



# CFR 47 FCC PART 15 SUBPART E CERTIFICATION TEST REPORT

For

WIFI+BT Module

**MODEL NUMBER: WCTA3M2511** 

FCC ID: 2AC23-WCTA3

REPORT NUMBER: 4790335862-4

ISSUE DATE: April 21, 2022

# Prepared for

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Prepared by

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# **Revision History**

Rev.	Issue Date	Revisions	Revised By
V0	4/21/2022	Initial Issue	



Summary of Test Results				
Clause	Test Items	FCC Rules	Test Results	
1	6dB/26dB Bandwidth	FCC 15.407 (a)&(e)	PASS	
2	Conducted Output Power	FCC 15.407 (a)	PASS	
3	Power Spectral Density	FCC 15.407 (a)	PASS	
4	Radiated Bandedge and Spurious Emission	FCC 15.407 (b) FCC 15.209 FCC 15.205	PASS	
5	Conducted Emission Test for AC Power Port	FCC 15.207	PASS	
6	Frequency Stability	FCC 15.407 (g)	PASS	
7	Dynamic Frequency Selection	FCC 15.407 (h)	PASS	
8	Antenna Requirement	FCC 15.203	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 E > 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.75 Zhongkai Development Area, Huizhou, 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: WCTA3M2511

Brand: GSD

Sample Received Date: March 24, 2022

Sample Status: Normal Sample ID: 4796035

Date of Tested: March 25 ~ April 17, 2022

APPLICABLE STANDARDS		
STANDARD	TEST RESULTS	
CFR 47 FCC PART 15 SUBPART E	PASS	

Prepared By:	Checked By:
kebo. zhang.	Shemalier
Kebo Zhang Project Engineer	Shawn Wen Laboratory Leader

Approved By:

Stephen Guo Laboratory Manager

Sephenbus



2. TEST METHODOLOGY

The tests documented in this report were performed in accordance with ANSI C63.10-2013, CFR 47 FCC Part 2, CFR 47 FCC Part 15, KDB 789033 D02 v02r01, KDB 662911 D01 Multiple Transmitter Output v02r01, KDB 905462 D02 UNII DFS Compliance Procedures New Rules v02, KDB 905462 D03 UNII clients without radar detection New Rules v01r02, KDB 905462 D04 Operational Modes for DFS Testing New Rules v01 and KDB 905462 D06 802 11 Channel Plans New Rules v02.

## 3. FACILITIES AND ACCREDITATION

	A2LA (Cartificata No.: 4402.04)
	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.	
	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

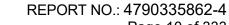
The measuring equipment utilized to perform the tests documented in this report has been calibrated in accordance with the manufacturer's recommendations and is traceable to recognize national standards.

#### 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
5	5.78 dB (1 GHz-18 GHz)
Radiated Emission (Included Fundamental Emission) (1 GHz to 40 GHz)	5.23dB (18 GHz-26 GHz)
(	5.64 dB (26 GHz-40 GHz)

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





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# 5. EQUIPMENT UNDER TEST

#### 5.1. **DESCRIPTION OF EUT**

EUT Name	WIFI+BT Module	
Model	WCTA3M2511	
Radio Technology	IEEE802.11a20 IEEE802.11n HT20/n HT40 IEEE802.11ac VHT20/VHT40/VHT80	
Operation frequency	UNII-1/ UNII-2A/ UNII-2C/ UNII-3	
Modulation	IEEE 802.11a: OFDM (64QAM, 16QAM, QPSK, BPSK) IEEE 802.11n HT20: OFDM (64QAM, 16QAM, QPSK, BPSK) IEEE 802.11n HT40: OFDM (64QAM, 16QAM, QPSK, BPSK) IEEE 802.11ac VHT20: OFDM (256QAM, 64QAM, 16QAM, QPSK, BPSK) IEEE 802.11ac VHT40: OFDM (256QAM, 64QAM, 16QAM, QPSK, BPSK) IEEE 802.11ac VHT80: OFDM (256QAM, 64QAM, 16QAM, QPSK, BPSK)	
Power Supply	DC 5 V	

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# 5.2. MAXIMUM OUTPUT POWER

#### **UNII-1 BAND**

IEEE Std. 802.11	Frequency (MHz)	Maximum Average Conducted Power (dBm)	Max Average EIRP (dBm)
a20		14.00	18.00
n HT20		16.31	20.31
n HT40	5150 ~ 5250	15.92	19.92
ac VHT20	0100 0200	Covered by 802.11n H	T20
ac VHT40		Covered by 802.11n HT40	
ac VHT80		14.82	18.82

# **UNII-2A BAND**

IEEE Std. 802.11	Frequency (MHz)	Maximum Average Conducted Power (dBm)
a20	5250 ~ 5350	14.33
n HT20		16.01
n HT40		16.11
ac VHT20		Covered by 802.11n HT20
ac VHT40		Covered by 802.11n HT40
ac VHT80		14.87

# **UNII-2C BAND**

IEEE Std. 802.11	Frequency (MHz)	Maximum Average Conducted Power (dBm)
a20		14.07
n HT20	5470 ~ 5725	16.24
n HT40		16.26
ac VHT20		Covered by 802.11n HT20
ac VHT40		Covered by 802.11n HT40
ac VHT80		15.12

#### **UNII-3 BAND**

IEEE Std. 802.11	Frequency (MHz)	Maximum Average Conducted Power (dBm)
a20		14.95
n HT20		16.61
n HT40	5725 ~ 5850	16.51
ac VHT20		Covered by 802.11n HT20
ac VHT40		Covered by 802.11n HT40
ac VHT80		15.93



5.3. CHANNEL LIST

UNII-1		UNII-1		UNII-1	
(For Bandwid	dth=20MHz)	(For Bandwi	dth=40MHz)	(For Bandwi	dth=80MHz)
Channel	Frequency (MHz)	Channel	Frequency (MHz)	Channel	Frequency (MHz)
36	5180	38	5190	42	5210
40	5200	46	5230		
44	5220				
48	5240				

UNII	UNII-2A		UNII-2A		I-2A
(For Bandwid	dth=20MHz)	(For Bandwi	dth=40MHz)	(For Bandwi	dth=80MHz)
Channel	Frequency (MHz)	Channel	Frequency (MHz)	Channel	Frequency (MHz)
52	5260	54	5270	58	5290
56	5280	62	5310		
60	5300				
64	5320				

UNII	_	_	I-2C	UNI	_
(For Bandwic	ith=20MHz)	(For Bandwi	dth=40MHz)	(For Bandwidth=80MHz)	
Channel	Frequency (MHz)	Channel	Frequency (MHz)	Channel	Frequency (MHz)
100	5500	102	5510	106	5530
104	5520	110	5550	122	5610
108	5540	118	5590	138	5690
112	5560	126	5630		
116	5580	134	5670		
120	5600	142	5710		
124	5620				
128	5640				
132	5660				
136	5680				
140	5700				
144	5720				

UNI	I-3	UN	II-3	UN	II-3
Channel	Frequency (MHz)	Channel	Frequency (MHz)	Channel	Frequency (MHz)
149	5745	151	5755	155	5775
153	5765	159	5795		
157	5785				
161	5805				
165	5825				

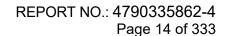


5.4. TEST CHANNEL CONFIGURATION

UNII-1 Test Channel Configuration			
IEEE Std.	Test Channel Number	Frequency	
802.11a	CH 36(Low Channel), CH 40(MID Channel), CH 48(High Channel)	5180 MHz, 5200 MHz, 5240 MHz	
802.11n HT20	CH 36(Low Channel), CH 40(MID Channel), CH 48(High Channel)	5180 MHz, 5200 MHz, 5240 MHz	
802.11n HT40	CH 38(Low Channel), CH 46(High Channel)	5190 MHz, 5230 MHz	
802.11ac VHT20	CH 36(Low Channel), CH 40(MID Channel), CH 48(High Channel)	5180 MHz, 5200 MHz, 5240 MHz	
802.11ac VHT40	CH 38(Low Channel), CH 46(High Channel)	5190 MHz, 5230 MHz	
802.11ac VHT80	CH 42(Low Channel)	5210 MHz	

	UNII-2A Test Channel Configuration			
IEEE Std.	Test Channel Number	Frequency		
802.11a	CH 52(Low Channel), CH 56(MID Channel), CH 64(High Channel)	5260 MHz, 5280 MHz, 5320 MHz		
802.11n HT20	CH 52(Low Channel), CH 56(MID Channel), CH 64(High Channel)	5260 MHz, 5280 MHz, 5320 MHz		
802.11n HT40	CH 54(Low Channel), CH 62(High Channel)	5270 MHz, 5310 MHz		
802.11ac VHT20	CH 52(Low Channel), CH 56(MID Channel), CH 64(High Channel)	5260 MHz, 5280 MHz, 5320 MHz		
802.11ac VHT40	CH 54(Low Channel), CH 62(High Channel)	5270 MHz, 5310 MHz		
802.11ac VHT80	CH 58(Low Channel)	5290 MHz		

	UNII-2C Test Channel Configuration				
IEEE Std.	Test Channel Number	Frequency			
802.11a	CH 100(Low Channel), CH 120(MID Channel), CH 140(High Channel)	5500 MHz, 5600 MHz, 5700 MHz			
802.11n VHT20	CH 100(Low Channel), CH 120(MID Channel), CH 140(High Channel)	5500 MHz, 5600 MHz, 5700 MHz			
802.11n VHT40	CH 102(Low Channel), CH 118(MID Channel), CH 134(High Channel)	5510 MHz, 5590 MHz, 5670 MHz			
802.11ac VHT20	CH 100(Low Channel), CH 120(MID Channel), CH 140(High Channel)	5500MHz, 5600 MHz, 5700MHz			
802.11ac VHT40	CH 102(Low Channel), CH 118(MID Channel), CH 134(High Channel)	5510 MHz, 5590 MHz, 5670 MHz			
802.11ac VHT80	CH 102(Low Channel), CH 122(High Channel)	5530 MHz, 5610 MHz			





**UNII-3 Test Channel Configuration** IEEE Std. **Test Channel Number** Frequency CH 149(Low Channel), CH 157(MID Channel), 802.11a 5745 MHz, 5785 MHz, 5825 MHz CH 165(High Channel) CH 149(Low Channel), CH 157(MID Channel). 802.11n HT20 5745 MHz, 5785 MHz, 5825 MHz CH 165(High Channel) 802.11n HT40 CH 151(Low Channel), CH 159(High Channel) 5755MHz, 5795MHz CH 149(Low Channel), CH 157(MID Channel), 802.11ac 5745 MHz, 5785 MHz, 5825 MHz VHT20 CH 165(High Channel) 802.11ac CH 151(Low Channel), CH 159(High Channel) 5755 MHz, 5795 MHz VHT40 802.11ac CH 155(Low Channel) 5775 MHz VHT80

	Straddle Channel Configuration			
IEEE Std.	Test Channel Number	Frequency		
802.11a	CH 144	5720 MHz		
802.11n VHT20	CH 144	5720 MHz		
802.11n VHT40	CH 142	5710 MHz		
802.11ac VHT20	CH 144	5720 MHz		
802.11ac VHT40	CH 142	5710 MHz		
802.11ac VHT80	CH 138	5690 MHz		



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#### 5.5. DESCRIPTION OF AVAILABLE ANTENNAS

Antenna No.	Frequency Band	Antenna Type	Max Antenna Gain (dBi)
1	5150-5850	PCB Antenna	4
2	5150-5850	PCB Antenna	4

The EUT support Cyclic Shift Diversity(CDD) mode.

MIMO output power port and MIMO PSD port summing was performed in accordance with KDB 662911 D01.For the CDD results the Directional Gain was calculated in accordance with clause F)2)f)(i).

For output power measurements:

Directional gain= GANT + Array Gain = 4 dBi

G<sub>ANT</sub>: equal to the gain of the antenna having the highest gain

Array Gain = 0 dB (i.e., no array gain) for N<sub>ANT</sub> ≤ 4

For power spectral density (PSD) measurements:

Directional gain= Gant + Array Gain = 7 dBi

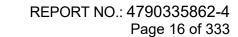
Array Gain = 10 log(Nant/Nss) dB. Nant : number of transmit antennas

Nss: number of spatial streams, The worst case directional gain will occur when Nss = 1

IEE Std. 802.11	Transmit and Receive Mode	Description
802.11a20	⊠2TX, 2RX	ANT 1 and ANT 2 can be used as transmitting/receiving antenna.
802.11n HT20	⊠2TX, 2RX	ANT 1 and ANT 2 can be used as transmitting/receiving antenna.
802.11n HT40	⊠2TX, 2RX	ANT 1 and ANT 2 can be used as transmitting/receiving antenna.
802.11ac VHT20	⊠2TX, 2RX	ANT 1 and ANT 2 can be used as transmitting/receiving antenna.
802.11ac VHT40	⊠2TX, 2RX	ANT 1 and ANT 2 can be used as transmitting/receiving antenna.
802.11ac VHT80	⊠2TX, 2RX	ANT 1 and ANT 2 can be used as transmitting/receiving antenna.

#### Note:

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





5.6. THE WORSE CASE POWER SETTING PARAMETER

The Worse Case Power Setting Parameter		
Test Software	QA Tool	

### UNII-1

Mode	Rate	Channel	Soft set value		
Wode	Nate	Charlie	ANT 1	ANT 2	
		36	1D	1D	
11a20	6M	40	1D	1D	
		48	1E	1D	
	MCS0	36	1D	1D	
11n HT20		40	1D	1D	
		48	1E	1E	
11n HT40	MCSO	38	1D	1D	
111111140	MCS0	46	1D	1D	
11ac VHT80	MCS0	42	1D	1D	

#### UNII-2A

01111 211					
Mode	Rate	Channel	Soft set value		
Wiode	Nate	Chaine	ANT 1	ANT 2	
		52	1E	1D	
11a	6M	56	1D	1D	
		64	1D	1D	
	MCS0	52	1D	1D	
11n HT20		56	1D	1D	
		64	1D	1D	
11n HT40	MCCO	54	1D	1D	
1111 1140	MCS0	62	1D	1D	
11ac VHT80	MCS0	58	1D	1D	



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UNII-2C

Mode	Rate	Channel	Soft se	et value
iviode	Nate	Gilaililei	ANT 1	ANT 2
		100	1D	1F
11a	6M	116	1D	1D
i i a	OIVI	140	1D	1D
		144	1D	1D
		100	1F	1F
11n HT20	MCS0	116	1E	1E
11111120		140	1E	1E
		144	1E	1E
		102	1E	1E
11n HT40	MCS0	118	1E	1E
111111140	IVICOU	134	1E	1E
		142	1E	1E
11ac VHT80		106	1E	1E
	MCS0	122	1E	1E
		138	1E	1E

# UNII-3

Mada	Dete	Channal	Soft set value		
Mode	Rate	Channel	ANT1	ANT 2	
		149	1D	1D	
11a	6M	157	1F	1D	
		165	1D	1D	
	MCS0	149	1E	1E	
11n HT20		157	1F	1F	
		165	1E	1E	
11n HT40	MCSO	151	1E	1E	
11n HT40	MCS0	159	1E	1E	
11ac VHT80	MCS0	155	1E	1E	



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5.7. 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 5.6.

Worst case Data Rates declared by the customer:

802.11a 20 mode: 6 Mbps 802.11n HT20 mode: MCS0 802.11n HT40 mode: MCS0 802.11ac VHT20 mode: MCS0 802.11ac VHT40 mode: MCS0 802.11ac VHT80 mode: MCS0

802.11ac VHT20 and VHT40 mode are different from 802.11nHT20 and HT40 only in control messages, so for these 4 modes, only 802.11n HT20 and 802.11n HT40 worst case power modes radiated emission test data are recorded in the report .

802.11ac&n SISO mode and MIMO mode have the same power setting, so only the worst case power mode (MIMO) will be record in the report.

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

Antenna 1 and Antenna 2 have the same power setting, but the power test data are different. (Declared by customer.)

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

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

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

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# 5.8. DESCRIPTION OF TEST SETUP

#### **SUPPORT EQUIPMENT**

Item	Equipment	Brand Name	Model Name	Remarks
1	Laptop	Lenovo	E42-80	R303U5AG
2	UART	1	1	1

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

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

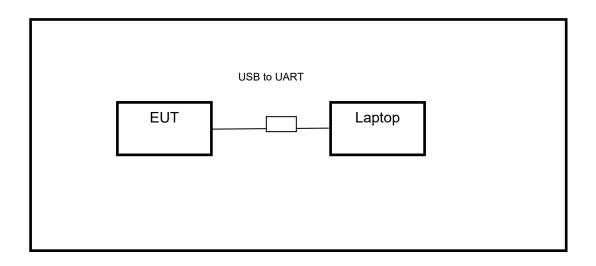
#### **ACCESSORIES**

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

#### **TEST SETUP**

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

# **SETUP DIAGRAM FOR TESTS**



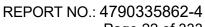


6. MEASURING INSTRUMENT AND SOFTWARE USED

o. MEAGORING INGTROMENT AND GOT TWARE GOLD										
R&S TS 8997 Test System										
Equipment		Ма	nufac	turer	Model	No.	Serial No.	Last C	al.	Due. Date
Power sensor, Power M	1eter	ter R&S			OSP1	20	100921	Apr.02,2	2022	Apr.01,2023
Vector Signal Genera	tor		R&S	3	SMBV1	00A	261637	Oct.30, 2	2021	Oct.29, 2022
Signal Generator			R&S	6	SMB10	A00	178553	Oct.30,	2021	Oct.29, 2022
Signal Analyzer			R&S	3	FSV4	0	101118	Oct.30,	2021	Oct.29, 2022
					Softwar	е				
Description			ľ	Manu	facturer		Nam	ne		Version
For R&S TS 8997 Test	Syste	em	Ro	hde 8	Schwar	Z	EMC	32	2 10.60.10	
Tonsend RF Test System										
Equipment	Man	ufa	cturer	Мос	del No.	S	Serial No.	Last 0	Cal.	Due. Date
Wideband Radio Communication Tester		R&S	S	CM	IW500		155523	Oct.30,	2021	Oct.29, 2022
Wireless Connectivity Tester		R&S	S	CM	IW270	120	1.0002N75- 102	Sep.29,	2021	Sep.28, 2022
PXA Signal Analyzer	Κe	eysi	ght	NS	9030A	MY	′55410512	Oct.30,	2021	Oct.29, 2022
MXG Vector Signal Generator	Κe	eysi	ght	N5	5182B	MY	′56200284	Oct.30,	2021	Oct.29, 2022
MXG Vector Signal Generator	Ke	Keysight		N5	5172B	MY	′56200301	Oct.30,	2021	Oct.29, 2022
DC power supply	Ke	Keysight		E3	8642A	MY	<b>′</b> 55159130	Oct.30,	2021	Oct.29, 2022
Temperature & Humidity Chamber	SAN	SANMOOD S		SG-8	30-CC-2		2088	Nov.20,	2020	Nov.19,2022
					Softwar	e				
Description		Ma	nufac	turer			Name			Version
Tonsend SRD Test Sys	tem	T	onsei	nd	JS11	120-3	3 RF Test S	ystem	2	.6.77.0518



**Radiated Emissions** Equipment Manufacturer Model No. Serial No. Last Cal. Due Date MXE EMI **KESIGHT** N9038A MY56400036 Oct.30, 2021 Oct.29, 2022 Receiver Hybrid Log TDK HLP-3003C 130959 Aug.02, 2021 Aug.01, 2024 Periodic Antenna HP Preamplifier 8447D 2944A09099 Oct.30, 2021 Oct.29, 2022 EMI R&S Measurement ESR26 101377 Oct.30, 2021 Oct.29, 2022 Receiver July 19, 2024 TDK HRN-0118 130940 July 20, 2021 Horn Antenna TRS-305-Preamplifier TDK PA-02-0118 Oct.30, 2021 Oct.29, 2022 00067 697 Horn Antenna Schwarzbeck BBHA9170 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 Schwarzbeck 1519B 80000 Dec.14, 2021 Loop antenna Dec.13, 2022 TRS-302-PA-02-001-Preamplifier TDK Oct.31, 2021 Oct.30, 2022 3000 00050 ZX60-83LN-Preamplifier Mini-Circuits SUP01201941 Oct.31, 2021 Oct.30, 2022 S+ WHKX10-Highpass Filter Wainwright 4 Oct.31, 2021 Oct.30, 2022 5850-6500-1800-40SS WRCJV12-Band Reject 5695-5725-Wainwright 4 Oct.31, 2021 Oct.30, 2022 Filter 5850-5880-**40SS** WRCJV20-Band Reject 5120-5150-2 Wainwright Oct.31, 2021 Oct.30, 2022 Filter 5350-5380-**60SS** WRCJV20-Band Reject 5440-5470-Wainwright 1 Oct.31, 2021 Oct.30, 2022 Filter 5725-5755-**60SS** Software Description Manufacturer Name Version Test Software for Radiated Emissions Farad **EZ-EMC** Ver. UL-3A1





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Conducted Emissions						
Equipment	Manufacturer	Model No.	Serial No.	Last Cal.	Due Date	
EMI Test Receiver	R&S	ESR3	101961	Oct.30, 2021	Oct.29, 2022	
Two-Line V- Network	R&S	ENV216	101983	Oct.30, 2021	Oct.29, 2022	
Artificial Mains Networks	Schwarzbeck	NSLK 8126	8126465	Oct.30, 2021	Oct.29, 2022	
	Software					
Description			Manufacturer	Name	Version	
Test Software	for Conducted	Emissions	Farad	EZ-EMC	Ver. UL-3A1	



7. ANTENNA PORT TEST RESULTS

# 7.1. ON TIME AND DUTY CYCLE

#### **LIMITS**

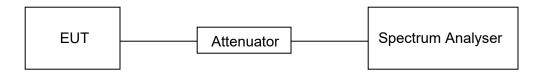
None; for reporting purposes only.

#### **PROCEDURE**

Refer to KDB 789033 D02 General U-NII Test Procedures New Rules v02r01 section II.B.

The zero-span mode on a spectrum analyzer or EMI receiver, if the response time and spacing between bins on the sweep are sufficient to permit accurate measurements of the on and off times of the transmitted signal. Set the center frequency of the instrument to the center frequency of the transmission. Set RBW  $\geq$  EBW if possible; otherwise, set RBW to the largest available value. Set VBW  $\geq$  RBW. Set detector = peak or average. The zero-span measurement method shall not be used unless both RBW and VBW are > 50/T, where T is defined in II.B.1.a), and the number of sweep points across duration T exceeds 100. (For example, if VBW and/or RBW are limited to 3 MHz, then the zero-span method of measuring duty cycle shall not be used if T  $\leq$  16.7 microseconds.)

#### **TEST SETUP**



#### **TEST ENVIRONMENT**

Temperature	25.5 °C	Relative Humidity	53 %
Atmosphere Pressure	101 kPa	Test Voltage	DC 5 V

#### **RESULTS**

Please refer to appendix D.

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# 7.2. 6/26 dB EMISSION BANDWIDTH AND 99 % OCCUPIED BANDWIDTH

#### **LIMITS**

CFR 47 FCC Part15, Subpart E ISED RSS-247 ISSUE 2						
Test Item	Limit	Frequency Range (MHz)				
26 dB Emission Bandwidth	For reporting purposes only.	5150 ~ 5250				
26 dB Emission Bandwidth	For reporting purposes only.	5250 ~ 5350				
26 dB Emission Bandwidth	For reporting purposes only.	5470 ~ 5725 (For FCC) 5470 ~ 5600 (For ISED) 5650 ~ 5725 (For ISED)				
6 dB Emission Bandwidth	The minimum 6 dB emission bandwidth shall be 500 kHz.	5725 ~ 5850				
99 % Occupied Bandwidth	For reporting purposes only.	5150 ~ 5825 (For ISED)				

#### **TEST PROCEDURE**

Refer to KDB 789033 D02 General U-NII Test Procedures New Rules v02r01 section II.C1. for 26 dB Emission Bandwidth; section II.C2. for 6 dB Emission Bandwidth; section II.D. for 99 % Occupied Bandwidth.

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	For 6 dB Emission Bandwidth: RBW=100 kHz For 26 dB Emission bandwidth: approximately 1 % of the EBW. For 99 % Occupied Bandwidth: approximately 1 % ~ 5 % of the OBW.
VBW	For 6 dB Bandwidth: ≥ 3*RBW For 26 dB Bandwidth: >3*RBW For 99 % 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 6/26 dB relative to the maximum level measured in the fundamental emission.

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#### Calculation for 6dB Bandwidth of UNII-3 Straddle Channel:

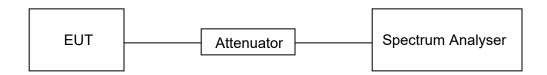
For Example: Fundamental frequency: 5720 MHz

6 dB BW: 15.36 MHz Mark 1: 5712.2 MHz

FL: 5725 MHz (Turning Frequency)
FH: Mark 1+6 dB BW = 5727.56 MHz

6 dB Bandwidth of UNII-3 band Portion = 5727.56 - 5725=2.56 MHz

#### **TEST SETUP**



#### **TEST ENVIRONMENT**

Temperature	25.5 °C	Relative Humidity	53 %
Atmosphere Pressure	101 kPa	Test Voltage	DC 5 V

#### **RESULTS**

Please refer to Appendix A1&A2&A3.

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#### 7.3. CONDUCTED OUTPUT POWER

#### LIMITS

CFR 47 FCC Part15, Subpart E		
Test Item	Limit	Frequency Range (MHz)
Conducted	☐ Outdoor Access Point: 1 W (30 dBm) ☐ Indoor Access Point: 1 W (30 dBm) ☐ Fixed Point-To-Point Access Points: 1 W (30 dBm) ☐ Client Devices: 250 mW (24 dBm)	5150 ~ 5250
Output Power	Shall not exceed the lesser of 250 mW (24dBm) or 11 dBm + 10 log B, where B is the 26 dB emission bandwidth in megahertz.	5250 ~ 5350 5470 ~ 5725
	Shall not exceed 1 Watt (30 dBm).	5725 ~ 5850

ISED RSS-247 ISSUE 2		
Test Item	Limit	Frequency Range (MHz)
	The maximum e.i.r.p. shall not exceed 200 mW (23 dBm) or 10 + 10 log <sub>10</sub> B, dBm, whichever power is less. B is the 99 % emission bandwidth in megahertz.	5150 ~ 5250
Conducted Output Power or e.i.r.p.	a. The maximum conducted output power shall not exceed 250 mW (24 dBm) or 11 + 10 log <sub>10</sub> B dBm, whichever is less.  b. The maximum e.i.r.p. shall not exceed 1.0 W (30 dBm) or 17 + 10 log <sub>10</sub> B dBm, whichever is less. B is the 99 % emission bandwidth in megahertz. Note that devices with a maximum e.i.r.p. greater than 500 mW shall implement TPC in order to have the capability to operate at least 6 dB below the maximum permitted e.i.r.p. of 1 W.	5250 ~ 5350 5470 ~ 5600 5650 ~ 5725
	Shall not exceed 1 Watt (30 dBm). The e.i.r.p. shall not exceed 4 W	5725 ~ 5850

#### Note:

The above limits are based upon the maximum antenna gain does not exceed 6 dBi. If transmitting antennas of directional gain greater than 6 dBi are used, the maximum conducted output power shall be reduced by the amount in dB that the directional gain of the antenna exceeds 6 dBi.

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#### **TEST PROCEDURE**

Refer to KDB 789033 D02 General U-NII Test Procedures New Rules v02r01 section II.E.

# Method SA-1 (trace averaging with the EUT transmitting at full power throughout each sweep):

- (i) Set span to encompass the entire emission bandwidth (EBW) (or, alternatively, the entire 99% occupied bandwidth) of the signal.
- (ii) Set RBW = 1 MHz.
- (iii) Set VBW ≥ 3 MHz.
- (iv) Number of points in sweep  $\geq$  2 × span / RBW. (This ensures that bin-to-bin spacing is  $\leq$  RBW/2, so that narrowband signals are not lost between frequency bins.)
- (v) Sweep time = auto.
- (vi) Detector = power averaging (rms), if available. Otherwise, use sample detector mode.
- (vii) If transmit duty cycle < 98 %, use a video trigger with the trigger level set to enable triggering only on full power pulses. Transmitter must operate at maximum power control level for the entire duration of every sweep. If the EUT transmits continuously (i.e., with no off intervals) or at duty cycle ≥ 98 %, and if each transmission is entirely at the maximum power control level, then the trigger shall be set to "free run."
- (viii) Trace average at least 100 traces in power averaging (rms) mode.
- (ix) Compute power by integrating the spectrum across the EBW (or, alternatively, the entire 99% occupied bandwidth) of the signal using the instrument's band power measurement function with band limits set equal to the EBW (or occupied bandwidth) band edges. If the instrument does not have a band power function, sum the spectrum levels (in power units) at 1 MHz intervals extending across the EBW (or, alternatively, the entire 99% occupied bandwidth) of the spectrum.

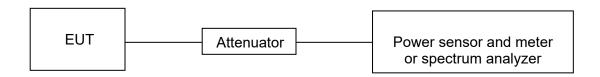
#### Method PM (Measurement using an RF average power meter):

- (i) Measurements may be performed using a wideband RF power meter with a thermocouple detector or equivalent if all of the following conditions are satisfied:
- a. The EUT is configured to transmit continuously or to transmit with a constant duty cycle.
- b. At all times when the EUT is transmitting, it must be transmitting at its maximum power control level.
- c. The integration period of the power meter exceeds the repetition period of the transmitted signal by at least a factor of five.
- (ii) If the transmitter does not transmit continuously, measure the duty cycle, x, of the transmitter output signal as described in II.B.
- (iii) Measure the average power of the transmitter. This measurement is an average over both the on and off periods of the transmitter.
- (iv) Adjust the measurement in dBm by adding 10 log (1/x) where x is the duty cycle (e.g., 10 log (1/0.25) if the duty cycle is 25 %).

Straddle channel power was measured using spectrum analyzer.



**TEST SETUP** 



# **TEST ENVIRONMENT**

Temperature	25.5 °C	Relative Humidity	53 %
Atmosphere Pressure	101 kPa	Test Voltage	DC 5 V

### **RESULTS**

Please refer to Appendix B.



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### 7.4. POWER SPECTRAL DENSITY

#### **LIMITS**

CFR 47 FCC Part15, Subpart E		
Test Item	Limit	Frequency Range (MHz)
Power Spectral Density	☐ Outdoor Access Point: 17 dBm/MHz ☐ Indoor Access Point: 17 dBm/MHz ☐ Fixed Point-To-Point Access Points: 17 dBm/MHz ☐ Client Devices: 11 dBm/MHz	5150 ~ 5250
Demony	11 dBm/MHz	5250 ~ 5350 5470 ~ 5725
	30 dBm/500kHz	5725 ~ 5850

ISED RSS-247 ISSUE 2		
Test Item	Limit	Frequency Range (MHz)
	The e.i.r.p. spectral density shall not exceed 10 dBm in any 1.0 MHz band.	5150 ~ 5250
Power Spectral Density	The power spectral density shall not exceed 11 dBm inany 1.0 MHz band.	5250 ~ 5350 5470 ~ 5600 5650 ~ 5725
	30 dBm / 500 kHz	5725 ~ 5850

#### Note:

The above limits are based upon the maximum antenna gain does not exceed 6 dBi. If transmitting antennas of directional gain greater than 6 dBi are used, maximum power spectral density shall be reduced by the amount in dB that the directional gain of the antenna exceeds 6 dBi.

#### **TEST PROCEDURE**

Refer to KDB 789033 D02 General U-NII Test Procedures New Rules v02r01 section II.F.

# Method SA-2 (trace averaging across on and off times of the EUT transmissions, followed by duty cycle correction).

- (i) Measure the duty cycle, x, of the transmitter output signal as described in II.B.
- (ii) Set span to encompass the EBW (or, alternatively, the entire 99% occupied bandwidth) of the signal.
- (iii) Set RBW = 1 MHz.
- (iv) Set VBW ≥ 3 MHz.
- (v) Number of points in sweep  $\geq 2 \times \text{span} / \text{RBW}$ . (This ensures that bin-to-bin spacing is  $\leq \text{RBW}/2$ , so that narrowband signals are not lost between frequency bins.)
- (vi) Sweep time = auto.

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(vii) Detector = power averaging (rms), if available. Otherwise, use sample detector mode.

(viii) Do not use sweep triggering. Allow the sweep to "free run."

- (ix) Trace average at least 100 traces in power averaging (rms) mode; however, the number of traces to be averaged shall be increased above 100 as needed to ensure that the average accurately represents the true average over the on and off periods of the transmitter.
- (x) Compute power by integrating the spectrum across the EBW (or, alternatively, the entire 99% occupied bandwidth) of the signal using the instrument's band power measurement function with band limits set equal to the EBW (or occupied bandwidth) band edges. If the instrument does not have a band power function, sum the spectrum levels (in power units) at 1 MHz intervals extending across the EBW (or, alternatively, the entire 99% occupied bandwidth) of the signal.
- (xi) Add 10 log (1/x), where x is the duty cycle, to the measured power in order to compute the average power during the actual transmission times (because the measurement represents 789033 D02 General UNII Test Procedures New Rules v02r01

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an average over both the on and off times of the transmission). For example, add 10  $\log (1/0.25) = 6 \, dB$  if the duty cycle is 25%.

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

#### For U-NII-1, U-NII-2A and U-NII-2C band:

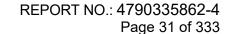
Center Frequency	The center frequency of the channel under test
Detector	RMS
RBW	1 MHz
VBW	≥3 × RBW
Span	Encompass the entire emissions bandwidth (EBW) of the signal
Trace	Average
Sweep time	Auto

#### For U-NII-3:

Center Frequency	The center frequency of the channel under test
Detector	RMS
RBW	500 kHz
VBW	≥3 × RBW
Span	Encompass the entire emissions bandwidth (EBW) of the signal
Trace	Average
Sweep time	Auto

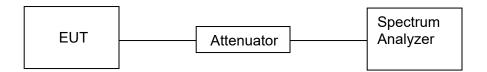
Allow trace to fully stabilize and Use the peak search function on the instrument to find the peak of the spectrum and record its value.

Add 10 log (1/x), where x is the duty cycle, to the peak of the spectrum, the result is the Maximum PSD over 1 MHz / 500 kHz reference bandwidth.





# **TEST SETUP**



#### **TEST ENVIRONMENT**

Temperature	25.5 °C	Relative Humidity	53 %
Atmosphere Pressure	101 kPa	Test Voltage	DC 5 V

#### **RESULTS**

Please refer to Appendix C.

### 8. RADIATED TEST RESULTS

# **LIMITS**

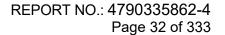
Refer to CFR 47 FCC §15.205, §15.209 and §15.407 (b).

Refer to ISED RSS-GEN Clause 8.9, Clause 8.10 and ISED RSS-247 6.2.

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

Emissions radia	ated outside of the specified frequen	cy bands above 30	MHz
Frequency Range	Field Strength Limit	Field Stren	
(MHz)	(uV/m) at 3 m	(dBuV/m) at 3 m  Quasi-Peak	
30 - 88	100	40	
88 - 216	150	43.5	
216 - 960	200	46	
Above 960	500	54	
Above 1000	500	Peak	Average
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 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	158.7 - 158.9	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
3.215 - 6.218	608 - 614	23.6 - 24.0
3.26775 - 6.26825	960 - 1427	31.2 - 31.8
3.31175 - 6.31225	1435 - 1626.5	36.43 - 36.5
3.291 - 8.294	1645.5 - 1646.5	Above 38.6
3.362 - 8.366	1660 - 1710	
3.37625 - 8.38675	1718.8 - 1722.2	
3.41425 - 8.41475	2200 - 2300	
12.29 - 12.293	2310 - 2390	
12.51975 - 12.52025	2483.5 - 2500	
12.57675 - 12.57725	2655 - 2900	
13.36 - 13.41	3260 - 3267	
16.42 - 16.423	3332 - 3339	
16.69475 - 16.69525	3345.8 - 3358	
16.80425 - 16.80475	3500 - 4400	
25.5 - 25.67	4500 - 5150	
37.5 - 38.25	5350 - 5460	
73 - 74.6	7250 - 7750	
74.8 - 75.2	8025 - 8500	
108 – 138		

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



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

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

Note: <sup>1</sup>Until February 1, 1999, this restricted band shall be 0.490-0.510 MHz. <sup>2</sup>Above 38.6c

Limits of unwanted/undesirable emission out of the restricted bands refer to CFR 47 FCC §15.407 (b) and ISED RSS-247 6.2.

LIMITS OF RADIATED EMISSION MEASUREMENT (Above 1GHz)				
Frequency Range	EIRP Limit	Field Strength Limit		
(MHz)		(dBuV/m) at 3 m		
5150~5250 MHz				
5250~5350 MHz	PK: -27 (dBm/MHz)	PK:68.2(dBµV/m)		
5470~5725 MHz				
5725~5850 MHz	PK: -27 (dBm/MHz) *1	PK: 68.2(dBµV/m) *1		
	PK: 10 (dBm/MHz) *2	PK: 105.2 (dBµV/m) *2		
	PK: 15.6 (dBm/MHz) *3	PK: 110.8(dBµV/m) *3		
	PK: 27 (dBm/MHz) *4	PK: 122.2 (dBµV/m) *4		

#### Note:

<sup>\*1</sup> beyond 75 MHz or more above of the band edge.

<sup>\*2</sup> below the band edge increasing linearly to 10 dBm/MHz at 25 MHz above.

<sup>\*3</sup> below the band edge increasing linearly to a level of 15.6 dBm/MHz at 5 MHz above.

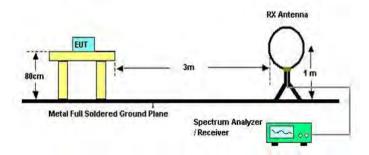
<sup>\*4</sup> from 5 MHz above or below the band edge increasing linearly to a level of 27 dBm/MHz at the band edge.



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

Below 30 MHz



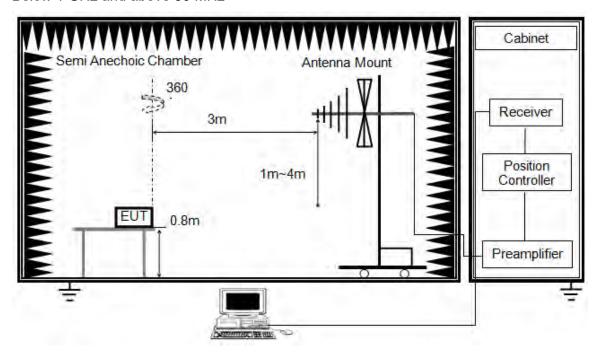
#### The setting of the spectrum analyser

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 guasi-peak and average detector and reported.
- 7. Although these tests were performed other than open field site, adequate comparison measurements were confirmed against 30m open field site. Therefore sufficient tests were made to demonstrate that the alternative site produces results that correlate with the ones of tests made in an open field site based on KDB 414788.
- 8. The limits in CFR 47, Part 15, Subpart C, paragraph 15.209 (a), are identical to those in RSS-GEN Section 8.9, Table 6, since the measurements are performed in terms of magnetic field strength and converted to electric field strength levels (as reported in the table) using the free space impedance of 377Ω. For example, the measurement frequency X KHz resulted in a level of Y dBuV/m, which is equivalent to Y-51.5 = Z dBuA/m, which has the same margin, W dB, to the corresponding RSS-GEN Table 6 limit as it has to be 15.209(a) limit.



Below 1 GHz and above 30 MHz



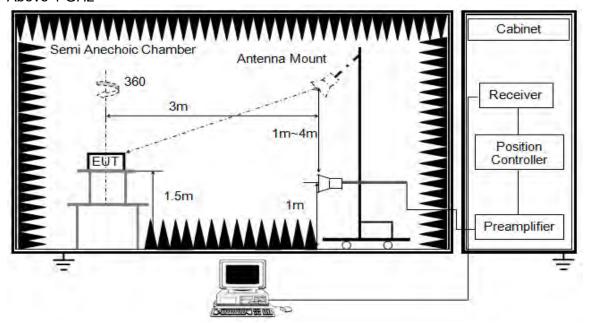
The setting of the spectrum analyser

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

- 1. The testing follows the guidelines in ANSI C63.10-2013 clause 6.5.
- 2. The EUT was arranged to its worst case and then tune the antenna tower (from 1 m to 4 m) and turntable (from 0 degree to 360 degrees) to find the maximum reading. A pre-amp and a high pass filter are used for the test in order to get better signal level. Both horizontal and vertical polarizations of the antenna are set to make the measurement.
- 3. The EUT was placed on a turntable with 80 cm above ground.
- 4. The EUT was set 3 meters from the interference receiving antenna, which was mounted on the top of a variable height antenna tower.
- 5. For measurement below 1 GHz, the initial step in collecting conducted emission data is a spectrum analyzer peak detector mode pre-scanning the measurement frequency range. Significant peaks are then marked and then Quasi Peak detector mode re-measured. If the emission level of the EUT measured by the peak detector is 3 dB lower than the applicable limit, the peak emission level will be reported. Otherwise, the emission measurement will be repeated using the quasi-peak detector and reported.



Above 1 GHz



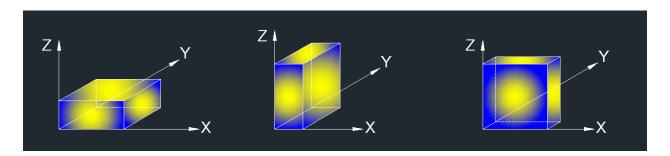
The setting of the spectrum analyser

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

- 1. The testing follows the guidelines in KDB 789033 D02 General U-NII Test Procedures New Rules v02r01 section II.G.3 ~ II.G.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	21.8 °C	Relative Humidity	59.2 %
Atmosphere Pressure	101 kPa	Test Voltage	DC 5 V

# **RESULTS**



8.1. RESTRICTED BANDEDGE

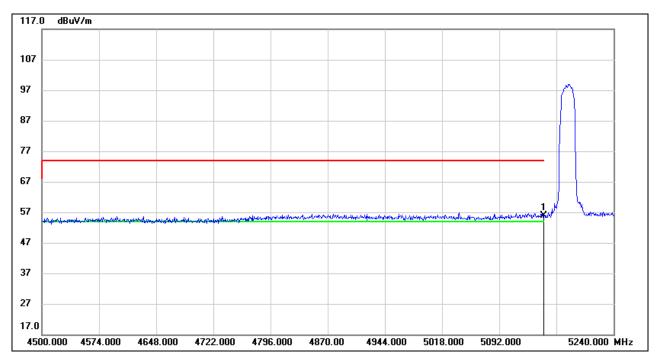
### 8.1.1. 802.11a20 SISO MODE

### **UNII-1 BAND**

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

## RESTRICTED BANDEDGE (LOW CHANNEL, HORIZONTAL)

## **PEAK**

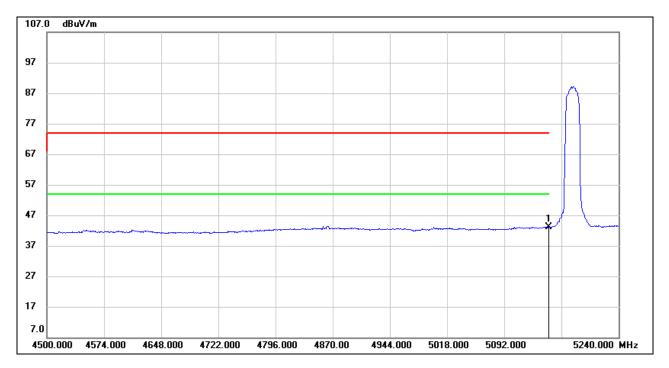


No.	Frequency	Reading	Correct	Result	Limit	Margin	Remark
	(MHz)	(dBuV)	(dB/m)	(dBuV/m)	(dBuV/m)	(dB)	
1	5150.000	15.85	39.91	55.76	74.00	-18.24	peak

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



## <u>AVG</u>

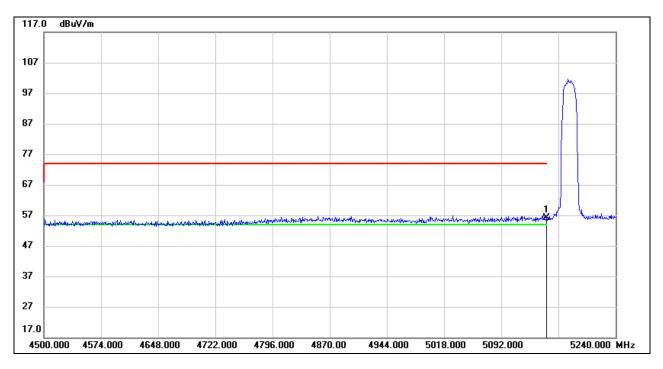


No.	Frequency	Reading	Correct	Result	Limit	Margin	Remark
	(MHz)	(dBuV)	(dB/m)	(dBuV/m)	(dBuV/m)	(dB)	
1	5150.000	3.11	39.91	43.02	54.00	-10.98	AVG

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



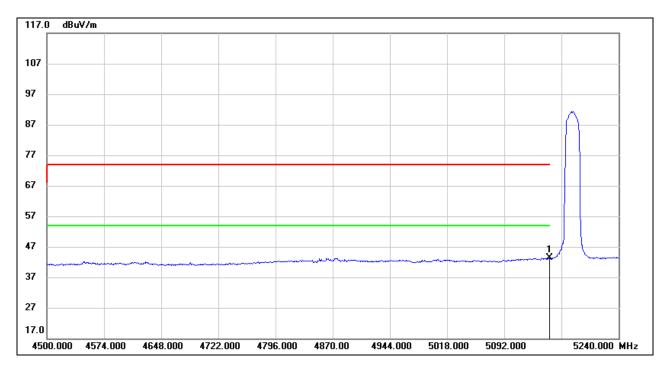
## **PEAK**



No.	Frequency	Reading	Correct	Result	Limit	Margin	Remark
	(MHz)	(dBuV)	(dB/m)	(dBuV/m)	(dBuV/m)	(dB)	
1	5150.000	16.15	39.91	56.06	74.00	-17.94	peak

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



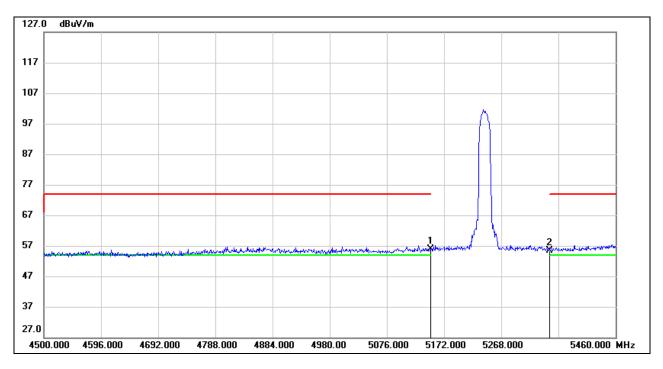


No.	Frequency	Reading	Correct	Result	Limit	Margin	Remark
	(MHz)	(dBuV)	(dB/m)	(dBuV/m)	(dBuV/m)	(dB)	
1	5150.000	3.47	39.91	43.38	54.00	-10.62	AVG

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



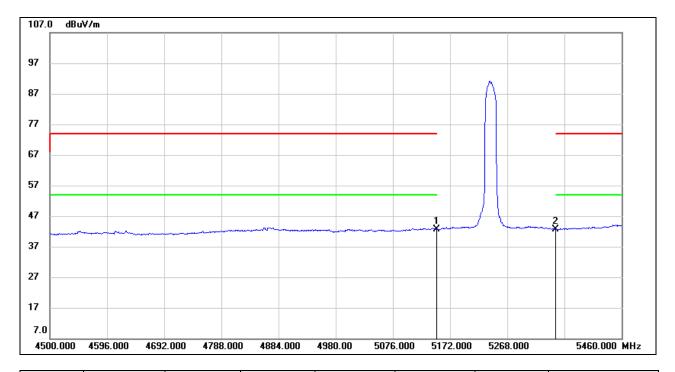
## **PEAK**



No.	Frequency	Reading	Correct	Result	Limit	Margin	Remark
	(MHz)	(dBuV)	(dB/m)	(dBuV/m)	(dBuV/m)	(dB)	
1	5150.000	16.00	39.91	55.91	74.00	-18.09	peak
2	5350.000	15.40	40.08	55.48	74.00	-18.52	peak

- 2. If Peak Result complies with AV limit, AV Result is deemed to comply with AV limit.
- 3. Peak: Peak detector.
- 4. Only the worst data was recorded, if it complies with the limit, the other emissions deemed to comply with the limit.
- 5. For transmitters with operating frequencies in the band 5150-5250 MHz, all emissions outside the band 5150-5350 MHz shall not exceed -27 dBm/MHz e.i.r.p. The worst setting has been used for investigation during the measurement.





No.	Frequency	Reading	Correct	Result	Limit	Margin	Remark
	(MHz)	(dBuV)	(dB/m)	(dBuV/m)	(dBuV/m)	(dB)	
1	5150.000	2.78	39.91	42.69	54.00	-11.31	AVG
2	5350.000	2.67	40.08	42.75	54.00	-11.25	AVG

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

- 2. If Peak Result complies with AV limit, AV Result is deemed to comply with AV limit.
- 3. AVG: VBW=1/Ton, where: Ton is the transmitting duration.
- 4. For the transmitting duration, please refer to clause 7.1.
- 5. Only the worst data was recorded, if it complies with the limit, the other emissions deemed to comply with the limit.
- 6. For transmitters with operating frequencies in the band 5150-5250 MHz, all emissions outside the band 5150-5350 MHz shall not exceed -27 dBm/MHz e.i.r.p. The worst setting has been used for investigation during the measurement.

Note: All the polarities (Vertical & Horizontal) and Antennas had been tested, only the worst data was recorded in the report.

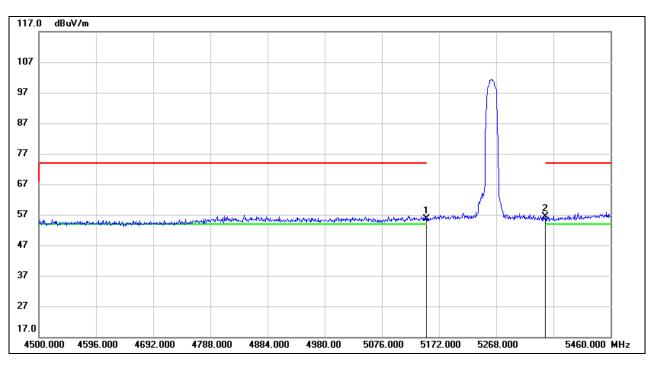


UNII-2A BAND

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

### RESTRICTED BANDEDGE (LOW CHANNEL, VERTICAL)

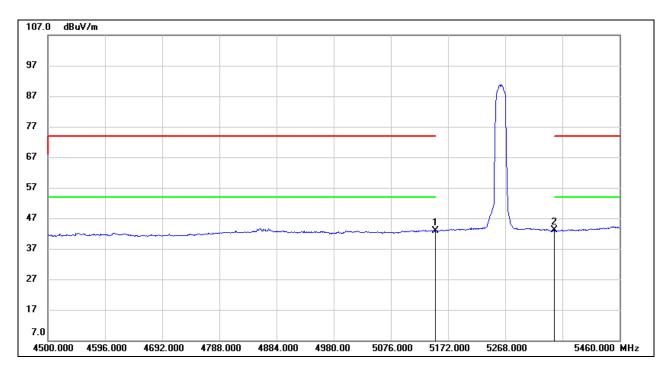
### **PEAK**



No.	Frequency	Reading	Correct	Result	Limit	Margin	Remark
	(MHz)	(dBuV)	(dB/m)	(dBuV/m)	(dBuV/m)	(dB)	
1	5150.000	15.83	39.91	55.74	74.00	-18.26	peak
2	5350.000	16.36	40.08	56.44	74.00	-17.56	peak

- 2. If Peak Result complies with AV limit, AV Result is deemed to comply with AV limit.
- 3. Peak: Peak detector.
- 4. Only the worst data was recorded, if it complies with the limit, the other emissions deemed to comply with the limit.
- 5. For transmitters with operating frequencies in the band 5150-5250 MHz, all emissions outside the band 5150-5350 MHz shall not exceed -27 dBm/MHz e.i.r.p. The worst setting has been used for investigation during the measurement.



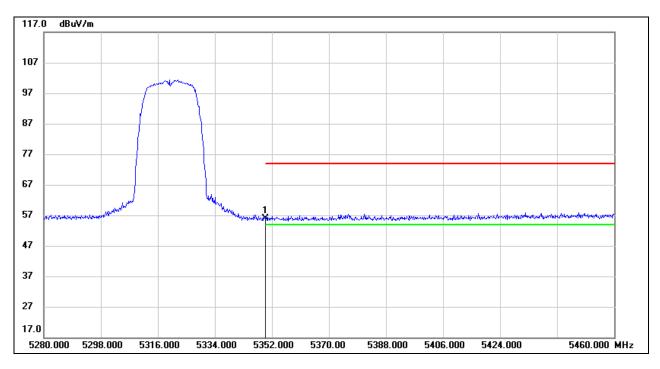


No.	Frequency	Reading	Correct	Result	Limit	Margin	Remark
	(MHz)	(dBuV)	(dB/m)	(dBuV/m)	(dBuV/m)	(dB)	
1	5150.000	2.95	39.91	42.86	54.00	-11.14	AVG
2	5350.000	3.04	40.08	43.12	54.00	-10.88	AVG

- 2. If Peak Result complies with AV limit, AV Result is deemed to comply with AV limit.
- 3. AVG: VBW=1/Ton, where: Ton is the transmitting duration.
- 4. For the transmitting duration, please refer to clause 7.1.
- 5. Only the worst data was recorded, if it complies with the limit, the other emissions deemed to comply with the limit.
- 6. For transmitters with operating frequencies in the band 5150-5250 MHz, all emissions outside the band 5150-5350 MHz shall not exceed -27 dBm/MHz e.i.r.p. The worst setting has been used for investigation during the measurement.



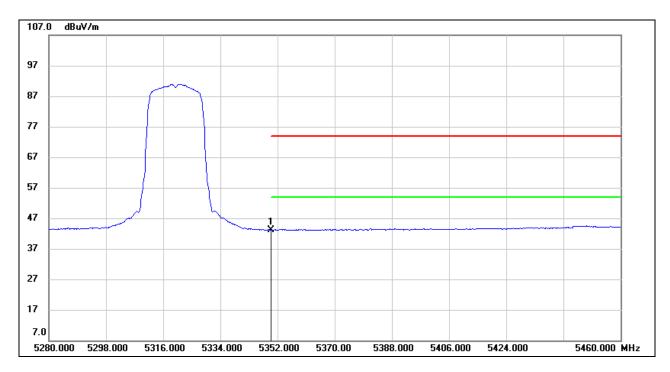
## **PEAK**



No.	Frequency	Reading	Correct	Result	Limit	Margin	Remark
	(MHz)	(dBuV)	(dB/m)	(dBuV/m)	(dBuV/m)	(dB)	
1	5350.000	15.86	40.08	55.94	74.00	-18.06	peak

- 2. If Peak Result complies with AV limit, AV Result is deemed to comply with AV limit.
- 3. Peak: Peak detector.
- 4. Only the worst 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	5350.000	3.02	40.08	43.10	54.00	-10.90	AVG

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

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

Note: All the polarities (Vertical & Horizontal) and Antennas had been tested, only the worst data was recorded in the report.

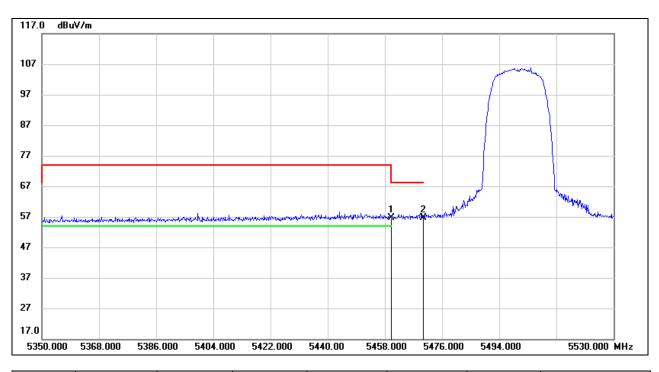


**UNII-2C BAND** 

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

## RESTRICTED BANDEDGE (LOW CHANNEL, VERTICAL)

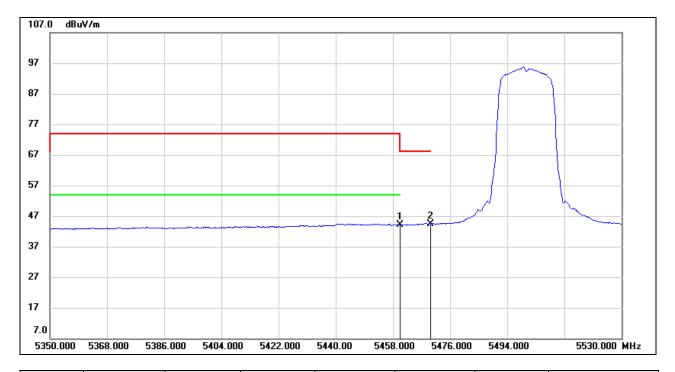
## **PEAK**



No.	Frequency	Reading	Correct	Result	Limit	Margin	Remark
	(MHz)	(dBuV)	(dB/m)	(dBuV/m)	(dBuV/m)	(dB)	
1	5460.000	15.91	40.79	56.70	68.20	-11.50	peak
2	5470.000	15.79	40.85	56.64	68.20	-11.56	peak

- 2. If Peak Result complies with AV limit, AV Result is deemed to comply with AV limit.
- 3. Peak: Peak detector.
- 4. Only the worst 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	5460.000	3.26	40.79	44.05	54.00	-9.95	AVG
2	5470.000	3.60	40.85	44.45	68.20	-23.75	AVG

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

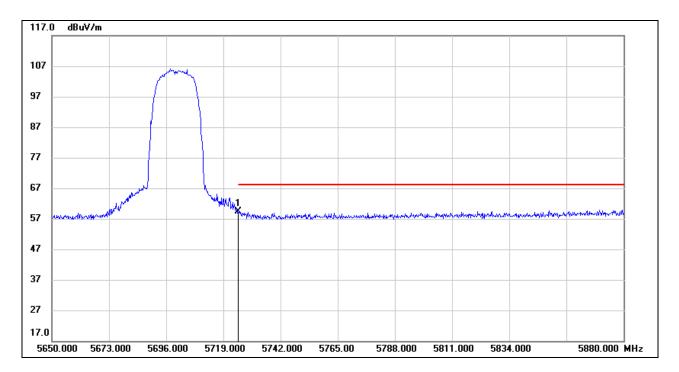


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## RESTRICTED BANDEDGE (HIGH CHANNEL, VERTICAL)

## **PEAK**



No.	Frequency	Reading	Correct	Result	Limit	Margin	Remark
	(MHz)	(dBuV)	(dB/m)	(dBuV/m)	(dBuV/m)	(dB)	
1	5725.000	18.80	40.63	59.43	68.20	-8.77	peak

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

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

Note: All the polarities (Vertical & Horizontal) and Antennas had been tested, only the worst data was recorded in the report.

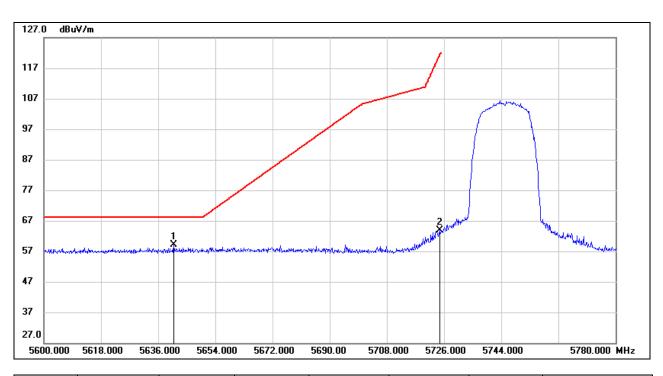


**UNII-3 BAND** 

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

## RESTRICTED BANDEDGE (LOW CHANNEL, VERTICAL)

## **PEAK**

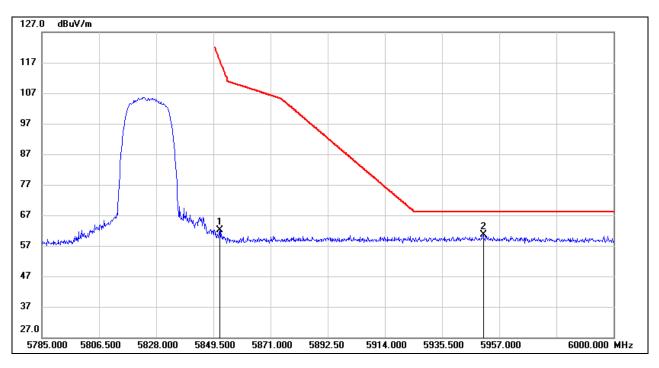


No.	Frequency	Reading	Correct	Result	Limit	Margin	Remark
	(MHz)	(dBuV)	(dB/m)	(dBuV/m)	(dBuV/m)	(dB)	
1	5640.860	18.50	40.63	59.13	68.20	-9.07	peak
2	5724.740	23.35	40.62	63.97	121.61	-57.64	peak

- 2. If Peak Result complies with AV limit, AV Result is deemed to comply with AV limit.
- 3. Peak: Peak detector.
- 4. Only the worst 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	5851.865	20.59	41.47	62.06	117.95	-55.89	peak
2	5950.980	18.84	41.70	60.54	68.20	-7.66	peak

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

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

Note: All the polarities (Vertical & Horizontal) and Antennas had been tested, only the worst data was recorded in the report.

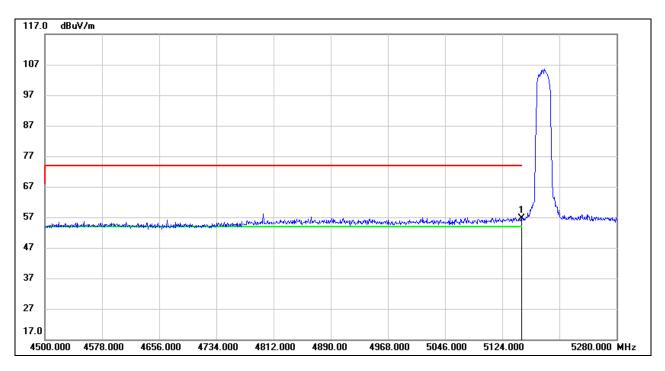


## 8.1.2. 802.11n HT20 MIMO MODE

## **UNII-1 BAND**

## RESTRICTED BANDEDGE (LOW CHANNEL, VERTICAL)

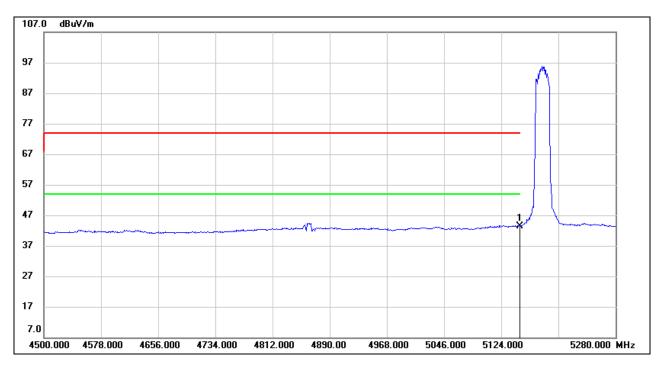
## **PEAK**



No.	Frequency	Reading	Correct	Result	Limit	Margin	Remark
	(MHz)	(dBuV)	(dB/m)	(dBuV/m)	(dBuV/m)	(dB)	
1	5150.000	16.84	39.91	56.75	74.00	-17.25	peak

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



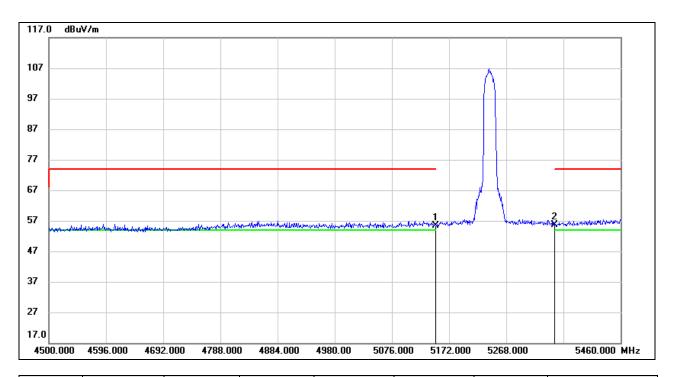


No.	Frequency	Reading	Correct	Result	Limit	Margin	Remark
	(MHz)	(dBuV)	(dB/m)	(dBuV/m)	(dBuV/m)	(dB)	
1	5150.000	3.52	39.91	43.43	74.00	-30.57	peak

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



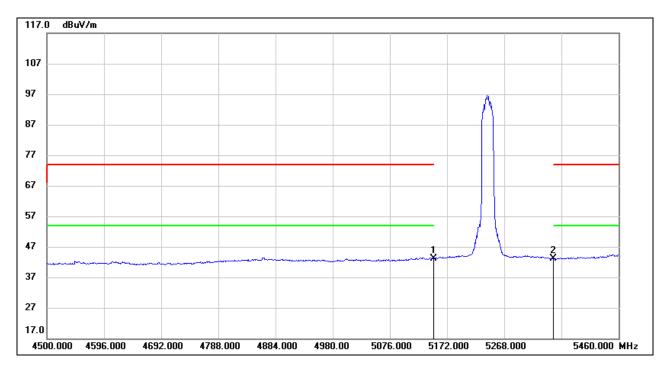
## **PEAK**



No.	Frequency	Reading	Correct	Result	Limit	Margin	Remark
	(MHz)	(dBuV)	(dB/m)	(dBuV/m)	(dBuV/m)	(dB)	
1	5150.000	15.51	39.91	55.42	74.00	-18.58	peak
2	5350.000	15.59	40.08	55.67	74.00	-18.33	peak

- 2. If Peak Result complies with AV limit, AV Result is deemed to comply with AV limit.
- 3. Peak: Peak detector.
- 4. Only the worst 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	5150.000	3.33	39.91	43.24	54.00	-10.76	AVG
2	5350.000	3.08	40.08	43.16	54.00	-10.84	AVG

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

- 2. If Peak Result complies with AV limit, AV Result is deemed to comply with AV limit.
- 3. AVG: VBW=1/Ton, where: Ton is the transmitting duration.
- 4. For the transmitting duration, please refer to clause 7.1.
- 5. Only the worst data was recorded, if it complies with the limit, the other emissions deemed to comply with the limit.
- 6. For transmitters with operating frequencies in the band 5150-5250 MHz, all emissions outside the band 5150-5350 MHz shall not exceed -27 dBm/MHz e.i.r.p. The worst setting has been used for investigation during the measurement.

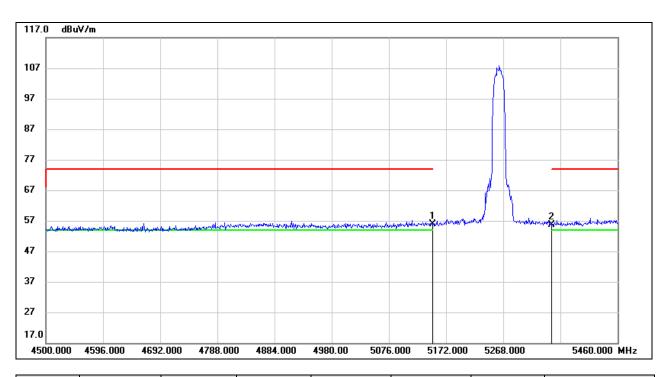
Note: All the polarities (Vertical & Horizontal) and Antennas had been tested, only the worst data was recorded in the report.



#### UNII-2A BAND

### RESTRICTED BANDEDGE (LOW CHANNEL, VERTICAL)

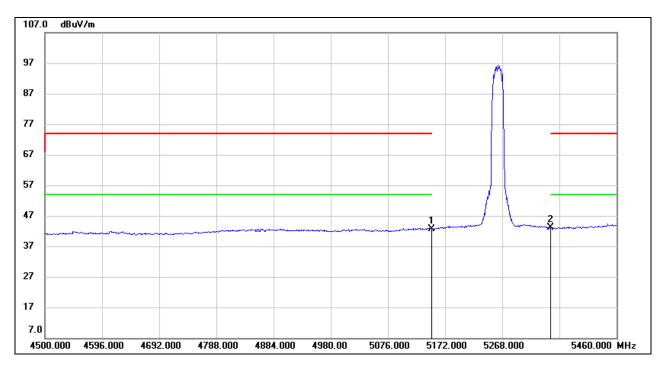
#### **PEAK**



No.	Frequency	Reading	Correct	Result	Limit	Margin	Remark
	(MHz)	(dBuV)	(dB/m)	(dBuV/m)	(dBuV/m)	(dB)	
1	5150.000	15.99	39.91	55.90	74.00	-18.10	peak
2	5350.000	15.51	40.08	55.59	74.00	-18.41	peak

- 2. If Peak Result complies with AV limit, AV Result is deemed to comply with AV limit.
- 3. Peak: Peak detector.
- 4. Only the worst data was recorded, if it complies with the limit, the other emissions deemed to comply with the limit.
- 5. For transmitters with operating frequencies in the band 5150-5250 MHz, all emissions outside the band 5150-5350 MHz shall not exceed -27 dBm/MHz e.i.r.p. The worst setting has been used for investigation during the measurement.



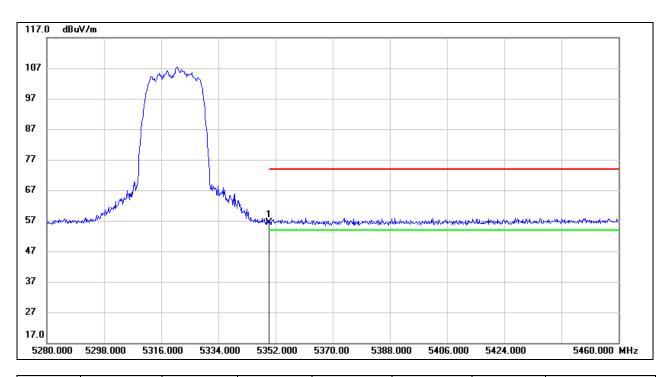


No.	Frequency	Reading	Correct	Result	Limit	Margin	Remark
	(MHz)	(dBuV)	(dB/m)	(dBuV/m)	(dBuV/m)	(dB)	
1	5150.000	2.72	39.91	42.63	74.00	-31.37	peak
2	5350.000	3.02	40.08	43.10	74.00	-30.90	peak

- 2. If Peak Result complies with AV limit, AV Result is deemed to comply with AV limit.
- 3. AVG: VBW=1/Ton, where: Ton is the transmitting duration.
- 4. For the transmitting duration, please refer to clause 7.1.
- 5. Only the worst data was recorded, if it complies with the limit, the other emissions deemed to comply with the limit.
- 6. For transmitters with operating frequencies in the band 5150-5250 MHz, all emissions outside the band 5150-5350 MHz shall not exceed -27 dBm/MHz e.i.r.p. The worst setting has been used for investigation during the measurement.



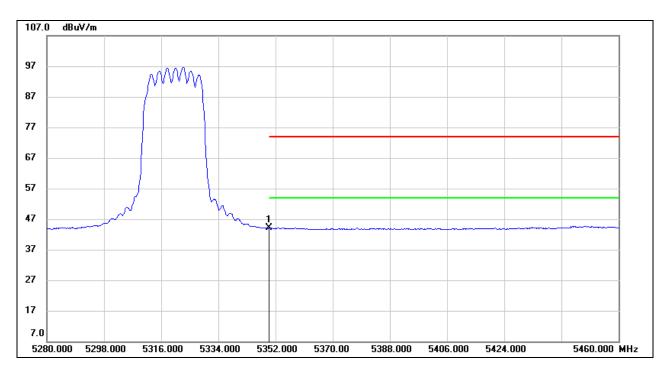
## **PEAK**



No.	Frequency	Reading	Correct	Result	Limit	Margin	Remark
	(MHz)	(dBuV)	(dB/m)	(dBuV/m)	(dBuV/m)	(dB)	
1	5350.000	16.37	40.08	56.45	74.00	-17.55	peak

- 2. If Peak Result complies with AV limit, AV Result is deemed to comply with AV limit.
- 3. Peak: Peak detector.
- 4. Only the worst 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	5350.000	4.15	40.08	44.23	54.00	-9.77	AVG

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

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

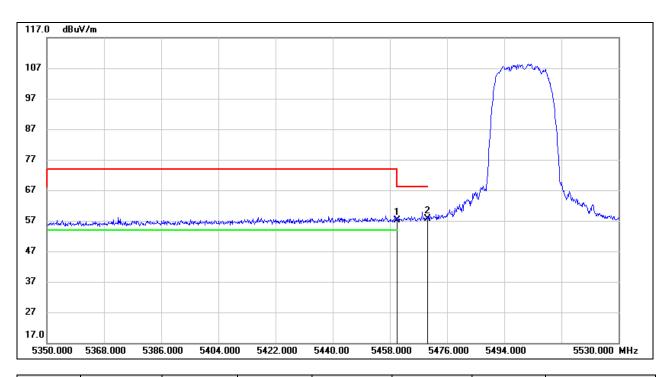
Note: All the polarities (Vertical & Horizontal) and Antennas had been tested, only the worst data was recorded in the report.



**UNII-2C BAND** 

# RESTRICTED BANDEDGE (LOW CHANNEL, VERTICAL)

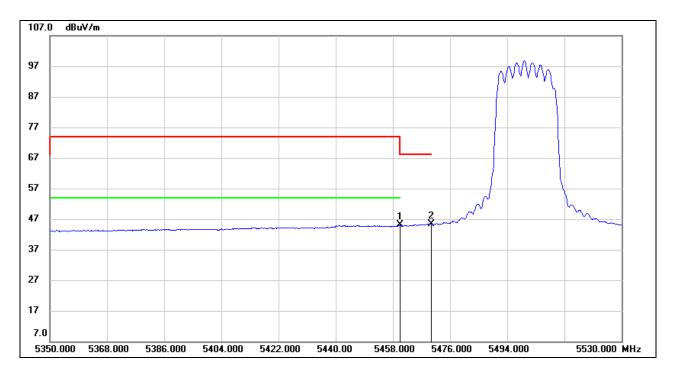
## **PEAK**



No.	Frequency	Reading	Correct	Result	Limit	Margin	Remark
	(MHz)	(dBuV)	(dB/m)	(dBuV/m)	(dBuV/m)	(dB)	
1	5460.000	16.42	40.79	57.21	68.20	-10.99	peak
2	5470.000	16.73	40.85	57.58	68.20	-10.62	peak

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



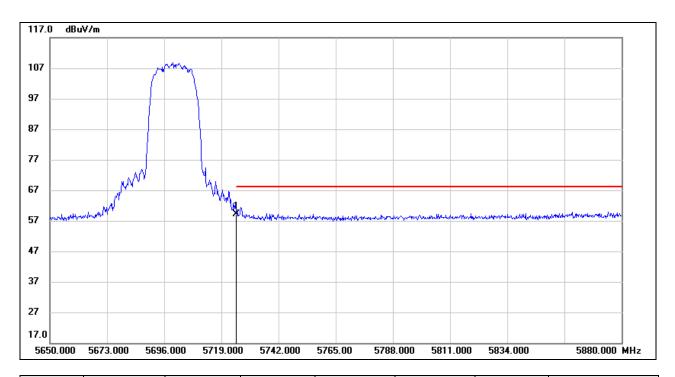


No.	Frequency	Reading	Correct	Result	Limit	Margin	Remark
	(MHz)	(dBuV)	(dB/m)	(dBuV/m)	(dBuV/m)	(dB)	
1	5460.000	4.23	40.79	45.02	54.00	-8.98	AVG
2	5470.000	4.59	40.85	45.44	68.20	-22.76	AVG

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



#### **PEAK**



No.	Frequency	Reading	Correct	Result	Limit	Margin	Remark
	(MHz)	(dBuV)	(dB/m)	(dBuV/m)	(dBuV/m)	(dB)	
1	5725.000	18.49	40.63	59.12	68.20	-9.08	peak

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

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

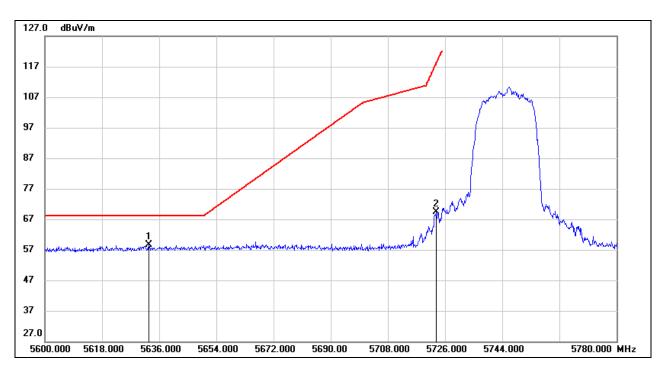
Note: All the polarities (Vertical & Horizontal) and Antennas had been tested, only the worst data was recorded in the report.



**UNII-3 BAND** 

## RESTRICTED BANDEDGE (LOW CHANNEL, VERTICAL)

## **PEAK**

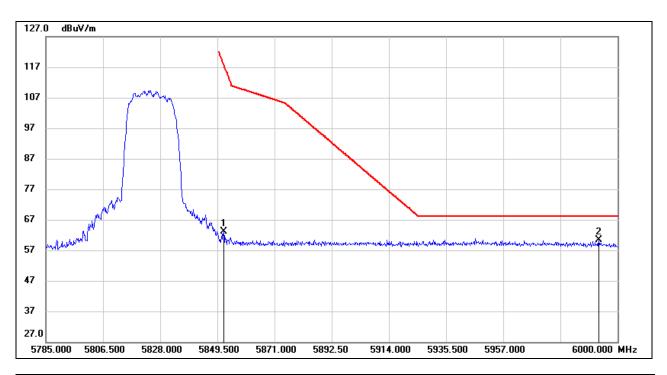


No.	Frequency	Reading	Correct	Result	Limit	Margin	Remark
	(MHz)	(dBuV)	(dB/m)	(dBuV/m)	(dBuV/m)	(dB)	
1	5632.760	17.92	40.64	58.56	68.20	-9.64	peak
2	5723.300	28.75	40.61	69.36	118.33	-48.97	peak

- 2. If Peak Result complies with AV limit, AV Result is deemed to comply with AV limit.
- 3. Peak: Peak detector.
- 4. Only the worst 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	5851.865	21.55	41.47	63.02	117.95	-54.93	peak
2	5992.905	18.84	41.49	60.33	68.20	-7.87	peak

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

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

Note: All the polarities (Vertical & Horizontal) had been tested, only the worst data was recorded in the report.

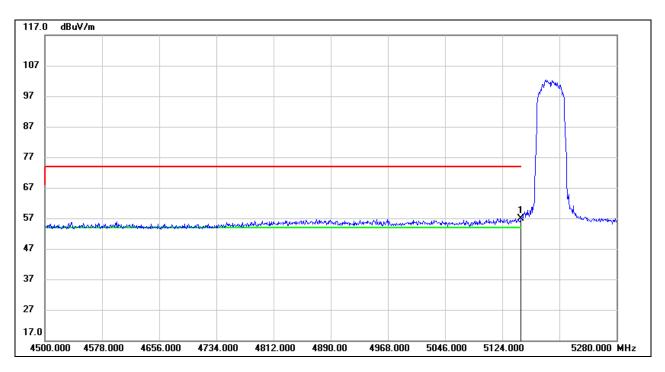
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### 8.1.3. 802.11n HT40 MIMO MODE

## **UNII-1 BAND**

## RESTRICTED BANDEDGE (LOW CHANNEL, VERTICAL)

## <u>PEAK</u>

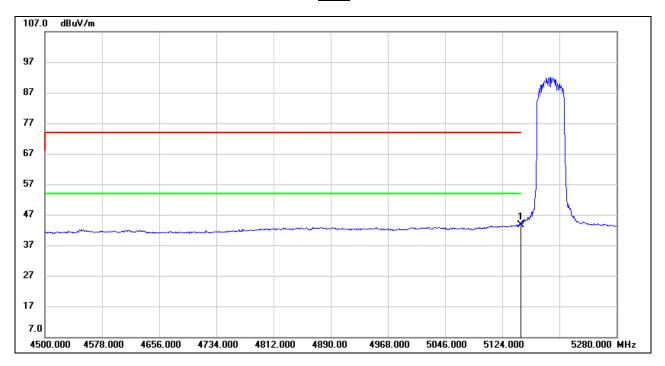


No.	Frequency	Reading	Correct	Result	Limit	Margin	Remark
	(MHz)	(dBuV)	(dB/m)	(dBuV/m)	(dBuV/m)	(dB)	
1	5150.000	16.97	39.91	56.88	74.00	-17.12	peak

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



## <u>AVG</u>

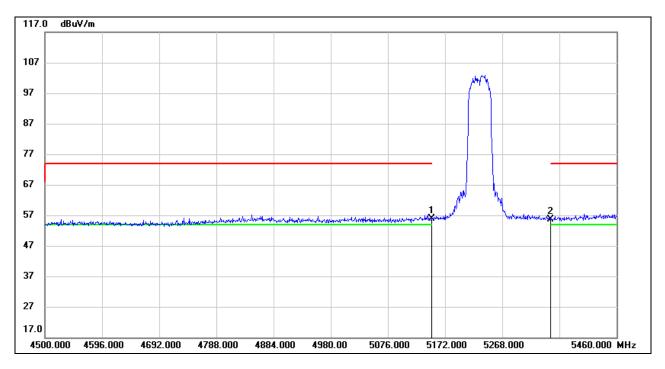


No.	Frequency	Reading	Correct	Result	Limit	Margin	Remark
	(MHz)	(dBuV)	(dB/m)	(dBuV/m)	(dBuV/m)	(dB)	
1	5150.000	3.76	39.91	43.67	54.00	-10.33	AVG

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



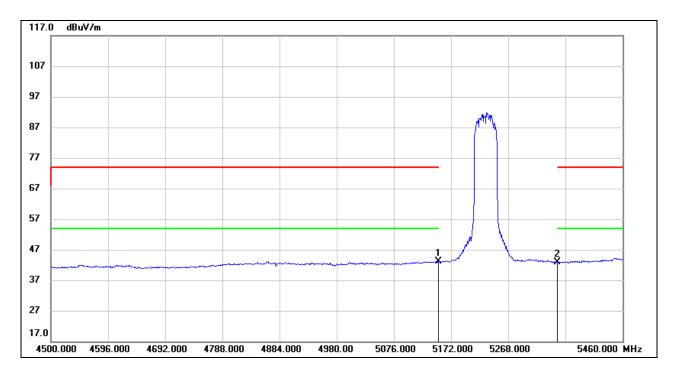
## **PEAK**



No.	Frequency	Reading	Correct	Result	Limit	Margin	Remark
	(MHz)	(dBuV)	(dB/m)	(dBuV/m)	(dBuV/m)	(dB)	
1	5150.000	15.96	39.91	55.87	74.00	-18.13	peak
2	5350.000	15.55	40.08	55.63	74.00	-18.37	peak

- 2. If Peak Result complies with AV limit, AV Result is deemed to comply with AV limit.
- 3. Peak: Peak detector.
- 4. Only the worst 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	5150.000	3.28	39.91	43.19	54.00	-10.81	AVG
2	5350.000	2.89	40.08	42.97	54.00	-11.03	AVG

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

- 2. If Peak Result complies with AV limit, AV Result is deemed to comply with AV limit.
- 3. AVG: VBW=1/Ton, where: Ton is the transmitting duration.
- 4. For the transmitting duration, please refer to clause 7.1.
- 5. Only the worst data was recorded, if it complies with the limit, the other emissions deemed to comply with the limit.
- 6. For transmitters with operating frequencies in the band 5150-5250 MHz, all emissions outside the band 5150-5350 MHz shall not exceed -27 dBm/MHz e.i.r.p. The worst setting has been used for investigation during the measurement.

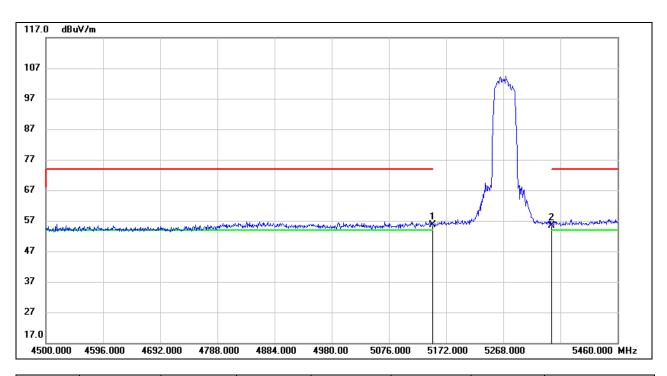
Note: All the polarities (Vertical & Horizontal) and Antennas had been tested, only the worst data was recorded in the report.



**UNII-2A BAND** 

## RESTRICTED BANDEDGE (LOW CHANNEL, VERTICAL)

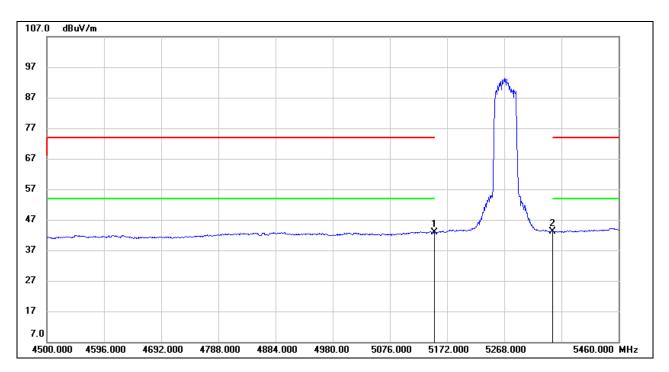
## **PEAK**



No.	Frequency	Reading	Correct	Result	Limit	Margin	Remark
	(MHz)	(dBuV)	(dB/m)	(dBuV/m)	(dBuV/m)	(dB)	
1	5150.000	15.64	39.91	55.55	74.00	-18.45	peak
2	5350.000	15.37	40.08	55.45	74.00	-18.55	peak

- 2. If Peak Result complies with AV limit, AV Result is deemed to comply with AV limit.
- 3. Peak: Peak detector.
- 4. Only the worst data was recorded, if it complies with the limit, the other emissions deemed to comply with the limit.
- 5. For transmitters with operating frequencies in the band 5150-5250 MHz, all emissions outside the band 5150-5350 MHz shall not exceed -27 dBm/MHz e.i.r.p. The worst setting has been used for investigation during the measurement.



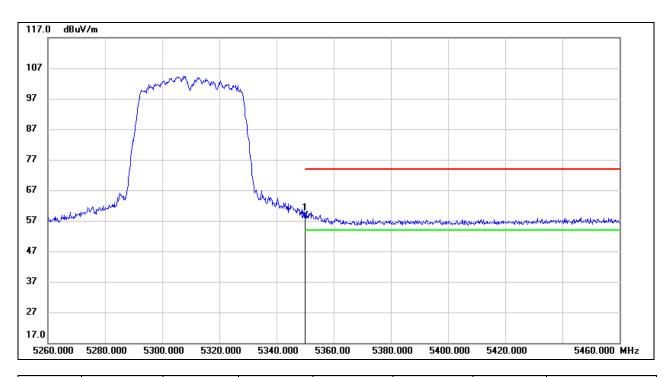


No.	Frequency	Reading	Correct	Result	Limit	Margin	Remark
	(MHz)	(dBuV)	(dB/m)	(dBuV/m)	(dBuV/m)	(dB)	
1	5150.000	2.99	39.91	42.90	54.00	-11.10	AVG
2	5350.000	3.02	40.08	43.10	54.00	-10.90	AVG

- 2. If Peak Result complies with AV limit, AV Result is deemed to comply with AV limit.
- 3. AVG: VBW=1/Ton, where: Ton is the transmitting duration.
- 4. For the transmitting duration, please refer to clause 7.1.
- 5. Only the worst data was recorded, if it complies with the limit, the other emissions deemed to comply with the limit.
- 6. For transmitters with operating frequencies in the band 5150-5250 MHz, all emissions outside the band 5150-5350 MHz shall not exceed -27 dBm/MHz e.i.r.p. The worst setting has been used for investigation during the measurement.



## **PEAK**

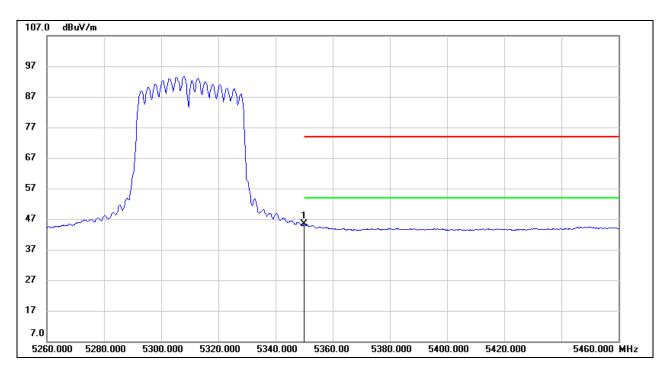


No.	Frequency	Reading	Correct	Result	Limit	Margin	Remark
	(MHz)	(dBuV)	(dB/m)	(dBuV/m)	(dBuV/m)	(dB)	
1	5350.000	18.62	40.08	58.70	74.00	-15.30	peak

- 2. If Peak Result complies with AV limit, AV Result is deemed to comply with AV limit.
- 3. Peak: Peak detector.
- 4. Only the worst 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	5350.000	5.20	40.08	45.28	54.00	-8.72	AVG

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

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

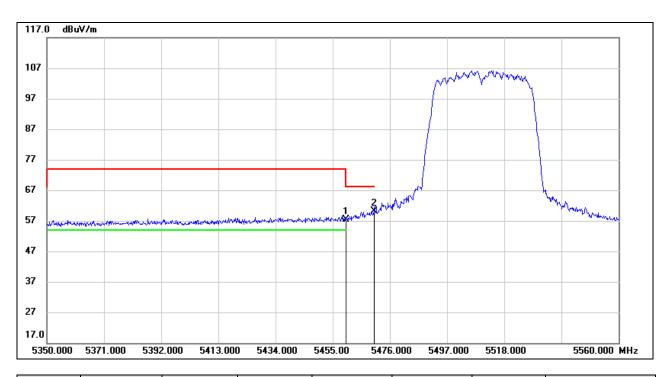
Note: All the polarities (Vertical & Horizontal) and Antennas had been tested, only the worst data was recorded in the report.



**UNII-2C BAND** 

# RESTRICTED BANDEDGE (LOW CHANNEL, VERTICAL)

# **PEAK**

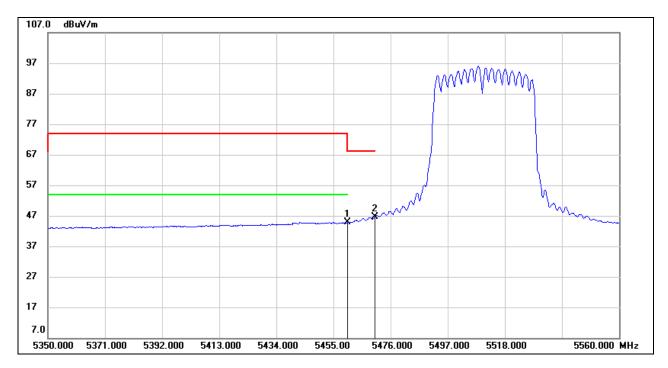


No.	Frequency	Reading	Correct	Result	Limit	Margin	Remark
	(MHz)	(dBuV)	(dB/m)	(dBuV/m)	(dBuV/m)	(dB)	
1	5460.000	16.63	40.79	57.42	68.20	-10.78	peak
2	5470.000	19.31	40.85	60.16	68.20	-8.04	peak

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



#### AVG



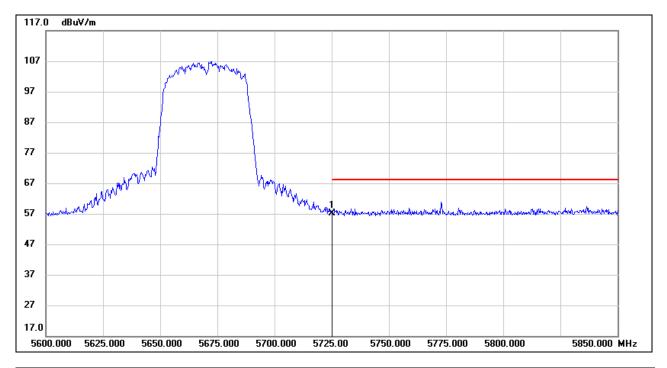
No.	Frequency	Reading	Correct	Result	Limit	Margin	Remark
	(MHz)	(dBuV)	(dB/m)	(dBuV/m)	(dBuV/m)	(dB)	
1	5460.000	4.07	40.79	44.86	54.00	-9.14	AVG
2	5470.000	5.86	40.85	46.71	68.20	-21.49	AVG

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



RESTRICTED BANDEDGE (HIGH CHANNEL, VERTICAL)

#### **PEAK**



No.	Frequency	Reading	Correct	Result	Limit	Margin	Remark
	(MHz)	(dBuV)	(dB/m)	(dBuV/m)	(dBuV/m)	(dB)	
1	5725.000	16.60	40.63	57.23	68.20	-10.97	peak

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

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

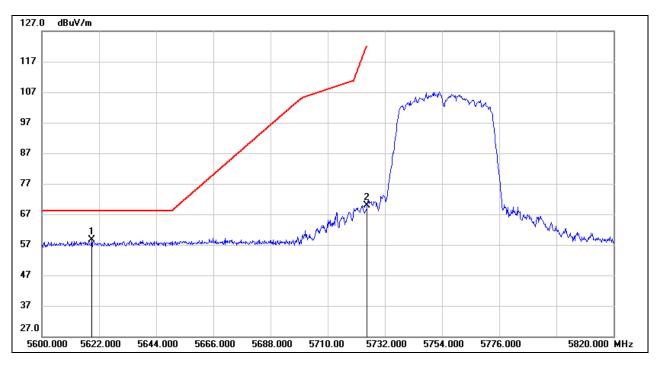
Note: All the polarities (Vertical & Horizontal) and Antennas had been tested, only the worst data was recorded in the report.



**UNII-3 BAND** 

# RESTRICTED BANDEDGE (LOW CHANNEL, VERTICAL)

## **PEAK**



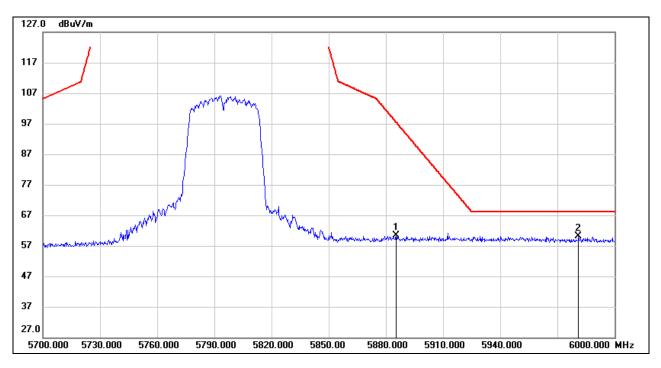
No.	Frequency	Reading	Correct	Result	Limit	Margin	Remark
	(MHz)	(dBuV)	(dB/m)	(dBuV/m)	(dBuV/m)	(dB)	
1	5619.140	17.87	40.67	58.54	68.20	-9.66	peak
2	5725.180	29.32	40.63	69.95			peak

- 2. If Peak Result complies with AV limit, AV Result is deemed to comply with AV limit.
- 3. Peak: Peak detector.
- 4. Only the worst 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	5885.400	18.62	41.81	60.43	97.48	-37.05	peak
2	5981.100	18.61	41.55	60.16	68.20	-8.04	peak

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

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

Note: All the polarities (Vertical & Horizontal) had been tested, only the worst data was recorded in the report.

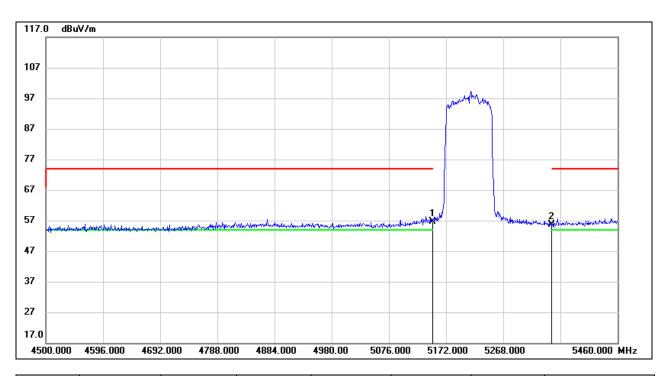


8.1.4. 802.11ac VHT80 MIMO MODE

# **UNII-1 BAND**

# RESTRICTED BANDEDGE (LOW CHANNEL, VERTICAL)

## **PEAK**

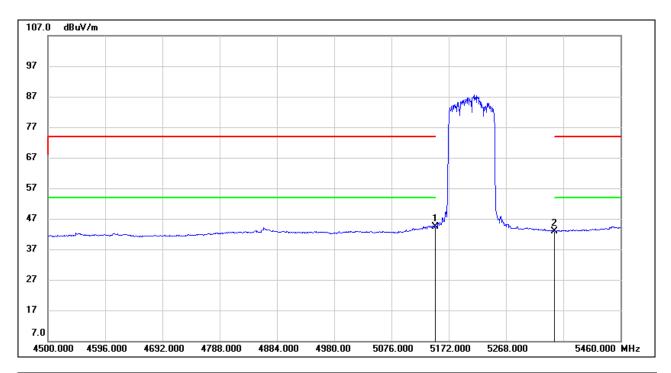


No.	Frequency	Reading	Correct	Result	Limit	Margin	Remark
	(MHz)	(dBuV)	(dB/m)	(dBuV/m)	(dBuV/m)	(dB)	
1	5150.000	16.82	39.91	56.73	74.00	-17.27	peak
2	5350.000	15.52	40.08	55.60	74.00	-18.40	peak

- 2. If Peak Result complies with AV limit, AV Result is deemed to comply with AV limit.
- 3. Peak: Peak detector.
- 4. Only the worst 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	5150.000	4.44	39.91	44.35	74.00	-29.65	peak
2	5350.000	2.91	40.08	42.99	74.00	-31.01	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. AVG: VBW=1/Ton, where: Ton is the transmitting duration.
- 4. For the transmitting duration, please refer to clause 7.1.
- 5. Only the worst data was recorded, if it complies with the limit, the other emissions deemed to comply with the limit.

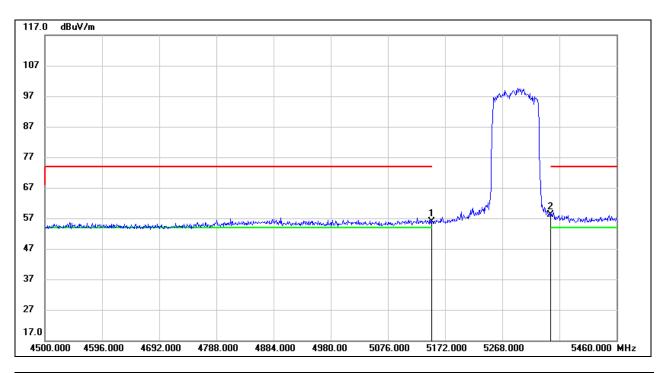
Note: All the polarities (Vertical & Horizontal) and Antennas had been tested, only the worst data was recorded in the report.



UNII-2A BAND

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

#### **PEAK**

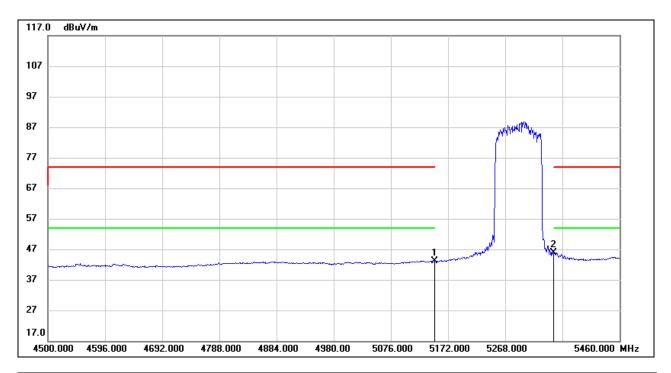


No.	Frequency	Reading	Correct	Result	Limit	Margin	Remark
	(MHz)	(dBuV)	(dB/m)	(dBuV/m)	(dBuV/m)	(dB)	
1	5150.000	15.89	39.91	55.80	74.00	-18.20	peak
2	5350.000	18.03	40.08	58.11	74.00	-15.89	peak

- 2. If Peak Result complies with AV limit, AV Result is deemed to comply with AV limit.
- 3. Peak: Peak detector.
- 4. Only the worst data was recorded, if it complies with the limit, the other emissions deemed to comply with the limit.
- 5. For transmitters with operating frequencies in the band 5150-5250 MHz, all emissions outside the band 5150-5350 MHz shall not exceed -27 dBm/MHz e.i.r.p. The worst setting has been used for investigation during the measurement.



#### AVG



No.	Frequency	Reading	Correct	Result	Limit	Margin	Remark
	(MHz)	(dBuV)	(dB/m)	(dBuV/m)	(dBuV/m)	(dB)	
1	5150.000	3.16	39.91	43.07	54.00	-10.93	AVG
2	5350.000	5.85	40.08	45.93	54.00	-8.07	AVG

Note: 1. Measurement = Reading Level + Correct Factor

- 2. AVG: VBW=1/Ton where: ton is transmit duration.
- 3. For duty cycle, please refer to clause 7.1.
- 4. Only the worst case emission will be recorder, if it complies with the limit, the other emissions deemed to comply with the limit.
- 6. For transmitters with operating frequencies in the band 5150-5250 MHz, all emissions outside the band 5150-5350 MHz shall not exceed -27 dBm/MHz e.i.r.p. The worst setting has been used for investigation during the measurement.

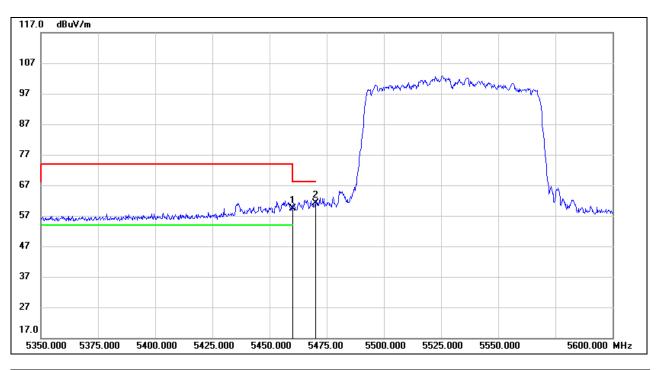
Note: All the polarities (Vertical & Horizontal) and Antennas had been tested, only the worst data was recorded in the report.



#### **UNII-2C BAND**

# RESTRICTED BANDEDGE (LOW CHANNEL, VERTICAL)

#### **PEAK**

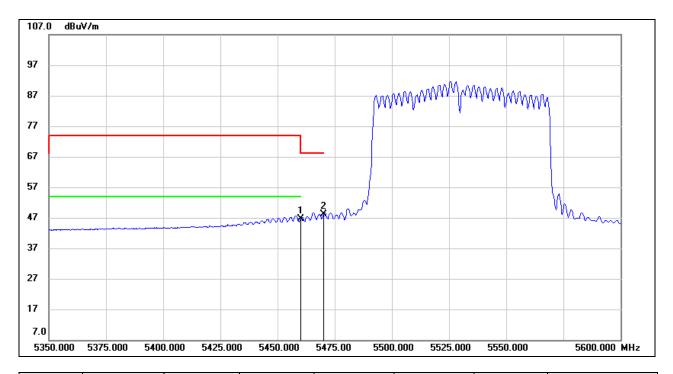


No.	Frequency	Reading	Correct	Result	Limit	Margin	Remark
	(MHz)	(dBuV)	(dB/m)	(dBuV/m)	(dBuV/m)	(dB)	
1	5460.000	18.52	40.79	59.31	68.20	-8.89	peak
2	5470.000	20.28	40.85	61.13	68.20	-7.07	peak

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



#### AVG



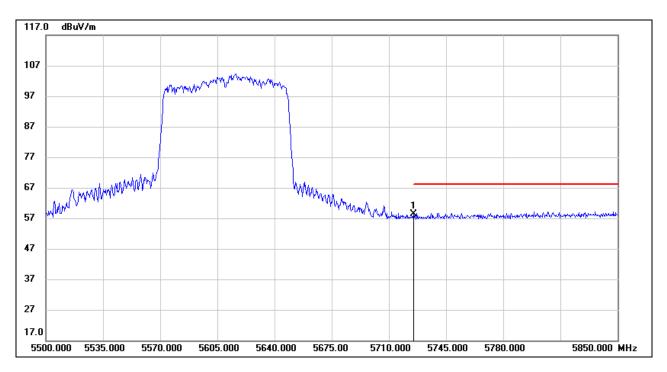
No.	Frequency	Reading	Correct	Result	Limit	Margin	Remark
	(MHz)	(dBuV)	(dB/m)	(dBuV/m)	(dBuV/m)	(dB)	
1	5460.000	5.81	40.79	46.60	54.00	-7.40	AVG
2	5470.000	7.25	40.85	48.10	68.20	-20.10	AVG

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



RESTRICTED BANDEDGE (HIGH CHANNEL, VERTICAL)

#### **PEAK**



No.	Frequency	Reading	Correct	Result	Limit	Margin	Remark
	(MHz)	(dBuV)	(dB/m)	(dBuV/m)	(dBuV/m)	(dB)	
1	5725.000	17.82	40.63	58.45	68.20	-9.75	peak

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

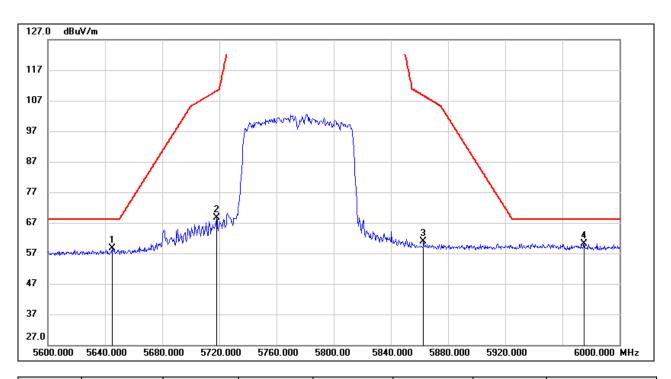
- 2. If Peak Result complies with AV limit, AV Result is deemed to comply with AV limit.
- 3. Peak: Peak detector.
- 4. Only the worst data was recorded, if it complies with the limit, the other emissions deemed to comply with the limit.

Note: All the polarities (Vertical & Horizontal) and Antennas had been tested, only the worst data was recorded in the report.



## **UNII-3 BAND**

# RESTRICTED BANDEDGE (LOW CHANNEL, VERTICAL)



No.	Frequency	Reading	Correct	Result	Limit	Margin	Remark
	(MHz)	(dBuV)	(dB/m)	(dBuV/m)	(dBuV/m)	(dB)	
1	5644.800	18.11	40.62	58.73	68.20	-9.47	peak
2	5718.000	28.13	40.59	68.72	110.24	-41.52	peak
3	5862.800	19.31	41.58	60.89	108.61	-47.72	peak
4	5975.200	18.57	41.59	60.16	68.20	-8.04	peak

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

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

Note: All the polarities (Vertical & Horizontal) and Antennas had been tested, only the worst data was recorded in the report.



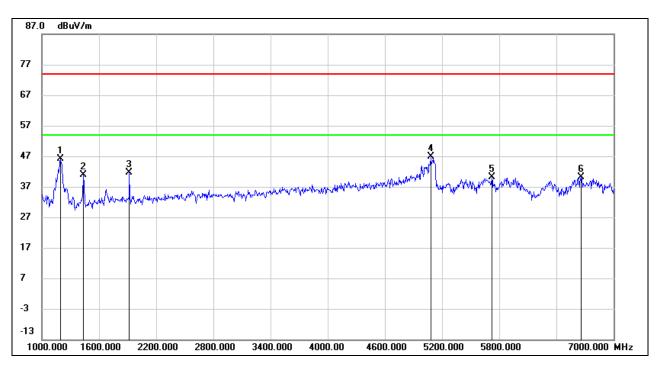
# 8.2. SPURIOUS EMISSIONS (1 GHz ~ 7 GHz)

#### 8.2.1. 802.11n HT20 MIMO MODE

#### **UNII-1 BAND**

# MIMO MODE TEST RESULTS (WORST CASE)

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

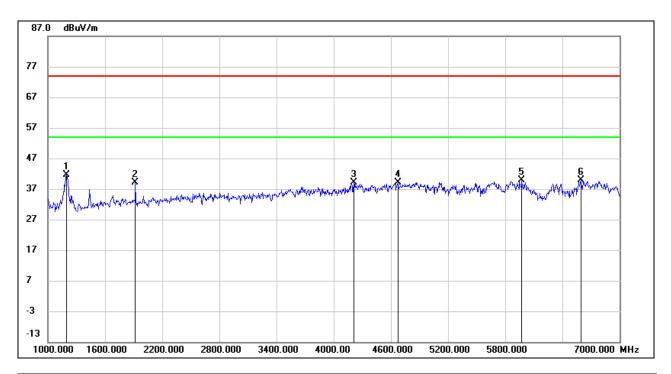


No.	Frequency	Reading	Correct	Result	Limit	Margin	Remark
	(MHz)	(dBuV)	(dB/m)	(dBuV/m)	(dBuV/m)	(dB)	
1	1192.000	60.01	-13.77	46.24	74.00	-27.76	peak
2	1438.000	53.58	-12.81	40.77	74.00	-33.23	peak
3	1918.000	52.47	-10.81	41.66	74.00	-32.34	peak
4	5080.000	47.57	-0.59	46.98	74.00	-27.02	peak
5	5722.000	39.41	0.67	40.08	74.00	-33.92	peak
6	6658.000	36.39	3.69	40.08	74.00	-33.92	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 Band reject filter losses.
  - 5. Proper operation of the transmitter prior to adding the filter to the measurement chain.
- 6. Since non-restricted band peak emissions are less than the average limit, they also comply with the -27dBm/MHz (68.2dBuV/m) limit.



# HARMONICS AND SPURIOUS EMISSIONS (LOW CHANNEL, VERTICAL)

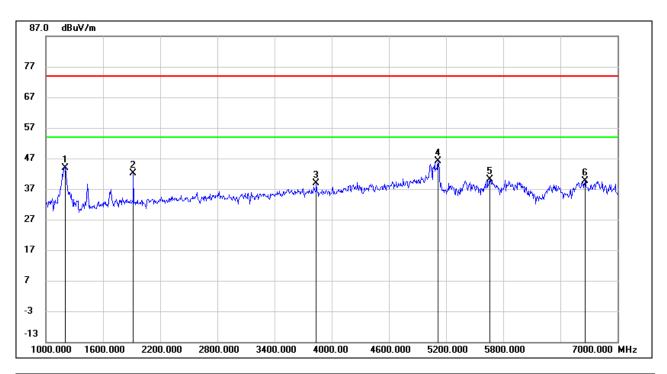


No.	Frequency	Reading	Correct	Result	Limit	Margin	Remark
	(MHz)	(dBuV)	(dB/m)	(dBuV/m)	(dBuV/m)	(dB)	
1	1198.000	55.47	-13.73	41.74	74.00	-32.26	peak
2	1918.000	50.05	-10.81	39.24	74.00	-34.76	peak
3	4210.000	41.85	-2.83	39.02	74.00	-34.98	peak
4	4672.000	40.78	-1.69	39.09	74.00	-34.91	peak
5	5974.000	38.63	1.28	39.91	74.00	-34.09	peak
6	6592.000	36.36	3.64	40.00	74.00	-34.00	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 Band reject filter losses.
  - 5. Proper operation of the transmitter prior to adding the filter to the measurement chain.
- 6. Since non-restricted band peak emissions are less than the average limit, they also comply with the -27dBm/MHz (68.2dBuV/m) limit.



# HARMONICS AND SPURIOUS EMISSIONS (MID CHANNEL, HORIZONTAL)

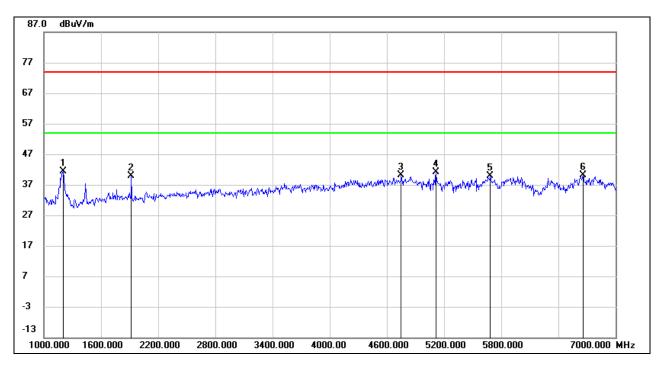


No.	Frequency	Reading	Correct	Result	Limit	Margin	Remark
	(MHz)	(dBuV)	(dB/m)	(dBuV/m)	(dBuV/m)	(dB)	
1	1204.000	57.55	-13.70	43.85	74.00	-30.15	peak
2	1918.000	53.02	-10.81	42.21	74.00	-31.79	peak
3	3838.000	43.21	-4.39	38.82	74.00	-35.18	peak
4	5116.000	46.61	-0.36	46.25	74.00	-27.75	peak
5	5656.000	39.56	0.69	40.25	74.00	-33.75	peak
6	6658.000	35.90	3.69	39.59	74.00	-34.41	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.
- 6. Since non-restricted band peak emissions are less than the average limit, they also comply with the -27dBm/MHz (68.2dBuV/m) limit.



HARMONICS AND SPURIOUS EMISSIONS (MID CHANNEL, VERTICAL)

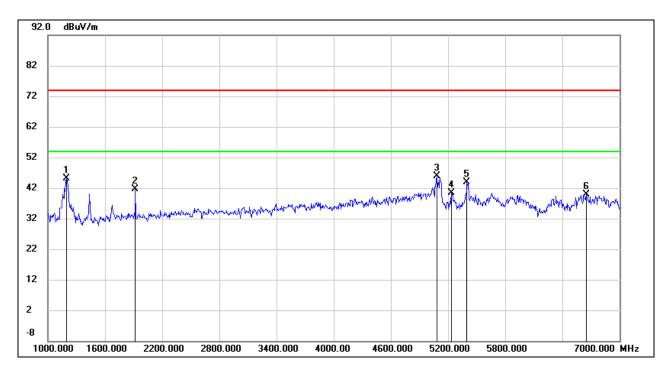


No.	Frequency	Reading	Correct	Result	Limit	Margin	Remark
	(MHz)	(dBuV)	(dB/m)	(dBuV/m)	(dBuV/m)	(dB)	
1	1204.000	55.17	-13.70	41.47	74.00	-32.53	peak
2	1918.000	50.62	-10.81	39.81	74.00	-34.19	peak
3	4750.000	41.43	-1.35	40.08	74.00	-33.92	peak
4	5116.000	41.39	-0.36	41.03	74.00	-32.97	peak
5	5686.000	39.12	0.68	39.80	74.00	-34.20	peak
6	6658.000	36.56	3.69	40.25	74.00	-33.75	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.
- 6. Since non-restricted band peak emissions are less than the average limit, they also comply with the -27dBm/MHz (68.2dBuV/m) limit.



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

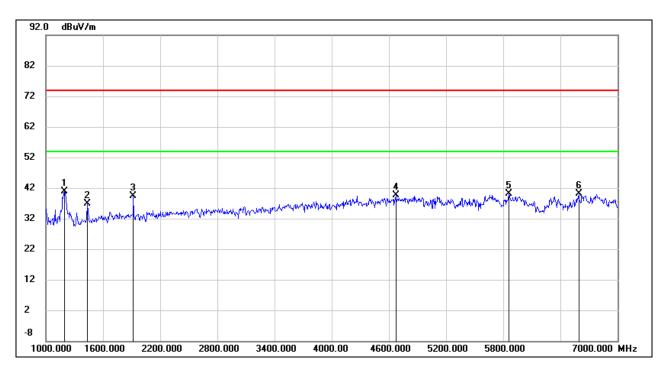


No.	Frequency	Reading	Correct	Result	Limit	Margin	Remark
	(MHz)	(dBuV)	(dB/m)	(dBuV/m)	(dBuV/m)	(dB)	
1	1198.000	58.75	-13.73	45.02	74.00	-28.98	peak
2	1918.000	52.33	-10.81	41.52	74.00	-32.48	peak
3	5080.000	46.54	-0.59	45.95	74.00	-28.05	peak
4	5240.000	40.17	0.17	40.34	74.00	-33.66	peak
5	5398.000	43.77	0.10	43.87	74.00	-30.13	peak
6	6652.000	36.24	3.70	39.94	74.00	-34.06	peak

- 2. If Peak Result complies with AV limit, AV Result is deemed to comply with AV limit.
- 3. Peak: Peak detector.
- 4. Filter losses were only considered in the spurious frequency bands and the authorized band was not corrected for Band reject filter losses.
  - 5. Proper operation of the transmitter prior to adding the filter to the measurement chain.
- 6. Since non-restricted band peak emissions are less than the average limit, they also comply with the -27dBm/MHz (68.2dBuV/m) limit.



## 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	1192.000	54.55	-13.77	40.78	74.00	-33.22	peak
2	1432.000	49.63	-12.85	36.78	74.00	-37.22	peak
3	1918.000	50.17	-10.81	39.36	74.00	-34.64	peak
4	4672.000	41.41	-1.69	39.72	74.00	-34.28	peak
5	5860.000	39.27	0.88	40.15	74.00	-33.85	peak
6	6592.000	36.45	3.64	40.09	74.00	-33.91	peak

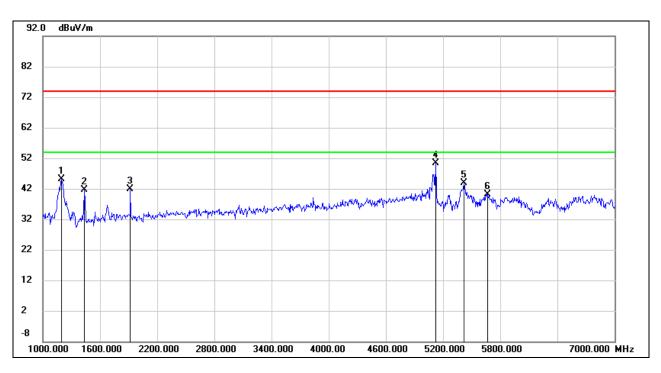
- 2. If Peak Result complies with AV limit, AV Result is deemed to comply with AV limit.
- 3. Peak: Peak detector.
- 4. Filter losses were only considered in the spurious frequency bands and the authorized band was not corrected for Band reject filter losses.
  - 5. Proper operation of the transmitter prior to adding the filter to the measurement chain.
- 6. Since non-restricted band peak emissions are less than the average limit, they also comply with the -27dBm/MHz (68.2dBuV/m) limit.



#### UNII-2A BAND

#### MIMO MODE TEST RESULTS (WORST CASE)

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

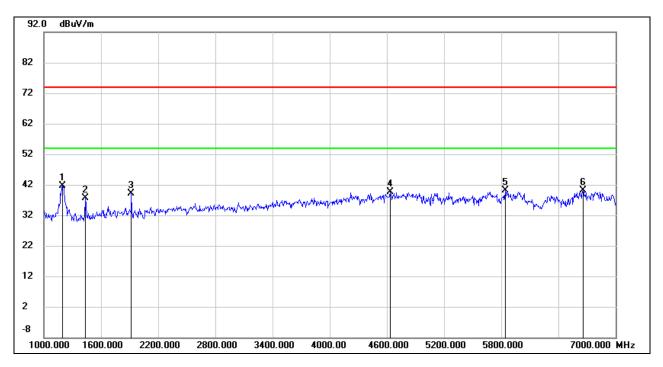


No.	Frequency	Reading	Correct	Result	Limit	Margin	Remark
	(MHz)	(dBuV)	(dB/m)	(dBuV/m)	(dBuV/m)	(dB)	
1	1192.000	58.86	-13.77	45.09	74.00	-28.91	peak
2	1438.000	54.56	-12.81	41.75	74.00	-32.25	peak
3	1918.000	52.67	-10.81	41.86	74.00	-32.14	peak
4	5122.000	50.75	-0.32	50.43	74.00	-23.57	peak
5	5416.000	43.65	0.14	43.79	74.00	-30.21	peak
6	5668.000	39.47	0.68	40.15	74.00	-33.85	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 Band reject filter losses.
  - 5. Proper operation of the transmitter prior to adding the filter to the measurement chain.
- 6. Since non-restricted band peak emissions are less than the average limit, they also comply with the -27dBm/MHz (68.2dBuV/m) limit.



HARMONICS AND SPURIOUS EMISSIONS (LOW CHANNEL, VERTICAL)

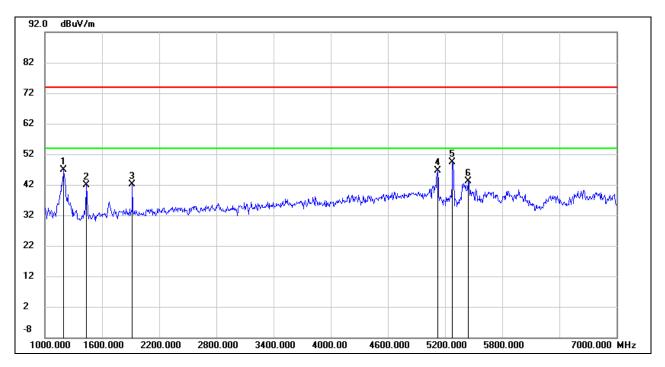


No.	Frequency	Reading	Correct	Result	Limit	Margin	Remark
	(MHz)	(dBuV)	(dB/m)	(dBuV/m)	(dBuV/m)	(dB)	
1	1192.000	55.35	-13.77	41.58	74.00	-32.42	peak
2	1438.000	50.51	-12.81	37.70	74.00	-36.30	peak
3	1918.000	50.05	-10.81	39.24	74.00	-34.76	peak
4	4636.000	41.36	-1.84	39.52	74.00	-34.48	peak
5	5842.000	39.34	0.80	40.14	74.00	-33.86	peak
6	6658.000	36.43	3.69	40.12	74.00	-33.88	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.
- 6. Since non-restricted band peak emissions are less than the average limit, they also comply with the -27dBm/MHz (68.2dBuV/m) limit.



HARMONICS AND SPURIOUS EMISSIONS (MID CHANNEL, HORIZONTAL)

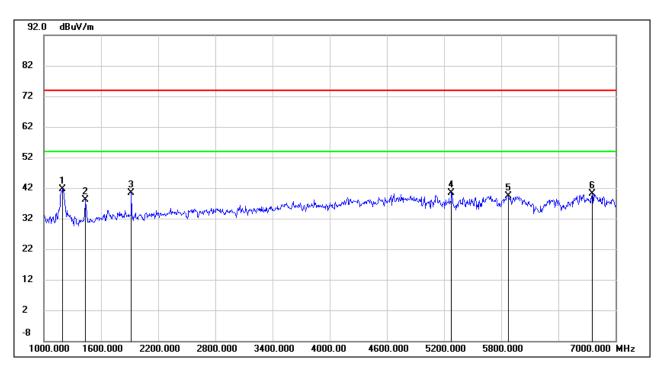


No.	Frequency	Reading	Correct	Result	Limit	Margin	Remark
	(MHz)	(dBuV)	(dB/m)	(dBuV/m)	(dBuV/m)	(dB)	
1	1198.000	60.59	-13.73	46.86	74.00	-27.14	peak
2	1438.000	54.63	-12.81	41.82	74.00	-32.18	peak
3	1918.000	52.94	-10.81	42.13	74.00	-31.87	peak
4	5122.000	46.95	-0.32	46.63	74.00	-27.37	peak
5	5280.000	49.29	0.16	49.45	74.00	-24.55	peak
6	5440.000	42.92	0.23	43.15	74.00	-30.85	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 Band reject filter losses.
  - 5. Proper operation of the transmitter prior to adding the filter to the measurement chain.
- 6. Since non-restricted band peak emissions are less than the average limit, they also comply with the -27dBm/MHz (68.2dBuV/m) limit.



HARMONICS AND SPURIOUS EMISSIONS (MID CHANNEL, VERTICAL)

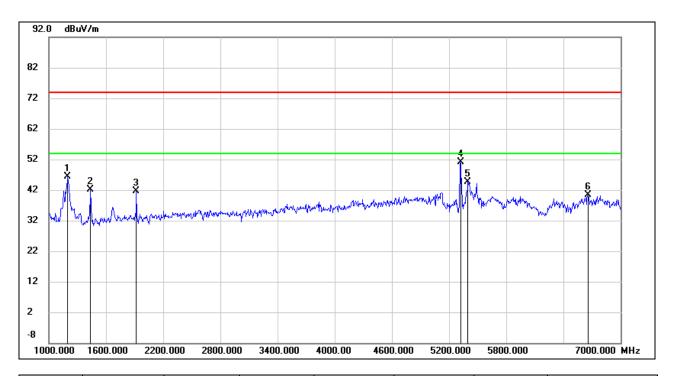


No.	Frequency	Reading	Correct	Result	Limit	Margin	Remark
	(MHz)	(dBuV)	(dB/m)	(dBuV/m)	(dBuV/m)	(dB)	
1	1192.000	55.39	-13.77	41.62	74.00	-32.38	peak
2	1438.000	51.03	-12.81	38.22	74.00	-35.78	peak
3	1918.000	51.11	-10.81	40.30	74.00	-33.70	peak
4	5278.000	40.33	0.16	40.49	74.00	-33.51	peak
5	5878.000	38.37	0.94	39.31	74.00	-34.69	peak
6	6754.000	36.40	3.74	40.14	74.00	-33.86	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.
- 6. Since non-restricted band peak emissions are less than the average limit, they also comply with the -27dBm/MHz (68.2dBuV/m) limit.



# HARMONICS AND SPURIOUS EMISSIONS (HIGH CHANNEL, HORIZONTAL)

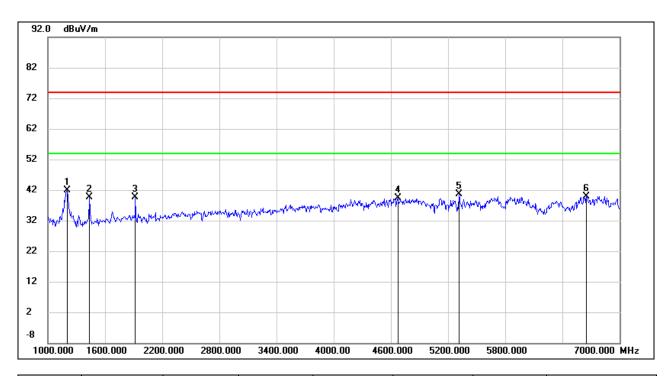


No.	Frequency	Reading	Correct	Result	Limit	Margin	Remark
	(MHz)	(dBuV)	(dB/m)	(dBuV/m)	(dBuV/m)	(dB)	
1	1198.000	60.01	-13.73	46.28	74.00	-27.72	peak
2	1438.000	54.82	-12.81	42.01	74.00	-31.99	peak
3	1918.000	52.56	-10.81	41.75	74.00	-32.25	peak
4	5320.000	51.03	0.13	51.16	74.00	-22.84	peak
5	5398.000	44.46	0.10	44.56	74.00	-29.44	peak
6	6658.000	36.78	3.69	40.47	74.00	-33.53	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 Band reject filter losses.
  - 5. Proper operation of the transmitter prior to adding the filter to the measurement chain.
- 6. Since non-restricted band peak emissions are less than the average limit, they also comply with the -27dBm/MHz (68.2dBuV/m) limit.



## 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	1204.000	55.54	-13.70	41.84	74.00	-32.16	peak
2	1438.000	52.37	-12.81	39.56	74.00	-34.44	peak
3	1918.000	50.47	-10.81	39.66	74.00	-34.34	peak
4	4672.000	41.17	-1.69	39.48	74.00	-34.52	peak
5	5314.000	40.46	0.14	40.60	74.00	-33.40	peak
6	6652.000	36.28	3.70	39.98	74.00	-34.02	peak

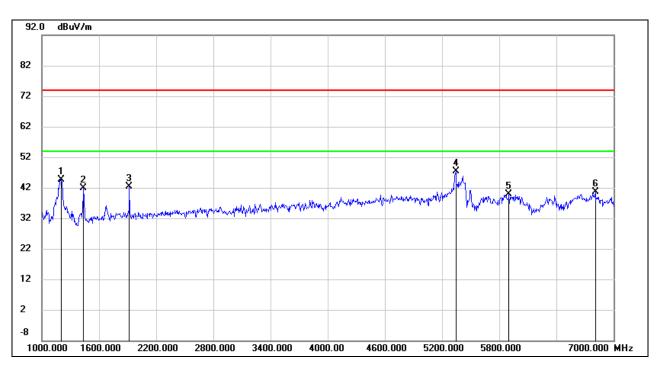
- 2. If Peak Result complies with AV limit, AV Result is deemed to comply with AV limit.
- 3. Peak: Peak detector.
- 4. Filter losses were only considered in the spurious frequency bands and the authorized band was not corrected for Band reject filter losses.
  - 5. Proper operation of the transmitter prior to adding the filter to the measurement chain.
- 6. Since non-restricted band peak emissions are less than the average limit, they also comply with the -27 dBm/MHz (68.2dBuV/m) limit.



## **UNII-2C BAND**

# MIMO MODE TEST RESULTS (WORST CASE)

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

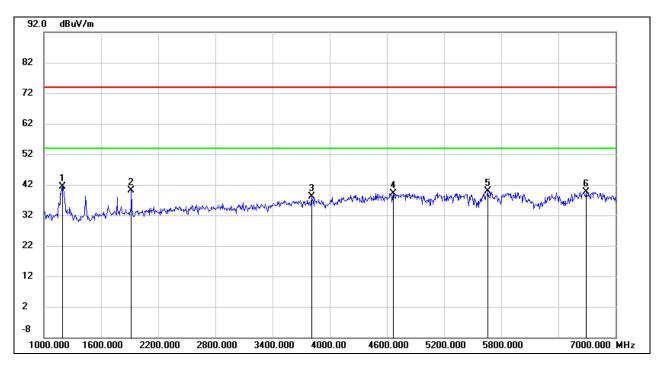


No.	Frequency	Reading	Correct	Result	Limit	Margin	Remark
	(MHz)	(dBuV)	(dB/m)	(dBuV/m)	(dBuV/m)	(dB)	
1	1204.000	58.39	-13.70	44.69	74.00	-29.31	peak
2	1438.000	54.81	-12.81	42.00	74.00	-32.00	peak
3	1918.000	53.24	-10.81	42.43	74.00	-31.57	peak
4	5344.000	47.37	0.12	47.49	74.00	-26.51	peak
5	5902.000	38.77	1.02	39.79	74.00	-34.21	peak
6	6808.000	36.80	3.77	40.57	74.00	-33.43	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.
- 6. Since non-restricted band peak emissions are less than the average limit, they also comply with the -27dBm/MHz (68.2dBuV/m) limit.



HARMONICS AND SPURIOUS EMISSIONS (LOW CHANNEL, VERTICAL)

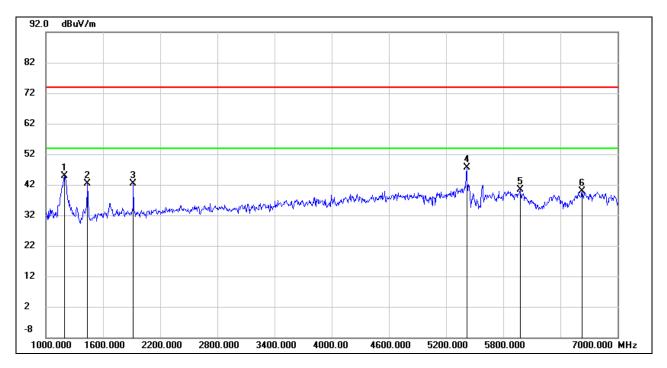


No.	Frequency	Reading	Correct	Result	Limit	Margin	Remark
	(MHz)	(dBuV)	(dB/m)	(dBuV/m)	(dBuV/m)	(dB)	
1	1198.000	55.13	-13.73	41.40	74.00	-32.60	peak
2	1918.000	50.85	-10.81	40.04	74.00	-33.96	peak
3	3808.000	42.36	-4.34	38.02	74.00	-35.98	peak
4	4666.000	40.87	-1.71	39.16	74.00	-34.84	peak
5	5656.000	39.28	0.69	39.97	74.00	-34.03	peak
6	6694.000	35.94	3.72	39.66	74.00	-34.34	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.
- 6. Since non-restricted band peak emissions are less than the average limit, they also comply with the -27dBm/MHz (68.2dBuV/m) limit.



# HARMONICS AND SPURIOUS EMISSIONS (MID CHANNEL, HORIZONTAL)

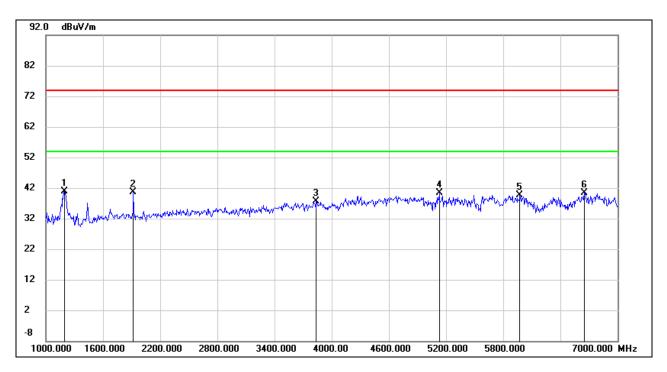


No.	Frequency	Reading	Correct	Result	Limit	Margin	Remark
	(MHz)	(dBuV)	(dB/m)	(dBuV/m)	(dBuV/m)	(dB)	
1	1192.000	58.69	-13.77	44.92	74.00	-29.08	peak
2	1438.000	55.07	-12.81	42.26	74.00	-31.74	peak
3	1918.000	53.08	-10.81	42.27	74.00	-31.73	peak
4	5416.000	47.57	0.14	47.71	74.00	-26.29	peak
5	5980.000	39.18	1.30	40.48	74.00	-33.52	peak
6	6628.000	36.26	3.69	39.95	74.00	-34.05	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 Band reject filter losses.
  - 5. Proper operation of the transmitter prior to adding the filter to the measurement chain.
- 6. Since non-restricted band peak emissions are less than the average limit, they also comply with the -27dBm/MHz (68.2dBuV/m) limit.



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

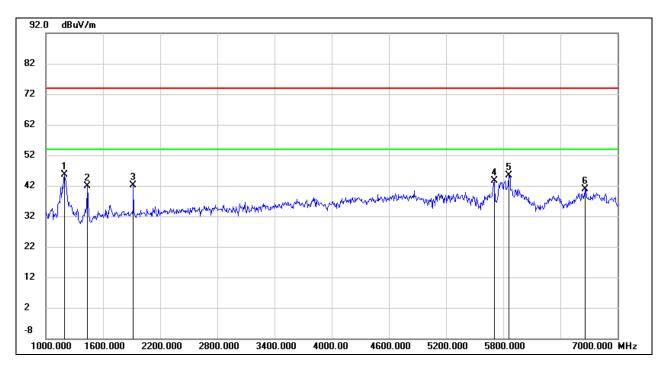


No.	Frequency	Reading	Correct	Result	Limit	Margin	Remark
	(MHz)	(dBuV)	(dB/m)	(dBuV/m)	(dBuV/m)	(dB)	
1	1192.000	54.63	-13.77	40.86	74.00	-33.14	peak
2	1918.000	51.53	-10.81	40.72	74.00	-33.28	peak
3	3838.000	42.07	-4.39	37.68	74.00	-36.32	peak
4	5128.000	40.64	-0.27	40.37	74.00	-33.63	peak
5	5974.000	38.46	1.28	39.74	74.00	-34.26	peak
6	6652.000	36.69	3.70	40.39	74.00	-33.61	peak

- 2. If Peak Result complies with AV limit, AV Result is deemed to comply with AV limit.
- 3. Peak: Peak detector.
- 4. Filter losses were only considered in the spurious frequency bands and the authorized band was not corrected for Band reject filter losses.
  - 5. Proper operation of the transmitter prior to adding the filter to the measurement chain.
- 6. Since non-restricted band peak emissions are less than the average limit, they also comply with the -27dBm/MHz (68.2dBuV/m) limit.



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

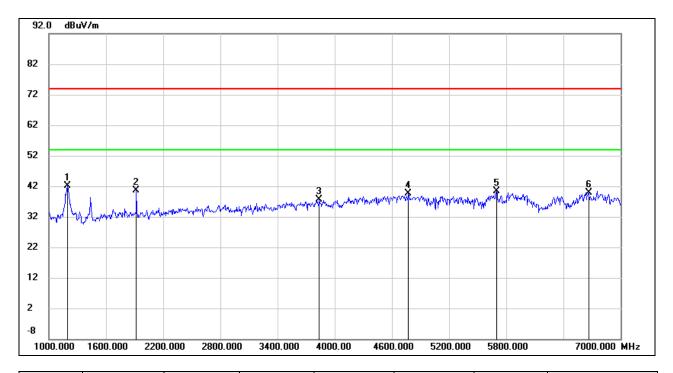


No.	Frequency	Reading	Correct	Result	Limit	Margin	Remark
	(MHz)	(dBuV)	(dB/m)	(dBuV/m)	(dBuV/m)	(dB)	
1	1192.000	59.33	-13.77	45.56	74.00	-28.44	peak
2	1438.000	54.80	-12.81	41.99	74.00	-32.01	peak
3	1918.000	52.89	-10.81	42.08	74.00	-31.92	peak
4	5704.000	42.95	0.67	43.62	74.00	-30.38	peak
5	5860.000	44.59	0.88	45.47	74.00	-28.53	peak
6	6658.000	37.15	3.69	40.84	74.00	-33.16	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.
- 6. Since non-restricted band peak emissions are less than the average limit, they also comply with the -27dBm/MHz (68.2dBuV/m) limit.



# 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	1198.000	55.78	-13.73	42.05	74.00	-31.95	peak
2	1918.000	51.39	-10.81	40.58	74.00	-33.42	peak
3	3838.000	42.09	-4.39	37.70	74.00	-36.30	peak
4	4774.000	40.96	-1.26	39.70	74.00	-34.30	peak
5	5698.000	39.66	0.68	40.34	74.00	-33.66	peak
6	6664.000	36.16	3.71	39.87	74.00	-34.13	peak

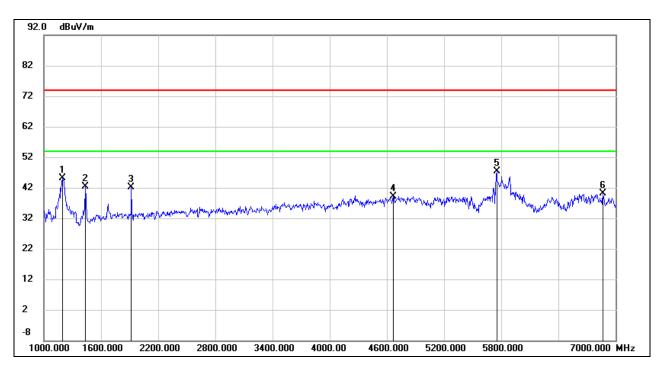
- 2. If Peak Result complies with AV limit, AV Result is deemed to comply with AV limit.
- 3. Peak: Peak detector.
- 4. Filter losses were only considered in the spurious frequency bands and the authorized band was not corrected for Band reject filter losses.
  - 5. Proper operation of the transmitter prior to adding the filter to the measurement chain.
- 6. Since non-restricted band peak emissions are less than the average limit, they also comply with the -27dBm/MHz (68.2dBuV/m) limit.



# **STRADDLE CHANNEL 144**

# MIMO MODE TEST RESULTS (WORST CASE)

# HARMONICS AND SPURIOUS EMISSIONS (HORIZONTAL)

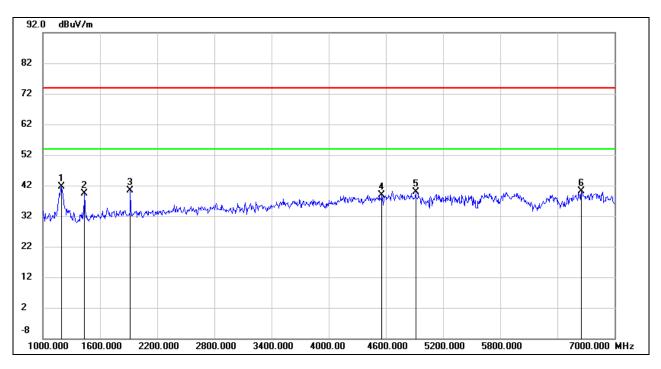


No.	Frequency	Reading	Correct	Result	Limit	Margin	Remark
	(MHz)	(dBuV)	(dB/m)	(dBuV/m)	(dBuV/m)	(dB)	
1	1198.000	58.88	-13.73	45.15	74.00	-28.85	peak
2	1438.000	55.25	-12.81	42.44	74.00	-31.56	peak
3	1918.000	53.06	-10.81	42.25	74.00	-31.75	peak
4	4666.000	40.96	-1.71	39.25	74.00	-34.75	peak
5	5752.000	46.67	0.67	47.34	74.00	-26.66	peak
6	6868.000	36.28	3.95	40.23	74.00	-33.77	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 Band reject filter losses.
  - 5. Proper operation of the transmitter prior to adding the filter to the measurement chain.
- 6. Since non-restricted band peak emissions are less than the average limit, they also comply with the -27dBm/MHz (68.2dBuV/m) limit.



# **HARMONICS AND SPURIOUS EMISSIONS (VERTICAL)**



No.	Frequency	Reading	Correct	Result	Limit	Margin	Remark
	(MHz)	(dBuV)	(dB/m)	(dBuV/m)	(dBuV/m)	(dB)	
1	1192.000	55.51	-13.77	41.74	74.00	-32.26	peak
2	1438.000	52.10	-12.81	39.29	74.00	-34.71	peak
3	1918.000	51.30	-10.81	40.49	74.00	-33.51	peak
4	4558.000	41.17	-2.22	38.95	74.00	-35.05	peak
5	4912.000	41.10	-1.12	39.98	74.00	-34.02	peak
6	6652.000	36.41	3.70	40.11	74.00	-33.89	peak

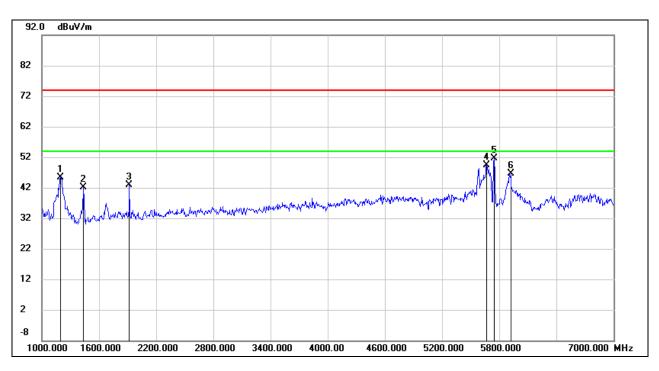
- 2. If Peak Result complies with AV limit, AV Result is deemed to comply with AV limit.
- 3. Peak: Peak detector.
- 4. Filter losses were only considered in the spurious frequency bands and the authorized band was not corrected for Band reject filter losses.
  - 5. Proper operation of the transmitter prior to adding the filter to the measurement chain.
- 6. Since non-restricted band peak emissions are less than the average limit, they also comply with the -27dBm/MHz (68.2dBuV/m) limit.



## **UNII-3 BAND**

# MIMO MODE TEST RESULTS (WORST CASE)

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

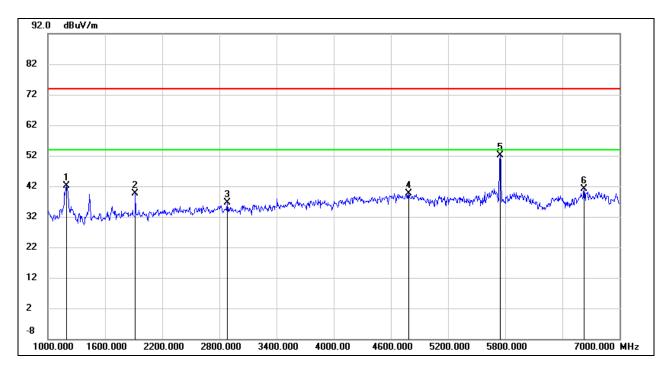


No.	Frequency	Reading	Correct	Result	Limit	Margin	Remark
	(MHz)	(dBuV)	(dB/m)	(dBuV/m)	(dBuV/m)	(dB)	
1	1198.000	59.22	-13.73	45.49	74.00	-28.51	peak
2	1438.000	54.94	-12.81	42.13	74.00	-31.87	peak
3	1918.000	53.72	-10.81	42.91	74.00	-31.09	peak
4	5668.000	48.65	0.68	49.33	74.00	-24.67	peak
5	5745.000	50.92	0.67	51.59	74.00	-22.41	peak
6	5920.000	45.52	1.08	46.60	74.00	-27.40	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 Band reject filter losses.
  - 5. Proper operation of the transmitter prior to adding the filter to the measurement chain.
- 6. Since non-restricted band peak emissions are less than the average limit, they also comply with the -27dBm/MHz (68.2dBuV/m) limit.



# HARMONICS AND SPURIOUS EMISSIONS (LOW CHANNEL, VERTICAL)

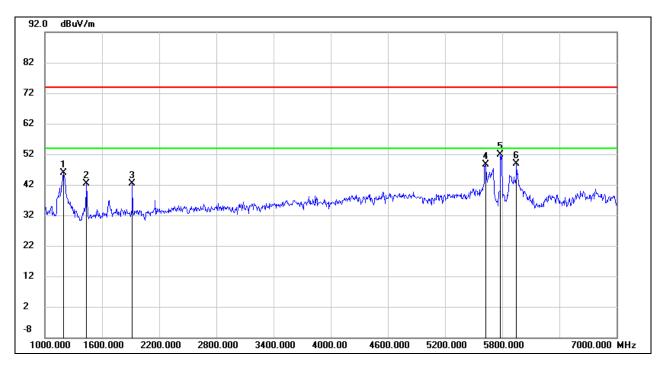


No.	Frequency	Reading	Correct	Result	Limit	Margin	Remark
	(MHz)	(dBuV)	(dB/m)	(dBuV/m)	(dBuV/m)	(dB)	
1	1198.000	55.94	-13.73	42.21	74.00	-31.79	peak
2	1918.000	50.34	-10.81	39.53	74.00	-34.47	peak
3	2884.000	43.98	-7.44	36.54	74.00	-37.46	peak
4	4786.000	40.77	-1.20	39.57	74.00	-34.43	peak
5	5745.000	51.36	0.67	52.03	74.00	-21.97	peak
6	6628.000	37.45	3.69	41.14	74.00	-32.86	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.
- 6. Since non-restricted band peak emissions are less than the average limit, they also comply with the -27dBm/MHz (68.2dBuV/m) limit.



# HARMONICS AND SPURIOUS EMISSIONS (MID CHANNEL, HORIZONTAL)

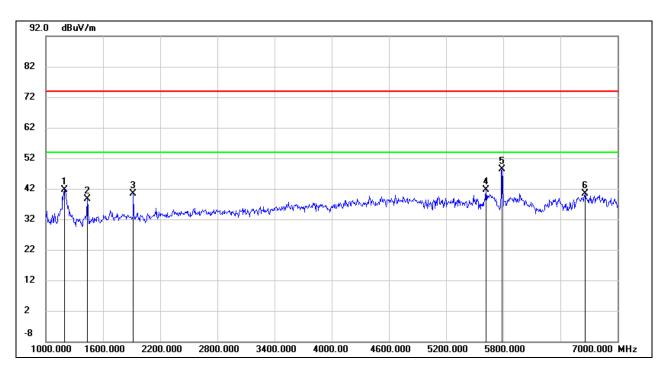


No.	Frequency	Reading	Correct	Result	Limit	Margin	Remark
	(MHz)	(dBuV)	(dB/m)	(dBuV/m)	(dBuV/m)	(dB)	
1	1198.000	59.63	-13.73	45.90	74.00	-28.10	peak
2	1438.000	55.08	-12.81	42.27	74.00	-31.73	peak
3	1918.000	53.27	-10.81	42.46	74.00	-31.54	peak
4	5626.000	47.99	0.69	48.68	74.00	-25.32	peak
5	5785.000	51.34	0.66	52.00	74.00	-22.00	peak
6	5950.000	47.61	1.19	48.80	74.00	-25.20	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 Band reject filter losses.
  - 5. Proper operation of the transmitter prior to adding the filter to the measurement chain.
- 6. Since non-restricted band peak emissions are less than the average limit, they also comply with the -27dBm/MHz (68.2dBuV/m) limit.



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

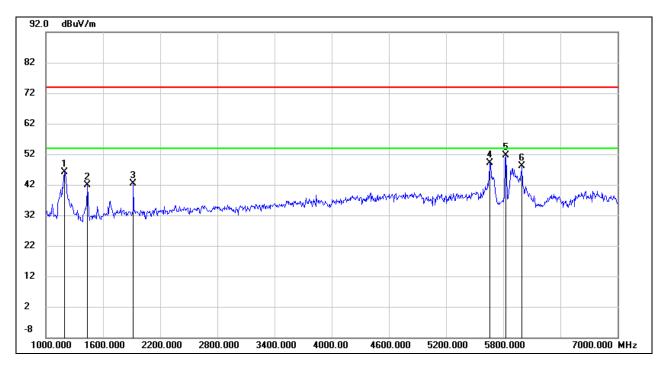


No.	Frequency	Reading	Correct	Result	Limit	Margin	Remark
	(MHz)	(dBuV)	(dB/m)	(dBuV/m)	(dBuV/m)	(dB)	
1	1198.000	55.39	-13.73	41.66	74.00	-32.34	peak
2	1438.000	51.52	-12.81	38.71	74.00	-35.29	peak
3	1918.000	51.07	-10.81	40.26	74.00	-33.74	peak
4	5620.000	40.92	0.68	41.60	74.00	-32.40	peak
5	5785.000	47.64	0.66	48.30	74.00	-25.70	peak
6	6658.000	36.62	3.69	40.31	74.00	-33.69	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.
- 6. Since non-restricted band peak emissions are less than the average limit, they also comply with the -27 dBm/MHz (68.2dBuV/m) limit.



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

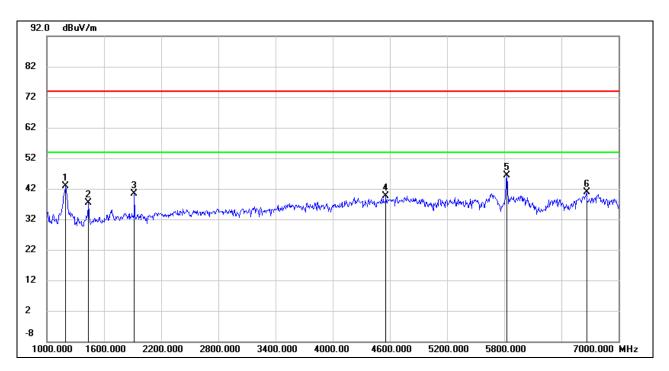


No.	Frequency	Reading	Correct	Result	Limit	Margin	Remark
	(MHz)	(dBuV)	(dB/m)	(dBuV/m)	(dBuV/m)	(dB)	
1	1198.000	59.80	-13.73	46.07	74.00	-27.93	peak
2	1438.000	54.57	-12.81	41.76	74.00	-32.24	peak
3	1918.000	53.17	-10.81	42.36	74.00	-31.64	peak
4	5662.000	48.55	0.68	49.23	74.00	-24.77	peak
5	5825.000	50.76	0.75	51.51	74.00	-22.49	peak
6	5998.000	46.70	1.37	48.07	74.00	-25.93	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.
- 6. Since non-restricted band peak emissions are less than the average limit, they also comply with the -27dBm/MHz (68.2dBuV/m) limit.



## 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	1198.000	56.65	-13.73	42.92	74.00	-31.08	peak
2	1438.000	50.11	-12.81	37.30	74.00	-36.70	peak
3	1918.000	51.12	-10.81	40.31	74.00	-33.69	peak
4	4558.000	41.93	-2.22	39.71	74.00	-34.29	peak
5	5825.000	45.62	0.75	46.37	74.00	-27.63	peak
6	6664.000	37.05	3.71	40.76	74.00	-33.24	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.
- 6. Since non-restricted band peak emissions are less than the average limit, they also comply with the -27dBm/MHz (68.2dBuV/m) limit.

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



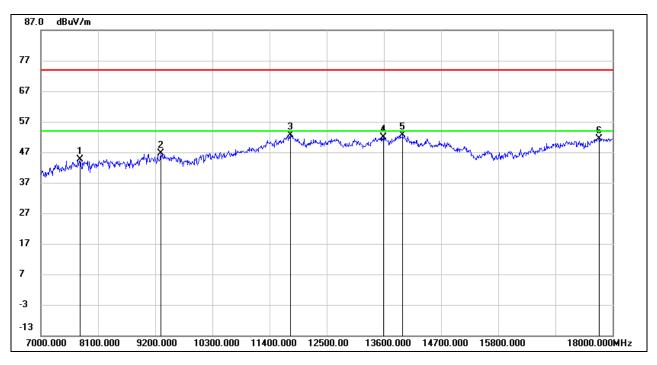
# 8.3. SPURIOUS EMISSIONS (7 GHz ~ 18 GHz)

#### 8.3.1. 802.11a SISO MODE

#### **UNII-1 BAND**

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

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

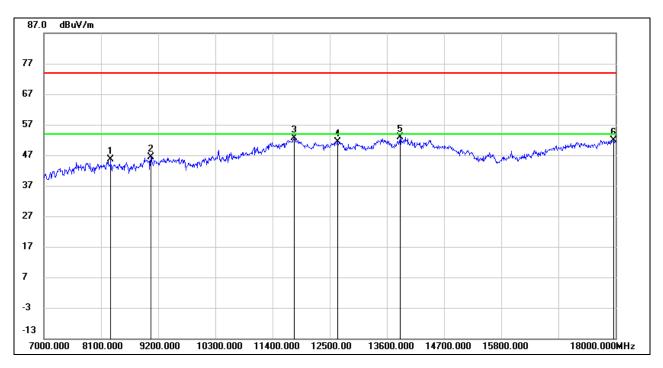


No.	Frequency	Reading	Correct	Result	Limit	Margin	Remark
	(MHz)	(dBuV)	(dB/m)	(dBuV/m)	(dBuV/m)	(dB)	
1	7759.000	38.79	5.95	44.74	74.00	-29.26	peak
2	9310.000	37.39	9.12	46.51	74.00	-27.49	peak
3	11796.000	35.41	17.19	52.60	74.00	-21.40	peak
4	13589.000	32.16	19.70	51.86	74.00	-22.14	peak
5	13963.000	31.91	20.61	52.52	74.00	-21.48	peak
6	17747.000	28.84	22.64	51.48	74.00	-22.52	peak

- 2. If Peak Result complies with AV limit, AV Result is deemed to comply with AV limit.
- 3. Peak: Peak detector.
- 4. AVG: VBW=1/Ton, where: Ton is the transmitting duration.
- 5. For the transmitting duration, please refer to clause 7.1.
- 6. Filter losses were only considered in the spurious frequency bands and the authorized band was not corrected for High Pass Filter losses.
  - 7. Proper operation of the transmitter prior to adding the filter to the measurement chain.
- 8. Since non-restricted band peak emissions are less than the average limit, they also comply with the -27dBm/MHz (68.2dBuV/m) limit.



HARMONICS AND SPURIOUS EMISSIONS (LOW CHANNEL, VERTICAL)

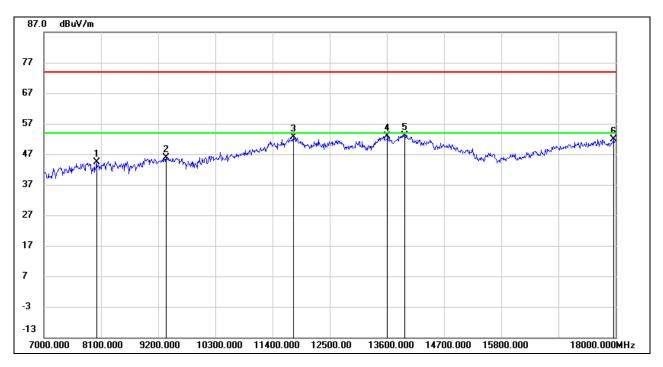


No.	Frequency	Reading	Correct	Result	Limit	Margin	Remark
	(MHz)	(dBuV)	(dB/m)	(dBuV/m)	(dBuV/m)	(dB)	
1	8287.000	38.63	6.98	45.61	74.00	-28.39	peak
2	9057.000	37.04	9.22	46.26	74.00	-27.74	peak
3	11818.000	35.32	17.20	52.52	74.00	-21.48	peak
4	12654.000	34.47	16.93	51.40	74.00	-22.60	peak
5	13853.000	32.34	20.54	52.88	74.00	-21.12	peak
6	17967.000	28.40	23.59	51.99	74.00	-22.01	peak

- 2. If Peak Result complies with AV limit, AV Result is deemed to comply with AV limit.
- 3. Peak: Peak detector.
- 4. AVG: VBW=1/Ton, where: Ton is the transmitting duration.
- 5. For the transmitting duration, please refer to clause 7.1.
- 6. Filter losses were only considered in the spurious frequency bands and the authorized band was not corrected for High Pass Filter losses.
  - 7. Proper operation of the transmitter prior to adding the filter to the measurement chain.
- 8. Since non-restricted band peak emissions are less than the average limit, they also comply with the -27dBm/MHz (68.2dBuV/m) limit.



# HARMONICS AND SPURIOUS EMISSIONS (MID CHANNEL, HORIZONTAL)

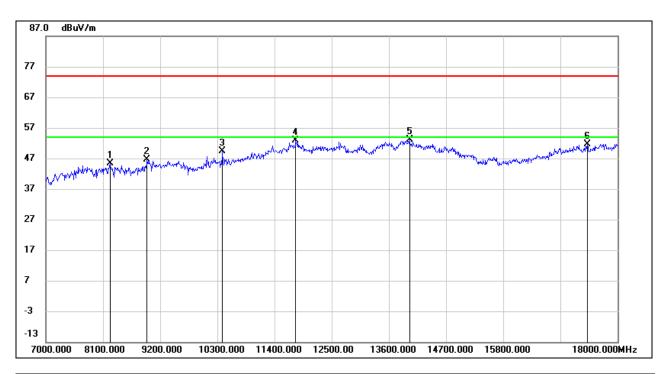


No.	Frequency	Reading	Correct	Result	Limit	Margin	Remark
	(MHz)	(dBuV)	(dB/m)	(dBuV/m)	(dBuV/m)	(dB)	
1	8012.000	38.95	5.46	44.41	74.00	-29.59	peak
2	9354.000	36.45	9.39	45.84	74.00	-28.16	peak
3	11807.000	35.29	17.22	52.51	74.00	-21.49	peak
4	13611.000	33.07	19.76	52.83	74.00	-21.17	peak
5	13941.000	32.49	20.60	53.09	74.00	-20.91	peak
6	17956.000	28.33	23.57	51.90	74.00	-22.10	peak

- 2. If Peak Result complies with AV limit, AV Result is deemed to comply with AV limit.
- 3. Peak: Peak detector.
- 4. AVG: VBW=1/Ton, where: Ton is the transmitting duration.
- 5. For the transmitting duration, please refer to clause 7.1.
- 6. Filter losses were only considered in the spurious frequency bands and the authorized band was not corrected for High Pass Filter losses.
  - 7. Proper operation of the transmitter prior to adding the filter to the measurement chain.
- 8. Since non-restricted band peak emissions are less than the average limit, they also comply with the -27dBm/MHz (68.2dBuV/m) limit.



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

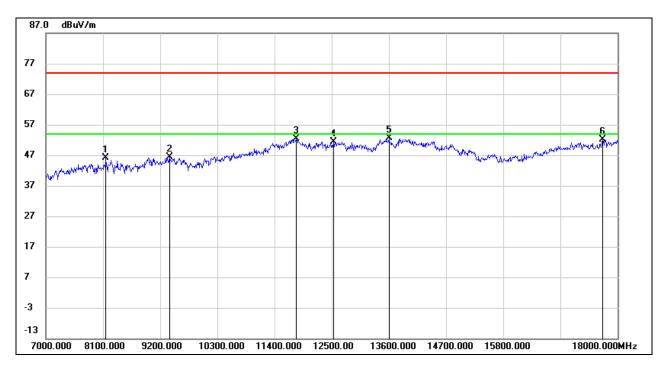


No.	Frequency	Reading	Correct	Result	Limit	Margin	Remark
	(MHz)	(dBuV)	(dB/m)	(dBuV/m)	(dBuV/m)	(dB)	
1	8232.000	38.23	7.14	45.37	74.00	-28.63	peak
2	8947.000	37.63	8.89	46.52	74.00	-27.48	peak
3	10399.000	37.89	11.44	49.33	74.00	-24.67	peak
4	11807.000	35.61	17.22	52.83	74.00	-21.17	peak
5	13996.000	32.52	20.63	53.15	74.00	-20.85	peak
6	17417.000	31.42	20.26	51.68	74.00	-22.32	peak

- 2. If Peak Result complies with AV limit, AV Result is deemed to comply with AV limit.
- 3. Peak: Peak detector.
- 4. AVG: VBW=1/Ton, where: Ton is the transmitting duration.
- 5. For the transmitting duration, please refer to clause 7.1.
- 6. Filter losses were only considered in the spurious frequency bands and the authorized band was not corrected for High Pass Filter losses.
  - 7. Proper operation of the transmitter prior to adding the filter to the measurement chain.
- 8. Since non-restricted band peak emissions are less than the average limit, they also comply with the -27dBm/MHz (68.2dBuV/m) limit.



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

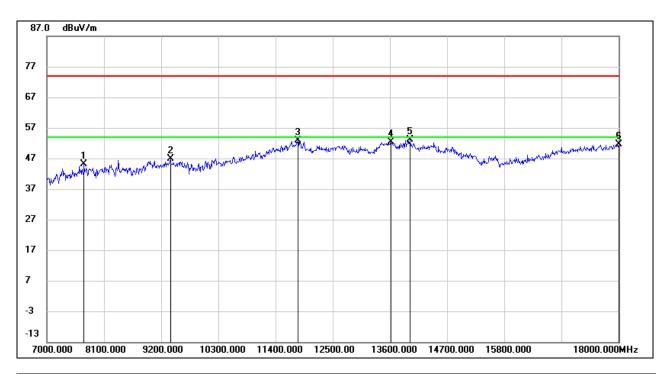


No.	Frequency	Reading	Correct	Result	Limit	Margin	Remark
	(MHz)	(dBuV)	(dB/m)	(dBuV/m)	(dBuV/m)	(dB)	
1	8155.000	39.38	6.81	46.19	74.00	-27.81	peak
2	9376.000	36.79	9.53	46.32	74.00	-27.68	peak
3	11818.000	35.09	17.20	52.29	74.00	-21.71	peak
4	12533.000	34.57	16.83	51.40	74.00	-22.60	peak
5	13600.000	32.92	19.72	52.64	74.00	-21.36	peak
6	17714.000	29.95	22.29	52.24	74.00	-21.76	peak

- 2. If Peak Result complies with AV limit, AV Result is deemed to comply with AV limit.
- 3. Peak: Peak detector.
- 4. Filter losses were only considered in the spurious frequency bands and the authorized band was not corrected for High Pass Filter losses.
  - 5. Proper operation of the transmitter prior to adding the filter to the measurement chain.
- 6. Since non-restricted band peak emissions are less than the average limit, they also comply with the -27dBm/MHz (68.2dBuV/m) limit.



## 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	7715.000	39.28	5.81	45.09	74.00	-28.91	peak
2	9376.000	37.23	9.53	46.76	74.00	-27.24	peak
3	11829.000	35.56	17.20	52.76	74.00	-21.24	peak
4	13622.000	32.52	19.81	52.33	74.00	-21.67	peak
5	13985.000	32.45	20.63	53.08	74.00	-20.92	peak
6	18000.000	27.86	23.68	51.54	74.00	-22.46	peak

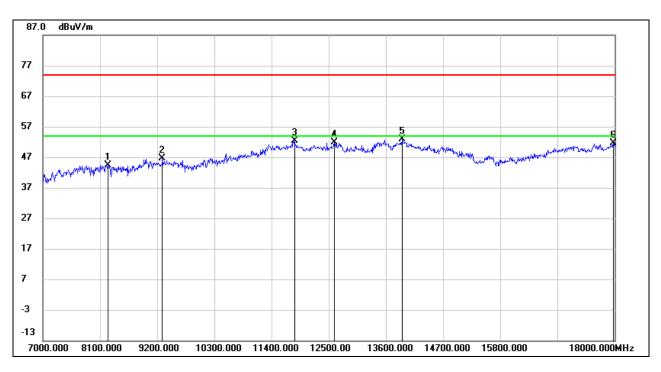
- 2. If Peak Result complies with AV limit, AV Result is deemed to comply with AV limit.
- 3. Peak: Peak detector.
- 4. AVG: VBW=1/Ton, where: Ton is the transmitting duration.
- 5. For the transmitting duration, please refer to clause 7.1.
- 6. Filter losses were only considered in the spurious frequency bands and the authorized band was not corrected for High Pass Filter losses.
  - 7. Proper operation of the transmitter prior to adding the filter to the measurement chain.
- 8. Since non-restricted band peak emissions are less than the average limit, they also comply with the -27dBm/MHz (68.2dBuV/m) limit.



## **UNII-2A BAND**

## ANTENNA 1 TEST RESULTS (WORST CASE)

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

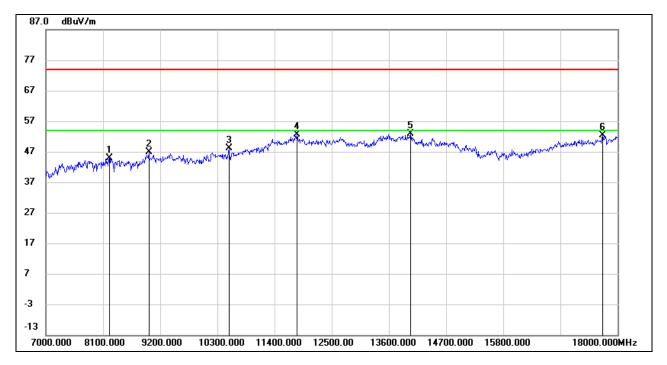


No.	Frequency	Reading	Correct	Result	Limit	Margin	Remark
	(MHz)	(dBuV)	(dB/m)	(dBuV/m)	(dBuV/m)	(dB)	
1	8254.000	37.33	7.07	44.40	74.00	-29.60	peak
2	9299.000	37.57	9.05	46.62	74.00	-27.38	peak
3	11840.000	35.08	17.20	52.28	74.00	-21.72	peak
4	12610.000	34.98	16.83	51.81	74.00	-22.19	peak
5	13908.000	32.18	20.58	52.76	74.00	-21.24	peak
6	17978.000	27.89	23.63	51.52	74.00	-22.48	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.
- 6. Since non-restricted band peak emissions are less than the average limit, they also comply with the -27dBm/MHz (68.2dBuV/m) limit.



# HARMONICS AND SPURIOUS EMISSIONS (LOW CHANNEL, VERTICAL)

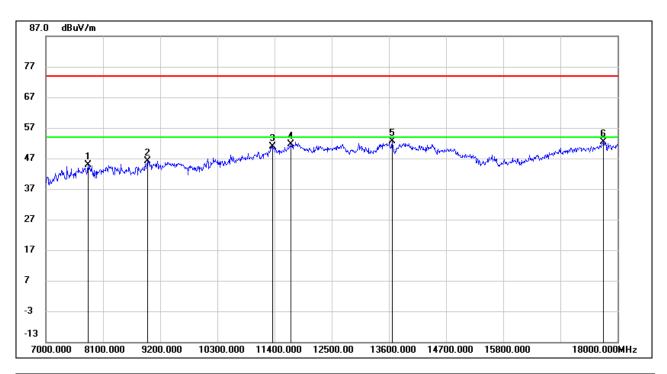


No.	Frequency	Reading	Correct	Result	Limit	Margin	Remark
	(MHz)	(dBuV)	(dB/m)	(dBuV/m)	(dBuV/m)	(dB)	
1	8221.000	37.83	7.16	44.99	74.00	-29.01	peak
2	8980.000	37.51	9.29	46.80	74.00	-27.20	peak
3	10520.000	36.08	11.94	48.02	74.00	-25.98	peak
4	11829.000	35.51	17.20	52.71	74.00	-21.29	peak
5	14018.000	32.32	20.55	52.87	74.00	-21.13	peak
6	17714.000	30.21	22.29	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. AVG: VBW=1/Ton, where: Ton is the transmitting duration.
- 5. For the transmitting duration, please refer to clause 7.1.
- 6. Filter losses were only considered in the spurious frequency bands and the authorized band was not corrected for High Pass Filter losses.
  - 7. Proper operation of the transmitter prior to adding the filter to the measurement chain.
- 8. Since non-restricted band peak emissions are less than the average limit, they also comply with the -27dBm/MHz (68.2dBuV/m) limit.



#### <u>HARMONICS AND SPURIOUS EMISSIONS (MID CHANNEL, HORIZONTAL)</u>

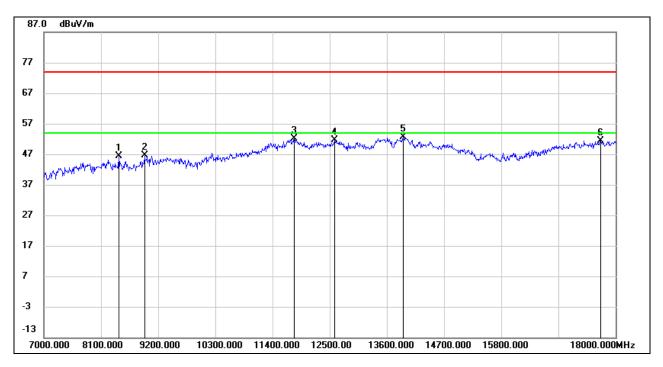


No.	Frequency	Reading	Correct	Result	Limit	Margin	Remark
	(MHz)	(dBuV)	(dB/m)	(dBuV/m)	(dBuV/m)	(dB)	
1	7814.000	38.92	6.03	44.95	74.00	-29.05	peak
2	8958.000	37.16	9.02	46.18	74.00	-27.82	peak
3	11367.000	35.83	15.08	50.91	74.00	-23.09	peak
4	11708.000	35.02	16.64	51.66	74.00	-22.34	peak
5	13666.000	32.64	19.98	52.62	74.00	-21.38	peak
6	17725.000	29.90	22.41	52.31	74.00	-21.69	peak

- 2. If Peak Result complies with AV limit, AV Result is deemed to comply with AV limit.
- 3. Peak: Peak detector.
- 4. AVG: VBW=1/Ton, where: Ton is the transmitting duration.
- 5. For the transmitting duration, please refer to clause 7.1.
- 6. Filter losses were only considered in the spurious frequency bands and the authorized band was not corrected for High Pass Filter losses.
  - 7. Proper operation of the transmitter prior to adding the filter to the measurement chain.
- 8. Since non-restricted band peak emissions are less than the average limit, they also comply with the -27dBm/MHz (68.2dBuV/m) limit.



<u>HARMONICS AND SPURIOUS EMISSIONS (MID CHANNEL, VERTICAL)</u>

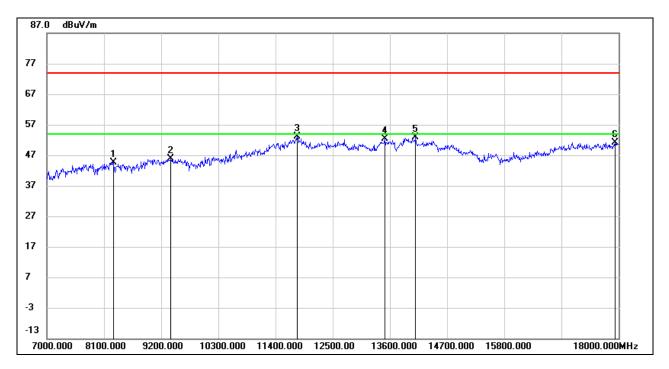


No.	Frequency	Reading	Correct	Result	Limit	Margin	Remark
	(MHz)	(dBuV)	(dB/m)	(dBuV/m)	(dBuV/m)	(dB)	
1	8441.000	39.78	6.65	46.43	74.00	-27.57	peak
2	8936.000	37.75	8.76	46.51	74.00	-27.49	peak
3	11818.000	34.95	17.20	52.15	74.00	-21.85	peak
4	12588.000	34.83	16.81	51.64	74.00	-22.36	peak
5	13908.000	32.01	20.58	52.59	74.00	-21.41	peak
6	17714.000	29.20	22.29	51.49	74.00	-22.51	peak

- 2. If Peak Result complies with AV limit, AV Result is deemed to comply with AV limit.
- 3. Peak: Peak detector.
- 4. AVG: VBW=1/Ton, where: Ton is the transmitting duration.
- 5. For the transmitting duration, please refer to clause 7.1.
- 6. Filter losses were only considered in the spurious frequency bands and the authorized band was not corrected for High Pass Filter losses.
  - 7. Proper operation of the transmitter prior to adding the filter to the measurement chain.
- 8. Since non-restricted band peak emissions are less than the average limit, they also comply with the -27dBm/MHz (68.2dBuV/m) limit.



# HARMONICS AND SPURIOUS EMISSIONS (HIGH CHANNEL, HORIZONTAL)

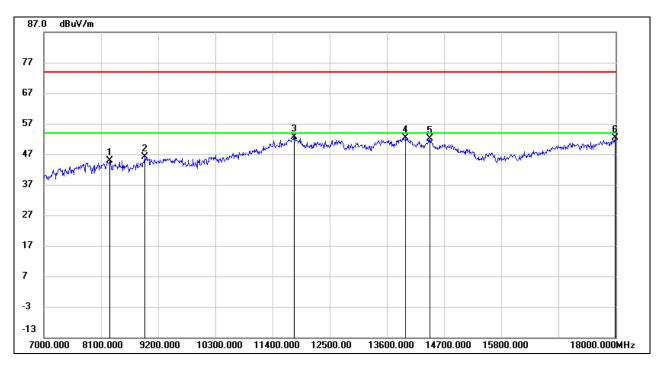


No.	Frequency	Reading	Correct	Result	Limit	Margin	Remark
	(MHz)	(dBuV)	(dB/m)	(dBuV/m)	(dBuV/m)	(dB)	
1	8287.000	37.73	6.98	44.71	74.00	-29.29	peak
2	9387.000	36.16	9.60	45.76	74.00	-28.24	peak
3	11818.000	35.93	17.20	53.13	74.00	-20.87	peak
4	13501.000	32.91	19.58	52.49	74.00	-21.51	peak
5	14095.000	32.65	20.18	52.83	74.00	-21.17	peak
6	17934.000	27.62	23.52	51.14	74.00	-22.86	peak

- 2. If Peak Result complies with AV limit, AV Result is deemed to comply with AV limit.
- 3. Peak: Peak detector.
- 4. AVG: VBW=1/Ton, where: Ton is the transmitting duration.
- 5. For the transmitting duration, please refer to clause 7.1.
- 6. Filter losses were only considered in the spurious frequency bands and the authorized band was not corrected for High Pass Filter losses.
  - 7. Proper operation of the transmitter prior to adding the filter to the measurement chain.
- 8. Since non-restricted band peak emissions are less than the average limit, they also comply with the -27dBm/MHz (68.2dBuV/m) limit.



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	8265.000	37.74	7.03	44.77	74.00	-29.23	peak
2	8936.000	37.28	8.76	46.04	74.00	-27.96	peak
3	11818.000	35.39	17.20	52.59	74.00	-21.41	peak
4	13963.000	31.80	20.61	52.41	74.00	-21.59	peak
5	14425.000	33.32	18.79	52.11	74.00	-21.89	peak
6	17989.000	28.73	23.65	52.38	74.00	-21.62	peak

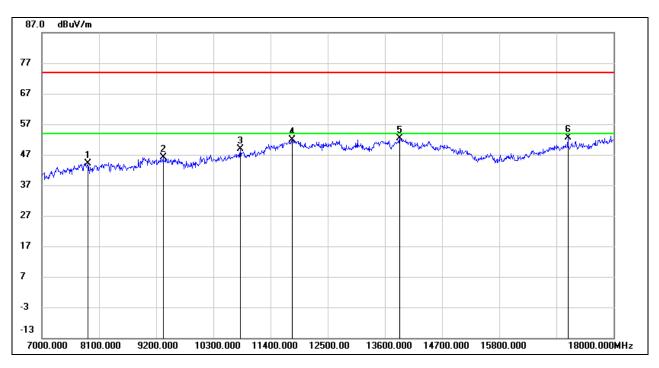
- 2. If Peak Result complies with AV limit, AV Result is deemed to comply with AV limit.
- 3. Peak: Peak detector.
- 4. AVG: VBW=1/Ton, where: Ton is the transmitting duration.
- 5. For the transmitting duration, please refer to clause 7.1.
- 6. Filter losses were only considered in the spurious frequency bands and the authorized band was not corrected for High Pass Filter losses.
  - 7. Proper operation of the transmitter prior to adding the filter to the measurement chain.
- 8. Since non-restricted band peak emissions are less than the average limit, they also comply with the -27dBm/MHz (68.2dBuV/m) limit.



**UNII-2C BAND** 

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

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

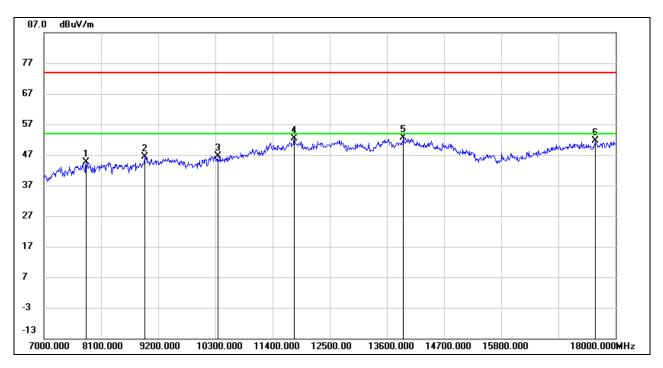


No.	Frequency	Reading	Correct	Result	Limit	Margin	Remark
	(MHz)	(dBuV)	(dB/m)	(dBuV/m)	(dBuV/m)	(dB)	
1	7880.000	38.41	5.79	44.20	74.00	-29.80	peak
2	9332.000	36.85	9.25	46.10	74.00	-27.90	peak
3	10817.000	36.24	12.64	48.88	74.00	-25.12	peak
4	11818.000	34.79	17.20	51.99	74.00	-22.01	peak
5	13886.000	31.71	20.56	52.27	74.00	-21.73	peak
6	17120.000	33.07	19.68	52.75	74.00	-21.25	peak

- 2. If Peak Result complies with AV limit, AV Result is deemed to comply with AV limit.
- 3. Peak: Peak detector.
- 4. AVG: VBW=1/Ton, where: Ton is the transmitting duration.
- 5. For the transmitting duration, please refer to clause 7.1.
- 6. Filter losses were only considered in the spurious frequency bands and the authorized band was not corrected for High Pass Filter losses.
  - 7. Proper operation of the transmitter prior to adding the filter to the measurement chain.
- 8. Since non-restricted band peak emissions are less than the average limit, they also comply with the -27dBm/MHz (68.2dBuV/m) limit.



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

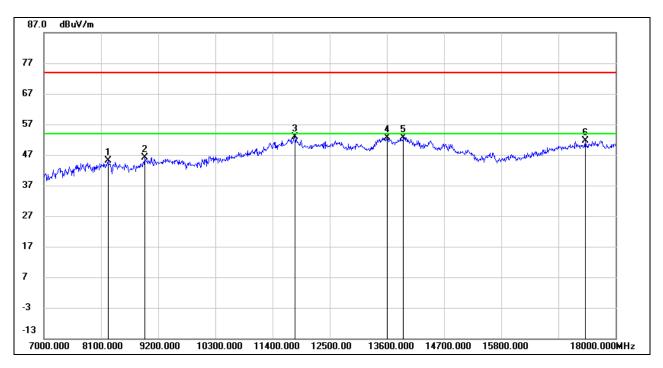


No.	Frequency	Reading	Correct	Result	Limit	Margin	Remark
	(MHz)	(dBuV)	(dB/m)	(dBuV/m)	(dBuV/m)	(dB)	
1	7814.000	38.55	6.03	44.58	74.00	-29.42	peak
2	8936.000	37.52	8.76	46.28	74.00	-27.72	peak
3	10344.000	35.32	11.29	46.61	74.00	-27.39	peak
4	11818.000	35.10	17.20	52.30	74.00	-21.70	peak
5	13919.000	31.95	20.58	52.53	74.00	-21.47	peak
6	17615.000	30.39	21.27	51.66	74.00	-22.34	peak

- 2. If Peak Result complies with AV limit, AV Result is deemed to comply with AV limit.
- 3. Peak: Peak detector.
- 4. AVG: VBW=1/Ton, where: Ton is the transmitting duration.
- 5. For the transmitting duration, please refer to clause 7.1.
- 6. Filter losses were only considered in the spurious frequency bands and the authorized band was not corrected for High Pass Filter losses.
  - 7. Proper operation of the transmitter prior to adding the filter to the measurement chain.
- 8. Since non-restricted band peak emissions are less than the average limit, they also comply with the -27dBm/MHz (68.2dBuV/m) limit.



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

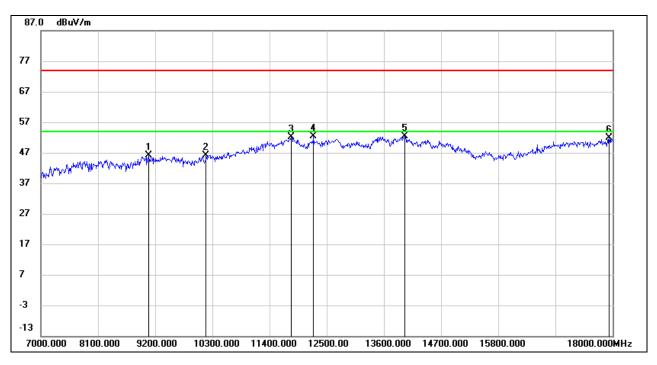


No.	Frequency	Reading	Correct	Result	Limit	Margin	Remark
	(MHz)	(dBuV)	(dB/m)	(dBuV/m)	(dBuV/m)	(dB)	
1	8232.000	37.93	7.14	45.07	74.00	-28.93	peak
2	8936.000	37.38	8.76	46.14	74.00	-27.86	peak
3	11829.000	35.70	17.20	52.90	74.00	-21.10	peak
4	13600.000	33.01	19.72	52.73	74.00	-21.27	peak
5	13919.000	32.07	20.58	52.65	74.00	-21.35	peak
6	17417.000	31.37	20.26	51.63	74.00	-22.37	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.
- 6. Since non-restricted band peak emissions are less than the average limit, they also comply with the -27dBm/MHz (68.2dBuV/m) limit.



<u>HARMONICS AND SPURIOUS EMISSIONS (MID CHANNEL, VERTICAL)</u>

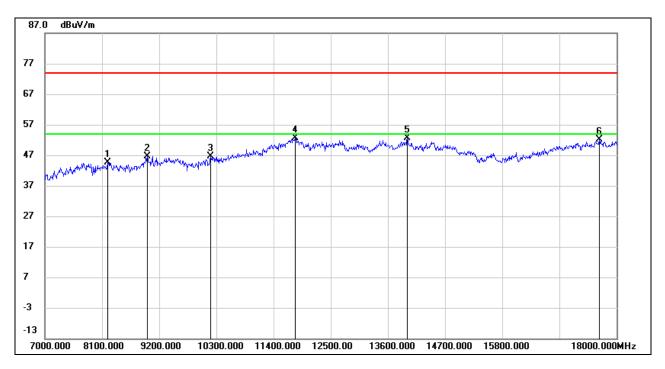


No.	Frequency	Reading	Correct	Result	Limit	Margin	Remark
	(MHz)	(dBuV)	(dB/m)	(dBuV/m)	(dBuV/m)	(dB)	
1	9079.000	37.09	9.10	46.19	74.00	-27.81	peak
2	10179.000	35.34	10.88	46.22	74.00	-27.78	peak
3	11818.000	35.03	17.20	52.23	74.00	-21.77	peak
4	12247.000	35.58	16.83	52.41	74.00	-21.59	peak
5	13996.000	31.74	20.63	52.37	74.00	-21.63	peak
6	17934.000	28.32	23.52	51.84	74.00	-22.16	peak

- 2. If Peak Result complies with AV limit, AV Result is deemed to comply with AV limit.
- 3. Peak: Peak detector.
- 4. AVG: VBW=1/Ton, where: Ton is the transmitting duration.
- 5. For the transmitting duration, please refer to clause 7.1.
- 6. Filter losses were only considered in the spurious frequency bands and the authorized band was not corrected for High Pass Filter losses.
  - 7. Proper operation of the transmitter prior to adding the filter to the measurement chain.
- 8. Since non-restricted band peak emissions are less than the average limit, they also comply with the -27dBm/MHz (68.2dBuV/m) limit.



HARMONICS AND SPURIOUS EMISSIONS (HIGH CHANNEL, HORIZONTAL)

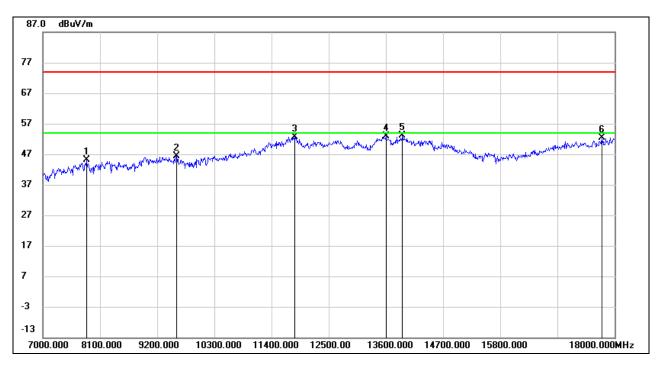


No.	Frequency	Reading	Correct	Result	Limit	Margin	Remark
	(MHz)	(dBuV)	(dB/m)	(dBuV/m)	(dBuV/m)	(dB)	
1	8210.000	37.36	7.20	44.56	74.00	-29.44	peak
2	8969.000	37.57	9.16	46.73	74.00	-27.27	peak
3	10190.000	35.62	10.91	46.53	74.00	-27.47	peak
4	11818.000	35.44	17.20	52.64	74.00	-21.36	peak
5	13974.000	31.97	20.63	52.60	74.00	-21.40	peak
6	17670.000	30.34	21.83	52.17	74.00	-21.83	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.
- 6. Since non-restricted band peak emissions are less than the average limit, they also comply with the -27dBm/MHz (68.2dBuV/m) limit.



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	7836.000	39.25	5.95	45.20	74.00	-28.80	peak
2	9574.000	36.26	10.07	46.33	74.00	-27.67	peak
3	11840.000	35.54	17.20	52.74	74.00	-21.26	peak
4	13600.000	33.23	19.72	52.95	74.00	-21.05	peak
5	13919.000	32.49	20.58	53.07	74.00	-20.93	peak
6	17758.000	29.69	22.75	52.44	74.00	-21.56	peak

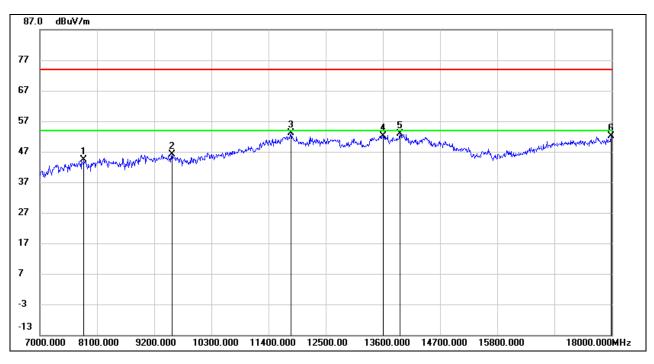
- 2. If Peak Result complies with AV limit, AV Result is deemed to comply with AV limit.
- 3. Peak: Peak detector.
- 4. AVG: VBW=1/Ton, where: Ton is the transmitting duration.
- 5. For the transmitting duration, please refer to clause 7.1.
- 6. Filter losses were only considered in the spurious frequency bands and the authorized band was not corrected for High Pass Filter losses.
  - 7. Proper operation of the transmitter prior to adding the filter to the measurement chain.
- 8. Since non-restricted band peak emissions are less than the average limit, they also comply with the -27dBm/MHz (68.2dBuV/m) limit.



# **STRADDLE CHANNEL 144**

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

## HARMONICS AND SPURIOUS EMISSIONS (HORIZONTAL)

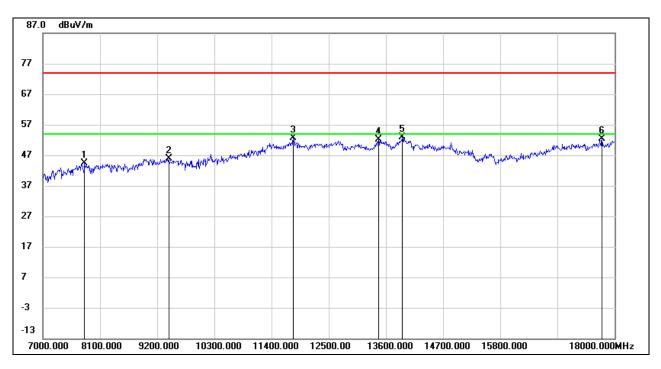


No.	Frequency	Reading	Correct	Result	Limit	Margin	Remark
	(MHz)	(dBuV)	(dB/m)	(dBuV/m)	(dBuV/m)	(dB)	
1	7847.000	38.43	5.91	44.34	74.00	-29.66	peak
2	9541.000	36.12	10.01	46.13	74.00	-27.87	peak
3	11829.000	35.92	17.20	53.12	74.00	-20.88	peak
4	13600.000	32.38	19.72	52.10	74.00	-21.90	peak
5	13930.000	32.18	20.59	52.77	74.00	-21.23	peak
6	17989.000	28.40	23.65	52.05	74.00	-21.95	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.
- 6. Since non-restricted band peak emissions are less than the average limit, they also comply with the -27dBm/MHz (68.2dBuV/m) limit.



**HARMONICS AND SPURIOUS EMISSIONS (VERTICAL)** 



No.	Frequency	Reading	Correct	Result	Limit	Margin	Remark
	(MHz)	(dBuV)	(dB/m)	(dBuV/m)	(dBuV/m)	(dB)	
1	7803.000	38.22	6.07	44.29	74.00	-29.71	peak
2	9420.000	36.11	9.73	45.84	74.00	-28.16	peak
3	11818.000	35.38	17.20	52.58	74.00	-21.42	peak
4	13457.000	32.59	19.42	52.01	74.00	-21.99	peak
5	13919.000	32.32	20.58	52.90	74.00	-21.10	peak
6	17758.000	29.65	22.75	52.40	74.00	-21.60	peak

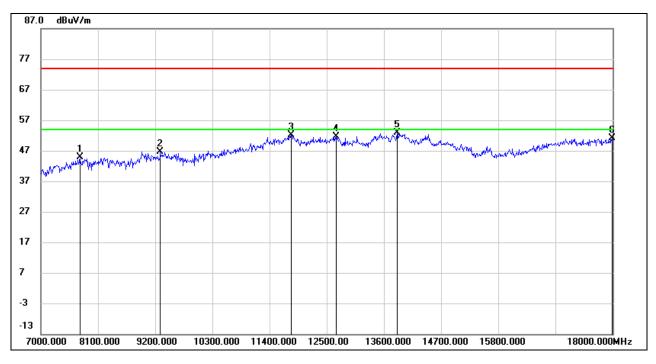
- 2. If Peak Result complies with AV limit, AV Result is deemed to comply with AV limit.
- 3. Peak: Peak detector.
- 4. Filter losses were only considered in the spurious frequency bands and the authorized band was not corrected for High Pass Filter losses.
  - 5. Proper operation of the transmitter prior to adding the filter to the measurement chain.
- 6. Since non-restricted band peak emissions are less than the average limit, they also comply with the -27dBm/MHz (68.2dBuV/m) limit.



## **UNII-3 BAND**

# ANTENNA 1 TEST RESULTS (WORST CASE)

# HARMONICS AND SPURIOUS EMISSIONS (LOW CHANNEL, HORIZONTAL)

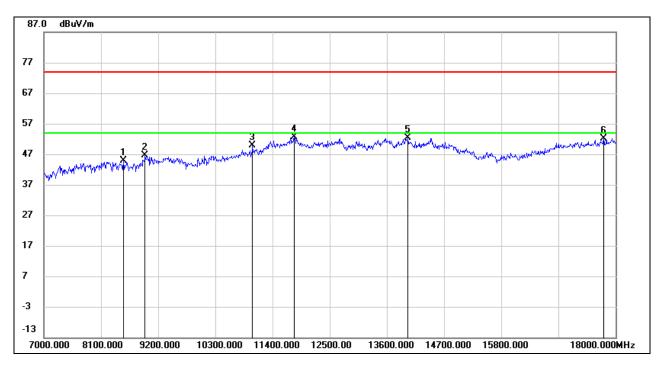


No.	Frequency	Reading	Correct	Result	Limit	Margin	Remark
	(MHz)	(dBuV)	(dB/m)	(dBuV/m)	(dBuV/m)	(dB)	
1	7748.000	38.92	5.92	44.84	74.00	-29.16	peak
2	9299.000	37.53	9.05	46.58	74.00	-27.42	peak
3	11818.000	35.02	17.20	52.22	74.00	-21.78	peak
4	12687.000	34.72	17.01	51.73	74.00	-22.27	peak
5	13853.000	32.25	20.54	52.79	74.00	-21.21	peak
6	17989.000	27.38	23.65	51.03	74.00	-22.97	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.
- 6. Since non-restricted band peak emissions are less than the average limit, they also comply with the -27dBm/MHz (68.2dBuV/m) limit.



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

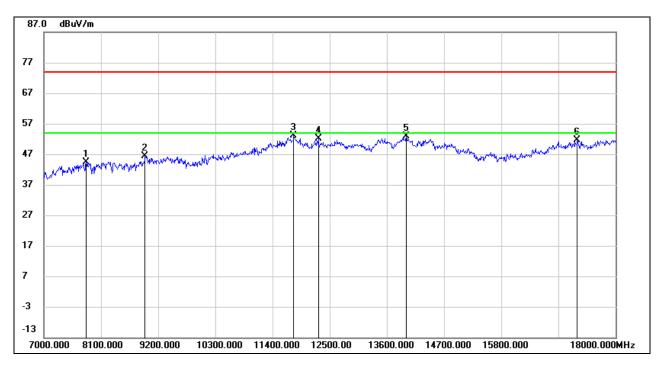


No.	Frequency	Reading	Correct	Result	Limit	Margin	Remark
	(MHz)	(dBuV)	(dB/m)	(dBuV/m)	(dBuV/m)	(dB)	
1	8529.000	38.16	6.72	44.88	74.00	-29.12	peak
2	8947.000	37.62	8.89	46.51	74.00	-27.49	peak
3	11015.000	36.65	13.26	49.91	74.00	-24.09	peak
4	11818.000	35.54	17.20	52.74	74.00	-21.26	peak
5	14007.000	31.88	20.61	52.49	74.00	-21.51	peak
6	17769.000	29.30	22.86	52.16	74.00	-21.84	peak

- 2. If Peak Result complies with AV limit, AV Result is deemed to comply with AV limit.
- 3. Peak: Peak detector.
- 4. 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.
- 6. Since non-restricted band peak emissions are less than the average limit, they also comply with the -27dBm/MHz (68.2dBuV/m) limit.



# HARMONICS AND SPURIOUS EMISSIONS (MID CHANNEL, HORIZONTAL)

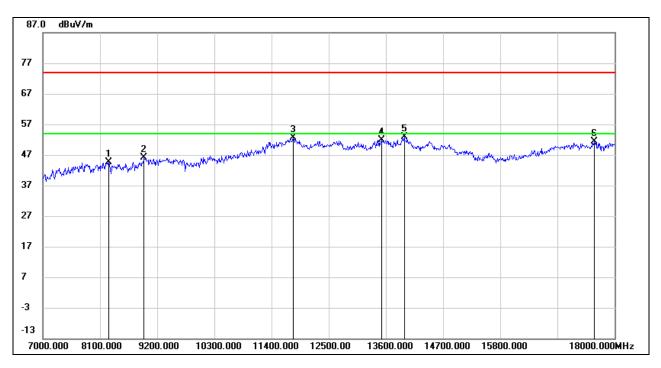


No.	Frequency	Reading	Correct	Result	Limit	Margin	Remark
	(MHz)	(dBuV)	(dB/m)	(dBuV/m)	(dBuV/m)	(dB)	
1	7814.000	38.29	6.03	44.32	74.00	-29.68	peak
2	8947.000	37.38	8.89	46.27	74.00	-27.73	peak
3	11807.000	35.96	17.22	53.18	74.00	-20.82	peak
4	12280.000	35.33	16.87	52.20	74.00	-21.80	peak
5	13974.000	32.19	20.63	52.82	74.00	-21.18	peak
6	17263.000	31.54	20.17	51.71	74.00	-22.29	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.
- 6. Since non-restricted band peak emissions are less than the average limit, they also comply with the -27dBm/MHz (68.2dBuV/m) limit.



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

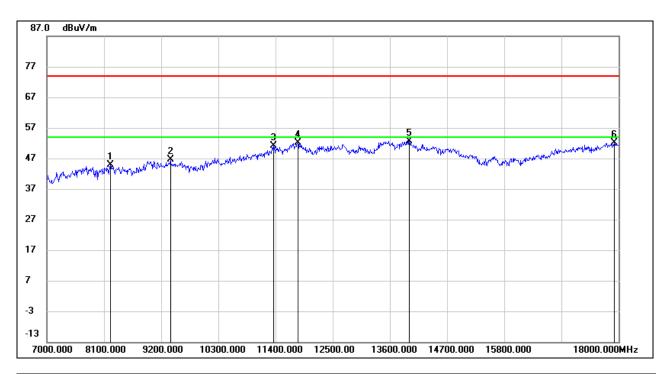


No.	Frequency	Reading	Correct	Result	Limit	Margin	Remark
	(MHz)	(dBuV)	(dB/m)	(dBuV/m)	(dBuV/m)	(dB)	
1	8265.000	37.66	7.03	44.69	74.00	-29.31	peak
2	8947.000	37.14	8.89	46.03	74.00	-27.97	peak
3	11818.000	35.35	17.20	52.55	74.00	-21.45	peak
4	13512.000	32.24	19.61	51.85	74.00	-22.15	peak
5	13952.000	32.22	20.61	52.83	74.00	-21.17	peak
6	17615.000	29.99	21.27	51.26	74.00	-22.74	peak

- 2. If Peak Result complies with AV limit, AV Result is deemed to comply with AV limit.
- 3. Peak: Peak detector.
- 4. AVG: VBW=1/Ton, where: Ton is the transmitting duration.
- 5. For the transmitting duration, please refer to clause 7.1.
- 6. Filter losses were only considered in the spurious frequency bands and the authorized band was not corrected for High Pass Filter losses.
  - 7. Proper operation of the transmitter prior to adding the filter to the measurement chain.
- 8. Since non-restricted band peak emissions are less than the average limit, they also comply with the -27dBm/MHz (68.2dBuV/m) limit.



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

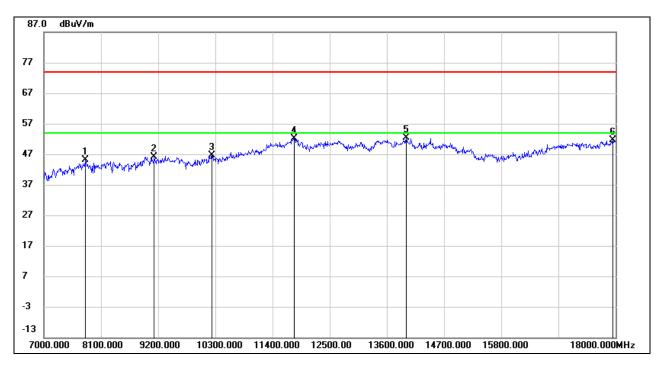


No.	Frequency	Reading	Correct	Result	Limit	Margin	Remark
	(MHz)	(dBuV)	(dB/m)	(dBuV/m)	(dBuV/m)	(dB)	
1	8221.000	37.68	7.16	44.84	74.00	-29.16	peak
2	9376.000	37.06	9.53	46.59	74.00	-27.41	peak
3	11356.000	36.10	15.04	51.14	74.00	-22.86	peak
4	11829.000	35.00	17.20	52.20	74.00	-21.80	peak
5	13974.000	32.08	20.63	52.71	74.00	-21.29	peak
6	17923.000	28.64	23.50	52.14	74.00	-21.86	peak

- 2. If Peak Result complies with AV limit, AV Result is deemed to comply with AV limit.
- 3. Peak: Peak detector.
- 4. AVG: VBW=1/Ton, where: Ton is the transmitting duration.
- 5. For the transmitting duration, please refer to clause 7.1.
- 6. Filter losses were only considered in the spurious frequency bands and the authorized band was not corrected for High Pass Filter losses.
  - 7. Proper operation of the transmitter prior to adding the filter to the measurement chain.
- 8. Since non-restricted band peak emissions are less than the average limit, they also comply with the -27dBm/MHz (68.2dBuV/m) limit.



<u>HARMONICS AND SPURIOUS EMISSIONS (HIGH CHANNEL, VERTICAL)</u>



No.	Frequency	Reading	Correct	Result	Limit	Margin	Remark
	(MHz)	(dBuV)	(dB/m)	(dBuV/m)	(dBuV/m)	(dB)	
1	7803.000	39.00	6.07	45.07	74.00	-28.93	peak
2	9123.000	37.34	8.85	46.19	74.00	-27.81	peak
3	10234.000	35.71	11.01	46.72	74.00	-27.28	peak
4	11818.000	35.05	17.20	52.25	74.00	-21.75	peak
5	13974.000	31.70	20.63	52.33	74.00	-21.67	peak
6	17945.000	28.17	23.55	51.72	74.00	-22.28	peak

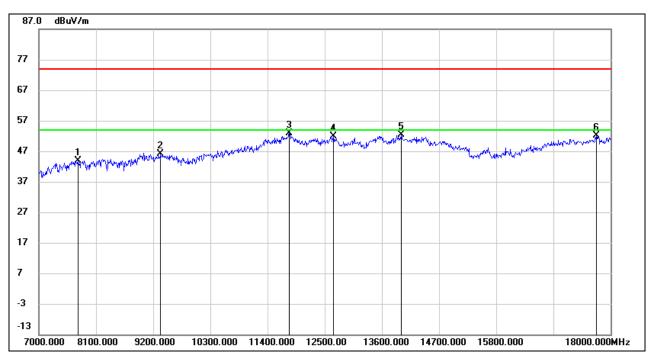
- 2. If Peak Result complies with AV limit, AV Result is deemed to comply with AV limit.
- 3. Peak: Peak detector.
- 4. AVG: VBW=1/Ton, where: Ton is the transmitting duration.
- 5. For the transmitting duration, please refer to clause 7.1.
- 6. Filter losses were only considered in the spurious frequency bands and the authorized band was not corrected for High Pass Filter losses.
  - 7. Proper operation of the transmitter prior to adding the filter to the measurement chain.
- 8. Since non-restricted band peak emissions are less than the average limit, they also comply with the -27dBm/MHz (68.2dBuV/m) limit.



#### 8.3.2. 802.11n HT20 MIMO MODE

#### **UNII-1 BAND**

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

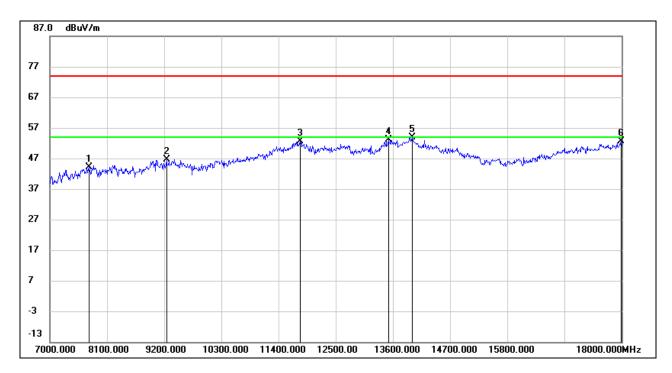


No.	Frequency	Reading	Correct	Result	Limit	Margin	Remark
	(MHz)	(dBuV)	(dB/m)	(dBuV/m)	(dBuV/m)	(dB)	
1	7748.000	38.06	5.92	43.98	74.00	-30.02	peak
2	9343.000	36.87	9.32	46.19	74.00	-27.81	peak
3	11818.000	35.64	17.20	52.84	74.00	-21.16	peak
4	12665.000	34.99	16.97	51.96	74.00	-22.04	peak
5	13974.000	31.87	20.63	52.50	74.00	-21.50	peak
6	17725.000	29.69	22.41	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. AVG: VBW=1/Ton, where: Ton is the transmitting duration.
- 5. For the transmitting duration, please refer to clause 7.1.
- 6. Filter losses were only considered in the spurious frequency bands and the authorized band was not corrected for High Pass Filter losses.
  - 7. Proper operation of the transmitter prior to adding the filter to the measurement chain.
- 8. Since non-restricted band peak emissions are less than the average limit, they also comply with the -27dBm/MHz (68.2dBuV/m) limit.



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

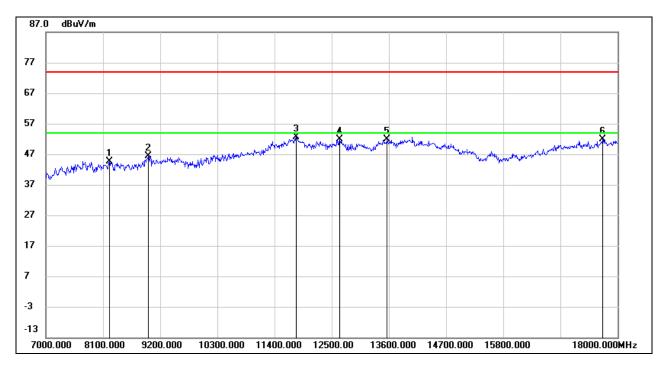


No.	Frequency	Reading	Correct	Result	Limit	Margin	Remark
	(MHz)	(dBuV)	(dB/m)	(dBuV/m)	(dBuV/m)	(dB)	
1	7748.000	38.31	5.92	44.23	74.00	-29.77	peak
2	9244.000	38.05	8.69	46.74	74.00	-27.26	peak
3	11818.000	35.44	17.20	52.64	74.00	-21.36	peak
4	13512.000	33.41	19.61	53.02	74.00	-20.98	peak
5	13974.000	33.20	20.63	53.83	74.00	-20.17	peak
6	17989.000	28.99	23.65	52.64	74.00	-21.36	peak

- 2. If Peak Result complies with AV limit, AV Result is deemed to comply with AV limit.
- 3. Peak: Peak detector.
- 4. AVG: VBW=1/Ton, where: Ton is the transmitting duration.
- 5. For the transmitting duration, please refer to clause 7.1.
- 6. Filter losses were only considered in the spurious frequency bands and the authorized band was not corrected for High Pass Filter losses.
  - 7. Proper operation of the transmitter prior to adding the filter to the measurement chain.
- 8. Since non-restricted band peak emissions are less than the average limit, they also comply with the -27dBm/MHz (68.2dBuV/m) limit.



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

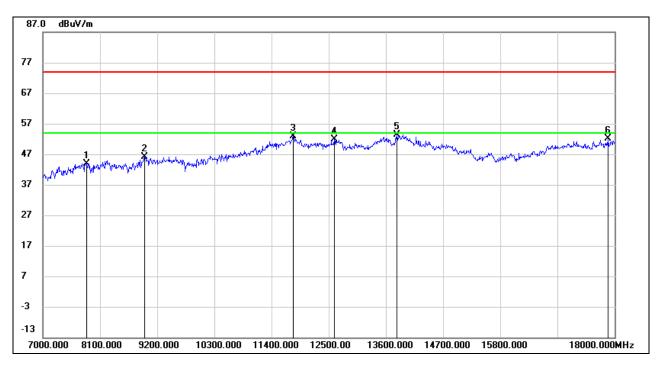


No.	Frequency	Reading	Correct	Result	Limit	Margin	Remark
	(MHz)	(dBuV)	(dB/m)	(dBuV/m)	(dBuV/m)	(dB)	
1	8221.000	37.54	7.16	44.70	74.00	-29.30	peak
2	8969.000	37.25	9.16	46.41	74.00	-27.59	peak
3	11818.000	35.33	17.20	52.53	74.00	-21.47	peak
4	12654.000	34.86	16.93	51.79	74.00	-22.21	peak
5	13567.000	32.25	19.67	51.92	74.00	-22.08	peak
6	17714.000	29.61	22.29	51.90	74.00	-22.10	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.
- 6. Since non-restricted band peak emissions are less than the average limit, they also comply with the -27dBm/MHz (68.2dBuV/m) limit.



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

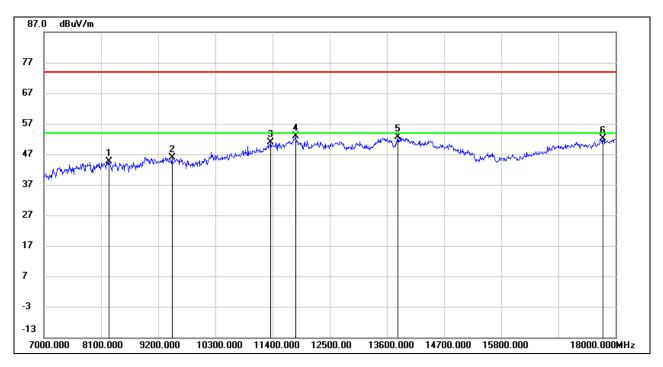


No.	Frequency	Reading	Correct	Result	Limit	Margin	Remark
	(MHz)	(dBuV)	(dB/m)	(dBuV/m)	(dBuV/m)	(dB)	
1	7836.000	37.96	5.95	43.91	74.00	-30.09	peak
2	8958.000	37.06	9.02	46.08	74.00	-27.92	peak
3	11818.000	35.74	17.20	52.94	74.00	-21.06	peak
4	12610.000	34.93	16.83	51.76	74.00	-22.24	peak
5	13809.000	32.93	20.51	53.44	74.00	-20.56	peak
6	17879.000	28.67	23.38	52.05	74.00	-21.95	peak

- 2. If Peak Result complies with AV limit, AV Result is deemed to comply with AV limit.
- 3. Peak: Peak detector.
- 4. AVG: VBW=1/Ton, where: Ton is the transmitting duration.
- 5. For the transmitting duration, please refer to clause 7.1.
- 6. Filter losses were only considered in the spurious frequency bands and the authorized band was not corrected for High Pass Filter losses.
  - 7. Proper operation of the transmitter prior to adding the filter to the measurement chain.
- 8. Since non-restricted band peak emissions are less than the average limit, they also comply with the -27dBm/MHz (68.2dBuV/m) limit.



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

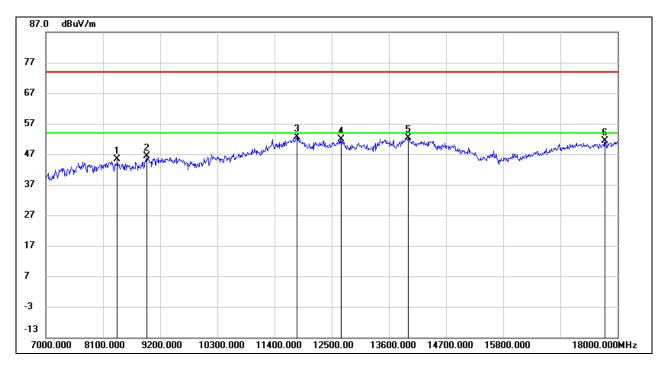


No.	Frequency	Reading	Correct	Result	Limit	Margin	Remark
	(MHz)	(dBuV)	(dB/m)	(dBuV/m)	(dBuV/m)	(dB)	
1	8254.000	37.56	7.07	44.63	74.00	-29.37	peak
2	9464.000	36.15	9.84	45.99	74.00	-28.01	peak
3	11367.000	35.83	15.08	50.91	74.00	-23.09	peak
4	11840.000	35.77	17.20	52.97	74.00	-21.03	peak
5	13809.000	32.13	20.51	52.64	74.00	-21.36	peak
6	17758.000	29.46	22.75	52.21	74.00	-21.79	peak

- 2. If Peak Result complies with AV limit, AV Result is deemed to comply with AV limit.
- 3. Peak: Peak detector.
- 4. AVG: VBW=1/Ton, where: Ton is the transmitting duration.
- 5. For the transmitting duration, please refer to clause 7.1.
- 6. Filter losses were only considered in the spurious frequency bands and the authorized band was not corrected for High Pass Filter losses.
  - 7. Proper operation of the transmitter prior to adding the filter to the measurement chain.
- 8. Since non-restricted band peak emissions are less than the average limit, they also comply with the -27dBm/MHz (68.2dBuV/m) limit.



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



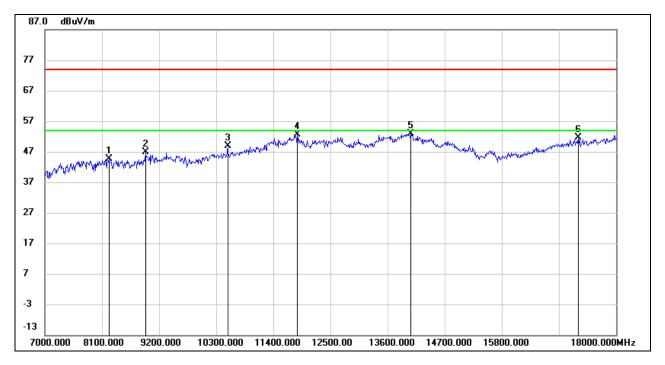
No.	Frequency	Reading	Correct	Result	Limit	Margin	Remark
	(MHz)	(dBuV)	(dB/m)	(dBuV/m)	(dBuV/m)	(dB)	
1	8375.000	38.76	6.71	45.47	74.00	-28.53	peak
2	8947.000	37.49	8.89	46.38	74.00	-27.62	peak
3	11829.000	35.53	17.20	52.73	74.00	-21.27	peak
4	12687.000	34.83	17.01	51.84	74.00	-22.16	peak
5	13974.000	31.66	20.63	52.29	74.00	-21.71	peak
6	17758.000	28.75	22.75	51.50	74.00	-22.50	peak

- 2. If Peak Result complies with AV limit, AV Result is deemed to comply with AV limit.
- 3. Peak: Peak detector.
- 4. AVG: VBW=1/Ton, where: Ton is the transmitting duration.
- 5. For the transmitting duration, please refer to clause 7.1.
- 6. Filter losses were only considered in the spurious frequency bands and the authorized band was not corrected for High Pass Filter losses.
  - 7. Proper operation of the transmitter prior to adding the filter to the measurement chain.
- 8. Since non-restricted band peak emissions are less than the average limit, they also comply with the -27dBm/MHz (68.2dBuV/m) limit.



### **UNII-2A BAND**

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

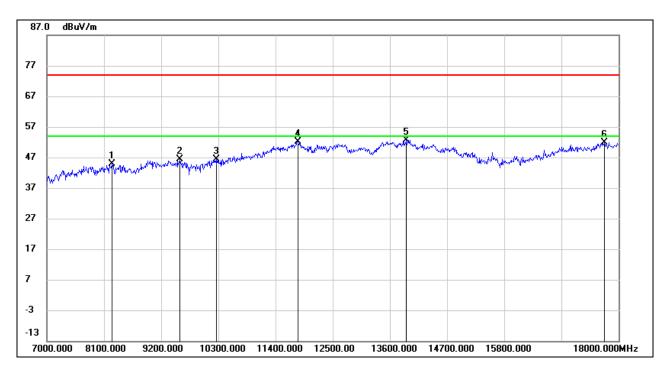


No.	Frequency	Reading	Correct	Result	Limit	Margin	Remark
	(MHz)	(dBuV)	(dB/m)	(dBuV/m)	(dBuV/m)	(dB)	
1	8232.000	37.49	7.14	44.63	74.00	-29.37	peak
2	8936.000	38.17	8.76	46.93	74.00	-27.07	peak
3	10520.000	36.93	11.94	48.87	74.00	-25.13	peak
4	11862.000	35.47	17.19	52.66	74.00	-21.34	peak
5	14051.000	32.52	20.39	52.91	74.00	-21.09	peak
6	17274.000	31.57	20.17	51.74	74.00	-22.26	peak

- 2. If Peak Result complies with AV limit, AV Result is deemed to comply with AV limit.
- 3. Peak: Peak detector.
- 4. AVG: VBW=1/Ton, where: Ton is the transmitting duration.
- 5. For the transmitting duration, please refer to clause 7.1.
- 6. Filter losses were only considered in the spurious frequency bands and the authorized band was not corrected for High Pass Filter losses.
  - 7. Proper operation of the transmitter prior to adding the filter to the measurement chain.
- 8. Since non-restricted band peak emissions are less than the average limit, they also comply with the -27dBm/MHz (68.2dBuV/m) limit.



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

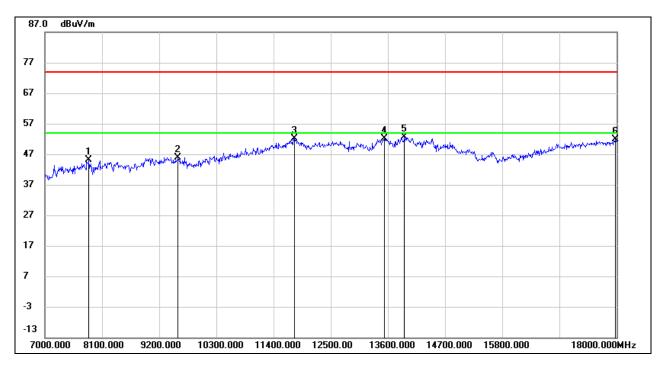


No.	Frequency	Reading	Correct	Result	Limit	Margin	Remark
	(MHz)	(dBuV)	(dB/m)	(dBuV/m)	(dBuV/m)	(dB)	
1	8254.000	37.78	7.07	44.85	74.00	-29.15	peak
2	9563.000	36.42	10.05	46.47	74.00	-27.53	peak
3	10256.000	35.43	11.07	46.50	74.00	-27.50	peak
4	11829.000	34.93	17.20	52.13	74.00	-21.87	peak
5	13919.000	32.13	20.58	52.71	74.00	-21.29	peak
6	17725.000	29.52	22.41	51.93	74.00	-22.07	peak

- 2. If Peak Result complies with AV limit, AV Result is deemed to comply with AV limit.
- 3. Peak: Peak detector.
- 4. AVG: VBW=1/Ton, where: Ton is the transmitting duration.
- 5. For the transmitting duration, please refer to clause 7.1.
- 6. Filter losses were only considered in the spurious frequency bands and the authorized band was not corrected for High Pass Filter losses.
  - 7. Proper operation of the transmitter prior to adding the filter to the measurement chain.
- 8. Since non-restricted band peak emissions are less than the average limit, they also comply with the -27dBm/MHz (68.2dBuV/m) limit.



#### <u>HARMONICS AND SPURIOUS EMISSIONS (MID CHANNEL, HORIZONTAL)</u>

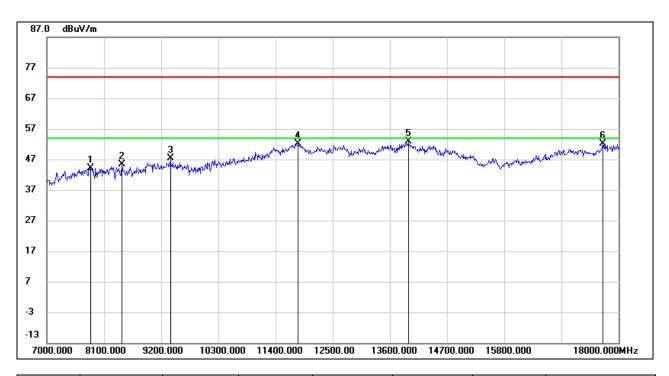


No.	Frequency	Reading	Correct	Result	Limit	Margin	Remark
	(MHz)	(dBuV)	(dB/m)	(dBuV/m)	(dBuV/m)	(dB)	
1	7847.000	39.15	5.91	45.06	74.00	-28.94	peak
2	9563.000	35.93	10.05	45.98	74.00	-28.02	peak
3	11807.000	34.89	17.22	52.11	74.00	-21.89	peak
4	13534.000	32.50	19.63	52.13	74.00	-21.87	peak
5	13919.000	31.94	20.58	52.52	74.00	-21.48	peak
6	17978.000	28.15	23.63	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. AVG: VBW=1/Ton, where: Ton is the transmitting duration.
- 5. For the transmitting duration, please refer to clause 7.1.
- 6. Filter losses were only considered in the spurious frequency bands and the authorized band was not corrected for High Pass Filter losses.
  - 7. Proper operation of the transmitter prior to adding the filter to the measurement chain.
- 8. Since non-restricted band peak emissions are less than the average limit, they also comply with the -27dBm/MHz (68.2dBuV/m) limit.



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

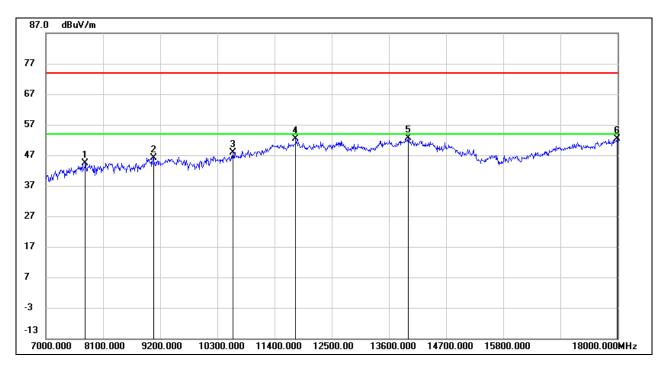


No.	Frequency	Reading	Correct	Result	Limit	Margin	Remark
	(MHz)	(dBuV)	(dB/m)	(dBuV/m)	(dBuV/m)	(dB)	
1	7847.000	38.18	5.91	44.09	74.00	-29.91	peak
2	8441.000	38.80	6.65	45.45	74.00	-28.55	peak
3	9376.000	37.87	9.53	47.40	74.00	-26.60	peak
4	11829.000	34.84	17.20	52.04	74.00	-21.96	peak
5	13952.000	32.31	20.61	52.92	74.00	-21.08	peak
6	17692.000	30.00	22.06	52.06	74.00	-21.94	peak

- 2. If Peak Result complies with AV limit, AV Result is deemed to comply with AV limit.
- 3. Peak: Peak detector.
- 4. AVG: VBW=1/Ton, where: Ton is the transmitting duration.
- 5. For the transmitting duration, please refer to clause 7.1.
- 6. Filter losses were only considered in the spurious frequency bands and the authorized band was not corrected for High Pass Filter losses.
  - 7. Proper operation of the transmitter prior to adding the filter to the measurement chain.
- 8. Since non-restricted band peak emissions are less than the average limit, they also comply with the -27dBm/MHz (68.2dBuV/m) limit.



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

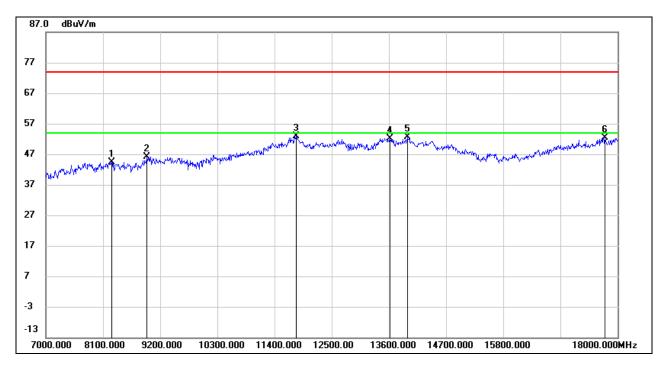


No.	Frequency	Reading	Correct	Result	Limit	Margin	Remark
	(MHz)	(dBuV)	(dB/m)	(dBuV/m)	(dBuV/m)	(dB)	
1	7759.000	38.35	5.95	44.30	74.00	-29.70	peak
2	9068.000	36.87	9.16	46.03	74.00	-27.97	peak
3	10597.000	35.69	12.25	47.94	74.00	-26.06	peak
4	11807.000	35.13	17.22	52.35	74.00	-21.65	peak
5	13974.000	31.90	20.63	52.53	74.00	-21.47	peak
6	17989.000	28.64	23.65	52.29	74.00	-21.71	peak

- 2. If Peak Result complies with AV limit, AV Result is deemed to comply with AV limit.
- 3. Peak: Peak detector.
- 4. AVG: VBW=1/Ton, where: Ton is the transmitting duration.
- 5. For the transmitting duration, please refer to clause 7.1.
- 6. Filter losses were only considered in the spurious frequency bands and the authorized band was not corrected for High Pass Filter losses.
  - 7. Proper operation of the transmitter prior to adding the filter to the measurement chain.
- 8. Since non-restricted band peak emissions are less than the average limit, they also comply with the -27dBm/MHz (68.2dBuV/m) limit.



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



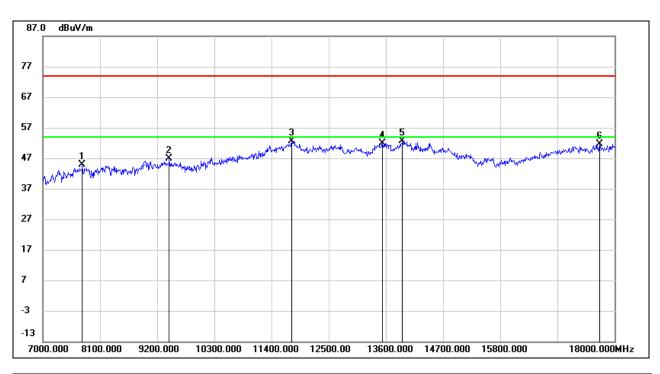
No.	Frequency	Reading	Correct	Result	Limit	Margin	Remark
	(MHz)	(dBuV)	(dB/m)	(dBuV/m)	(dBuV/m)	(dB)	
1	8265.000	37.26	7.03	44.29	74.00	-29.71	peak
2	8947.000	37.27	8.89	46.16	74.00	-27.84	peak
3	11818.000	35.79	17.20	52.99	74.00	-21.01	peak
4	13622.000	32.39	19.81	52.20	74.00	-21.80	peak
5	13952.000	32.09	20.61	52.70	74.00	-21.30	peak
6	17758.000	29.71	22.75	52.46	74.00	-21.54	peak

- 2. If Peak Result complies with AV limit, AV Result is deemed to comply with AV limit.
- 3. Peak: Peak detector.
- 4. AVG: VBW=1/Ton, where: Ton is the transmitting duration.
- 5. For the transmitting duration, please refer to clause 7.1.
- 6. Filter losses were only considered in the spurious frequency bands and the authorized band was not corrected for High Pass Filter losses.
  - 7. Proper operation of the transmitter prior to adding the filter to the measurement chain.
- 8. Since non-restricted band peak emissions are less than the average limit, they also comply with the -27dBm/MHz (68.2dBuV/m) limit.



### **UNII-2C BAND**

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

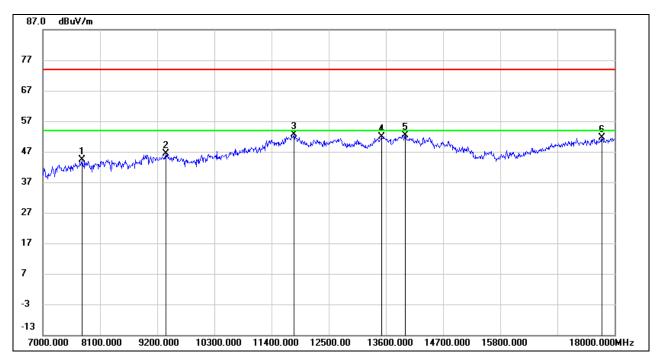


No.	Frequency	Reading	Correct	Result	Limit	Margin	Remark
	(MHz)	(dBuV)	(dB/m)	(dBuV/m)	(dBuV/m)	(dB)	
1	7759.000	38.87	5.95	44.82	74.00	-29.18	peak
2	9431.000	37.18	9.76	46.94	74.00	-27.06	peak
3	11785.000	35.39	17.12	52.51	74.00	-21.49	peak
4	13534.000	32.32	19.63	51.95	74.00	-22.05	peak
5	13919.000	32.07	20.58	52.65	74.00	-21.35	peak
6	17714.000	29.42	22.29	51.71	74.00	-22.29	peak

- 2. If Peak Result complies with AV limit, AV Result is deemed to comply with AV limit.
- 3. Peak: Peak detector.
- 4. AVG: VBW=1/Ton, where: Ton is the transmitting duration.
- 5. For the transmitting duration, please refer to clause 7.1.
- 6. Filter losses were only considered in the spurious frequency bands and the authorized band was not corrected for High Pass Filter losses.
  - 7. Proper operation of the transmitter prior to adding the filter to the measurement chain.
- 8. Since non-restricted band peak emissions are less than the average limit, they also comply with the -27dBm/MHz (68.2dBuV/m) limit.



# HARMONICS AND SPURIOUS EMISSIONS (LOW CHANNEL, VERTICAL)

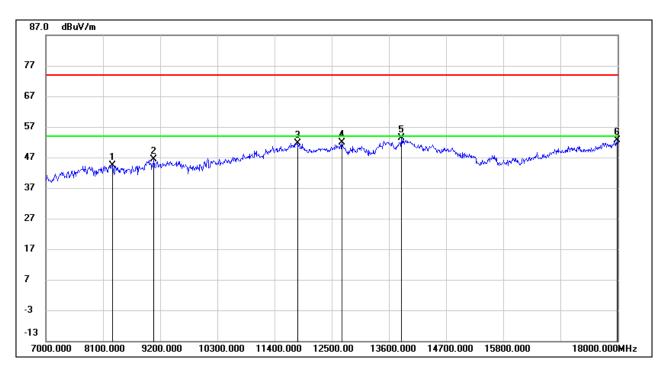


No.	Frequency	Reading	Correct	Result	Limit	Margin	Remark
	(MHz)	(dBuV)	(dB/m)	(dBuV/m)	(dBuV/m)	(dB)	
1	7748.000	38.50	5.92	44.42	74.00	-29.58	peak
2	9365.000	36.87	9.46	46.33	74.00	-27.67	peak
3	11829.000	35.44	17.20	52.64	74.00	-21.36	peak
4	13512.000	32.26	19.61	51.87	74.00	-22.13	peak
5	13974.000	31.81	20.63	52.44	74.00	-21.56	peak
6	17758.000	28.83	22.75	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. AVG: VBW=1/Ton, where: Ton is the transmitting duration.
- 5. For the transmitting duration, please refer to clause 7.1.
- 6. Filter losses were only considered in the spurious frequency bands and the authorized band was not corrected for High Pass Filter losses.
  - 7. Proper operation of the transmitter prior to adding the filter to the measurement chain.
- 8. Since non-restricted band peak emissions are less than the average limit, they also comply with the -27dBm/MHz (68.2dBuV/m) limit.



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

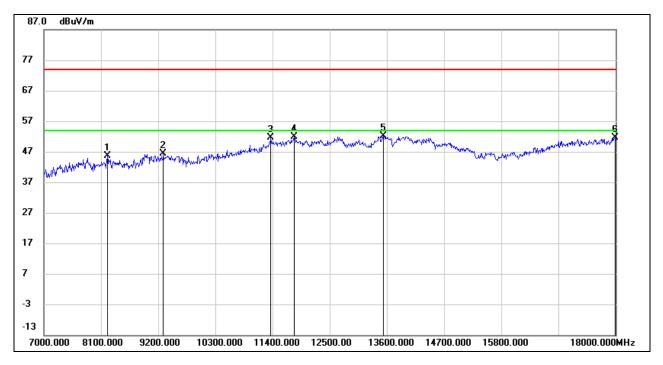


No.	Frequency	Reading	Correct	Result	Limit	Margin	Remark
	(MHz)	(dBuV)	(dB/m)	(dBuV/m)	(dBuV/m)	(dB)	
1	8287.000	37.49	6.98	44.47	74.00	-29.53	peak
2	9079.000	37.35	9.10	46.45	74.00	-27.55	peak
3	11840.000	34.51	17.20	51.71	74.00	-22.29	peak
4	12698.000	34.79	17.05	51.84	74.00	-22.16	peak
5	13842.000	32.85	20.53	53.38	74.00	-20.62	peak
6	17989.000	28.90	23.65	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. AVG: VBW=1/Ton, where: Ton is the transmitting duration.
- 5. For the transmitting duration, please refer to clause 7.1.
- 6. Filter losses were only considered in the spurious frequency bands and the authorized band was not corrected for High Pass Filter losses.
  - 7. Proper operation of the transmitter prior to adding the filter to the measurement chain.
- 8. Since non-restricted band peak emissions are less than the average limit, they also comply with the -27dBm/MHz (68.2dBuV/m) limit.



<u>HARMONICS AND SPURIOUS EMISSIONS (MID CHANNEL, VERTICAL)</u>

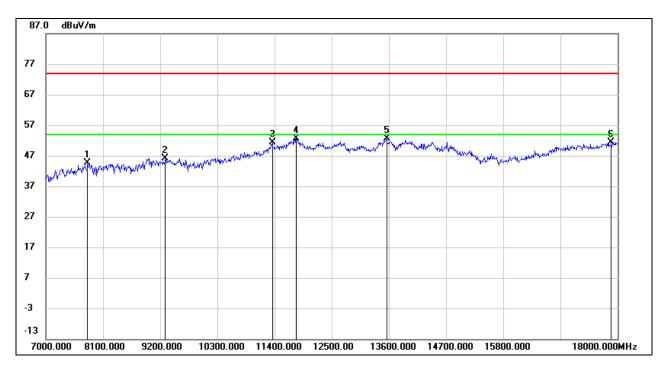


No.	Frequency	Reading	Correct	Result	Limit	Margin	Remark
	(MHz)	(dBuV)	(dB/m)	(dBuV/m)	(dBuV/m)	(dB)	
1	8221.000	38.42	7.16	45.58	74.00	-28.42	peak
2	9299.000	37.25	9.05	46.30	74.00	-27.70	peak
3	11367.000	36.62	15.08	51.70	74.00	-22.30	peak
4	11818.000	34.65	17.20	51.85	74.00	-22.15	peak
5	13534.000	32.40	19.63	52.03	74.00	-21.97	peak
6	17989.000	28.02	23.65	51.67	74.00	-22.33	peak

- 2. If Peak Result complies with AV limit, AV Result is deemed to comply with AV limit.
- 3. Peak: Peak detector.
- 4. AVG: VBW=1/Ton, where: Ton is the transmitting duration.
- 5. For the transmitting duration, please refer to clause 7.1.
- 6. Filter losses were only considered in the spurious frequency bands and the authorized band was not corrected for High Pass Filter losses.
  - 7. Proper operation of the transmitter prior to adding the filter to the measurement chain.
- 8. Since non-restricted band peak emissions are less than the average limit, they also comply with the -27dBm/MHz (68.2dBuV/m) limit.



#### <u>HARMONICS AND SPURIOUS EMISSIONS (HIGH CHANNEL, HORIZONTAL)</u>

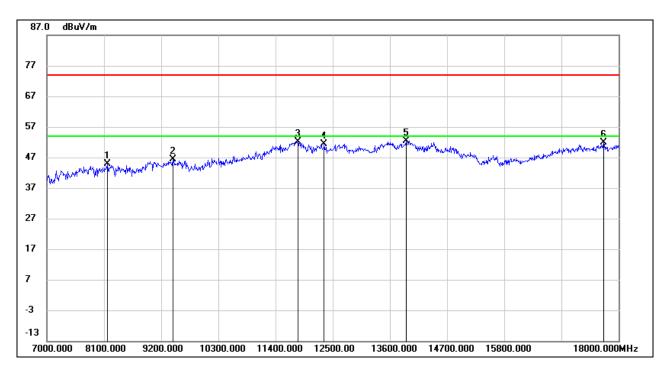


No.	Frequency	Reading	Correct	Result	Limit	Margin	Remark
	(MHz)	(dBuV)	(dB/m)	(dBuV/m)	(dBuV/m)	(dB)	
1	7803.000	38.45	6.07	44.52	74.00	-29.48	peak
2	9299.000	37.18	9.05	46.23	74.00	-27.77	peak
3	11356.000	36.40	15.04	51.44	74.00	-22.56	peak
4	11818.000	35.42	17.20	52.62	74.00	-21.38	peak
5	13556.000	32.91	19.67	52.58	74.00	-21.42	peak
6	17879.000	28.03	23.38	51.41	74.00	-22.59	peak

- 2. If Peak Result complies with AV limit, AV Result is deemed to comply with AV limit.
- 3. Peak: Peak detector.
- 4. AVG: VBW=1/Ton, where: Ton is the transmitting duration.
- 5. For the transmitting duration, please refer to clause 7.1.
- 6. Filter losses were only considered in the spurious frequency bands and the authorized band was not corrected for High Pass Filter losses.
  - 7. Proper operation of the transmitter prior to adding the filter to the measurement chain.
- 8. Since non-restricted band peak emissions are less than the average limit, they also comply with the -27dBm/MHz (68.2dBuV/m) limit.



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



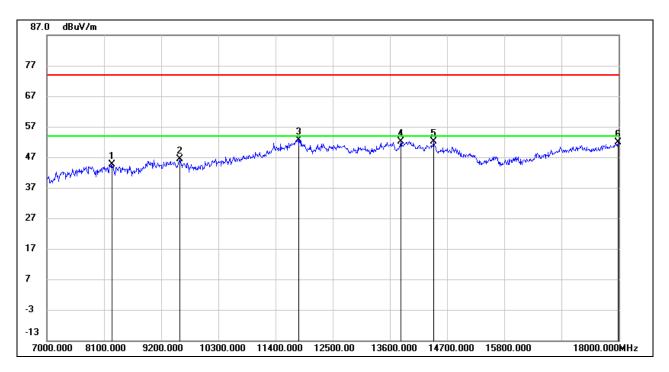
No.	Frequency	Reading	Correct	Result	Limit	Margin	Remark
	(MHz)	(dBuV)	(dB/m)	(dBuV/m)	(dBuV/m)	(dB)	
1	8166.000	37.93	6.90	44.83	74.00	-29.17	peak
2	9420.000	36.73	9.73	46.46	74.00	-27.54	peak
3	11829.000	35.00	17.20	52.20	74.00	-21.80	peak
4	12335.000	34.52	16.95	51.47	74.00	-22.53	peak
5	13908.000	31.87	20.58	52.45	74.00	-21.55	peak
6	17714.000	29.50	22.29	51.79	74.00	-22.21	peak

- 2. If Peak Result complies with AV limit, AV Result is deemed to comply with AV limit.
- 3. Peak: Peak detector.
- 4. AVG: VBW=1/Ton, where: Ton is the transmitting duration.
- 5. For the transmitting duration, please refer to clause 7.1.
- 6. Filter losses were only considered in the spurious frequency bands and the authorized band was not corrected for High Pass Filter losses.
  - 7. Proper operation of the transmitter prior to adding the filter to the measurement chain.
- 8. Since non-restricted band peak emissions are less than the average limit, they also comply with the -27dBm/MHz (68.2dBuV/m) limit.



**STRADDLE CHANNEL 144** 

### <u>HARMONICS AND SPURIOUS EMISSIONS (HORIZONTAL)</u>

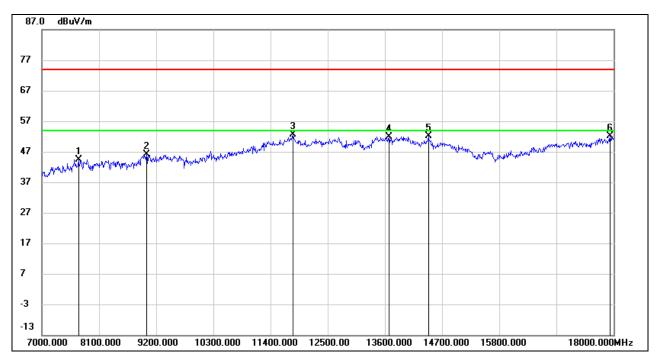


No.	Frequency	Reading	Correct	Result	Limit	Margin	Remark
	(MHz)	(dBuV)	(dB/m)	(dBuV/m)	(dBuV/m)	(dB)	
1	8254.000	37.56	7.07	44.63	74.00	-29.37	peak
2	9563.000	36.28	10.05	46.33	74.00	-27.67	peak
3	11840.000	35.53	17.20	52.73	74.00	-21.27	peak
4	13809.000	31.67	20.51	52.18	74.00	-21.82	peak
5	14436.000	33.30	18.74	52.04	74.00	-21.96	peak
6	17989.000	28.32	23.65	51.97	74.00	-22.03	peak

- 2. If Peak Result complies with AV limit, AV Result is deemed to comply with AV limit.
- 3. Peak: Peak detector.
- 4. AVG: VBW=1/Ton, where: Ton is the transmitting duration.
- 5. For the transmitting duration, please refer to clause 7.1.
- 6. Filter losses were only considered in the spurious frequency bands and the authorized band was not corrected for High Pass Filter losses.
  - 7. Proper operation of the transmitter prior to adding the filter to the measurement chain.
- 8. Since non-restricted band peak emissions are less than the average limit, they also comply with the -27dBm/MHz (68.2dBuV/m) limit.



### **HARMONICS AND SPURIOUS EMISSIONS (VERTICAL)**



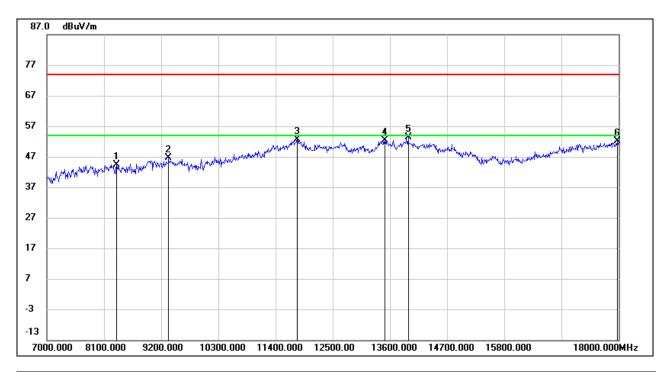
No.	Frequency	Reading	Correct	Result	Limit	Margin	Remark
	(MHz)	(dBuV)	(dB/m)	(dBuV/m)	(dBuV/m)	(dB)	
1	7704.000	38.57	5.77	44.34	74.00	-29.66	peak
2	9013.000	36.67	9.45	46.12	74.00	-27.88	peak
3	11829.000	35.36	17.20	52.56	74.00	-21.44	peak
4	13677.000	31.81	20.02	51.83	74.00	-22.17	peak
5	14436.000	33.33	18.74	52.07	74.00	-21.93	peak
6	17934.000	28.53	23.52	52.05	74.00	-21.95	peak

- 2. If Peak Result complies with AV limit, AV Result is deemed to comply with AV limit.
- 3. Peak: Peak detector.
- 4. AVG: VBW=1/Ton, where: Ton is the transmitting duration.
- 5. For the transmitting duration, please refer to clause 7.1.
- 6. Filter losses were only considered in the spurious frequency bands and the authorized band was not corrected for High Pass Filter losses.
  - 7. Proper operation of the transmitter prior to adding the filter to the measurement chain.
- 8. Since non-restricted band peak emissions are less than the average limit, they also comply with the -27dBm/MHz (68.2dBuV/m) limit.



**UNII-3 BAND** 

# 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	8342.000	37.66	6.81	44.47	74.00	-29.53	peak
2	9343.000	37.36	9.32	46.68	74.00	-27.32	peak
3	11818.000	35.45	17.20	52.65	74.00	-21.35	peak
4	13501.000	32.88	19.58	52.46	74.00	-21.54	peak
5	13952.000	32.76	20.61	53.37	74.00	-20.63	peak
6	17978.000	28.51	23.63	52.14	74.00	-21.86	peak

- 2. If Peak Result complies with AV limit, AV Result is deemed to comply with AV limit.
- 3. Peak: Peak detector.
- 4. AVG: VBW=1/Ton, where: Ton is the transmitting duration.
- 5. For the transmitting duration, please refer to clause 7.1.
- 6. Filter losses were only considered in the spurious frequency bands and the authorized band was not corrected for High Pass Filter losses.
  - 7. Proper operation of the transmitter prior to adding the filter to the measurement chain.
- 8. Since non-restricted band peak emissions are less than the average limit, they also comply with the -27dBm/MHz (68.2dBuV/m) limit.