



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

## **CERTIFICATION TEST REPORT**

For

Ronin RavenEye Image Transmission System

MODEL: WV-002

FCC ID: 2ANDR-WV0022022

IC: 23060-WV0022022

**REPORT NUMBER: 4790385284-8** 

**ISSUE DATE: May 25, 2022** 

Prepared for

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**Revision History** 

Rev.	Issue Date	Revisions	Revised By
V0	05/25/2022	Initial Issue	_



	Summary of Test Results							
Clause	Test Items	Test Items FCC/ISED Rules						
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:

<sup>1.</sup> This test report is only published to and used by the applicant, and it is not for evidence purpose in China.

<sup>2.</sup> 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: SZ DJI Osmo Technology Co., Ltd.

Address: 4F, Jingkou Community Comprehensive Service Building, No. 83

Bishui Road North, Guangming Street, Guangming District,

Shenzhen

**Manufacturer Information** 

Company Name: SZ DJI Osmo Technology Co., Ltd.

Address: 4F, Jingkou Community Comprehensive Service Building, No. 83

Bishui Road North, Guangming Street, Guangming District,

Shenzhen

**EUT Information** 

EUT Name: Ronin RavenEye Image Transmission System

Model: WV-002

Sample Received Date: April 25, 2022

Sample Status: Normal Sample ID: 4914061

Date of Tested: April 25, 2022 ~ May 25, 2022

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 662911 D01 Multiple Transmitter Output v02r01, 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

	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)				
Accreditation	UL Verification Services (Guangzhou) Co., Ltd. Song Shan Lake Branch.				
Certificate	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.

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# 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	5.78 dB (1 GHz ~ 18 GHz)			
(Included Fundamental Emission) (1 GHz to 26 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	±0.746 dB (9 kHz ~ 1 GHz)			
Frequency Bands	±1.328dB (1 GHz ~ 26 GHz)			
Note: This uncertainty represents an expanded uncertainty expressed at approximately the				

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	e Ronin RavenEye Image Transmission System	
Model	WV-002	
Radio Technology	WLAN (IEEE 802.11b/g/n HT20/n HT40/ax HE20/ax HE40)	
Operation frequency	IEEE 802.11b: 2412 MHz ~ 2462 MHz IEEE 802.11g: 2412 MHz ~ 2462 MHz IEEE 802.11n HT20: 2412 MHz ~ 2462 MHz IEEE 802.11n HT40: 2422 MHz ~ 2452 MHz IEEE 802.11ax HE20: 2412 MHz ~ 2462 MHz IEEE 802.11ax HE40: 2422 MHz ~ 2452 MHz	
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) IEEE 802.11n HT40: OFDM (256QAM, 64QAM, 16QAM, QPSK, BPSK) IEEE 802.11ax HE20: OFDMA (BPSK, QPSK,16QAM,64QAM, 256QAM, 1024QAM) IEEE 802.11ax HE40: OFDMA (BPSK, QPSK,16QAM,64QAM, 256QAM, 1024QAM)	
Power Supply	DC 5 V	

# 5.2. CHANNEL LIST

Channel List for 802.11b/g/n/ax (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	1	/

Channel List for 802.11n/ax (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	1	/



# 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]	19.31
g	2412 ~ 2462	1-11[11]	19.27
n HT20	2412 ~ 2462	1-11[11]	20.99
n HT40	2422 ~ 2452	3-9[7]	14.78
ax HE20	2412 ~ 2462	1-11[11]	21.21
ax HE40	2422 ~ 2452	3-9[7]	15.00

# 5.4. TEST CHANNEL CONFIGURATION

IEEE Std. 802.11	Test Channel	Frequency (MHz)
b	CH 1, CH 2, CH 6, CH 10, CH 11	2412, 2417, 2437, 2457, 2462
g	CH 1, CH 2, CH 6, CH 10, CH 11	2412, 2417, 2437, 2457, 2462
n HT20	CH 1, CH 2, CH 6, CH 10, CH 11	2412, 2417, 2437, 2457, 2462
n HT40	CH 3, CH 4, CH 6, CH 8, CH 9	2422, 2427, 2437, 2447, 2452
ax HE20	CH 1, CH 2, CH 6, CH 10, CH 11	2412, 2417, 2437, 2457, 2462
ax HE40	CH 3, CH 4, CH 6, CH 8, CH 9	2422, 2427, 2437, 2447, 2452

# 5.5. THE WORSE CASE POWER SETTING PARAMETER

The	The Worse Case Power Setting Parameter under 2400 ~ 2483.5 MHz Band										
Test Softv	vare		Wifi Certify Rikka_1.0.0.9								
IEEE OU	Transmit				Test	Softwar	e Settin	g Value	)		
IEEE Std. 802.11	Antenna		NC	B: 201	ИHz			NC	B: 40M	lHz	
002.11	Number	CH1	CH2	CH6	CH10	CH11	CH3	CH4	CH6	CH8	CH9
b	1&2	19	19	19	19	19					
g	1&2	19	19	18	15	14			/		
n HT20	1&2	17	18	18	15	12					
n HT40	1&2			/			12	13	13	8	6
ax HE20	1&2	16	18	18	15	11			1		
ax HE40	1&2			/			12	13	13	8	8

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## 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.

For SISO modes, there are two transmission antennas. The antenna used in any given time can be either antenna 1 or antenna 2. All antenna ports have the same power; output power measurement for SISO modes on both antennas are reported.

For MIMO modes, antenna 1 and antenna 2 used at the same time.

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 802.11ax HE20 mode: MCS0 802.11ax HE40 mode: MCS0

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

802.11b/g support SISO mode only, two antenna have the same power setting, so only the worst data for antenna 2 are recorded in the report.

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

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

Duty cycle and occupied channel bandwidth tests, only SISO mode and one chain were tested since the duty cycle and bandwidth does not change depending on chains used.

Conducted unwanted 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 unwanted 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.



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# 5.7. DESCRIPTION OF AVAILABLE ANTENNAS

Antenna	Frequency (MHz)	Antenna Type	MAX Antenna Gain (dBi)
1	2412-2462	Dipole	2.5
2	2412-2462	Dipole	2.5

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.
IEEE 802.11ax HE20	⊠2TX, 2RX	ANT 1 and ANT 2 can be used as transmitting/receiving antenna.
IEEE 802.11ax HE40	⊠2TX, 2RX	ANT 1 and ANT 2 can be used as transmitting/receiving antenna.

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	Lenovo	XIAOXIN 5000	/
2	AC Adapter	Lenovo	42T4434	Input: AC 100 ~ 240 V, 1.5 A, 50-60 Hz Output: DC 20 V, 4.5 A
3	UART to Type C	1	1	1
4	Camera	Canon	ESO M50	1

## **I/O CABLES**

Cable No	Port	Connector Type	Cable Type	Cable Length(m)	Remarks
1	USB	Type C	Unshielded	1.0	1
2	USB	Type C	Unshielded	1.0	/
3	HDMI	1	Unshielded	1.0	1

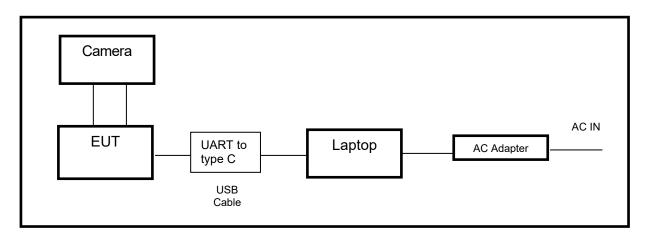
## **ACCESSORIES**

Item	Accessory	Brand Name	Model Name	Description
1	/	/	/	/

## **TEST SETUP**

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

## **SETUP DIAGRAM FOR TESTS**

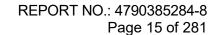




# 6. MEASURING INSTRUMENT AND SOFTWARE USED

	Conducted Emissions					
Equipment	Manufacturer	Model No.	Serial No.	Last Cal.	Due Date	
EMI Test Receiver	R&S	ESR3	101961	Oct.30, 2021	Oct.29, 2022	
Two-Line V- Network	R&S	ENV216	101983	Oct.30, 2021	Oct.29, 2022	
	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	Oct.30, 2021	Oct.29, 2022
Hybrid Log Periodic Antenna	TDK	HLP-3003C	130959	Aug.02, 2021	Aug.01, 2024
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	July 20, 2021	July 19, 2024
Preamplifier	TDK	PA-02-0118	TRS-305- 00067	Oct.30, 2021	Oct.29, 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	80000	Dec.14, 2021	Dec.13, 2024
Preamplifier	TDK	PA-02-001- 3000	TRS-302- 00050	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				
1	Description		Manufacturer	Name	Version
Test Software	for Radiated E	missions	Farad	EZ-EMC	Ver. UL-3A1





**Tonsend RF Test System** Manufacturer Model No. Serial No. Last Cal. Due. Date Equipment Wideband Radio R&S CMW500 155523 Oct.30, 2021 Oct.29, 2022 **Communication Tester** Wireless Connectivity 1201.0002N75-Sep.29, 2021 R&S CMW270 Sep.28, 2022 Tester 102 PXA Signal Analyzer Keysight N9030A MY55410512 Oct.30, 2021 Oct.29, 2022 MXG Vector Signal Keysight N5182B MY56200284 Oct.30, 2021 Oct.29, 2022 Generator MXG Vector Signal Keysight N5172B MY56200301 Oct.30, 2021 Oct.29, 2022 Generator Software Description Manufacturer Version Name 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.
Dual Channel Power Meter	Keysight	N1912A	MY55416024	Oct.30, 2021	Oct.29, 2022
Power Sensor	Keysight	USB Wideband Power Sensor	MY5100022	Oct.30, 2021	Oct.29, 2022



# 7. ANTENNA PORT TEST RESULTS

# 7.1. ON TIME AND DUTY CYCLE

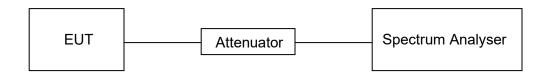
## **LIMITS**

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	27.4 °C	Relative Humidity	57.3 %
Atmosphere Pressure	101 kPa	Test Voltage	DC 5 V

## **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	

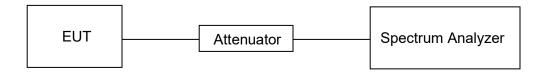
## **TEST PROCEDURE**

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	27.4 °C	Relative Humidity	57.3 %
Atmosphere Pressure	101 kPa	Test Voltage	DC 5 V

# **RESULTS**

Please refer to appendix A & B.



## 7.3. CONDUCTED OUTPUT POWER

### **LIMITS**

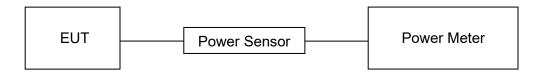
CFR 47 FCC Part15 (15.247) Subpart C ISED RSS-247 ISSUE 2				
Section Test Item Limit Frequency Range (MHz)				
CFR 47 FCC 15.247(b)(3) ISED RSS-247 5.4 (d)	Conducted Output Power	1 watt or 30 dBm	2400-2483.5	

### **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	27.4 °C	Relative Humidity	57.3 %
Atmosphere Pressure	101 kPa	Test Voltage	DC 5 V

### **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.

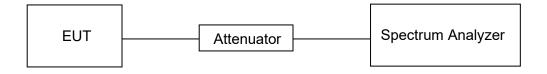
Connect the EUT to the spectrum analyser and use the following settings:

Center Frequency	The center frequency of the channel under test	
Detector	AVG	
RBW	3 kHz ≤ RBW ≤ 100 kHz	
VBW	≥3 × RBW	
Span	1.5 x DTS bandwidth	
Trace	Trace average	
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	27.4 °C	Relative Humidity	57.3 %
Atmosphere Pressure	101 kPa	Test Voltage	DC 5 V



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# **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.

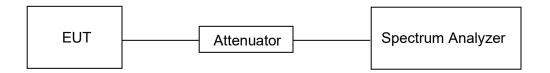
Change the settings for emission level measurement:

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	27.4 °C	Relative Humidity	57.3 %
Atmosphere Pressure	101 kPa	Test Voltage	DC 5 V

# **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	Field Strength Limit	Field Stren	gth Limit
(MHz)	(uV/m) at 3 m	(dBuV/m) at 3 m	
		Quasi-l	Peak
30 - 88	100	40	
88 - 216	150	43.	5
216 - 960	200	46	
Above 960	500	54	
Above 1000	500	Peak	Average
Above 1000	500	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 <sup>Note 1</sup>	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

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
8.215 - 6.218	608 - 614	23.6 - 24.0
6.26775 - 6.26825	960 - 1427	31.2 - 31.8
8.31175 - 6.31225	1435 - 1626.5	36.43 - 36.5
8.291 - 8.294	1645.5 - 1646.5	Above 38.6
8.362 - 8.366	1680 - 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		

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

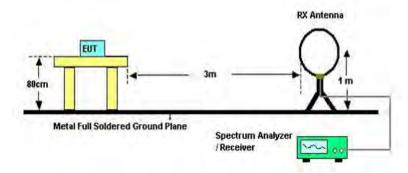
MHz	MHz	MHz	GHz
0.090-0.110	16.42-16.423	399.9-410	4.5-5.15
<sup>1</sup> 0.495-0.505	16.69475-16.69525	608-614	5.35-5.46
2.1735-2.1905	16.80425-16.80475	960-1240	7.25-7.75
4.125-4.128	25.5-25.67	1300-1427	8.025-8.5
4.17725-4.17775	37.5-38.25	1435-1626.5	9.0-9.2
4.20725-4.20775	73-74.6	1645.5-1646.5	9.3-9.5
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	( <sup>2</sup> )
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



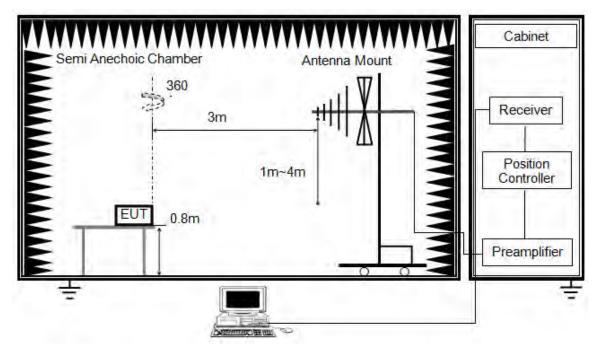
## The setting of the spectrum analyser

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 11.11 and 11.12.
- 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 remeasured. 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 377  $\Omega$ ; 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



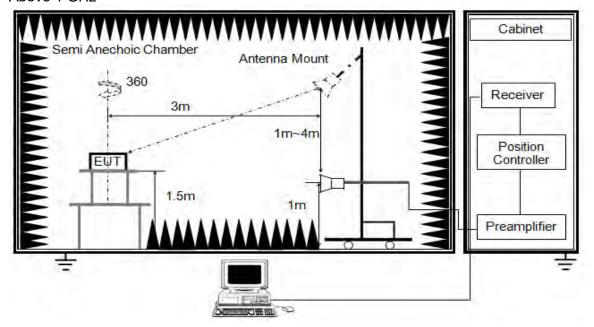
The setting of the spectrum analyser

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



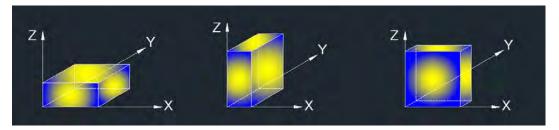
The setting of the spectrum analyser

RBW	1 MHz
IV/R/W	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.

Note 2: The EUT was fully exercised with external accessories during the test. In the case of multiple accessory external ports, an external accessory shall be connected to one of each type of port.

### **TEST ENVIRONMENT**

Temperature	24.3 °C	Relative Humidity	61 %
Atmosphere Pressure	101 kPa	Test Voltage	DC 5 V

### **RESULTS**



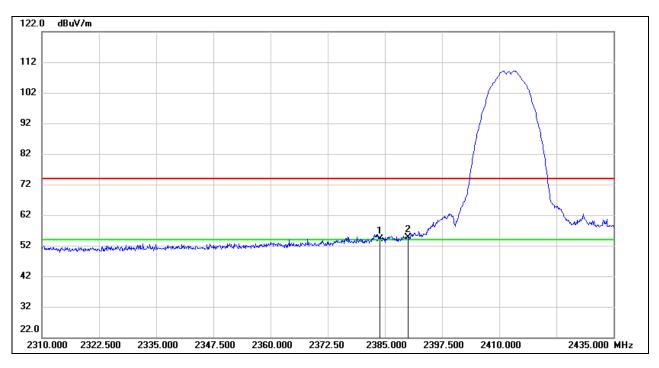
## 8.1. RESTRICTED BANDEDGE

### 8.1.1. 802.11b SISO MODE

## **ANTENNA 1 TEST RESULTS (WORST CASE)**

## RESTRICTED BANDEDGE (CHANNEL 1, VERTICAL)

### **PEAK**

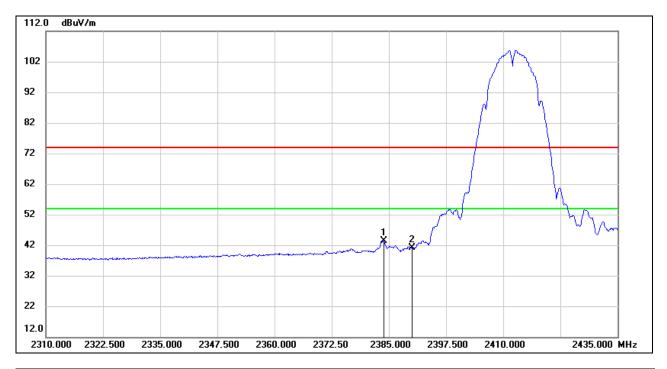


No.	Frequency	Reading	Correct	Result	Limit	Margin	Remark
	(MHz)	(dBuV)	(dB/m)	(dBuV/m)	(dBuV/m)	(dB)	
1	2383.875	21.52	32.61	54.13	74.00	-19.87	peak
2	2390.000	22.04	32.66	54.70	74.00	-19.30	peak

- 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.



## <u>AVG</u>



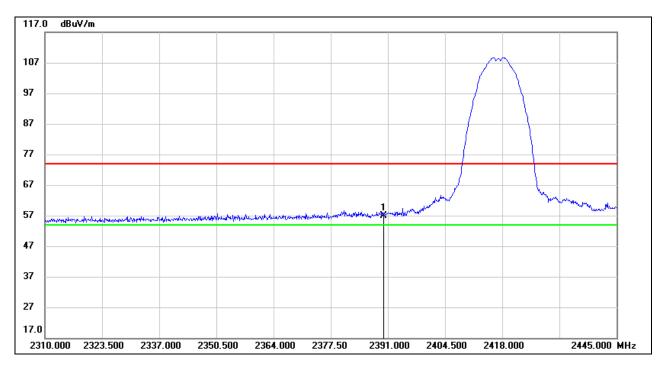
No.	Frequency	Reading	Correct	Result	Limit	Margin	Remark
	(MHz)	(dBuV)	(dB/m)	(dBuV/m)	(dBuV/m)	(dB)	
1	2383.875	10.71	32.61	43.32	54.00	-10.68	AVG
2	2390.000	8.38	32.66	41.04	54.00	-12.96	AVG

- 2. If Peak Result complies with AV limit, AV Result is deemed to comply with AV limit.
- 3. AVG: VBW=1/Ton, where: Ton is the transmitting duration.
- 4. For the transmitting duration, please refer to clause 7.1.
- 5. Only the worst data was recorded, if it complies with the limit, the other emissions deemed to comply with the limit.



## **RESTRICTED BANDEDGE (CHANNEL 2, VERTICAL)**

## **PEAK**

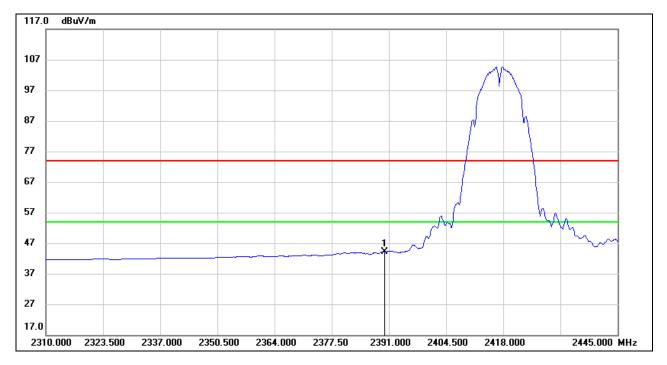


No.	Frequency	Reading	Correct	Result	Limit	Margin	Remark
	(MHz)	(dBuV)	(dB/m)	(dBuV/m)	(dBuV/m)	(dB)	
1	2390.000	24.29	32.66	56.95	74.00	-17.05	peak

- 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.



## <u>AVG</u>



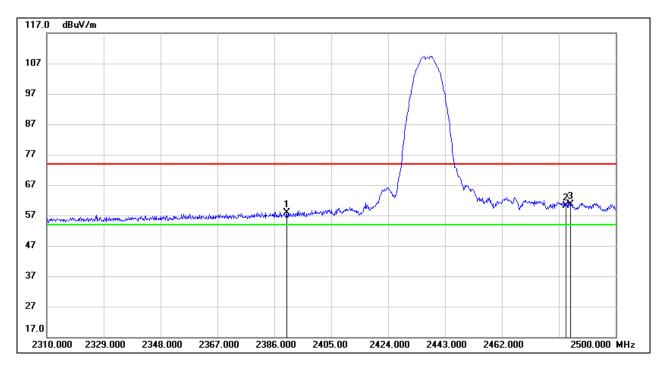
No.	Frequency	Reading	Correct	Result	Limit	Margin	Remark
	(MHz)	(dBuV)	(dB/m)	(dBuV/m)	(dBuV/m)	(dB)	
1	2390,000	11.48	32.66	44.14	74.00	-29.86	AVG

- 2. If Peak Result complies with AV limit, AV Result is deemed to comply with AV limit.
- 3. AVG: VBW=1/Ton, where: Ton is the transmitting duration.
- 4. For the transmitting duration, please refer to clause 7.1.
- 5. Only the worst data was recorded, if it complies with the limit, the other emissions deemed to comply with the limit.



## **RESTRICTED BANDEDGE (CHANNEL 6, VERTICAL)**

## **PEAK**

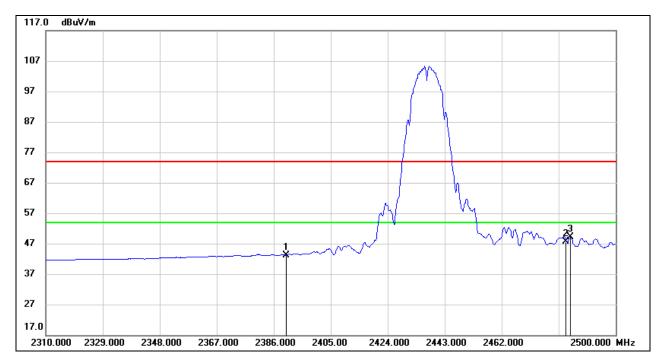


No.	Frequency	Reading	Correct	Result	Limit	Margin	Remark
	(MHz)	(dBuV)	(dB/m)	(dBuV/m)	(dBuV/m)	(dB)	
1	2390.000	25.18	32.66	57.84	74.00	-16.16	peak
2	2483.500	27.04	33.10	60.14	74.00	-13.86	peak
3	2484.990	27.55	33.10	60.65	74.00	-13.35	peak

- 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**



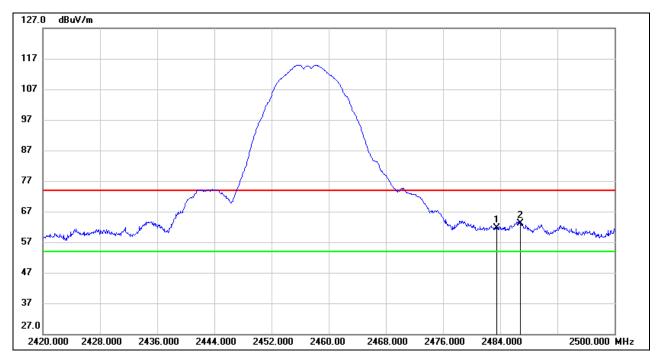
No.	Frequency	Reading	Correct	Result	Limit	Margin	Remark
	(MHz)	(dBuV)	(dB/m)	(dBuV/m)	(dBuV/m)	(dB)	
1	2390.000	10.52	32.66	43.18	54.00	-10.82	AVG
2	2483.500	14.62	33.10	47.72	54.00	-6.28	AVG
3	2484.990	16.10	33.10	49.20	54.00	-4.80	AVG

- 2. If Peak Result complies with AV limit, AV Result is deemed to comply with AV limit.
- 3. AVG: VBW=1/Ton, where: Ton is the transmitting duration.
- 4. For the transmitting duration, please refer to clause 7.1.
- 5. Only the worst data was recorded, if it complies with the limit, the other emissions deemed to comply with the limit.



## **RESTRICTED BANDEDGE (CHANNEL 10, VERTICAL)**

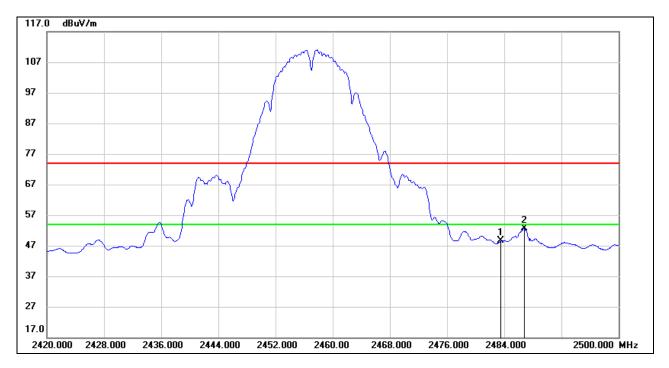
## **PEAK**



No.	Frequency	Reading	Correct	Result	Limit	Margin	Remark
	(MHz)	(dBuV)	(dB/m)	(dBuV/m)	(dBuV/m)	(dB)	
1	2483.500	28.52	33.10	61.62	74.00	-12.38	peak
2	2486.800	29.99	33.11	63.10	74.00	-10.90	peak

- 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.





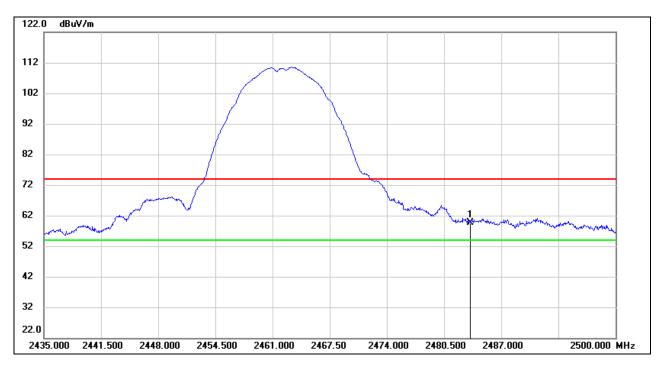
No.	Frequency	Reading	Correct	Result	Limit	Margin	Remark
	(MHz)	(dBuV)	(dB/m)	(dBuV/m)	(dBuV/m)	(dB)	
1	2483.500	15.41	33.10	48.51	54.00	-5.49	AVG
2	2486.800	19.53	33.11	52.64	54.00	-1.36	AVG

- 2. If Peak Result complies with AV limit, AV Result is deemed to comply with AV limit.
- 3. AVG: VBW=1/Ton, where: Ton is the transmitting duration.
- 4. For the transmitting duration, please refer to clause 7.1.
- 5. Only the worst data was recorded, if it complies with the limit, the other emissions deemed to comply with the limit.



#### **RESTRICTED BANDEDGE (CHANNEL 11, VERTICAL)**

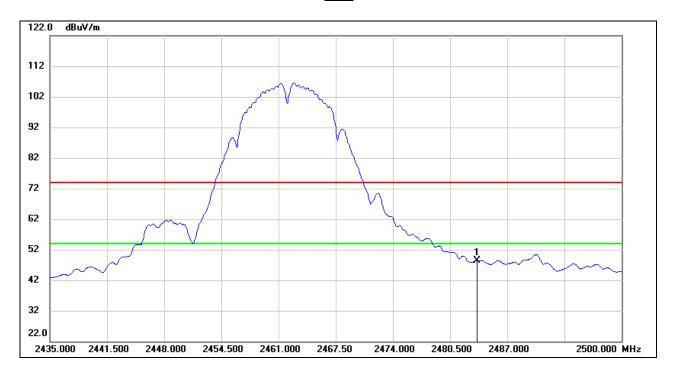
## **PEAK**



No.	Frequency	Reading	Correct	Result	Limit	Margin	Remark
	(MHz)	(dBuV)	(dB/m)	(dBuV/m)	(dBuV/m)	(dB)	
1	2483.500	26.42	33.10	59.52	74.00	-14.48	peak

- 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.





No.	Frequency	Reading	Correct	Result	Limit	Margin	Remark
	(MHz)	(dBuV)	(dB/m)	(dBuV/m)	(dBuV/m)	(dB)	
1	2483.500	15.38	33.10	48.48	54.00	-5.52	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. AVG: VBW=1/Ton, where: Ton is the transmitting duration.
- 4. For the transmitting duration, please refer to clause 7.1.
- 5. 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 the two antennas had been tested, but only the worst data was recorded in the report.

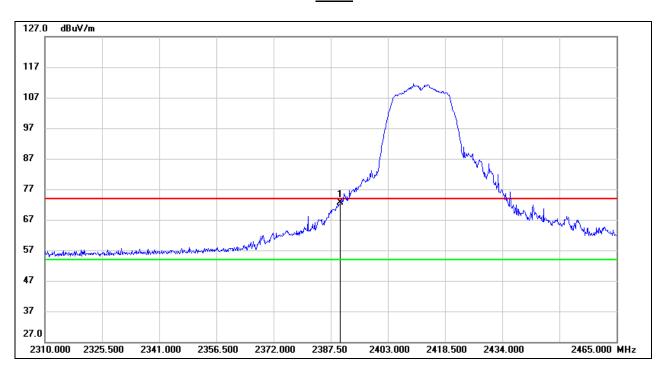


# 8.1.2. 802.11g SISO MODE

# ANTENNA 1 TEST RESULTS (WORST CASE)

# **RESTRICTED BANDEDGE (CHANNEL 1, VERTICAL)**

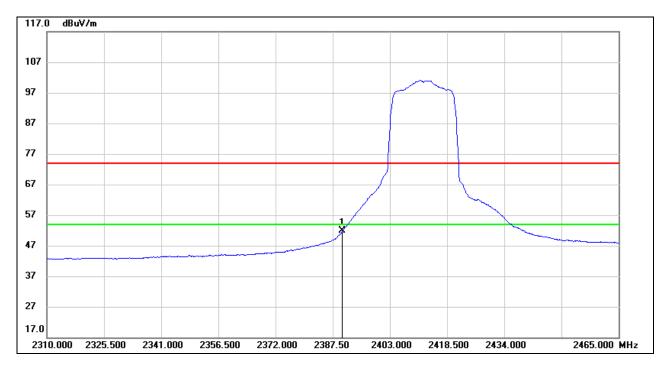
#### **PEAK**



No.	Frequency	Reading	Correct	Result	Limit	Margin	Remark
	(MHz)	(dBuV)	(dB/m)	(dBuV/m)	(dBuV/m)	(dB)	
1	2390.000	40.07	32.66	72.73	74.00	-1.27	peak

- 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.





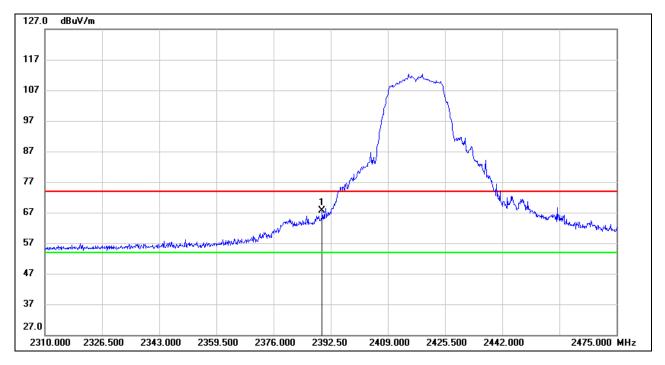
No.	Frequency	Reading	Correct	Result	Limit	Margin	Remark
	(MHz)	(dBuV)	(dB/m)	(dBuV/m)	(dBuV/m)	(dB)	
1	2390.000	19.27	32.66	51.93	54.00	-2.07	AVG

- 2. If Peak Result complies with AV limit, AV Result is deemed to comply with AV limit.
- 3. AVG: VBW=1/Ton, where: Ton is the transmitting duration.
- 4. For the transmitting duration, please refer to clause 7.1.
- 5. Only the worst data was recorded, if it complies with the limit, the other emissions deemed to comply with the limit.



## **RESTRICTED BANDEDGE (CHANNEL 2, VERTICAL)**

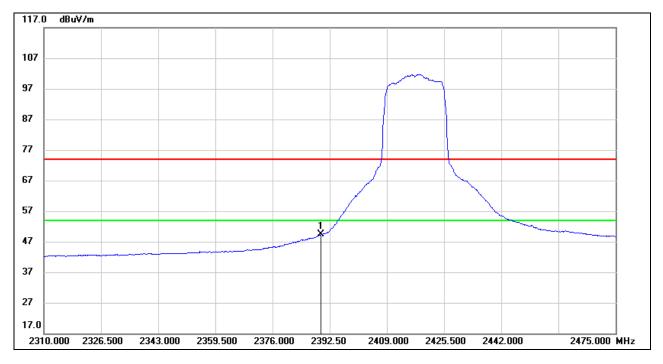
## **PEAK**



No.	Frequency	Reading	Correct	Result	Limit	Margin	Remark
	(MHz)	(dBuV)	(dB/m)	(dBuV/m)	(dBuV/m)	(dB)	
1	2390.000	35.04	32.66	67.70	74.00	-6.30	peak

- 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.





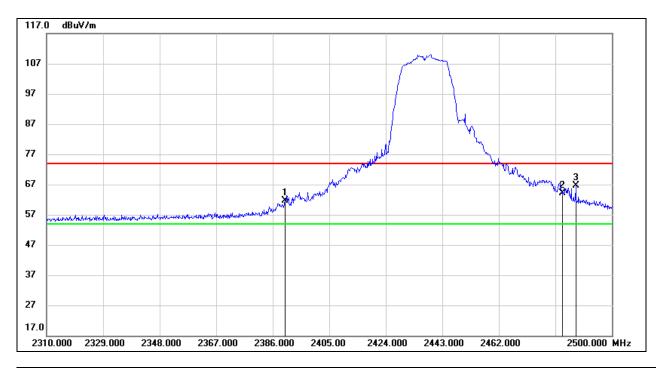
No.	Frequency	Reading	Correct	Result	Limit	Margin	Remark
	(MHz)	(dBuV)	(dB/m)	(dBuV/m)	(dBuV/m)	(dB)	
1	2390.000	16.62	32.66	49.28	54.00	-4.72	AVG

- 2. If Peak Result complies with AV limit, AV Result is deemed to comply with AV limit.
- 3. AVG: VBW=1/Ton, where: Ton is the transmitting duration.
- 4. For the transmitting duration, please refer to clause 7.1.
- 5. Only the worst data was recorded, if it complies with the limit, the other emissions deemed to comply with the limit.



#### **RESTRICTED BANDEDGE (CHANNEL 6, VERTICAL)**

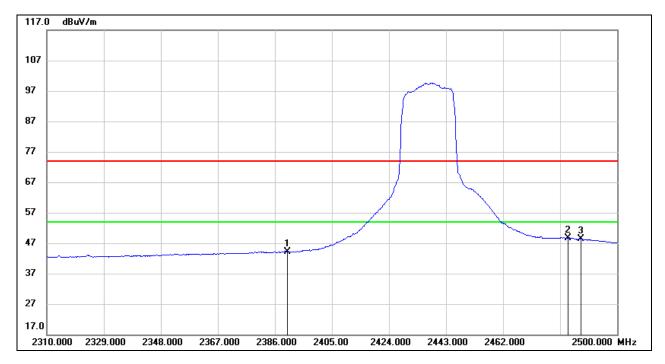
## **PEAK**



No.	Frequency	Reading	Correct	Result	Limit	Margin	Remark
	(MHz)	(dBuV)	(dB/m)	(dBuV/m)	(dBuV/m)	(dB)	
1	2390.000	29.07	32.66	61.73	74.00	-12.27	peak
2	2483.500	31.14	33.10	64.24	74.00	-9.76	peak
3	2487.840	33.46	33.11	66.57	74.00	-7.43	peak

- 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.





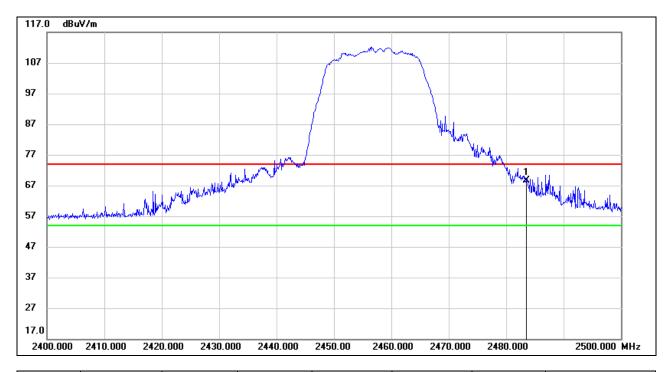
No.	Frequency	Reading	Correct	Result	Limit	Margin	Remark
	(MHz)	(dBuV)	(dB/m)	(dBuV/m)	(dBuV/m)	(dB)	
1	2390.000	11.41	32.66	44.07	54.00	-9.93	AVG
2	2483.500	15.52	33.10	48.62	54.00	-5.38	AVG
3	2487.840	15.28	33.11	48.39	54.00	-5.61	AVG

- 2. If Peak Result complies with AV limit, AV Result is deemed to comply with AV limit.
- 3. AVG: VBW=1/Ton, where: Ton is the transmitting duration.
- 4. For the transmitting duration, please refer to clause 7.1.
- 5. Only the worst data was recorded, if it complies with the limit, the other emissions deemed to comply with the limit.



#### **RESTRICTED BANDEDGE (CHANNEL 10, VERTICAL)**

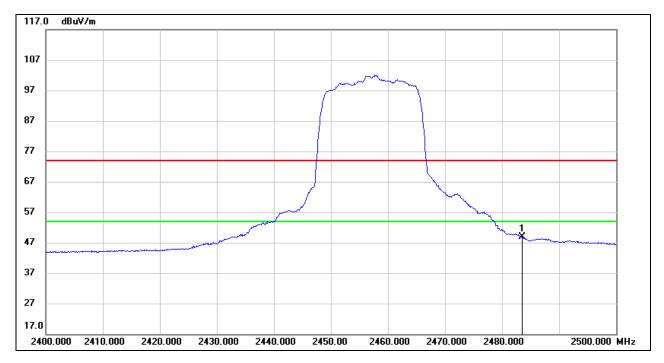
## **PEAK**



No.	Frequency	Reading	Correct	Result	Limit	Margin	Remark
	(MHz)	(dBuV)	(dB/m)	(dBuV/m)	(dBuV/m)	(dB)	
1	2483.500	35.60	33.10	68.70	74.00	-5.30	peak

- 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.





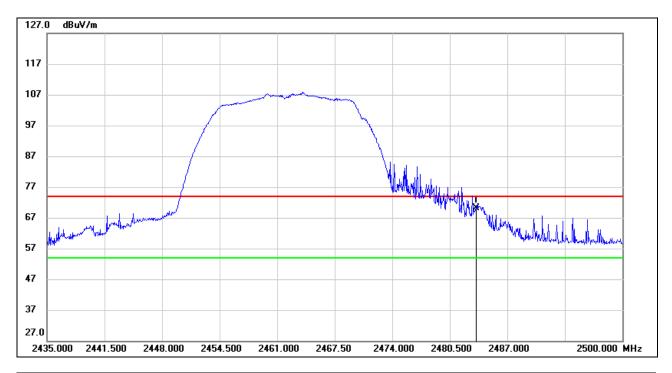
No.	Frequency	Reading	Correct	Result	Limit	Margin	Remark
	(MHz)	(dBuV)	(dB/m)	(dBuV/m)	(dBuV/m)	(dB)	
1	2483.500	15.71	33.10	48.81	54.00	-5.19	AVG

- 2. If Peak Result complies with AV limit, AV Result is deemed to comply with AV limit.
- 3. AVG: VBW=1/Ton, where: Ton is the transmitting duration.
- 4. For the transmitting duration, please refer to clause 7.1.
- 5. Only the worst data was recorded, if it complies with the limit, the other emissions deemed to comply with the limit.



#### **RESTRICTED BANDEDGE (CHANNEL 11, VERTICAL)**

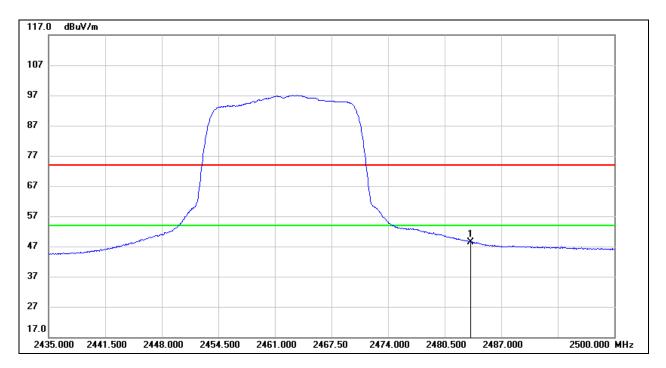
## **PEAK**



No.	Frequency	Reading	Correct	Result	Limit	Margin	Remark
	(MHz)	(dBuV)	(dB/m)	(dBuV/m)	(dBuV/m)	(dB)	
1	2483.500	36.93	33.10	70.03	74.00	-3.97	peak

- 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.





No.	Frequency	Reading	Correct	Result	Limit	Margin	Remark
	(MHz)	(dBuV)	(dB/m)	(dBuV/m)	(dBuV/m)	(dB)	
1	2483.500	15.27	33.10	48.37	54.00	-5.63	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. AVG: VBW=1/Ton, where: Ton is the transmitting duration.
- 4. For the transmitting duration, please refer to clause 7.1.
- 5. 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.

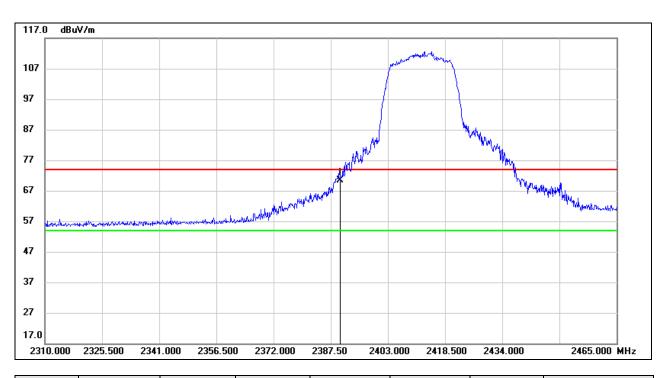
Note: Both the two antennas had been tested, but only the worst data was recorded in the report.



#### 8.1.3. 802.11n HT20 MIMO MODE

# **RESTRICTED BANDEDGE (CHANNEL 1, VERTICAL)**

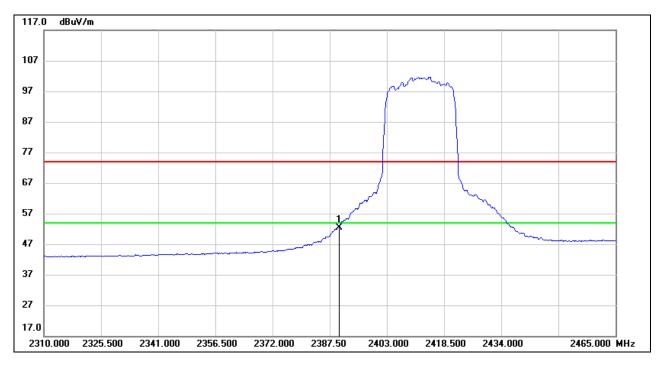
#### **PEAK**



No.	Frequency	Reading	Correct	Result	Limit	Margin	Remark
	(MHz)	(dBuV)	(dB/m)	(dBuV/m)	(dBuV/m)	(dB)	
1	2390.000	37.63	32.66	70.29	74.00	-3.71	peak

- 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.





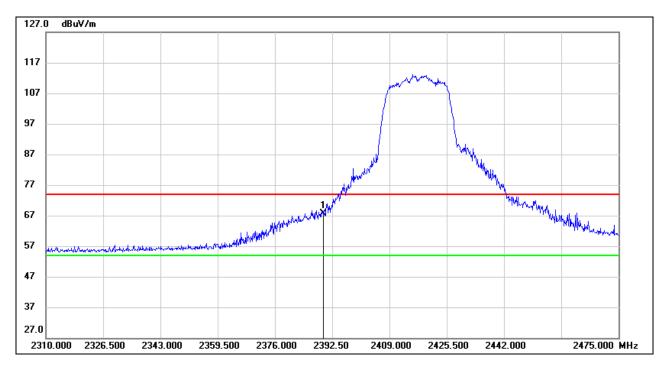
No.	Frequency	Reading	Correct	Result	Limit	Margin	Remark
	(MHz)	(dBuV)	(dB/m)	(dBuV/m)	(dBuV/m)	(dB)	
1	2390,000	19.63	32.66	52.29	54.00	-1.71	AVG

- 2. If Peak Result complies with AV limit, AV Result is deemed to comply with AV limit.
- 3. AVG: VBW=1/Ton, where: Ton is the transmitting duration.
- 4. For the transmitting duration, please refer to clause 7.1.
- 5. Only the worst data was recorded, if it complies with the limit, the other emissions deemed to comply with the limit.



## **RESTRICTED BANDEDGE (CHANNEL 2, VERTICAL)**

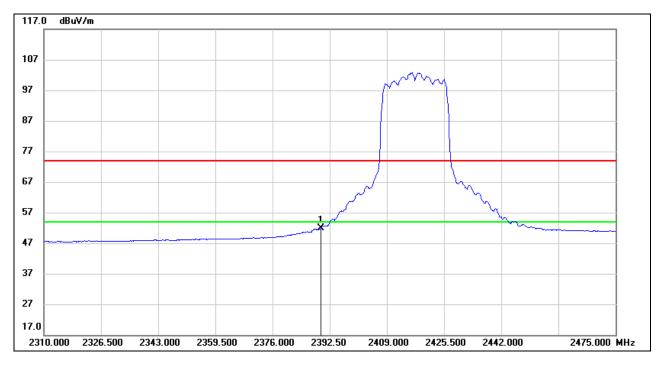
## **PEAK**



No.	Frequency	Reading	Correct	Result	Limit	Margin	Remark
	(MHz)	(dBuV)	(dB/m)	(dBuV/m)	(dBuV/m)	(dB)	
1	2390.000	34.88	32.66	67.54	74.00	-6.46	peak

- 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.





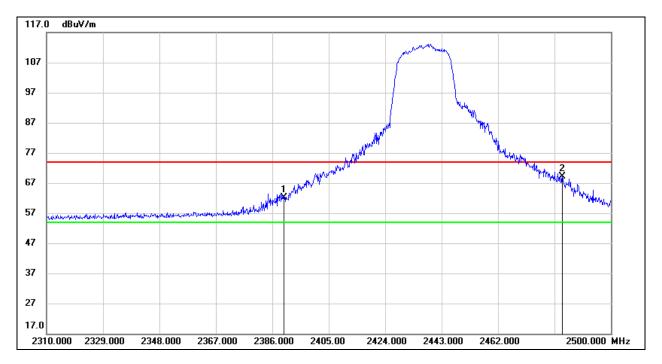
No.	Frequency	Reading	Correct	Result	Limit	Margin	Remark
	(MHz)	(dBuV)	(dB/m)	(dBuV/m)	(dBuV/m)	(dB)	
1	2390,000	19.30	32.66	51.96	54.00	-2.04	AVG

- 2. If Peak Result complies with AV limit, AV Result is deemed to comply with AV limit.
- 3. AVG: VBW=1/Ton, where: Ton is the transmitting duration.
- 4. For the transmitting duration, please refer to clause 7.1.
- 5. Only the worst data was recorded, if it complies with the limit, the other emissions deemed to comply with the limit.



## **RESTRICTED BANDEDGE (CHANNEL 6, VERTICAL)**

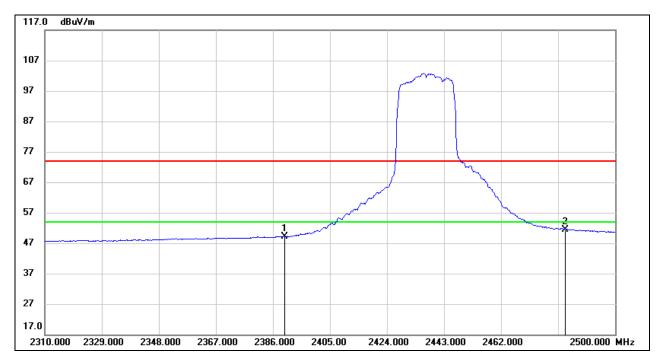
## **PEAK**



No.	Frequency	Reading	Correct	Result	Limit	Margin	Remark
	(MHz)	(dBuV)	(dB/m)	(dBuV/m)	(dBuV/m)	(dB)	
1	2390.000	29.53	32.66	62.19	74.00	-11.81	peak
2	2483.500	36.14	33.10	69.24	74.00	-4.76	peak

- 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.





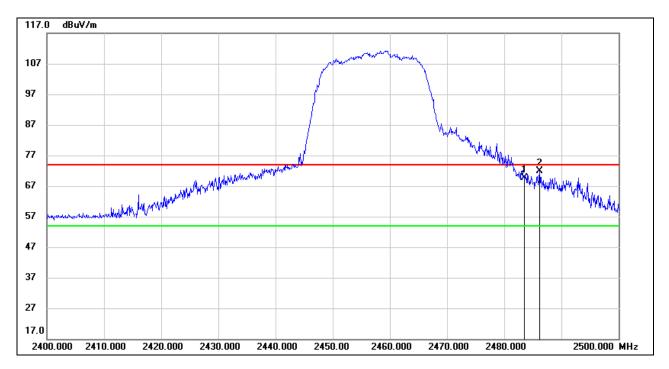
No.	Frequency	Reading	Correct	Result	Limit	Margin	Remark
	(MHz)	(dBuV)	(dB/m)	(dBuV/m)	(dBuV/m)	(dB)	
1	2390.000	16.51	32.66	49.17	54.00	-4.83	AVG
2	2483.500	18.39	33.10	51.49	54.00	-2.51	AVG

- 2. If Peak Result complies with AV limit, AV Result is deemed to comply with AV limit.
- 3. AVG: VBW=1/Ton, where: Ton is the transmitting duration.
- 4. For the transmitting duration, please refer to clause 7.1.
- 5. Only the worst data was recorded, if it complies with the limit, the other emissions deemed to comply with the limit.



#### **RESTRICTED BANDEDGE (CHANNEL 10, VERTICAL)**

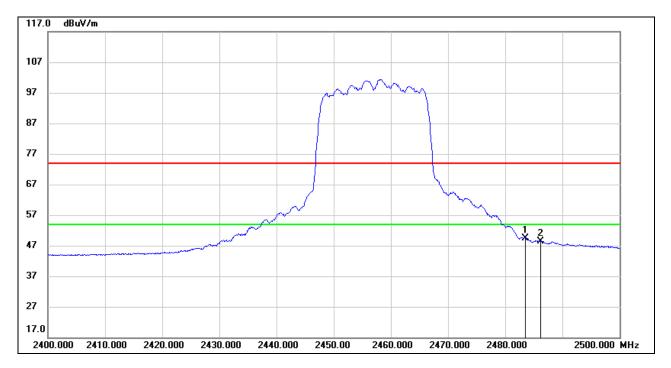
## **PEAK**



No.	Frequency	Reading	Correct	Result	Limit	Margin	Remark
	(MHz)	(dBuV)	(dB/m)	(dBuV/m)	(dBuV/m)	(dB)	
1	2483.500	36.44	33.10	69.54	74.00	-4.46	peak
2	2486.200	38.83	33.10	71.93	74.00	-2.07	peak

- 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.





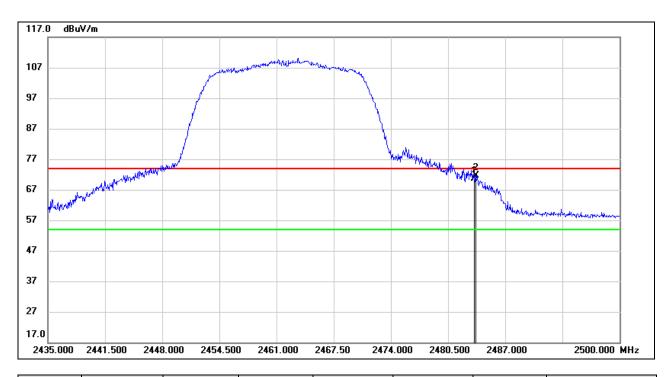
No.	Frequency	Reading	Correct	Result	Limit	Margin	Remark
	(MHz)	(dBuV)	(dB/m)	(dBuV/m)	(dBuV/m)	(dB)	
1	2483.500	16.35	33.10	49.45	54.00	-4.55	AVG
2	2486.200	15.33	33.10	48.43	54.00	-5.57	AVG

- 2. If Peak Result complies with AV limit, AV Result is deemed to comply with AV limit.
- 3. AVG: VBW=1/Ton, where: Ton is the transmitting duration.
- 4. For the transmitting duration, please refer to clause 7.1.
- 5. Only the worst data was recorded, if it complies with the limit, the other emissions deemed to comply with the limit.



#### **RESTRICTED BANDEDGE (CHANNEL 11, VERTICAL)**

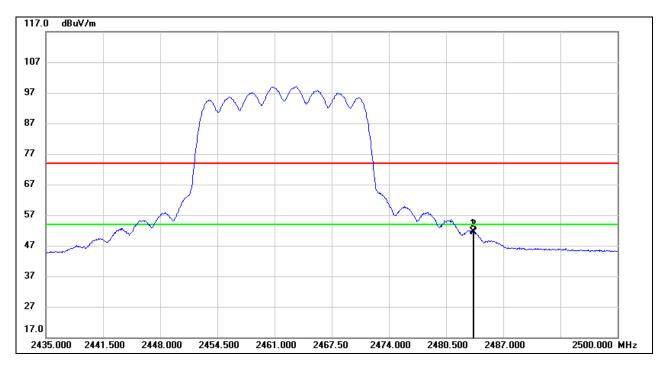
## **PEAK**



No.	Frequency	Reading	Correct	Result	Limit	Margin	Remark
	(MHz)	(dBuV)	(dB/m)	(dBuV/m)	(dBuV/m)	(dB)	
1	2483.500	37.59	33.10	70.69	74.00	-3.31	peak
2	2483.620	38.62	33.10	71.72	74.00	-2.28	peak

- 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.





No.	Frequency	Reading	Correct	Result	Limit	Margin	Remark
	(MHz)	(dBuV)	(dB/m)	(dBuV/m)	(dBuV/m)	(dB)	
1	2483.500	18.64	33.10	51.74	54.00	-2.26	AVG
2	2483.620	18.23	33.10	51.33	54.00	-2.67	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. AVG: VBW=1/Ton, where: Ton is the transmitting duration.
- 4. For the transmitting duration, please refer to clause 7.1.
- 5. Only the worst data was recorded, if it complies with the limit, the other emissions deemed to comply with the limit.

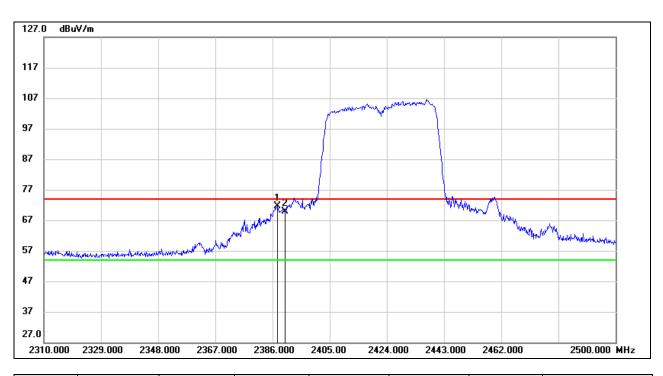
Note: Horizontal and Vertical have been tested, only the worst data was recorded in the report.



#### 8.1.4. 802.11n HT40 MIMO MODE

## **RESTRICTED BANDEDGE (CHANNEL 3, VERTICAL)**

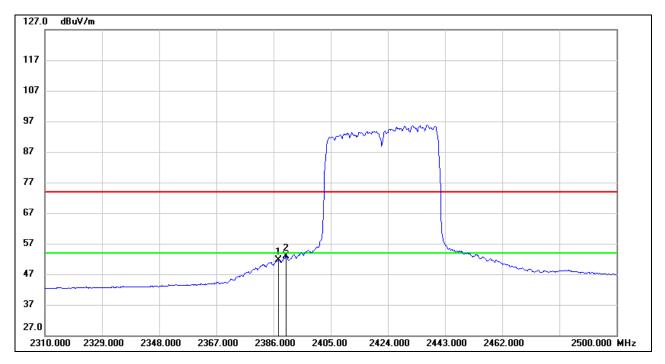
#### **PEAK**



No.	Frequency	Reading	Correct	Result	Limit	Margin	Remark
	(MHz)	(dBuV)	(dB/m)	(dBuV/m)	(dBuV/m)	(dB)	
1	2387.520	39.00	32.65	71.65	74.00	-2.35	peak
2	2390.000	37.26	32.66	69.92	74.00	-4.08	peak

- 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.





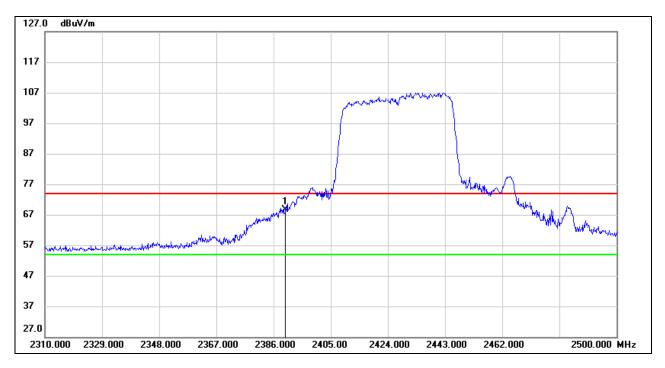
No.	Frequency	Reading	Correct	Result	Limit	Margin	Remark
	(MHz)	(dBuV)	(dB/m)	(dBuV/m)	(dBuV/m)	(dB)	
1	2387.520	18.97	32.65	51.62	54.00	-2.38	AVG
2	2390,000	20.28	32.66	52.94	54.00	-1.06	AVG

- 2. If Peak Result complies with AV limit, AV Result is deemed to comply with AV limit.
- 3. AVG: VBW=1/Ton, where: Ton is the transmitting duration.
- 4. For the transmitting duration, please refer to clause 7.1.
- 5. Only the worst data was recorded, if it complies with the limit, the other emissions deemed to comply with the limit.



# **RESTRICTED BANDEDGE (CHANNEL 4, VERTICAL)**

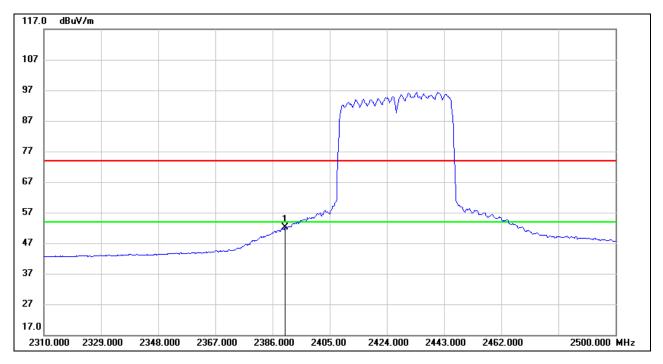
# **PEAK**



No.	Frequency	Reading	Correct	Result	Limit	Margin	Remark
	(MHz)	(dBuV)	(dB/m)	(dBuV/m)	(dBuV/m)	(dB)	
1	2390.000	35.85	32.66	68.51	74.00	-5.49	peak

- 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.





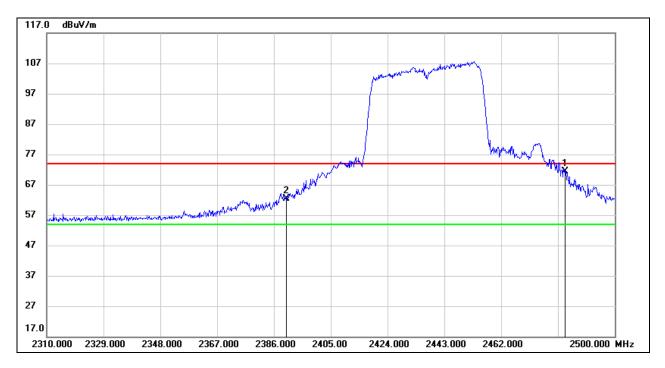
No.	Frequency	Reading	Correct	Result	Limit	Margin	Remark
	(MHz)	(dBuV)	(dB/m)	(dBuV/m)	(dBuV/m)	(dB)	
1	2390.000	19.49	32.66	52.15	54.00	-1.85	AVG

- 2. If Peak Result complies with AV limit, AV Result is deemed to comply with AV limit.
- 3. AVG: VBW=1/Ton, where: Ton is the transmitting duration.
- 4. For the transmitting duration, please refer to clause 7.1.
- 5. Only the worst data was recorded, if it complies with the limit, the other emissions deemed to comply with the limit.



## **RESTRICTED BANDEDGE (CHANNEL 6, VERTICAL)**

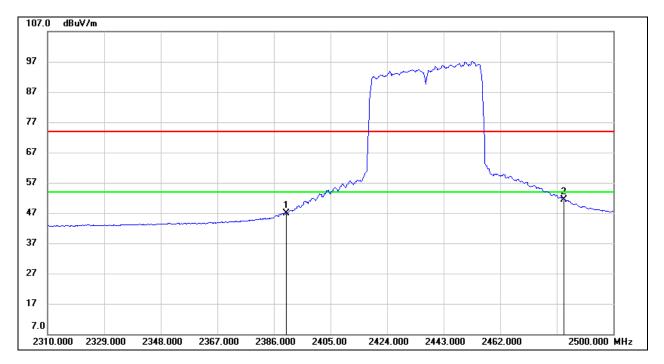
## **PEAK**



No.	Frequency	Reading	Correct	Result	Limit	Margin	Remark
	(MHz)	(dBuV)	(dB/m)	(dBuV/m)	(dBuV/m)	(dB)	
1	2483.500	38.20	33.10	71.30	74.00	-2.70	peak
2	2390.000	29.80	32.66	62.46	74.00	-11.54	peak

- 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.





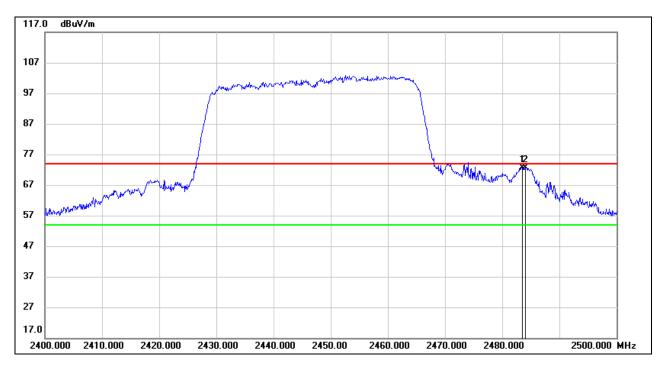
No.	Frequency	Reading	Correct	Result	Limit	Margin	Remark
	(MHz)	(dBuV)	(dB/m)	(dBuV/m)	(dBuV/m)	(dB)	
1	2390.000	14.33	32.66	46.99	54.00	-7.01	AVG
2	2483.500	18.39	33.10	51.49	54.00	-2.51	AVG

- 2. If Peak Result complies with AV limit, AV Result is deemed to comply with AV limit.
- 3. AVG: VBW=1/Ton, where: Ton is the transmitting duration.
- 4. For the transmitting duration, please refer to clause 7.1.
- 5. Only the worst data was recorded, if it complies with the limit, the other emissions deemed to comply with the limit.



## **RESTRICTED BANDEDGE (CHANNEL 8, VERTICAL)**

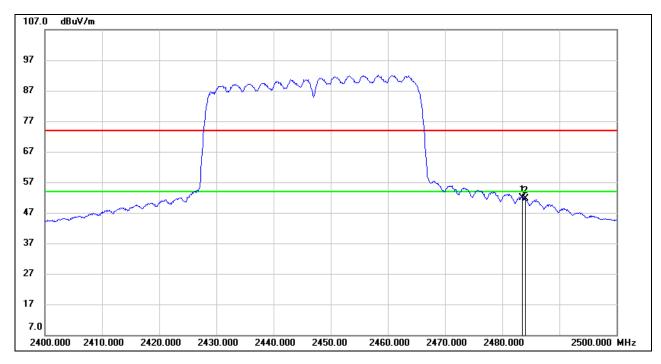
## **PEAK**



No.	Frequency	Reading	Correct	Result	Limit	Margin	Remark
	(MHz)	(dBuV)	(dB/m)	(dBuV/m)	(dBuV/m)	(dB)	
1	2483.500	39.47	33.10	72.57	74.00	-1.43	peak
2	2484.000	39.63	33.10	72.73	74.00	-1.27	peak

- 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.





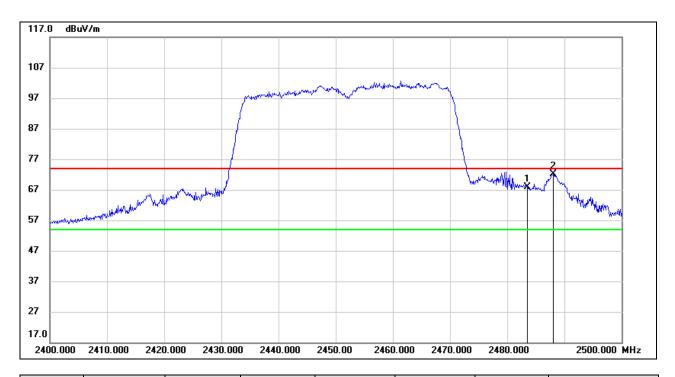
No.	Frequency	Reading	Correct	Result	Limit	Margin	Remark
	(MHz)	(dBuV)	(dB/m)	(dBuV/m)	(dBuV/m)	(dB)	
1	2483.500	18.87	33.10	51.97	54.00	-2.03	AVG
2	2484.000	18.58	33.10	51.68	54.00	-2.32	AVG

- 2. If Peak Result complies with AV limit, AV Result is deemed to comply with AV limit.
- 3. AVG: VBW=1/Ton, where: Ton is the transmitting duration.
- 4. For the transmitting duration, please refer to clause 7.1.
- 5. Only the worst data was recorded, if it complies with the limit, the other emissions deemed to comply with the limit.



## **RESTRICTED BANDEDGE (CHANNEL 9, VERTICAL)**

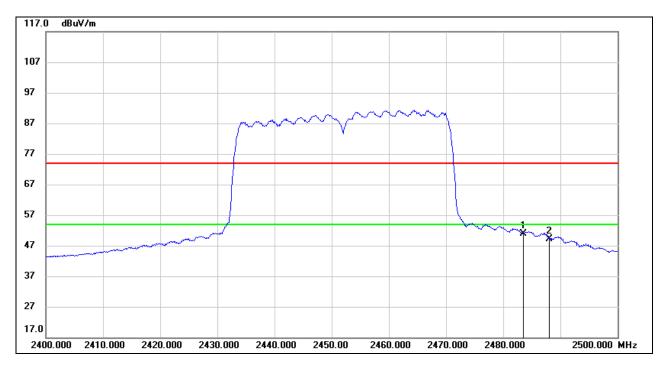
## **PEAK**



No.	Frequency	Reading	Correct	Result	Limit	Margin	Remark
	(MHz)	(dBuV)	(dB/m)	(dBuV/m)	(dBuV/m)	(dB)	
1	2483.500	34.77	33.10	67.87	74.00	-6.13	peak
2	2488.100	38.91	33.11	72.02	74.00	-1.98	peak

- 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.





No.	Frequency	Reading	Correct	Result	Limit	Margin	Remark
	(MHz)	(dBuV)	(dB/m)	(dBuV/m)	(dBuV/m)	(dB)	
1	2483.500	17.72	33.10	50.82	54.00	-3.18	AVG
2	2488.100	15.99	33.11	49.10	54.00	-4.90	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. AVG: VBW=1/Ton, where: Ton is the transmitting duration.
- 4. For the transmitting duration, please refer to clause 7.1.
- 5. Only the worst data was recorded, if it complies with the limit, the other emissions deemed to comply with the limit.

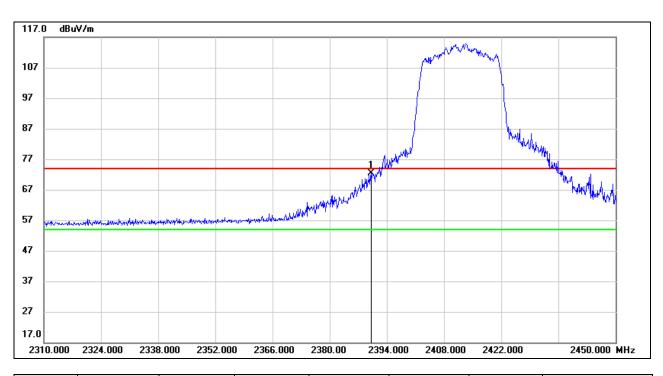
Note: Horizontal and Vertical have been tested, only the worst data was recorded in the report.



## 8.1.1. 802.11ax HE20 MIMO MODE

# **RESTRICTED BANDEDGE (CHANNEL 1, VERTICAL)**

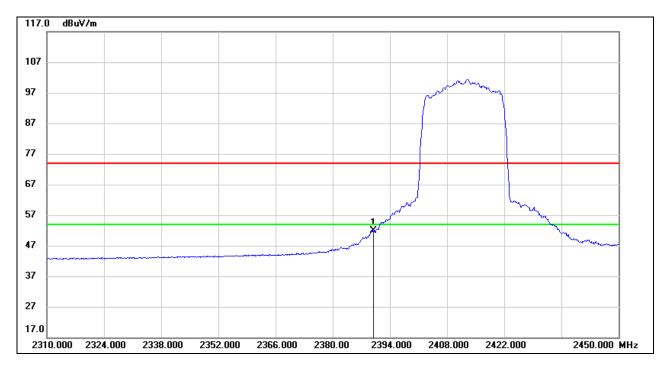
#### **PEAK**



No.	Frequency	Reading	Correct	Result	Limit	Margin	Remark
	(MHz)	(dBuV)	(dB/m)	(dBuV/m)	(dBuV/m)	(dB)	
1	2390.000	39.69	32.66	72.35	74.00	-1.65	peak

- 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.





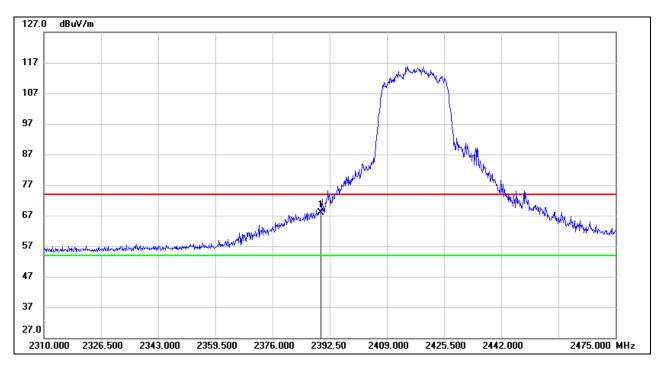
No.	Frequency	Reading	Correct	Result	Limit	Margin	Remark
	(MHz)	(dBuV)	(dB/m)	(dBuV/m)	(dBuV/m)	(dB)	
1	2390.000	19.34	32.66	52.00	54.00	-2.00	AVG

- 2. If Peak Result complies with AV limit, AV Result is deemed to comply with AV limit.
- 3. AVG: VBW=1/Ton, where: Ton is the transmitting duration.
- 4. For the transmitting duration, please refer to clause 7.1.
- 5. Only the worst data was recorded, if it complies with the limit, the other emissions deemed to comply with the limit.



## **RESTRICTED BANDEDGE (CHANNEL 2, VERTICAL)**

## **PEAK**

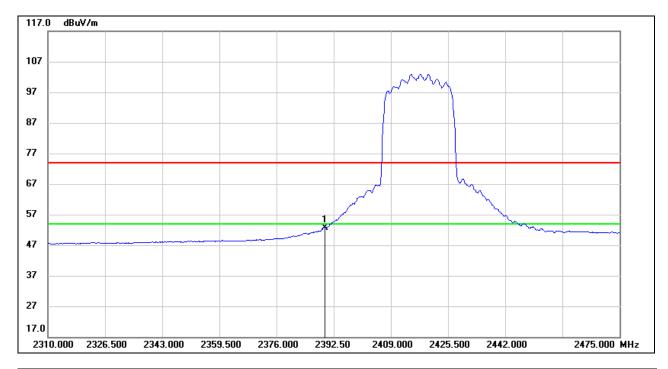


No.	Frequency	Reading	Correct	Result	Limit	Margin	Remark
	(MHz)	(dBuV)	(dB/m)	(dBuV/m)	(dBuV/m)	(dB)	
1	2390.000	35.16	32.66	67.82	74.00	-6.18	peak

- 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.



## <u>AVG</u>



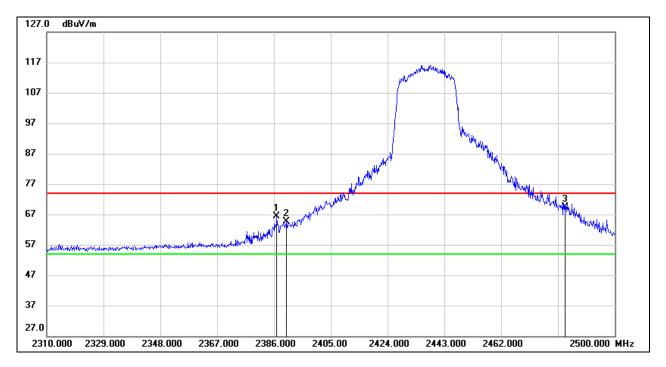
No.	Frequency	Reading	Correct	Result	Limit	Margin	Remark
	(MHz)	(dBuV)	(dB/m)	(dBuV/m)	(dBuV/m)	(dB)	
1	2390.000	20.03	32.66	52.69	54.00	-1.31	AVG

- 2. If Peak Result complies with AV limit, AV Result is deemed to comply with AV limit.
- 3. AVG: VBW=1/Ton, where: Ton is the transmitting duration.
- 4. For the transmitting duration, please refer to clause 7.1.
- 5. Only the worst data was recorded, if it complies with the limit, the other emissions deemed to comply with the limit.



## **RESTRICTED BANDEDGE (CHANNEL 6, VERTICAL)**

## **PEAK**

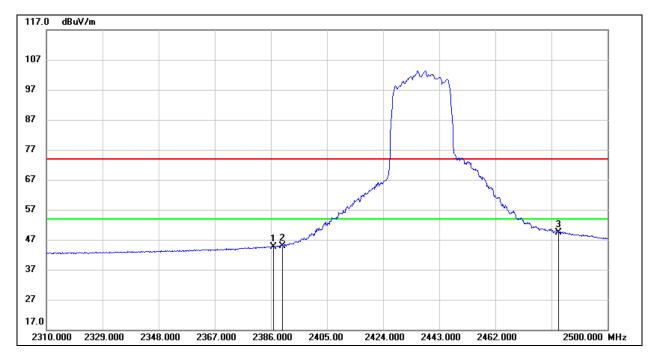


No.	Frequency	Reading	Correct	Result	Limit	Margin	Remark
	(MHz)	(dBuV)	(dB/m)	(dBuV/m)	(dBuV/m)	(dB)	
1	2386.950	33.62	32.64	66.26	74.00	-7.74	peak
2	2390.000	32.00	32.66	64.66	74.00	-9.34	peak
3	2483.500	36.23	33.10	69.33	74.00	-4.67	peak

- 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.



## <u>AVG</u>



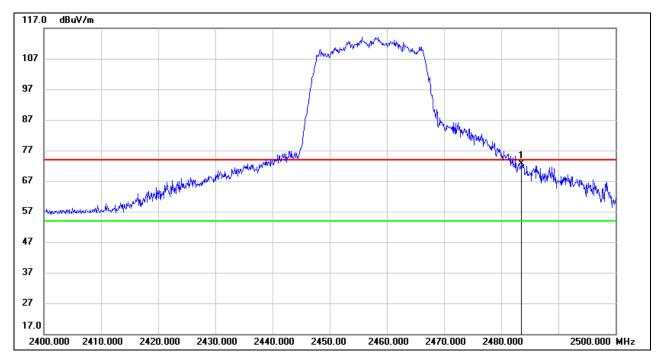
No.	Frequency	Reading	Correct	Result	Limit	Margin	Remark
	(MHz)	(dBuV)	(dB/m)	(dBuV/m)	(dBuV/m)	(dB)	
1	2386.950	11.94	32.64	44.58	54.00	-9.42	AVG
2	2390.000	12.32	32.66	44.98	54.00	-9.02	AVG
3	2483.500	16.31	33.10	49.41	54.00	-4.59	AVG

- 2. If Peak Result complies with AV limit, AV Result is deemed to comply with AV limit.
- 3. AVG: VBW=1/Ton, where: Ton is the transmitting duration.
- 4. For the transmitting duration, please refer to clause 7.1.
- 5. Only the worst data was recorded, if it complies with the limit, the other emissions deemed to comply with the limit.



## **RESTRICTED BANDEDGE (CHANNEL 10, VERTICAL)**

## **PEAK**

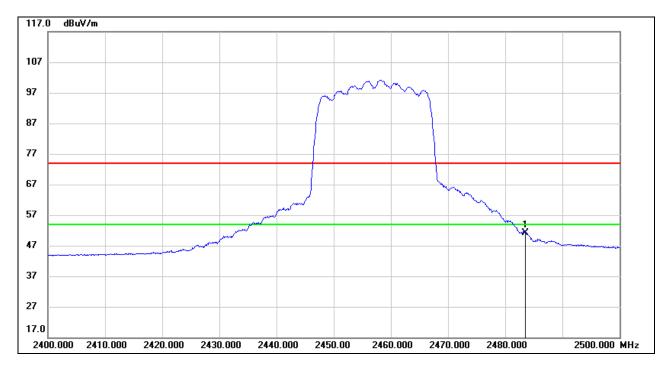


No.	Frequency	Reading	Correct	Result	Limit	Margin	Remark
	(MHz)	(dBuV)	(dB/m)	(dBuV/m)	(dBuV/m)	(dB)	
1	2483.500	39.43	33.10	72.53	74.00	-1.47	peak

- 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**



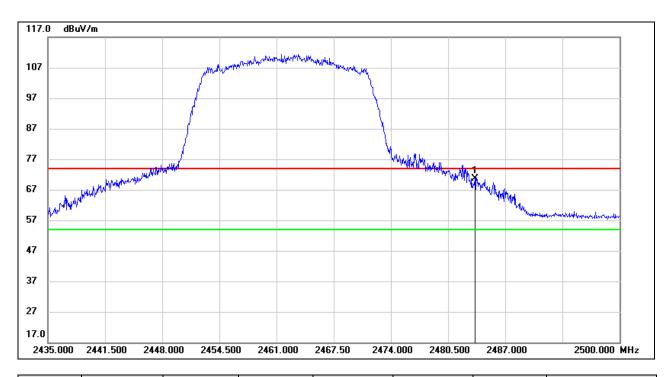
No.	Frequency	Reading	Correct	Result	Limit	Margin	Remark
	(MHz)	(dBuV)	(dB/m)	(dBuV/m)	(dBuV/m)	(dB)	
1	2483.500	18.13	33.10	51.23	54.00	-2.77	AVG

- 2. If Peak Result complies with AV limit, AV Result is deemed to comply with AV limit.
- 3. AVG: VBW=1/Ton, where: Ton is the transmitting duration.
- 4. For the transmitting duration, please refer to clause 7.1.
- 5. Only the worst data was recorded, if it complies with the limit, the other emissions deemed to comply with the limit.



## **RESTRICTED BANDEDGE (CHANNEL 11, VERTICAL)**

## **PEAK**

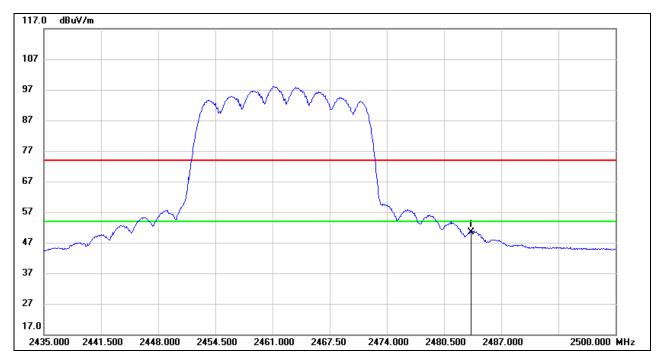


No.	Frequency	Reading	Correct	Result	Limit	Margin	Remark
	(MHz)	(dBuV)	(dB/m)	(dBuV/m)	(dBuV/m)	(dB)	
1	2483.500	37.62	33.10	70.72	74.00	-3.28	peak

- 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	Reading	Correct	Result	Limit	Margin	Remark
	(MHz)	(dBuV)	(dB/m)	(dBuV/m)	(dBuV/m)	(dB)	
1	2483.500	17.38	33.10	50.48	54.00	-3.52	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. AVG: VBW=1/Ton, where: Ton is the transmitting duration.
- 4. For the transmitting duration, please refer to clause 7.1.
- 5. Only the worst data was recorded, if it complies with the limit, the other emissions deemed to comply with the limit.

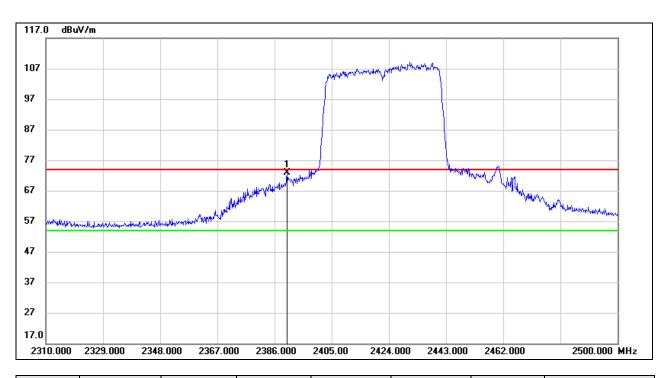
Note: Horizontal and Vertical have been tested, only the worst data was recorded in the report.



## 8.1.2. 802.11ax HE40 MIMO MODE

## **RESTRICTED BANDEDGE (CHANNEL 3, VERTICAL)**

## **PEAK**

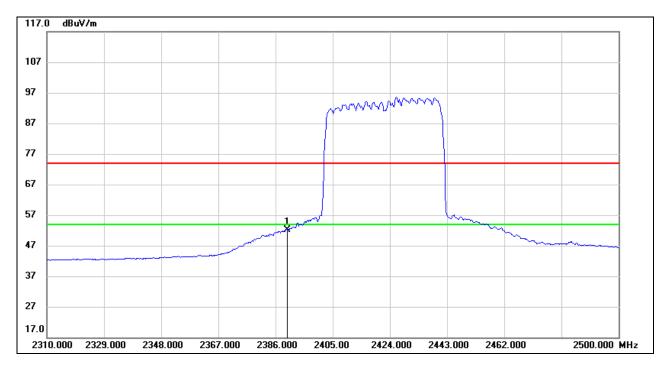


No.	Frequency	Reading	Correct	Result	Limit	Margin	Remark
	(MHz)	(dBuV)	(dB/m)	(dBuV/m)	(dBuV/m)	(dB)	
1	2390.000	40.31	32.66	72.97	74.00	-1.03	peak

- 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**



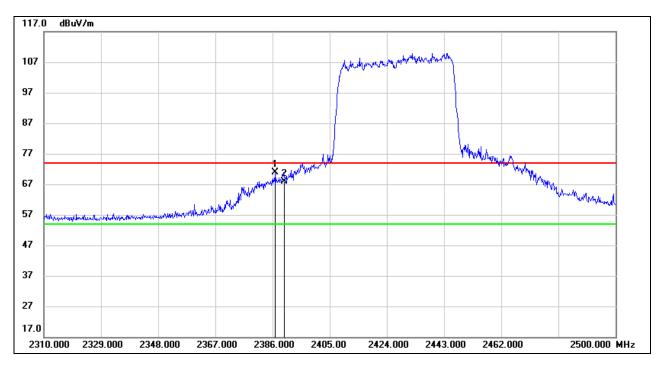
No.	Frequency	Reading	Correct	Result	Limit	Margin	Remark
	(MHz)	(dBuV)	(dB/m)	(dBuV/m)	(dBuV/m)	(dB)	
1	2390.000	19.42	32.66	52.08	54.00	-1.92	AVG

- 2. If Peak Result complies with AV limit, AV Result is deemed to comply with AV limit.
- 3. AVG: VBW=1/Ton, where: Ton is the transmitting duration.
- 4. For the transmitting duration, please refer to clause 7.1.
- 5. Only the worst data was recorded, if it complies with the limit, the other emissions deemed to comply with the limit.



## RESTRICTED BANDEDGE (CHANNEL 4, VERTICAL)

## **PEAK**

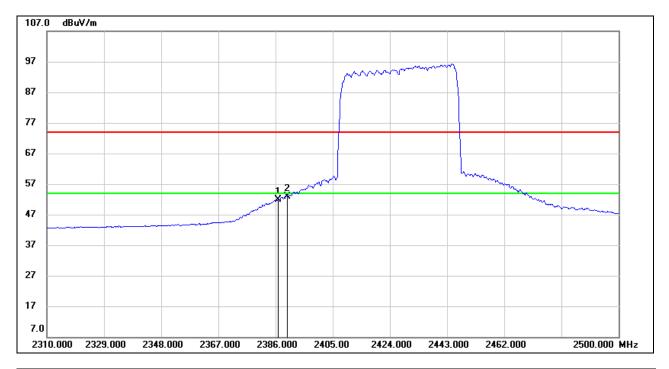


No.	Frequency	Reading	Correct	Result	Limit	Margin	Remark
	(MHz)	(dBuV)	(dB/m)	(dBuV/m)	(dBuV/m)	(dB)	
1	2386.950	38.18	32.64	70.82	74.00	-3.18	peak
2	2390.000	35.25	32.66	67.91	74.00	-6.09	peak

- 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.



## <u>AVG</u>



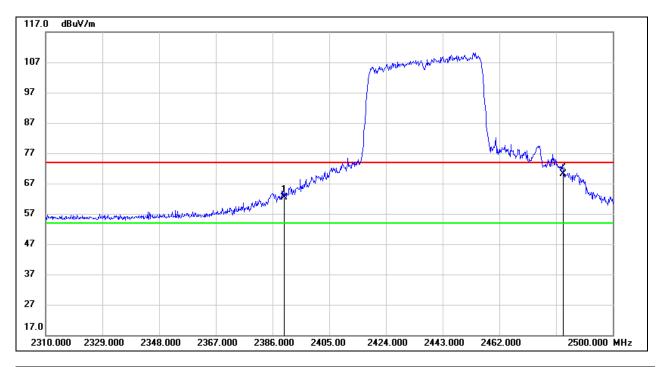
No.	Frequency	Reading	Correct	Result	Limit	Margin	Remark
	(MHz)	(dBuV)	(dB/m)	(dBuV/m)	(dBuV/m)	(dB)	
1	2386.950	19.35	32.64	51.99	54.00	-2.01	AVG
2	2390.000	20.18	32.66	52.84	54.00	-1.16	AVG

- 2. If Peak Result complies with AV limit, AV Result is deemed to comply with AV limit.
- 3. AVG: VBW=1/Ton, where: Ton is the transmitting duration.
- 4. For the transmitting duration, please refer to clause 7.1.
- 5. Only the worst data was recorded, if it complies with the limit, the other emissions deemed to comply with the limit.



## **RESTRICTED BANDEDGE (CHANNEL 6, VERTICAL)**

## **PEAK**

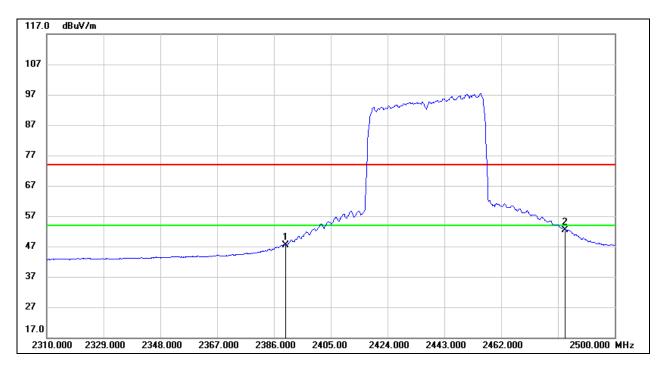


No.	Frequency	Reading	Correct	Result	Limit	Margin	Remark
	(MHz)	(dBuV)	(dB/m)	(dBuV/m)	(dBuV/m)	(dB)	
1	2390.000	29.65	32.66	62.31	74.00	-11.69	peak
2	2483.500	37.04	33.10	70.14	74.00	-3.86	peak

- 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**



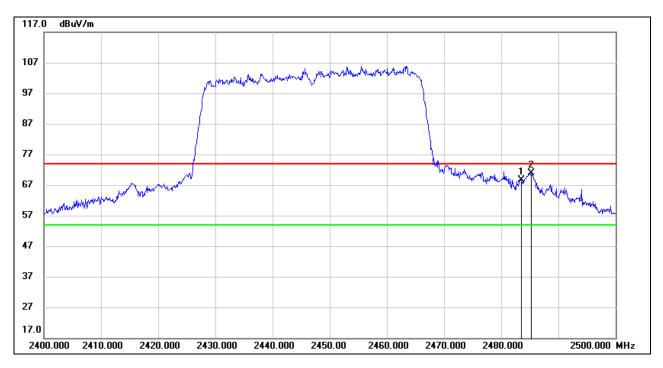
No.	Frequency	Reading	Correct	Result	Limit	Margin	Remark
	(MHz)	(dBuV)	(dB/m)	(dBuV/m)	(dBuV/m)	(dB)	
1	2390.000	14.66	32.66	47.32	54.00	-6.68	AVG
2	2483.500	19.40	33.10	52.50	54.00	-1.50	AVG

- 2. If Peak Result complies with AV limit, AV Result is deemed to comply with AV limit.
- 3. AVG: VBW=1/Ton, where: Ton is the transmitting duration.
- 4. For the transmitting duration, please refer to clause 7.1.
- 5. Only the worst data was recorded, if it complies with the limit, the other emissions deemed to comply with the limit.



## **RESTRICTED BANDEDGE (CHANNEL 8, VERTICAL)**

## **PEAK**

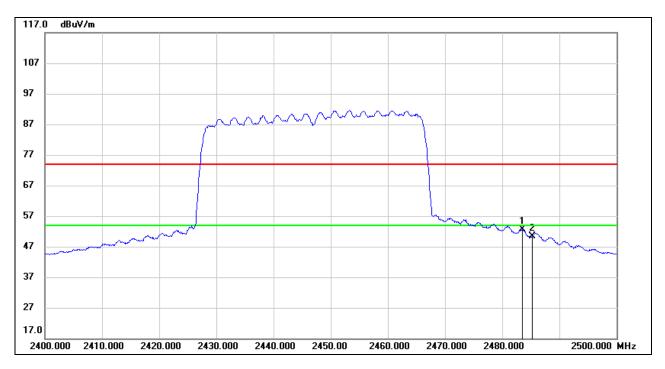


No.	Frequency	Reading	Correct	Result	Limit	Margin	Remark
	(MHz)	(dBuV)	(dB/m)	(dBuV/m)	(dBuV/m)	(dB)	
1	2483.500	35.49	33.10	68.59	74.00	-5.41	peak
2	2485.200	37.88	33.10	70.98	74.00	-3.02	peak

- 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**



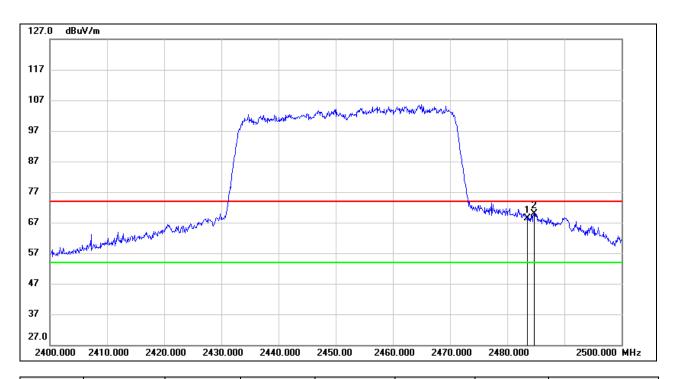
No.	Frequency	Reading	Correct	Result	Limit	Margin	Remark
	(MHz)	(dBuV)	(dB/m)	(dBuV/m)	(dBuV/m)	(dB)	
1	2483.500	19.42	33.10	52.52	54.00	-1.48	AVG
2	2485.200	17.27	33.10	50.37	54.00	-3.63	AVG

- 2. If Peak Result complies with AV limit, AV Result is deemed to comply with AV limit.
- 3. AVG: VBW=1/Ton, where: Ton is the transmitting duration.
- 4. For the transmitting duration, please refer to clause 7.1.
- 5. Only the worst data was recorded, if it complies with the limit, the other emissions deemed to comply with the limit.



## **RESTRICTED BANDEDGE (CHANNEL 9, VERTICAL)**

## **PEAK**

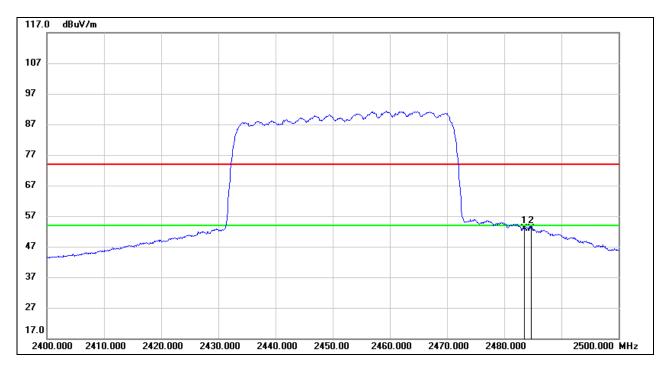


No.	Frequency	Reading	Correct	Result	Limit	Margin	Remark
	(MHz)	(dBuV)	(dB/m)	(dBuV/m)	(dBuV/m)	(dB)	
1	2483.500	35.18	33.10	68.28	74.00	-5.72	peak
2	2484.700	36.85	33.10	69.95	74.00	-4.05	peak

- 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	Reading	Correct	Result	Limit	Margin	Remark
	(MHz)	(dBuV)	(dB/m)	(dBuV/m)	(dBuV/m)	(dB)	
1	2483.500	19.78	33.10	52.88	54.00	-1.12	AVG
2	2484.700	19.88	33.10	52.98	54.00	-1.02	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. AVG: VBW=1/Ton, where: Ton is the transmitting duration.
- 4. For the transmitting duration, please refer to clause 7.1.
- 5. Only the worst data was recorded, if it complies with the limit, the other emissions deemed to comply with the limit.

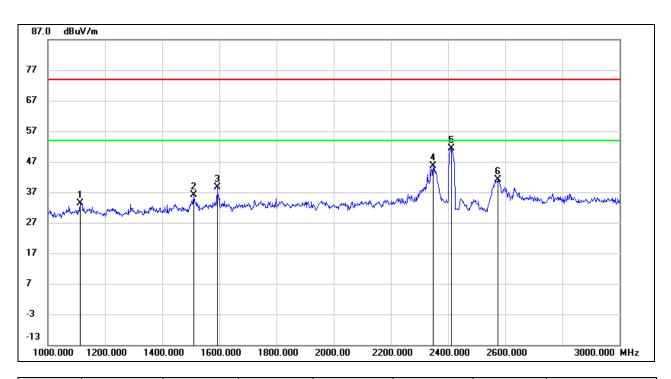
Note: Horizontal and Vertical have been tested, only the worst data was recorded in the report.



# 8.2. SPURIOUS EMISSIONS (1 GHz ~ 3 GHz)

## 8.2.1. 802.11ax HE20 SISO MODE

## **HARMONICS AND SPURIOUS EMISSIONS (CHANNEL 1, HORIZONTAL)**

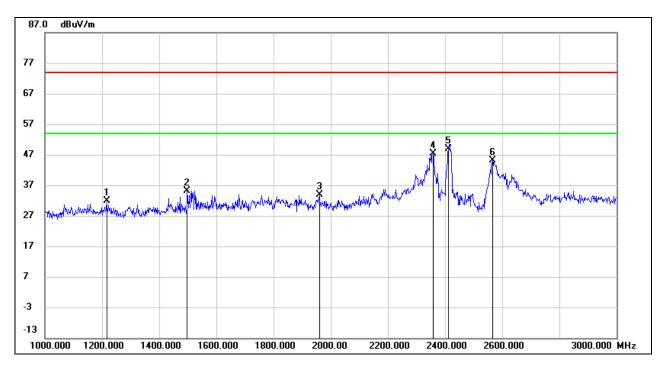


No.	Frequency	Reading	Correct	Result	Limit	Margin	Remark
	(MHz)	(dBuV)	(dB/m)	(dBuV/m)	(dBuV/m)	(dB)	
1	1112.000	47.66	-14.30	33.36	74.00	-40.64	peak
2	1510.000	48.56	-12.35	36.21	74.00	-37.79	peak
3	1592.000	50.41	-11.90	38.51	74.00	-35.49	peak
4	2348.000	54.68	-9.16	45.52	74.00	-28.48	peak
5	2412.000	60.26	-8.92	51.34	/	/	Fundamental
6	2574.000	49.64	-8.61	41.03	74.00	-32.97	peak

- 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 Band reject filter losses.
  - 5. Proper operation of the transmitter prior to adding the filter to the measurement chain.



#### **HARMONICS AND SPURIOUS EMISSIONS (CHANNEL 1, VERTICAL)**

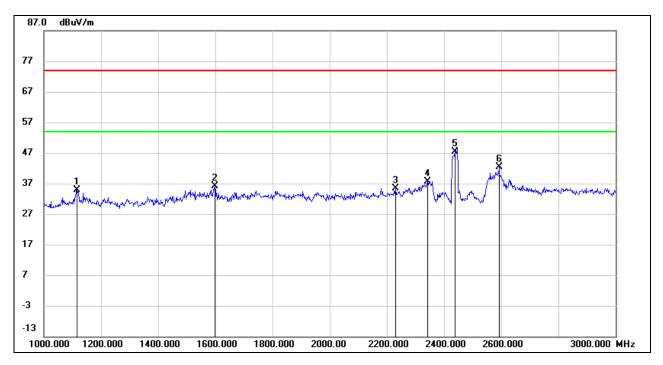


No.	Frequency	Reading	Correct	Result	Limit	Margin	Remark
	(MHz)	(dBuV)	(dB/m)	(dBuV/m)	(dBuV/m)	(dB)	
1	1216.000	45.42	-13.66	31.76	74.00	-42.24	peak
2	1498.000	47.67	-12.42	35.25	74.00	-38.75	peak
3	1960.000	44.80	-10.89	33.91	74.00	-40.09	peak
4	2358.000	56.38	-9.11	47.27	74.00	-26.73	peak
5	2412.000	57.78	-8.92	48.86	/	/	Fundamental
6	2566.000	53.64	-8.62	45.02	74.00	-28.98	peak

- 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 Band reject filter losses.
  - 5. Proper operation of the transmitter prior to adding the filter to the measurement chain.



## **HARMONICS AND SPURIOUS EMISSIONS (CHANNEL 6, HORIZONTAL)**

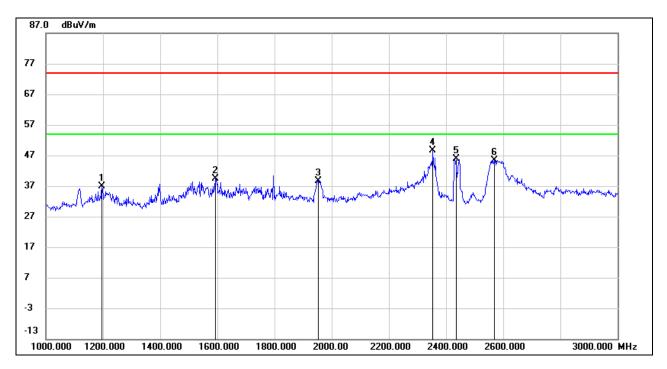


No.	Frequency	Reading	Correct	Result	Limit	Margin	Remark
	(MHz)	(dBuV)	(dB/m)	(dBuV/m)	(dBuV/m)	(dB)	
1	1116.000	49.12	-14.28	34.84	74.00	-39.16	peak
2	1598.000	48.05	-11.86	36.19	74.00	-37.81	peak
3	2230.000	45.04	-9.60	35.44	74.00	-38.56	peak
4	2342.000	46.91	-9.17	37.74	74.00	-36.26	peak
5	2437.000	56.33	-8.86	47.47	/	/	Fundamental
6	2592.000	50.86	-8.58	42.28	74.00	-31.72	peak

- 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 Band reject filter losses.
  - 5. Proper operation of the transmitter prior to adding the filter to the measurement chain.



#### **HARMONICS AND SPURIOUS EMISSIONS (CHANNEL 6, VERTICAL)**

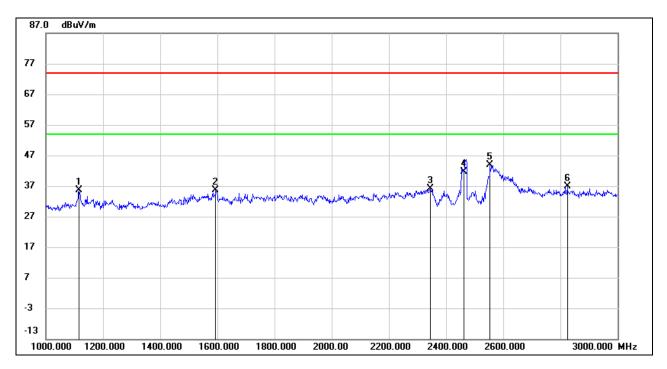


No.	Frequency	Reading	Correct	Result	Limit	Margin	Remark
	(MHz)	(dBuV)	(dB/m)	(dBuV/m)	(dBuV/m)	(dB)	
1	1196.000	50.54	-13.73	36.81	74.00	-37.19	peak
2	1592.000	51.23	-11.90	39.33	74.00	-34.67	peak
3	1952.000	49.49	-10.87	38.62	74.00	-35.38	peak
4	2354.000	57.65	-9.12	48.53	74.00	-25.47	peak
5	2437.000	54.63	-8.86	45.77	/	/	Fundamental
6	2568.000	54.01	-8.62	45.39	74.00	-28.61	peak

- 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 Band reject filter losses.
  - 5. Proper operation of the transmitter prior to adding the filter to the measurement chain.



## **HARMONICS AND SPURIOUS EMISSIONS (CHANNEL 11, HORIZONTAL)**

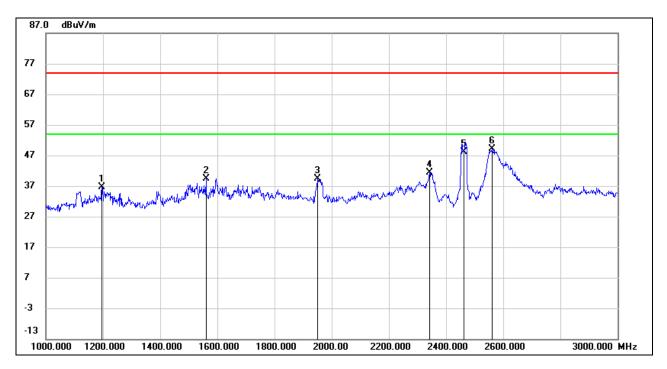


No.	Frequency	Reading	Correct	Result	Limit	Margin	Remark
	(MHz)	(dBuV)	(dB/m)	(dBuV/m)	(dBuV/m)	(dB)	
1	1116.000	49.84	-14.28	35.56	74.00	-38.44	peak
2	1594.000	47.48	-11.88	35.60	74.00	-38.40	peak
3	2344.000	45.20	-9.17	36.03	74.00	-37.97	peak
4	2462.000	50.32	-8.81	41.51	/	/	Fundamental
5	2554.000	52.44	-8.63	43.81	74.00	-30.19	peak
6	2824.000	44.48	-7.60	36.88	74.00	-37.12	peak

- 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 Band reject filter losses.
  - 5. Proper operation of the transmitter prior to adding the filter to the measurement chain.



#### **HARMONICS AND SPURIOUS EMISSIONS (CHANNEL 11, VERTICAL)**



No.	Frequency	Reading	Correct	Result	Limit	Margin	Remark
	(MHz)	(dBuV)	(dB/m)	(dBuV/m)	(dBuV/m)	(dB)	
1	1196.000	50.42	-13.73	36.69	74.00	-37.31	peak
2	1560.000	51.57	-12.08	39.49	74.00	-34.51	peak
3	1950.000	50.23	-10.87	39.36	74.00	-34.64	peak
4	2342.000	50.45	-9.17	41.28	74.00	-32.72	peak
5	2462.000	56.94	-8.81	48.13	/	/	Fundamental
6	2562.000	57.66	-8.63	49.03	74.00	-24.97	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. Filter losses were only considered in the spurious frequency bands and the authorized band was not corrected for Band reject filter losses.
  - 5. Proper operation of the transmitter prior to adding the filter to the measurement chain.

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

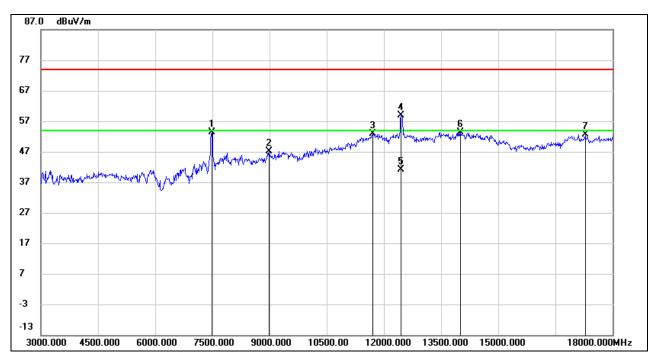


## 8.3. SPURIOUS EMISSIONS (3 GHz ~ 18 GHz)

## 8.3.1. 802.11b SISO MODE

## **ANTENNA 1 TEST RESULTS (WORST CASE)**

#### HARMONICS AND SPURIOUS EMISSIONS (CHANNEL 1, HORIZONTAL)

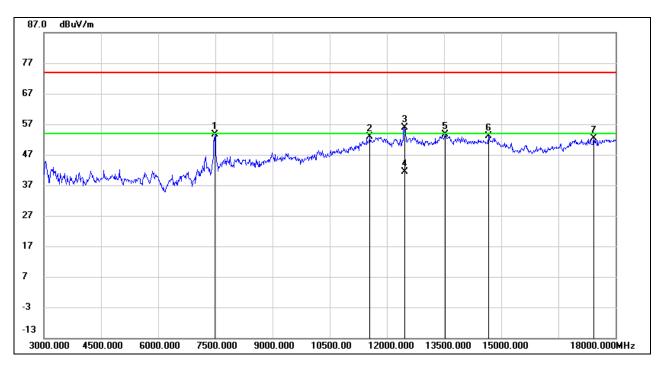


No.	Frequency	Reading	Correct	Result	Limit	Margin	Remark
	(MHz)	(dBuV)	(dB/m)	(dBuV/m)	(dBuV/m)	(dB)	
1	7485.000	46.98	6.36	53.34	74.00	-20.66	peak
2	8985.000	37.38	9.86	47.24	74.00	-26.76	peak
3	11715.000	36.08	16.87	52.95	74.00	-21.05	peak
4	12457.500	41.69	17.29	58.98	74.00	-15.02	peak
5	12457.500	23.96	17.29	41.25	54.00	-12.75	AVG
6	14017.500	32.15	21.35	53.50	74.00	-20.50	peak
7	17280.000	31.01	21.73	52.74	74.00	-21.26	peak

- 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)**

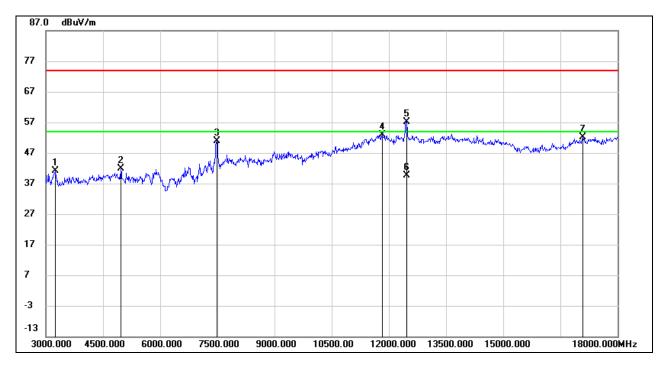


No.	Frequency	Reading	Correct	Result	Limit	Margin	Remark
	(MHz)	(dBuV)	(dB/m)	(dBuV/m)	(dBuV/m)	(dB)	
1	7492.500	47.20	6.39	53.59	74.00	-20.41	peak
2	11550.000	36.71	16.08	52.79	74.00	-21.21	peak
3	12465.000	38.70	17.26	55.96	74.00	-18.04	peak
4	12465.000	24.00	17.26	41.26	54.00	-12.74	AVG
5	13537.500	33.14	20.39	53.53	74.00	-20.47	peak
6	14670.000	34.51	18.59	53.10	74.00	-20.90	peak
7	17437.500	30.91	21.49	52.40	74.00	-21.60	peak

- 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)**

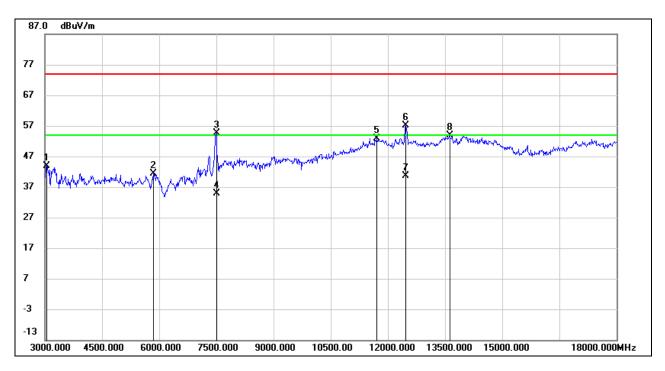


No.	Frequency	Reading	Correct	Result	Limit	Margin	Remark
	(MHz)	(dBuV)	(dB/m)	(dBuV/m)	(dBuV/m)	(dB)	
1	3240.000	46.15	-5.14	41.01	74.00	-32.99	peak
2	4972.500	42.00	-0.07	41.93	74.00	-32.07	peak
3	7492.500	44.60	6.39	50.99	74.00	-23.01	peak
4	11820.000	35.98	16.92	52.90	74.00	-21.10	peak
5	12465.000	39.98	17.26	57.24	74.00	-16.76	peak
6	12465.000	22.39	17.26	39.65	54.00	-14.35	AVG
7	17085.000	31.54	20.69	52.23	74.00	-21.77	peak

- 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)**

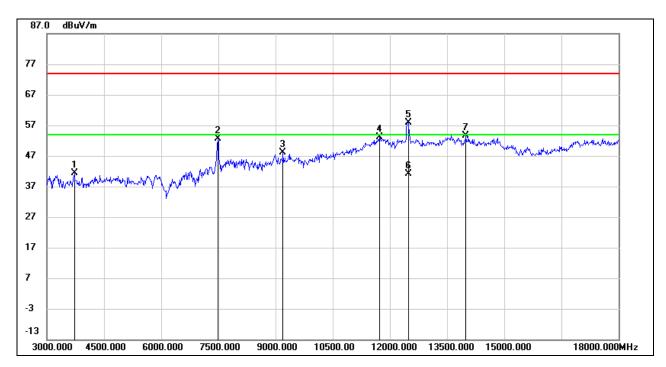


No.	Frequency	Reading	Correct	Result	Limit	Margin	Remark
	(MHz)	(dBuV)	(dB/m)	(dBuV/m)	(dBuV/m)	(dB)	
1	3045.000	48.76	-4.96	43.80	74.00	-30.20	peak
2	5850.000	39.20	2.13	41.33	74.00	-32.67	peak
3	7500.000	48.12	6.42	54.54	74.00	-19.46	peak
4	7500.000	28.34	6.42	34.76	54.00	-19.24	AVG
5	11715.000	35.90	16.87	52.77	74.00	-21.23	peak
6	12465.000	39.75	17.26	57.01	74.00	-16.99	peak
7	12465.000	23.39	17.26	40.65	54.00	-13.35	AVG
8	13620.000	33.29	20.51	53.80	74.00	-20.20	peak

- 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)**

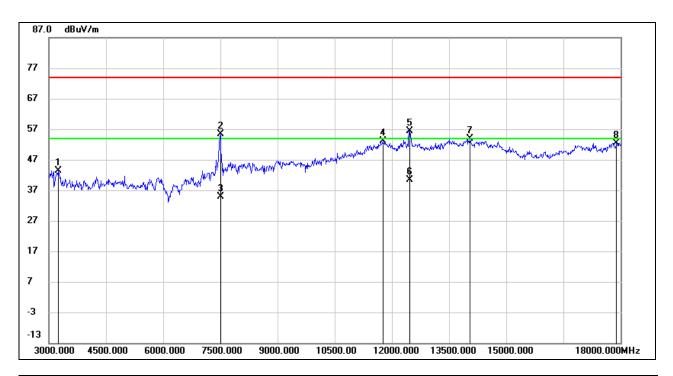


No.	Frequency	Reading	Correct	Result	Limit	Margin	Remark
	(MHz)	(dBuV)	(dB/m)	(dBuV/m)	(dBuV/m)	(dB)	
1	3720.000	45.21	-3.92	41.29	74.00	-32.71	peak
2	7485.000	46.27	6.36	52.63	74.00	-21.37	peak
3	9195.000	39.08	9.05	48.13	74.00	-25.87	peak
4	11730.000	36.25	16.86	53.11	74.00	-20.89	peak
5	12480.000	40.79	17.21	58.00	74.00	-16.00	peak
6	12480.000	23.95	17.21	41.16	54.00	-12.84	AVG
7	13995.000	32.21	21.44	53.65	74.00	-20.35	peak

- 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	Reading	Correct	Result	Limit	Margin	Remark
	(MHz)	(dBuV)	(dB/m)	(dBuV/m)	(dBuV/m)	(dB)	
1	3240.000	48.63	-5.14	43.49	74.00	-30.51	peak
2	7500.000	48.86	6.42	55.28	74.00	-18.72	peak
3	7500.000	28.54	6.42	34.96	54.00	-19.04	AVG
4	11760.000	36.34	16.86	53.20	74.00	-20.80	peak
5	12465.000	39.17	17.26	56.43	74.00	-17.57	peak
6	12465.000	23.10	17.26	40.36	54.00	-13.64	AVG
7	14040.000	32.80	21.20	54.00	74.00	-20.00	peak
8	17895.000	27.87	24.62	52.49	74.00	-21.51	peak

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

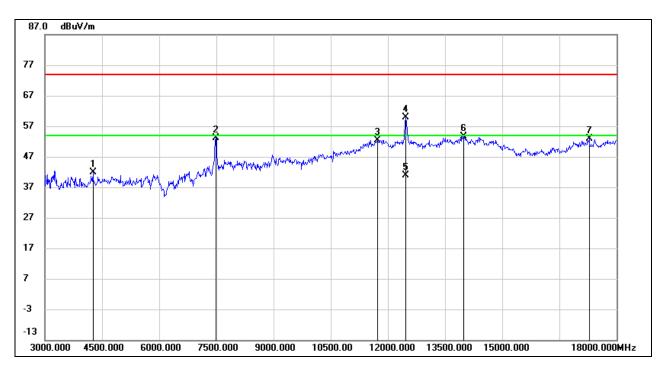
- 2. If Peak Result complies with AV limit, AV Result is deemed to comply with AV limit.
- 3. Peak: Peak detector.
- 4. AVG: VBW=1/Ton, where: Ton is the transmitting duration.
- 5. For the transmitting duration, please refer to clause 7.1.
- 6. Filter losses were only considered in the spurious frequency 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.



# 8.3.2. 802.11g SISO MODE ANTENNA 1 TEST RESULTS (WORST CASE)

## HARMONICS AND SPURIOUS EMISSIONS (CHANNEL 1, HORIZONTAL)

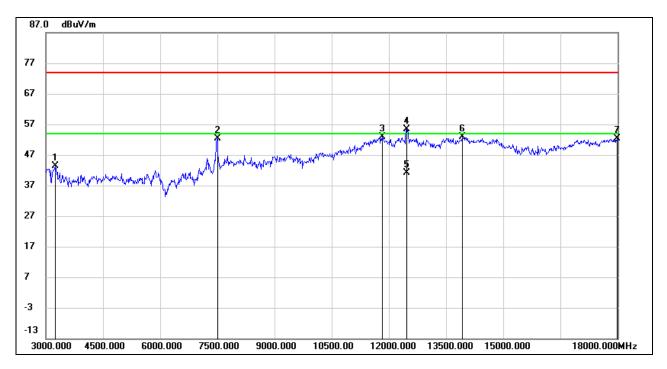


No.	Frequency	Reading	Correct	Result	Limit	Margin	Remark
	(MHz)	(dBuV)	(dB/m)	(dBuV/m)	(dBuV/m)	(dB)	
1	4260.000	44.44	-2.54	41.90	74.00	-32.10	peak
2	7485.000	46.88	6.36	53.24	74.00	-20.76	peak
3	11730.000	35.59	16.86	52.45	74.00	-21.55	peak
4	12465.000	42.60	17.26	59.86	74.00	-14.14	peak
5	12465.000	23.56	17.26	40.82	54.00	-13.18	AVG
6	13980.000	32.15	21.41	53.56	74.00	-20.44	peak
7	17280.000	31.27	21.73	53.00	74.00	-21.00	peak

- 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)**

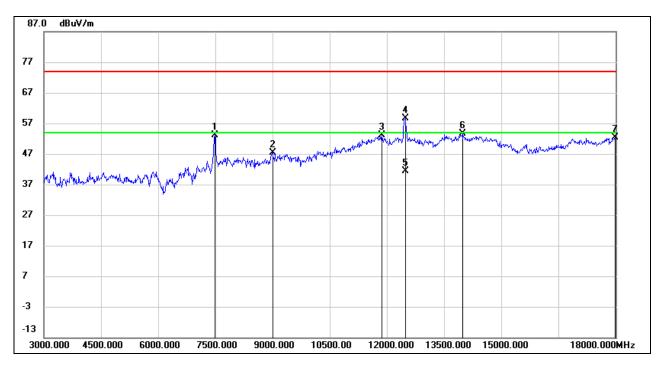


No.	Frequency	Reading	Correct	Result	Limit	Margin	Remark
	(MHz)	(dBuV)	(dB/m)	(dBuV/m)	(dBuV/m)	(dB)	
1	3240.000	48.62	-5.14	43.48	74.00	-30.52	peak
2	7500.000	46.07	6.42	52.49	74.00	-21.51	peak
3	11820.000	35.88	16.92	52.80	74.00	-21.20	peak
4	12465.000	38.23	17.26	55.49	74.00	-18.51	peak
5	12465.000	23.99	17.26	41.25	54.00	-12.75	AVG
6	13935.000	31.66	21.29	52.95	74.00	-21.05	peak
7	17985.000	27.19	25.18	52.37	74.00	-21.63	peak

- 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)

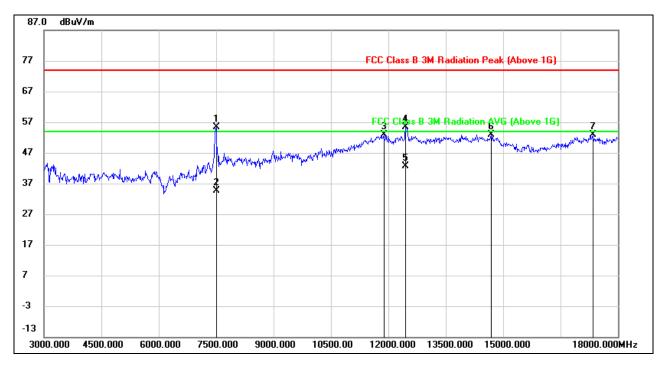


No.	Frequency	Reading	Correct	Result	Limit	Margin	Remark
	(MHz)	(dBuV)	(dB/m)	(dBuV/m)	(dBuV/m)	(dB)	
1	7485.000	46.66	6.36	53.02	74.00	-20.98	peak
2	9000.000	37.13	10.17	47.30	74.00	-26.70	peak
3	11865.000	36.11	17.08	53.19	74.00	-20.81	peak
4	12480.000	41.31	17.21	58.52	74.00	-15.48	peak
5	12480.000	24.05	17.21	41.26	54.00	-12.74	AVG
6	13980.000	32.18	21.41	53.59	74.00	-20.41	peak
7	17985.000	27.18	25.18	52.36	74.00	-21.64	peak

- 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)**

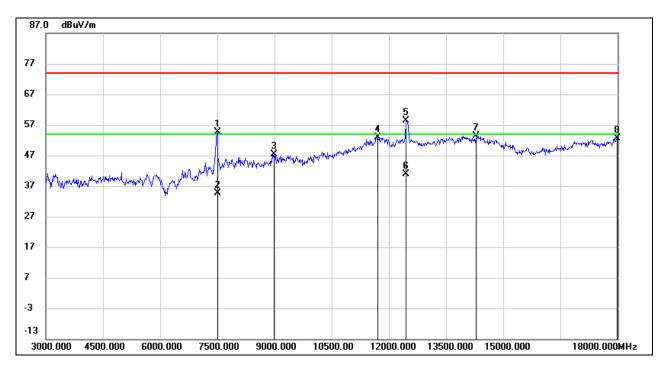


No.	Frequency	Reading	Correct	Result	Limit	Margin	Remark
	(MHz)	(dBuV)	(dB/m)	(dBuV/m)	(dBuV/m)	(dB)	
1	7500.000	48.89	6.42	55.31	74.00	-18.69	peak
2	7500.000	28.33	6.42	34.75	54.00	-19.25	AVG
3	11880.000	35.67	17.14	52.81	74.00	-21.19	peak
4	12450.000	38.10	17.31	55.41	74.00	-18.59	peak
5	12450.000	25.31	17.31	42.62	54.00	-11.38	AVG
6	14685.000	34.36	18.58	52.94	74.00	-21.06	peak
7	17340.000	31.16	21.68	52.84	74.00	-21.16	peak

- 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)**

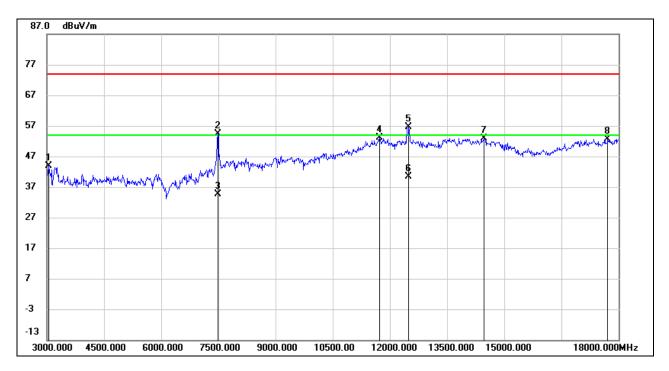


No.	Frequency	Reading	Correct	Result	Limit	Margin	Remark
	(MHz)	(dBuV)	(dB/m)	(dBuV/m)	(dBuV/m)	(dB)	
1	7500.000	48.15	6.42	54.57	74.00	-19.43	peak
2	7500.000	28.27	6.42	34.69	54.00	-19.31	AVG
3	8985.000	37.58	9.86	47.44	74.00	-26.56	peak
4	11715.000	35.94	16.87	52.81	74.00	-21.19	peak
5	12450.000	41.14	17.31	58.45	74.00	-15.55	peak
6	12450.000	23.65	17.31	40.96	54.00	-13.04	AVG
7	14280.000	32.81	20.67	53.48	74.00	-20.52	peak
8	17985.000	27.45	25.18	52.63	74.00	-21.37	peak

- 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	Reading	Correct	Result	Limit	Margin	Remark
	(MHz)	(dBuV)	(dB/m)	(dBuV/m)	(dBuV/m)	(dB)	
1	3045.000	48.72	-4.96	43.76	74.00	-30.24	peak
2	7485.000	48.00	6.36	54.36	74.00	-19.64	peak
3	7485.000	28.29	6.36	34.65	54.00	-19.35	AVG
4	11730.000	36.22	16.86	53.08	74.00	-20.92	peak
5	12480.000	39.43	17.21	56.64	74.00	-17.36	peak
6	12480.000	23.08	17.21	40.29	54.00	-13.71	AVG
7	14460.000	33.72	19.14	52.86	74.00	-21.14	peak
8	17715.000	28.84	23.81	52.65	74.00	-21.35	peak

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

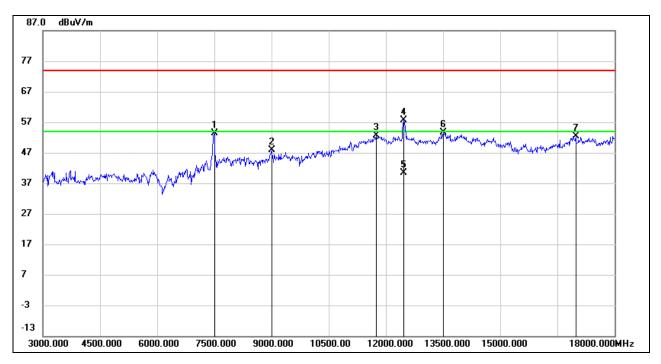
- 2. If Peak Result complies with AV limit, AV Result is deemed to comply with AV limit.
- 3. Peak: Peak detector.
- 4. AVG: VBW=1/Ton, where: Ton is the transmitting duration.
- 5. For the transmitting duration, please refer to clause 7.1.
- 6. Filter losses were only considered in the spurious frequency 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 (CHANNEL 1, HORIZONTAL)

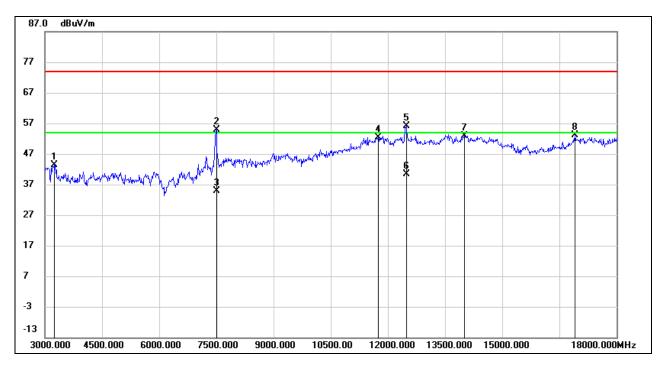


No.	Frequency	Reading	Correct	Result	Limit	Margin	Remark
	(MHz)	(dBuV)	(dB/m)	(dBuV/m)	(dBuV/m)	(dB)	
1	7500.000	46.86	6.42	53.28	74.00	-20.72	peak
2	9000.000	37.72	10.17	47.89	74.00	-26.11	peak
3	11745.000	35.69	16.87	52.56	74.00	-21.44	peak
4	12465.000	40.25	17.26	57.51	74.00	-16.49	peak
5	12465.000	23.00	17.26	40.26	54.00	-13.74	AVG
6	13500.000	33.26	20.39	53.65	74.00	-20.35	peak
7	16980.000	32.39	20.01	52.40	74.00	-21.60	peak

- 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)**

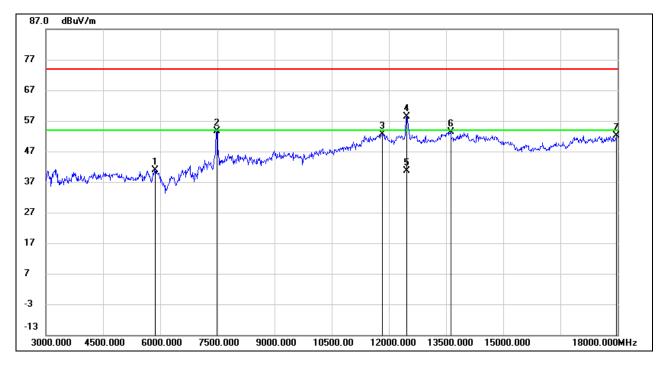


No.	Frequency	Reading	Correct	Result	Limit	Margin	Remark
	(MHz)	(dBuV)	(dB/m)	(dBuV/m)	(dBuV/m)	(dB)	
1	3240.000	48.54	-5.14	43.40	74.00	-30.60	peak
2	7500.000	48.55	6.42	54.97	74.00	-19.03	peak
3	7500.000	28.43	6.42	34.85	54.00	-19.15	AVG
4	11745.000	35.55	16.87	52.42	74.00	-21.58	peak
5	12480.000	38.84	17.21	56.05	74.00	-17.95	peak
6	12480.000	23.15	17.21	40.36	54.00	-13.64	AVG
7	14010.000	31.53	21.40	52.93	74.00	-21.07	peak
8	16905.000	32.83	20.19	53.02	74.00	-20.98	peak

- 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)**

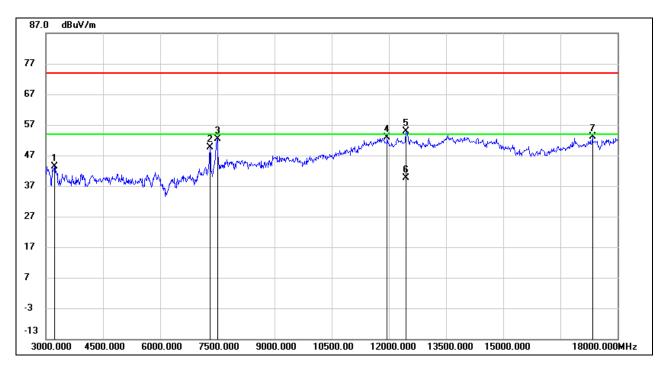


No.	Frequency	Reading	Correct	Result	Limit	Margin	Remark
	(MHz)	(dBuV)	(dB/m)	(dBuV/m)	(dBuV/m)	(dB)	
1	5865.000	38.71	2.29	41.00	74.00	-33.00	peak
2	7485.000	47.25	6.36	53.61	74.00	-20.39	peak
3	11835.000	35.54	16.98	52.52	74.00	-21.48	peak
4	12465.000	41.23	17.26	58.49	74.00	-15.51	peak
5	12465.000	23.28	17.26	40.54	54.00	-13.46	AVG
6	13620.000	32.83	20.51	53.34	74.00	-20.66	peak
7	17970.000	27.15	25.08	52.23	74.00	-21.77	peak

- 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)**

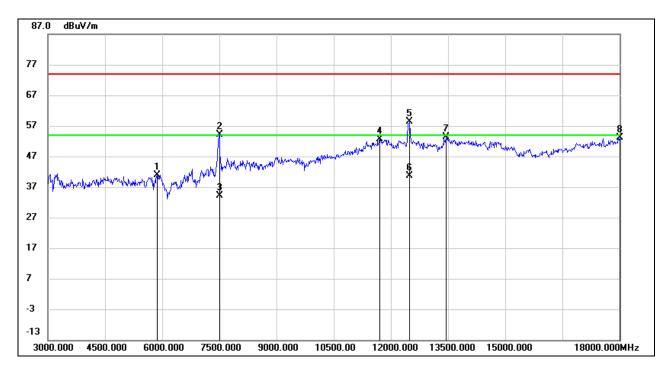


No.	Frequency	Reading	Correct	Result	Limit	Margin	Remark
	(MHz)	(dBuV)	(dB/m)	(dBuV/m)	(dBuV/m)	(dB)	
1	3225.000	48.56	-5.20	43.36	74.00	-30.64	peak
2	7305.000	44.50	5.25	49.75	74.00	-24.25	peak
3	7500.000	45.99	6.42	52.41	74.00	-21.59	peak
4	11955.000	35.53	17.28	52.81	74.00	-21.19	peak
5	12450.000	37.55	17.31	54.86	74.00	-19.14	peak
6	12450.000	22.33	17.31	39.64	54.00	-14.36	AVG
7	17340.000	31.33	21.68	53.01	74.00	-20.99	peak

- 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)**

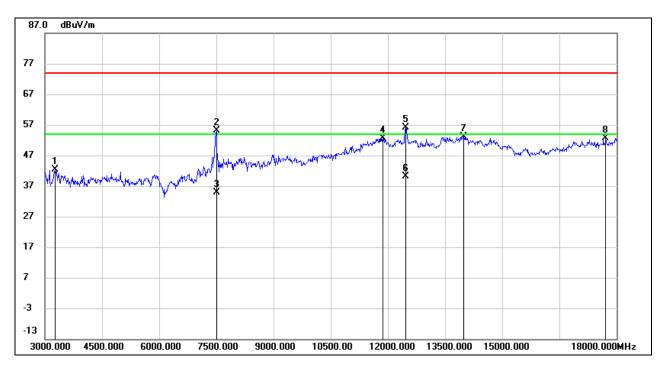


No.	Frequency	Reading	Correct	Result	Limit	Margin	Remark
	(MHz)	(dBuV)	(dB/m)	(dBuV/m)	(dBuV/m)	(dB)	
1	5865.000	38.57	2.29	40.86	74.00	-33.14	peak
2	7500.000	47.82	6.42	54.24	74.00	-19.76	peak
3	7500.000	27.73	6.42	34.15	54.00	-19.85	AVG
4	11700.000	35.70	16.87	52.57	74.00	-21.43	peak
5	12495.000	41.18	17.15	58.33	74.00	-15.67	peak
6	12495.000	23.53	17.15	40.68	54.00	-13.32	AVG
7	13440.000	33.24	20.10	53.34	74.00	-20.66	peak
8	18000.000	27.84	25.28	53.12	74.00	-20.88	peak

- 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)**



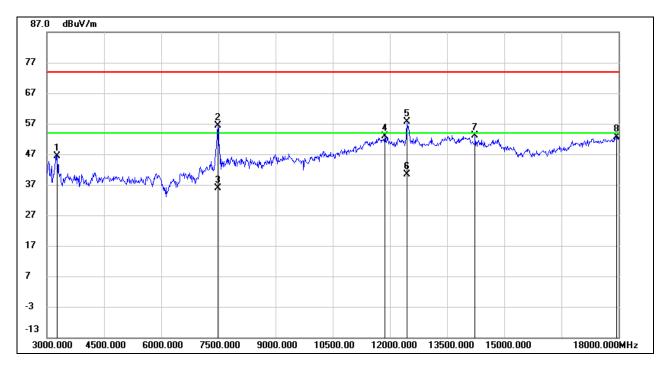
No.	Frequency	Reading	Correct	Result	Limit	Margin	Remark
	(MHz)	(dBuV)	(dB/m)	(dBuV/m)	(dBuV/m)	(dB)	
1	3270.000	47.44	-5.00	42.44	74.00	-31.56	peak
2	7500.000	48.75	6.42	55.17	74.00	-18.83	peak
3	7500.000	28.37	6.42	34.79	54.00	-19.21	AVG
4	11865.000	35.64	17.08	52.72	74.00	-21.28	peak
5	12465.000	38.89	17.26	56.15	74.00	-17.85	peak
6	12465.000	22.88	17.26	40.14	54.00	-13.86	AVG
7	13980.000	31.81	21.41	53.22	74.00	-20.78	peak
8	17715.000	28.92	23.81	52.73	74.00	-21.27	peak

- 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. 802.11n HT40 MIMO MODE

## HARMONICS AND SPURIOUS EMISSIONS (CHANNEL 3, HORIZONTAL)

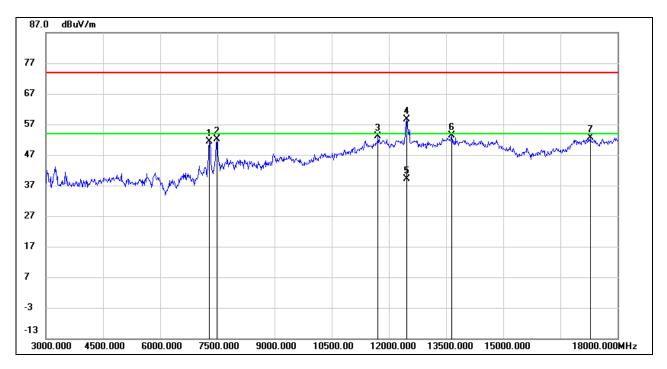


No.	Frequency	Reading	Correct	Result	Limit	Margin	Remark
	(MHz)	(dBuV)	(dB/m)	(dBuV/m)	(dBuV/m)	(dB)	
1	3270.000	51.29	-5.00	46.29	74.00	-27.71	peak
2	7485.000	49.93	6.36	56.29	74.00	-17.71	peak
3	7485.000	29.45	6.36	35.81	54.00	-18.19	AVG
4	11865.000	35.84	17.08	52.92	74.00	-21.08	peak
5	12450.000	40.25	17.31	57.56	74.00	-16.44	peak
6	12450.000	22.95	17.31	40.26	54.00	-13.74	AVG
7	14235.000	32.35	20.71	53.06	74.00	-20.94	peak
8	17940.000	27.81	24.89	52.70	74.00	-21.30	peak

- 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 3, VERTICAL)**

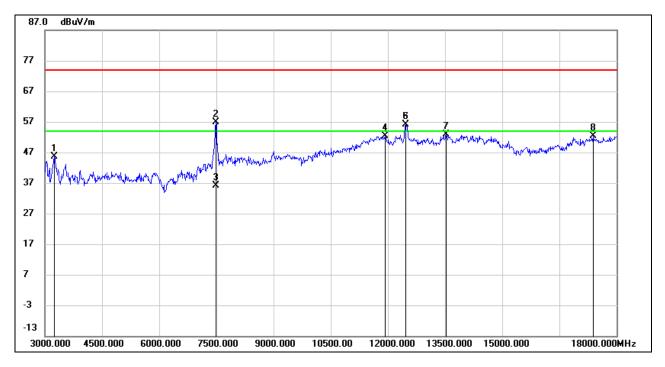


No.	Frequency	Reading	Correct	Result	Limit	Margin	Remark
	(MHz)	(dBuV)	(dB/m)	(dBuV/m)	(dBuV/m)	(dB)	
1	7290.000	46.13	5.23	51.36	74.00	-22.64	peak
2	7485.000	45.75	6.36	52.11	74.00	-21.89	peak
3	11715.000	36.19	16.87	53.06	74.00	-20.94	peak
4	12465.000	41.29	17.26	58.55	74.00	-15.45	peak
5	12465.000	21.89	17.26	39.15	54.00	-14.85	AVG
6	13650.000	32.74	20.70	53.44	74.00	-20.56	peak
7	17280.000	30.80	21.73	52.53	74.00	-21.47	peak

- 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)**

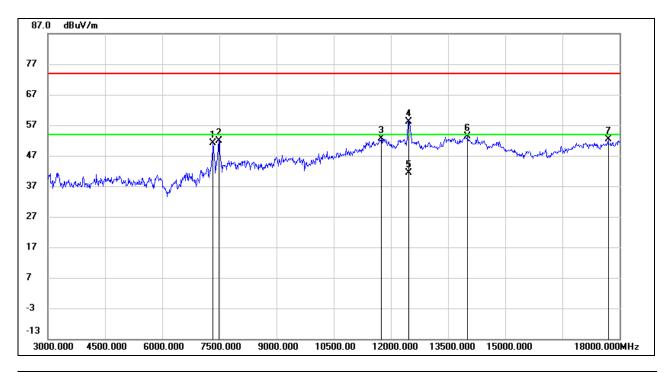


No.	Frequency	Reading	Correct	Result	Limit	Margin	Remark
	(MHz)	(dBuV)	(dB/m)	(dBuV/m)	(dBuV/m)	(dB)	
1	3240.000	50.69	-5.14	45.55	74.00	-28.45	peak
2	7485.000	50.49	6.36	56.85	74.00	-17.15	peak
3	7485.000	29.77	6.36	36.13	54.00	-17.87	AVG
4	11925.000	35.09	17.24	52.33	74.00	-21.67	peak
5	12465.000	38.78	17.26	56.04	74.00	-17.96	peak
6	12465.000	38.78	17.26	56.04	74.00	-17.96	peak
7	13530.000	32.41	20.39	52.80	74.00	-21.20	peak
8	17385.000	30.85	21.43	52.28	74.00	-21.72	peak

- 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)**

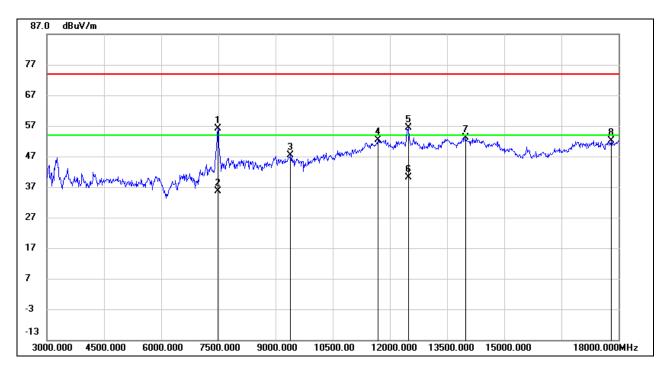


No.	Frequency	Reading	Correct	Result	Limit	Margin	Remark
	(MHz)	(dBuV)	(dB/m)	(dBuV/m)	(dBuV/m)	(dB)	
1	7335.000	45.57	5.50	51.07	74.00	-22.93	peak
2	7485.000	45.45	6.36	51.81	74.00	-22.19	peak
3	11745.000	35.77	16.87	52.64	74.00	-21.36	peak
4	12465.000	40.99	17.26	58.25	74.00	-15.75	peak
5	12465.000	24.03	17.26	41.29	54.00	-12.71	AVG
6	14010.000	31.97	21.40	53.37	74.00	-20.63	peak
7	17700.000	28.78	23.68	52.46	74.00	-21.54	peak

- 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 9, HORIZONTAL)**

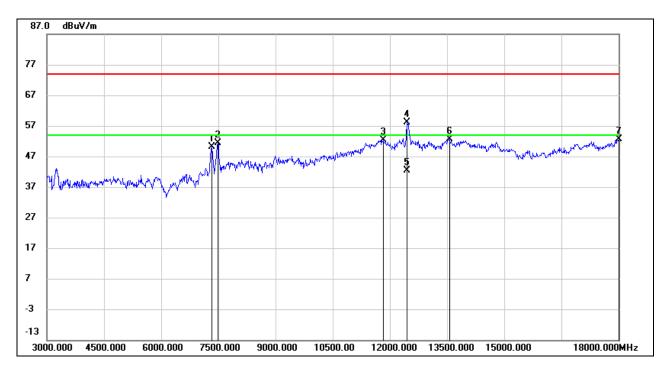


No.	Frequency	Reading	Correct	Result	Limit	Margin	Remark
	(MHz)	(dBuV)	(dB/m)	(dBuV/m)	(dBuV/m)	(dB)	
1	7485.000	49.81	6.36	56.17	74.00	-17.83	peak
2	7485.000	29.26	6.36	35.62	54.00	-18.38	AVG
3	9390.000	37.10	10.27	47.37	74.00	-26.63	peak
4	11685.000	35.51	16.76	52.27	74.00	-21.73	peak
5	12480.000	39.11	17.21	56.32	74.00	-17.68	peak
6	12480.000	23.02	17.21	40.23	54.00	-13.77	AVG
7	13995.000	31.79	21.44	53.23	74.00	-20.77	peak
8	17805.000	27.70	24.53	52.23	74.00	-21.77	peak

- 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 9, VERTICAL)**



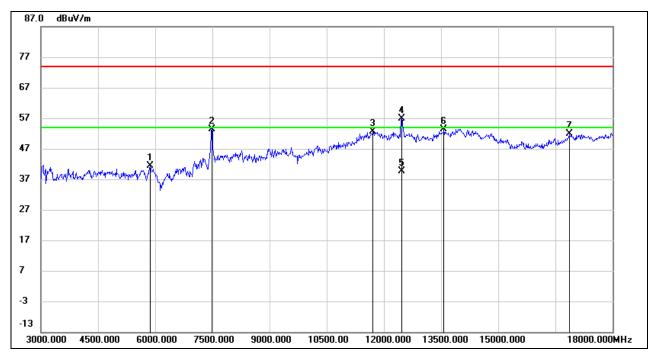
No.	Frequency	Reading	Correct	Result	Limit	Margin	Remark
	(MHz)	(dBuV)	(dB/m)	(dBuV/m)	(dBuV/m)	(dB)	
1	7335.000	44.70	5.50	50.20	74.00	-23.80	peak
2	7485.000	44.98	6.36	51.34	74.00	-22.66	peak
3	11835.000	35.35	16.98	52.33	74.00	-21.67	peak
4	12450.000	40.94	17.31	58.25	74.00	-15.75	peak
5	12450.000	25.06	17.31	42.37	54.00	-11.63	AVG
6	13560.000	32.16	20.40	52.56	74.00	-21.44	peak
7	18000.000	27.26	25.28	52.54	74.00	-21.46	peak

- 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. 802.11ax HE20 MIMO MODE

#### HARMONICS AND SPURIOUS EMISSIONS (CHANNEL 1, HORIZONTAL)

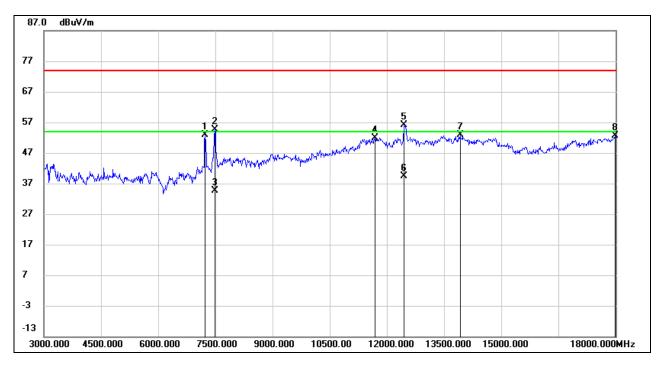


No.	Frequency	Reading	Correct	Result	Limit	Margin	Remark
	(MHz)	(dBuV)	(dB/m)	(dBuV/m)	(dBuV/m)	(dB)	
1	5865.000	39.06	2.29	41.35	74.00	-32.65	peak
2	7485.000	46.96	6.36	53.32	74.00	-20.68	peak
3	11715.000	35.73	16.87	52.60	74.00	-21.40	peak
4	12465.000	39.63	17.26	56.89	74.00	-17.11	peak
5	12465.000	22.42	17.26	39.68	54.00	-14.32	AVG
6	13575.000	33.05	20.39	53.44	74.00	-20.56	peak
7	16860.000	31.99	19.82	51.81	74.00	-22.19	peak

- 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)**

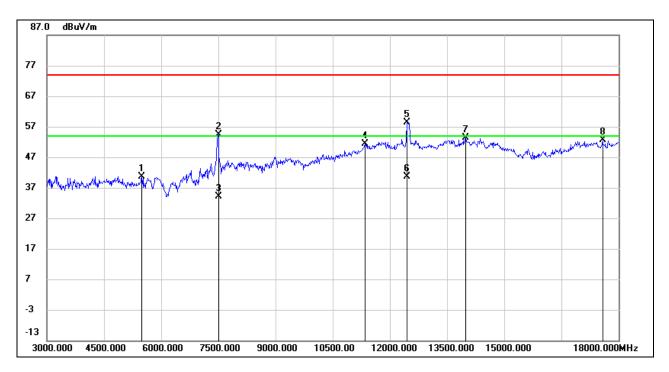


No.	Frequency	Reading	Correct	Result	Limit	Margin	Remark
	(MHz)	(dBuV)	(dB/m)	(dBuV/m)	(dBuV/m)	(dB)	
1	7230.000	47.49	5.41	52.90	74.00	-21.10	peak
2	7485.000	48.37	6.36	54.73	74.00	-19.27	peak
3	7485.000	28.32	6.36	34.68	54.00	-19.32	AVG
4	11685.000	35.13	16.76	51.89	74.00	-22.11	peak
5	12450.000	38.74	17.31	56.05	74.00	-17.95	peak
6	12450.000	22.03	17.31	39.34	54.00	-14.66	AVG
7	13920.000	31.65	21.24	52.89	74.00	-21.11	peak
8	17985.000	27.45	25.18	52.63	74.00	-21.37	peak

- 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)

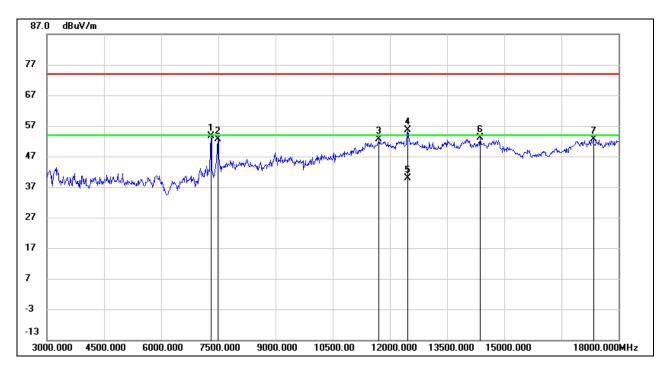


No.	Frequency	Reading	Correct	Result	Limit	Margin	Remark
	(MHz)	(dBuV)	(dB/m)	(dBuV/m)	(dBuV/m)	(dB)	
1	5490.000	38.94	1.59	40.53	74.00	-33.47	peak
2	7500.000	48.06	6.42	54.48	74.00	-19.52	peak
3	7500.000	27.77	6.42	34.19	54.00	-19.81	AVG
4	11340.000	36.37	15.10	51.47	74.00	-22.53	peak
5	12450.000	41.08	17.31	58.39	74.00	-15.61	peak
6	12450.000	23.37	17.31	40.68	54.00	-13.32	AVG
7	13995.000	31.94	21.44	53.38	74.00	-20.62	peak
8	17580.000	30.10	22.48	52.58	74.00	-21.42	peak

- 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)**

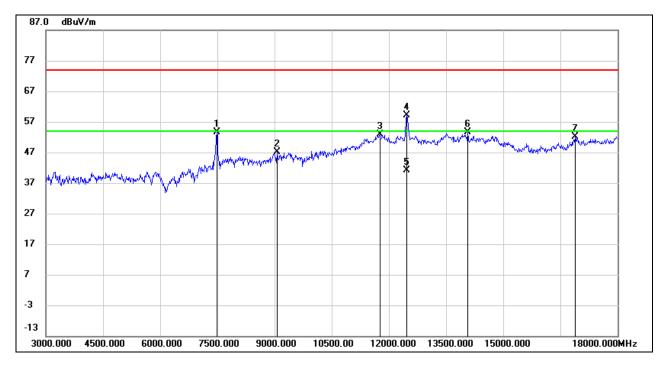


No.	Frequency	Reading	Correct	Result	Limit	Margin	Remark
	(MHz)	(dBuV)	(dB/m)	(dBuV/m)	(dBuV/m)	(dB)	
1	7305.000	48.45	5.25	53.70	74.00	-20.30	peak
2	7485.000	46.26	6.36	52.62	74.00	-21.38	peak
3	11715.000	35.66	16.87	52.53	74.00	-21.47	peak
4	12465.000	38.38	17.26	55.64	74.00	-18.36	peak
5	12465.000	22.68	17.26	39.94	54.00	-14.06	AVG
6	14370.000	33.25	19.83	53.08	74.00	-20.92	peak
7	17340.000	30.95	21.68	52.63	74.00	-21.37	peak

- 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)**

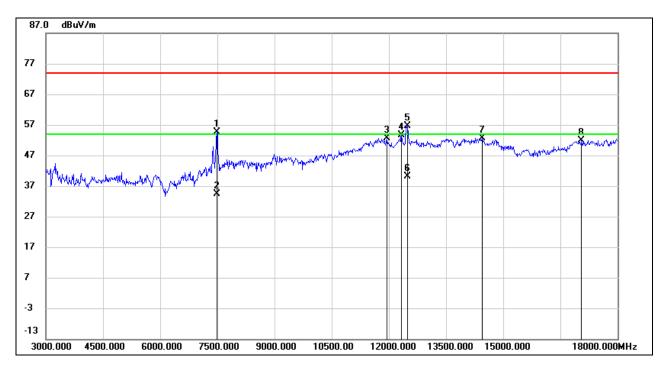


No.	Frequency	Reading	Correct	Result	Limit	Margin	Remark
	(MHz)	(dBuV)	(dB/m)	(dBuV/m)	(dBuV/m)	(dB)	
1	7485.000	47.34	6.36	53.70	74.00	-20.30	peak
2	9075.000	37.63	9.42	47.05	74.00	-26.95	peak
3	11760.000	36.01	16.86	52.87	74.00	-21.13	peak
4	12465.000	41.97	17.26	59.23	74.00	-14.77	peak
5	12465.000	23.89	17.26	41.15	54.00	-12.85	AVG
6	14070.000	32.52	21.01	53.53	74.00	-20.47	peak
7	16890.000	32.06	20.10	52.16	74.00	-21.84	peak

- 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)**



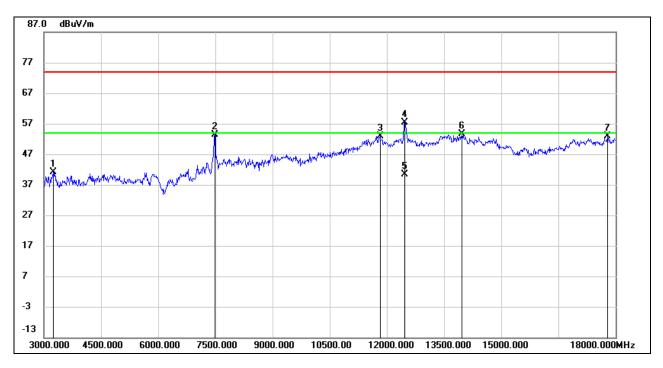
No.	Frequency	Reading	Correct	Result	Limit	Margin	Remark
	(MHz)	(dBuV)	(dB/m)	(dBuV/m)	(dBuV/m)	(dB)	
1	7485.000	48.31	6.36	54.67	74.00	-19.33	peak
2	7485.000	27.92	6.36	34.28	54.00	-19.72	AVG
3	11940.000	35.27	17.27	52.54	74.00	-21.46	peak
4	12330.000	35.95	17.62	53.57	74.00	-20.43	peak
5	12480.000	39.47	17.21	56.68	74.00	-17.32	peak
6	12480.000	22.97	17.21	40.18	54.00	-13.82	AVG
7	14445.000	33.44	19.23	52.67	74.00	-21.33	peak
8	17055.000	31.54	20.43	51.97	74.00	-22.03	peak

- 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. 802.11ax HE40 MIMO MODE

## **HARMONICS AND SPURIOUS EMISSIONS (CHANNEL 3, HORIZONTAL)**

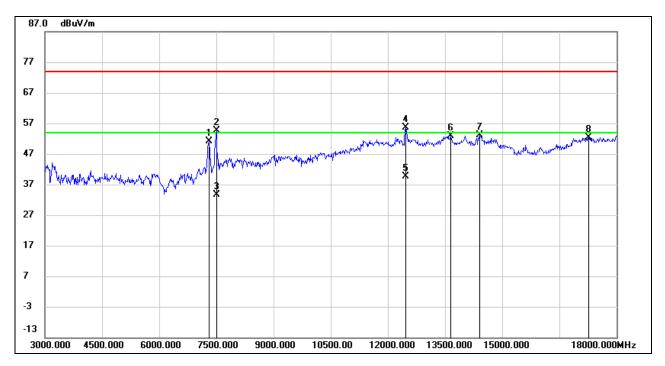


No.	Frequency	Reading	Correct	Result	Limit	Margin	Remark
	(MHz)	(dBuV)	(dB/m)	(dBuV/m)	(dBuV/m)	(dB)	
1	3240.000	46.16	-5.14	41.02	74.00	-32.98	peak
2	7485.000	47.12	6.36	53.48	74.00	-20.52	peak
3	11820.000	36.03	16.92	52.95	74.00	-21.05	peak
4	12465.000	40.20	17.26	57.46	74.00	-16.54	peak
5	12465.000	23.23	17.26	40.49	54.00	-13.51	AVG
6	13965.000	32.22	21.37	53.59	74.00	-20.41	peak
7	17790.000	28.54	24.43	52.97	74.00	-21.03	peak

- 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 3, VERTICAL)**

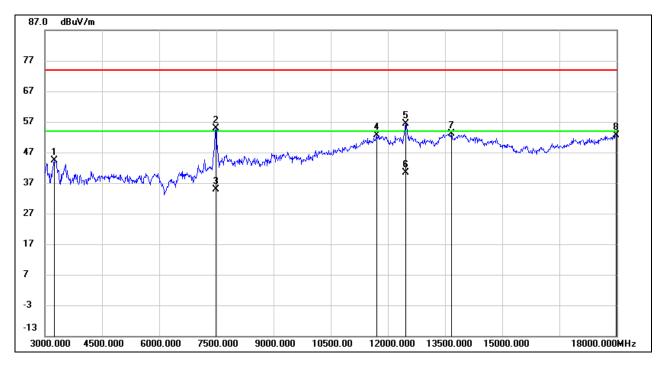


No.	Frequency	Reading	Correct	Result	Limit	Margin	Remark
	(MHz)	(dBuV)	(dB/m)	(dBuV/m)	(dBuV/m)	(dB)	
1	7305.000	45.77	5.25	51.02	74.00	-22.98	peak
2	7500.000	48.17	6.42	54.59	74.00	-19.41	peak
3	7500.000	27.26	6.42	33.68	54.00	-20.32	AVG
4	12465.000	38.36	17.26	55.62	74.00	-18.38	peak
5	12465.000	22.45	17.26	39.71	54.00	-14.29	AVG
6	13650.000	32.30	20.70	53.00	74.00	-21.00	peak
7	14400.000	33.64	19.49	53.13	74.00	-20.87	peak
8	17265.000	30.74	21.61	52.35	74.00	-21.65	peak

- 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)

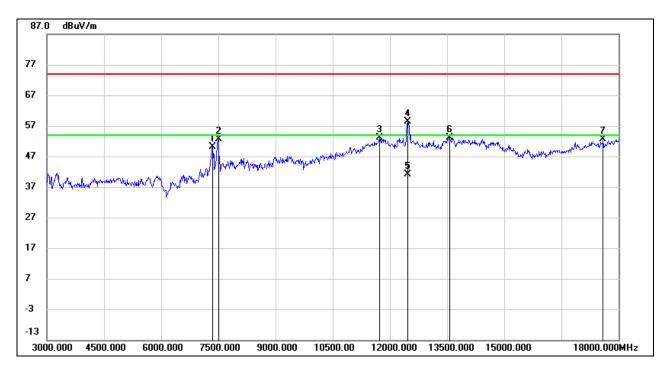


No.	Frequency	Reading	Correct	Result	Limit	Margin	Remark
	(MHz)	(dBuV)	(dB/m)	(dBuV/m)	(dBuV/m)	(dB)	
1	3240.000	49.53	-5.14	44.39	74.00	-29.61	peak
2	7485.000	48.60	6.36	54.96	74.00	-19.04	peak
3	7485.000	28.40	6.36	34.76	54.00	-19.24	AVG
4	11715.000	35.72	16.87	52.59	74.00	-21.41	peak
5	12465.000	39.19	17.26	56.45	74.00	-17.55	peak
6	12465.000	23.12	17.26	40.38	54.00	-13.62	AVG
7	13665.000	32.43	20.81	53.24	74.00	-20.76	peak
8	17985.000	27.35	25.18	52.53	74.00	-21.47	peak

- 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)**

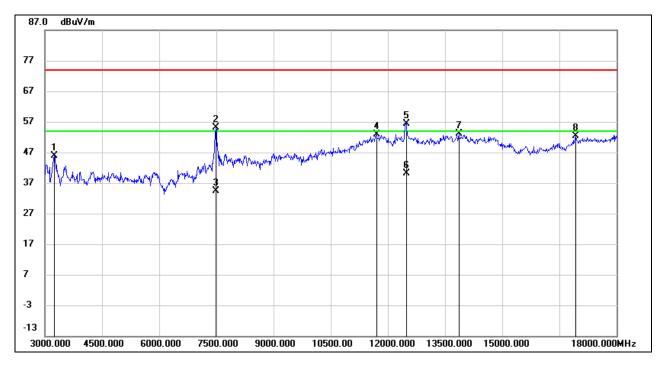


No.	Frequency	Reading	Correct	Result	Limit	Margin	Remark
	(MHz)	(dBuV)	(dB/m)	(dBuV/m)	(dBuV/m)	(dB)	
1	7350.000	44.40	5.62	50.02	74.00	-23.98	peak
2	7500.000	46.21	6.42	52.63	74.00	-21.37	peak
3	11730.000	36.20	16.86	53.06	74.00	-20.94	peak
4	12465.000	41.16	17.26	58.42	74.00	-15.58	peak
5	12465.000	23.90	17.26	41.16	54.00	-12.84	AVG
6	13560.000	32.82	20.40	53.22	74.00	-20.78	peak
7	17595.000	30.10	22.62	52.72	74.00	-21.28	peak

- 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 9, HORIZONTAL)**

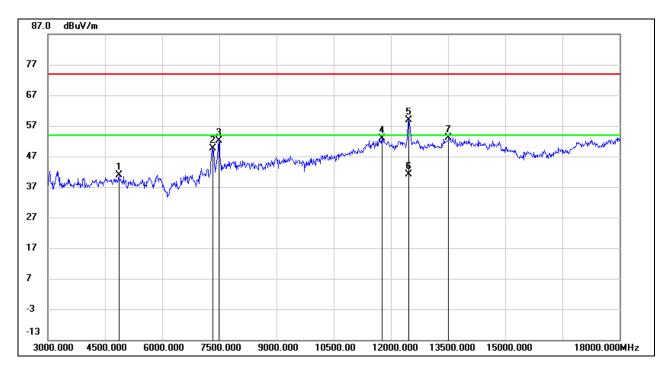


No.	Frequency	Reading	Correct	Result	Limit	Margin	Remark
	(MHz)	(dBuV)	(dB/m)	(dBuV/m)	(dBuV/m)	(dB)	
1	3240.000	50.91	-5.14	45.77	74.00	-28.23	peak
2	7485.000	48.78	6.36	55.14	74.00	-18.86	peak
3	7485.000	27.90	6.36	34.26	54.00	-19.74	AVG
4	11700.000	36.02	16.87	52.89	74.00	-21.11	peak
5	12480.000	39.29	17.21	56.50	74.00	-17.50	peak
6	12480.000	23.03	17.21	40.24	54.00	-13.76	AVG
7	13860.000	31.94	21.18	53.12	74.00	-20.88	peak
8	16935.000	32.35	20.12	52.47	74.00	-21.53	peak

- 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 9, VERTICAL)**



No.	Frequency	Reading	Correct	Result	Limit	Margin	Remark
	(MHz)	(dBuV)	(dB/m)	(dBuV/m)	(dBuV/m)	(dB)	
1	4860.000	41.45	-0.49	40.96	74.00	-33.04	peak
2	7320.000	44.20	5.37	49.57	74.00	-24.43	peak
3	7485.000	45.80	6.36	52.16	74.00	-21.84	peak
4	11760.000	35.98	16.86	52.84	74.00	-21.16	peak
5	12465.000	41.69	17.26	58.95	74.00	-15.05	peak
6	12465.000	23.78	17.26	41.04	54.00	-12.96	AVG
7	13515.000	32.72	20.38	53.10	74.00	-20.90	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: The spurious emissions were tested when the power was setting at the highest level for each mode according to clause 5.5, for example 13 for 802.11ax HE40 mode, so it should be pass when the power set at lower level for channels other than all the test channels above, for example channel 4 and 8 for 802.11ax HE40 mode.

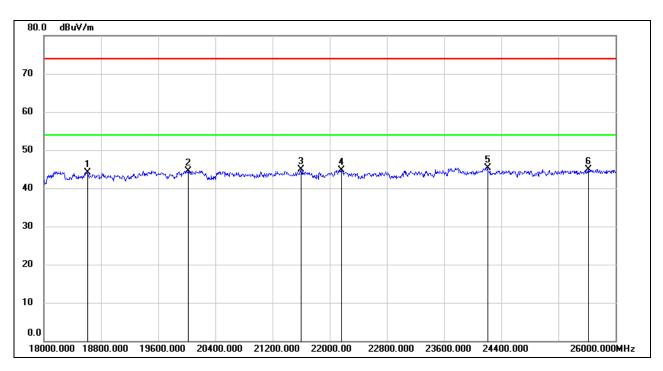
Note: All the worst case conditions for each mode had been tested, but only the worst data was recorded in the report.



# 8.6. SPURIOUS EMISSIONS (18 GHz ~ 26 GHz)

## 8.6.1. 802.11ax HE20 MODE

## SPURIOUS EMISSIONS (CHANNEL 6, WORST-CASE CONFIGURATION, HORIZONTAL)



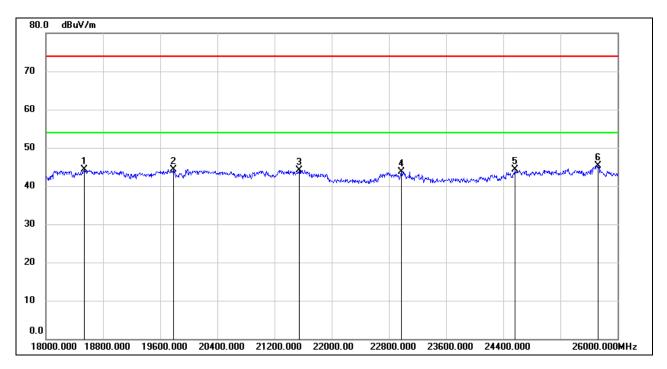
No.	Frequency	Reading	Correct	Result	Limit	Margin	Remark
	(MHz)	(dBuV)	(dB/m)	(dBuV/m)	(dBuV/m)	(dB)	
1	18608.000	49.37	-5.33	44.04	74.00	-29.96	peak
2	20016.000	50.06	-5.47	44.59	74.00	-29.41	peak
3	21600.000	49.52	-4.54	44.98	74.00	-29.02	peak
4	22160.000	49.08	-4.31	44.77	74.00	-29.23	peak
5	24208.000	48.21	-2.81	45.40	74.00	-28.60	peak
6	25616.000	46.18	-1.24	44.94	74.00	-29.06	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 (CHANNEL 6, WORST-CASE CONFIGURATION, VERTICAL)



No.	Frequency	Reading	Correct	Result	Limit	Margin	Remark
	(MHz)	(dBuV)	(dB/m)	(dBuV/m)	(dBuV/m)	(dB)	
1	18536.000	49.60	-5.27	44.33	74.00	-29.67	peak
2	19784.000	49.57	-5.28	44.29	74.00	-29.71	peak
3	21544.000	48.76	-4.63	44.13	74.00	-29.87	peak
4	22976.000	47.26	-3.46	43.80	74.00	-30.20	peak
5	24568.000	46.60	-2.33	44.27	74.00	-29.73	peak
6	25728.000	46.11	-0.72	45.39	74.00	-28.61	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.

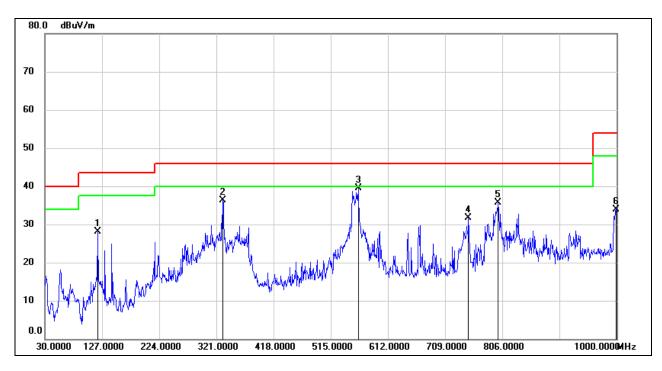
Note: All the modes had been tested, but only the worst data was recorded in the report.



# 8.7. SPURIOUS EMISSIONS (30 MHz ~ 1 GHz)

## 8.7.1. 802.11ax HE20 MODE

## SPURIOUS EMISSIONS (CHANNEL 6, WORST-CASE CONFIGURATION, HORIZONTAL)



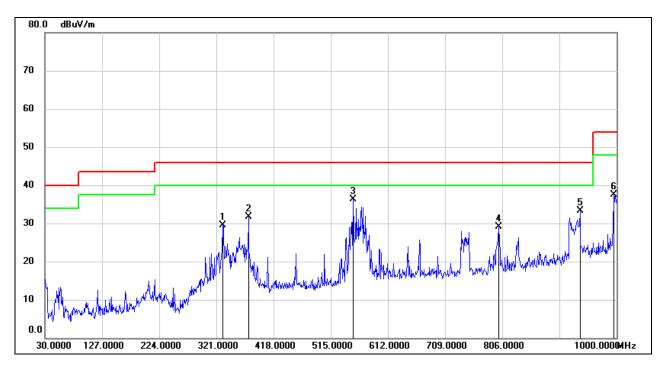
No.	Frequency	Reading	Correct	Result	Limit	Margin	Remark
	(MHz)	(dBuV)	(dB/m)	(dBuV/m)	(dBuV/m)	(dB)	
1	119.2400	48.03	-19.90	28.13	43.50	-15.37	QP
2	331.6700	51.04	-14.64	36.40	46.00	-9.60	QP
3	561.5600	49.73	-10.28	39.45	46.00	-6.55	QP
4	748.7700	39.71	-7.94	31.77	46.00	-14.23	QP
5	799.2100	43.13	-7.33	35.80	46.00	-10.20	QP
6	999.0300	38.15	-4.15	34.00	54.00	-20.00	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 (CHANNEL 6, WORST-CASE CONFIGURATION, VERTICAL)



No.	Frequency	Reading	Correct	Result	Limit	Margin	Remark
	(MHz)	(dBuV)	(dB/m)	(dBuV/m)	(dBuV/m)	(dB)	
1	331.6700	44.20	-14.64	29.56	46.00	-16.44	QP
2	375.3200	45.51	-13.79	31.72	46.00	-14.28	QP
3	552.8300	46.71	-10.44	36.27	46.00	-9.73	QP
4	800.1800	36.53	-7.33	29.20	46.00	-16.80	QP
5	937.9200	37.88	-4.56	33.32	46.00	-12.68	QP
6	995.1500	41.76	-4.20	37.56	54.00	-16.44	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.

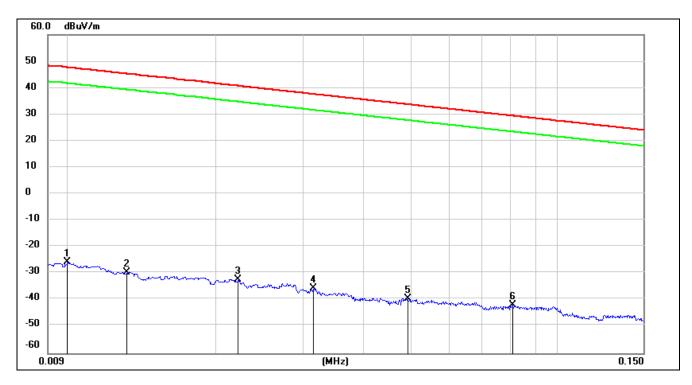


## 8.8. SPURIOUS EMISSIONS BELOW 30 MHz

## 8.8.1. 802.11ax HE20 MODE

# SPURIOUS EMISSIONS (CHANNEL 6, LOOP ANTENNA FACE ON TO THE EUT, WORST-CASE CONFIGURATION)

## 9 kHz ~ 150 kHz



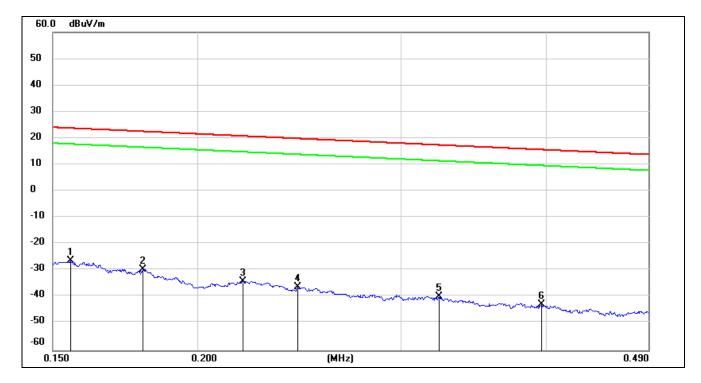
No.	Frequency	Reading	Correct	FCC	FCC	ISED	ISED	Margin	Remark
				Result	Limit	Result	Limit		
	(MHz)	(dBuV)	(dB/m)	(dBuV/m)	(dBuV/m)	(dBuA/m)	(dBuA/m)	(dB)	
1	0.0100	75.72	-101.40	-25.68	47.6	-77.18	-3.90	-73.28	peak
2	0.0131	71.97	-101.38	-29.41	45.25	-80.91	-6.25	-74.66	peak
3	0.0221	69.13	-101.35	-32.22	40.71	-83.72	-10.79	-72.93	peak
4	0.0316	65.74	-101.40	-35.66	37.61	-87.16	-13.89	-73.27	peak
5	0.0492	62.05	-101.47	-39.42	33.76	-90.92	-17.74	-73.18	peak
6	0.0806	59.68	-101.63	-41.95	29.47	-93.45	-22.03	-71.42	peak

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

- 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



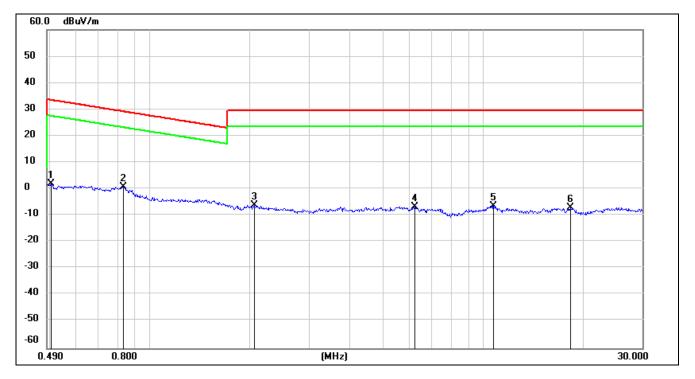
No.	Frequency	Reading	Correct	FCC	FCC	ISED	ISED	Margin	Remark
				Result	Limit	Result	Limit		
	(MHz)	(dBuV)	(dB/m)	(dBuV/m)	(dBuV/m)	(dBuA/m)	(dBuA/m)	(dB)	
1	0.1554	75.27	-101.65	-26.38	23.77	-77.88	-27.73	-50.15	peak
2	0.1794	72.27	-101.68	-29.41	22.53	-80.91	-28.97	-51.94	peak
3	0.2190	67.77	-101.75	-33.98	20.79	-85.48	-30.71	-54.77	peak
4	0.2442	65.53	-101.79	-36.26	19.85	-87.76	-31.65	-56.11	peak
5	0.3234	61.98	-101.88	-39.9	17.41	-91.40	-34.09	-57.31	peak
6	0.3966	59.18	-101.96	-42.78	15.63	-94.28	-35.87	-58.41	peak

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

- 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	Reading	Correct	FCC	FCC	ISED	ISED	Margin	Remark
				Result	Limit	Result	Limit		
	(MHz)	(dBuV)	(dB/m)	(dBuV/m)	(dBuV/m)	(dBuA/m)	(dBuA/m)	(dB)	
1	0.5039	63.93	-62.07	1.86	33.56	-49.64	-17.94	-31.70	peak
2	0.8296	62.94	-62.17	0.77	29.23	-50.73	-22.27	-28.46	peak
3	2.0539	55.70	-61.81	-6.11	29.54	-57.61	-21.96	-35.65	peak
4	6.2445	54.63	-61.32	-6.69	29.54	-58.19	-21.96	-36.23	peak
5	10.7299	54.48	-60.83	-6.35	29.54	-57.85	-21.96	-35.89	peak
6	18.2545	53.93	-60.90	-6.97	29.54	-58.47	-21.96	-36.51	peak

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

- 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

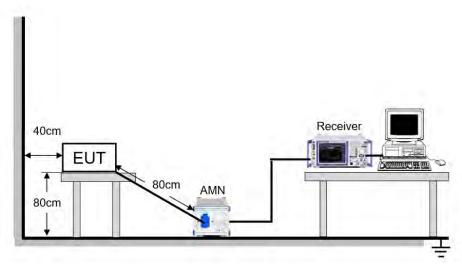
#### **LIMITS**

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**

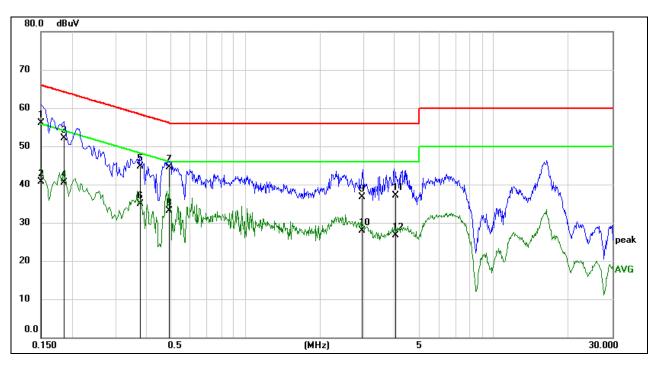
Temperature	23.8°C	Relative Humidity	68.5 %
Atmosphere Pressure	101 kPa	Test Voltage	AC 120 V/ 60 Hz



#### **RESULTS**

#### 9.1.1. 802.11ax HE20 MODE

## LINE L RESULTS (CHANNEL 6, WORST-CASE CONFIGURATION)



No.	Frequency	Reading	Correct	Result	Limit	Margin	Remark
	(MHz)	(dBuV)	(dB)	(dBuV)	(dBuV)	(dB)	
1	0.1504	46.50	9.59	56.09	65.98	-9.89	QP
2	0.1504	31.04	9.59	40.63	55.98	-15.35	AVG
3	0.1864	42.53	9.59	52.12	64.20	-12.08	QP
4	0.1864	30.97	9.59	40.56	54.20	-13.64	AVG
5	0.3777	35.24	9.41	44.65	58.33	-13.68	QP
6	0.3777	25.51	9.41	34.92	48.33	-13.41	AVG
7	0.4936	35.29	9.31	44.60	56.11	-11.51	QP
8	0.4936	23.89	9.31	33.20	46.11	-12.91	AVG
9	2.9436	27.17	9.62	36.79	56.00	-19.21	QP
10	2.9436	18.19	9.62	27.81	46.00	-18.19	AVG
11	4.0082	27.45	9.60	37.05	56.00	-18.95	QP
12	4.0082	17.13	9.60	26.73	46.00	-19.27	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: 80 Hz (0.009 MHz  $\sim$  0.15 MHz), 4 kHz (0.15 MHz  $\sim$  30 MHz), Scan time: auto.