



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

CERTIFICATION TEST REPORT

For

**IEEE 802.11a/b/g/n/ac 2T2R USB Wi-Fi Module Integrated Bluetooth
2.1+EDR/4.2/5.1**

MODEL NUMBER: SKI.WB663U.2

FCC ID: 2AR82-SKIWB663U21

IC: 24728-SKIWB663U21

REPORT NUMBER: 4790176872-3

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Prepared for

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Revision History

<u>Rev.</u>	<u>Issue Date</u>	<u>Revisions</u>	<u>Revised By</u>
V0	12/09/2021	Initial Issue	

Note: This is a spot check test report. The module had already got the FCC ID/IC, the customer adds three types of antennas. We only added maximum conducted output power, radiated bandedge and spurious emission tests in this report. For Peak Conducted Output Power test item, only spot check the worst case; for Radiated Bandedge and Spurious Emission test item, all the modes had been tested. For more data and information, please refer to the original report 4790010773.1-3.



Summary of Test Results			
Clause	Test Items	FCC/ISED Rules	Test Results
1	Conducted Output Power	FCC Part 15.247 (b) (3) RSS-247 Clause 5.4 (d)	Pass
2	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
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: Guangzhou Shikun Electronics Co., Ltd
Address: NO.6 Liankun Road, Huangpu District, Guangzhou 510530, China

Manufacturer Information

Company Name: Guangzhou Shikun Electronics Co., Ltd
Address: NO.6 Liankun Road, Huangpu District, Guangzhou 510530, China

EUT Information

EUT Name: IEEE 802.11a/b/g/n/ac 2T2R USB Wi-Fi Module Integrated
Bluetooth 2.1+EDR/4.2/5.1
Model: SKI.WB663U.2
Sample Received Date: November 08, 2021
Sample Status: Normal
Sample ID: 4378891
Date of Tested: November 09, 2021~ December 03, 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

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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, KDB 662911 D01 Multiple Transmitter Output v02r01, 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	<p>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.</p> <p>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 Declaration of Conformity (DoC) and Certification rules</p> <p>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.</p> <p>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</p>
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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	IEEE 802.11a/b/g/n/ac 2T2R USB Wi-Fi Module Integrated Bluetooth 2.1+EDR/4.2/5.1
Model Name	SKI.WB663U.2
Radio Technology	IEEE802.11b/g/n HT20/n HT40
Operation frequency	IEEE 802.11b: 2412MHz—2462MHz IEEE 802.11g: 2412MHz—2462MHz IEEE 802.11n HT20: 2412MHz—2462MHz IEEE 802.11n HT40: 2422MHz—2452MHz
Modulation	IEEE 802.11b: DSSS(CCK) IEEE 802.11g: OFDM(64QAM, 16QAM, QPSK, BPSK) IEEE 802.11n HT20: OFDM (64QAM, 16QAM, QPSK,BPSK) IEEE 802.11n HT40: OFDM (64QAM, 16QAM, QPSK,BPSK)
Power Supply	DC 3.3 V

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	/	/

Channel List for 802.11n (40 MHz)							
Channel	Frequency (MHz)	Channel	Frequency (MHz)	Channel	Frequency (MHz)	Channel	Frequency (MHz)
3	2422	5	2432	7	2442	9	2452
4	2427	6	2437	8	2447	/	/

5.3. MAXIMUM OUTPUT POWER

IEEE Std. 802.11	Frequency (MHz)	Channel Number	Maximum Conducted AVG Output Power (dBm)	Maximum AVG EIRP (dBm)
b	2412 ~ 2462	1-11[11]	11.14	12.81
g	2412 ~ 2462	1-11[11]	11.12	12.79
n HT20	2412 ~ 2462	1-11[11]	13.35	15.02
n HT40	2422 ~ 2452	3-9[7]	10.54	12.21

**5.4. TEST CHANNEL CONFIGURATION**

IEEE Std. 802.11	Test Channel Number	Frequency
b	CH 1(Low Channel), CH 6(MID Channel), CH 11(High Channel)	2412 MHz, 2437 MHz, 2462 MHz
g	CH 1(Low Channel), CH 6(MID Channel), CH 11(High Channel)	2412 MHz, 2437 MHz, 2462 MHz
n HT20	CH 1(Low Channel), CH 6(MID Channel), CH 11(High Channel)	2412 MHz, 2437 MHz, 2462 MHz
n HT40	CH 3(Low Channel), CH 6(MID Channel), CH 9(High Channel)	2422 MHz, 2437 MHz, 2452 MHz

5.5. THE WORSE CASE POWER SETTING PARAMETER

The Worst Case Power Setting Parameter under 2400 ~ 2483.5MHz Band										
Test Software		QA Tool								
Modulation Mode	Transmit Antenna Number	Test Channel								
		NCB: 20MHz			NCB: 40MHz					
		CH 1	CH 6	CH 11	CH 3	CH 6	CH 9			
802.11b	1	1A	1A	1A	/					
	2	1A	1A	1A						
802.11g	1	1C	1C	1C						
	2	1C	1C	1C						
802.11n HT20	1	1C	1C	1C						
	2	1C	1C	1C						
802.11n HT40	1	/						16	16	16
	2	/						16	16	16

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 as provided by the client were:

802.11b mode: 1 Mbps

802.11b mode: 6 Mbps

802.11n HT20 mode: MCS0

802.11n HT40 mode: MCS0

The EUT has 2 separate antennas which correspond to 2 separate antenna ports. Core 0 and Core 1 correspond to antenna 0 and antenna 1 respectively.

The measured additional path loss was included in any path loss calculations for all RF cable used during tested.

Conducted output power, power spectral density tests separately on each port with all supported SISO & MIMO port combinations.

Conducted bandedge and spurious emissions tests were performed with SISO mode, as this port was found to have the worst case in terms of power settings amongst all supported possible SISO & MIMO port combinations.

Radiated emissions tests were performed with the MIMO modes. These were found to be the worst modulation scheme with regards to emissions after preliminary investigations and, as this mode emits the highest conducted output power level, it was deemed to be the worst case.

The EUT support Cyclic Shift Diversity(CDD), Space Time Coding(STBC), Spatial Division Multiplexing(SDM) modes. They use the same conducted power per chain in any given mode, so we only chose the worst case mode CDD for final testing.

5.7. DESCRIPTION OF AVAILABLE ANTENNAS

Antenna	Antenna Model	Frequency (MHz)	Antenna Type	Cable Loss(dB)	MAX Antenna Gain without Cable (dBi)	Final Antenna Gain (dBi)
1	INNO-EWFDKT-237	2402-2480	Dipole Antenna	1.5	2.44	0.94
2	A100-0062	2402-2480	Dipole Antenna	1.5	3.17	1.67
3	3D0504BK07-001	2402-2480	Dipole Antenna	1.5	2.97	1.47

Note: 1. $G_{ANT} = G_{ANT} \text{ (without Cable)} - \text{Cable Loss}$;

2. There are three different types of antennas in use. For the Radiated Bandedge and Spurious Emission, all the antennas have been tested, only the worst data for A100-0062 antenna was recorded in the report.

The EUT support Cyclic Shift Diversity(CDD) mode.

MIMO output power port and MIMO PSD port summing were performed in accordance with KDB 662911 D01. For the CDD results the Directional Gain was calculated in accordance with the following method.

For output power measurements:

Directional gain= $G_{ANT} + \text{Array Gain} = 1.67 \text{ dBi}$

G_{ANT} : equal to the gain of the antenna having the highest gain

Array Gain = 0 dB (i.e., no array gain) for $N_{ANT} \leq 4$

For power spectral density (PSD) measurements:

Directional gain= $G_{ANT} + \text{Array Gain} = 4.68 \text{ dBi}$

Array Gain = $10 \log(N_{ANT}/N_{SS}) \text{ dB}$.

N_{ANT} : number of transmit antennas

N_{SS} : number of spatial streams, The worst case directional gain will occur when $N_{SS} = 1$

Test Mode	Transmit and Receive Mode	Description
IEEE 802.11b	☒2TX, 2RX	ANT 1 and ANT 2 can be used as transmitting/receiving antenna.
IEEE 802.11g	☒2TX, 2RX	ANT 1 and ANT 2 can be used as transmitting/receiving antenna.
IEEE 802.11n HT20	☒2TX, 2RX	ANT 1 and ANT 2 can be used as transmitting/receiving antenna.
IEEE 802.11n HT40	☒2TX, 2RX	ANT 1 and ANT 2 can be used as transmitting/receiving antenna.

Note:

1. BT&WLAN 2.4G, BT & WLAN 5G, WLAN 2.4G & WLAN 5G can't transmit simultaneously. (declared by client)

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

5.8. DESCRIPTION OF TEST SETUP

SUPPORT EQUIPMENT

Item	Equipment	Brand Name	Model Name	Remarks
1	Laptop	Dell	Vostro 3902	/
2	Laptop	ThinkPad	E480	/
3	Test fixture	/	/	/
4	Switching Adapter	FLYPOWER	PS65IBCAY5000H	Input: AC 100-240 V, 50/60 Hz, 1.5A Output: DC 12.0 V, 5000 mA

I/O CABLES

Cable No	Port	Connector Type	Cable Type	Cable Length(m)	Remarks
1	USB	USB	Unshielded	1.0	/

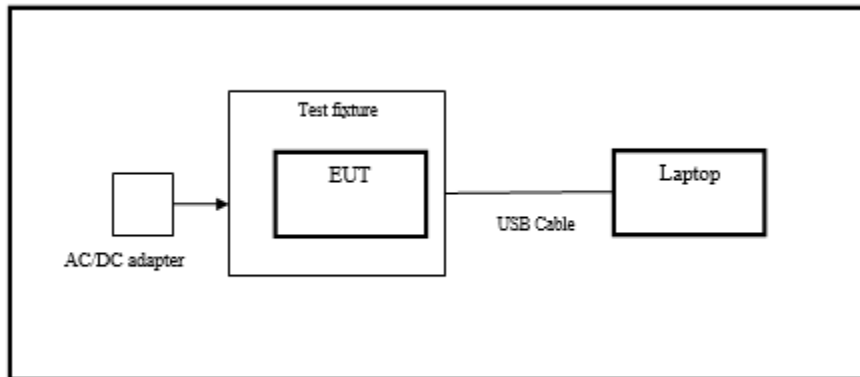
ACCESSORIES

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

TEST SETUP

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

SETUP DIAGRAM FOR TESTS



**6. MEASURING INSTRUMENT AND SOFTWARE USED**

Radiated Emissions					
Equipment	Manufacturer	Model No.	Serial No.	Last Cal.	Due Date
MXE EMI Receiver	KESIGHT	N9038A	MY56400036	Oct. 30, 2021	Oct. 29, 2022
Hybrid Log Periodic Antenna	TDK	HLP-3003C	130959	April 24, 2020	April 23, 2023
Preamplifier	HP	8447D	2944A09099	Oct. 30, 2021	Oct. 29, 2022
EMI Measurement Receiver	R&S	ESR26	101377	Oct. 30, 2021	Oct. 29, 2022
Horn Antenna	TDK	HRN-0118	130940	Jul. 20, 2021	Jul. 19, 2024
Preamplifier	TDK	PA-02-0118	TRS-305-00067	Oct. 31, 2021	Oct. 30, 2022
Horn Antenna	Schwarzbeck	BBHA9170	#697	July 20, 2021	July 19, 2024
Preamplifier	TDK	PA-02-2	TRS-307-00003	Oct.31, 2021	Oct.30, 2022
Preamplifier	TDK	PA-02-3	TRS-308-00002	Oct.31, 2021	Oct.30, 2022
Loop antenna	Schwarzbeck	1519B	00008	Jan.17, 2019	Jan.17,2022
Preamplifier	TDK	PA-02-001-3000	TRS-302-00050	Oct.31, 2021	Oct.30, 2022
Preamplifier	Mini-Circuits	ZX60-83LN-S+	SUP01201941	Oct.31, 2021	Oct.30, 2022
High Pass Filter	Wi	WHKX10-2700-3000-18000-40SS	23	Oct.31, 2021	Oct.30, 2022
Band Reject Filter	Wainwright	WRCJV8-2350-2400-2483.5-2533.5-40SS	4	Oct.31, 2021	Oct.30, 2022
Software					
Description			Manufacturer	Name	Version
Test Software for Radiated Emissions			Farad	EZ-EMC	Ver. UL-3A1

Tonsend RF Test System					
Equipment	Manufacturer	Model No.	Serial No.	Last Cal.	Due. Date
Wideband Radio Communication Tester	R&S	CMW500	155523	Oct.30, 2021	Oct.29, 2022
PXA Signal Analyzer	Keysight	N9030A	MY55410512	Oct.30, 2021	Oct.29, 2022
MXG Vector Signal Generator	Keysight	N5182B	MY56200284	Oct.30, 2021	Oct.29, 2022



MXG Vector Signal Generator	Keysight	N5172B	MY56200301	Oct.30, 2021	Oct.29, 2022
DC power supply	Keysight	E3642A	MY55159130	Oct.30, 2021	Oct.29, 2022
Software					
Description	Manufacturer	Name		Version	
Tonsend SRD Test System	Tonsend	JS1120-3 RF Test System		2.6.77.0518	

Other instruments					
Equipment	Manufacturer	Model No.	Serial No.	Last Cal.	Next Cal.
Power sensor, Power Meter	R&S	OSP120	100921	Mar.23,2021	Mar.22,2022

7. ANTENNA PORT TEST RESULTS

7.1. CONDUCTED OUTPUT POWER

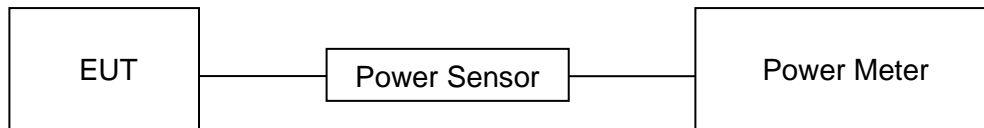
LIMITS

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)	AVG Output Power	1 watt or 30 dBm	2400-2483.5

TEST PROCEDURE

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	26.2 °C	Relative Humidity	55.9 %
Atmosphere Pressure	101 kPa	Test Voltage	DC 3.3 V

RESULTS

Please refer to appendix A.

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	166.52475 - 166.52525	9.3 - 9.5
2.1735 - 2.1905	166.7 - 166.9	10.6 - 12.7
3.020 - 3.028	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	1045.5 - 1646.5	Above 38.6
8.362 - 8.366	1060 - 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):

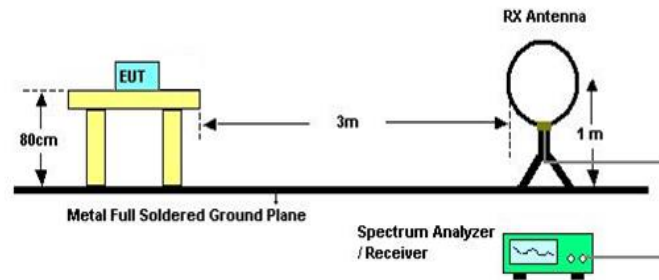
MHz	MHz	MHz	GHz
0.090-0.110	16.42-16.423	399.9-410	4.5-5.15
¹ 0.495-0.505	16.69475-16.69525	608-614	5.35-5.46
2.1735-2.1905	16.80425-16.80475	960-1240	7.25-7.75
4.125-4.128	25.5-25.67	1300-1427	8.025-8.5
4.17725-4.17775	37.5-38.25	1435-1626.5	9.0-9.2
4.20725-4.20775	73-74.6	1645.5-1646.5	9.3-9.5
6.215-6.218	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: ¹Until February 1, 1999, this restricted band shall be 0.490-0.510 MHz.

²Above 38.6c

TEST SETUP AND PROCEDURE

Below 30 MHz

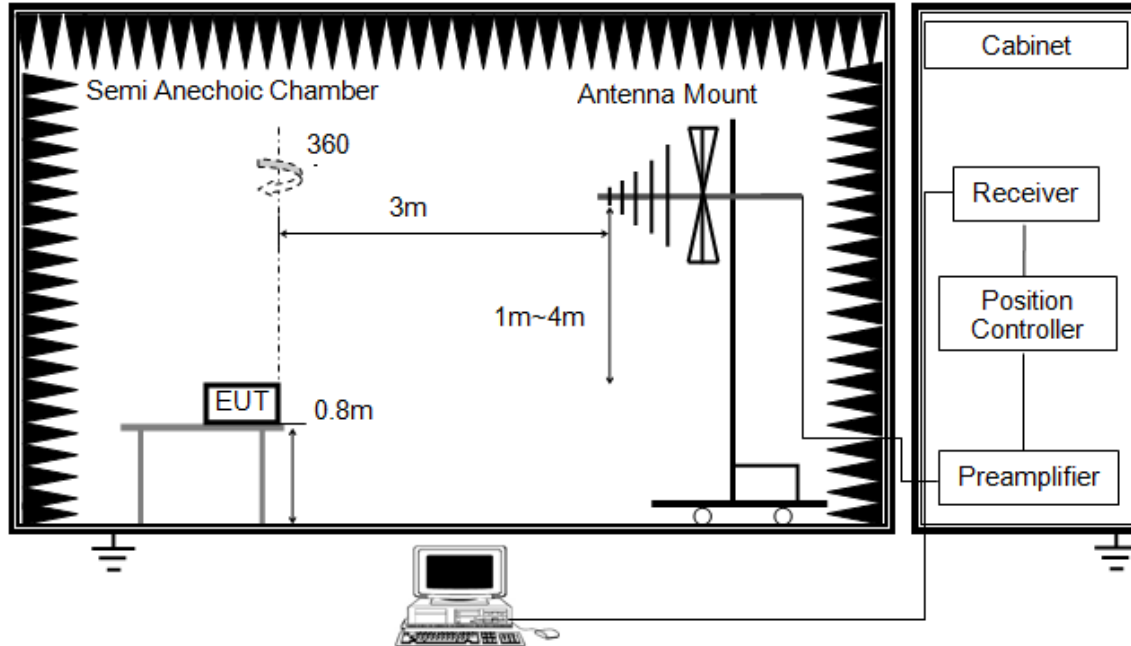


The setting of the spectrum analyser

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

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 80 cm 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 30m 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.
8. The limits in CFR 47, Part 15, Subpart C, paragraph 15.209 (a), are identical to those in RSS-GEN Section 8.9, Table 6, since the measurements are performed in terms of magnetic field strength and converted to electric field strength levels (as reported in the table) using the free space impedance of 377Ω. For example, the measurement frequency X KHz resulted in a level of Y dBuV/m, which is equivalent to $Y-51.5 = Z$ dBuA/m, which has the same margin, W dB, to the corresponding RSS-GEN Table 6 limit as it has to be 15.209(a) limit.

Below 1 GHz and above 30 MHz

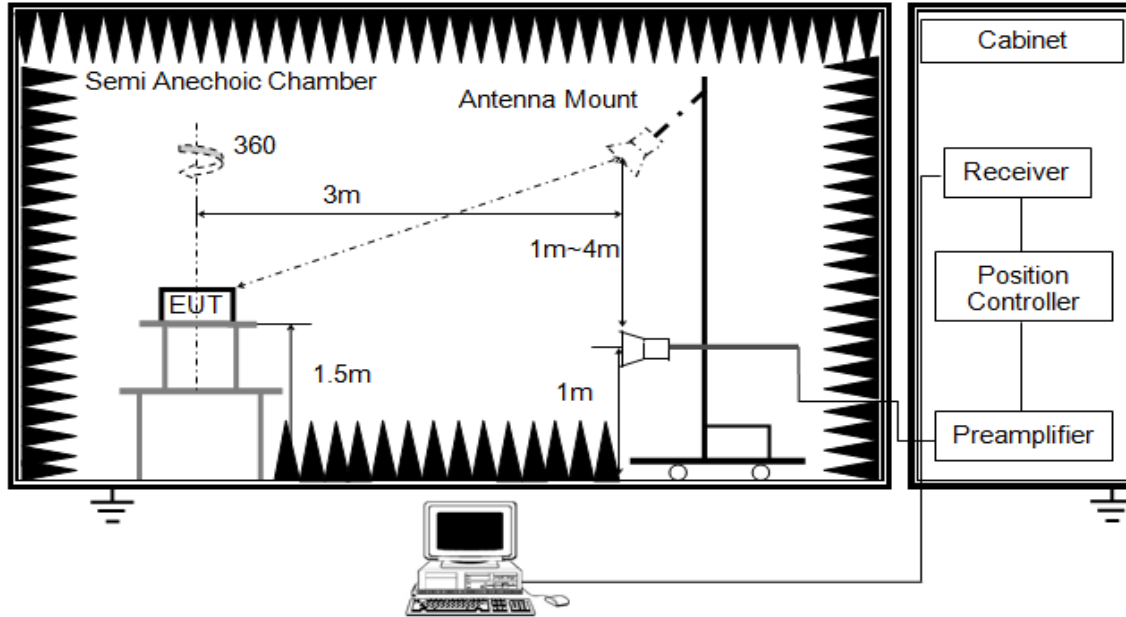


The setting of the spectrum analyser

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

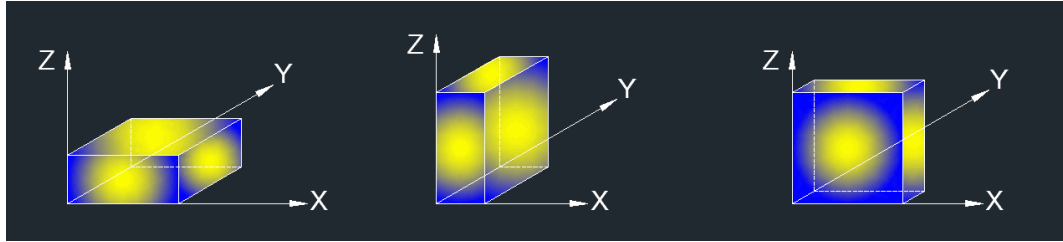


The setting of the spectrum analyser

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

TEST ENVIRONMENT

Temperature	22.5 °C	Relative Humidity	48 %
Atmosphere Pressure	101 kPa	Test Voltage	DC 3.3 V

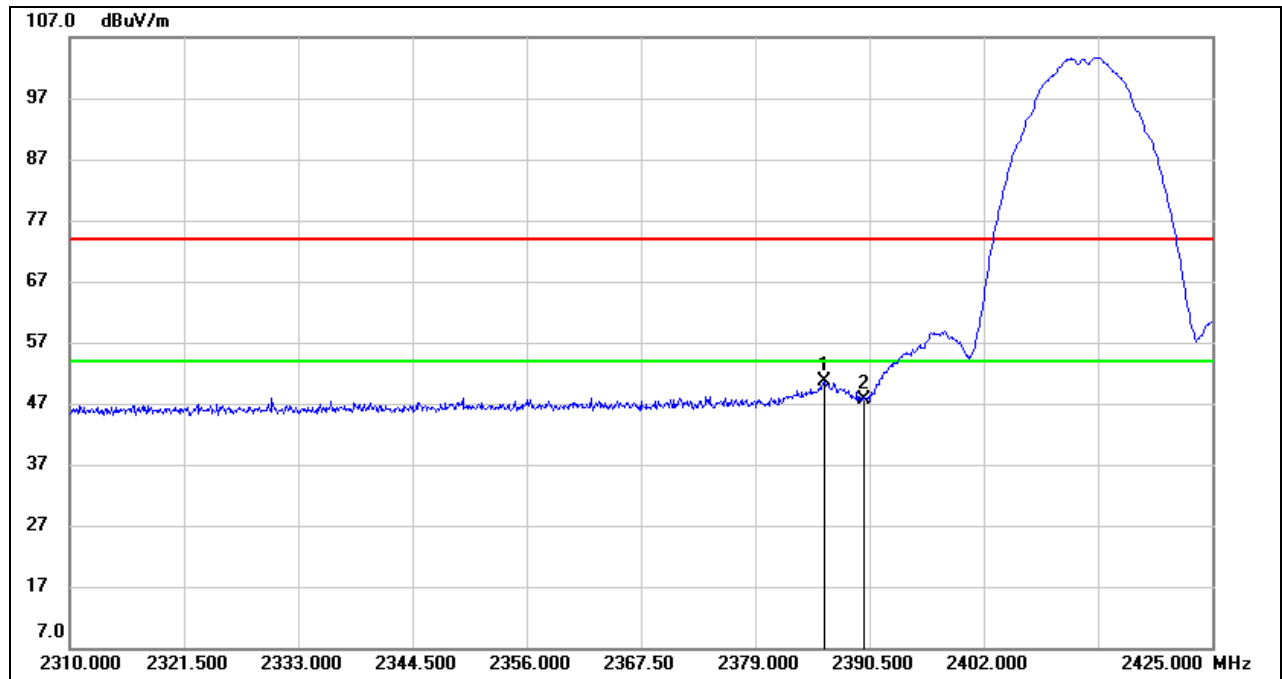
RESULTS

8.1. RESTRICTED BANDEDGE

8.1.1. 802.11b SISO MODE

RESTRICTED BANDEDGE (LOW CHANNEL, HORIZONTAL)

PEAK



No.	Frequency (MHz)	Reading (dBuV)	Correct (dB/m)	Result (dBuV/m)	Limit (dBuV/m)	Margin (dB)	Remark
1	2386.015	17.93	32.63	50.56	74.00	-23.44	peak
2	2390.000	15.09	32.66	47.75	74.00	-26.25	peak

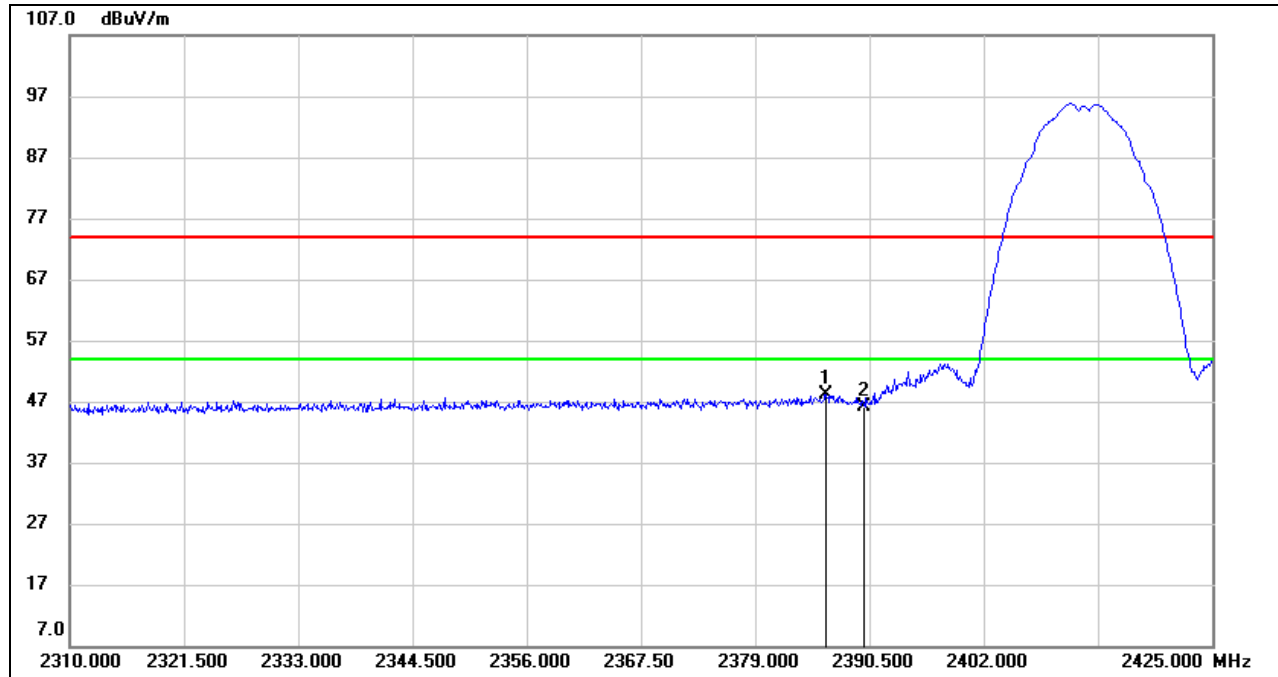
Note: 1. Measurement = Reading Level + Correct Factor.

2. Peak: Peak detector.

3. Only the worst data was recorded, if it complies with the limit, the other emissions deemed to comply with the limit.

RESTRICTED BANDEDGE (LOW CHANNEL, VERTICAL)

PEAK

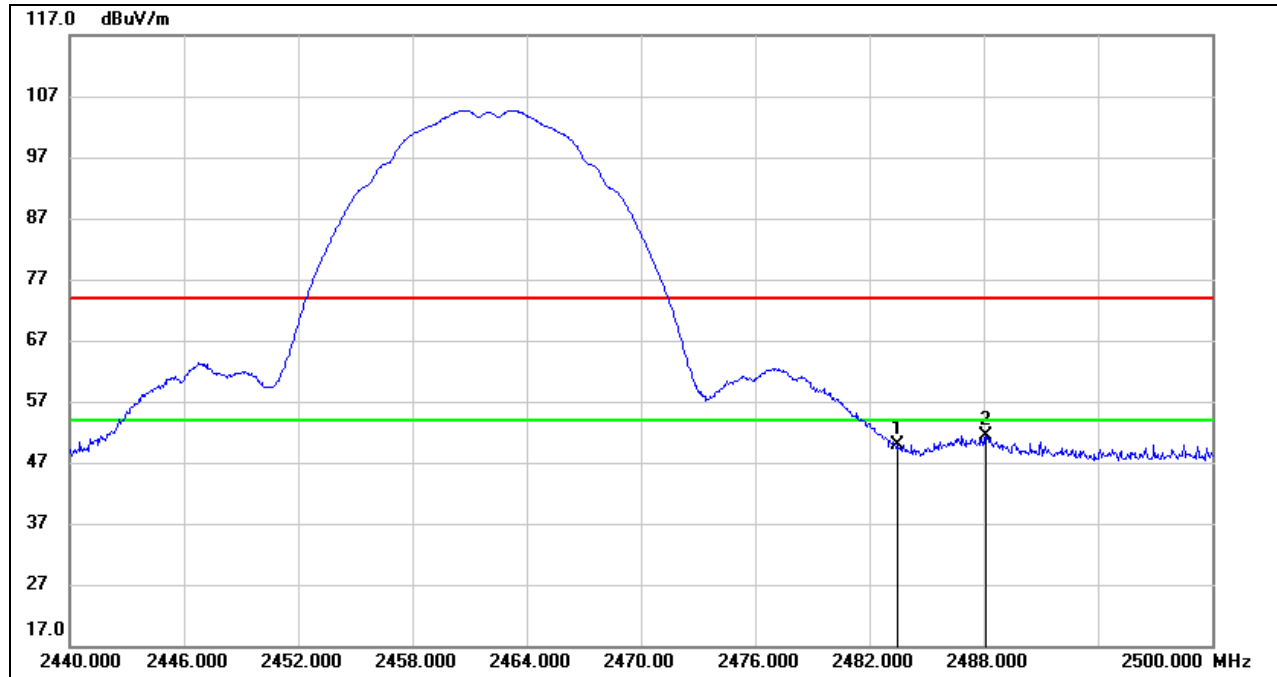


No.	Frequency (MHz)	Reading (dBuV)	Correct (dB/m)	Result (dBuV/m)	Limit (dBuV/m)	Margin (dB)	Remark
1	2386.130	15.56	32.63	48.19	74.00	-25.81	peak
2	2390.000	13.51	32.66	46.17	74.00	-27.83	peak

Note: 1. Measurement = Reading Level + Correct Factor.
 2. Peak: Peak detector.
 3. Only the worst data was recorded, if it complies with the limit, the other emissions deemed to comply with the limit.

RESTRICTED BANDEDGE (HIGH CHANNEL, HORIZONTAL)

PEAK

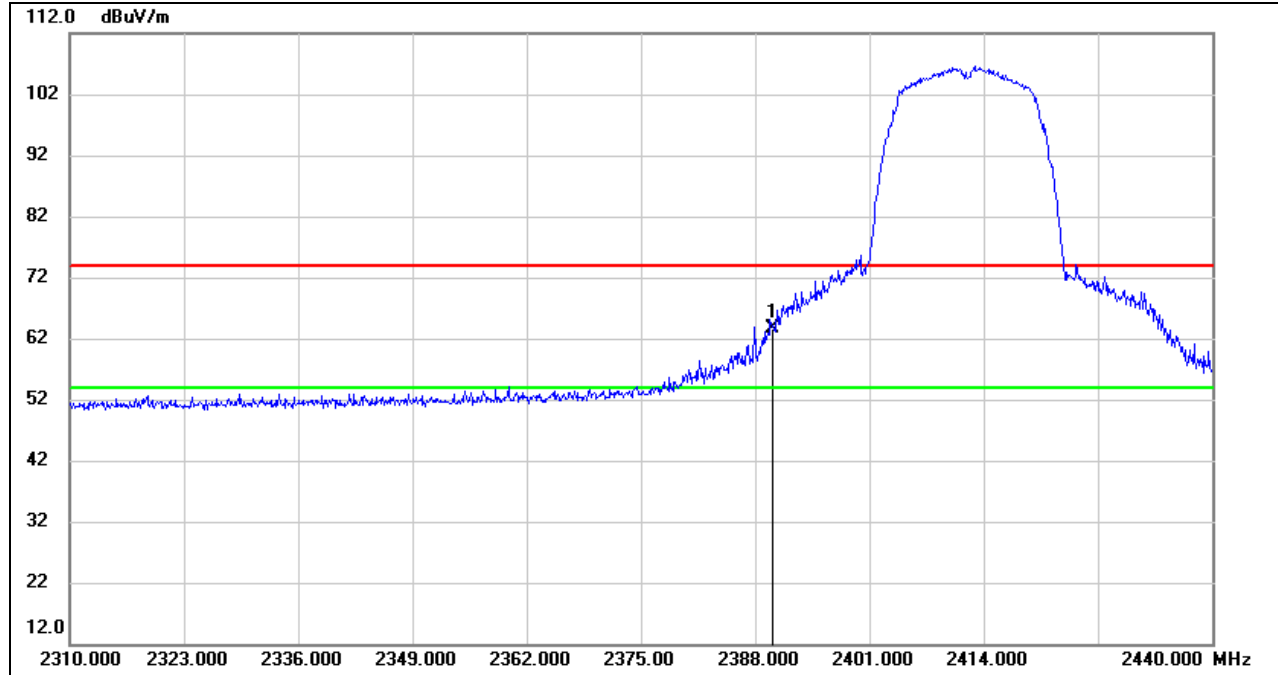


No.	Frequency (MHz)	Reading (dBuV)	Correct (dB/m)	Result (dBuV/m)	Limit (dBuV/m)	Margin (dB)	Remark
1	2483.500	16.82	33.10	49.92	74.00	-24.08	peak
2	2488.120	18.37	33.11	51.48	74.00	-22.52	peak

Note: 1. Measurement = Reading Level + Correct Factor.
 2. Peak: Peak detector.
 3. Only the worst data was recorded, if it complies with the limit, the other emissions deemed to comply with the limit.

Note: Horizontal and Vertical have been tested, only the worst data was recorded in the report.
 Note: Both antennas have been tested, only the worst data was recorded in the report.

8.1.2. 802.11g SISO MODE
ANTENNA 1 TEST RESULTS (WORST CASE)
RESTRICTED BANDEDGE (LOW CHANNEL, HORIZONTAL)
PEAK

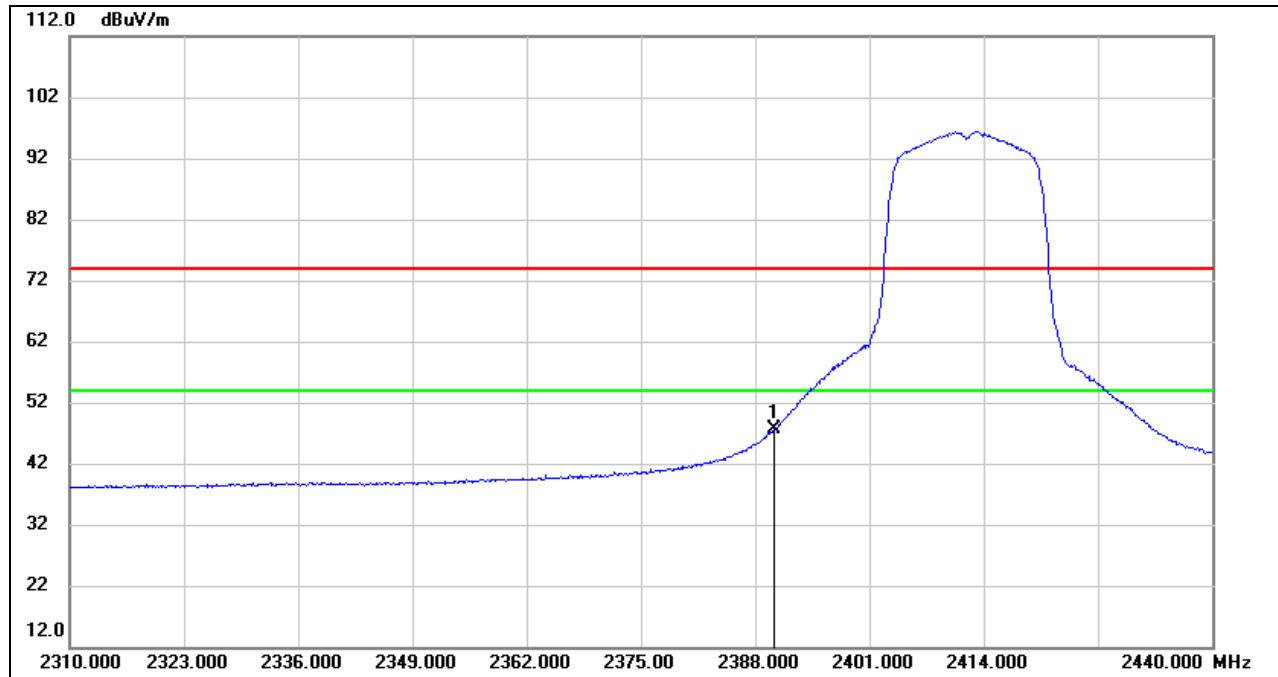


No.	Frequency (MHz)	Reading (dBuV)	Correct (dB/m)	Result (dBuV/m)	Limit (dBuV/m)	Margin (dB)	Remark
1	2390.000	30.92	32.66	63.58	74.00	-10.42	peak

Note: 1. Measurement = Reading Level + Correct Factor.
 2. Peak: Peak detector.
 3. Only the worst data was recorded, if it complies with the limit, the other emissions deemed to comply with the limit.



AVG



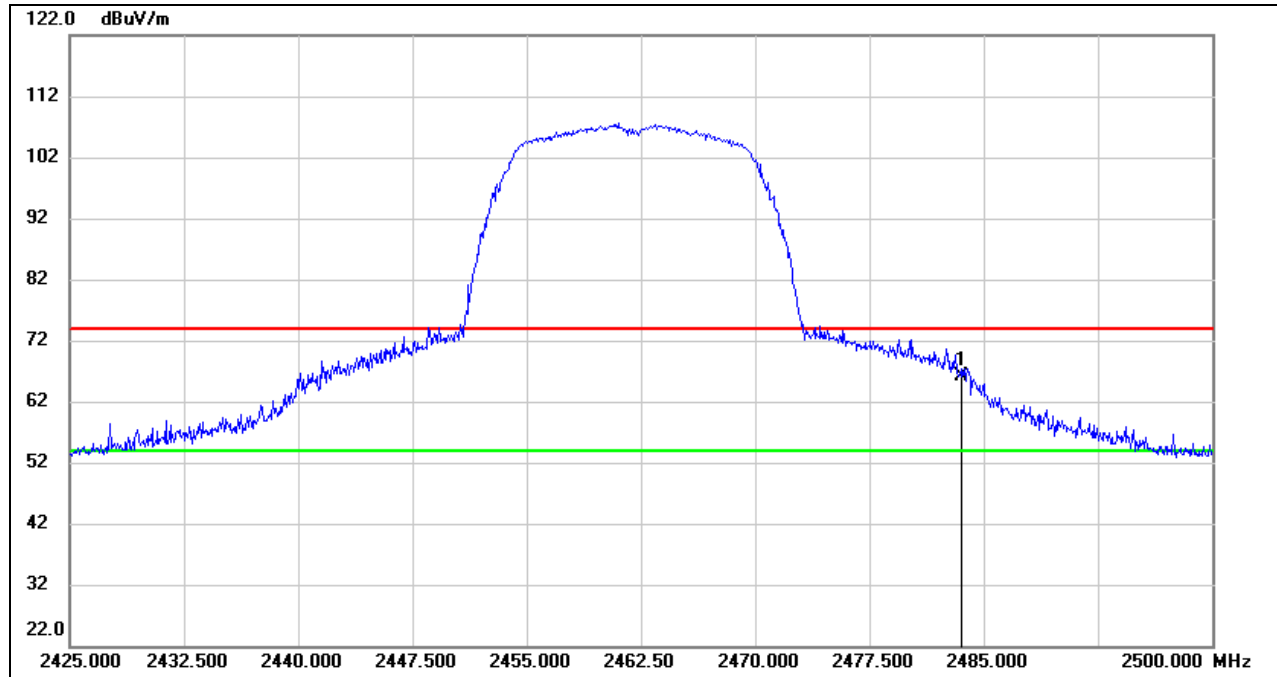
No.	Frequency (MHz)	Reading (dBuV)	Correct (dB/m)	Result (dBuV/m)	Limit (dBuV/m)	Margin (dB)	Remark
1	2390.000	15.07	32.66	47.73	54.00	-6.27	AVG

- Note:
1. Measurement = Reading Level + Correct Factor.
 2. AVG: $VBW=1/T_{on}$, where: T_{on} is the transmitting duration.
 3. For the transmitting duration, please refer to clause 7.1.
 4. Only the worst data was recorded, if it complies with the limit, the other emissions deemed to comply with the limit.



RESTRICTED BANDEDGE (HIGH CHANNEL, HORIZONTAL)

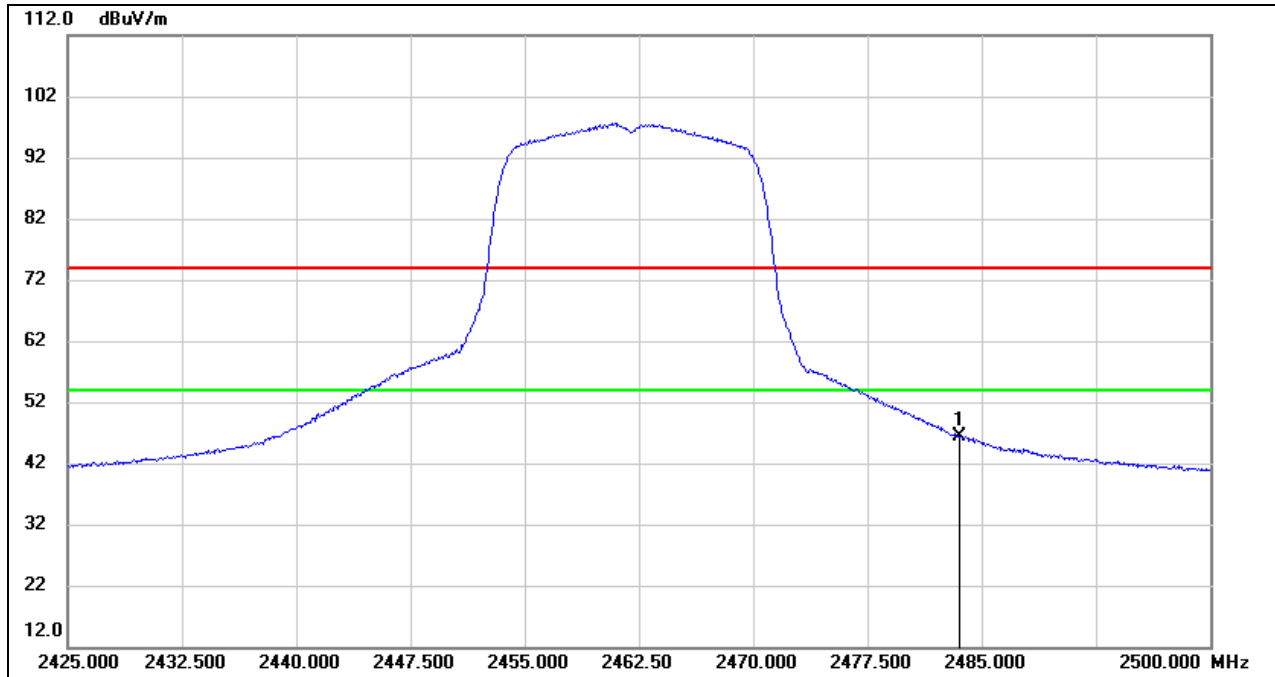
PEAK



No.	Frequency (MHz)	Reading (dBuV)	Correct (dB/m)	Result (dBuV/m)	Limit (dBuV/m)	Margin (dB)	Remark
1	2483.500	32.94	33.10	66.04	74.00	-7.96	peak

- Note: 1. Measurement = Reading Level + Correct Factor.
 2. Peak: Peak detector.
 3. Only the worst data was recorded, if it complies with the limit, the other emissions deemed to comply with the limit.

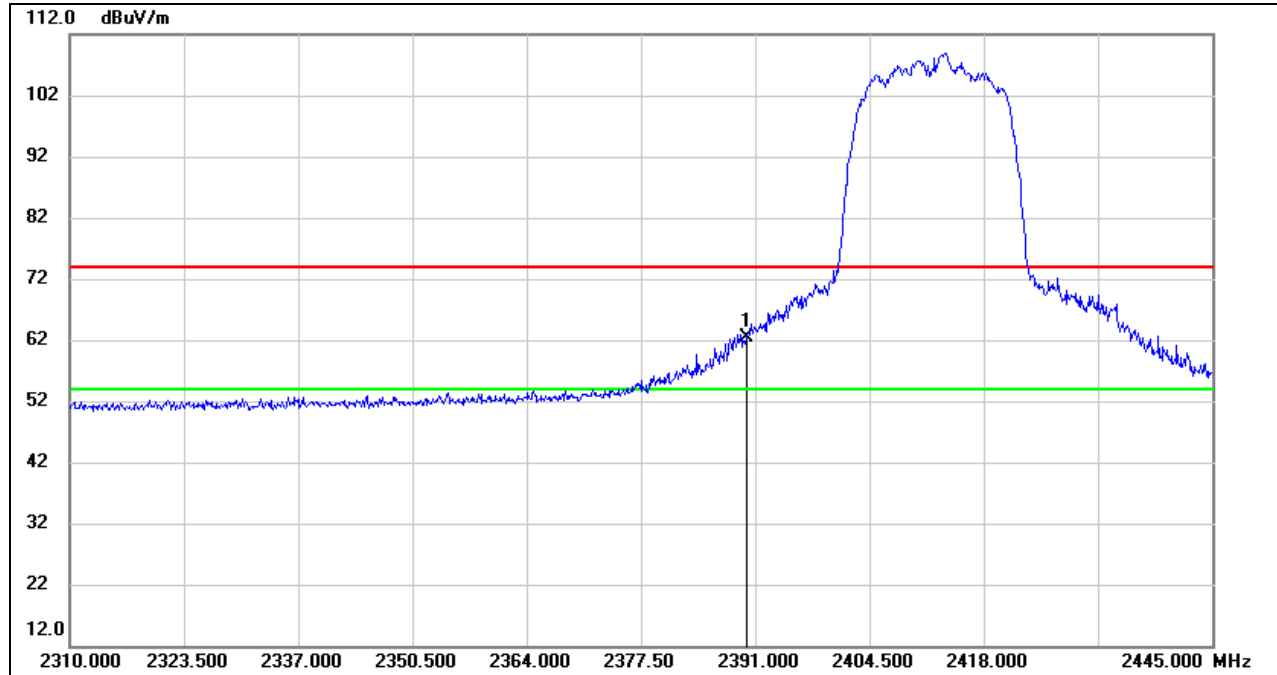
AVG



No.	Frequency (MHz)	Reading (dBuV)	Correct (dB/m)	Result (dBuV/m)	Limit (dBuV/m)	Margin (dB)	Remark
1	2483.500	13.29	33.10	46.39	54.00	-7.61	AVG

- Note: 1. Measurement = Reading Level + Correct Factor.
 2. AVG: $VBW=1/T_{on}$, where: T_{on} is the transmitting duration.
 3. For the transmitting duration, please refer to clause 7.1.
 4. Only the worst data was recorded, if it complies with the limit, the other emissions deemed to comply with the limit.

Note: Horizontal and Vertical have been tested, only the worst data was recorded in the report.
 Note: Both antennas have been tested, only the worst data was recorded in the report.

8.1.3. 802.11n HT20 MIMO MODE
RESTRICTED BANDEDGE (LOW CHANNEL, HORIZONTAL)
PEAK


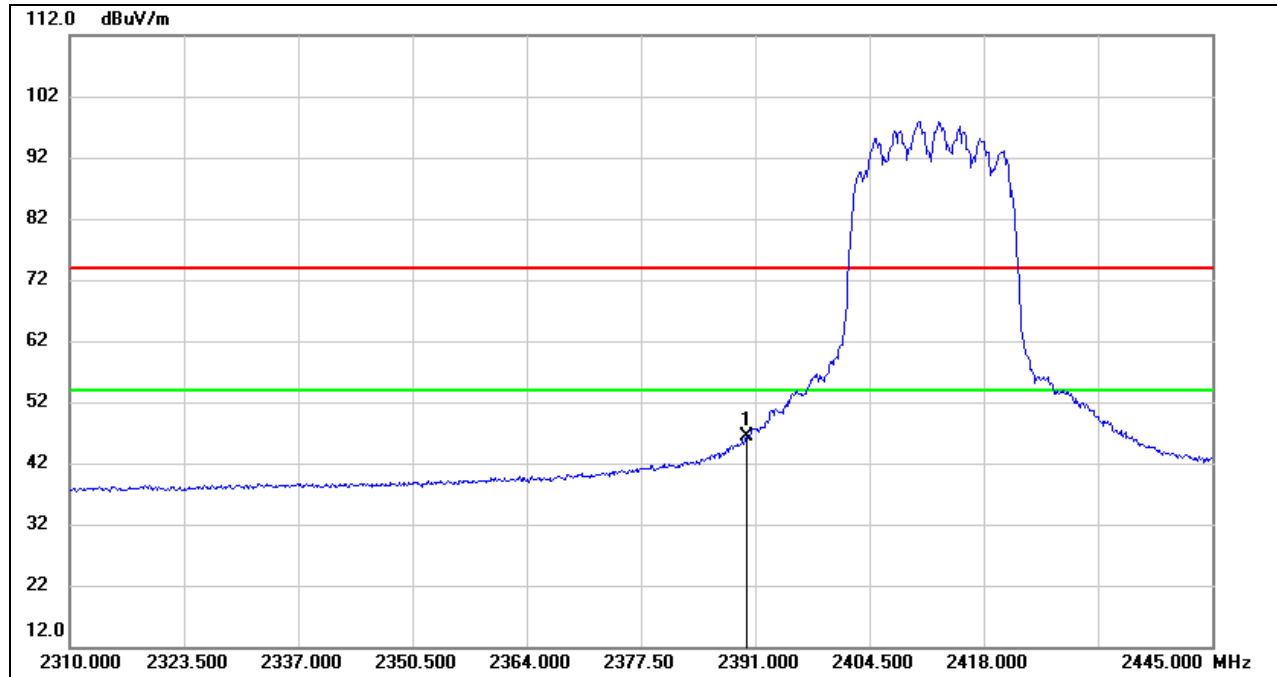
No.	Frequency (MHz)	Reading (dBuV)	Correct (dB/m)	Result (dBuV/m)	Limit (dBuV/m)	Margin (dB)	Remark
1	2390.000	29.74	32.66	62.40	74.00	-11.60	peak

Note: 1. Measurement = Reading Level + Correct Factor.

2. Peak: Peak detector.

3. Only the worst data was recorded, if it complies with the limit, the other emissions deemed to comply with the limit.

AVG

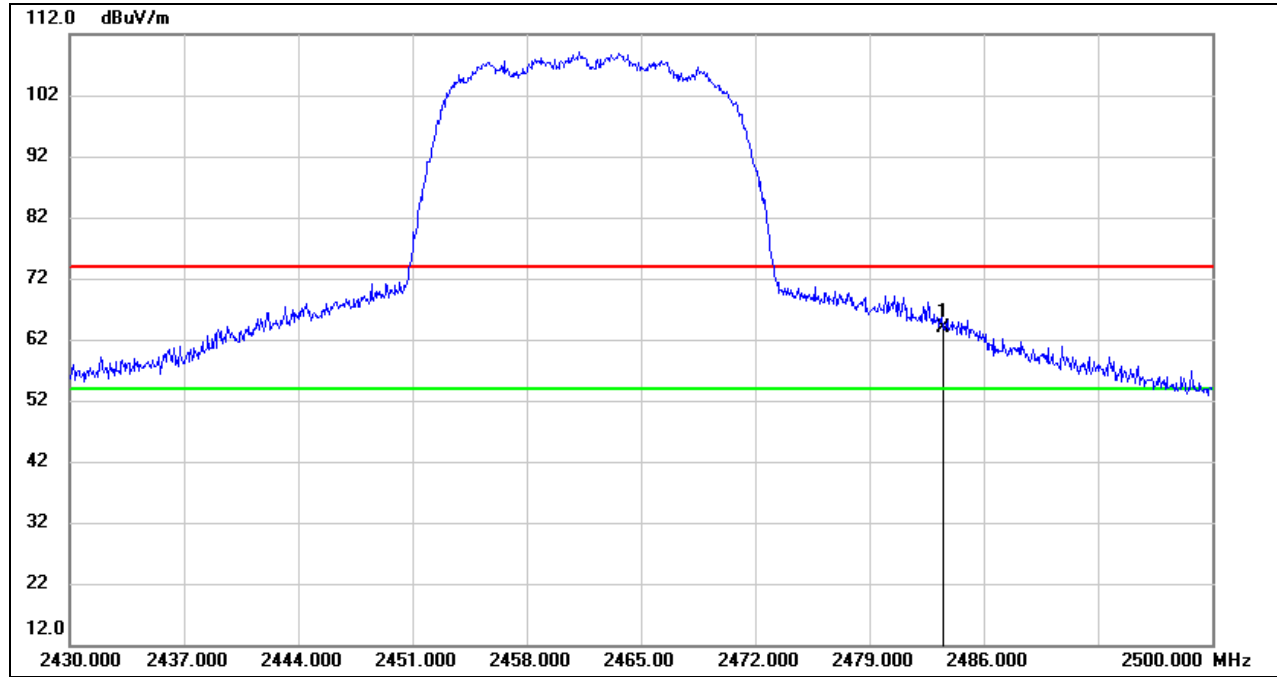


No.	Frequency (MHz)	Reading (dBuV)	Correct (dB/m)	Result (dBuV/m)	Limit (dBuV/m)	Margin (dB)	Remark
1	2390.000	13.78	32.66	46.44	54.00	-7.56	AVG

- Note:
1. Measurement = Reading Level + Correct Factor.
 2. AVG: $VBW=1/Ton$, where: Ton is the transmitting duration.
 3. For the transmitting duration, please refer to clause 7.1.
 4. Only the worst data was recorded, if it complies with the limit, the other emissions deemed to comply with the limit.

RESTRICTED BANDEDGE (HIGH CHANNEL, HORIZONTAL)

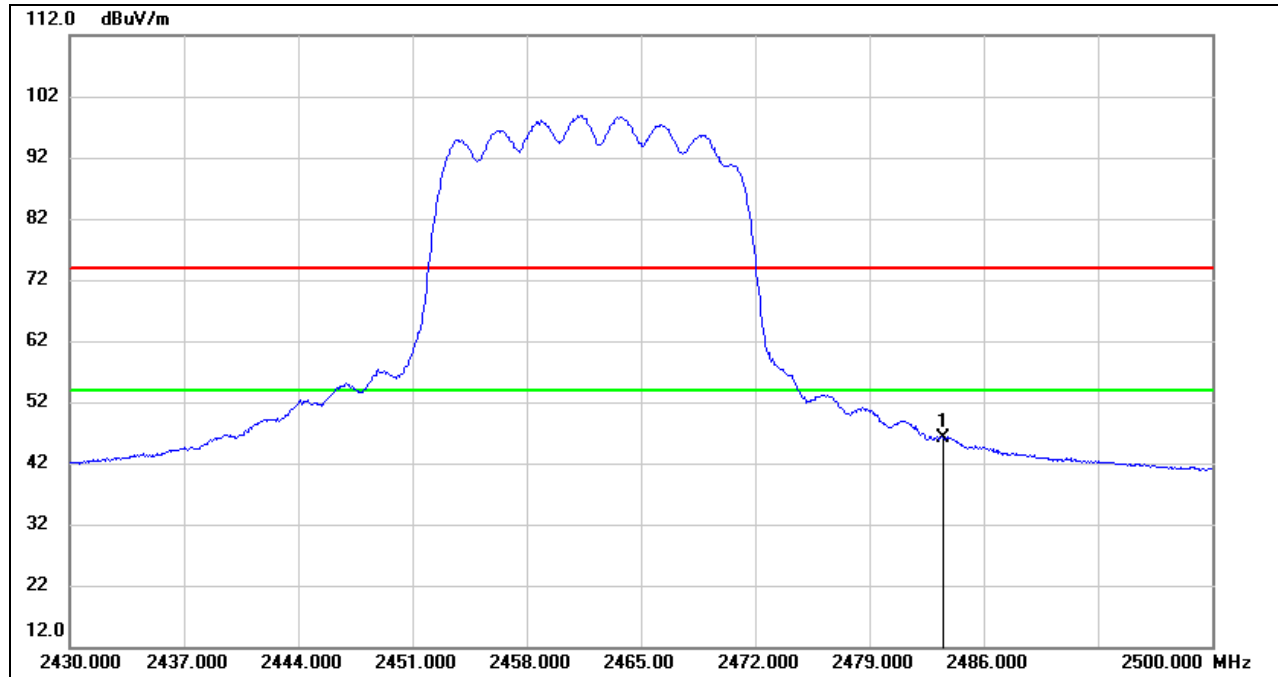
PEAK



No.	Frequency (MHz)	Reading (dBuV)	Correct (dB/m)	Result (dBuV/m)	Limit (dBuV/m)	Margin (dB)	Remark
1	2483.500	30.74	33.10	63.84	74.00	-10.16	peak

Note: 1. Measurement = Reading Level + Correct Factor.
 2. Peak: Peak detector.
 3. Only the worst data was recorded, if it complies with the limit, the other emissions deemed to comply with the limit.

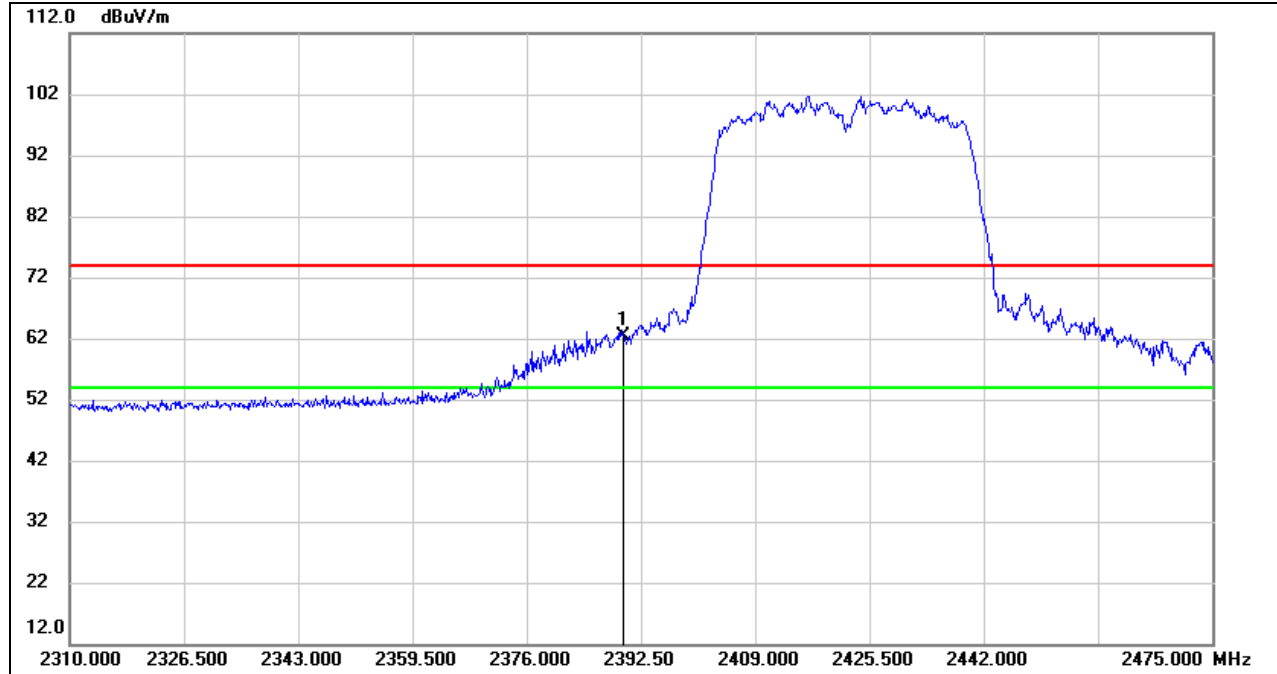
AVG



No.	Frequency (MHz)	Reading (dBuV)	Correct (dB/m)	Result (dBuV/m)	Limit (dBuV/m)	Margin (dB)	Remark
1	2483.500	12.97	33.10	46.07	54.00	-7.93	AVG

- Note: 1. Measurement = Reading Level + Correct Factor.
 2. AVG: $VBW=1/Ton$, where: Ton is the transmitting duration.
 3. For the transmitting duration, please refer to clause 7.1.
 4. Only the worst data was recorded, if it complies with the limit, the other emissions deemed to comply with the limit.

Note: Horizontal and Vertical have been tested, only the worst data was recorded in the report.
 Note: All modes have been tested, only the worst data was recorded in the report.

8.1.4. 802.11n HT40 MIMO MODE
RESTRICTED BANDEDGE (LOW CHANNEL, HORIZONTAL)
PEAK


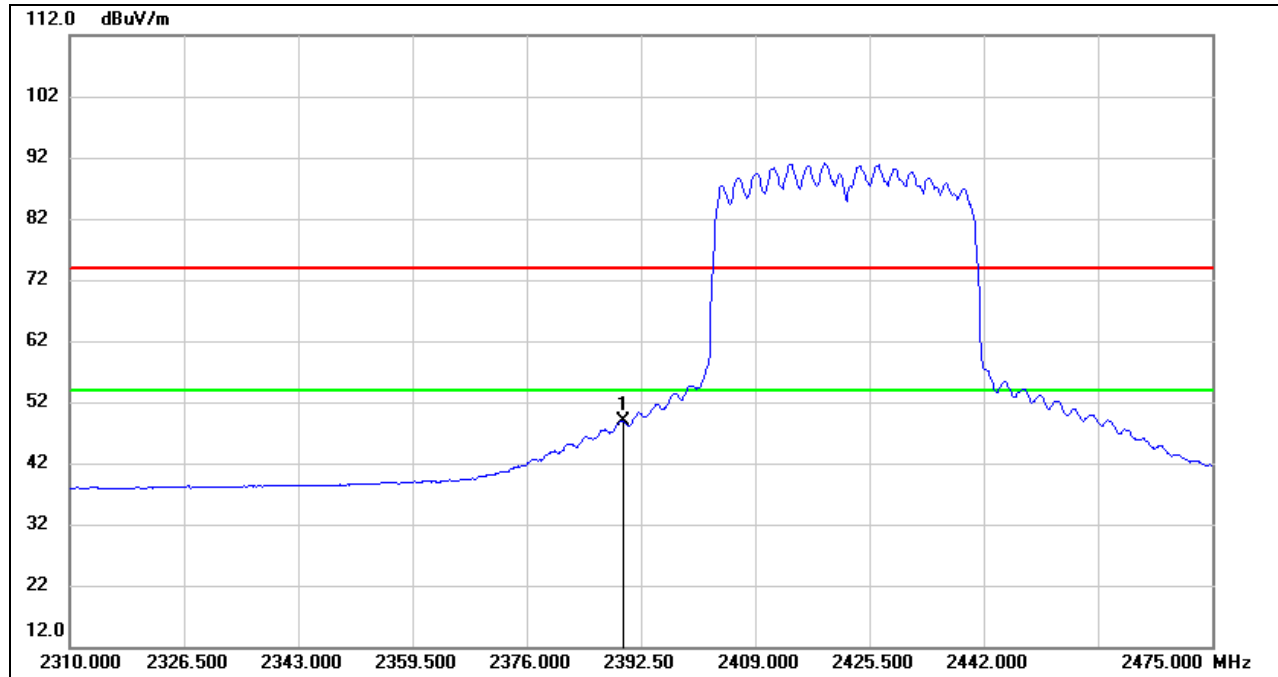
No.	Frequency (MHz)	Reading (dBuV)	Correct (dB/m)	Result (dBuV/m)	Limit (dBuV/m)	Margin (dB)	Remark
1	2390.000	29.67	32.66	62.33	74.00	-11.67	peak

Note: 1. Measurement = Reading Level + Correct Factor.

2. Peak: Peak detector.

3. Only the worst data was recorded, if it complies with the limit, the other emissions deemed to comply with the limit.

AVG

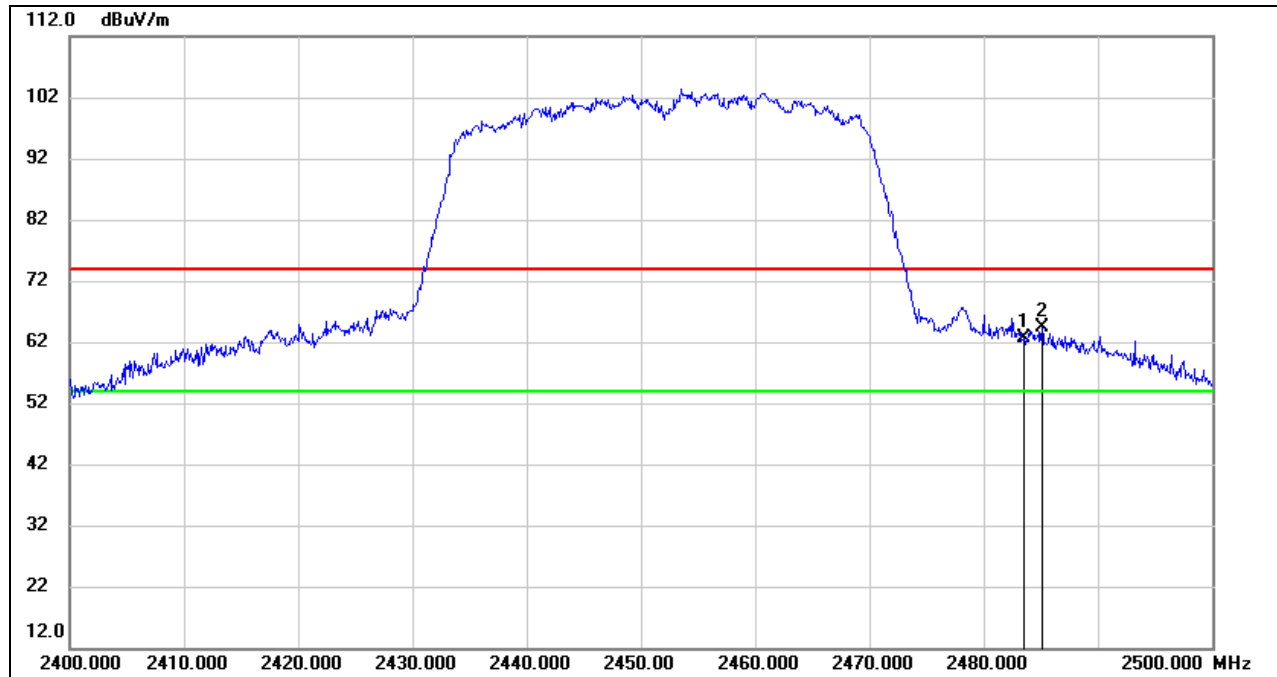


No.	Frequency (MHz)	Reading (dBuV)	Correct (dB/m)	Result (dBuV/m)	Limit (dBuV/m)	Margin (dB)	Remark
1	2390.000	16.12	32.66	48.78	54.00	-5.22	AVG

- Note:
1. Measurement = Reading Level + Correct Factor.
 2. AVG: $VBW=1/Ton$, where: Ton is the transmitting duration.
 3. For the transmitting duration, please refer to clause 7.1.
 4. Only the worst data was recorded, if it complies with the limit, the other emissions deemed to comply with the limit.

RESTRICTED BANDEDGE (HIGH CHANNEL, HORIZONTAL)

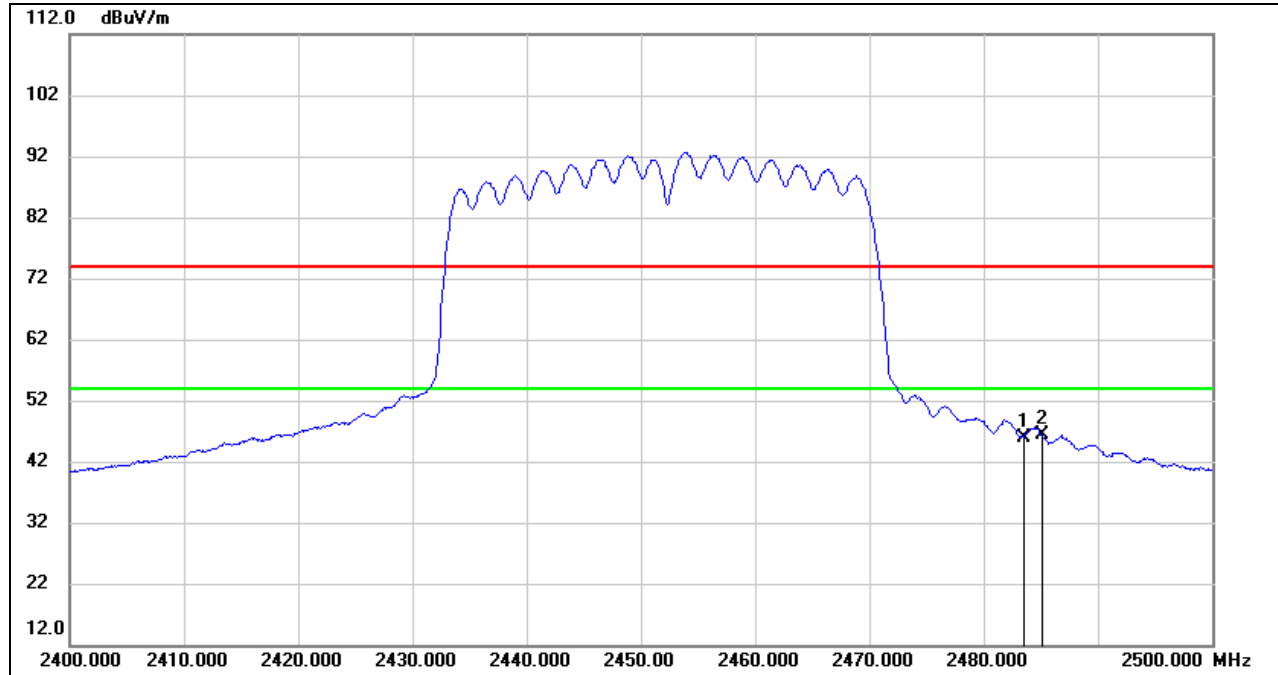
PEAK



No.	Frequency (MHz)	Reading (dBuV)	Correct (dB/m)	Result (dBuV/m)	Limit (dBuV/m)	Margin (dB)	Remark
1	2483.500	29.41	33.10	62.51	74.00	-11.49	peak
2	2485.100	31.16	33.10	64.26	74.00	-9.74	peak

Note: 1. Measurement = Reading Level + Correct Factor.
 2. Peak: Peak detector.
 3. Only the worst data 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	12.90	33.10	46.00	54.00	-8.00	AVG
2	2485.100	13.25	33.10	46.35	54.00	-7.65	AVG

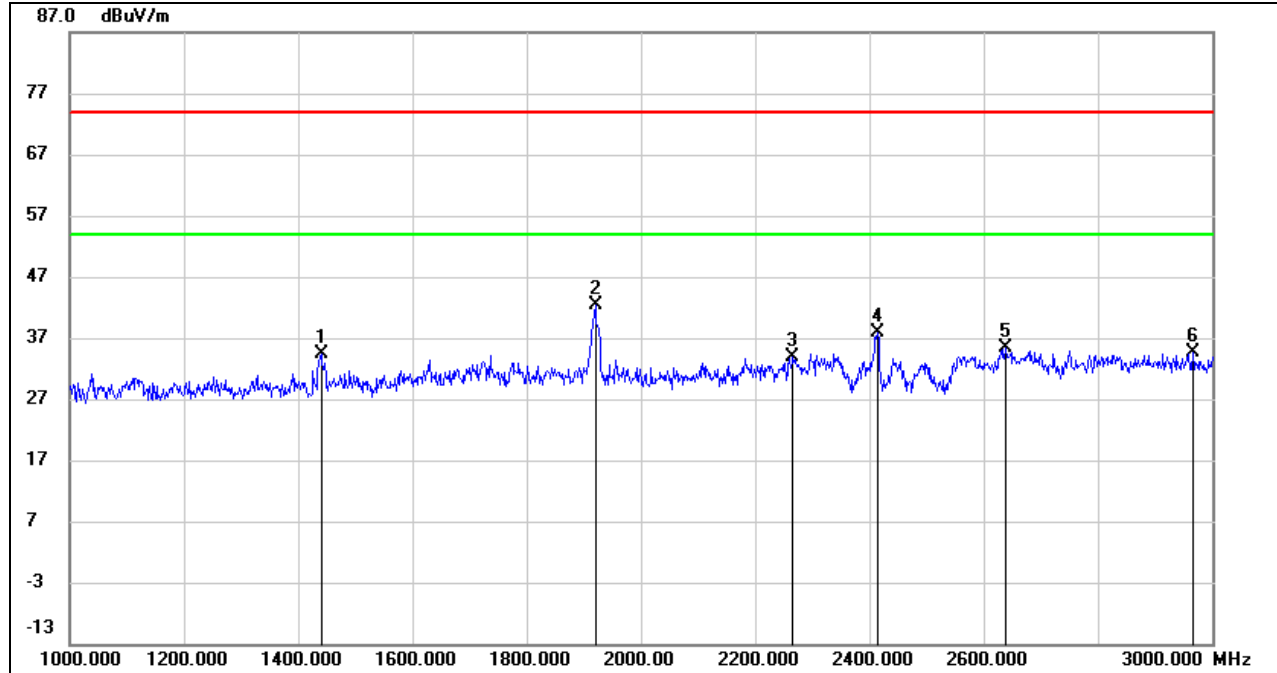
- Note: 1. Measurement = Reading Level + Correct Factor.
 2. AVG: $VBW=1/Ton$, where: Ton is the transmitting duration.
 3. For the transmitting duration, please refer to clause 7.1.
 4. Only the worst data was recorded, if it complies with the limit, the other emissions deemed to comply with the limit.

Note: Horizontal and Vertical have been tested, only the worst data was recorded in the report.
 Note: All modes have been tested, only the worst data was recorded in the report.

8.2. SPURIOUS EMISSIONS (1 GHz ~ 3 GHz)

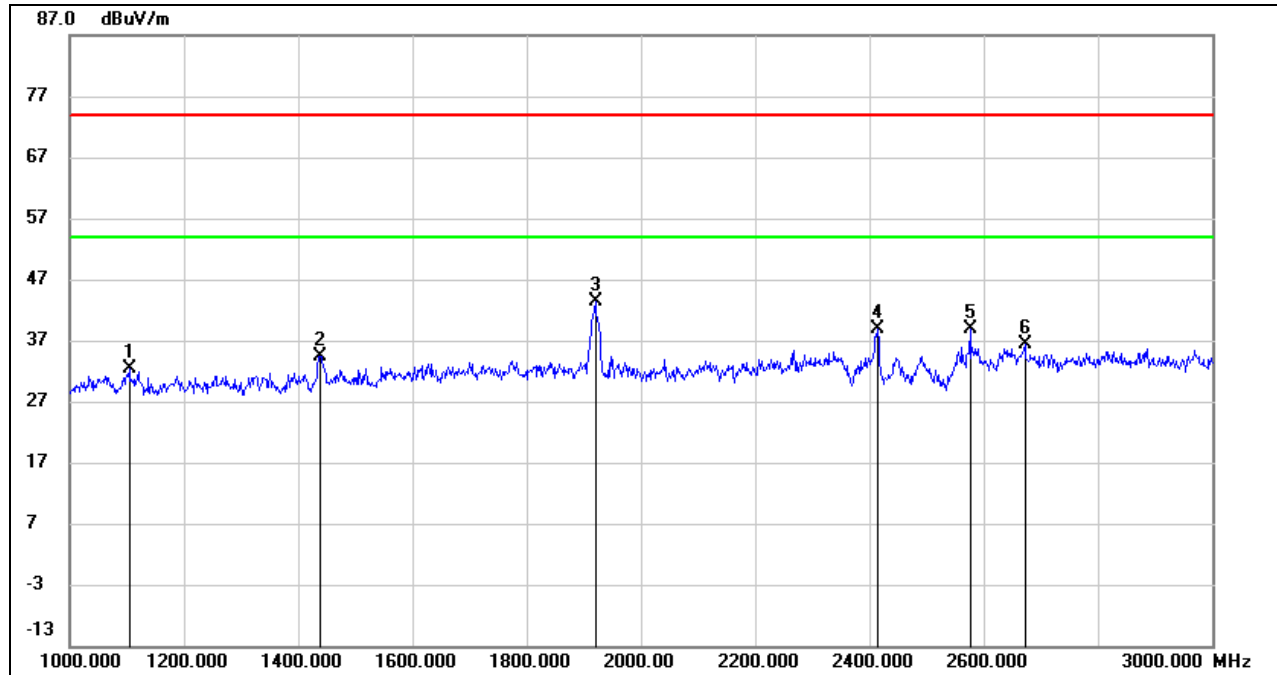
8.2.1. 802.11b SISO MODE

HARMONICS AND SPURIOUS EMISSIONS (LOW CHANNEL, HORIZONTAL)



No.	Frequency (MHz)	Reading (dBuV)	Correct (dB/m)	Result (dBuV/m)	Limit (dBuV/m)	Margin (dB)	Remark
1	1440.000	47.20	-12.90	34.30	74.00	-39.70	peak
2	1920.000	53.39	-11.02	42.37	74.00	-31.63	peak
3	2267.000	43.54	-9.62	33.92	74.00	-40.08	peak
4	2412.000	46.95	-9.03	37.92	/	/	Fundamental
5	2639.000	43.89	-8.46	35.43	74.00	-38.57	peak
6	2967.000	41.82	-7.19	34.63	74.00	-39.37	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.

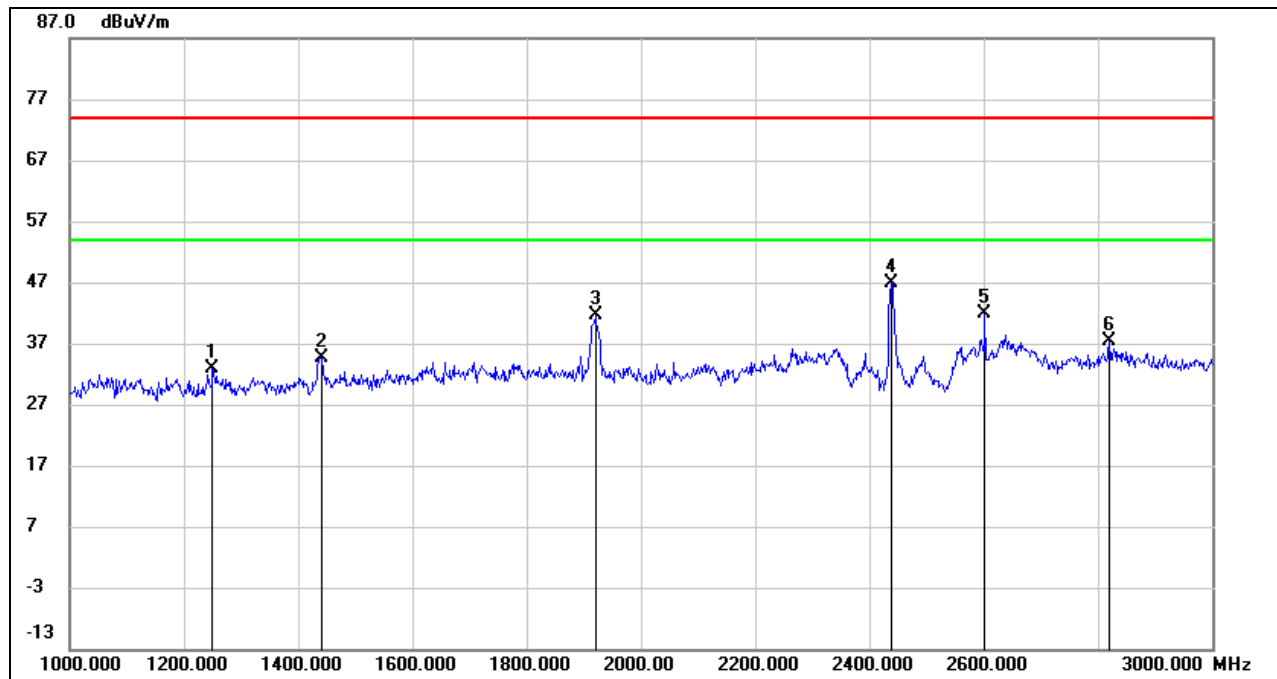
**HARMONICS AND SPURIOUS EMISSIONS (LOW CHANNEL, VERTICAL)**

No.	Frequency (MHz)	Reading (dBuV)	Correct (dB/m)	Result (dBuV/m)	Limit (dBuV/m)	Margin (dB)	Remark
1	1105.000	46.74	-14.39	32.35	74.00	-41.65	peak
2	1439.000	47.26	-12.92	34.34	74.00	-39.66	peak
3	1920.000	54.28	-11.02	43.26	74.00	-30.74	peak
4	2412.000	47.82	-9.03	38.79	/	/	Fundamental
5	2576.000	47.60	-8.69	38.91	74.00	-35.09	peak
6	2673.000	44.64	-8.29	36.35	74.00	-37.65	peak

Note: 1. Measurement = Reading Level + Correct Factor.

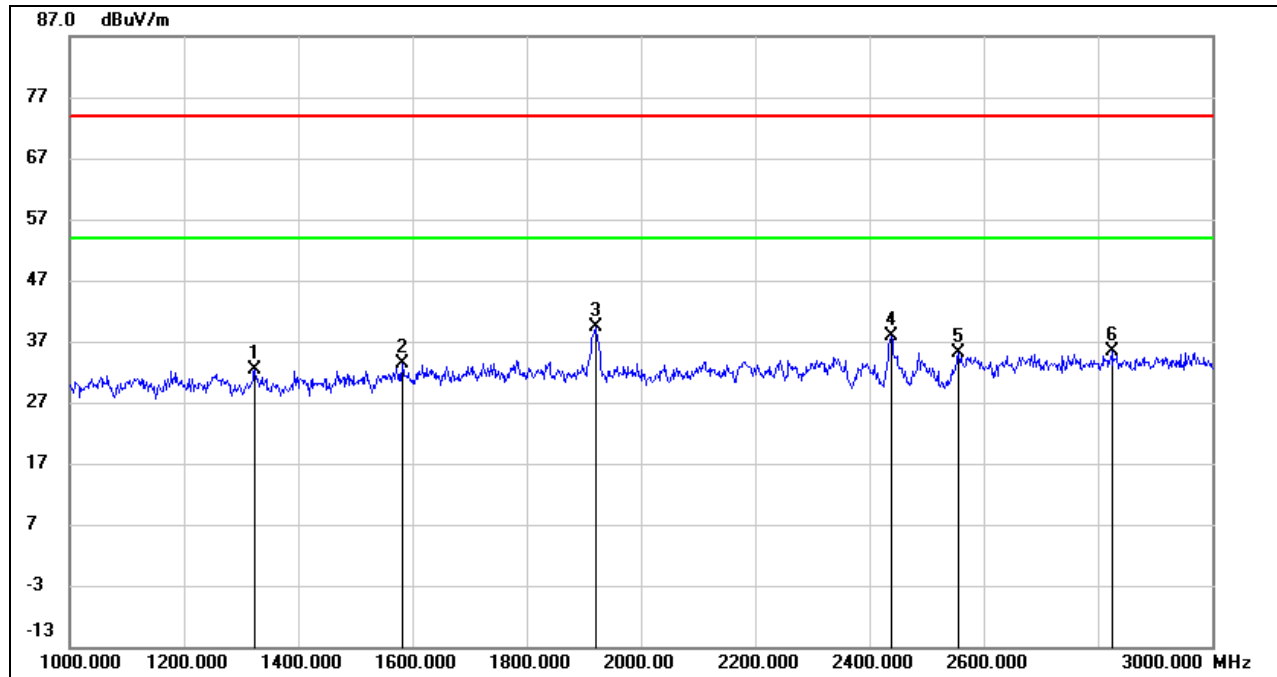
2. If Peak Result complies with AV limit, AV Result is deemed to comply with AV limit.

3. Peak: Peak detector.

HARMONICS AND SPURIOUS EMISSIONS (MID CHANNEL, HORIZONTAL)


No.	Frequency (MHz)	Reading (dBuV)	Correct (dB/m)	Result (dBuV/m)	Limit (dBuV/m)	Margin (dB)	Remark
1	1251.000	46.40	-13.62	32.78	74.00	-41.22	peak
2	1440.000	47.56	-12.90	34.66	74.00	-39.34	peak
3	1921.000	52.65	-11.02	41.63	74.00	-32.37	peak
4	2437.000	55.89	-8.98	46.91	/	/	Fundamental
5	2602.000	50.60	-8.64	41.96	74.00	-32.04	peak
6	2820.000	44.95	-7.63	37.32	74.00	-36.68	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 (MID CHANNEL, VERTICAL)**

No.	Frequency (MHz)	Reading (dBuV)	Correct (dB/m)	Result (dBuV/m)	Limit (dBuV/m)	Margin (dB)	Remark
1	1325.000	45.65	-13.39	32.26	74.00	-41.74	peak
2	1582.000	45.41	-12.09	33.32	74.00	-40.68	peak
3	1920.000	50.28	-11.02	39.26	74.00	-34.74	peak
4	2437.000	46.93	-8.98	37.95	/	/	Fundamental
5	2557.000	43.96	-8.73	35.23	74.00	-38.77	peak
6	2825.000	42.90	-7.62	35.28	74.00	-38.72	peak

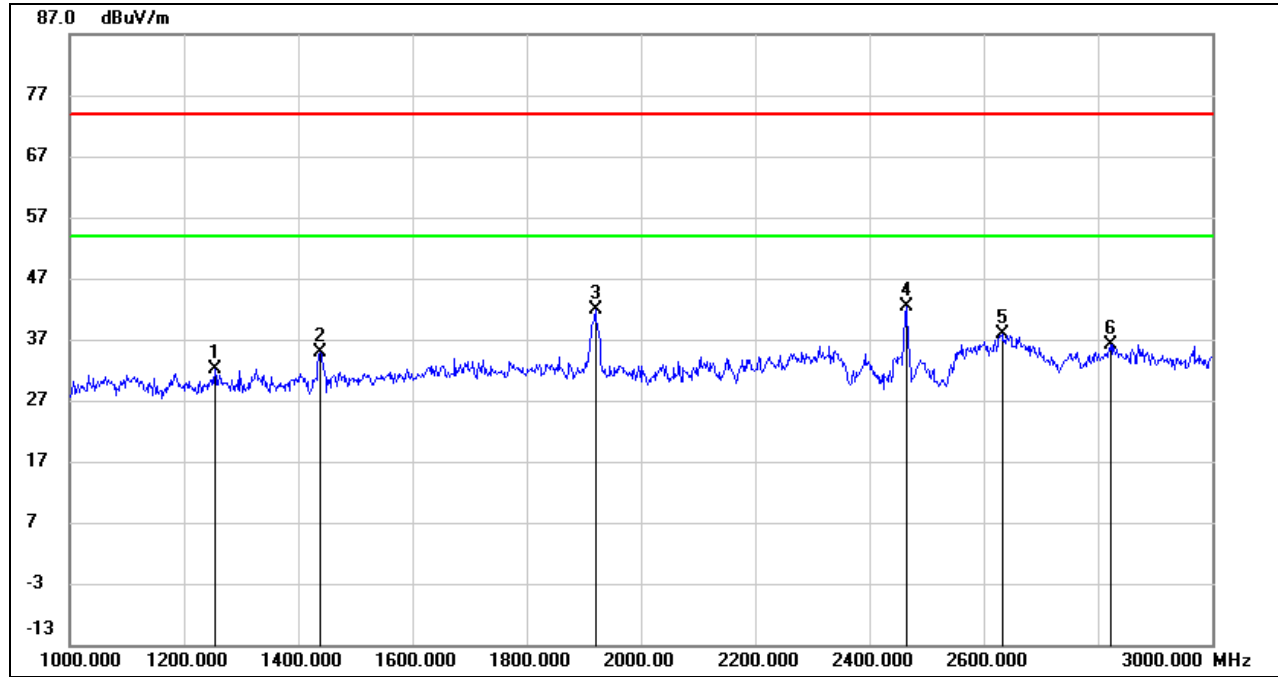
Note: 1. Measurement = Reading Level + Correct Factor.

2. If Peak Result complies with AV limit, AV Result is deemed to comply with AV limit.

3. Peak: Peak detector.

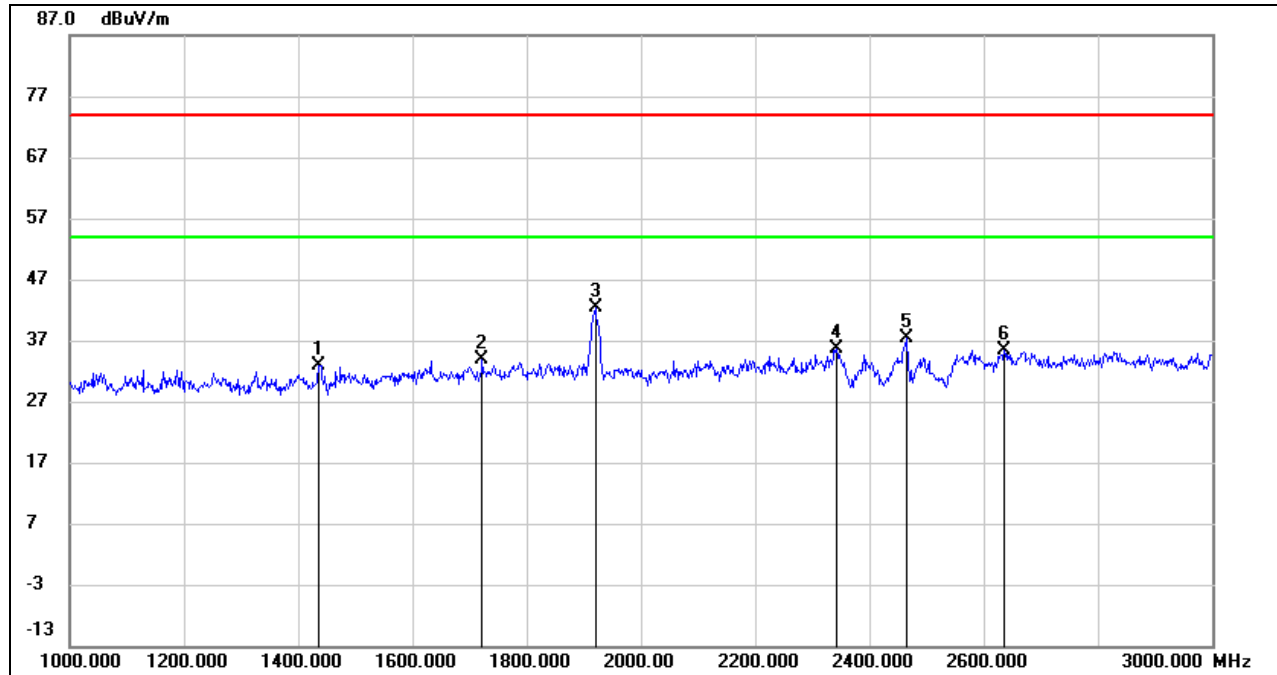


HARMONICS AND SPURIOUS EMISSIONS (HIGH CHANNEL, HORIZONTAL)



No.	Frequency (MHz)	Reading (dBuV)	Correct (dB/m)	Result (dBuV/m)	Limit (dBuV/m)	Margin (dB)	Remark
1	1254.000	45.63	-13.61	32.02	74.00	-41.98	peak
2	1439.000	47.78	-12.92	34.86	74.00	-39.14	peak
3	1920.000	52.96	-11.02	41.94	74.00	-32.06	peak
4	2462.000	51.20	-8.90	42.30	/	/	Fundamental
5	2632.000	46.26	-8.49	37.77	74.00	-36.23	peak
6	2823.000	43.84	-7.62	36.22	74.00	-37.78	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.

HARMONICS AND SPURIOUS EMISSIONS (HIGH CHANNEL, VERTICAL)


No.	Frequency (MHz)	Reading (dBuV)	Correct (dB/m)	Result (dBuV/m)	Limit (dBuV/m)	Margin (dB)	Remark
1	1437.000	45.77	-12.92	32.85	74.00	-41.15	peak
2	1722.000	45.07	-11.25	33.82	74.00	-40.18	peak
3	1920.000	53.35	-11.02	42.33	74.00	-31.67	peak
4	2342.000	44.97	-9.31	35.66	74.00	-38.34	peak
5	2462.000	46.39	-8.90	37.49	/	/	Fundamental
6	2636.000	43.93	-8.48	35.45	74.00	-38.55	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.

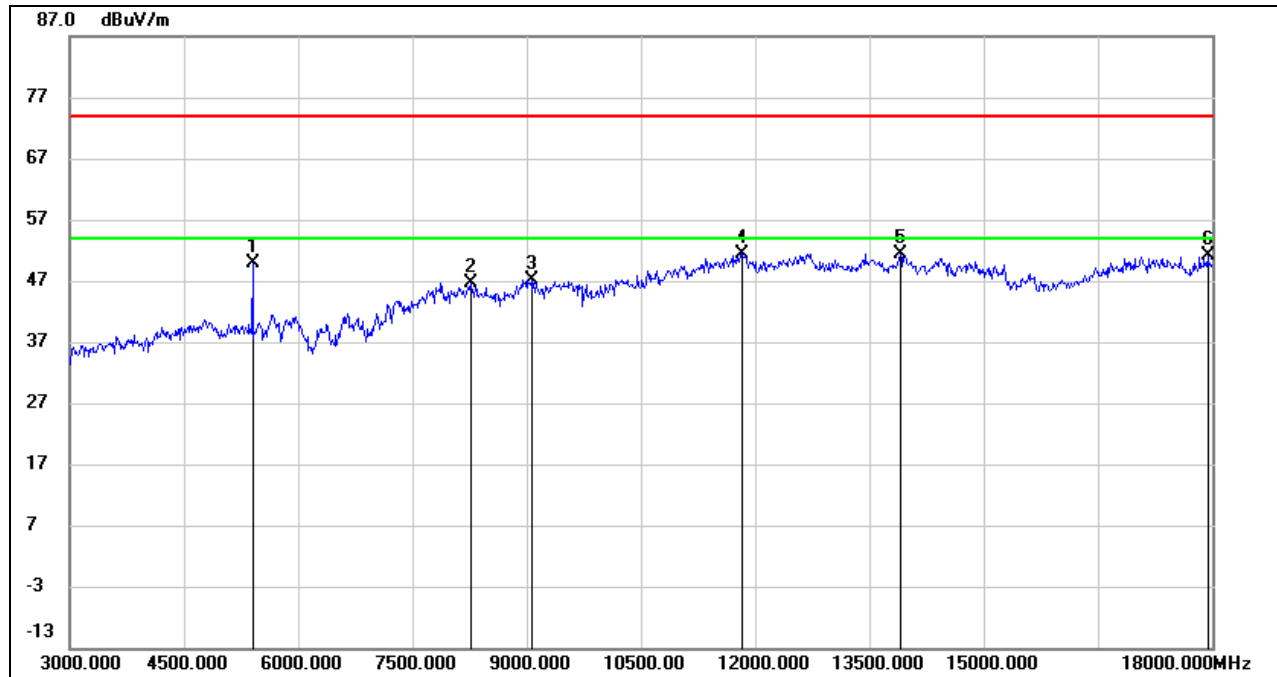
Note: Both the two antennas had been tested, but only the worst data was recorded in the report.

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

8.3. SPURIOUS EMISSIONS (3 GHz ~ 18 GHz)

8.3.1. 802.11b SISO MODE

HARMONICS AND SPURIOUS EMISSIONS (LOW CHANNEL, HORIZONTAL)

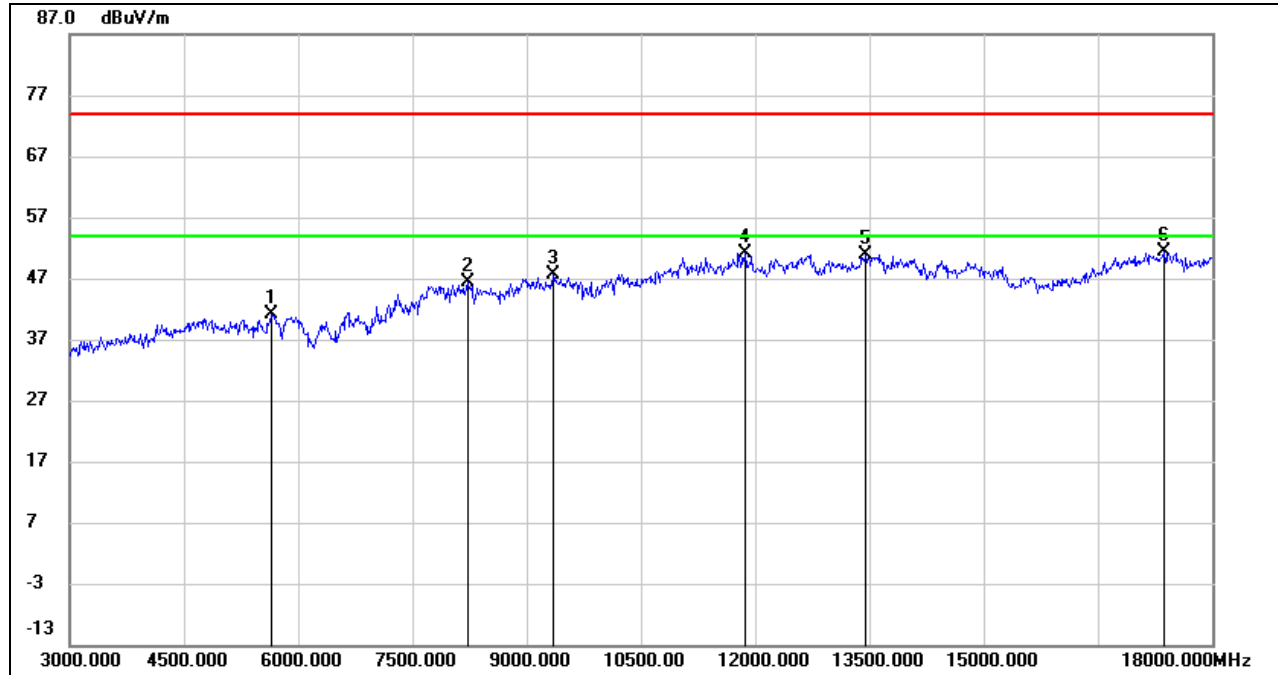


No.	Frequency (MHz)	Reading (dBuV)	Correct (dB/m)	Result (dBuV/m)	Limit (dBuV/m)	Margin (dB)	Remark
1	5407.500	49.17	0.83	50.00	74.00	-24.00	peak
2	8272.500	38.12	8.43	46.55	74.00	-27.45	peak
3	9067.500	37.33	9.73	47.06	74.00	-26.94	peak
4	11820.000	34.09	17.32	51.41	74.00	-22.59	peak
5	13912.500	32.77	18.65	51.42	74.00	-22.58	peak
6	17940.000	27.92	23.22	51.14	74.00	-22.86	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.

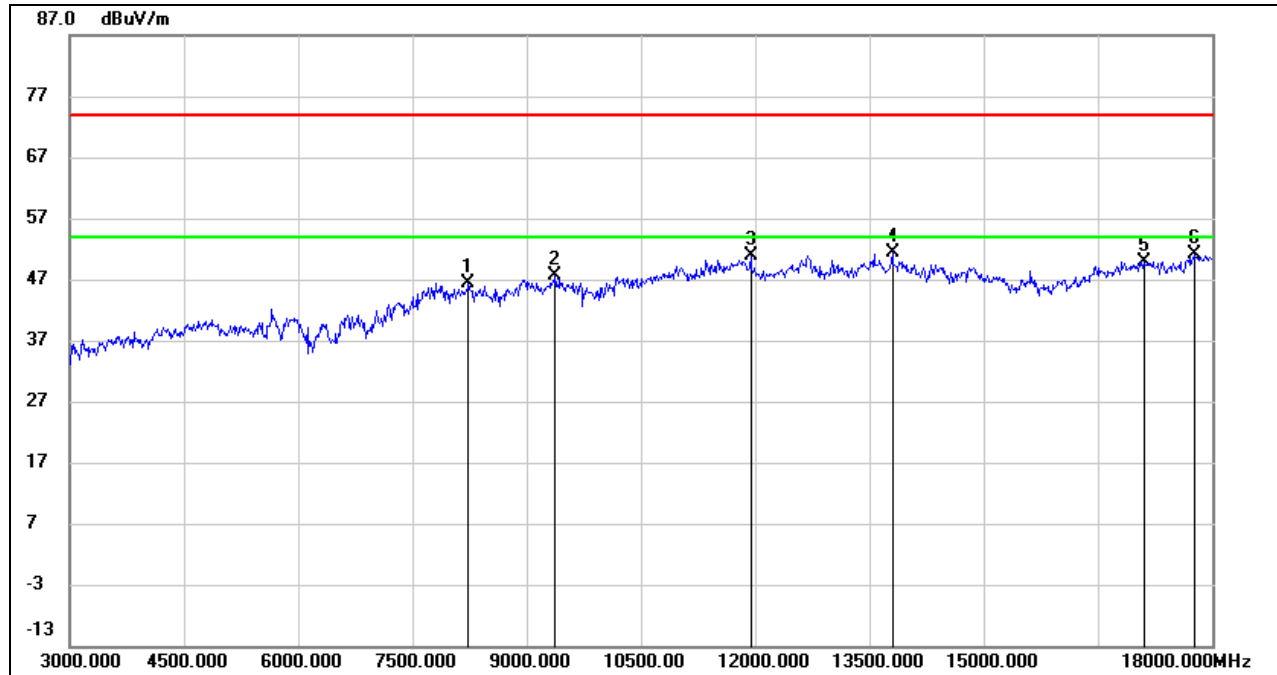


HARMONICS AND SPURIOUS EMISSIONS (LOW CHANNEL, VERTICAL)



No.	Frequency (MHz)	Reading (dBuV)	Correct (dB/m)	Result (dBuV/m)	Limit (dBuV/m)	Margin (dB)	Remark
1	5655.000	39.64	1.44	41.08	74.00	-32.92	peak
2	8227.500	37.86	8.61	46.47	74.00	-27.53	peak
3	9345.000	37.72	9.81	47.53	74.00	-26.47	peak
4	11865.000	33.95	17.24	51.19	74.00	-22.81	peak
5	13455.000	32.66	18.32	50.98	74.00	-23.02	peak
6	17370.000	31.46	19.82	51.28	74.00	-22.72	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. Filter losses were only considered in the spurious frequency bands and the authorized band was not corrected for High Pass Filter losses.
 5. Proper operation of the transmitter prior to adding the filter to the measurement chain.

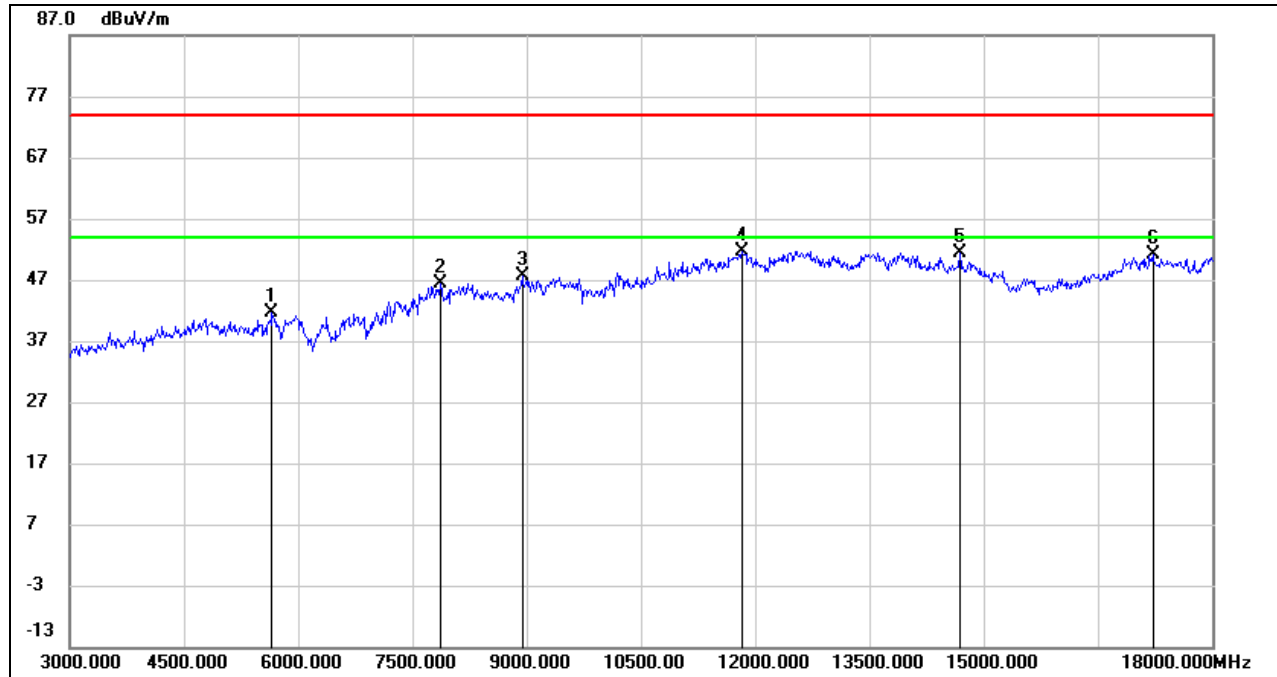
**HARMONICS AND SPURIOUS EMISSIONS (MID CHANNEL, HORIZONTAL)**

No.	Frequency (MHz)	Reading (dBuV)	Correct (dB/m)	Result (dBuV/m)	Limit (dBuV/m)	Margin (dB)	Remark
1	8235.000	37.92	8.58	46.50	74.00	-27.50	peak
2	9382.500	37.49	10.03	47.52	74.00	-26.48	peak
3	11947.500	33.72	17.11	50.83	74.00	-23.17	peak
4	13800.000	32.49	18.78	51.27	74.00	-22.73	peak
5	17107.500	30.73	19.18	49.91	74.00	-24.09	peak
6	17782.500	28.56	22.68	51.24	74.00	-22.76	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. Filter losses were only considered in the spurious frequency bands and the authorized band was not corrected for High Pass Filter losses.
 5. Proper operation of the transmitter prior to adding the filter to the measurement chain.



HARMONICS AND SPURIOUS EMISSIONS (MID CHANNEL, VERTICAL)

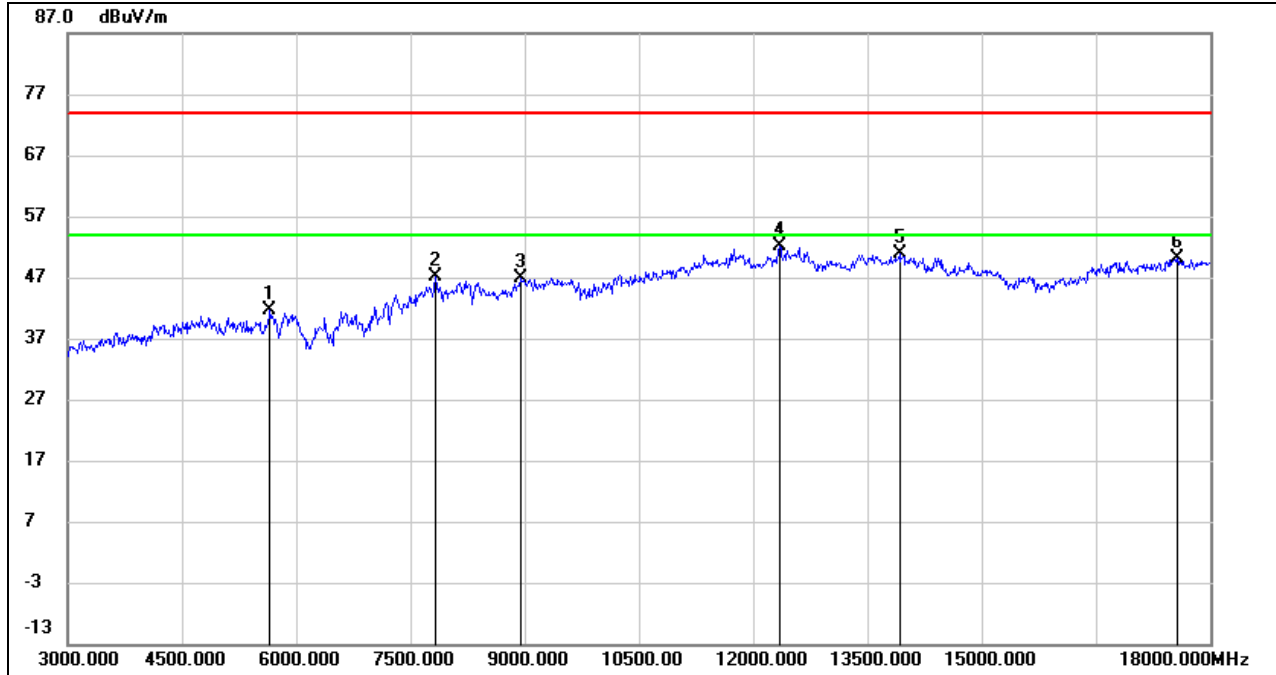


No.	Frequency (MHz)	Reading (dBuV)	Correct (dB/m)	Result (dBuV/m)	Limit (dBuV/m)	Margin (dB)	Remark
1	5662.500	40.08	1.44	41.52	74.00	-32.48	peak
2	7882.500	38.93	7.39	46.32	74.00	-27.68	peak
3	8940.000	38.26	9.47	47.73	74.00	-26.27	peak
4	11827.500	34.33	17.30	51.63	74.00	-22.37	peak
5	14685.000	35.05	16.42	51.47	74.00	-22.53	peak
6	17220.000	31.28	19.75	51.03	74.00	-22.97	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. Filter losses were only considered in the spurious frequency bands and the authorized band was not corrected for High Pass Filter losses.
 5. Proper operation of the transmitter prior to adding the filter to the measurement chain.



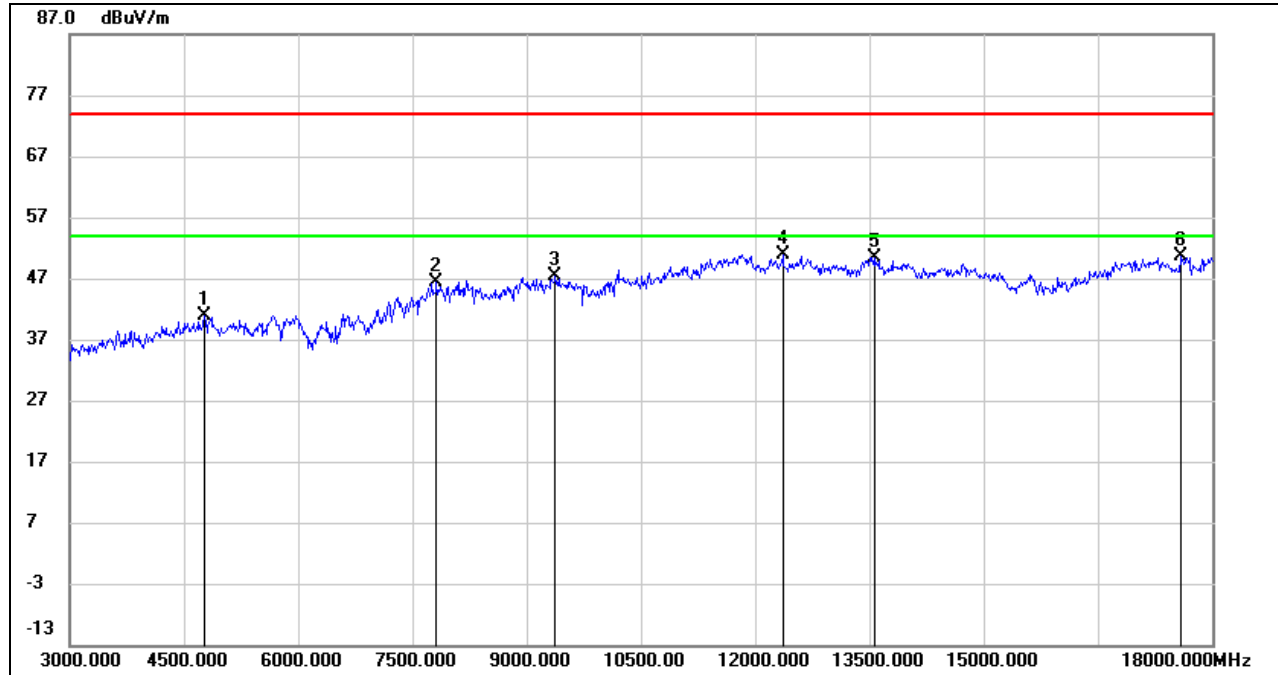
HARMONICS AND SPURIOUS EMISSIONS (HIGH CHANNEL, HORIZONTAL)



No.	Frequency (MHz)	Reading (dBuV)	Correct (dB/m)	Result (dBuV/m)	Limit (dBuV/m)	Margin (dB)	Remark
1	5655.000	40.11	1.44	41.55	74.00	-32.45	peak
2	7837.500	39.52	7.50	47.02	74.00	-26.98	peak
3	8962.500	37.25	9.71	46.96	74.00	-27.04	peak
4	12345.000	35.35	16.82	52.17	74.00	-21.83	peak
5	13920.000	32.36	18.64	51.00	74.00	-23.00	peak
6	17565.000	29.68	20.53	50.21	74.00	-23.79	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. Filter losses were only considered in the spurious frequency bands and the authorized band was not corrected for High Pass Filter losses.
 5. Proper operation of the transmitter prior to adding the filter to the measurement chain.

HARMONICS AND SPURIOUS EMISSIONS (HIGH CHANNEL, VERTICAL)



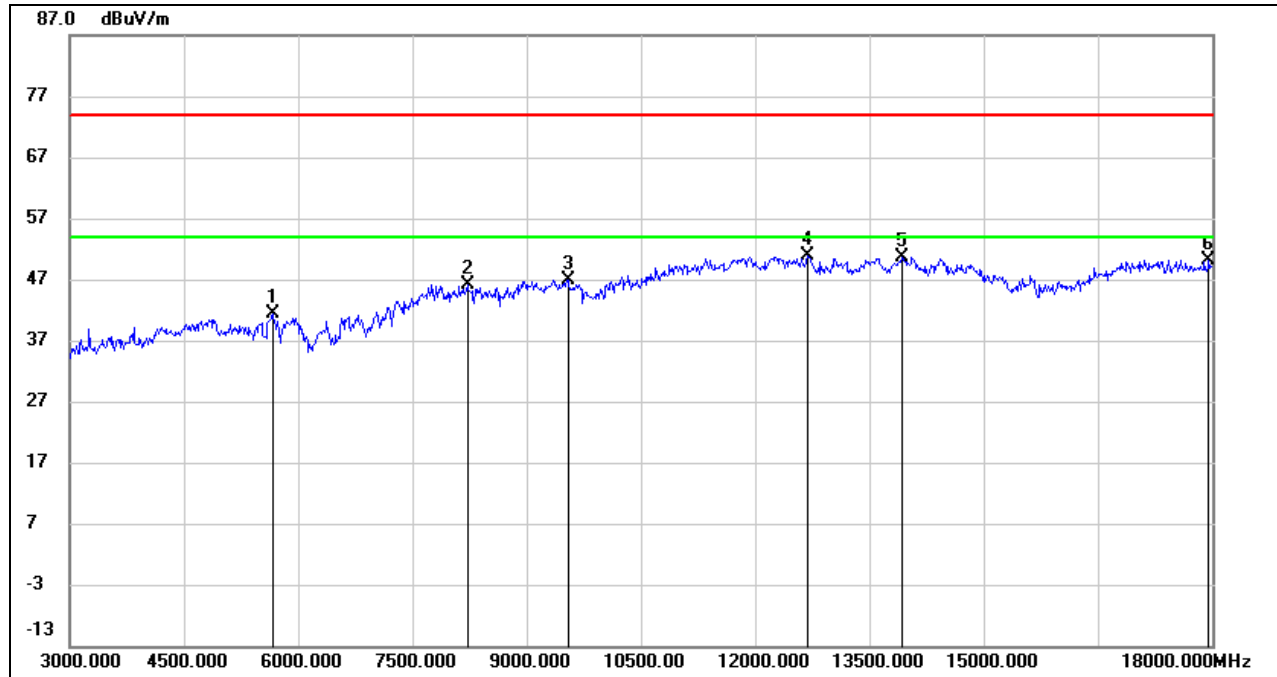
No.	Frequency (MHz)	Reading (dBuV)	Correct (dB/m)	Result (dBuV/m)	Limit (dBuV/m)	Margin (dB)	Remark
1	4777.500	41.67	-0.76	40.91	74.00	-33.09	peak
2	7815.000	38.77	7.57	46.34	74.00	-27.66	peak
3	9382.500	37.39	10.03	47.42	74.00	-26.58	peak
4	12360.000	34.09	16.84	50.93	74.00	-23.07	peak
5	13567.500	32.11	18.38	50.49	74.00	-23.51	peak
6	17602.500	29.75	20.78	50.53	74.00	-23.47	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. Filter losses were only considered in the spurious frequency bands and the authorized band was not corrected for High Pass Filter losses.
 5. Proper operation of the transmitter prior to adding the filter to the measurement chain.

Note: Both the two antennas had been tested, but only the worst data was recorded in the report.

8.3.2. 802.11g SISO MODE

HARMONICS AND SPURIOUS EMISSIONS (LOW CHANNEL, HORIZONTAL)



No.	Frequency (MHz)	Reading (dBuV)	Correct (dB/m)	Result (dBuV/m)	Limit (dBuV/m)	Margin (dB)	Remark
1	5677.500	39.87	1.44	41.31	74.00	-32.69	peak
2	8220.000	37.48	8.64	46.12	74.00	-27.88	peak
3	9547.500	36.45	10.42	46.87	74.00	-27.13	peak
4	12690.000	33.95	16.83	50.78	74.00	-23.22	peak
5	13935.000	32.03	18.62	50.65	74.00	-23.35	peak
6	17962.500	26.95	23.27	50.22	74.00	-23.78	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.

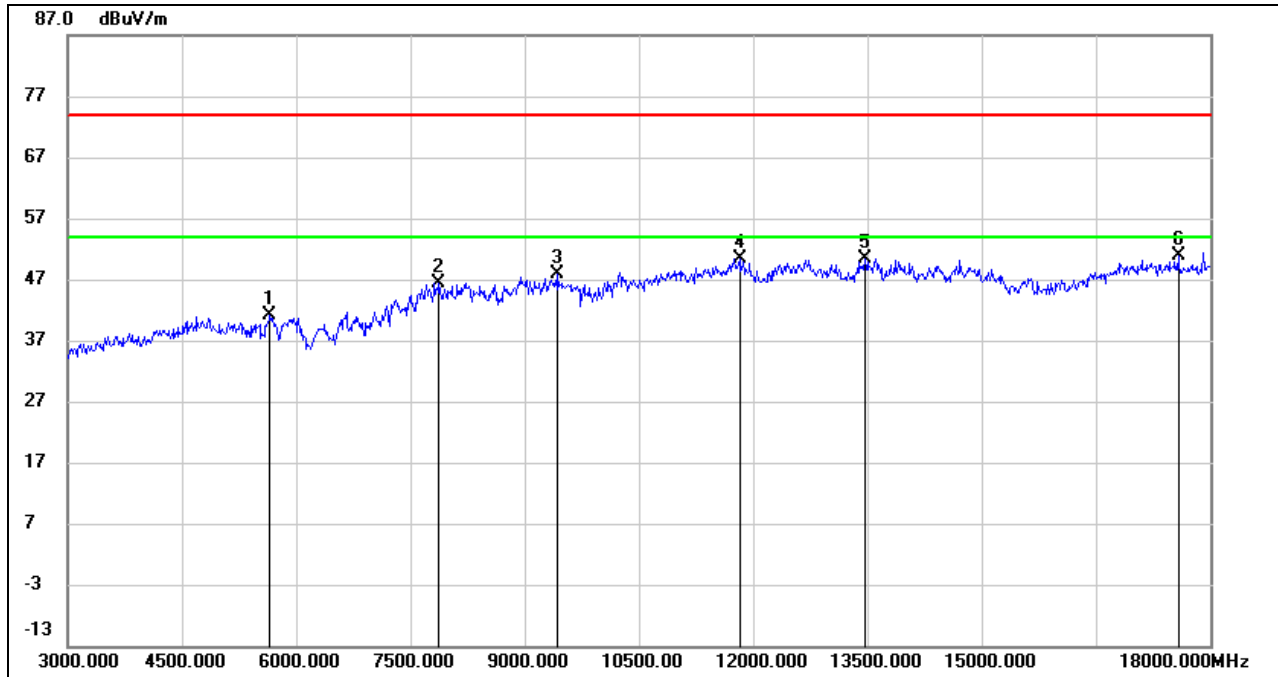
5. For the transmitting duration, please refer to clause 7.1.

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.



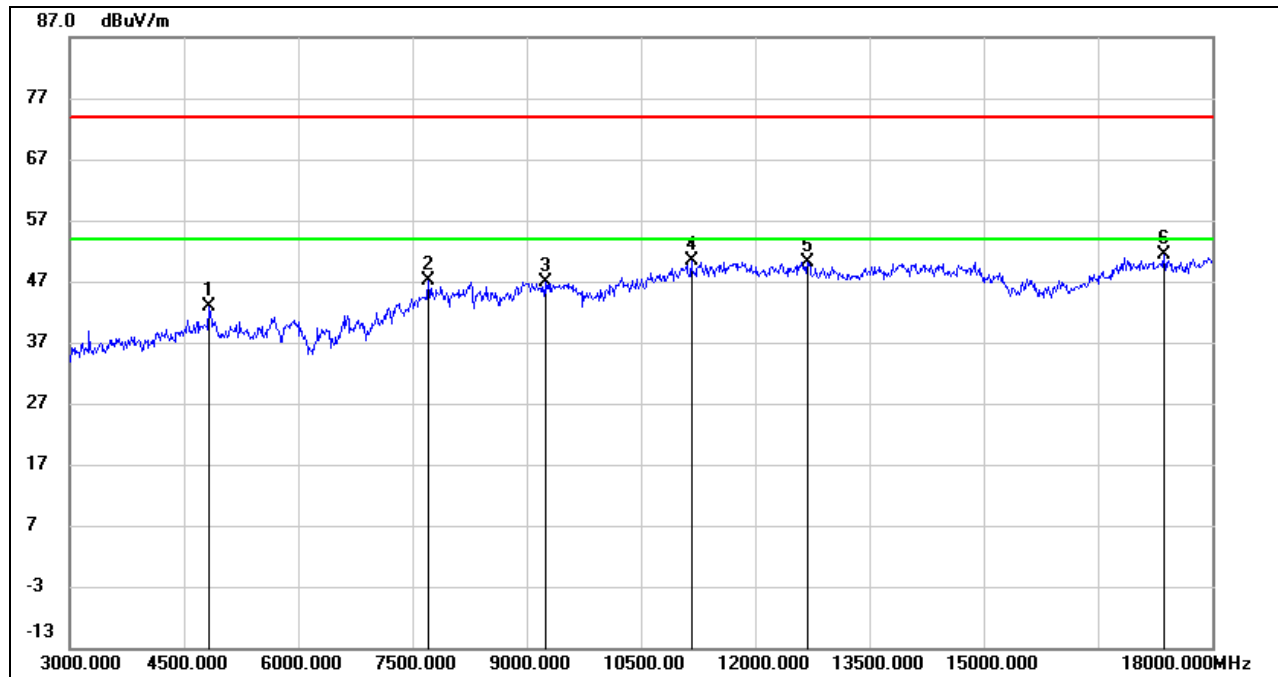
HARMONICS AND SPURIOUS EMISSIONS (LOW CHANNEL, VERTICAL)



No.	Frequency (MHz)	Reading (dBuV)	Correct (dB/m)	Result (dBuV/m)	Limit (dBuV/m)	Margin (dB)	Remark
1	5662.500	39.66	1.44	41.10	74.00	-32.90	peak
2	7875.000	38.93	7.40	46.33	74.00	-27.67	peak
3	9435.000	37.59	10.21	47.80	74.00	-26.20	peak
4	11820.000	32.99	17.32	50.31	74.00	-23.69	peak
5	13470.000	31.96	18.35	50.31	74.00	-23.69	peak
6	17587.500	30.31	20.67	50.98	74.00	-23.02	peak

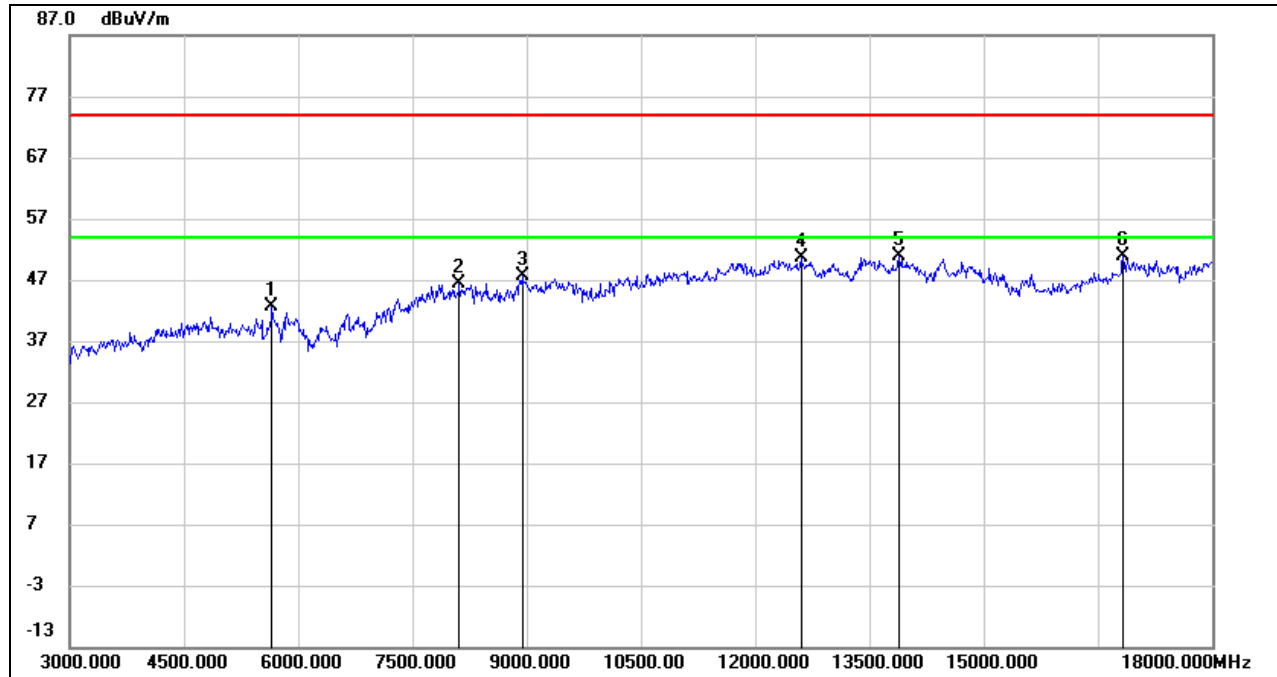
- Note: 1. Peak Result = Reading Level + Correct Factor.
 2. If Peak Result complies with AV limit, AV Result is deemed to comply with AV limit.
 3. Peak: Peak detector.
 4. Filter losses were only considered in the spurious frequency bands and the authorized band was not corrected for High Pass Filter losses.
 5. Proper operation of the transmitter prior to adding the filter to the measurement chain.

HARMONICS AND SPURIOUS EMISSIONS (MID CHANNEL, HORIZONTAL)



No.	Frequency (MHz)	Reading (dBuV)	Correct (dB/m)	Result (dBuV/m)	Limit (dBuV/m)	Margin (dB)	Remark
1	4837.500	43.51	-0.63	42.88	74.00	-31.12	peak
2	7717.500	39.81	7.27	47.08	74.00	-26.92	peak
3	9240.000	37.81	9.18	46.99	74.00	-27.01	peak
4	11167.500	35.62	14.79	50.41	74.00	-23.59	peak
5	12690.000	33.41	16.83	50.24	74.00	-23.76	peak
6	17377.500	31.44	19.82	51.26	74.00	-22.74	peak

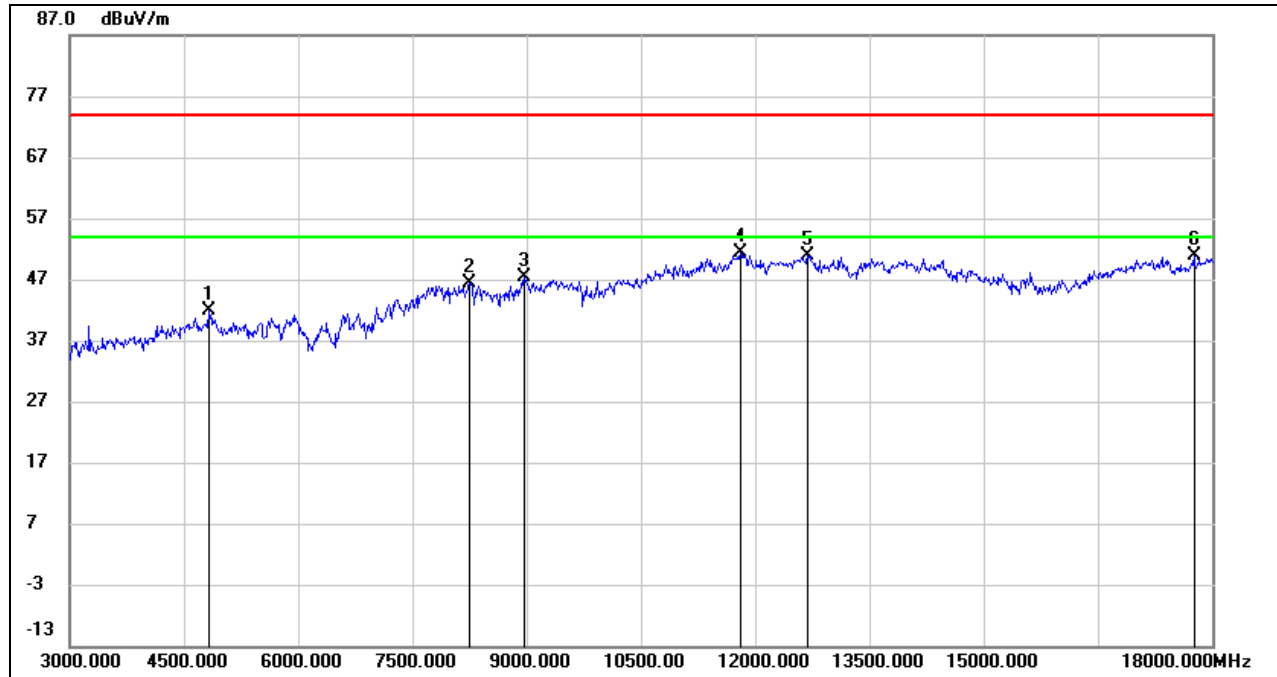
- Note: 1. Peak Result = Reading Level + Correct Factor.
 2. If Peak Result complies with AV limit, AV Result is deemed to comply with AV limit.
 3. Peak: Peak detector.
 4. Filter losses were only considered in the spurious frequency bands and the authorized band was not corrected for High Pass Filter losses.
 5. Proper operation of the transmitter prior to adding the filter to the measurement chain.

**HARMONICS AND SPURIOUS EMISSIONS (MID CHANNEL, VERTICAL)**

No.	Frequency (MHz)	Reading (dBuV)	Correct (dB/m)	Result (dBuV/m)	Limit (dBuV/m)	Margin (dB)	Remark
1	5655.000	41.25	1.44	42.69	74.00	-31.31	peak
2	8115.000	38.37	8.01	46.38	74.00	-27.62	peak
3	8947.500	38.13	9.56	47.69	74.00	-26.31	peak
4	12607.500	34.05	16.64	50.69	74.00	-23.31	peak
5	13890.000	32.09	18.67	50.76	74.00	-23.24	peak
6	16837.500	33.00	17.90	50.90	74.00	-23.10	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. Filter losses were only considered in the spurious frequency bands and the authorized band was not corrected for High Pass Filter losses.
 5. Proper operation of the transmitter prior to adding the filter to the measurement chain.

HARMONICS AND SPURIOUS EMISSIONS (HIGH CHANNEL, HORIZONTAL)

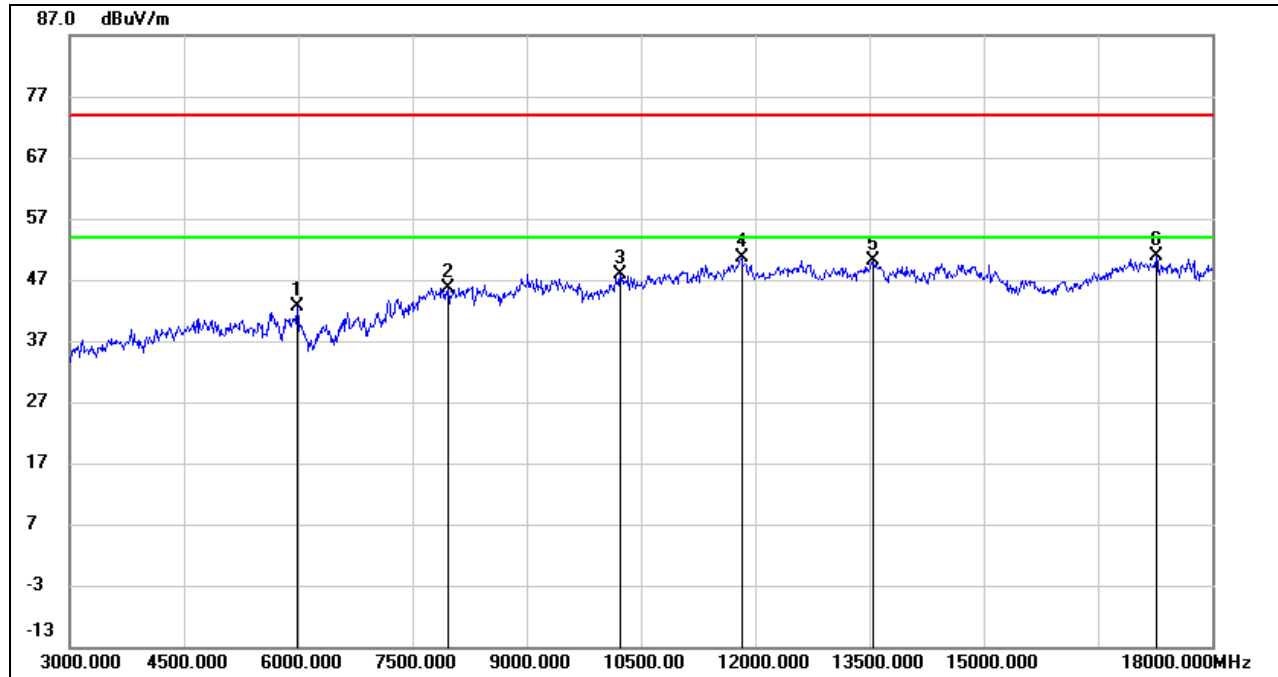


No.	Frequency (MHz)	Reading (dBuV)	Correct (dB/m)	Result (dBuV/m)	Limit (dBuV/m)	Margin (dB)	Remark
1	4837.500	42.46	-0.63	41.83	74.00	-32.17	peak
2	8257.500	37.82	8.49	46.31	74.00	-27.69	peak
3	8970.000	37.55	9.80	47.35	74.00	-26.65	peak
4	11812.500	33.98	17.33	51.31	74.00	-22.69	peak
5	12697.500	34.06	16.85	50.91	74.00	-23.09	peak
6	17767.500	28.32	22.51	50.83	74.00	-23.17	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. Filter losses were only considered in the spurious frequency bands and the authorized band was not corrected for High Pass Filter losses.
 5. Proper operation of the transmitter prior to adding the filter to the measurement chain.



HARMONICS AND SPURIOUS EMISSIONS (HIGH CHANNEL, VERTICAL)



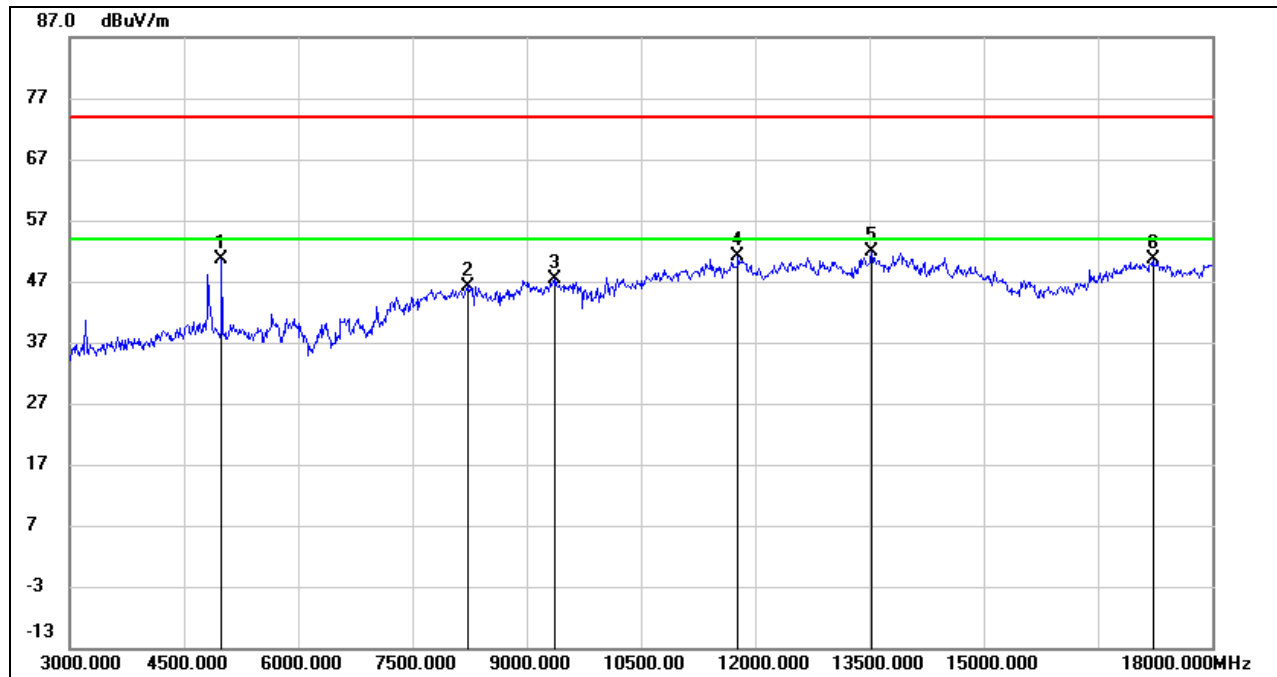
No.	Frequency (MHz)	Reading (dBuV)	Correct (dB/m)	Result (dBuV/m)	Limit (dBuV/m)	Margin (dB)	Remark
1	5992.500	40.38	2.17	42.55	74.00	-31.45	peak
2	7965.000	38.56	7.16	45.72	74.00	-28.28	peak
3	10230.000	36.37	11.40	47.77	74.00	-26.23	peak
4	11827.500	33.32	17.30	50.62	74.00	-23.38	peak
5	13552.500	31.79	18.39	50.18	74.00	-23.82	peak
6	17272.500	31.05	19.78	50.83	74.00	-23.17	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.

Note: Both the two antennas had been tested, but only the worst data was recorded in the report.

8.3.3. 802.11n HT20 MIMO MODE

HARMONICS AND SPURIOUS EMISSIONS (LOW CHANNEL, HORIZONTAL)



No.	Frequency (MHz)	Reading (dBuV)	Correct (dB/m)	Result (dBuV/m)	Limit (dBuV/m)	Margin (dB)	Remark
1	5002.500	51.02	-0.48	50.54	74.00	-23.46	peak
2	8235.000	37.67	8.58	46.25	74.00	-27.75	peak
3	9375.000	37.45	9.99	47.44	74.00	-26.56	peak
4	11782.500	33.86	17.26	51.12	74.00	-22.88	peak
5	13530.000	33.48	18.40	51.88	74.00	-22.12	peak
6	17220.000	30.79	19.75	50.54	74.00	-23.46	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.

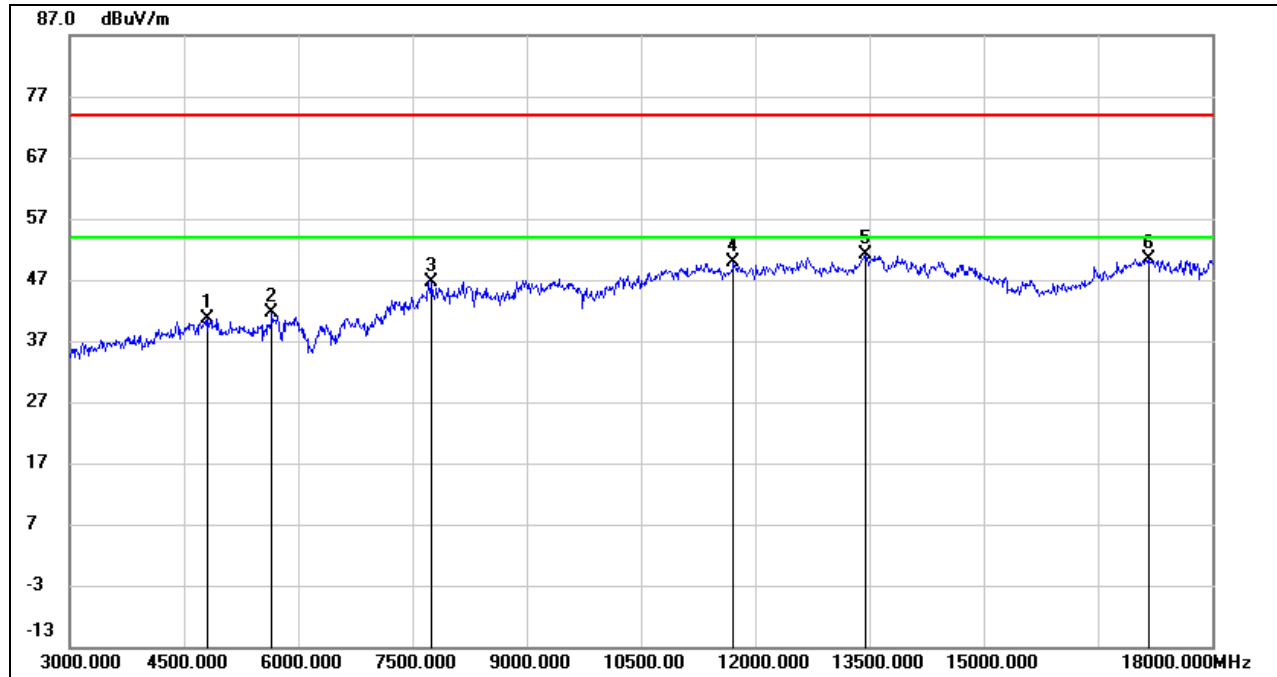
3. Peak: Peak detector.

4. AVG: $VBW=1/Ton$, where: Ton is the transmitting duration.

5. For the transmitting duration, please refer to clause 7.1.

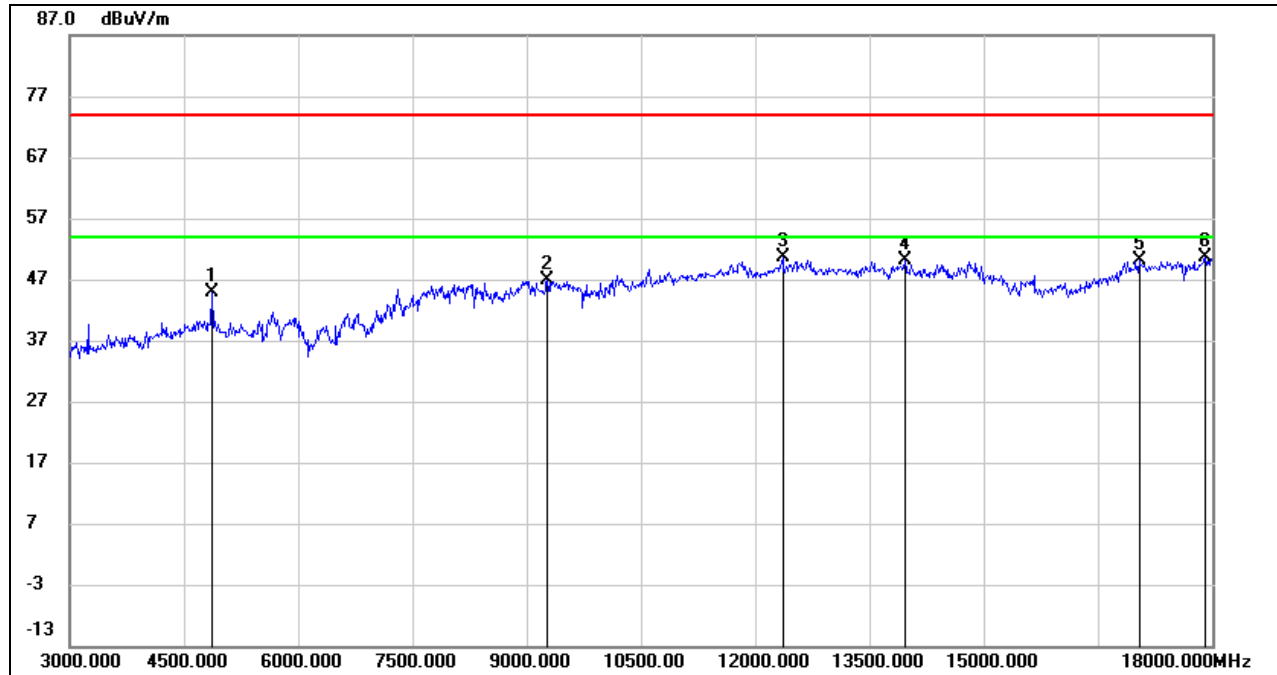
6. Filter losses were only considered in the spurious frequency bands and the authorized band was not corrected for High Pass Filter losses.

7. Proper operation of the transmitter prior to adding the filter to the measurement chain.

HARMONICS AND SPURIOUS EMISSIONS (LOW CHANNEL, VERTICAL)


No.	Frequency (MHz)	Reading (dBuV)	Correct (dB/m)	Result (dBuV/m)	Limit (dBuV/m)	Margin (dB)	Remark
1	4822.500	41.39	-0.64	40.75	74.00	-33.25	peak
2	5662.500	40.20	1.44	41.64	74.00	-32.36	peak
3	7755.000	39.27	7.42	46.69	74.00	-27.31	peak
4	11722.500	32.89	16.94	49.83	74.00	-24.17	peak
5	13440.000	32.93	18.29	51.22	74.00	-22.78	peak
6	17167.500	30.83	19.54	50.37	74.00	-23.63	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 (MID CHANNEL, HORIZONTAL)


No.	Frequency (MHz)	Reading (dBuV)	Correct (dB/m)	Result (dBuV/m)	Limit (dBuV/m)	Margin (dB)	Remark
1	4875.000	45.57	-0.59	44.98	74.00	-29.02	peak
2	9270.000	37.49	9.36	46.85	74.00	-27.15	peak
3	12367.500	33.82	16.86	50.68	74.00	-23.32	peak
4	13965.000	31.65	18.58	50.23	74.00	-23.77	peak
5	17040.000	31.33	18.77	50.10	74.00	-23.90	peak
6	17917.500	27.39	23.16	50.55	74.00	-23.45	peak

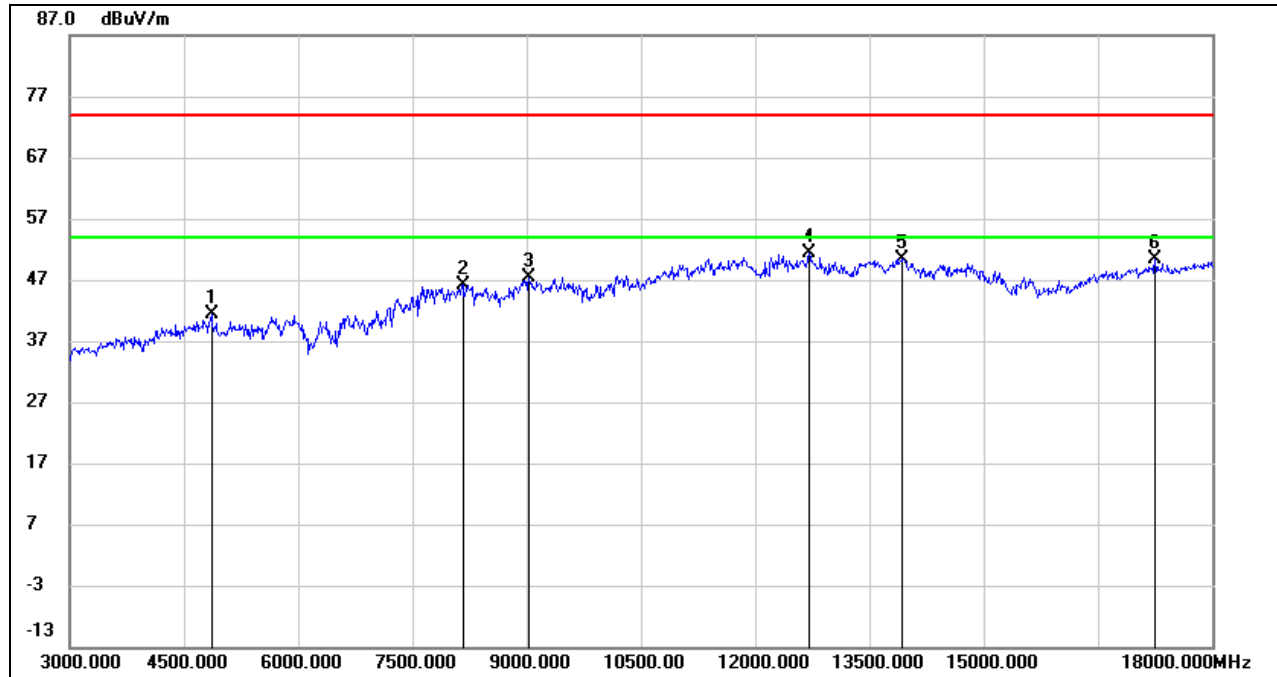
Note: 1. Peak Result = Reading Level + Correct Factor.

2. If Peak Result complies with AV limit, AV Result is deemed to comply with AV limit.

3. Peak: Peak detector.

4. Filter losses were only considered in the spurious frequency bands and the authorized band was not corrected for High Pass Filter losses.

5. Proper operation of the transmitter prior to adding the filter to the measurement chain.

HARMONICS AND SPURIOUS EMISSIONS (MID CHANNEL, VERTICAL)


No.	Frequency (MHz)	Reading (dBuV)	Correct (dB/m)	Result (dBuV/m)	Limit (dBuV/m)	Margin (dB)	Remark
1	4867.500	41.94	-0.61	41.33	74.00	-32.67	peak
2	8167.500	37.64	8.45	46.09	74.00	-27.91	peak
3	9030.000	37.42	9.96	47.38	74.00	-26.62	peak
4	12705.000	34.52	16.87	51.39	74.00	-22.61	peak
5	13942.500	31.79	18.62	50.41	74.00	-23.59	peak
6	17257.500	30.69	19.77	50.46	74.00	-23.54	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.

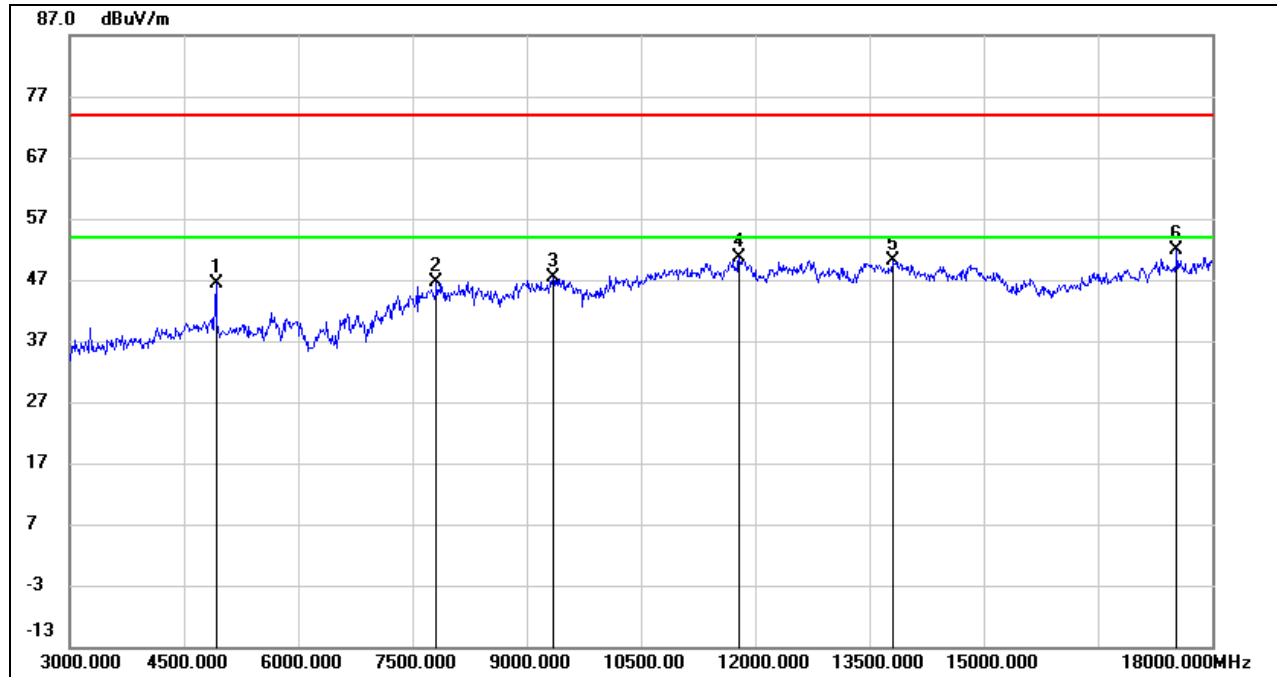
3. Peak: Peak detector.

4. Filter losses were only considered in the spurious frequency bands and the authorized band was not corrected for High Pass Filter losses.

5. Proper operation of the transmitter prior to adding the filter to the measurement chain.



HARMONICS AND SPURIOUS EMISSIONS (HIGH CHANNEL, HORIZONTAL)

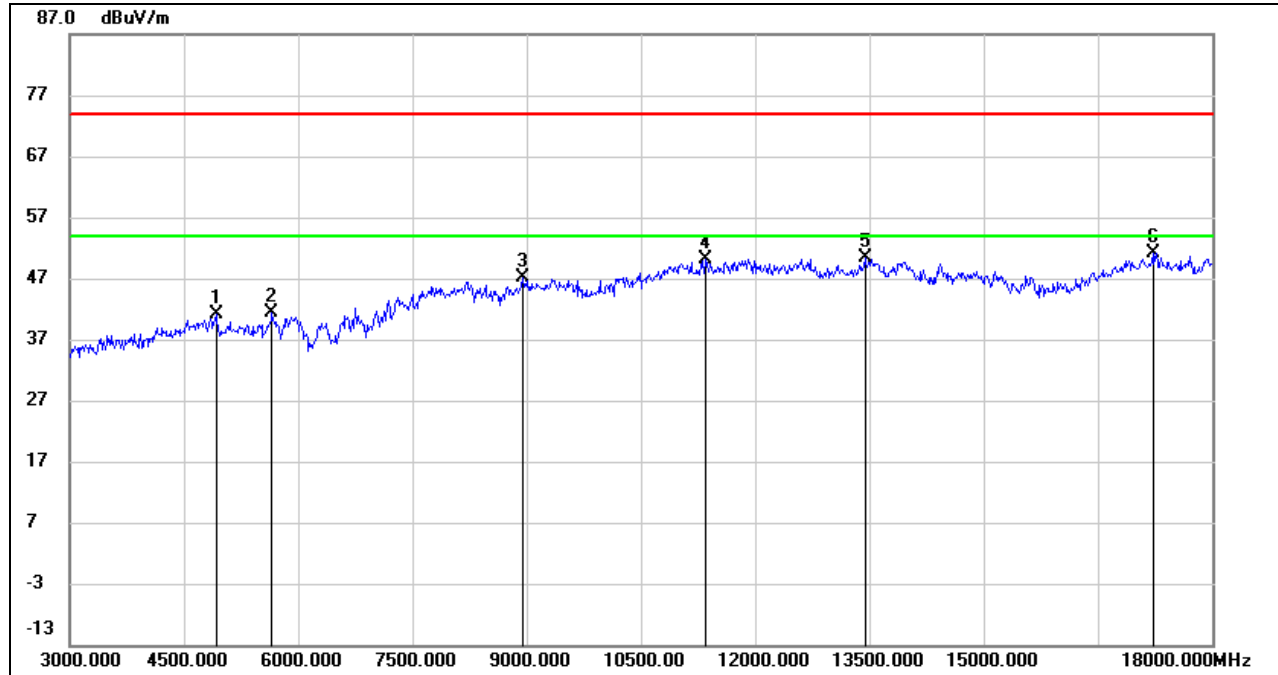


No.	Frequency (MHz)	Reading (dBuV)	Correct (dB/m)	Result (dBuV/m)	Limit (dBuV/m)	Margin (dB)	Remark
1	4920.000	46.82	-0.56	46.26	74.00	-27.74	peak
2	7815.000	39.08	7.57	46.65	74.00	-27.35	peak
3	9345.000	37.48	9.81	47.29	74.00	-26.71	peak
4	11797.500	33.18	17.34	50.52	74.00	-23.48	peak
5	13800.000	31.28	18.78	50.06	74.00	-23.94	peak
6	17535.000	31.45	20.35	51.80	74.00	-22.20	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. Filter losses were only considered in the spurious frequency bands and the authorized band was not corrected for High Pass Filter losses.
 5. Proper operation of the transmitter prior to adding the filter to the measurement chain.

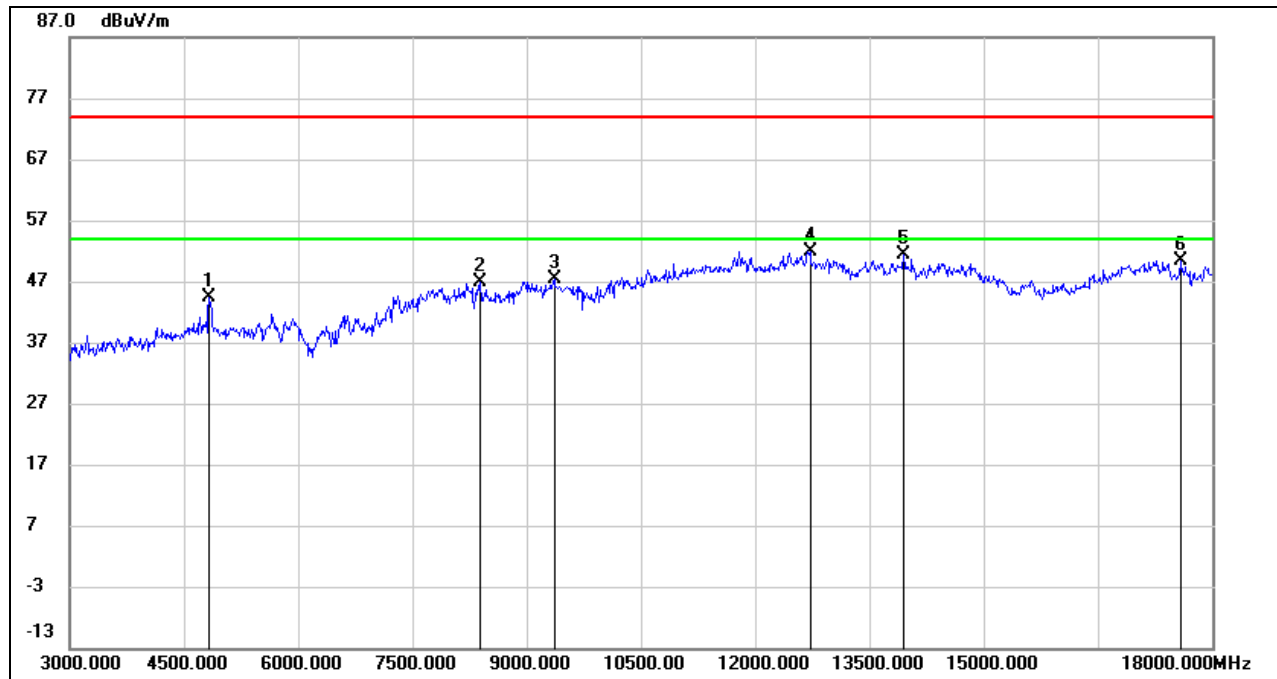


HARMONICS AND SPURIOUS EMISSIONS (HIGH CHANNEL, VERTICAL)



No.	Frequency (MHz)	Reading (dBuV)	Correct (dB/m)	Result (dBuV/m)	Limit (dBuV/m)	Margin (dB)	Remark
1	4920.000	41.80	-0.56	41.24	74.00	-32.76	peak
2	5662.500	40.00	1.44	41.44	74.00	-32.56	peak
3	8940.000	37.54	9.47	47.01	74.00	-26.99	peak
4	11347.500	34.50	15.58	50.08	74.00	-23.92	peak
5	13440.000	32.10	18.29	50.39	74.00	-23.61	peak
6	17220.000	31.33	19.75	51.08	74.00	-22.92	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.

**8.3.4. 802.11n HT40 MIMO MODE****HARMONICS AND SPURIOUS EMISSIONS (LOW CHANNEL, HORIZONTAL)**

No.	Frequency (MHz)	Reading (dBuV)	Correct (dB/m)	Result (dBuV/m)	Limit (dBuV/m)	Margin (dB)	Remark
1	4837.500	44.97	-0.63	44.34	74.00	-29.66	peak
2	8392.500	38.85	7.94	46.79	74.00	-27.21	peak
3	9360.000	37.36	9.90	47.26	74.00	-26.74	peak
4	12727.500	35.06	16.91	51.97	74.00	-22.03	peak
5	13950.000	32.82	18.61	51.43	74.00	-22.57	peak
6	17587.500	29.73	20.67	50.40	74.00	-23.60	peak

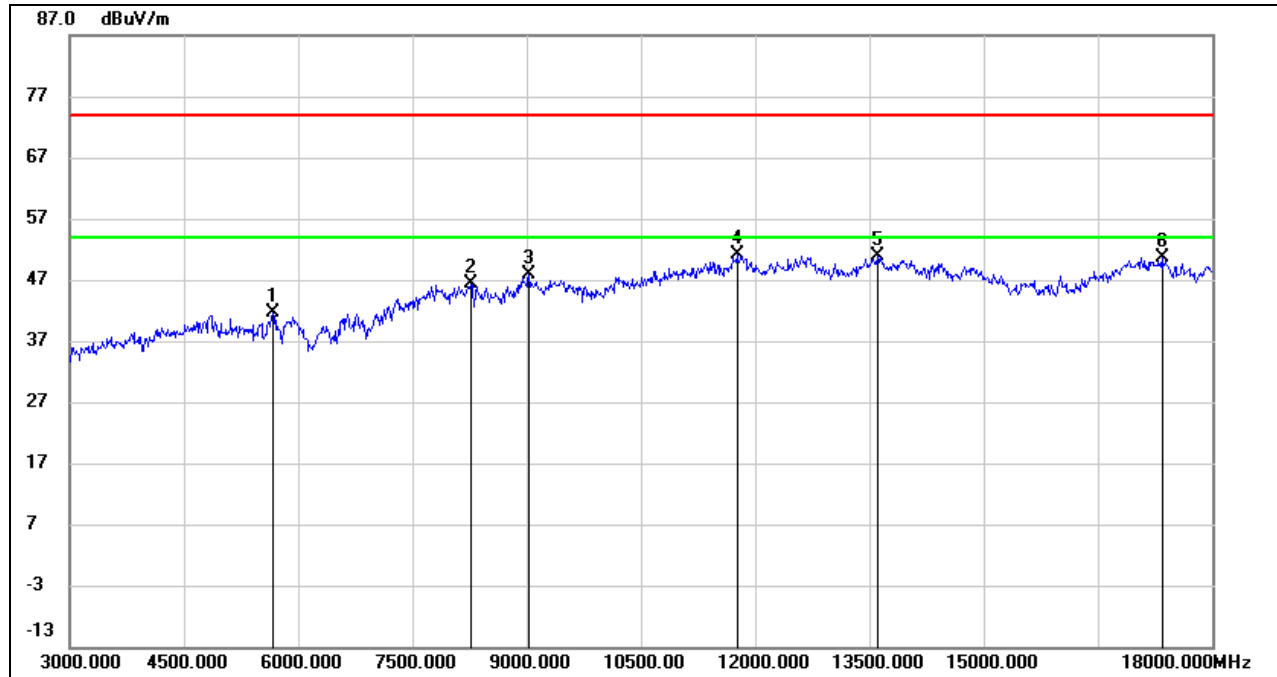
Note: 1. Peak Result = Reading Level + Correct Factor.

2. If Peak Result complies with AV limit, AV Result is deemed to comply with AV limit.

3. Peak: Peak detector.

4. Filter losses were only considered in the spurious frequency bands and the authorized band was not corrected for High Pass Filter losses.

5. Proper operation of the transmitter prior to adding the filter to the measurement chain.

**HARMONICS AND SPURIOUS EMISSIONS (LOW CHANNEL, VERTICAL)**

No.	Frequency (MHz)	Reading (dBuV)	Correct (dB/m)	Result (dBuV/m)	Limit (dBuV/m)	Margin (dB)	Remark
1	5670.000	40.13	1.44	41.57	74.00	-32.43	peak
2	8272.500	38.03	8.43	46.46	74.00	-27.54	peak
3	9030.000	37.82	9.96	47.78	74.00	-26.22	peak
4	11767.500	33.89	17.17	51.06	74.00	-22.94	peak
5	13612.500	32.45	18.39	50.84	74.00	-23.16	peak
6	17347.500	30.80	19.81	50.61	74.00	-23.39	peak

Note: 1. Peak Result = Reading Level + Correct Factor.

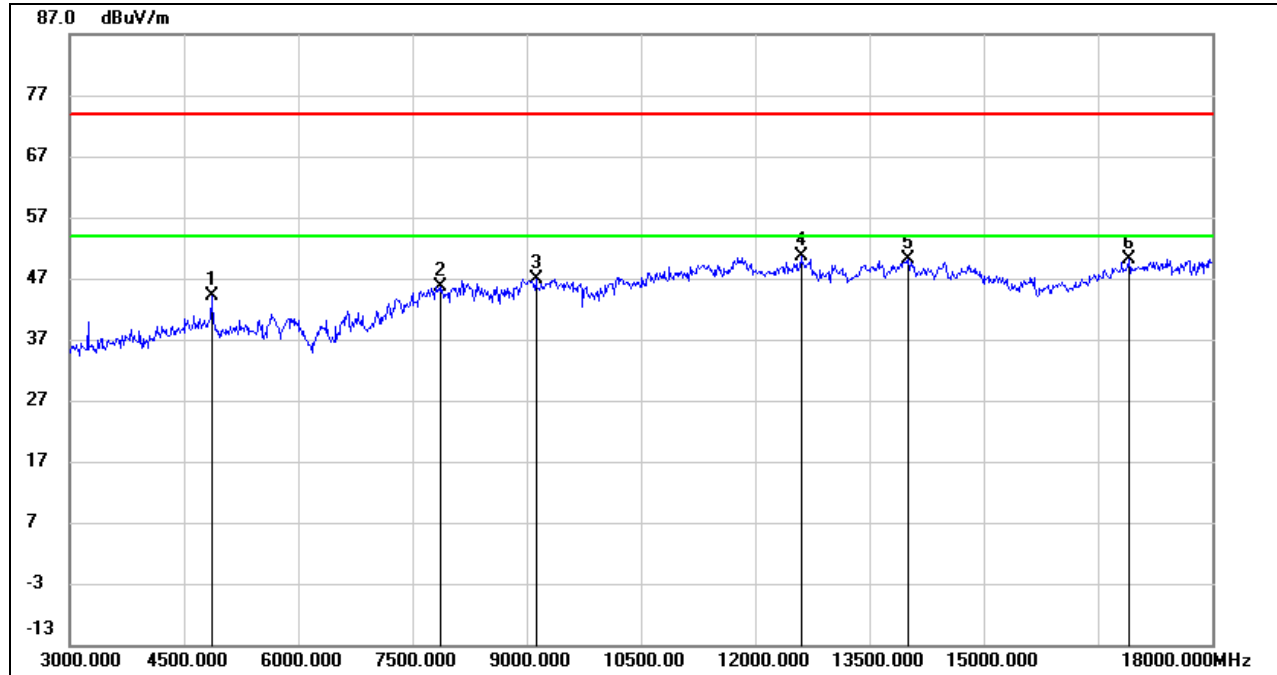
2. If Peak Result complies with AV limit, AV Result is deemed to comply with AV limit.

3. Peak: Peak detector.

4. Filter losses were only considered in the spurious frequency bands and the authorized band was not corrected for High Pass Filter losses.

5. Proper operation of the transmitter prior to adding the filter to the measurement chain.

HARMONICS AND SPURIOUS EMISSIONS (MID CHANNEL, HORIZONTAL)

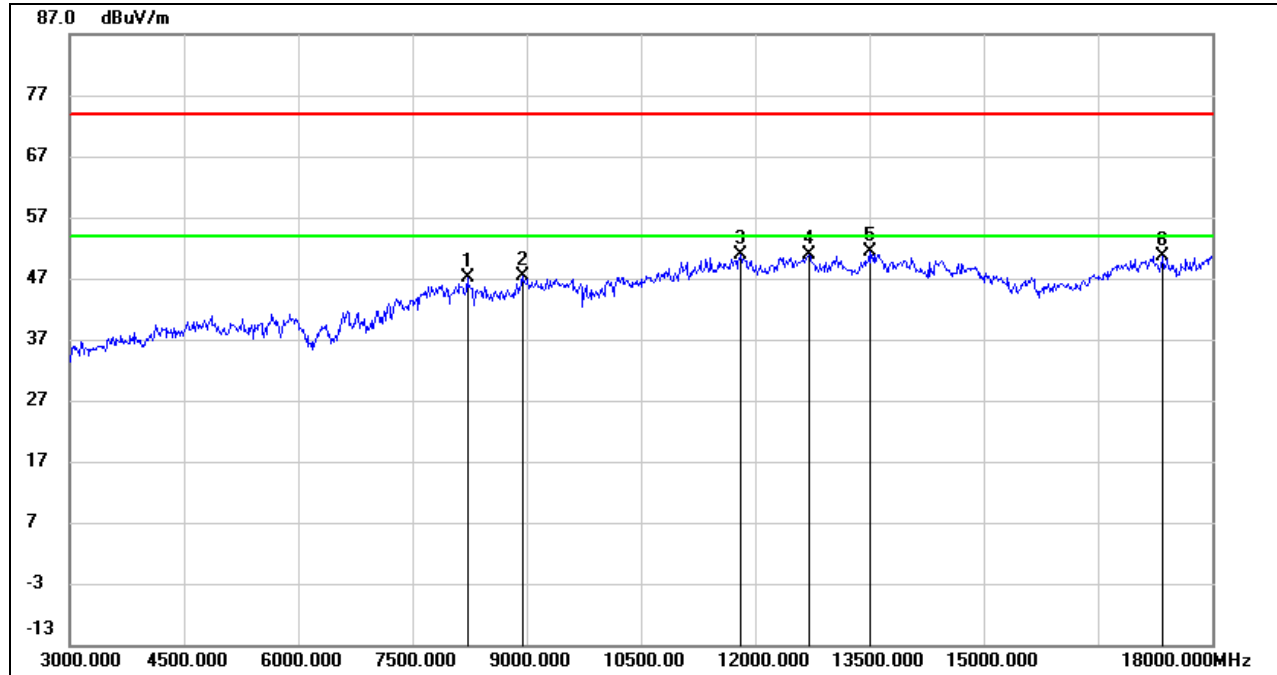


No.	Frequency (MHz)	Reading (dBuV)	Correct (dB/m)	Result (dBuV/m)	Limit (dBuV/m)	Margin (dB)	Remark
1	4867.500	44.76	-0.61	44.15	74.00	-29.85	peak
2	7882.500	38.35	7.39	45.74	74.00	-28.26	peak
3	9127.500	37.62	9.37	46.99	74.00	-27.01	peak
4	12607.500	33.99	16.64	50.63	74.00	-23.37	peak
5	14010.000	31.57	18.52	50.09	74.00	-23.91	peak
6	16905.000	32.05	18.17	50.22	74.00	-23.78	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. Filter losses were only considered in the spurious frequency bands and the authorized band was not corrected for High Pass Filter losses.
 5. Proper operation of the transmitter prior to adding the filter to the measurement chain.

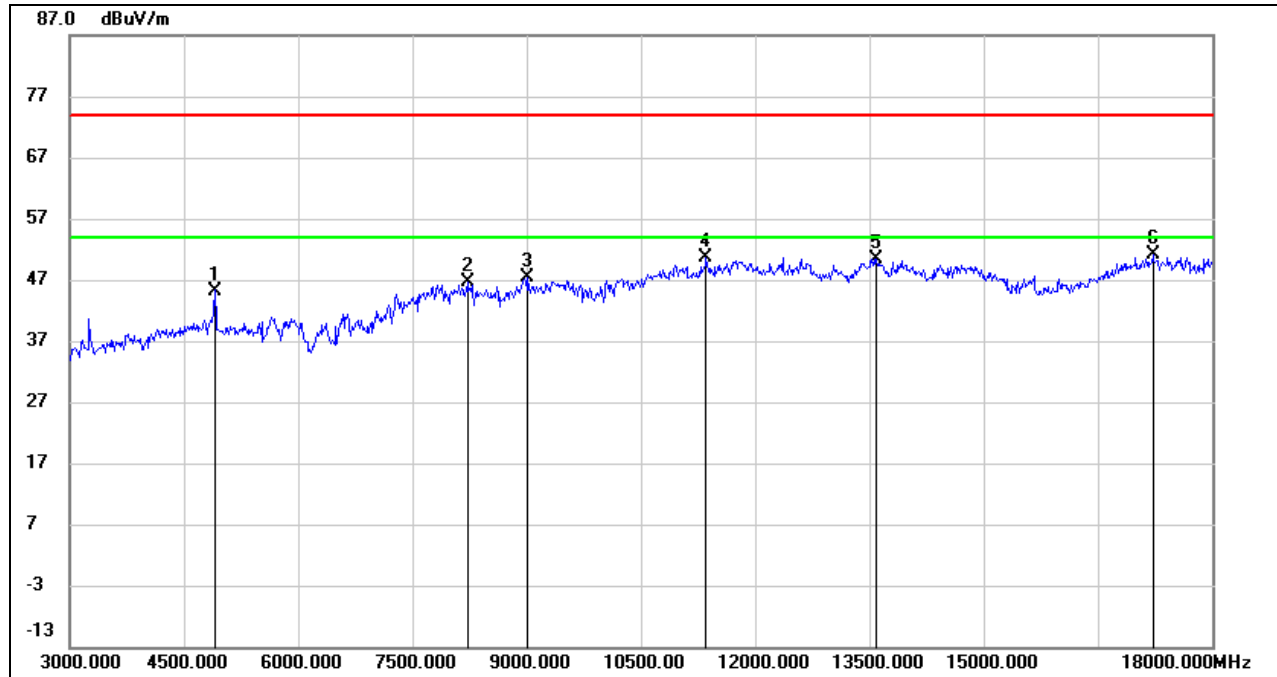


HARMONICS AND SPURIOUS EMISSIONS (MID CHANNEL, VERTICAL)



No.	Frequency (MHz)	Reading (dBuV)	Correct (dB/m)	Result (dBuV/m)	Limit (dBuV/m)	Margin (dB)	Remark
1	8220.000	38.48	8.64	47.12	74.00	-26.88	peak
2	8940.000	37.83	9.47	47.30	74.00	-26.70	peak
3	11812.500	33.44	17.33	50.77	74.00	-23.23	peak
4	12705.000	33.91	16.87	50.78	74.00	-23.22	peak
5	13507.500	33.00	18.41	51.41	74.00	-22.59	peak
6	17355.000	30.91	19.81	50.72	74.00	-23.28	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. Filter losses were only considered in the spurious frequency bands and the authorized band was not corrected for High Pass Filter losses.
 5. Proper operation of the transmitter prior to adding the filter to the measurement chain.

**HARMONICS AND SPURIOUS EMISSIONS (HIGH CHANNEL, HORIZONTAL)**

No.	Frequency (MHz)	Reading (dBuV)	Correct (dB/m)	Result (dBuV/m)	Limit (dBuV/m)	Margin (dB)	Remark
1	4905.000	45.82	-0.57	45.25	74.00	-28.75	peak
2	8227.500	37.96	8.61	46.57	74.00	-27.43	peak
3	9022.500	37.48	10.00	47.48	74.00	-26.52	peak
4	11362.500	34.94	15.66	50.60	74.00	-23.40	peak
5	13597.500	32.08	18.37	50.45	74.00	-23.55	peak
6	17220.000	31.29	19.75	51.04	74.00	-22.96	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.

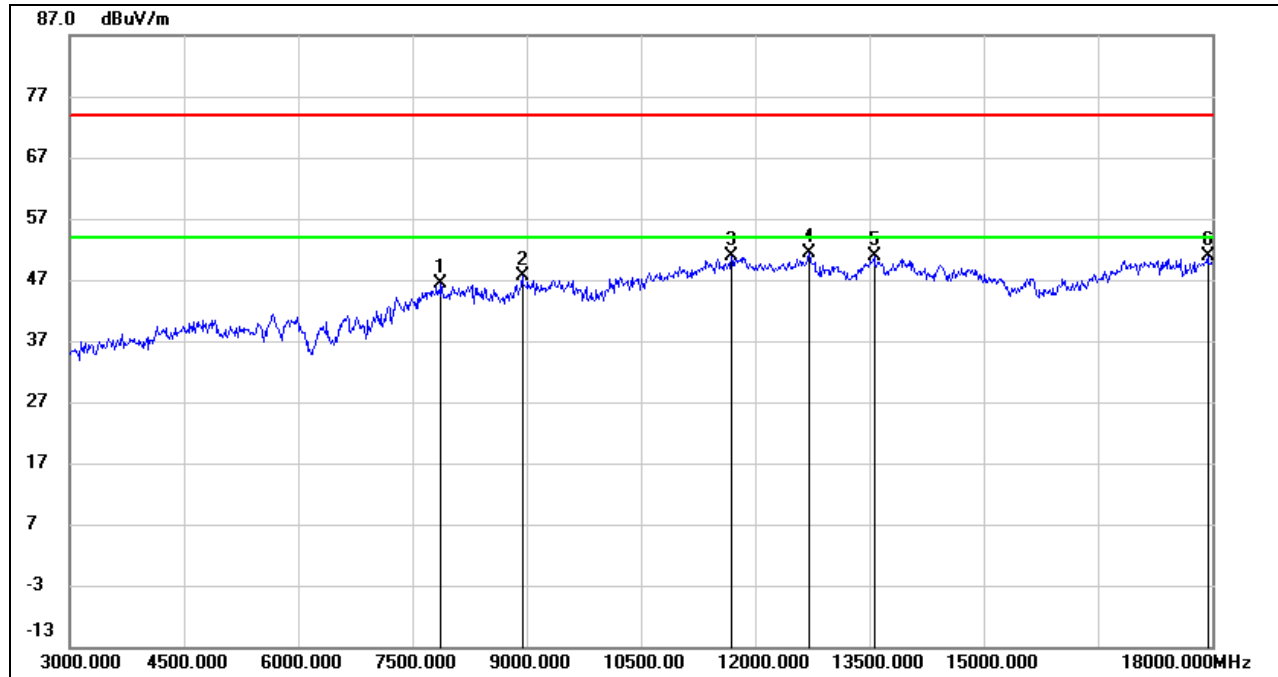
3. Peak: Peak detector.

4. Filter losses were only considered in the spurious frequency bands and the authorized band was not corrected for High Pass Filter losses.

5. Proper operation of the transmitter prior to adding the filter to the measurement chain.



HARMONICS AND SPURIOUS EMISSIONS (HIGH CHANNEL, VERTICAL)



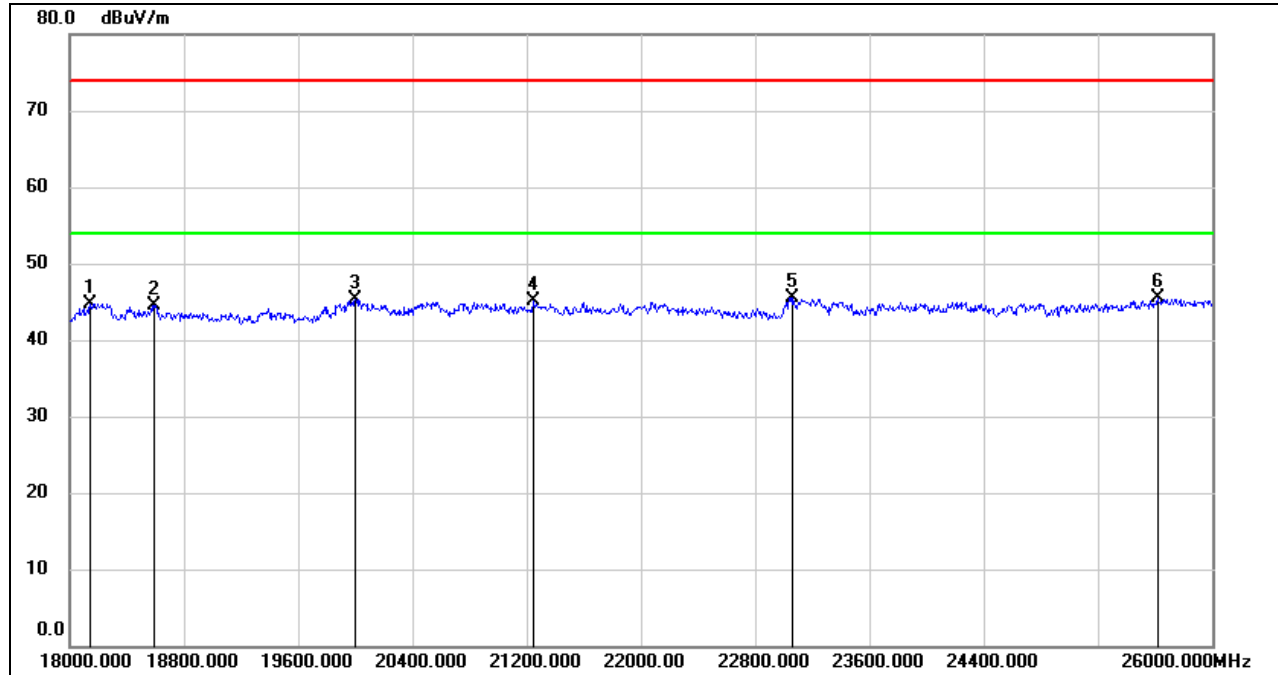
No.	Frequency (MHz)	Reading (dBuV)	Correct (dB/m)	Result (dBuV/m)	Limit (dBuV/m)	Margin (dB)	Remark
1	7875.000	38.91	7.40	46.31	74.00	-27.69	peak
2	8940.000	38.25	9.47	47.72	74.00	-26.28	peak
3	11692.500	34.18	16.78	50.96	74.00	-23.04	peak
4	12705.000	34.56	16.87	51.43	74.00	-22.57	peak
5	13560.000	32.47	18.39	50.86	74.00	-23.14	peak
6	17940.000	27.56	23.22	50.78	74.00	-23.22	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. Filter losses were only considered in the spurious frequency bands and the authorized band was not corrected for High Pass Filter losses.
 5. Proper operation of the transmitter prior to adding the filter to the measurement chain.

8.5. SPURIOUS EMISSIONS (18 GHz ~ 26 GHz)

8.5.1. 802.11n HT20 MIMO MODE

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

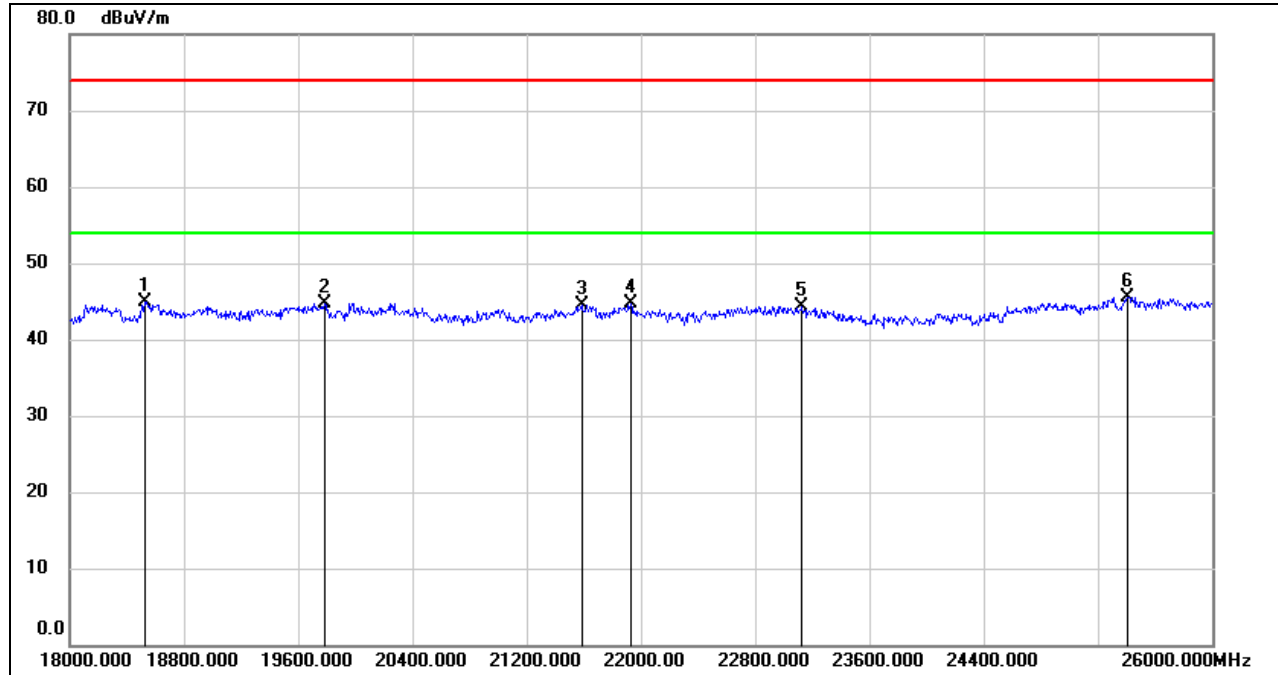


No.	Frequency (MHz)	Reading (dBuV)	Correct (dB/m)	Result (dBuV/m)	Limit (dBuV/m)	Margin (dB)	Remark
1	18144.000	50.27	-5.48	44.79	74.00	-29.21	peak
2	18592.000	49.75	-5.31	44.44	74.00	-29.56	peak
3	20000.000	50.81	-5.45	45.36	74.00	-28.64	peak
4	21248.000	49.79	-4.77	45.02	74.00	-28.98	peak
5	23064.000	48.99	-3.42	45.57	74.00	-28.43	peak
6	25616.000	46.68	-1.24	45.44	74.00	-28.56	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.



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



No.	Frequency (MHz)	Reading (dBuV)	Correct (dB/m)	Result (dBuV/m)	Limit (dBuV/m)	Margin (dB)	Remark
1	18528.000	50.11	-5.26	44.85	74.00	-29.15	peak
2	19784.000	50.07	-5.28	44.79	74.00	-29.21	peak
3	21584.000	49.10	-4.56	44.54	74.00	-29.46	peak
4	21928.000	49.05	-4.43	44.62	74.00	-29.38	peak
5	23128.000	47.69	-3.40	44.29	74.00	-29.71	peak
6	25408.000	47.28	-1.73	45.55	74.00	-28.45	peak

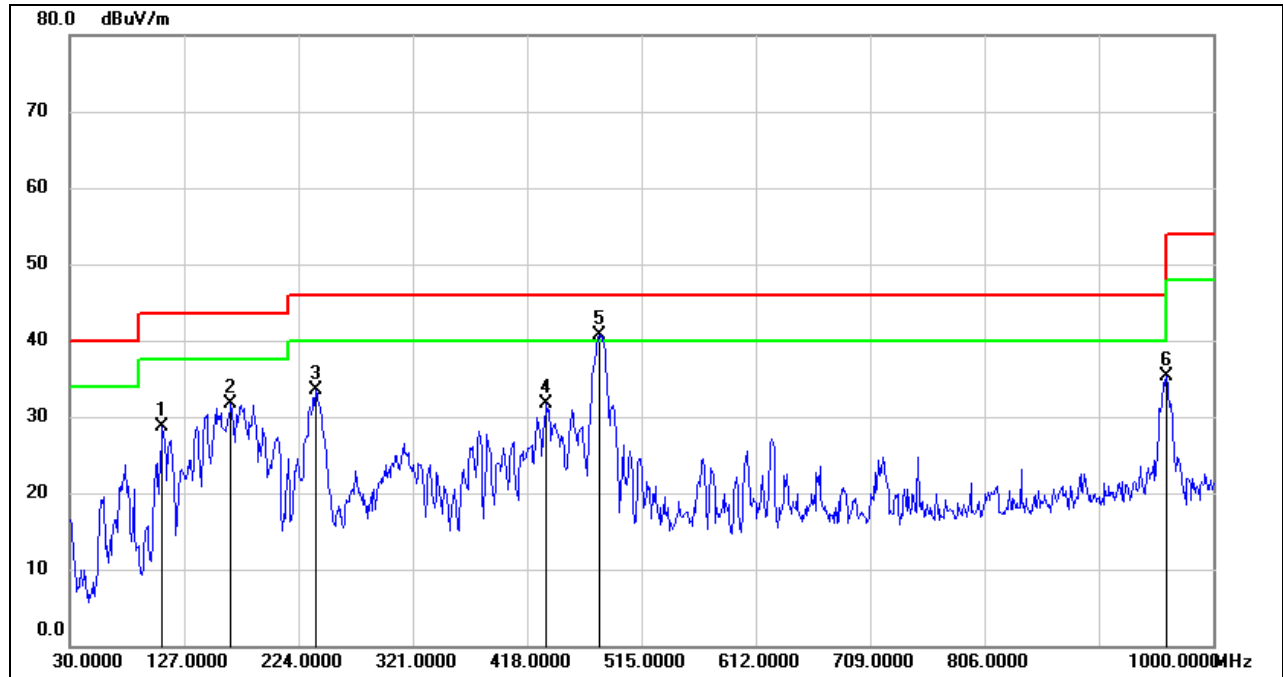
- Note: 1. Measurement = Reading Level + Correct Factor.
 2. If Peak Result complies with AV limit, AV Result is deemed to comply with AV limit.
 3. Peak: Peak detector.

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

8.6. SPURIOUS EMISSIONS (30 MHz ~ 1 GHz)

8.6.1. 802.11n HT20 MIMO MODE

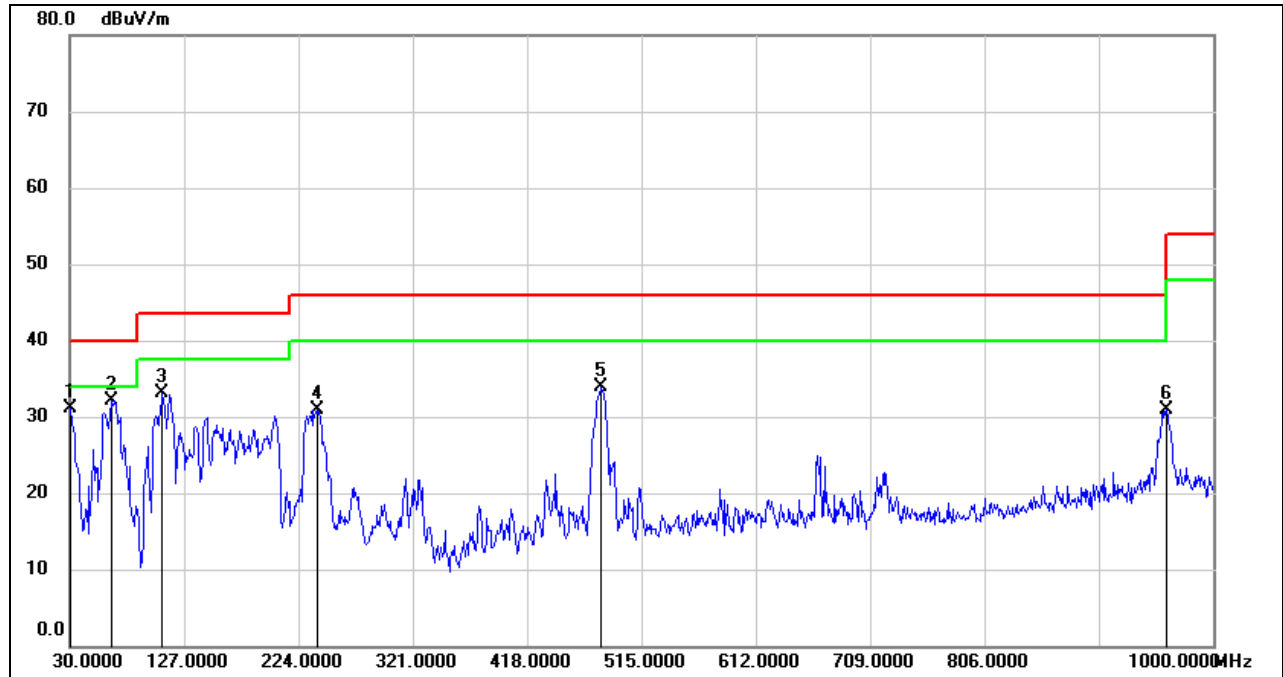
SPURIOUS EMISSIONS (HIGH CHANNEL, WORST-CASE CONFIGURATION, HORIZONTAL)



No.	Frequency (MHz)	Reading (dBuV)	Correct (dB/m)	Result (dBuV/m)	Limit (dBuV/m)	Margin (dB)	Remark
1	108.5700	49.23	-20.53	28.70	43.50	-14.80	QP
2	166.7700	49.19	-17.47	31.72	43.50	-11.78	QP
3	238.5500	52.57	-19.10	33.47	46.00	-12.53	QP
4	434.4900	44.40	-12.66	31.74	46.00	-14.26	QP
5	479.1100	52.59	-11.82	40.77	46.00	-5.23	QP
6	960.2300	39.78	-4.54	35.24	54.00	-18.76	QP

- Note: 1. Result Level = Read Level + Correct Factor.
 2. If Peak Result complies with QP limit, QP Result is deemed to comply with QP limit.
 3. Test setup: RBW: 120 kHz, VBW: 300 kHz, Sweep time: auto.

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



No.	Frequency (MHz)	Reading (dBuV)	Correct (dB/m)	Result (dBuV/m)	Limit (dBuV/m)	Margin (dB)	Remark
1	30.9700	50.21	-19.04	31.17	40.00	-8.83	QP
2	64.9200	52.55	-20.54	32.01	40.00	-7.99	QP
3	108.5700	53.61	-20.53	33.08	43.50	-10.42	QP
4	239.5200	50.13	-19.16	30.97	46.00	-15.03	QP
5	480.0800	45.75	-11.79	33.96	46.00	-12.04	QP
6	960.2300	35.47	-4.54	30.93	54.00	-23.07	QP

- Note: 1. Result Level = Read Level + Correct Factor.
 2. If Peak Result complies with QP limit, QP Result is deemed to comply with QP limit.
 3. Test setup: RBW: 120 kHz, VBW: 300 kHz, Sweep time: auto

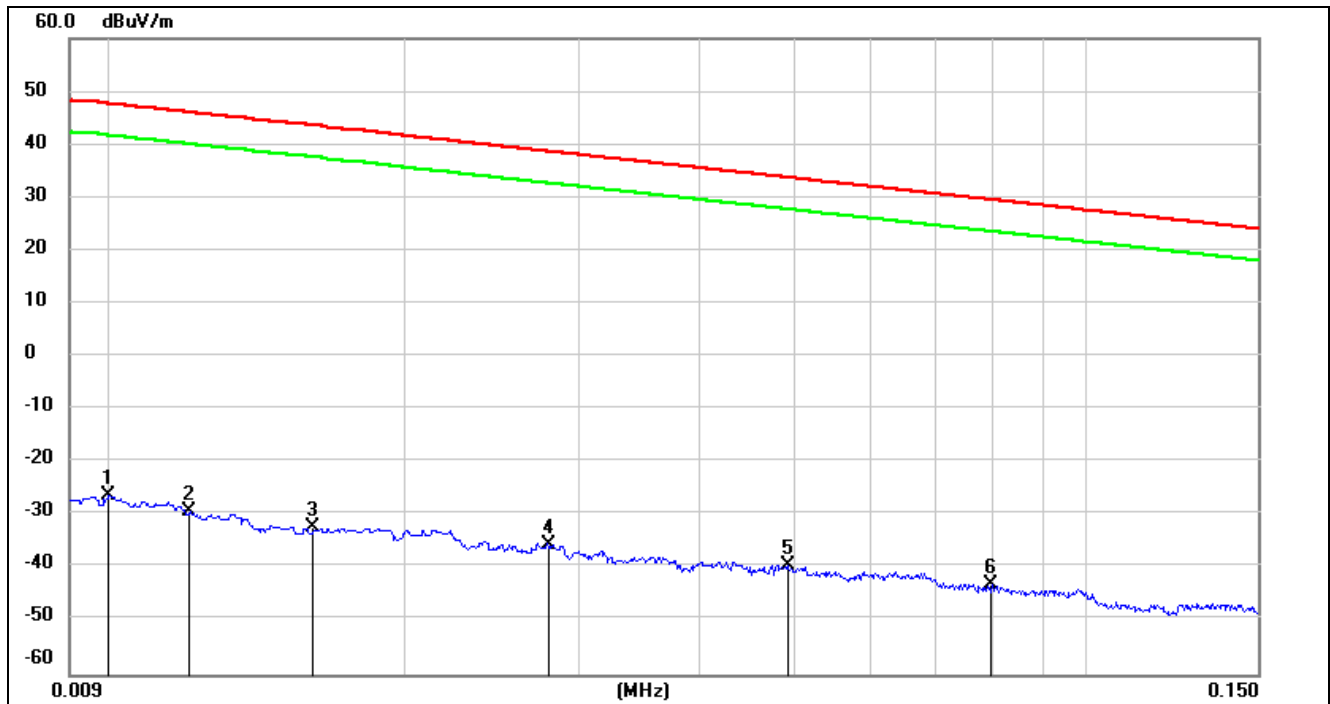
Note: All the modes and channels had been tested, but only the worst data was recorded in the report.

8.7. SPURIOUS EMISSIONS BELOW 30 MHz

8.7.1. 802.11n HT20 MIMO MODE

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

9 kHz~ 150 kHz



No.	Frequency (MHz)	Reading (dBuV)	Correct (dB/m)	FCC Result (dBuV/m)	FCC Limit (dBuV/m)	ISED Result (dBuA/m)	ISED Limit (dBuA/m)	Margin (dB)	Remark
1	0.0100	75.22	-101.40	-26.18	47.6	-77.68	-3.90	-73.78	peak
2	0.0120	72.16	-101.39	-29.23	46.02	-80.73	-5.48	-75.25	peak
3	0.0160	68.97	-101.37	-32.4	43.52	-83.90	-7.98	-75.92	peak
4	0.0280	65.79	-101.38	-35.59	38.66	-87.09	-12.84	-74.25	peak
5	0.0492	62.05	-101.47	-39.42	33.76	-90.92	-17.74	-73.18	peak
6	0.0796	58.53	-101.63	-43.1	29.58	-94.60	-21.92	-72.68	peak

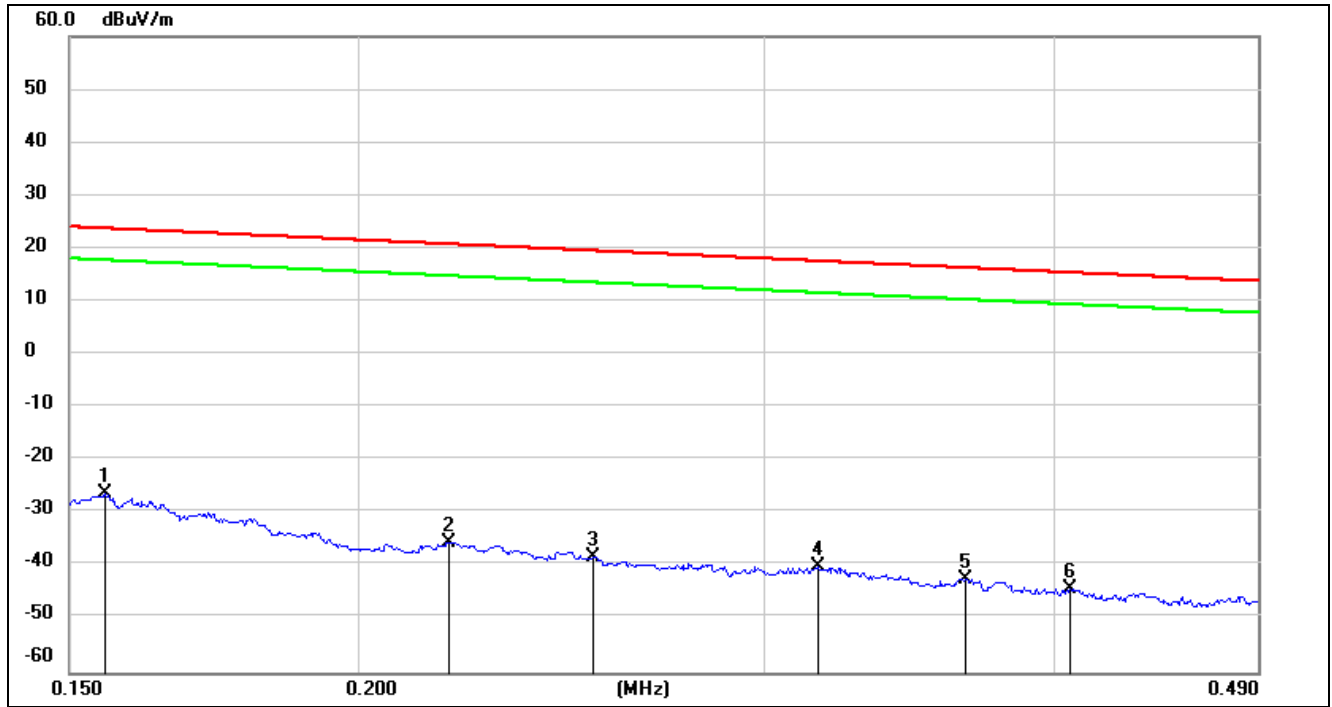
Note: 1. Measurement = Reading Level + Correct Factor (dBuA/m= dBuV/m- 20Log10[120π] = dBuV/m- 51.5).

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.



150 kHz ~ 490 kHz



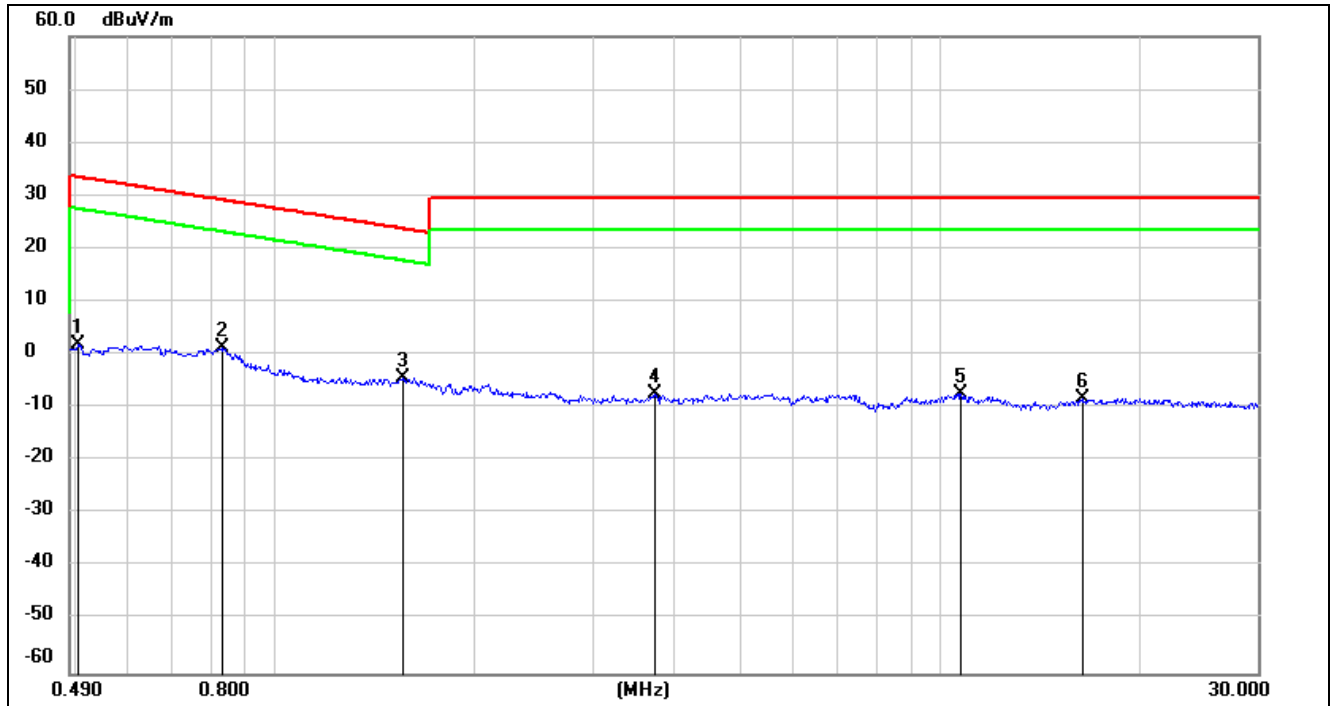
No.	Frequency (MHz)	Reading (dBuV)	Correct (dB/m)	FCC Result (dBuV/m)	FCC Limit (dBuV/m)	ISED Result (dBuA/m)	ISED Limit (dBuA/m)	Margin (dB)	Remark
1	0.1554	75.27	-101.65	-26.38	23.77	-77.88	-27.73	-50.15	peak
2	0.2190	66.27	-101.75	-35.48	20.79	-86.98	-30.71	-56.27	peak
3	0.2530	63.64	-101.80	-38.16	19.54	-89.66	-31.96	-57.70	peak
4	0.3163	61.70	-101.87	-40.17	17.6	-91.67	-33.90	-57.77	peak
5	0.3662	59.58	-101.93	-42.35	16.33	-93.85	-35.17	-58.68	peak
6	0.4062	57.64	-101.96	-44.32	15.43	-95.82	-36.07	-59.75	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.

490 kHz ~ 30 MHz



No.	Frequency (MHz)	Reading (dBuV)	Correct (dB/m)	FCC Result (dBuV/m)	FCC Limit (dBuV/m)	ISED Result (dBuA/m)	ISED Limit (dBuA/m)	Margin (dB)	Remark
1	0.5039	63.93	-62.07	1.86	33.56	-49.64	-17.94	-31.70	peak
2	0.8296	63.44	-62.17	1.27	29.23	-50.23	-22.27	-27.96	peak
3	1.5564	57.68	-62.02	-4.34	23.76	-55.84	-27.74	-28.10	peak
4	3.7100	54.20	-61.41	-7.21	29.54	-58.71	-21.96	-36.75	peak
5	10.7299	53.48	-60.83	-7.35	29.54	-58.85	-21.96	-36.89	peak
6	16.3959	52.67	-60.96	-8.29	29.54	-59.79	-21.96	-37.83	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. Appendix

9.1. Appendix A: Maximum conducted output power

9.1.1. Test Result

Test worst case results of Spot Check					
Test Mode	Antenna	Frequency (MHz)	Result[dBm]	original report Result[dBm]	Deviation(dB)
b	Ant2	2437	11.14	11.21	-0.07
g	Ant2	2462	11.12	11.23	-0.11
n HT20	total	2412	13.35	13.38	-0.03
n HT40	total	2437	10.54	10.63	-0.09

END OF REPORT