



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

#### **CERTIFICATION TEST REPORT**

For

WIFI+BT Module

**MODEL NUMBER: DCT2UM1111** 

FCC ID:2AC23-DCT2U

IC:12290A-DCT2U

REPORT NUMBER: 4790191813.2-3

ISSUE DATE: March 09, 2022

# **Prepared for**

Hui Zhou Gaoshengda Technology Co.,LTD NO.75 Zhongkai Development Area ,Huizhou, Guangdong, China

## Prepared by

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**Revision History** 

Rev.	Issue Date	Revisions	Revised By
V0	03/09/2022	Initial Issue	



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

#### Note:

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

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



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# 1. ATTESTATION OF TEST RESULTS

**Applicant Information** 

Company Name: Hui Zhou Gaoshengda Technology Co.,LTD

Address: No.2, Jin-da Road, Huinan High-tech Industrial Park, Hui-ao

Avenue, Huizhou City, Guangdong, China

**Manufacturer Information** 

Company Name: Hui Zhou Gaoshengda Technology Co.,LTD

Address: No.2, Jin-da Road, Huinan High-tech Industrial Park, Hui-ao

Avenue, Huizhou City, Guangdong, China

**EUT Information** 

EUT Name: WIFI+BT Module Model: DCT2UM1111

Brand: GSD

Sample Received Date: December 30, 2021

Sample Status: Normal Sample ID: 4540907

Date of Tested: December 30, 2021 ~ March 6, 2022

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

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Approved By:

Stephen Guo

Laboratory Manager



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#### 2. TEST METHODOLOGY

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

# 3. FACILITIES AND ACCREDITATION

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

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

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

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

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# 4. CALIBRATION AND UNCERTAINTY

## 4.1. MEASURING INSTRUMENT CALIBRATION

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

## 4.2. MEASUREMENT UNCERTAINTY

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

Test Item	Uncertainty
Conduction emission	3.62 dB
Radiated Emission (Included Fundamental Emission) (9 kHz ~ 30 MHz)	2.2 dB
Radiated Emission (Included Fundamental Emission) (30 MHz ~ 1 GHz)	4.00 dB
Radiated Emission	5.78 dB (1 GHz ~ 18 GHz)
(Included Fundamental Emission) (1 GHz to 26 GHz)	5.23 dB (18 GHz ~ 26 GHz)
Duty Cycle	±0.028%
DTS and 99% Occupied Bandwidth	±0.0196%
Maximum Conducted Output Power	±0.686 dB
Maximum Power Spectral Density Level	±0.743 dB
Conducted Band-edge Compliance	±1.328 dB
Conducted Unwanted Emissions In Non-restricted	±0.746 dB (9 kHz ~ 1 GHz)
Frequency Bands	±1.328dB (1 GHz ~ 26 GHz)

Note: This uncertainty represents an expanded uncertainty expressed at approximately the 95% confidence level using a coverage factor of k=2.



# 5. EQUIPMENT UNDER TEST

# 5.1. DESCRIPTION OF EUT

EUT Name:	WIFI+BT Module
Model Name:	DCT2UM1111
Radio Technology	IEEE802.11b/g/n HT20/n HT40
	IEEE 802.11b: 2412MHz—2462MHz
Operation	IEEE 802.11g: 2412MHz—2462MHz
frequency	IEEE 802.11n HT20: 2412MHz—2462MHz
	IEEE 802.11n HT40: 2422MHz—2452MHz
	IEEE 802.11b: DSSS (CCK)
Modulation	IEEE 802.11g: OFDM (64QAM, 16QAM, QPSK, BPSK)
Wodulation	IEEE 802.11n HT20: OFDM (64QAM, 16QAM, QPSK, BPSK)
	IEEE 802.11n HT40: OFDM (64QAM, 16QAM, QPSK, BPSK)
Rated Input	DC 5 V

# 5.2. CHANNEL LIST

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

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

# 5.3. MAXIMUM OUTPUT POWER

IEEE Std. 802.11	Frequency (MHz)	Channel Number	Maximum Conducted AVG Output Power (dBm)	Maximum AVG EIRP (dBm)
b	2412 ~ 2462	1-11[11]	19.70	21.70
g	2412 ~ 2462	1-11[11]	17.46	20.46
n HT20	2412 ~ 2462	1-11[11]	17.33	20.33
n HT40	2422 ~ 2452	3-9[7]	16.48	19.48



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# 5.4. TEST CHANNEL CONFIGURATION

IEEE Std. 802.11	Test Channel Number	Frequency
D	CH 1(Low Channel), CH 6(MID Channel), CH 11(High Channel)	24 12 NICZ, 2437 NICZ, 2462 NICZ
g	CH 1(Low Channel), CH 6(MID Channel), CH 11(High Channel)	2412 MHz, 2437 MHz, 2462 MHz
n HT20	CH 1(Low Channel), CH 6(MID Channel), CH 11(High Channel)	2412 MHz, 2437 MHz, 2462 MHz
n HT40	CH 3(Low Channel), CH 6(MID Channel), CH 9(High Channel)	2422 MHz, 2437 MHz, 2452 MHz

# 5.5. THE WORSE CASE POWER SETTING PARAMETER

The Worse Case Power Setting Parameter under 2400 ~ 2483.5MHz Band							
Test Softw	vare			QA tool			
	Transmit			Test C	Channel		
Modulation Mode	Antenna		NCB: 20MHz			ICB: 40MHz	_
Wiode	Number	CH 1	CH 6	CH 11	CH 3	CH 6	CH 9
802.11b	1	24	24 24 24				
802.11g	1	22 22 22			/		
802.11n HT20	1	22	22	22			
802.11n HT40	1		/		20	20	20



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#### 5.6. THE WORSE CASE CONFIGURATIONS

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

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

Test channels referring to section 5.4.

Maximum power setting referring to section 5.5.

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

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

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

The EUT have three kinds of antennas, they are PCB antenna, FPC antenna, and PIFA antenna.

For the conducted testing, only the maximum antenna gain data are recorded in this report. For the radiated testing, three kinds of antenna gain data are recorded in this report.



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5.7. DESCRIPTION OF AVAILABLE ANTENNAS

Antenna	Frequency (MHz)	Antenna Type	MAX Antenna Gain (dBi)
1	2412-2462	PCB	3.0

Antenna	Frequency (MHz)	Antenna Type	MAX Antenna Gain (dBi)
1	2412-2462	FPC	2.77

Antenna	Frequency (MHz)	Antenna Type	MAX Antenna Gain (dBi)
1	2412-2462	PIFA	2.88

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

Note:

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

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



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# 5.8. DESCRIPTION OF TEST SETUP

## **SUPPORT EQUIPMENT**

Item	Equipment	Brand Name	Model Name	Remarks
1	Laptop	Lenovo	T430	1
2	UART	/	/	1

#### **I/O CABLES**

Cable No	Port	Connector Type	Cable Type	Cable Length(m)	Remarks
1	USB	N/A	N/A	1	N/A

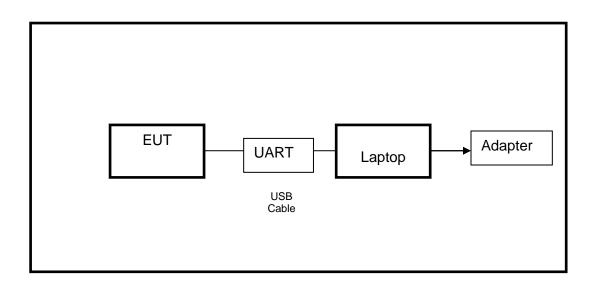
## **ACCESSORIES**

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

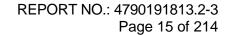
## **TEST SETUP**

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

## **SETUP DIAGRAM FOR TESTS**



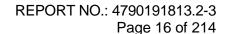
Note: AC adapter only use for AC POWER LINE CONDUCTED EMISSIONS testing.





6. MEASURING INSTRUMENT AND SOFTWARE USED

		R&	S TS	8997 Te	st S	ystem			
Equipment	Manufa	cturer	Model	No.	Serial No.	Last C	al.	Due. Date	
Power sensor, Power M	1eter	R&	S	OSP1	20	100921	Mar.23,2	2021	Mar.22,2022
Vector Signal Genera	tor	R&	S	SMBV1	00A	261637	Oct.30, 2	2021	Oct.29, 2022
Signal Generator		R&	S	SMB10	)0A	178553	Oct.30, 2	2021	Oct.29, 2022
Signal Analyzer		R&	S	FSV4	10	101118	Oct.30, 2	2021	Oct.29, 2022
				Softwar	е				
Description			Manu	facturer		Nam	ne		Version
For R&S TS 8997 Test	Syst	em Ro	hde 8	Schwa	rz	EMC	32		10.60.10
Tonsend RF Test System									
Equipment	Man	ufacture	Mod	del No.	S	Serial No.	Last C	Cal.	Due. Date
Wideband Radio Communication Tester		R&S	CM	IW500		155523 Oct.30,		2021	Oct.29, 2022
Wireless Connectivity Tester		R&S	CM	IW270	120	1.0002N75- 102	Sep.29,	2021	Sep.28, 2022
PXA Signal Analyzer	K	eysight	NS	9030A	MY	′55410512	Oct.30,	2021	Oct.29, 2022
MXG Vector Signal Generator	K	eysight	N5	182B	MY	′56200284	Oct.30,	2021	Oct.29, 2022
MXG Vector Signal Generator	K	eysight	N5	5172B	MY	′56200301	Oct.30,	2021	Oct.29, 2022
DC power supply	K	eysight	eysight E3		MY	′55159130	Oct.30,	2021	Oct.29, 2022
Temperature & Humidity Chamber	SA	IMOOD SG-80-CC-2			2088	Nov.20,	2020	Nov.19,2022	
				Softwar	е				
Description		Manufac	turer			Name			Version
Tonsend SRD Test System Tonsend			JS11	120-3	3 RF Test S	ystem	2	.6.77.0518	





**Radiated Emissions Due Date** Equipment Manufacturer Model No. Serial No. Last Cal. MXE EMI **KESIGHT** N9038A MY56400036 Oct.30, 2021 Oct.29, 2022 Receiver Hybrid Log Aug.02, 2021 Aug.01, 2024 TDK HLP-3003C 130959 Periodic Antenna Preamplifier HP 8447D 2944A09099 Oct.30, 2021 Oct.29, 2022 EMI Measurement 101377 R&S ESR<sub>26</sub> Oct.30, 2021 Oct.29, 2022 Receiver Horn Antenna TDK HRN-0118 130940 July 20, 2021 July 19, 2024 TRS-305-TDK PA-02-0118 Preamplifier Oct.30, 2021 Oct.29, 2022 00067 Horn Antenna Schwarzbeck **BBHA9170** 697 July 20, 2021 July 19, 2024 TRS-307-Preamplifier TDK PA-02-2 Oct.31, 2021 Oct.30, 2022 00003 TRS-308-Preamplifier TDK PA-02-3 Oct.31, 2021 Oct.30, 2022 00002 Loop antenna Schwarzbeck 1519B 80000 Dec.14, 2021 Dec.13,2024 PA-02-001-TRS-302-Preamplifier TDK Oct.31, 2021 Oct.30, 2022 3000 00050 ZX60-83LN-SUP01201941 Oct.30, 2022 Preamplifier Mini-Circuits Oct.31, 2021 S+ WHKX10-High Pass Filter Wi 2700-3000-23 Oct.31, 2021 Oct.30, 2022 18000-40SS WRCJV8-**Band Reject** 2350-2400-Wainwright 4 Oct.31, 2021 Oct.30, 2022 Filter 2483.5-2533.5-40SS Software Description Manufacturer Name Version Test Software for Radiated Emissions Farad **EZ-EMC** Ver. UL-3A1

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# 7. ANTENNA PORT TEST RESULTS

# 7.1. ON TIME AND DUTY CYCLE

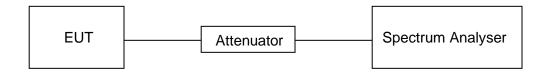
## **LIMITS**

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	21.7 °C	Relative Humidity	57 %
Atmosphere Pressure	101 kPa	Test Voltage	DC 5 V

## **RESULTS**

Please refer to appendix G.

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

#### **LIMITS**

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

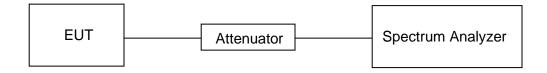
#### **TEST PROCEDURE**

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

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

- a) Use the 99 % power bandwidth function of the instrument, allow the trace to stabilize and report the measured bandwidth.
- b) Allow the trace to stabilize and measure the maximum width of the emission that is constrained by the frequencies associated with the two outermost amplitude points (upper and lower frequencies) that are attenuated by 6 dB relative to the maximum level measured in the fundamental emission.

### **TEST SETUP**





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# TEST ENVIRONMENT

Temperature	21.7 °C	Relative Humidity	57 %
Atmosphere Pressure	101 kPa	Test Voltage	DC 5 V

# **RESULTS**

Please refer to appendix A & B.

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# 7.3. CONDUCTED OUTPUT POWER

## **LIMITS**

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

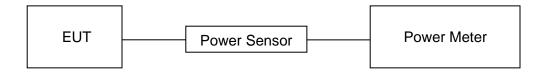
## **TEST PROCEDURE**

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

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	21.7 °C	Relative Humidity	57 %
Atmosphere Pressure	101 kPa	Test Voltage	DC 5 V

## **RESULTS**

Please refer to appendix C.



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# 7.4. POWER SPECTRAL DENSITY

## **LIMITS**

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

## **TEST PROCEDURE**

Refer to ANSI C63.10-2013 clause 11.10.

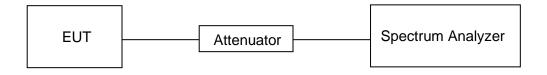
Connect the EUT to the spectrum analyser and use the following settings:

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

Allow trace to fully stabilize and use the peak marker function to determine the maximum amplitude level within the RBW.

If measured value exceeds limit, reduce RBW (no less than 3 kHz) and repeat.

## **TEST SETUP**



#### **TEST ENVIRONMENT**

Temperature	21.7 °C	Relative Humidity	57 %
Atmosphere Pressure	101 kPa	Test Voltage	DC 5 V

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Please refer to appendix D.



# 7.5. CONDUCTED BANDEDGE AND SPURIOUS EMISSIONS

## **LIMITS**

CFR 47 FCC Part15 (15.247) Subpart C ISED RSS-247 ISSUE 2				
Section Test Item Limit				
CFR 47 FCC §15.247 (d) ISED RSS-247 5.5	CFR 47 FCC §15.247 (d)  Conducted at least 30 dB below that in the 100 kHz			

#### **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.

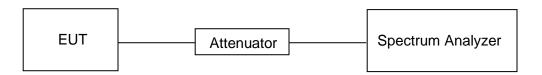
Change the settings for emission level measurement:

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

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

## **TEST SETUP**





## **TEST ENVIRONMENT**

Temperature	21.7 °C	Relative Humidity	57 %
Atmosphere Pressure	101 kPa	Test Voltage	DC 5 V

# **RESULTS**

Please refer to appendix E & F.



# 8. RADIATED TEST RESULTS

## **LIMITS**

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

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

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

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

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

# ISED General field strength limits at frequencies below 30 MHz

Table 6 – General field strength limits at frequencies below 30 MHz							
Frequency Magnetic field strength (H-Field) (µA/m) Measurement distance (m)							
9 - 490 kHz <sup>Note 1</sup>	6.37/F (F in kHz)	300					
490 - 1705 kHz	63.7/F (F in kHz)	30					
1.705 - 30 MHz	0.08	30					

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



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

MHz	MHz	GHz	
0.090 - 0.110	149.9 - 150.05	9.0 - 9.2	
0.495 - 0.505	158.52475 - 158.52525	9.3 - 9.5	
2.1735 - 2.1905	156.7 - 156.9	10.6 - 12.7	
3.020 - 3.028	162.0125 - 167.17	13.25 - 13.4	
4.125 - 4.128	167.72 - 173.2	14.47 - 14.5	
4.17725 - 4.17775	240 – 285	15.35 - 16.2	
4.20725 - 4.20775	322 - 335.4	17.7 - 21.4	
5.677 - 5.683	399.9 - 410	22.01 - 23.12	
6.215 - 6.218	608 - 614	23.6 - 24.0	
8.26775 - 6.26825	960 - 1427	31.2 - 31.8	
6.31175 - 6.31225	1435 - 1626.5	36.43 - 36.5	
8.291 - 8.294	1645.5 - 1646.5	Above 38.6	
8.362 - 8.366	1660 - 1710		
8.37625 - 8.38675	1718.8 - 1722.2		
8.41425 - 8.41475	2200 - 2300		
12.29 - 12.293	2310 - 2390		
12.51975 - 12.52025	2483.5 - 2500		
12.57675 - 12.57725	2655 - 2900		
13.36 - 13.41	3280 - 3287		
16.42 - 16.423	3332 - 3339		
16.69475 - 16.69525	3345.8 - 3358		
16.80425 - 16.80475	3500 - 4400		
25.5 - 25.67	4500 - 5150		
37.5 - 38.25	5350 - 5460		
73 - 74.6	7250 - 7750		
74.8 - 75.2	8025 - 8500		
108 – 138			

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

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

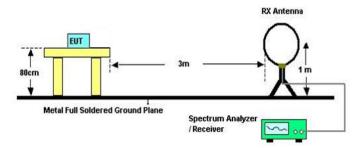
Note:  $^1$ Until February 1, 1999, this restricted band shall be 0.490-0.510 MHz.  $^2$ Above 38.6c

ADOVC 30.00



#### **TEST SETUP AND PROCEDURE**

Below 30 MHz



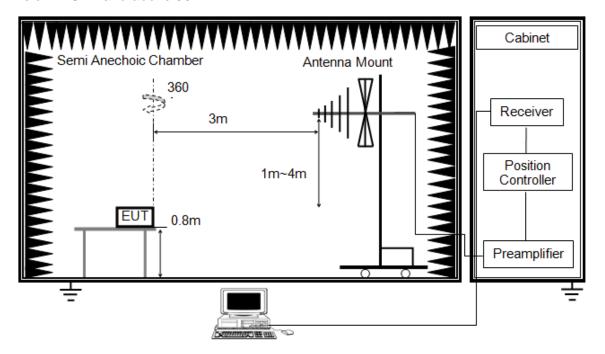
# The setting of the spectrum analyser

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

- 1. The testing follows the guidelines in ANSI C63.10-2013 clause 6.4.
- 2. The EUT was arranged to its worst case and then turntable (from 0 degree to 360 degrees) to find the maximum reading. A pre-amp and a high pass filter are used for the test in order to get better signal level. Both Horizontal, Face-on and Face-off polarizations of the antenna are set to make the measurement.
- 3. The EUT was placed on a turntable with 80 cm above ground.
- 4. The EUT was set 3 meters from the interference receiving antenna, which was mounted on the top of a 1 m height antenna tower.
- 5. The radiated emission limits are based on measurements employing a CISPR quasi-peak detector except for the frequency bands 9-90 kHz, 110-490 kHz and above 1000 MHz Radiated emission limits in these three bands are based on measurements employing an average detector.
- 6. For measurement below 1 GHz, the initial step in collecting conducted emission data is a spectrum analyzer peak detector mode pre-scanning the measurement frequency range. Significant peaks are then marked and then Quasi Peak and average detector mode 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

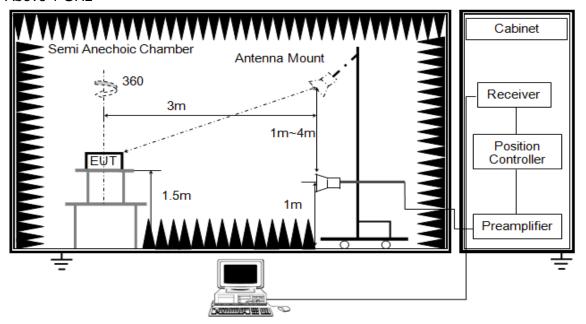


The setting of the spectrum analyser

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



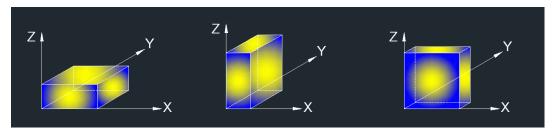
The setting of the spectrum analyser

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	21.7 °C	Relative Humidity	57 %
Atmosphere Pressure	101 kPa	Test Voltage	DC 5 V

# **RESULTS**

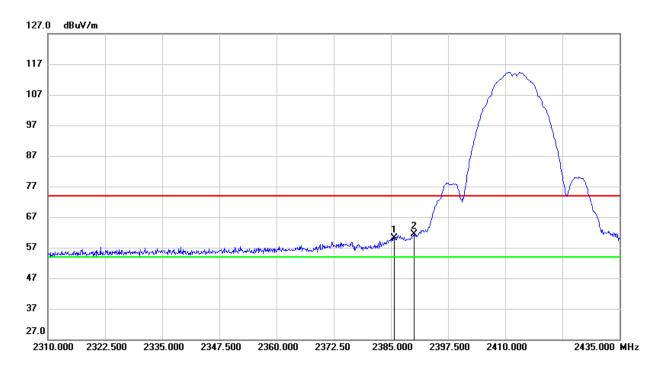


## 8.1. RESTRICTED BANDEDGE

## 8.1.1. 802.11b SISO MODE PCB ANTENNA

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

## **PEAK**

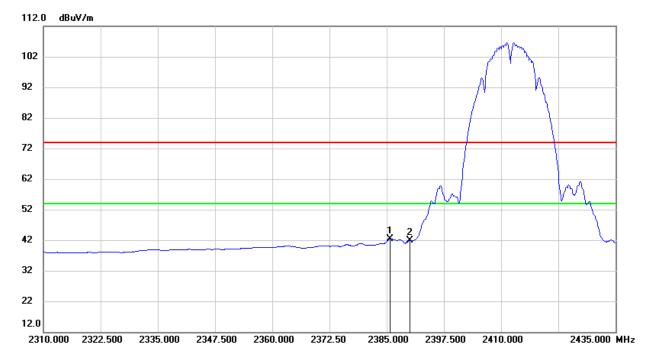


No.	Frequency	Reading	Correct	Result	Limit	Margin	Remark
	(MHz)	(dBuV)	(dB/m)	(dBuV/m)	(dBuV/m)	(dB)	
1	2385.750	27.54	32.63	60.17	74.00	-13.83	peak
2	2390.000	28.76	32.66	61.42	74.00	-12.58	peak

- 2. Peak: Peak detector.
- 3. Only the worst data was recorded, if it complies with the limit, the other emissions deemed to comply with the limit.

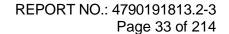


#### **AVG**



No.	Frequency	Reading	Correct	Result	Limit	Margin	Remark
	(MHz)	(dBuV)	(dB/m)	(dBuV/m)	(dBuV/m)	(dB)	
1	2385.750	9.85	32.63	42.48	54.00	-11.52	AVG
2	2390.000	9.20	32.66	41.86	54.00	-12.14	AVG

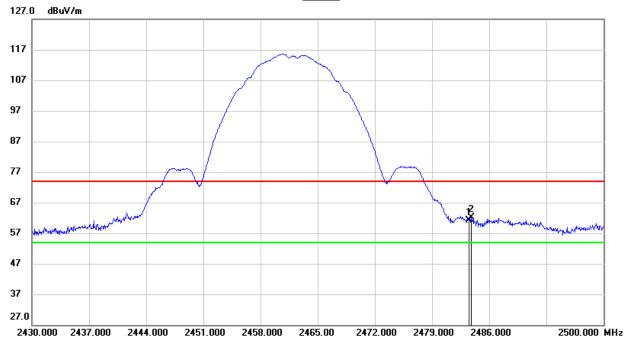
- 2. If Peak Result complies with AV limit, AV Result is deemed to comply with AV limit.
- 3. Peak: Peak detector.
- 4. AVG: VBW = 1/Ton, where: Ton is the transmitting duration.
- 5. For the transmitting duration, please refer to clause 7.1.
- 6. Only the worst case emission was recorded, if it complies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





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

## **PEAK**

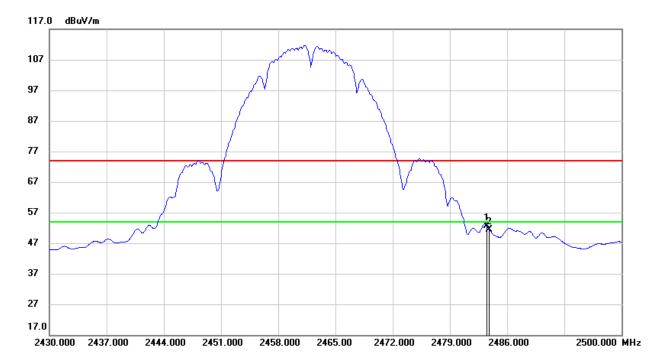


No.	Frequency	Reading	Correct	Result	Limit	Margin	Remark
	(MHz)	(dBuV)	(dB/m)	(dBuV/m)	(dBuV/m)	(dB)	
1	2483.500	28.15	33.10	61.25	74.00	-12.75	peak
2	2483.830	29.08	33.10	62.18	74.00	-11.82	peak

- 2. Peak: Peak detector.
- 3. Only the worst data was recorded, if it complies with the limit, the other emissions deemed to comply with the limit.



#### **AVG**



No.	Frequency	Reading	Correct	Result	Limit	Margin	Remark
	(MHz)	(dBuV)	(dB/m)	(dBuV/m)	(dBuV/m)	(dB)	
1	2483.500	19.51	33.10	52.61	54.00	-1.39	AVG
2	2483.830	18.40	33.10	51.50	54.00	-2.50	AVG

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

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

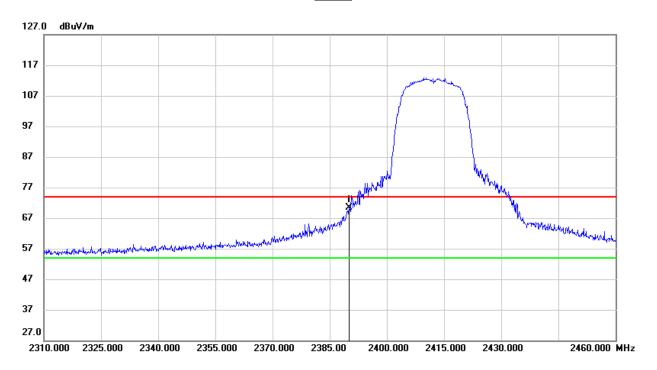
Note: Horizontal and Vertical have been tested, only the worst data was recorded in the report. Note: All modes have been tested, only the worst data was recorded in the report.



# 8.1.2. 802.11g SISO MODE PCB ANTENNA

# RESTRICTED BANDEDGE (LOW CHANNEL, VERTICAL)

#### **PEAK**

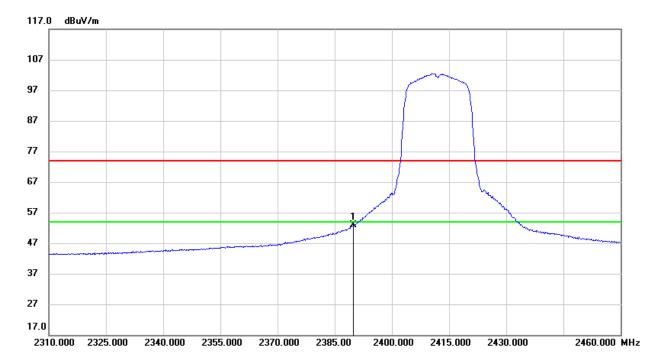


No.	Frequency	Reading	Correct	Result	Limit	Margin	Remark
	(MHz)	(dBuV)	(dB/m)	(dBuV/m)	(dBuV/m)	(dB)	
1	2390.000	37.80	32.66	70.46	74.00	-3.54	peak

- 2. Peak: Peak detector.
- 3. Only the worst data was recorded, if it complies with the limit, the other emissions deemed to comply with the limit.



# **AVG**

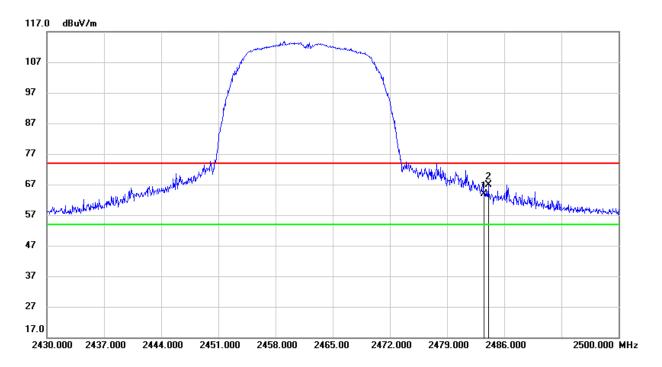


No.	Frequency	Reading	Correct	Result	Limit	Margin	Remark
	(MHz)	(dBuV)	(dB/m)	(dBuV/m)	(dBuV/m)	(dB)	
1	2390.000	20.15	32.66	52.81	54.00	-1.19	AVG

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



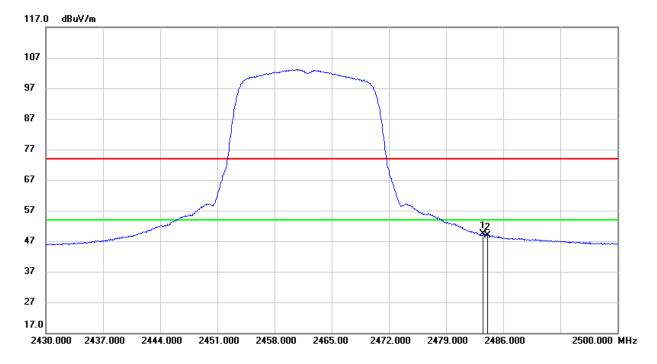
### **PEAK**



No.	Frequency	Reading	Correct	Result	Limit	Margin	Remark
	(MHz)	(dBuV)	(dB/m)	(dBuV/m)	(dBuV/m)	(dB)	
1	2483.500	30.85	33.10	63.95	74.00	-10.05	peak
2	2484.040	33.75	33.10	66.85	74.00	-7.15	peak

- 2. Peak: Peak detector.
- 3. Only the worst data was recorded, if it complies with the limit, the other emissions deemed to comply with the limit.





No.	Frequency	Reading	Correct	Result	Limit	Margin	Remark
	(MHz)	(dBuV)	(dB/m)	(dBuV/m)	(dBuV/m)	(dB)	
1	2483.500	16.17	33.10	49.27	54.00	-4.73	AVG
2	2484.040	15.72	33.10	48.82	54.00	-5.18	AVG

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

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

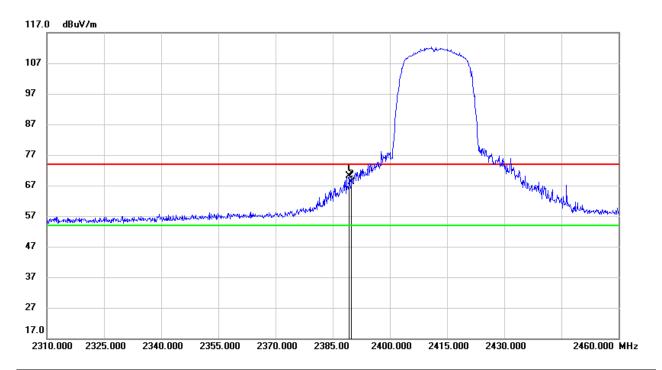
Note: Horizontal and Vertical have been tested, only the worst data was recorded in the report. Note: Both antennas have been tested, only the worst data was recorded in the report.



# 8.1.3. 802.11n HT20 SISO MODE PCB ANTENNA

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

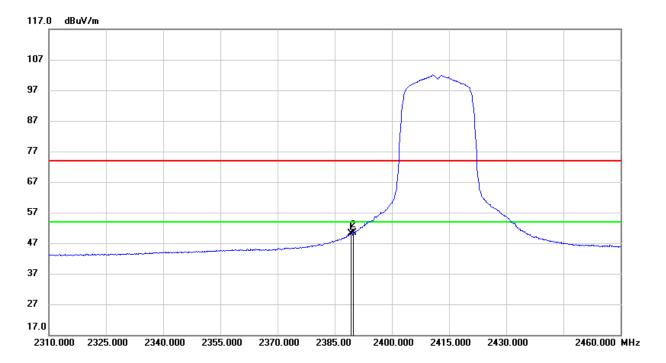
### **PEAK**



No.	Frequency	Reading	Correct	Result	Limit	Margin	Remark
	(MHz)	(dBuV)	(dB/m)	(dBuV/m)	(dBuV/m)	(dB)	
1	2389.350	37.44	32.66	70.10	74.00	-3.90	peak
2	2390.000	35.44	32.66	68.10	74.00	-5.90	peak

- 2. Peak: Peak detector.
- 3. Only the worst data was recorded, if it complies with the limit, the other emissions deemed to comply with the limit.



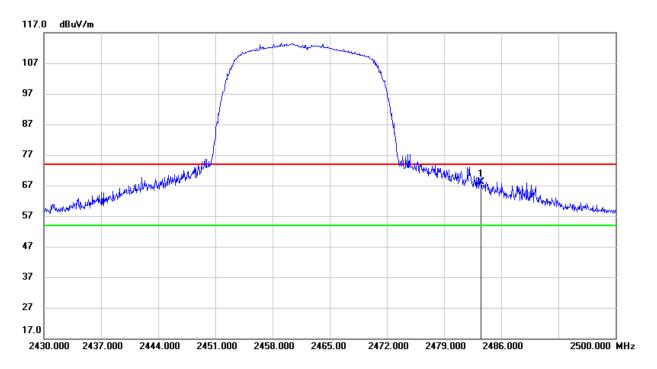


No.	Frequency	Reading	Correct	Result	Limit	Margin	Remark
	(MHz)	(dBuV)	(dB/m)	(dBuV/m)	(dBuV/m)	(dB)	
1	2389.350	17.47	32.66	50.13	54.00	-3.87	AVG
2	2390.000	17.76	32.66	50.42	54.00	-3.58	AVG

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



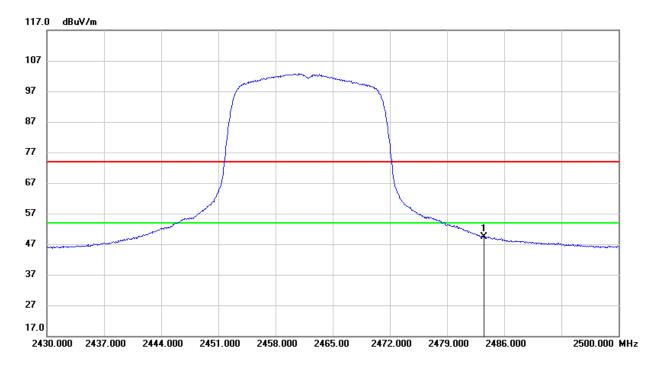
### **PEAK**



No.	Frequency	Reading	Correct	Result	Limit	Margin	Remark
	(MHz)	(dBuV)	(dB/m)	(dBuV/m)	(dBuV/m)	(dB)	
1	2483.500	34.92	33.10	68.02	74.00	-5.98	peak

- 2. Peak: Peak detector.
- 3. Only the worst data was recorded, if it complies with the limit, the other emissions deemed to comply with the limit.





No.	Frequency	Reading	Correct	Result	Limit	Margin	Remark
	(MHz)	(dBuV)	(dB/m)	(dBuV/m)	(dBuV/m)	(dB)	
1	2483.500	16.21	33.10	49.31	54.00	-4.69	AVG

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

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

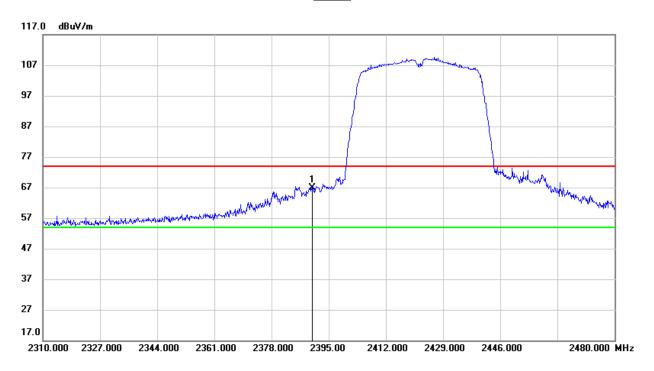
Note: Horizontal and Vertical have been tested, only the worst data was recorded in the report. Note: All modes have been tested, only the worst data was recorded in the report.



## 8.1.4. 802.11n HT40 SISO MODE PCB ANTENNA

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

### **PEAK**

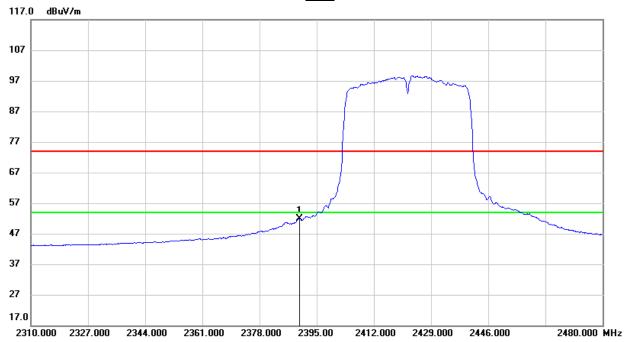


No.	Frequency	Reading	Correct	Result	Limit	Margin	Remark
	(MHz)	(dBuV)	(dB/m)	(dBuV/m)	(dBuV/m)	(dB)	
1	2390.000	34.12	32.66	66.78	74.00	-7.22	peak

- 2. Peak: Peak detector.
- 3. Only the worst data was recorded, if it complies with the limit, the other emissions deemed to comply with the limit.





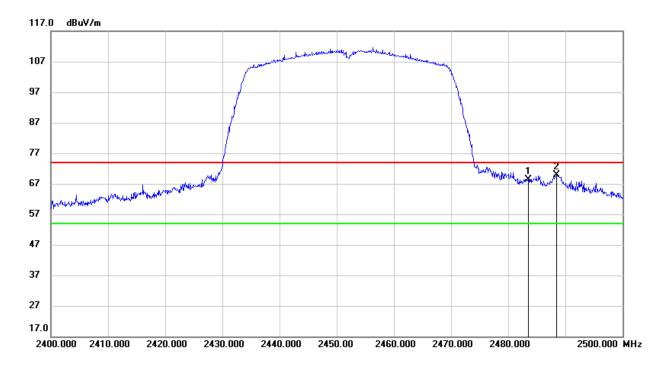


No.	Frequency	Reading	Correct	Result	Limit	Margin	Remark
	(MHz)	(dBuV)	(dB/m)	(dBuV/m)	(dBuV/m)	(dB)	
1	2390.000	19.20	32.66	51.86	54.00	-2.14	AVG

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



# **PEAK**

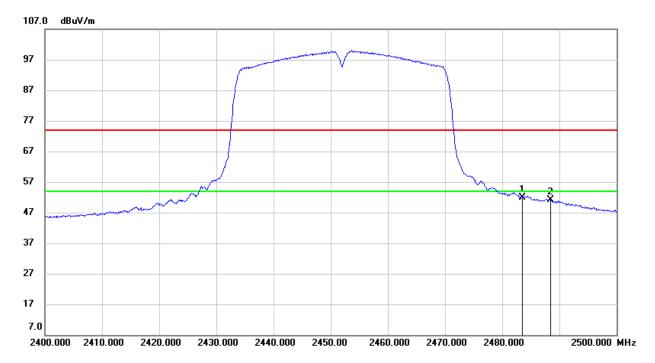


No.	Frequency	Reading	Correct	Result	Limit	Margin	Remark
	(MHz)	(dBuV)	(dB/m)	(dBuV/m)	(dBuV/m)	(dB)	
1	2483.500	35.38	33.10	68.48	74.00	-5.52	peak
2	2488.400	36.77	33.11	69.88	74.00	-4.12	peak

- 2. Peak: Peak detector.
- 3. Only the worst data was recorded, if it complies with the limit, the other emissions deemed to comply with the limit.



# <u>AVG</u>



No.	Frequency	Reading	Correct	Result	Limit	Margin	Remark
	(MHz)	(dBuV)	(dB/m)	(dBuV/m)	(dBuV/m)	(dB)	
1	2483.500	18.88	33.10	51.98	54.00	-2.02	AVG
2	2488.400	17.95	33.11	51.06	54.00	-2.94	AVG

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

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

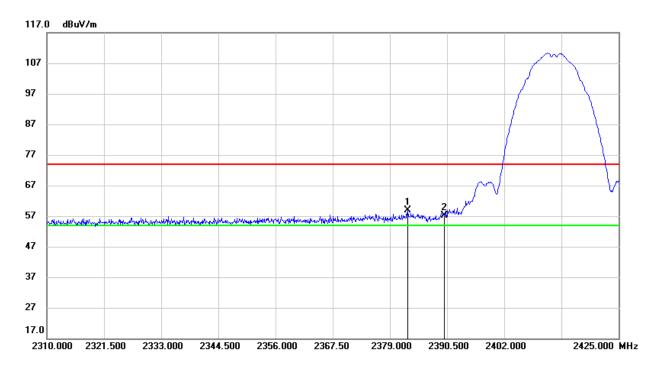
Note: Horizontal and Vertical have been tested, only the worst data was recorded in the report. Note: All modes have been tested, only the worst data was recorded in the report.



# 8.1.5. 802.11b SISO MODE FPC ANTENNA

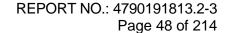
### **RESTRICTED BANDEDGE (LOW CHANNEL, VERTICAL)**

## **PEAK**



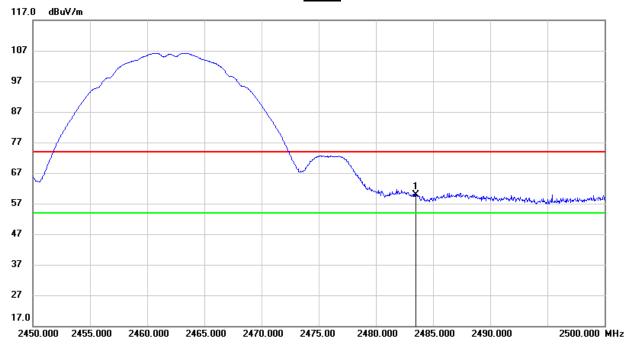
No.	Frequency	Reading	Correct	Result	Limit	Margin	Remark
	(MHz)	(dBuV)	(dB/m)	(dBuV/m)	(dBuV/m)	(dB)	
1	2382.565	26.17	32.60	58.77	74.00	-15.23	peak
2	2390.000	24.59	32.66	57.25	74.00	-16.75	peak

- 2. Peak: Peak detector.
- 3. Only the worst data was recorded, if it complies with the limit, the other emissions deemed to comply with the limit.





## <u>PEAK</u>

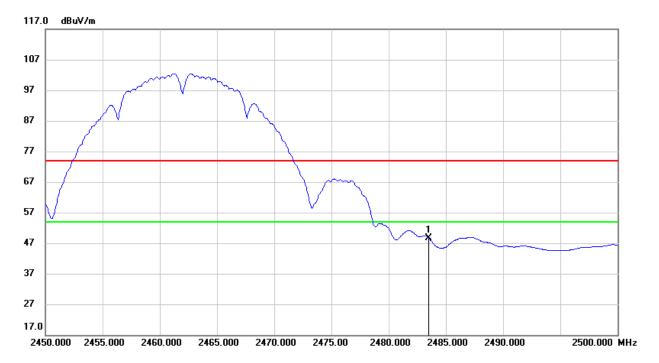


No.	Frequency	Reading	Correct	Result	Limit	Margin	Remark
	(MHz)	(dBuV)	(dB/m)	(dBuV/m)	(dBuV/m)	(dB)	
1	2483.500	26.66	33.10	59.76	74.00	-14.24	peak

- 2. Peak: Peak detector.
- 3. Only the worst data was recorded, if it complies with the limit, the other emissions deemed to comply with the limit.



# <u>AVG</u>



No.	Frequency	Reading	Correct	Result	Limit	Margin	Remark
	(MHz)	(dBuV)	(dB/m)	(dBuV/m)	(dBuV/m)	(dB)	
1	2483.500	15.61	33.10	48.71	54.00	-5.29	AVG

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

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

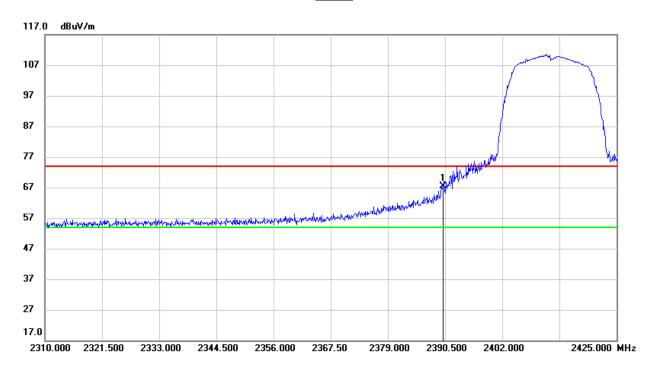
Note: Horizontal and Vertical have been tested, only the worst data was recorded in the report. Note: All modes have been tested, only the worst data was recorded in the report.



# 8.1.6. 802.11g SISO MODE FPC ANTENNA

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

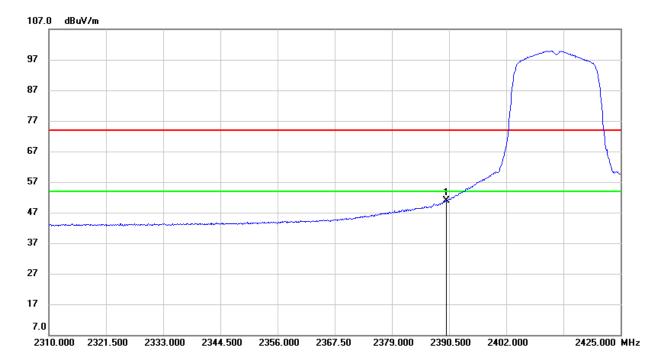
### **PEAK**



No.	Frequency	Reading	Correct	Result	Limit	Margin	Remark
	(MHz)	(dBuV)	(dB/m)	(dBuV/m)	(dBuV/m)	(dB)	
1	2390.000	34.82	32.66	67.48	74.00	-6.52	peak

- 2. Peak: Peak detector.
- 3. Only the worst data was recorded, if it complies with the limit, the other emissions deemed to comply with the limit.



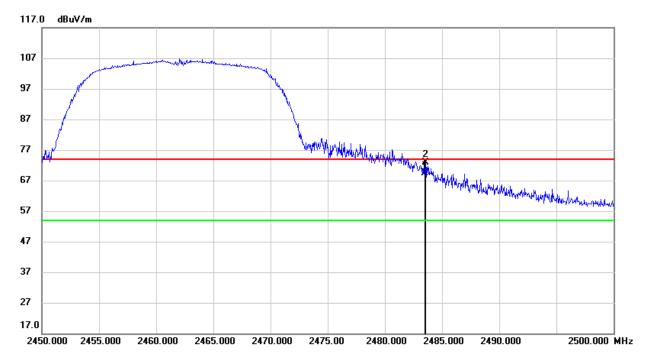


No.	Frequency	Reading	Correct	Result	Limit	Margin	Remark
	(MHz)	(dBuV)	(dB/m)	(dBuV/m)	(dBuV/m)	(dB)	
1	2390.000	18.23	32.66	50.89	54.00	-3.11	AVG

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



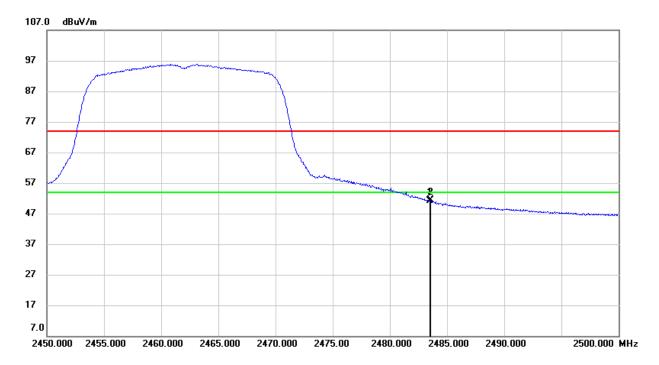
# **PEAK**



No.	Frequency	Reading	Correct	Result	Limit	Margin	Remark
	(MHz)	(dBuV)	(dB/m)	(dBuV/m)	(dBuV/m)	(dB)	
1	2483.500	36.28	33.10	69.38	74.00	-4.62	peak
2	2483.550	39.79	33.10	72.89	74.00	-1.11	peak

- 2. Peak: Peak detector.
- 3. Only the worst data was recorded, if it complies with the limit, the other emissions deemed to comply with the limit.





No.	Frequency	Reading	Correct	Result	Limit	Margin	Remark
	(MHz)	(dBuV)	(dB/m)	(dBuV/m)	(dBuV/m)	(dB)	
1	2483.500	18.13	33.10	51.23	54.00	-2.77	AVG
2	2483.550	18.17	33.10	51.27	54.00	-2.73	AVG

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

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

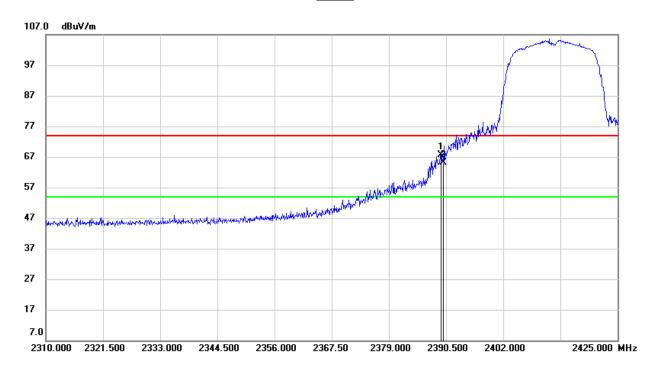
Note: Horizontal and Vertical have been tested, only the worst data was recorded in the report. Note: Both antennas have been tested, only the worst data was recorded in the report.



# 8.1.7. 802.11n HT20 SISO MODE FPC ANTENNA

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

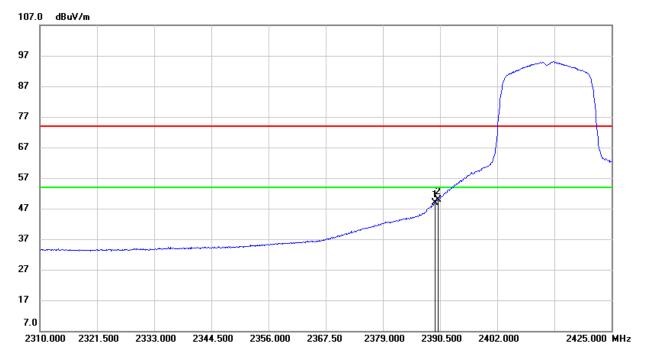
### **PEAK**



No.	Frequency	Reading	Correct	Result	Limit	Margin	Remark
	(MHz)	(dBuV)	(dB/m)	(dBuV/m)	(dBuV/m)	(dB)	
1	2389.465	35.09	32.66	67.75	74.00	-6.25	peak
2	2390.000	32.57	32.66	65.23	74.00	-8.77	peak

- 2. Peak: Peak detector.
- 3. Only the worst data was recorded, if it complies with the limit, the other emissions deemed to comply with the limit.



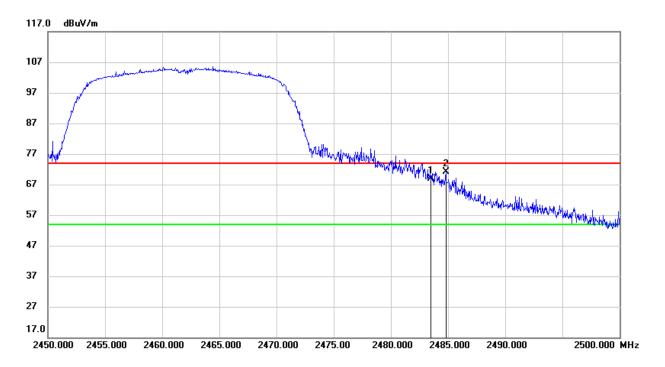


No.	Frequency	Reading	Correct	Result	Limit	Margin	Remark
	(MHz)	(dBuV)	(dB/m)	(dBuV/m)	(dBuV/m)	(dB)	
1	2389.465	16.24	32.66	48.90	54.00	-5.10	AVG
2	2390.000	17.24	32.66	49.90	54.00	-4.10	AVG

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



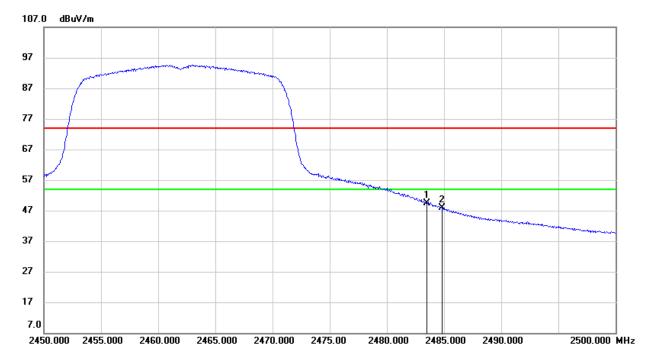
#### **PEAK**



No.	Frequency	Reading	Correct	Result	Limit	Margin	Remark
	(MHz)	(dBuV)	(dB/m)	(dBuV/m)	(dBuV/m)	(dB)	
1	2483.500	35.84	33.10	68.94	74.00	-5.06	peak
2	2484.800	38.13	33.10	71.23	74.00	-2.77	peak

- 2. Peak: Peak detector.
- 3. Only the worst data was recorded, if it complies with the limit, the other emissions deemed to comply with the limit.



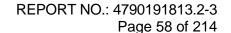


No.	Frequency	Reading	Correct	Result	Limit	Margin	Remark
	(MHz)	(dBuV)	(dB/m)	(dBuV/m)	(dBuV/m)	(dB)	
1	2483.500	16.21	33.10	49.31	54.00	-4.69	AVG
2	2484.800	14.70	33.10	47.80	54.00	-6.20	AVG

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

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

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

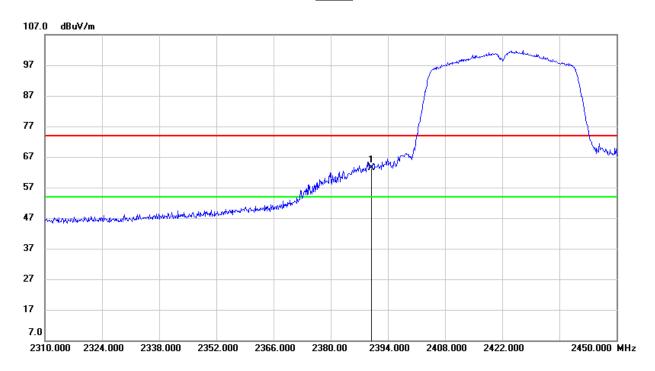




## 8.1.8. 802.11n HT40 SISO MODE FPC ANTENNA

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

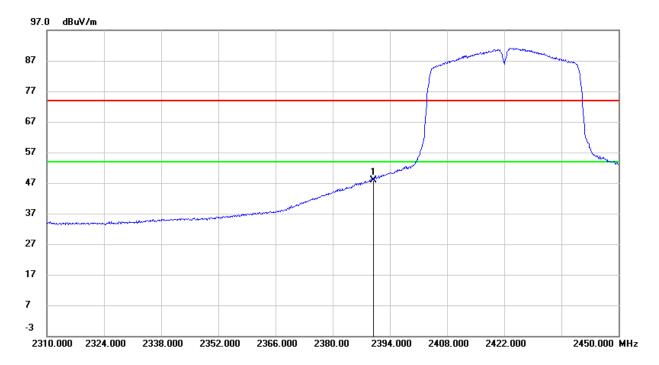
### **PEAK**



No.	Frequency	Reading	Correct	Result	Limit	Margin	Remark
	(MHz)	(dBuV)	(dB/m)	(dBuV/m)	(dBuV/m)	(dB)	
1	2390.000	30.80	32.66	63.46	74.00	-10.54	peak

- 2. Peak: Peak detector.
- 3. Only the worst data was recorded, if it complies with the limit, the other emissions deemed to comply with the limit.





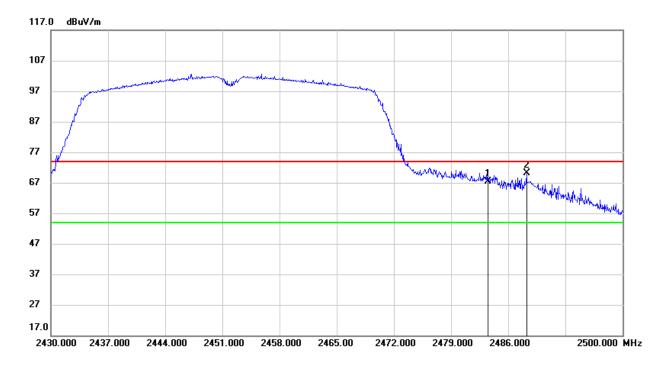
No.	Frequency	Reading	Correct	Result	Limit	Margin	Remark
	(MHz)	(dBuV)	(dB/m)	(dBuV/m)	(dBuV/m)	(dB)	
1	2390.000	15.32	32.66	47.98	54.00	-6.02	AVG

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



RESTRICTED BANDEDGE (HIGH CHANNEL, HORIZONTAL)

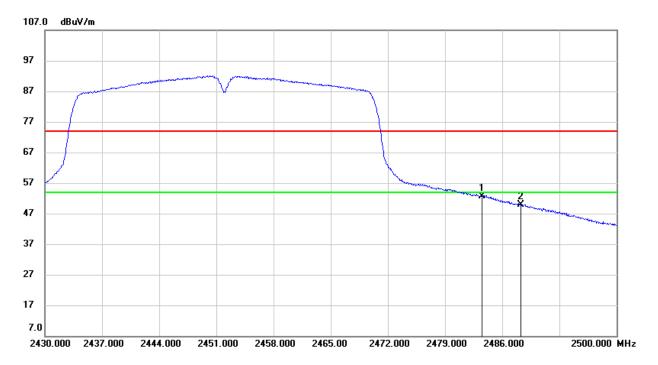
# **PEAK**



No.	Frequency	Reading	Correct	Result	Limit	Margin	Remark
	(MHz)	(dBuV)	(dB/m)	(dBuV/m)	(dBuV/m)	(dB)	
1	2483.500	34.25	33.10	67.35	74.00	-6.65	peak
2	2488.240	37.10	33.11	70.21	74.00	-3.79	peak

- 2. Peak: Peak detector.
- 3. Only the worst data was recorded, if it complies with the limit, the other emissions deemed to comply with the limit.





No.	Frequency	Reading	Correct	Result	Limit	Margin	Remark
	(MHz)	(dBuV)	(dB/m)	(dBuV/m)	(dBuV/m)	(dB)	
1	2483.500	19.57	33.10	52.67	54.00	-1.33	AVG
2	2488.240	16.80	33.11	49.91	54.00	-4.09	AVG

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

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

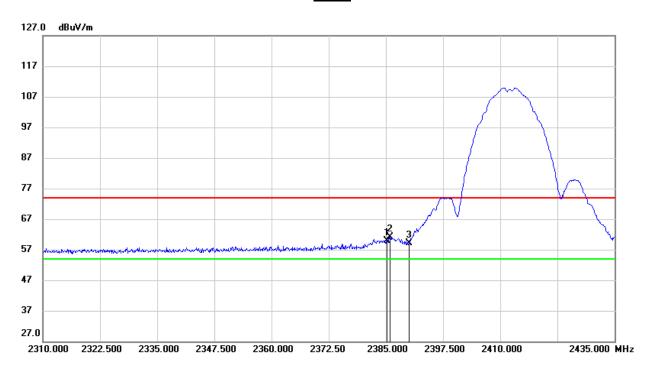
Note: Horizontal and Vertical have been tested, only the worst data was recorded in the report. Note: All modes have been tested, only the worst data was recorded in the report.



### 8.1.9. 802.11b SISO MODE PIFA ANTENNA

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

### **PEAK**

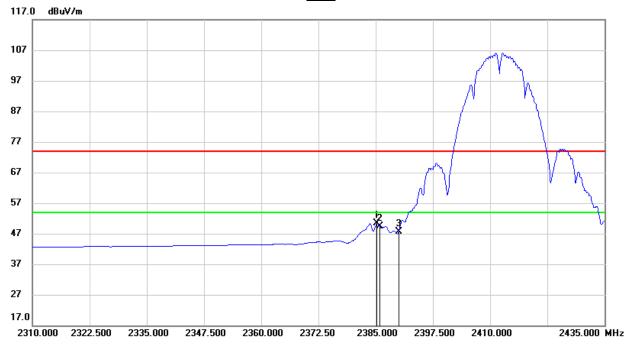


No.	Frequency	Reading	Correct	Result	Limit	Margin	Remark
	(MHz)	(dBuV)	(dB/m)	(dBuV/m)	(dBuV/m)	(dB)	
1	2385.250	26.58	33.31	59.89	74.00	-14.11	peak
2	2385.875	27.71	33.32	61.03	74.00	-12.97	peak
3	2390.000	25.67	33.35	59.02	74.00	-14.98	peak

- 2. Peak: Peak detector.
- 3. Only the worst data was recorded, if it complies with the limit, the other emissions deemed to comply with the limit.





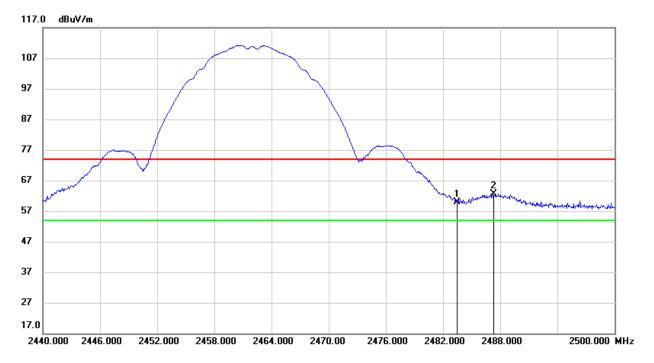


No.	Frequency	Reading	Correct	Result	Limit	Margin	Remark
	(MHz)	(dBuV)	(dB/m)	(dBuV/m)	(dBuV/m)	(dB)	
1	2385.250	17.14	33.31	50.45	54.00	-3.55	AVG
2	2385.875	16.15	33.32	49.47	54.00	-4.53	AVG
3	2390.000	14.16	33.35	47.51	54.00	-6.49	AVG

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



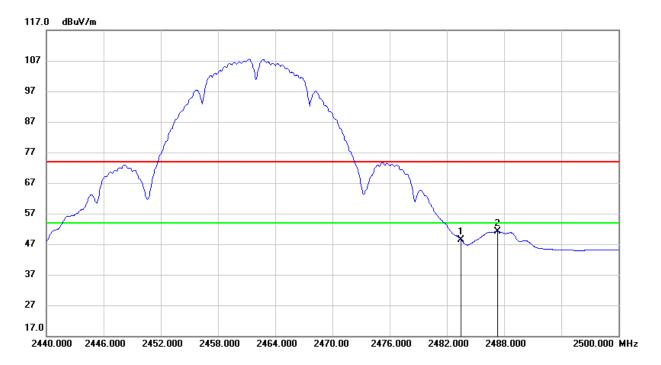
### **PEAK**



No.	Frequency	Reading	Correct	Result	Limit	Margin	Remark
	(MHz)	(dBuV)	(dB/m)	(dBuV/m)	(dBuV/m)	(dB)	
1	2483.500	26.28	33.71	59.99	74.00	-14.01	peak
2	2487.280	28.91	33.72	62.63	74.00	-11.37	peak

- 2. Peak: Peak detector.
- 3. Only the worst data was recorded, if it complies with the limit, the other emissions deemed to comply with the limit.





No.	Frequency	Reading	Correct	Result	Limit	Margin	Remark
	(MHz)	(dBuV)	(dB/m)	(dBuV/m)	(dBuV/m)	(dB)	
1	2483.500	14.69	33.71	48.40	54.00	-5.60	AVG
2	2487.280	17.46	33.72	51.18	54.00	-2.82	AVG

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

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

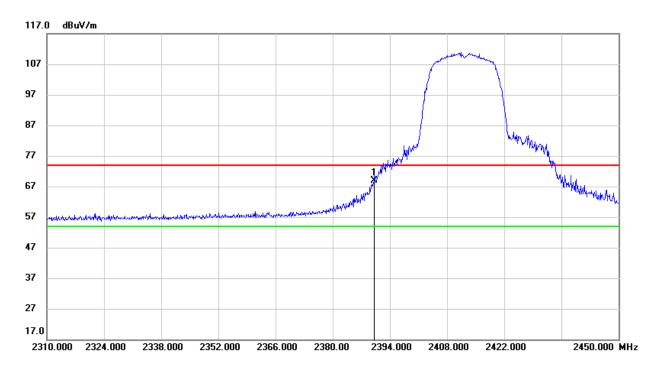
Note: Horizontal and Vertical have been tested, only the worst data was recorded in the report. Note: All modes have been tested, only the worst data was recorded in the report.



# 8.1.10. 802.11g SISO MODE PIFA ANTENNA

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

### **PEAK**

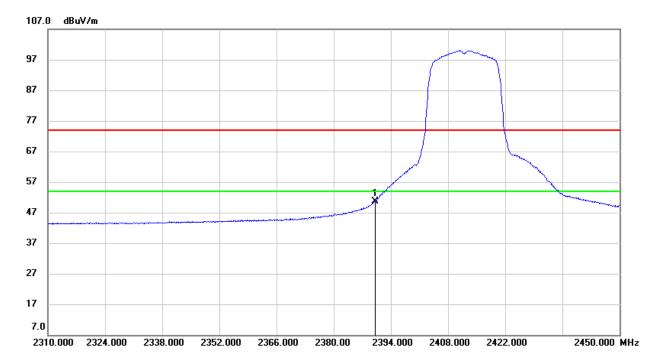


No.	Frequency	Reading	Correct	Result	Limit	Margin	Remark
	(MHz)	(dBuV)	(dB/m)	(dBuV/m)	(dBuV/m)	(dB)	
1	2390.000	35.63	33.35	68.98	74.00	-5.02	peak

- 2. Peak: Peak detector.
- 3. Only the worst data was recorded, if it complies with the limit, the other emissions deemed to comply with the limit.



# <u>AVG</u>

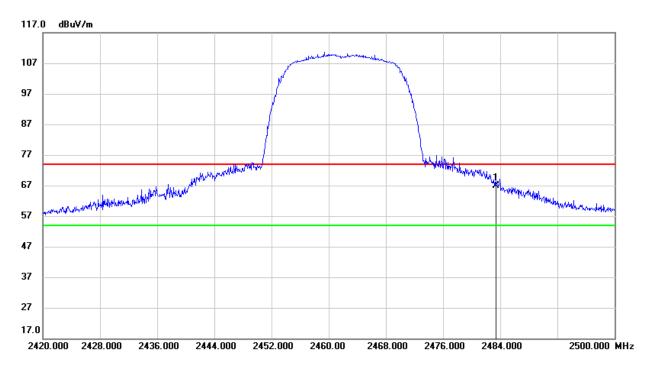


No.	Frequency	Reading	Correct	Result	Limit	Margin	Remark
	(MHz)	(dBuV)	(dB/m)	(dBuV/m)	(dBuV/m)	(dB)	
1	2390.000	17.36	33.35	50.71	54.00	-3.29	AVG

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



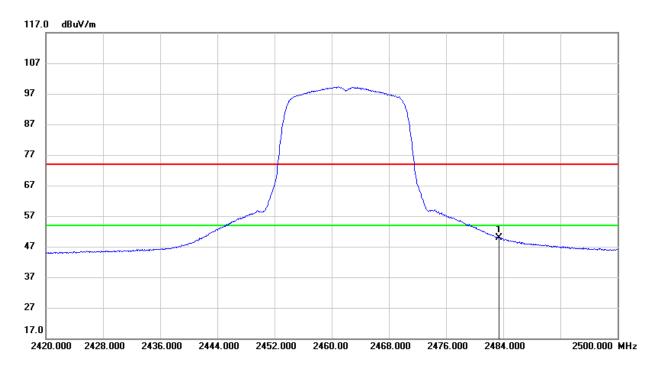
### **PEAK**



No.	Frequency	Reading	Correct	Result	Limit	Margin	Remark
	(MHz)	(dBuV)	(dB/m)	(dBuV/m)	(dBuV/m)	(dB)	
1	2483.500	33.23	33.71	66.94	74.00	-7.06	peak

- 2. Peak: Peak detector.
- 3. Only the worst data was recorded, if it complies with the limit, the other emissions deemed to comply with the limit.



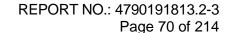


No.	Frequency	Reading	Correct	Result	Limit	Margin	Remark
	(MHz)	(dBuV)	(dB/m)	(dBuV/m)	(dBuV/m)	(dB)	
1	2483.500	16.09	33.71	49.80	54.00	-4.20	AVG

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

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

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

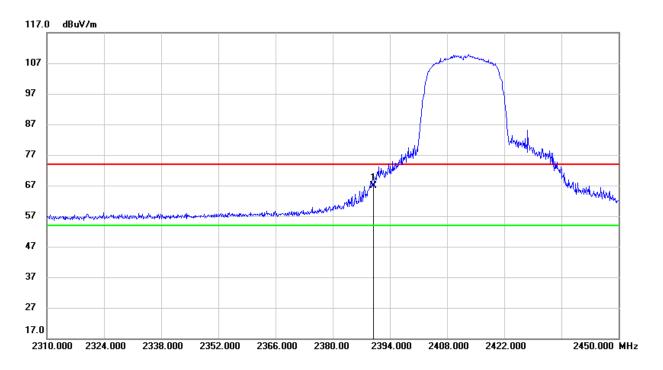




### 8.1.11. 802.11n HT20 SISO MODE PIFA ANTENNA

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

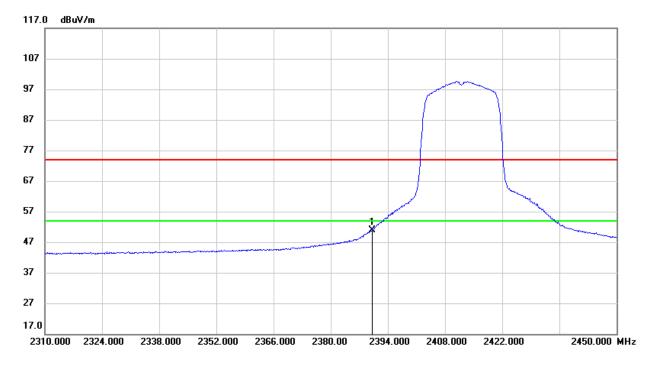
### **PEAK**



No.	Frequency	Reading	Correct	Result	Limit	Margin	Remark
	(MHz)	(dBuV)	(dB/m)	(dBuV/m)	(dBuV/m)	(dB)	
1	2390.000	33.54	33.35	66.89	74.00	-7.11	peak

- 2. Peak: Peak detector.
- 3. Only the worst data was recorded, if it complies with the limit, the other emissions deemed to comply with the limit.



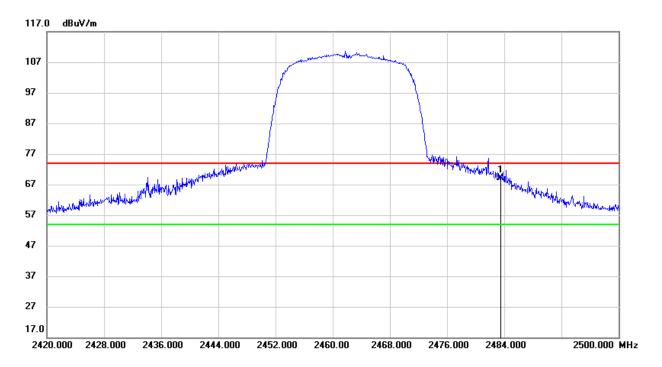


No.	Frequency	Reading	Correct	Result	Limit	Margin	Remark
	(MHz)	(dBuV)	(dB/m)	(dBuV/m)	(dBuV/m)	(dB)	
1	2390.000	17.62	33.35	50.97	54.00	-3.03	AVG

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



### **PEAK**

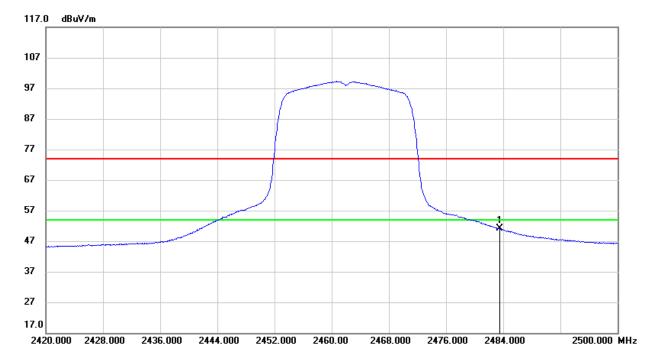


No.	Frequency	Reading	Correct	Result	Limit	Margin	Remark
	(MHz)	(dBuV)	(dB/m)	(dBuV/m)	(dBuV/m)	(dB)	
1	2483.500	35.43	33.71	69.14	74.00	-4.86	peak

- 2. Peak: Peak detector.
- 3. Only the worst data was recorded, if it complies with the limit, the other emissions deemed to comply with the limit.



## <u>AVG</u>



No.	Frequency	Reading	Correct	Result	Limit	Margin	Remark
	(MHz)	(dBuV)	(dB/m)	(dBuV/m)	(dBuV/m)	(dB)	
1	2483.500	17.38	33.71	51.09	54.00	-2.91	AVG

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

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

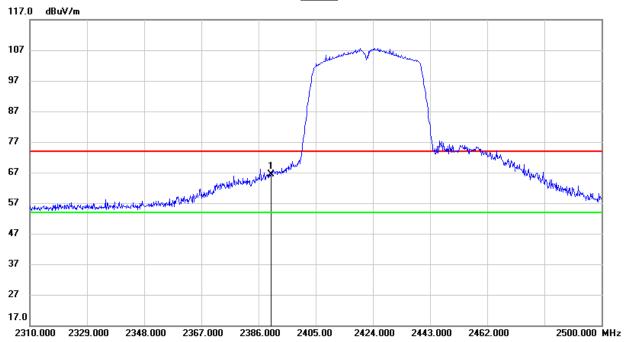
Note: Horizontal and Vertical have been tested, only the worst data was recorded in the report. Note: All modes have been tested, only the worst data was recorded in the report.



## 8.1.12. 802.11n HT40 SISO MODE PIFA ANTENNA

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

## **PEAK**

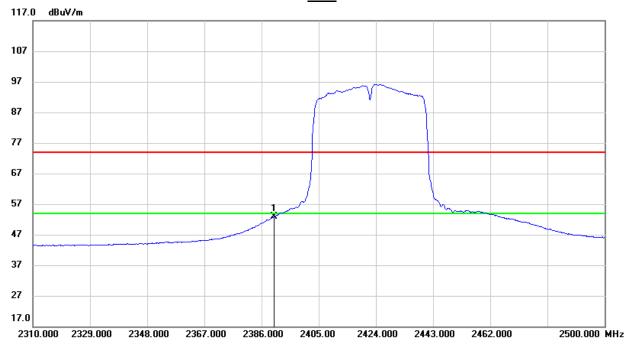


No.	Frequency	Reading	Correct	Result	Limit	Margin	Remark
	(MHz)	(dBuV)	(dB/m)	(dBuV/m)	(dBuV/m)	(dB)	
1	2390.000	33.09	33.35	66.44	74.00	-7.56	peak

- 2. Peak: Peak detector.
- 3. Only the worst data was recorded, if it complies with the limit, the other emissions deemed to comply with the limit.







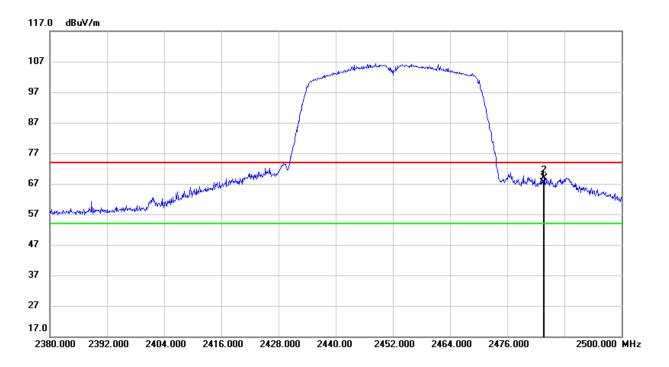
No.	Frequency	Reading	Correct	Result	Limit	Margin	Remark
	(MHz)	(dBuV)	(dB/m)	(dBuV/m)	(dBuV/m)	(dB)	
1	2390.000	19.51	33.35	52.86	54.00	-1.14	AVG

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



**RESTRICTED BANDEDGE (HIGH CHANNEL, VERTICAL)** 

## **PEAK**

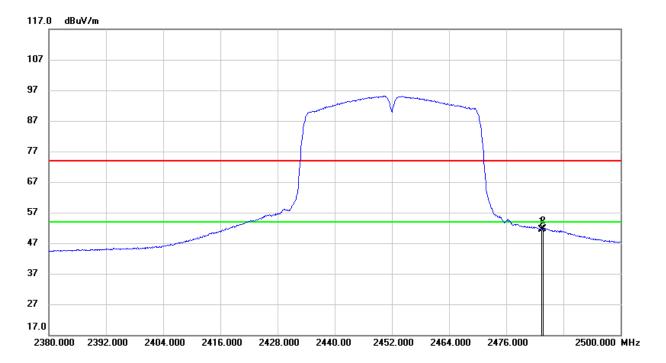


No.	Frequency	Reading	Correct	Result	Limit	Margin	Remark
	(MHz)	(dBuV)	(dB/m)	(dBuV/m)	(dBuV/m)	(dB)	
1	2483.500	33.72	33.71	67.43	74.00	-6.57	peak
2	2483.800	35.29	33.71	69.00	74.00	-5.00	peak

- 2. Peak: Peak detector.
- 3. Only the worst data was recorded, if it complies with the limit, the other emissions deemed to comply with the limit.



#### **AVG**



No.	Frequency	Reading	Correct	Result	Limit	Margin	Remark
	(MHz)	(dBuV)	(dB/m)	(dBuV/m)	(dBuV/m)	(dB)	
1	2483.500	17.76	33.71	51.47	54.00	-2.53	AVG
2	2483.800	18.02	33.71	51.73	54.00	-2.27	AVG

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

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

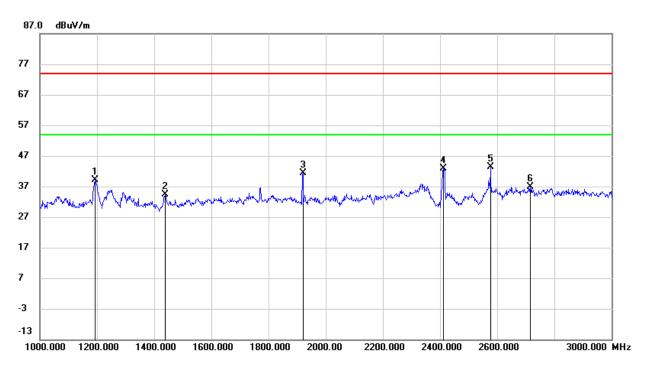
Note: Horizontal and Vertical have been tested, only the worst data was recorded in the report. Note: All modes have been tested, only the worst data was recorded in the report.



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

## 8.2.1. 802.11b SISO MODE PCB ANTENNA

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

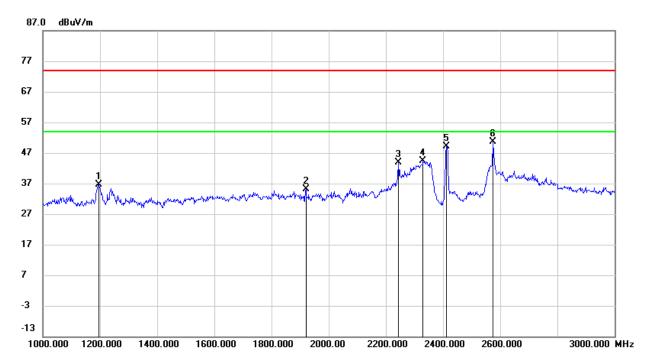


No.	Frequency	Reading	Correct	Result	Limit	Margin	Remark
	(MHz)	(dBuV)	(dB/m)	(dBuV/m)	(dBuV/m)	(dB)	
1	1192.750	53.01	-13.81	39.20	74.00	-34.80	peak
2	1439.000	47.28	-12.92	34.36	74.00	-39.64	peak
3	1920.000	52.44	-11.02	41.42	74.00	-32.58	peak
4	2412.000	51.89	-9.04	42.85	/	/	Fundamental
5	2577.750	52.11	-8.69	43.42	74.00	-30.58	peak
6	2716.250	44.86	-8.09	36.77	74.00	-37.23	peak

- 2. If Peak Result complies with AV limit, AV Result is deemed to comply with AV limit.
- 3. Peak: Peak detector.
- 4. Filter losses were only considered in the spurious frequency bands and the authorized band was not corrected for Band reject filter losses.
  - 5. Proper operation of the transmitter prior to adding the filter to the measurement chain.



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

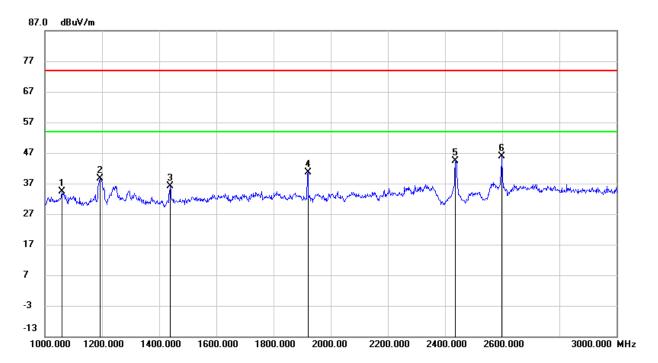


No.	Frequency	Reading	Correct	Result	Limit	Margin	Remark
	(MHz)	(dBuV)	(dB/m)	(dBuV/m)	(dBuV/m)	(dB)	
1	1196.250	50.45	-13.79	36.66	74.00	-37.34	peak
2	1920.000	46.15	-11.02	35.13	74.00	-38.87	peak
3	2245.500	53.61	-9.70	43.91	74.00	-30.09	peak
4	2331.500	53.66	-9.35	44.31	74.00	-29.69	peak
5	2412.000	58.20	-9.04	49.16	/	/	Fundamental
6	2575.750	59.28	-8.69	50.59	74.00	-23.41	peak

- 2. If Peak Result complies with AV limit, AV Result is deemed to comply with AV limit.
- 3. Peak: Peak detector.
- 4. Filter losses were only considered in the spurious frequency bands and the authorized band was not corrected for Band reject filter losses.
  - 5. Proper operation of the transmitter prior to adding the filter to the measurement chain.



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

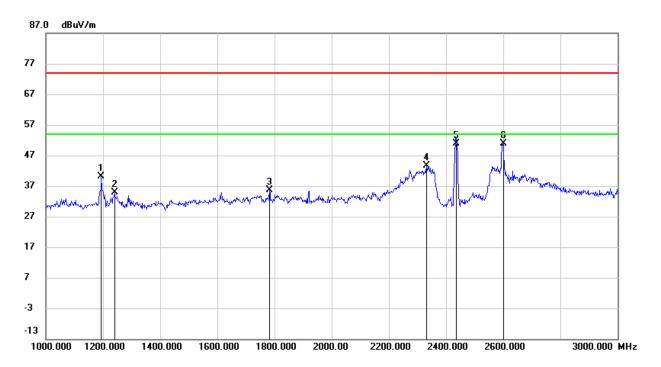


No.	Frequency	Reading	Correct	Result	Limit	Margin	Remark
	(MHz)	(dBuV)	(dB/m)	(dBuV/m)	(dBuV/m)	(dB)	
1	1061.250	49.00	-14.67	34.33	74.00	-39.67	peak
2	1193.000	52.51	-13.81	38.70	74.00	-35.30	peak
3	1439.000	49.05	-12.92	36.13	74.00	-37.87	peak
4	1920.000	51.55	-11.02	40.53	74.00	-33.47	peak
5	2437.000	53.42	-8.98	44.44	/	/	Fundamental
6	2599.000	54.60	-8.64	45.96	74.00	-28.04	peak

- 2. If Peak Result complies with AV limit, AV Result is deemed to comply with AV limit.
- 3. Peak: Peak detector.
- 4. Filter losses were only considered in the spurious frequency bands and the authorized band was not corrected for Band reject filter losses.
  - 5. Proper operation of the transmitter prior to adding the filter to the measurement chain.



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



No.	Frequency	Reading	Correct	Result	Limit	Margin	Remark
	(MHz)	(dBuV)	(dB/m)	(dBuV/m)	(dBuV/m)	(dB)	
1	1195.750	53.98	-13.79	40.19	74.00	-33.81	peak
2	1241.750	48.45	-13.65	34.80	74.00	-39.20	peak
3	1783.750	46.42	-10.86	35.56	74.00	-38.44	peak
4	2333.000	53.08	-9.34	43.74	74.00	-30.26	peak
5	2437.000	59.74	-8.98	50.76	/	/	Fundamental
6	2601.250	59.60	-8.64	50.96	74.00	-23.04	peak

- 2. If Peak Result complies with AV limit, AV Result is deemed to comply with AV limit.
- 3. Peak: Peak detector.
- 4. Filter losses were only considered in the spurious frequency bands and the authorized band was not corrected for Band reject filter losses.
  - 5. Proper operation of the transmitter prior to adding the filter to the measurement chain.



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

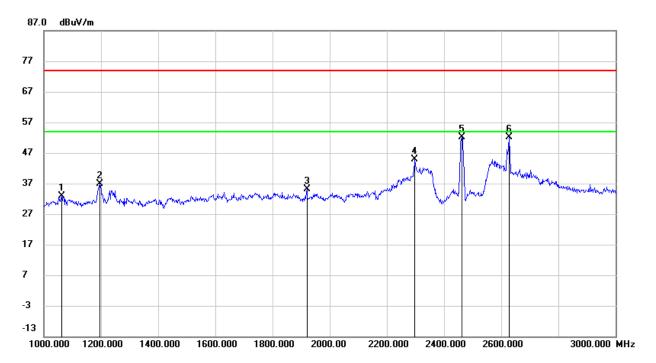


No.	Frequency	Reading	Correct	Result	Limit	Margin	Remark
	(MHz)	(dBuV)	(dB/m)	(dBuV/m)	(dBuV/m)	(dB)	
1	1061.750	49.29	-14.67	34.62	74.00	-39.38	peak
2	1195.000	53.58	-13.81	39.77	74.00	-34.23	peak
3	1247.500	49.86	-13.63	36.23	74.00	-37.77	peak
4	1920.000	52.17	-11.02	41.15	74.00	-32.85	peak
5	2462.000	53.48	-8.92	44.56	/	/	Fundamental
6	2625.000	50.29	-8.53	41.76	74.00	-32.24	peak

- 2. If Peak Result complies with AV limit, AV Result is deemed to comply with AV limit.
- 3. Peak: Peak detector.
- 4. Filter losses were only considered in the spurious frequency bands and the authorized band was not corrected for Band reject filter losses.
  - 5. Proper operation of the transmitter prior to adding the filter to the measurement chain.



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



No.	Frequency	Reading	Correct	Result	Limit	Margin	Remark
	(MHz)	(dBuV)	(dB/m)	(dBuV/m)	(dBuV/m)	(dB)	
1	1062.750	47.56	-14.67	32.89	74.00	-41.11	peak
2	1196.250	50.77	-13.79	36.98	74.00	-37.02	peak
3	1920.000	46.18	-11.02	35.16	74.00	-38.84	peak
4	2299.000	54.48	-9.48	45.00	74.00	-29.00	peak
5	2462.000	61.05	-8.92	52.13	/	/	Fundamental
6	2628.000	60.76	-8.51	52.25	74.00	-21.75	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.

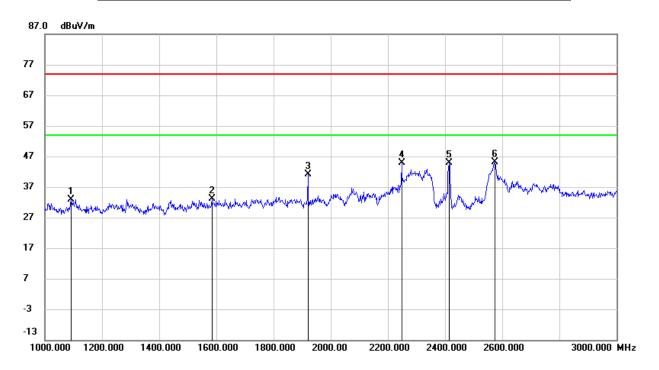
Note: Both the two antennas had been tested, but only the worst data was recorded in the report.

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



#### 8.2.2. 802.11b SISO MODE FPC ANTENNA

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

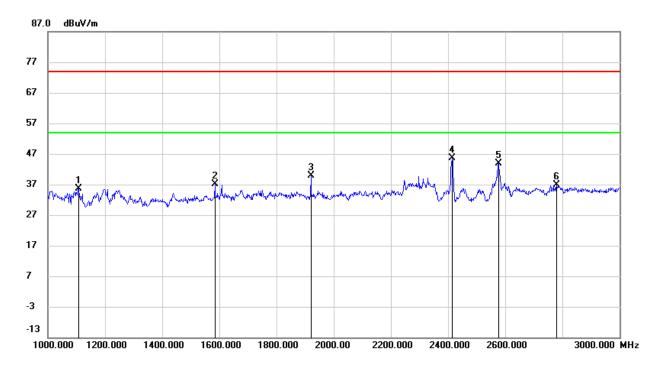


No.	Frequency	Reading	Correct	Result	Limit	Margin	Remark
	(MHz)	(dBuV)	(dB/m)	(dBuV/m)	(dBuV/m)	(dB)	
1	1092.000	47.44	-14.48	32.96	74.00	-41.04	peak
2	1584.000	45.13	-12.08	33.05	74.00	-40.95	peak
3	1920.000	52.10	-11.02	41.08	74.00	-32.92	peak
4	2248.000	54.60	-9.70	44.90	74.00	-29.10	peak
5	2412.000	54.00	-9.03	44.97	/	/	Fundamental
6	2574.000	53.90	-8.69	45.21	74.00	-28.79	peak

- 2. If Peak Result complies with AV limit, AV Result is deemed to comply with AV limit.
- 3. Peak: Peak detector.
- 4. Filter losses were only considered in the spurious frequency bands and the authorized band was not corrected for Band reject filter losses.
  - 5. Proper operation of the transmitter prior to adding the filter to the measurement chain.



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

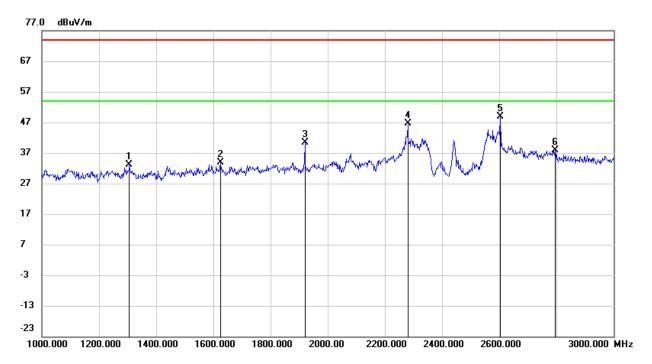


No.	Frequency	Reading	Correct	Result	Limit	Margin	Remark
	(MHz)	(dBuV)	(dB/m)	(dBuV/m)	(dBuV/m)	(dB)	
1	1108.000	50.10	-14.37	35.73	74.00	-38.27	peak
2	1584.000	49.25	-12.08	37.17	74.00	-36.83	peak
3	1920.000	50.89	-11.02	39.87	74.00	-34.13	peak
4	2412.000	54.56	-9.03	45.53	/	/	Fundamental
5	2578.000	52.59	-8.69	43.90	74.00	-30.10	peak
6	2780.000	44.66	-7.79	36.87	74.00	-37.13	peak

- 2. If Peak Result complies with AV limit, AV Result is deemed to comply with AV limit.
- 3. Peak: Peak detector.
- 4. Filter losses were only considered in the spurious frequency bands and the authorized band was not corrected for Band reject filter losses.
  - 5. Proper operation of the transmitter prior to adding the filter to the measurement chain.



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

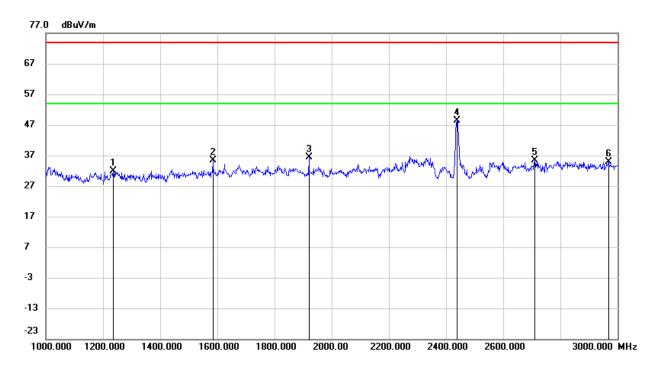


No.	Frequency	Reading	Correct	Result	Limit	Margin	Remark
	(MHz)	(dBuV)	(dB/m)	(dBuV/m)	(dBuV/m)	(dB)	
1	1306.000	46.69	-13.45	33.24	74.00	-40.76	peak
2	1624.000	45.75	-11.85	33.90	74.00	-40.10	peak
3	1920.000	51.50	-11.02	40.48	74.00	-33.52	peak
4	2280.000	56.13	-9.56	46.57	74.00	-27.43	peak
5	2604.000	57.56	-8.62	48.94	74.00	-25.06	peak
6	2796.000	45.57	-7.72	37.85	74.00	-36.15	peak

- 2. If Peak Result complies with AV limit, AV Result is deemed to comply with AV limit.
- 3. Peak: Peak detector.
- 4. Filter losses were only considered in the spurious frequency bands and the authorized band was not corrected for Band reject filter losses.
  - 5. Proper operation of the transmitter prior to adding the filter to the measurement chain.



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

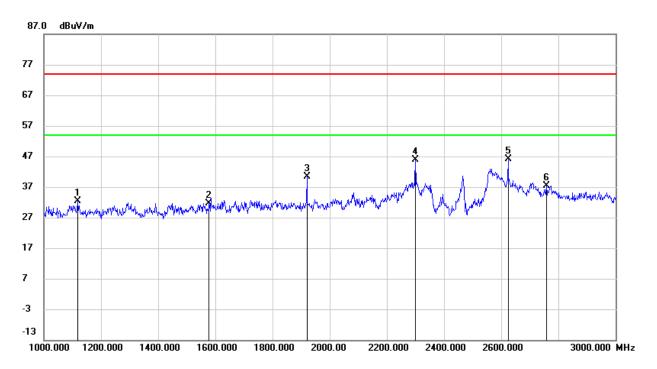


No.	Frequency	Reading	Correct	Result	Limit	Margin	Remark
	(MHz)	(dBuV)	(dB/m)	(dBuV/m)	(dBuV/m)	(dB)	
1	1236.000	45.43	-13.67	31.76	74.00	-42.24	peak
2	1584.000	47.50	-12.08	35.42	74.00	-38.58	peak
3	1920.000	47.29	-11.02	36.27	74.00	-37.73	peak
4	2437.000	57.39	-8.98	48.41	/	/	Fundamental
5	2710.000	43.42	-8.12	35.30	74.00	-38.70	peak
6	2968.000	42.08	-7.19	34.89	74.00	-39.11	peak

- 2. If Peak Result complies with AV limit, AV Result is deemed to comply with AV limit.
- 3. Peak: Peak detector.
- 4. Filter losses were only considered in the spurious frequency bands and the authorized band was not corrected for Band reject filter losses.
  - 5. Proper operation of the transmitter prior to adding the filter to the measurement chain.



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

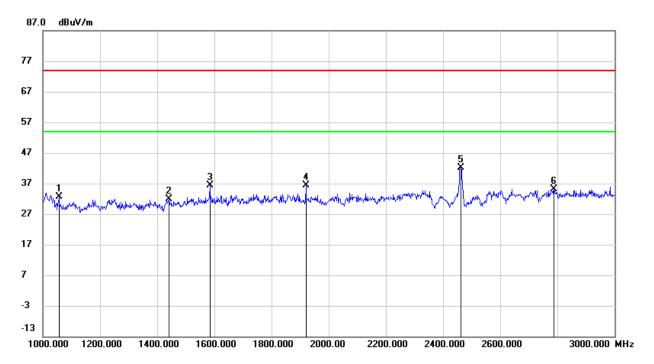


No.	Frequency	Reading	Correct	Result	Limit	Margin	Remark
	(MHz)	(dBuV)	(dB/m)	(dBuV/m)	(dBuV/m)	(dB)	
1	1118.000	46.72	-14.30	32.42	74.00	-41.58	peak
2	1578.000	43.81	-12.11	31.70	74.00	-42.30	peak
3	1920.000	51.51	-11.02	40.49	74.00	-33.51	peak
4	2300.000	55.35	-9.48	45.87	74.00	-28.13	peak
5	2624.000	54.74	-8.53	46.21	74.00	-27.79	peak
6	2758.000	45.39	-7.89	37.50	74.00	-36.50	peak

- 2. If Peak Result complies with AV limit, AV Result is deemed to comply with AV limit.
- 3. Peak: Peak detector.
- 4. Filter losses were only considered in the spurious frequency bands and the authorized band was not corrected for Band reject filter losses.
  - 5. Proper operation of the transmitter prior to adding the filter to the measurement chain.



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



No.	Frequency	Reading	Correct	Result	Limit	Margin	Remark
	(MHz)	(dBuV)	(dB/m)	(dBuV/m)	(dBuV/m)	(dB)	
1	1056.000	47.42	-14.71	32.71	74.00	-41.29	peak
2	1442.000	44.72	-12.90	31.82	74.00	-42.18	peak
3	1584.000	48.36	-12.08	36.28	74.00	-37.72	peak
4	1920.000	47.36	-11.02	36.34	74.00	-37.66	peak
5	2462.000	51.12	-8.92	42.20	/	/	Fundamental
6	2788.000	42.86	-7.74	35.12	74.00	-38.88	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.

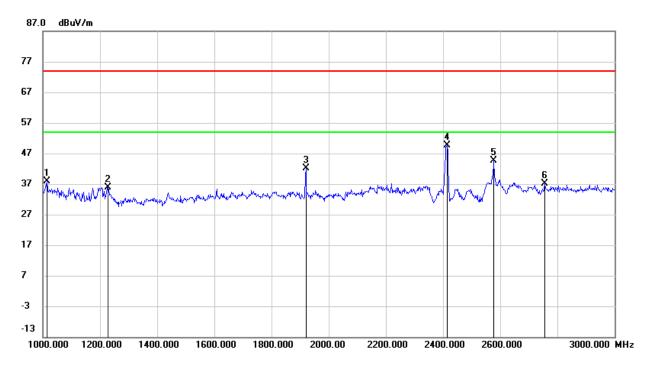
Note: Both the two antennas had been tested, but only the worst data was recorded in the report.

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



#### 8.2.3. 802.11b SISO MODE PIFA ANTENNA

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

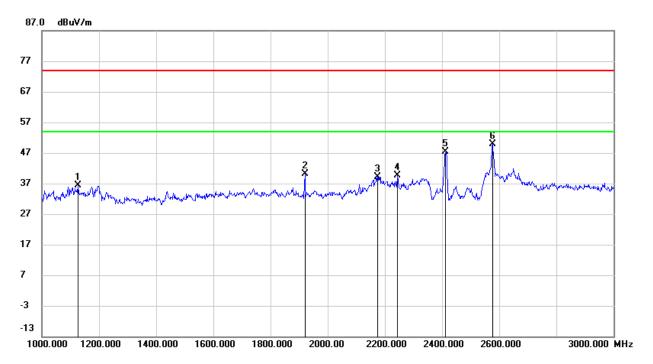


No.	Frequency	Reading	Correct	Result	Limit	Margin	Remark
	(MHz)	(dBuV)	(dB/m)	(dBuV/m)	(dBuV/m)	(dB)	
1	1014.000	52.76	-14.98	37.78	74.00	-36.22	peak
2	1229.000	49.67	-13.68	35.99	74.00	-38.01	peak
3	1920.000	53.05	-11.02	42.03	74.00	-31.97	peak
4	2412.000	58.61	-9.03	49.58	/	/	Fundamental
5	2579.000	53.35	-8.68	44.67	74.00	-29.33	peak
6	2757.000	45.06	-7.90	37.16	74.00	-36.84	peak

- 2. If Peak Result complies with AV limit, AV Result is deemed to comply with AV limit.
- 3. Peak: Peak detector.
- 4. Filter losses were only considered in the spurious frequency bands and the authorized band was not corrected for Band reject filter losses.
  - 5. Proper operation of the transmitter prior to adding the filter to the measurement chain.



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

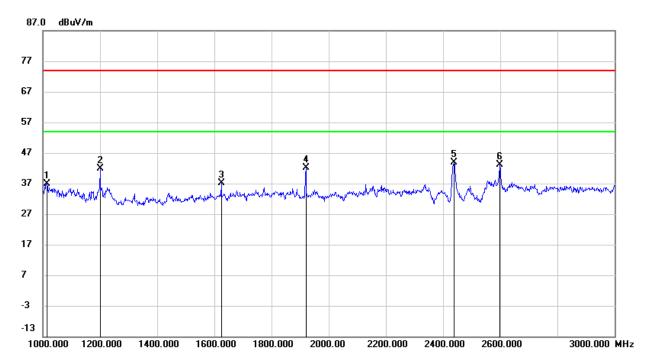


No.	Frequency	Reading	Correct	Result	Limit	Margin	Remark
	(MHz)	(dBuV)	(dB/m)	(dBuV/m)	(dBuV/m)	(dB)	
1	1127.000	50.60	-14.25	36.35	74.00	-37.65	peak
2	1920.000	51.22	-11.02	40.20	74.00	-33.80	peak
3	2175.000	49.19	-10.04	39.15	74.00	-34.85	peak
4	2244.000	49.32	-9.72	39.60	74.00	-34.40	peak
5	2412.000	56.31	-9.04	47.27	/	/	Fundamental
6	2576.000	58.65	-8.69	49.96	74.00	-24.04	peak

- 2. If Peak Result complies with AV limit, AV Result is deemed to comply with AV limit.
- 3. Peak: Peak detector.
- 4. Filter losses were only considered in the spurious frequency bands and the authorized band was not corrected for Band reject filter losses.
  - 5. Proper operation of the transmitter prior to adding the filter to the measurement chain.



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

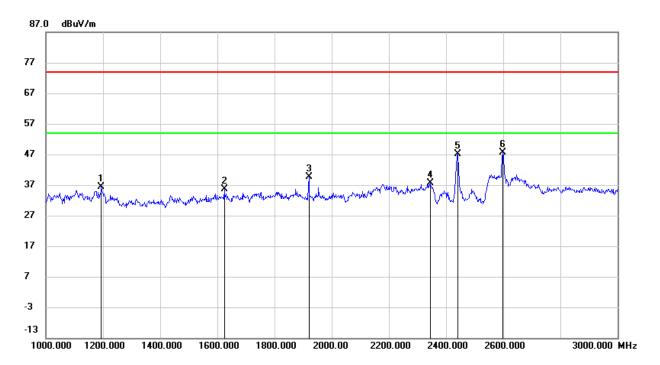


No.	Frequency	Reading	Correct	Result	Limit	Margin	Remark
	(MHz)	(dBuV)	(dB/m)	(dBuV/m)	(dBuV/m)	(dB)	
1	1014.000	51.95	-14.98	36.97	74.00	-37.03	peak
2	1200.000	55.65	-13.77	41.88	74.00	-32.12	peak
3	1625.000	49.06	-11.84	37.22	74.00	-36.78	peak
4	1920.000	53.22	-11.02	42.20	74.00	-31.80	peak
5	2437.000	52.84	-8.98	43.86	/	/	Fundamental
6	2598.000	51.67	-8.65	43.02	74.00	-30.98	peak

- 2. If Peak Result complies with AV limit, AV Result is deemed to comply with AV limit.
- 3. Peak: Peak detector.
- 4. Filter losses were only considered in the spurious frequency bands and the authorized band was not corrected for Band reject filter losses.
  - 5. Proper operation of the transmitter prior to adding the filter to the measurement chain.



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

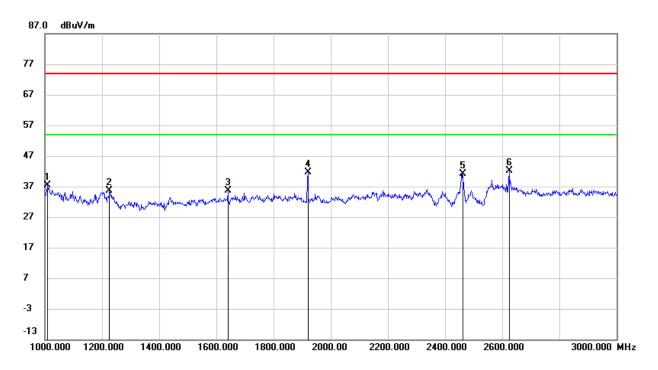


No.	Frequency	Reading	Correct	Result	Limit	Margin	Remark
	(MHz)	(dBuV)	(dB/m)	(dBuV/m)	(dBuV/m)	(dB)	
1	1194.000	50.09	-13.81	36.28	74.00	-37.72	peak
2	1625.000	47.48	-11.84	35.64	74.00	-38.36	peak
3	1920.000	50.62	-11.02	39.60	74.00	-34.40	peak
4	2345.000	46.97	-9.30	37.67	74.00	-36.33	peak
5	2437.000	56.04	-8.97	47.07	/	/	Fundamental
6	2599.000	56.30	-8.64	47.66	74.00	-26.34	peak

- 2. If Peak Result complies with AV limit, AV Result is deemed to comply with AV limit.
- 3. Peak: Peak detector.
- 4. Filter losses were only considered in the spurious frequency bands and the authorized band was not corrected for Band reject filter losses.
  - 5. Proper operation of the transmitter prior to adding the filter to the measurement chain.



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

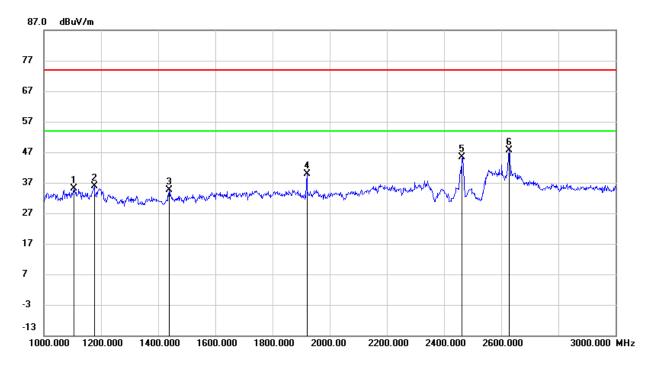


No.	Frequency	Reading	Correct	Result	Limit	Margin	Remark
	(MHz)	(dBuV)	(dB/m)	(dBuV/m)	(dBuV/m)	(dB)	
1	1011.000	52.28	-15.00	37.28	74.00	-36.72	peak
2	1227.000	49.25	-13.69	35.56	74.00	-38.44	peak
3	1641.000	47.35	-11.74	35.61	74.00	-38.39	peak
4	1920.000	52.58	-11.02	41.56	74.00	-32.44	peak
5	2462.000	50.00	-8.92	41.08	/	/	Fundamental
6	2625.000	50.67	-8.53	42.14	74.00	-31.86	peak

- 2. If Peak Result complies with AV limit, AV Result is deemed to comply with AV limit.
- 3. Peak: Peak detector.
- 4. Filter losses were only considered in the spurious frequency bands and the authorized band was not corrected for Band reject filter losses.
  - 5. Proper operation of the transmitter prior to adding the filter to the measurement chain.



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



No.	Frequency	Reading	Correct	Result	Limit	Margin	Remark
	(MHz)	(dBuV)	(dB/m)	(dBuV/m)	(dBuV/m)	(dB)	
1	1107.000	49.61	-14.38	35.23	74.00	-38.77	peak
2	1177.000	49.70	-13.93	35.77	74.00	-38.23	peak
3	1439.000	47.43	-12.92	34.51	74.00	-39.49	peak
4	1920.000	50.87	-11.02	39.85	74.00	-34.15	peak
5	2462.000	54.37	-8.92	45.45	/	/	Fundamental
6	2628.000	56.19	-8.51	47.68	74.00	-26.32	peak

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

- 2. If Peak Result complies with AV limit, AV Result is deemed to comply with AV limit.
- 3. Peak: Peak detector.
- 4. Filter losses were only considered in the spurious frequency bands and the authorized band was not corrected for Band reject filter losses.
  - 5. Proper operation of the transmitter prior to adding the filter to the measurement chain.

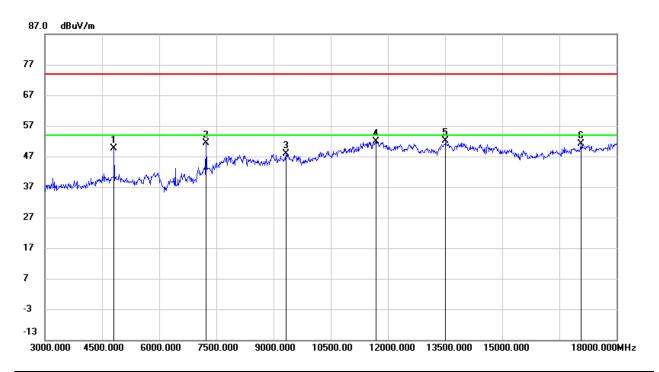
Note: All modes, channels and antenna have been tested, only the worst data was recorded in the report.



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

## 8.3.1. 802.11b SISO MODE PCB ANTENNA

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

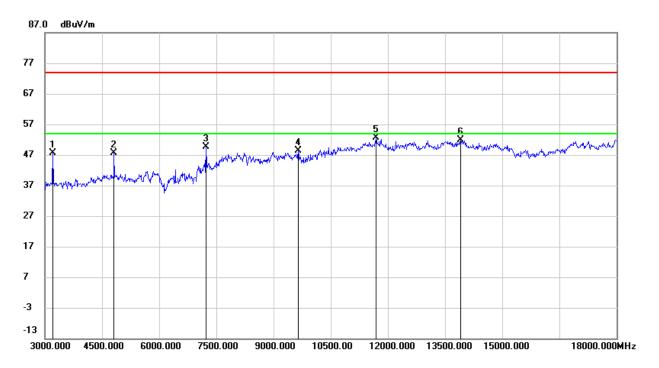


No.	Frequency	Reading	Correct	Result	Limit	Margin	Remark
	(MHz)	(dBuV)	(dB/m)	(dBuV/m)	(dBuV/m)	(dB)	
1	4822.500	49.64	0.11	49.75	74.00	-24.25	peak
2	7233.750	45.01	6.41	51.42	74.00	-22.58	peak
3	9339.375	37.42	10.39	47.81	74.00	-26.19	peak
4	11694.375	34.82	17.07	51.89	74.00	-22.11	peak
5	13520.625	32.86	19.18	52.04	74.00	-21.96	peak
6	17081.250	30.99	20.24	51.23	74.00	-22.77	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 High Pass Filter losses.
  - 5. Proper operation of the transmitter prior to adding the filter to the measurement chain.



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

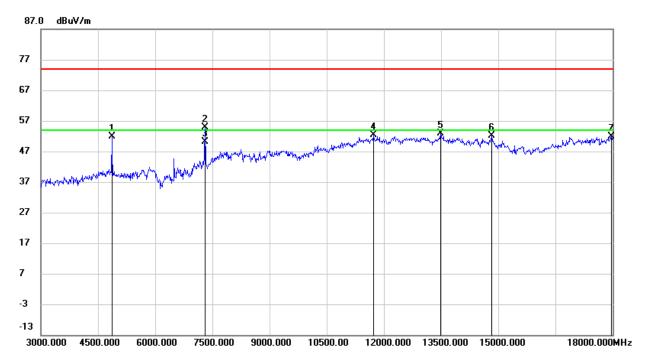


No.	Frequency	Reading	Correct	Result	Limit	Margin	Remark
	(MHz)	(dBuV)	(dB/m)	(dBuV/m)	(dBuV/m)	(dB)	
1	3215.625	52.96	-5.24	47.72	74.00	-26.28	peak
2	4822.500	47.52	0.11	47.63	74.00	-26.37	peak
3	7237.500	43.29	6.41	49.70	74.00	-24.30	peak
4	9650.625	37.52	10.89	48.41	74.00	-25.59	peak
5	11692.500	35.60	17.06	52.66	74.00	-21.34	peak
6	13918.125	32.56	19.30	51.86	74.00	-22.14	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 High Pass Filter losses.
  - 5. Proper operation of the transmitter prior to adding the filter to the measurement chain.



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

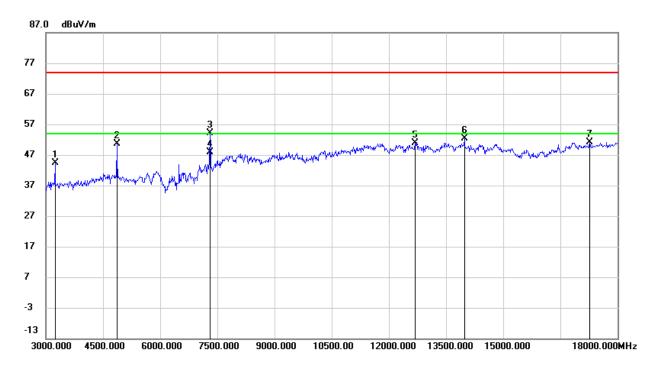


No.	Frequency	Reading	Correct	Result	Limit	Margin	Remark
	(MHz)	(dBuV)	(dB/m)	(dBuV/m)	(dBuV/m)	(dB)	
1	4873.125	51.93	0.02	51.95	74.00	-22.05	peak
2	7312.500	48.53	6.40	54.93	74.00	-19.07	peak
3	7312.500	43.62	6.40	50.02	54.00	-3.98	AVG
4	11735.625	35.24	17.06	52.30	74.00	-21.70	peak
5	13498.125	33.56	19.22	52.78	74.00	-21.22	peak
6	14844.375	34.92	17.15	52.07	74.00	-21.93	peak
7	17973.750	27.21	24.79	52.00	74.00	-22.00	peak

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



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

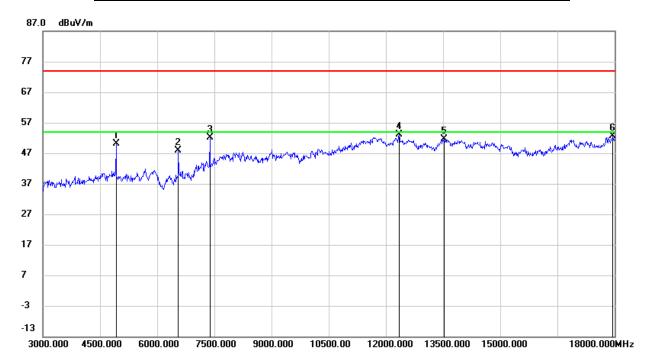


No.	Frequency	Reading	Correct	Result	Limit	Margin	Remark
	(MHz)	(dBuV)	(dB/m)	(dBuV/m)	(dBuV/m)	(dB)	
1	3249.375	49.35	-5.08	44.27	74.00	-29.73	peak
2	4873.125	50.66	0.02	50.68	74.00	-23.32	peak
3	7312.500	47.77	6.40	54.17	74.00	-19.83	peak
4	7312.500	41.46	6.40	47.86	54.00	-6.14	AVG
5	12697.500	33.97	17.00	50.97	74.00	-23.03	peak
6	13980.000	33.00	19.35	52.35	74.00	-21.65	peak
7	17276.250	29.74	21.31	51.05	74.00	-22.95	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 High Pass Filter losses.
  - 5. Proper operation of the transmitter prior to adding the filter to the measurement chain.



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

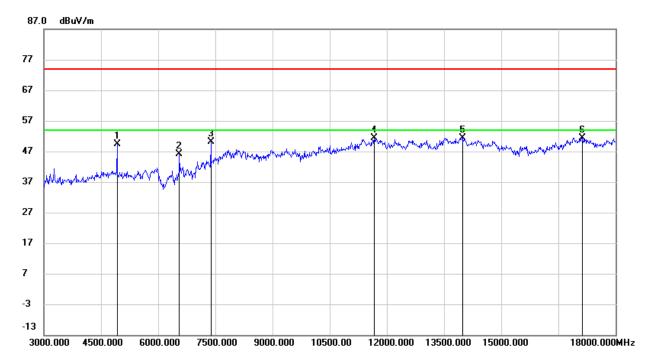


No.	Frequency	Reading	Correct	Result	Limit	Margin	Remark
	(MHz)	(dBuV)	(dB/m)	(dBuV/m)	(dBuV/m)	(dB)	
1	4923.750	49.95	0.15	50.10	74.00	-23.90	peak
2	6564.375	42.54	5.25	47.79	74.00	-26.21	peak
3	7387.500	44.99	7.10	52.09	74.00	-21.91	peak
4	12358.125	35.78	17.43	53.21	74.00	-20.79	peak
5	13537.500	32.38	19.15	51.53	74.00	-22.47	peak
6	17962.500	27.82	24.72	52.54	74.00	-21.46	peak

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



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



No.	Frequency	Reading	Correct	Result	Limit	Margin	Remark
	(MHz)	(dBuV)	(dB/m)	(dBuV/m)	(dBuV/m)	(dB)	
1	4923.750	49.17	0.15	49.32	74.00	-24.68	peak
2	6564.375	40.76	5.25	46.01	74.00	-27.99	peak
3	7383.750	43.09	7.06	50.15	74.00	-23.85	peak
4	11681.250	34.32	16.99	51.31	74.00	-22.69	peak
5	13993.125	31.99	19.36	51.35	74.00	-22.65	peak
6	17137.500	30.94	20.50	51.44	74.00	-22.56	peak

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

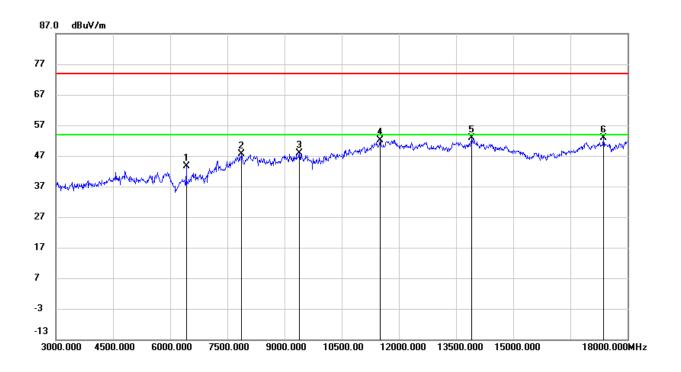
- 2. If Peak Result complies with AV limit, AV Result is deemed to comply with AV limit.
- 3. Peak: Peak detector.
- 4. Filter losses were only considered in the spurious frequency bands and the authorized band was not corrected for High Pass Filter losses.
  - 5. Proper operation of the transmitter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

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



# 8.3.2. 802.11g SISO MODE PCB ANTENNA

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

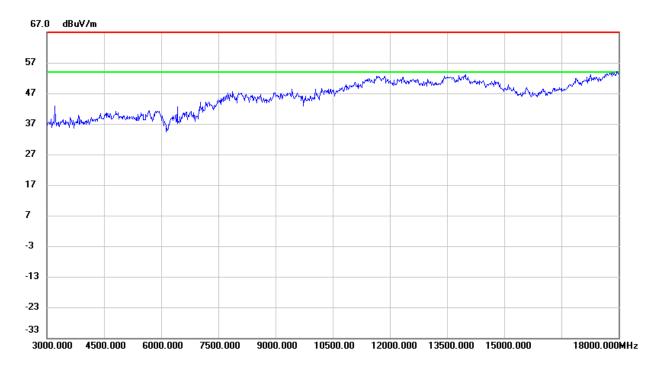


No.	Frequency	Reading	Correct	Result	Limit	Margin	Remark
	(MHz)	(dBuV)	(dB/m)	(dBuV/m)	(dBuV/m)	(dB)	
1	6431.250	39.13	4.46	43.59	74.00	-30.41	peak
2	7884.375	39.39	8.32	47.71	74.00	-26.29	peak
3	9397.500	37.03	10.78	47.81	74.00	-26.19	peak
4	11506.875	35.61	16.45	52.06	74.00	-21.94	peak
5	13908.750	33.66	19.30	52.96	74.00	-21.04	peak
6	17381.250	31.85	21.07	52.92	74.00	-21.08	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 High Pass Filter losses.
  - 5. Proper operation of the transmitter prior to adding the filter to the measurement chain.



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

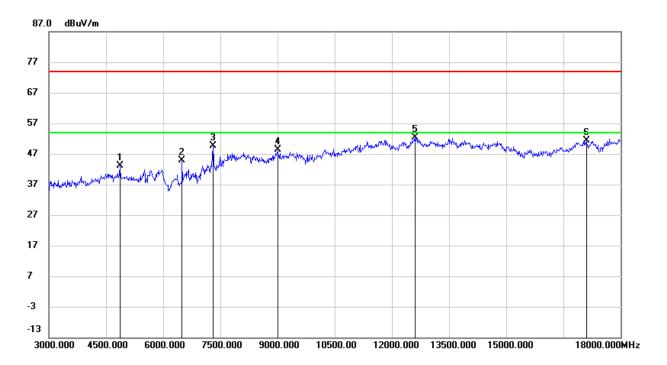


No.	Frequency	Reading	Correct	Result	Limit	Margin	Remark
	(MHz)	(dBuV)	(dB/m)	(dBuV/m)	(dBuV/m)	(dB)	

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



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

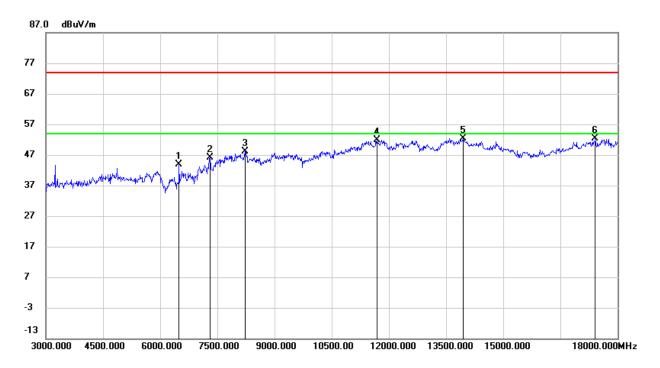


No.	Frequency	Reading	Correct	Result	Limit	Margin	Remark
	(MHz)	(dBuV)	(dB/m)	(dBuV/m)	(dBuV/m)	(dB)	
1	4873.125	43.20	0.02	43.22	74.00	-30.78	peak
2	6498.750	39.05	5.77	44.82	74.00	-29.18	peak
3	7310.625	43.17	6.38	49.55	74.00	-24.45	peak
4	9000.000	37.52	10.77	48.29	74.00	-25.71	peak
5	12603.750	35.18	17.11	52.29	74.00	-21.71	peak
6	17111.250	30.86	20.43	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 High Pass Filter losses.
  - 5. Proper operation of the transmitter prior to adding the filter to the measurement chain.



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

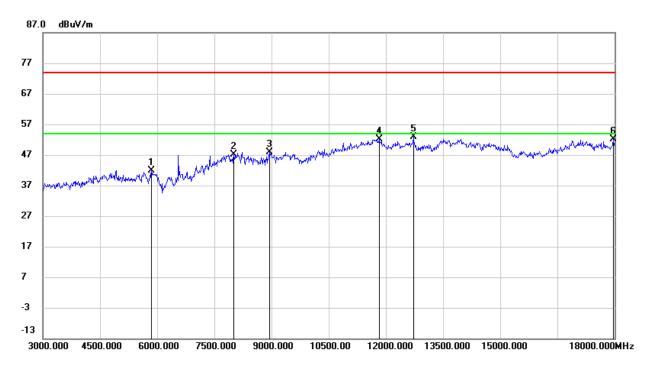


No.	Frequency	Reading	Correct	Result	Limit	Margin	Remark
	(MHz)	(dBuV)	(dB/m)	(dBuV/m)	(dBuV/m)	(dB)	
1	6498.750	38.20	5.77	43.97	74.00	-30.03	peak
2	7312.500	39.63	6.40	46.03	74.00	-27.97	peak
3	8231.250	38.89	9.13	48.02	74.00	-25.98	peak
4	11690.625	34.92	17.05	51.97	74.00	-22.03	peak
5	13950.000	33.15	19.33	52.48	74.00	-21.52	peak
6	17416.875	31.38	21.03	52.41	74.00	-21.59	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 High Pass Filter losses.
  - 5. Proper operation of the transmitter prior to adding the filter to the measurement chain.



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

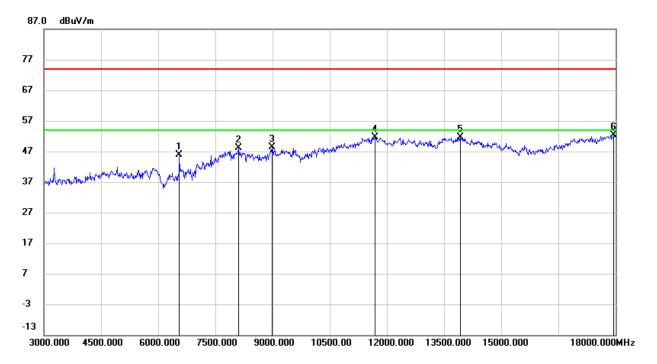


No.	Frequency	Reading	Correct	Result	Limit	Margin	Remark
	(MHz)	(dBuV)	(dB/m)	(dBuV/m)	(dBuV/m)	(dB)	
1	5863.125	38.79	3.07	41.86	74.00	-32.14	peak
2	8021.250	38.84	8.35	47.19	74.00	-26.81	peak
3	8968.125	37.68	10.15	47.83	74.00	-26.17	peak
4	11820.000	35.22	17.03	52.25	74.00	-21.75	peak
5	12723.750	35.82	17.10	52.92	74.00	-21.08	peak
6	17979.375	27.19	24.84	52.03	74.00	-21.97	peak

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



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



No.	Frequency	Reading	Correct	Result	Limit	Margin	Remark
	(MHz)	(dBuV)	(dB/m)	(dBuV/m)	(dBuV/m)	(dB)	
1	6564.375	40.52	5.25	45.77	74.00	-28.23	peak
2	8124.375	38.57	9.46	48.03	74.00	-25.97	peak
3	8988.750	37.70	10.56	48.26	74.00	-25.74	peak
4	11696.250	34.55	17.09	51.64	74.00	-22.36	peak
5	13927.500	32.31	19.31	51.62	74.00	-22.38	peak
6	17962.500	27.77	24.72	52.49	74.00	-21.51	peak

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

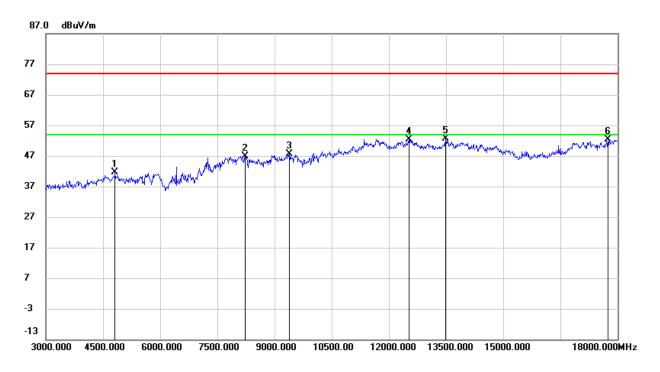
- 2. If Peak Result complies with AV limit, AV Result is deemed to comply with AV limit.
- 3. Peak: Peak detector.
- 4. Filter losses were only considered in the spurious frequency bands and the authorized band was not corrected for High Pass Filter losses.
  - 5. Proper operation of the transmitter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

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



## 8.3.3. 802.11n HT20 SISO MODE PCB ANTENNA

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

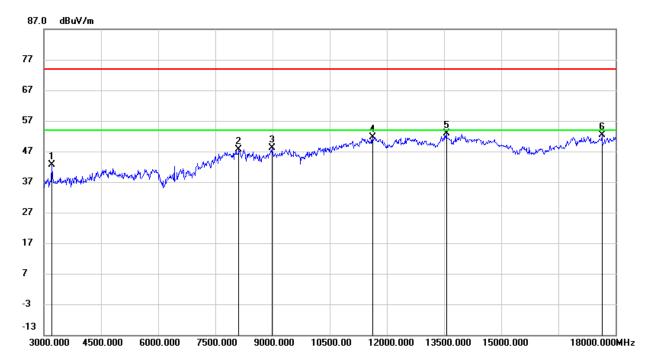


No.	Frequency	Reading	Correct	Result	Limit	Margin	Remark
	(MHz)	(dBuV)	(dB/m)	(dBuV/m)	(dBuV/m)	(dB)	
1	4828.125	41.56	0.11	41.67	74.00	-32.33	peak
2	8223.750	37.73	9.14	46.87	74.00	-27.13	peak
3	9391.875	36.87	10.75	47.62	74.00	-26.38	peak
4	12538.125	35.38	17.04	52.42	74.00	-21.58	peak
5	13496.250	33.39	19.21	52.60	74.00	-21.40	peak
6	17745.000	28.55	23.71	52.26	74.00	-21.74	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 High Pass Filter losses.
  - 5. Proper operation of the transmitter prior to adding the filter to the measurement chain.



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

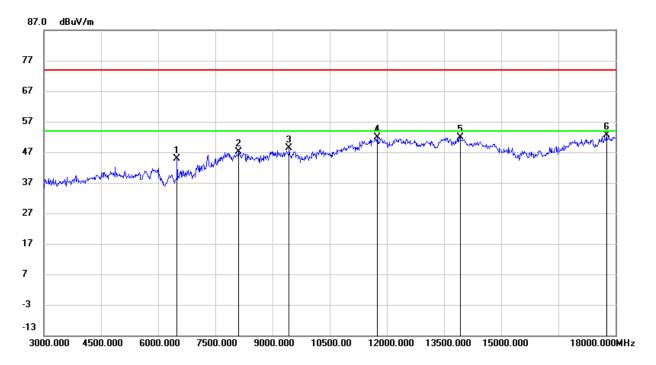


No.	Frequency	Reading	Correct	Result	Limit	Margin	Remark
	(MHz)	(dBuV)	(dB/m)	(dBuV/m)	(dBuV/m)	(dB)	
1	3215.625	47.80	-5.24	42.56	74.00	-31.44	peak
2	8120.625	38.16	9.48	47.64	74.00	-26.36	peak
3	8986.875	37.64	10.51	48.15	74.00	-25.85	peak
4	11630.625	35.00	16.68	51.68	74.00	-22.32	peak
5	13567.500	33.81	19.10	52.91	74.00	-21.09	peak
6	17641.875	29.62	22.74	52.36	74.00	-21.64	peak

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



# HARMONICS AND SPURIOUS EMISSIONS (MID CHANNEL, HORIZONTAL)

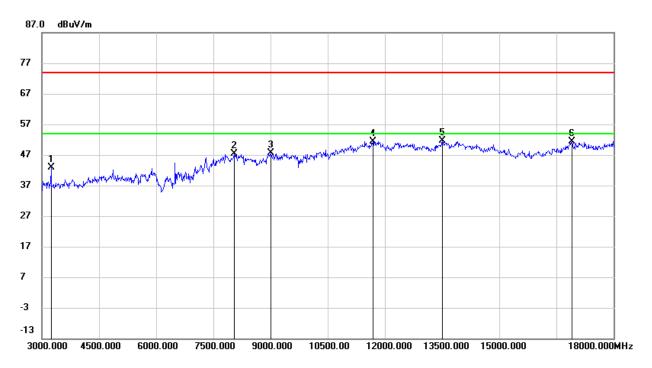


No.	Frequency	Reading	Correct	Result	Limit	Margin	Remark
	(MHz)	(dBuV)	(dB/m)	(dBuV/m)	(dBuV/m)	(dB)	
1	6498.750	39.09	5.77	44.86	74.00	-29.14	peak
2	8107.500	37.51	9.53	47.04	74.00	-26.96	peak
3	9436.875	37.71	10.66	48.37	74.00	-25.63	peak
4	11748.750	34.72	17.05	51.77	74.00	-22.23	peak
5	13925.625	32.56	19.31	51.87	74.00	-22.13	peak
6	17771.250	28.57	23.95	52.52	74.00	-21.48	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 High Pass Filter losses.
  - 5. Proper operation of the transmitter prior to adding the filter to the measurement chain.



# HARMONICS AND SPURIOUS EMISSIONS (MID CHANNEL, VERTICAL)

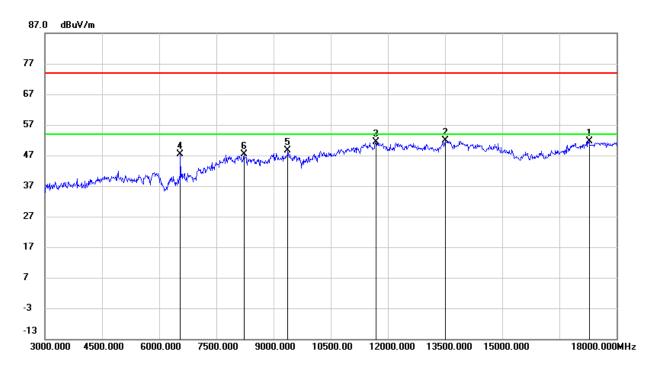


No.	Frequency	Reading	Correct	Result	Limit	Margin	Remark
	(MHz)	(dBuV)	(dB/m)	(dBuV/m)	(dBuV/m)	(dB)	
1	3249.375	47.88	-5.08	42.80	74.00	-31.20	peak
2	8053.125	38.44	8.84	47.28	74.00	-26.72	peak
3	9020.625	37.20	10.55	47.75	74.00	-26.25	peak
4	11692.500	34.37	17.06	51.43	74.00	-22.57	peak
5	13500.000	32.36	19.22	51.58	74.00	-22.42	peak
6	16908.750	31.56	19.71	51.27	74.00	-22.73	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 High Pass Filter losses.
  - 5. Proper operation of the transmitter prior to adding the filter to the measurement chain.



# HARMONICS AND SPURIOUS EMISSIONS (HIGH CHANNEL, HORIZONTAL)

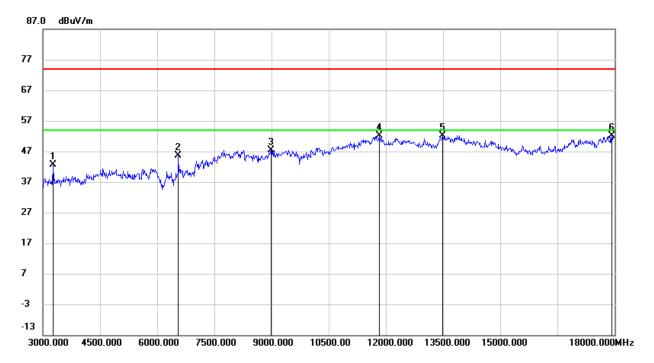


No.	Frequency	Reading	Correct	Result	Limit	Margin	Remark
	(MHz)	(dBuV)	(dB/m)	(dBuV/m)	(dBuV/m)	(dB)	
1	17291.250	30.10	21.44	51.54	74.00	-22.46	peak
2	13505.625	32.72	19.21	51.93	74.00	-22.07	peak
3	11690.625	34.33	17.05	51.38	74.00	-22.62	peak
4	6564.375	42.08	5.25	47.33	74.00	-26.67	peak
5	9378.750	37.87	10.66	48.53	74.00	-25.47	peak
6	8233.125	38.17	9.13	47.30	74.00	-26.70	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 High Pass Filter losses.
  - 5. Proper operation of the transmitter prior to adding the filter to the measurement chain.



# HARMONICS AND SPURIOUS EMISSIONS (HIGH CHANNEL, VERTICAL)



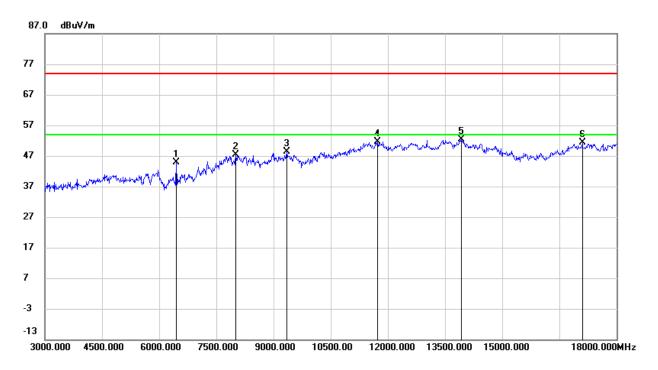
No.	Frequency	Reading	Correct	Result	Limit	Margin	Remark
	(MHz)	(dBuV)	(dB/m)	(dBuV/m)	(dBuV/m)	(dB)	
1	3281.250	47.67	-4.94	42.73	74.00	-31.27	peak
2	6564.375	40.37	5.25	45.62	74.00	-28.38	peak
3	8988.750	36.91	10.56	47.47	74.00	-26.53	peak
4	11821.875	35.04	17.04	52.08	74.00	-21.92	peak
5	13485.000	33.03	19.18	52.21	74.00	-21.79	peak
6	17928.750	27.59	24.50	52.09	74.00	-21.91	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 High Pass Filter losses.
  - 5. Proper operation of the transmitter prior to adding the filter to the measurement chain.



# 8.3.4. 802.11n HT40 SISO MODE PCB ANTENNA

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

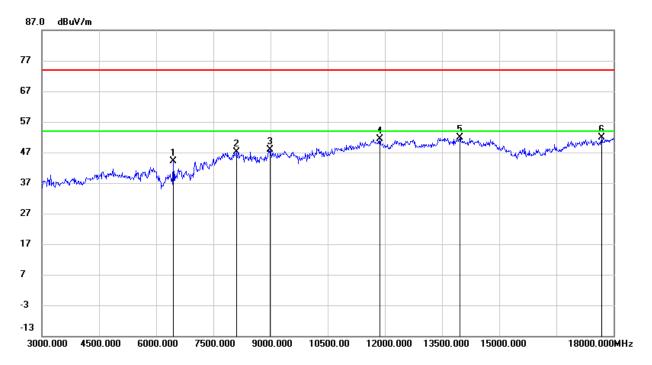


No.	Frequency	Reading	Correct	Result	Limit	Margin	Remark
	(MHz)	(dBuV)	(dB/m)	(dBuV/m)	(dBuV/m)	(dB)	
1	6457.500	39.81	4.97	44.78	74.00	-29.22	peak
2	8023.125	38.92	8.38	47.30	74.00	-26.70	peak
3	9348.750	37.86	10.46	48.32	74.00	-25.68	peak
4	11737.500	34.56	17.06	51.62	74.00	-22.38	peak
5	13942.500	33.08	19.32	52.40	74.00	-21.60	peak
6	17109.375	30.92	20.43	51.35	74.00	-22.65	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 High Pass Filter losses.
  - 5. Proper operation of the transmitter prior to adding the filter to the measurement chain.



# HARMONICS AND SPURIOUS EMISSIONS (LOW CHANNEL, VERTICAL)

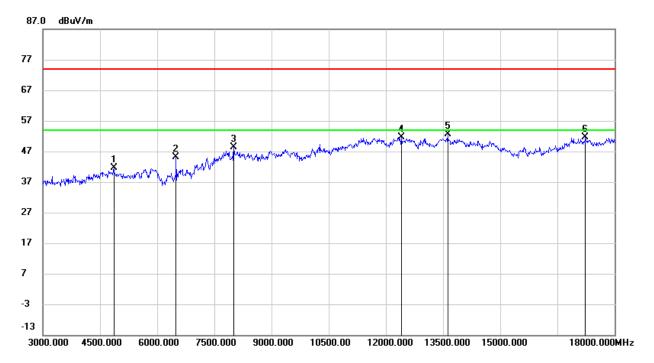


No.	Frequency	Reading	Correct	Result	Limit	Margin	Remark
	(MHz)	(dBuV)	(dB/m)	(dBuV/m)	(dBuV/m)	(dB)	
1	6457.500	39.09	4.97	44.06	74.00	-29.94	peak
2	8116.875	37.65	9.49	47.14	74.00	-26.86	peak
3	8992.500	37.36	10.62	47.98	74.00	-26.02	peak
4	11865.000	34.12	17.14	51.26	74.00	-22.74	peak
5	13968.750	32.48	19.34	51.82	74.00	-22.18	peak
6	17696.250	28.66	23.29	51.95	74.00	-22.05	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 High Pass Filter losses.
  - 5. Proper operation of the transmitter prior to adding the filter to the measurement chain.



# HARMONICS AND SPURIOUS EMISSIONS (MID CHANNEL, HORIZONTAL)

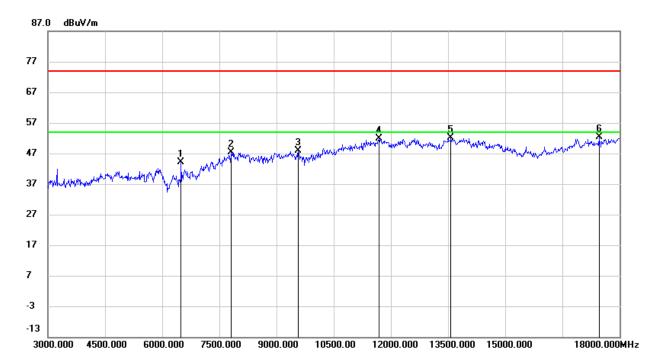


No.	Frequency	Reading	Correct	Result	Limit	Margin	Remark
	(MHz)	(dBuV)	(dB/m)	(dBuV/m)	(dBuV/m)	(dB)	
1	4869.375	41.51	0.02	41.53	74.00	-32.47	peak
2	6498.750	39.27	5.77	45.04	74.00	-28.96	peak
3	8015.625	40.18	8.27	48.45	74.00	-25.55	peak
4	12406.875	34.25	17.31	51.56	74.00	-22.44	peak
5	13625.625	33.49	19.15	52.64	74.00	-21.36	peak
6	17248.125	30.43	21.08	51.51	74.00	-22.49	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 High Pass Filter losses.
  - 5. Proper operation of the transmitter prior to adding the filter to the measurement chain.



# HARMONICS AND SPURIOUS EMISSIONS (MID CHANNEL, VERTICAL)

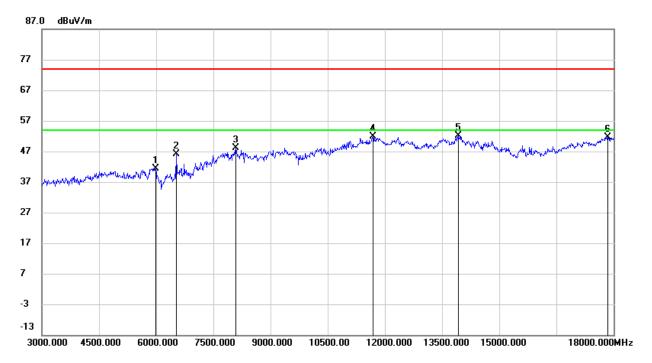


No.	Frequency	Reading	Correct	Result	Limit	Margin	Remark
	(MHz)	(dBuV)	(dB/m)	(dBuV/m)	(dBuV/m)	(dB)	
1	6498.750	38.45	5.77	44.22	74.00	-29.78	peak
2	7815.000	38.75	8.64	47.39	74.00	-26.61	peak
3	9579.375	36.91	10.94	47.85	74.00	-26.15	peak
4	11692.500	34.74	17.06	51.80	74.00	-22.20	peak
5	13582.500	33.10	19.07	52.17	74.00	-21.83	peak
6	17471.250	31.10	21.23	52.33	74.00	-21.67	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 High Pass Filter losses.
  - 5. Proper operation of the transmitter prior to adding the filter to the measurement chain.



# HARMONICS AND SPURIOUS EMISSIONS (HIGH CHANNEL, HORIZONTAL)

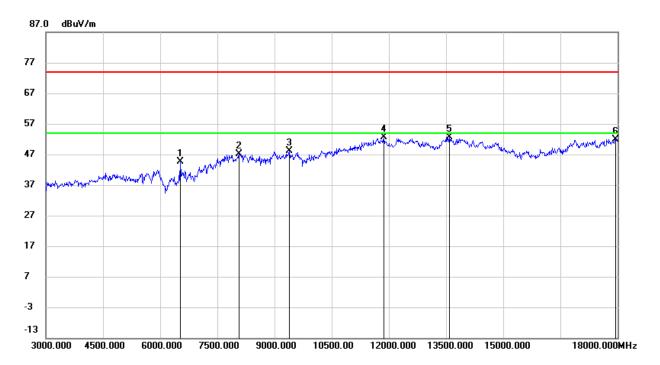


No.	Frequency	Reading	Correct	Result	Limit	Margin	Remark
	(MHz)	(dBuV)	(dB/m)	(dBuV/m)	(dBuV/m)	(dB)	
1	5994.375	38.55	2.93	41.48	74.00	-32.52	peak
2	6538.125	40.77	5.46	46.23	74.00	-27.77	peak
3	8088.750	38.64	9.38	48.02	74.00	-25.98	peak
4	11698.125	34.70	17.10	51.80	74.00	-22.20	peak
5	13925.625	32.89	19.31	52.20	74.00	-21.80	peak
6	17863.125	27.45	24.27	51.72	74.00	-22.28	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 High Pass Filter losses.
  - 5. Proper operation of the transmitter prior to adding the filter to the measurement chain.



# HARMONICS AND SPURIOUS EMISSIONS (HIGH CHANNEL, VERTICAL)



No.	Frequency	Reading	Correct	Result	Limit	Margin	Remark
	(MHz)	(dBuV)	(dB/m)	(dBuV/m)	(dBuV/m)	(dB)	
1	6538.125	39.28	5.46	44.74	74.00	-29.26	peak
2	8083.125	37.82	9.31	47.13	74.00	-26.87	peak
3	9390.000	37.47	10.73	48.20	74.00	-25.80	peak
4	11868.750	35.38	17.16	52.54	74.00	-21.46	peak
5	13597.500	33.65	19.04	52.69	74.00	-21.31	peak
6	17960.625	27.24	24.71	51.95	74.00	-22.05	peak

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

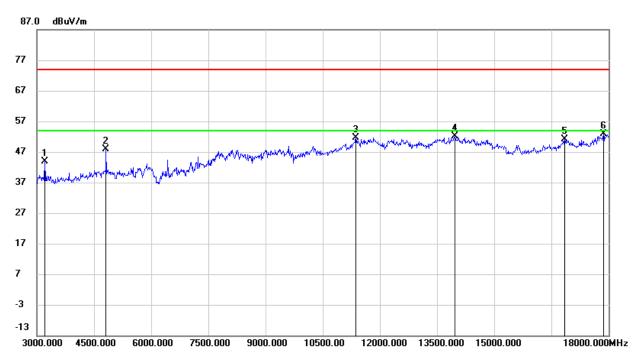
- 2. If Peak Result complies with AV limit, AV Result is deemed to comply with AV limit.
- 3. Peak: Peak detector.
- 4. Filter losses were only considered in the spurious frequency bands and the authorized band was not corrected for High Pass Filter losses.
  - 5. Proper operation of the transmitter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

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



# 8.3.5. 802.11b SISO MODE FPC ANTENNA ANTENNA 1 TEST RESULTS (WORST CASE)

# HARMONICS AND SPURIOUS EMISSIONS (LOW CHANNEL, HORIZONTAL)

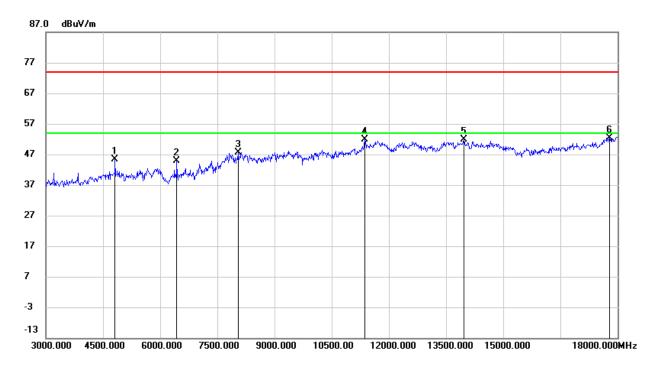


No.	Frequency	Reading	Correct	Result	Limit	Margin	Remark
	(MHz)	(dBuV)	(dB/m)	(dBuV/m)	(dBuV/m)	(dB)	
1	3210.000	49.21	-5.24	43.97	74.00	-30.03	peak
2	4815.000	47.73	0.13	47.86	74.00	-26.14	peak
3	11370.000	35.70	16.05	51.75	74.00	-22.25	peak
4	13965.000	32.83	19.34	52.17	74.00	-21.83	peak
5	16845.000	31.91	19.18	51.09	74.00	-22.91	peak
6	17865.000	28.68	24.27	52.95	74.00	-21.05	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 High Pass Filter losses.
  - 5. Proper operation of the transmitter prior to adding the filter to the measurement chain.



# HARMONICS AND SPURIOUS EMISSIONS (LOW CHANNEL, VERTICAL)

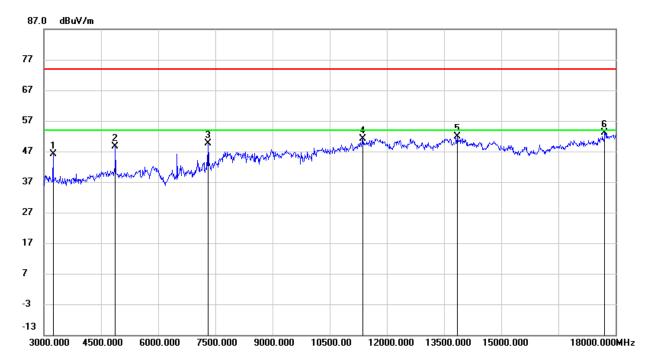


No.	Frequency	Reading	Correct	Result	Limit	Margin	Remark
	(MHz)	(dBuV)	(dB/m)	(dBuV/m)	(dBuV/m)	(dB)	
1	4815.000	45.32	0.13	45.45	74.00	-28.55	peak
2	6435.000	40.27	4.52	44.79	74.00	-29.21	peak
3	8040.000	38.98	8.64	47.62	74.00	-26.38	peak
4	11370.000	35.78	16.05	51.83	74.00	-22.17	peak
5	13965.000	32.51	19.34	51.85	74.00	-22.15	peak
6	17790.000	28.39	24.10	52.49	74.00	-21.51	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 High Pass Filter losses.
  - 5. Proper operation of the transmitter prior to adding the filter to the measurement chain.



# HARMONICS AND SPURIOUS EMISSIONS (MID CHANNEL, HORIZONTAL)

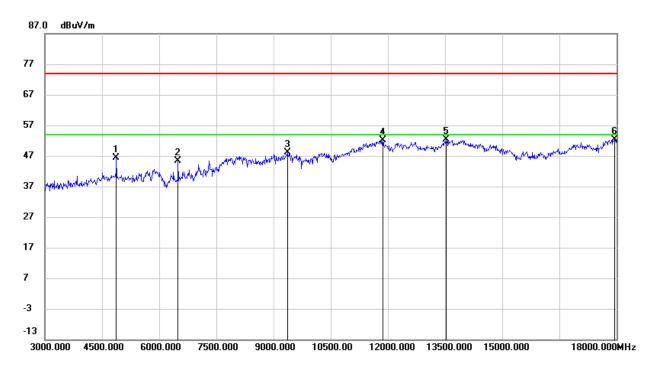


No.	Frequency	Reading	Correct	Result	Limit	Margin	Remark
	(MHz)	(dBuV)	(dB/m)	(dBuV/m)	(dBuV/m)	(dB)	
1	3240.000	51.21	-5.13	46.08	74.00	-27.92	peak
2	4875.000	48.67	0.02	48.69	74.00	-25.31	peak
3	7305.000	43.24	6.33	49.57	74.00	-24.43	peak
4	11370.000	35.17	16.05	51.22	74.00	-22.78	peak
5	13845.000	32.48	19.36	51.84	74.00	-22.16	peak
6	17715.000	29.68	23.46	53.14	74.00	-20.86	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 High Pass Filter losses.
  - 5. Proper operation of the transmitter prior to adding the filter to the measurement chain.



# HARMONICS AND SPURIOUS EMISSIONS (MID CHANNEL, VERTICAL)

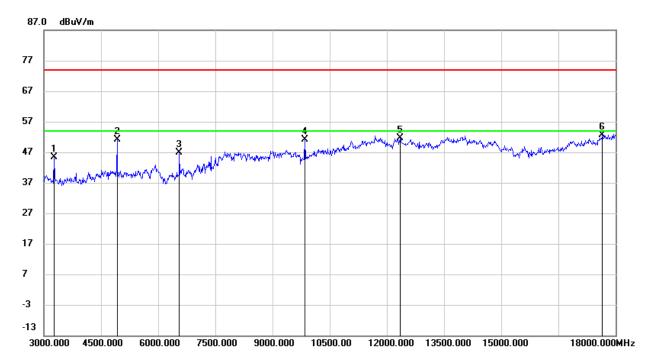


No.	Frequency	Reading	Correct	Result	Limit	Margin	Remark
	(MHz)	(dBuV)	(dB/m)	(dBuV/m)	(dBuV/m)	(dB)	
1	4875.000	46.27	0.02	46.29	74.00	-27.71	peak
2	6495.000	39.80	5.69	45.49	74.00	-28.51	peak
3	9360.000	37.71	10.54	48.25	74.00	-25.75	peak
4	11865.000	35.08	17.14	52.22	74.00	-21.78	peak
5	13530.000	33.15	19.17	52.32	74.00	-21.68	peak
6	17940.000	27.89	24.57	52.46	74.00	-21.54	peak

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



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

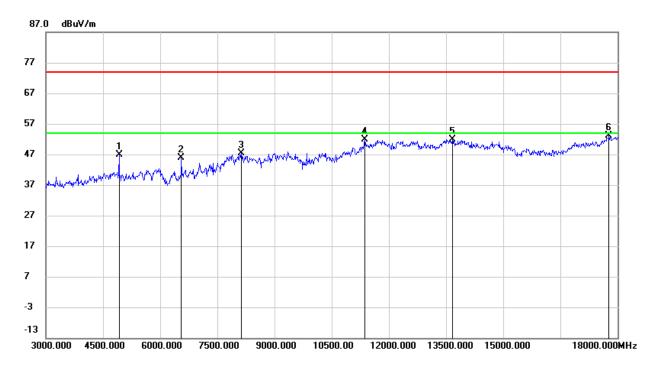


No.	Frequency	Reading	Correct	Result	Limit	Margin	Remark
	(MHz)	(dBuV)	(dB/m)	(dBuV/m)	(dBuV/m)	(dB)	
1	3270.000	50.37	-4.99	45.38	74.00	-28.62	peak
2	4920.000	51.06	0.12	51.18	74.00	-22.82	peak
3	6555.000	41.66	5.32	46.98	74.00	-27.02	peak
4	9840.000	40.27	10.86	51.13	74.00	-22.87	peak
5	12345.000	34.12	17.45	51.57	74.00	-22.43	peak
6	17655.000	29.71	22.87	52.58	74.00	-21.42	peak

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



# HARMONICS AND SPURIOUS EMISSIONS (HIGH CHANNEL, VERTICAL)



No.	Frequency	Reading	Correct	Result	Limit	Margin	Remark
	(MHz)	(dBuV)	(dB/m)	(dBuV/m)	(dBuV/m)	(dB)	
1	4920.000	46.80	0.12	46.92	74.00	-27.08	peak
2	6555.000	40.54	5.32	45.86	74.00	-28.14	peak
3	8130.000	37.90	9.44	47.34	74.00	-26.66	peak
4	11370.000	35.90	16.05	51.95	74.00	-22.05	peak
5	13665.000	32.59	19.33	51.92	74.00	-22.08	peak
6	17775.000	29.22	23.98	53.20	74.00	-20.80	peak

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

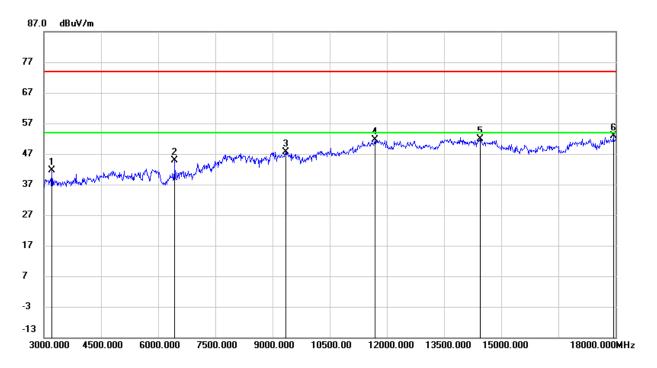
- 2. If Peak Result complies with AV limit, AV Result is deemed to comply with AV limit.
- 3. Peak: Peak detector.
- 4. Filter losses were only considered in the spurious frequency bands and the authorized band was not corrected for High Pass Filter losses.
  - 5. Proper operation of the transmitter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

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



# 8.3.6. 802.11g SISO MODE FPC ANTENNA

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

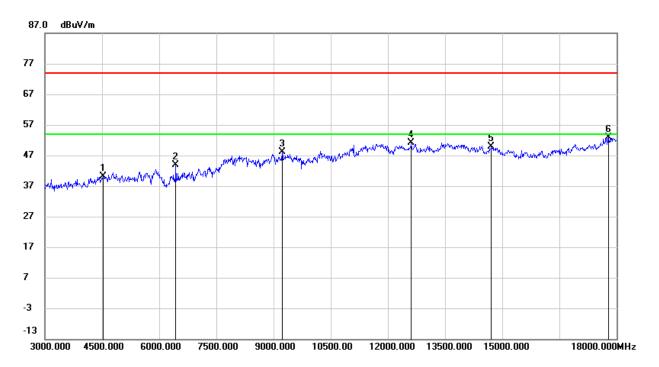


No.	Frequency	Reading	Correct	Result	Limit	Margin	Remark
	(MHz)	(dBuV)	(dB/m)	(dBuV/m)	(dBuV/m)	(dB)	
1	3210.000	46.88	-5.24	41.64	74.00	-32.36	peak
2	6435.000	40.26	4.52	44.78	74.00	-29.22	peak
3	9345.000	37.25	10.43	47.68	74.00	-26.32	peak
4	11685.000	34.69	17.02	51.71	74.00	-22.29	peak
5	14445.000	34.19	17.77	51.96	74.00	-22.04	peak
6	17940.000	28.42	24.57	52.99	74.00	-21.01	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 High Pass Filter losses.
  - 5. Proper operation of the transmitter prior to adding the filter to the measurement chain.



# HARMONICS AND SPURIOUS EMISSIONS (LOW CHANNEL, VERTICAL)

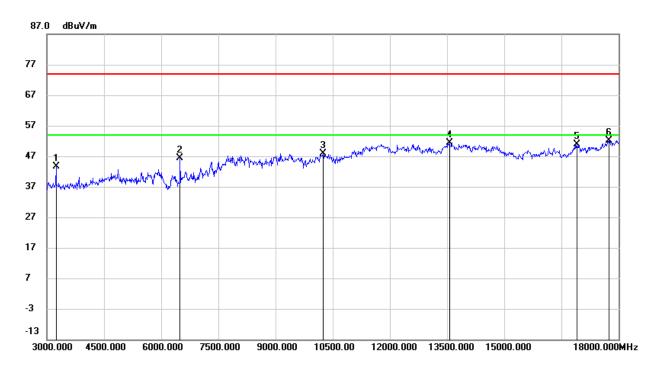


No.	Frequency	Reading	Correct	Result	Limit	Margin	Remark
	(MHz)	(dBuV)	(dB/m)	(dBuV/m)	(dBuV/m)	(dB)	
1	4530.000	41.23	-1.20	40.03	74.00	-33.97	peak
2	6435.000	39.25	4.52	43.77	74.00	-30.23	peak
3	9225.000	38.39	9.71	48.10	74.00	-25.90	peak
4	12615.000	33.97	17.10	51.07	74.00	-22.93	peak
5	14715.000	32.37	17.49	49.86	74.00	-24.14	peak
6	17790.000	28.90	24.10	53.00	74.00	-21.00	peak

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



# HARMONICS AND SPURIOUS EMISSIONS (MID CHANNEL, HORIZONTAL)

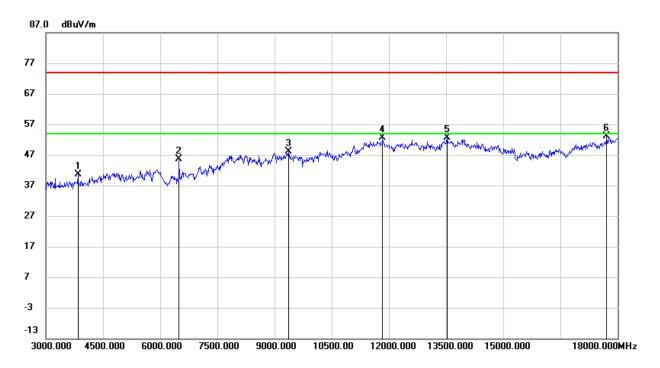


No.	Frequency	Reading	Correct	Result	Limit	Margin	Remark
	(MHz)	(dBuV)	(dB/m)	(dBuV/m)	(dBuV/m)	(dB)	
1	3240.000	48.72	-5.13	43.59	74.00	-30.41	peak
2	6495.000	40.60	5.69	46.29	74.00	-27.71	peak
3	10245.000	35.62	12.18	47.80	74.00	-26.20	peak
4	13560.000	32.28	19.12	51.40	74.00	-22.60	peak
5	16905.000	31.14	19.72	50.86	74.00	-23.14	peak
6	17745.000	28.44	23.71	52.15	74.00	-21.85	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 High Pass Filter losses.
  - 5. Proper operation of the transmitter prior to adding the filter to the measurement chain.



# HARMONICS AND SPURIOUS EMISSIONS (MID CHANNEL, VERTICAL)

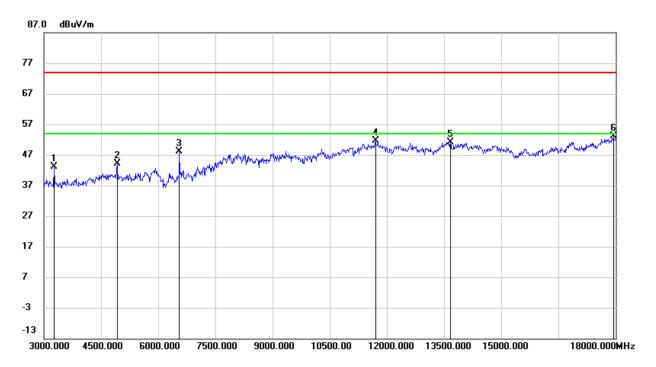


No.	Frequency	Reading	Correct	Result	Limit	Margin	Remark
	(MHz)	(dBuV)	(dB/m)	(dBuV/m)	(dBuV/m)	(dB)	
1	3840.000	44.42	-3.75	40.67	74.00	-33.33	peak
2	6495.000	39.86	5.69	45.55	74.00	-28.45	peak
3	9360.000	37.56	10.54	48.10	74.00	-25.90	peak
4	11835.000	35.47	17.07	52.54	74.00	-21.46	peak
5	13530.000	33.54	19.17	52.71	74.00	-21.29	peak
6	17715.000	29.62	23.46	53.08	74.00	-20.92	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 High Pass Filter losses.
  - 5. Proper operation of the transmitter prior to adding the filter to the measurement chain.



# HARMONICS AND SPURIOUS EMISSIONS (HIGH CHANNEL, HORIZONTAL)

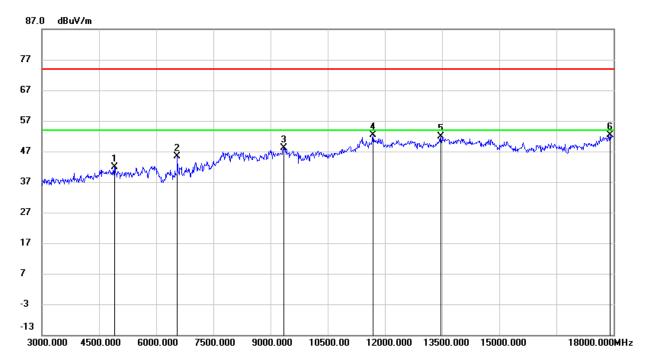


No.	Frequency	Reading	Correct	Result	Limit	Margin	Remark
	(MHz)	(dBuV)	(dB/m)	(dBuV/m)	(dBuV/m)	(dB)	
1	3270.000	48.22	-4.99	43.23	74.00	-30.77	peak
2	4920.000	44.09	0.12	44.21	74.00	-29.79	peak
3	6555.000	42.71	5.32	48.03	74.00	-25.97	peak
4	11700.000	34.51	17.11	51.62	74.00	-22.38	peak
5	13665.000	31.83	19.33	51.16	74.00	-22.84	peak
6	17940.000	28.53	24.57	53.10	74.00	-20.90	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 High Pass Filter losses.
  - 5. Proper operation of the transmitter prior to adding the filter to the measurement chain.



# HARMONICS AND SPURIOUS EMISSIONS (HIGH CHANNEL, VERTICAL)



No.	Frequency	Reading	Correct	Result	Limit	Margin	Remark
	(MHz)	(dBuV)	(dB/m)	(dBuV/m)	(dBuV/m)	(dB)	
1	4905.000	41.92	0.01	41.93	74.00	-32.07	peak
2	6555.000	40.01	5.32	45.33	74.00	-28.67	peak
3	9345.000	37.69	10.43	48.12	74.00	-25.88	peak
4	11685.000	35.35	17.02	52.37	74.00	-21.63	peak
5	13470.000	32.86	19.12	51.98	74.00	-22.02	peak
6	17910.000	28.03	24.38	52.41	74.00	-21.59	peak

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

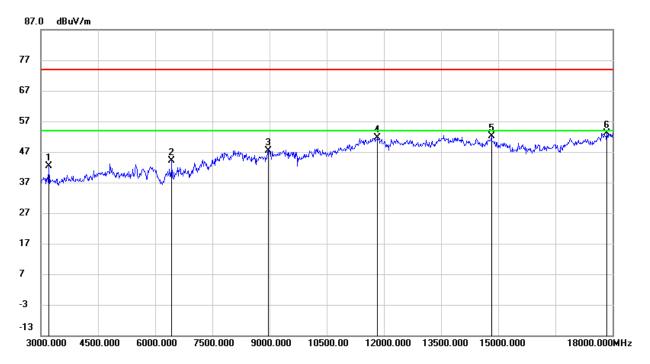
- 2. If Peak Result complies with AV limit, AV Result is deemed to comply with AV limit.
- 3. Peak: Peak detector.
- 4. Filter losses were only considered in the spurious frequency bands and the authorized band was not corrected for High Pass Filter losses.
  - 5. Proper operation of the transmitter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

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



# 8.3.7. 802.11n HT20 SISO MODE FPC ANTENNA

# HARMONICS AND SPURIOUS EMISSIONS (LOW CHANNEL, HORIZONTAL)

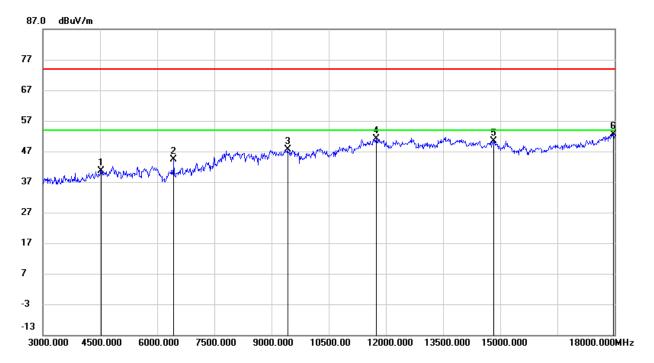


No.	Frequency	Reading	Correct	Result	Limit	Margin	Remark
	(MHz)	(dBuV)	(dB/m)	(dBuV/m)	(dBuV/m)	(dB)	
1	3210.000	47.67	-5.24	42.43	74.00	-31.57	peak
2	6435.000	39.49	4.52	44.01	74.00	-29.99	peak
3	8970.000	37.09	10.18	47.27	74.00	-26.73	peak
4	11835.000	34.59	17.07	51.66	74.00	-22.34	peak
5	14820.000	34.64	17.38	52.02	74.00	-21.98	peak
6	17850.000	28.90	24.25	53.15	74.00	-20.85	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 High Pass Filter losses.
  - 5. Proper operation of the transmitter prior to adding the filter to the measurement chain.



# HARMONICS AND SPURIOUS EMISSIONS (LOW CHANNEL, VERTICAL)

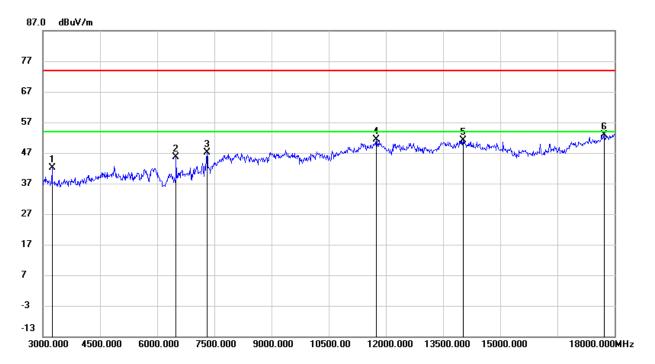


No.	Frequency	Reading	Correct	Result	Limit	Margin	Remark
	(MHz)	(dBuV)	(dB/m)	(dBuV/m)	(dBuV/m)	(dB)	
1	4530.000	41.89	-1.20	40.69	74.00	-33.31	peak
2	6435.000	39.88	4.52	44.40	74.00	-29.60	peak
3	9420.000	36.80	10.71	47.51	74.00	-26.49	peak
4	11745.000	34.01	17.06	51.07	74.00	-22.93	peak
5	14820.000	32.96	17.38	50.34	74.00	-23.66	peak
6	17970.000	27.84	24.77	52.61	74.00	-21.39	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 High Pass Filter losses.
  - 5. Proper operation of the transmitter prior to adding the filter to the measurement chain.



# HARMONICS AND SPURIOUS EMISSIONS (MID CHANNEL, HORIZONTAL)

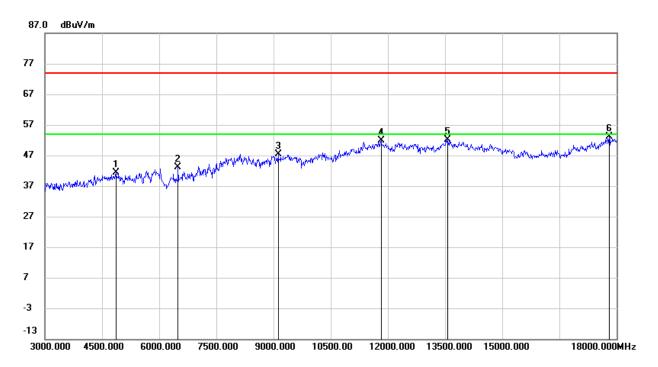


No.	Frequency	Reading	Correct	Result	Limit	Margin	Remark
	(MHz)	(dBuV)	(dB/m)	(dBuV/m)	(dBuV/m)	(dB)	
1	3240.000	47.25	-5.13	42.12	74.00	-31.88	peak
2	6495.000	39.82	5.69	45.51	74.00	-28.49	peak
3	7305.000	40.86	6.33	47.19	74.00	-26.81	peak
4	11745.000	34.23	17.06	51.29	74.00	-22.71	peak
5	14025.000	31.85	19.24	51.09	74.00	-22.91	peak
6	17730.000	29.42	23.58	53.00	74.00	-21.00	peak

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



# HARMONICS AND SPURIOUS EMISSIONS (MID CHANNEL, VERTICAL)

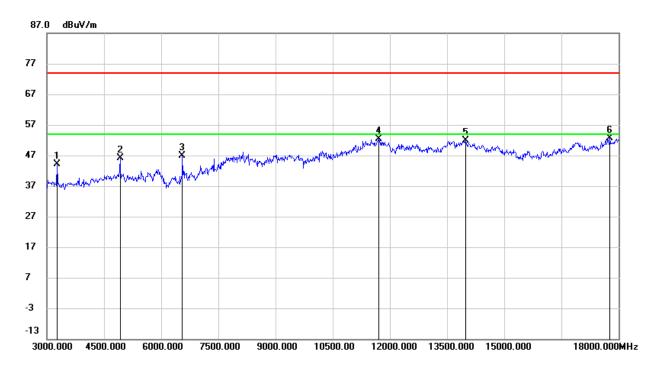


No.	Frequency	Reading	Correct	Result	Limit	Margin	Remark
	(MHz)	(dBuV)	(dB/m)	(dBuV/m)	(dBuV/m)	(dB)	
1	4860.000	41.35	0.04	41.39	74.00	-32.61	peak
2	6495.000	37.51	5.69	43.20	74.00	-30.80	peak
3	9120.000	37.70	9.69	47.39	74.00	-26.61	peak
4	11820.000	34.95	17.03	51.98	74.00	-22.02	peak
5	13575.000	33.00	19.08	52.08	74.00	-21.92	peak
6	17805.000	28.96	24.20	53.16	74.00	-20.84	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 High Pass Filter losses.
  - 5. Proper operation of the transmitter prior to adding the filter to the measurement chain.



# HARMONICS AND SPURIOUS EMISSIONS (HIGH CHANNEL, HORIZONTAL)

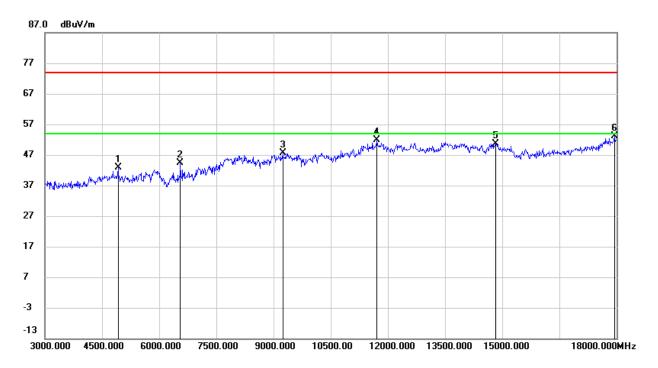


No.	Frequency	Reading	Correct	Result	Limit	Margin	Remark
	(MHz)	(dBuV)	(dB/m)	(dBuV/m)	(dBuV/m)	(dB)	
1	3270.000	49.01	-4.99	44.02	74.00	-29.98	peak
2	4920.000	45.96	0.12	46.08	74.00	-27.92	peak
3	6555.000	41.68	5.32	47.00	74.00	-27.00	peak
4	11700.000	35.23	17.11	52.34	74.00	-21.66	peak
5	13980.000	32.46	19.35	51.81	74.00	-22.19	peak
6	17775.000	28.75	23.98	52.73	74.00	-21.27	peak

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



# HARMONICS AND SPURIOUS EMISSIONS (HIGH CHANNEL, VERTICAL)



No.	Frequency	Reading	Correct	Result	Limit	Margin	Remark
	(MHz)	(dBuV)	(dB/m)	(dBuV/m)	(dBuV/m)	(dB)	
1	4920.000	42.70	0.12	42.82	74.00	-31.18	peak
2	6555.000	38.99	5.32	44.31	74.00	-29.69	peak
3	9240.000	37.95	9.79	47.74	74.00	-26.26	peak
4	11715.000	34.67	17.09	51.76	74.00	-22.24	peak
5	14820.000	33.30	17.38	50.68	74.00	-23.32	peak
6	17940.000	28.47	24.57	53.04	74.00	-20.96	peak

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

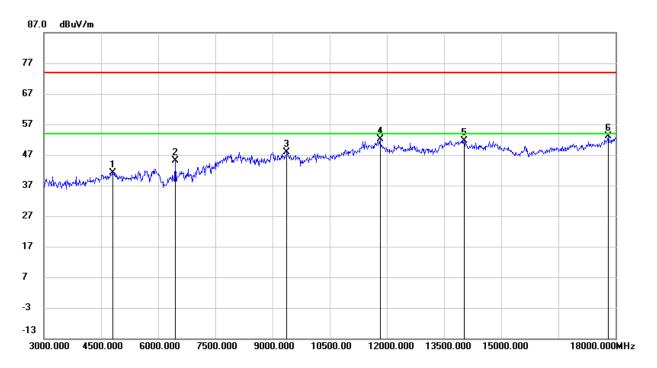
- 2. If Peak Result complies with AV limit, AV Result is deemed to comply with AV limit.
- 3. Peak: Peak detector.
- 4. Filter losses were only considered in the spurious frequency bands and the authorized band was not corrected for High Pass Filter losses.
  - 5. Proper operation of the transmitter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

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



# 8.3.8. 802.11n HT40 SISO MODE FPC ANTENNA

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

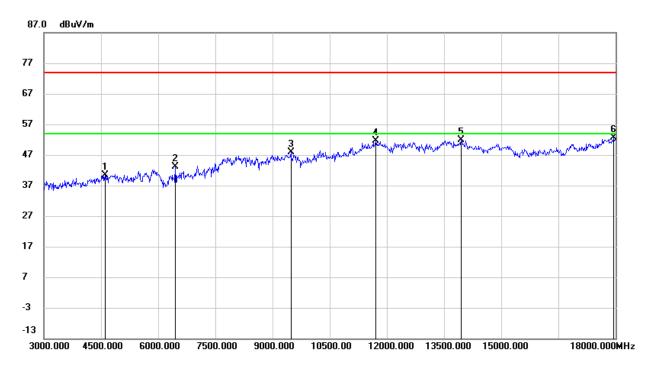


No.	Frequency	Reading	Correct	Result	Limit	Margin	Remark
	(MHz)	(dBuV)	(dB/m)	(dBuV/m)	(dBuV/m)	(dB)	
1	4800.000	40.87	0.16	41.03	74.00	-32.97	peak
2	6450.000	40.42	4.82	45.24	74.00	-28.76	peak
3	9375.000	37.24	10.63	47.87	74.00	-26.13	peak
4	11820.000	35.16	17.03	52.19	74.00	-21.81	peak
5	14025.000	32.45	19.24	51.69	74.00	-22.31	peak
6	17805.000	28.97	24.20	53.17	74.00	-20.83	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 High Pass Filter losses.
  - 5. Proper operation of the transmitter prior to adding the filter to the measurement chain.



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

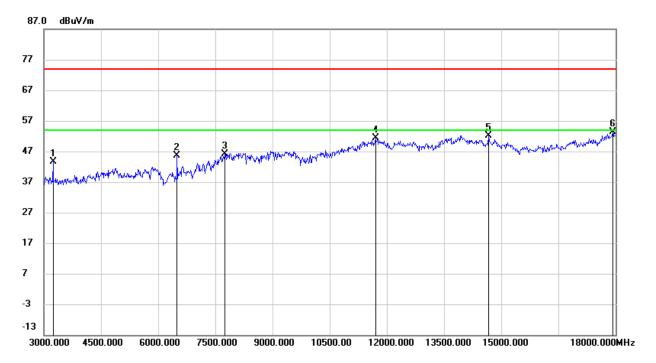


No.	Frequency	Reading	Correct	Result	Limit	Margin	Remark
	(MHz)	(dBuV)	(dB/m)	(dBuV/m)	(dBuV/m)	(dB)	
1	4605.000	41.09	-0.83	40.26	74.00	-33.74	peak
2	6450.000	38.42	4.82	43.24	74.00	-30.76	peak
3	9480.000	37.41	10.50	47.91	74.00	-26.09	peak
4	11715.000	34.43	17.09	51.52	74.00	-22.48	peak
5	13950.000	32.67	19.33	52.00	74.00	-22.00	peak
6	17940.000	27.94	24.57	52.51	74.00	-21.49	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 High Pass Filter losses.
  - 5. Proper operation of the transmitter prior to adding the filter to the measurement chain.



# HARMONICS AND SPURIOUS EMISSIONS (MID CHANNEL, HORIZONTAL)

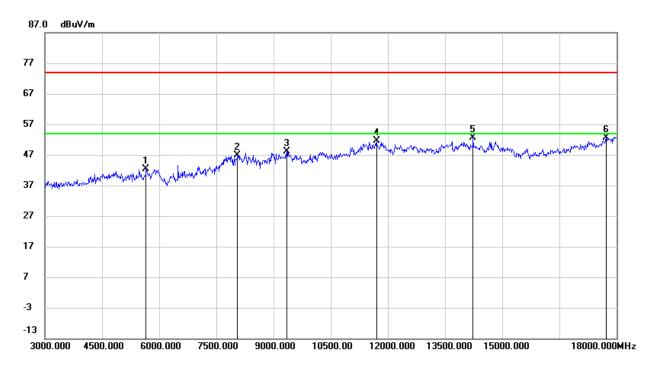


No.	Frequency	Reading	Correct	Result	Limit	Margin	Remark
	(MHz)	(dBuV)	(dB/m)	(dBuV/m)	(dBuV/m)	(dB)	
1	3240.000	48.67	-5.13	43.54	74.00	-30.46	peak
2	6495.000	39.93	5.69	45.62	74.00	-28.38	peak
3	7755.000	37.77	8.29	46.06	74.00	-27.94	peak
4	11700.000	34.26	17.11	51.37	74.00	-22.63	peak
5	14670.000	34.72	17.45	52.17	74.00	-21.83	peak
6	17925.000	28.89	24.47	53.36	74.00	-20.64	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 High Pass Filter losses.
  - 5. Proper operation of the transmitter prior to adding the filter to the measurement chain.



# HARMONICS AND SPURIOUS EMISSIONS (MID CHANNEL, VERTICAL)

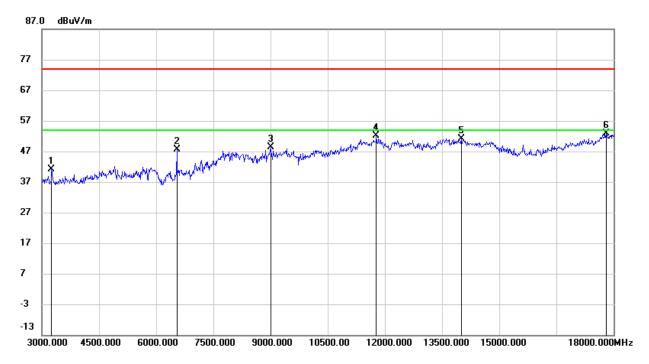


No.	Frequency	Reading	Correct	Result	Limit	Margin	Remark
	(MHz)	(dBuV)	(dB/m)	(dBuV/m)	(dBuV/m)	(dB)	
1	5655.000	40.48	2.01	42.49	74.00	-31.51	peak
2	8055.000	37.97	8.87	46.84	74.00	-27.16	peak
3	9345.000	37.74	10.43	48.17	74.00	-25.83	peak
4	11700.000	34.45	17.11	51.56	74.00	-22.44	peak
5	14235.000	33.60	18.95	52.55	74.00	-21.45	peak
6	17730.000	29.02	23.58	52.60	74.00	-21.40	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 High Pass Filter losses.
  - 5. Proper operation of the transmitter prior to adding the filter to the measurement chain.



# HARMONICS AND SPURIOUS EMISSIONS (HIGH CHANNEL, HORIZONTAL)

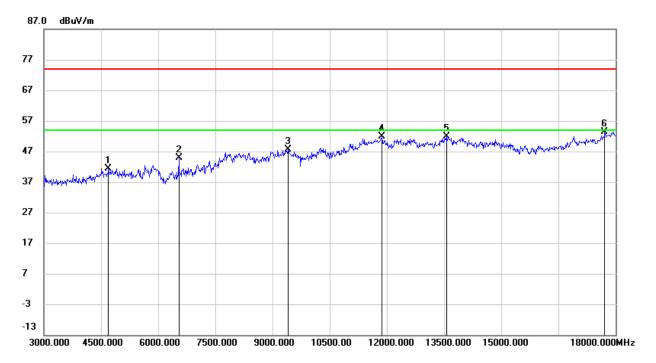


No.	Frequency	Reading	Correct	Result	Limit	Margin	Remark
	(MHz)	(dBuV)	(dB/m)	(dBuV/m)	(dBuV/m)	(dB)	
1	3255.000	46.24	-5.06	41.18	74.00	-32.82	peak
2	6540.000	42.29	5.44	47.73	74.00	-26.27	peak
3	9000.000	37.54	10.77	48.31	74.00	-25.69	peak
4	11775.000	35.04	17.02	52.06	74.00	-21.94	peak
5	14010.000	31.72	19.32	51.04	74.00	-22.96	peak
6	17805.000	28.61	24.20	52.81	74.00	-21.19	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 High Pass Filter losses.
  - 5. Proper operation of the transmitter prior to adding the filter to the measurement chain.



# HARMONICS AND SPURIOUS EMISSIONS (HIGH CHANNEL, VERTICAL)



No.	Frequency	Reading	Correct	Result	Limit	Margin	Remark
	(MHz)	(dBuV)	(dB/m)	(dBuV/m)	(dBuV/m)	(dB)	
1	4695.000	42.26	-0.89	41.37	74.00	-32.63	peak
2	6540.000	39.42	5.44	44.86	74.00	-29.14	peak
3	9405.000	36.82	10.78	47.60	74.00	-26.40	peak
4	11865.000	34.83	17.14	51.97	74.00	-22.03	peak
5	13560.000	32.67	19.12	51.79	74.00	-22.21	peak
6	17715.000	30.02	23.46	53.48	74.00	-20.52	peak

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

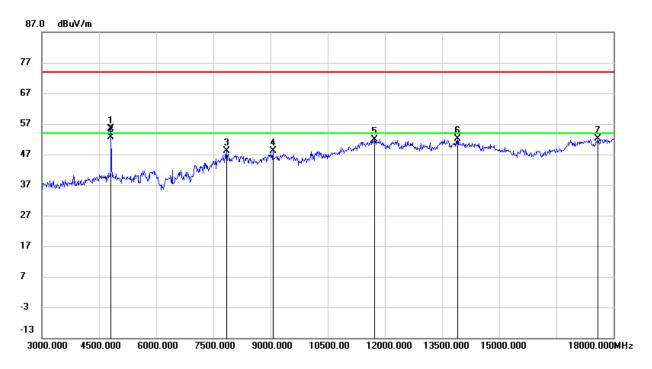
- 2. If Peak Result complies with AV limit, AV Result is deemed to comply with AV limit.
- 3. Peak: Peak detector.
- 4. Filter losses were only considered in the spurious frequency bands and the authorized band was not corrected for High Pass Filter losses.
  - 5. Proper operation of the transmitter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

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



# 8.3.9. 802.11b SISO MODE PIFA ANTENNA

# HARMONICS AND SPURIOUS EMISSIONS (LOW CHANNEL, HORIZONTAL)

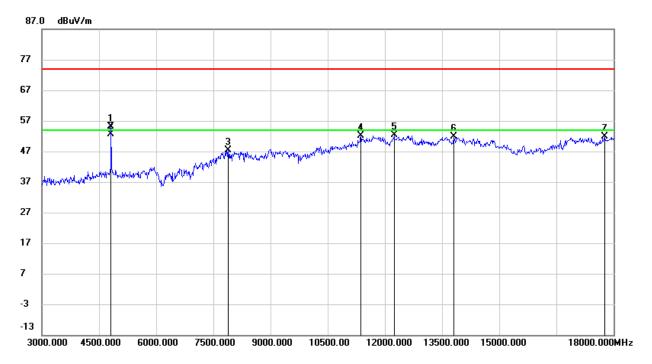


No.	Frequency	Reading	Correct	Result	Limit	Margin	Remark
	(MHz)	(dBuV)	(dB/m)	(dBuV/m)	(dBuV/m)	(dB)	
1	4822.500	55.37	0.11	55.48	74.00	-18.52	peak
2	4822.500	52.40	0.11	52.51	54.00	-1.49	AVG
3	7845.000	39.62	8.51	48.13	74.00	-25.87	peak
4	9067.500	38.08	10.06	48.14	74.00	-25.86	peak
5	11730.000	34.91	17.07	51.98	74.00	-22.02	peak
6	13912.500	32.84	19.29	52.13	74.00	-21.87	peak
7	17587.500	30.02	22.18	52.20	74.00	-21.80	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 High Pass Filter losses.
  - 5. Proper operation of the transmitter prior to adding the filter to the measurement chain.



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

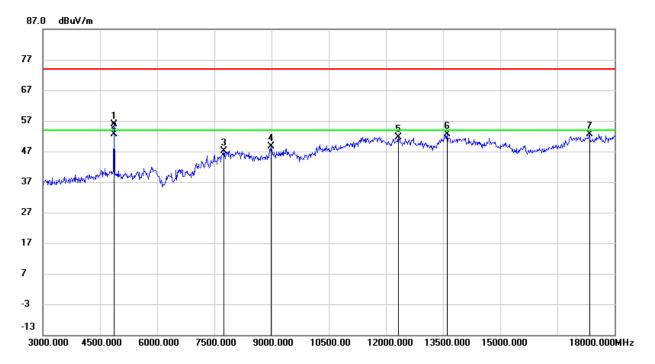


No.	Frequency	Reading	Correct	Result	Limit	Margin	Remark
	(MHz)	(dBuV)	(dB/m)	(dBuV/m)	(dBuV/m)	(dB)	
1	4822.500	54.93	0.11	55.04	74.00	-18.96	peak
2	4822.500	52.54	0.11	52.65	54.00	-1.35	AVG
3	7890.000	39.04	8.28	47.32	74.00	-26.68	peak
4	11370.000	36.01	16.05	52.06	74.00	-21.94	peak
5	12240.000	34.78	17.52	52.30	74.00	-21.70	peak
6	13807.500	32.52	19.42	51.94	74.00	-22.06	peak
7	17767.500	27.89	23.91	51.80	74.00	-22.20	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 High Pass Filter losses.
  - 5. Proper operation of the transmitter prior to adding the filter to the measurement chain.



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

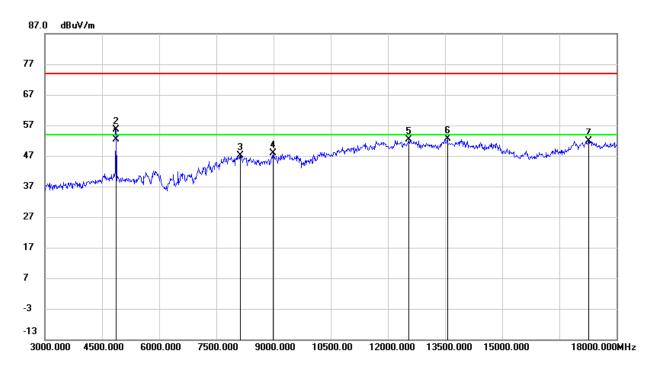


No.	Frequency	Reading	Correct	Result	Limit	Margin	Remark
	(MHz)	(dBuV)	(dB/m)	(dBuV/m)	(dBuV/m)	(dB)	
1	4875.000	55.83	0.02	55.85	74.00	-18.15	peak
2	4875.000	52.68	0.02	52.70	54.00	-1.30	AVG
3	7747.500	38.97	8.23	47.20	74.00	-26.80	peak
4	8985.000	38.15	10.48	48.63	74.00	-25.37	peak
5	12337.500	34.18	17.47	51.65	74.00	-22.35	peak
6	13612.500	33.66	19.09	52.75	74.00	-21.25	peak
7	17347.500	31.30	21.25	52.55	74.00	-21.45	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 High Pass Filter losses.
  - 5. Proper operation of the transmitter prior to adding the filter to the measurement chain.



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

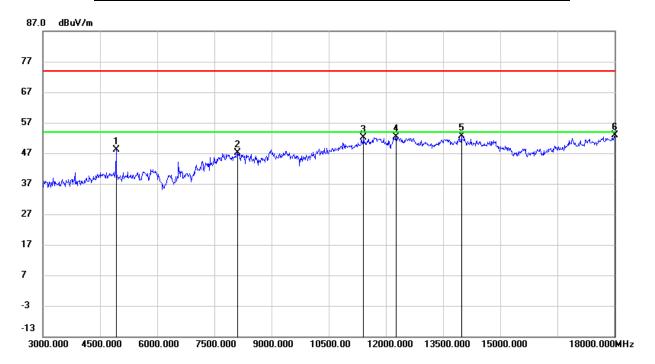


No.	Frequency	Reading	Correct	Result	Limit	Margin	Remark
	(MHz)	(dBuV)	(dB/m)	(dBuV/m)	(dBuV/m)	(dB)	
1	4867.500	52.42	0.02	52.44	54.00	-1.56	AVG
2	4867.500	55.73	0.02	55.75	74.00	-18.25	peak
3	8130.000	37.65	9.44	47.09	74.00	-26.91	peak
4	8992.500	37.16	10.62	47.78	74.00	-26.22	peak
5	12562.500	35.33	17.06	52.39	74.00	-21.61	peak
6	13567.500	33.49	19.10	52.59	74.00	-21.41	peak
7	17272.500	30.67	21.28	51.95	74.00	-22.05	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 High Pass Filter losses.
  - 5. Proper operation of the transmitter prior to adding the filter to the measurement chain.



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

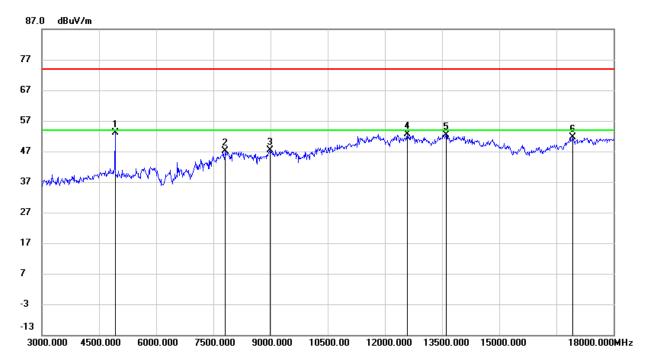


No.	Frequency	Reading	Correct	Result	Limit	Margin	Remark
	(MHz)	(dBuV)	(dB/m)	(dBuV/m)	(dBuV/m)	(dB)	
1	4920.000	47.92	0.12	48.04	74.00	-25.96	peak
2	8115.000	37.62	9.50	47.12	74.00	-26.88	peak
3	11415.000	35.86	16.39	52.25	74.00	-21.75	peak
4	12270.000	34.95	17.53	52.48	74.00	-21.52	peak
5	13987.500	33.22	19.36	52.58	74.00	-21.42	peak
6	18000.000	27.92	24.97	52.89	74.00	-21.11	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 High Pass Filter losses.
  - 5. Proper operation of the transmitter prior to adding the filter to the measurement chain.



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



No.	Frequency	Reading	Correct	Result	Limit	Margin	Remark
	(MHz)	(dBuV)	(dB/m)	(dBuV/m)	(dBuV/m)	(dB)	
1	4920.000	52.92	0.12	53.04	74.00	-20.96	peak
2	7822.500	38.64	8.60	47.24	74.00	-26.76	peak
3	8985.000	36.92	10.48	47.40	74.00	-26.60	peak
4	12585.000	35.51	17.10	52.61	74.00	-21.39	peak
5	13612.500	33.31	19.09	52.40	74.00	-21.60	peak
6	16935.000	31.85	19.66	51.51	74.00	-22.49	peak

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

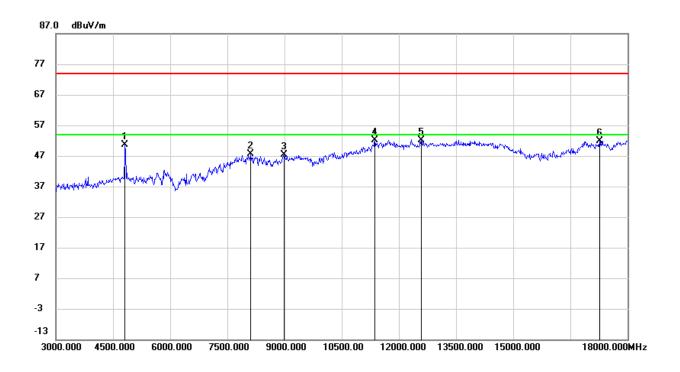
- 2. If Peak Result complies with AV limit, AV Result is deemed to comply with AV limit.
- 3. Peak: Peak detector.
- 4. Filter losses were only considered in the spurious frequency bands and the authorized band was not corrected for High Pass Filter losses.
  - 5. Proper operation of the transmitter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

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



### 8.3.10. 802.11g SISO MODE PIFA ANTENNA

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

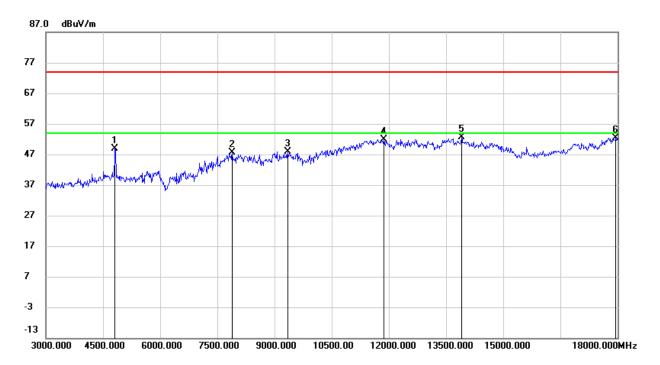


No.	Frequency	Reading	Correct	Result	Limit	Margin	Remark
	(MHz)	(dBuV)	(dB/m)	(dBuV/m)	(dBuV/m)	(dB)	
1	4822.500	50.41	0.11	50.52	74.00	-23.48	peak
2	8115.000	38.12	9.50	47.62	74.00	-26.38	peak
3	8992.500	36.78	10.62	47.40	74.00	-26.60	peak
4	11370.000	36.19	16.05	52.24	74.00	-21.76	peak
5	12585.000	35.11	17.10	52.21	74.00	-21.79	peak
6	17272.500	30.50	21.28	51.78	74.00	-22.22	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 High Pass Filter losses.
  - 5. Proper operation of the transmitter prior to adding the filter to the measurement chain.



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

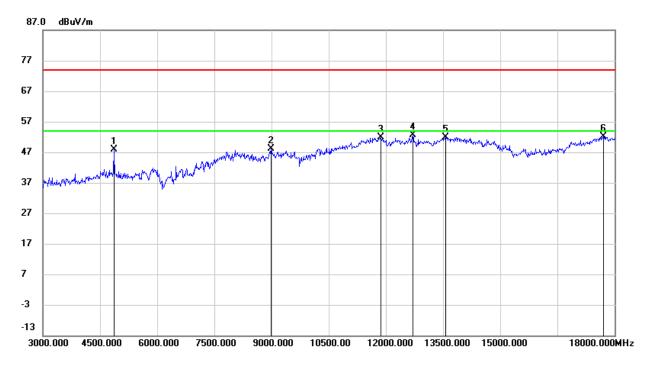


No.	Frequency	Reading	Correct	Result	Limit	Margin	Remark
	(MHz)	(dBuV)	(dB/m)	(dBuV/m)	(dBuV/m)	(dB)	
1	4822.500	48.69	0.11	48.80	74.00	-25.20	peak
2	7890.000	39.47	8.28	47.75	74.00	-26.25	peak
3	9345.000	37.54	10.43	47.97	74.00	-26.03	peak
4	11872.500	34.75	17.17	51.92	74.00	-22.08	peak
5	13912.500	33.25	19.29	52.54	74.00	-21.46	peak
6	17962.500	27.78	24.72	52.50	74.00	-21.50	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 High Pass Filter losses.
  - 5. Proper operation of the transmitter prior to adding the filter to the measurement chain.



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

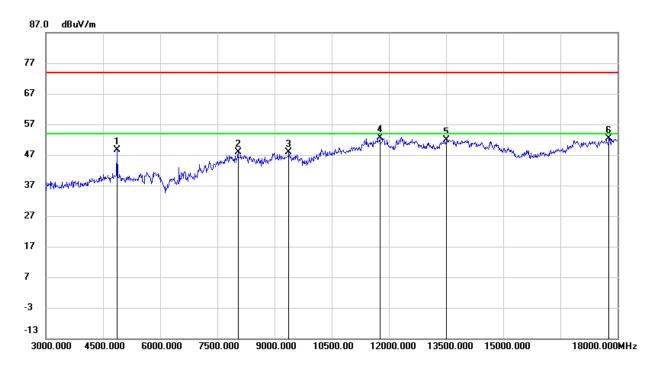


No.	Frequency	Reading	Correct	Result	Limit	Margin	Remark
	(MHz)	(dBuV)	(dB/m)	(dBuV/m)	(dBuV/m)	(dB)	
1	4867.500	47.85	0.02	47.87	74.00	-26.13	peak
2	8985.000	37.58	10.48	48.06	74.00	-25.94	peak
3	11872.500	34.68	17.17	51.85	74.00	-22.15	peak
4	12705.000	35.50	17.03	52.53	74.00	-21.47	peak
5	13567.500	32.90	19.10	52.00	74.00	-22.00	peak
6	17707.500	28.62	23.39	52.01	74.00	-21.99	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 High Pass Filter losses.
  - 5. Proper operation of the transmitter prior to adding the filter to the measurement chain.



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

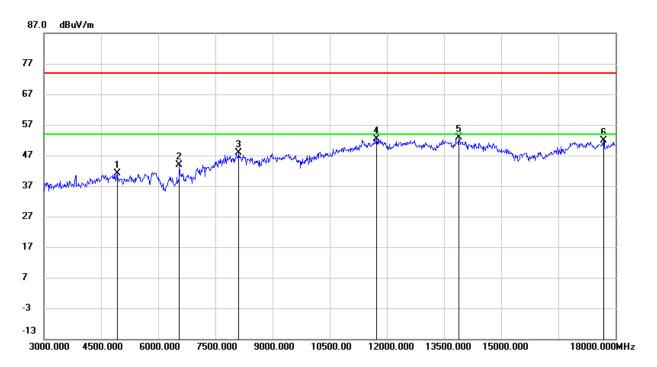


No.	Frequency	Reading	Correct	Result	Limit	Margin	Remark
	(MHz)	(dBuV)	(dB/m)	(dBuV/m)	(dBuV/m)	(dB)	
1	4867.500	48.66	0.02	48.68	74.00	-25.32	peak
2	8047.500	39.03	8.76	47.79	74.00	-26.21	peak
3	9382.500	37.14	10.67	47.81	74.00	-26.19	peak
4	11760.000	35.64	17.04	52.68	74.00	-21.32	peak
5	13500.000	32.73	19.22	51.95	74.00	-22.05	peak
6	17775.000	28.49	23.98	52.47	74.00	-21.53	peak

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



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

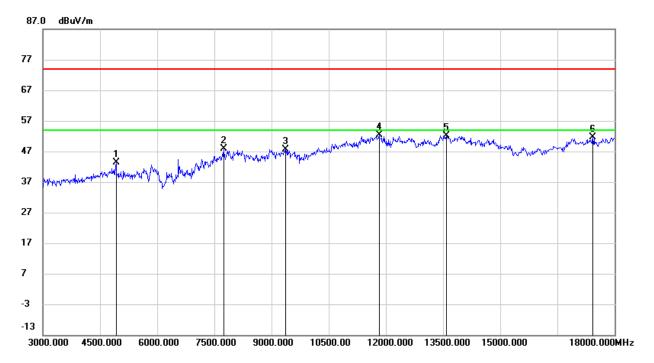


No.	Frequency	Reading	Correct	Result	Limit	Margin	Remark
	(MHz)	(dBuV)	(dB/m)	(dBuV/m)	(dBuV/m)	(dB)	
1	4920.000	40.97	0.12	41.09	74.00	-32.91	peak
2	6562.500	38.51	5.26	43.77	74.00	-30.23	peak
3	8122.500	38.48	9.47	47.95	74.00	-26.05	peak
4	11730.000	35.20	17.07	52.27	74.00	-21.73	peak
5	13897.500	33.59	19.28	52.87	74.00	-21.13	peak
6	17692.500	28.68	23.26	51.94	74.00	-22.06	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 High Pass Filter losses.
  - 5. Proper operation of the transmitter prior to adding the filter to the measurement chain.



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



No.	Frequency	Reading	Correct	Result	Limit	Margin	Remark
	(MHz)	(dBuV)	(dB/m)	(dBuV/m)	(dBuV/m)	(dB)	
1	4920.000	43.36	0.12	43.48	74.00	-30.52	peak
2	7747.500	39.59	8.23	47.82	74.00	-26.18	peak
3	9367.500	37.17	10.58	47.75	74.00	-26.25	peak
4	11827.500	35.30	17.05	52.35	74.00	-21.65	peak
5	13597.500	33.20	19.04	52.24	74.00	-21.76	peak
6	17437.500	30.47	21.11	51.58	74.00	-22.42	peak

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

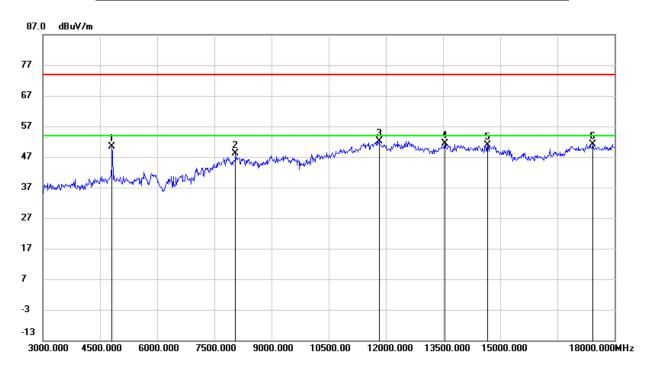
- 2. If Peak Result complies with AV limit, AV Result is deemed to comply with AV limit.
- 3. Peak: Peak detector.
- 4. Filter losses were only considered in the spurious frequency bands and the authorized band was not corrected for High Pass Filter losses.
  - 5. Proper operation of the transmitter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

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



8.3.11. 802.11n HT20 SISO MODE PIFA ANTENNA

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

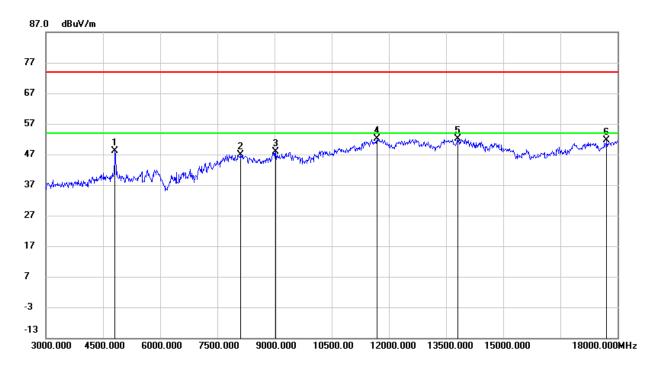


No.	Frequency	Reading	Correct	Result	Limit	Margin	Remark
	(MHz)	(dBuV)	(dB/m)	(dBuV/m)	(dBuV/m)	(dB)	
1	4815.000	50.36	0.13	50.49	74.00	-23.51	peak
2	8055.000	39.21	8.87	48.08	74.00	-25.92	peak
3	11820.000	35.08	17.03	52.11	74.00	-21.89	peak
4	13552.500	32.21	19.12	51.33	74.00	-22.67	peak
5	14670.000	33.44	17.45	50.89	74.00	-23.11	peak
6	17430.000	30.03	21.08	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 High Pass Filter losses.
  - 5. Proper operation of the transmitter prior to adding the filter to the measurement chain.



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

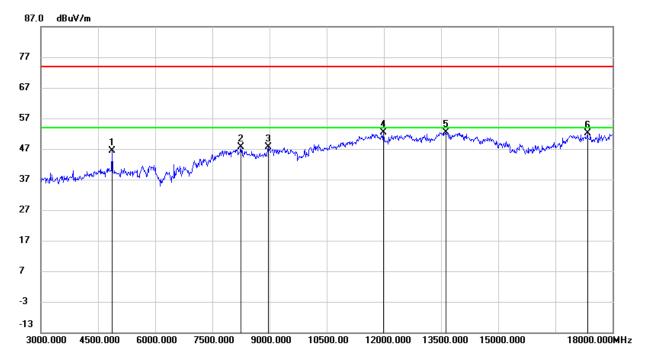


No.	Frequency	Reading	Correct	Result	Limit	Margin	Remark
	(MHz)	(dBuV)	(dB/m)	(dBuV/m)	(dBuV/m)	(dB)	
1	4822.500	48.07	0.11	48.18	74.00	-25.82	peak
2	8122.500	37.53	9.47	47.00	74.00	-27.00	peak
3	9030.000	37.39	10.46	47.85	74.00	-26.15	peak
4	11685.000	35.13	17.02	52.15	74.00	-21.85	peak
5	13807.500	32.66	19.42	52.08	74.00	-21.92	peak
6	17722.500	28.05	23.53	51.58	74.00	-22.42	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 High Pass Filter losses.
  - 5. Proper operation of the transmitter prior to adding the filter to the measurement chain.



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

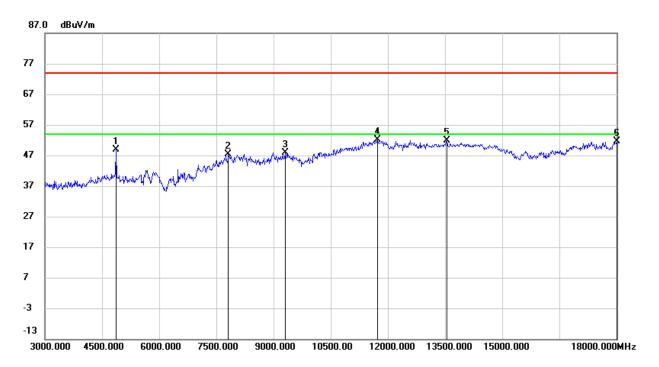


No.	Frequency	Reading	Correct	Result	Limit	Margin	Remark
	(MHz)	(dBuV)	(dB/m)	(dBuV/m)	(dBuV/m)	(dB)	
1	4875.000	46.34	0.02	46.36	74.00	-27.64	peak
2	8257.500	38.44	9.09	47.53	74.00	-26.47	peak
3	8970.000	37.44	10.18	47.62	74.00	-26.38	peak
4	11985.000	35.00	17.27	52.27	74.00	-21.73	peak
5	13620.000	33.22	19.12	52.34	74.00	-21.66	peak
6	17340.000	30.81	21.29	52.10	74.00	-21.90	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 High Pass Filter losses.
  - 5. Proper operation of the transmitter prior to adding the filter to the measurement chain.



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

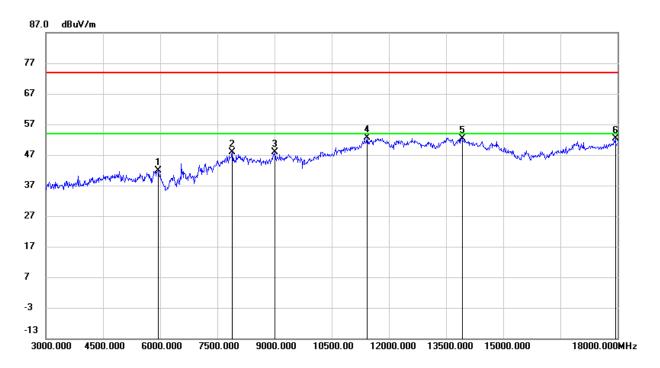


No.	Frequency	Reading	Correct	Result	Limit	Margin	Remark
	(MHz)	(dBuV)	(dB/m)	(dBuV/m)	(dBuV/m)	(dB)	
1	4860.000	48.90	0.04	48.94	74.00	-25.06	peak
2	7822.500	38.88	8.60	47.48	74.00	-26.52	peak
3	9307.500	37.66	10.18	47.84	74.00	-26.16	peak
4	11737.500	34.96	17.06	52.02	74.00	-21.98	peak
5	13545.000	32.78	19.13	51.91	74.00	-22.09	peak
6	18000.000	26.57	24.97	51.54	74.00	-22.46	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 High Pass Filter losses.
  - 5. Proper operation of the transmitter prior to adding the filter to the measurement chain.



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

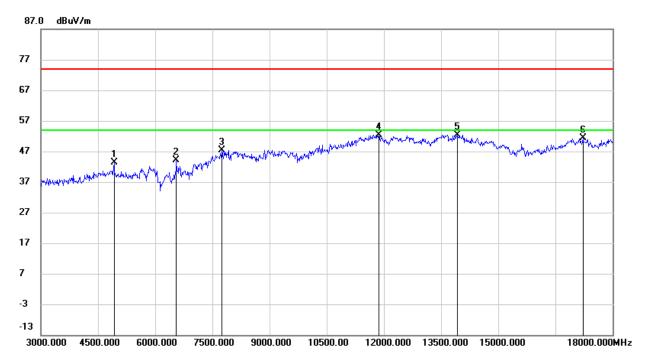


No.	Frequency	Reading	Correct	Result	Limit	Margin	Remark
	(MHz)	(dBuV)	(dB/m)	(dBuV/m)	(dBuV/m)	(dB)	
1	5955.000	38.79	3.15	41.94	74.00	-32.06	peak
2	7890.000	39.50	8.28	47.78	74.00	-26.22	peak
3	9022.500	37.28	10.53	47.81	74.00	-26.19	peak
4	11430.000	36.11	16.40	52.51	74.00	-21.49	peak
5	13920.000	33.16	19.30	52.46	74.00	-21.54	peak
6	17940.000	27.77	24.57	52.34	74.00	-21.66	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 High Pass Filter losses.
  - 5. Proper operation of the transmitter prior to adding the filter to the measurement chain.



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



No.	Frequency	Reading	Correct	Result	Limit	Margin	Remark
	(MHz)	(dBuV)	(dB/m)	(dBuV/m)	(dBuV/m)	(dB)	
1	4920.000	43.31	0.12	43.43	74.00	-30.57	peak
2	6562.500	38.75	5.26	44.01	74.00	-29.99	peak
3	7755.000	39.13	8.29	47.42	74.00	-26.58	peak
4	11865.000	35.15	17.14	52.29	74.00	-21.71	peak
5	13920.000	33.17	19.30	52.47	74.00	-21.53	peak
6	17227.500	30.52	20.92	51.44	74.00	-22.56	peak

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

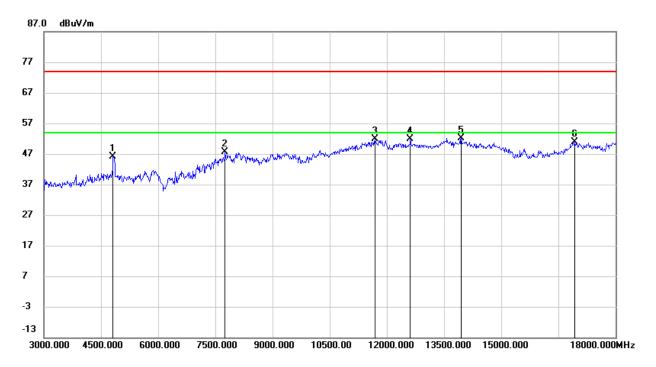
- 2. If Peak Result complies with AV limit, AV Result is deemed to comply with AV limit.
- 3. Peak: Peak detector.
- 4. Filter losses were only considered in the spurious frequency bands and the authorized band was not corrected for High Pass Filter losses.
  - 5. Proper operation of the transmitter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

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



8.3.12. 802.11n HT40 SISO MODE PIFA ANTENNA

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

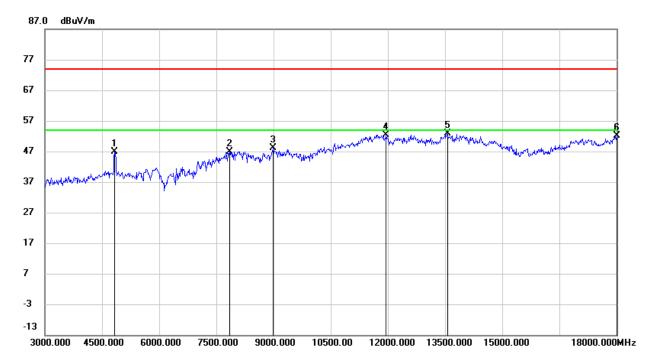


No.	Frequency	Reading	Correct	Result	Limit	Margin	Remark
	(MHz)	(dBuV)	(dB/m)	(dBuV/m)	(dBuV/m)	(dB)	
1	4822.500	46.13	0.11	46.24	74.00	-27.76	peak
2	7755.000	39.29	8.29	47.58	74.00	-26.42	peak
3	11692.500	34.74	17.06	51.80	74.00	-22.20	peak
4	12615.000	34.68	17.10	51.78	74.00	-22.22	peak
5	13957.500	32.80	19.34	52.14	74.00	-21.86	peak
6	16942.500	31.30	19.65	50.95	74.00	-23.05	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 High Pass Filter losses.
  - 5. Proper operation of the transmitter prior to adding the filter to the measurement chain.



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

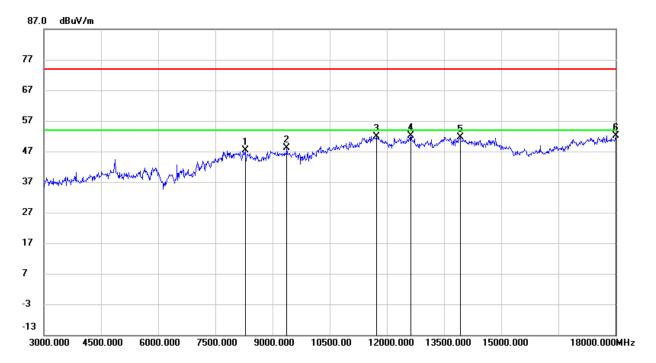


No.	Frequency	Reading	Correct	Result	Limit	Margin	Remark
	(MHz)	(dBuV)	(dB/m)	(dBuV/m)	(dBuV/m)	(dB)	
1	4837.500	46.70	0.08	46.78	74.00	-27.22	peak
2	7845.000	38.49	8.51	47.00	74.00	-27.00	peak
3	8985.000	37.65	10.48	48.13	74.00	-25.87	peak
4	11955.000	35.25	17.25	52.50	74.00	-21.50	peak
5	13560.000	33.75	19.12	52.87	74.00	-21.13	peak
6	18000.000	27.05	24.97	52.02	74.00	-21.98	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 High Pass Filter losses.
  - 5. Proper operation of the transmitter prior to adding the filter to the measurement chain.



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

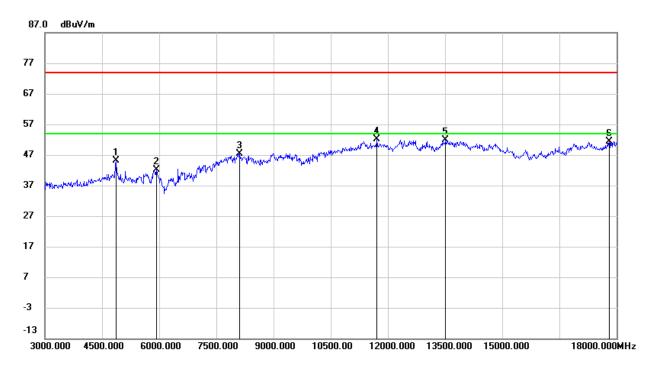


No.	Frequency	Reading	Correct	Result	Limit	Margin	Remark
	(MHz)	(dBuV)	(dB/m)	(dBuV/m)	(dBuV/m)	(dB)	
1	8280.000	38.30	9.06	47.36	74.00	-26.64	peak
2	9382.500	37.44	10.67	48.11	74.00	-25.89	peak
3	11730.000	34.78	17.07	51.85	74.00	-22.15	peak
4	12630.000	35.17	17.08	52.25	74.00	-21.75	peak
5	13920.000	32.42	19.30	51.72	74.00	-22.28	peak
6	18000.000	27.13	24.97	52.10	74.00	-21.90	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 High Pass Filter losses.
  - 5. Proper operation of the transmitter prior to adding the filter to the measurement chain.



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

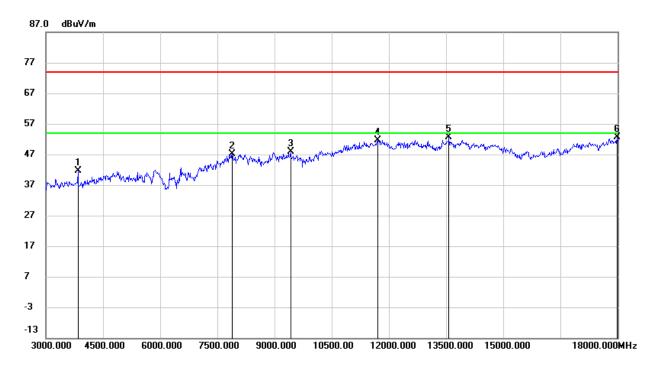


No.	Frequency	Reading	Correct	Result	Limit	Margin	Remark
	(MHz)	(dBuV)	(dB/m)	(dBuV/m)	(dBuV/m)	(dB)	
1	4867.500	45.16	0.02	45.18	74.00	-28.82	peak
2	5932.500	38.86	3.26	42.12	74.00	-31.88	peak
3	8122.500	37.91	9.47	47.38	74.00	-26.62	peak
4	11722.500	34.95	17.08	52.03	74.00	-21.97	peak
5	13522.500	32.71	19.18	51.89	74.00	-22.11	peak
6	17805.000	27.18	24.20	51.38	74.00	-22.62	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 High Pass Filter losses.
  - 5. Proper operation of the transmitter prior to adding the filter to the measurement chain.



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

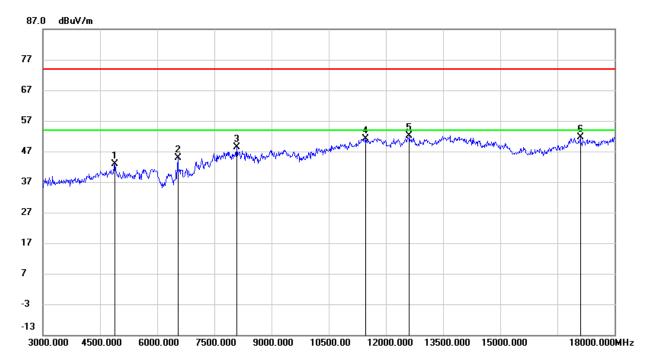


No.	Frequency	Reading	Correct	Result	Limit	Margin	Remark
	(MHz)	(dBuV)	(dB/m)	(dBuV/m)	(dBuV/m)	(dB)	
1	3840.000	45.39	-3.75	41.64	74.00	-32.36	peak
2	7890.000	38.97	8.28	47.25	74.00	-26.75	peak
3	9420.000	37.06	10.71	47.77	74.00	-26.23	peak
4	11715.000	34.62	17.09	51.71	74.00	-22.29	peak
5	13582.500	33.54	19.07	52.61	74.00	-21.39	peak
6	17985.000	27.73	24.87	52.60	74.00	-21.40	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 High Pass Filter losses.
  - 5. Proper operation of the transmitter prior to adding the filter to the measurement chain.



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



No.	Frequency	Reading	Correct	Result	Limit	Margin	Remark
	(MHz)	(dBuV)	(dB/m)	(dBuV/m)	(dBuV/m)	(dB)	
1	4890.000	42.88	-0.01	42.87	74.00	-31.13	peak
2	6540.000	39.35	5.44	44.79	74.00	-29.21	peak
3	8085.000	39.02	9.33	48.35	74.00	-25.65	peak
4	11475.000	34.83	16.42	51.25	74.00	-22.75	peak
5	12615.000	34.94	17.10	52.04	74.00	-21.96	peak
6	17100.000	31.21	20.40	51.61	74.00	-22.39	peak

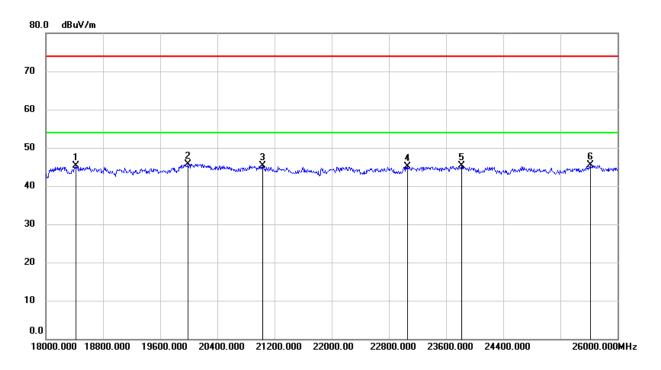
- 2. If Peak Result complies with AV limit, AV Result is deemed to comply with AV limit.
- 3. Peak: Peak detector.
- 4. Filter losses were only considered in the spurious frequency bands and the authorized band was not corrected for High Pass Filter losses.
  - 5. Proper operation of the transmitter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



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

#### 8.5.1. 802.11b SISO MODE PCB ANTENNA

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



No.	Frequency	Reading	Correct	Result	Limit	Margin	Remark
	(MHz)	(dBuV)	(dB/m)	(dBuV/m)	(dBuV/m)	(dB)	
1	18416.000	50.73	-5.35	45.38	74.00	-28.62	peak
2	19992.000	51.15	-5.45	45.70	74.00	-28.30	peak
3	21032.000	50.15	-4.87	45.28	74.00	-28.72	peak
4	23064.000	48.49	-3.42	45.07	74.00	-28.93	peak
5	23816.000	48.39	-3.08	45.31	74.00	-28.69	peak
6	25616.000	46.68	-1.24	45.44	74.00	-28.56	peak

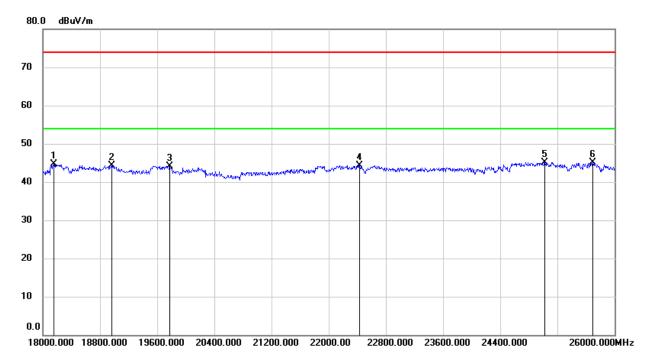
Note: 1. Measurement = Reading Level + Correct Factor.

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

3. Peak: Peak detector.



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



No.	Frequency	Reading	Correct	Result	Limit	Margin	Remark
	(MHz)	(dBuV)	(dB/m)	(dBuV/m)	(dBuV/m)	(dB)	
1	18152.000	50.26	-5.48	44.78	74.00	-29.22	peak
2	18960.000	49.51	-5.25	44.26	74.00	-29.74	peak
3	19776.000	49.47	-5.28	44.19	74.00	-29.81	peak
4	22432.000	48.26	-3.97	44.29	74.00	-29.71	peak
5	25024.000	47.12	-2.05	45.07	74.00	-28.93	peak
6	25696.000	45.94	-0.86	45.08	74.00	-28.92	peak

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

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

3. Peak: Peak detector.

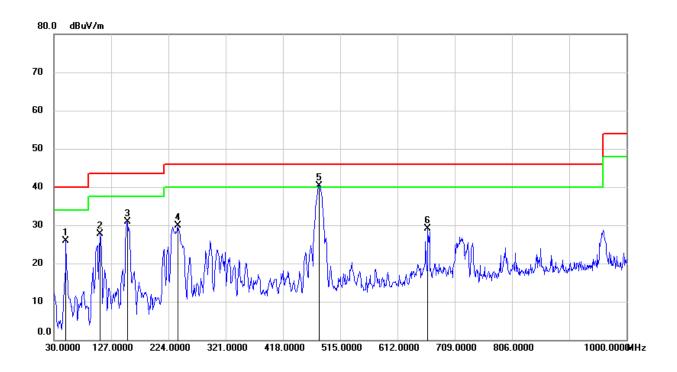
Note: All modes, channels and antenna have been tested, only the worst data was recorded in the report.



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

#### 8.6.1. 802.11b SISO MODE PCB ANTENNA

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



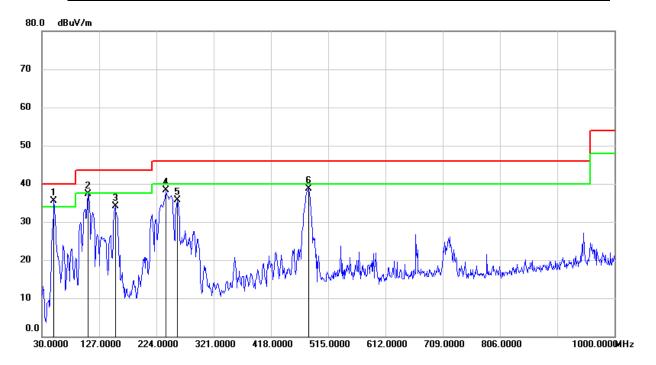
No.	Frequency	Reading	Correct	Result	Limit	Margin	Remark
	(MHz)	(dBuV)	(dB/m)	(dBuV/m)	(dBuV/m)	(dB)	
1	50.3700	46.66	-20.76	25.90	40.00	-14.10	QP
2	108.5700	48.32	-20.53	27.79	43.50	-15.71	QP
3	154.1600	48.87	-18.06	30.81	43.50	-12.69	QP
4	239.5200	49.00	-19.16	29.84	46.00	-16.16	QP
5	479.1100	52.15	-11.82	40.33	46.00	-5.67	QP
6	663.4099	37.70	-8.66	29.04	46.00	-16.96	QP

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

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



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



No.	Frequency	Reading	Correct	Result	Limit	Margin	Remark
	(MHz)	(dBuV)	(dB/m)	(dBuV/m)	(dBuV/m)	(dB)	
1	50.3700	56.36	-20.76	35.60	40.00	-4.40	QP
2	108.5700	57.87	-20.53	37.34	43.50	-6.16	QP
3	154.1600	52.18	-18.06	34.12	43.50	-9.38	QP
4	239.5200	57.44	-19.16	38.28	46.00	-7.72	QP
5	258.9200	54.20	-18.59	35.61	46.00	-10.39	QP
6	482.0200	50.40	-11.78	38.62	46.00	-7.38	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

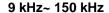
Note: All modes, channels and antenna have been tested, only the worst data was recorded in the report.

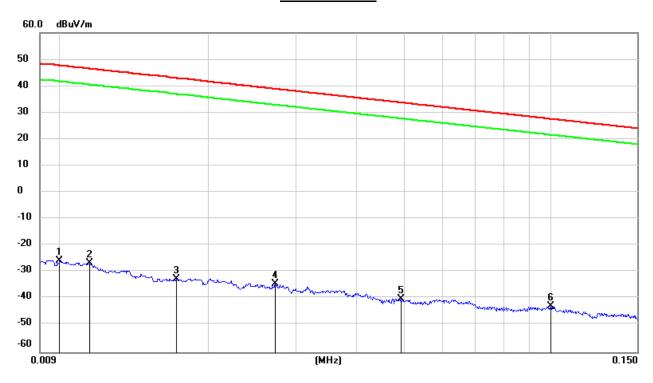


#### 8.7. SPURIOUS EMISSIONS BELOW 30 MHz

#### 8.7.1. 802.11b SISO MODE PCB ANTENNA

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





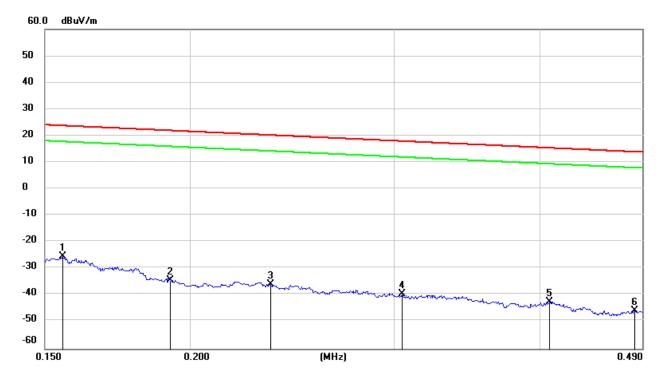
No.	Frequency	Reading	Correct	FCC	FCC	ISED	ISED	Margin	Remark
				Result	Limit	Result	Limit		
	(MHz)	(dBuV)	(dB/m)	(dBuV/m)	(dBuV/m)	(dBuA/m)	(dBuA/m)	(dB)	
1	0.0100	75.72	-101.40	-25.68	47.6	-77.18	-3.90	-73.28	peak
2	0.0114	74.88	-101.40	-26.52	46.46	-78.02	-5.04	-72.98	peak
3	0.0171	68.88	-101.36	-32.48	42.94	-83.98	-8.56	-75.42	peak
4	0.0273	66.99	-101.38	-34.39	38.88	-85.89	-12.62	-73.27	peak
5	0.0492	61.55	-101.47	-39.92	33.76	-91.42	-17.74	-73.68	peak
6	0.1000	59.17	-101.80	-42.63	27.6	-94.13	-23.90	-70.23	peak

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

- 2. If Peak Result complies with AV and QP limit, AV and QP Result are deemed to comply with AV limit.
- 3. All 3 polarizations (Horizontal, Face-on and Face-off) of the loop antenna had been tested, but only the worst data recorded in the report.



#### 150 kHz ~ 490 kHz



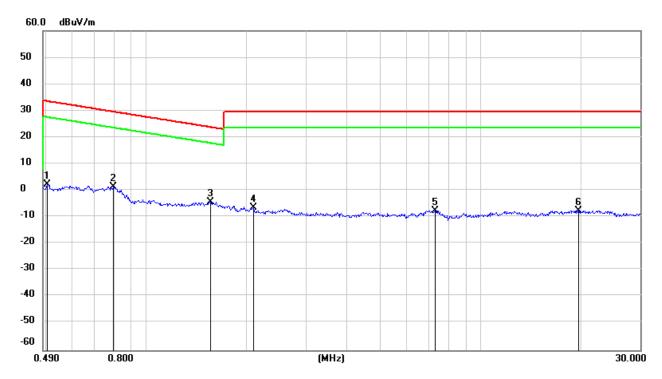
No.	Frequency	Reading	Correct	FCC	FCC	ISED	ISED	Margin	Remark
				Result	Limit	Result	Limit		
	(MHz)	(dBuV)	(dB/m)	(dBuV/m)	(dBuV/m)	(dBuA/m)	(dBuA/m)	(dB)	
1	0.1554	76.27	-101.65	-25.38	23.77	-76.88	-27.73	-49.15	peak
2	0.1925	67.42	-101.70	-34.28	21.92	-85.78	-29.58	-56.20	peak
3	0.2346	65.85	-101.77	-35.92	20.19	-87.42	-31.31	-56.11	peak
4	0.3047	62.34	-101.86	-39.52	17.92	-91.02	-33.58	-57.44	peak
5	0.4081	59.58	-101.97	-42.39	15.39	-93.89	-36.11	-57.78	peak
6	0.4823	56.19	-102.04	-45.85	13.94	-97.35	-37.56	-59.79	peak

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

- 2. If Peak Result complies with AV and QP limit, AV and QP Result are deemed to comply with AV limit.
- 3. All 3 polarizations (Horizontal, Face-on and Face-off) of the loop antenna had been tested, but only the worst data recorded in the report.



#### 490 kHz ~ 30 MHz



No.	Frequency	Reading	Correct	FCC Result	FCC Limit	ISED Result	ISED Limit	Margin	Remark
	(MHz)	(dBuV)	(dB/m)	(dBuV/m)	(dBuV/m)	(dBuA/m)	(dBuA/m)	(dB)	
1	0.5039	64.44	-62.07	2.37	33.56	-49.13	-17.94	-31.19	peak
2	0.7963	63.37	-62.14	1.23	29.58	-50.27	-21.92	-28.35	peak
3	1.5564	57.68	-62.02	-4.34	23.76	-55.84	-27.74	-28.1	peak
4	2.0939	55.39	-61.79	-6.4	29.54	-57.9	-21.96	-35.94	peak
5	7.3361	53.58	-61.17	-7.59	29.54	-59.09	-21.96	-37.13	peak
6	19.5823	53.22	-60.85	-7.63	29.54	-59.13	-21.96	-37.17	peak

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

- 2. If Peak Result complies with AV and QP limit, AV and QP Result are deemed to comply with AV limit.
- 3. All 3 polarizations (Horizontal, Face-on and Face-off) of the loop antenna had been tested, but only the worst data recorded in the report.

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



#### 9. AC POWER LINE CONDUCTED EMISSIONS

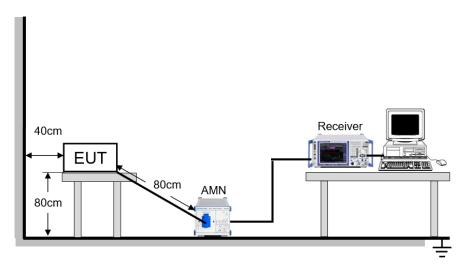
#### **LIMITS**

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

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

#### **TEST SETUP AND PROCEDURE**

Refer to ANSI C63.10-2013 clause 6.2.



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

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

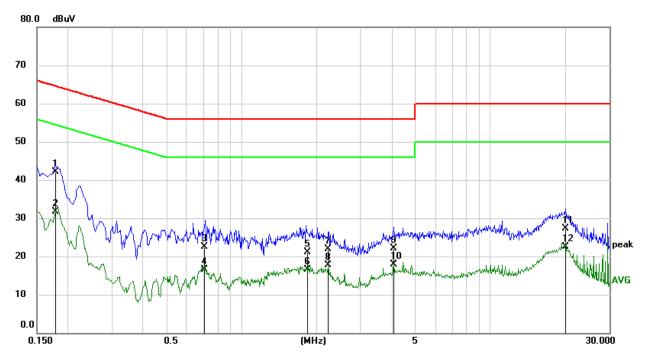
#### **TEST ENVIRONMENT**

Temperature	20.6 °C	Relative Humidity	62.1 %
Atmosphere Pressure	101 kPa	Test Voltage	AC 120 V, 60 Hz



# 9.1.1. 802.11b SISO MODE PCB ANTENNA

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



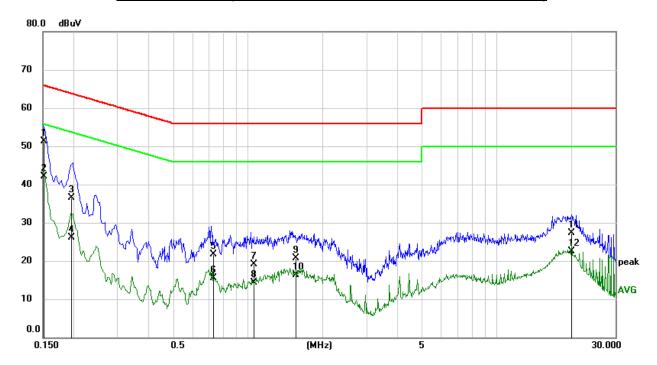
No.	Frequency	Reading	Correct	Result	Limit	Margin	Remark
	(MHz)	(dBuV)	(dB)	(dBuV)	(dBuV)	(dB)	
1	0.1785	32.50	9.55	42.05	64.56	-22.51	QP
2	0.1785	22.23	9.55	31.78	54.56	-22.78	AVG
3	0.7032	13.06	9.50	22.56	56.00	-33.44	QP
4	0.7032	6.97	9.50	16.47	46.00	-29.53	AVG
5	1.8526	11.49	9.61	21.10	56.00	-34.90	QP
6	1.8526	6.92	9.61	16.53	46.00	-29.47	AVG
7	2.2239	12.36	9.63	21.99	56.00	-34.01	QP
8	2.2239	8.10	9.63	17.73	46.00	-28.27	AVG
9	4.0781	12.56	9.58	22.14	56.00	-33.86	QP
10	4.0781	8.39	9.58	17.97	46.00	-28.03	AVG
11	20.0028	17.49	9.74	27.23	60.00	-32.77	QP
12	20.0028	12.72	9.74	22.46	50.00	-27.54	AVG

Note: 1. Result = Reading +Correct Factor.

- 2. If QP Result complies with AV limit, AV Result is deemed to comply with AV limit.
- 3. Test setup: RBW: 200 Hz (9 kHz ~ 150 kHz), 9 kHz (150 kHz ~ 30 MHz).
- 4. Step size: 80 Hz (0.009 MHz  $\sim$  0.15 MHz), 4 kHz (0.15 MHz  $\sim$  30 MHz), Scan time: auto.



#### **LINE N RESULTS (MID CHANNEL, WORST-CASE CONFIGURATION)**



No.	Frequency	Reading	Correct	Result	Limit	Margin	Remark
	(MHz)	(dBuV)	(dB)	(dBuV)	(dBuV)	(dB)	
1	0.1516	41.87	9.49	51.36	65.91	-14.55	QP
2	0.1516	32.69	9.49	42.18	55.91	-13.73	AVG
3	0.1949	26.97	9.58	36.55	63.83	-27.28	QP
4	0.1949	16.61	9.58	26.19	53.83	-27.64	AVG
5	0.7339	12.19	9.50	21.69	56.00	-34.31	QP
6	0.7339	5.96	9.50	15.46	46.00	-30.54	AVG
7	1.0577	9.50	9.52	19.02	56.00	-36.98	QP
8	1.0577	4.83	9.52	14.35	46.00	-31.65	AVG
9	1.5692	11.15	9.58	20.73	56.00	-35.27	QP
10	1.5692	6.71	9.58	16.29	46.00	-29.71	AVG
11	20.0032	17.66	9.74	27.40	60.00	-32.60	QP
12	20.0032	12.77	9.74	22.51	50.00	-27.49	AVG

Note: 1. Result = Reading +Correct Factor.

- 2. If QP Result complies with AV limit, AV Result is deemed to comply with AV limit.
- 3. Test setup: RBW: 200 Hz (9 kHz ~ 150 kHz), 9 kHz (150 kHz ~ 30 MHz).
- 4. Step size: 80 Hz (0.009 MHz  $\sim$  0.15 MHz), 4 kHz (0.15 MHz  $\sim$  30 MHz), Scan time: auto.

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



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10. ANTENNA REQUIREMENTS

#### **APPLICABLE REQUIREMENTS**

#### Please refer to FCC §15.203

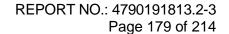
An intentional radiator shall be designed to ensure that no antenna other than that furnished by the responsible party shall be used with the device. The use of a permanently attached antenna or of an antenna that uses a unique coupling to the intentional radiator shall be considered sufficient to comply 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
		2412	8.08	2408.44	2416.52	0.5	PASS
11B	Ant1	2437	9.04	2432.48	2441.52	0.5	PASS
		2462	9.04	2457.44	2466.48	0.5	PASS
	Ant1	2412	16.36	2403.80	2420.16	0.5	PASS
11G		2437	16.36	2428.80	2445.16	0.5	PASS
		2462	16.32	2453.80	2470.12	0.5	PASS
		2412	17.56	2403.20	2420.76	0.5	PASS
11N20SISO	Ant1	2437	17.56	2428.20	2445.76	0.5	PASS
		2462	17.56	2453.20	2470.76	0.5	PASS
	Ant1	2422	35.12	2404.48	2439.60	0.5	PASS
11N40SISO		2437	35.04	2419.48	2454.52	0.5	PASS
		2452	35.12	2434.48	2469.60	0.5	PASS