





#### **CFR 47 FCC PART 15 SUBPART E**

#### **CERTIFICATION TEST REPORT**

For

WiFi Module

**MODEL NUMBER: SI06** 

FCC ID: 2AFG6-SI06

REPORT NUMBER: 4789609364.2-6

ISSUE DATE: December 28, 2020

Prepared for

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## **Revision History**

Rev.	Issue Date	Revisions	Revised By
V0	12/28/2020	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	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: Guangzhou Shirui Electronics Co Ltd

Address: 192 Kezhu Road, Scientech Park, guangzhou Economic

Technology Development District Guangzhou China

Manufacturer Information

Company Name: Guangzhou Shirui Electronics Co Ltd

Address: 192 Kezhu Road, Scientech Park, guangzhou Economic

Technology Development District Guangzhou China

**EUT Information** 

EUT Name: WiFi Module

Model: SI06

Sample Received Date: August 27, 2020

Sample Status: Normal Sample ID: 3283003

Date of Tested: August 27, 2020~ December 28, 2020

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

Prepared By:

Checked By:

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Project Engineer Laboratory Leader

Approved By:

Stephen Guo

Laboratory Manager



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#### 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, KDB414788 D01 Radiated Test Site v01, 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 and KDB 905462 D04 Operational Modes for DFS Testing New Rules v01.

#### 3. FACILITIES AND ACCREDITATION

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

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

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

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



4. CALIBRATION AND UNCERTAINTY

#### 4.1. MEASURING INSTRUMENT CALIBRATION

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

#### 4.2. MEASUREMENT UNCERTAINTY

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

Test Item	Uncertainty
Conduction emission	3.62 dB
Radiated Emission (Included Fundamental Emission) (9 kHz ~ 30 MHz)	2.2 dB
Radiated Emission (Included Fundamental Emission) (30 MHz ~ 1 GHz)	4.00 dB
Radiated Emission	5.78 dB (1 GHz-18 GHz)
(Included Fundamental Emission) (1 GHz to 40	5.23dB (18 GHz-26 GHz)
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 Module				
Model	SI06				
Radio Technology	WLAN (IEEE 802.11a/n HT20/n HT40/ac VHT20/VHT 40/VHT 80)				
Operation frequency	UNII-1: 5150 ~ 5250 MHz UNII-2A: 5250 ~ 5350 MHz UNII-2C: 5470 ~ 5725 MHz UNII-3: 5725 ~ 5850 MHz				
IEEE 802.11a: OFDM (64QAM, 16QAM, QPSK, EDEE 802.11n HT20: OFDM (64QAM, 16QAM, QDEE 802.11n HT40: OFDM (64QAM, 16QAM, QDEE 802.11ac VHT20: OFDM (256QAM, 64QAM, BPSK)   IEEE 802.11ac VHT40: OFDM (256QAM, 64QAM, BPSK)   IEEE 802.11ac VHT80: OFDM (256QAM, BPSK)   IEE			AM, 16QAM, QPSK, BPSK) AM, 16QAM, QPSK, BPSK) 56QAM, 64QAM, 16QAM, QPSK, 56QAM, 64QAM, 16QAM, QPSK,		
Power Supply	DC State Rate Input: DC 12V				
Wireless Module	SKI.W7613E.1				

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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)
a SISO		15.93	19.43
n HT20 MIMO		13.41	19.92
n HT40 MIMO	F4F0 F0F0	16.10	22.61
ac VHT20 MIMO	5150 ~ 5250	13.39	19.90
ac VHT40 MIMO		16.22	22.73
ac VHT80 MIMO		15.97	22.48

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

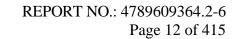
IEEE Std. 802.11	Frequency (MHz)	Maximum Average Conducted Power (dBm)	Max Average EIRP (dBm)
a SISO		16.33	19.83
n HT20 MIMO	5050 5050	19.93	26.44
n HT40 MIMO		19.98	26.49
ac VHT20 MIMO	5250 ~ 5350	19.75	26.26
ac VHT40 MIMO		20.25	26.76
ac VHT80 MIMO		19.85	26.36

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

IEEE Std.	Frequency	Maximum Average Conducted	Max Average EIRP
802.11	(MHz)	Power (dBm)	(dBm)
a SISO		15.28	18.78
n HT20 MIMO		18.63	25.14
n HT40 MIMO	E 470 E 70E	19.54	26.05
ac VHT20 MIMO	5470 ~ 5725	18.57	25.08
ac VHT40 MIMO		19.56	26.07
ac VHT80 MIMO		19.33	25.84

## **UNII-3 BAND**

IEEE Std.	Frequency	Maximum Average Conducted	Max Average EIRP
802.11	(MHz)	Power (dBm)	(dBm)
a SISO	5725 ~ 5850	14.52	18.02
n HT20 MIMO		18.46	24.97
n HT40 MIMO		19.04	25.55
ac VHT20 MIMO	5725 ~ 5650	18.41	24.92
ac VHT40 MIMO		19.20	25.71
ac VHT80 MIMO		19.11	25.62





5.3. CHANNEL LIST

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

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

UNII-2C (For Bandwidth = 20 MHz)		UNII-2C (For Bandwidth = 40 MHz)		UNII-2C (For Bandwidth = 80 MHz)	
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				

UNII-3		UNII-3		UNII-3	
(For Bandwidth = 20 MHz)		(For Bandwidth = 40 MHz)		(For Bandwidth = 80 MHz)	
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				

Note: All channels in the 5600-5650MHz band was not operational in Canada.



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, 5200 MHz, 5200 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 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.	Std. Test Channel Number Frequency				
802.11a	CH 100(Low Channel), CH 116(MID Channel), CH 140(High Channel)	5500 MHz, 5580 MHz, 5700 MHz			



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802.11n VHT20	CH 100(Low Channel), CH 116(MID Channel), CH 140(High Channel)	5500 MHz, 5580 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 116(MID Channel), CH 140(High Channel)	5500 MHz, 5580 MHz, 5700 MHz	
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				
802.11a	CH 149(Low Channel), CH 157(MID Channel), CH 165(High Channel)	5745 MHz, 5785 MHz, 5825 MHz				
802.11n HT20	CH 149(Low Channel), CH 157(MID Channel), CH 165(High Channel)	5745 MHz, 5785 MHz, 5825 MHz				
802.11n HT40	CH 151(Low Channel), CH 159(High Channel)	5755MHz, 5795MHz				
802.11ac VHT20	CH 149(Low Channel), CH 157(MID Channel), CH 165(High Channel)	5745 MHz, 5785 MHz, 5825 MHz				
802.11ac VHT40	CH 151(Low Channel), CH 159(High Channel)	5755 MHz, 5795 MHz				
802.11ac CH 155(Low Channel)		5775 MHz				



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## 5.5. DESCRIPTION OF AVAILABLE ANTENNAS

Antenna No.	Frequency (MHz)	Antenna Type	Max Antenna Gain (dBi)
1	5150-5850	FPC antenna	3.50
2	5150-5850	FPC antenna	3.50

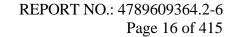
IEE Std. 802.11	Transmit and Receive Mode	Description	
802.11a	⊠2TX, 2RX	ANT 1,2 can be used as transmitting/receiving antenna.	
802.11n HT20	⊠2TX, 2RX	ANT 1,2 can be used as transmitting/receiving antenna.	
802.11n HT40	⊠2TX, 2RX	ANT 1,2 can be used as transmitting/receiving antenna.	
802.11ac VHT20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

Note1 : Directional gain= 10 log  $[(10^{G1/20} + 10^{G2/20})^2/N_{ANT}]$  =6.51 dBi

GANT: Average of the Antenna Gain

N<sub>ANT</sub>: Antenna numbers

Note 2: The value of the antenna gain was declared by customer.





5.6. THE WORSE CASE POWER SETTING PARAMETER

The Worse Case Power Setting Parameter					
Test Software	Test Software QATool_Dbg				
Frequency Band mode channel setting					

#### <u>UNII-1</u>

IEEE Std. 802.11	Rate	Channel	Test Software	Test Software Setting Value		
ILLE 3td. 802.11	Nate	Chaine	ANT 1	ANT 2		
		36	1E	1E		
а	6M	40	1E	1E		
		48	1E	1E		
		36	15	15		
n HT20	MCS0	40	15	15		
		48	15	15		
n HT40	MCCO	38	1A	1A		
N H140	MCS0	46	1A	1A		
		36	15	15		
ac VHT20	MCS0	40	15	15		
		48	15	15		
00 V/HT40	MCCO	38	1A	1A		
ac VHT40	MCS0	46	1A	1A		
ac VHT80	MCS0	42	1A	1A		

#### UNII-2A

IEEE Std. 802.11	Doto	Channel	Soft se	et value
1EEE Std. 602.11	Rate	Channel	ANT 1	ANT 2
		52	1F	1F
а	6M	60	1F	1F
		64	1E	1E
		52	22	22
n HT20	MCS0	60	22	22
		64	21	21
n HT40	MCS0	54	22	22
111140	MCSU	62	22	22
		52	22	22
ac VHT20	MCS0	60	22	22
		64	21	21
ac VHT40	MCS0	54	22	22
ac vn140	IVICOU	62	22	22
ac VHT80	MCS0	58	22	22



## UNII-2C

IEEE Std. 802.11	Rate	Channel	Soft se	et value
1EEE 3td. 802.11	Nate	Chamer	ANT 1	ANT 2
		100	1B	1B
а	6M	116	1D	1D
		140	1D	1D
		100	1E	1E
n HT20	MCS0	116	20	20
		140	20	20
		102	20	20
n HT40	MCS0	118	22	22
		134	22	22
		100	1E	1E
ac VHT20	MCS0	116	20	20
		140	20	20
		102	20	20
ac VHT40	MCS0	118	22	22
		134	22	22
ac VHT80	MCS0	106	1E	1E
at viriou	IVICOU	122	22	22

#### UNII-3

IEEE 044, 000, 44	Data	Chamal	Soft se	et value
IEEE Std. 802.11	Rate	Channel	ANT 1	ANT 2
		149	1D	1D
а	6M	157	1A	1A
		165	1C	1C
		149	22	22
n HT20	MCS0	157	20	20
		165	20	20
n HT40	MCSO	151	22	22
11 11 140	MCS0	159	22	22
		149	22	22
ac VHT20	MCS0	157	20	20
		165	20	20
00 V/UT40	MCSO	151	22	22
ac VHT40	MCS0	159	22	22
ac VHT80	MCS0	155	22	22

Note: MIMO mode use the same power setting.



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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:

```
IEEE 802.11a / SISO - BPSK / 6 Mbps
IEEE 802.11n HT20 / SISO – BPSK / MCS0
IEEE 802.11n HT40 / SISO - BPSK / MCS0
IEEE 802.11n HT20 / MIMO / 2Tx CDD - BPSK / MCS0
IEEE 802.11n HT40 / MIMO / 2Tx CDD - BPSK / MCS0
IEEE 802.11ac VHT20 / MIMO / 2Tx CDD - BPSK / MCS0
IEEE 802.11ac VHT40 / MIMO / 2Tx CDD - BPSK / MCS0
IEEE 802.11ac VHT80 / MIMO / 2Tx CDD - BPSK / MCS0
IEEE 802.11ac VHT160 / MIMO / 2Tx CDD – BPSK / MCS0
```

Since 802.11ac VHT20/VHT40 mode are different from 802.11n HT20/HT40 only in control messages, so all the tests (except conducted output power and power spectral density) were performed on the worst case (802.11ac VHT20/802.11ac VHT40) mode between these 4 modes and only the worst data was recorded in this 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.

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.

Duty cycle and 6 dB / 26 dB DTS bandwidth/occupied channel bandwidth tests, only SISO mode and one chain were tested since the duty cycle and bandwidth does not change depending on chains used.

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

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

Note: The EUT have two wireless modules, one is called module SKI.W7613E.1 and the other one called module SKI.WB8821CU.1.

Simultaneously transmission condition.

eminate reducty transmission containem									
Condition		Support (YES/NO)							
1 (Module SKI.W7613E.1)		NO							
2 (Module SKI.WB8821CU.1)	BT	BLE	WLAN(2.4G) WLAN(5G)	NO					

#### Co-Location condition.

Of Education Condition:									
Condition	Technology (Module SKI.W7613E.1)	Technology (Module SKI.WB8821CU.1)	Support (YES/NO)						
1	WLAN (5G)	ВТ	YES						
2	WLAN (5G)	BLE	YES						
3	WLAN (5G)	WLAN (2.4G)	YES						
4	WLAN (5G)	WLAN (5G)	YES						

For the Co-Location test result please refer to test report 4789609364.2-16.



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#### 5.8. DESCRIPTION OF TEST SETUP

#### **SUPPORT EQUIPMENT**

Item	Equipmen t	Brand Name	Model Name	P/N
1	PC	SEEWO	MT51A	MT51I14SI- 2SD191007519XAG0006

Note: The PC was provided by the customer.

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

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

#### **ACCESSORIES**

Item	Accessory	Brand Name	Model Name	Description
/	/		/	/

#### **TEST SETUP**

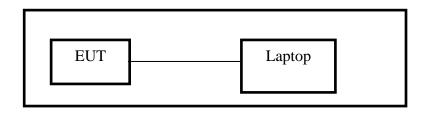
The EUT can work in engineering mode with a software through a Laptop.

### **SETUP DIAGRAM FOR TESTS**

For DFS Test:

EUT Wireless LAN Access Point

For the other RF Test:





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## 6. MEASURING INSTRUMENT AND SOFTWARE USED

OLD

OLD Conducted Emissions										
Conducted Emissions										
	Instrument									
Used	Equipment	Manufactur er	Model N	No.	Serial No.	Last Cal.	Next Cal.			
V	EMI Test Receiver	R&S	ESR3	3	101961	Dec.05,2019	Dec.05,2020			
$\square$	Two-Line V- Network	R&S	ENV21	6	101983	Dec.05,2019	Dec.05,2020			
			Softwa	are						
Used	De	escription		Manuf	acturer	Name	Version			
V		are for Cond	lucted	Fa	ırad	EZ-EMC	Ver. UL-3A1			
		F	Radiated Er	nissio	ns					
			Instrum	nent						
Used	Equipment	Manufactur er	Model N	No.	Serial No.	Last Cal.	Next Cal.			
V	MXE EMI Receiver	KESIGHT	N9038	A	MY5640 0036	Dec.06,2019	Dec.06,2020			
V	Hybrid Log Periodic Antenna	TDK	HLP-300	)3C	130960	Sep.17, 2018	Sep.17, 2021			
V	Preamplifier	HP	8447[	)	2944A0 9099	Dec.05,2019	Dec.05,2020			
V	EMI Measurement Receiver	R&S	ESR2	6	101377	Dec.05,2019	Dec.05,2020			
$\square$	Horn Antenna	TDK	HRN-01	18	130939	Sep.17, 2018	Sep.17, 2021			
V	High Gain Horn Antenna	Schwarzbe ck	BBHA-9	170	691	Aug.11, 2018	Aug.11, 2021			
	Preamplifier	TDK	PA-02-0	118	TRS- 305- 00066	Dec.05,2019	Dec.05,2020			
	Preamplifier	TDK	PA-02-2		TRS- 307- 00003	Dec.05,2019	Dec.05,2020			
V	Preamplifier	TDK	PA-02-	-3	TRS- 308- 00002	Dec.05,2019	Dec.05,2020			
V	Loop antenna	Schwarzbe ck	1519E	3	00008	Jan.07, 2019	Jan.07, 2022			



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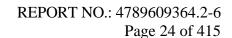
$\square$	Band Reject Filter	Wainwright	5725-	JV12-56 5850-58 40SS		4	Dec.05,2019	Dec.05,2020
	Band Reject Filter	Wainwright	WRC. 5150-	WRCJV20-51: 5150-5350-53 60SS		2	Dec.05,2019	Dec.05,2020
	Band Reject Filter	Wainwright	WRC. 5470-	JV20-54 5725-57 60SS		1	Dec.05,2019	Dec.05,2020
<b></b>	High Pass Filter	Wainwright		X10-58 1800-40		4	Dec.05,2019	Dec.05,2020
			S	Software	)			
Used	Desc	cription		Manufa er	ctur	١	Name	Version
	Test Softwar distu	e for Radiat	ed	Fara	d	EZ	Z-EMC	Ver. UL-3A1
Other instruments								
Used	Equipment	Manufactur er	Mod	el No.	Serial No.		Last Cal.	Next Cal.
	Spectrum Analyzer	Keysight	N9030A		MY	5541051 2	Dec.06,2019	Dec.06,2020
	Power sensor, Power Meter	R&S	OSI	P120	1	00921	Dec.06,2019	Dec.06,2020
$\square$	Temperature & Humidity Chamber	SANMOO D	SG-80	)-CC-2		2088	Dec.06,2019	Dec.06,2020
$\square$	DC power supply	Array	36	62A	A1	512015	Dec.05,2019	Dec.05,2020
$\square$	Power sensor, Power Meter	R&S	OSI	P120	1	00921	Mar.13,2020	Mar.13,2021
V	Vector Signal Generator	R&S	SMB	V100A	2	61637	Dec.06,2019	Dec.06,2020
	Signal Generator	R&S	SME	3100A	1	78553	Dec.06,2019	Dec.06,2020
$\overline{\checkmark}$	Signal Analyzer	R&S	FS	V40	A1	512015	Dec.06,2019	Dec.06,2020
<b>V</b>	Attenuator	Weinschel	3N	1-10	7	Г9692	Dec.06,2019	Dec.06,2020
			S	Software	)			
Used	Desc	cription		Manufa er	ctur	١	Name	Version
V	Test Software f	or RF Condu	ucted	Tonsce	nd I		0-3 RF Test ystem	2.6.77.0518
	Test Softwar	e for DFS Te	est	R&S	3	E	10.60.10	



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## NEW

NEW										
Conducted Emissions										
Instrument										
Used	1-1	Manufactur er	Model N	No.	Serial No.	Last Cal.	Next Cal.			
V	EMI Test Receiver	R&S	ESR	3	101961	Nov.12,2020	Nov.11,2021			
V	Two-Line V- Network	R&S	ENV21	16	101983	Nov.12,2020	Nov.11,2021			
			Softwa	are						
Used	De	escription		Manuf	acturer	Name	Version			
V		are for Conc sturbance	lucted	Fa	rad	EZ-EMC	Ver. UL-3A1			
		ı	Radiated Er	nissio	ns					
			Instrun	nent						
Used	Equipment	Manufactur er	Model N	No.	Serial No.	Last Cal.	Next Cal.			
V	MXE EMI Receiver	KESIGHT	N9038	SA.	MY5640 0036	Nov.12,2020	Nov.11,2021			
$\checkmark$	Hybrid Log Periodic Antenna	TDK	HLP-300	HLP-3003C		Aug.11,2018	Aug.10,2021			
V	Preamplifier	HP	8447[	)	2944A0 9099	Nov.12,2020	Nov.11,2021			
<b>V</b>	EMI Measurement Receiver	R&S	ESR2	6	101377	Nov.12,2020	Nov.11,2021			
V	Horn Antenna	TDK	HRN-01	18	130939	Sept.17,201 8	Sept.17,202			
V	High Gain Horn Antenna	Schwarzbe ck	BBHA-9	170	691	Aug.11,2018	Aug.11,2021			
<b>V</b>	Preamplifier	TDK	PA-02-0	118	TRS- 305- 00066	Nov.20,2020	Nov.19,2021			
	Preamplifier	TDK	PA-02-2		TRS- 307- 00003	Nov.12,2020	Nov.11,2021			
V	Preamplifier	TDK	PA-02-3		TRS- 308- 00002	Nov.12,2020	Nov.11,2021			
V	Loop antenna	Schwarzbe ck	1519	3	80000	Jan.07,2019	Jan.07,2022			
V	Band Reject Filter	Wainwright	WRCJV12- 5725-5850-		4	Nov.12,2020	Nov.11,2021			





**40SS** WRCJV20-5120-**Band Reject**  $\sqrt{}$ Wainwright 5150-5350-5380-2 Nov.12,2020 Nov.11,2021 Filter 60SS WRCJV20-5440-Band Reject  $\overline{\mathbf{V}}$ Wainwright 5470-5725-5755-1 Nov.12,2020 Nov.11,2021 Filter **60SS** WHKX10-5850- $\overline{\mathbf{V}}$ High Pass Filter Wainwright 4 Nov.12,2020 Nov.11,2021 6500-1800-40SS Software Manufactur Used Description Name Version er Test Software for Radiated  $\overline{\mathbf{V}}$ Farad **EZ-EMC** Ver. UL-3A1 disturbance Other instruments Manufactur Used Equipment Serial No. Last Cal. Next Cal. Model No. er Spectrum MY5541051  $\overline{\mathbf{V}}$ Nov.12,2020 Nov.11,2021 Keysight N9030A Analyzer 2 Power sensor.  $\overline{\mathsf{V}}$ R&S **OSP120** 100921 Nov.24,2020 Nov.23,2021 **Power Meter** Temperature & SANMOO  $\sqrt{}$ SG-80-CC-2 Humidity 2088 Nov.20,2020 Nov.19,2021 D Chamber DC power  $\sqrt{}$ 3662A A1512015 Dec.05,2019 Dec.05,2020 Array supply Power sensor.  $\sqrt{}$ R&S **OSP120** 100921 Mar.13,2020 Mar.13,2021 **Power Meter** Vector Signal  $\overline{\mathbf{V}}$ R&S SMBV100A 261637 Nov.20,2020 Nov.19,2021 Generator Signal  $\overline{\mathbf{A}}$ R&S SMB100A Nov.20,2020 Nov.19,2021 178553 Generator  $\sqrt{}$ Signal Analyzer R&S FSV40 A1512015 Nov.20,2020 Nov.19,2021  $\overline{\mathbf{V}}$ Weinschel 3M-10 T9692 Nov.20,2020 Nov.19,2021 Attenuator Software Manufactur Used Description Name Version er Test Software for RF Conducted JS1120-3 RF Test  $\sqrt{}$ **Tonscend** 2.6.77.0518 Test System  $\sqrt{}$ Test Software for DFS Test R&S **EMC 32** 10.60.10

7. ANTENNA PORT TEST RESULTS

#### 7.1. ON TIME AND DUTY CYCLE

#### **LIMITS**

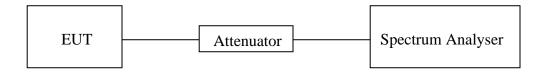
None; for reporting purposes only.

#### **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	24.1 °C	Relative Humidity	67.5 %
Atmosphere Pressure	101 kPa	Test Voltage	DC 12 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			
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)	
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**

ISED RSS-247 6.2.1.2 clause unwanted emission limits

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. Any unwanted emissions that fall into the band 5250-5350 MHz shall be attenuated below the channel power by at least 26 dB, when measured using a resolution bandwidth between 1 and 5% of the occupied bandwidth (i.e. 99% bandwidth), above 5250 MHz.

#### **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: > 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.

#### Calculation for 99 % Bandwidth of UNII-2C and UNII-3 Straddle Channel:

For Example: Fundamental Frequency: 5720 MHz

99 % OBW: 21.00 MHz

Turning Frequency: 5725 MHz

99 % Bandwidth of UNII-2C Band Portion = (5725-(5720-(21.00/2)) = 15.50

MHz

99 % Bandwidth of UNII-3 Band Portion = (5720+(21.00/2)-5725) = 5.50 MHz

#### Calculation for 26 dB Bandwidth of UNII-2C Straddle Channel:

For Example: Fundamental frequency: 5720 MHz

26 dB BW: 20.00 MHz

FL: 5710.16 MHz FH: 5730.16 MHz

Turning Frequency: 5725 MHz

26 dB Bandwidth of UNII-2C Band Portion = 5725-5710.16=14.84 MHz

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

For Example: Fundamental frequency: 5720 MHz

6 dB BW: 16.44 MHz

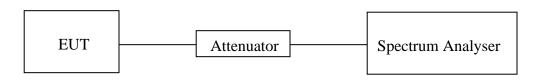
FL: 5711.76 MHz

FH: 5728.2 MHz

Turning Frequency: 5725 MHz

6 dB Bandwidth of UNII-3 band Portion = 5728.2-5725=3.2 MHz

#### TEST SETUP





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#### **TEST ENVIRONMENT**

Temperature	24.1 °C	Relative Humidity	67.5 %
Atmosphere Pressure	101 kPa	Test Voltage	DC 12 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

#### 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.

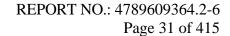
## Method SA-1 (trace averaging with the EUT transmitting at full power throughout each sweep):

- (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 ≥ 2 × span / RBW. (This ensures that bin-to-bin spacing is ≤ 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
- (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 %).

## Method PM-G (Measurement using a gated RF average power meter):

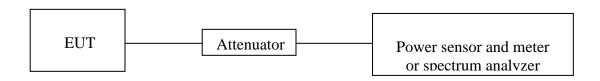




Measurements may be performed using a wideband gated RF power meter provided that the gate parameters are adjusted such that the power is measured only when the EUT is transmitting at its maximum power control level. Since the measurement is made only during the ON time of the transmitter, no duty cycle correction factor is required.

Straddle channel power was measured using spectrum analyzer.

#### **TEST SETUP**



#### **TEST ENVIRONMENT**

Temperature	24.1 °C	Relative Humidity	67.5 %
Atmosphere Pressure	101 kPa	Test Voltage	DC 12 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	<ul> <li>☐ Outdoor Access Point: 17 dBm/MHz</li> <li>☐ Indoor Access Point: 17 dBm/MHz</li> <li>☐ Fixed Point-To-Point Access Points: 17 dBm/MHz</li> <li>☐ Client Devices: 11 dBm/MHz</li> </ul>	5150 ~ 5250	
Density	11 dBm/MHz	5250 ~ 5350 5470 ~ 5725	
	30 dBm/500kHz	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.



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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	Max hold
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	Max hold
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	24.1 °C	Relative Humidity	67.5 %
Atmosphere Pressure	101 kPa	Test Voltage	DC 12 V

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#### **RESULTS**

Please refer to Appendix C.

## 8. RADIATED TEST RESULTS

#### **LIMITS**

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

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

Emissions radiated outside of the specified frequency bands above 30 MHz			
Frequency Range	Field Strength Limit	Field Stren	gth Limit
(MHz)	(uV/m) at 3 m	(dBuV/m)	at 3 m
		Quasi-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		74	54

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



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

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

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

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 (MHz)	FIDD Limit	Field Strength Limit	
	EIRP Limit	(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.

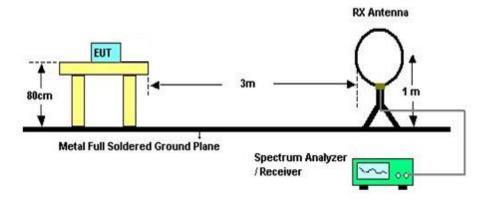
<sup>\*4</sup> from 5 MHz above or below the band edge increasing linearly to a level of 27 dBm/MHz at the band edge.



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

#### Below 30 MHz



#### The setting of the spectrum analyser

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

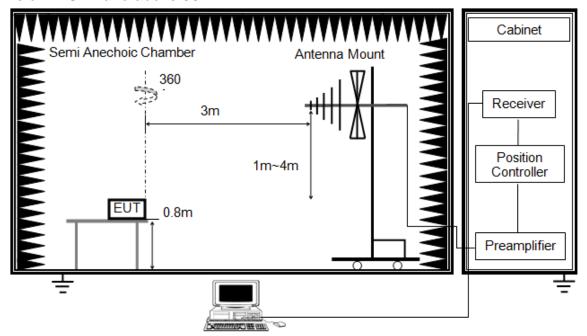
- 1. The testing follows the guidelines in ANSI C63.10-2013 clause 11.11.
- 2. The EUT was arranged to its worst case and then turntable (from 0 degree to 360 degrees) to find the maximum reading. A pre-amp and a high pass filter are used for the test in order to get better signal level. Both Horizontal, 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 quasipeak detector except for the frequency bands 9-90 kHz, 110-490 kHz and above 1000 MHz. Radiated emission limits in these three bands are based on measurements employing an average detector.
- 6. For measurement below 1 GHz, the initial step in collecting conducted emission data is a spectrum analyzer peak detector mode pre-scanning the measurement frequency range. Significant peaks are then marked and then Quasi Peak and average detector mode re-measured. If the emission level of the EUT measured by the peak detector is 3 dB lower than the applicable limit, the peak emission level will be reported. Otherwise, the emission measurement will be repeated using the quasi-peak and average detector and reported.



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7. Although these tests were performed other than open field site, adequate comparison measurements were confirmed against 30 m 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.

Below 1 GHz and above 30 MHz



The setting of the spectrum analyser

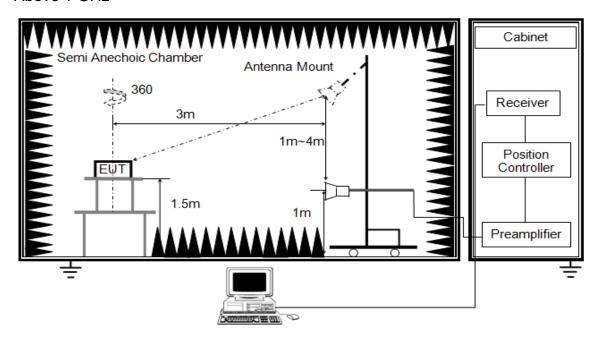
RBW	120 kHz
VBW	300 kHz
Sweep	Auto
Detector	Peak/QP
Trace	Max hold

- 1. The testing follows the guidelines in ANSI C63.10-2013 clause 11.11.
- 2. The EUT was arranged to its worst case and then tune the antenna tower (from 1 m to 4 m) and turntable (from 0 degree to 360 degrees) to find the maximum reading. A pre-amp and a high pass filter are used for the test in order to get better signal level. Both horizontal and vertical polarizations of the antenna are set to make the measurement.
- 3. The EUT was placed on a turntable with 80 cm above ground.
- 4. The EUT was set 3 meters from the interference receiving antenna, which was mounted on the top of a variable height antenna tower.
- 5. For measurement below 1 GHz, the initial step in collecting conducted emission data is a spectrum analyzer peak detector mode pre-scanning the measurement frequency range. Significant peaks are then marked and then Quasi Peak detector mode re-



measured. If the emission level of the EUT measured by the peak detector is 3 dB lower than the applicable limit, the peak emission level will be reported. Otherwise, the emission measurement will be repeated using the quasi-peak detector and reported.

#### Above 1 GHz



The setting of the spectrum analyser

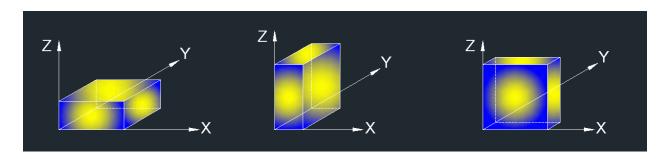
RBW	1 MHz				
VBW	PEAK: 3 MHz				
	AVG: see note 6				
Sweep	Auto				
Detector	Peak				
Trace	Max hold				

- 1. The testing follows the guidelines in 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 (1.5 m) and turntable (from 0 degree to 360 degrees) to find the maximum reading. A pre-amp and a high pass filter are used for the test in order to get better signal level. Both horizontal and vertical polarizations of the antenna are set to make the measurement.
- 3. The EUT was placed on a turntable with 1.5 m above ground.
- 4. The EUT was set 3 meters from the interference receiving antenna, which was mounted on the top of a variable height antenna tower.
- 5. For measurement above 1 GHz, the emission measurement will be measured by the peak detector. This peak level, once corrected, must comply with the limit specified in Section 15.209.



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

X axis, Y axis, Z axis positions:



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

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

Note 3: Simultaneous transmission had been evaluated with the 5 GHz WLAN / 2.4 GHz WLAN and BT / BLE transmitter and has no additional or worse emissions found. Only the worst data was recorded in the test report.

Note 4: Both STBC and CDD modes had been tested, only the worst data was recorded in the report.

#### TEST ENVIRONMENT

Temperature	22.9 °C	Relative Humidity	58 %
Atmosphere Pressure	101 kPa	Test Voltage	DC 12 V

#### **RESULTS**



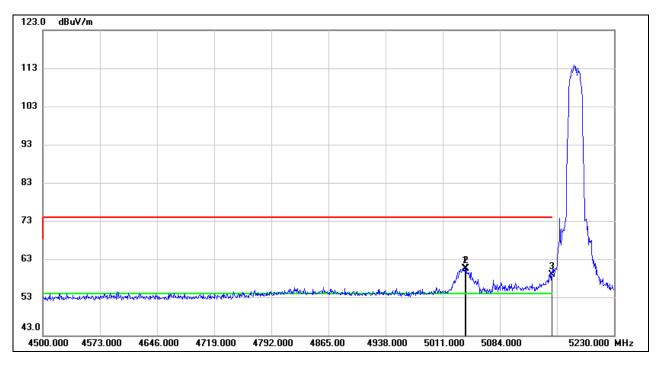
8.1. RESTRICTED BANDEDGE

#### 8.1.1. 802.11a SISO MODE

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

### RESTRICTED BANDEDGE (LOW CHANNEL, HORIZONTAL)

# **PEAK**

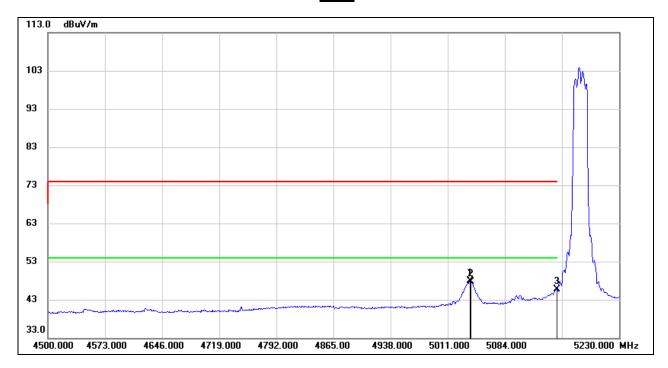


No.	Frequency	Reading	Correct	Result	Limit	Margin	Remark
	(MHz)	(dBuV)	(dB/m)	(dBuV/m)	(dBuV/m)	(dB)	
1	5039.470	39.38	21.07	60.45	74.00	-13.55	peak
2	5040.930	39.42	21.07	60.49	74.00	-13.51	peak
3	5150.000	37.61	21.39	59.00	74.00	-15.00	peak

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

- 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	5039.470	26.77	21.07	47.84	54.00	-6.16	AVG
2	5040.930	26.69	21.07	47.76	54.00	-6.24	AVG
3	5150.000	24.30	21.39	45.69	54.00	-8.31	AVG

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

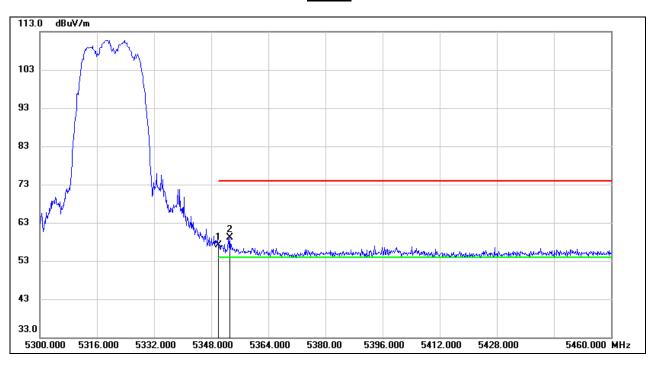
- 3. AVG: VBW=1/Ton, where: Ton is the transmitting duration.
- 4. For the transmitting duration, please refer to clause 7.1.
- 5. Only the worst data was recorded, if it complies with the limit, the other emissions deemed to comply with the limit.



**UNII-2A BAND** 

### RESTRICTED BANDEDGE (HIGH CHANNEL, HORIZONTAL)

### **PEAK**

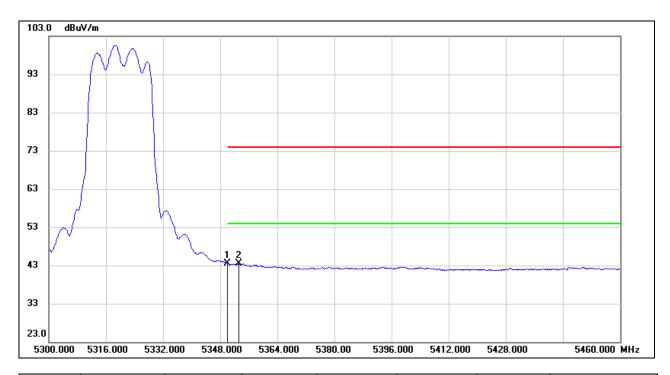


No.	Frequency	Reading	Correct	Result	Limit	Margin	Remark
	(MHz)	(dBuV)	(dB/m)	(dBuV/m)	(dBuV/m)	(dB)	
1	5350.000	35.69	21.49	57.18	74.00	-16.82	peak
2	5353.280	37.50	21.51	59.01	74.00	-14.99	peak

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

- 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	22.05	21.49	43.54	54.00	-10.46	AVG
2	5353.280	21.90	21.51	43.41	54.00	-10.59	AVG

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

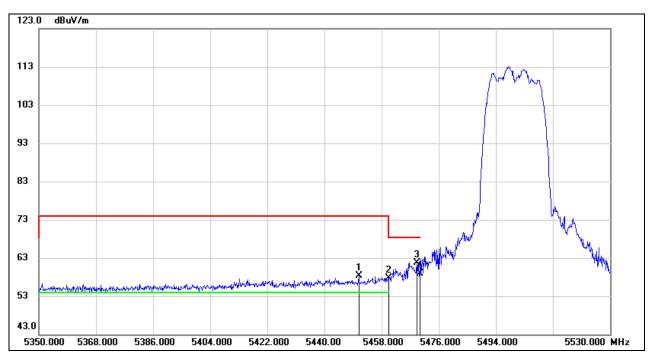
- 3. AVG: VBW=1/Ton, where: Ton is the transmitting duration.
- 4. For the transmitting duration, please refer to clause 7.1.
- 5. Only the worst data was recorded, if it complies with the limit, the other emissions deemed to comply with the limit.



**UNII-2C BAND** 

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

### **PEAK**

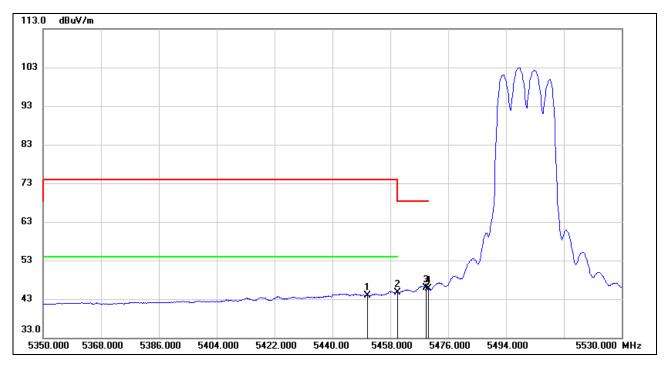


No.	Frequency	Reading	Correct	Result	Limit	Margin	Remark
	(MHz)	(dBuV)	(dB/m)	(dBuV/m)	(dBuV/m)	(dB)	
1	5450.800	36.16	22.10	58.26	74.00	-15.74	peak
2	5460.000	35.48	22.15	57.63	68.20	-10.57	peak
3	5469.160	39.47	22.20	61.67	68.20	-6.53	peak
4	5470.000	36.62	22.21	58.83	68.20	-9.37	peak

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

- 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	5450.800	21.85	22.10	43.95	54.00	-10.05	AVG
2	5460.000	22.53	22.15	44.68	54.00	-9.32	AVG
3	5469.160	23.75	22.21	45.96	68.20	-22.24	AVG
4	5470.000	23.44	22.21	45.65	68.20	-22.55	AVG

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

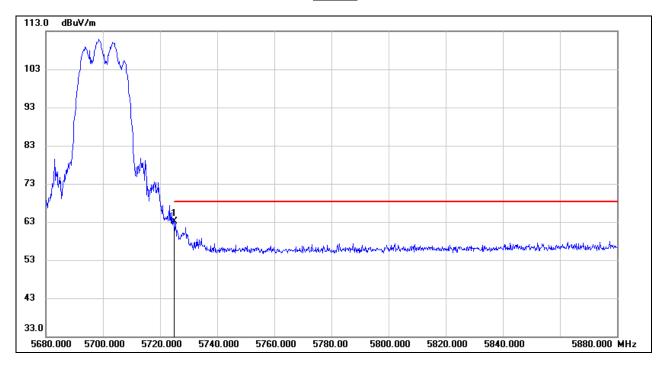
- 3. AVG: VBW=1/Ton, where: Ton is the transmitting duration.
- 4. For the transmitting duration, please refer to clause 7.1.
- 5. Only the worst data was recorded, if it complies with the limit, the other emissions deemed to comply with the limit.



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### RESTRICTED BANDEDGE (HIGH CHANNEL, HORIZONTAL)

### **PEAK**



No.	Frequency	Reading	Correct	Result	Limit	Margin	Remark
	(MHz)	(dBuV)	(dB/m)	(dBuV/m)	(dBuV/m)	(dB)	
1	5725.000	40.74	22.28	63.02	68.20	-5.18	peak

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

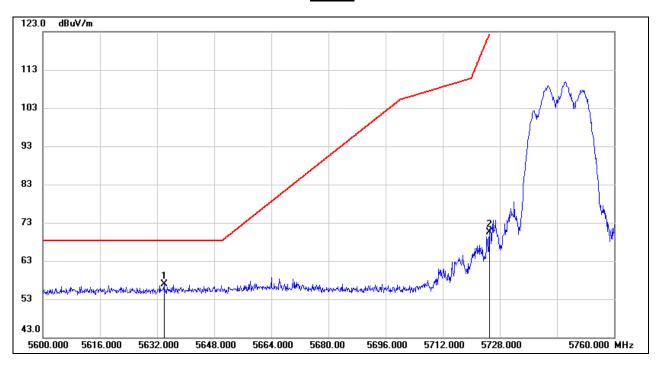
- 3. Peak: Peak detector.
- 4. Only the worst data was recorded, if it complies with the limit, the other emissions deemed to comply with the limit.



**UNII-3 BAND** 

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

## **PEAK**



No.	Frequency	Reading	Correct	Result	Limit	Margin	Remark
	(MHz)	(dBuV)	(dB/m)	(dBuV/m)	(dBuV/m)	(dB)	
1	5633.920	34.56	22.31	56.87	68.20	-11.33	peak
2	5725.000	48.31	22.28	70.59	122.20	-51.61	peak

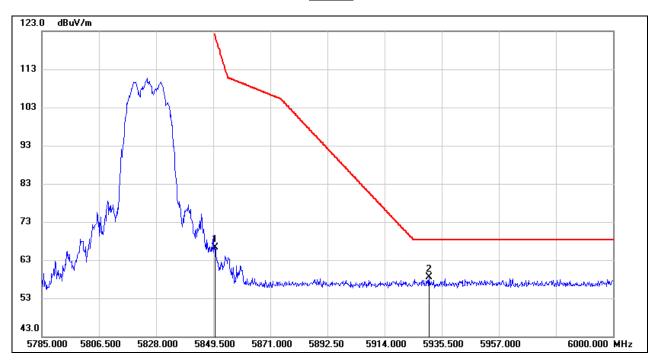
Note: 1. Measurement = Reading Level + Correct Factor.

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



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

### **PEAK**



No.	Frequency	Reading	Correct	Result	Limit	Margin	Remark
	(MHz)	(dBuV)	(dB/m)	(dBuV/m)	(dBuV/m)	(dB)	
1	5850.000	43.32	23.06	66.38	122.20	-55.82	peak
2	5930.770	35.13	23.38	58.51	68.20	-9.69	peak

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

- 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.

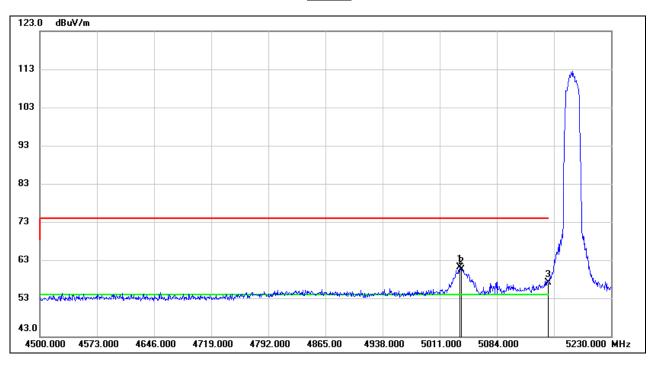


8.1.2. 802.11ac VHT20 MIMO MODE

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

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

#### **PEAK**



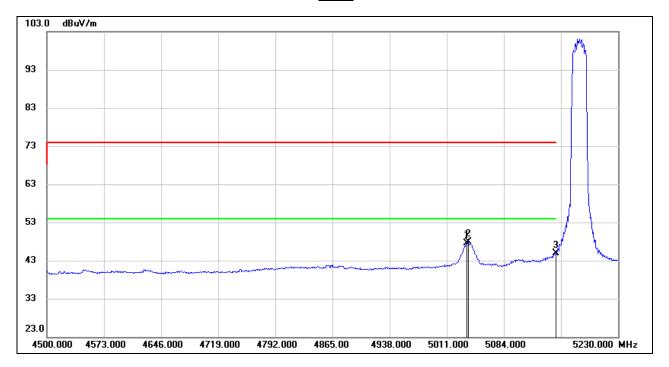
No.	Frequency	Reading	Correct	Result	Limit	Margin	Remark
	(MHz)	(dBuV)	(dB/m)	(dBuV/m)	(dBuV/m)	(dB)	
1	5036.550	40.12	21.06	61.18	74.00	-12.82	peak
2	5038.740	39.45	21.07	60.52	74.00	-13.48	peak
3	5150.000	35.62	21.39	57.01	74.00	-16.99	peak

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

- 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	5036.550	26.52	21.06	47.58	74.00	-26.42	peak
2	5038.740	26.88	21.07	47.95	74.00	-26.05	peak
3	5150.000	23.60	21.39	44.99	74.00	-29.01	peak

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

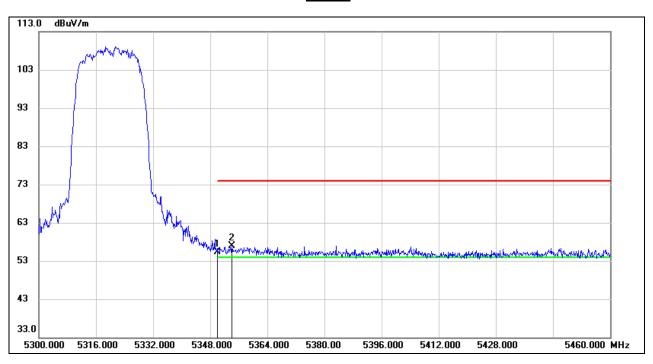
- 3. AVG: VBW=1/Ton, where: Ton is the transmitting duration.
- 4. For the transmitting duration, please refer to clause 7.1.
- 5. Only the worst data was recorded, if it complies with the limit, the other emissions deemed to comply with the limit.



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

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

### **PEAK**

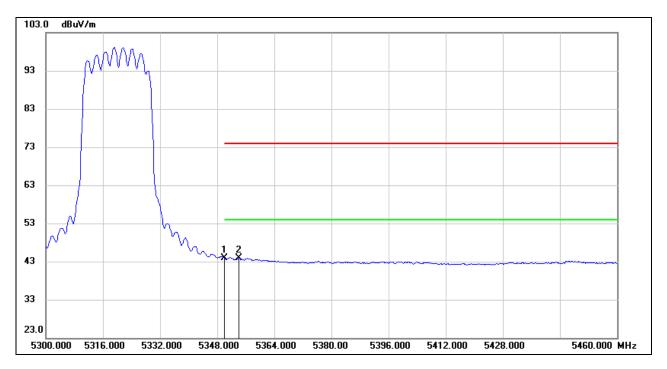


No.	Frequency	Reading	Correct	Result	Limit	Margin	Remark
	(MHz)	(dBuV)	(dB/m)	(dBuV/m)	(dBuV/m)	(dB)	
1	5350.000	33.76	21.49	55.25	74.00	-18.75	peak
2	5354.080	35.49	21.51	57.00	74.00	-17.00	peak

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

- 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	22.37	21.49	43.86	54.00	-10.14	AVG
2	5354.080	22.31	21.51	43.82	54.00	-10.18	AVG

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

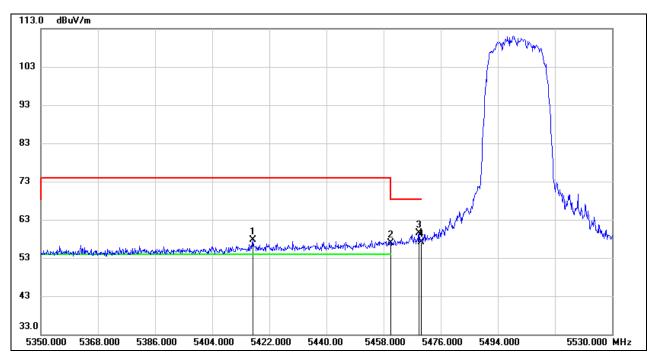
- 3. AVG: VBW=1/Ton, where: Ton is the transmitting duration.
- 4. For the transmitting duration, please refer to clause 7.1.
- 5. Only the worst data was recorded, if it complies with the limit, the other emissions deemed to comply with the limit.



**UNII-2C BAND** 

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

## **PEAK**

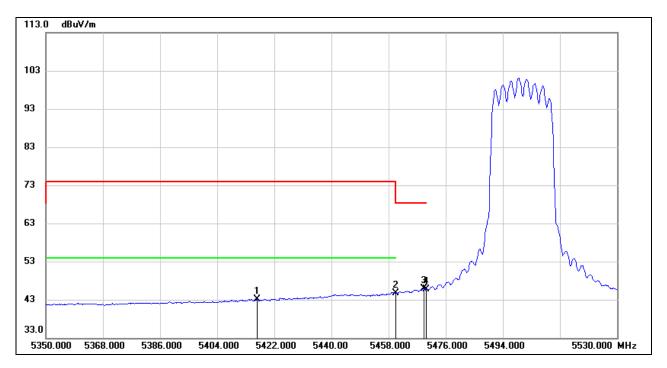


No.	Frequency	Reading	Correct	Result	Limit	Margin	Remark
	(MHz)	(dBuV)	(dB/m)	(dBuV/m)	(dBuV/m)	(dB)	
1	5416.780	35.73	21.88	57.61	74.00	-16.39	peak
2	5460.000	34.74	22.15	56.89	68.20	-11.31	peak
3	5469.160	37.31	22.21	59.52	68.20	-8.68	peak
4	5470.000	34.96	22.21	57.17	68.20	-11.03	peak

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

- 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	5416.780	21.15	21.88	43.03	54.00	-10.97	AVG
2	5460.000	22.61	22.15	44.76	54.00	-9.24	AVG
3	5469.160	23.72	22.21	45.93	68.20	-22.27	AVG
4	5470.000	23.41	22.21	45.62	68.20	-22.58	AVG

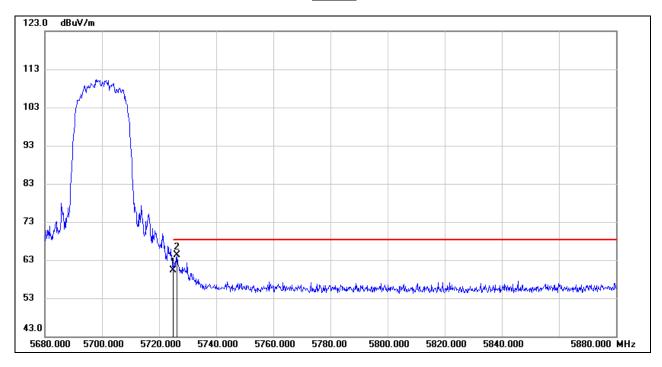
Note: 1. Measurement = Reading Level + Correct Factor.

- 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, HORIZONTAL)

### **PEAK**



No.	Frequency	Reading	Correct	Result	Limit	Margin	Remark
	(MHz)	(dBuV)	(dB/m)	(dBuV/m)	(dBuV/m)	(dB)	
1	5725.000	38.06	22.28	60.34	68.20	-7.86	peak
2	5726.200	42.10	22.28	64.38	68.20	-3.82	peak

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

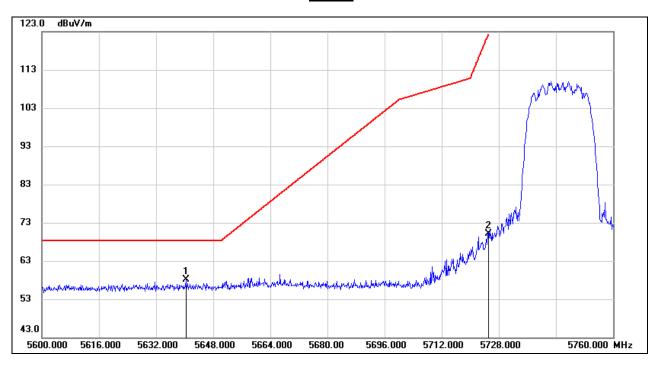
- 3. Peak: Peak detector.
- 4. Only the worst data was recorded, if it complies with the limit, the other emissions deemed to comply with the limit.



**UNII-3 BAND** 

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

## **PEAK**



No.	Frequency	Reading	Correct	Result	Limit	Margin	Remark
	(MHz)	(dBuV)	(dB/m)	(dBuV/m)	(dBuV/m)	(dB)	
1	5640.320	35.80	22.29	58.09	68.20	-10.11	peak
2	5725.000	47.83	22.28	70.11	122.20	-52.09	peak

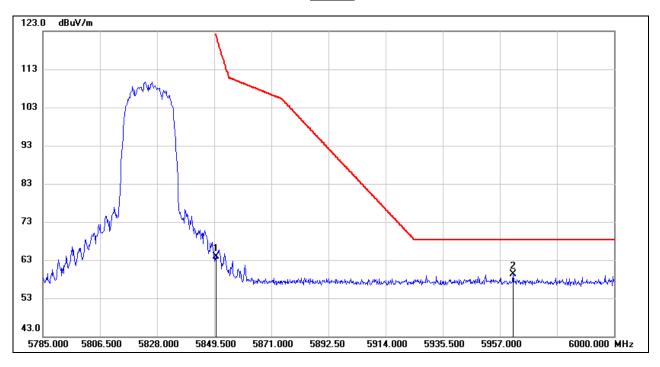
Note: 1. Measurement = Reading Level + Correct Factor.

- 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.



RESTRICTED BANDEDGE (HIGH CHANNEL, HORIZONTAL)

### **PEAK**



No.	Frequency	Reading	Correct	Result	Limit	Margin	Remark
	(MHz)	(dBuV)	(dB/m)	(dBuV/m)	(dBuV/m)	(dB)	
1	5850.000	40.80	23.06	63.86	122.20	-58.34	peak
2	5961.945	36.10	23.30	59.40	68.20	-8.80	peak

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

- 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.

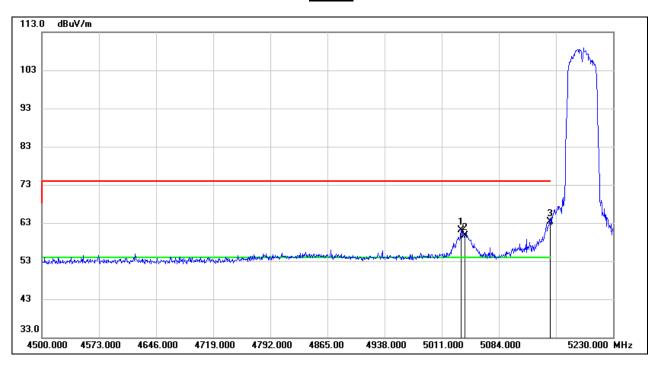


8.1.3. 802.11ac VHT40 MIMO MODE

## **UNII-1 BAND**

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

#### **PEAK**



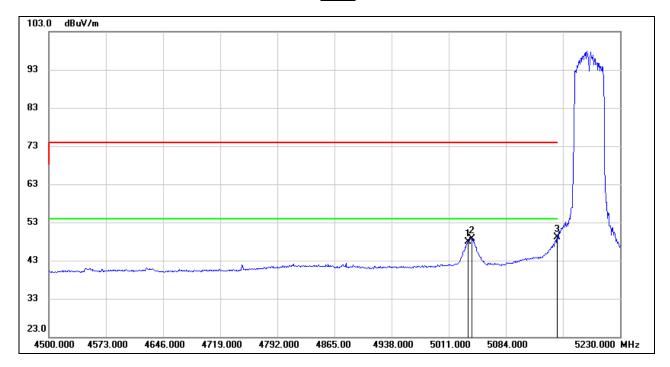
No.	Frequency	Reading	Correct	Result	Limit	Margin	Remark
	(MHz)	(dBuV)	(dB/m)	(dBuV/m)	(dBuV/m)	(dB)	
1	5035.820	40.13	21.06	61.19	74.00	-12.81	peak
2	5040.930	38.60	21.07	59.67	74.00	-14.33	peak
3	5150.000	41.88	21.39	63.27	74.00	-10.73	peak

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

- 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	5035.820	26.88	21.06	47.94	74.00	-26.06	peak
2	5040.930	27.62	21.07	48.69	74.00	-25.31	peak
3	5150.000	27.74	21.39	49.13	74.00	-24.87	peak

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

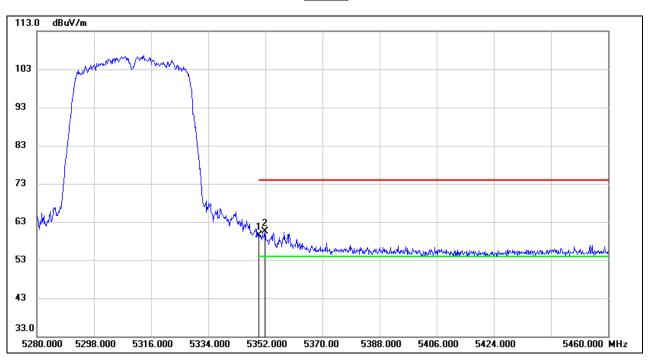
- 3. AVG: VBW=1/Ton, where: Ton is the transmitting duration.
- 4. For the transmitting duration, please refer to clause 7.1.
- 5. Only the worst data was recorded, if it complies with the limit, the other emissions deemed to comply with the limit.



**UNII-2A BAND** 

### RESTRICTED BANDEDGE (HIGH CHANNEL, HORIZONTAL)

## **PEAK**

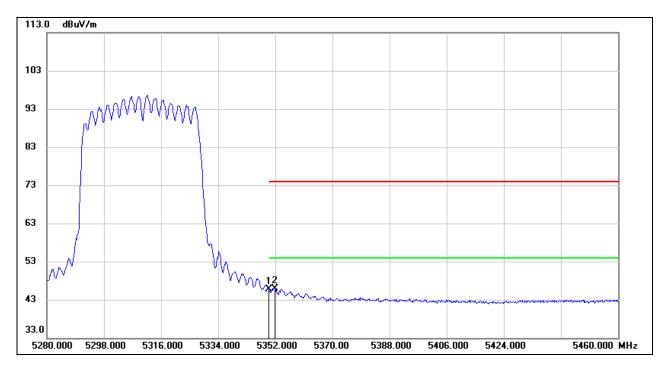


No.	Frequency	Reading	Correct	Result	Limit	Margin	Remark
	(MHz)	(dBuV)	(dB/m)	(dBuV/m)	(dBuV/m)	(dB)	
1	5350.000	37.99	21.49	59.48	74.00	-14.52	peak
2	5351.820	38.96	21.50	60.46	74.00	-13.54	peak

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

- 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	24.22	21.49	45.71	54.00	-8.29	AVG
2	5351.820	24.48	21.50	45.98	54.00	-8.02	AVG

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

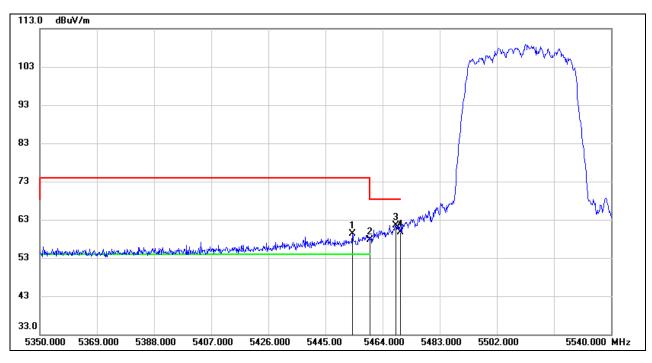
- 3. AVG: VBW=1/Ton, where: Ton is the transmitting duration.
- 4. For the transmitting duration, please refer to clause 7.1.
- 5. Only the worst data was recorded, if it complies with the limit, the other emissions deemed to comply with the limit.



**UNII-2C BAND** 

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

### **PEAK**

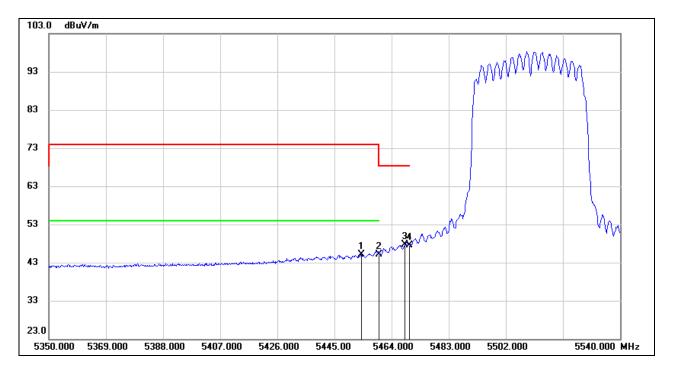


No.	Frequency	Reading	Correct	Result	Limit	Margin	Remark
	(MHz)	(dBuV)	(dB/m)	(dBuV/m)	(dBuV/m)	(dB)	
1	5453.930	37.23	22.11	59.34	74.00	-14.66	peak
2	5460.000	35.57	22.15	57.72	68.20	-10.48	peak
3	5468.370	39.37	22.20	61.57	68.20	-6.63	peak
4	5470.000	37.45	22.21	59.66	68.20	-8.54	peak

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

- 2. If Peak Result complies with AV limit, AV Result is deemed to comply with AV limit.
  - 3. Peak: Peak detector.
- 4. 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	5453.930	22.90	22.11	45.01	54.00	-8.99	AVG
2	5460.000	22.96	22.15	45.11	54.00	-8.89	AVG
3	5468.370	25.41	22.20	47.61	68.20	-20.59	AVG
4	5470.000	25.32	22.21	47.53	68.20	-20.67	AVG

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

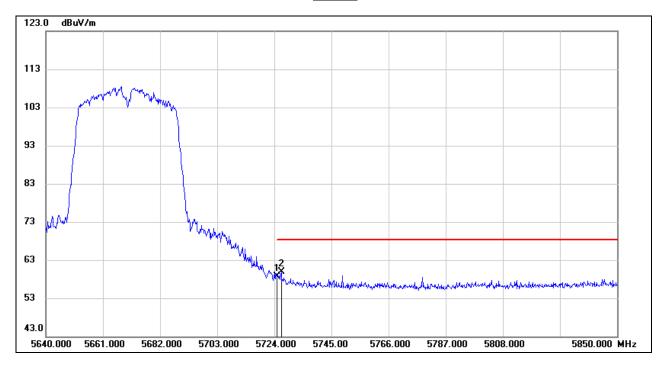
- 3. AVG: VBW=1/Ton, where: Ton is the transmitting duration.
- 4. For the transmitting duration, please refer to clause 7.1.
- 5. Only the worst data was recorded, if it complies with the limit, the other emissions deemed to comply with the limit.



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### RESTRICTED BANDEDGE (HIGH CHANNEL, HORIZONTAL)

### **PEAK**



No.	Frequency	Reading	Correct	Result	Limit	Margin	Remark
	(MHz)	(dBuV)	(dB/m)	(dBuV/m)	(dBuV/m)	(dB)	
1	5725.000	36.34	22.28	58.62	68.20	-9.58	peak
2	5726.520	37.57	22.28	59.85	68.20	-8.35	peak

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

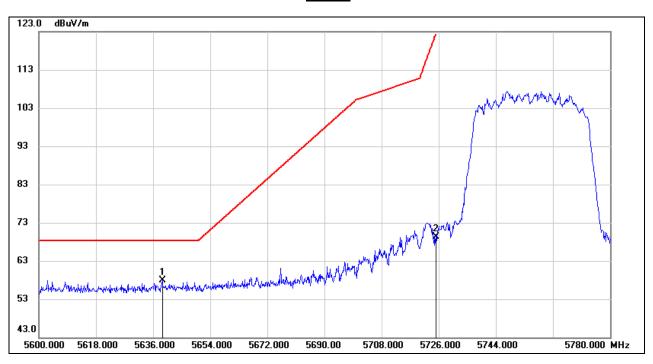
- 3. Peak: Peak detector.
- 4. Only the worst data was recorded, if it complies with the limit, the other emissions deemed to comply with the limit.



**UNII-3 BAND** 

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

### **PEAK**



No.	Frequency	Reading	Correct	Result	Limit	Margin	Remark
	(MHz)	(dBuV)	(dB/m)	(dBuV/m)	(dBuV/m)	(dB)	
1	5638.880	35.59	22.30	57.89	68.20	-10.31	peak
2	5725.000	47.06	22.28	69.34	122.20	-52.86	peak

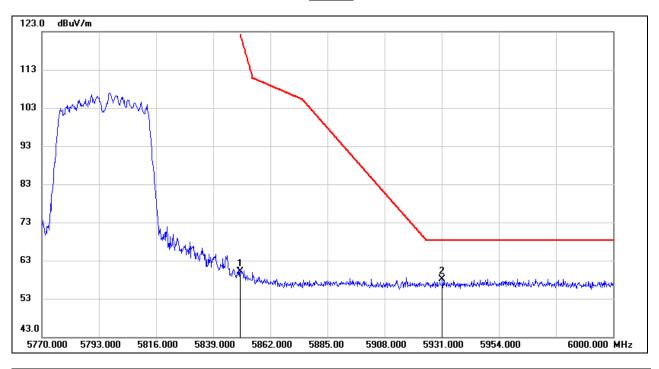
Note: 1. Measurement = Reading Level + Correct Factor.

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



## RESTRICTED BANDEDGE (HIGH CHANNEL, HORIZONTAL)

## **PEAK**



No.	Frequency	Reading	Correct	Result	Limit	Margin	Remark
	(MHz)	(dBuV)	(dB/m)	(dBuV/m)	(dBuV/m)	(dB)	
1	5850.000	37.04	23.06	60.10	122.20	-62.10	peak
2	5931.230	34.79	23.38	58.17	68.20	-10.03	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.

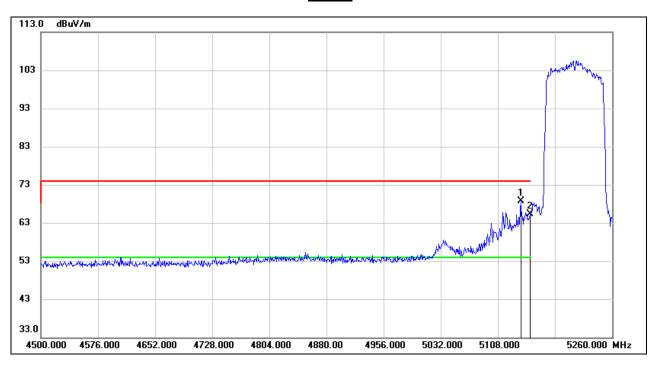


#### 8.1.4. 802.11ac VHT80 MIMO MODE

## **UNII-1 BAND**

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

#### **PEAK**



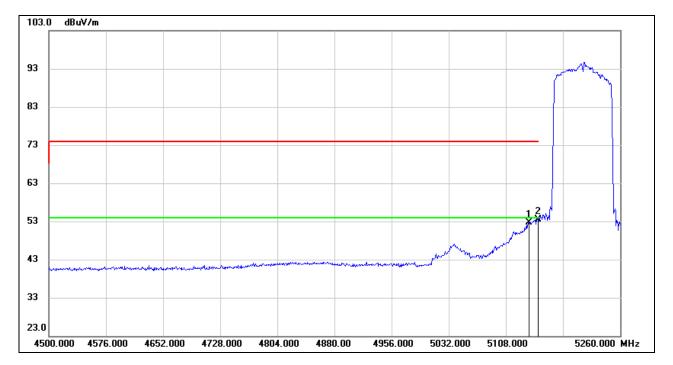
No.	Frequency	Reading	Correct	Result	Limit	Margin	Remark
	(MHz)	(dBuV)	(dB/m)	(dBuV/m)	(dBuV/m)	(dB)	
1	5138.400	47.34	21.30	68.64	74.00	-5.36	peak
2	5150.000	43.94	21.39	65.33	74.00	-8.67	peak

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

- 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	5138.400	31.37	21.30	52.67	54.00	-1.33	AVG
2	5150.000	32.19	21.39	53.58	54.00	-0.42	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.

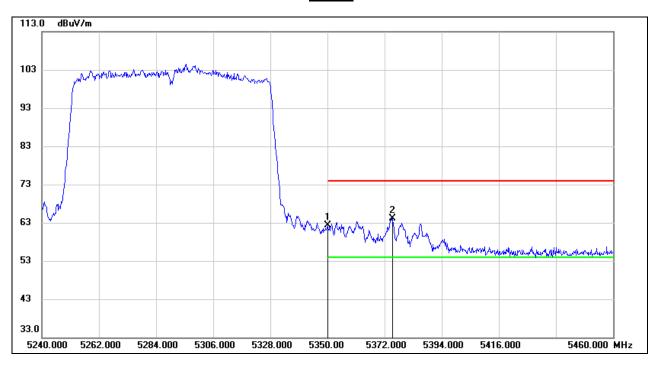
.



**UNII-2A BAND** 

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

### **PEAK**

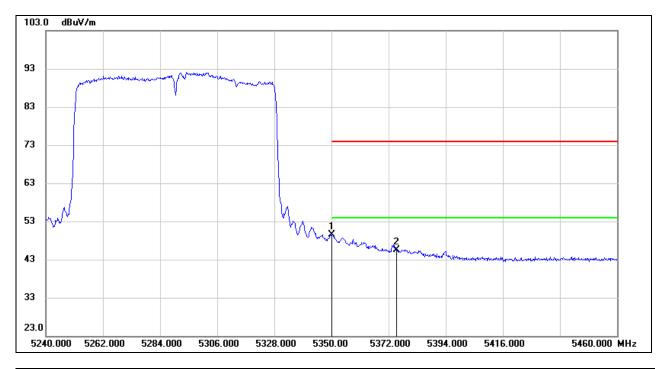


No.	Frequency	Reading	Correct	Result	Limit	Margin	Remark
	(MHz)	(dBuV)	(dB/m)	(dBuV/m)	(dBuV/m)	(dB)	
1	5350.000	40.86	21.49	62.35	74.00	-11.65	peak
2	5375.080	42.48	21.64	64.12	74.00	-9.88	peak

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

- 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	27.96	21.49	49.45	54.00	-4.55	AVG
2	5375.080	23.80	21.64	45.44	54.00	-8.56	AVG

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

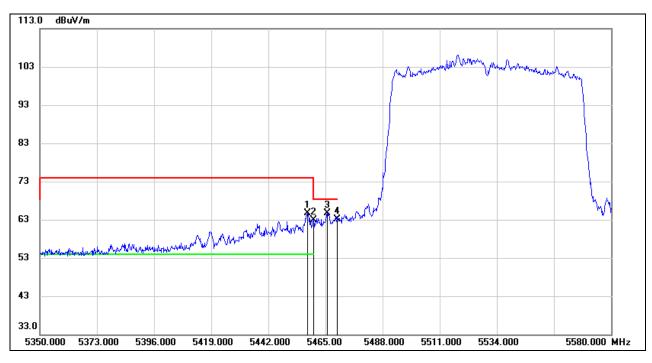
- 3. AVG: VBW=1/Ton, where: Ton is the transmitting duration.
- 4. For the transmitting duration, please refer to clause 7.1.
- 5. Only the worst data was recorded, if it complies with the limit, the other emissions deemed to comply with the limit.



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

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

### **PEAK**

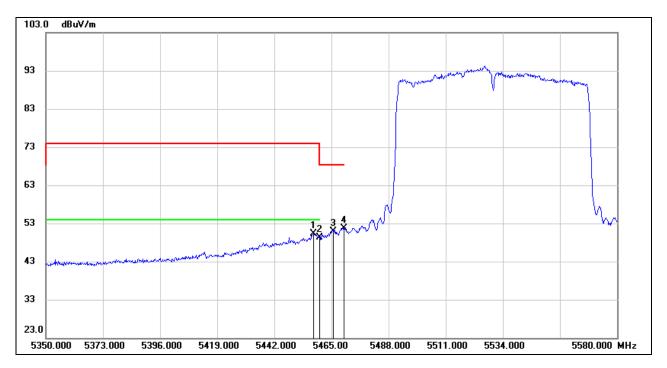


No.	Frequency	Reading	Correct	Result	Limit	Margin	Remark
	(MHz)	(dBuV)	(dB/m)	(dBuV/m)	(dBuV/m)	(dB)	
1	5457.870	42.57	22.14	64.71	74.00	-9.29	peak
2	5460.000	40.76	22.15	62.91	68.20	-5.29	peak
3	5465.690	42.46	22.19	64.65	68.20	-3.55	peak
4	5470.000	40.98	22.21	63.19	68.20	-5.01	peak

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

- 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	5457.870	28.26	22.14	50.40	54.00	-3.60	AVG
2	5460.000	27.11	22.15	49.26	54.00	-4.74	AVG
3	5465.690	28.74	22.19	50.93	68.20	-17.27	AVG
4	5470.000	29.41	22.21	51.62	68.20	-16.58	AVG

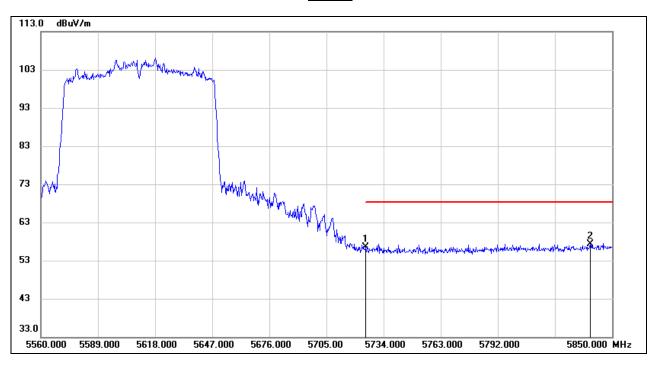
Note: 1. Measurement = Reading Level + Correct Factor.

- 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, HORIZONTAL)

### <u>PEAK</u>



No.	Frequency	Reading	Correct	Result	Limit	Margin	Remark
	(MHz)	(dBuV)	(dB/m)	(dBuV/m)	(dBuV/m)	(dB)	
1	5725.000	34.16	22.28	56.44	68.20	-11.76	peak
2	5838.980	34.40	22.98	57.38	68.20	-10.82	peak

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

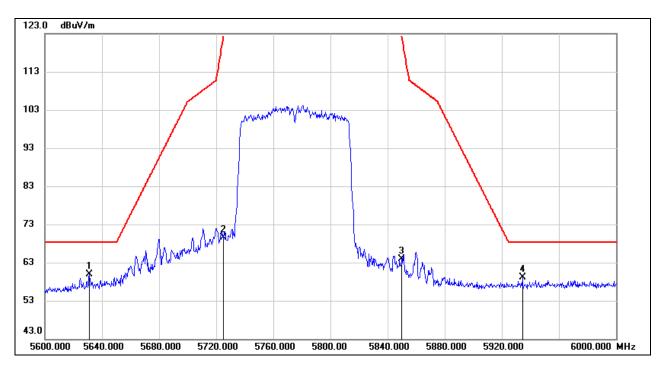
2. If Peak Result complies with AV limit, AV Result is deemed to comply with AV limit.

- 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.



**UNII-3 BAND** 

# RESTRICTED BANDEDGE (LOW CHANNEL, HORIZONTAL)



No.	Frequency	Reading	Correct	Result	Limit	Margin	Remark
	(MHz)	(dBuV)	(dB/m)	(dBuV/m)	(dBuV/m)	(dB)	
1	5631.200	37.60	22.32	59.92	68.20	-8.28	peak
2	5725.000	47.30	22.28	69.58	122.20	-52.62	peak
3	5850.000	40.75	23.06	63.81	122.20	-58.39	peak
4	5934.400	35.77	23.37	59.14	68.20	-9.06	peak

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

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

3. Peak: Peak detector.

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

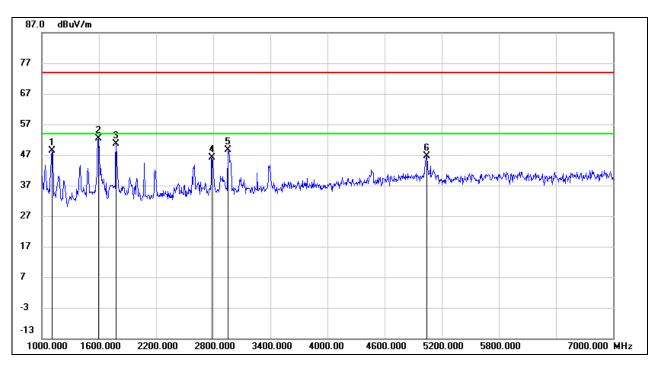


8.2. SPURIOUS EMISSIONS (1 GHz ~ 7 GHz)

### 8.2.1. 802.11a SISO MODE

### **UNII-1 BAND**

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

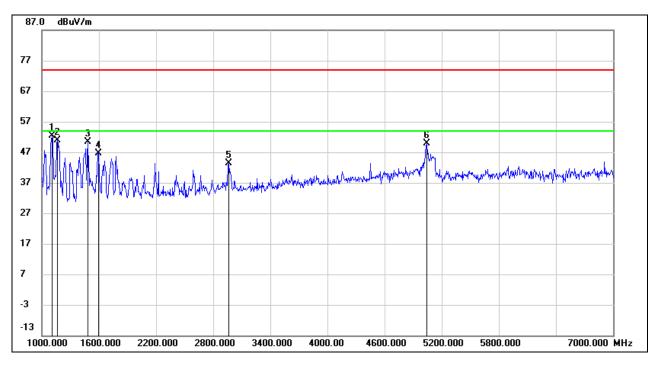


No.	Frequency	Reading	Correct	Result	Limit	Margin	Remark
	(MHz)	(dBuV)	(dB/m)	(dBuV/m)	(dBuV/m)	(dB)	
1	1108.000	61.79	-13.53	48.26	74.00	-25.74	peak
2	1594.000	64.01	-11.66	52.35	74.00	-21.65	peak
3	1780.000	60.97	-10.26	50.71	74.00	-23.29	peak
4	2788.000	53.25	-7.01	46.24	74.00	-27.76	peak
5	2956.000	54.79	-6.26	48.53	74.00	-25.47	peak
6	5044.000	45.52	1.09	46.61	74.00	-27.39	peak

- 2. If Peak Result complies with AV limit, AV Result is deemed to comply with AV limit.
- 3. Peak: Peak detector.
- 4. Filter losses were only considered in the spurious frequency bands and the authorized band was not corrected for Band reject filter losses.
  - 5. Proper operation of the transmitter prior to adding the filter to the measurement chain.
- 6. Owing to the highest peak level of unwanted emission out of the restricted bands complies with the lowest limit(54dBuV/m), so all the test point was deemed to comply with the limits list in the standard.



HARMONICS AND SPURIOUS EMISSIONS (LOW CHANNEL, VERTICAL)

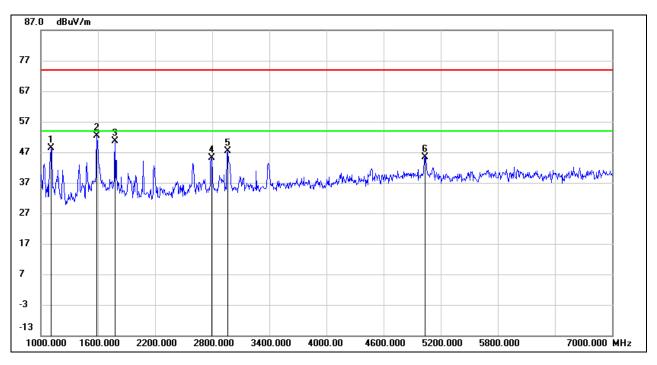


No.	Frequency	Reading	Correct	Result	Limit	Margin	Remark
	(MHz)	(dBuV)	(dB/m)	(dBuV/m)	(dBuV/m)	(dB)	
1	1108.000	65.93	-13.53	52.40	74.00	-21.60	peak
2	1162.000	64.18	-13.26	50.92	74.00	-23.08	peak
3	1480.000	62.81	-12.40	50.41	74.00	-23.59	peak
4	1594.000	58.28	-11.66	46.62	74.00	-27.38	peak
5	2962.000	49.55	-6.24	43.31	74.00	-30.69	peak
6	5044.000	48.89	1.09	49.98	74.00	-24.02	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. Owing to the highest peak level of unwanted emission out of the restricted bands complies with the lowest limit(54dBuV/m), so all the test point was deemed to comply with the limits list in the standard.



HARMONICS AND SPURIOUS EMISSIONS (MID CHANNEL, HORIZONTAL)

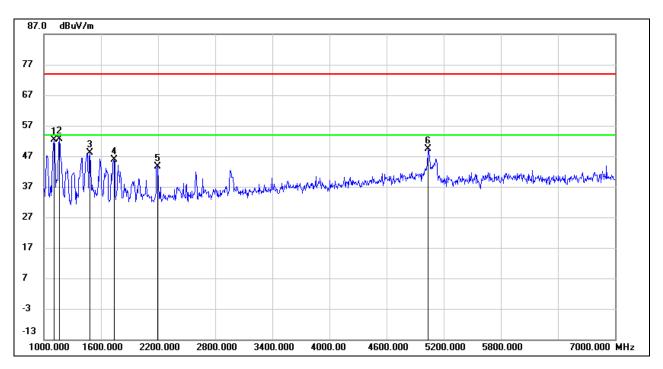


No.	Frequency	Reading	Correct	Result	Limit	Margin	Remark
	(MHz)	(dBuV)	(dB/m)	(dBuV/m)	(dBuV/m)	(dB)	
1	1108.000	61.79	-13.53	48.26	74.00	-25.74	peak
2	1588.000	64.01	-11.71	52.30	74.00	-21.70	peak
3	1780.000	60.79	-10.26	50.53	74.00	-23.47	peak
4	2794.000	51.99	-6.98	45.01	74.00	-28.99	peak
5	2962.000	53.68	-6.24	47.44	74.00	-26.56	peak
6	5038.000	44.26	1.06	45.32	74.00	-28.68	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. Owing to the highest peak level of unwanted emission out of the restricted bands complies with the lowest limit(54dBuV/m), so all the test point was deemed to comply with the limits list in the standard.



HARMONICS AND SPURIOUS EMISSIONS (MID CHANNEL, VERTICAL)

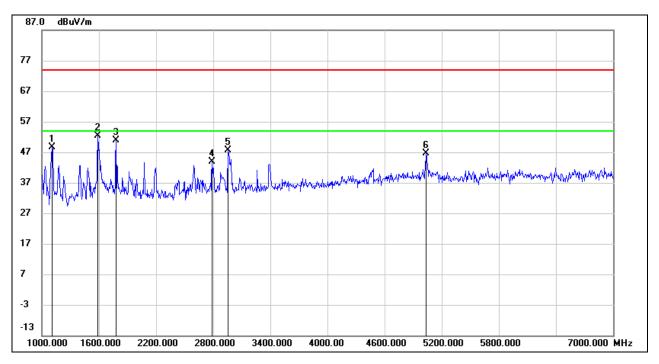


No.	Frequency	Reading	Correct	Result	Limit	Margin	Remark
	(MHz)	(dBuV)	(dB/m)	(dBuV/m)	(dBuV/m)	(dB)	
1	1108.000	65.80	-13.53	52.27	74.00	-21.73	peak
2	1162.000	65.82	-13.26	52.56	74.00	-21.44	peak
3	1480.000	60.47	-12.40	48.07	74.00	-25.93	peak
4	1738.000	56.39	-10.57	45.82	74.00	-28.18	peak
5	2194.000	52.80	-9.22	43.58	74.00	-30.42	peak
6	5038.000	48.37	1.06	49.43	74.00	-24.57	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. Owing to the highest peak level of unwanted emission out of the restricted bands complies with the lowest limit(54dBuV/m), so all the test point was deemed to comply with the limits list in the standard.



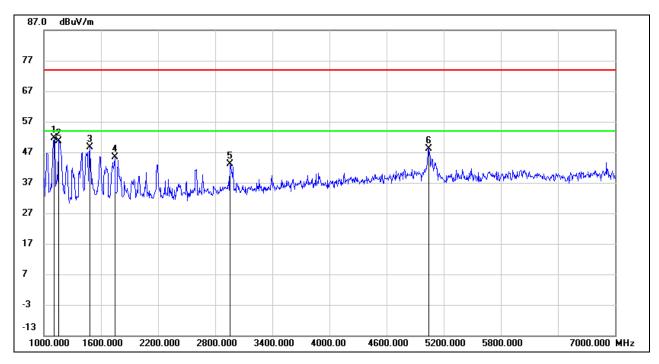
HARMONICS AND SPURIOUS EMISSIONS (HIGH CHANNEL, HORIZONTAL)



No.	Frequency	Reading	Correct	Result	Limit	Margin	Remark
	(MHz)	(dBuV)	(dB/m)	(dBuV/m)	(dBuV/m)	(dB)	
1	1108.000	62.16	-13.53	48.63	74.00	-25.37	peak
2	1588.000	64.00	-11.71	52.29	74.00	-21.71	peak
3	1780.000	61.10	-10.26	50.84	74.00	-23.16	peak
4	2788.000	50.92	-7.01	43.91	74.00	-30.09	peak
5	2956.000	53.79	-6.26	47.53	74.00	-26.47	peak
6	5038.000	45.64	1.06	46.70	74.00	-27.30	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. Owing to the highest peak level of unwanted emission out of the restricted bands complies with the lowest limit(54dBuV/m), so all the test point was deemed to comply with the limits list in the standard.

# HARMONICS AND SPURIOUS EMISSIONS (HIGH CHANNEL, VERTICAL)



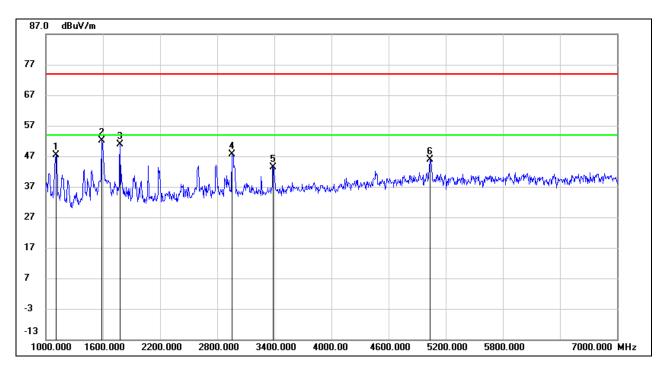
No.	Frequency	Reading	Correct	Result	Limit	Margin	Remark
	(MHz)	(dBuV)	(dB/m)	(dBuV/m)	(dBuV/m)	(dB)	
1	1108.000	65.06	-13.53	51.53	74.00	-22.47	peak
2	1156.000	64.04	-13.29	50.75	74.00	-23.25	peak
3	1480.000	61.05	-12.40	48.65	74.00	-25.35	peak
4	1744.000	55.83	-10.52	45.31	74.00	-28.69	peak
5	2956.000	49.32	-6.26	43.06	74.00	-30.94	peak
6	5044.000	46.98	1.09	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. Owing to the highest peak level of unwanted emission out of the restricted bands complies with the lowest limit(54dBuV/m), so all the test point was deemed to comply with the limits list in the standard.



**UNII-2A BAND** 

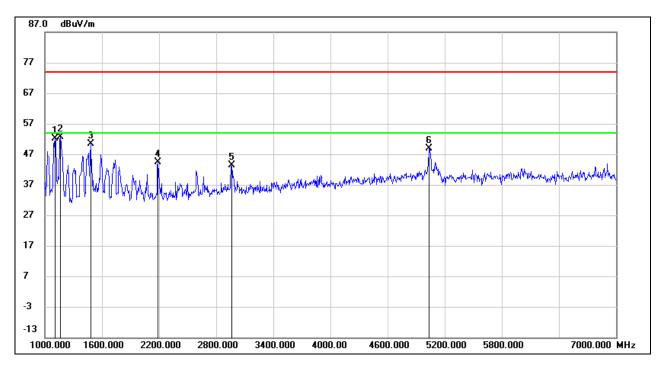
# HARMONICS AND SPURIOUS EMISSIONS (LOW CHANNEL, HORIZONTAL)



No.	Frequency	Reading	Correct	Result	Limit	Margin	Remark
	(MHz)	(dBuV)	(dB/m)	(dBuV/m)	(dBuV/m)	(dB)	
1	1108.000	61.02	-13.53	47.49	74.00	-26.51	peak
2	1588.000	63.72	-11.71	52.01	74.00	-21.99	peak
3	1780.000	61.11	-10.26	50.85	74.00	-23.15	peak
4	2956.000	53.78	-6.26	47.52	74.00	-26.48	peak
5	3388.000	48.88	-5.46	43.42	74.00	-30.58	peak
6	5038.000	44.76	1.06	45.82	74.00	-28.18	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. Owing to the highest peak level of unwanted emission out of the restricted bands complies with the lowest limit(54dBuV/m), so all the test point was deemed to comply with the limits list in the standard.

# HARMONICS AND SPURIOUS EMISSIONS (LOW CHANNEL, VERTICAL)

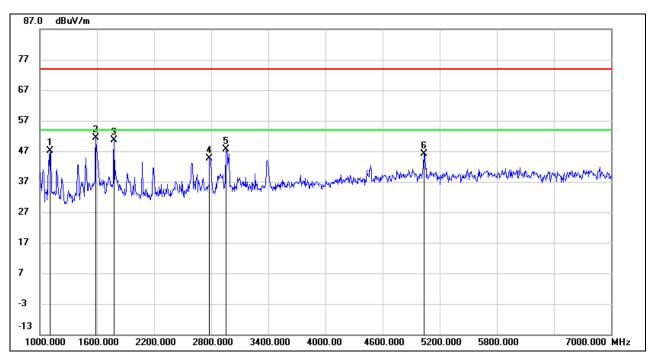


No.	Frequency	Reading	Correct	Result	Limit	Margin	Remark
	(MHz)	(dBuV)	(dB/m)	(dBuV/m)	(dBuV/m)	(dB)	
1	1108.000	65.63	-13.53	52.10	74.00	-21.90	peak
2	1162.000	65.85	-13.26	52.59	74.00	-21.41	peak
3	1480.000	62.72	-12.40	50.32	74.00	-23.68	peak
4	2188.000	53.67	-9.25	44.42	74.00	-29.58	peak
5	2962.000	49.55	-6.24	43.31	74.00	-30.69	peak
6	5038.000	47.74	1.06	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. Owing to the highest peak level of unwanted emission out of the restricted bands complies with the lowest limit(54dBuV/m), so all the test point was deemed to comply with the limits list in the standard.



HARMONICS AND SPURIOUS EMISSIONS (MID CHANNEL, HORIZONTAL)

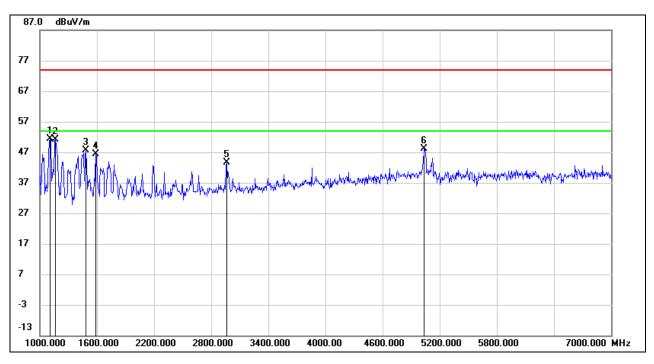


No.	Frequency	Reading	Correct	Result	Limit	Margin	Remark
	(MHz)	(dBuV)	(dB/m)	(dBuV/m)	(dBuV/m)	(dB)	
1	1108.000	60.63	-13.53	47.10	74.00	-26.90	peak
2	1588.000	63.03	-11.71	51.32	74.00	-22.68	peak
3	1780.000	60.80	-10.26	50.54	74.00	-23.46	peak
4	2782.000	51.81	-7.06	44.75	74.00	-29.25	peak
5	2956.000	53.82	-6.26	47.56	74.00	-26.44	peak
6	5032.000	45.14	1.02	46.16	74.00	-27.84	peak

- 2. If Peak Result complies with AV limit, AV Result is deemed to comply with AV limit.
- 3. Peak: Peak detector.
- 4. Filter losses were only considered in the spurious frequency bands and the authorized band was not corrected for Band reject filter losses.
  - 5. Proper operation of the transmitter prior to adding the filter to the measurement chain.
- 6. Owing to the highest peak level of unwanted emission out of the restricted bands complies with the lowest limit(54dBuV/m), so all the test point was deemed to comply with the limits list in the standard.



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

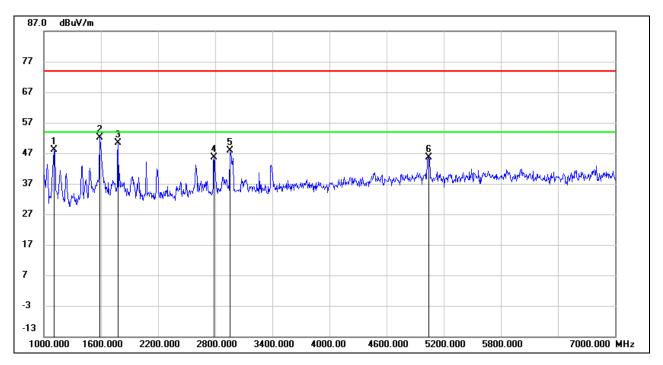


No.	Frequency	Reading	Correct	Result	Limit	Margin	Remark
	(MHz)	(dBuV)	(dB/m)	(dBuV/m)	(dBuV/m)	(dB)	
1	1108.000	65.02	-13.53	51.49	74.00	-22.51	peak
2	1162.000	64.51	-13.26	51.25	74.00	-22.75	peak
3	1480.000	60.01	-12.40	47.61	74.00	-26.39	peak
4	1588.000	58.08	-11.71	46.37	74.00	-27.63	peak
5	2962.000	49.86	-6.24	43.62	74.00	-30.38	peak
6	5038.000	47.09	1.06	48.15	74.00	-25.85	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. Owing to the highest peak level of unwanted emission out of the restricted bands complies with the lowest limit(54dBuV/m), so all the test point was deemed to comply with the limits list in the standard.

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

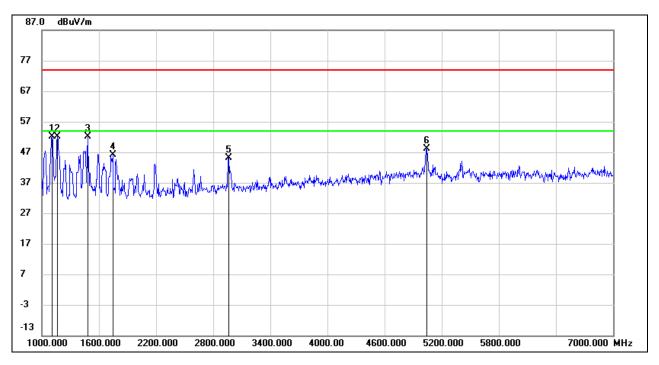


No.	Frequency	Reading	Correct	Result	Limit	Margin	Remark
	(MHz)	(dBuV)	(dB/m)	(dBuV/m)	(dBuV/m)	(dB)	
1	1108.000	61.66	-13.53	48.13	74.00	-25.87	peak
2	1588.000	63.86	-11.71	52.15	74.00	-21.85	peak
3	1780.000	60.57	-10.26	50.31	74.00	-23.69	peak
4	2788.000	52.65	-7.01	45.64	74.00	-28.36	peak
5	2956.000	54.13	-6.26	47.87	74.00	-26.13	peak
6	5044.000	44.66	1.09	45.75	74.00	-28.25	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. Owing to the highest peak level of unwanted emission out of the restricted bands complies with the lowest limit(54dBuV/m), so all the test point was deemed to comply with the limits list in the standard.



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	1108.000	65.64	-13.53	52.11	74.00	-21.89	peak
2	1162.000	65.30	-13.26	52.04	74.00	-21.96	peak
3	1480.000	64.56	-12.40	52.16	74.00	-21.84	peak
4	1744.000	56.59	-10.52	46.07	74.00	-27.93	peak
5	2962.000	51.45	-6.24	45.21	74.00	-28.79	peak
6	5044.000	46.96	1.09	48.05	74.00	-25.95	peak

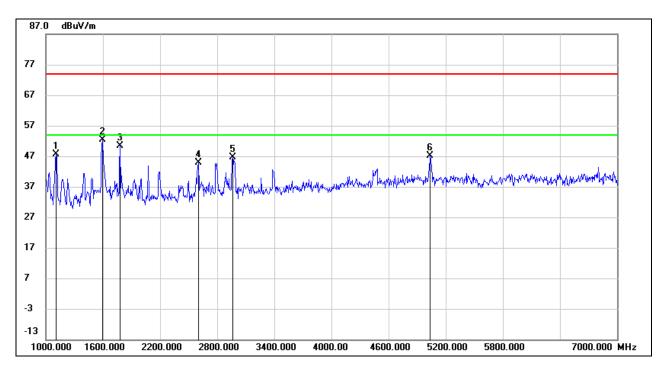
- 2. If Peak Result complies with AV limit, AV Result is deemed to comply with AV limit.
- 3. Peak: Peak detector.
- 4. Filter losses were only considered in the spurious frequency bands and the authorized band was not corrected for Band reject filter losses.
  - 5. Proper operation of the transmitter prior to adding the filter to the measurement chain.
- 6. Owing to the highest peak level of unwanted emission out of the restricted bands complies with the lowest limit(54dBuV/m), so all the test point was deemed to comply with the limits list in the standard.



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

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



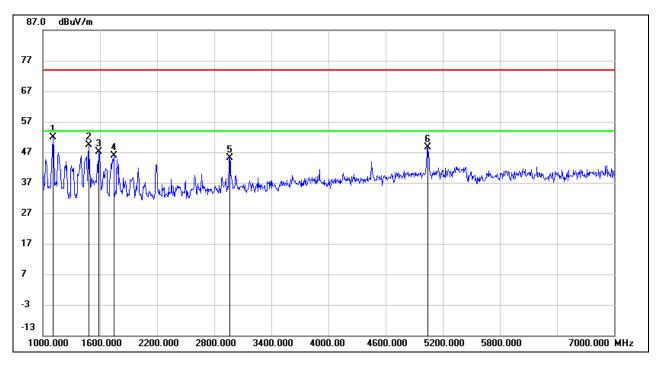
No.	Frequency	Reading	Correct	Result	Limit	Margin	Remark
	(MHz)	(dBuV)	(dB/m)	(dBuV/m)	(dBuV/m)	(dB)	
1	1108.000	61.15	-13.53	47.62	74.00	-26.38	peak
2	1594.000	64.06	-11.66	52.40	74.00	-21.60	peak
3	1780.000	60.76	-10.26	50.50	74.00	-23.50	peak
4	2602.000	53.01	-8.16	44.85	74.00	-29.15	peak
5	2962.000	52.98	-6.24	46.74	74.00	-27.26	peak
6	5038.000	46.17	1.06	47.23	74.00	-26.77	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. Owing to the highest peak level of unwanted emission out of the restricted bands complies with the lowest limit(54dBuV/m), so all the test point was deemed to comply with the limits list in the standard.



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

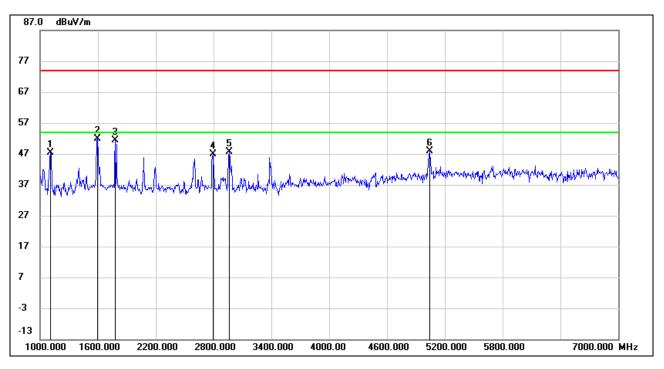


No.	Frequency	Reading	Correct	Result	Limit	Margin	Remark
	(MHz)	(dBuV)	(dB/m)	(dBuV/m)	(dBuV/m)	(dB)	
1	1108.000	65.36	-13.53	51.83	74.00	-22.17	peak
2	1480.000	61.68	-12.40	49.28	74.00	-24.72	peak
3	1588.000	58.82	-11.71	47.11	74.00	-26.89	peak
4	1744.000	56.37	-10.52	45.85	74.00	-28.15	peak
5	2962.000	51.38	-6.24	45.14	74.00	-28.86	peak
6	5044.000	47.61	1.09	48.70	74.00	-25.30	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. Owing to the highest peak level of unwanted emission out of the restricted bands complies with the lowest limit(54dBuV/m), so all the test point was deemed to comply with the limits list in the standard.



HARMONICS AND SPURIOUS EMISSIONS (MID CHANNEL, HORIZONTAL)

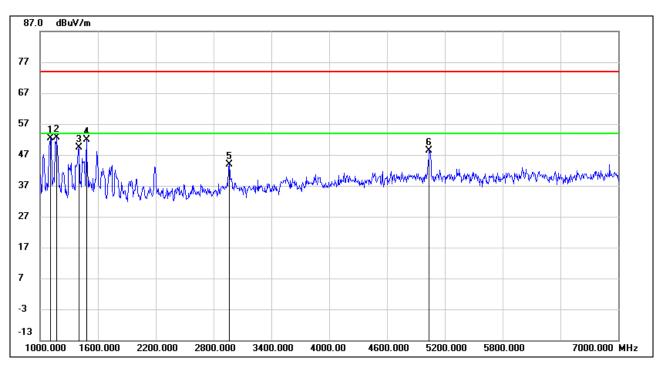


No.	Frequency	Reading	Correct	Result	Limit	Margin	Remark
	(MHz)	(dBuV)	(dB/m)	(dBuV/m)	(dBuV/m)	(dB)	
1	1108.000	60.90	-13.53	47.37	74.00	-26.63	peak
2	1594.000	63.43	-11.66	51.77	74.00	-22.23	peak
3	1780.000	61.69	-10.26	51.43	74.00	-22.57	peak
4	2794.000	53.86	-6.98	46.88	74.00	-27.12	peak
5	2962.000	53.80	-6.24	47.56	74.00	-26.44	peak
6	5044.000	46.74	1.09	47.83	74.00	-26.17	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. Owing to the highest peak level of unwanted emission out of the restricted bands complies with the lowest limit(54dBuV/m), so all the test point was deemed to comply with the limits list in the standard.



HARMONICS AND SPURIOUS EMISSIONS (MID CHANNEL, VERTICAL)

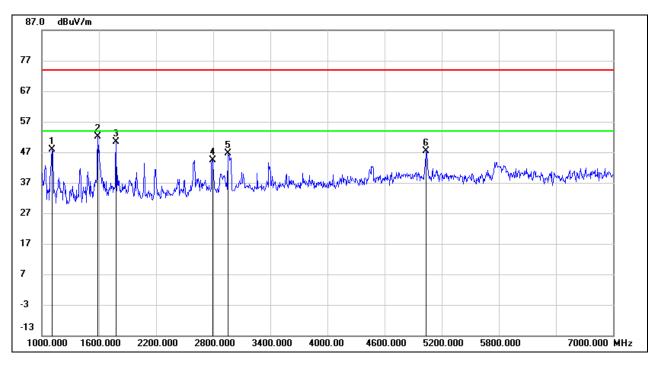


No.	Frequency	Reading	Correct	Result	Limit	Margin	Remark
	(MHz)	(dBuV)	(dB/m)	(dBuV/m)	(dBuV/m)	(dB)	
1	1108.000	65.83	-13.53	52.30	74.00	-21.70	peak
2	1174.000	65.83	-13.20	52.63	74.00	-21.37	peak
3	1402.000	62.06	-12.76	49.30	74.00	-24.70	peak
4	1480.000	64.17	-12.40	51.77	74.00	-22.23	peak
5	2962.000	50.09	-6.24	43.85	74.00	-30.15	peak
6	5038.000	47.37	1.06	48.43	74.00	-25.57	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. Owing to the highest peak level of unwanted emission out of the restricted bands complies with the lowest limit(54dBuV/m), so all the test point was deemed to comply with the limits list in the standard.



HARMONICS AND SPURIOUS EMISSIONS (HIGH CHANNEL, HORIZONTAL)

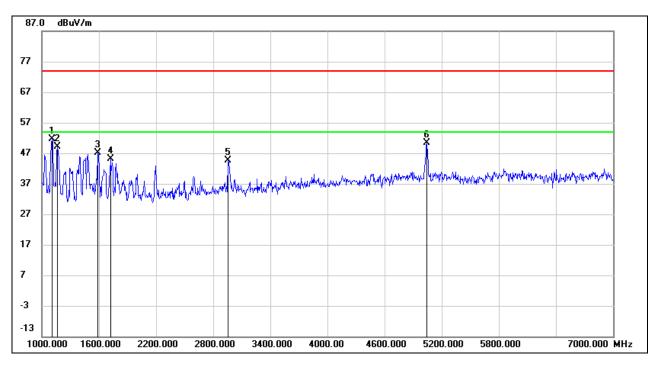


No.	Frequency	Reading	Correct	Result	Limit	Margin	Remark
	(MHz)	(dBuV)	(dB/m)	(dBuV/m)	(dBuV/m)	(dB)	
1	1108.000	61.29	-13.53	47.76	74.00	-26.24	peak
2	1588.000	63.93	-11.71	52.22	74.00	-21.78	peak
3	1780.000	60.64	-10.26	50.38	74.00	-23.62	peak
4	2794.000	51.42	-6.98	44.44	74.00	-29.56	peak
5	2956.000	52.81	-6.26	46.55	74.00	-27.45	peak
6	5038.000	46.44	1.06	47.50	74.00	-26.50	peak

- 2. If Peak Result complies with AV limit, AV Result is deemed to comply with AV limit.
- 3. Peak: Peak detector.
- 4. Filter losses were only considered in the spurious frequency bands and the authorized band was not corrected for Band reject filter losses.
  - 5. Proper operation of the transmitter prior to adding the filter to the measurement chain.
- 6. Owing to the highest peak level of unwanted emission out of the restricted bands complies with the lowest limit(54dBuV/m), so all the test point was deemed to comply with the limits list in the standard.



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	1108.000	65.05	-13.53	51.52	74.00	-22.48	peak
2	1162.000	62.30	-13.26	49.04	74.00	-24.96	peak
3	1588.000	58.72	-11.71	47.01	74.00	-26.99	peak
4	1720.000	55.87	-10.71	45.16	74.00	-28.84	peak
5	2956.000	50.79	-6.26	44.53	74.00	-29.47	peak
6	5044.000	49.37	1.09	50.46	74.00	-23.54	peak

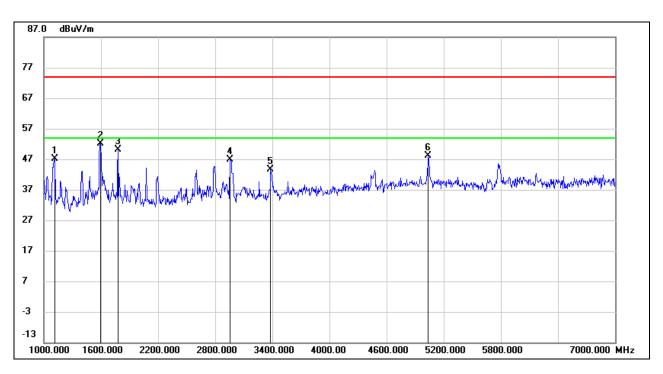
- 2. If Peak Result complies with AV limit, AV Result is deemed to comply with AV limit.
- 3. Peak: Peak detector.
- 4. Filter losses were only considered in the spurious frequency bands and the authorized band was not corrected for Band reject filter losses.
  - 5. Proper operation of the transmitter prior to adding the filter to the measurement chain.
- 6. Owing to the highest peak level of unwanted emission out of the restricted bands complies with the lowest limit(54dBuV/m), so all the test point was deemed to comply with the limits list in the standard.



### **STRADDLE CHANNEL 144**

### <u>ANTENNA 1 TEST RESULTS (WORST CASE)</u>

# HARMONICS AND SPURIOUS EMISSIONS (HORIZONTAL)



No.	Frequency	Reading	Correct	Result	Limit	Margin	Remark
	(MHz)	(dBuV)	(dB/m)	(dBuV/m)	(dBuV/m)	(dB)	
1	1114.000	60.55	-13.49	47.06	74.00	-26.94	peak
2	1594.000	63.87	-11.66	52.21	74.00	-21.79	peak
3	1780.000	60.45	-10.26	50.19	74.00	-23.81	peak
4	2956.000	53.18	-6.26	46.92	74.00	-27.08	peak
5	3382.000	49.01	-5.46	43.55	74.00	-30.45	peak
6	5038.000	46.99	1.06	48.05	74.00	-25.95	peak

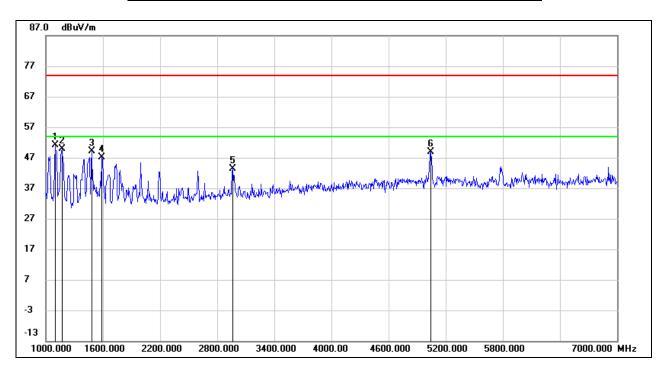
Note: 1. Measurement = Reading Level + Correct Factor.

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. Owing to the highest peak level of unwanted emission out of the restricted bands complies with the lowest limit(54dBuV/m), so all the test point was deemed to comply with the limits list in the standard.



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



No.	Frequency	Reading	Correct	Result	Limit	Margin	Remark
	(MHz)	(dBuV)	(dB/m)	(dBuV/m)	(dBuV/m)	(dB)	
1	1096.000	64.74	-13.59	51.15	74.00	-22.85	peak
2	1168.000	63.15	-13.23	49.92	74.00	-24.08	peak
3	1480.000	61.46	-12.40	49.06	74.00	-24.94	peak
4	1588.000	58.84	-11.71	47.13	74.00	-26.87	peak
5	2962.000	49.54	-6.24	43.30	74.00	-30.70	peak
6	5044.000	47.83	1.09	48.92	74.00	-25.08	peak

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

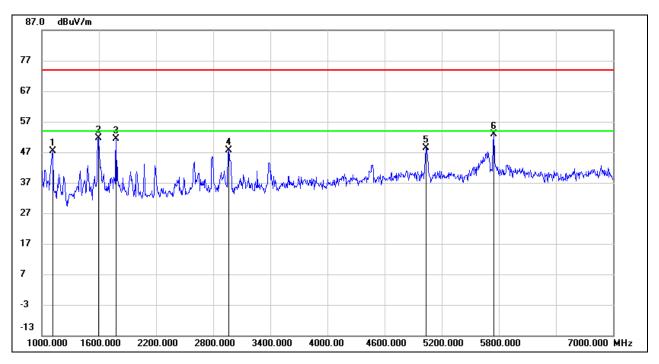
2. If Peak Result complies with AV limit, AV Result is deemed to comply with AV limit.

- 3. Peak: Peak detector.
- 4. 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. Owing to the highest peak level of unwanted emission out of the restricted bands complies with the lowest limit(54dBuV/m), so all the test point was deemed to comply with the limits list in the standard.



**UNII-3 BAND** 

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

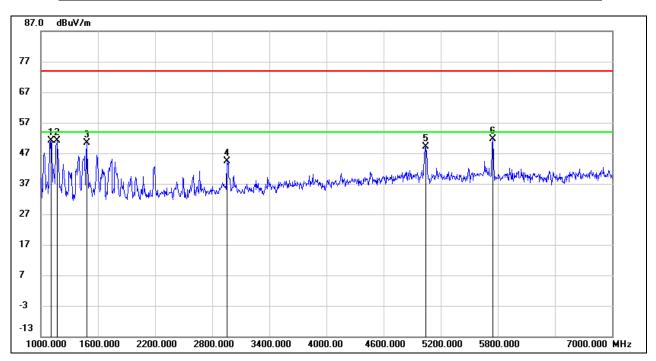


No.	Frequency	Reading	Correct	Result	Limit	Margin	Remark
	(MHz)	(dBuV)	(dB/m)	(dBuV/m)	(dBuV/m)	(dB)	
1	1114.000	60.75	-13.49	47.26	74.00	-26.74	peak
2	1594.000	63.38	-11.66	51.72	74.00	-22.28	peak
3	1780.000	61.55	-10.26	51.29	74.00	-22.71	peak
4	2962.000	53.87	-6.24	47.63	74.00	-26.37	peak
5	5038.000	47.30	1.06	48.36	74.00	-25.64	peak
6	5745.000	50.89	1.96	52.85	74.00	-21.15	peak

- 2. If Peak Result complies with AV limit, AV Result is deemed to comply with AV limit.
- 3. Peak: Peak detector.
- 4. Filter losses were only considered in the spurious frequency bands and the authorized band was not corrected for Band reject filter losses.
  - 5. Proper operation of the transmitter prior to adding the filter to the measurement chain.
- 6. Owing to the highest peak level of unwanted emission out of the restricted bands complies with the lowest limit(54dBuV/m), so all the test point was deemed to comply with the limits list in the standard.



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

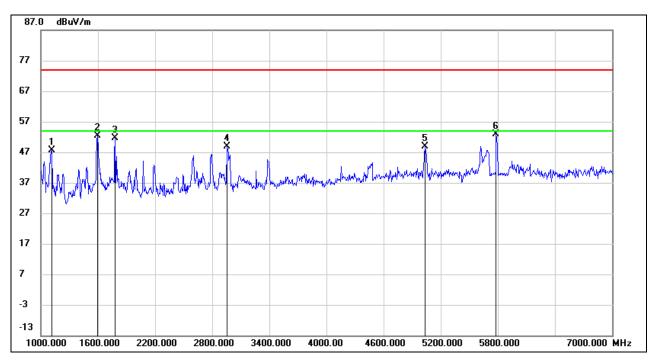


No.	Frequency	Reading	Correct	Result	Limit	Margin	Remark
	(MHz)	(dBuV)	(dB/m)	(dBuV/m)	(dBuV/m)	(dB)	
1	1108.000	64.58	-13.53	51.05	74.00	-22.95	peak
2	1174.000	64.33	-13.20	51.13	74.00	-22.87	peak
3	1480.000	62.68	-12.40	50.28	74.00	-23.72	peak
4	2956.000	50.65	-6.26	44.39	74.00	-29.61	peak
5	5044.000	48.07	1.09	49.16	74.00	-24.84	peak
6	5745.000	49.68	1.96	51.64	74.00	-22.36	peak

- 2. If Peak Result complies with AV limit, AV Result is deemed to comply with AV limit.
- 3. Peak: Peak detector.
- 4. Filter losses were only considered in the spurious frequency bands and the authorized band was not corrected for Band reject filter losses.
  - 5. Proper operation of the transmitter prior to adding the filter to the measurement chain.
- 6. Owing to the highest peak level of unwanted emission out of the restricted bands complies with the lowest limit(54dBuV/m), so all the test point was deemed to comply with the limits list in the standard.



HARMONICS AND SPURIOUS EMISSIONS (MID CHANNEL, HORIZONTAL)

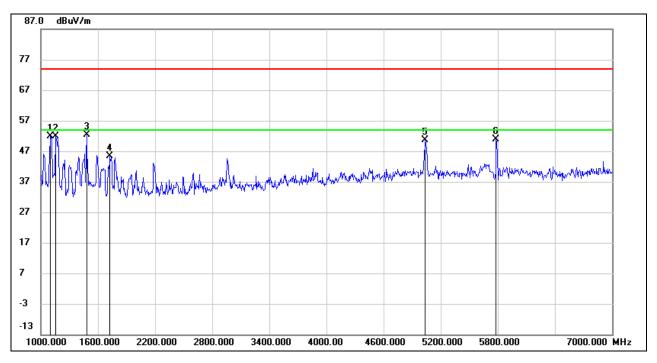


No.	Frequency	Reading	Correct	Result	Limit	Margin	Remark
	(MHz)	(dBuV)	(dB/m)	(dBuV/m)	(dBuV/m)	(dB)	
1	1114.000	61.04	-13.49	47.55	74.00	-26.45	peak
2	1594.000	63.96	-11.66	52.30	74.00	-21.70	peak
3	1780.000	61.88	-10.26	51.62	74.00	-22.38	peak
4	2956.000	55.21	-6.26	48.95	74.00	-25.05	peak
5	5032.000	47.88	1.02	48.90	74.00	-25.10	peak
6	5785.000	50.99	1.95	52.94	74.00	-21.06	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. Owing to the highest peak level of unwanted emission out of the restricted bands complies with the lowest limit(54dBuV/m), so all the test point was deemed to comply with the limits list in the standard.



HARMONICS AND SPURIOUS EMISSIONS (MID CHANNEL, VERTICAL)

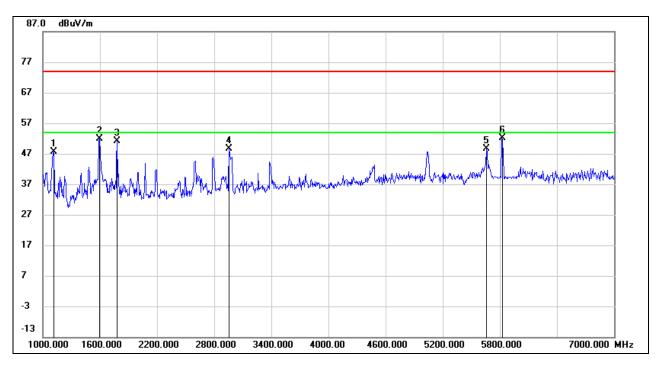


No.	Frequency	Reading	Correct	Result	Limit	Margin	Remark
	(MHz)	(dBuV)	(dB/m)	(dBuV/m)	(dBuV/m)	(dB)	
1	1102.000	65.42	-13.56	51.86	74.00	-22.14	peak
2	1156.000	65.06	-13.29	51.77	74.00	-22.23	peak
3	1480.000	64.82	-12.40	52.42	74.00	-21.58	peak
4	1726.000	56.08	-10.66	45.42	74.00	-28.58	peak
5	5038.000	49.64	1.06	50.70	74.00	-23.30	peak
6	5785.000	48.82	1.95	50.77	74.00	-23.23	peak

- 2. If Peak Result complies with AV limit, AV Result is deemed to comply with AV limit.
- 3. Peak: Peak detector.
- 4. Filter losses were only considered in the spurious frequency bands and the authorized band was not corrected for Band reject filter losses.
  - 5. Proper operation of the transmitter prior to adding the filter to the measurement chain.
- 6. Owing to the highest peak level of unwanted emission out of the restricted bands complies with the lowest limit(54dBuV/m), so all the test point was deemed to comply with the limits list in the standard.



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

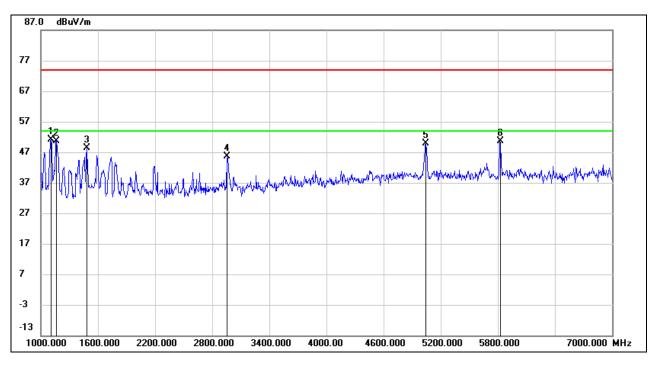


No.	Frequency	Reading	Correct	Result	Limit	Margin	Remark
	(MHz)	(dBuV)	(dB/m)	(dBuV/m)	(dBuV/m)	(dB)	
1	1114.000	61.03	-13.49	47.54	74.00	-26.46	peak
2	1594.000	63.47	-11.66	51.81	74.00	-22.19	peak
3	1780.000	61.49	-10.26	51.23	74.00	-22.77	peak
4	2956.000	54.84	-6.26	48.58	74.00	-25.42	peak
5	5656.000	46.59	2.00	48.59	74.00	-25.41	peak
6	5825.000	50.07	2.03	52.10	74.00	-21.90	peak

- 2. If Peak Result complies with AV limit, AV Result is deemed to comply with AV limit.
- 3. Peak: Peak detector.
- 4. Filter losses were only considered in the spurious frequency bands and the authorized band was not corrected for Band reject filter losses.
  - 5. Proper operation of the transmitter prior to adding the filter to the measurement chain.
- 6. Owing to the highest peak level of unwanted emission out of the restricted bands complies with the lowest limit(54dBuV/m), so all the test point was deemed to comply with the limits list in the standard.



HARMONICS AND SPURIOUS EMISSIONS (HIGH CHANNEL, VERTICAL)

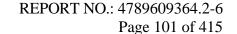


No.	Frequency	Reading	Correct	Result	Limit	Margin	Remark
	(MHz)	(dBuV)	(dB/m)	(dBuV/m)	(dBuV/m)	(dB)	
1	1108.000	64.68	-13.53	51.15	74.00	-22.85	peak
2	1162.000	63.94	-13.26	50.68	74.00	-23.32	peak
3	1480.000	60.86	-12.40	48.46	74.00	-25.54	peak
4	2956.000	51.85	-6.26	45.59	74.00	-28.41	peak
5	5044.000	48.68	1.09	49.77	74.00	-24.23	peak
6	5825.000	48.56	2.03	50.59	74.00	-23.41	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. Owing to the highest peak level of unwanted emission out of the restricted bands complies with the lowest limit(54dBuV/m), so all the test point was deemed to comply with the limits list in the standard.

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



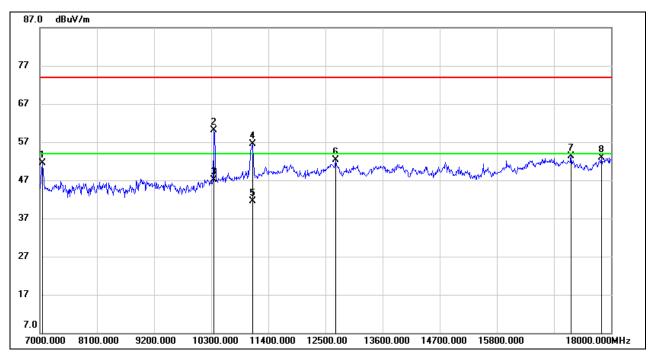


8.3. SPURIOUS EMISSIONS (7 GHz ~ 18 GHz)

#### 8.3.1. 802.11a SISO MODE

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

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

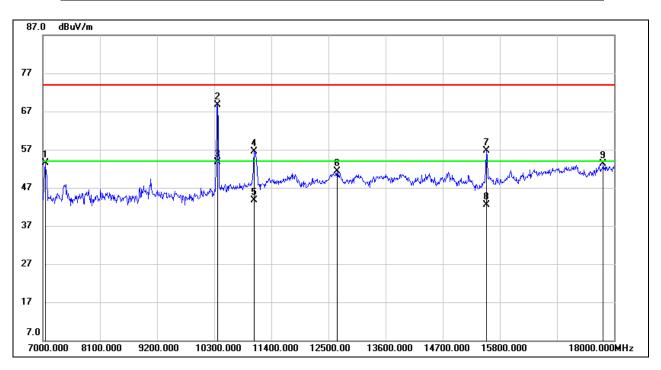


No.	Frequency	Reading	Correct	Result	Limit	Margin	Remark
	(MHz)	(dBuV)	(dB/m)	(dBuV/m)	(dBuV/m)	(dB)	
1	7044.000	45.04	6.47	51.51	74.00	-22.49	peak
2	10358.996	49.24	10.95	60.19	74.00	-13.81	peak
3	10358.996	36.24	10.95	47.19	54.00	-6.81	AVG
4	11092.000	43.71	12.81	56.52	74.00	-17.48	peak
5	11092.000	28.69	12.81	41.50	54.00	-12.50	AVG
6	12698.000	37.05	15.25	52.30	74.00	-21.70	peak
7	17230.000	31.66	21.61	53.27	74.00	-20.73	peak
8	17813.000	29.32	23.50	52.82	74.00	-21.18	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. Owing to the highest peak level of unwanted emission out of the restricted bands complies with the lowest limit(54dBuV/m), so all the test point was deemed to comply with the limits list in the standard.

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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	7044.000	47.12	6.47	53.59	74.00	-20.41	peak
2	10359.357	57.75	10.95	68.70	74.00	-5.30	peak
3	10359.357	42.70	10.95	53.65	54.00	-0.35	AVG
4	11070.000	43.73	12.78	56.51	74.00	-17.49	peak
5	11070.000	30.88	12.78	43.66	54.00	-10.34	AVG
6	12665.000	36.14	15.22	51.36	74.00	-22.64	peak
7	15540.257	40.30	16.50	56.80	74.00	-17.20	peak
8	15540.257	26.05	16.50	42.55	54.00	-11.45	AVG
9	17791.000	29.85	23.43	53.28	74.00	-20.72	peak

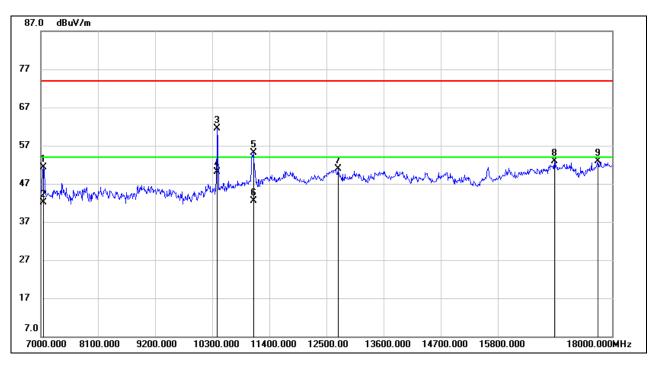
Note: 1. Measurement = Reading Level + Correct Factor.

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. Owing to the highest peak level of unwanted emission out of the restricted bands complies with the lowest limit(54dBuV/m), so all the test point was deemed to comply with the limits list in the standard.



HARMONICS AND SPURIOUS EMISSIONS (MID CHANNEL, HORIZONTAL)

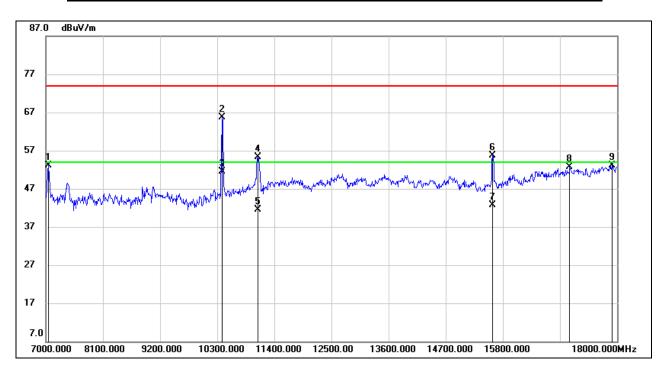


No.	Frequency	Reading	Correct	Result	Limit	Margin	Remark
	(MHz)	(dBuV)	(dB/m)	(dBuV/m)	(dBuV/m)	(dB)	
1	7044.000	44.79	6.47	51.26	74.00	-22.74	peak
2	7044.000	35.70	6.47	42.17	54.00	-11.83	AVG
3	10399.000	50.33	11.11	61.44	74.00	-12.56	peak
4	10399.000	39.02	11.11	50.13	54.00	-3.87	AVG
5	11092.000	42.37	12.81	55.18	74.00	-18.82	peak
6	11092.000	29.73	12.81	42.54	54.00	-11.46	AVG
7	12720.000	35.57	15.27	50.84	74.00	-23.16	peak
8	16889.000	32.67	20.27	52.94	74.00	-21.06	peak
9	17725.000	29.97	22.94	52.91	74.00	-21.09	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. Owing to the highest peak level of unwanted emission out of the restricted bands complies with the lowest limit(54dBuV/m), so all the test point was deemed to comply with the limits list in the standard.



HARMONICS AND SPURIOUS EMISSIONS (MID CHANNEL, VERTICAL)

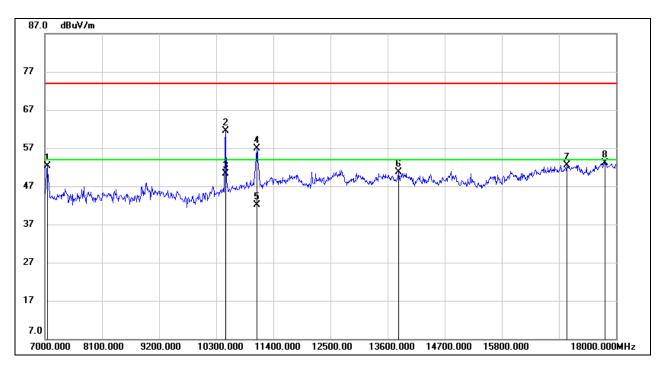


No.	Frequency	Reading	Correct	Result	Limit	Margin	Remark
	(MHz)	(dBuV)	(dB/m)	(dBuV/m)	(dBuV/m)	(dB)	
1	7044.000	46.61	6.47	53.08	74.00	-20.92	peak
2	10399.150	54.58	11.11	65.69	74.00	-8.31	peak
3	10399.150	40.31	11.11	51.42	54.00	-2.58	AVG
4	11081.000	42.55	12.79	55.34	74.00	-18.66	peak
5	11081.000	28.75	12.79	41.54	54.00	-12.46	AVG
6	15600.162	39.00	16.74	55.74	74.00	-18.26	peak
7	15600.162	26.05	16.74	42.79	54.00	-11.21	AVG
8	17087.000	31.68	21.00	52.68	74.00	-21.32	peak
9	17901.000	29.47	23.59	53.06	74.00	-20.94	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. Owing to the highest peak level of unwanted emission out of the restricted bands complies with the lowest limit(54dBuV/m), so all the test point was deemed to comply with the limits list in the standard.



**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	7044.000	45.82	6.47	52.29	74.00	-21.71	peak
2	10476.000	49.98	11.44	61.42	74.00	-12.58	peak
3	10478.517	38.77	11.45	50.22	54.00	-3.78	AVG
4	11081.000	44.16	12.79	56.95	74.00	-17.05	peak
5	11081.000	29.38	12.79	42.17	54.00	-11.83	AVG
6	13809.000	34.26	16.44	50.70	74.00	-23.30	peak
7	17054.000	31.79	20.79	52.58	74.00	-21.42	peak
8	17791.000	29.62	23.43	53.05	74.00	-20.95	peak

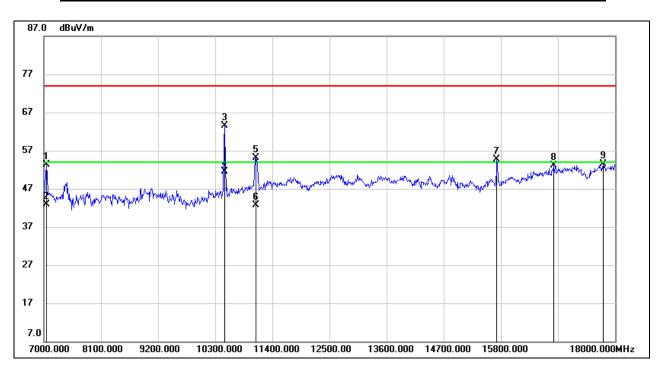
Note: 1. Measurement = Reading Level + Correct Factor.

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

- 3. Peak: Peak detector.
  - 4. 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. Owing to the highest peak level of unwanted emission out of the restricted bands complies with the lowest limit(54dBuV/m), so all the test point was deemed to comply with the limits list in the standard.



HARMONICS AND SPURIOUS EMISSIONS (HIGH CHANNEL, VERTICAL)



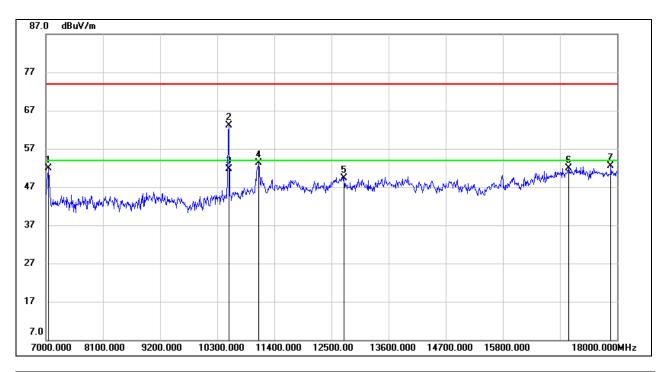
No.	Frequency	Reading	Correct	Result	Limit	Margin	Remark
	(MHz)	(dBuV)	(dB/m)	(dBuV/m)	(dBuV/m)	(dB)	
1	7055.000	46.76	6.51	53.27	74.00	-20.73	peak
2	7055.000	36.48	6.51	42.99	54.00	-11.01	AVG
3	10478.058	52.06	11.44	63.50	74.00	-10.50	peak
4	10478.058	40.11	11.44	51.55	54.00	-2.45	AVG
5	11081.000	42.22	12.79	55.01	74.00	-18.99	peak
6	11081.000	29.97	12.79	42.76	54.00	-11.24	AVG
7	15723.000	37.95	16.82	54.77	74.00	-19.23	peak
8	16812.000	33.03	20.14	53.17	74.00	-20.83	peak
9	17769.000	30.30	23.26	53.56	74.00	-20.44	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. Owing to the highest peak level of unwanted emission out of the restricted bands complies with the lowest limit(54dBuV/m), so all the test point was deemed to comply with the limits list in the standard.



**UNII-2A BAND** 

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

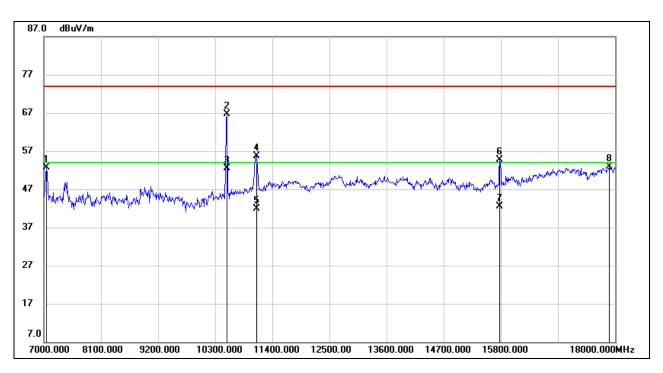


No.	Frequency	Reading	Correct	Result	Limit	Margin	Remark
	(MHz)	(dBuV)	(dB/m)	(dBuV/m)	(dBuV/m)	(dB)	
1	7055.000	45.30	6.51	51.81	74.00	-22.19	peak
2	10518.681	51.57	11.59	63.16	74.00	-10.84	peak
3	10518.681	40.09	11.59	51.68	54.00	-2.32	AVG
4	11103.000	40.43	12.84	53.27	74.00	-20.73	peak
5	12742.000	33.93	15.28	49.21	74.00	-24.79	peak
6	17065.000	30.96	20.87	51.83	74.00	-22.17	peak
7	17879.000	28.84	23.57	52.41	74.00	-21.59	peak

- 2. If Peak Result complies with AV limit, AV Result is deemed to comply with AV limit.
  - 3. Peak: Peak detector.
  - 4. 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. Owing to the highest peak level of unwanted emission out of the restricted bands complies with the lowest limit(54dBuV/m), so all the test point was deemed to comply with the limits list in the standard.



HARMONICS AND SPURIOUS EMISSIONS (LOW CHANNEL, VERTICAL)

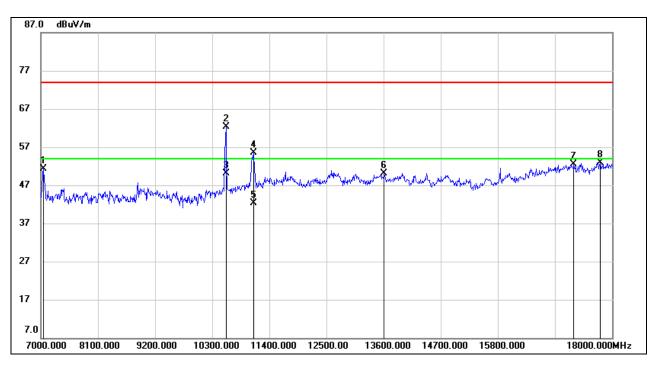


No.	Frequency	Reading	Correct	Result	Limit	Margin	Remark
	(MHz)	(dBuV)	(dB/m)	(dBuV/m)	(dBuV/m)	(dB)	
1	7055.000	46.28	6.51	52.79	74.00	-21.21	peak
2	10518.841	55.14	11.59	66.73	74.00	-7.27	peak
3	10518.841	40.83	11.59	52.42	54.00	-1.58	AVG
4	11103.000	42.80	12.84	55.64	74.00	-18.36	peak
5	11107.635	29.00	12.86	41.86	54.00	-12.14	AVG
6	15781.000	37.80	16.86	54.66	74.00	-19.34	peak
7	15781.237	25.72	16.86	42.58	54.00	-11.42	AVG
8	17890.000	29.37	23.59	52.96	74.00	-21.04	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. Owing to the highest peak level of unwanted emission out of the restricted bands complies with the lowest limit(54dBuV/m), so all the test point was deemed to comply with the limits list in the standard.



HARMONICS AND SPURIOUS EMISSIONS (MID CHANNEL, HORIZONTAL)

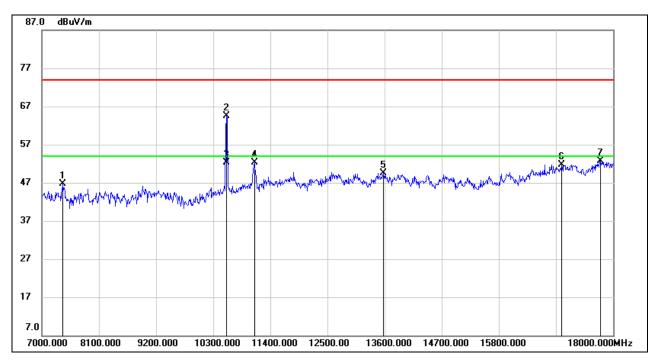


No.	Frequency	Reading	Correct	Result	Limit	Margin	Remark
	(MHz)	(dBuV)	(dB/m)	(dBuV/m)	(dBuV/m)	(dB)	
1	7044.000	44.80	6.47	51.27	74.00	-22.73	peak
2	10563.321	50.65	11.74	62.39	74.00	-11.61	peak
3	10563.321	38.32	11.74	50.06	54.00	-3.94	AVG
4	11092.000	42.60	12.81	55.41	74.00	-18.59	peak
5	11092.000	29.50	12.81	42.31	54.00	-11.69	AVG
6	13611.000	34.20	15.89	50.09	74.00	-23.91	peak
7	17263.000	30.99	21.53	52.52	74.00	-21.48	peak
8	17769.000	29.61	23.26	52.87	74.00	-21.13	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. Owing to the highest peak level of unwanted emission out of the restricted bands complies with the lowest limit(54dBuV/m), so all the test point was deemed to comply with the limits list in the standard.



HARMONICS AND SPURIOUS EMISSIONS (MID CHANNEL, VERTICAL)

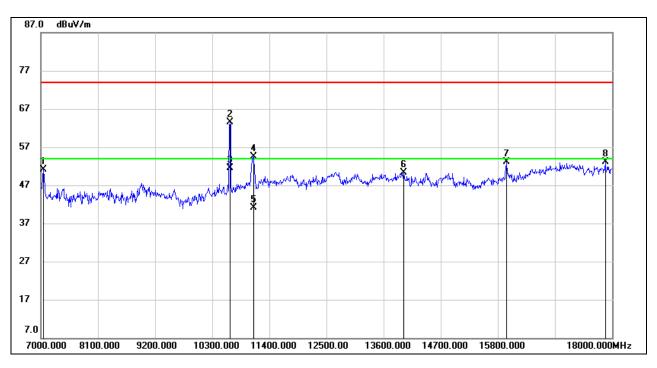


No.	Frequency	Reading	Correct	Result	Limit	Margin	Remark
	(MHz)	(dBuV)	(dB/m)	(dBuV/m)	(dBuV/m)	(dB)	
1	7407.000	39.21	7.40	46.61	74.00	-27.39	peak
2	10558.794	52.75	11.74	64.49	74.00	-9.51	peak
3	10558.794	40.58	11.74	52.32	54.00	-1.68	AVG
4	11092.000	39.48	12.81	52.29	74.00	-21.71	peak
5	13578.000	33.71	15.89	49.60	74.00	-24.40	peak
6	17010.000	31.15	20.54	51.69	74.00	-22.31	peak
7	17758.000	29.55	23.19	52.74	74.00	-21.26	peak

- 2. If Peak Result complies with AV limit, AV Result is deemed to comply with AV limit.
  - 3. Peak: Peak detector.
  - 4. AVG: VBW=1/Ton, where: Ton is the transmitting duration.
  - 5. For the transmitting duration, please refer to clause 7.1.
- 6. Filter losses were only considered in the spurious frequency bands and the authorized band was not corrected for High Pass Filter losses.
- 7. Proper operation of the transmitter prior to adding the filter to the measurement chain.
- 8. Owing to the highest peak level of unwanted emission out of the restricted bands complies with the lowest limit(54dBuV/m), so all the test point was deemed to comply with the limits list in the standard.



HARMONICS AND SPURIOUS EMISSIONS (HIGH CHANNEL, HORIZONTAL)

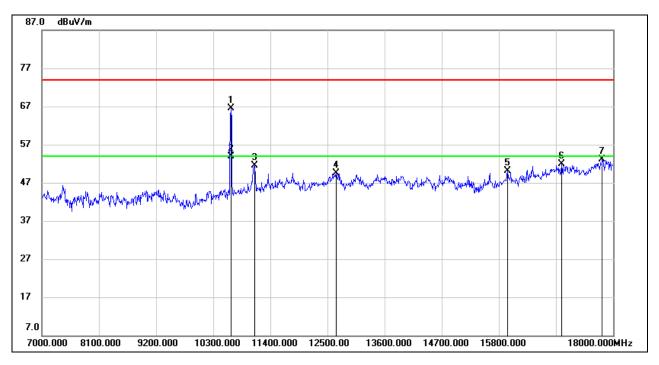


No.	Frequency	Reading	Correct	Result	Limit	Margin	Remark
	(MHz)	(dBuV)	(dB/m)	(dBuV/m)	(dBuV/m)	(dB)	
1	7044.000	44.66	6.47	51.13	74.00	-22.87	peak
2	10643.498	51.62	11.94	63.56	74.00	-10.44	peak
3	10643.498	39.47	11.94	51.41	54.00	-2.59	AVG
4	11092.000	41.68	12.81	54.49	74.00	-19.51	peak
5	11092.000	28.38	12.81	41.19	54.00	-12.81	AVG
6	13985.000	34.15	16.13	50.28	74.00	-23.72	peak
7	15965.000	35.61	17.58	53.19	74.00	-20.81	peak
8	17868.000	29.54	23.56	53.10	74.00	-20.90	peak

- 2. If Peak Result complies with AV limit, AV Result is deemed to comply with AV limit.
  - 3. Peak: Peak detector.
  - 4. 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. Owing to the highest peak level of unwanted emission out of the restricted bands complies with the lowest limit(54dBuV/m), so all the test point was deemed to comply with the limits list in the standard.



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



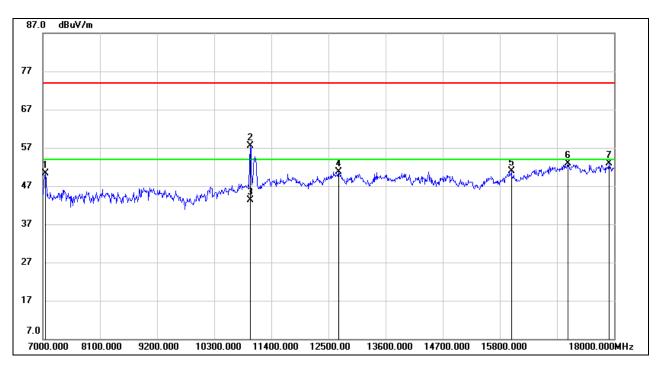
No.	Frequency	Reading	Correct	Result	Limit	Margin	Remark
	(MHz)	(dBuV)	(dB/m)	(dBuV/m)	(dBuV/m)	(dB)	
1	10643.018	54.51	11.94	66.45	74.00	-7.55	peak
2	10643.018	41.91	11.94	53.85	54.00	-0.15	AVG
3	11103.000	38.70	12.84	51.54	74.00	-22.46	peak
4	12665.000	34.33	15.22	49.55	74.00	-24.45	peak
5	15965.000	32.46	17.58	50.04	74.00	-23.96	peak
6	17010.000	31.33	20.54	51.87	74.00	-22.13	peak
7	17791.000	29.67	23.43	53.10	74.00	-20.90	peak

- 2. If Peak Result complies with AV limit, AV Result is deemed to comply with AV limit.
  - 3. Peak: Peak detector.
  - 4. 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. Owing to the highest peak level of unwanted emission out of the restricted bands complies with the lowest limit(54dBuV/m), so all the test point was deemed to comply with the limits list in the standard.



**UNII-2C BAND** 

# HARMONICS AND SPURIOUS EMISSIONS (LOW CHANNEL, HORIZONTAL)



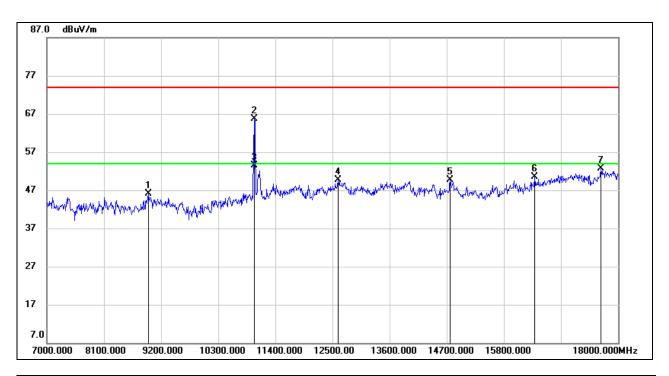
No.	Frequency	Reading	Correct	Result	Limit	Margin	Remark
	(MHz)	(dBuV)	(dB/m)	(dBuV/m)	(dBuV/m)	(dB)	
1	7044.000	43.91	6.47	50.38	74.00	-23.62	peak
2	10999.334	44.96	12.63	57.59	74.00	-16.41	peak
3	10999.334	30.65	12.63	43.28	54.00	-10.72	AVG
4	12698.000	35.41	15.25	50.66	74.00	-23.34	peak
5	16020.000	33.06	17.77	50.83	74.00	-23.17	peak
6	17109.000	31.72	21.13	52.85	74.00	-21.15	peak
7	17901.000	29.33	23.59	52.92	74.00	-21.08	peak

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

- 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. Owing to the highest peak level of unwanted emission out of the restricted bands complies with the lowest limit(54dBuV/m), so all the test point was deemed to comply with the limits list in the standard.



HARMONICS AND SPURIOUS EMISSIONS (LOW CHANNEL, VERTICAL)



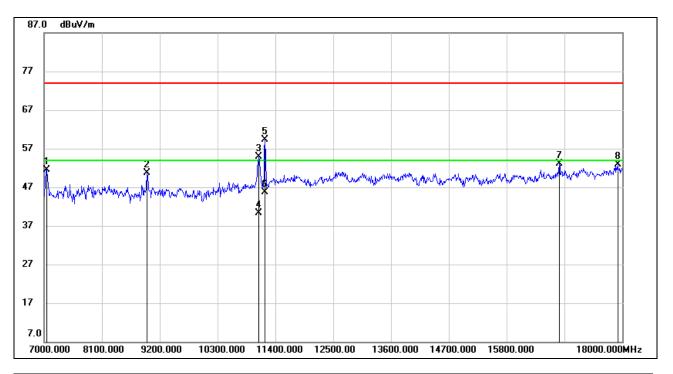
No.	Frequency	Reading	Correct	Result	Limit	Margin	Remark
	(MHz)	(dBuV)	(dB/m)	(dBuV/m)	(dBuV/m)	(dB)	
1	8958.000	36.29	9.76	46.05	74.00	-27.95	peak
2	10997.895	53.13	12.63	65.76	74.00	-8.24	peak
3	10997.895	40.83	12.63	53.46	54.00	-0.54	AVG
4	12610.000	34.54	15.17	49.71	74.00	-24.29	peak
5	14766.000	33.65	15.99	49.64	74.00	-24.36	peak
6	16394.000	31.58	18.92	50.50	74.00	-23.50	peak
7	17670.000	30.20	22.53	52.73	74.00	-21.27	peak

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

- 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. Owing to the highest peak level of unwanted emission out of the restricted bands complies with the lowest limit(54dBuV/m), so all the test point was deemed to comply with the limits list in the standard.



HARMONICS AND SPURIOUS EMISSIONS (MID CHANNEL, HORIZONTAL)



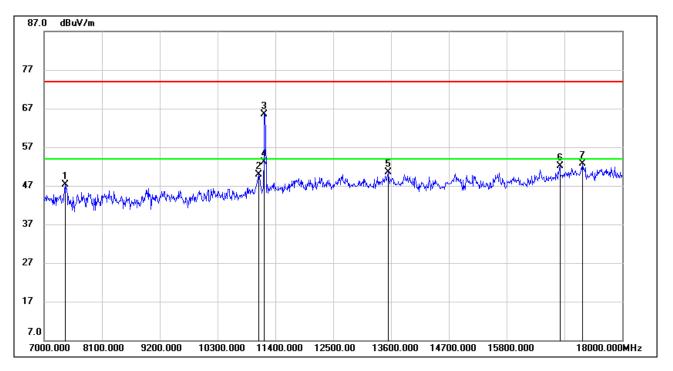
No.	Frequency	Reading	Correct	Result	Limit	Margin	Remark
	(MHz)	(dBuV)	(dB/m)	(dBuV/m)	(dBuV/m)	(dB)	
1	7055.000	45.05	6.51	51.56	74.00	-22.44	peak
2	8958.000	40.95	9.76	50.71	74.00	-23.29	peak
3	11081.000	42.11	12.79	54.90	74.00	-19.10	peak
4	11081.000	27.52	12.79	40.31	54.00	-13.69	AVG
5	11202.000	46.18	13.04	59.22	74.00	-14.78	peak
6	11202.000	32.63	13.04	45.67	54.00	-8.33	AVG
7	16801.000	32.99	20.12	53.11	74.00	-20.89	peak
8	17912.000	29.35	23.61	52.96	74.00	-21.04	peak

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

- 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. Owing to the highest peak level of unwanted emission out of the restricted bands complies with the lowest limit(54dBuV/m), so all the test point was deemed to comply with the limits list in the standard.



# HARMONICS AND SPURIOUS EMISSIONS (MID CHANNEL, VERTICAL)



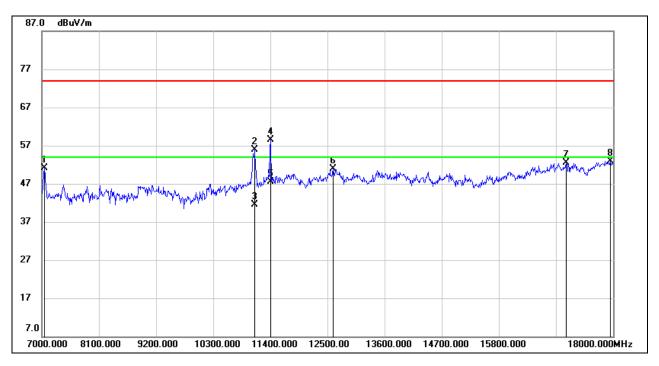
No.	Frequency	Reading	Correct	Result	Limit	Margin	Remark
	(MHz)	(dBuV)	(dB/m)	(dBuV/m)	(dBuV/m)	(dB)	
1	7407.000	39.82	7.40	47.22	74.00	-26.78	peak
2	11081.000	37.12	12.79	49.91	74.00	-24.09	peak
3	11191.000	52.41	13.02	65.43	74.00	-8.57	peak
4	11191.000	40.04	13.02	53.06	54.00	-0.94	AVG
5	13545.000	34.53	15.91	50.44	74.00	-23.56	peak
6	16812.000	31.99	20.14	52.13	74.00	-21.87	peak
7	17241.000	31.07	21.58	52.65	74.00	-21.35	peak

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

- 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. Owing to the highest peak level of unwanted emission out of the restricted bands complies with the lowest limit(54dBuV/m), so all the test point was deemed to comply with the limits list in the standard.



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

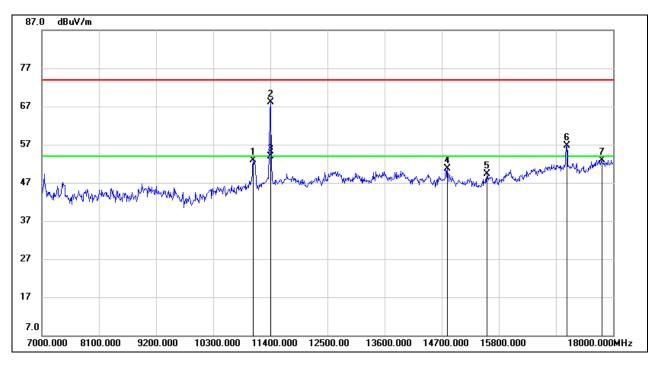


No.	Frequency	Reading	Correct	Result	Limit	Margin	Remark
	(MHz)	(dBuV)	(dB/m)	(dBuV/m)	(dBuV/m)	(dB)	
1	7055.000	44.53	6.51	51.04	74.00	-22.96	peak
2	11103.000	43.16	12.84	56.00	74.00	-18.00	peak
3	11103.000	28.73	12.84	41.57	54.00	-12.43	AVG
4	11400.400	45.07	13.45	58.52	74.00	-15.48	peak
5	11400.400	34.02	13.45	47.47	54.00	-6.53	AVG
6	12610.000	35.64	15.17	50.81	74.00	-23.19	peak
7	17098.000	31.50	21.07	52.57	74.00	-21.43	peak
8	17945.000	29.36	23.63	52.99	74.00	-21.01	peak

- 2. If Peak Result complies with AV limit, AV Result is deemed to comply with AV limit.
  - 3. Peak: Peak detector.
  - 4. 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. Owing to the highest peak level of unwanted emission out of the restricted bands complies with the lowest limit(54dBuV/m), so all the test point was deemed to comply with the limits list in the standard.



**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	11070.000	40.06	12.78	52.84	74.00	-21.16	peak
2	11401.349	54.62	13.45	68.07	74.00	-5.93	peak
3	11401.349	40.53	13.45	53.98	54.00	-0.02	AVG
4	14810.000	34.68	16.03	50.71	74.00	-23.29	peak
5	15569.000	32.67	16.62	49.29	74.00	-24.71	peak
6	17109.000	35.64	21.13	56.77	74.00	-17.23	peak
7	17780.000	29.59	23.35	52.94	74.00	-21.06	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. Owing to the highest peak level of unwanted emission out of the restricted bands complies with the lowest limit(54dBuV/m), so all the test point was deemed to comply with the limits list in the standard.



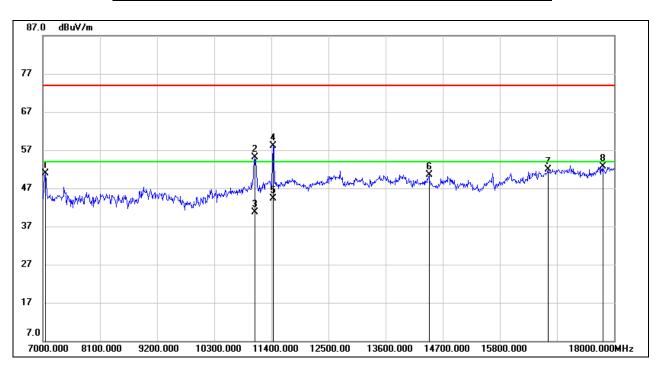
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### **STRADDLE CHANNEL 144**

### 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	7055.000	44.48	6.51	50.99	74.00	-23.01	peak
2	11081.000	42.31	12.79	55.10	74.00	-18.90	peak
3	11081.000	27.97	12.79	40.76	54.00	-13.24	AVG
4	11433.574	44.56	13.50	58.06	74.00	-15.94	peak
5	11438.574	30.87	13.50	44.37	54.00	-9.63	AVG
6	14436.000	34.34	16.10	50.44	74.00	-23.56	peak
7	16724.000	31.91	20.05	51.96	74.00	-22.04	peak
8	17780.000	29.29	23.35	52.64	74.00	-21.36	peak

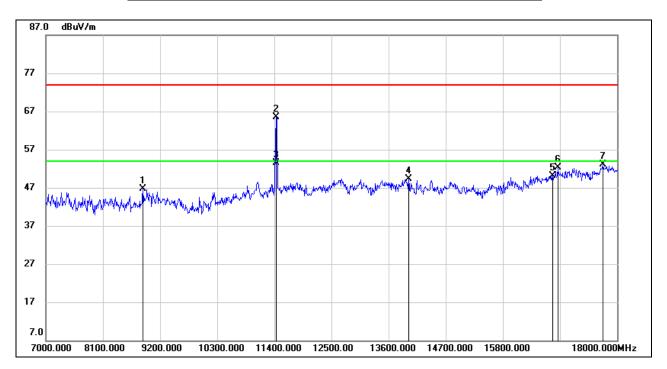
Note: 1. Measurement = Reading Level + Correct Factor.

- 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 Band reject filter losses.
- 7. Proper operation of the transmitter prior to adding the filter to the measurement chain.
- 8. Owing to the highest peak level of unwanted emission out of the restricted bands complies with the lowest limit(54dBuV/m), so all the test point was deemed to comply with the limits list in the standard.

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



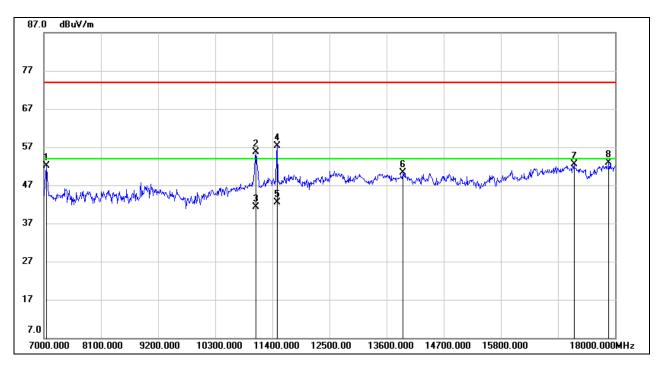
No.	Frequency	Reading	Correct	Result	Limit	Margin	Remark
	(MHz)	(dBuV)	(dB/m)	(dBuV/m)	(dBuV/m)	(dB)	
1	8870.000	37.89	8.84	46.73	74.00	-27.27	peak
2	11441.332	51.93	13.50	65.43	74.00	-8.57	peak
3	11441.332	39.92	13.50	53.42	54.00	-0.58	AVG
4	13985.000	33.16	16.13	49.29	74.00	-24.71	peak
5	16757.000	30.03	20.08	50.11	74.00	-23.89	peak
6	16856.000	32.10	20.21	52.31	74.00	-21.69	peak
7	17725.000	30.07	22.94	53.01	74.00	-20.99	peak

- 2. If Peak Result complies with AV limit, AV Result is deemed to comply with AV limit.
  - 3. Peak: Peak detector.
  - 4. AVG: VBW=1/Ton, where: Ton is the transmitting duration.
  - 5. For the transmitting duration, please refer to clause 7.1.
- 6. Filter losses were only considered in the spurious frequency bands and the authorized band was not corrected for Band reject filter losses.
- 7. Proper operation of the transmitter prior to adding the filter to the measurement chain.
- 8. Owing to the highest peak level of unwanted emission out of the restricted bands complies with the lowest limit(54dBuV/m), so all the test point was deemed to comply with the limits list in the standard.



**UNII-3 BAND** 

# HARMONICS AND SPURIOUS EMISSIONS (LOW CHANNEL, HORIZONTAL)



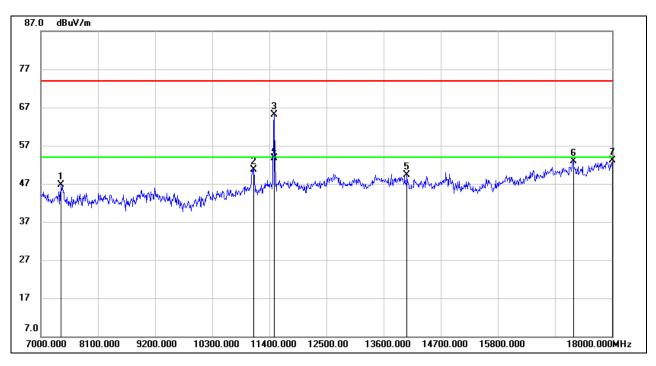
No.	Frequency	Reading	Correct	Result	Limit	Margin	Remark
	(MHz)	(dBuV)	(dB/m)	(dBuV/m)	(dBuV/m)	(dB)	
1	7044.000	45.57	6.47	52.04	74.00	-21.96	peak
2	11081.000	42.89	12.79	55.68	74.00	-18.32	peak
3	11081.000	28.57	12.79	41.36	54.00	-12.64	AVG
4	11489.119	43.65	13.56	57.21	74.00	-16.79	peak
5	11489.119	28.89	13.56	42.45	54.00	-11.55	AVG
6	13919.000	33.97	16.24	50.21	74.00	-23.79	peak
7	17208.000	30.84	21.67	52.51	74.00	-21.49	peak
8	17879.000	29.38	23.57	52.95	74.00	-21.05	peak

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

- 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. Owing to the highest peak level of unwanted emission out of the restricted bands complies with the lowest limit(54dBuV/m), so all the test point was deemed to comply with the limits list in the standard.



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



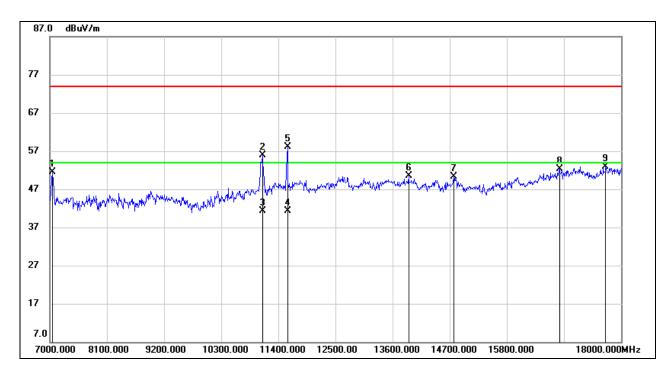
No.	Frequency	Reading	Correct	Result	Limit	Margin	Remark
	(MHz)	(dBuV)	(dB/m)	(dBuV/m)	(dBuV/m)	(dB)	
1	7385.000	39.40	7.40	46.80	74.00	-27.20	peak
2	11092.000	37.94	12.81	50.75	74.00	-23.25	peak
3	11488.000	51.48	13.56	65.04	74.00	-8.96	peak
4	11488.000	40.16	13.56	53.72	54.00	-0.28	AVG
5	14051.000	33.18	16.12	49.30	74.00	-24.70	peak
6	17252.000	31.40	21.55	52.95	74.00	-21.05	peak
7	18000.000	29.32	23.69	53.01	74.00	-20.99	peak

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

- 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. Owing to the highest peak level of unwanted emission out of the restricted bands complies with the lowest limit(54dBuV/m), so all the test point was deemed to comply with the limits list in the standard.



# HARMONICS AND SPURIOUS EMISSIONS (MID CHANNEL, HORIZONTAL)

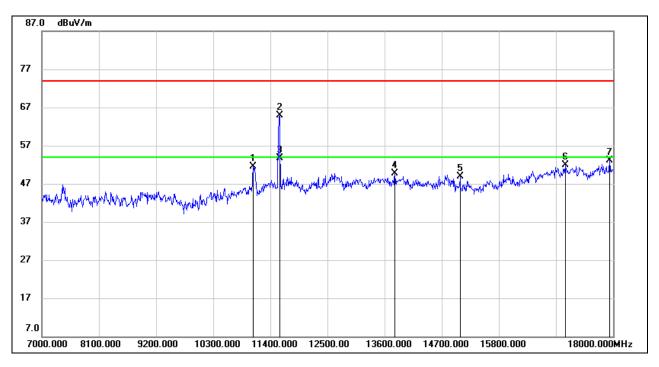


No.	Frequency	Reading	Correct	Result	Limit	Margin	Remark
	(MHz)	(dBuV)	(dB/m)	(dBuV/m)	(dBuV/m)	(dB)	
1	7044.000	44.99	6.47	51.46	74.00	-22.54	peak
2	11092.000	43.14	12.81	55.95	74.00	-18.05	peak
3	11092.000	28.54	12.81	41.35	54.00	-12.65	AVG
4	11575.540	27.59	13.69	41.28	54.00	-12.72	AVG
5	11576.000	44.42	13.69	58.11	74.00	-15.89	peak
6	13908.000	34.28	16.26	50.54	74.00	-23.46	peak
7	14777.000	34.25	16.00	50.25	74.00	-23.75	peak
8	16812.000	32.09	20.14	52.23	74.00	-21.77	peak
9	17703.000	30.20	22.77	52.97	74.00	-21.03	peak

- 2. If Peak Result complies with AV limit, AV Result is deemed to comply with AV limit.
  - 3. Peak: Peak detector.
  - 4. AVG: VBW=1/Ton, where: Ton is the transmitting duration.
  - 5. For the transmitting duration, please refer to clause 7.1.
- 6. Filter losses were only considered in the spurious frequency bands and the authorized band was not corrected for High Pass Filter losses.
- 7. Proper operation of the transmitter prior to adding the filter to the measurement chain.
- 8. Owing to the highest peak level of unwanted emission out of the restricted bands complies with the lowest limit(54dBuV/m), so all the test point was deemed to comply with the limits list in the standard.



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



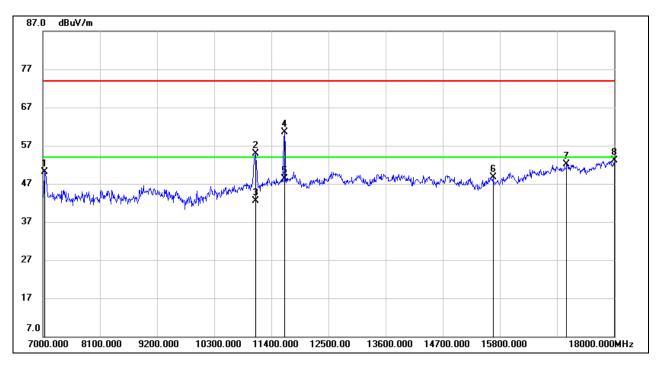
No.	Frequency	Reading	Correct	Result	Limit	Margin	Remark
	(MHz)	(dBuV)	(dB/m)	(dBuV/m)	(dBuV/m)	(dB)	
1	11070.000	38.74	12.78	51.52	74.00	-22.48	peak
2	11571.504	51.23	13.68	64.91	74.00	-9.09	peak
3	11571.504	40.02	13.68	53.70	54.00	-0.30	AVG
4	13798.000	33.19	16.44	49.63	74.00	-24.37	peak
5	15052.000	32.88	15.98	48.86	74.00	-25.14	peak
6	17076.000	30.98	20.93	51.91	74.00	-22.09	peak
7	17934.000	29.46	23.62	53.08	74.00	-20.92	peak

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

- 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. Owing to the highest peak level of unwanted emission out of the restricted bands complies with the lowest limit(54dBuV/m), so all the test point was deemed to comply with the limits list in the standard.



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



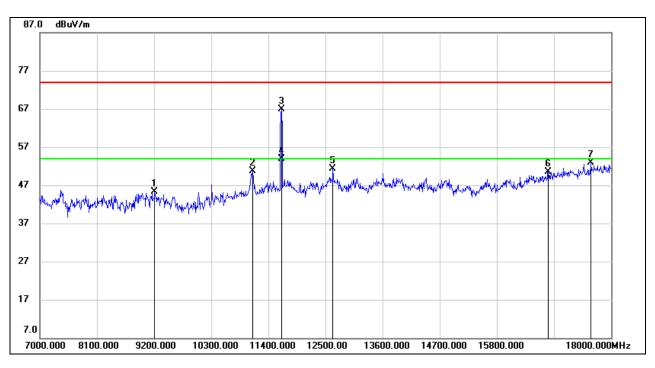
No.	Frequency	Reading	Correct	Result	Limit	Margin	Remark
	(MHz)	(dBuV)	(dB/m)	(dBuV/m)	(dBuV/m)	(dB)	
1	7033.000	43.75	6.42	50.17	74.00	-23.83	peak
2	11088.783	42.14	12.81	54.95	74.00	-19.05	peak
3	11088.783	29.72	12.81	42.53	54.00	-11.47	AVG
4	11649.124	46.65	13.92	60.57	74.00	-13.43	peak
5	11649.124	34.34	13.92	48.26	54.00	-5.74	AVG
6	15668.000	31.99	16.79	48.78	74.00	-25.22	peak
7	17087.000	31.18	21.00	52.18	74.00	-21.82	peak
8	18000.000	29.41	23.69	53.10	74.00	-20.90	peak

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

- 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. Owing to the highest peak level of unwanted emission out of the restricted bands complies with the lowest limit(54dBuV/m), so all the test point was deemed to comply with the limits list in the standard.



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	9211.000	36.25	9.13	45.38	74.00	-28.62	peak
2	11103.000	37.77	12.84	50.61	74.00	-23.39	peak
3	11651.261	52.99	13.93	66.92	74.00	-7.08	peak
4	11651.261	39.97	13.93	53.90	54.00	-0.10	AVG
5	12643.000	36.02	15.20	51.22	74.00	-22.78	peak
6	16790.000	30.32	20.11	50.43	74.00	-23.57	peak
7	17615.000	30.78	22.12	52.90	74.00	-21.10	peak

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

- 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. Owing to the highest peak level of unwanted emission out of the restricted bands complies with the lowest limit(54dBuV/m), so all the test point was deemed to comply with the limits list in the standard.

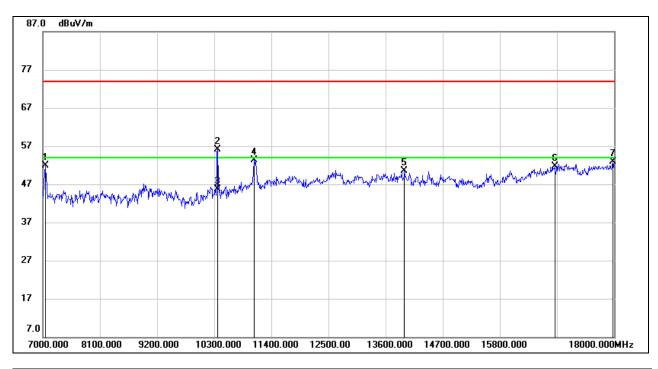


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### 8.3.2. 802.11ac VHT20 MIMO MODE

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

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



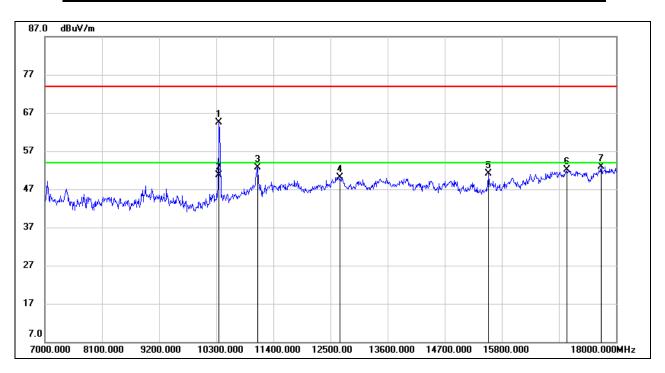
No.	Frequency	Reading	Correct	Result	Limit	Margin	Remark
	(MHz)	(dBuV)	(dB/m)	(dBuV/m)	(dBuV/m)	(dB)	
1	7044.000	45.50	6.47	51.97	74.00	-22.03	peak
2	10364.282	45.09	10.97	56.06	74.00	-17.94	peak
3	10364.282	34.66	10.97	45.63	54.00	-8.37	AVG
4	11070.000	40.57	12.78	53.35	74.00	-20.65	peak
5	13963.000	34.27	16.17	50.44	74.00	-23.56	peak
6	16856.000	31.44	20.21	51.65	74.00	-22.35	peak
7	17978.000	29.14	23.67	52.81	74.00	-21.19	peak

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

- 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. Owing to the highest peak level of unwanted emission out of the restricted bands complies with the lowest limit(54dBuV/m), so all the test point was deemed to comply with the limits list in the standard.



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



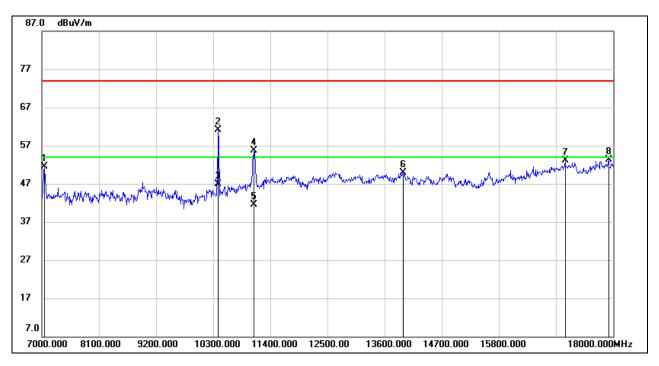
No.	Frequency	Reading	Correct	Result	Limit	Margin	Remark
	(MHz)	(dBuV)	(dB/m)	(dBuV/m)	(dBuV/m)	(dB)	
1	10362.043	53.44	10.97	64.41	74.00	-9.59	peak
2	10362.043	39.70	10.97	50.67	54.00	-3.33	AVG
3	11092.000	39.99	12.81	52.80	74.00	-21.20	peak
4	12687.000	34.85	15.24	50.09	74.00	-23.91	peak
5	15547.000	34.60	16.54	51.14	74.00	-22.86	peak
6	17054.000	31.22	20.79	52.01	74.00	-21.99	peak
7	17714.000	30.02	22.85	52.87	74.00	-21.13	peak

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

- 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. Owing to the highest peak level of unwanted emission out of the restricted bands complies with the lowest limit(54dBuV/m), so all the test point was deemed to comply with the limits list in the standard.



HARMONICS AND SPURIOUS EMISSIONS (MID CHANNEL, HORIZONTAL)



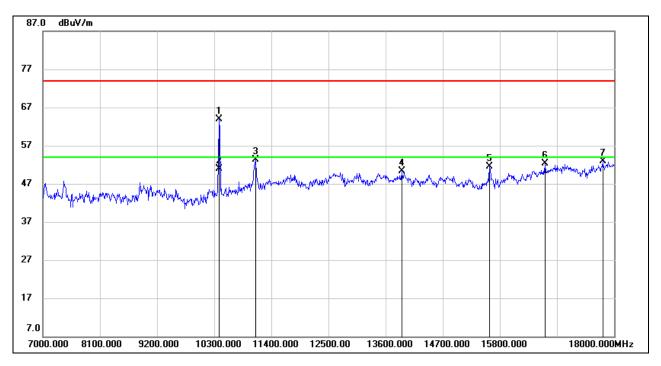
No.	Frequency	Reading	Correct	Result	Limit	Margin	Remark
	(MHz)	(dBuV)	(dB/m)	(dBuV/m)	(dBuV/m)	(dB)	
1	7044.000	45.05	6.47	51.52	74.00	-22.48	peak
2	10399.000	50.06	11.11	61.17	74.00	-12.83	peak
3	10399.000	35.73	11.11	46.84	54.00	-7.16	AVG
4	11087.366	42.83	12.81	55.64	74.00	-18.36	peak
5	11087.366	28.70	12.81	41.51	54.00	-12.49	AVG
6	13952.000	33.71	16.19	49.90	74.00	-24.10	peak
7	17076.000	32.27	20.93	53.20	74.00	-20.80	peak
8	17912.000	29.71	23.61	53.32	74.00	-20.68	peak

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

- 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. Owing to the highest peak level of unwanted emission out of the restricted bands complies with the lowest limit(54dBuV/m), so all the test point was deemed to comply with the limits list in the standard.



HARMONICS AND SPURIOUS EMISSIONS (MID CHANNEL, VERTICAL)



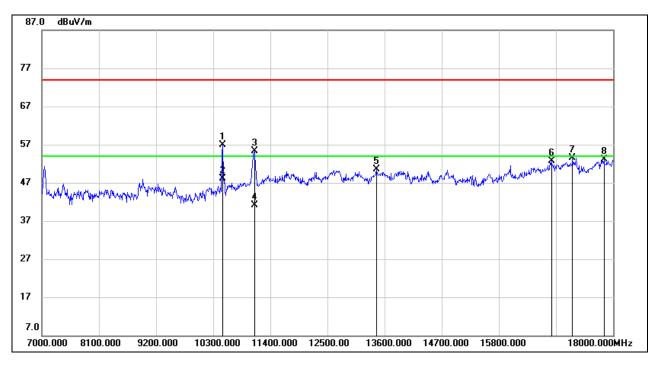
No.	Frequency	Reading	Correct	Result	Limit	Margin	Remark
	(MHz)	(dBuV)	(dB/m)	(dBuV/m)	(dBuV/m)	(dB)	
1	10396.991	52.84	11.11	63.95	74.00	-10.05	peak
2	10396.991	39.89	11.11	51.00	54.00	-3.00	AVG
3	11092.000	40.47	12.81	53.28	74.00	-20.72	peak
4	13908.000	34.01	16.26	50.27	74.00	-23.73	peak
5	15602.000	34.80	16.74	51.54	74.00	-22.46	peak
6	16669.000	32.30	20.00	52.30	74.00	-21.70	peak
7	17780.000	29.59	23.35	52.94	74.00	-21.06	peak

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

- 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. Owing to the highest peak level of unwanted emission out of the restricted bands complies with the lowest limit(54dBuV/m), so all the test point was deemed to comply with the limits list in the standard.



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

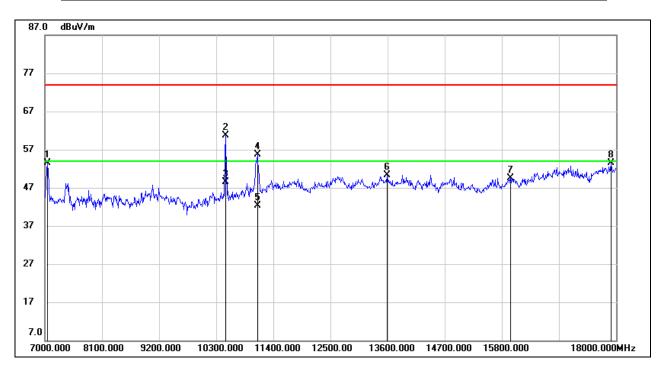


No.	Frequency	Reading	Correct	Result	Limit	Margin	Remark
	(MHz)	(dBuV)	(dB/m)	(dBuV/m)	(dBuV/m)	(dB)	
1	10479.408	45.38	11.45	56.83	74.00	-17.17	peak
2	10479.408	36.68	11.45	48.13	54.00	-5.87	AVG
3	11092.000	42.56	12.81	55.37	74.00	-18.63	peak
4	11092.000	28.23	12.81	41.04	54.00	-12.96	AVG
5	13446.000	34.52	15.96	50.48	74.00	-23.52	peak
6	16812.000	32.56	20.14	52.70	74.00	-21.30	peak
7	17219.000	31.85	21.64	53.49	74.00	-20.51	peak
8	17824.000	29.68	23.52	53.20	74.00	-20.80	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. Owing to the highest peak level of unwanted emission out of the restricted bands complies with the lowest limit(54dBuV/m), so all the test point was deemed to comply with the limits list in the standard.



**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	7044.000	46.97	6.47	53.44	74.00	-20.56	peak
2	10479.377	49.28	11.45	60.73	74.00	-13.27	peak
3	10479.377	37.10	11.45	48.55	54.00	-5.45	AVG
4	11092.000	42.88	12.81	55.69	74.00	-18.31	peak
5	11092.000	29.55	12.81	42.36	54.00	-11.64	AVG
6	13589.000	34.42	15.87	50.29	74.00	-23.71	peak
7	15965.000	31.96	17.58	49.54	74.00	-24.46	peak
8	17901.000	29.92	23.59	53.51	74.00	-20.49	peak

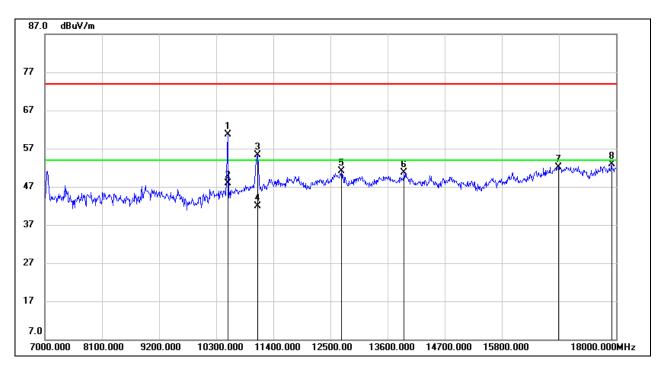
Note: 1. Measurement = Reading Level + Correct Factor.

- 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. Owing to the highest peak level of unwanted emission out of the restricted bands complies with the lowest limit(54dBuV/m), so all the test point was deemed to comply with the limits list in the standard.



**UNII-2A BAND** 

# HARMONICS AND SPURIOUS EMISSIONS (LOW CHANNEL, HORIZONTAL)



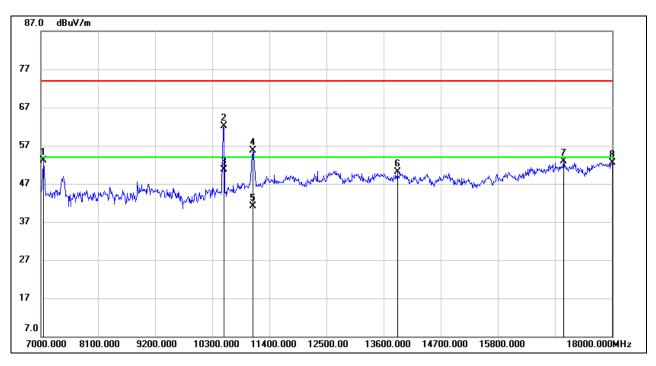
No.	Frequency	Reading	Correct	Result	Limit	Margin	Remark
	(MHz)	(dBuV)	(dB/m)	(dBuV/m)	(dBuV/m)	(dB)	
1	10520.000	49.17	11.60	60.77	74.00	-13.23	peak
2	10520.000	36.25	11.60	47.85	54.00	-6.15	AVG
3	11103.000	42.49	12.84	55.33	74.00	-18.67	peak
4	11103.000	29.14	12.84	41.98	54.00	-12.02	AVG
5	12709.000	35.94	15.26	51.20	74.00	-22.80	peak
6	13919.000	34.39	16.24	50.63	74.00	-23.37	peak
7	16889.000	31.92	20.27	52.19	74.00	-21.81	peak
8	17912.000	29.39	23.61	53.00	74.00	-21.00	peak

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

- 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. Owing to the highest peak level of unwanted emission out of the restricted bands complies with the lowest limit(54dBuV/m), so all the test point was deemed to comply with the limits list in the standard.



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



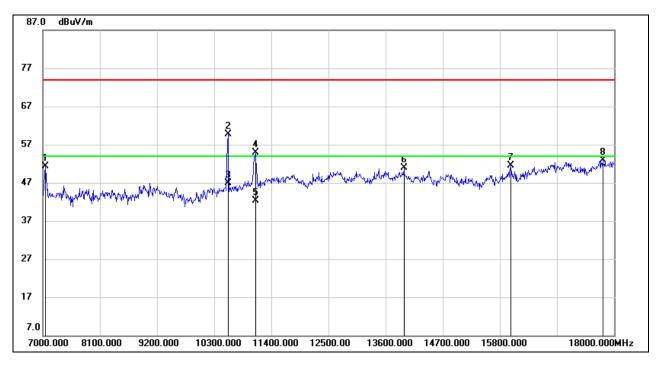
No.	Frequency	Reading	Correct	Result	Limit	Margin	Remark
	(MHz)	(dBuV)	(dB/m)	(dBuV/m)	(dBuV/m)	(dB)	
1	7055.000	46.58	6.51	53.09	74.00	-20.91	peak
2	10519.441	50.42	11.59	62.01	74.00	-11.99	peak
3	10519.441	39.06	11.59	50.65	54.00	-3.35	AVG
4	11081.000	42.99	12.79	55.78	74.00	-18.22	peak
5	11081.000	28.38	12.79	41.17	54.00	-12.83	AVG
6	13864.000	33.69	16.33	50.02	74.00	-23.98	peak
7	17065.000	31.96	20.87	52.83	74.00	-21.17	peak
8	18000.000	28.79	23.69	52.48	74.00	-21.52	peak

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

- 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. Owing to the highest peak level of unwanted emission out of the restricted bands complies with the lowest limit(54dBuV/m), so all the test point was deemed to comply with the limits list in the standard.

# HARMONICS AND SPURIOUS EMISSIONS (MID CHANNEL, HORIZONTAL)

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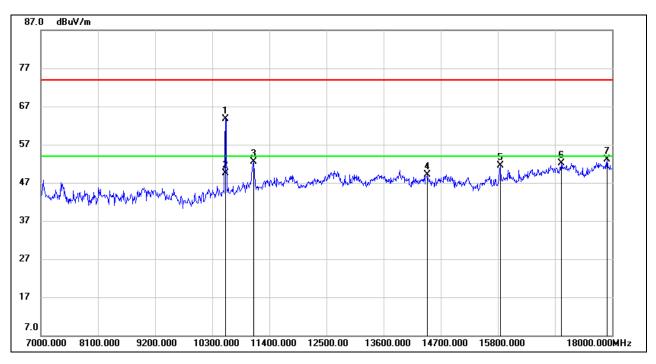
No.	Frequency	Reading	Correct	Result	Limit	Margin	Remark
	(MHz)	(dBuV)	(dB/m)	(dBuV/m)	(dBuV/m)	(dB)	
1	7044.000	44.82	6.47	51.29	74.00	-22.71	peak
2	10559.325	48.03	11.74	59.77	74.00	-14.23	peak
3	10559.325	35.12	11.74	46.86	54.00	-7.14	AVG
4	11092.220	42.06	12.81	54.87	74.00	-19.13	peak
5	11092.220	29.55	12.81	42.36	54.00	-11.64	AVG
6	13952.000	34.77	16.19	50.96	74.00	-23.04	peak
7	16009.000	33.84	17.74	51.58	74.00	-22.42	peak
8	17780.000	29.53	23.35	52.88	74.00	-21.12	peak

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

- 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. Owing to the highest peak level of unwanted emission out of the restricted bands complies with the lowest limit(54dBuV/m), so all the test point was deemed to comply with the limits list in the standard.



HARMONICS AND SPURIOUS EMISSIONS (MID CHANNEL, VERTICAL)

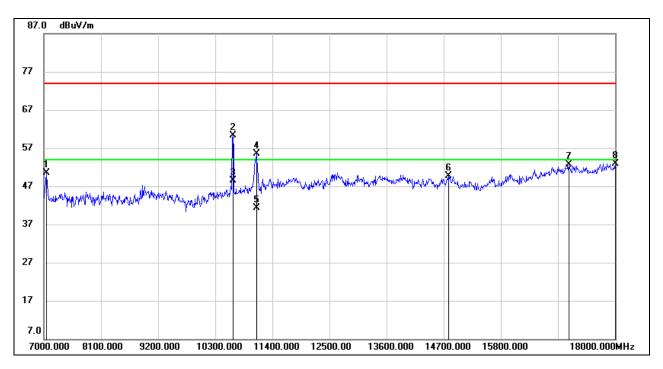


No.	Frequency	Reading	Correct	Result	Limit	Margin	Remark
	(MHz)	(dBuV)	(dB/m)	(dBuV/m)	(dBuV/m)	(dB)	
1	10561.811	51.97	11.74	63.71	74.00	-10.29	peak
2	10561.811	37.84	11.74	49.58	54.00	-4.42	AVG
3	11103.000	39.69	12.84	52.53	74.00	-21.47	peak
4	14447.000	33.10	16.08	49.18	74.00	-24.82	peak
5	15844.000	34.53	17.06	51.59	74.00	-22.41	peak
6	17021.000	31.58	20.60	52.18	74.00	-21.82	peak
7	17901.000	29.52	23.59	53.11	74.00	-20.89	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. Owing to the highest peak level of unwanted emission out of the restricted bands complies with the lowest limit(54dBuV/m), so all the test point was deemed to comply with the limits list in the standard.



HARMONICS AND SPURIOUS EMISSIONS (HIGH CHANNEL, HORIZONTAL)



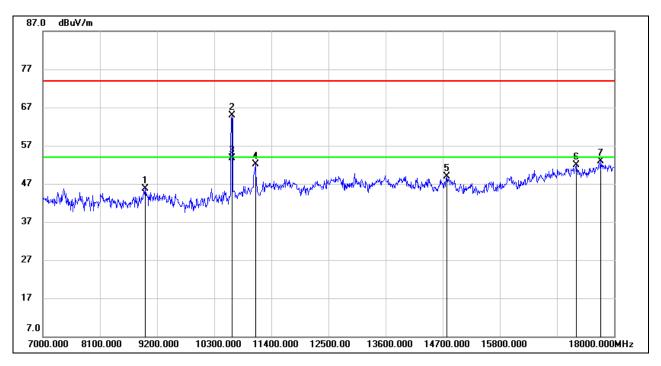
No.	Frequency	Reading	Correct	Result	Limit	Margin	Remark
	(MHz)	(dBuV)	(dB/m)	(dBuV/m)	(dBuV/m)	(dB)	
1	7044.000	44.03	6.47	50.50	74.00	-23.50	peak
2	10639.422	48.47	11.91	60.38	74.00	-13.62	peak
3	10639.422	36.57	11.91	48.48	54.00	-5.52	AVG
4	11092.000	42.62	12.81	55.43	74.00	-18.57	peak
5	11092.000	28.44	12.81	41.25	54.00	-12.75	AVG
6	14799.000	33.60	16.03	49.63	74.00	-24.37	peak
7	17109.000	31.65	21.13	52.78	74.00	-21.22	peak
8	18000.000	29.30	23.69	52.99	74.00	-21.01	peak

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

- 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. Owing to the highest peak level of unwanted emission out of the restricted bands complies with the lowest limit(54dBuV/m), so all the test point was deemed to comply with the limits list in the standard.



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



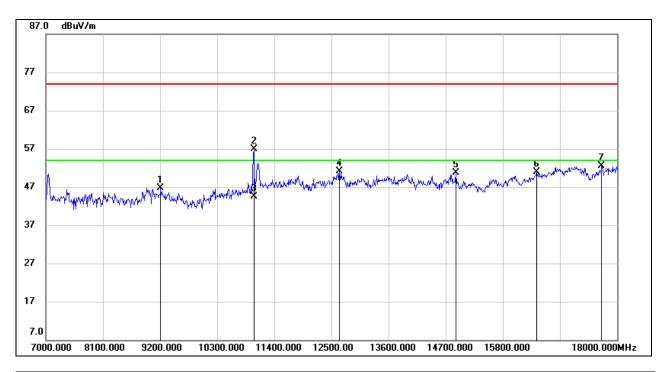
No.	Frequency	Reading	Correct	Result	Limit	Margin	Remark
	(MHz)	(dBuV)	(dB/m)	(dBuV/m)	(dBuV/m)	(dB)	
1	8969.000	35.86	9.88	45.74	74.00	-28.26	peak
2	10639.242	52.91	11.91	64.82	74.00	-9.18	peak
3	10639.242	41.72	11.91	53.63	54.00	-0.37	AVG
4	11092.000	39.36	12.81	52.17	74.00	-21.83	peak
5	14777.000	32.82	16.00	48.82	74.00	-25.18	peak
6	17274.000	30.38	21.49	51.87	74.00	-22.13	peak
7	17747.000	29.81	23.10	52.91	74.00	-21.09	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. Owing to the highest peak level of unwanted emission out of the restricted bands complies with the lowest limit(54dBuV/m), so all the test point was deemed to comply with the limits list in the standard.



**UNII-2C BAND** 

# HARMONICS AND SPURIOUS EMISSIONS (LOW CHANNEL, HORIZONTAL)

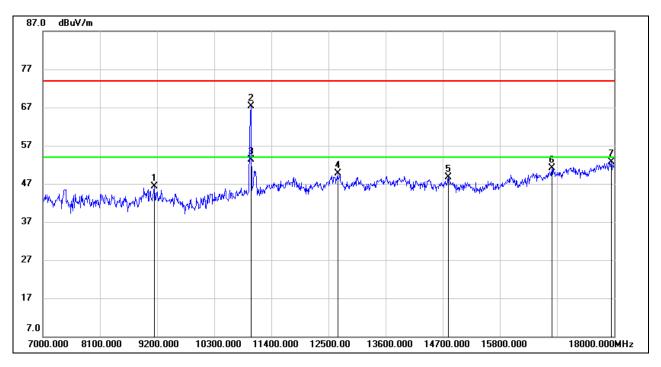


No.	Frequency	Reading	Correct	Result	Limit	Margin	Remark
	(MHz)	(dBuV)	(dB/m)	(dBuV/m)	(dBuV/m)	(dB)	
1	9211.000	37.63	9.13	46.76	74.00	-27.24	peak
2	10999.654	44.25	12.63	56.88	74.00	-17.12	peak
3	10999.654	31.91	12.63	44.54	54.00	-9.46	AVG
4	12654.000	35.83	15.20	51.03	74.00	-22.97	peak
5	14898.000	34.59	16.04	50.63	74.00	-23.37	peak
6	16449.000	31.80	19.20	51.00	74.00	-23.00	peak
7	17703.000	29.83	22.77	52.60	74.00	-21.40	peak

- 2. If Peak Result complies with AV limit, AV Result is deemed to comply with AV limit.
  - 3. Peak: Peak detector.
  - 4. 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. Owing to the highest peak level of unwanted emission out of the restricted bands complies with the lowest limit(54dBuV/m), so all the test point was deemed to comply with the limits list in the standard.



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



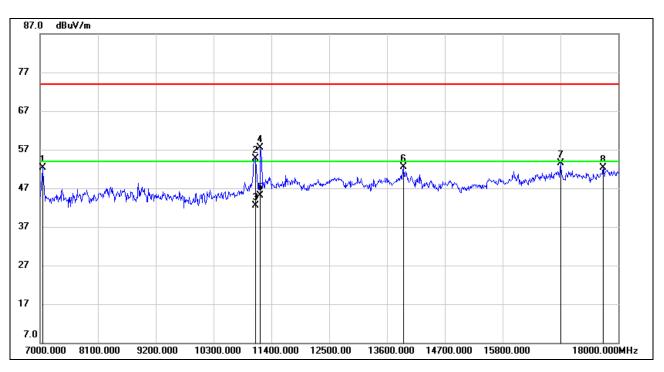
No.	Frequency	Reading	Correct	Result	Limit	Margin	Remark
	(MHz)	(dBuV)	(dB/m)	(dBuV/m)	(dBuV/m)	(dB)	
1	9145.000	36.84	9.40	46.24	74.00	-27.76	peak
2	11001.403	54.63	12.63	67.26	74.00	-6.74	peak
3	11001.403	40.64	12.63	53.27	54.00	-0.73	AVG
4	12676.000	34.46	15.23	49.69	74.00	-24.31	peak
5	14810.000	32.65	16.03	48.68	74.00	-25.32	peak
6	16801.000	30.95	20.12	51.07	74.00	-22.93	peak
7	17945.000	29.01	23.63	52.64	74.00	-21.36	peak

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

- 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. Owing to the highest peak level of unwanted emission out of the restricted bands complies with the lowest limit(54dBuV/m), so all the test point was deemed to comply with the limits list in the standard.



HARMONICS AND SPURIOUS EMISSIONS (MID CHANNEL, HORIZONTAL)

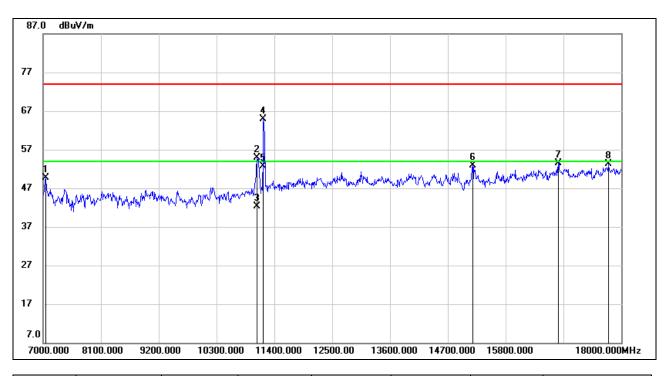


No.	Frequency	Reading	Correct	Result	Limit	Margin	Remark
	(MHz)	(dBuV)	(dB/m)	(dBuV/m)	(dBuV/m)	(dB)	
1	7044.000	45.86	6.47	52.33	74.00	-21.67	peak
2	11092.000	41.91	12.81	54.72	74.00	-19.28	peak
3	11092.000	29.67	12.81	42.48	54.00	-11.52	AVG
4	11191.000	44.46	13.02	57.48	74.00	-16.52	peak
5	11191.000	32.10	13.02	45.12	54.00	-8.88	AVG
6	13919.000	36.17	16.24	52.41	74.00	-21.59	peak
7	16900.000	33.13	20.29	53.42	74.00	-20.58	peak
8	17714.000	29.37	22.85	52.22	74.00	-21.78	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. Owing to the highest peak level of unwanted emission out of the restricted bands complies with the lowest limit(54dBuV/m), so all the test point was deemed to comply with the limits list in the standard.



HARMONICS AND SPURIOUS EMISSIONS (MID CHANNEL, VERTICAL)

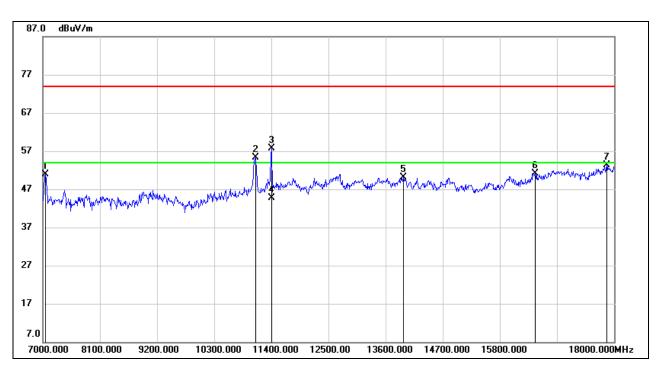


No.	Frequency	Reading	Correct	Result	Limit	Margin	Remark
	(MHz)	(dBuV)	(dB/m)	(dBuV/m)	(dBuV/m)	(dB)	
1	7055.000	43.21	6.51	49.72	74.00	-24.28	peak
2	11070.000	42.05	12.78	54.83	74.00	-19.17	peak
3	11070.000	29.47	12.78	42.25	54.00	-11.75	AVG
4	11191.000	51.89	13.02	64.91	74.00	-9.09	peak
5	11191.000	39.59	13.02	52.61	54.00	-1.39	AVG
6	15173.000	37.14	15.82	52.96	74.00	-21.04	peak
7	16801.000	33.35	20.12	53.47	74.00	-20.53	peak
8	17758.000	30.07	23.19	53.26	74.00	-20.74	peak

- 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. Owing to the highest peak level of unwanted emission out of the restricted bands complies with the lowest limit(54dBuV/m), so all the test point was deemed to comply with the limits list in the standard.



HARMONICS AND SPURIOUS EMISSIONS (HIGH CHANNEL, HORIZONTAL)



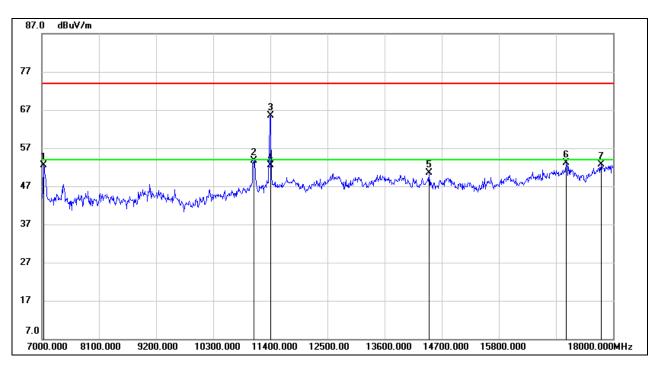
No.	Frequency	Reading	Correct	Result	Limit	Margin	Remark
	(MHz)	(dBuV)	(dB/m)	(dBuV/m)	(dBuV/m)	(dB)	
1	7055.000	44.36	6.51	50.87	74.00	-23.13	peak
2	11092.000	42.40	12.81	55.21	74.00	-18.79	peak
3	11400.000	44.35	13.45	57.80	74.00	-16.20	peak
4	11400.000	31.29	13.45	44.74	54.00	-9.26	AVG
5	13941.000	33.91	16.21	50.12	74.00	-23.88	peak
6	16482.000	31.76	19.36	51.12	74.00	-22.88	peak
7	17857.000	29.66	23.55	53.21	74.00	-20.79	peak

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

- 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. Owing to the highest peak level of unwanted emission out of the restricted bands complies with the lowest limit(54dBuV/m), so all the test point was deemed to comply with the limits list in the standard.



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	7033.000	46.06	6.42	52.48	74.00	-21.52	peak
2	11081.000	40.99	12.79	53.78	74.00	-20.22	peak
3	11400.000	52.03	13.45	65.48	74.00	-8.52	peak
4	11400.539	38.99	13.45	52.44	54.00	-1.56	AVG
5	14458.000	34.41	16.07	50.48	74.00	-23.52	peak
6	17098.000	32.02	21.07	53.09	74.00	-20.91	peak
7	17769.000	29.43	23.26	52.69	74.00	-21.31	peak

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

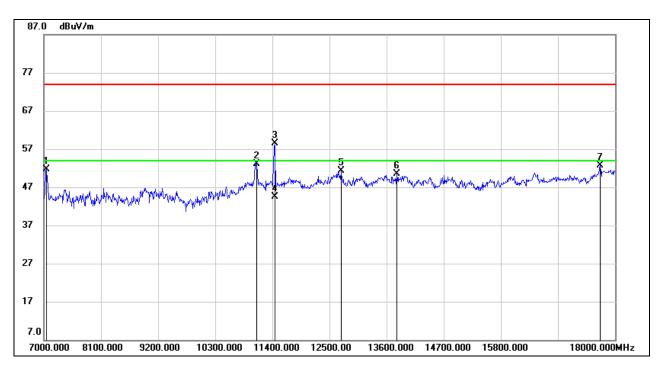
- 3. Peak: Peak detector.
- 4. AVG: VBW=1/Ton, where: Ton is the transmitting duration.
- 5. For the transmitting duration, please refer to clause 7.1.
- 6. Filter losses were only considered in the spurious frequency bands and the authorized band was not corrected for High Pass Filter losses.
- 7. Proper operation of the transmitter prior to adding the filter to the measurement chain.
- 8. Owing to the highest peak level of unwanted emission out of the restricted bands complies with the lowest limit(54dBuV/m), so all the test point was deemed to comply with the limits list in the standard.



### **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	7044.000	45.15	6.47	51.62	74.00	-22.38	peak
2	11092.000	40.33	12.81	53.14	74.00	-20.86	peak
3	11440.000	45.05	13.50	58.55	74.00	-15.45	peak
4	11440.000	31.06	13.50	44.56	54.00	-9.44	AVG
5	12720.000	35.98	15.27	51.25	74.00	-22.75	peak
6	13798.000	34.14	16.44	50.58	74.00	-23.42	peak
7	17714.000	29.78	22.85	52.63	74.00	-21.37	peak

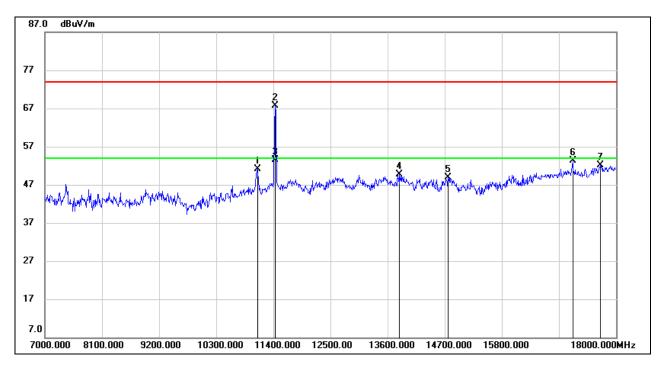
Note: 1. Measurement = Reading Level + Correct Factor.

- 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 Band reject filter losses.
- 7. Proper operation of the transmitter prior to adding the filter to the measurement chain.
- 8. Owing to the highest peak level of unwanted emission out of the restricted bands complies with the lowest limit(54dBuV/m), so all the test point was deemed to comply with the limits list in the standard.

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



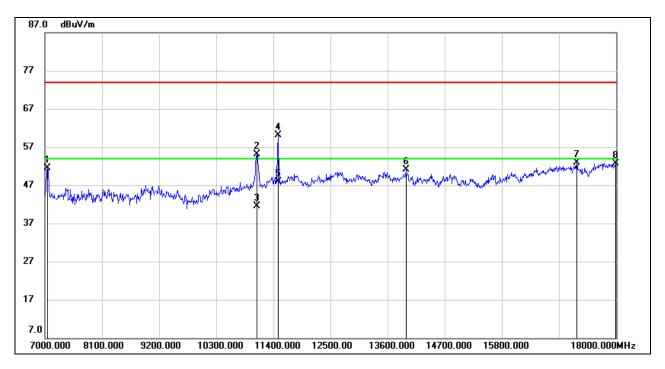
No.	Frequency	Reading	Correct	Result	Limit	Margin	Remark
	(MHz)	(dBuV)	(dB/m)	(dBuV/m)	(dBuV/m)	(dB)	
1	11092.000	38.33	12.81	51.14	74.00	-22.86	peak
2	11438.195	54.23	13.50	67.73	74.00	-6.27	peak
3	11438.195	40.10	13.50	53.60	54.00	-0.40	AVG
4	13820.000	33.29	16.42	49.71	74.00	-24.29	peak
5	14766.000	32.95	15.99	48.94	74.00	-25.06	peak
6	17164.000	31.78	21.47	53.25	74.00	-20.75	peak
7	17692.000	29.50	22.69	52.19	74.00	-21.81	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 Band reject filter losses.
- 7. Proper operation of the transmitter prior to adding the filter to the measurement chain.
- 8. Owing to the highest peak level of unwanted emission out of the restricted bands complies with the lowest limit(54dBuV/m), so all the test point was deemed to comply with the limits list in the standard.



**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	7044.000	45.11	6.47	51.58	74.00	-22.42	peak
2	11081.000	42.31	12.79	55.10	74.00	-18.90	peak
3	11081.000	28.68	12.79	41.47	54.00	-12.53	AVG
4	11490.677	46.50	13.56	60.06	74.00	-13.94	peak
5	11490.677	34.36	13.56	47.92	54.00	-6.08	AVG
6	13952.000	34.87	16.19	51.06	74.00	-22.94	peak
7	17241.000	31.40	21.58	52.98	74.00	-21.02	peak
8	17989.000	28.98	23.67	52.65	74.00	-21.35	peak

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

- 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. Owing to the highest peak level of unwanted emission out of the restricted bands complies with the lowest limit(54dBuV/m), so all the test point was deemed to comply with the limits list in the standard.