worst case emission was recorded, if it complies with the limit, the other emissions deemed to comply with the limit.

RESTRICTED BANDEDGE (CHANNEL 10, HORIZONTAL)

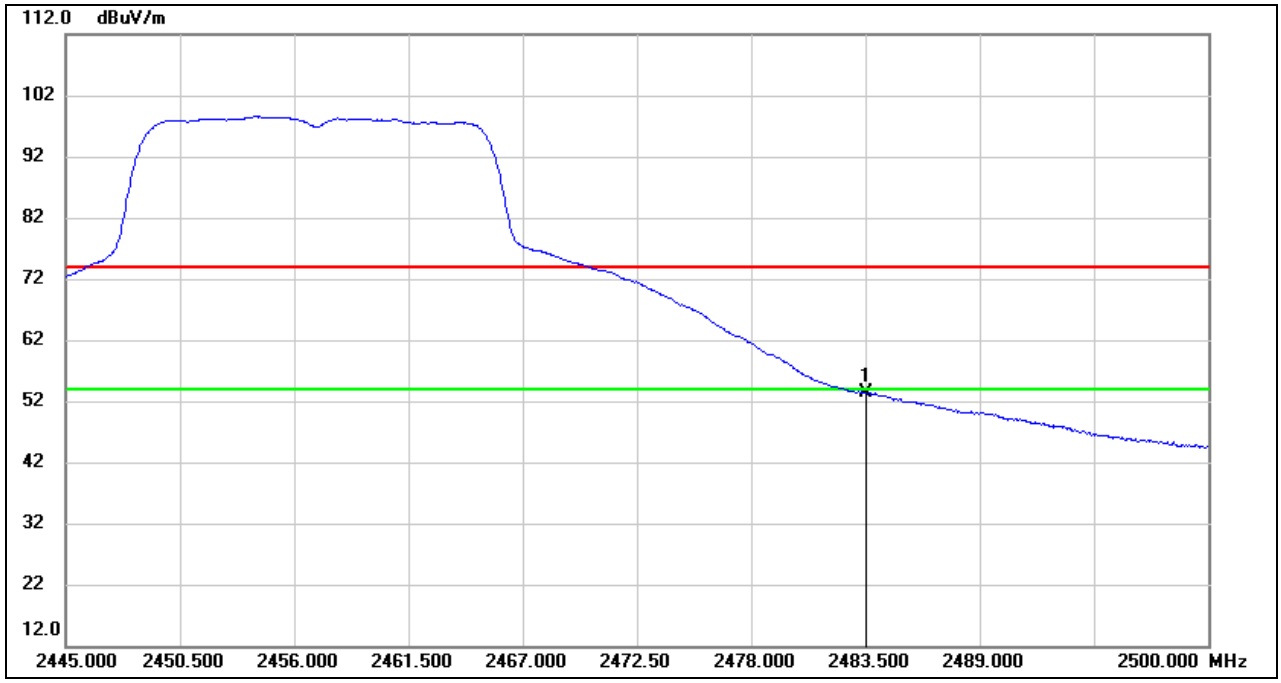
PEAK



No.	Frequency	Reading	Correct	Result	Limit	Margin	Remark
	(MHz)	(dBuV)	(dB/m)	(dBuV/m)	(dBuV/m)	(dB)	
1	2483.500	37.57	33.71	71.28	74.00	-2.72	peak
2	2483.610	37.96	33.71	71.67	74.00	-2.33	peak

Note: 1. Measurement = Reading Level + Correct Factor.
2. If Peak Result complies with AV limit, AV Result is deemed to comply with AV limit.
3. Peak: Peak detector.
4. Only the worst case emission was recorded, if it complies with the limit, the other emissions deemed to comply with the limit.

AVG

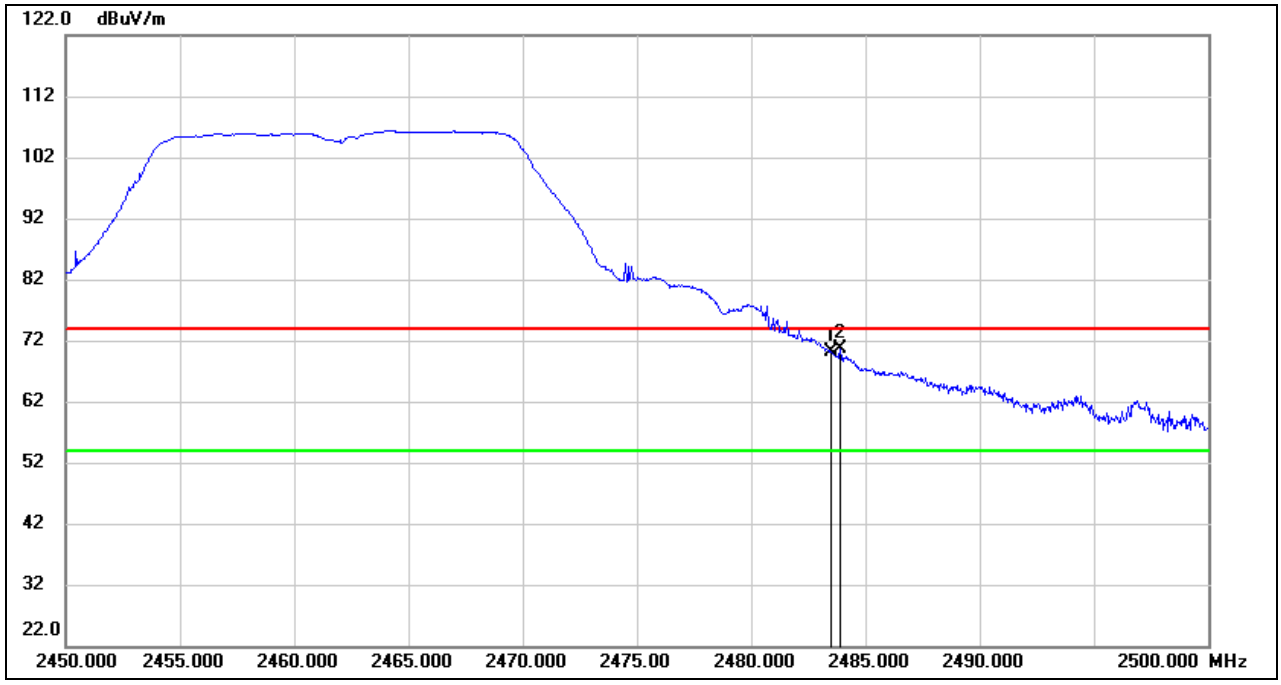


No.	Frequency	Reading	Correct	Result	Limit	Margin	Remark
	(MHz)	(dBuV)	(dB/m)	(dBuV/m)	(dBuV/m)	(dB)	
1	2483.500	19.67	33.71	53.38	54.00	-0.62	AVG

Note: 1. Measurement = Reading Level + Correct Factor.
2. If Peak Result complies with AV limit, AV Result is deemed to comply with AV limit.
3. Peak: Peak detector.
4. AVG: VBW=1/Ton, where: Ton is the transmitting duration.
5. For the transmitting duration, please refer to clause 7.1.
6. Only the worst case emission was recorded, if it complies with the limit, the other emissions deemed to comply with the limit.

RESTRICTED BANDEDGE (CHANNEL 11, HORIZONTAL)

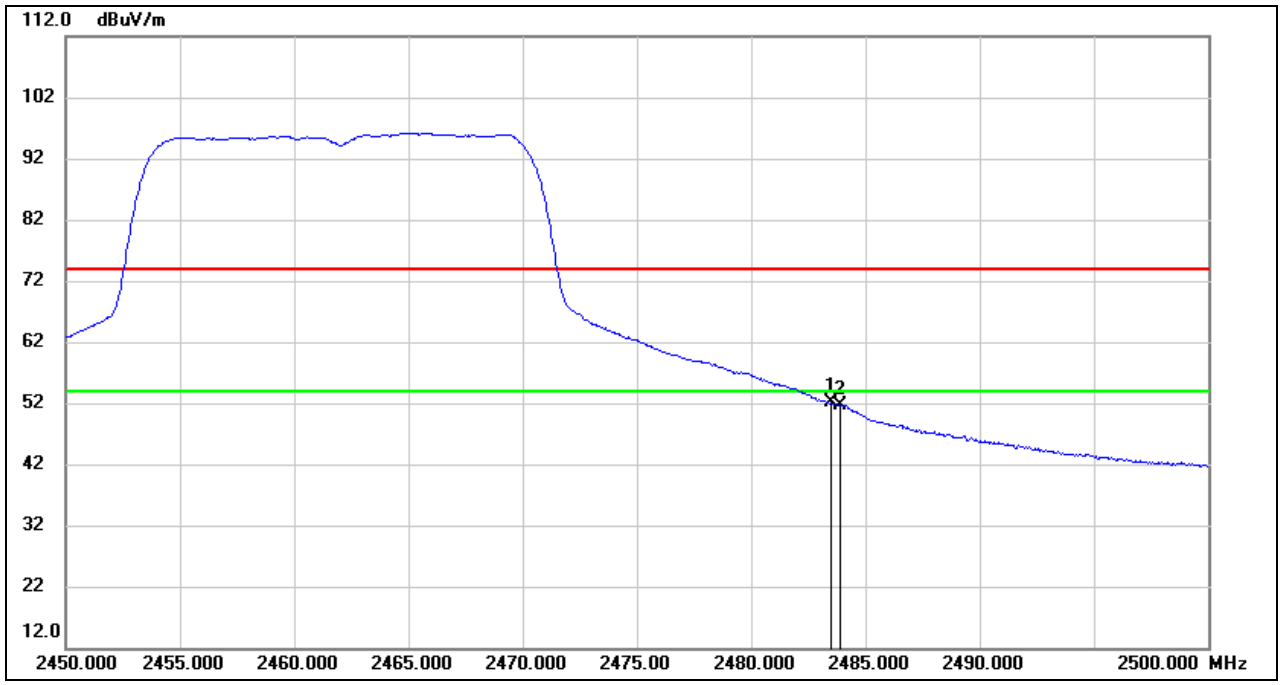
PEAK



No.	Frequency (MHz)	Reading (dBuV)	Correct (dB/m)	Result (dBuV/m)	Limit (dBuV/m)	Margin (dB)	Remark
1	2483.500	36.31	33.71	70.02	74.00	-3.98	peak
2	2483.900	36.89	33.71	70.60	74.00	-3.40	peak

Note: 1. Measurement = Reading Level + Correct Factor.
2. If Peak Result complies with AV limit, AV Result is deemed to comply with AV limit.
3. Peak: Peak detector.
4. Only the worst case emission was recorded, if it complies with the limit, the other emissions deemed to comply with the limit.

AVG



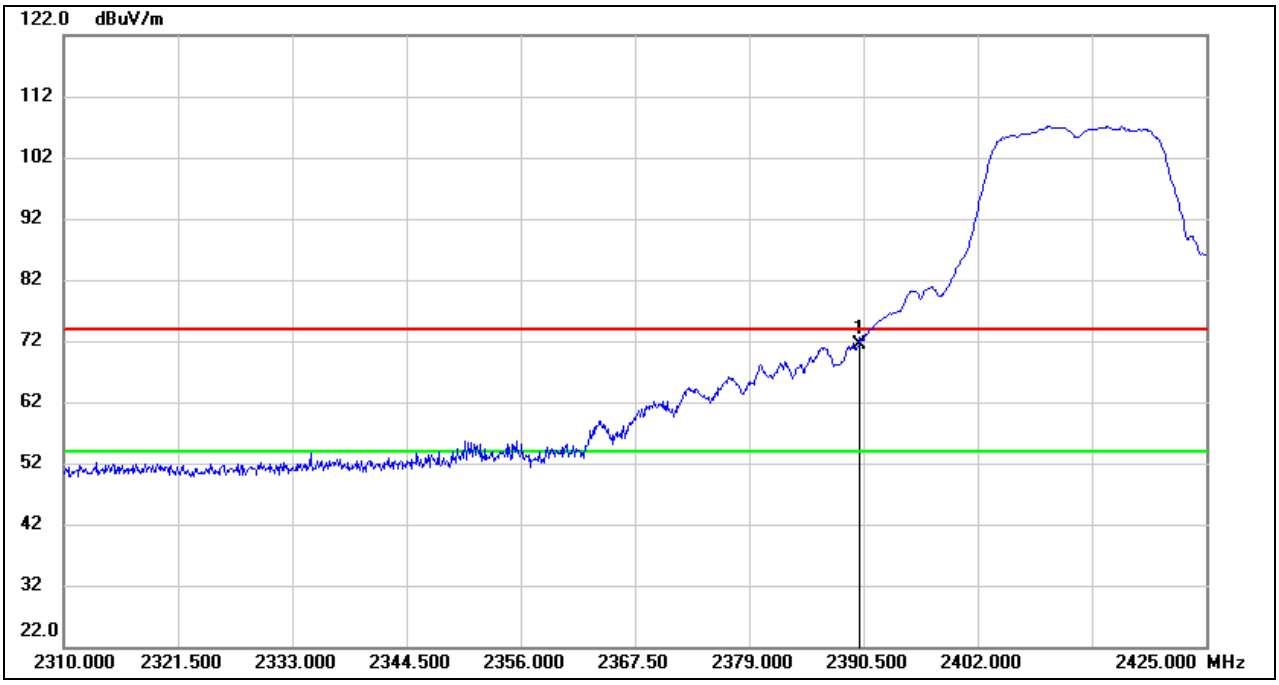
No.	Frequency	Reading	Correct	Result	Limit	Margin	Remark
	(MHz)	(dBuV)	(dB/m)	(dBuV/m)	(dBuV/m)	(dB)	
1	2483.500	18.31	33.71	52.02	54.00	-1.98	AVG
2	2483.900	17.99	33.71	51.70	54.00	-2.30	AVG

Note: 1. Measurement = Reading Level + Correct Factor.
2. If Peak Result complies with AV limit, AV Result is deemed to comply with AV limit.
3. Peak: Peak detector.
4. AVG: VBW=1/Ton, where: Ton is the transmitting duration.
5. For the transmitting duration, please refer to clause 7.1.
6. Only the worst case emission was recorded, if it complies with the limit, the other emissions deemed to comply with the limit.

8.1.2. 802.11n HT20 MODE

RESTRICTED BANDEDGE (CHANNEL 1, HORIZONTAL)

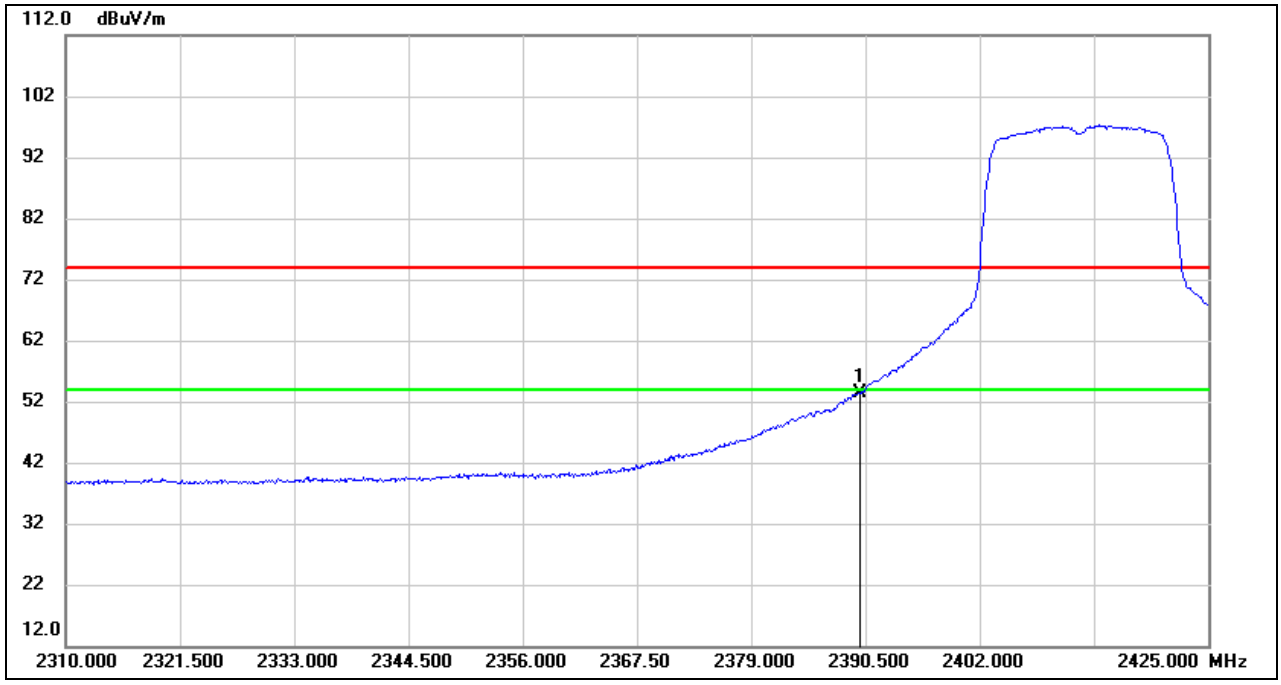
PEAK



No.	Frequency (MHz)	Reading (dBuV)	Correct (dB/m)	Result (dBuV/m)	Limit (dBuV/m)	Margin (dB)	Remark
1	2390.000	37.98	33.35	71.33	74.00	-2.67	peak

Note: 1. Measurement = Reading Level + Correct Factor.
2. If Peak Result complies with AV limit, AV Result is deemed to comply with AV limit.
3. Peak: Peak detector.
4. Only the worst case emission was recorded, if it complies with the limit, the other emissions deemed to comply with the limit.

AVG

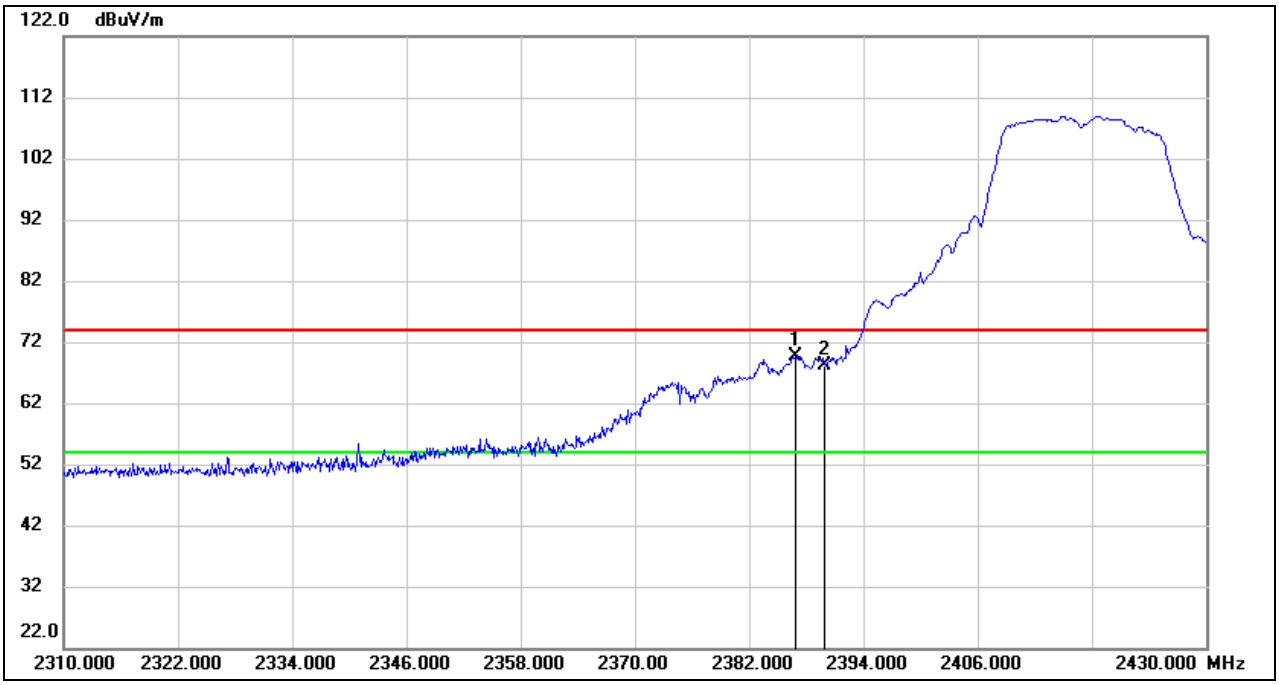


No.	Frequency (MHz)	Reading (dBuV)	Correct (dB/m)	Result (dBuV/m)	Limit (dBuV/m)	Margin (dB)	Remark
1	2390.000	20.10	33.35	53.45	54.00	-0.55	AVG

Note: 1. Measurement = Reading Level + Correct Factor.
2. If Peak Result complies with AV limit, AV Result is deemed to comply with AV limit.
3. Peak: Peak detector.
4. AVG: VBW=1/Ton, where: Ton is the transmitting duration.
5. For the transmitting duration, please refer to clause 7.1.
6. Only the worst case emission was recorded, if it complies with the limit, the other emissions deemed to comply with the limit.

RESTRICTED BANDEDGE (CHANNEL 2, HORIZONTAL)

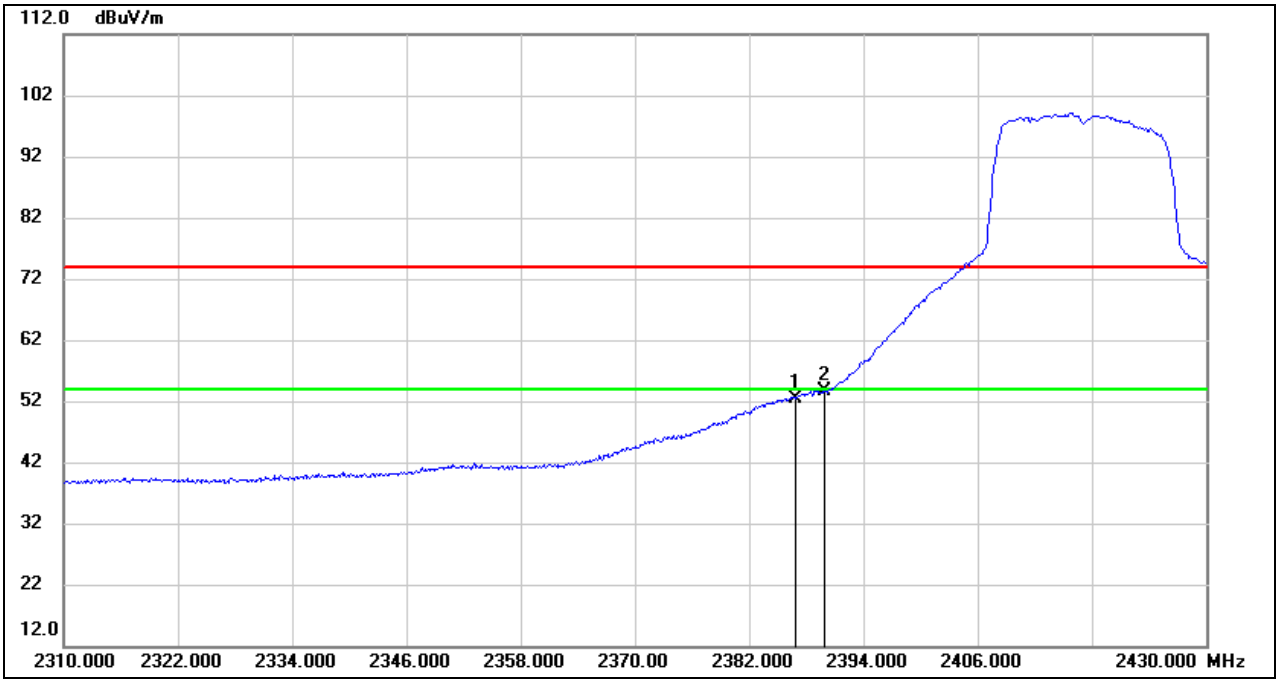
PEAK



No.	Frequency (MHz)	Reading (dBuV)	Correct (dB/m)	Result (dBuV/m)	Limit (dBuV/m)	Margin (dB)	Remark
1	2386.800	36.39	33.33	69.72	74.00	-4.28	peak
2	2390.000	34.87	33.35	68.22	74.00	-5.78	peak

Note: 1. Measurement = Reading Level + Correct Factor.
2. If Peak Result complies with AV limit, AV Result is deemed to comply with AV limit.
3. Peak: Peak detector.
4. Only the worst case emission was recorded, if it complies with the limit, the other emissions deemed to comply with the limit.

AVG

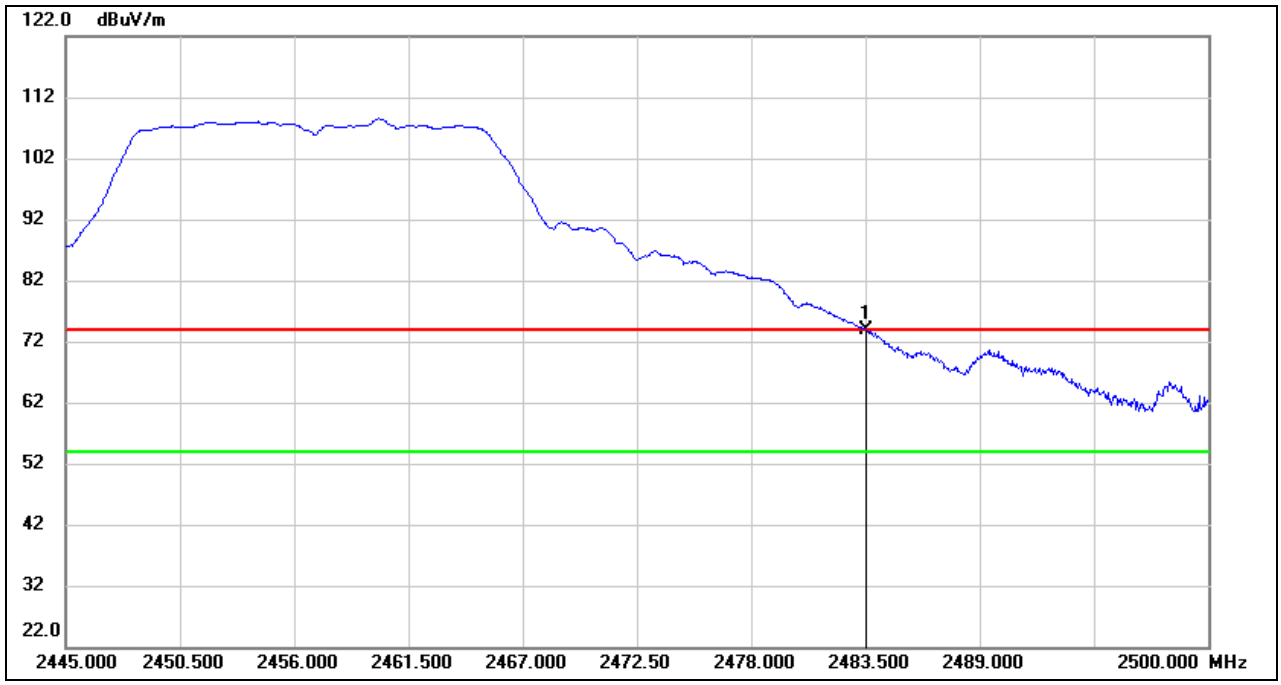


No.	Frequency (MHz)	Reading (dBuV)	Correct (dB/m)	Result (dBuV/m)	Limit (dBuV/m)	Margin (dB)	Remark
1	2386.800	19.04	33.33	52.37	54.00	-1.63	AVG
2	2390.000	20.18	33.35	53.53	54.00	-0.47	AVG

Note: 1. Measurement = Reading Level + Correct Factor.
2. If Peak Result complies with AV limit, AV Result is deemed to comply with AV limit.
3. Peak: Peak detector.
4. AVG: VBW=1/Ton, where: Ton is the transmitting duration.
5. For the transmitting duration, please refer to clause 7.1.
6. Only the worst case emission was recorded, if it complies with the limit, the other emissions deemed to comply with the limit.

RESTRICTED BANDEDGE (CHANNEL 10, HORIZONTAL)

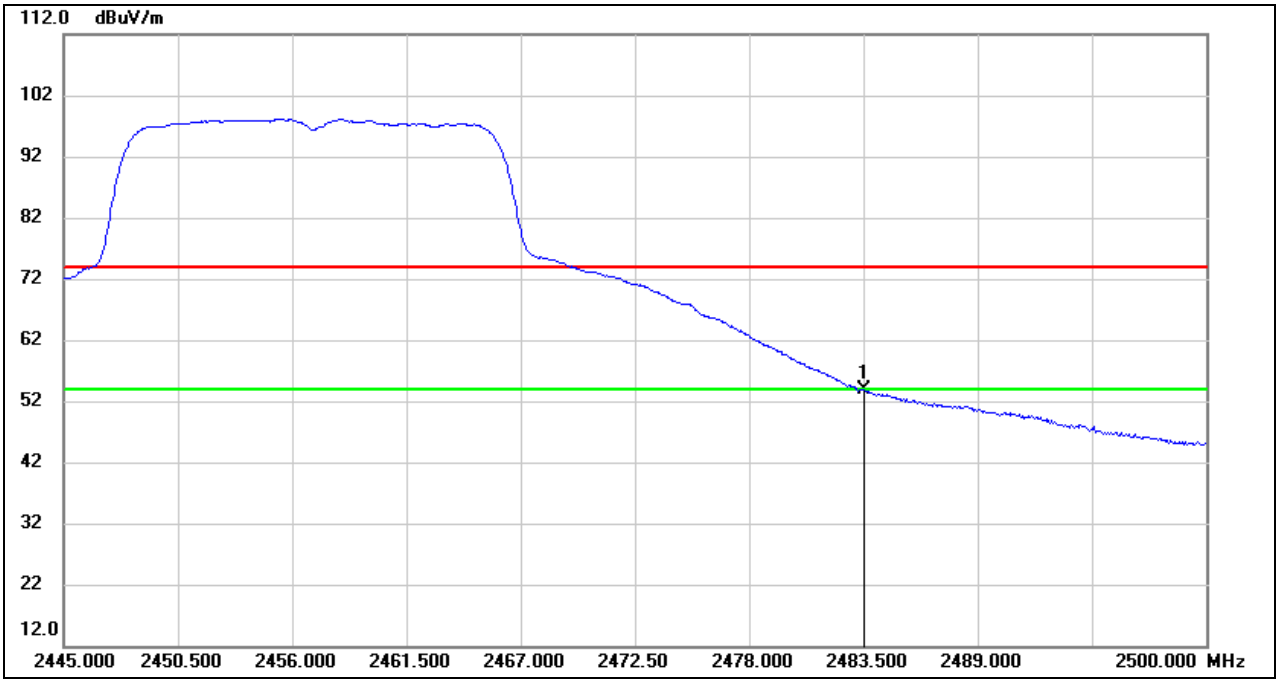
PEAK



No.	Frequency	Reading	Correct	Result	Limit	Margin	Remark
	(MHz)	(dBuV)	(dB/m)	(dBuV/m)	(dBuV/m)	(dB)	
1	2483.500	40.22	33.71	73.93	74.00	-0.07	peak

Note: 1. Measurement = Reading Level + Correct Factor.
2. If Peak Result complies with AV limit, AV Result is deemed to comply with AV limit.
3. Peak: Peak detector.
4. Only the worst case emission was recorded, if it complies with the limit, the other emissions deemed to comply with the limit.

AVG

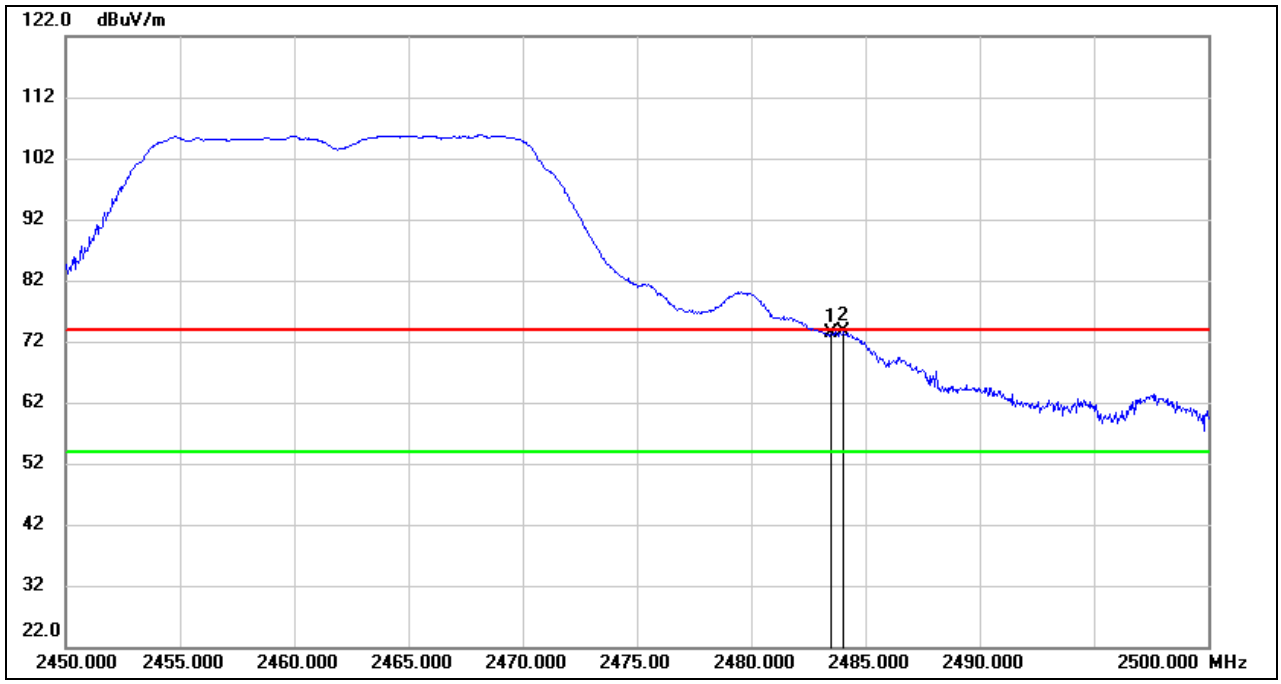


No.	Frequency	Reading	Correct	Result	Limit	Margin	Remark
	(MHz)	(dBuV)	(dB/m)	(dBuV/m)	(dBuV/m)	(dB)	
1	2483.500	20.05	33.71	53.76	54.00	-0.24	AVG

Note: 1. Measurement = Reading Level + Correct Factor.
2. If Peak Result complies with AV limit, AV Result is deemed to comply with AV limit.
3. Peak: Peak detector.
4. AVG: VBW=1/Ton, where: Ton is the transmitting duration.
5. For the transmitting duration, please refer to clause 7.1.
6. Only the worst case emission was recorded, if it complies with the limit, the other emissions deemed to comply with the limit.

RESTRICTED BANDEDGE (CHANNEL 11, HORIZONTAL)

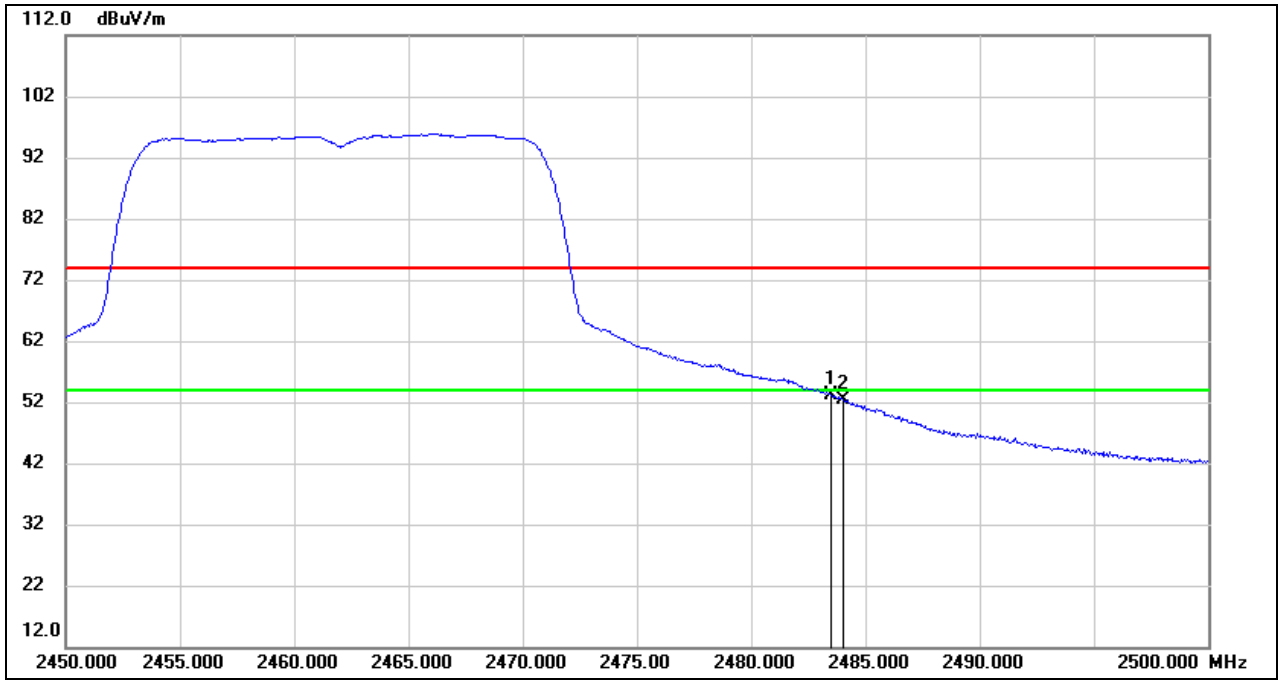
PEAK



No.	Frequency (MHz)	Reading (dBuV)	Correct (dB/m)	Result (dBuV/m)	Limit (dBuV/m)	Margin (dB)	Remark
1	2483.500	39.62	33.71	73.33	74.00	-0.67	peak
2	2484.050	39.90	33.71	73.61	74.00	-0.39	peak

Note: 1. Measurement = Reading Level + Correct Factor.
2. If Peak Result complies with AV limit, AV Result is deemed to comply with AV limit.
3. Peak: Peak detector.
4. Only the worst case emission was recorded, if it complies with the limit, the other emissions deemed to comply with the limit.

AVG



No.	Frequency (MHz)	Reading (dBuV)	Correct (dB/m)	Result (dBuV/m)	Limit (dBuV/m)	Margin (dB)	Remark
1	2483.500	19.40	33.71	53.11	54.00	-0.89	AVG
2	2484.050	18.68	33.71	52.39	54.00	-1.61	AVG

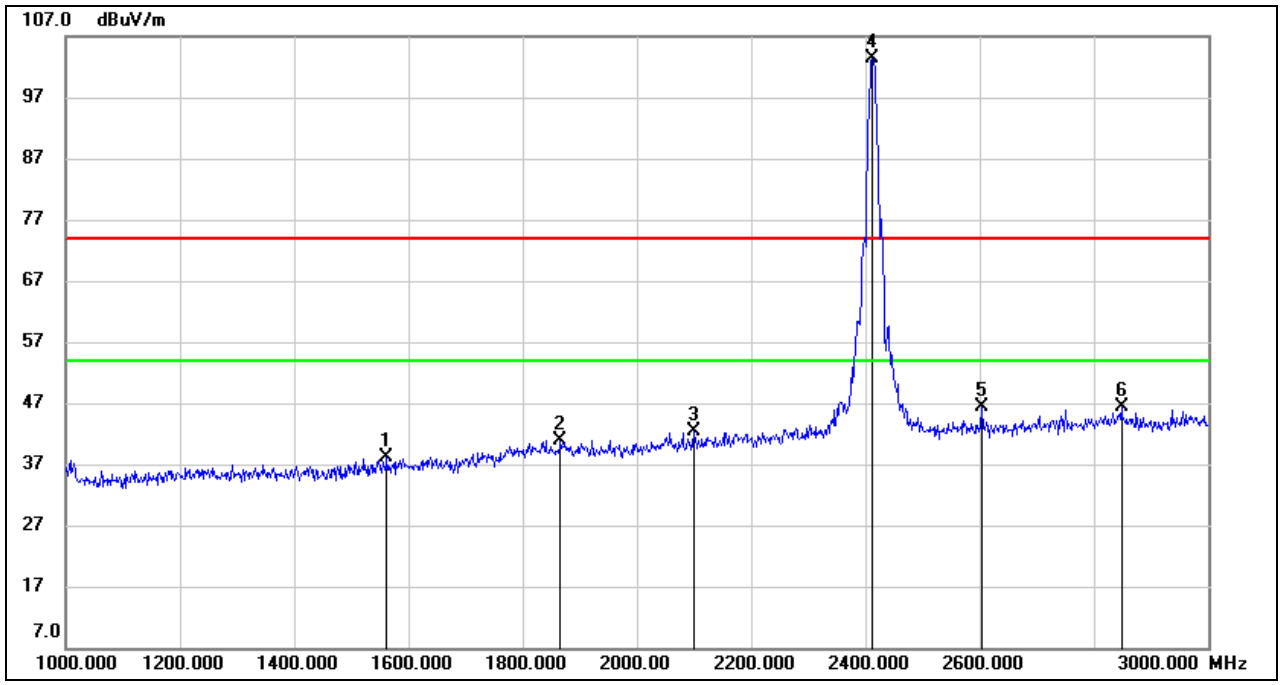
Note: 1. Measurement = Reading Level + Correct Factor.
2. If Peak Result complies with AV limit, AV Result is deemed to comply with AV limit.
3. Peak: Peak detector.
4. AVG: VBW=1/Ton, where: Ton is the transmitting duration.
5. For the transmitting duration, please refer to clause 7.1.
6. Only the worst case emission was recorded, if it complies with the limit, the other emissions deemed to comply with the limit.

Note: Both vertical and horizontal had been tested, only the worst data was recorded in the report.

8.2. SPURIOUS EMISSIONS (1 GHz ~ 3 GHz)

8.2.1. 802.11b MODE

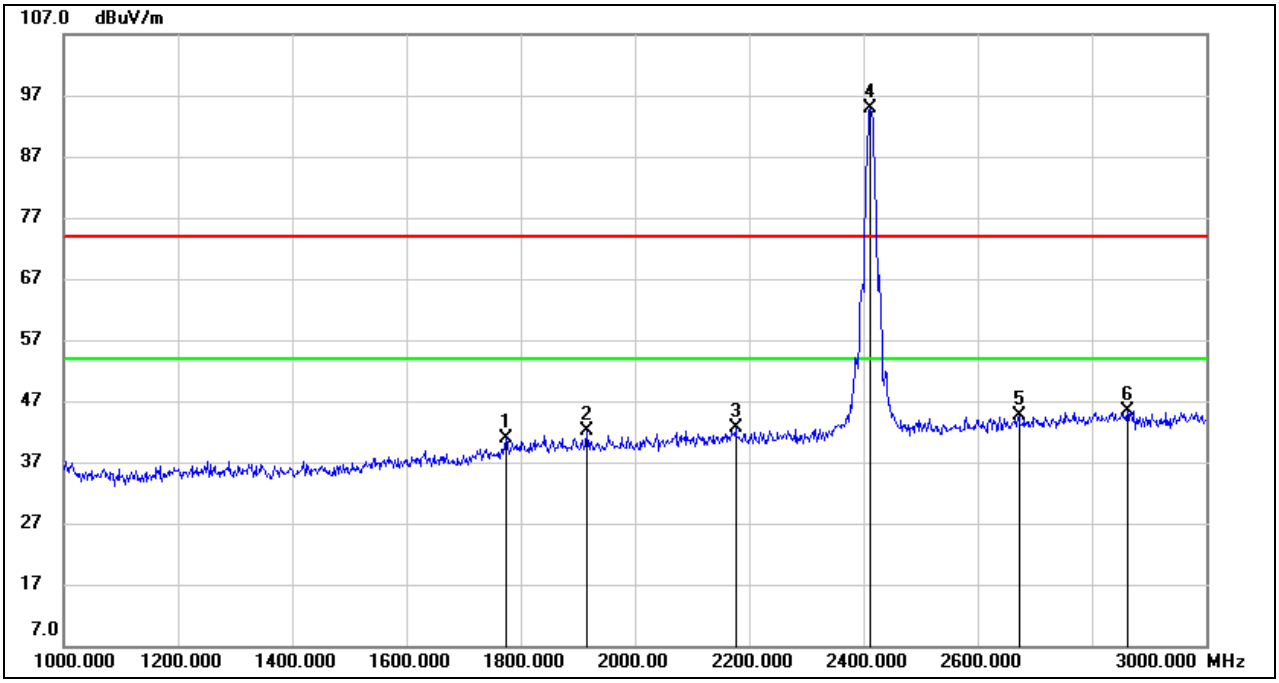
HARMONICS AND SPURIOUS EMISSIONS (CHANNEL 1, HORIZONTAL)



No.	Frequency (MHz)	Reading (dBuV)	Correct (dB/m)	Result (dBuV/m)	Limit (dBuV/m)	Margin (dB)	Remark
1	1562.000	32.38	5.85	38.23	74.00	-35.77	peak
2	1866.000	32.89	8.04	40.93	74.00	-33.07	peak
3	2100.000	33.32	9.08	42.40	74.00	-31.60	peak
4	2412.000	93.30	10.01	103.31	/	/	fundamental
5	2604.000	36.00	10.27	46.27	74.00	-27.73	peak
6	2848.000	34.72	11.65	46.37	74.00	-27.63	peak

Note: 1. Measurement = Reading Level + Correct Factor.
2. If Peak Result complies with AV limit, AV Result is deemed to comply with AV limit.
3. Peak: Peak detector.

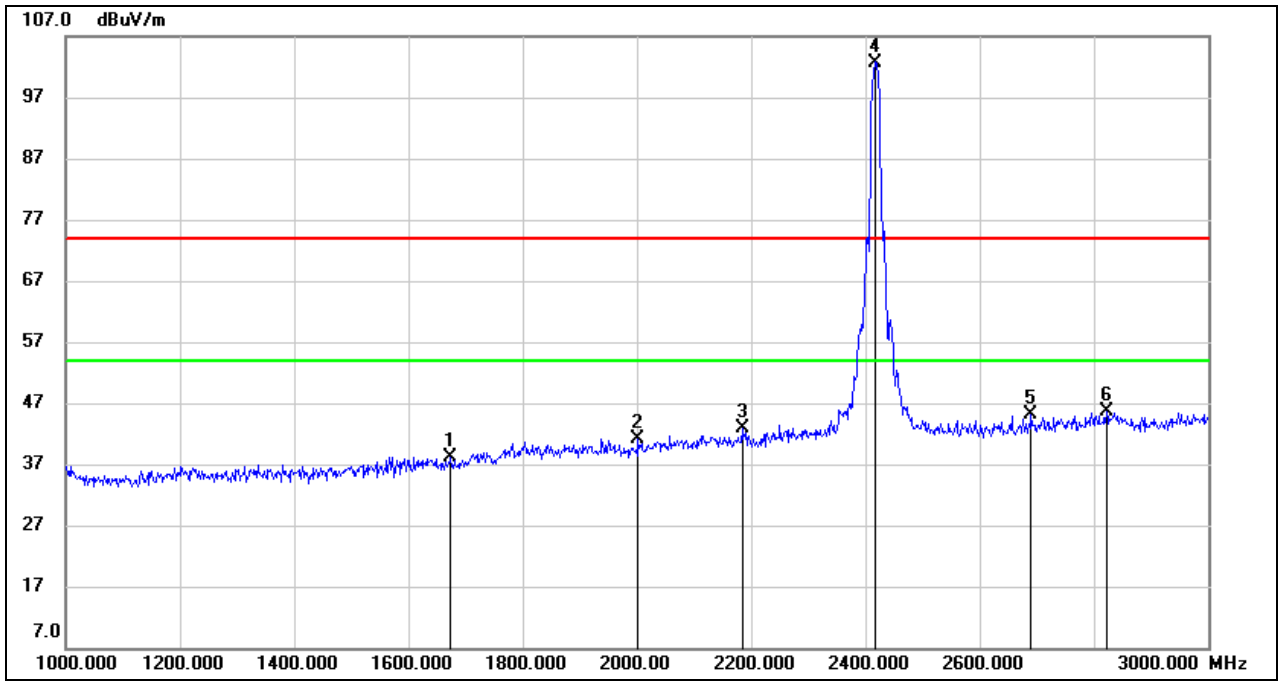
HARMONICS AND SPURIOUS EMISSIONS (CHANNEL 1, VERTICAL)



No.	Frequency (MHz)	Reading (dBuV)	Correct (dB/m)	Result (dBuV/m)	Limit (dBuV/m)	Margin (dB)	Remark
1	1774.000	33.45	7.55	41.00	74.00	-33.00	peak
2	1916.000	33.91	8.12	42.03	74.00	-31.97	peak
3	2176.000	33.40	9.27	42.67	74.00	-31.33	peak
4	2412.000	84.76	10.01	94.77	/	/	fundamental
5	2672.000	33.88	10.66	44.54	74.00	-29.46	peak
6	2862.000	33.78	11.68	45.46	74.00	-28.54	peak

Note: 1. Measurement = Reading Level + Correct Factor.
2. If Peak Result complies with AV limit, AV Result is deemed to comply with AV limit.
3. Peak: Peak detector.

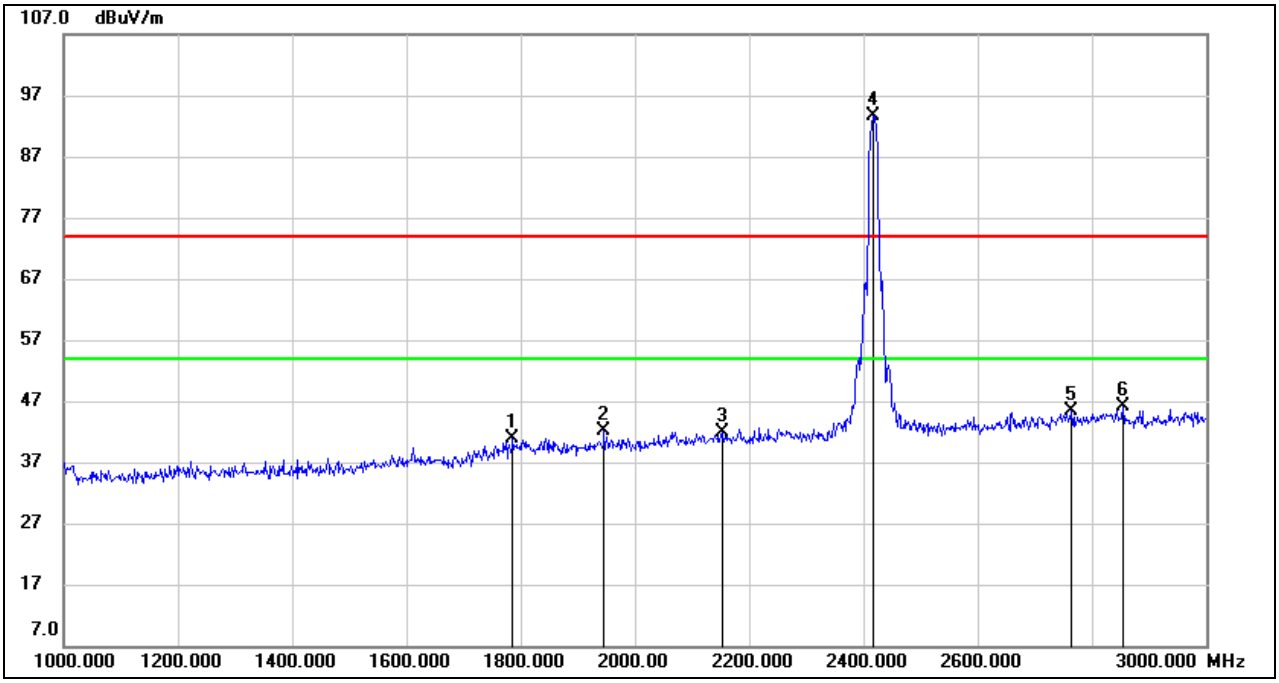
HARMONICS AND SPURIOUS EMISSIONS (CHANNEL 2, HORIZONTAL)



No.	Frequency (MHz)	Reading (dBuV)	Correct (dB/m)	Result (dBuV/m)	Limit (dBuV/m)	Margin (dB)	Remark
1	1674.000	31.86	6.35	38.21	74.00	-35.79	peak
2	2002.000	32.82	8.34	41.16	74.00	-32.84	peak
3	2184.000	33.62	9.28	42.90	74.00	-31.10	peak
4	2417.000	92.73	10.02	102.75	/	/	fundamental
5	2690.000	34.30	10.75	45.05	74.00	-28.95	peak
6	2822.000	34.15	11.59	45.74	74.00	-28.26	peak

Note: 1. Measurement = Reading Level + Correct Factor.
2. If Peak Result complies with AV limit, AV Result is deemed to comply with AV limit.
3. Peak: Peak detector.

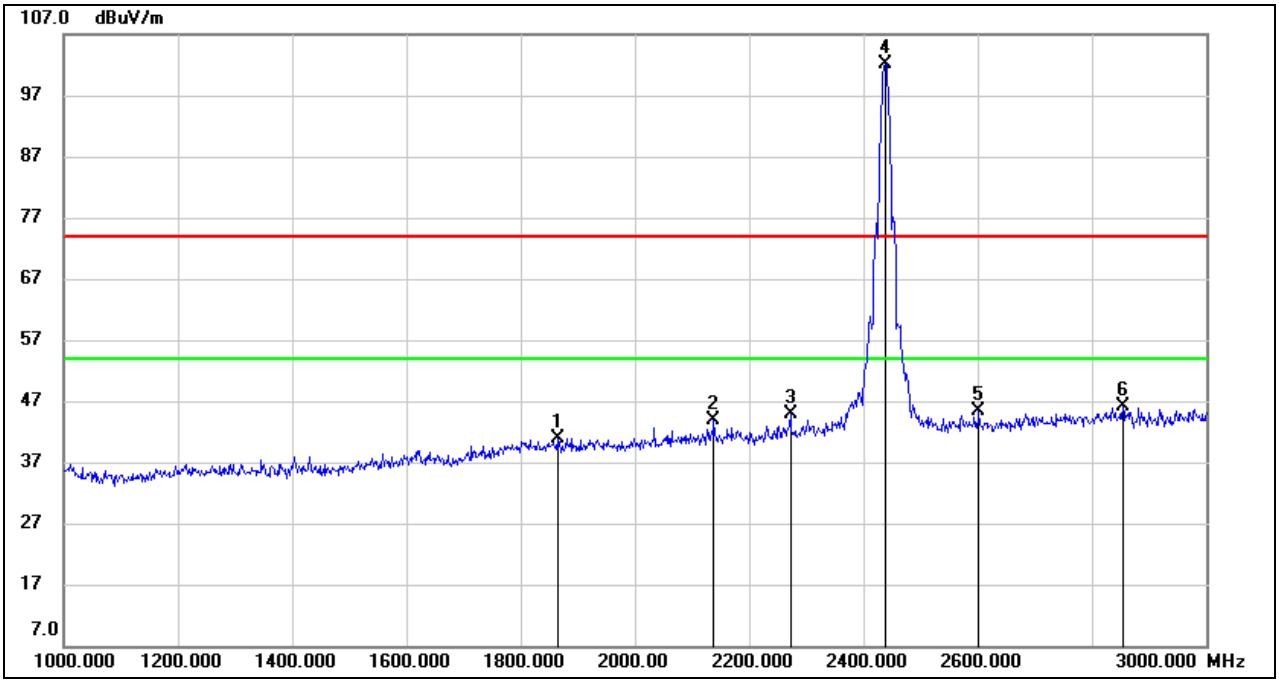
HARMONICS AND SPURIOUS EMISSIONS (CHANNEL 2, VERTICAL)



No.	Frequency (MHz)	Reading (dBuV)	Correct (dB/m)	Result (dBuV/m)	Limit (dBuV/m)	Margin (dB)	Remark
1	1786.000	33.04	7.73	40.77	74.00	-33.23	peak
2	1946.000	33.83	8.20	42.03	74.00	-31.97	peak
3	2154.000	32.72	9.21	41.93	74.00	-32.07	peak
4	2417.000	83.64	10.02	93.66	/	/	fundamental
5	2764.000	34.16	11.27	45.43	74.00	-28.57	peak
6	2854.000	34.48	11.66	46.14	74.00	-27.86	peak

Note: 1. Measurement = Reading Level + Correct Factor.
2. If Peak Result complies with AV limit, AV Result is deemed to comply with AV limit.
3. Peak: Peak detector.

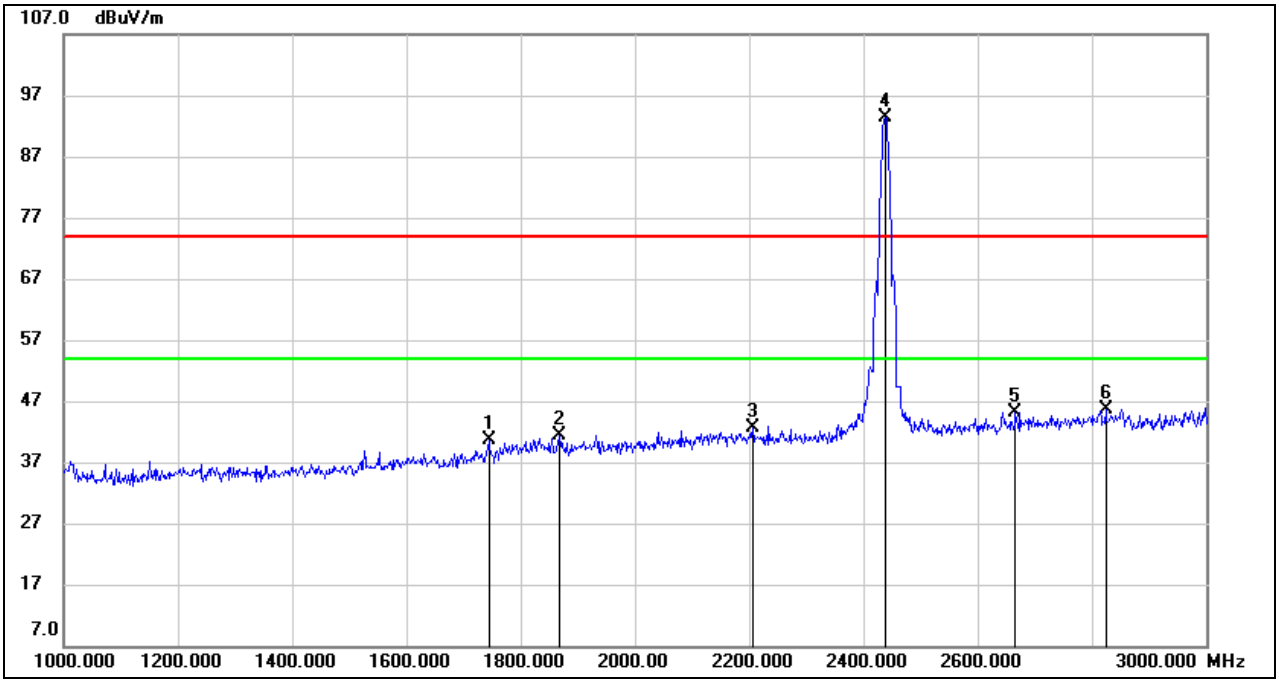
HARMONICS AND SPURIOUS EMISSIONS (CHANNEL 6, HORIZONTAL)



No.	Frequency (MHz)	Reading (dBuV)	Correct (dB/m)	Result (dBuV/m)	Limit (dBuV/m)	Margin (dB)	Remark
1	1864.000	32.95	8.03	40.98	74.00	-33.02	peak
2	2138.000	34.81	9.17	43.98	74.00	-30.02	peak
3	2272.000	35.48	9.30	44.78	74.00	-29.22	peak
4	2437.000	92.00	10.10	102.10	/	/	fundamental
5	2602.000	35.05	10.27	45.32	74.00	-28.68	peak
6	2854.000	34.38	11.66	46.04	74.00	-27.96	peak

Note: 1. Measurement = Reading Level + Correct Factor.
2. If Peak Result complies with AV limit, AV Result is deemed to comply with AV limit.
3. Peak: Peak detector.

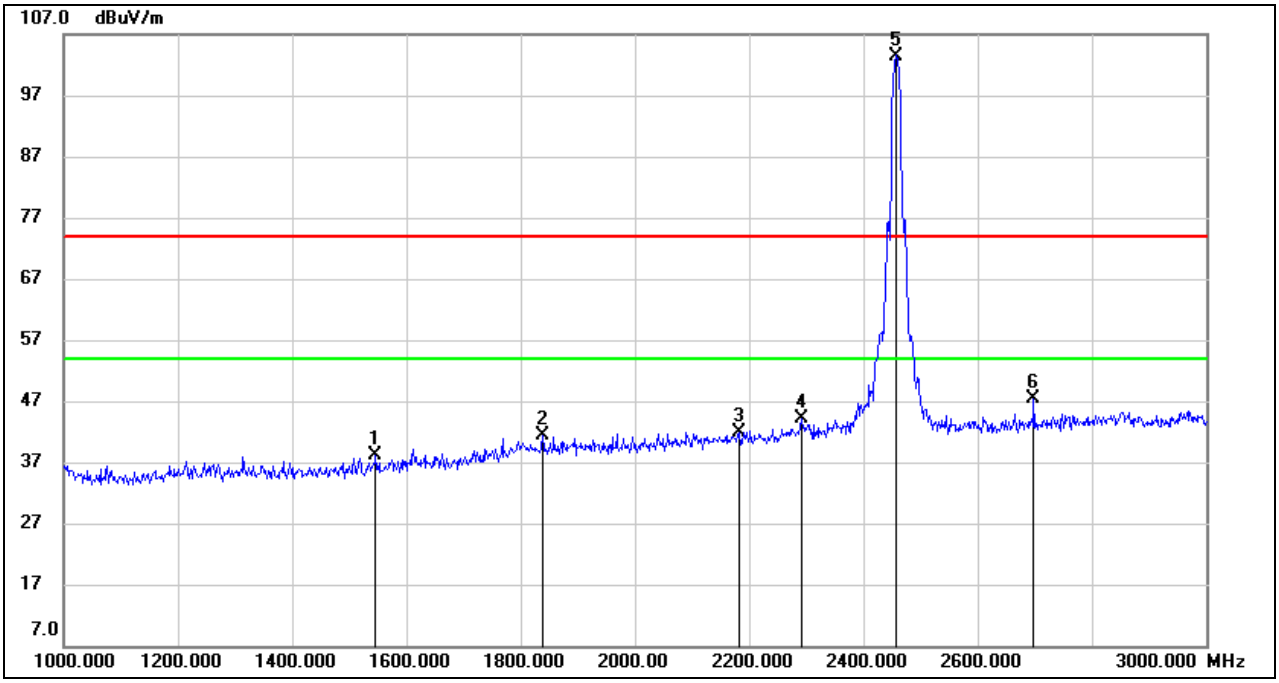
HARMONICS AND SPURIOUS EMISSIONS (CHANNEL 6, VERTICAL)



No.	Frequency (MHz)	Reading (dBuV)	Correct (dB/m)	Result (dBuV/m)	Limit (dBuV/m)	Margin (dB)	Remark
1	1744.000	33.50	7.08	40.58	74.00	-33.42	peak
2	1868.000	33.35	8.04	41.39	74.00	-32.61	peak
3	2206.000	33.42	9.32	42.74	74.00	-31.26	peak
4	2437.000	83.37	10.10	93.47	/	/	fundamental
5	2666.000	34.61	10.63	45.24	74.00	-28.76	peak
6	2824.000	34.10	11.59	45.69	74.00	-28.31	peak

Note: 1. Measurement = Reading Level + Correct Factor.
2. If Peak Result complies with AV limit, AV Result is deemed to comply with AV limit.
3. Peak: Peak detector.

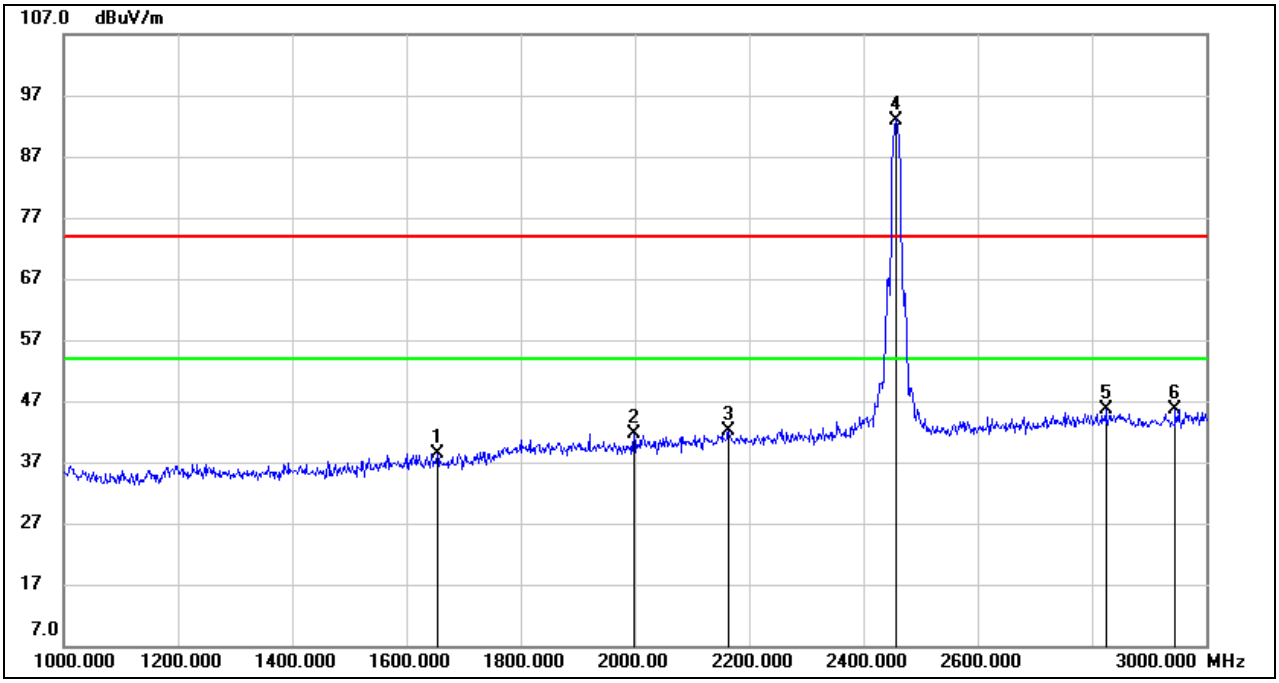
HARMONICS AND SPURIOUS EMISSIONS (CHANNEL 10, HORIZONTAL)



No.	Frequency (MHz)	Reading (dBuV)	Correct (dB/m)	Result (dBuV/m)	Limit (dBuV/m)	Margin (dB)	Remark
1	1546.000	32.51	5.68	38.19	74.00	-35.81	peak
2	1838.000	33.45	7.99	41.44	74.00	-32.56	peak
3	2182.000	32.68	9.28	41.96	74.00	-32.04	peak
4	2292.000	34.72	9.30	44.02	74.00	-29.98	peak
5	2457.000	93.17	10.17	103.34	/	/	fundamental
6	2698.000	36.62	10.80	47.42	74.00	-26.58	peak

Note: 1. Measurement = Reading Level + Correct Factor.
2. If Peak Result complies with AV limit, AV Result is deemed to comply with AV limit.
3. Peak: Peak detector.

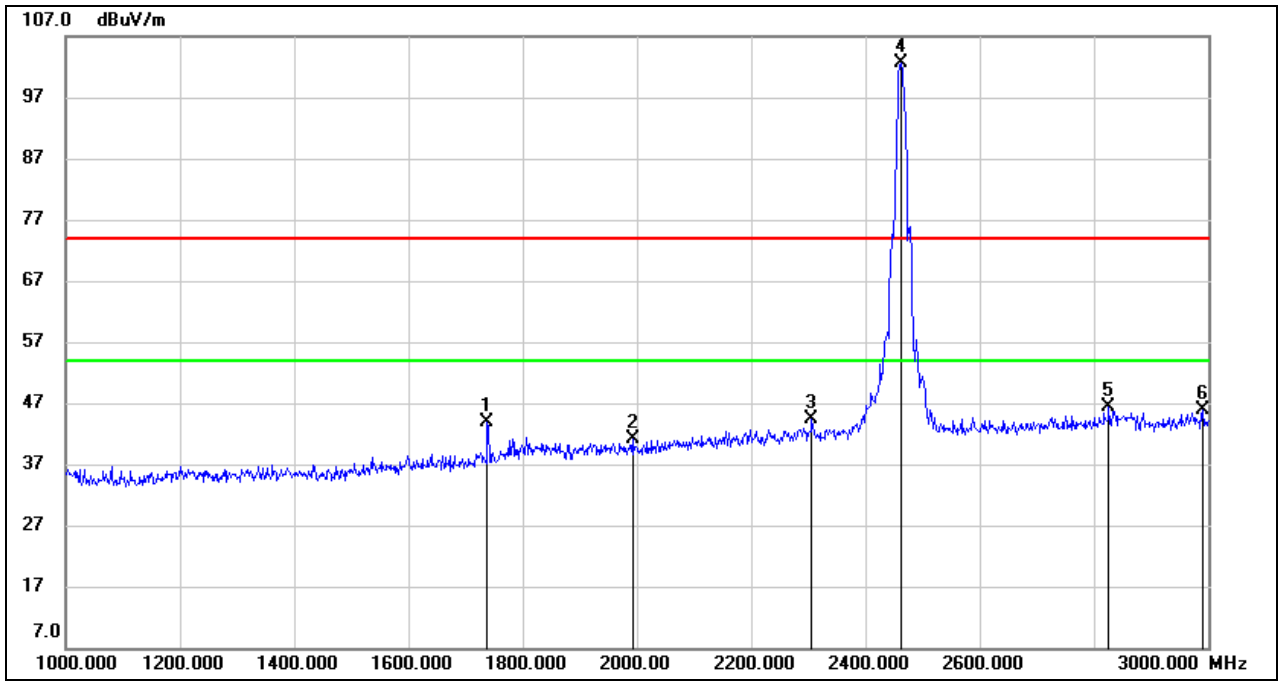
HARMONICS AND SPURIOUS EMISSIONS (CHANNEL 10, VERTICAL)



No.	Frequency (MHz)	Reading (dBuV)	Correct (dB/m)	Result (dBuV/m)	Limit (dBuV/m)	Margin (dB)	Remark
1	1654.000	32.17	6.32	38.49	74.00	-35.51	peak
2	1998.000	33.42	8.32	41.74	74.00	-32.26	peak
3	2164.000	32.96	9.24	42.20	74.00	-31.80	peak
4	2457.000	82.62	10.17	92.79	/	/	fundamental
5	2824.000	33.93	11.59	45.52	74.00	-28.48	peak
6	2946.000	33.67	12.06	45.73	74.00	-28.27	peak

Note: 1. Measurement = Reading Level + Correct Factor.
2. If Peak Result complies with AV limit, AV Result is deemed to comply with AV limit.
3. Peak: Peak detector.

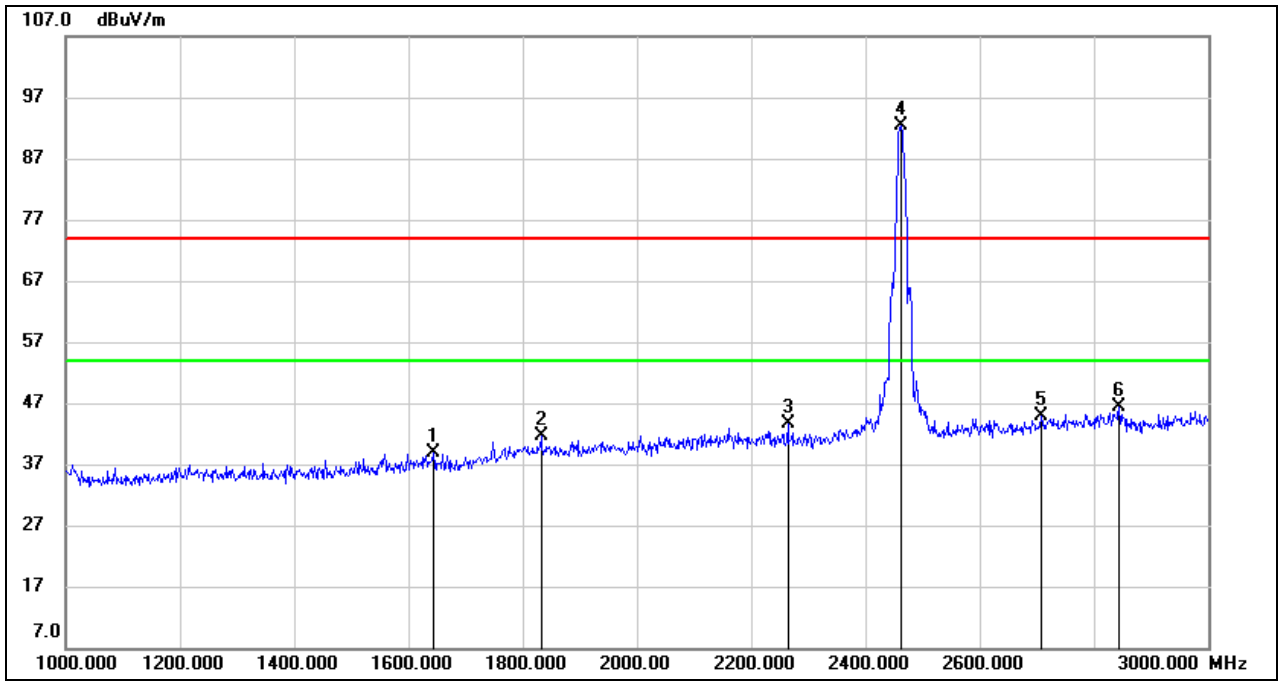
HARMONICS AND SPURIOUS EMISSIONS (CHANNEL 11, HORIZONTAL)



No.	Frequency (MHz)	Reading (dBuV)	Correct (dB/m)	Result (dBuV/m)	Limit (dBuV/m)	Margin (dB)	Remark
1	1738.000	36.92	6.99	43.91	74.00	-30.09	peak
2	1992.000	32.82	8.31	41.13	74.00	-32.87	peak
3	2306.000	34.92	9.34	44.26	74.00	-29.74	peak
4	2462.000	92.36	10.19	102.55	/	/	fundamental
5	2826.000	34.87	11.59	46.46	74.00	-27.54	peak
6	2990.000	33.48	12.32	45.80	74.00	-28.20	peak

Note: 1. Measurement = Reading Level + Correct Factor.
2. If Peak Result complies with AV limit, AV Result is deemed to comply with AV limit.
3. Peak: Peak detector.

HARMONICS AND SPURIOUS EMISSIONS (CHANNEL 11, VERTICAL)



No.	Frequency (MHz)	Reading (dBuV)	Correct (dB/m)	Result (dBuV/m)	Limit (dBuV/m)	Margin (dB)	Remark
1	1644.000	32.63	6.30	38.93	74.00	-35.07	peak
2	1832.000	33.57	7.99	41.56	74.00	-32.44	peak
3	2264.000	34.24	9.31	43.55	74.00	-30.45	peak
4	2462.000	82.14	10.19	92.33	/	/	fundamental
5	2708.000	33.96	10.86	44.82	74.00	-29.18	peak
6	2844.000	34.73	11.65	46.38	74.00	-27.62	peak

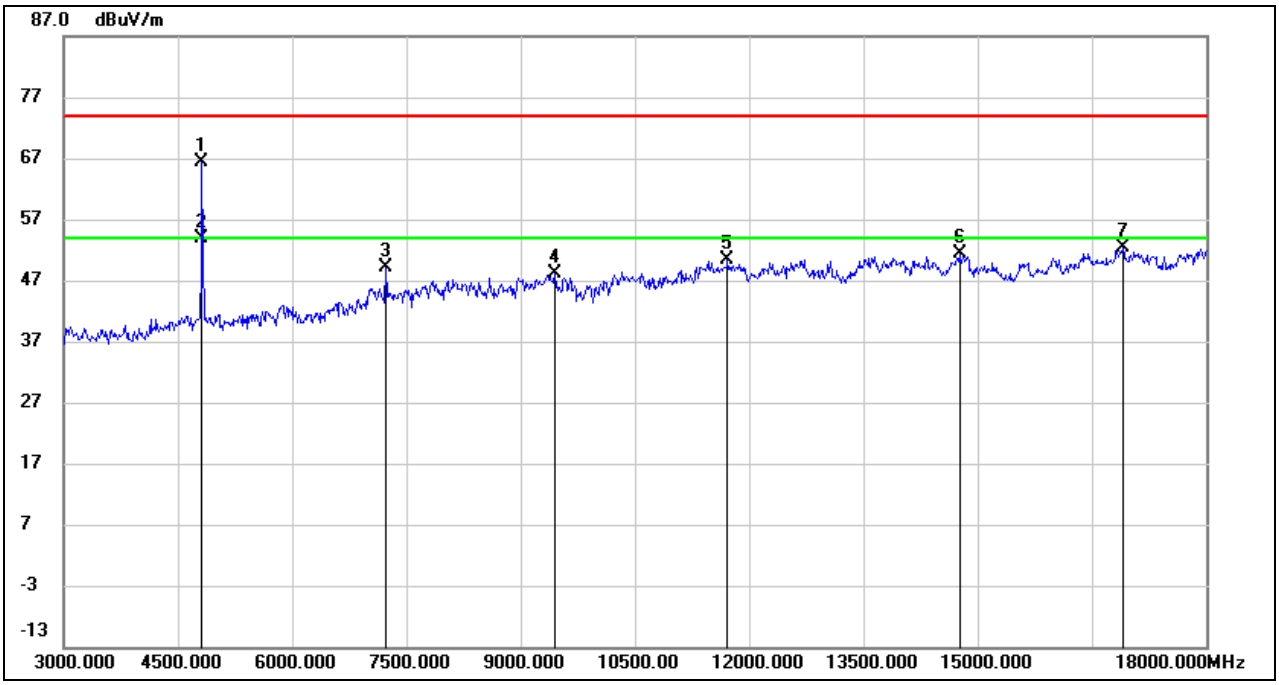
Note: 1. Measurement = Reading Level + Correct Factor.
2. If Peak Result complies with AV limit, AV Result is deemed to comply with AV limit.
3. Peak: Peak detector.

Note: All the modes and channels had been tested, but only the worst data was recorded in the report.

8.3. SPURIOUS EMISSIONS (3 GHz ~ 18 GHz)

8.3.1. 802.11b MODE

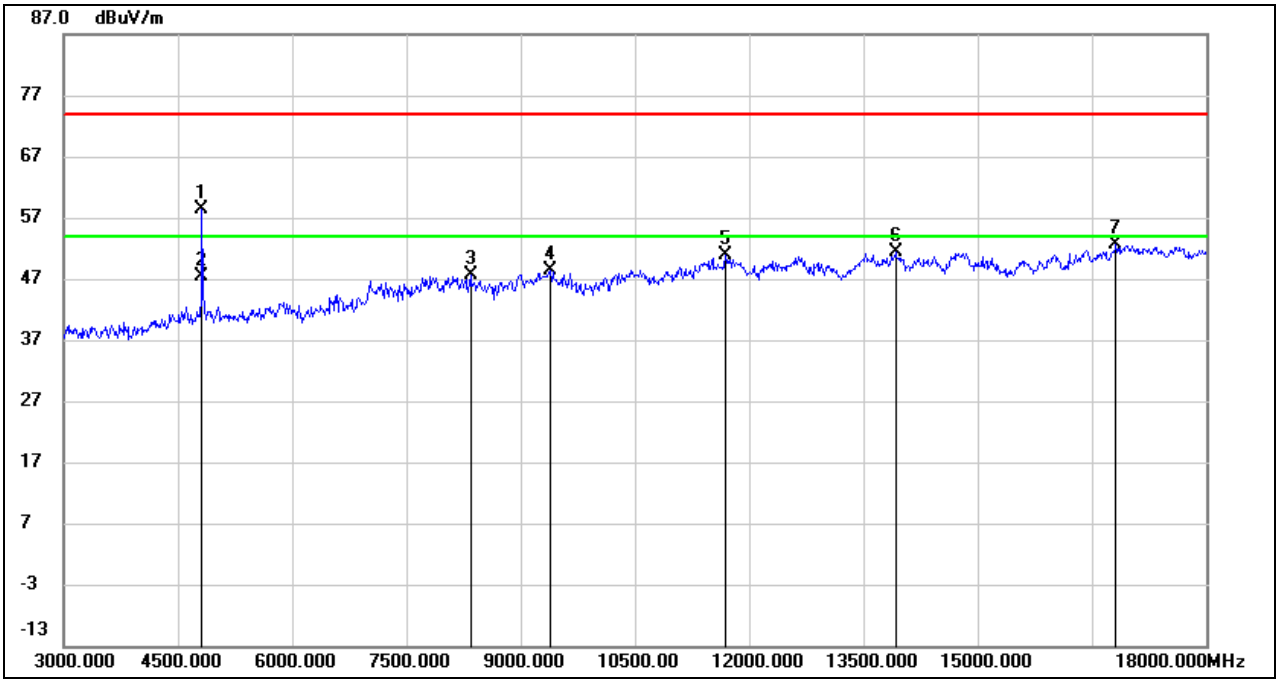
HARMONICS AND SPURIOUS EMISSIONS (CHANNEL 1, HORIZONTAL)



No.	Frequency (MHz)	Reading (dBuV)	Correct (dB/m)	Result (dBuV/m)	Limit (dBuV/m)	Margin (dB)	Remark
1	4815.000	64.94	1.38	66.32	74.00	-7.68	peak
2	4815.000	52.51	1.38	53.89	54.00	-0.11	AVG
3	7230.000	41.92	7.28	49.20	74.00	-24.80	peak
4	9450.000	37.27	10.75	48.02	74.00	-25.98	peak
5	11715.000	35.12	15.34	50.46	74.00	-23.54	peak
6	14760.000	33.50	17.90	51.40	74.00	-22.60	peak
7	16905.000	30.71	21.55	52.26	74.00	-21.74	peak

Note: 1. Peak Result = Reading Level + Correct Factor.
2. If Peak Result complies with AV limit, AV Result is deemed to comply with AV limit.
3. Peak: Peak detector.
4. AVG: VBW=1/Ton, where: Ton is the transmitting duration.
5. For the transmitting duration, please refer to clause 7.1.
6. Filter losses were only considered in the spurious frequency bands and the authorized band was not corrected for High Pass Filter losses.
7. Proper operation of the transmitter prior to adding the filter to the measurement chain.

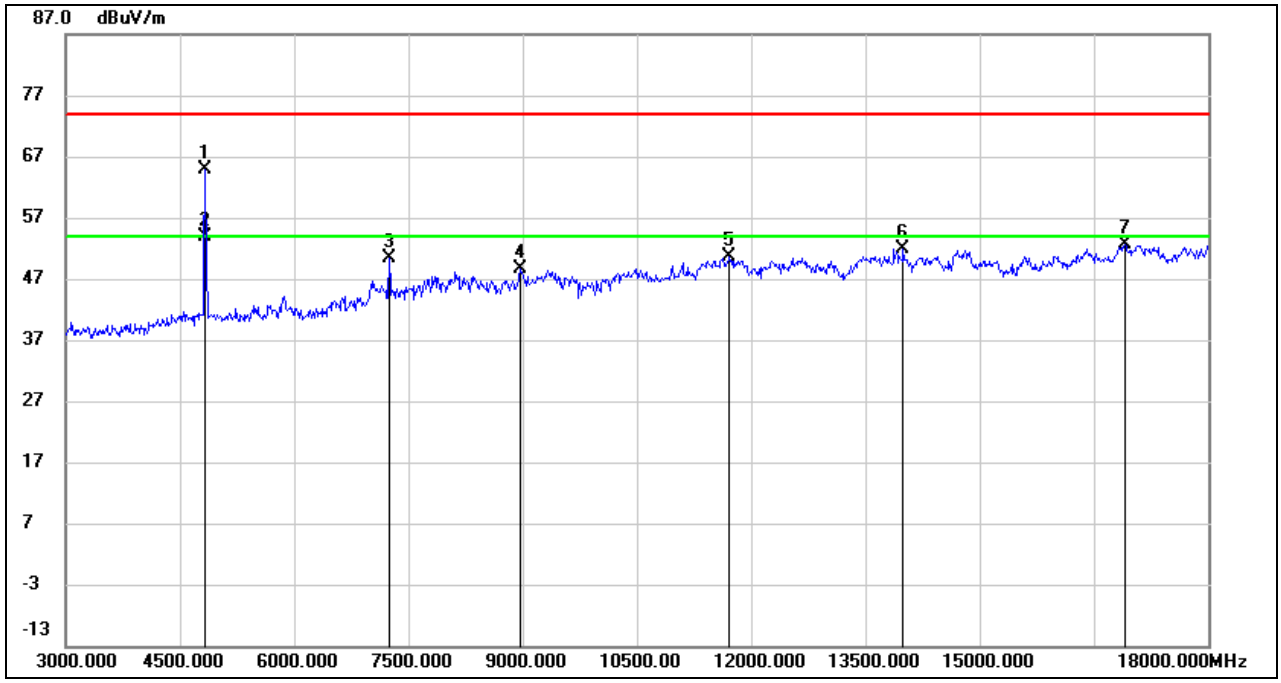
HARMONICS AND SPURIOUS EMISSIONS (CHANNEL 1, VERTICAL)



No.	Frequency (MHz)	Reading (dBuV)	Correct (dB/m)	Result (dBuV/m)	Limit (dBuV/m)	Margin (dB)	Remark
1	4815.000	56.99	1.38	58.37	74.00	-15.63	peak
2	4815.000	45.90	1.38	47.28	54.00	-6.72	AVG
3	8340.000	37.96	9.55	47.51	74.00	-26.49	peak
4	9390.000	37.43	10.92	48.35	74.00	-25.65	peak
5	11685.000	35.55	15.26	50.81	74.00	-23.19	peak
6	13920.000	33.84	17.55	51.39	74.00	-22.61	peak
7	16815.000	31.80	20.84	52.64	74.00	-21.36	peak

Note: 1. Peak Result = Reading Level + Correct Factor.
2. If Peak Result complies with AV limit, AV Result is deemed to comply with AV limit.
3. Peak: Peak detector.
4. AVG: VBW=1/Ton, where: Ton is the transmitting duration.
5. For the transmitting duration, please refer to clause 7.1.
6. Filter losses were only considered in the spurious frequency bands and the authorized band was not corrected for High Pass Filter losses.
7. Proper operation of the transmitter prior to adding the filter to the measurement chain.

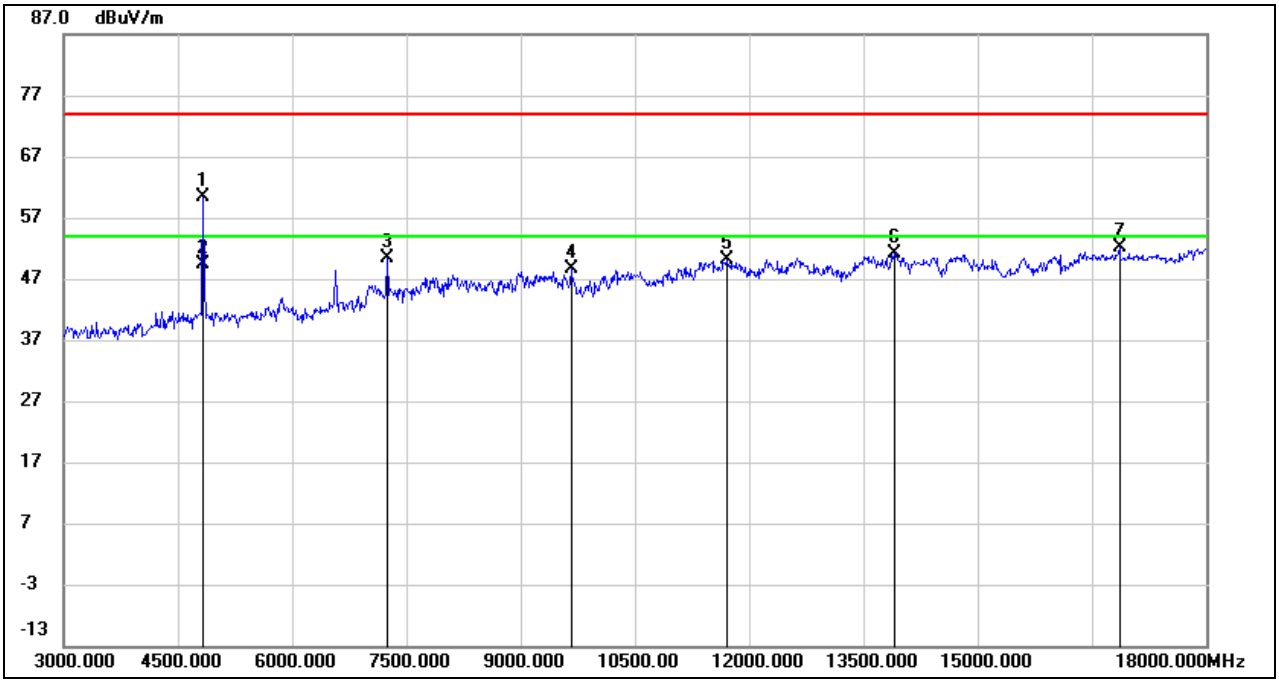
HARMONICS AND SPURIOUS EMISSIONS (CHANNEL 2, HORIZONTAL)



No.	Frequency (MHz)	Reading (dBuV)	Correct (dB/m)	Result (dBuV/m)	Limit (dBuV/m)	Margin (dB)	Remark
1	4830.000	63.57	1.37	64.94	74.00	-9.06	peak
2	4830.000	52.57	1.37	53.94	54.00	-0.06	AVG
3	7245.000	43.04	7.25	50.29	74.00	-23.71	peak
4	8970.000	38.03	10.70	48.73	74.00	-25.27	peak
5	11715.000	35.37	15.34	50.71	74.00	-23.29	peak
6	13995.000	34.26	17.66	51.92	74.00	-22.08	peak
7	16905.000	31.01	21.55	52.56	74.00	-21.44	peak

Note: 1. Peak Result = Reading Level + Correct Factor.
2. If Peak Result complies with AV limit, AV Result is deemed to comply with AV limit.
3. Peak: Peak detector.
4. AVG: VBW=1/Ton, where: Ton is the transmitting duration.
5. For the transmitting duration, please refer to clause 7.1.
6. Filter losses were only considered in the spurious frequency bands and the authorized band was not corrected for High Pass Filter losses.
7. Proper operation of the transmitter prior to adding the filter to the measurement chain.

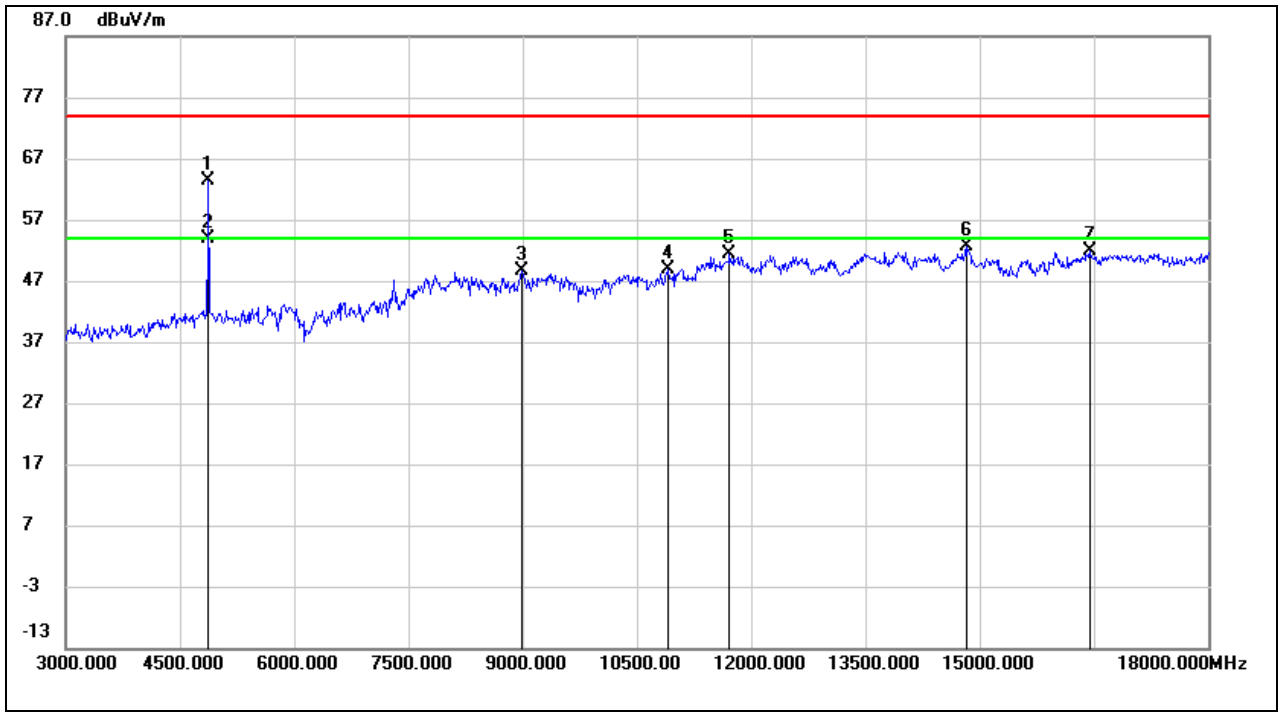
HARMONICS AND SPURIOUS EMISSIONS (CHANNEL 2, VERTICAL)



No.	Frequency (MHz)	Reading (dBuV)	Correct (dB/m)	Result (dBuV/m)	Limit (dBuV/m)	Margin (dB)	Remark
1	4830.000	58.98	1.37	60.35	74.00	-13.65	peak
2	4830.000	48.13	1.37	49.50	54.00	-4.50	AVG
3	7245.000	43.10	7.25	50.35	74.00	-23.65	peak
4	9660.000	37.90	10.74	48.64	74.00	-25.36	peak
5	11700.000	34.83	15.35	50.18	74.00	-23.82	peak
6	13905.000	33.62	17.54	51.16	74.00	-22.84	peak
7	16860.000	30.95	21.22	52.17	74.00	-21.83	peak

Note: 1. Peak Result = Reading Level + Correct Factor.
2. If Peak Result complies with AV limit, AV Result is deemed to comply with AV limit.
3. Peak: Peak detector.
4. AVG: VBW=1/Ton, where: Ton is the transmitting duration.
5. For the transmitting duration, please refer to clause 7.1.
6. Filter losses were only considered in the spurious frequency bands and the authorized band was not corrected for High Pass Filter losses.
7. Proper operation of the transmitter prior to adding the filter to the measurement chain.

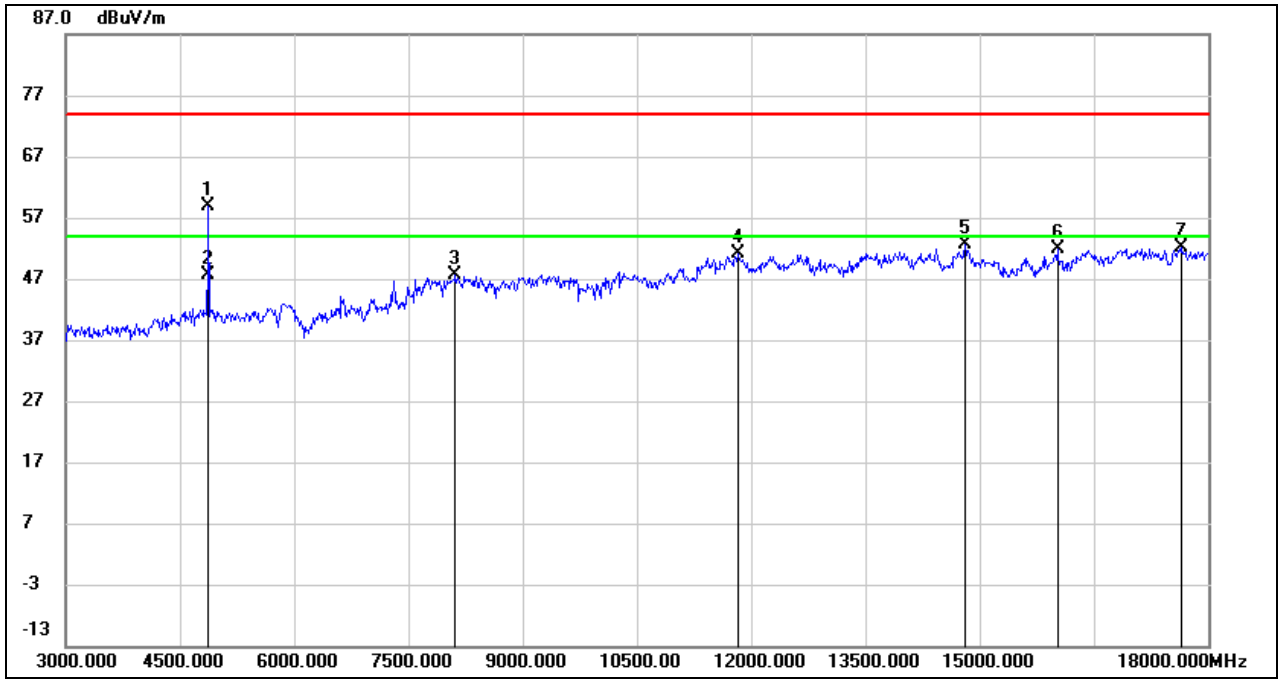
HARMONICS AND SPURIOUS EMISSIONS (CHANNEL 6, HORIZONTAL)



No.	Frequency (MHz)	Reading (dBuV)	Correct (dB/m)	Result (dBuV/m)	Limit (dBuV/m)	Margin (dB)	Remark
1	4875.000	62.01	1.32	63.33	74.00	-10.67	peak
2	4875.000	52.55	1.32	53.87	54.00	-0.13	AVG
3	8985.000	37.74	10.99	48.73	74.00	-25.27	peak
4	10905.000	35.60	13.35	48.95	74.00	-25.05	peak
5	11715.000	36.11	15.34	51.45	74.00	-22.55	peak
6	14820.000	34.72	17.91	52.63	74.00	-21.37	peak
7	16440.000	32.09	19.68	51.77	74.00	-22.23	peak

Note: 1. Peak Result = Reading Level + Correct Factor.
2. If Peak Result complies with AV limit, AV Result is deemed to comply with AV limit.
3. Peak: Peak detector.
4. AVG: VBW=1/Ton, where: Ton is the transmitting duration.
5. For the transmitting duration, please refer to clause 7.1.
6. Filter losses were only considered in the spurious frequency bands and the authorized band was not corrected for High Pass Filter losses.
7. Proper operation of the transmitter prior to adding the filter to the measurement chain.

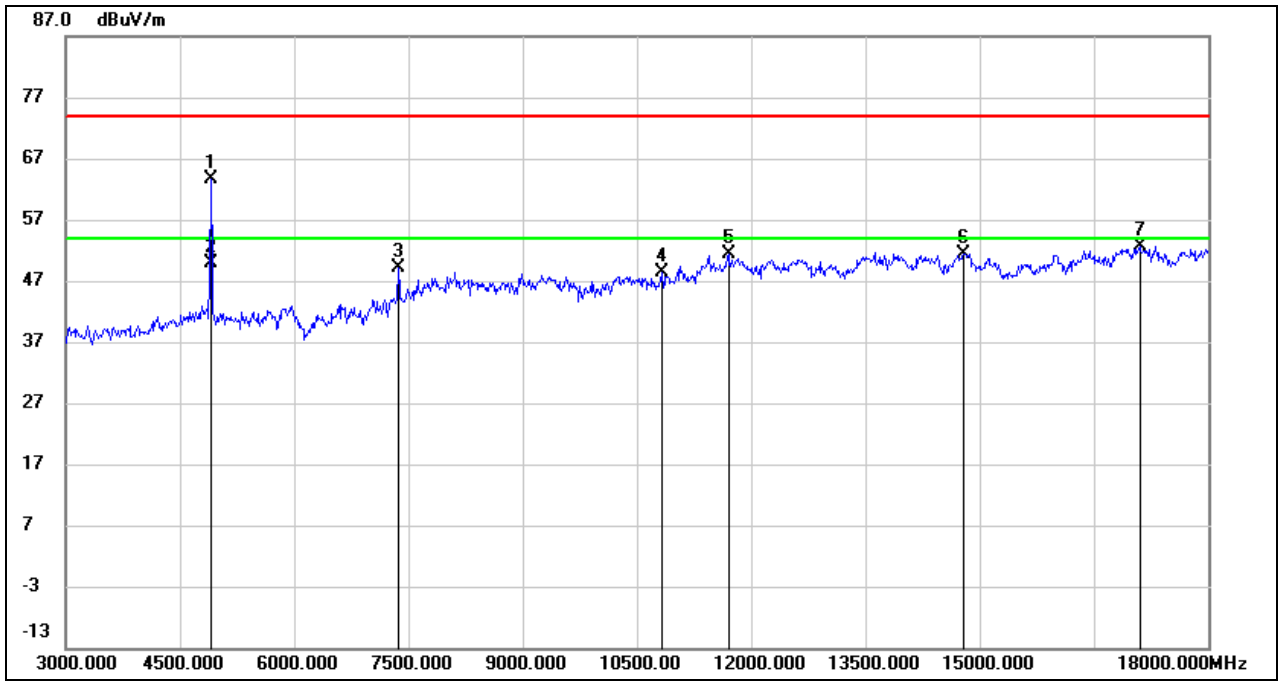
HARMONICS AND SPURIOUS EMISSIONS (CHANNEL 6, VERTICAL)



No.	Frequency (MHz)	Reading (dBuV)	Correct (dB/m)	Result (dBuV/m)	Limit (dBuV/m)	Margin (dB)	Remark
1	4875.000	57.61	1.32	58.93	74.00	-15.07	peak
2	4875.000	46.35	1.32	47.67	54.00	-6.33	AVG
3	8115.000	37.55	10.13	47.68	74.00	-26.32	peak
4	11835.000	35.70	15.34	51.04	74.00	-22.96	peak
5	14805.000	34.70	18.00	52.70	74.00	-21.30	peak
6	16020.000	33.54	18.41	51.95	74.00	-22.05	peak
7	17655.000	28.89	23.14	52.03	74.00	-21.97	peak

Note: 1. Peak Result = Reading Level + Correct Factor.
2. If Peak Result complies with AV limit, AV Result is deemed to comply with AV limit.
3. Peak: Peak detector.
4. AVG: VBW=1/Ton, where: Ton is the transmitting duration.
5. For the transmitting duration, please refer to clause 7.1.
6. Filter losses were only considered in the spurious frequency bands and the authorized band was not corrected for High Pass Filter losses.
7. Proper operation of the transmitter prior to adding the filter to the measurement chain.

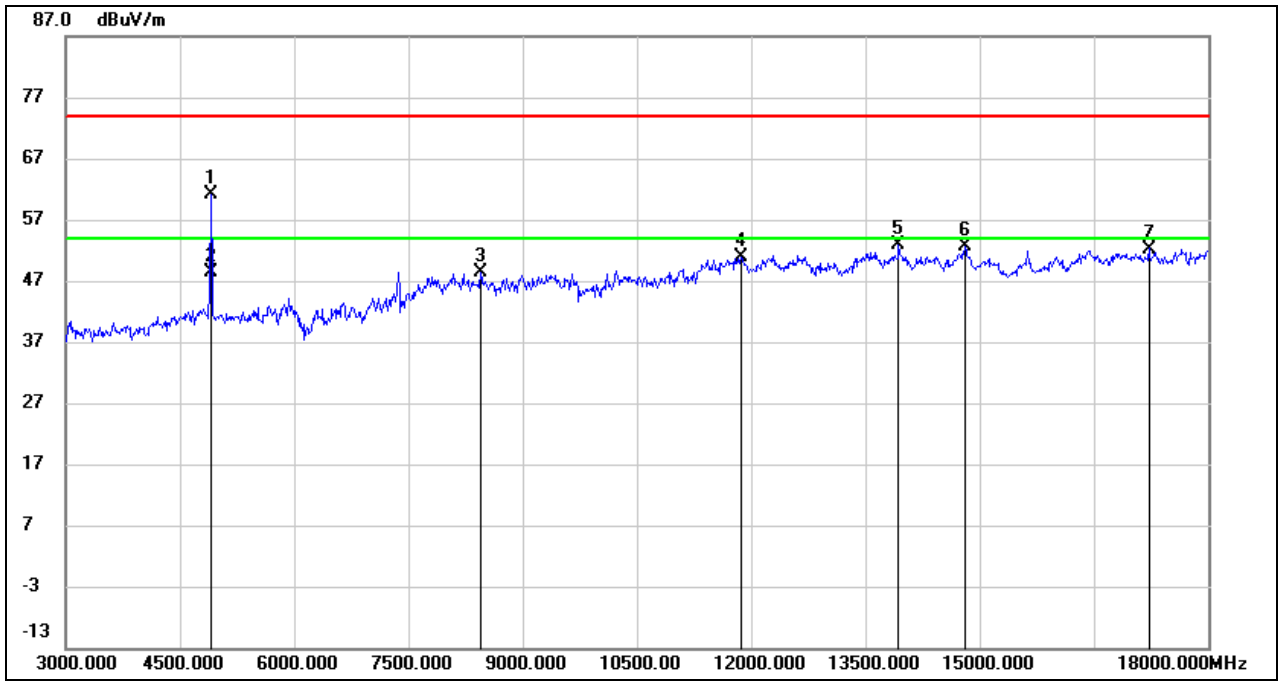
HARMONICS AND SPURIOUS EMISSIONS (CHANNEL 10, HORIZONTAL)



No.	Frequency (MHz)	Reading (dBuV)	Correct (dB/m)	Result (dBuV/m)	Limit (dBuV/m)	Margin (dB)	Remark
1	4905.000	62.23	1.33	63.56	74.00	-10.44	peak
2	4905.000	48.43	1.33	49.76	54.00	-4.24	AVG
3	7365.000	41.47	7.66	49.13	74.00	-24.87	peak
4	10830.000	35.33	13.10	48.43	74.00	-25.57	peak
5	11700.000	36.06	15.35	51.41	74.00	-22.59	peak
6	14790.000	33.31	18.01	51.32	74.00	-22.68	peak
7	17100.000	30.78	21.90	52.68	74.00	-21.32	peak

Note: 1. Peak Result = Reading Level + Correct Factor.
2. If Peak Result complies with AV limit, AV Result is deemed to comply with AV limit.
3. Peak: Peak detector.
4. AVG: VBW=1/Ton, where: Ton is the transmitting duration.
5. For the transmitting duration, please refer to clause 7.1.
6. Filter losses were only considered in the spurious frequency bands and the authorized band was not corrected for High Pass Filter losses.
7. Proper operation of the transmitter prior to adding the filter to the measurement chain.

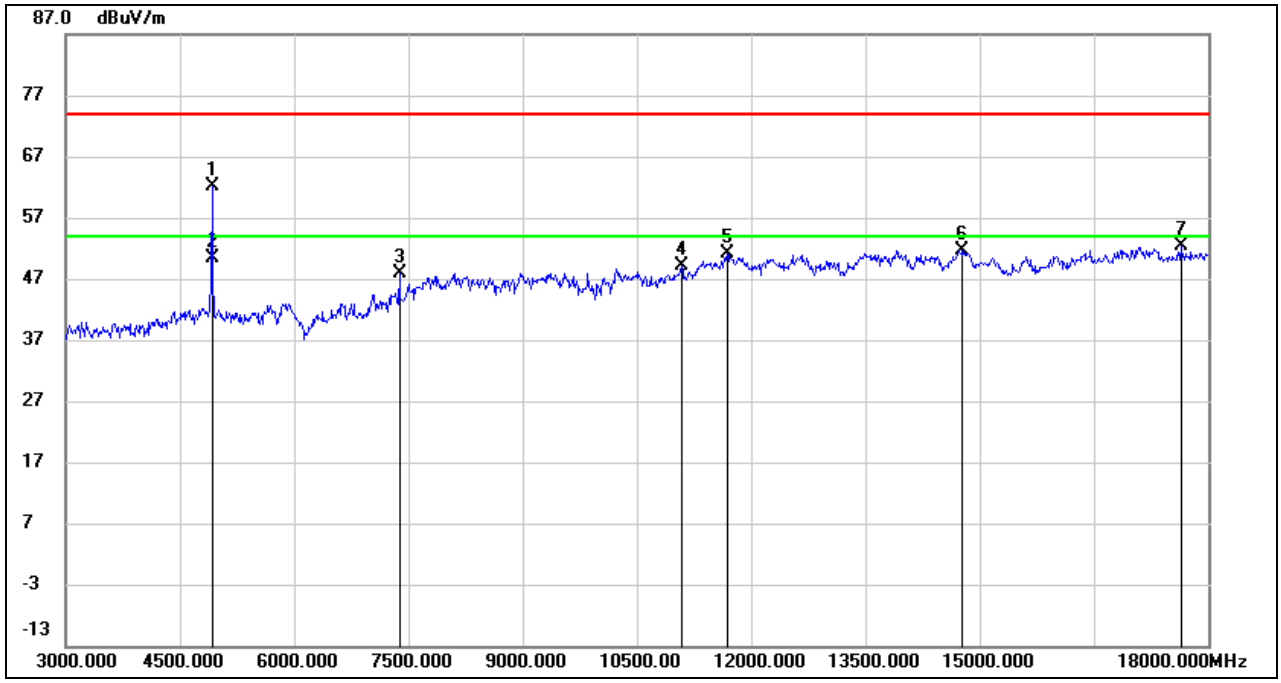
HARMONICS AND SPURIOUS EMISSIONS (CHANNEL 10, VERTICAL)



No.	Frequency (MHz)	Reading (dBuV)	Correct (dB/m)	Result (dBuV/m)	Limit (dBuV/m)	Margin (dB)	Remark
1	4905.000	59.85	1.33	61.18	74.00	-12.82	peak
2	4905.000	47.14	1.33	48.47	54.00	-5.53	AVG
3	8445.000	39.08	9.24	48.32	74.00	-25.68	peak
4	11865.000	35.49	15.42	50.91	74.00	-23.09	peak
5	13935.000	35.41	17.58	52.99	74.00	-21.01	peak
6	14805.000	34.58	18.00	52.58	74.00	-21.42	peak
7	17220.000	30.13	22.12	52.25	74.00	-21.75	peak

Note: 1. Peak Result = Reading Level + Correct Factor.
2. If Peak Result complies with AV limit, AV Result is deemed to comply with AV limit.
3. Peak: Peak detector.
4. AVG: VBW=1/Ton, where: Ton is the transmitting duration.
5. For the transmitting duration, please refer to clause 7.1.
6. Filter losses were only considered in the spurious frequency bands and the authorized band was not corrected for High Pass Filter losses.
7. Proper operation of the transmitter prior to adding the filter to the measurement chain.

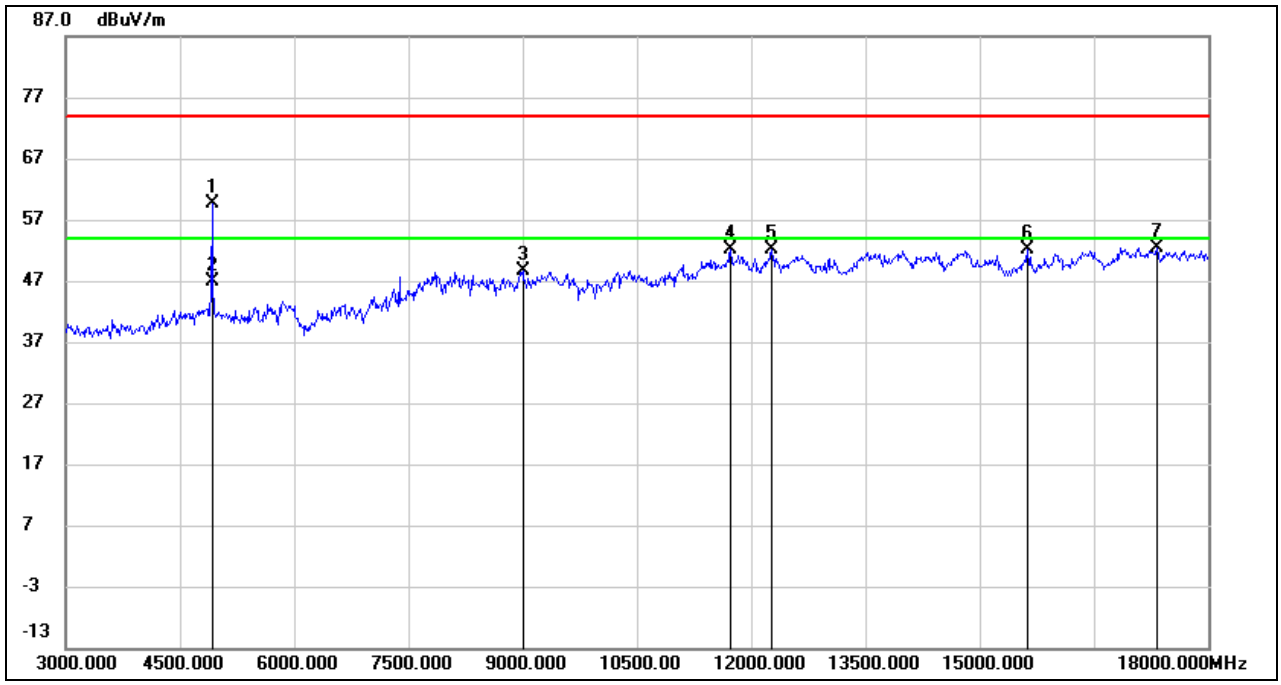
HARMONICS AND SPURIOUS EMISSIONS (CHANNEL 11, HORIZONTAL)



No.	Frequency (MHz)	Reading (dBuV)	Correct (dB/m)	Result (dBuV/m)	Limit (dBuV/m)	Margin (dB)	Remark
1	4920.000	60.79	1.45	62.24	74.00	-11.76	peak
2	4920.000	48.94	1.45	50.39	54.00	-3.61	AVG
3	7380.000	40.15	7.79	47.94	74.00	-26.06	peak
4	11085.000	35.51	13.72	49.23	74.00	-24.77	peak
5	11685.000	35.87	15.26	51.13	74.00	-22.87	peak
6	14775.000	33.63	17.95	51.58	74.00	-22.42	peak
7	17640.000	29.45	23.03	52.48	74.00	-21.52	peak

Note: 1. Peak Result = Reading Level + Correct Factor.
2. If Peak Result complies with AV limit, AV Result is deemed to comply with AV limit.
3. Peak: Peak detector.
4. AVG: VBW=1/Ton, where: Ton is the transmitting duration.
5. For the transmitting duration, please refer to clause 7.1.
6. Filter losses were only considered in the spurious frequency bands and the authorized band was not corrected for High Pass Filter losses.
7. Proper operation of the transmitter prior to adding the filter to the measurement chain.

HARMONICS AND SPURIOUS EMISSIONS (CHANNEL 11, VERTICAL)

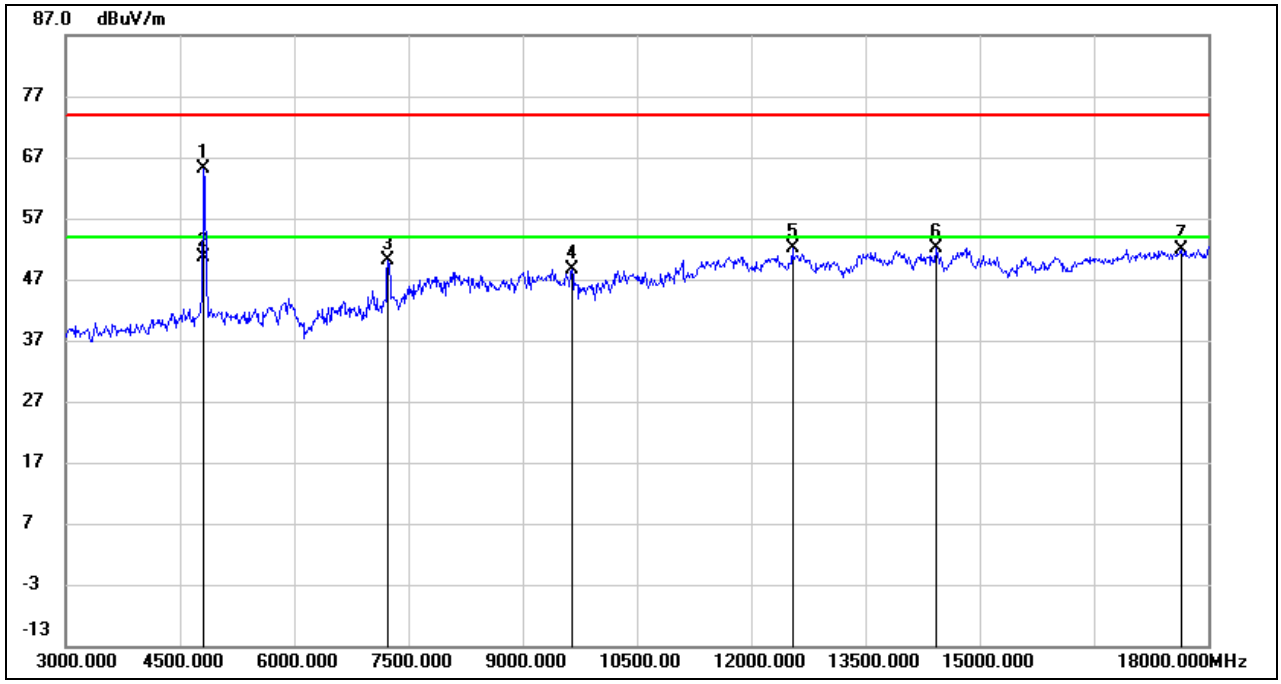


No.	Frequency (MHz)	Reading (dBuV)	Correct (dB/m)	Result (dBuV/m)	Limit (dBuV/m)	Margin (dB)	Remark
1	4920.000	58.07	1.45	59.52	74.00	-14.48	peak
2	4920.000	45.31	1.45	46.76	54.00	-7.24	AVG
3	9000.000	37.44	11.27	48.71	74.00	-25.29	peak
4	11730.000	36.77	15.32	52.09	74.00	-21.91	peak
5	12270.000	35.97	16.04	52.01	74.00	-21.99	peak
6	15630.000	34.28	17.74	52.02	74.00	-21.98	peak
7	17325.000	29.94	22.42	52.36	74.00	-21.64	peak

Note: 1. Peak Result = Reading Level + Correct Factor.
2. If Peak Result complies with AV limit, AV Result is deemed to comply with AV limit.
3. Peak: Peak detector.
4. AVG: VBW=1/Ton, where: Ton is the transmitting duration.
5. For the transmitting duration, please refer to clause 7.1.
6. Filter losses were only considered in the spurious frequency bands and the authorized band was not corrected for High Pass Filter losses.
7. Proper operation of the transmitter prior to adding the filter to the measurement chain.

8.3.1. 802.11g MODE

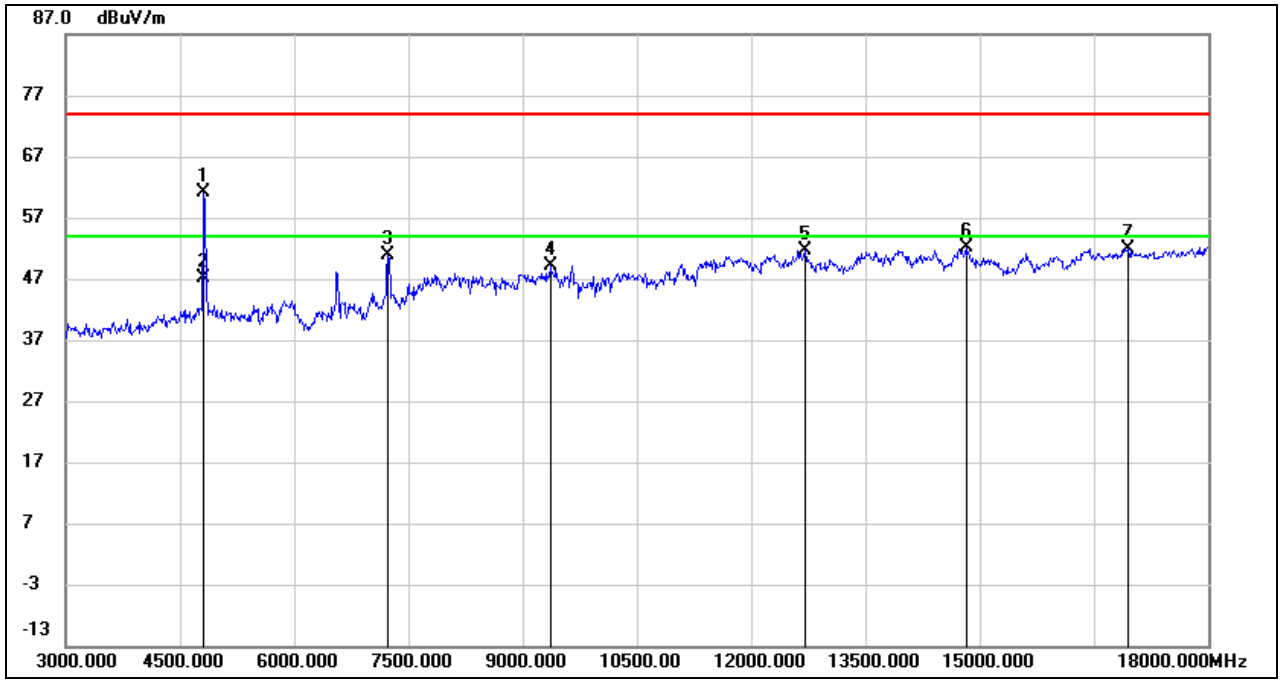
HARMONICS AND SPURIOUS EMISSIONS (CHANNEL 1, HORIZONTAL)



No.	Frequency	Reading	Correct	Result	Limit	Margin	Remark
	(MHz)	(dBuV)	(dB/m)	(dBuV/m)	(dBuV/m)	(dB)	
1	4815.000	63.79	1.38	65.17	74.00	-8.83	peak
2	4815.000	49.31	1.38	50.69	54.00	-3.31	AVG
3	7230.000	42.87	7.28	50.15	74.00	-23.85	peak
4	9645.000	37.90	10.81	48.71	74.00	-25.29	peak
5	12540.000	36.31	15.72	52.03	74.00	-21.97	peak
6	14430.000	34.85	17.34	52.19	74.00	-21.81	peak
7	17640.000	28.94	23.03	51.97	74.00	-22.03	peak

Note: 1. Peak Result = Reading Level + Correct Factor.
2. If Peak Result complies with AV limit, AV Result is deemed to comply with AV limit.
3. Peak: Peak detector.
4. AVG: VBW=1/Ton, where: Ton is the transmitting duration.
5. For the transmitting duration, please refer to clause 7.1.
6. Filter losses were only considered in the spurious frequency bands and the authorized band was not corrected for High Pass Filter losses.
7. Proper operation of the transmitter prior to adding the filter to the measurement chain.

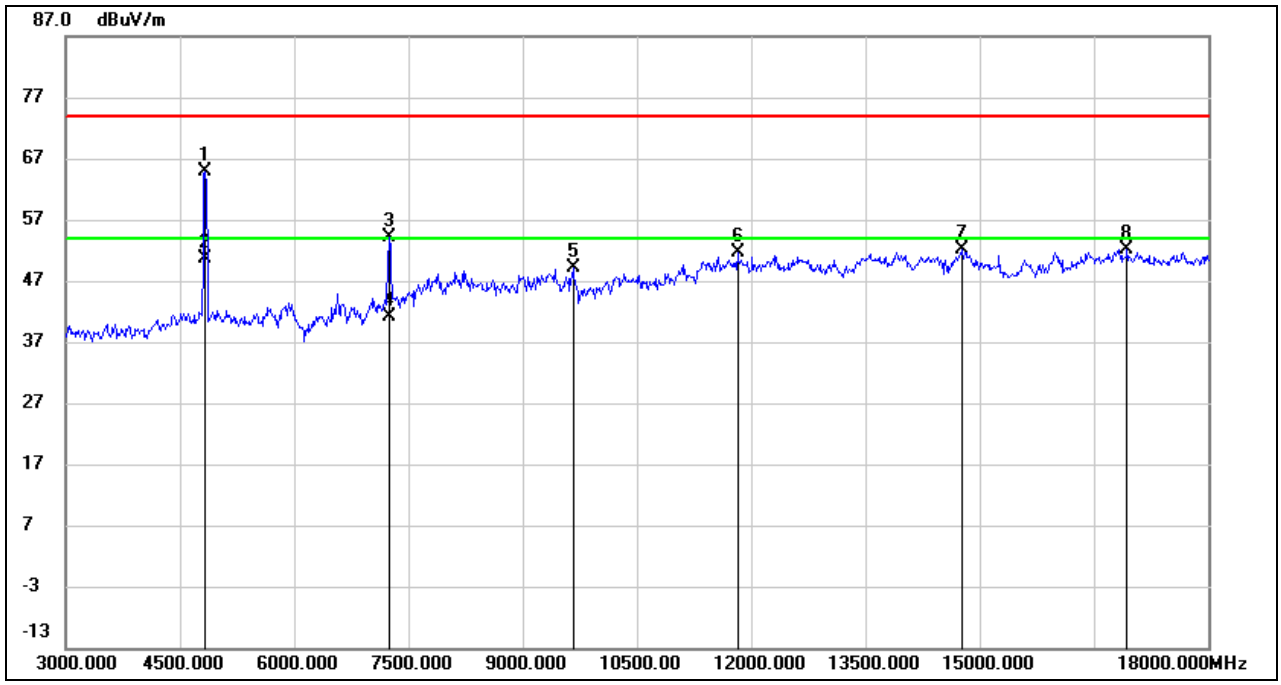
HARMONICS AND SPURIOUS EMISSIONS (CHANNEL 1, VERTICAL)



No.	Frequency (MHz)	Reading (dBuV)	Correct (dB/m)	Result (dBuV/m)	Limit (dBuV/m)	Margin (dB)	Remark
1	4815.000	59.72	1.38	61.10	74.00	-12.90	peak
2	4815.000	45.82	1.38	47.20	54.00	-6.80	AVG
3	7230.000	43.67	7.28	50.95	74.00	-23.05	peak
4	9360.000	38.47	10.75	49.22	74.00	-24.78	peak
5	12705.000	36.09	15.64	51.73	74.00	-22.27	peak
6	14820.000	34.11	17.91	52.02	74.00	-21.98	peak
7	16950.000	30.47	21.41	51.88	74.00	-22.12	peak

Note: 1. Peak Result = Reading Level + Correct Factor.
2. If Peak Result complies with AV limit, AV Result is deemed to comply with AV limit.
3. Peak: Peak detector.
4. AVG: VBW=1/Ton, where: Ton is the transmitting duration.
5. For the transmitting duration, please refer to clause 7.1.
6. Filter losses were only considered in the spurious frequency bands and the authorized band was not corrected for High Pass Filter losses.
7. Proper operation of the transmitter prior to adding the filter to the measurement chain.

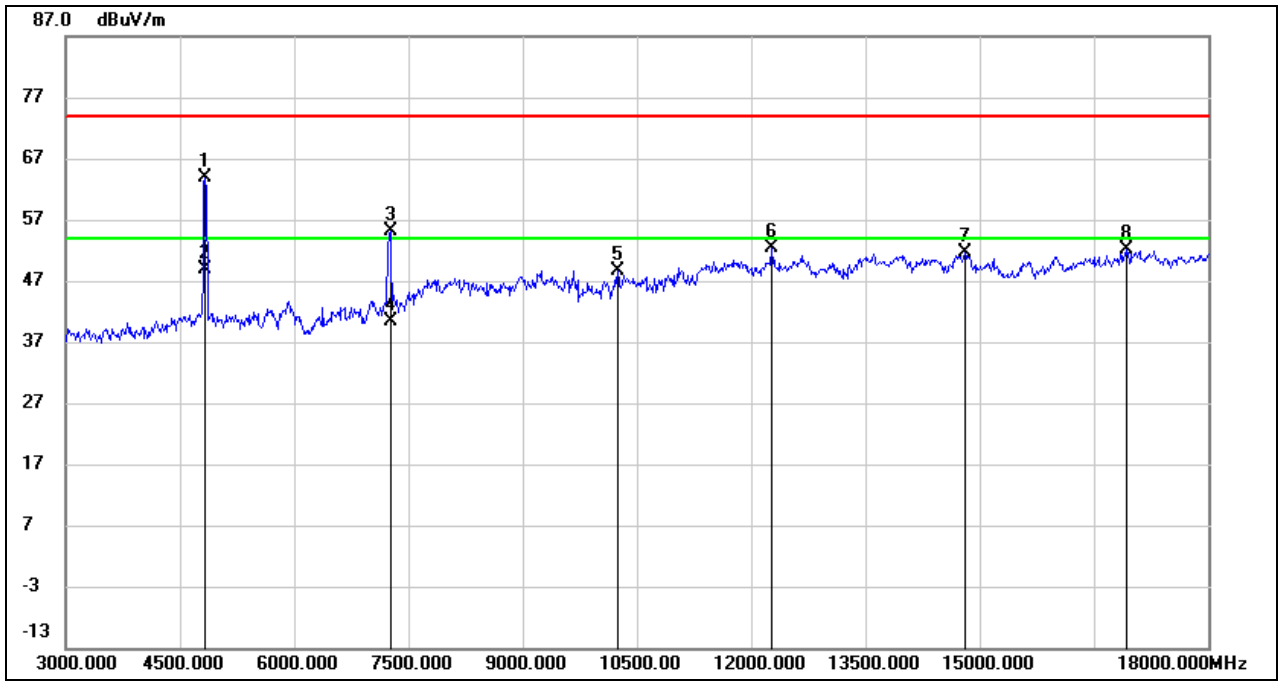
HARMONICS AND SPURIOUS EMISSIONS (CHANNEL 2, HORIZONTAL)



No.	Frequency (MHz)	Reading (dBuV)	Correct (dB/m)	Result (dBuV/m)	Limit (dBuV/m)	Margin (dB)	Remark
1	4830.000	63.41	1.37	64.78	74.00	-9.22	peak
2	4830.000	49.33	1.37	50.70	54.00	-3.30	AVG
3	7245.000	46.87	7.25	54.12	74.00	-19.88	peak
4	7245.000	33.95	7.25	41.20	54.00	-12.80	AVG
5	9660.000	38.44	10.74	49.18	74.00	-24.82	peak
6	11820.000	36.29	15.29	51.58	74.00	-22.42	peak
7	14760.000	34.15	17.90	52.05	74.00	-21.95	peak
8	16935.000	30.77	21.45	52.22	74.00	-21.78	peak

Note: 1. Peak Result = Reading Level + Correct Factor.
2. If Peak Result complies with AV limit, AV Result is deemed to comply with AV limit.
3. Peak: Peak detector.
4. AVG: VBW=1/Ton, where: Ton is the transmitting duration.
5. For the transmitting duration, please refer to clause 7.1.
6. Filter losses were only considered in the spurious frequency bands and the authorized band was not corrected for High Pass Filter losses.
7. Proper operation of the transmitter prior to adding the filter to the measurement chain.

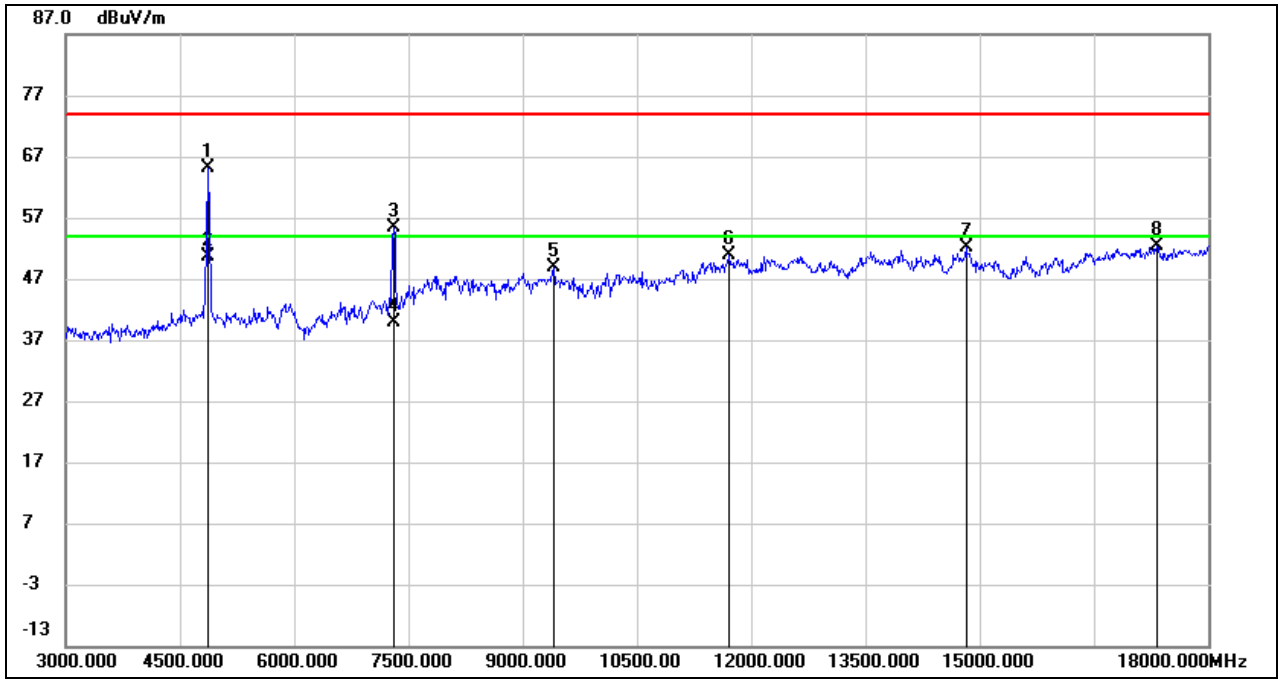
HARMONICS AND SPURIOUS EMISSIONS (CHANNEL 2, VERTICAL)



No.	Frequency (MHz)	Reading (dBuV)	Correct (dB/m)	Result (dBuV/m)	Limit (dBuV/m)	Margin (dB)	Remark
1	4830.000	62.39	1.37	63.76	74.00	-10.24	peak
2	4830.000	47.42	1.37	48.79	54.00	-5.21	AVG
3	7260.000	47.98	7.21	55.19	74.00	-18.81	peak
4	7260.000	33.14	7.21	40.35	54.00	-13.65	AVG
5	10245.000	37.09	11.63	48.72	74.00	-25.28	peak
6	12270.000	36.33	16.04	52.37	74.00	-21.63	peak
7	14805.000	33.55	18.00	51.55	74.00	-22.45	peak
8	16920.000	30.50	21.51	52.01	74.00	-21.99	peak

Note: 1. Peak Result = Reading Level + Correct Factor.
2. If Peak Result complies with AV limit, AV Result is deemed to comply with AV limit.
3. Peak: Peak detector.
4. AVG: VBW=1/Ton, where: Ton is the transmitting duration.
5. For the transmitting duration, please refer to clause 7.1.
6. Filter losses were only considered in the spurious frequency bands and the authorized band was not corrected for High Pass Filter losses.
7. Proper operation of the transmitter prior to adding the filter to the measurement chain.

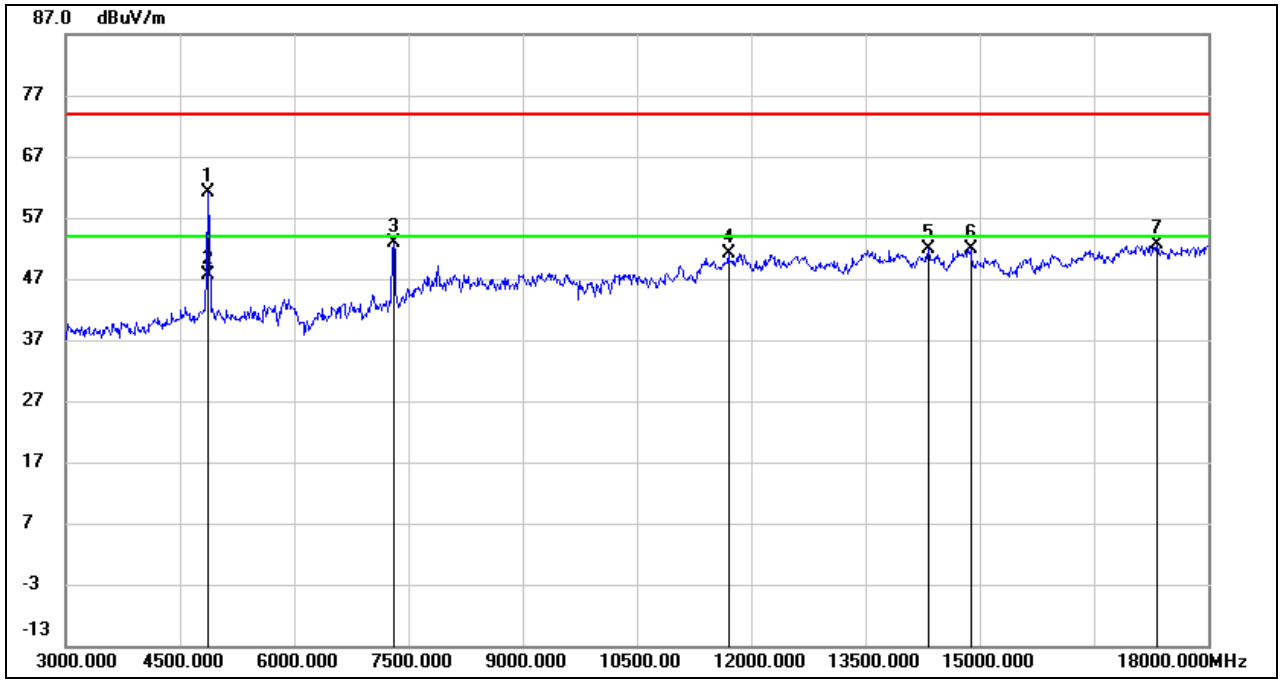
HARMONICS AND SPURIOUS EMISSIONS (CHANNEL 6, HORIZONTAL)



No.	Frequency (MHz)	Reading (dBuV)	Correct (dB/m)	Result (dBuV/m)	Limit (dBuV/m)	Margin (dB)	Remark
1	4875.000	63.72	1.32	65.04	74.00	-8.96	peak
2	4875.000	49.28	1.32	50.60	54.00	-3.40	AVG
3	7305.000	48.23	7.14	55.37	74.00	-18.63	peak
4	7305.000	32.71	7.14	39.85	54.00	-14.15	AVG
5	9405.000	37.88	10.95	48.83	74.00	-25.17	peak
6	11715.000	35.62	15.34	50.96	74.00	-23.04	peak
7	14820.000	34.31	17.91	52.22	74.00	-21.78	peak
8	17325.000	29.90	22.42	52.32	74.00	-21.68	peak

Note: 1. Peak Result = Reading Level + Correct Factor.
2. If Peak Result complies with AV limit, AV Result is deemed to comply with AV limit.
3. Peak: Peak detector.
4. AVG: VBW=1/Ton, where: Ton is the transmitting duration.
5. For the transmitting duration, please refer to clause 7.1.
6. Filter losses were only considered in the spurious frequency bands and the authorized band was not corrected for High Pass Filter losses.
7. Proper operation of the transmitter prior to adding the filter to the measurement chain.

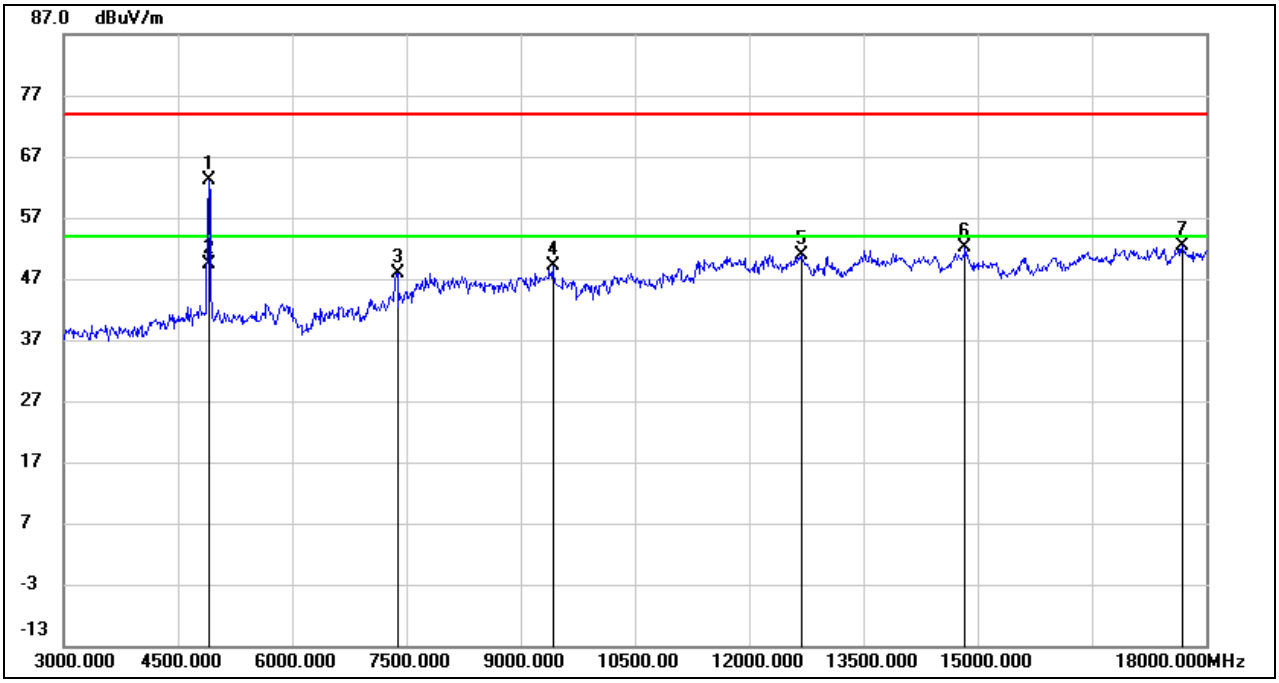
HARMONICS AND SPURIOUS EMISSIONS (CHANNEL 6, VERTICAL)



No.	Frequency (MHz)	Reading (dBuV)	Correct (dB/m)	Result (dBuV/m)	Limit (dBuV/m)	Margin (dB)	Remark
1	4860.000	59.74	1.33	61.07	74.00	-12.93	peak
2	4860.000	46.18	1.33	47.51	54.00	-6.49	AVG
3	7305.000	45.75	7.14	52.89	74.00	-21.11	peak
4	11700.000	35.85	15.35	51.20	74.00	-22.80	peak
5	14325.000	33.83	17.94	51.77	74.00	-22.23	peak
6	14880.000	34.47	17.51	51.98	74.00	-22.02	peak
7	17325.000	30.29	22.42	52.71	74.00	-21.29	peak

Note: 1. Peak Result = Reading Level + Correct Factor.
2. If Peak Result complies with AV limit, AV Result is deemed to comply with AV limit.
3. Peak: Peak detector.
4. AVG: VBW=1/Ton, where: Ton is the transmitting duration.
5. For the transmitting duration, please refer to clause 7.1.
6. Filter losses were only considered in the spurious frequency bands and the authorized band was not corrected for High Pass Filter losses.
7. Proper operation of the transmitter prior to adding the filter to the measurement chain.

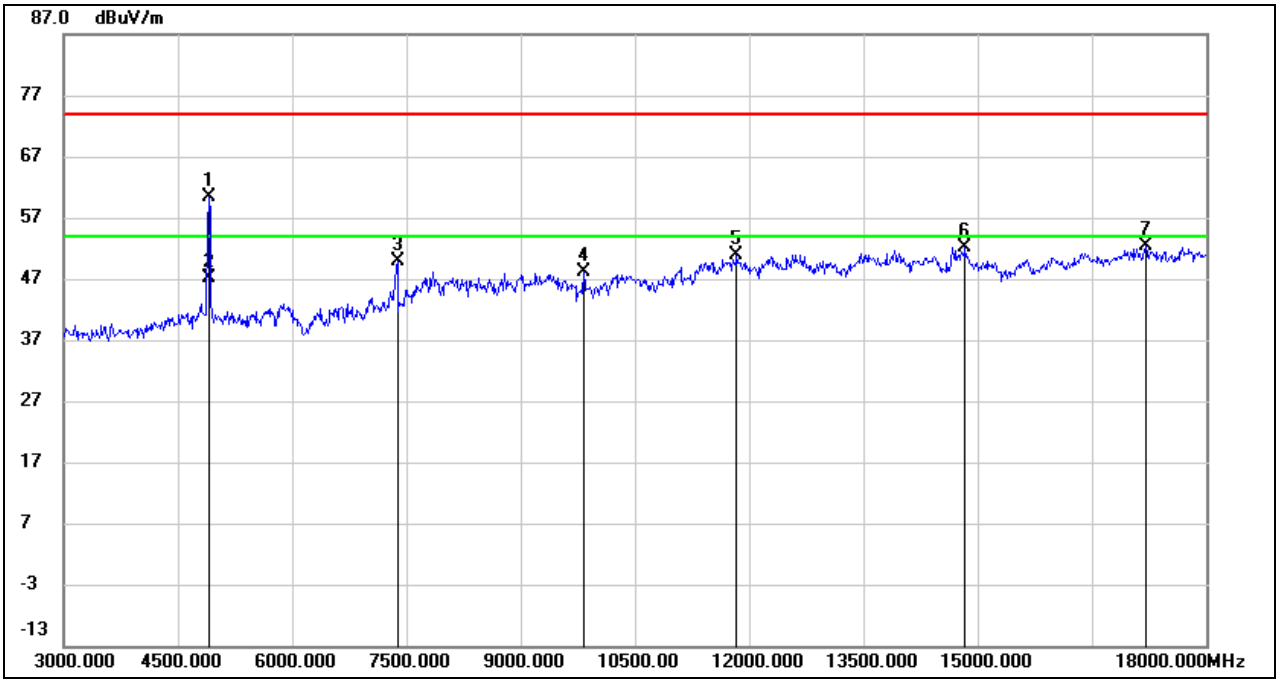
HARMONICS AND SPURIOUS EMISSIONS (CHANNEL 10, HORIZONTAL)



No.	Frequency (MHz)	Reading (dBuV)	Correct (dB/m)	Result (dBuV/m)	Limit (dBuV/m)	Margin (dB)	Remark
1	4905.000	61.86	1.33	63.19	74.00	-10.81	peak
2	4905.000	48.16	1.33	49.49	54.00	-4.51	AVG
3	7380.000	40.16	7.79	47.95	74.00	-26.05	peak
4	9420.000	38.17	10.88	49.05	74.00	-24.95	peak
5	12690.000	35.21	15.64	50.85	74.00	-23.15	peak
6	14835.000	34.25	17.80	52.05	74.00	-21.95	peak
7	17685.000	28.94	23.36	52.30	74.00	-21.70	peak

Note: 1. Peak Result = Reading Level + Correct Factor.
2. If Peak Result complies with AV limit, AV Result is deemed to comply with AV limit.
3. Peak: Peak detector.
4. AVG: VBW=1/Ton, where: Ton is the transmitting duration.
5. For the transmitting duration, please refer to clause 7.1.
6. Filter losses were only considered in the spurious frequency bands and the authorized band was not corrected for High Pass Filter losses.
7. Proper operation of the transmitter prior to adding the filter to the measurement chain.

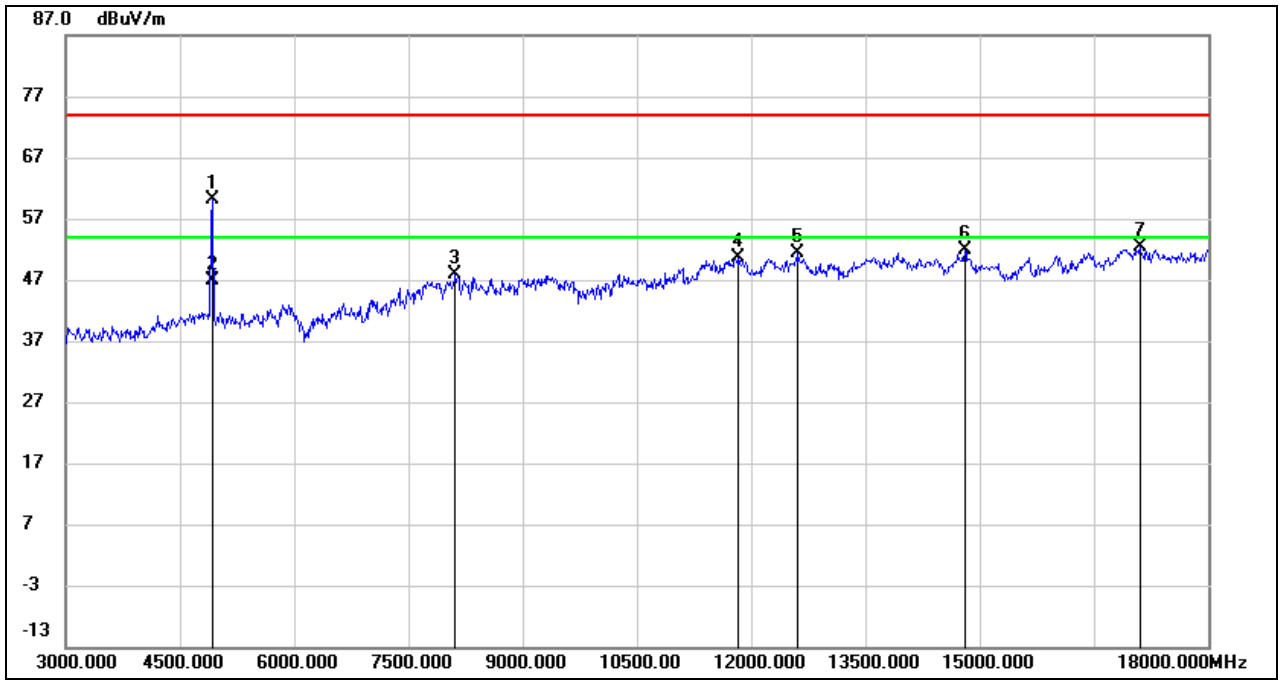
HARMONICS AND SPURIOUS EMISSIONS (CHANNEL 10, VERTICAL)



No.	Frequency (MHz)	Reading (dBuV)	Correct (dB/m)	Result (dBuV/m)	Limit (dBuV/m)	Margin (dB)	Remark
1	4905.000	59.06	1.33	60.39	74.00	-13.61	peak
2	4905.000	45.72	1.33	47.05	54.00	-6.95	AVG
3	7380.000	42.19	7.79	49.98	74.00	-24.02	peak
4	9825.000	37.70	10.32	48.02	74.00	-25.98	peak
5	11835.000	35.55	15.34	50.89	74.00	-23.11	peak
6	14835.000	34.30	17.80	52.10	74.00	-21.90	peak
7	17205.000	30.35	22.02	52.37	74.00	-21.63	peak

Note: 1. Peak Result = Reading Level + Correct Factor.
2. If Peak Result complies with AV limit, AV Result is deemed to comply with AV limit.
3. Peak: Peak detector.
4. AVG: VBW=1/Ton, where: Ton is the transmitting duration.
5. For the transmitting duration, please refer to clause 7.1.
6. Filter losses were only considered in the spurious frequency bands and the authorized band was not corrected for High Pass Filter losses.
7. Proper operation of the transmitter prior to adding the filter to the measurement chain.

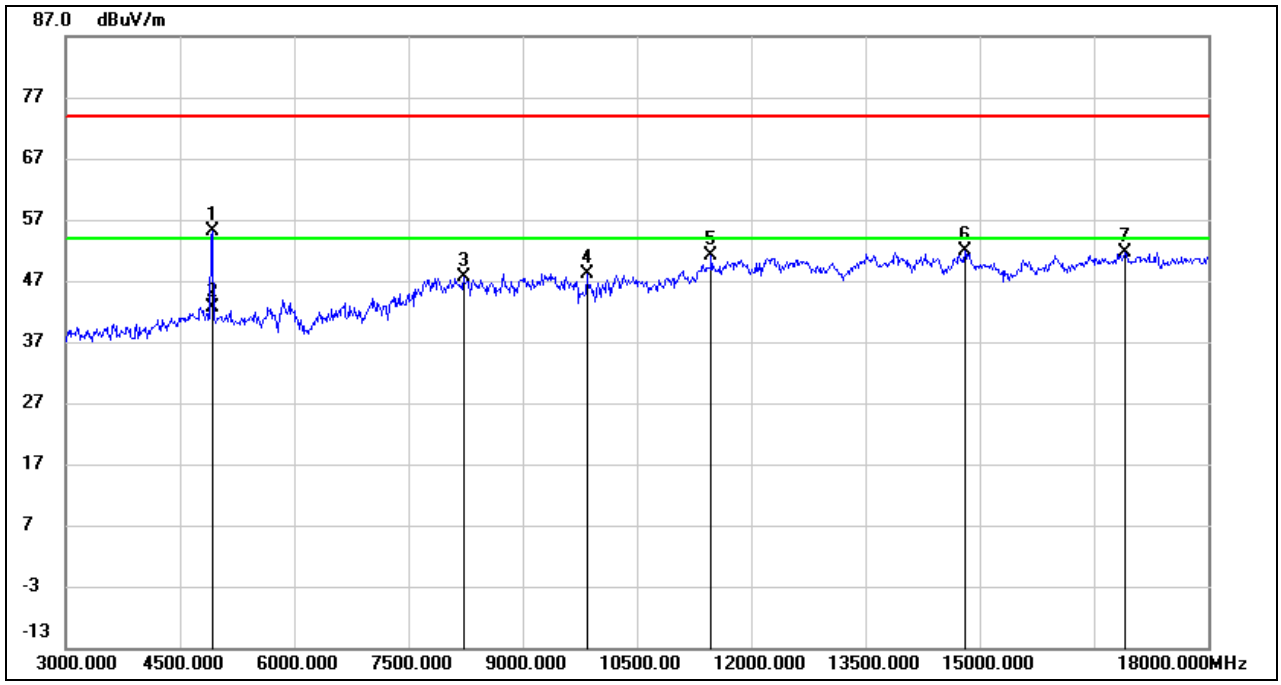
HARMONICS AND SPURIOUS EMISSIONS (CHANNEL 11, HORIZONTAL)



No.	Frequency (MHz)	Reading (dBuV)	Correct (dB/m)	Result (dBuV/m)	Limit (dBuV/m)	Margin (dB)	Remark
1	4920.000	58.80	1.45	60.25	74.00	-13.75	peak
2	4920.000	45.31	1.45	46.76	54.00	-7.24	AVG
3	8115.000	37.63	10.13	47.76	74.00	-26.24	peak
4	11835.000	35.30	15.34	50.64	74.00	-23.36	peak
5	12615.000	35.58	15.75	51.33	74.00	-22.67	peak
6	14805.000	33.89	18.00	51.89	74.00	-22.11	peak
7	17100.000	30.45	21.90	52.35	74.00	-21.65	peak

Note: 1. Peak Result = Reading Level + Correct Factor.
2. If Peak Result complies with AV limit, AV Result is deemed to comply with AV limit.
3. Peak: Peak detector.
4. AVG: VBW=1/Ton, where: Ton is the transmitting duration.
5. For the transmitting duration, please refer to clause 7.1.
6. Filter losses were only considered in the spurious frequency bands and the authorized band was not corrected for High Pass Filter losses.
7. Proper operation of the transmitter prior to adding the filter to the measurement chain.

HARMONICS AND SPURIOUS EMISSIONS (CHANNEL 11, VERTICAL)

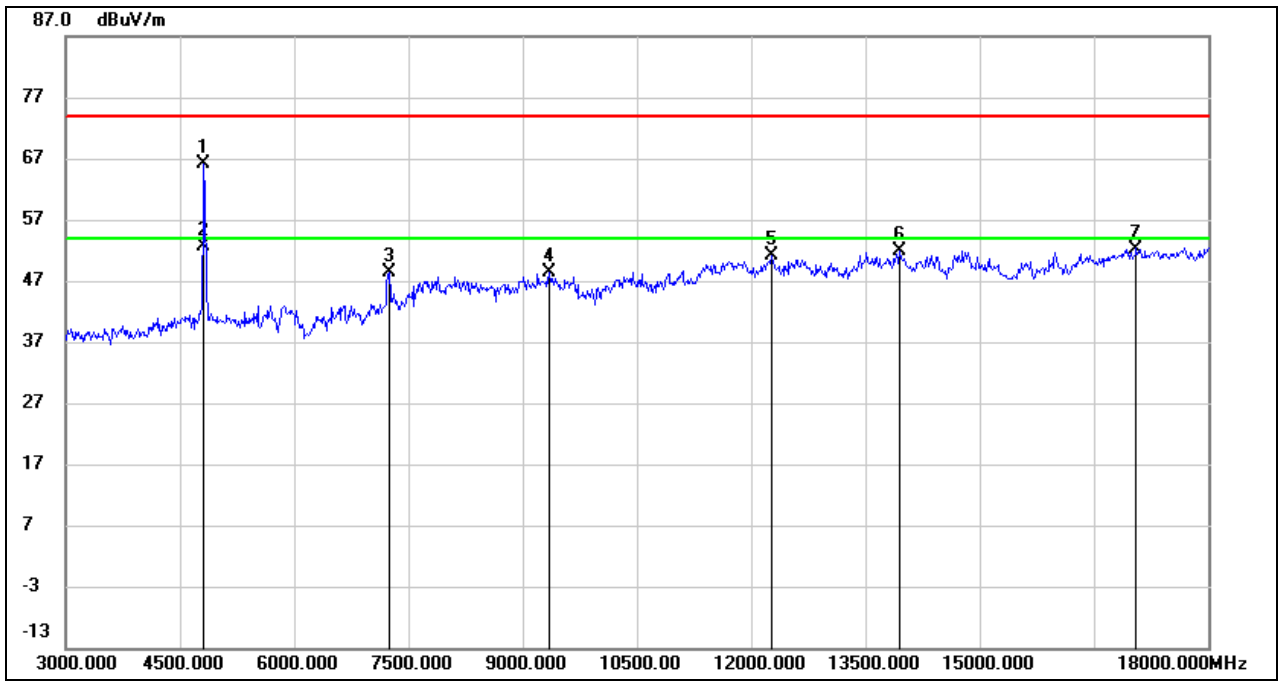


No.	Frequency (MHz)	Reading (dBuV)	Correct (dB/m)	Result (dBuV/m)	Limit (dBuV/m)	Margin (dB)	Remark
1	4920.000	53.68	1.45	55.13	74.00	-18.87	peak
2	4920.000	41.16	1.45	42.61	54.00	-11.39	AVG
3	8220.000	37.91	9.79	47.70	74.00	-26.30	peak
4	9840.000	37.72	10.48	48.20	74.00	-25.80	peak
5	11475.000	36.41	14.67	51.08	74.00	-22.92	peak
6	14805.000	33.92	18.00	51.92	74.00	-22.08	peak
7	16905.000	29.97	21.55	51.52	74.00	-22.48	peak

Note: 1. Peak Result = Reading Level + Correct Factor.
2. If Peak Result complies with AV limit, AV Result is deemed to comply with AV limit.
3. Peak: Peak detector.
4. AVG: VBW=1/Ton, where: Ton is the transmitting duration.
5. For the transmitting duration, please refer to clause 7.1.
6. Filter losses were only considered in the spurious frequency bands and the authorized band was not corrected for High Pass Filter losses.
7. Proper operation of the transmitter prior to adding the filter to the measurement chain.

8.3.2. 802.11n HT20 MODE

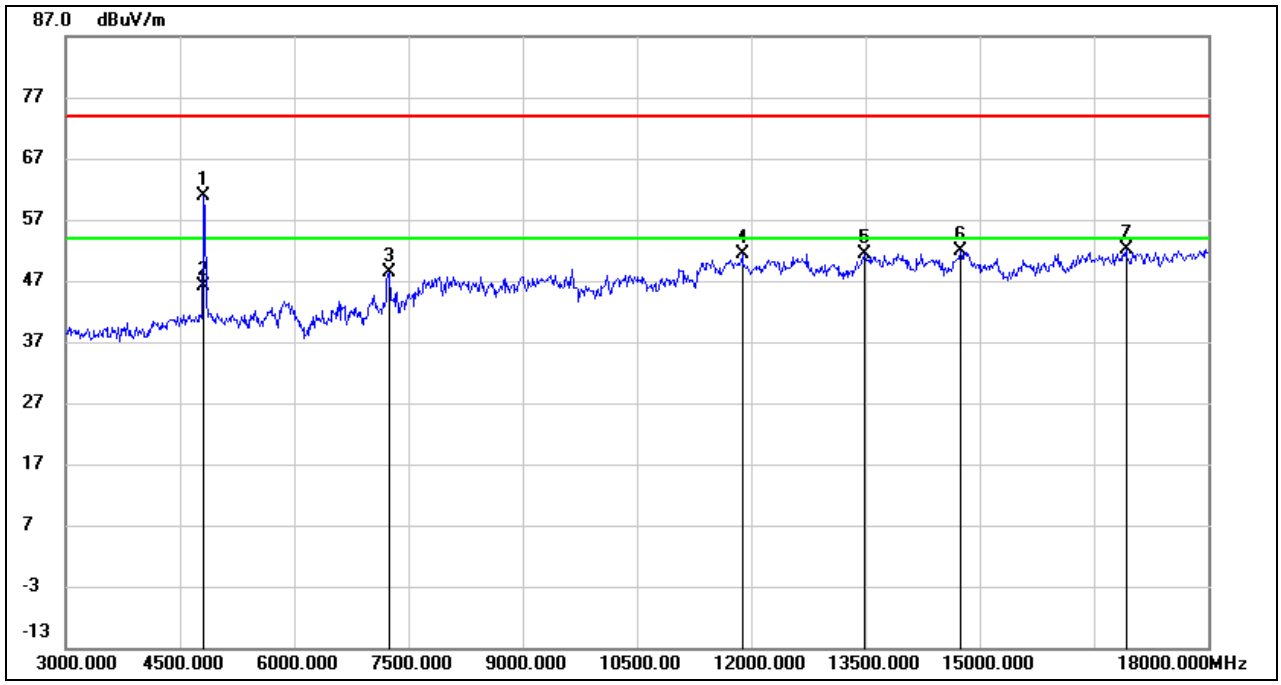
HARMONICS AND SPURIOUS EMISSIONS (CHANNEL 1, HORIZONTAL)



No.	Frequency	Reading	Correct	Result	Limit	Margin	Remark
	(MHz)	(dBuV)	(dB/m)	(dBuV/m)	(dBuV/m)	(dB)	
1	4815.000	64.68	1.38	66.06	74.00	-7.94	peak
2	4815.000	51.31	1.38	52.69	54.00	-1.31	AVG
3	7245.000	41.17	7.25	48.42	74.00	-25.58	peak
4	9345.000	37.76	10.66	48.42	74.00	-25.58	peak
5	12270.000	35.00	16.04	51.04	74.00	-22.96	peak
6	13950.000	34.18	17.60	51.78	74.00	-22.22	peak
7	17055.000	30.65	21.60	52.25	74.00	-21.75	peak

Note: 1. Peak Result = Reading Level + Correct Factor.
2. If Peak Result complies with AV limit, AV Result is deemed to comply with AV limit.
3. Peak: Peak detector.
4. AVG: VBW=1/Ton, where: Ton is the transmitting duration.
5. For the transmitting duration, please refer to clause 7.1.
6. Filter losses were only considered in the spurious frequency bands and the authorized band was not corrected for High Pass Filter losses.
7. Proper operation of the transmitter prior to adding the filter to the measurement chain.

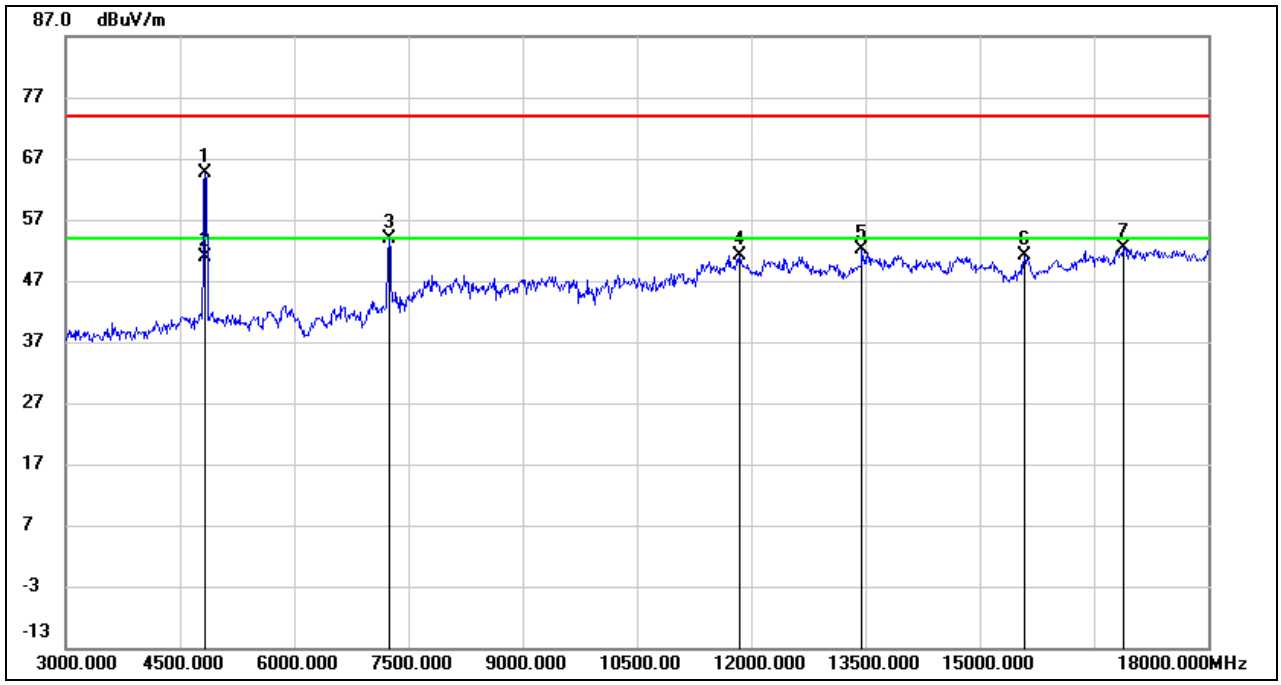
HARMONICS AND SPURIOUS EMISSIONS (CHANNEL 1, VERTICAL)



No.	Frequency (MHz)	Reading (dBuV)	Correct (dB/m)	Result (dBuV/m)	Limit (dBuV/m)	Margin (dB)	Remark
1	4815.000	59.44	1.38	60.82	74.00	-13.18	peak
2	4815.000	44.78	1.38	46.16	54.00	-7.84	AVG
3	7245.000	41.17	7.25	48.42	74.00	-25.58	peak
4	11880.000	35.89	15.46	51.35	74.00	-22.65	peak
5	13485.000	34.19	17.19	51.38	74.00	-22.62	peak
6	14745.000	34.02	17.84	51.86	74.00	-22.14	peak
7	16920.000	30.62	21.51	52.13	74.00	-21.87	peak

Note: 1. Peak Result = Reading Level + Correct Factor.
2. If Peak Result complies with AV limit, AV Result is deemed to comply with AV limit.
3. Peak: Peak detector.
4. AVG: VBW=1/Ton, where: Ton is the transmitting duration.
5. For the transmitting duration, please refer to clause 7.1.
6. Filter losses were only considered in the spurious frequency bands and the authorized band was not corrected for High Pass Filter losses.
7. Proper operation of the transmitter prior to adding the filter to the measurement chain.

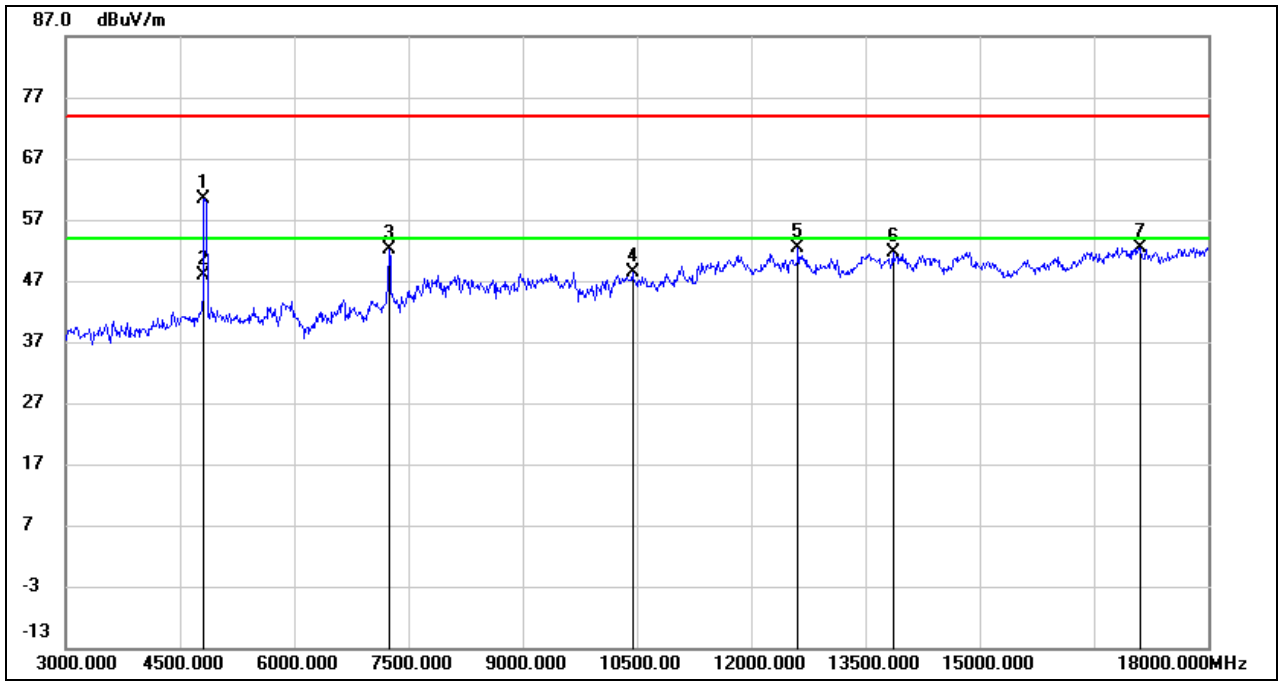
HARMONICS AND SPURIOUS EMISSIONS (CHANNEL 2, HORIZONTAL)



No.	Frequency (MHz)	Reading (dBuV)	Correct (dB/m)	Result (dBuV/m)	Limit (dBuV/m)	Margin (dB)	Remark
1	4830.000	63.34	1.37	64.71	74.00	-9.29	peak
2	4830.000	49.60	1.37	50.97	54.00	-3.03	AVG
3	7245.000	46.66	7.25	53.91	74.00	-20.09	peak
4	11850.000	35.70	15.38	51.08	74.00	-22.92	peak
5	13455.000	34.96	17.14	52.10	74.00	-21.90	peak
6	15585.000	33.43	17.60	51.03	74.00	-22.97	peak
7	16890.000	31.01	21.49	52.50	74.00	-21.50	peak

Note: 1. Peak Result = Reading Level + Correct Factor.
2. If Peak Result complies with AV limit, AV Result is deemed to comply with AV limit.
3. Peak: Peak detector.
4. AVG: VBW=1/Ton, where: Ton is the transmitting duration.
5. For the transmitting duration, please refer to clause 7.1.
6. Filter losses were only considered in the spurious frequency bands and the authorized band was not corrected for High Pass Filter losses.
7. Proper operation of the transmitter prior to adding the filter to the measurement chain.

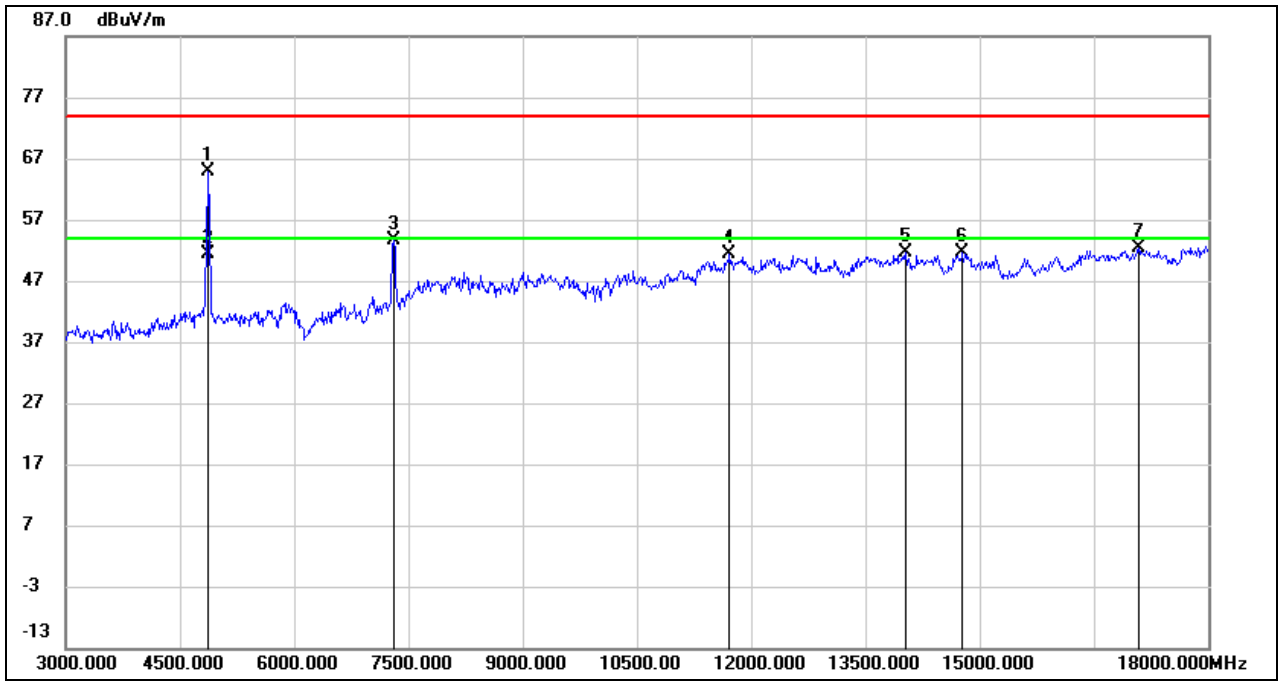
HARMONICS AND SPURIOUS EMISSIONS (CHANNEL 2, VERTICAL)



No.	Frequency (MHz)	Reading (dBuV)	Correct (dB/m)	Result (dBuV/m)	Limit (dBuV/m)	Margin (dB)	Remark
1	4815.000	58.97	1.38	60.35	74.00	-13.65	peak
2	4815.000	46.56	1.38	47.94	54.00	-6.06	AVG
3	7245.000	44.90	7.25	52.15	74.00	-21.85	peak
4	10440.000	36.09	12.28	48.37	74.00	-25.63	peak
5	12615.000	36.73	15.75	52.48	74.00	-21.52	peak
6	13860.000	34.04	17.55	51.59	74.00	-22.41	peak
7	17115.000	30.55	21.91	52.46	74.00	-21.54	peak

Note: 1. Peak Result = Reading Level + Correct Factor.
2. If Peak Result complies with AV limit, AV Result is deemed to comply with AV limit.
3. Peak: Peak detector.
4. AVG: VBW=1/Ton, where: Ton is the transmitting duration.
5. For the transmitting duration, please refer to clause 7.1.
6. Filter losses were only considered in the spurious frequency bands and the authorized band was not corrected for High Pass Filter losses.
7. Proper operation of the transmitter prior to adding the filter to the measurement chain.

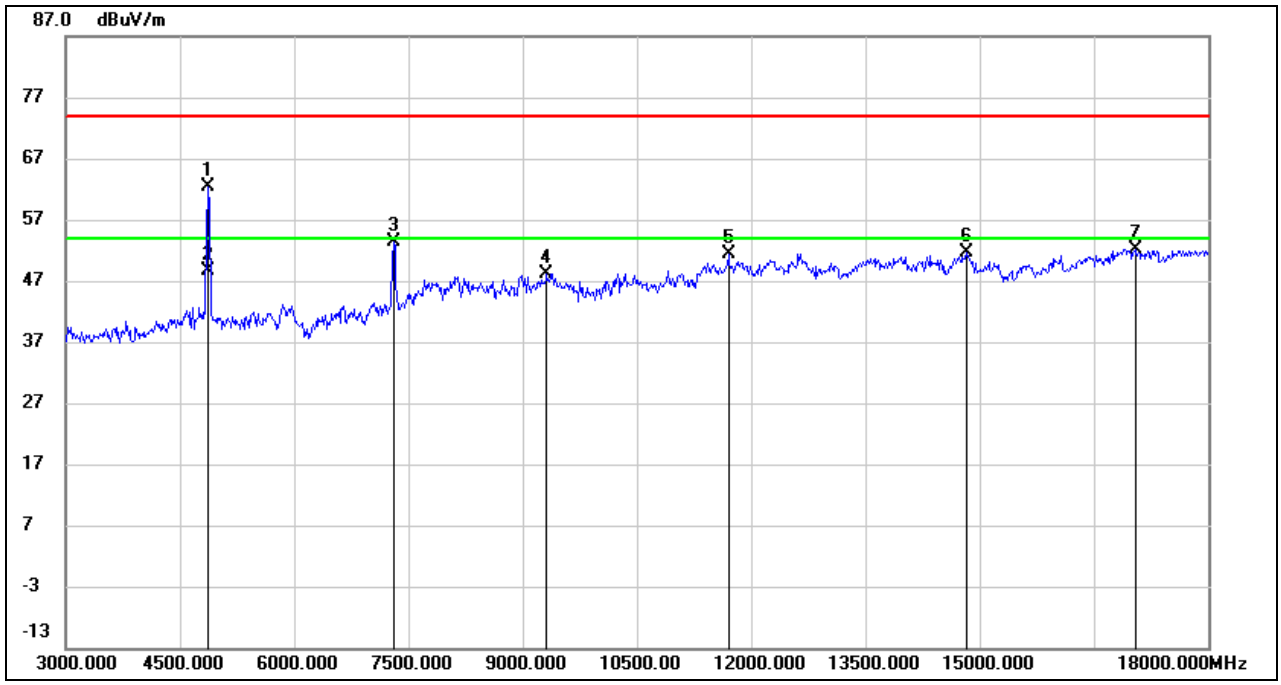
HARMONICS AND SPURIOUS EMISSIONS (CHANNEL 6, HORIZONTAL)



No.	Frequency (MHz)	Reading (dBuV)	Correct (dB/m)	Result (dBuV/m)	Limit (dBuV/m)	Margin (dB)	Remark
1	4875.000	63.54	1.32	64.86	74.00	-9.14	peak
2	4875.000	50.01	1.32	51.33	54.00	-2.67	AVG
3	7305.000	46.46	7.14	53.60	74.00	-20.40	peak
4	11715.000	35.96	15.34	51.30	74.00	-22.70	peak
5	14025.000	33.91	17.61	51.52	74.00	-22.48	peak
6	14775.000	33.66	17.95	51.61	74.00	-22.39	peak
7	17085.000	30.50	21.80	52.30	74.00	-21.70	peak

Note: 1. Peak Result = Reading Level + Correct Factor.
2. If Peak Result complies with AV limit, AV Result is deemed to comply with AV limit.
3. Peak: Peak detector.
4. AVG: VBW=1/Ton, where: Ton is the transmitting duration.
5. For the transmitting duration, please refer to clause 7.1.
6. Filter losses were only considered in the spurious frequency bands and the authorized band was not corrected for High Pass Filter losses.
7. Proper operation of the transmitter prior to adding the filter to the measurement chain.

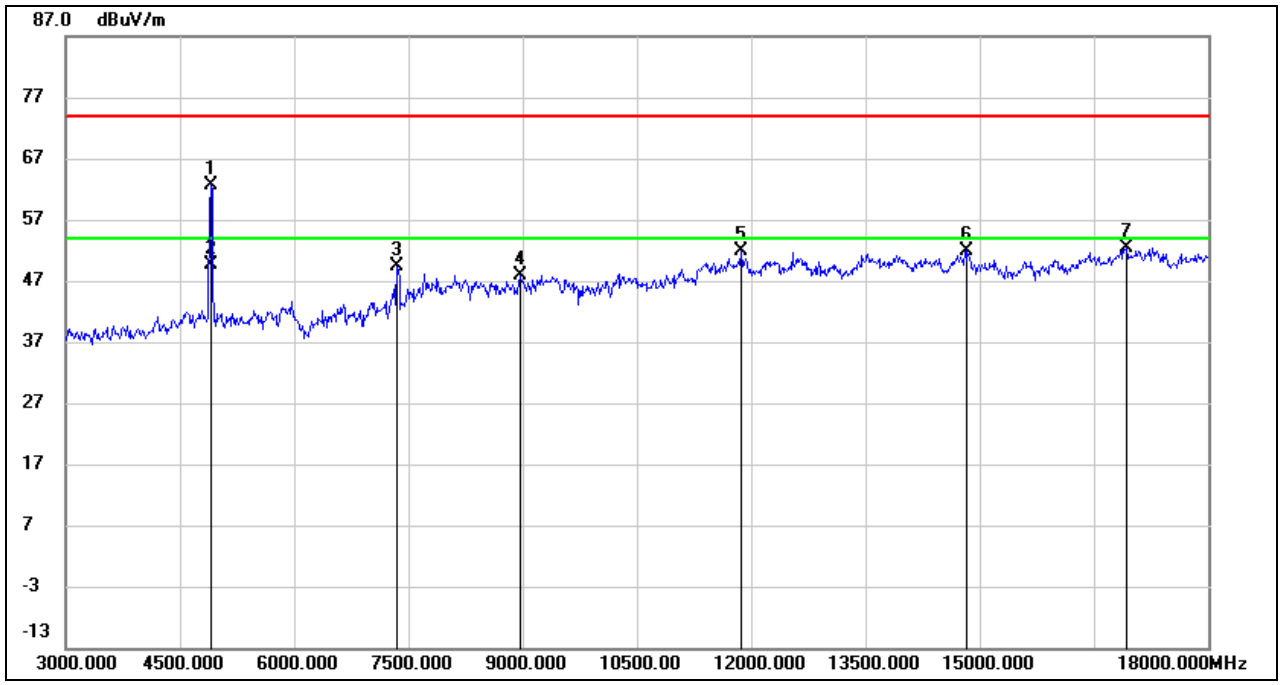
HARMONICS AND SPURIOUS EMISSIONS (CHANNEL 6, VERTICAL)



No.	Frequency (MHz)	Reading (dBuV)	Correct (dB/m)	Result (dBuV/m)	Limit (dBuV/m)	Margin (dB)	Remark
1	4875.000	61.05	1.32	62.37	74.00	-11.63	peak
2	4875.000	47.35	1.32	48.67	54.00	-5.33	AVG
3	7305.000	46.36	7.14	53.50	74.00	-20.50	peak
4	9315.000	37.73	10.48	48.21	74.00	-25.79	peak
5	11700.000	36.01	15.35	51.36	74.00	-22.64	peak
6	14820.000	33.82	17.91	51.73	74.00	-22.27	peak
7	17040.000	30.70	21.50	52.20	74.00	-21.80	peak

Note: 1. Peak Result = Reading Level + Correct Factor.
2. If Peak Result complies with AV limit, AV Result is deemed to comply with AV limit.
3. Peak: Peak detector.
4. AVG: VBW=1/Ton, where: Ton is the transmitting duration.
5. For the transmitting duration, please refer to clause 7.1.
6. Filter losses were only considered in the spurious frequency bands and the authorized band was not corrected for High Pass Filter losses.
7. Proper operation of the transmitter prior to adding the filter to the measurement chain.

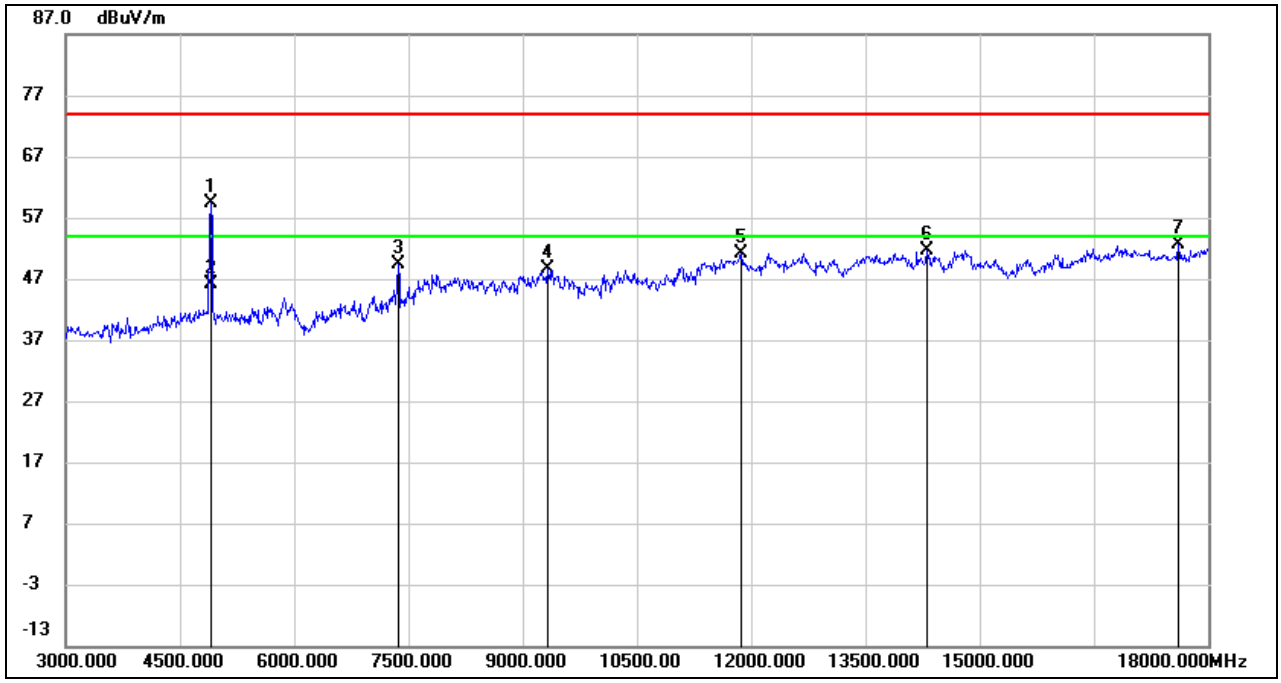
HARMONICS AND SPURIOUS EMISSIONS (CHANNEL 10, HORIZONTAL)



No.	Frequency (MHz)	Reading (dBuV)	Correct (dB/m)	Result (dBuV/m)	Limit (dBuV/m)	Margin (dB)	Remark
1	4905.000	61.42	1.33	62.75	74.00	-11.25	peak
2	4905.000	48.19	1.33	49.52	54.00	-4.48	AVG
3	7350.000	41.82	7.53	49.35	74.00	-24.65	peak
4	8970.000	37.21	10.70	47.91	74.00	-26.09	peak
5	11865.000	36.40	15.42	51.82	74.00	-22.18	peak
6	14820.000	34.04	17.91	51.95	74.00	-22.05	peak
7	16935.000	31.01	21.45	52.46	74.00	-21.54	peak

Note: 1. Peak Result = Reading Level + Correct Factor.
2. If Peak Result complies with AV limit, AV Result is deemed to comply with AV limit.
3. Peak: Peak detector.
4. AVG: VBW=1/Ton, where: Ton is the transmitting duration.
5. For the transmitting duration, please refer to clause 7.1.
6. Filter losses were only considered in the spurious frequency bands and the authorized band was not corrected for High Pass Filter losses.
7. Proper operation of the transmitter prior to adding the filter to the measurement chain.

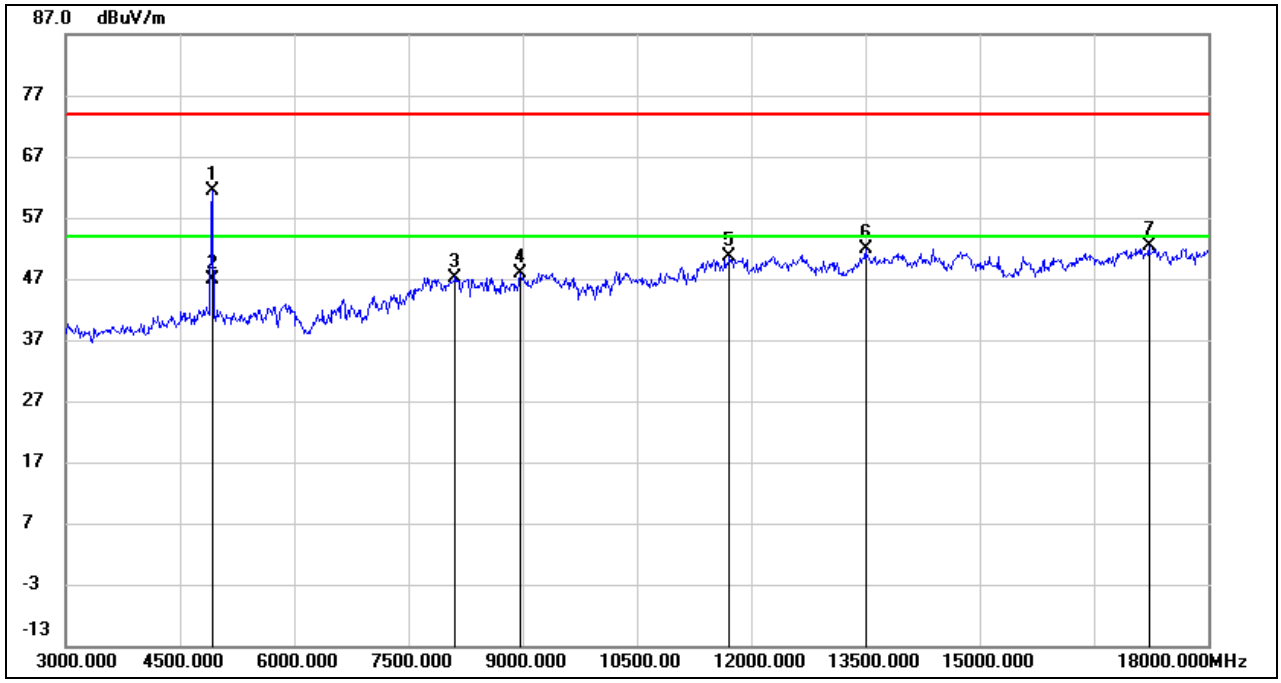
HARMONICS AND SPURIOUS EMISSIONS (CHANNEL 10, VERTICAL)



No.	Frequency (MHz)	Reading (dBuV)	Correct (dB/m)	Result (dBuV/m)	Limit (dBuV/m)	Margin (dB)	Remark
1	4905.000	57.97	1.33	59.30	74.00	-14.70	peak
2	4905.000	44.84	1.33	46.17	54.00	-7.83	AVG
3	7365.000	41.81	7.66	49.47	74.00	-24.53	peak
4	9330.000	38.15	10.57	48.72	74.00	-25.28	peak
5	11865.000	35.82	15.42	51.24	74.00	-22.76	peak
6	14310.000	33.68	18.05	51.73	74.00	-22.27	peak
7	17610.000	29.76	22.80	52.56	74.00	-21.44	peak

Note: 1. Peak Result = Reading Level + Correct Factor.
2. If Peak Result complies with AV limit, AV Result is deemed to comply with AV limit.
3. Peak: Peak detector.
4. AVG: VBW=1/Ton, where: Ton is the transmitting duration.
5. For the transmitting duration, please refer to clause 7.1.
6. Filter losses were only considered in the spurious frequency bands and the authorized band was not corrected for High Pass Filter losses.
7. Proper operation of the transmitter prior to adding the filter to the measurement chain.

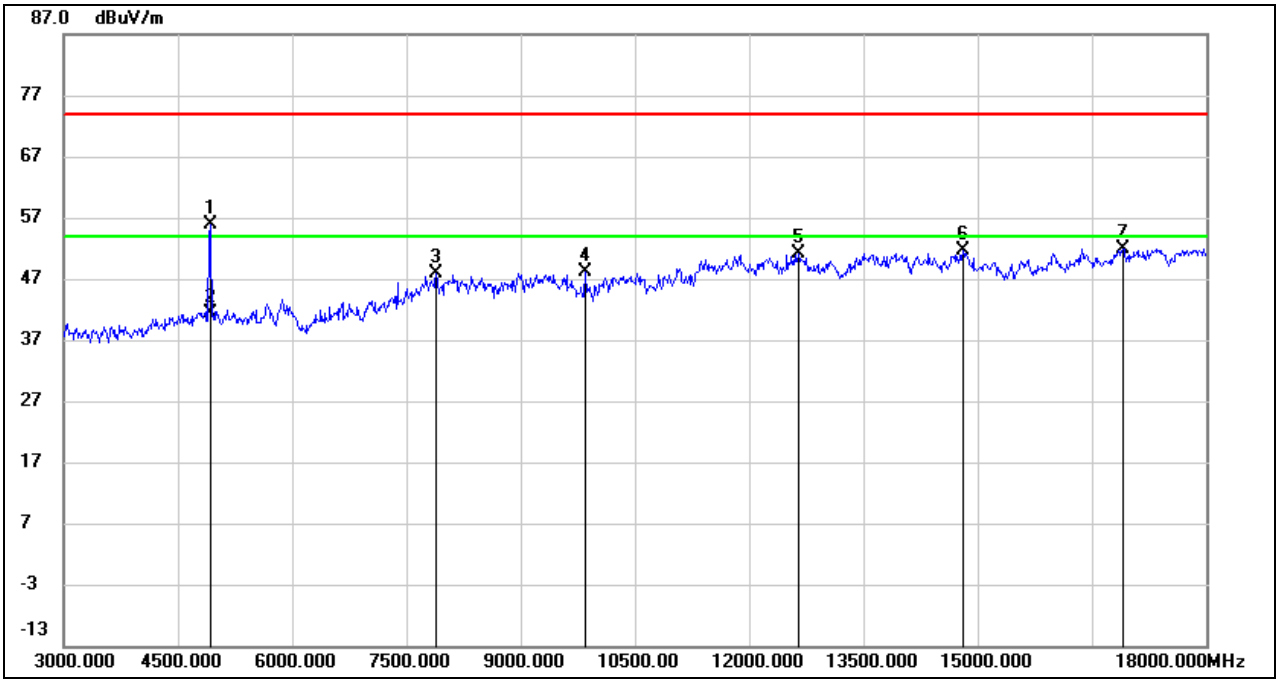
HARMONICS AND SPURIOUS EMISSIONS (CHANNEL 11, HORIZONTAL)



No.	Frequency (MHz)	Reading (dBuV)	Correct (dB/m)	Result (dBuV/m)	Limit (dBuV/m)	Margin (dB)	Remark
1	4920.000	60.03	1.45	61.48	74.00	-12.52	peak
2	4920.000	45.42	1.45	46.87	54.00	-7.13	AVG
3	8115.000	37.12	10.13	47.25	74.00	-26.75	peak
4	8970.000	37.24	10.70	47.94	74.00	-26.06	peak
5	11715.000	35.27	15.34	50.61	74.00	-23.39	peak
6	13500.000	34.76	17.22	51.98	74.00	-22.02	peak
7	17220.000	30.19	22.12	52.31	74.00	-21.69	peak

Note: 1. Peak Result = Reading Level + Correct Factor.
2. If Peak Result complies with AV limit, AV Result is deemed to comply with AV limit.
3. Peak: Peak detector.
4. AVG: VBW=1/Ton, where: Ton is the transmitting duration.
5. For the transmitting duration, please refer to clause 7.1.
6. Filter losses were only considered in the spurious frequency bands and the authorized band was not corrected for High Pass Filter losses.
7. Proper operation of the transmitter prior to adding the filter to the measurement chain.

HARMONICS AND SPURIOUS EMISSIONS (CHANNEL 11, VERTICAL)



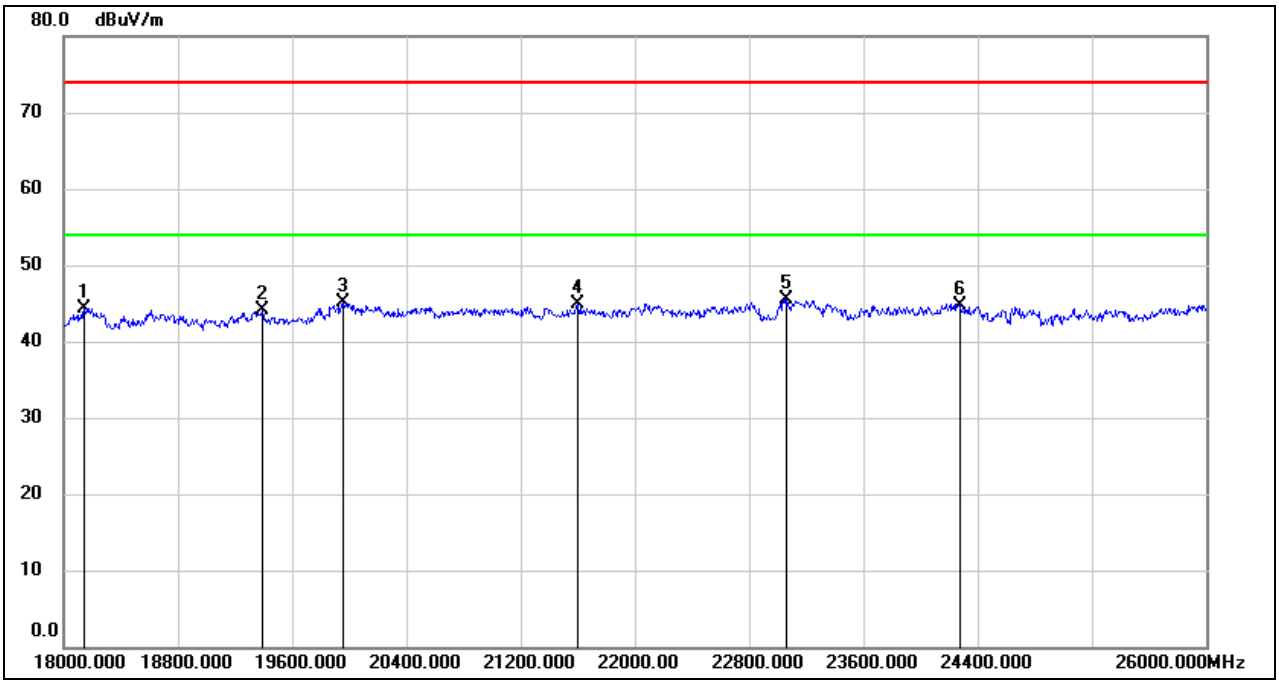
No.	Frequency (MHz)	Reading (dBuV)	Correct (dB/m)	Result (dBuV/m)	Limit (dBuV/m)	Margin (dB)	Remark
1	4920.000	54.47	1.45	55.92	74.00	-18.08	peak
2	4920.000	40.04	1.45	41.49	54.00	-12.51	AVG
3	7890.000	39.08	8.91	47.99	74.00	-26.01	peak
4	9840.000	37.77	10.48	48.25	74.00	-25.75	peak
5	12645.000	35.35	15.71	51.06	74.00	-22.94	peak
6	14805.000	33.69	18.00	51.69	74.00	-22.31	peak
7	16905.000	30.42	21.55	51.97	74.00	-22.03	peak

Note: 1. Peak Result = Reading Level + Correct Factor.
2. If Peak Result complies with AV limit, AV Result is deemed to comply with AV limit.
3. Peak: Peak detector.
4. AVG: VBW=1/Ton, where: Ton is the transmitting duration.
5. For the transmitting duration, please refer to clause 7.1.
6. Filter losses were only considered in the spurious frequency bands and the authorized band was not corrected for High Pass Filter losses.
7. Proper operation of the transmitter prior to adding the filter to the measurement chain.

8.4. SPURIOUS EMISSIONS (18 GHz ~ 26 GHz)

8.4.1. 802.11b MODE

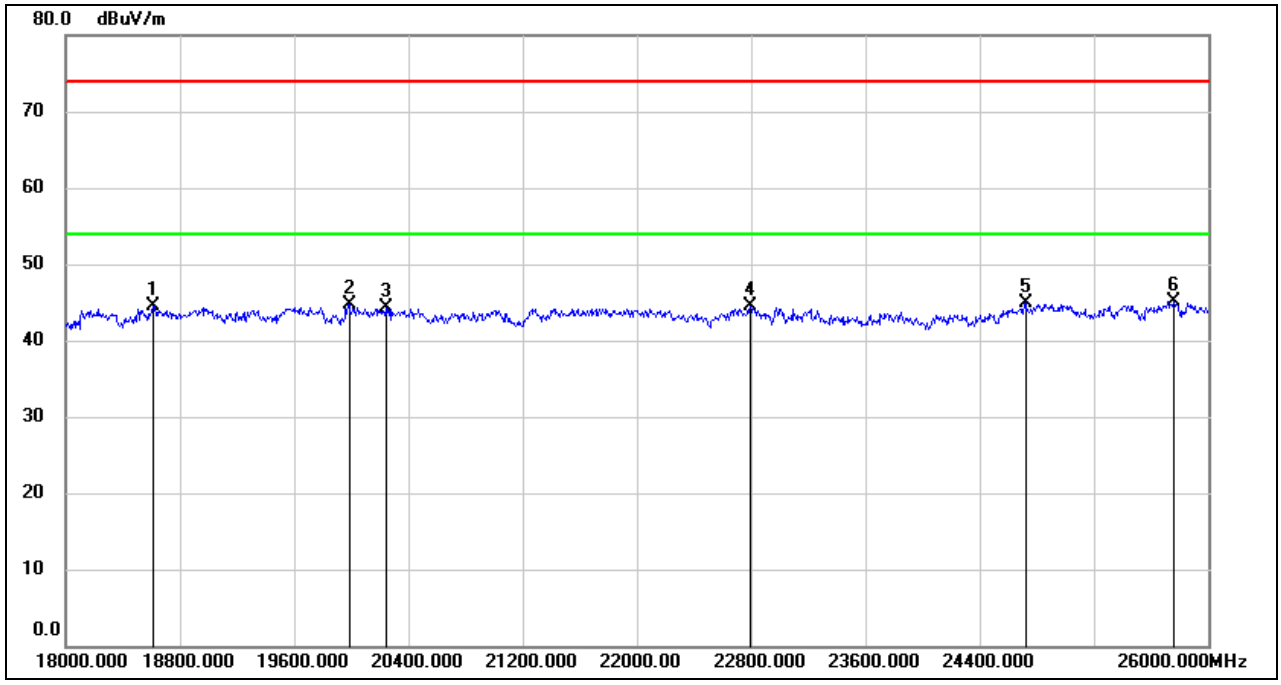
SPURIOUS EMISSIONS (CHANNEL 10, WORST-CASE CONFIGURATION, HORIZONTAL)



No.	Frequency (MHz)	Reading (dBuV)	Correct (dB/m)	Result (dBuV/m)	Limit (dBuV/m)	Margin (dB)	Remark
1	18144.000	49.77	-5.48	44.29	74.00	-29.71	peak
2	19392.000	49.62	-5.57	44.05	74.00	-29.95	peak
3	19952.000	50.46	-5.41	45.05	74.00	-28.95	peak
4	21600.000	49.52	-4.54	44.98	74.00	-29.02	peak
5	23064.000	48.99	-3.42	45.57	74.00	-28.43	peak
6	24280.000	47.39	-2.77	44.62	74.00	-29.38	peak

Note: 1. Measurement = Reading Level + Correct Factor.
2. If Peak Result complies with AV limit, AV Result is deemed to comply with AV limit.
3. Peak: Peak detector.
4. The preamplifier only effect to the above 18GHz signal and no filter added to the measurement chain.

SPURIOUS EMISSIONS (CHANNEL 10, WORST-CASE CONFIGURATION, VERTICAL)



No.	Frequency (MHz)	Reading (dBuV)	Correct (dB/m)	Result (dBuV/m)	Limit (dBuV/m)	Margin (dB)	Remark
1	18616.000	49.89	-5.34	44.55	74.00	-29.45	peak
2	19984.000	50.21	-5.44	44.77	74.00	-29.23	peak
3	20240.000	49.82	-5.61	44.21	74.00	-29.79	peak
4	22792.000	48.11	-3.65	44.46	74.00	-29.54	peak
5	24720.000	47.22	-2.33	44.89	74.00	-29.11	peak
6	25760.000	45.68	-0.63	45.05	74.00	-28.95	peak

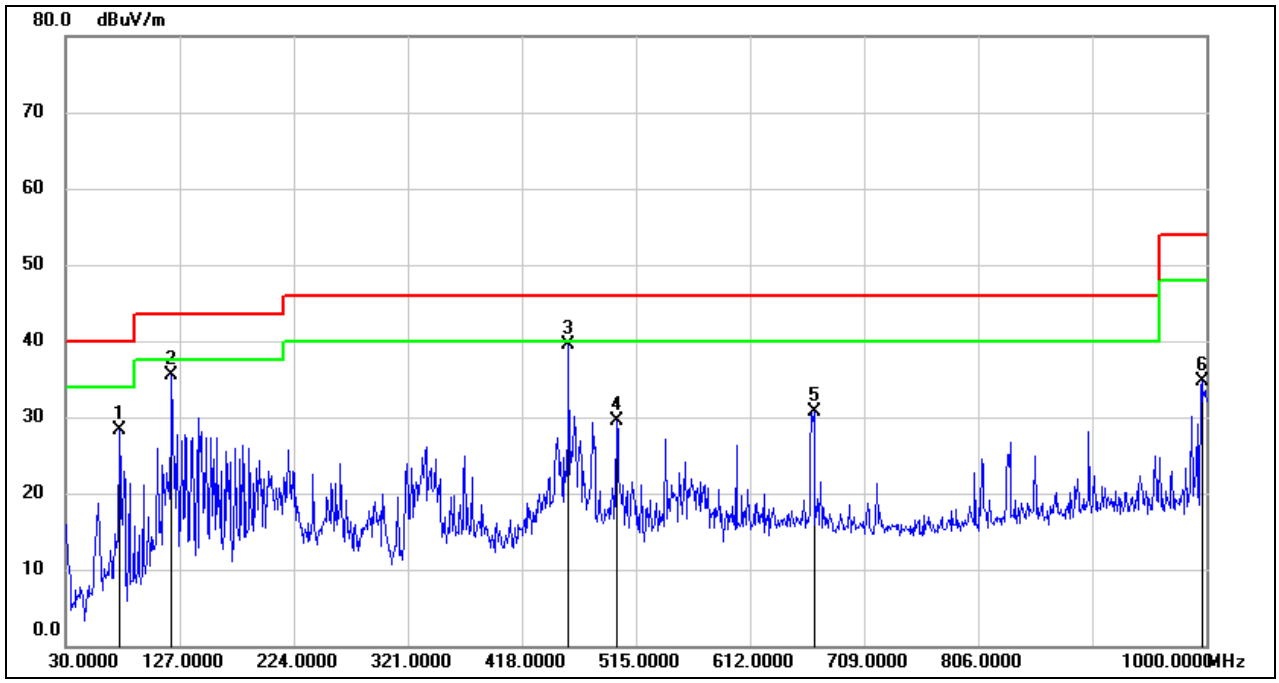
Note: 1. Measurement = Reading Level + Correct Factor.
2. If Peak Result complies with AV limit, AV Result is deemed to comply with AV limit.
3. Peak: Peak detector.
4. The preamplifier only effect to the above 18GHz signal and no filter added to the measurement chain.

Note: All the modes and channels had been tested, but only the worst data was recorded in the report.

8.5. SPURIOUS EMISSIONS (30 MHz ~ 1 GHz)

8.5.1. 802.11b MODE

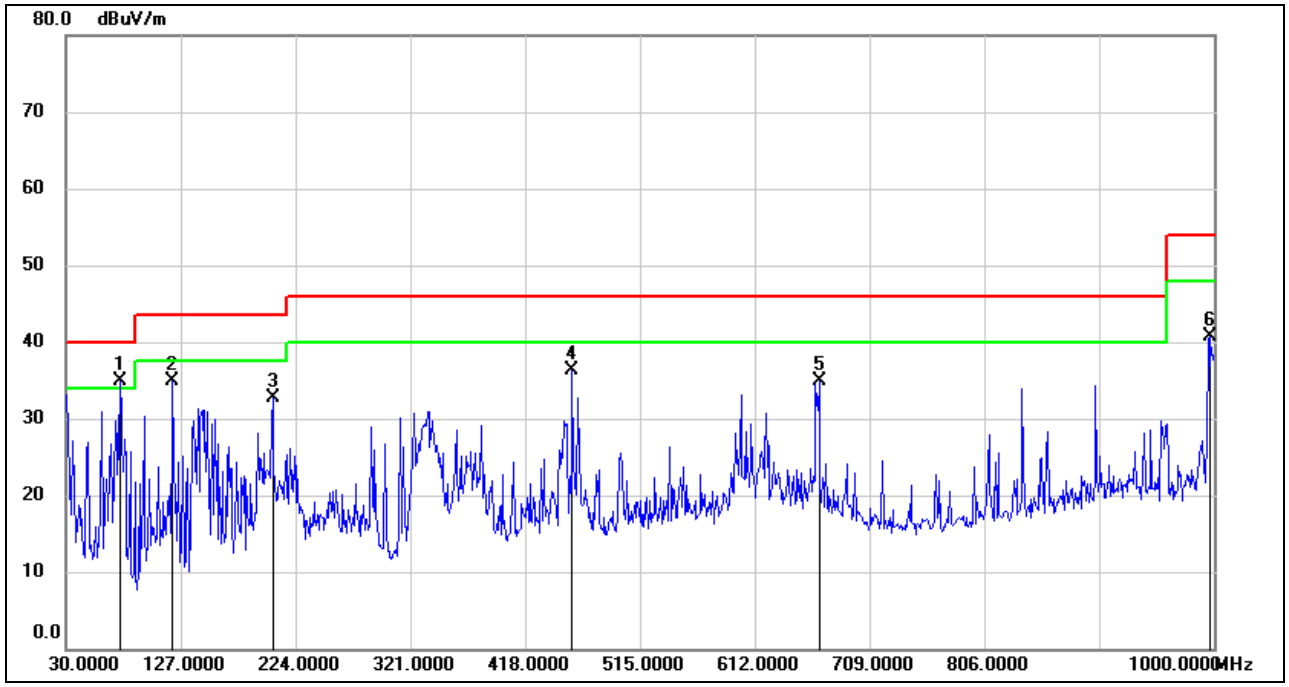
SPURIOUS EMISSIONS (CHANNEL 10, WORST-CASE CONFIGURATION, HORIZONTAL)



No.	Frequency	Reading	Correct	Result	Limit	Margin	Remark
	(MHz)	(dBuV)	(dB/m)	(dBuV/m)	(dBuV/m)	(dB)	
1	75.5899	49.33	-20.99	28.34	40.00	-11.66	QP
2	120.2100	55.34	-19.85	35.49	43.50	-8.01	QP
3	457.7700	51.65	-12.20	39.45	46.00	-6.55	QP
4	498.5100	40.91	-11.50	29.41	46.00	-16.59	QP
5	666.3200	39.39	-8.65	30.74	46.00	-15.26	QP
6	996.1200	38.95	-4.20	34.75	54.00	-19.25	QP

Note: 1. Result Level = Read Level + Correct Factor.
2. Test setup: RBW: 120 kHz, VBW: 300 kHz, Sweep time: auto.

SPURIOUS EMISSIONS (CHANNEL 10, WORST-CASE CONFIGURATION, VERTICAL)



No.	Frequency (MHz)	Reading (dBuV)	Correct (dB/m)	Result (dBuV/m)	Limit (dBuV/m)	Margin (dB)	Remark
1	75.5899	55.80	-20.99	34.81	40.00	-5.19	QP
2	120.2100	54.81	-19.85	34.96	43.50	-8.54	QP
3	204.6000	49.55	-16.79	32.76	43.50	-10.74	QP
4	457.7700	48.57	-12.20	36.37	46.00	-9.63	QP
5	666.3200	43.50	-8.65	34.85	46.00	-11.15	QP
6	996.1200	44.86	-4.20	40.66	54.00	-13.34	QP

Note: 1. Result Level = Read Level + Correct Factor.
2. Test setup: RBW: 120 kHz, VBW: 300 kHz, Sweep time: auto.

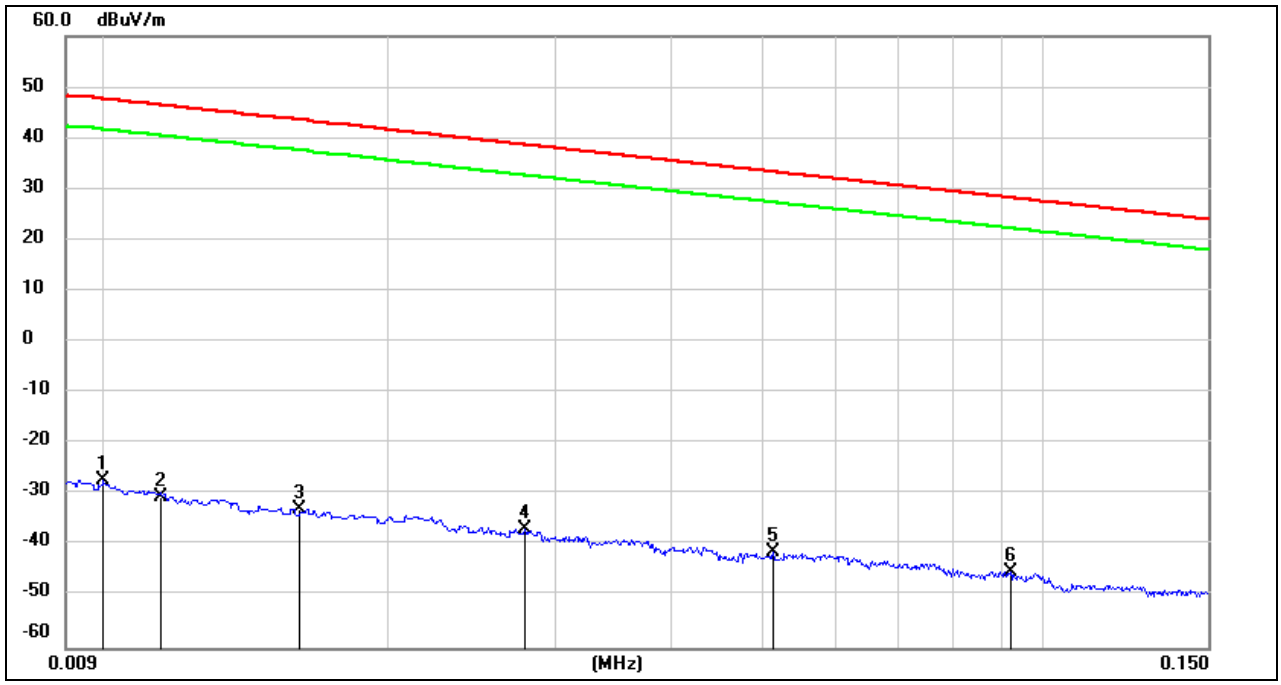
Note: All the modes and channels had been tested, but only the worst data was recorded in the report.

8.6. SPURIOUS EMISSIONS BELOW 30 MHz

8.6.1. 802.11b MODE

SPURIOUS EMISSIONS (CHANNEL 10, LOOP ANTENNA FACE ON TO THE EUT, WORST-CASE CONFIGURATION)

9kHz~ 150kHz



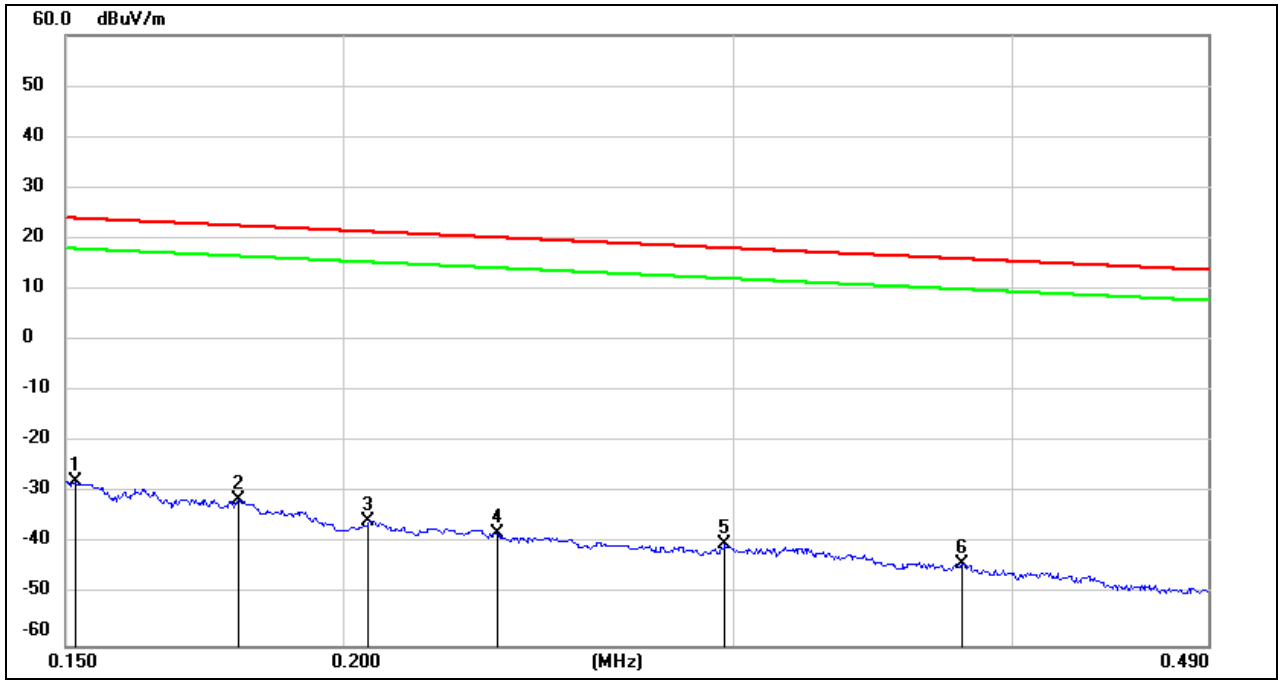
No.	Frequency	Reading	Correct	FCC Result	FCC Limit	ISED Result	ISED Limit	Margin	Remark
	(MHz)	(dBuV)	(dB/m)	(dBuV/m)	(dBuV/m)	(dBuA/m)	(dBuA/m)	(dB)	
1	0.0100	74.22	-101.40	-27.18	47.6	-78.68	-3.90	-74.78	peak
2	0.0114	70.95	-101.40	-30.45	46.46	-81.95	-5.04	-76.91	peak
3	0.0160	68.47	-101.37	-32.9	43.52	-84.40	-7.98	-76.42	peak
4	0.0279	64.67	-101.38	-36.71	38.69	-88.21	-12.81	-75.40	peak
5	0.0514	60.18	-101.48	-41.3	33.38	-92.80	-18.12	-74.68	peak
6	0.0922	56.51	-101.74	-45.23	28.31	-96.73	-23.19	-73.54	peak

Note: 1. Measurement = Reading Level + Correct Factor (dBuA/m= dBuV/m- 20Log10[120π] = dBuV/m- 51.5).

2. If Peak Result complies with AV and QP limit, AV and QP Result are deemed to comply with AV limit.

3. All 3 polarizations(Horizontal, Face-on and Face-off) of the loop antenna had been tested, but only the worst data recorded in the report.

150kHz ~ 490kHz



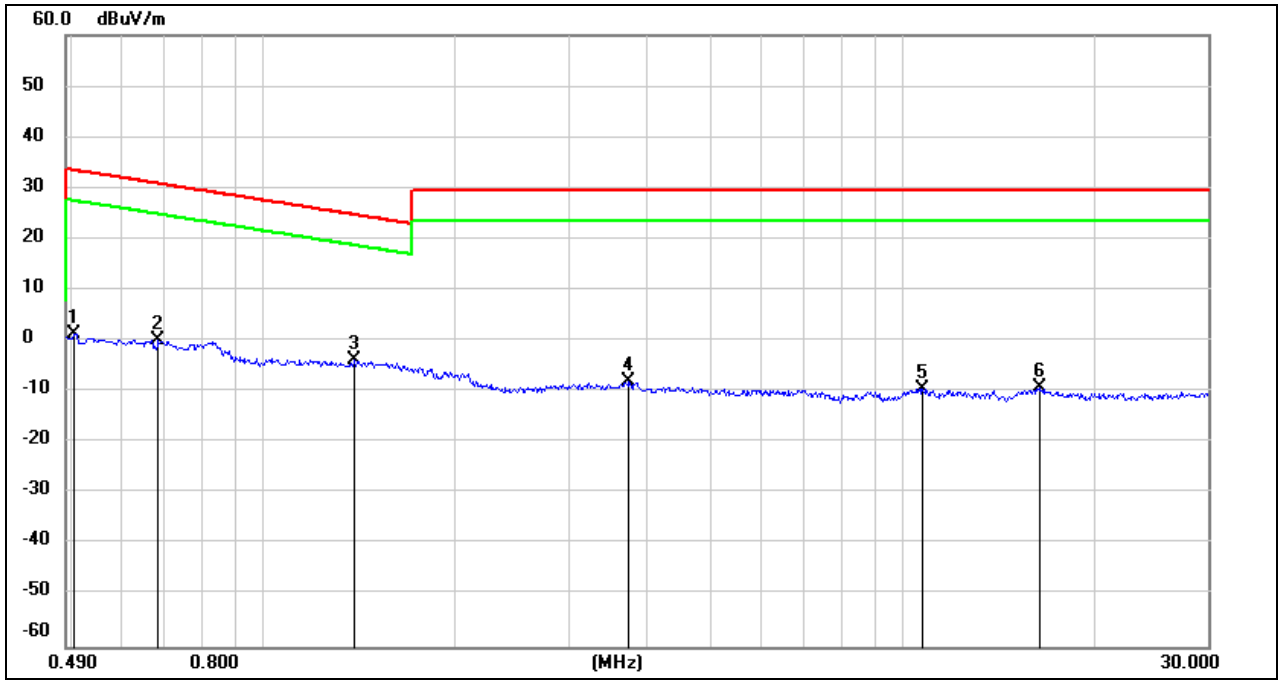
No.	Frequency	Reading	Correct	FCC Result	FCC Limit	ISED Result	ISED Limit	Margin	Remark
	(MHz)	(dBuV)	(dB/m)	(dBuV/m)	(dBuV/m)	(dBuA/m)	(dBuA/m)	(dB)	
1	0.1517	73.73	-101.63	-27.9	23.98	-79.40	-27.52	-51.88	peak
2	0.1794	70.27	-101.68	-31.41	22.53	-82.91	-28.97	-53.94	peak
3	0.2053	66.29	-101.73	-35.44	21.35	-86.94	-30.15	-56.79	peak
4	0.2346	63.85	-101.77	-37.92	20.19	-89.42	-31.31	-58.11	peak
5	0.2972	61.66	-101.85	-40.19	18.14	-91.69	-33.36	-58.33	peak
6	0.3800	58.02	-101.94	-43.92	16.01	-95.42	-35.49	-59.93	peak

Note: 1. Measurement = Reading Level + Correct Factor (dBuA/m= dBuV/m- 20Log10[120π] = dBuV/m- 51.5).

2. If Peak Result complies with AV and QP limit, AV and QP Result are deemed to comply with AV limit.

3. All 3 polarizations(Horizontal, Face-on and Face-off) of the loop antenna had been tested, but only the worst data recorded in the report.

490kHz ~ 30MHz



No.	Frequency	Reading	Correct	FCC Result	FCC Limit	ISED Result	ISED Limit	Margin	Remark
	(MHz)	(dBuV)	(dB/m)	(dBuV/m)	(dBuV/m)	(dBuA/m)	(dBuA/m)	(dB)	
1	0.5039	63.44	-62.07	1.37	33.56	-50.13	-17.94	-32.19	peak
2	0.6834	62.21	-62.11	0.1	30.91	-51.40	-20.59	-30.81	peak
3	1.3870	58.32	-62.09	-3.77	24.76	-55.27	-26.74	-28.53	peak
4	3.7360	53.33	-61.40	-8.07	29.54	-59.57	-21.96	-37.61	peak
5	10.7299	51.48	-60.83	-9.35	29.54	-60.85	-21.96	-38.89	peak
6	16.3959	51.67	-60.96	-9.29	29.54	-60.79	-21.96	-38.83	peak

Note: 1. Measurement = Reading Level + Correct Factor (dBuA/m= dBuV/m- 20Log10[120π] = dBuV/m- 51.5).

2. If Peak Result complies with AV and QP limit, AV and QP Result are deemed to comply with AV limit.

3. All 3 polarizations(Horizontal, Face-on and Face-off) of the loop antenna had been tested, but only the worst data recorded in the report.

Note: All the modes and channels had been tested, but only the worst data was recorded in the report.

9. AC POWER LINE CONDUCTED EMISSIONS

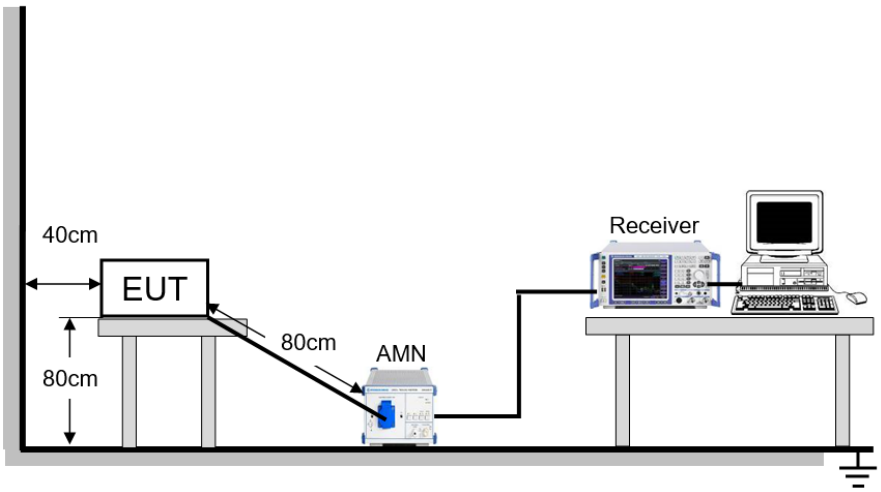
LIMITS

Please refer to CFR 47 FCC §15.207 (a) and ISED RSS-Gen Clause 8.8

FREQUENCY (MHz)	Quasi-peak	Average
0.15 -0.5	66 - 56 *	56 - 46 *
0.50 -5.0	56.00	46.00
5.0 -30.0	60.00	50.00

TEST SETUP AND PROCEDURE

Refer to ANSI C63.10-2013 clause 6.2.



The EUT is put on a table of non-conducting material that is 80 cm high. The vertical conducting wall of shielding is located 40 cm to the rear of the EUT. The power line of the EUT is connected to the AC mains through a Artificial Mains Network (A.M.N.). A EMI Measurement Receiver (R&S Test Receiver ESR3) is used to test the emissions from both sides of AC line. According to the requirements in Section 6.2 of ANSI C63.10-2013.Conducted emissions from the EUT measured in the frequency range between 0.15 MHz and 30 MHz using CISPR Quasi-Peak and average detector mode. The bandwidth of EMI test receiver is set at 9 kHz.

The arrangement of the equipment is installed to meet the standards and operating in a manner, which tends to maximize its emission characteristics in a normal application.

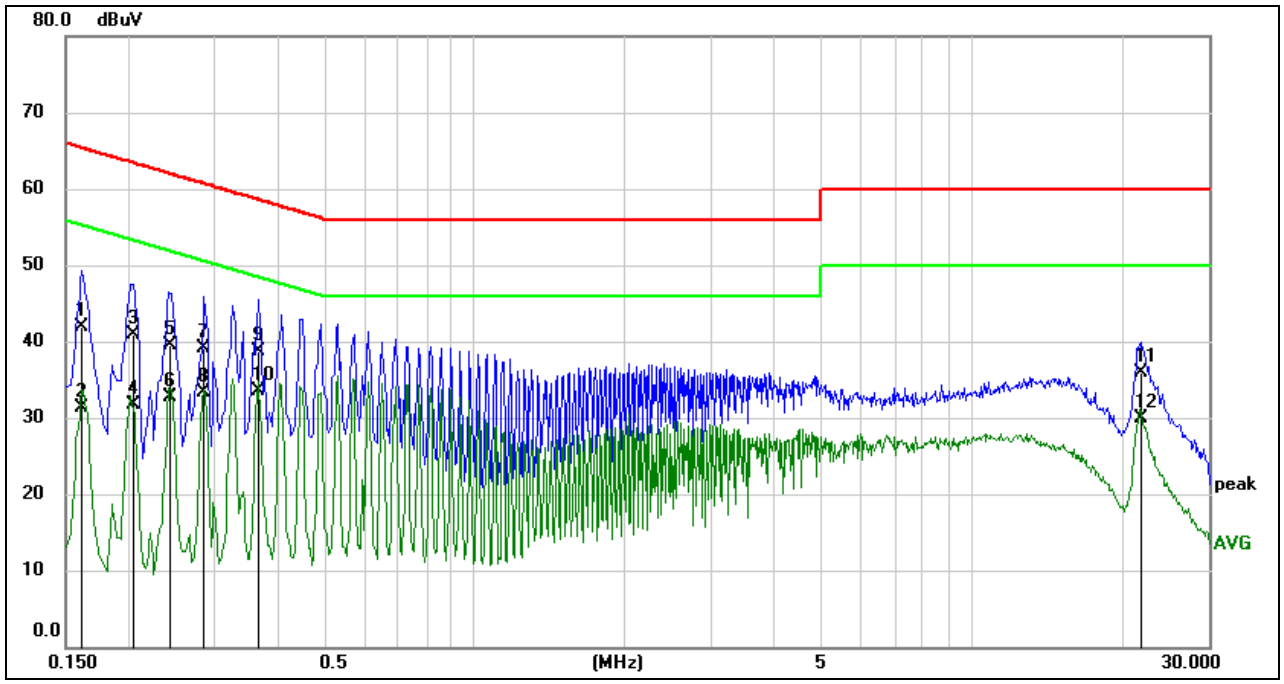
TEST ENVIRONMENT

Temperature	23.5 °C	Relative Humidity	57.9 %
Atmosphere Pressure	101 kPa	Test Voltage	AC120 V,60 Hz

RESULTS

9.1. 802.11b MODE

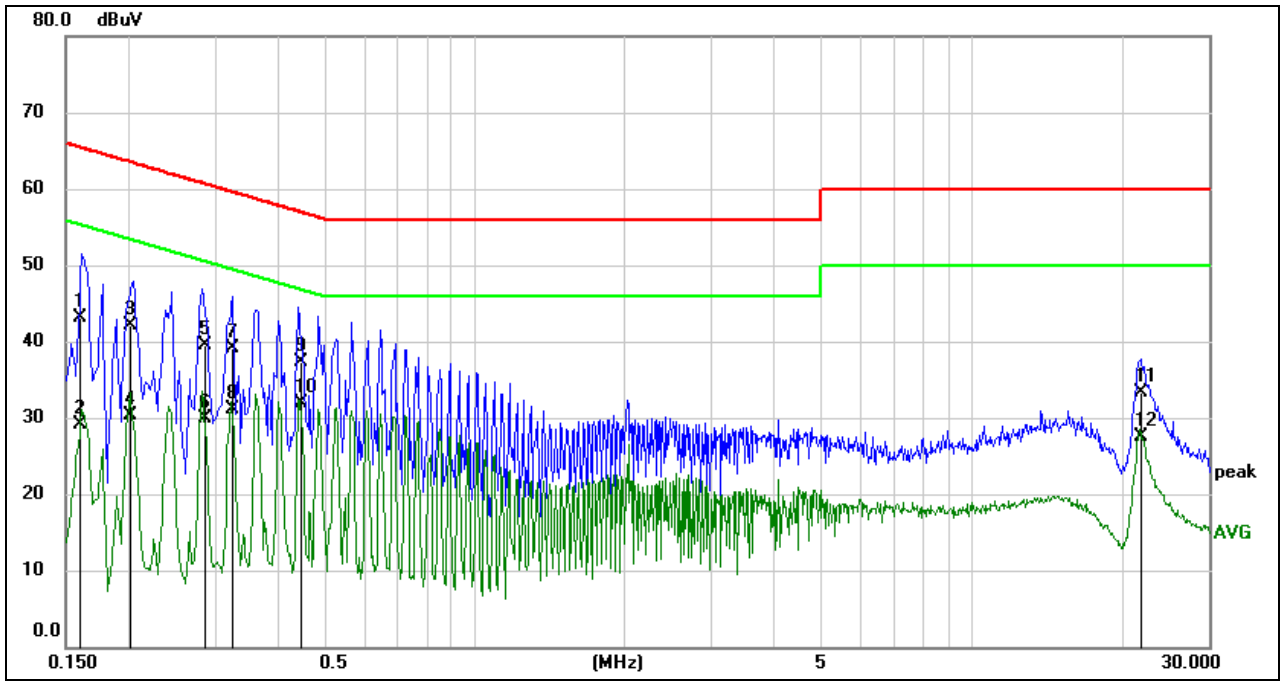
LINE N RESULTS (CHANNEL 10, WORST-CASE CONFIGURATION)



No.	Frequency (MHz)	Reading (dBuV)	Correct (dB)	Result (dBuV)	Limit (dBuV)	Margin (dB)	Remark
1	0.1610	32.37	9.59	41.96	65.41	-23.45	QP
2	0.1610	21.76	9.59	31.35	55.41	-24.06	AVG
3	0.2055	31.34	9.59	40.93	63.39	-22.46	QP
4	0.2055	22.17	9.59	31.76	53.39	-21.63	AVG
5	0.2429	29.88	9.59	39.47	62.00	-22.53	QP
6	0.2429	23.16	9.59	32.75	52.00	-19.25	AVG
7	0.2838	29.50	9.59	39.09	60.70	-21.61	QP
8	0.2838	23.73	9.59	33.32	50.70	-17.38	AVG
9	0.3649	29.02	9.59	38.61	58.62	-20.01	QP
10	0.3649	23.91	9.59	33.50	48.62	-15.12	AVG
11	21.8956	26.10	9.76	35.86	60.00	-24.14	QP
12	21.8956	20.24	9.76	30.00	50.00	-20.00	AVG

Note: 1. Result = Reading +Correct Factor.
2. If QP Result complies with AV limit, AV Result is deemed to comply with AV limit.
3. Test setup: RBW: 200 Hz (9 kHz-150 kHz), 9 kHz (150 kHz-30 MHz).
4. Step size: 80Hz (0.009MHz-0.15MHz), 4 kHz (0.15MHz-30MHz), Scan time: auto.

LINE L RESULTS (CHANNEL 10, WORST-CASE CONFIGURATION)



No.	Frequency (MHz)	Reading (dBuV)	Correct (dB)	Result (dBuV)	Limit (dBuV)	Margin (dB)	Remark
1	0.1597	33.52	9.59	43.11	65.48	-22.37	QP
2	0.1597	19.57	9.59	29.16	55.48	-26.32	AVG
3	0.2011	32.51	9.59	42.10	63.57	-21.47	QP
4	0.2011	20.66	9.59	30.25	53.57	-23.32	AVG
5	0.2862	29.86	9.59	39.45	60.63	-21.18	QP
6	0.2862	20.36	9.59	29.95	50.63	-20.68	AVG
7	0.3262	29.47	9.59	39.06	59.55	-20.49	QP
8	0.3262	21.48	9.59	31.07	49.55	-18.48	AVG
9	0.4470	27.69	9.60	37.29	56.93	-19.64	QP
10	0.4470	22.26	9.60	31.86	46.93	-15.07	AVG
11	21.8533	23.48	9.86	33.34	60.00	-26.66	QP
12	21.8533	17.57	9.86	27.43	50.00	-22.57	AVG

Note: 1. Result = Reading +Correct Factor.
2. If QP Result complies with AV limit, AV Result is deemed to comply with AV limit.
3. Test setup: RBW: 200 Hz (9 kHz-150 kHz), 9 kHz (150 kHz-30 MHz).
4. Step size: 80Hz (0.009MHz-0.15MHz), 4 kHz (0.15MHz-30MHz), Scan time: auto.

Note: All the test modes and channels have been tested, only the worst data record in the report.

10. ANTENNA REQUIREMENTS

APPLICABLE REQUIREMENTS

Please refer to FCC §15.203
An intentional radiator shall be designed to ensure that no antenna other than that furnished by the responsible party shall be used with the device. The use of a permanently attached antenna or of an antenna that uses a unique coupling to the intentional radiator shall be considered sufficient to comply with the provisions of this section. The manufacturer may design the unit so that a broken antenna can be replaced by the user, but the use of a standard antenna jack or electrical connector is prohibited.

Please refer to FCC §15.247(b)(4)
The conducted output power limit specified in paragraph (b) of this section is based on the use of antennas with directional gains that do not exceed 6 dBi. Except as shown in paragraph (c) of this section, if transmitting antennas of directional gain greater than 6 dBi are used, the conducted output power from the intentional radiator shall be reduced below the stated values in paragraphs (b)(1), (b)(2), and (b)(3) of this section, as appropriate, by the amount in dB that the directional gain of the antenna exceeds 6 dBi.

RESULTS

Complies

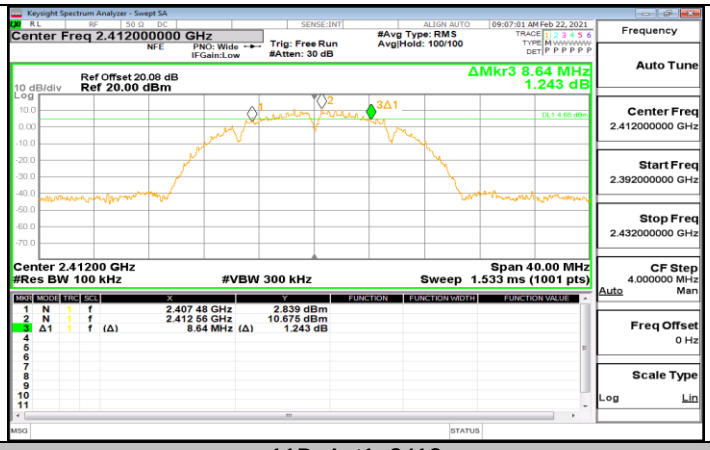
11. Appendix

11.1. Appendix A: DTS Bandwidth

11.1.1. Test Result

Test Mode	Antenna	Channel	DTS BW [MHz]	FL[MHz]	FH[MHz]	Limit [MHz]	Verdict
11B	Ant1	2412	8.640	2407.480	2416.120	0.5	PASS
		2417	9.160	2412.440	2421.600	0.5	PASS
		2437	8.680	2432.480	2441.160	0.5	PASS
		2457	9.640	2452.000	2461.640	0.5	PASS
		2462	8.080	2458.040	2466.120	0.5	PASS
11G	Ant1	2412	16.400	2403.840	2420.240	0.5	PASS
		2417	16.400	2408.840	2425.240	0.5	PASS
		2437	16.400	2428.880	2445.280	0.5	PASS
		2457	16.400	2448.840	2465.240	0.5	PASS
		2462	16.640	2453.720	2470.360	0.5	PASS
11N20SISO	Ant1	2412	17.640	2403.200	2420.840	0.5	PASS
		2417	17.600	2408.240	2425.840	0.5	PASS
		2437	17.360	2428.280	2445.640	0.5	PASS
		2457	17.640	2448.240	2465.880	0.5	PASS
		2462	17.640	2453.240	2470.880	0.5	PASS

11.1.2. Test Graphs

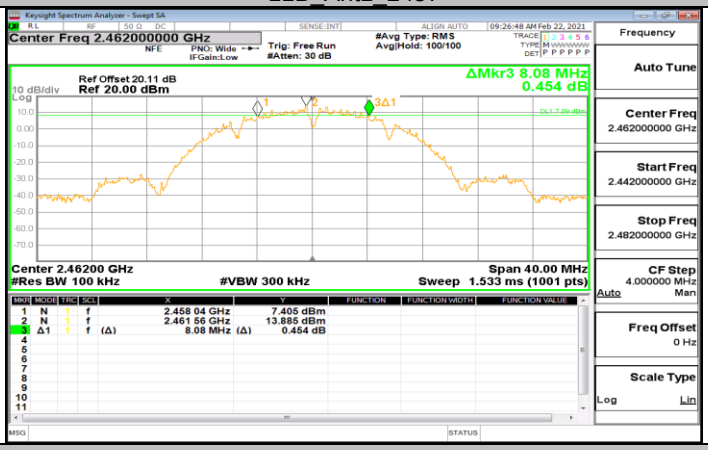


11B_Ant1_2412

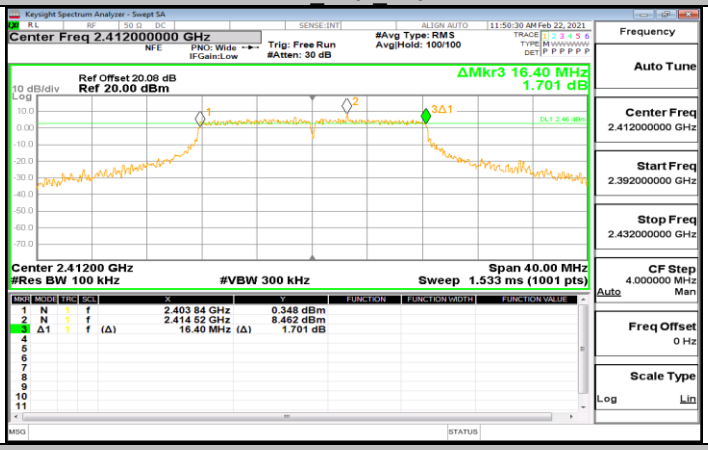
11B_Ant1_2417

11B_Ant1_2437

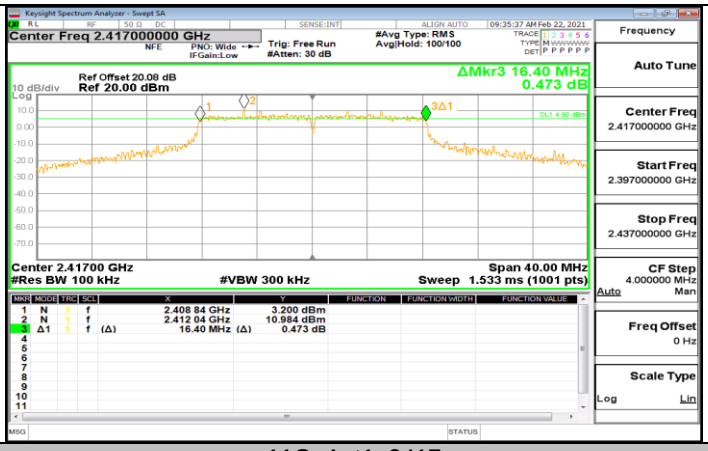
11B_Ant1_2457



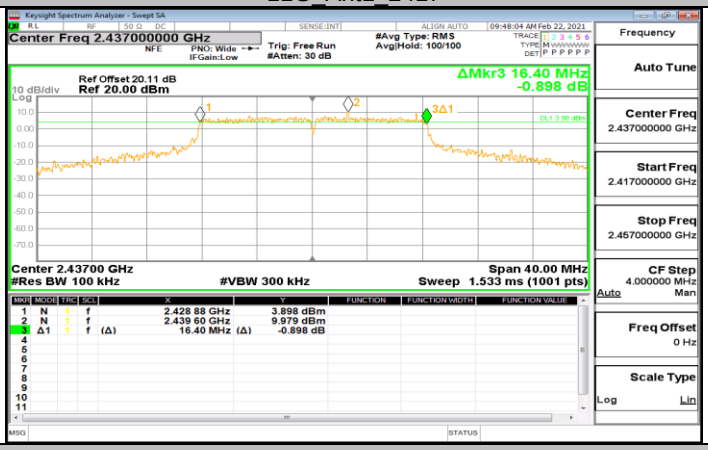
11B_Ant1_2462



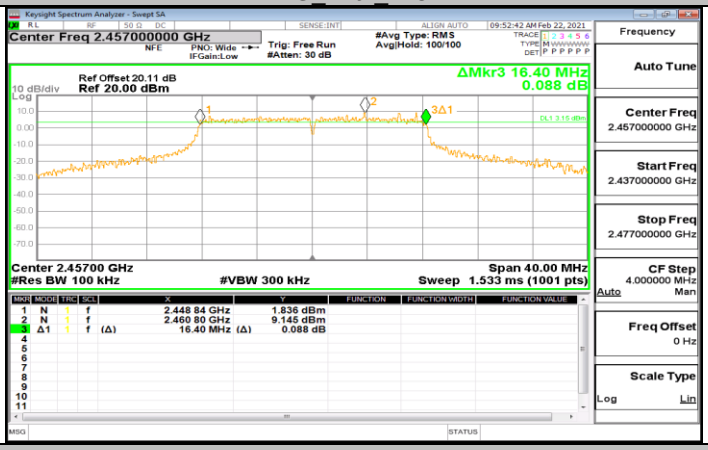
11G_Ant1_2412



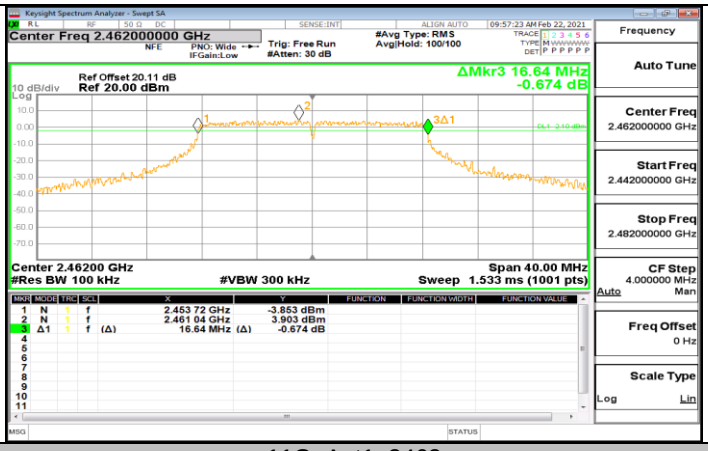
11G_Ant1_2417



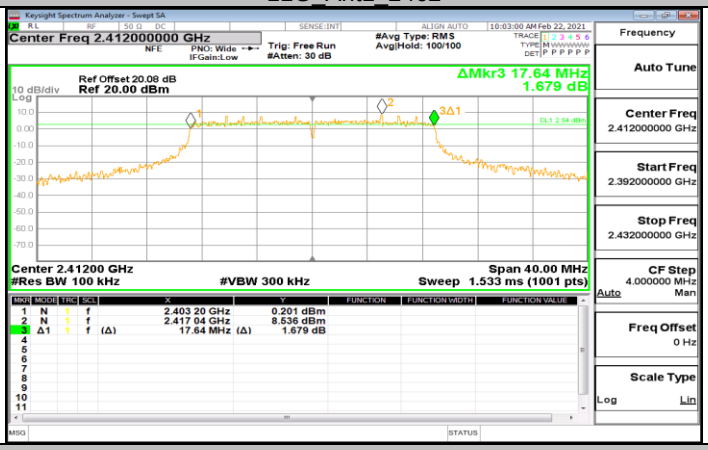
11G_Ant1_2437



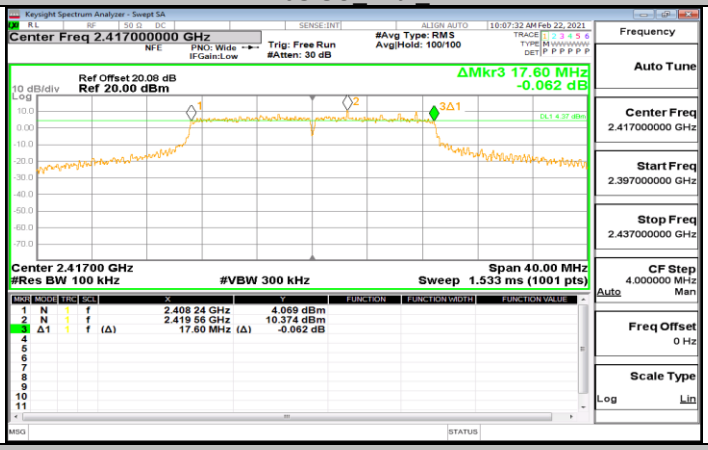
11G_Ant1_2457



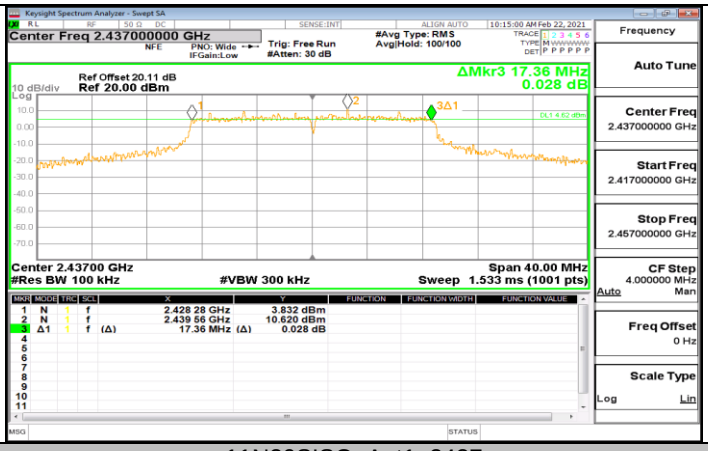
11G_Ant1_2462



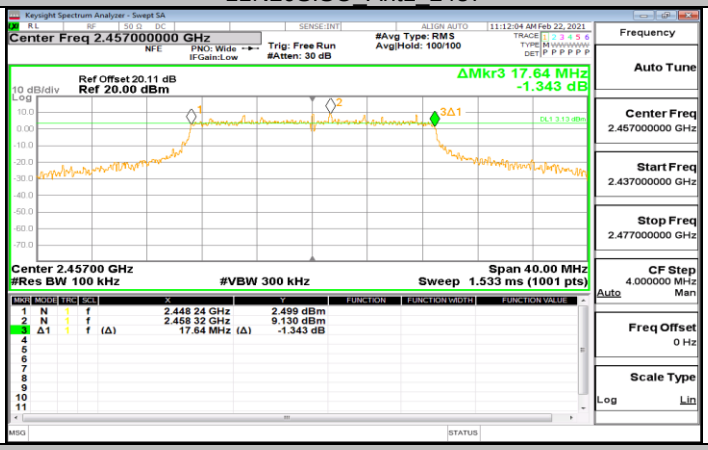
11N20SISO_Ant1_2412



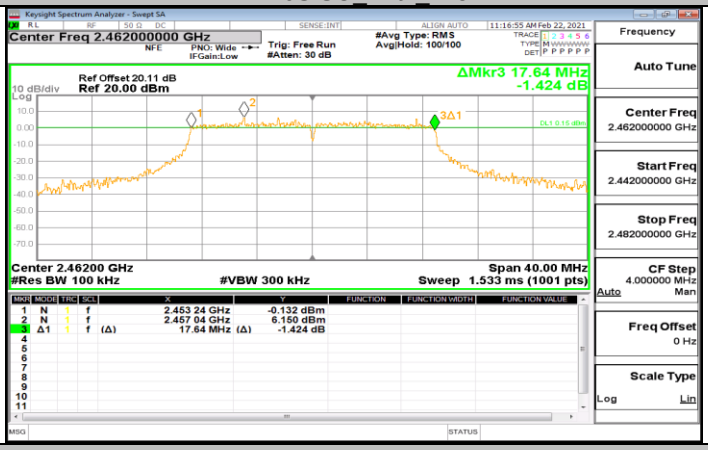
11N20SISO_Ant1_2417



11N20SISO_Ant1_2437



11N20SISO_Ant1_2457



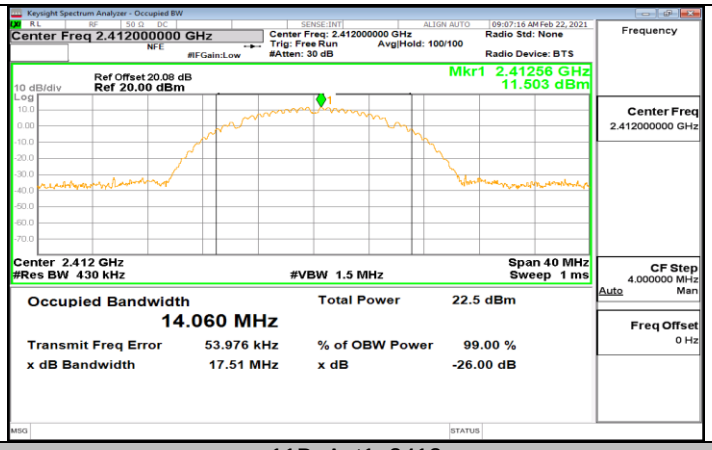
11N20SISO_Ant1_2462

11.2. Appendix B: Occupied Channel Bandwidth

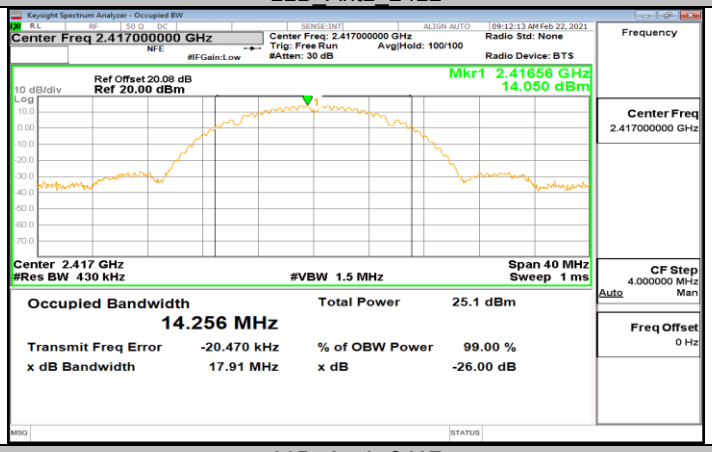
11.2.1. Test Result

Test Mode	Antenna	Channel	OCB [MHz]	FL[MHz]	FH[MHz]	Verdict
11B	Ant1	2412	14.060	2405.024	2419.084	PASS
		2417	14.256	2409.852	2424.108	PASS
		2437	14.105	2429.999	2444.104	PASS
		2457	14.501	2449.704	2464.205	PASS
		2462	14.334	2454.836	2469.170	PASS
11G	Ant1	2412	17.385	2403.402	2420.787	PASS
		2417	18.816	2407.977	2426.793	PASS
		2437	18.545	2427.966	2446.511	PASS
		2457	17.741	2448.307	2466.048	PASS
		2462	17.463	2453.333	2470.796	PASS
11N20SISO	Ant1	2412	18.425	2402.926	2421.351	PASS
		2417	18.895	2407.800	2426.695	PASS
		2437	19.691	2427.591	2447.282	PASS
		2457	18.517	2447.817	2466.334	PASS
		2462	18.215	2452.942	2471.157	PASS

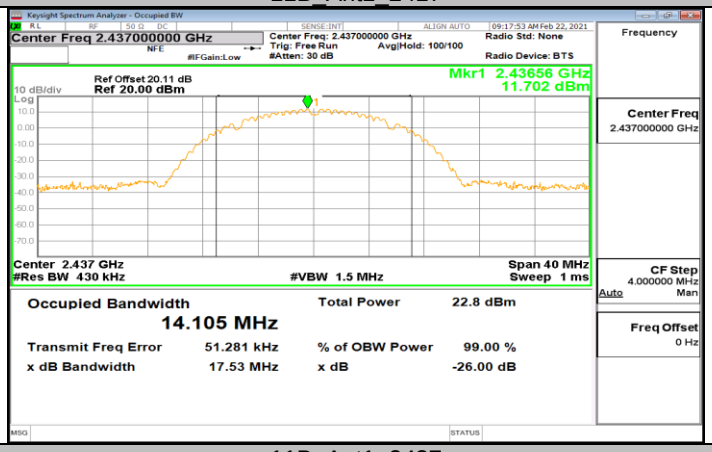
11.2.2. Test Graphs



11B_Ant1_2412



11B_Ant1_2417



11B_Ant1_2437