



# CFR 47 FCC PART 15 SUBPART C

## **CERTIFICATION TEST REPORT**

For

### **300Mbps Wireless N Ceiling Mount Access Point**

### MODEL NUMBER: EAP115

### FCC ID: 2AXJ4EAP115V5

### REPORT NUMBER: 4790045306.1-6

**ISSUE DATE: September 17, 2021** 

Prepared for

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

Prepared by

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### **Revision History**

Rev.	Issue Date	Revisions	Revised By
V0	09/17/2021	Initial Issue	



Summary of Test Results						
Clause	Test Items	FCC Rules	Test Results			
1	6dB Bandwidth and 99% Occupied Bandwidth	FCC Part 15.247 (a) (2)	Pass			
2	Conducted Output Power	FCC Part 15.247 (b) (3)	Pass			
3	Power Spectral Density	FCC Part 15.247 (e)	Pass			
4	Conducted Bandedge and Spurious Emission	FCC Part 15.247 (d)	Pass			
5	Radiated Bandedge and Spurious Emission	FCC Part 15.247 (d) FCC Part 15.209 FCC Part 15.205	Pass			
6	Conducted Emission Test for AC Power Port	FCC Part 15.207	Pass			
7	Antenna Requirement	FCC Part 15.203	Pass			
Note:			1			

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

2. The measurement result for the sample received is <Pass> according to < CFR 47 FCC PART 15 SUBPART C >< ISED RSS-247 > when <Accuracy Method> decision rule is applied.



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# **1. ATTESTATION OF TEST RESULTS**

#### Applicant Information

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

#### Manufacturer Information

Company Name:	TP-Link Technologies Co., Ltd.
Address:	Building 24(floors1,3,4,5) and 28(floors1-4) Central Science and
	Technology Park, Shennan Rd, Nanshan, Shenzhen, China

#### **EUT** Information

EUT Name:
Model:
Sample Received Date:
Sample Status:
Sample ID:
Date of Tested:

300Mbps Wireless N Ceiling Mount Access Point EAP115 July 30, 2021 Normal 4106244 July 30, 2021 ~ September 15, 2021

### **APPLICABLE STANDARDS**

STANDARD

TEST RESULTS

CFR 47 FCC PART 15 SUBPART C

PASS

Prepared By:

Kebo Zhang Project Engineer

Checked By:

Shawn Wen Laboratory Leader

Approved By:

Stephen Guo Laboratory Manager



# 2. TEST METHODOLOGY

The tests documented in this report were performed in accordance with KDB 558074 D01 15.247 Meas Guidance v05r02, KDB 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.

# 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 Certificate	UL Verification Services (Guangzhou) Co., Ltd. Song Shan Lake Branch. has been registered and fully described in a report filed with ISED. The Company Number is 21320 and the test lab Conformity Assessment Body Identifier (CABID) is CN0046.
	VCCI (Registration No.: G-20019, R-20004, C-20012 and T-20011)
	UL Verification Services (Guangzhou) Co., Ltd. Song Shan Lake Branch. has been assessed and proved to be in compliance with VCCI, the
	Membership No. is 3793.
	Facility Name:
	Chamber D, the VCCI registration No. is G-20019 and R-20004
	Shielding Room B , the VCCI registration No. is C-20012 and T-20011

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

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

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



# 4. CALIBRATION AND UNCERTAINTY

# 4.1. MEASURING INSTRUMENT CALIBRATION

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

# 4.2. MEASUREMENT UNCERTAINTY

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

Test Item	Uncertainty			
Conduction emission	3.62 dB			
Radiated Emission (Included Fundamental Emission) (9 kHz ~ 30 MHz)	2.2 dB			
Radiated Emission (Included Fundamental Emission) (30 MHz ~ 1 GHz)	4.00 dB			
Radiated Emission	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 95% confidence level using a coverage factor of k=2.				

# 5. EQUIPMENT UNDER TEST

### 5.1. DESCRIPTION OF EUT

EUT Name	300Mbps Wireless N Ceiling Mount Access Point
Model	EAP115
Radio Technology	IEEE802.11b/g/n HT20/n HT40
Operation frequency	IEEE 802.11b: 2412MHz—2462MHz IEEE 802.11g: 2412MHz—2462MHz IEEE 802.11n HT20: 2412MHz—2462MHz IEEE 802.11n HT40: 2422MHz—2452MHz
Modulation	IEEE 802.11b: DSSS(CCK) IEEE 802.11g: OFDM(64QAM, 16QAM, QPSK, BPSK) IEEE 802.11n HT20: OFDM (64QAM, 16QAM, QPSK,BPSK) IEEE 802.11n HT40: OFDM (64QAM, 16QAM, QPSK,BPSK)
Software version	EAP115v5_1.0.0_[20210720-rel62688]
Firmware version	2053500387 Rev 1.0
Rated Input	AC 120 V, 60 Hz

## 5.2. CHANNEL LIST

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

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

## 5.3. MAXIMUM OUTPUT POWER

IEEE Std. 802.11	Frequency (MHz)	Channel Number	Maximum Conducted AVG Output Power (dBm)		
b	2412 ~ 2462	1-11[11]	24.37		
g	2412 ~ 2462	1-11[11]	24.19		
n HT20	2412 ~ 2462	1-11[11]	23.95		
n HT40	2422 ~ 2452	3-9[7]	22.31		

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Test Mode	Test Channel	Frequency(MHz)
802.11b	CH 1, CH2 CH 6,CH10, CH 11	2412, 2417, 2437, 2457, 2462
802.11g	CH 1, CH2 CH 6,CH10, CH 11	2412, 2417, 2437, 2457, 2462
802.11n HT20	CH 1, CH2 CH 6,CH10, CH 11	2412, 2417, 2437, 2457, 2462
802.11n HT20	CH 3, CH4 CH 6,CH8, CH 9	2422, 2427, 2437, 2447, 2452

## 5.4. TEST CHANNEL CONFIGURATION

### 5.5. THE WORSE CASE POWER SETTING PARAMETER

The	The Worse Case Power Setting Parameter under 2400 ~ 2483.5MHz Band										
Test Softv	vare	QAT				ool_Dbg					
Mashalatian	Transmit		Test Software Setting Value								
Modulation Mode	Antenna		NCB: 20MHz			NCB: 40MHz					
Wiede	Number	CH1	CH2	CH6	CH10	CH11	CH3	CH4	CH6	CH8	CH9
802.11b	1&2	24	28	28	28	26	NA				
802.11g	1&2	20	27	28	28	21					
802.11n HT20	1&2	21	26	28	26	20					
802.11n HT40	1&2	NA			1C	1F	23	1E	1C		



## 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.

Worst-case data rates as provided by the client were:

802.11b mode: 1 Mbps 802.11b mode: 6 Mbps 802.11n HT20 mode: MCS0 802.11n HT40 mode: MCS0

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

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



## 5.7. DESCRIPTION OF AVAILABLE ANTENNAS

Antenna	Frequency (MHz)	Antenna Type	MAX Antenna Gain (dBi)
1	2412-2462	PIFA Antenna	4
2	2412-2462	PIFA Antenna	4

Test Mode	Transmit and Receive Mode	Description				
IEEE 802.11b	⊠2TX, 2RX	ANT 1 and ANT 2 can be used as transmitting/receiving antenna.				
IEEE 802.11g	⊠2TX, 2RX	ANT 1 and ANT 2 can be used as transmitting/receiving antenna.				
IEEE 802.11n HT20	⊠2TX, 2RX	ANT 1 and ANT 2 can be used as transmitting/receiving antenna.				
IEEE 802.11n HT40	⊠2TX, 2RX	ANT 1 and ANT 2 can be used as transmitting/receiving antenna.				
Note: 1. 802.11n HT20/HT40 support MIMO mode. 2. 802.11b/g support CDD mode.						

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	PC	Dell	Vostro 3902	8KNDDB2

#### I/O CABLES

Cable No	Port	Connector Type	Cable Type	Cable Length(m)	Remarks
1	RJ45 cable	/	/	2.0	1

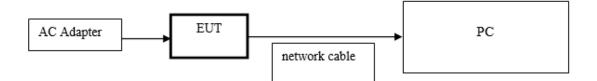
#### **ACCESSORIES**

Item	Accessory	Brand Name	Model Name	Description
1	I.T.E POWER SUPPLY	tp-link	TP090060-2B1	Input: AC 100-240V, 50/60Hz 0.3A Output: DC 9.0V, 0.6A

#### TEST SETUP

The EUT can work in engineering mode with a software.

#### SETUP DIAGRAM FOR TESTS





# 6. MEASURING INSTRUMENT AND SOFTWARE USED

Conducted Emissions								
Equipment	Manufacturer	Model No.	Serial No.	Last Cal.	Due Date			
EMI Test Receiver	R&S	ESR3	101961	Nov. 12, 2020	Nov. 11, 2021			
Two-Line V- Network	R&S	ENV216	101983	Nov. 12, 2020	Nov. 11, 2021			
Artificial Mains Networks	Schwarzbeck	NSLK 8126	8126465	Nov. 12, 2020	Nov. 11, 2021			
	Software							
[	Description		Manufacturer	Name	Version			
Test Software	for Conducted	Emissions	Farad	EZ-EMC	Ver. UL-3A1			

Radiated Emissions								
Equipment	Manufacturer	Model No.	Serial No.	Last Cal.	Due Date			
MXE EMI Receiver	KESIGHT	N9038A	MY56400036	Nov. 12, 2020	Nov. 11, 2021			
Hybrid Log Periodic Antenna	TDK	HLP-3003C	130959	April 24, 2020	April 23, 2023			
Preamplifier	HP	8447D	2944A09099	Nov. 12, 2020	Nov. 11, 2021			
EMI Measurement Receiver	R&S	ESR26	101377	Nov. 12, 2020	Nov. 11, 2021			
Horn Antenna	TDK	HRN-0118	130939	Sept. 17, 2018	Sept. 17, 2021			
Preamplifier	TDK	PA-02-0118	TRS-305- 00067	Nov. 20, 2020	Nov. 19, 2021			
Horn Antenna	Schwarzbeck	BBHA9170	#697	July 20, 2021	July 19, 2024			
Preamplifier	TDK	PA-02-2	TRS-307- 00003	Nov. 12, 2020	Nov. 11, 2021			
Preamplifier	TDK	PA-02-3	TRS-308- 00002	Nov. 12, 2020	Nov. 11, 2021			
Loop antenna	Schwarzbeck	1519B	00008	Jan.17, 2019	Jan.17,2022			
Preamplifier	TDK	PA-02-001- 3000	TRS-302- 00050	Nov. 12, 2020	Nov. 11, 2021			
Preamplifier	Mini-Circuits	ZX60-83LN- S+	SUP01201941	Nov. 20, 2020	Nov. 19, 2021			
High Pass Filter	Wi	WHKX10- 2700-3000- 18000-40SS	23	Nov. 12, 2020	Nov. 11, 2021			
Band Reject Filter	Wainwright	WRCJV8- 2350-2400- 2483.5- 2533.5-40SS	4	Nov. 12, 2020	Nov. 11, 2021			
		Sof	tware					

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Description	Manufacturer	Name	Version	
Test Software for Radiated Emissions	Farad	EZ-EMC	Ver. UL-3A1	

Tonsend RF Test System								
Equipment	Manufacturer	М	odel No.	Serial No.	Last	Cal.	Due. Date	
Wideband Radio Communication Tester	R&S	CMW500		155523	Nov.20,2020		Nov.19,2021	
PXA Signal Analyzer	Keysight	Ν	19030A	MY55410512	Nov.2	0,2020	Nov.19,2021	
MXG Vector Signal Generator	Keysight	N	I5182B	MY56200284	Nov.2	0,2020	Nov.19,2021	
MXG Vector Signal Generator	Keysight	N5172B		MY56200301	Nov.2	0,2020	Nov.19,2021	
DC power supply	Keysight	E3642A		MY55159130	Nov.24,2020		Nov.23,2021	
Software								
Description	Manufactu	Manufacturer		Name		Ņ	Version	
Tonsend SRD Test Syste	m Tonsend	d JS1120-3 RF Test Syste			stem	2.6	6.77.0518	

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



# 7. ANTENNA PORT TEST RESULTS 7.1. ON TIME AND DUTY CYCLE

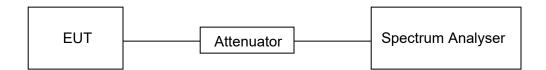
#### LIMITS

None; for reporting purposes only

#### PROCEDURE

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

#### TEST SETUP



#### **TEST ENVIRONMENT**

Temperature	27.4 °C	Relative Humidity	57.3 %
Atmosphere Pressure	101 kPa	Test Voltage	AC 120V, 60 HZ

#### RESULTS

Please refer to appendix G.



# 7.2. 6 dB DTS BANDWIDTH AND 99 % OCCUPIED BANDWIDTH

#### LIMITS

CFR 47 FCC Part15 (15.247) Subpart C				
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

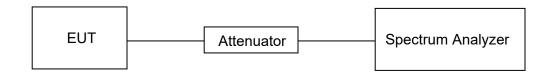
Center Frequency	The center frequency of the channel under test
Frequency Span	Between 1.5 times and 5.0 times the OBW
Detector	Peak
RBW	For 6 dB Bandwidth: 100 kHz For 99 % Occupied Bandwidth: 1 % to 5 % of the occupied bandwidth
VBW	For 6 dB Bandwidth: ≥3 × RBW For 99 % Occupied Bandwidth: ≥3 × RBW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

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

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



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#### TEST ENVIRONMENT

Temperature	27.4 °C	Relative Humidity	57.3 %
Atmosphere Pressure	101 kPa	Test Voltage	AC 120V, 60 HZ

#### **RESULTS**

Please refer to appendix A & B.



## 7.3. CONDUCTED OUTPUT POWER

#### <u>LIMITS</u>

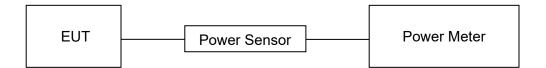
CFR 47 FCC Part15 (15.247) Subpart C			
Section Test Item Limit Frequency Range (MHz)			
CFR 47 FCC 15.247(b)(3)	AVG Output Power	1 watt or 30 dBm	2400-2483.5

#### TEST PROCEDURE

Connect the EUT to a low loss RF cable from the antenna port to the power sensor (video bandwidth is greater than the occupied bandwidth).

Measure peak emission level, the indicated level is the average output power, after any corrections for external attenuators and cables.

#### TEST SETUP



#### TEST ENVIRONMENT

Temperature	27.4 °C	Relative Humidity	57.3 %
Atmosphere Pressure	101 kPa	Test Voltage	AC 120V, 60 HZ

#### **RESULTS**

Please refer to appendix C.



## 7.4. POWER SPECTRAL DENSITY

#### <u>LIMITS</u>

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

#### TEST PROCEDURE

Refer to ANSI C63.10-2013 clause 11.10.

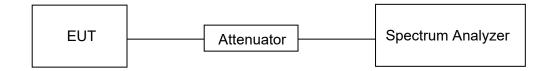
Connect the EUT to the spectrum analyser and use the following settings:

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	AC 120V, 60 HZ

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Please refer to appendix D.

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## 7.5. CONDUCTED BANDEDGE AND SPURIOUS EMISSIONS

#### <u>LIMITS</u>

CFR 47 FCC Part15 (15.247) Subpart C			
Section Test Item Limit			
CFR 47 FCC §15.247 (d) Bandedge and bandwidth		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:

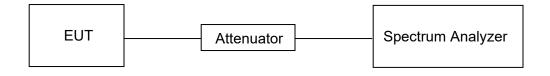
Span	Set the center frequency and span to encompass frequency range to be measured
Detector	Peak
RBW	100 kHz
VBW	≥3 × RBW
measurement points	≥span/RBW
Trace	Max hold
Sweep time	Auto couple.

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

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#### **TEST ENVIRONMENT**

Temperature	27.4 °C	Relative Humidity	57.3 %
Atmosphere Pressure	101 kPa	Test Voltage	AC 120V, 60 HZ

#### **RESULTS**

Please refer to appendix E & F.



# 8. RADIATED TEST RESULTS

### LIMITS

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

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

Emissions radiated outside of the specified frequency bands above 30 MHz							
Frequency Range (MHz)							
		Quasi-Peak					
30 - 88	100	40					
88 - 216	150	43.5					
216 - 960	200	46					
Above 960	500	54					
Above 1000	500	Peak	Average				
	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					



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

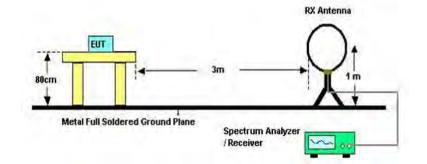
MHz	MHz	MHz	GHz
0.090-0.110	16.42-16.423	399.9-410	4.5-5.15
<sup>1</sup> 0.495-0.505	16.69475-16.69525	608-614	5.35-5.46
2.1735-2.1905	16.80425-16.80475	960-1240	7.25-7.75
4.125-4.128	25.5-25.67	1300-1427	8.025-8.5
4.17725-4.17775	37.5-38.25	1435-1626.5	9.0-9.2
4.20725-4.20775	73-74.6	1645.5-1646.5	9.3-9.5
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: <sup>1</sup>Until February 1, 1999, this restricted band shall be 0.490-0.510 MHz. <sup>2</sup>Above 38.6c



### TEST SETUP AND PROCEDURE

Below 30 MHz



The setting of the spectrum analyser

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

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

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

3. The EUT was placed on a turntable with 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.

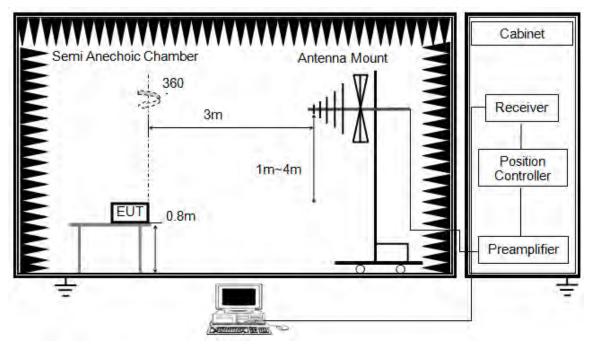
6. For measurement below 1 GHz, the initial step in collecting conducted emission data is a spectrum analyzer peak detector mode pre-scanning the measurement frequency range. Significant peaks are then marked and then Quasi Peak and average detector mode remeasured. If the emission level of the EUT measured 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.

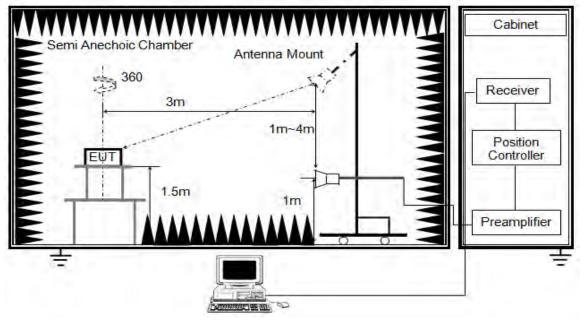
3. The EUT was placed on a turntable with 80 cm above ground.

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 BW	PEAK: 3 MHz AVG: see note 6
Sweep	Auto
Detector	Peak
Trace	Max hold

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

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

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

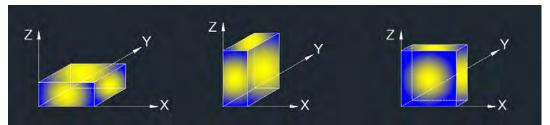
4. The EUT was set 3 meters from the interference receiving antenna, which was mounted on the top of a variable height antenna tower.

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

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



X axis, Y axis, Z axis positions:



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

#### **TEST ENVIRONMENT**

Temperature	26.2 °C	Relative Humidity	52 %
Atmosphere Pressure	101 kPa	Test Voltage	AC 120V, 60 HZ

#### **RESULTS**

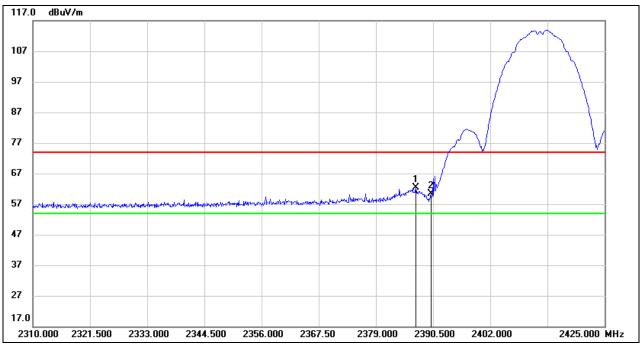


## 8.1. RESTRICTED BANDEDGE

### 8.1.1. 802.11b MODE

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

<u>PEAK</u>



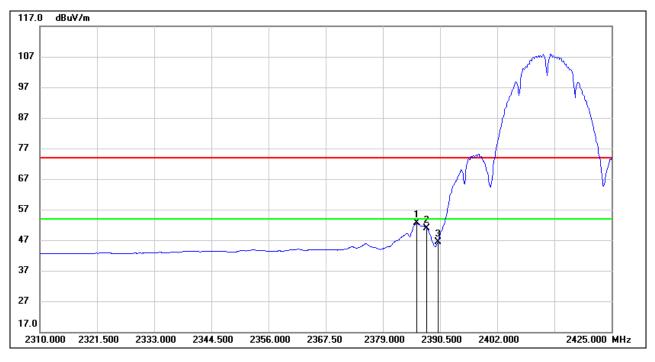
No.	Frequency	Reading	Correct	Result	Limit	Margin	Remark
	(MHz)	(dBuV)	( <b>dB</b> / <b>m</b> )	(dBuV/m)	(dBuV/m)	( <b>dB</b> )	
1	2387.050	29.05	33.33	62.38	74.00	-11.62	peak
2	2390.000	27.03	33.35	60.38	74.00	-13.62	peak

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

2. Peak: Peak detector.



<u>AVG</u>



No.	Frequency	Reading	Correct	Result	Limit	Margin	Remark
	(MHz)	(dBuV)	( <b>dB</b> / <b>m</b> )	(dBuV/m)	(dBuV/m)	( <b>dB</b> )	
1	2385.785	19.19	33.32	52.51	54.00	-1.49	AVG
2	2387.855	17.55	33.34	50.89	54.00	-3.11	AVG
3	2390.000	12.98	33.35	46.33	54.00	-7.67	AVG

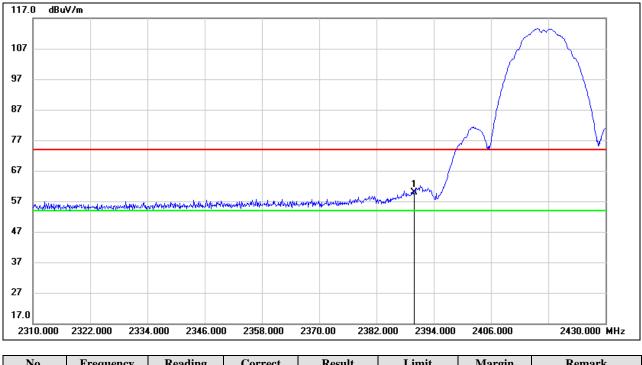
Note: 1. Measurement = Reading Level + Correct Factor.

2. Peak: Peak detector.



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

<u>PEAK</u>



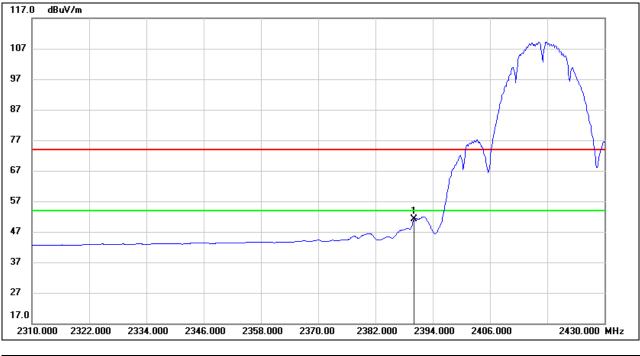
No.	Frequency	Reading	Correct	Result	Limit	Margin	Remark
	(MHz)	(dBuV)	( <b>dB</b> / <b>m</b> )	(dBuV/m)	(dBuV/m)	( <b>dB</b> )	
1	2390.000	26.43	33.35	59.78	74.00	-14.22	peak

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

2. Peak: Peak detector.



<u>AVG</u>



No.	Frequency	Reading	Correct	Result	Limit	Margin	Remark
	(MHz)	(dBuV)	( <b>dB</b> / <b>m</b> )	(dBuV/m)	(dBuV/m)	( <b>dB</b> )	
1	2390.000	17.71	33.35	51.06	54.00	-2.94	AVG

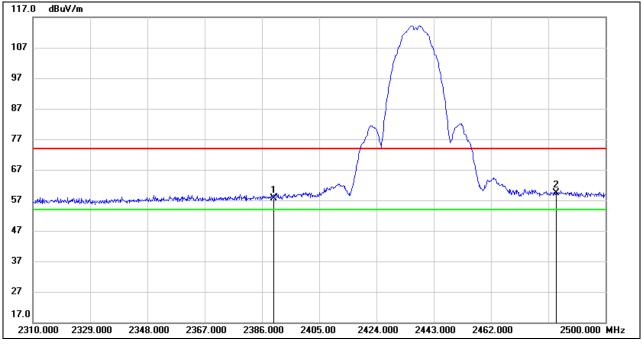
Note: 1. Measurement = Reading Level + Correct Factor.

2. Peak: Peak detector.



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

**PEAK** 



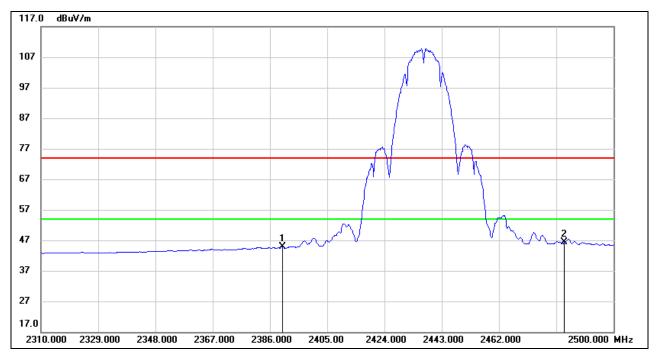
No.	Frequency	Reading	Correct	Result	Limit	Margin	Remark
	(MHz)	(dBuV)	( <b>dB</b> / <b>m</b> )	(dBuV/m)	(dBuV/m)	( <b>dB</b> )	
1	2390.000	24.28	33.35	57.63	74.00	-16.37	peak
2	2483.500	25.55	33.71	59.26	74.00	-14.74	peak

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

2. Peak: Peak detector.



<u>AVG</u>



No.	Frequency	Reading	Correct	Result	Limit	Margin	Remark
	(MHz)	(dBuV)	( <b>dB</b> / <b>m</b> )	(dBuV/m)	(dBuV/m)	( <b>dB</b> )	
1	2390.000	11.48	33.35	44.83	54.00	-9.17	AVG
2	2483.500	12.57	33.71	46.28	54.00	-7.72	AVG

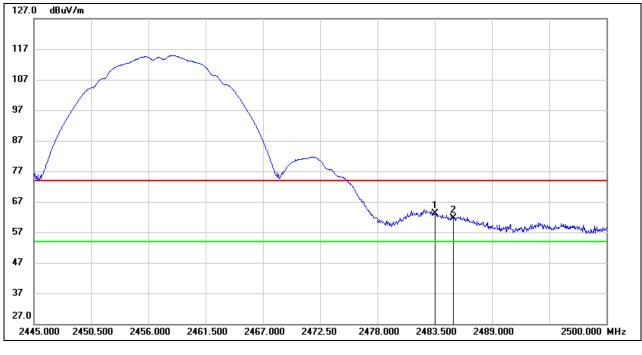
Note: 1. Measurement = Reading Level + Correct Factor.

2. Peak: Peak detector.



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

<u>PEAK</u>

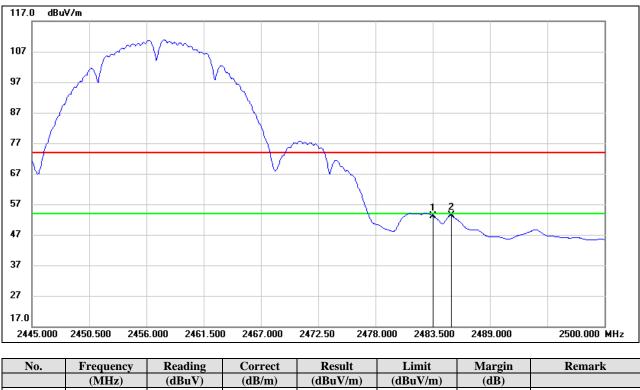


No.	Frequency	Reading	Correct	Result	Limit	Margin	Remark
	(MHz)	(dBuV)	( <b>dB</b> / <b>m</b> )	(dBuV/m)	(dBuV/m)	( <b>dB</b> )	
1	2483.500	29.32	33.71	63.03	74.00	-10.97	peak
2	2485.260	27.86	33.71	61.57	74.00	-12.43	peak

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

2. Peak: Peak detector.





INO.	Frequency	Reading	Correct	Result	Limit	Margin	Kemark
	(MHz)	(dBuV)	( <b>dB</b> / <b>m</b> )	(dBuV/m)	(dBuV/m)	( <b>dB</b> )	
1	2483.500	19.38	33.71	53.09	54.00	-0.91	AVG
2	2485.260	19.57	33.71	53.28	54.00	-0.72	AVG

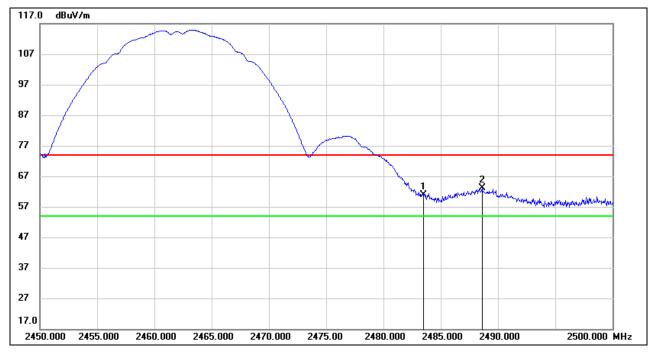
Note: 1. Measurement = Reading Level + Correct Factor.

2. Peak: Peak detector.



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

**PEAK** 



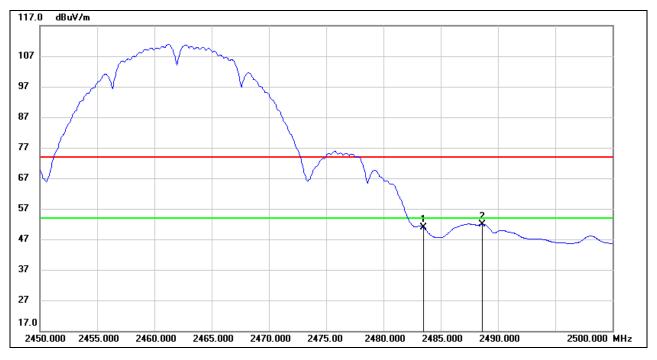
No.	Frequency	Reading	Correct	Result	Limit	Margin	Remark
	(MHz)	(dBuV)	( <b>dB</b> / <b>m</b> )	(dBuV/m)	(dBuV/m)	( <b>dB</b> )	
1	2483.500	27.20	33.71	60.91	74.00	-13.09	peak
2	2488.600	29.49	33.72	63.21	74.00	-10.79	peak

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

2. Peak: Peak detector.



AVG



No.	Frequency	Reading	Correct	Result	Limit	Margin	Remark
	(MHz)	(dBuV)	( <b>dB</b> / <b>m</b> )	(dBuV/m)	(dBuV/m)	( <b>dB</b> )	
1	2483.500	17.05	33.71	50.76	54.00	-3.24	AVG
2	2488.600	18.25	33.72	51.97	54.00	-2.03	AVG

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

2. Peak: Peak detector.

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

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



# 8.1.2. 802.11g MODE

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



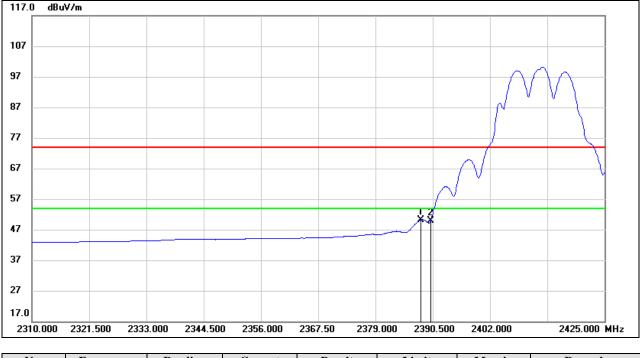
**PEAK** 

No.	Frequency	Reading	Correct	Result	Limit	Margin	Remark
	(MHz)	(dBuV)	( <b>dB</b> / <b>m</b> )	(dBuV/m)	(dBuV/m)	( <b>dB</b> )	
1	2388.085	38.13	33.34	71.47	74.00	-2.53	peak
2	2390.000	34.41	33.35	67.76	74.00	-6.24	peak

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

2. Peak: Peak detector.





No.	Frequency	Reading	Correct	Result	Limit	Margin	Remark
	(MHz)	(dBuV)	( <b>dB</b> / <b>m</b> )	(dBuV/m)	(dBuV/m)	( <b>dB</b> )	
1	2388.085	16.83	33.34	50.17	54.00	-3.83	AVG
2	2390.000	16.52	33.35	49.87	54.00	-4.13	AVG

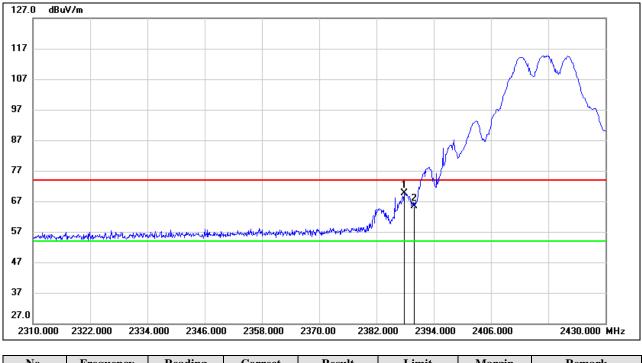
Note: 1. Measurement = Reading Level + Correct Factor.

2. Peak: Peak detector.



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

**PEAK** 

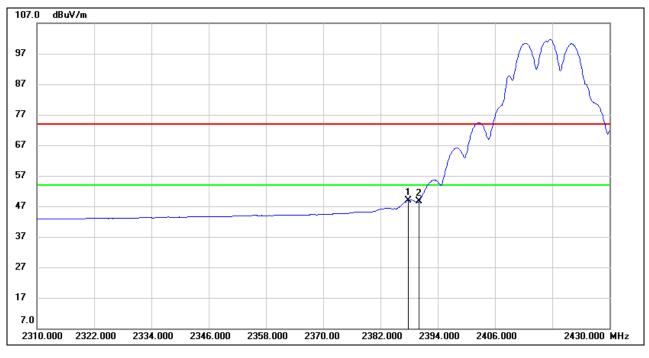


No.	Frequency	Reading	Correct	Result	Limit	Margin	Remark
	(MHz)	(dBuV)	( <b>dB</b> / <b>m</b> )	(dBuV/m)	(dBuV/m)	( <b>dB</b> )	
1	2387.760	36.20	33.34	69.54	74.00	-4.46	peak
2	2390.000	32.12	33.35	65.47	74.00	-8.53	peak

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

2. Peak: Peak detector.





No.	Frequency	Reading	Correct	Result	Limit	Margin	Remark
	(MHz)	(dBuV)	( <b>dB</b> / <b>m</b> )	(dBuV/m)	(dBuV/m)	( <b>dB</b> )	
1	2387.760	15.59	33.34	48.93	54.00	-5.07	AVG
2	2390.000	15.19	33.35	48.54	54.00	-5.46	AVG

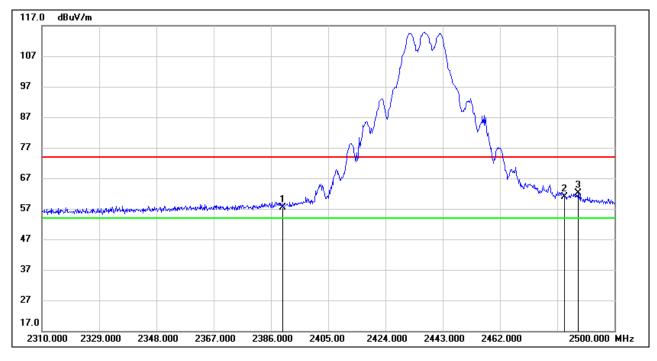
Note: 1. Measurement = Reading Level + Correct Factor.

2. Peak: Peak detector.



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

**PEAK** 

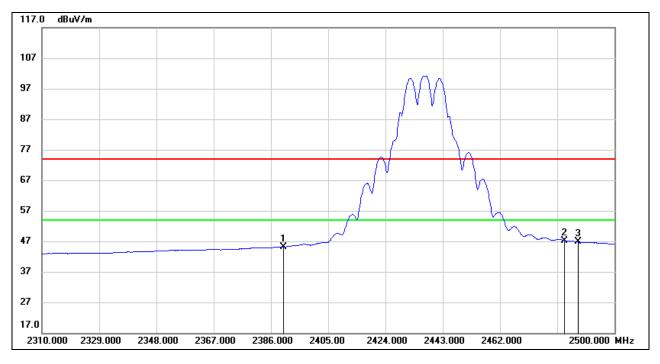


No.	Frequency	Reading	Correct	Result	Limit	Margin	Remark
	(MHz)	(dBuV)	( <b>dB</b> / <b>m</b> )	(dBuV/m)	(dBuV/m)	( <b>dB</b> )	
1	2390.000	24.15	33.35	57.50	74.00	-16.50	peak
2	2483.500	27.05	33.71	60.76	74.00	-13.24	peak
3	2487.840	28.44	33.72	62.16	74.00	-11.84	peak

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

2. Peak: Peak detector.





No.	Frequency	Reading	Correct	Result	Limit	Margin	Remark
	(MHz)	(dBuV)	( <b>dB</b> / <b>m</b> )	(dBuV/m)	(dBuV/m)	( <b>dB</b> )	
1	2390.000	11.77	33.35	45.12	54.00	-8.88	AVG
2	2483.500	13.45	33.71	47.16	54.00	-6.84	AVG
3	2487.840	13.04	33.72	46.76	54.00	-7.24	AVG

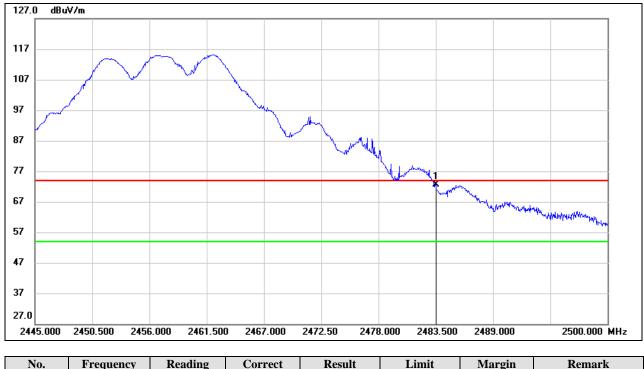
Note: 1. Measurement = Reading Level + Correct Factor.

2. Peak: Peak detector.



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

<u>PEAK</u>

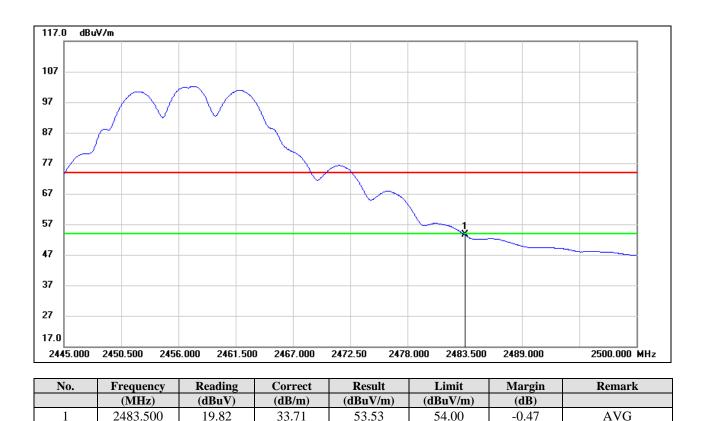


No.	Frequency	Reading	Correct	Result	Limit	Margin	Remark
	(MHz)	(dBuV)	( <b>dB</b> / <b>m</b> )	(dBuV/m)	(dBuV/m)	( <b>dB</b> )	
1	2483.500	38.86	33.71	72.57	74.00	-1.43	peak

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

2. Peak: Peak detector.





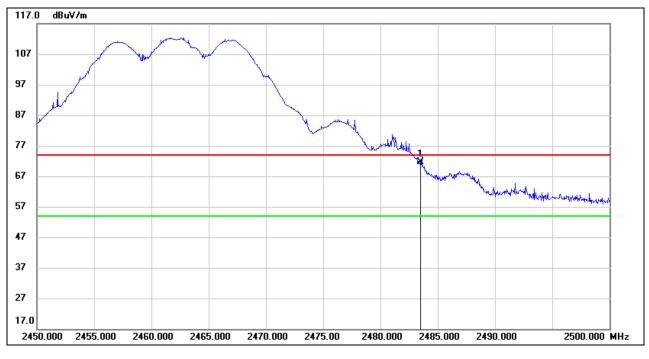
Note: 1. Measurement = Reading Level + Correct Factor.

2. Peak: Peak detector.



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

**PEAK** 

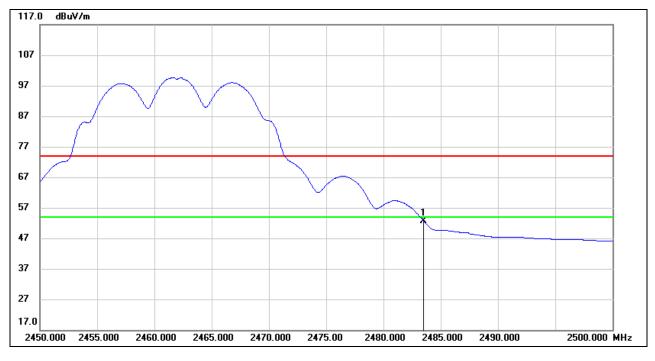


No.	Frequency	Reading	Correct	Result	Limit	Margin	Remark
	(MHz)	(dBuV)	( <b>dB</b> / <b>m</b> )	(dBuV/m)	(dBuV/m)	( <b>dB</b> )	
1	2483.500	38.04	33.71	71.75	74.00	-2.25	peak

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

2. Peak: Peak detector.





No.	Frequency	Reading	Correct	Result	Limit	Margin	Remark
	(MHz)	(dBuV)	( <b>dB</b> / <b>m</b> )	(dBuV/m)	(dBuV/m)	( <b>dB</b> )	
1	2483.500	18.98	33.71	52.69	54.00	-1.31	AVG

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

2. Peak: Peak detector.

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

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



## 8.1.3. 802.11n HT20 MODE

#### RESTRICTED BANDEDGE (LOW CHANNEL, HORIZONTAL)

**PEAK** 

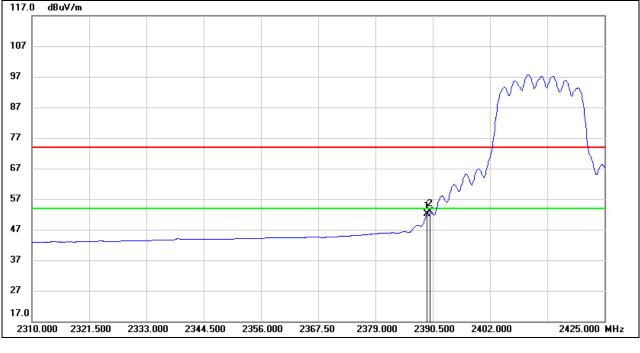


No.	Frequency	Reading	Correct	Result	Limit	Margin	Remark
	(MHz)	(dBuV)	( <b>dB</b> / <b>m</b> )	(dBuV/m)	(dBuV/m)	( <b>dB</b> )	
1	2389.350	37.87	33.35	71.22	74.00	-2.78	peak
2	2390.000	35.93	33.35	69.28	74.00	-4.72	peak

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

2. Peak: Peak detector.





No.	Frequency	Reading	Correct	Result	Limit	Margin	Remark
	(MHz)	(dBuV)	( <b>dB</b> / <b>m</b> )	(dBuV/m)	(dBuV/m)	( <b>dB</b> )	
1	2389.350	18.85	33.35	52.20	54.00	-1.80	AVG
2	2390.000	19.63	33.35	52.98	54.00	-1.02	AVG

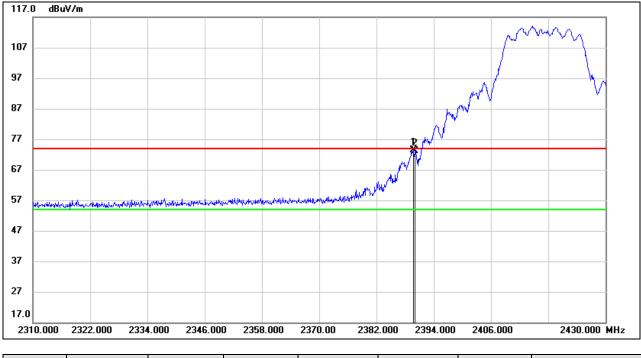
Note: 1. Measurement = Reading Level + Correct Factor.

2. Peak: Peak detector.



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

<u>PEAK</u>

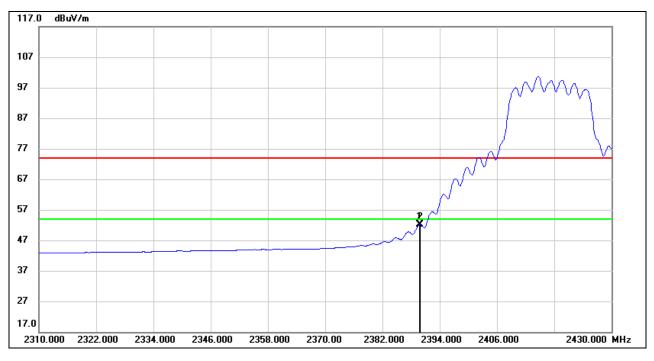


No.	Frequency	Reading	Correct	Result	Limit	Margin	Remark
	(MHz)	(dBuV)	( <b>dB</b> / <b>m</b> )	(dBuV/m)	(dBuV/m)	( <b>dB</b> )	
1	2389.800	39.92	33.35	73.27	74.00	-0.73	peak
2	2390.000	39.86	33.35	73.21	74.00	-0.79	peak

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

2. Peak: Peak detector.





No.	Frequency	Reading	Correct	Result	Limit	Margin	Remark
	(MHz)	(dBuV)	( <b>dB</b> / <b>m</b> )	(dBuV/m)	(dBuV/m)	( <b>dB</b> )	
1	2389.800	18.73	33.35	52.08	54.00	-1.92	AVG
2	2390.000	18.67	33.35	52.02	54.00	-1.98	AVG

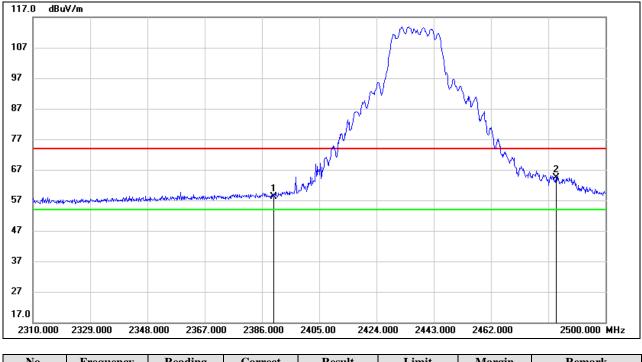
Note: 1. Measurement = Reading Level + Correct Factor.

2. Peak: Peak detector.



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

<u>PEAK</u>

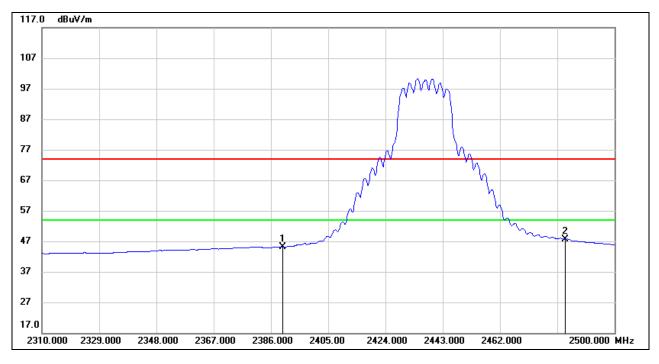


No.	Frequency	Reading	Correct	Result	Limit	Margin	Remark
	(MHz)	(dBuV)	( <b>dB</b> / <b>m</b> )	(dBuV/m)	(dBuV/m)	( <b>dB</b> )	
1	2390.000	24.83	33.35	58.18	74.00	-15.82	peak
2	2483.500	30.68	33.71	64.39	74.00	-9.61	peak

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

2. Peak: Peak detector.





No.	Frequency	Reading	Correct	Result	Limit	Margin	Remark
	(MHz)	(dBuV)	( <b>dB</b> / <b>m</b> )	(dBuV/m)	(dBuV/m)	( <b>dB</b> )	
1	2390.000	11.85	33.35	45.20	54.00	-8.80	AVG
2	2483.500	13.97	33.71	47.68	54.00	-6.32	AVG

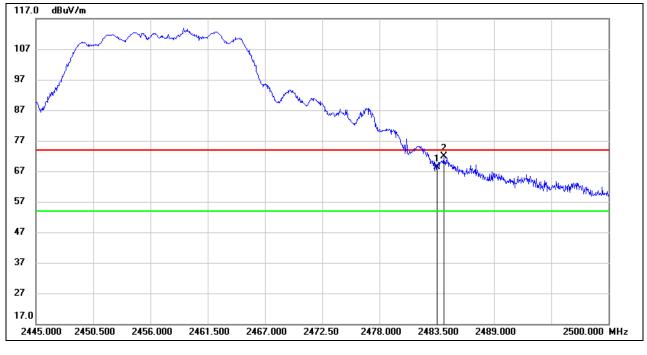
Note: 1. Measurement = Reading Level + Correct Factor.

2. Peak: Peak detector.



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

<u>PEAK</u>

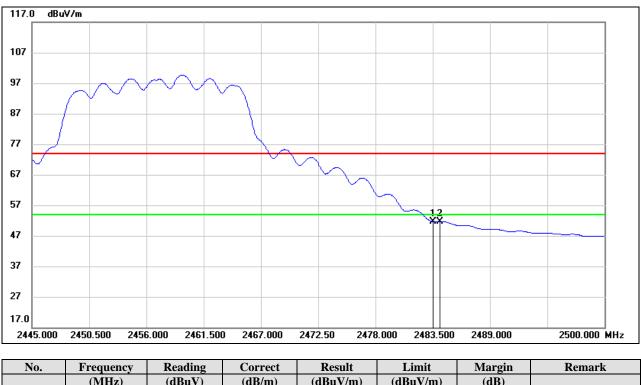


No.	Frequency	Reading	Correct	Result	Limit	Margin	Remark
	(MHz)	(dBuV)	( <b>dB</b> / <b>m</b> )	(dBuV/m)	(dBuV/m)	( <b>dB</b> )	
1	2483.500	34.73	33.71	68.44	74.00	-5.56	peak
2	2484.160	38.22	33.71	71.93	74.00	-2.07	peak

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

2. Peak: Peak detector.





190.	rrequency	Reading	Correct	Kesuit	Linnt	Margin	Kellialk
	(MHz)	(dBuV)	( <b>dB</b> / <b>m</b> )	(dBuV/m)	(dBuV/m)	( <b>dB</b> )	
1	2483.500	17.91	33.71	51.62	54.00	-2.38	AVG
2	2484.160	17.95	33.71	51.66	54.00	-2.34	AVG

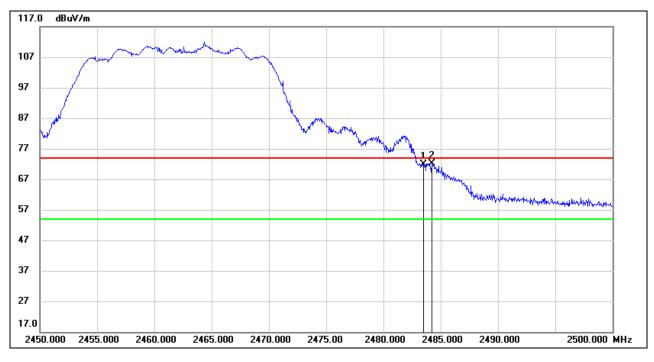
Note: 1. Measurement = Reading Level + Correct Factor.

2. Peak: Peak detector.



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

**PEAK** 



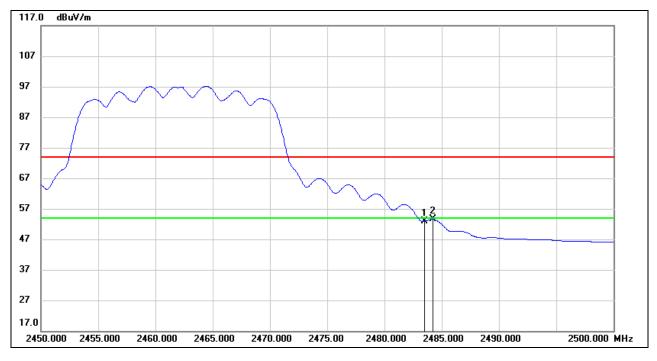
No.	Frequency	Reading	Correct	Result	Limit	Margin	Remark
	(MHz)	(dBuV)	( <b>dB</b> / <b>m</b> )	(dBuV/m)	(dBuV/m)	( <b>dB</b> )	
1	2483.500	38.28	33.71	71.99	74.00	-2.01	peak
2	2484.200	38.49	33.71	72.20	74.00	-1.80	peak

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

2. Peak: Peak detector.



AVG



No.	Frequency	Reading	Correct	Result	Limit	Margin	Remark
	(MHz)	(dBuV)	( <b>dB</b> / <b>m</b> )	(dBuV/m)	(dBuV/m)	( <b>dB</b> )	
1	2483.500	19.22	33.71	52.93	54.00	-1.07	AVG
2	2484.200	19.82	33.71	53.53	54.00	-0.47	AVG

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

2. Peak: Peak detector.

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

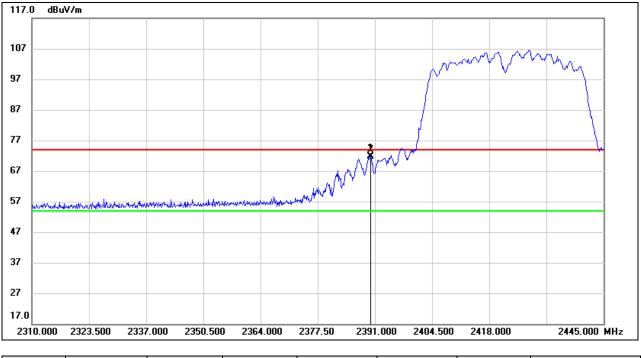
Note: Horizontal and Vertical have been tested, only the worst data was recorded in the report.



## 8.1.4. 802.11n HT40 MODE

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

<u>PEAK</u>

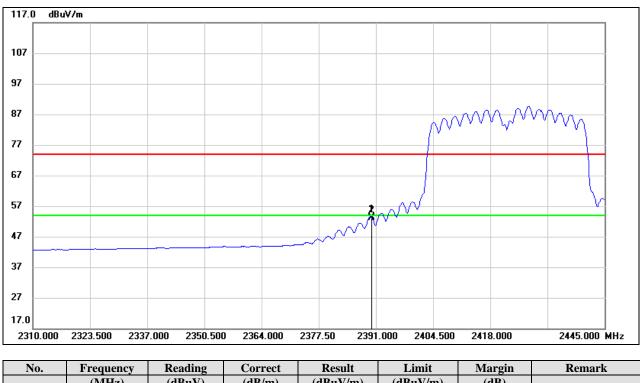


No.	Frequency	Reading	Correct	Result	Limit	Margin	Remark
	(MHz)	(dBuV)	( <b>dB</b> / <b>m</b> )	(dBuV/m)	(dBuV/m)	( <b>dB</b> )	
1	2389.920	38.45	33.35	71.80	74.00	-2.20	peak
2	2390.000	38.27	33.35	71.62	74.00	-2.38	peak

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

2. Peak: Peak detector.





No.	Frequency	Reading	Correct	Result	Limit	Margin	Remark
	(MHz)	(dBuV)	( <b>dB</b> / <b>m</b> )	(dBuV/m)	(dBuV/m)	( <b>dB</b> )	
1	2389.920	19.92	33.35	53.27	54.00	-0.73	AVG
2	2390.000	19.75	33.35	53.10	54.00	-0.90	AVG

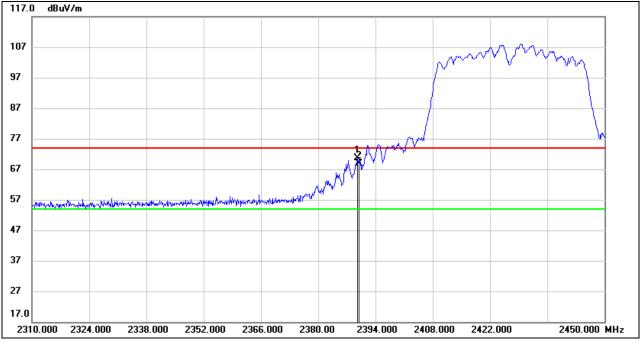
Note: 1. Measurement = Reading Level + Correct Factor.

2. Peak: Peak detector.



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

#### <u>PEAK</u>

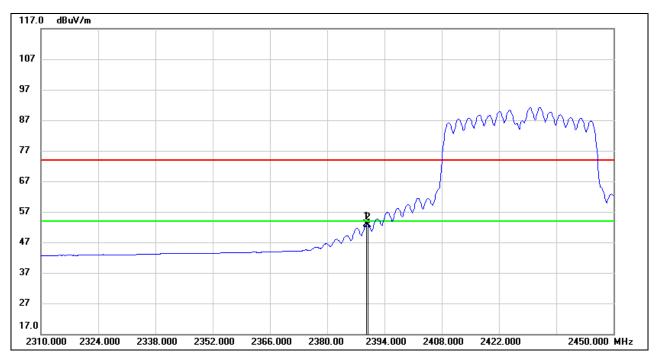


No.	Frequency	Reading	Correct	Result	Limit	Margin	Remark
	(MHz)	(dBuV)	( <b>dB</b> / <b>m</b> )	(dBuV/m)	(dBuV/m)	( <b>dB</b> )	
1	2389.660	37.16	33.35	70.51	74.00	-3.49	peak
2	2390.000	35.59	33.35	68.94	74.00	-5.06	peak

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

2. Peak: Peak detector.





No.	Frequency	Reading	Correct	Result	Limit	Margin	Remark
	(MHz)	(dBuV)	( <b>dB</b> / <b>m</b> )	(dBuV/m)	(dBuV/m)	( <b>dB</b> )	
1	2389.660	19.42	33.35	52.77	54.00	-1.23	AVG
2	2390.000	19.19	33.35	52.54	54.00	-1.46	AVG

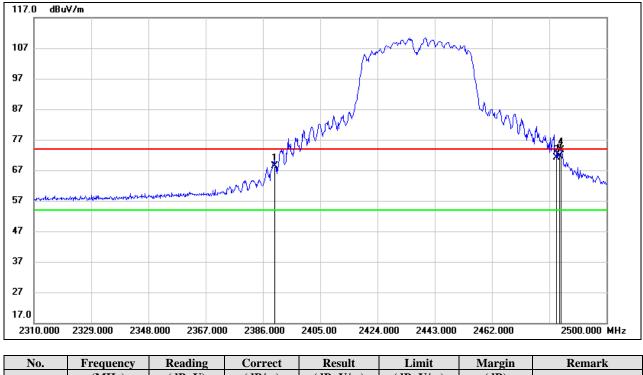
Note: 1. Measurement = Reading Level + Correct Factor.

2. Peak: Peak detector.



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

**PEAK** 

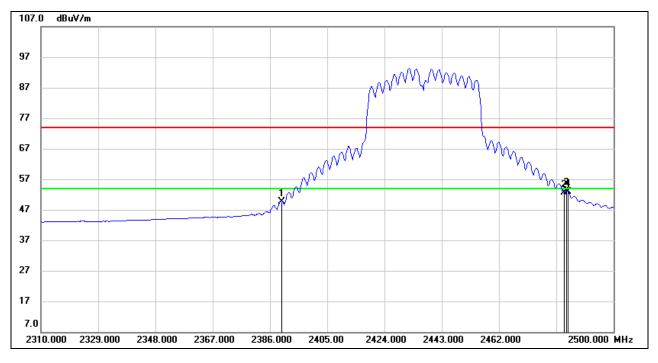


No.	Frequency	Reading	Correct	Result	Limit	Margin	Remark
	(MHz)	(dBuV)	( <b>dB</b> / <b>m</b> )	(dBuV/m)	(dBuV/m)	( <b>dB</b> )	
1	2390.000	35.01	33.35	68.36	74.00	-5.64	peak
2	2483.500	37.50	33.71	71.21	74.00	-2.79	peak
3	2484.420	37.93	33.71	71.64	74.00	-2.36	peak
4	2484.990	39.81	33.71	73.52	74.00	-0.48	peak

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

2. Peak: Peak detector.





No.	Frequency	Reading	Correct	Result	Limit	Margin	Remark
	(MHz)	(dBuV)	( <b>dB</b> / <b>m</b> )	(dBuV/m)	(dBuV/m)	( <b>dB</b> )	
1	2390.000	16.35	33.35	49.70	54.00	-4.30	AVG
2	2483.500	18.81	33.71	52.52	54.00	-1.48	AVG
3	2484.420	19.71	33.71	53.42	54.00	-0.58	AVG
4	2484.990	19.29	33.71	53.00	54.00	-1.00	AVG

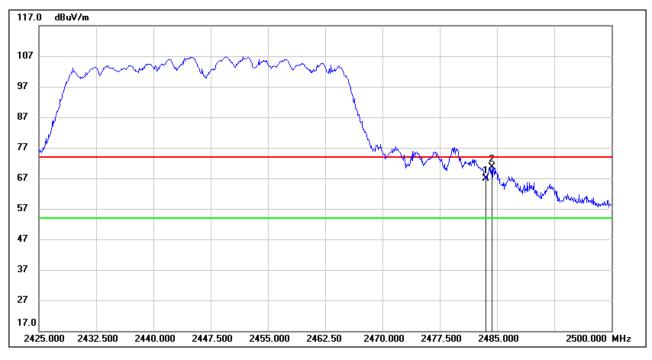
Note: 1. Measurement = Reading Level + Correct Factor.

2. Peak: Peak detector.



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

**PEAK** 



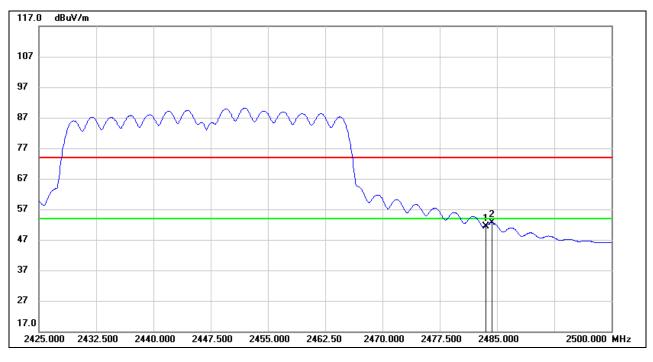
No.	Frequency	Reading	Correct	Result	Limit	Margin	Remark
	(MHz)	(dBuV)	( <b>dB</b> / <b>m</b> )	(dBuV/m)	(dBuV/m)	( <b>dB</b> )	
1	2483.500	33.18	33.71	66.89	74.00	-7.11	peak
2	2484.325	36.85	33.71	70.56	74.00	-3.44	peak

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

2. Peak: Peak detector.







No.	Frequency	Reading	Correct	Result	Limit	Margin	Remark
	(MHz)	(dBuV)	( <b>dB</b> / <b>m</b> )	(dBuV/m)	(dBuV/m)	( <b>dB</b> )	
1	2483.500	17.71	33.71	51.42	54.00	-2.58	AVG
2	2484.325	18.99	33.71	52.70	54.00	-1.30	AVG

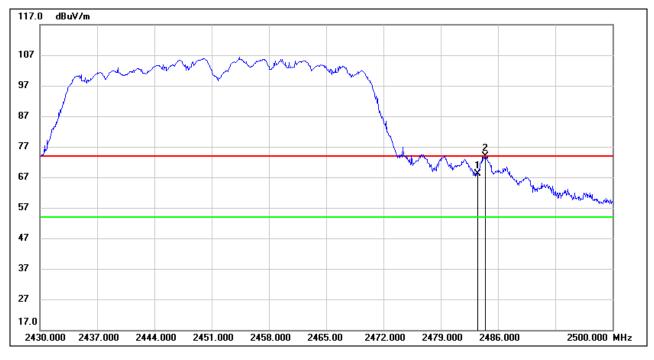
Note: 1. Measurement = Reading Level + Correct Factor.

2. Peak: Peak detector.



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

**PEAK** 



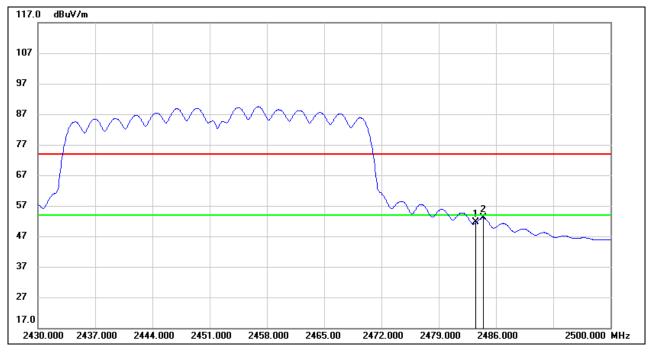
No.	Frequency	Reading	Correct	Result	Limit	Margin	Remark
	(MHz)	(dBuV)	( <b>dB</b> / <b>m</b> )	(dBuV/m)	(dBuV/m)	( <b>dB</b> )	
1	2483.500	34.41	33.71	68.12	74.00	-5.88	peak
2	2484.460	40.05	33.71	73.76	74.00	-0.24	peak

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

2. Peak: Peak detector.



AVG



No.	Frequency	Reading	Correct	Result	Limit	Margin	Remark
	(MHz)	(dBuV)	( <b>dB</b> / <b>m</b> )	(dBuV/m)	(dBuV/m)	( <b>dB</b> )	
1	2483.500	17.84	33.71	51.55	54.00	-2.45	AVG
2	2484.460	19.31	33.71	53.02	54.00	-0.98	AVG

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

2. Peak: Peak detector.

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

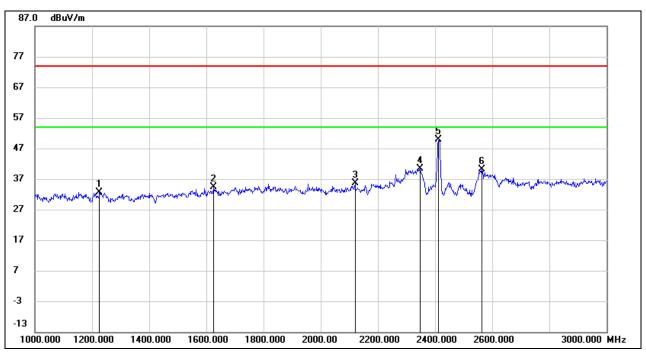
Note: Horizontal and Vertical have been tested, only the worst data was recorded in the report.



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

# 8.2.1. 802.11b MODE

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



No.	Frequency	Reading	Correct	Result	Limit	Margin	Remark
	(MHz)	(dBuV)	( <b>dB</b> / <b>m</b> )	(dBuV/m)	(dBuV/m)	( <b>dB</b> )	
1	1226.000	45.69	-12.95	32.74	74.00	-41.26	peak
2	1626.000	45.83	-11.36	34.47	74.00	-39.53	peak
3	2120.000	45.09	-9.50	35.59	74.00	-38.41	peak
4	2348.000	48.89	-8.57	40.32	74.00	-33.68	peak
5	2412.000	58.15	-8.37	49.78	74.00	-24.22	peak
6	2564.000	48.23	-7.99	40.24	74.00	-33.76	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.

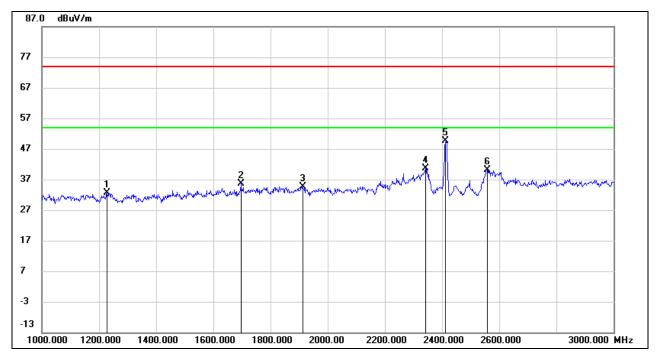
3. Peak: Peak detector.

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.







No.	Frequency	Reading	Correct	Result	Limit	Margin	Remark
	(MHz)	(dBuV)	( <b>dB</b> / <b>m</b> )	(dBuV/m)	(dBuV/m)	( <b>dB</b> )	
1	1228.000	45.55	-12.95	32.60	74.00	-41.40	peak
2	1696.000	46.51	-10.84	35.67	74.00	-38.33	peak
3	1912.000	44.87	-10.12	34.75	74.00	-39.25	peak
4	2342.000	49.32	-8.58	40.74	74.00	-33.26	peak
5	2412.000	57.94	-8.37	49.57	74.00	-24.43	peak
6	2558.000	48.21	-8.01	40.20	74.00	-33.80	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.

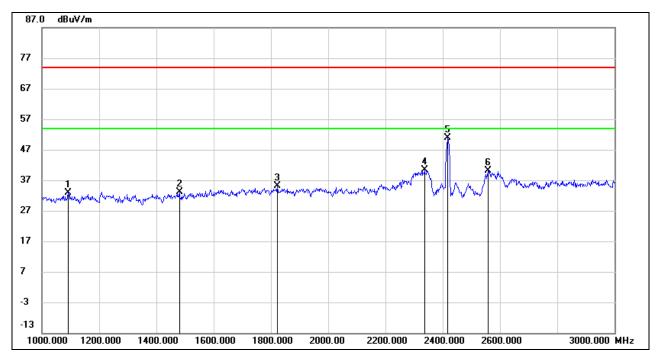
3. Peak: Peak detector.

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.







No.	Frequency	Reading	Correct	Result	Limit	Margin	Remark
	(MHz)	(dBuV)	( <b>dB</b> / <b>m</b> )	(dBuV/m)	(dBuV/m)	( <b>dB</b> )	
1	1092.000	46.28	-13.52	32.76	74.00	-41.24	peak
2	1480.000	45.42	-12.33	33.09	74.00	-40.91	peak
3	1822.000	45.15	-10.06	35.09	74.00	-38.91	peak
4	2336.000	49.05	-8.61	40.44	74.00	-33.56	peak
5	2417.000	59.17	-8.37	50.80	74.00	-23.20	peak
6	2558.000	48.07	-8.01	40.06	74.00	-33.94	peak

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

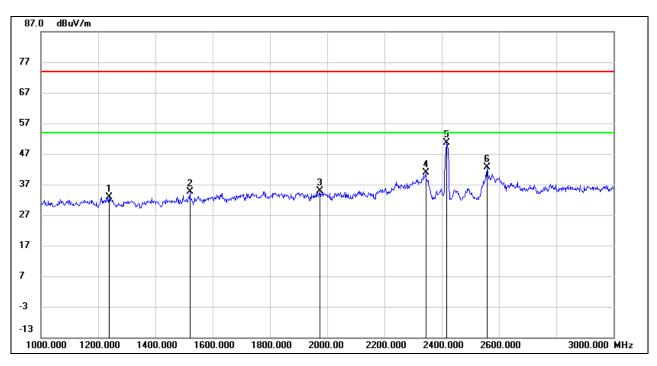
2. If Peak Result complies with AV limit, AV Result is deemed to comply with AV limit.

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.





## HARMONICS AND SPURIOUS EMISSIONS (CHANNEL 2, VERTICAL)

No.	Frequency	Reading	Correct	Result	Limit	Margin	Remark
	(MHz)	(dBuV)	( <b>dB</b> / <b>m</b> )	(dBuV/m)	(dBuV/m)	( <b>dB</b> )	
1	1238.000	45.92	-12.94	32.98	74.00	-41.02	peak
2	1520.000	46.71	-12.09	34.62	74.00	-39.38	peak
3	1974.000	45.12	-10.17	34.95	74.00	-39.05	peak
4	2344.000	49.52	-8.58	40.94	74.00	-33.06	peak
5	2417.000	59.07	-8.37	50.70	74.00	-23.30	peak
6	2558.000	50.71	-8.01	42.70	74.00	-31.30	peak

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

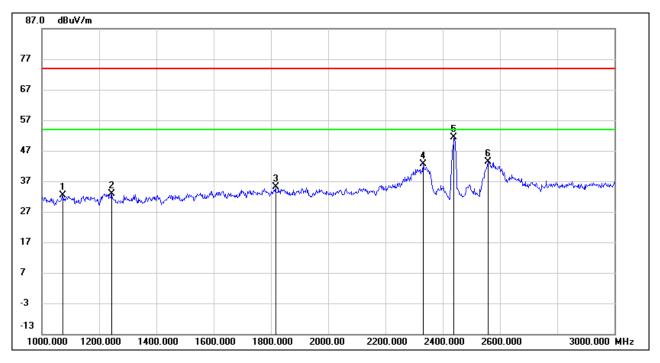
2. If Peak Result complies with AV limit, AV Result is deemed to comply with AV limit.

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.







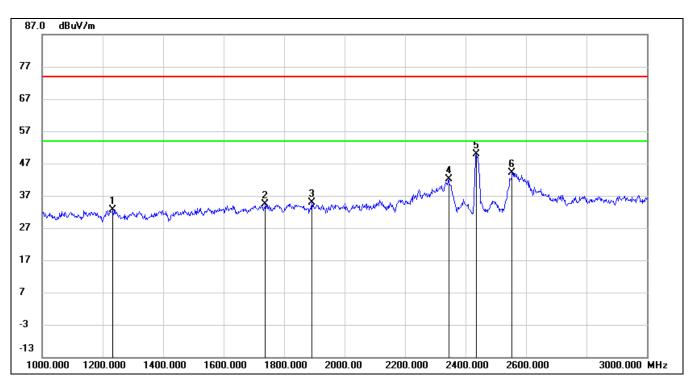
No.	Frequency	Reading	Correct	Result	Limit	Margin	Remark
	(MHz)	(dBuV)	( <b>dB</b> / <b>m</b> )	(dBuV/m)	(dBuV/m)	( <b>dB</b> )	
1	1074.000	46.00	-13.62	32.38	74.00	-41.62	peak
2	1244.000	45.87	-12.93	32.94	74.00	-41.06	peak
3	1816.000	45.21	-10.06	35.15	74.00	-38.85	peak
4	2332.000	51.26	-8.61	42.65	74.00	-31.35	peak
5	2437.000	59.63	-8.33	51.30	74.00	-22.70	peak
6	2558.000	51.40	-8.01	43.39	74.00	-30.61	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.





No.	Frequency	Reading	Correct	Result	Limit	Margin	Remark
	(MHz)	(dBuV)	( <b>dB</b> / <b>m</b> )	(dBuV/m)	(dBuV/m)	( <b>dB</b> )	
1	1234.000	45.62	-12.95	32.67	74.00	-41.33	peak
2	1738.000	44.91	-10.51	34.40	74.00	-39.60	peak
3	1892.000	44.97	-10.12	34.85	74.00	-39.15	peak
4	2344.000	50.62	-8.58	42.04	74.00	-31.96	peak
5	2437.000	58.09	-8.33	49.76	74.00	-24.24	peak
6	2554.000	52.13	-8.03	44.10	74.00	-29.90	peak

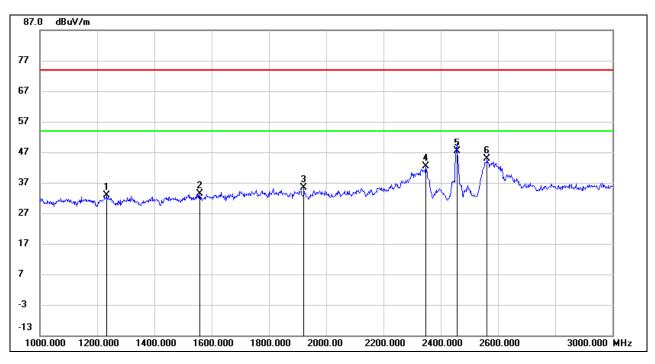
2. If Peak Result complies with AV limit, AV Result is deemed to comply with AV limit.

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.



### HARMONICS AND SPURIOUS EMISSIONS (CHANNEL 10, HORIZONTAL)



No.	Frequency	Reading	Correct	Result	Limit	Margin	Remark
	(MHz)	(dBuV)	( <b>dB</b> / <b>m</b> )	(dBuV/m)	(dBuV/m)	( <b>dB</b> )	
1	1232.000	45.78	-12.94	32.84	74.00	-41.16	peak
2	1558.000	45.10	-11.84	33.26	74.00	-40.74	peak
3	1922.000	45.60	-10.13	35.47	74.00	-38.53	peak
4	2348.000	50.91	-8.57	42.34	74.00	-31.66	peak
5	2457.000	55.72	-8.30	47.42	74.00	-26.58	peak
6	2562.000	52.78	-8.00	44.78	74.00	-29.22	peak

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

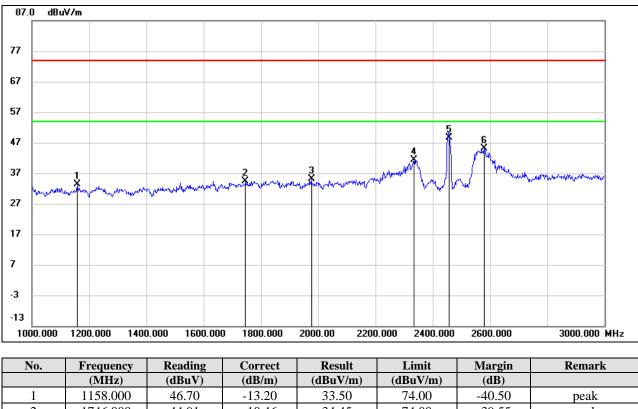
2. If Peak Result complies with AV limit, AV Result is deemed to comply with AV limit.

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.



## HARMONICS AND SPURIOUS EMISSIONS (CHANNEL 10, VERTICAL)



1	1158.000	46.70	-13.20	33.50	74.00	-40.50	peak
2	1746.000	44.91	-10.46	34.45	74.00	-39.55	peak
3	1976.000	45.35	-10.17	35.18	74.00	-38.82	peak
4	2334.000	50.00	-8.61	41.39	74.00	-32.61	peak
5	2457.000	56.98	-8.30	48.68	74.00	-25.32	peak
6	2580.000	53.07	-7.93	45.14	74.00	-28.86	peak

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

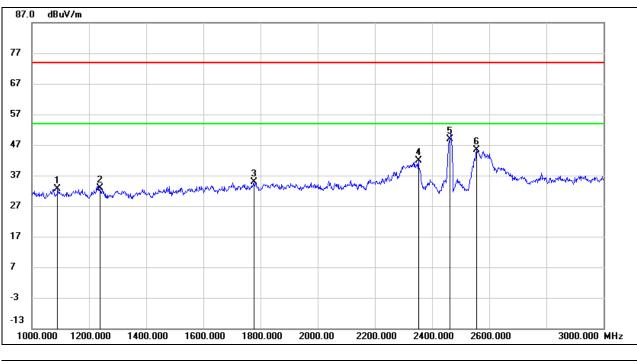
2. If Peak Result complies with AV limit, AV Result is deemed to comply with AV limit.

3. Peak: Peak detector.

4. Filter losses were only considered in the spurious frequency bands and the authorized band was not corrected for Band reject filter losses.



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



No.	Frequency	Reading	Correct	Result	Limit	Margin	Remark
	(MHz)	(dBuV)	( <b>dB</b> / <b>m</b> )	(dBuV/m)	(dBuV/m)	( <b>dB</b> )	
1	1090.000	46.26	-13.54	32.72	74.00	-41.28	peak
2	1238.000	45.91	-12.94	32.97	74.00	-41.03	peak
3	1776.000	45.12	-10.22	34.90	74.00	-39.10	peak
4	2352.000	50.43	-8.55	41.88	74.00	-32.12	peak
5	2462.000	57.13	-8.29	48.84	74.00	-25.16	peak
6	2556.000	53.49	-8.03	45.46	74.00	-28.54	peak

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

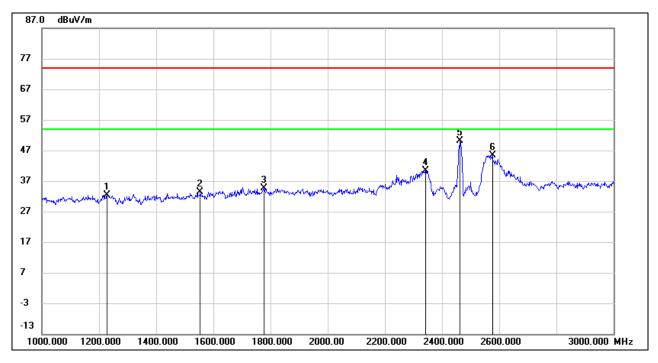
2. If Peak Result complies with AV limit, AV Result is deemed to comply with AV limit.

3. Peak: Peak detector.

4. Filter losses were only considered in the spurious frequency bands and the authorized band was not corrected for Band reject filter losses.







No.	Frequency	Reading	Correct	Result	Limit	Margin	Remark
	(MHz)	(dBuV)	( <b>dB</b> / <b>m</b> )	(dBuV/m)	(dBuV/m)	( <b>dB</b> )	
1	1228.000	45.36	-12.95	32.41	74.00	-41.59	peak
2	1554.000	45.17	-11.86	33.31	74.00	-40.69	peak
3	1776.000	44.95	-10.22	34.73	74.00	-39.27	peak
4	2342.000	49.01	-8.58	40.43	74.00	-33.57	peak
5	2462.000	58.44	-8.29	50.15	74.00	-23.85	peak
6	2576.000	53.37	-7.96	45.41	74.00	-28.59	peak

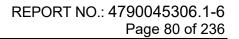
2. If Peak Result complies with AV limit, AV Result is deemed to comply with AV limit.

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.

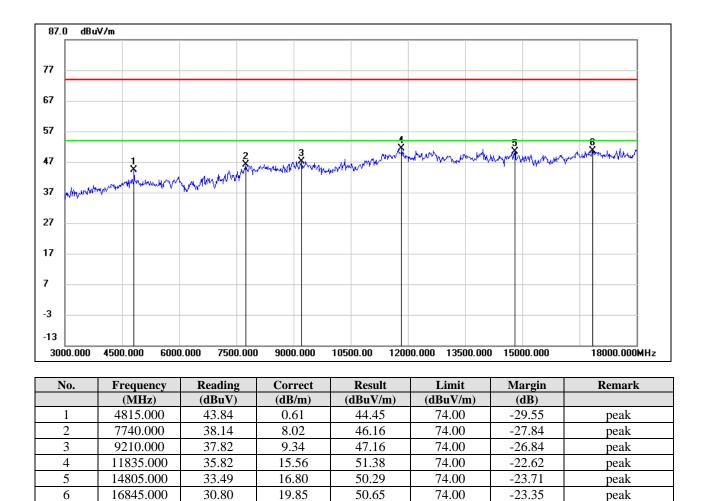
Note: All modes and channels have been tested, only the worst data was recorded in the report.



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

# 8.3.1. 802.11b MODE

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



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

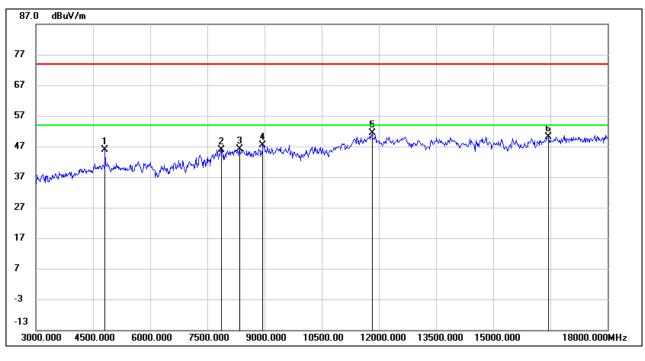
2. If Peak Result complies with AV limit, AV Result is deemed to comply with AV limit.

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.



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



No.	Frequency	Reading	Correct	Result	Limit	Margin	Remark
	(MHz)	(dBuV)	( <b>dB</b> / <b>m</b> )	(dBuV/m)	(dBuV/m)	( <b>dB</b> )	
1	4815.000	45.15	0.61	45.76	74.00	-28.24	peak
2	7860.000	37.84	8.07	45.91	74.00	-28.09	peak
3	8340.000	37.25	8.82	46.07	74.00	-27.93	peak
4	8955.000	37.25	10.15	47.40	74.00	-26.60	peak
5	11820.000	35.86	15.58	51.44	74.00	-22.56	peak
6	16455.000	31.29	18.93	50.22	74.00	-23.78	peak

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

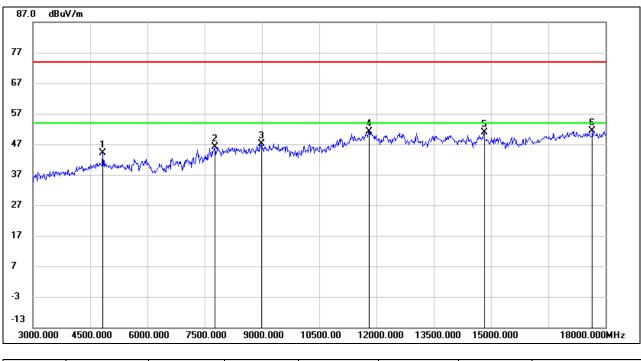
2. If Peak Result complies with AV limit, AV Result is deemed to comply with AV limit.

3. Peak: Peak detector.

4. Filter losses were only considered in the spurious frequency bands and the authorized band was not corrected for Band reject filter losses.



## HARMONICS AND SPURIOUS EMISSIONS (CHANNEL 2, HORIZONTAL)



No.	Frequency	Reading	Correct	Result	Limit	Margin	Remark
	(MHz)	(dBuV)	( <b>dB</b> / <b>m</b> )	(dBuV/m)	(dBuV/m)	( <b>dB</b> )	
1	4830.000	43.40	0.64	44.04	74.00	-29.96	peak
2	7770.000	37.94	8.14	46.08	74.00	-27.92	peak
3	8985.000	36.62	10.47	47.09	74.00	-26.91	peak
4	11805.000	35.55	15.60	51.15	74.00	-22.85	peak
5	14820.000	34.06	16.81	50.87	74.00	-23.13	peak
6	17655.000	29.76	21.60	51.36	74.00	-22.64	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.

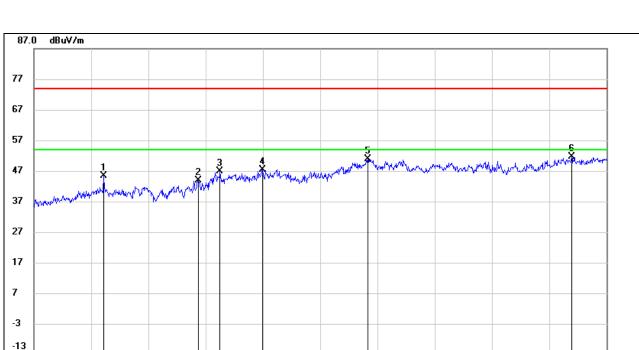


3000.000

4500.000

6000.000

18000.000MHz



#### HARMONICS AND SPURIOUS EMISSIONS (CHANNEL 2, VERTICAL)

No.	Frequency	Reading	Correct	Result	Limit	Margin	Remark
	(MHz)	(dBuV)	( <b>dB</b> / <b>m</b> )	(dBuV/m)	(dBuV/m)	( <b>dB</b> )	
1	4830.000	44.83	0.64	45.47	74.00	-28.53	peak
2	7305.000	36.58	7.37	43.95	74.00	-30.05	peak
3	7875.000	38.81	8.03	46.84	74.00	-27.16	peak
4	8985.000	37.02	10.47	47.49	74.00	-26.51	peak
5	11745.000	35.62	15.31	50.93	74.00	-23.07	peak
6	17085.000	31.15	20.58	51.73	74.00	-22.27	peak

10500.00

12000.000 13500.000 15000.000

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

7500.000

9000.000

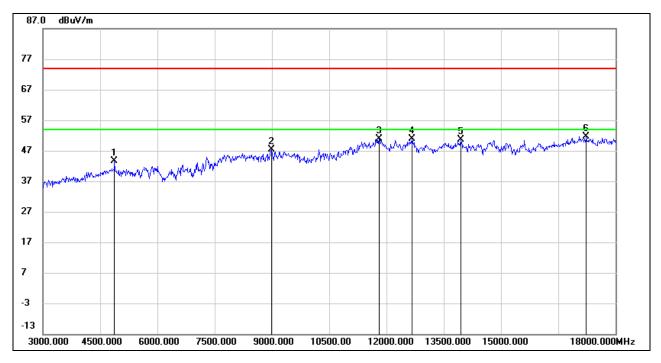
2. If Peak Result complies with AV limit, AV Result is deemed to comply with AV limit.

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.



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



No.	Frequency	Reading	Correct	Result	Limit	Margin	Remark
	(MHz)	(dBuV)	( <b>dB</b> / <b>m</b> )	(dBuV/m)	(dBuV/m)	( <b>dB</b> )	
1	4875.000	42.94	0.71	43.65	74.00	-30.35	peak
2	8985.000	36.87	10.47	47.34	74.00	-26.66	peak
3	11805.000	35.23	15.60	50.83	74.00	-23.17	peak
4	12675.000	35.39	15.42	50.81	74.00	-23.19	peak
5	13950.000	33.82	16.88	50.70	74.00	-23.30	peak
6	17235.000	30.61	20.99	51.60	74.00	-22.40	peak

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

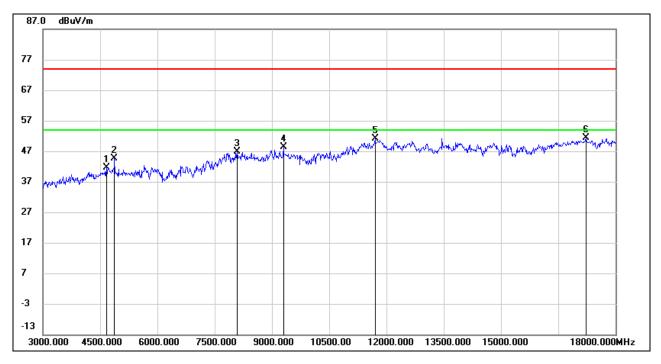
2. If Peak Result complies with AV limit, AV Result is deemed to comply with AV limit.

3. Peak: Peak detector.

4. Filter losses were only considered in the spurious frequency bands and the authorized band was not corrected for Band reject filter losses.







No.	Frequency	Reading	Correct	Result	Limit	Margin	Remark
	(MHz)	(dBuV)	( <b>dB</b> / <b>m</b> )	(dBuV/m)	(dBuV/m)	( <b>dB</b> )	
1	4665.000	41.89	-0.20	41.69	74.00	-32.31	peak
2	4875.000	44.03	0.71	44.74	74.00	-29.26	peak
3	8085.000	38.47	8.38	46.85	74.00	-27.15	peak
4	9300.000	38.55	9.80	48.35	74.00	-25.65	peak
5	11700.000	36.00	15.06	51.06	74.00	-22.94	peak
6	17220.000	30.28	21.01	51.29	74.00	-22.71	peak

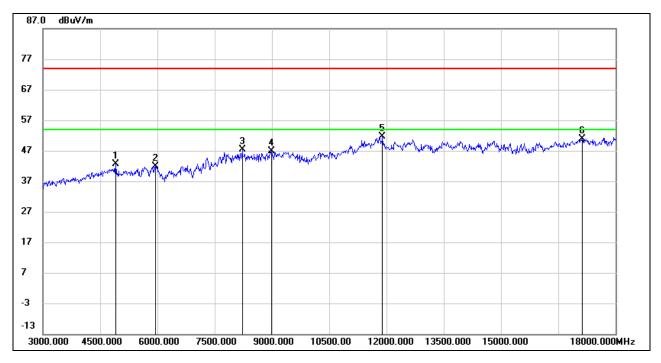
2. If Peak Result complies with AV limit, AV Result is deemed to comply with AV limit.

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.



## HARMONICS AND SPURIOUS EMISSIONS (CHANNEL 10, HORIZONTAL)



No.	Frequency	Reading	Correct	Result	Limit	Margin	Remark
	(MHz)	(dBuV)	( <b>dB</b> / <b>m</b> )	(dBuV/m)	(dBuV/m)	( <b>dB</b> )	
1	4905.000	41.93	0.75	42.68	74.00	-31.32	peak
2	5940.000	38.77	3.06	41.83	74.00	-32.17	peak
3	8220.000	38.16	9.29	47.45	74.00	-26.55	peak
4	8985.000	36.45	10.47	46.92	74.00	-27.08	peak
5	11895.000	36.07	15.48	51.55	74.00	-22.45	peak
6	17130.000	30.19	20.75	50.94	74.00	-23.06	peak

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

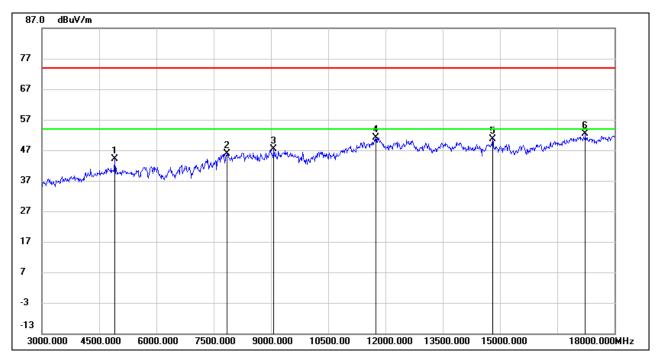
2. If Peak Result complies with AV limit, AV Result is deemed to comply with AV limit.

3. Peak: Peak detector.

4. Filter losses were only considered in the spurious frequency bands and the authorized band was not corrected for Band reject filter losses.







No.	Frequency	Reading	Correct	Result	Limit	Margin	Remark
	(MHz)	(dBuV)	( <b>dB</b> / <b>m</b> )	(dBuV/m)	(dBuV/m)	( <b>dB</b> )	
1	4905.000	43.28	0.75	44.03	74.00	-29.97	peak
2	7845.000	37.83	8.12	45.95	74.00	-28.05	peak
3	9075.000	37.36	10.13	47.49	74.00	-26.51	peak
4	11745.000	35.77	15.31	51.08	74.00	-22.92	peak
5	14805.000	33.86	16.80	50.66	74.00	-23.34	peak
6	17235.000	31.41	20.99	52.40	74.00	-21.60	peak

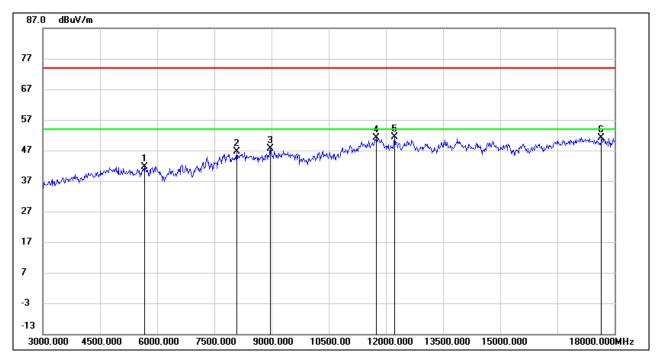
2. If Peak Result complies with AV limit, AV Result is deemed to comply with AV limit.

3. Peak: Peak detector.

4. Filter losses were only considered in the spurious frequency bands and the authorized band was not corrected for Band reject filter losses.



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



No.	Frequency	Reading	Correct	Result	Limit	Margin	Remark
	(MHz)	(dBuV)	( <b>dB</b> / <b>m</b> )	(dBuV/m)	(dBuV/m)	( <b>dB</b> )	
1	5670.000	39.21	2.47	41.68	74.00	-32.32	peak
2	8085.000	38.27	8.38	46.65	74.00	-27.35	peak
3	8970.000	37.22	10.32	47.54	74.00	-26.46	peak
4	11745.000	35.84	15.31	51.15	74.00	-22.85	peak
5	12225.000	36.34	15.16	51.50	74.00	-22.50	peak
6	17655.000	29.56	21.60	51.16	74.00	-22.84	peak

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

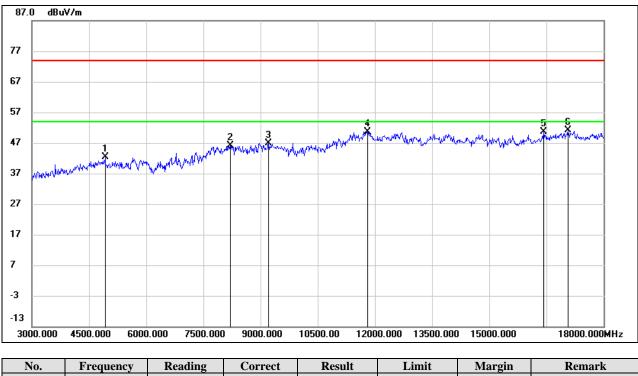
2. If Peak Result complies with AV limit, AV Result is deemed to comply with AV limit.

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.



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



No.	Frequency	Reading	Correct	Result	Limit	Margin	Remark
	(MHz)	(dBuV)	( <b>dB</b> / <b>m</b> )	(dBuV/m)	(dBuV/m)	( <b>dB</b> )	
1	4920.000	41.73	0.77	42.50	74.00	-31.50	peak
2	8205.000	36.68	9.34	46.02	74.00	-27.98	peak
3	9210.000	37.58	9.34	46.92	74.00	-27.08	peak
4	11805.000	35.04	15.60	50.64	74.00	-23.36	peak
5	16425.000	31.75	18.80	50.55	74.00	-23.45	peak
6	17070.000	30.71	20.52	51.23	74.00	-22.77	peak

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

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

3. Peak: Peak detector.

4. 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.

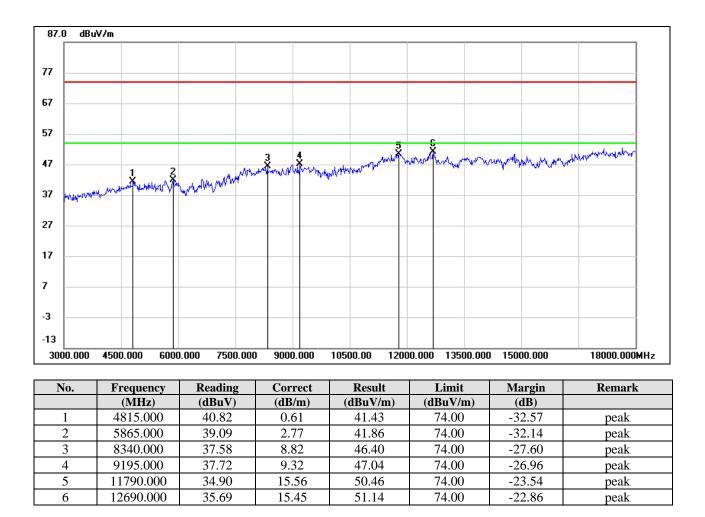
Note: Both the two antennas had been tested, but only the worst data was recorded in the report.

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# 8.3.1. 802.1g MODE

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



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

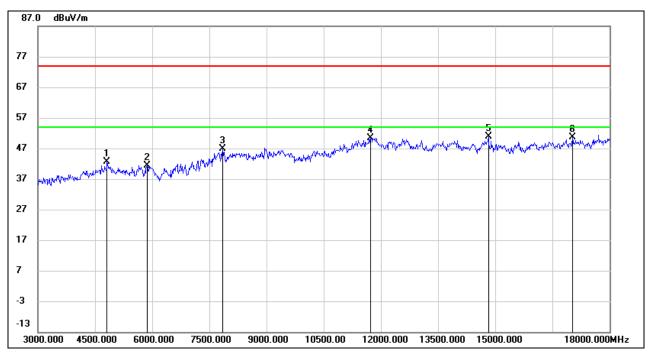
2. If Peak Result complies with AV limit, AV Result is deemed to comply with AV limit.

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.



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



No.	Frequency	Reading	Correct	Result	Limit	Margin	Remark
	(MHz)	(dBuV)	( <b>dB</b> / <b>m</b> )	(dBuV/m)	(dBuV/m)	( <b>dB</b> )	
1	4815.000	42.09	0.61	42.70	74.00	-31.30	peak
2	5865.000	38.69	2.77	41.46	74.00	-32.54	peak
3	7845.000	38.66	8.12	46.78	74.00	-27.22	peak
4	11730.000	35.27	15.23	50.50	74.00	-23.50	peak
5	14820.000	34.12	16.81	50.93	74.00	-23.07	peak
6	17025.000	30.27	20.33	50.60	74.00	-23.40	peak

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

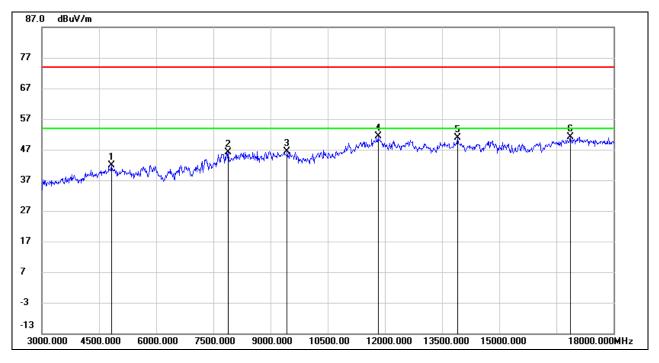
2. If Peak Result complies with AV limit, AV Result is deemed to comply with AV limit.

3. Peak: Peak detector.

4. Filter losses were only considered in the spurious frequency bands and the authorized band was not corrected for Band reject filter losses.







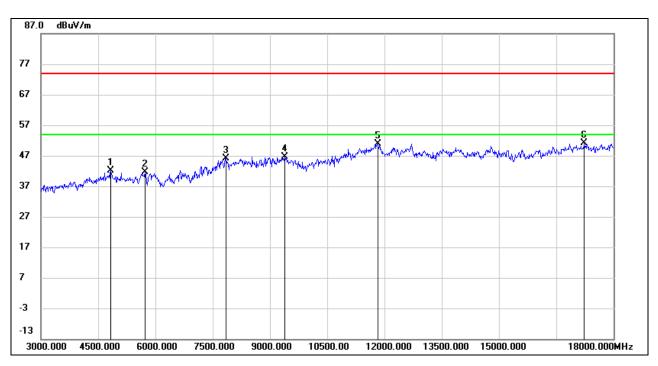
No.	Frequency	Reading	Correct	Result	Limit	Margin	Remark
	(MHz)	(dBuV)	( <b>dB</b> / <b>m</b> )	(dBuV/m)	(dBuV/m)	( <b>dB</b> )	
1	4830.000	41.19	0.64	41.83	74.00	-32.17	peak
2	7890.000	38.24	7.99	46.23	74.00	-27.77	peak
3	9435.000	36.14	10.36	46.50	74.00	-27.50	peak
4	11820.000	35.75	15.58	51.33	74.00	-22.67	peak
5	13905.000	33.90	16.90	50.80	74.00	-23.20	peak
6	16860.000	31.36	19.88	51.24	74.00	-22.76	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.





No.	Frequency	Reading	Correct	Result	Limit	Margin	Remark
	(MHz)	(dBuV)	( <b>dB</b> / <b>m</b> )	(dBuV/m)	(dBuV/m)	( <b>dB</b> )	
1	4830.000	41.48	0.64	42.12	74.00	-31.88	peak
2	5730.000	39.02	2.50	41.52	74.00	-32.48	peak
3	7845.000	37.95	8.12	46.07	74.00	-27.93	peak
4	9390.000	36.42	10.26	46.68	74.00	-27.32	peak
5	11835.000	35.41	15.56	50.97	74.00	-23.03	peak
6	17235.000	30.03	20.99	51.02	74.00	-22.98	peak

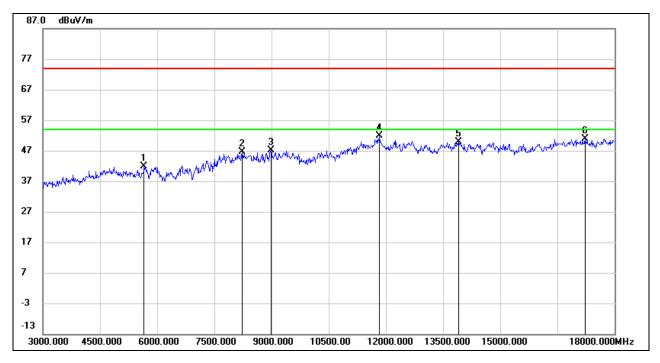
2. If Peak Result complies with AV limit, AV Result is deemed to comply with AV limit.

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.







No.	Frequency	Reading	Correct	Result	Limit	Margin	Remark
	(MHz)	(dBuV)	( <b>dB</b> / <b>m</b> )	(dBuV/m)	(dBuV/m)	( <b>dB</b> )	
1	5655.000	39.39	2.47	41.86	74.00	-32.14	peak
2	8220.000	37.41	9.29	46.70	74.00	-27.30	peak
3	8985.000	36.69	10.47	47.16	74.00	-26.84	peak
4	11835.000	36.39	15.56	51.95	74.00	-22.05	peak
5	13905.000	33.08	16.90	49.98	74.00	-24.02	peak
6	17220.000	29.80	21.01	50.81	74.00	-23.19	peak

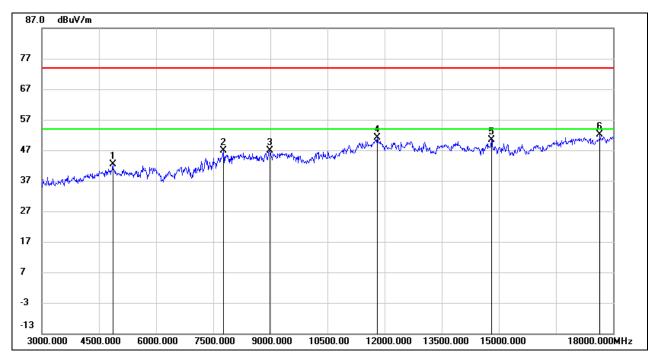
2. If Peak Result complies with AV limit, AV Result is deemed to comply with AV limit.

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.







No.	Frequency	Reading	Correct	Result	Limit	Margin	Remark
	(MHz)	(dBuV)	( <b>dB</b> / <b>m</b> )	(dBuV/m)	(dBuV/m)	( <b>dB</b> )	
1	4860.000	41.75	0.68	42.43	74.00	-31.57	peak
2	7770.000	38.65	8.14	46.79	74.00	-27.21	peak
3	8985.000	36.44	10.47	46.91	74.00	-27.09	peak
4	11805.000	35.46	15.60	51.06	74.00	-22.94	peak
5	14805.000	33.64	16.80	50.44	74.00	-23.56	peak
6	17655.000	30.53	21.60	52.13	74.00	-21.87	peak

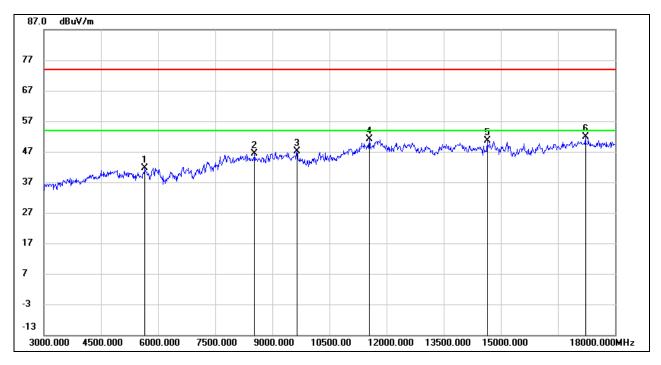
2. If Peak Result complies with AV limit, AV Result is deemed to comply with AV limit.

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.



## HARMONICS AND SPURIOUS EMISSIONS (CHANNEL 10, HORIZONTAL)



No.	Frequency	Reading	Correct	Result	Limit	Margin	Remark
	(MHz)	(dBuV)	( <b>dB</b> / <b>m</b> )	(dBuV/m)	(dBuV/m)	( <b>dB</b> )	
1	5655.000	39.24	2.47	41.71	74.00	-32.29	peak
2	8535.000	37.84	8.54	46.38	74.00	-27.62	peak
3	9645.000	36.82	10.36	47.18	74.00	-26.82	peak
4	11550.000	36.70	14.43	51.13	74.00	-22.87	peak
5	14640.000	34.12	16.53	50.65	74.00	-23.35	peak
6	17220.000	30.86	21.01	51.87	74.00	-22.13	peak

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

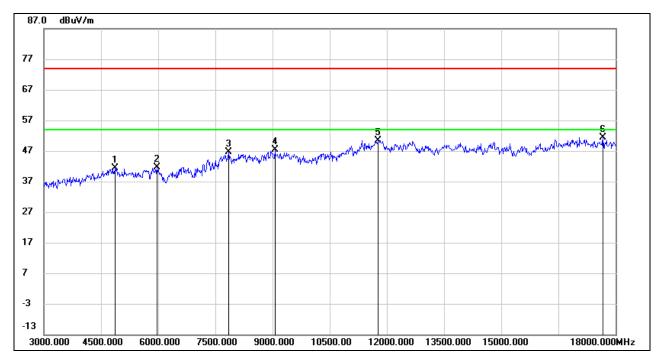
2. If Peak Result complies with AV limit, AV Result is deemed to comply with AV limit.

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.







No.	Frequency	Reading	Correct	Result	Limit	Margin	Remark
	(MHz)	(dBuV)	( <b>dB</b> / <b>m</b> )	(dBuV/m)	(dBuV/m)	( <b>dB</b> )	
1	4860.000	40.72	0.68	41.40	74.00	-32.60	peak
2	5970.000	38.39	3.18	41.57	74.00	-32.43	peak
3	7845.000	38.39	8.12	46.51	74.00	-27.49	peak
4	9060.000	37.19	10.23	47.42	74.00	-26.58	peak
5	11775.000	34.91	15.47	50.38	74.00	-23.62	peak
6	17670.000	29.78	21.70	51.48	74.00	-22.52	peak

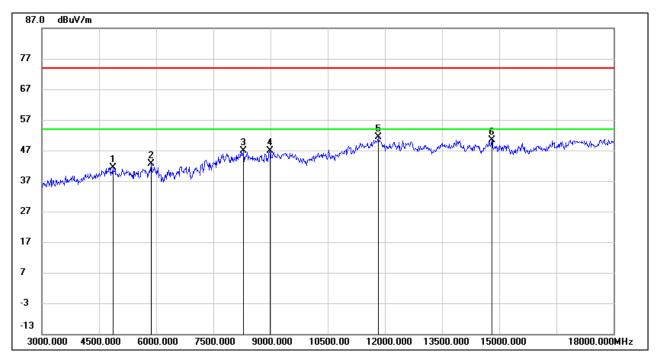
2. If Peak Result complies with AV limit, AV Result is deemed to comply with AV limit.

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.



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



No.	Frequency	Reading	Correct	Result	Limit	Margin	Remark
	(MHz)	(dBuV)	( <b>dB</b> / <b>m</b> )	(dBuV/m)	(dBuV/m)	( <b>dB</b> )	
1	4860.000	40.69	0.68	41.37	74.00	-32.63	peak
2	5865.000	39.94	2.77	42.71	74.00	-31.29	peak
3	8295.000	37.93	8.99	46.92	74.00	-27.08	peak
4	8985.000	36.37	10.47	46.84	74.00	-27.16	peak
5	11820.000	35.86	15.58	51.44	74.00	-22.56	peak
6	14805.000	33.56	16.80	50.36	74.00	-23.64	peak

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

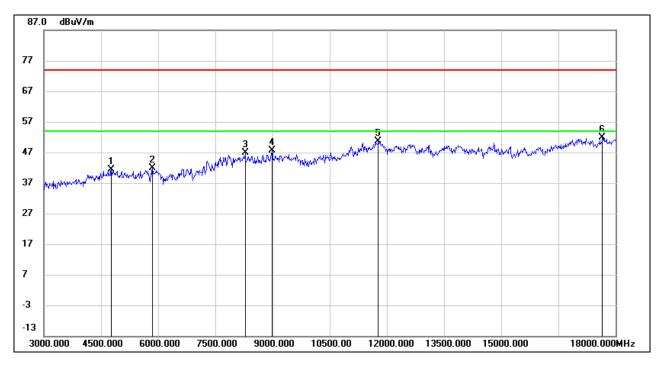
2. If Peak Result complies with AV limit, AV Result is deemed to comply with AV limit.

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.







No.	Frequency	Reading	Correct	Result	Limit	Margin	Remark
	(MHz)	(dBuV)	( <b>dB</b> / <b>m</b> )	(dBuV/m)	(dBuV/m)	( <b>dB</b> )	
1	4770.000	40.88	0.41	41.29	74.00	-32.71	peak
2	5850.000	39.11	2.70	41.81	74.00	-32.19	peak
3	8280.000	37.79	9.05	46.84	74.00	-27.16	peak
4	8985.000	37.08	10.47	47.55	74.00	-26.45	peak
5	11775.000	35.13	15.47	50.60	74.00	-23.40	peak
6	17655.000	30.31	21.60	51.91	74.00	-22.09	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.

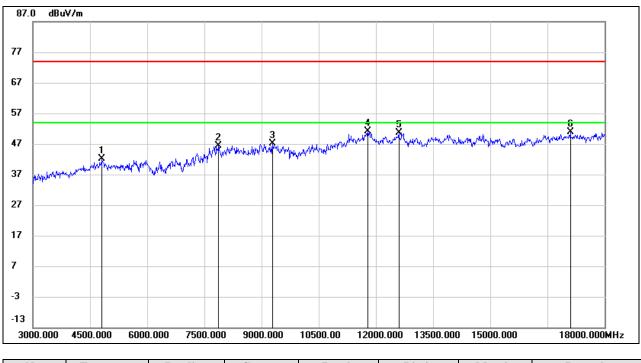
5. Proper operation of the transmitter prior to adding the filter to the measurement chain.

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



# 8.3.2. 802.11n HT20 MODE

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



No.	Frequency	Reading	Correct	Result	Limit	Margin	Remark
	(MHz)	(dBuV)	( <b>dB/m</b> )	(dBuV/m)	(dBuV/m)	( <b>dB</b> )	
1	4815.000	41.45	0.61	42.06	74.00	-31.94	peak
2	7875.000	38.32	8.03	46.35	74.00	-27.65	peak
3	9285.000	37.29	9.72	47.01	74.00	-26.99	peak
4	11790.000	35.68	15.56	51.24	74.00	-22.76	peak
5	12600.000	35.44	15.29	50.73	74.00	-23.27	peak
6	17100.000	30.17	20.64	50.81	74.00	-23.19	peak

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

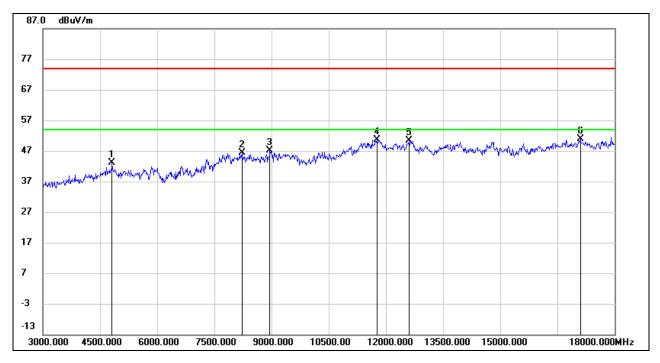
2. If Peak Result complies with AV limit, AV Result is deemed to comply with AV limit.

3. Peak: Peak detector.

4. Filter losses were only considered in the spurious frequency bands and the authorized band was not corrected for Band reject filter losses.







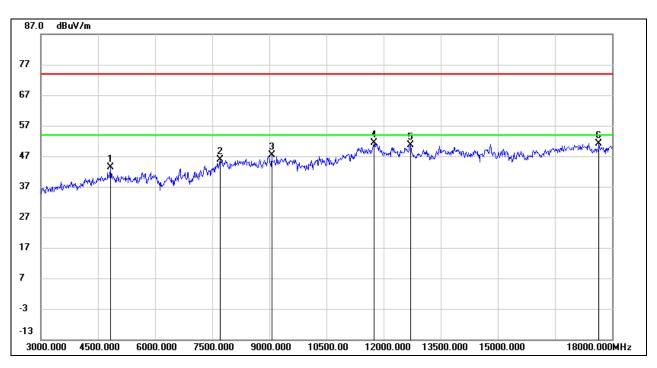
No.	Frequency	Reading	Correct	Result	Limit	Margin	Remark
	(MHz)	(dBuV)	( <b>dB/m</b> )	(dBuV/m)	(dBuV/m)	( <b>dB</b> )	
1	4815.000	42.50	0.61	43.11	74.00	-30.89	peak
2	8220.000	37.07	9.29	46.36	74.00	-27.64	peak
3	8955.000	37.06	10.15	47.21	74.00	-26.79	peak
4	11760.000	35.23	15.40	50.63	74.00	-23.37	peak
5	12615.000	35.19	15.31	50.50	74.00	-23.50	peak
6	17100.000	30.15	20.64	50.79	74.00	-23.21	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.





HARMONICS AND SPURIOUS EMISSIONS (CHANNEL 2, HORIZONTAL)
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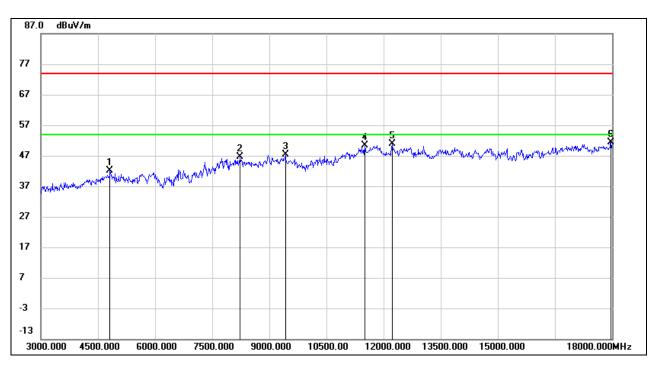
No.	Frequency	Reading	Correct	Result	Limit	Margin	Remark
	(MHz)	(dBuV)	( <b>dB</b> / <b>m</b> )	(dBuV/m)	(dBuV/m)	( <b>dB</b> )	
1	4830.000	42.64	0.64	43.28	74.00	-30.72	peak
2	7710.000	38.06	7.90	45.96	74.00	-28.04	peak
3	9060.000	37.11	10.23	47.34	74.00	-26.66	peak
4	11745.000	36.16	15.31	51.47	74.00	-22.53	peak
5	12705.000	35.10	15.48	50.58	74.00	-23.42	peak
6	17655.000	29.51	21.60	51.11	74.00	-22.89	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.





HARMONICS AND SPURIOUS EMISSIONS CHANNEL 2, VERTICAL)
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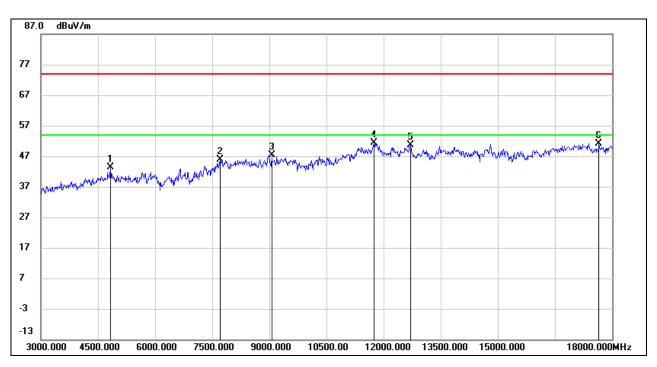
No.	Frequency	Reading	Correct	Result	Limit	Margin	Remark
	(MHz)	(dBuV)	( <b>dB</b> / <b>m</b> )	(dBuV/m)	(dBuV/m)	( <b>dB</b> )	
1	4815.000	41.45	0.61	42.06	74.00	-31.94	peak
2	8235.000	37.35	9.22	46.57	74.00	-27.43	peak
3	9420.000	36.98	10.34	47.32	74.00	-26.68	peak
4	11505.000	35.91	14.36	50.27	74.00	-23.73	peak
5	12225.000	35.62	15.16	50.78	74.00	-23.22	peak
6	17970.000	28.66	22.67	51.33	74.00	-22.67	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.





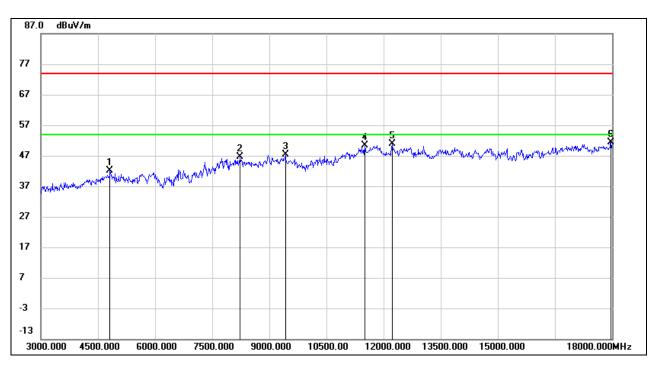
No.	Frequency	Reading	Correct	Result	Limit	Margin	Remark
	(MHz)	(dBuV)	( <b>dB</b> / <b>m</b> )	(dBuV/m)	(dBuV/m)	( <b>dB</b> )	
1	4830.000	42.64	0.64	43.28	74.00	-30.72	peak
2	7710.000	38.06	7.90	45.96	74.00	-28.04	peak
3	9060.000	37.11	10.23	47.34	74.00	-26.66	peak
4	11745.000	36.16	15.31	51.47	74.00	-22.53	peak
5	12705.000	35.10	15.48	50.58	74.00	-23.42	peak
6	17655.000	29.51	21.60	51.11	74.00	-22.89	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.





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

No.	Frequency	Reading	Correct	Result	Limit	Margin	Remark
	(MHz)	(dBuV)	( <b>dB</b> / <b>m</b> )	(dBuV/m)	(dBuV/m)	( <b>dB</b> )	
1	4815.000	41.45	0.61	42.06	74.00	-31.94	peak
2	8235.000	37.35	9.22	46.57	74.00	-27.43	peak
3	9420.000	36.98	10.34	47.32	74.00	-26.68	peak
4	11505.000	35.91	14.36	50.27	74.00	-23.73	peak
5	12225.000	35.62	15.16	50.78	74.00	-23.22	peak
6	17970.000	28.66	22.67	51.33	74.00	-22.67	peak

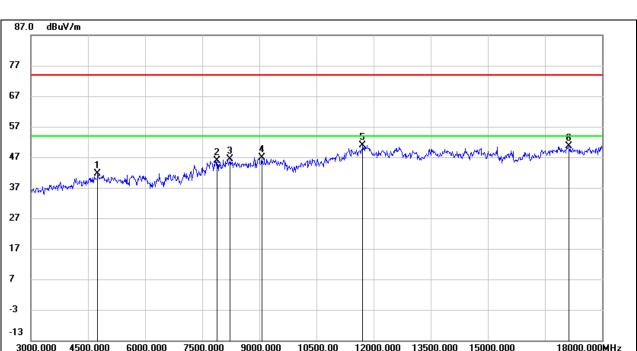
Note: 1. Measurement = Reading Level + Correct Factor.

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

3. Peak: Peak detector.

4. Filter losses were only considered in the spurious frequency bands and the authorized band was not corrected for Band reject filter losses.





No.	Frequency	Reading	Correct	Result	Limit	Margin	Remark
	(MHz)	(dBuV)	( <b>dB</b> / <b>m</b> )	(dBuV/m)	(dBuV/m)	( <b>dB</b> )	
1	4755.000	41.37	0.33	41.70	74.00	-32.30	peak
2	7890.000	37.92	7.99	45.91	74.00	-28.09	peak
3	8235.000	37.18	9.22	46.40	74.00	-27.60	peak
4	9060.000	36.62	10.23	46.85	74.00	-27.15	peak
5	11715.000	35.85	15.15	51.00	74.00	-23.00	peak
6	17130.000	29.87	20.75	50.62	74.00	-23.38	peak

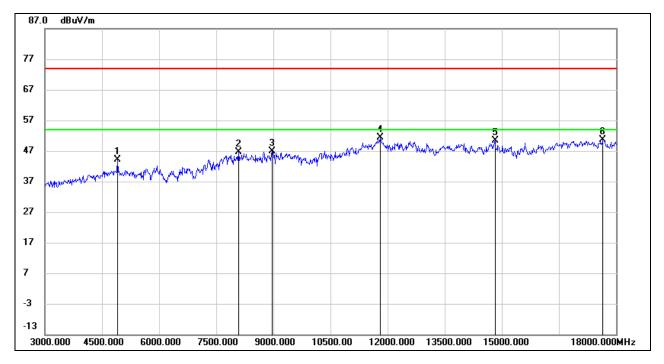
2. If Peak Result complies with AV limit, AV Result is deemed to comply with AV limit.

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.







No.	Frequency	Reading	Correct	Result	Limit	Margin	Remark
	(MHz)	(dBuV)	( <b>dB</b> / <b>m</b> )	(dBuV/m)	(dBuV/m)	( <b>dB</b> )	
1	4905.000	43.27	0.75	44.02	74.00	-29.98	peak
2	8085.000	38.24	8.38	46.62	74.00	-27.38	peak
3	8970.000	36.63	10.32	46.95	74.00	-27.05	peak
4	11805.000	35.69	15.60	51.29	74.00	-22.71	peak
5	14820.000	33.51	16.81	50.32	74.00	-23.68	peak
6	17655.000	28.96	21.60	50.56	74.00	-23.44	peak

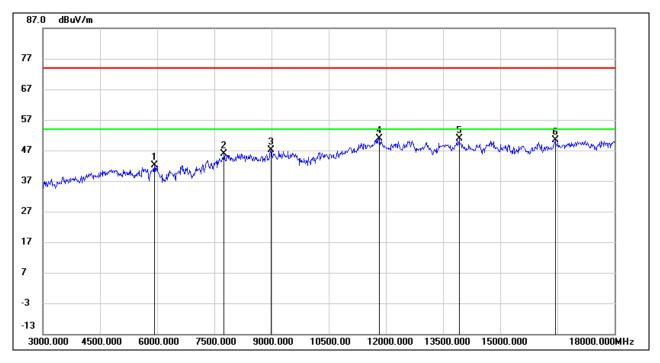
2. If Peak Result complies with AV limit, AV Result is deemed to comply with AV limit.

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.



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



No.	Frequency	Reading	Correct	Result	Limit	Margin	Remark
	(MHz)	(dBuV)	( <b>dB</b> / <b>m</b> )	(dBuV/m)	(dBuV/m)	( <b>dB</b> )	
1	5925.000	39.02	3.01	42.03	74.00	-31.97	peak
2	7755.000	37.80	8.07	45.87	74.00	-28.13	peak
3	8985.000	36.60	10.47	47.07	74.00	-26.93	peak
4	11835.000	35.36	15.56	50.92	74.00	-23.08	peak
5	13920.000	33.90	16.89	50.79	74.00	-23.21	peak
6	16440.000	31.42	18.87	50.29	74.00	-23.71	peak

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

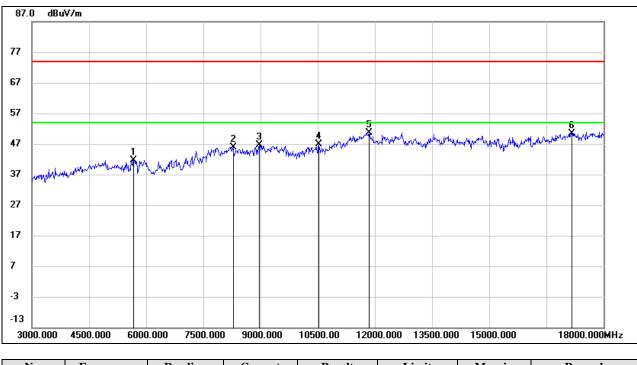
2. If Peak Result complies with AV limit, AV Result is deemed to comply with AV limit.

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.



# HARMONICS AND SPURIOUS EMISSIONS (CHANNEL 11, VERTICAL)



No.	Frequency	Reading	Correct	Result	Limit	Margin	Remark
	(MHz)	(dBuV)	( <b>dB/m</b> )	(dBuV/m)	(dBuV/m)	( <b>dB</b> )	
1	5670.000	39.12	2.47	41.59	74.00	-32.41	peak
2	8280.000	36.80	9.05	45.85	74.00	-28.15	peak
3	8970.000	36.30	10.32	46.62	74.00	-27.38	peak
4	10530.000	34.73	12.08	46.81	74.00	-27.19	peak
5	11850.000	35.21	15.53	50.74	74.00	-23.26	peak
6	17175.000	29.51	20.94	50.45	74.00	-23.55	peak

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

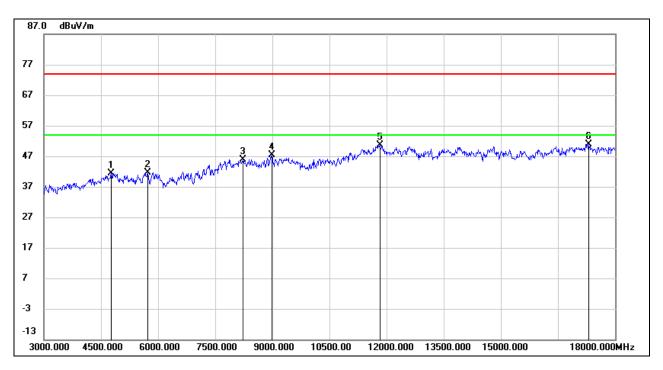
2. If Peak Result complies with AV limit, AV Result is deemed to comply with AV limit.

3. Peak: Peak detector.

4. Filter losses were only considered in the spurious frequency bands and the authorized band was not corrected for Band reject filter losses.







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

No.	Frequency	Reading	Correct	Result	Limit	Margin	Remark
	(MHz)	(dBuV)	( <b>dB</b> / <b>m</b> )	(dBuV/m)	(dBuV/m)	( <b>dB</b> )	
1	4770.000	41.04	0.41	41.45	74.00	-32.55	peak
2	5730.000	39.06	2.50	41.56	74.00	-32.44	peak
3	8235.000	36.72	9.22	45.94	74.00	-28.06	peak
4	8985.000	36.82	10.47	47.29	74.00	-26.71	peak
5	11820.000	35.04	15.58	50.62	74.00	-23.38	peak
6	17310.000	29.98	20.88	50.86	74.00	-23.14	peak

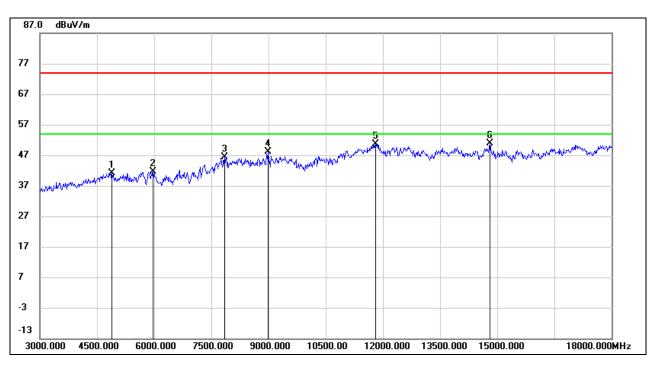
Note: 1. Measurement = Reading Level + Correct Factor.

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.





No.	Frequency	Reading	Correct	Result	Limit	Margin	Remark
	(MHz)	(dBuV)	( <b>dB</b> / <b>m</b> )	(dBuV/m)	(dBuV/m)	( <b>dB</b> )	
1	4890.000	40.44	0.73	41.17	74.00	-32.83	peak
2	5970.000	38.37	3.18	41.55	74.00	-32.45	peak
3	7845.000	38.31	8.12	46.43	74.00	-27.57	peak
4	8985.000	37.72	10.47	48.19	74.00	-25.81	peak
5	11805.000	34.99	15.60	50.59	74.00	-23.41	peak
6	14805.000	34.14	16.80	50.94	74.00	-23.06	peak

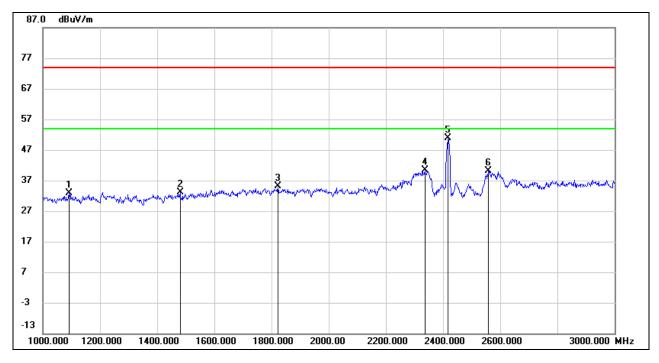
2. If Peak Result complies with AV limit, AV Result is deemed to comply with AV limit.

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.







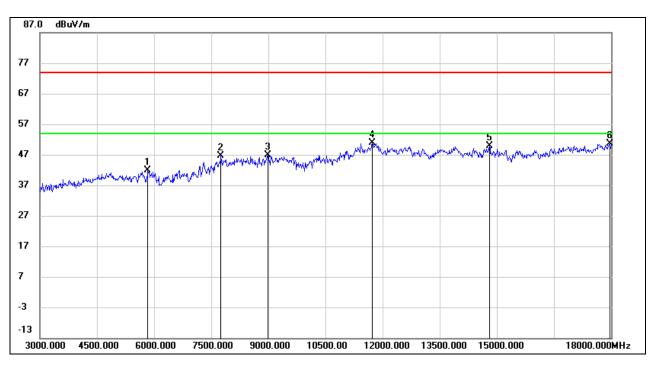
No.	Frequency	Reading	Correct	Result	Limit	Margin	Remark
	(MHz)	(dBuV)	( <b>dB</b> / <b>m</b> )	(dBuV/m)	(dBuV/m)	( <b>dB</b> )	
1	1092.000	46.28	-13.52	32.76	74.00	-41.24	peak
2	1480.000	45.42	-12.33	33.09	74.00	-40.91	peak
3	1822.000	45.15	-10.06	35.09	74.00	-38.91	peak
4	2336.000	49.05	-8.61	40.44	74.00	-33.56	peak
5	2417.000	59.17	-8.37	50.80	74.00	-23.20	peak
6	2558.000	48.07	-8.01	40.06	74.00	-33.94	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.





HARMONICS AND SPURIOUS EMISSIONS (CHANNEL 4, VERTICAL)
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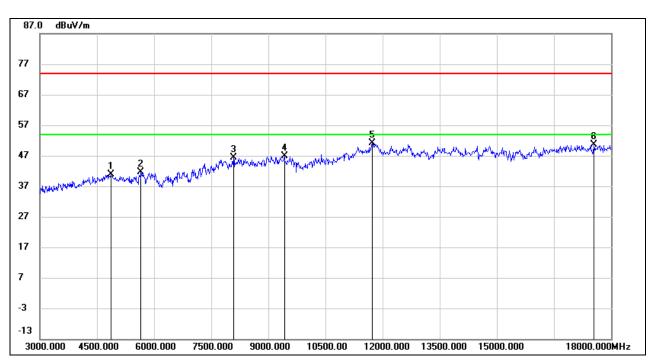
No.	Frequency	Reading	Correct	Result	Limit	Margin	Remark
	(MHz)	(dBuV)	( <b>dB</b> / <b>m</b> )	(dBuV/m)	(dBuV/m)	( <b>dB</b> )	
1	5835.000	39.14	2.65	41.79	74.00	-32.21	peak
2	7755.000	38.46	8.07	46.53	74.00	-27.47	peak
3	8985.000	36.36	10.47	46.83	74.00	-27.17	peak
4	11730.000	35.54	15.23	50.77	74.00	-23.23	peak
5	14805.000	33.17	16.80	49.97	74.00	-24.03	peak
6	17970.000	27.97	22.67	50.64	74.00	-23.36	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.





HARMONICS AND SPURIOUS EMISSIONS (CHANNEL 6, HORIZONTAL)
--

No.	Frequency	Reading	Correct	Result	Limit	Margin	Remark
	(MHz)	(dBuV)	( <b>dB</b> / <b>m</b> )	(dBuV/m)	(dBuV/m)	( <b>dB</b> )	
1	4860.000	40.13	0.68	40.81	74.00	-33.19	peak
2	5655.000	39.21	2.47	41.68	74.00	-32.32	peak
3	8085.000	37.90	8.38	46.28	74.00	-27.72	peak
4	9420.000	36.61	10.34	46.95	74.00	-27.05	peak
5	11730.000	35.87	15.23	51.10	74.00	-22.90	peak
6	17550.000	29.67	21.00	50.67	74.00	-23.33	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.



27

17

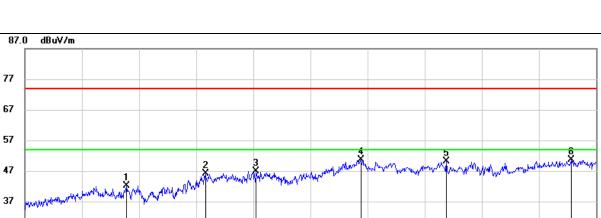
7

-3 -13 3000.000

4500.000

6000.000

18000.000MHz



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

No.	Frequency	Reading	Correct	Result	Limit	Margin	Remark
	(MHz)	(dBuV)	( <b>dB</b> / <b>m</b> )	(dBuV/m)	(dBuV/m)	( <b>dB</b> )	
1	5670.000	39.74	2.47	42.21	74.00	-31.79	peak
2	7740.000	38.19	8.02	46.21	74.00	-27.79	peak
3	9075.000	36.79	10.13	46.92	74.00	-27.08	peak
4	11835.000	35.02	15.56	50.58	74.00	-23.42	peak
5	14070.000	33.24	16.80	50.04	74.00	-23.96	peak
6	17340.000	29.69	20.82	50.51	74.00	-23.49	peak

10500.00

12000.000 13500.000 15000.000

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

7500.000

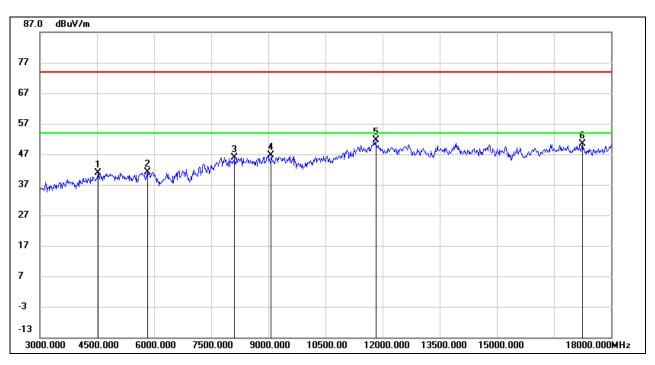
9000.000

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.





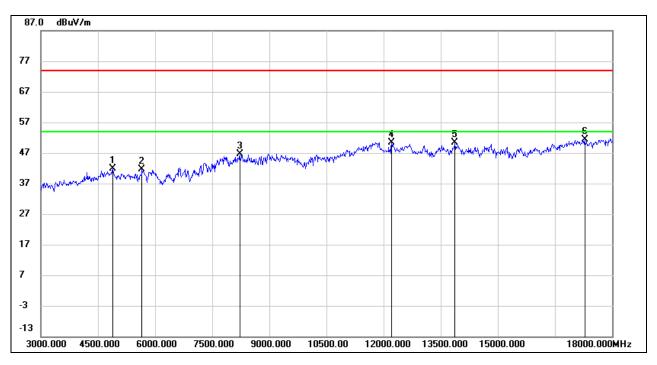
No.	Frequency	Reading	Correct	Result	Limit	Margin	Remark
	(MHz)	(dBuV)	( <b>dB</b> / <b>m</b> )	(dBuV/m)	(dBuV/m)	( <b>dB</b> )	
1	4530.000	41.96	-1.03	40.93	74.00	-33.07	peak
2	5835.000	38.52	2.65	41.17	74.00	-32.83	peak
3	8115.000	37.29	8.64	45.93	74.00	-28.07	peak
4	9075.000	36.60	10.13	46.73	74.00	-27.27	peak
5	11820.000	36.02	15.58	51.60	74.00	-22.40	peak
6	17250.000	29.37	20.97	50.34	74.00	-23.66	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.





## HARMONICS AND SPURIOUS EMISSIONS (CHANNEL 8, VERTICAL)

No.	Frequency	Reading	Correct	Result	Limit	Margin	Remark
	(MHz)	(dBuV)	( <b>dB</b> / <b>m</b> )	(dBuV/m)	(dBuV/m)	( <b>dB</b> )	
1	4890.000	41.11	0.73	41.84	74.00	-32.16	peak
2	5655.000	39.16	2.47	41.63	74.00	-32.37	peak
3	8220.000	37.46	9.29	46.75	74.00	-27.25	peak
4	12210.000	35.36	15.12	50.48	74.00	-23.52	peak
5	13875.000	33.40	16.92	50.32	74.00	-23.68	peak
6	17280.000	30.34	20.92	51.26	74.00	-22.74	peak

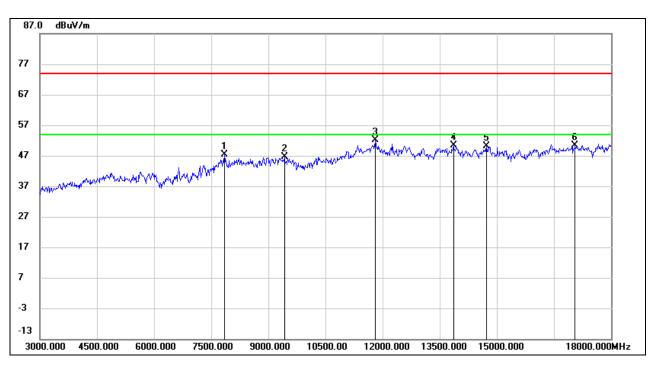
Note: 1. Measurement = Reading Level + Correct Factor.

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.





No.	Frequency	Reading	Correct	Result	Limit	Margin	Remark
	(MHz)	(dBuV)	( <b>dB</b> / <b>m</b> )	(dBuV/m)	(dBuV/m)	( <b>dB</b> )	
1	7845.000	39.27	8.12	47.39	74.00	-26.61	peak
2	9420.000	36.41	10.34	46.75	74.00	-27.25	peak
3	11805.000	36.44	15.60	52.04	74.00	-21.96	peak
4	13860.000	33.40	16.92	50.32	74.00	-23.68	peak
5	14730.000	33.51	16.68	50.19	74.00	-23.81	peak
6	17055.000	30.04	20.45	50.49	74.00	-23.51	peak

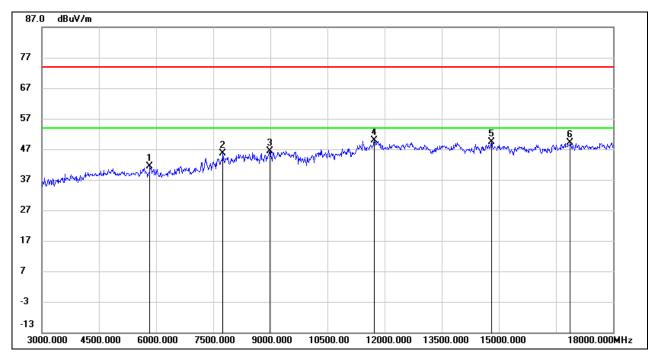
2. If Peak Result complies with AV limit, AV Result is deemed to comply with AV limit.

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.







No.	Frequency	Reading	Correct	Result	Limit	Margin	Remark
	(MHz)	(dBuV)	( <b>dB</b> / <b>m</b> )	(dBuV/m)	(dBuV/m)	( <b>dB</b> )	
1	5835.000	38.64	2.65	41.29	74.00	-32.71	peak
2	7755.000	37.46	8.07	45.53	74.00	-28.47	peak
3	8985.000	35.86	10.47	46.33	74.00	-27.67	peak
4	11730.000	34.54	15.23	49.77	74.00	-24.23	peak
5	14805.000	32.67	16.80	49.47	74.00	-24.53	peak
6	16875.000	29.25	19.92	49.17	74.00	-24.83	peak

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

3. Peak: Peak detector.

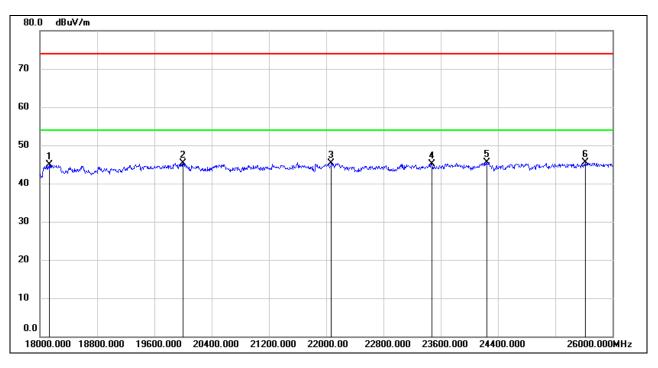
4. Filter losses were only considered in the spurious frequency bands and the authorized band was not corrected for Band reject filter losses.



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

# 8.5.1. 802.11b MODE

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



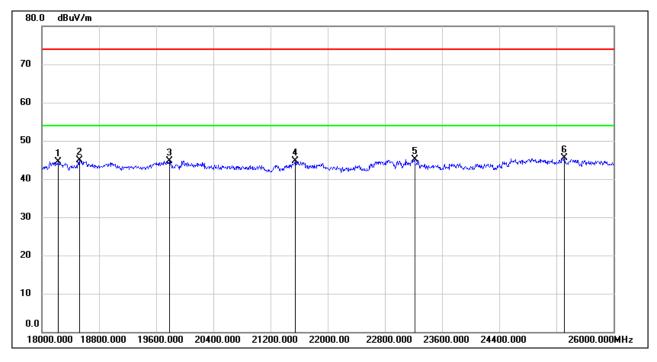
No.	Frequency	Reading	Correct	Result	Limit	Margin	Remark
	(MHz)	(dBuV)	( <b>dB/m</b> )	(dBuV/m)	(dBuV/m)	( <b>dB</b> )	
1	18128.000	50.32	-5.47	44.85	74.00	-29.15	peak
2	20000.000	50.81	-5.45	45.36	74.00	-28.64	peak
3	22072.000	49.77	-4.41	45.36	74.00	-28.64	peak
4	23472.000	48.27	-3.17	45.10	74.00	-28.90	peak
5	24248.000	48.32	-2.83	45.49	74.00	-28.51	peak
6	25616.000	46.68	-1.24	45.44	74.00	-28.56	peak

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

2. If Peak Result complies with AV limit, AV Result is deemed to comply with AV limit. 3. Peak: Peak detector.



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



No.	Frequency	Reading	Correct	Result	Limit	Margin	Remark
	(MHz)	(dBuV)	( <b>dB</b> / <b>m</b> )	(dBuV/m)	(dBuV/m)	( <b>dB</b> )	
1	18224.000	50.08	-5.53	44.55	74.00	-29.45	peak
2	18528.000	50.11	-5.26	44.85	74.00	-29.15	peak
3	19784.000	50.07	-5.28	44.79	74.00	-29.21	peak
4	21544.000	49.26	-4.63	44.63	74.00	-29.37	peak
5	23216.000	48.51	-3.38	45.13	74.00	-28.87	peak
6	25312.000	47.20	-1.70	45.50	74.00	-28.50	peak

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

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

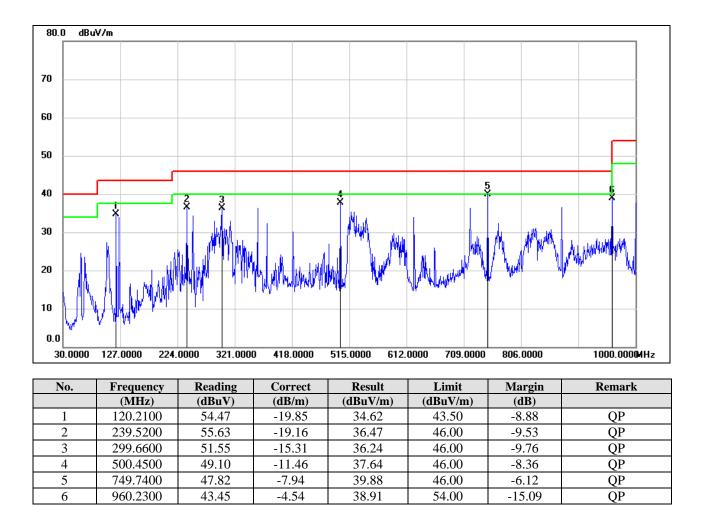
Note: All the modes had been tested, but only the worst data was recorded in the report.



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

# 8.6.1. 802.11b MODE

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



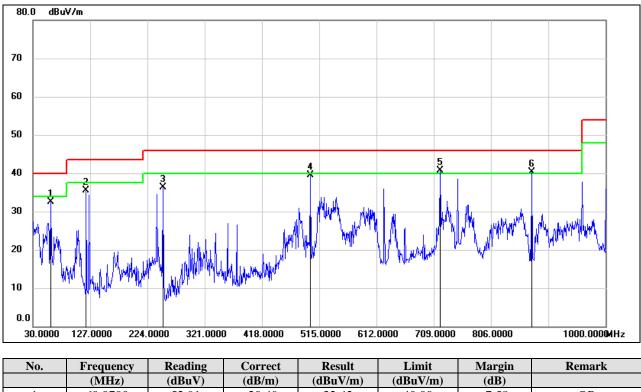
Note: 1. Result Level = Read Level + Correct Factor.

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

3. Test setup: RBW: 120 kHz, VBW: 300 kHz, Sweep time: auto.



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



INO.	Frequency	Reading	Correct	Result	Limit	Margin	Kemark
	(MHz)	(dBuV)	( <b>dB</b> / <b>m</b> )	(dBuV/m)	(dBuV/m)	( <b>dB</b> )	
1	60.0700	52.91	-20.49	32.42	40.00	-7.58	QP
2	120.2100	55.35	-19.85	35.50	43.50	-8.00	QP
3	250.1900	55.22	-18.91	36.31	46.00	-9.69	QP
4	500.4500	50.95	-11.46	39.49	46.00	-6.51	QP
5	719.6700	48.69	-8.08	40.61	46.00	-5.39	QP
6	874.8700	45.93	-5.64	40.29	46.00	-5.71	QP

Note: 1. Result Level = Read Level + Correct Factor.

- 2. If Peak Result complies with QP limit, QP Result is deemed to comply with QP limit.
- 3. Test setup: RBW: 120 kHz, VBW: 300 kHz, Sweep time: auto

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

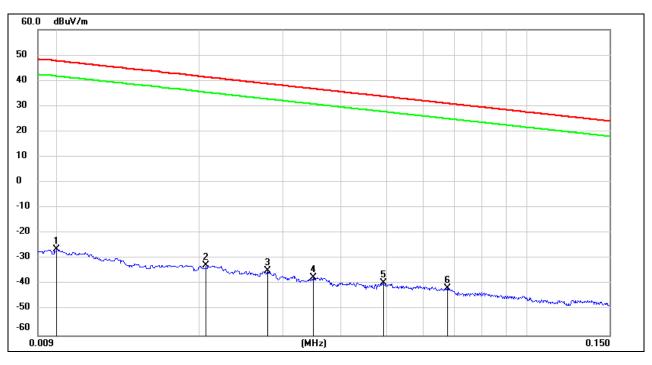


# 8.7. SPURIOUS EMISSIONS BELOW 30 MHz

# 8.7.1. 802.11b MODE

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

<u>9 kHz~ 150 kHz</u>



No.	Frequency	Reading	Correct	FCC Result	FCC Limit	Margin	Remark
	(MHz)	(dBuV)	(dB/m)	(dBuV/m)	(dBuV/m)	(dB)	
1	0.0100	75.22	-101.40	-26.18	47.6	-73.78	peak
2	0.0206	68.92	-101.35	-32.43	41.32	-73.75	peak
3	0.0279	66.67	-101.38	-34.71	38.69	-73.40	peak
4	0.0349	64.03	-101.41	-37.38	36.75	-74.13	peak
5	0.0492	62.05	-101.47	-39.42	33.76	-73.18	peak
6	0.0675	60.14	-101.56	-41.42	31.02	-72.44	peak

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

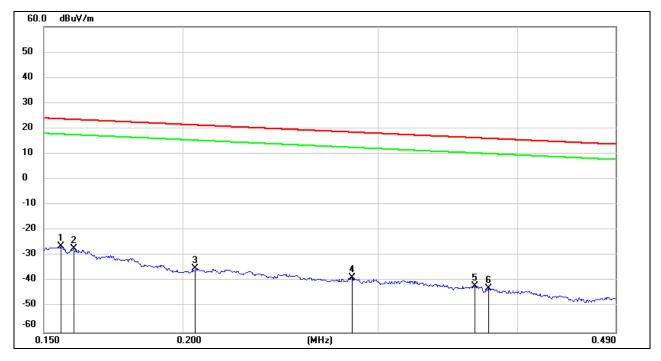
2. If Peak Result complies with AV and QP limit, AV and QP Result are deemed to comply with AV limit.

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.

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#### <u>150 kHz ~ 490 kHz</u>



No.	Frequency	Reading	Correct	FCC Result	FCC Limit	Margin	Remark
	(MHz)	(dBuV)	(dB/m)	(dBuV/m)	(dBuV/m)	(dB)	
1	0.1554	75.27	-101.65	-26.38	23.77	-50.15	peak
2	0.1595	74.36	-101.65	-27.29	23.55	-50.84	peak
3	0.2053	66.79	-101.73	-34.94	21.35	-56.29	peak
4	0.2837	63.22	-101.83	-38.61	18.54	-57.15	peak
5	0.3662	60.08	-101.93	-41.85	16.33	-58.18	peak
6	0.3768	59.07	-101.93	-42.86	16.08	-58.94	peak

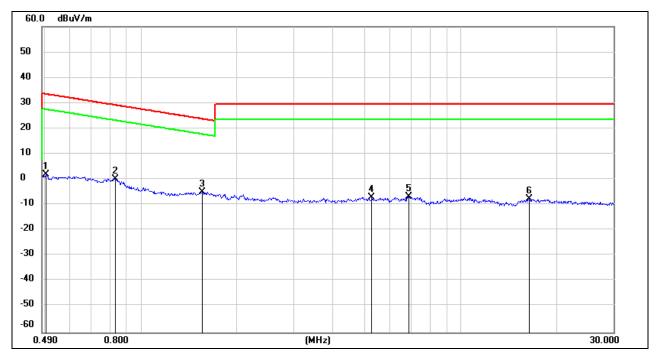
Note: 1. Measurement = Reading Level + Correct Factor.

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.



#### <u>490 kHz ~ 30 MHz</u>



No.	Frequency	Reading	Correct	FCC Result	FCC Limit	Margin	Remark
	(MHz)	(dBuV)	(dB/m)	(dBuV/m)	(dBuV/m)	(dB)	
1	0.5039	63.94	-62.07	1.87	33.56	-31.69	peak
2	0.8296	62.44	-62.17	0.27	29.23	-28.96	peak
3	1.5564	57.18	-62.02	-4.84	23.76	-28.60	peak
4	5.2705	54.54	-61.45	-6.91	29.54	-36.45	peak
5	6.8936	54.59	-61.22	-6.63	29.54	-36.17	peak
6	16.3959	53.17	-60.96	-7.79	29.54	-37.33	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

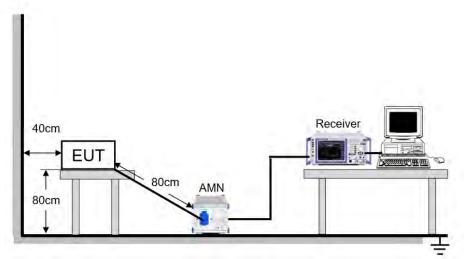
# LIMITS

Please refer to CFR 47 FCC §15.207 (a).

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

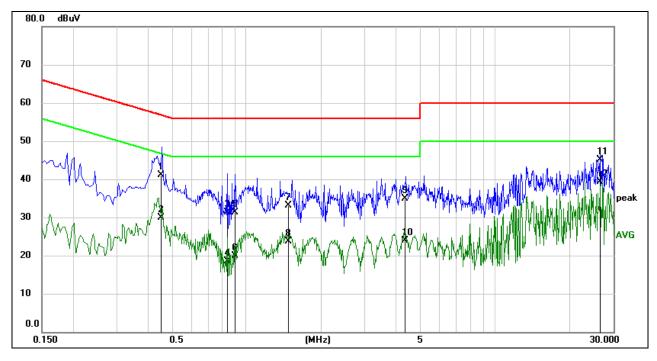
Temperature	26.1°C	Relative Humidity	63 %
Atmosphere Pressure	101 kPa	Test Voltage	AC 120V, 60 HZ

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# 9.1.1. 802.11b MODE

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



No.	Frequency	Reading	Correct	Result	Limit	Margin	Remark
	(MHz)	(dBuV)	( <b>dB</b> )	(dBuV)	(dBuV)	( <b>dB</b> )	
1	0.4539	31.57	9.60	41.17	56.80	-15.63	QP
2	0.4539	20.34	9.60	29.94	46.80	-16.86	AVG
3	0.8442	21.71	9.60	31.31	56.00	-24.69	QP
4	0.8442	8.96	9.60	18.56	46.00	-27.44	AVG
5	0.9023	21.69	9.61	31.30	56.00	-24.70	QP
6	0.9023	10.36	9.61	19.97	46.00	-26.03	AVG
7	1.4796	23.52	9.62	33.14	56.00	-22.86	QP
8	1.4796	14.05	9.62	23.67	46.00	-22.33	AVG
9	4.3385	25.37	9.60	34.97	56.00	-21.03	QP
10	4.3385	14.25	9.60	23.85	46.00	-22.15	AVG
11	26.4868	35.26	9.86	45.12	60.00	-14.88	QP
12	26.4868	29.47	9.86	39.33	50.00	-10.67	AVG

Note: 1. Result = Reading +Correct Factor.

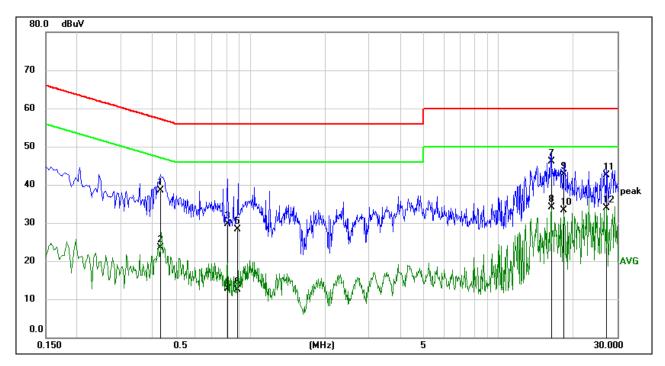
2. If QP Result complies with AV limit, AV Result is deemed to comply with AV limit.

3. Test setup: RBW: 200 Hz (9 kHz ~ 150 kHz), 9 kHz (150 kHz ~ 30 MHz).

4. Step size: 80 Hz (0.009 MHz ~ 0.15 MHz), 4 kHz (0.15 MHz ~ 30 MHz), Scan time: auto.







No.	Frequency	Reading	Correct	Result	Limit	Margin	Remark
	(MHz)	(dBuV)	( <b>dB</b> )	(dBuV)	(dBuV)	( <b>dB</b> )	
1	0.4341	28.94	9.60	38.54	57.17	-18.63	QP
2	0.4341	13.98	9.60	23.58	47.17	-23.59	AVG
3	0.8081	20.02	9.60	29.62	56.00	-26.38	QP
4	0.8081	3.07	9.60	12.67	46.00	-33.33	AVG
5	0.8836	18.69	9.60	28.29	56.00	-27.71	QP
6	0.8836	2.87	9.60	12.47	46.00	-33.53	AVG
7	16.2279	36.44	9.67	46.11	60.00	-13.89	QP
8	16.2279	24.53	9.67	34.20	50.00	-15.80	AVG
9	18.2431	33.03	9.77	42.80	60.00	-17.20	QP
10	18.2431	23.44	9.77	33.21	50.00	-16.79	AVG
11	27.1585	32.66	9.89	42.55	60.00	-17.45	QP
12	27.1585	24.04	9.89	33.93	50.00	-16.07	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 ~ 0.15 MHz), 4 kHz (0.15 MHz ~ 30 MHz), Scan time: auto.

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

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# 10. ANTENNA REQUIREMENTS

### APPLICABLE REQUIREMENTS

#### Please refer to FCC §15.203

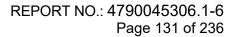
An intentional radiator shall be designed to ensure that no antenna other than that furnished by the responsible party shall be used with the device. The use of a permanently attached antenna or of an antenna that uses a unique coupling to the intentional radiator shall be considered sufficient to comply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

#### Please refer to FCC §15.247(b)(4)

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

#### **RESULTS**

Complies





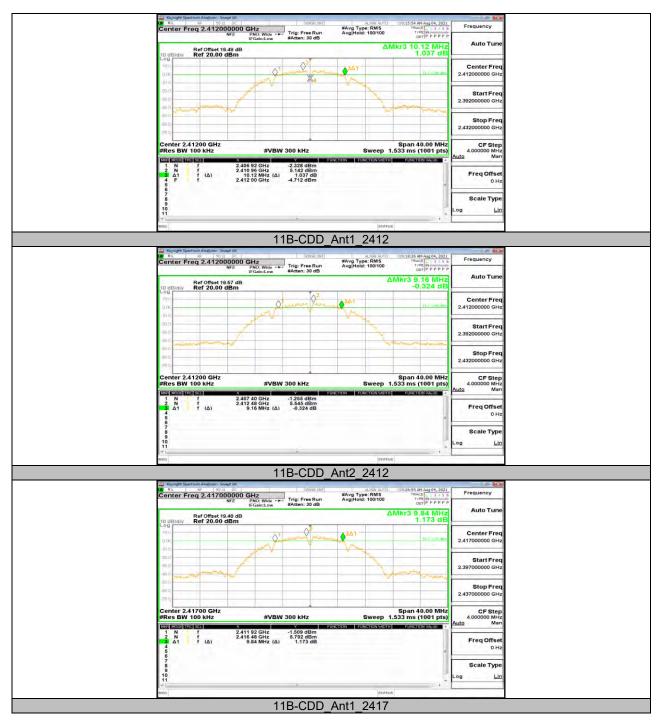
# 11. Appendix

# 11.1. Appendix A: DTS Bandwidth 11.1.1. Test Result

Test Mode	Antenna	Channel	DTS BW [MHz]	FL[MHz]	FH[MHz]	Limit[MHz]	Verdict
	Ant1	2412	10.120	2406.920	2417.040	0.5	PASS
	Ant2	2412	9.160	2407.400	2416.560	0.5	PASS
	Ant1	2417	9.840	2411.920	2421.760	0.5	PASS
	Ant2	2417	10.080	2411.920	2422.000	0.5	PASS
	Ant1	2437	10.080	2431.960	2442.040	0.5	PASS
11B-CDD	Ant2	2437	9.160	2432.440	2441.600	0.5	PASS
	Ant1	2457	9.600	2452.200	2461.800	0.5	PASS
	Ant2	2457	9.600	2452.440	2462.040	0.5	PASS
	Ant1	2462	9.600	2457.440	2467.040	0.5	PASS
	Ant2	2462	10.120	2456.960	2467.080	0.5	PASS
	Ant1	2412	15.840	2404.080	2419.920	0.5	PASS
	Ant2	2412	16.000	2404.200	2420.200	0.5	PASS
	Ant1	2417	15.560	2409.040	2424.600	0.5	PASS
	Ant2	2417	15.680	2409.200	2424.880	0.5	PASS
11G-CDD	Ant1	2437	15.400	2429.160	2444.560	0.5	PASS
HG-CDD	Ant2	2437	15.400	2429.160	2444.560	0.5	PASS
	Ant1	2457	16.360	2448.800	2465.160	0.5	PASS
	Ant2	2457	15.720	2449.160	2464.880	0.5	PASS
	Ant1	2462	16.000	2454.160	2470.160	0.5	PASS
	Ant2	2462	16.400	2453.760	2470.160	0.5	PASS
	Ant1	2412	16.480	2403.440	2419.920	0.5	PASS
	Ant2	2412	16.400	2403.760	2420.160	0.5	PASS
	Ant1	2417	17.640	2408.160	2425.800	0.5	PASS
	Ant2	2417	16.760	2408.400	2425.160	0.5	PASS
11N20MIMO	Ant1	2437	16.600	2428.800	2445.400	0.5	PASS
	Ant2	2437	17.240	2428.560	2445.800	0.5	PASS
	Ant1	2457	16.480	2448.400	2464.880	0.5	PASS
	Ant2	2457	17.640	2448.160	2465.800	0.5	PASS
	Ant1	2462	16.600	2453.800	2470.400	0.5	PASS
	Ant2	2462	17.360	2453.440	2470.800	0.5	PASS
11N40MIMO	Ant1	2422	35.200	2404.400	2439.600	0.5	PASS
	Ant2	2422	35.200	2404.400	2439.600	0.5	PASS
	Ant1	2427	35.200	2409.400	2444.600	0.5	PASS
	Ant2	2427	35.200	2409.400	2444.600	0.5	PASS
	Ant1	2437	35.200	2419.400	2454.600	0.5	PASS
	Ant2	2437	35.200	2419.400	2454.600	0.5	PASS
	Ant1	2447	35.200	2429.400	2464.600	0.5	PASS
	Ant2	2447	35.200	2429.400	2464.600	0.5	PASS
	Ant1	2452	35.200	2434.400	2469.600	0.5	PASS
	Ant2	2452	35.200	2434.400	2469.600	0.5	PASS



# 11.1.2. Test Graphs



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Test Mode	Antenna	Channel	OCB [MHz]	FL[MHz]	FH[MHz]	Verdict
11B-CDD	Ant1	2412	14.367	2404.794	2419.161	PASS
	Ant2	2412	14.241	2404.856	2419.097	PASS
	Ant1	2417	14.423	2409.766	2424.189	PASS
	Ant2	2417	14.264	2409.860	2424.124	PASS
	Ant1	2437	14.326	2429.864	2444.190	PASS
	Ant2	2437	14.157	2429.980	2444.137	PASS
	Ant1	2457	14.361	2449.835	2464.196	PASS
	Ant2	2457	14.294	2449.867	2464.161	PASS
	Ant1	2462	14.383	2454.866	2469.249	PASS
	Ant2	2462	14.230	2454.940	2469.170	PASS
	Ant1	2412	16.868	2403.557	2420.425	PASS
	Ant2	2412	16.606	2403.711	2420.317	PASS
	Ant1	2417	16.819	2408.513	2425.332	PASS
	Ant2	2417	16.601	2408.689	2425.290	PASS
11G-CDD	Ant1	2437	16.888	2428.518	2445.406	PASS
HG-CDD	Ant2	2437	16.604	2428.671	2445.275	PASS
	Ant1	2457	17.035	2448.387	2465.422	PASS
	Ant2	2457	16.681	2448.628	2465.309	PASS
	Ant1	2462	17.088	2453.392	2470.480	PASS
	Ant2	2462	16.705	2453.641	2470.346	PASS
	Ant1	2412	17.840	2403.047	2420.887	PASS
	Ant2	2412	17.714	2403.110	2420.824	PASS
	Ant1	2417	18.004	2408.010	2426.014	PASS
	Ant2	2417	17.714	2408.123	2425.837	PASS
	Ant1	2437	17.871	2428.036	2445.907	PASS
11N20MIMO	Ant2	2437	17.673	2428.140	2445.813	PASS
	Ant1	2457	18.052	2447.925	2465.977	PASS
	Ant2	2457	17.727	2448.133	2465.860	PASS
	Ant1	2462	17.990	2453.032	2471.022	PASS
	Ant2	2462	17.811	2453.081	2470.892	PASS
	Ant1	2422	36.080	2403.944	2440.024	PASS
	Ant2	2422	36.191	2403.936	2440.127	PASS
	Ant1	2427	36.087	2408.921	2445.008	PASS
	Ant2	2427	36.162	2408.936	2445.098	PASS
11N40MIMO	Ant1	2437	36.038	2418.899	2454.937	PASS
	Ant2	2437	36.058	2418.979	2455.037	PASS
	Ant1	2447	36.159	2428.878	2465.037	PASS
	Ant2	2447	36.146	2428.914	2465.060	PASS
	Ant1	2452	36.248	2433.835	2470.083	PASS
	Ant2	2452	36.118	2433.877	2469.995	PASS

# 11.2. Appendix B: Occupied Channel Bandwidth 11.2.1. Test Result

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# 11.2.2. Test Graphs



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