

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

CERTIFICATION TEST REPORT

For

Integrated video conference terminal

Model for Canada:	UC S10
Model for USA:	UC S10, MSA10, MSA11, MSA12, MSA13, MSA14, MSA15, MSA16, MSA17, MSA18, MSA19, MS10, MS11, MS12, MS13, MS14, MS15, MS16, MS17, MS18, MS19, UC S11, UC S12, UC S13, UC S14, UC S15, UC S16, UC S17, UC S18, UC S19

FCC ID: 2AFG6-UCS10 IC: 22166-UCS10

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Prepared for

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Revision History

Rev.	Issue Date	Revisions	Revised By
V0	07/22/2020	Initial Issue	



Summary of Test Results			
Clause	Test Items	FCC/IC Rules	Test Results
1	6dB/26dB Bandwidth	FCC 15.407 (a)&(e) RSS-247 Clause 6.2	PASS
2	99% Occupied Bandwidth	RSS-Gen Clause 6.7	PASS
3	Maximum Conducted Output Power	FCC 15.407 (a) RSS-247 Clause 6.2	PASS
4	Power Spectral Density	FCC 15.407 (a) RSS-247 Clause 6.2	PASS
5	Radiated Bandedge and Spurious Emission	FCC 15.407 (b) FCC 15.209 FCC 15.205 RSS-247 Clause 6.2 RSS-GEN Clause 8.9	PASS
6	Conducted Emission Test for AC Power Port	FCC 15.207 RSS-GEN Clause 8.8	PASS
7	Frequency Stability	FCC 15.407 (g)	PASS
8	Antenna Requirement	FCC 15.203 RSS-GEN Clause 6.8	PASS
Note:			

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

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



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1. ATTESTATION OF TEST RESULTS

Applicant Information		
Company Name: Address:	GUANGZHOU SHIRUI ELECTRONICS CO LTD NO. 192 KEZHU ROAD SCIENCE PARK ECONOMIC- TECHNOLOGICAL DEVELOPMENT AREA GUANGZHO GUANGDONG 510530 CHINA	
Manufacturer Information		
Company Name: Address:	GUANGZHOU SHIRUI ELECTRONICS CO LTD NO. 192 KEZHU ROAD SCIENCE PARK ECONOMIC- TECHNOLOGICAL DEVELOPMENT AREA GUANGZHOU GUANGDONG 510530 CHINA	
EUT Information		
EUT Name:	Integrated video conference terminal	
Model for Canada:	UC S10	
Model for USA:	Please refer to clause 5.1. Description of EUT	
Sample Received Date:	July 1, 2020	
Sample Status:	Normal	
Sample ID:	3147330	

July 1 ~ 17, 2020

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

Prepared By:

Date of Tested:

Kebo. zhang.

Kebo Zhang Project Engineer

Approved By:

Aephenbuo

Stephen Guo Laboratory Manager Checked By:

In enne

Shawn Wen Laboratory Leader



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, RSS-GEN Issue 5, RSS-247 Issue 2, KDB414788 D01 Radiated Test Site 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
Approditation	ISED (Company No.: 21320)
UL Verification UL Verification Services (Guangzhou) Co., Ltd. Song Shan Lak	
Certificate	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 30MHz, lab had performed measurements at test anechoic chamber and comparing to measurements obtained on an open field site. And these measurements below 30MHz 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	3.62dB	
Radiated Emission (Included Fundamental Emission) (9kHz ~ 30MHz)	2.2dB	
Radiated Emission (Included Fundamental Emission) (30MHz ~ 1GHz)	4.00dB	
	5.78dB (1GHz ~ 18GHz)	
Radiated Emission (Included Fundamental Emission) (1GHz to 40GHz)	5.23dB (18GHz ~ 26GHz)	
	5.64dB (26GHz-40GHz)	
Note: This uncertainty represents an expanded uncertainty expressed at approximately the 95% confidence level using a coverage factor of k=2.		



5. EQUIPMENT UNDER TEST

5.1. DESCRIPTION OF EUT

EUT Name	Integrated video conference terminal		
Model for Canada	UC S10		
Model for USA	UC S10,MSA10, MSA11,MSA12,MSA13,MSA14,MSA15,MSA16,MSA17, MSA18,MSA19,MS10,MS11,MS12,MS13,MS14,MS15,MS16,MS17,MS18,M S19,UC S11,UC S12,UC S13,UC S14,UC S15,UC S16,UC S17,UC S18, UC S19		
Model Difference	The only difference is the model name.		
Radio Technology	WLAN (IEEE 802.11a 20/n HT20/n HT40/ac VHT20/VHT 40/VHT 80)		
Operation	UNII-1: 5150-5250 MHz		
frequency	UNII-3: 5725-5850 MHz		
Modulation	IEEE 802.11a: OFDM (64QAM, 16QAM, QPSK, BPSK) IEEE 802.11n HT20: OFDM (64QAM, 16QAM, QPSK, BPSK) IEEE 802.11n HT40: OFDM (64QAM, 16QAM, QPSK, BPSK) IEEE 802.11ac VHT20: OFDM (256QAM, 64QAM, 16QAM, QPSK, BPSK) IEEE 802.11ac VHT40: OFDM (256QAM, 64QAM, 16QAM, QPSK, BPSK) IEEE 802.11ac VHT80: OFDM (256QAM, 64QAM, 16QAM, QPSK, BPSK)		
Rated Input	AC120V,60Hz		
Wireless Module	SKI.WB8821CU.1		



5.2. MAXIMUM OUTPUT POWER

UNII-1 BAND

IEEE Std. 802.11	Frequency (MHz)	Maximum Average Conducted Power (dBm)	Max Average EIRP (dBm)
a 20		9.61	13.09
n HT20		7.57	11.05
n HT40	E1E0 E2E0	8.09	11.57
ac VHT20	5150 ~ 5250	8.10	11.58
ac VHT40		8.07	11.55
ac VHT80		8.73	12.21

UNII-3 BAND

IEEE Std. 802.11	Frequency (MHz)	Max Power (dBm)
a 20	5725 ~ 5850	11.00
n HT20		8.73
n HT40		9.57
ac VHT20		8.64
ac VHT40		10.00
ac VHT80		10.54

5.3. CHANNEL LIST

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

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

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5.4. TEST CHANNEL CONFIGURATION

UNII-1 Test Channel Configuration				
IEEE Std.	Test Channel Number	Frequency		
802.11a 20	CH 36(Low Channel), CH 40(MID Channel), CH 48(High Channel)	5180MHz, 5200MHz, 5240MHz		
802.11n HT20 CH 36(Low Channel), CH 40(MID Channel), CH 48(High Channel)		5180MHz, 5200MHz, 5240MHz		
802.11n HT40	CH 38(Low Channel), CH 46(High Channel)	5190MHz, 5230MHz		
802.11ac HT20	CH 36(Low Channel), CH 40(MID Channel), CH 48(High Channel)	5180MHz, 5200MHz, 5240MHz		
802.11ac HT40	CH 38(Low Channel), CH 46(High Channel)	5190MHz, 5230MHz		
802.11ac HT80	CH 42(Low Channel)	5210MHz		

UNII-3 Test Channel Configuration				
IEEE Std.	Test Channel Number	Frequency		
802.11a 20	CH 149(Low Channel), CH 157(MID Channel), CH 165(High Channel)	5745MHz, 5785MHz, 5825MHz		
802.11n HT20	CH 149(Low Channel), CH 157(MID Channel), CH 165(High Channel)	5745MHz, 5785MHz, 5825MHz		
802.11n HT40	CH 151(Low Channel), CH 159(High Channel)	5755MHz, 5795MHz		
802.11ac HT20	CH 149(Low Channel), CH 157(MID Channel), CH 165(High Channel)	5745MHz, 5785MHz, 5825MHz		
802.11ac HT40	CH 151(Low Channel), CH 159(High Channel)	5755MHz, 5795MHz		
802.11ac HT80	CH 155(Low Channel)	5775MHz		



5.5. DESCRIPTION OF AVAILABLE ANTENNAS

Antenna No.	Frequency Band	Antenna Type	Max Antenna Gain (dBi)
2	UNII1	FPC	3.48
2	UNII3	FPC	2.32

Note: Antenna 2 only support WLAN5G, Antenna 1 only support WLAN2.4G. Note: The value of the antenna gain was declared by customer.

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



5.6. THE WORSE CASE POWER SETTING PARAMETER

Test Software

The Worse Case Power Setting Parameter Ampak RFTestTool

<u>UNII-1</u>

IFFF Std 802 11	Rate	Channel	Test Software Setting Value
	Nate	Ondrine	ANT2
		36	
a20	6M	40	
		48	
		36	
n HT20	MCS0	40	
		48	
n HT40	MCSO	38	default
111140	10030	46	
		36	
ac VHT20	MCS0	40	
		48	
	MCSO	38	
	IVICOU	46	
ac VHT80	MCS0	42	

<u>UNII-3</u>

IEEE Std 802 11	Rate Channel		Soft set value
			ANT2
		149	
a20	6M	157	
		165	
		149	
n HT20	MCS0	157	
		165	
> HT40	MCSO	151	default
11 H140	10050	159	
		149	
ac VHT20	MCS0	157	
		165	
	MCSO	151	
	1000	159	
ac VHT80	MCS0	155	



5.7. THE WORSE CASE CONFIGURATIONS

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

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

Test channels referring to section 5.4.

Maximum power setting referring to section 5.6.

Worst case Data Rates declared by the customer:

802.11a20 mode: 6 Mbps 802.11n HT20 mode: MCS0 802.11n HT40 mode: MCS0 802.11ac VHT20 mode: MCS0 802.11ac VHT40 mode: MCS0 802.11ac VHT80 mode: MCS0

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

Note: The EUT have two wireless modules, one is called module SKI.WB7668U.1 and the other one called module SKI.WB8821CU.1.

Condition	Technology		Support (YES/NO)
1 (Module SKI.WB7668U.1)	WLAN(2.4G)	WLAN(5G)	NO
2 (Module SKI.WB8821CU.1)	WLAN(2.4G)	WLAN(5G)	NO

Co-Location condition.

Condition	Technology	Technology	Support
Condition	(Module SKI.WB7668U.1)	(Module SKI.WB8821CU.1)	(YES/NO)
1	WLAN (2.4G)	WLAN (2.4G)	YES
2	WLAN (5G)	WLAN (5G)	YES
3	WLAN (2.4G)	WLAN (5G)	YES
4	WLAN (5G)	WLAN (2.4G)	YES

For the Co-Location test result please refer to test report 4789531252-18.



5.8. DESCRIPTION OF TEST SETUP

SUPPORT EQUIPMENT

Item	Equipment	Brand Name	Model Name	Remarks
1	Laptop	ThinkPad	TP00094A	/
2	AC adapter	Yealink	GQ36-120300-AU	Input: AC 100-240V, 50/60Hz 1.0A Output: DC 12V 3.0A
3	Monitor	DELL	P2715Qt	27 inch
4	Mouse	Lenovo	NO28UKB	/
4	USB TO UART	/	/	/
5	Earphone	Apple	/	/
6	RJ45 Terminal load	Adafruit	485-4511	/

I/O CABLES

Item	Port	Connector Type	Cable Type	Cable Length(m)	Remarks
1	USB	/	/	1	/
2	RJ45	/	/	1	/
3	HDMI	/	/	1	/

ACCESSORIES

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

TEST SETUP

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

SETUP DIAGRAM FOR TESTS



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6. MEASURING INSTRUMENT AND SOFTWARE USED

	Conducted Emissions						
			Instrum	ent			
Used	Equipment	Manufactur er	Model N	۱o.	Serial No.	Last Cal.	Next Cal.
\checkmark	EMI Test Receiver	R&S	ESR3	}	101961	Dec.05,2019	Dec.05,2020
V	Two-Line V- Network	R&S	ENV21	6	101983	Dec.05,2019	Dec.05,2020
			Softwa	are			
Used	Des	cription		Manu	lfacturer	Name	Version
V	Test Software for C	Conducted di	sturbance	F	arad	EZ-EMC	Ver. UL-3A1
		F	Radiated En	nissio	ns		
			Instrum	nent			
Used	Equipment	Manufactur er	Model N	۱o.	Serial No.	Last Cal.	Next Cal.
V	MXE EMI Receiver	KESIGHT	N9038	A	MY56400 036	Dec.06,2019	Dec.06,2020
V	Hybrid Log Periodic Antenna	TDK	HLP-300)3C	130960	Sep.17, 2018	Sep.17, 2021
\checkmark	Preamplifier	HP	8447D		2944A090 99	Dec.05,2019	Dec.05,2020
\checkmark	EMI Measurement Receiver	R&S	ESR26		101377	Dec.05,2019	Dec.05,2020
\checkmark	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
V	Preamplifier	TDK	PA-02-0	118	TRS-305- 00066	Dec.05,2019	Dec.05,2020
\checkmark	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
\checkmark	Loop antenna	Schwarzbe ck	1519E	3	00008	Jan.07, 2019	Jan.07, 2022
V	Band Reject Filter	Wainwright	WRCJV12- 5725-5850- 40SS	5695- 5880-	4	Dec.05,2019	Dec.05,2020
V	Band Reject Filter	Wainwright	WRCJV20- 5150-5350- 60SS	5120- 5380-	2	Dec.05,2019	Dec.05,2020
\checkmark	High Pass Filter	Wainwright	WHKX10-9 6500-1800	5850- -40SS	4	Dec.05,2019	Dec.05,2020



	Software							
Used	Description			Manu	anufacturer		Name	Version
\checkmark	Test Software for R	adiated distu	irbance	Fa	arad	ad EZ-EMC		Ver. UL-3A1
Other instruments								
Used	Equipment	Manufactur er	Mode	l No.	Serial	No.	Last Cal.	Next Cal.
\checkmark	Spectrum Analyzer	Keysight	N903	30A	MY554 ²	10512	Dec.06,2019	Dec.06,2020
V	Power sensor, Power Meter	R&S	OSP	120	1009)21	Dec.06,2019	Dec.06,2020
V	Temperature & Humidity Chamber	SANMOOD	SG-80-	-CC-2	208	88	Dec.06,2019	Dec.06,2020
\checkmark	DC power supply	Array	366	2A	A1512	2015	Dec.05,2019	Dec.05,2020



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.

TEST SETUP



TEST ENVIRONMENT

Temperature	26.3°C	Relative Humidity	60.1%
Atmosphere Pressure	101kPa	Test Voltage	AC120V,60Hz

RESULTS

Please refer to appendix D.



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

<u>LIMITS</u>

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

TEST PROCEDURE

Refer to KDB 789033 D02 General U-NII Test Procedures New Rules v02r01 section II.C1. for 26dB 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 6dB Emission Bandwidth: RBW=100kHz For 26dB Emission bandwidth: approximately 1% of the EBW. For 99% Occupied Bandwidth: approximately 1% ~ 5% of the OBW.
VBW	For 6dB Bandwidth: ≥ 3*RBW For 26dB Bandwidth: approximately three times 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.



TEST SETUP



TEST ENVIRONMENT

Temperature	26.3°C	Relative Humidity	60.1%
Atmosphere Pressure	101kPa	Test Voltage	AC120V,60Hz

RESULTS

Please refer to Appendix A1&A2&A3.



7.3. CONDUCTED OUTPUT POWER

LIMITS

CFR 47 FCC Part15, Subpart E				
Test Item	Limit	Frequency Range (MHz)		
Conducted Output Power	 Outdoor Access Point: 1W (30dBm) Indoor Access Point: 1W (30dBm) Fixed Point-To-Point Access Points: 1W (30dBm) Client Devices: 250mW (24dBm) 	5150 ~ 5250		
	Shall not exceed 1 Watt (30dBm).	5725 ~ 5850		

ISED RSS-247 ISSUE 2				
Test Item	Limit	Frequency Range (MHz)		
Conducted Output Power	The maximum e.i.r.p. shall not exceed 200 mW (23dBm) or 10 + 10 log ₁₀ B, dBm, whichever power is less. B is the 99% emission bandwidth in megahertz.	5150 ~ 5250		
or e.i.r.p.	Shall not exceed 1 Watt (30dBm). The e.i.r.p. shall not exceed 4 W	5725 ~ 5850		

Note:

The above limits are based upon the maximum antenna gain does not exceed 6 dBi.

If transmitting antennas of directional gain greater than 6 dBi are used, the maximum conducted output power shall be reduced by the amount in dB that the directional gain of the antenna exceeds 6 dBi.



TEST PROCEDURE

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

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%).

TEST SETUP



TEST ENVIRONMENT

Temperature	26.3°C	Relative Humidity	60.1%
Atmosphere Pressure	101kPa	Test Voltage	AC120V,60Hz

RESULTS

Please refer to Appendix B.



7.4. POWER SPECTRAL DENSITY

<u>LIMITS</u>

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

ISED RSS-247 ISSUE 2		
Test Item	Limit	Frequency Range (MHz)
Power Spectral Density	The e.i.r.p. spectral density shall not exceed 10 dBm in any 1.0 MHz band.	5150 ~ 5250
	30dBm/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.



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

For U-NII-1:

Center Frequency	The center frequency of the channel under test
Detector	RMS
RBW	1MHz
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	500kHz
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/500kHz reference bandwidth.

TEST SETUP



TEST ENVIRONMENT

Temperature	26.3C	Relative Humidity	60.1%
Atmosphere Pressure	101kPa	Test Voltage	AC120V,60Hz

RESULTS

Please refer to Appendix C.



8. RADIATED TEST RESULTS

LIMITS

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

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

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

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

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

ISED General field strength limits at frequencies below 30 MHz

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

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

ISED Restricted bands refer to ISED RSS-GEN Clause 8.10



Table 7 – Restricted frequency bands ^{Note 1}		
MHz	MHz	GHz
0.090 - 0.110	149.9 - 150.05	9.0 - 9.2
0.495 - 0.505	158.52475 - 158.52525	9.3 - 9.5
2.1735 - 2.1905	158.7 - 158.9	10.6 - 12.7
3.020 - 3.026	162.0125 - 167.17	13.25 - 13.4
4.125 - 4.128	167.72 - 173.2	14.47 - 14.5
4.17725 - 4.17775	240 - 285	15.35 - 16.2
4.20725 - 4.20775	322 - 335.4	17.7 - 21.4
5.677 - 5.683	399.9 - 410	22.01 - 23.12
6.215 - 6.218	608 - 614	23.6 - 24.0
6.26775 - 6.26825	960 - 1427	31.2 - 31.8
6.31175 - 6.31225	1435 - 1626.5	36.43 - 36.5
8.291 - 8.294	1645.5 - 1648.5	Above 38.6
8.362 - 8.366	1660 - 1710	
8.37625 - 8.38675	1718.8 - 1722.2	
8.41425 - 8.41475	2200 - 2300	
12.29 - 12.293	2310 - 2390	
12.51975 - 12.52025	2483.5 - 2500	
12.57675 - 12.57725	2655 - 2900	
13.36 - 13.41	3260 - 3267	
18.42 - 18.423	3332 - 3339	
16.69475 - 16.69525	3345.8 - 3358	
16.80425 - 16.80475	3500 - 4400	
25.5 - 25.67	4500 - 5150	
37.5 - 38.25	5350 - 5460	
73 - 74.6	7250 - 7750	
74.8 - 75.2	8025 - 8500	
108 - 138		

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

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

MHz	MHz	MHz	GHz
0.090-0.110	16.42-16.423	399.9-410	4.5-5.15
¹ 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	(2)
13.36-13.41			

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

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



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

Note:

*1 beyond 75 MHz or more above of the band edge.

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

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

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



TEST SETUP AND PROCEDURE

Below 30MHz



The setting of the spectrum analyser

RBW	200Hz (From 9kHz to 0.15MHz)/ 9kHz (From 0.15MHz to 30MHz)
VBW	200Hz (From 9kHz to 0.15MHz)/ 9kHz (From 0.15MHz to 30MHz)
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 80cm 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. The radiated emission limits are based on measurements employing a CISPR quasi-peak detector except for the frequency bands 9-90 kHz, 110-490 kHz and above 1000 MHz. Radiated emission limits in these three bands are based on measurements employing an average detector.

6. For measurement below 1GHz, the initial step in collecting conducted emission data is a spectrum analyzer peak detector mode pre-scanning the measurement frequency range. Significant peaks are then marked and then Quasi Peak and average detector mode remeasured. If the emission level of the EUT measured by the peak detector is 3 dB lower than the applicable limit, the peak emission level will be reported. Otherwise, the emission measurement will be repeated using the quasi-peak and average detector and reported.

7. Although these tests were performed other than open field site, adequate comparison measurements were confirmed against 30m open field site. Therefore sufficient tests were made to demonstrate that the alternative site produces results that correlate with the ones of tests made in an open field site based on KDB 414788.



Below 1G and above 30MHz



The setting of the spectrum analyser

RBW	120kHz
VBW	300kHz
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 80cm 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 1GHz, 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.





The setting of the spectrum analyser

RBW	1MHz
VBW	PEAK: 3MHz 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 1.5m 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 1GHz, 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.





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 does not support simultaneous transmission.

Note 3: The EUT was fully exercised with external accessories during the test. In the case of multiple accessory external ports, an external accessory shall be connected to one of each type of port.

TEST ENVIRONMENT

Temperature	23.5°C	Relative Humidity	64%
Atmosphere Pressure	101kPa	Test Voltage	AC120V,60HZ

RESULTS



8.1. 802.11a20 MODE

8.1.1. UNII-1 BAND

RESTRICTED BANDEDGE (LOW CHANNEL, HORIZONTAL)



<u>PEAK</u>

No.	Frequency	Reading	Correct	Result	Limit	Margin	Remark
	(MHz)	(dBuV)	(dB/m)	(dBuV/m)	(dBuV/m)	(dB)	
1	5150.000	16.69	40.46	57.15	74.00	-16.85	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.

AVG



No.	Frequency	Reading	Correct	Result	Limit	Margin	Remark
	(MHz)	(dBuV)	(dB/m)	(dBuV/m)	(dBuV/m)	(dB)	
1	5150.000	2.68	40.46	43.14	54.00	-10.86	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.



RESTRICTED BANDEDGE (LOW CHANNEL, VERTICAL)

<u>PEAK</u>



No.	Frequency	Reading	Correct	Result	Limit	Margin	Remark
	(MHz)	(dBuV)	(dB/m)	(dBuV/m)	(dBuV/m)	(dB)	
1	5150.000	16.02	40.46	56.48	74.00	-17.52	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.

AVG



No.	Frequency	Reading	Correct	Result	Limit	Margin	Remark
	(MHz)	(dBuV)	(dB/m)	(dBuV/m)	(dBuV/m)	(dB)	
1	5150.000	2.44	40.46	42.90	54.00	-11.10	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.



HARMONICS AND SPURIOUS EMISSIONS (LOW CHANNEL, HORIZONTAL)

<u>1-7GHz</u>



No.	Frequency	Reading	Correct	Result	Limit	Margin	Remark
	(MHz)	(dBuV)	(dB/m)	(dBuV/m)	(dBuV/m)	(dB)	
1	1108.000	66.42	-13.53	52.89	74.00	-21.11	peak
2	1480.000	58.25	-12.40	45.85	74.00	-28.15	peak
3	2410.000	50.75	-8.60	42.15	74.00	-31.85	peak
4	5110.000	41.32	1.43	42.75	74.00	-31.25	peak
5	5614.000	40.90	2.02	42.92	74.00	-31.08	peak
6	6754.000	37.06	4.45	41.51	74.00	-32.49	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.


No.	Frequency	Reading	Correct	Result	Limit	Margin	Remark
	(MHz)	(dBuV)	(dB/m)	(dBuV/m)	(dBuV/m)	(dB)	
1	7891.000	39.82	7.05	46.87	74.00	-27.13	peak
2	9244.000	37.98	9.29	47.27	74.00	-26.73	peak
3	11356.000	36.09	13.35	49.44	74.00	-24.56	peak
4	12731.000	35.34	15.26	50.60	74.00	-23.40	peak
5	14436.000	35.57	16.10	51.67	74.00	-22.33	peak
6	16867.000	32.80	20.23	53.03	74.00	-20.97	peak

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

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

3. Peak: Peak detector.

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

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

6. Owing to the highest peak level of unwanted emission out of the restricted bands



HARMONICS AND SPURIOUS EMISSIONS (LOW CHANNEL, VERTICAL)

87.0 dBu¥/m 77 67 57 47 37 27 17 7.0 1000.000 1600.000 2200.000 2800.000 3400.000 4000.00 4600.000 5200.000 5800.000 7000.000 MHz

No.	Frequency	Reading	Correct	Result	Limit	Margin	Remark
	(MHz)	(dBuV)	(dB/m)	(dBuV/m)	(dBuV/m)	(dB)	
1	1108.000	66.80	-13.53	53.27	74.00	-20.73	peak
2	1252.000	61.30	-13.00	48.30	74.00	-25.70	peak
3	2596.000	50.60	-8.18	42.42	74.00	-31.58	peak
4	2968.000	53.30	-6.22	47.08	74.00	-26.92	peak
5	4264.000	49.20	-1.84	47.36	74.00	-26.64	peak
6	6010.000	39.21	2.61	41.82	74.00	-32.18	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.

<u>1-7GHz</u>



No.	Frequency	Reading	Correct	Result	Limit	Margin	Remark
	(MHz)	(dBuV)	(dB/m)	(dBuV/m)	(dBuV/m)	(dB)	
1	7715.000	40.89	7.17	48.06	74.00	-25.94	peak
2	9123.000	38.21	9.51	47.72	74.00	-26.28	peak
3	11807.000	35.18	14.52	49.70	74.00	-24.30	peak
4	13567.000	34.87	15.89	50.76	74.00	-23.24	peak
5	15635.000	34.05	16.77	50.82	74.00	-23.18	peak
6	17879.000	29.15	23.57	52.72	74.00	-21.28	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



HARMONICS AND SPURIOUS EMISSIONS (MID CHANNEL, HORIZONTAL)

<u>1-7GHz</u>



No.	Frequency	Reading	Correct	Result	Limit	Margin	Remark
	(MHz)	(dBuV)	(dB/m)	(dBuV/m)	(dBuV/m)	(dB)	
1	1108.000	66.71	-13.53	53.18	74.00	-20.82	peak
2	1480.000	57.57	-12.40	45.17	74.00	-28.83	peak
3	2878.000	48.17	-6.60	41.57	74.00	-32.43	peak
4	5110.000	41.16	1.43	42.59	74.00	-31.41	peak
5	6004.000	39.72	2.61	42.33	74.00	-31.67	peak
6	6784.000	37.10	4.44	41.54	74.00	-32.46	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



No.	Frequency	Reading	Correct	Result	Limit	Margin	Remark
	(MHz)	(dBuV)	(dB/m)	(dBuV/m)	(dBuV/m)	(dB)	
1	7132.000	40.70	6.82	47.52	74.00	-26.48	peak
2	8958.000	37.38	9.76	47.14	74.00	-26.86	peak
3	11576.000	35.73	13.69	49.42	74.00	-24.58	peak
4	13578.000	34.79	15.89	50.68	74.00	-23.32	peak
5	14821.000	34.61	16.03	50.64	74.00	-23.36	peak
6	17054.000	32.01	20.79	52.80	74.00	-21.20	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 High Pass 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



HARMONICS AND SPURIOUS EMISSIONS (MID CHANNEL, VERTICAL)

<u>1-7GHz</u>



No.	Frequency	Reading	Correct	Result	Limit	Margin	Remark
	(MHz)	(dBuV)	(dB/m)	(dBuV/m)	(dBuV/m)	(dB)	
1	1108.000	66.60	-13.53	53.07	74.00	-20.93	peak
2	1318.000	59.69	-12.90	46.79	74.00	-27.21	peak
3	1726.000	56.87	-10.66	46.21	74.00	-27.79	peak
4	2974.000	51.66	-6.18	45.48	74.00	-28.52	peak
5	4264.000	49.27	-1.84	47.43	74.00	-26.57	peak
6	6388.000	37.57	3.40	40.97	74.00	-33.03	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. 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



No.	Frequency	Reading	Correct	Result	Limit	Margin	Remark
	(MHz)	(dBuV)	(dB/m)	(dBuV/m)	(dBuV/m)	(dB)	
1	8232.000	38.37	8.28	46.65	74.00	-27.35	peak
2	8980.000	37.45	9.98	47.43	74.00	-26.57	peak
3	11422.000	35.98	13.48	49.46	74.00	-24.54	peak
4	13534.000	34.79	15.93	50.72	74.00	-23.28	peak
5	14799.000	35.86	16.03	51.89	74.00	-22.11	peak
6	17934.000	29.84	23.62	53.46	74.00	-20.54	peak

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

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

3. Peak: Peak detector.

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

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



HARMONICS AND SPURIOUS EMISSIONS (HIGH CHANNEL, HORIZONTAL)

<u>1-7GHz</u>



No.	Frequency	Reading	Correct	Result	Limit	Margin	Remark
	(MHz)	(dBuV)	(dB/m)	(dBuV/m)	(dBuV/m)	(dB)	
1	1108.000	66.45	-13.53	52.92	74.00	-21.08	peak
2	1480.000	57.70	-12.40	45.30	74.00	-28.70	peak
3	2596.000	48.39	-8.18	40.21	74.00	-33.79	peak
4	4954.000	41.43	0.77	42.20	74.00	-31.80	peak
5	5464.000	42.25	1.72	43.97	74.00	-30.03	peak
6	6658.000	36.92	4.46	41.38	74.00	-32.62	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



No.	Frequency	Reading	Correct	Result	Limit	Margin	Remark
	(MHz)	(dBuV)	(dB/m)	(dBuV/m)	(dBuV/m)	(dB)	
1	7880.000	38.76	7.08	45.84	74.00	-28.16	peak
2	8936.000	37.61	9.53	47.14	74.00	-26.86	peak
3	11752.000	34.72	14.33	49.05	74.00	-24.95	peak
4	13985.000	34.21	16.13	50.34	74.00	-23.66	peak
5	15624.000	33.82	16.76	50.58	74.00	-23.42	peak
6	17637.000	30.09	22.29	52.38	74.00	-21.62	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



HARMONICS AND SPURIOUS EMISSIONS (HIGH CHANNEL, VERTICAL)

<u>1-7GHz</u>



No.	Frequency	Reading	Correct	Result	Limit	Margin	Remark
	(MHz)	(dBuV)	(dB/m)	(dBuV/m)	(dBuV/m)	(dB)	
1	1102.000	65.93	-13.56	52.37	74.00	-21.63	peak
2	1738.000	57.92	-10.57	47.35	74.00	-26.65	peak
3	2968.000	51.87	-6.22	45.65	74.00	-28.35	peak
4	4264.000	49.32	-1.84	47.48	74.00	-26.52	peak
5	5662.000	39.34	1.99	41.33	74.00	-32.67	peak
6	6790.000	37.25	4.44	41.69	74.00	-32.31	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



No.	Frequency	Reading	Correct	Result	Limit	Margin	Remark
	(MHz)	(dBuV)	(dB/m)	(dBuV/m)	(dBuV/m)	(dB)	
1	7891.000	39.11	7.05	46.16	74.00	-27.84	peak
2	9574.000	36.56	10.49	47.05	74.00	-26.95	peak
3	11510.000	35.21	13.59	48.80	74.00	-25.20	peak
4	12676.000	34.79	15.23	50.02	74.00	-23.98	peak
5	14865.000	34.17	16.03	50.20	74.00	-23.80	peak
6	17901.000	29.22	23.59	52.81	74.00	-21.19	peak

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

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

3. Peak: Peak detector.

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

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



8.1.2. UNII-3 BAND

ANTENNA 1 TEST RESULTS (WORST CASE)

RESTRICTED BANDEDGE (LOW CHANNEL, HORIZONTAL)



PEAK

No.	Frequency	Reading	Correct	Result	Limit	Margin	Remark
	(MHz)	(dBuV)	(dB/m)	(dBuV/m)	(dBuV/m)	(dB)	
1	5644.800	18.08	41.47	59.55	68.20	-8.65	peak
2	5725.000	16.84	41.61	58.45	122.20	-63.75	peak

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

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

3. Peak: Peak detector.



RESTRICTED BANDEDGE (LOW CHANNEL, VERTICAL)

<u>PEAK</u>



No.	Frequency	Reading	Correct	Result	Limit	Margin	Remark
	(MHz)	(dBuV)	(dB/m)	(dBuV/m)	(dBuV/m)	(dB)	
1	5650.080	17.14	41.48	58.62	68.26	-9.64	peak
2	5725.000	15.70	41.61	57.31	122.20	-64.89	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.



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	5850.000	16.05	42.89	58.94	122.20	-63.26	peak
2	5940.875	18.49	43.15	61.64	68.20	-6.56	peak

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

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

3. Peak: Peak detector.



RESTRICTED BANDEDGE (HIGH CHANNEL, VERTICAL)

<u>PEAK</u>



No.	Frequency	Reading	Correct	Result	Limit	Margin	Remark
	(MHz)	(dBuV)	(dB/m)	(dBuV/m)	(dBuV/m)	(dB)	
1	5850.000	17.05	42.89	59.94	122.20	-62.26	peak
2	5941.090	19.50	43.15	62.65	68.20	-5.55	peak

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

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

3. Peak: Peak detector.



No.

1

2

3

4

5

6

Remark

peak

peak

peak

peak

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peak

HARMONICS AND SPURIOUS EMISSIONS (LOW CHANNEL, HORIZONTAL)

87.0 dBu¥/m 77 67 57 47 Mundulum 37 27 17 7.0 1000.000 1600.000 2200.000 2800.000 3400.000 4000.00 4600.000 5200.000 5800.000 7000.000 MHz

(MHz)	(dBuV)	(dB/m)	(dBuV/m)	(dBuV/m)	(dB)
1114.000	66.09	-13.49	52.60	74.00	-21.40
1630.000	56.90	-11.39	45.51	74.00	-28.49
2890.000	45.33	-6.56	38.77	74.00	-35.23
4780.000	40.60	0.41	41.01	74.00	-32.99
5746.000	50.12	1.97	52.09	74.00	-21.91
5772.000	36.42	4.45	40.87	74.00	-33.13

Correct

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

Reading

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

Result

Limit

Margin

3. Peak: Peak detector.

Frequency

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.

1-7GHz





No.	Frequency	Reading	Correct	Result	Limit	Margin	Remark
	(MHz)	(dBuV)	(dB/m)	(dBuV/m)	(dBuV/m)	(dB)	
1	7715.000	38.67	7.17	45.84	74.00	-28.16	peak
2	8958.000	37.23	9.76	46.99	74.00	-27.01	peak
3	11565.000	35.29	13.66	48.95	74.00	-25.05	peak
4	13589.000	35.24	15.87	51.11	74.00	-22.89	peak
5	15987.000	33.27	17.68	50.95	74.00	-23.05	peak
6	17758.000	29.99	23.19	53.18	74.00	-20.82	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. 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



HARMONICS AND SPURIOUS EMISSIONS (LOW CHANNEL, VERTICAL)

<u>1-7GHz</u>



No.	Frequency	Reading	Correct	Result	Limit	Margin	Remark
	(MHz)	(dBuV)	(dB/m)	(dBuV/m)	(dBuV/m)	(dB)	
1	1108.000	64.34	-13.53	50.81	74.00	-23.19	peak
2	1252.000	63.02	-13.00	50.02	74.00	-23.98	peak
3	1738.000	57.51	-10.57	46.94	74.00	-27.06	peak
4	2968.000	52.83	-6.22	46.61	74.00	-27.39	peak
5	4264.000	49.54	-1.84	47.70	74.00	-26.30	peak
6	5746.000	41.66	1.97	43.63	74.00	-30.37	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



No.	Frequency	Reading	Correct	Result	Limit	Margin	Remark
	(MHz)	(dBuV)	(dB/m)	(dBuV/m)	(dBuV/m)	(dB)	
1	7880.000	39.93	7.08	47.01	74.00	-26.99	peak
2	9079.000	37.48	9.75	47.23	74.00	-26.77	peak
3	11433.000	35.51	13.50	49.01	74.00	-24.99	peak
4	13556.000	35.24	15.90	51.14	74.00	-22.86	peak
5	15558.000	34.13	16.57	50.70	74.00	-23.30	peak
6	17780.000	29.27	23.35	52.62	74.00	-21.38	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 omplies with the lowest limit (54 dBuV/m), so all the test point was deemed to comply with the



HARMONICS AND SPURIOUS EMISSIONS (MID CHANNEL, HORIZONTAL)

<u>1-7GHz</u>



No.	Frequency	Reading	Correct	Result	Limit	Margin	Remark
	(MHz)	(dBuV)	(dB/m)	(dBuV/m)	(dBuV/m)	(dB)	
1	1114.000	64.29	-13.49	50.80	74.00	-23.20	peak
2	1630.000	55.94	-11.39	44.55	74.00	-29.45	peak
3	2890.000	46.16	-6.56	39.60	74.00	-34.40	peak
4	4264.000	42.24	-1.84	40.40	74.00	-33.60	peak
5	5782.000	47.45	1.95	49.40	74.00	-24.60	peak
6	6802.000	37.51	4.44	41.95	74.00	-32.05	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



No.	Frequency	Reading	Correct	Result	Limit	Margin	Remark
	(MHz)	(dBuV)	(dB/m)	(dBuV/m)	(dBuV/m)	(dB)	
1	7748.000	40.14	7.25	47.39	74.00	-26.61	peak
2	9563.000	37.00	10.46	47.46	74.00	-26.54	peak
3	11851.000	35.05	14.45	49.50	74.00	-24.50	peak
4	13996.000	35.46	16.12	51.58	74.00	-22.42	peak
5	16020.000	33.22	17.77	50.99	74.00	-23.01	peak
6	17813.000	29.32	23.50	52.82	74.00	-21.18	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 (MID CHANNEL, VERTICAL)

<u>1-7GHz</u>



No.	Frequency	Reading	Correct	Result	Limit	Margin	Remark
	(MHz)	(dBuV)	(dB/m)	(dBuV/m)	(dBuV/m)	(dB)	
1	1108.000	64.34	-13.53	50.81	74.00	-23.19	peak
2	1228.000	61.56	-13.02	48.54	74.00	-25.46	peak
3	1744.000	57.09	-10.52	46.57	74.00	-27.43	peak
4	2596.000	51.84	-8.18	43.66	74.00	-30.34	peak
5	2968.000	53.21	-6.22	46.99	74.00	-27.01	peak
6	4264.000	49.64	-1.84	47.80	74.00	-26.20	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



No.	Frequency	Reading	Correct	Result	Limit	Margin	Remark
	(MHz)	(dBuV)	(dB/m)	(dBuV/m)	(dBuV/m)	(dB)	
1	7715.000	39.65	7.17	46.82	74.00	-27.18	peak
2	10245.000	36.46	10.52	46.98	74.00	-27.02	peak
3	12599.000	35.08	15.16	50.24	74.00	-23.76	peak
4	14436.000	35.18	16.10	51.28	74.00	-22.72	peak
5	16834.000	31.73	20.17	51.90	74.00	-22.10	peak
6	17934.000	29.27	23.62	52.89	74.00	-21.11	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



HARMONICS AND SPURIOUS EMISSIONS (HIGH CHANNEL, HORIZONTAL)

<u>1-7GHz</u>



No.	Frequency	Reading	Correct	Result	Limit	Margin	Remark
	(MHz)	(dBuV)	(dB/m)	(dBuV/m)	(dBuV/m)	(dB)	
1	1114.000	65.40	-13.49	51.91	74.00	-22.09	peak
2	1630.000	56.37	-11.39	44.98	74.00	-29.02	peak
3	2890.000	46.88	-6.56	40.32	74.00	-33.68	peak
4	4588.000	40.68	-0.73	39.95	74.00	-34.05	peak
5	5818.000	48.85	2.00	50.85	74.00	-23.15	peak
6	6790.000	37.08	4.44	41.52	74.00	-32.48	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



No.	Frequency	Reading	Correct	Result	Limit	Margin	Remark
	(MHz)	(dBuV)	(dB/m)	(dBuV/m)	(dBuV/m)	(dB)	
1	7847.000	38.88	7.20	46.08	74.00	-27.92	peak
2	8958.000	37.16	9.76	46.92	74.00	-27.08	peak
3	11752.000	35.21	14.33	49.54	74.00	-24.46	peak
4	13523.000	34.48	15.93	50.41	74.00	-23.59	peak
5	16317.000	32.40	18.60	51.00	74.00	-23.00	peak
6	17824.000	29.41	23.52	52.93	74.00	-21.07	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



HARMONICS AND SPURIOUS EMISSIONS (HIGH CHANNEL, VERTICAL)

<u>1-7GHz</u>



No.	Frequency	Reading	Correct	Result	Limit	Margin	Remark
	(MHz)	(dBuV)	(dB/m)	(dBuV/m)	(dBuV/m)	(dB)	
1	1102.000	66.15	-13.56	52.59	74.00	-21.41	peak
2	1252.000	62.67	-13.00	49.67	74.00	-24.33	peak
3	1720.000	56.99	-10.71	46.28	74.00	-27.72	peak
4	2128.000	53.26	-9.56	43.70	74.00	-30.30	peak
5	2968.000	52.59	-6.22	46.37	74.00	-27.63	peak
6	4264.000	50.17	-1.84	48.33	74.00	-25.67	peak

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

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

3. Peak: Peak detector.

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

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



No.	Frequency	Reading	Correct	Result	Limit	Margin	Remark
	(MHz)	(dBuV)	(dB/m)	(dBuV/m)	(dBuV/m)	(dB)	
1	7836.000	38.56	7.24	45.80	74.00	-28.20	peak
2	9563.000	35.89	10.46	46.35	74.00	-27.65	peak
3	11081.000	37.02	12.79	49.81	74.00	-24.19	peak
4	12599.000	35.58	15.16	50.74	74.00	-23.26	peak
5	14777.000	35.00	16.00	51.00	74.00	-23.00	peak
6	17868.000	29.71	23.56	53.27	74.00	-20.73	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



8.2. 802.11ac VHT20 MODE

8.2.1. UNII-1 BAND

RESTRICTED BANDEDGE (LOW CHANNEL, HORIZONTAL)



<u>PEAK</u>

No.	Frequency	Reading	Correct	Result	Limit	Margin	Remark
	(MHz)	(dBuV)	(dB/m)	(dBuV/m)	(dBuV/m)	(dB)	
1	5150.000	16.00	40.46	56.46	74.00	-17.54	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.

AVG



No.	Frequency	Reading	Correct	Result	Limit	Margin	Remark
	(MHz)	(dBuV)	(dB/m)	(dBuV/m)	(dBuV/m)	(dB)	
1	5150.000	2.52	40.46	42.98	54.00	-11.02	AVG

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

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

3. AVG: VBW=1/Ton, where: Ton is the transmitting duration.

4. For the transmitting duration, please refer to clause 7.1.



RESTRICTED BANDEDGE (LOW CHANNEL, VERTICAL)

<u>PEAK</u>



No.	Frequency	Reading	Correct	Result	Limit	Margin	Remark
	(MHz)	(dBuV)	(dB/m)	(dBuV/m)	(dBuV/m)	(dB)	
1	5150.000	16.33	40.46	56.79	74.00	-17.21	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.

AVG



No.	Frequency	Reading	Correct	Result	Limit	Margin	Remark
	(MHz)	(dBuV)	(dB/m)	(dBuV/m)	(dBuV/m)	(dB)	
1	5150.000	2.32	40.46	42.78	54.00	-11.22	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.



HARMONICS AND SPURIOUS EMISSIONS (LOW CHANNEL, HORIZONTAL)

<u>1-7GHz</u>



No.	Frequency	Reading	Correct	Result	Limit	Margin	Remark
	(MHz)	(dBuV)	(dB/m)	(dBuV/m)	(dBuV/m)	(dB)	
1	1108.000	65.76	-13.53	52.23	74.00	-21.77	peak
2	1630.000	55.26	-11.39	43.87	74.00	-30.13	peak
3	2872.000	47.15	-6.63	40.52	74.00	-33.48	peak
4	5062.000	42.18	1.18	43.36	74.00	-30.64	peak
5	5926.000	39.66	2.36	42.02	74.00	-31.98	peak
6	6628.000	36.50	4.47	40.97	74.00	-33.03	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. 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



No.	Frequency	Reading	Correct	Result	Limit	Margin	Remark
	(MHz)	(dBuV)	(dB/m)	(dBuV/m)	(dBuV/m)	(dB)	
1	7616.000	38.89	6.93	45.82	74.00	-28.18	peak
2	10388.000	36.02	11.06	47.08	74.00	-26.92	peak
3	12313.000	35.64	14.59	50.23	74.00	-23.77	peak
4	13589.000	34.76	15.87	50.63	74.00	-23.37	peak
5	16097.000	32.79	17.91	50.70	74.00	-23.30	peak
6	17945.000	29.90	23.63	53.53	74.00	-20.47	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



HARMONICS AND SPURIOUS EMISSIONS (LOW CHANNEL, VERTICAL)

<u>1-7GHz</u>



No.	Frequency	Reading	Correct	Result	Limit	Margin	Remark
	(MHz)	(dBuV)	(dB/m)	(dBuV/m)	(dBuV/m)	(dB)	
1	1102.000	65.60	-13.56	52.04	74.00	-21.96	peak
2	1456.000	59.32	-12.50	46.82	74.00	-27.18	peak
3	1738.000	58.76	-10.57	48.19	74.00	-25.81	peak
4	2968.000	52.27	-6.22	46.05	74.00	-27.95	peak
5	4264.000	49.38	-1.84	47.54	74.00	-26.46	peak
6	6868.000	37.14	4.60	41.74	74.00	-32.26	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



No.	Frequency	Reading	Correct	Result	Limit	Margin	Remark
	(MHz)	(dBuV)	(dB/m)	(dBuV/m)	(dBuV/m)	(dB)	
1	7770.000	38.52	7.30	45.82	74.00	-28.18	peak
2	9541.000	35.57	10.41	45.98	74.00	-28.02	peak
3	12588.000	35.49	15.14	50.63	74.00	-23.37	peak
4	13974.000	34.91	16.15	51.06	74.00	-22.94	peak
5	15250.000	35.30	15.87	51.17	74.00	-22.83	peak
6	17923.000	29.82	23.61	53.43	74.00	-20.57	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



HARMONICS AND SPURIOUS EMISSIONS (MID CHANNEL, HORIZONTAL)

<u>1-7GHz</u>



No.	Frequency	Reading	Correct	Result	Limit	Margin	Remark
	(MHz)	(dBuV)	(dB/m)	(dBuV/m)	(dBuV/m)	(dB)	
1	1114.000	64.92	-13.49	51.43	74.00	-22.57	peak
2	1630.000	55.75	-11.39	44.36	74.00	-29.64	peak
3	2698.000	49.09	-7.57	41.52	74.00	-32.48	peak
4	5110.000	42.08	1.43	43.51	74.00	-30.49	peak
5	5680.000	40.01	2.00	42.01	74.00	-31.99	peak
6	6874.000	38.05	4.61	42.66	74.00	-31.34	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


No.	Frequency	Reading	Correct	Result	Limit	Margin	Remark
	(MHz)	(dBuV)	(dB/m)	(dBuV/m)	(dBuV/m)	(dB)	
1	7748.000	39.32	7.25	46.57	74.00	-27.43	peak
2	9079.000	36.97	9.75	46.72	74.00	-27.28	peak
3	12291.000	34.60	14.54	49.14	74.00	-24.86	peak
4	14920.000	34.13	16.05	50.18	74.00	-23.82	peak
5	17131.000	32.10	21.27	53.37	74.00	-20.63	peak
6	17978.000	29.37	23.67	53.04	74.00	-20.96	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



HARMONICS AND SPURIOUS EMISSIONS (MID CHANNEL, VERTICAL)

<u>1-7GHz</u>



No.	Frequency	Reading	Correct	Result	Limit	Margin	Remark
	(MHz)	(dBuV)	(dB/m)	(dBuV/m)	(dBuV/m)	(dB)	
1	1102.000	65.52	-13.56	51.96	74.00	-22.04	peak
2	1174.000	63.84	-13.20	50.64	74.00	-23.36	peak
3	1744.000	55.90	-10.52	45.38	74.00	-28.62	peak
4	2974.000	52.78	-6.18	46.60	74.00	-27.40	peak
5	3562.000	48.93	-4.67	44.26	74.00	-29.74	peak
6	4258.000	48.57	-1.84	46.73	74.00	-27.27	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



No.	Frequency	Reading	Correct	Result	Limit	Margin	Remark
	(MHz)	(dBuV)	(dB/m)	(dBuV/m)	(dBuV/m)	(dB)	
1	8254.000	37.87	8.23	46.10	74.00	-27.90	peak
2	9288.000	37.26	9.49	46.75	74.00	-27.25	peak
3	11807.000	35.31	14.52	49.83	74.00	-24.17	peak
4	13490.000	33.79	15.96	49.75	74.00	-24.25	peak
5	15635.000	33.69	16.77	50.46	74.00	-23.54	peak
6	17923.000	29.69	23.61	53.30	74.00	-20.70	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



HARMONICS AND SPURIOUS EMISSIONS (HIGH CHANNEL, HORIZONTAL)

<u>1-7GHz</u>



No.	Frequency	Reading	Correct	Result	Limit	Margin	Remark
	(MHz)	(dBuV)	(dB/m)	(dBuV/m)	(dBuV/m)	(dB)	
1	1114.000	65.68	-13.49	52.19	74.00	-21.81	peak
2	1630.000	54.97	-11.39	43.58	74.00	-30.42	peak
3	3124.000	43.50	-5.82	37.68	74.00	-36.32	peak
4	5110.000	41.95	1.43	43.38	74.00	-30.62	peak
5	5518.000	40.44	1.84	42.28	74.00	-31.72	peak
6	6718.000	37.47	4.45	41.92	74.00	-32.08	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



No.	Frequency	Reading	Correct	Result	Limit	Margin	Remark
	(MHz)	(dBuV)	(dB/m)	(dBuV/m)	(dBuV/m)	(dB)	
1	7880.000	39.28	7.08	46.36	74.00	-27.64	peak
2	8980.000	37.74	9.98	47.72	74.00	-26.28	peak
3	11411.000	35.87	13.46	49.33	74.00	-24.67	peak
4	13556.000	34.91	15.90	50.81	74.00	-23.19	peak
5	15206.000	35.30	15.79	51.09	74.00	-22.91	peak
6	17967.000	30.01	23.65	53.66	74.00	-20.34	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



HARMONICS AND SPURIOUS EMISSIONS (HIGH CHANNEL, VERTICAL)

<u>1-7GHz</u>



No.	Frequency	Reading	Correct	Result	Limit	Margin	Remark
	(MHz)	(dBuV)	(dB/m)	(dBuV/m)	(dBuV/m)	(dB)	
1	1108.000	64.44	-13.53	50.91	74.00	-23.09	peak
2	1234.000	59.99	-13.02	46.97	74.00	-27.03	peak
3	1744.000	57.85	-10.52	47.33	74.00	-26.67	peak
4	2968.000	52.61	-6.22	46.39	74.00	-27.61	peak
5	4258.000	48.69	-1.84	46.85	74.00	-27.15	peak
6	5686.000	39.93	1.98	41.91	74.00	-32.09	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. 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.



No.	Frequency	Reading	Correct	Result	Limit	Margin	Remark
	(MHz)	(dBuV)	(dB/m)	(dBuV/m)	(dBuV/m)	(dB)	
1	7704.000	38.78	7.14	45.92	74.00	-28.08	peak
2	8969.000	36.85	9.88	46.73	74.00	-27.27	peak
3	11708.000	35.43	14.16	49.59	74.00	-24.41	peak
4	13578.000	34.50	15.89	50.39	74.00	-23.61	peak
5	15976.000	33.65	17.64	51.29	74.00	-22.71	peak
6	17912.000	29.80	23.61	53.41	74.00	-20.59	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



8.2.2. **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	5623.680	17.89	41.47	59.36	68.20	-8.84	peak
2	5725.000	16.82	41.61	58.43	122.20	-63.77	peak

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

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



RESTRICTED BANDEDGE (LOW CHANNEL, VERTICAL)

<u>PEAK</u>



No.	Frequency	Reading	Correct	Result	Limit	Margin	Remark
	(MHz)	(dBuV)	(dB/m)	(dBuV/m)	(dBuV/m)	(dB)	
1	5648.320	17.57	41.48	59.05	68.20	-9.15	peak
2	5725.000	16.34	41.61	57.95	122.20	-64.25	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.



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	5850.000	16.95	42.89	59.84	122.20	-62.36	peak
2	5926.255	18.90	43.40	62.30	68.20	-5.90	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.



RESTRICTED BANDEDGE (HIGH CHANNEL, VERTICAL)

<u>PEAK</u>



No.	Frequency	Reading	Correct	Result	Limit	Margin	Remark
	(MHz)	(dBuV)	(dB/m)	(dBuV/m)	(dBuV/m)	(dB)	
1	5850.000	16.87	42.89	59.76	122.20	-62.44	peak
2	5927.760	18.34	43.37	61.71	68.20	-6.49	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.



HARMONICS AND SPURIOUS EMISSIONS (LOW CHANNEL, HORIZONTAL)

<u>1-7GHz</u>



No.	Frequency	Reading	Correct	Result	Limit	Margin	Remark
	(MHz)	(dBuV)	(dB/m)	(dBuV/m)	(dBuV/m)	(dB)	
1	1114.000	65.12	-13.49	51.63	74.00	-22.37	peak
2	1630.000	56.14	-11.39	44.75	74.00	-29.25	peak
3	2326.000	52.61	-8.83	43.78	74.00	-30.22	peak
4	2896.000	47.64	-6.53	41.11	74.00	-32.89	peak
5	5746.000	50.48	1.97	52.45	74.00	-21.55	peak
6	6574.000	37.18	4.34	41.52	74.00	-32.48	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.





No.	Frequency	Reading	Correct	Result	Limit	Margin	Remark
	(MHz)	(dBuV)	(dB/m)	(dBuV/m)	(dBuV/m)	(dB)	
1	7847.000	39.00	7.20	46.20	74.00	-27.80	peak
2	8958.000	37.31	9.76	47.07	74.00	-26.93	peak
3	11422.000	35.49	13.48	48.97	74.00	-25.03	peak
4	13578.000	34.19	15.89	50.08	74.00	-23.92	peak
5	15921.000	33.09	17.39	50.48	74.00	-23.52	peak
6	17846.000	29.41	23.54	52.95	74.00	-21.05	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



HARMONICS AND SPURIOUS EMISSIONS (LOW CHANNEL, VERTICAL)

<u>1-7GHz</u>



No.	Frequency	Reading	Correct	Result	Limit	Margin	Remark
	(MHz)	(dBuV)	(dB/m)	(dBuV/m)	(dBuV/m)	(dB)	
1	1102.000	65.59	-13.56	52.03	74.00	-21.97	peak
2	1174.000	59.87	-13.20	46.67	74.00	-27.33	peak
3	1732.000	56.93	-10.62	46.31	74.00	-27.69	peak
4	2968.000	52.17	-6.22	45.95	74.00	-28.05	peak
5	4264.000	49.89	-1.84	48.05	74.00	-25.95	peak
6	6784.000	36.40	4.44	40.84	74.00	-33.16	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



No.	Frequency	Reading	Correct	Result	Limit	Margin	Remark
	(MHz)	(dBuV)	(dB/m)	(dBuV/m)	(dBuV/m)	(dB)	
1	7880.000	38.90	7.08	45.98	74.00	-28.02	peak
2	9574.000	36.78	10.49	47.27	74.00	-26.73	peak
3	11422.000	35.31	13.48	48.79	74.00	-25.21	peak
4	13446.000	34.72	15.96	50.68	74.00	-23.32	peak
5	14920.000	34.26	16.05	50.31	74.00	-23.69	peak
6	17813.000	29.59	23.50	53.09	74.00	-20.91	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



HARMONICS AND SPURIOUS EMISSIONS (MID CHANNEL, HORIZONTAL)

<u>1-7GHz</u>



No.	Frequency	Reading	Correct	Result	Limit	Margin	Remark
	(MHz)	(dBuV)	(dB/m)	(dBuV/m)	(dBuV/m)	(dB)	
1	1108.000	66.32	-13.53	52.79	74.00	-21.21	peak
2	1480.000	57.00	-12.40	44.60	74.00	-29.40	peak
3	2320.000	56.96	-8.84	48.12	74.00	-25.88	peak
4	3562.000	44.84	-4.67	40.17	74.00	-33.83	peak
5	5794.000	46.36	1.95	48.31	74.00	-25.69	peak
6	6724.000	36.88	4.45	41.33	74.00	-32.67	peak

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

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

3. Peak: Peak detector.

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

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



No.	Frequency	Reading	Correct	Result	Limit	Margin	Remark
	(MHz)	(dBuV)	(dB/m)	(dBuV/m)	(dBuV/m)	(dB)	
1	7891.000	39.02	7.05	46.07	74.00	-27.93	peak
2	9574.000	35.98	10.49	46.47	74.00	-27.53	peak
3	11345.000	35.97	13.34	49.31	74.00	-24.69	peak
4	13523.000	34.65	15.93	50.58	74.00	-23.42	peak
5	14227.000	34.83	16.14	50.97	74.00	-23.03	peak
6	17945.000	29.58	23.63	53.21	74.00	-20.79	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 (MID CHANNEL, VERTICAL)

<u>1-7GHz</u>



No.	Frequency	Reading	Correct	Result	Limit	Margin	Remark
	(MHz)	(dBuV)	(dB/m)	(dBuV/m)	(dBuV/m)	(dB)	
1	1108.000	65.98	-13.53	52.45	74.00	-21.55	peak
2	1744.000	56.66	-10.52	46.14	74.00	-27.86	peak
3	2596.000	51.07	-8.18	42.89	74.00	-31.11	peak
4	2968.000	52.29	-6.22	46.07	74.00	-27.93	peak
5	4258.000	50.00	-1.84	48.16	74.00	-25.84	peak
6	5782.000	41.95	1.95	43.90	74.00	-30.10	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



No.	Frequency	Reading	Correct	Result	Limit	Margin	Remark
	(MHz)	(dBuV)	(dB/m)	(dBuV/m)	(dBuV/m)	(dB)	
1	8331.000	39.08	8.00	47.08	74.00	-26.92	peak
2	9365.000	36.50	9.84	46.34	74.00	-27.66	peak
3	12676.000	35.13	15.23	50.36	74.00	-23.64	peak
4	13974.000	34.01	16.15	50.16	74.00	-23.84	peak
5	16482.000	31.73	19.36	51.09	74.00	-22.91	peak
6	17692.000	30.31	22.69	53.00	74.00	-21.00	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



HARMONICS AND SPURIOUS EMISSIONS (HIGH CHANNEL, HORIZONTAL)

<u>1-7GHz</u>



No.	Frequency	Reading	Correct	Result	Limit	Margin	Remark
	(MHz)	(dBuV)	(dB/m)	(dBuV/m)	(dBuV/m)	(dB)	
1	1108.000	65.90	-13.53	52.37	74.00	-21.63	peak
2	1630.000	55.88	-11.39	44.49	74.00	-29.51	peak
3	2890.000	47.19	-6.56	40.63	74.00	-33.37	peak
4	4456.000	42.44	-1.60	40.84	74.00	-33.16	peak
5	5830.000	47.13	2.05	49.18	74.00	-24.82	peak
6	6646.000	36.81	4.47	41.28	74.00	-32.72	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



No.	Frequency	Reading	Correct	Result	Limit	Margin	Remark
	(MHz)	(dBuV)	(dB/m)	(dBuV/m)	(dBuV/m)	(dB)	
1	8331.000	37.44	8.00	45.44	74.00	-28.56	peak
2	9266.000	36.66	9.38	46.04	74.00	-27.96	peak
3	11411.000	36.02	13.46	49.48	74.00	-24.52	peak
4	12665.000	34.98	15.22	50.20	74.00	-23.80	peak
5	13600.000	35.78	15.86	51.64	74.00	-22.36	peak
6	17945.000	29.06	23.63	52.69	74.00	-21.31	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



HARMONICS AND SPURIOUS EMISSIONS (HIGH CHANNEL, VERTICAL)

87.0 dBuV/m 77 67 57 47 37 7.0 1000 000 2200 000 2800 000 3400 000 4000 00 5200 000 5800 000 7000 000 MHz

	1000.000	1600.000 2	200.000 2800.00	0 3400.000	4000.00 460	0.000 5200.000	5800.000	7000.000 MHz
_						1		
	No.	Frequency	Reading	Correct	Result	Limit	Margin	Remark
		(MHz)	(dBuV)	(dB/m)	(dBuV/m)	(dBuV/m)	(dB)	
	1	1102.000	66.45	-13.56	52.89	74.00	-21.11	peak
	2	1450.000	60.22	-12.53	47.69	74.00	-26.31	peak
	3	1744.000	57.50	-10.52	46.98	74.00	-27.02	peak
	4	2968.000	52.44	-6.22	46.22	74.00	-27.78	peak
	5	4258.000	49.58	-1.84	47.74	74.00	-26.26	peak
	6	5818.000	41.02	2.00	43.02	74.00	-30.98	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.

<u>1-7GHz</u>



No.	Frequency	Reading	Correct	Result	Limit	Margin	Remark
	(MHz)	(dBuV)	(dB/m)	(dBuV/m)	(dBuV/m)	(dB)	
1	8111.000	38.54	7.61	46.15	74.00	-27.85	peak
2	9574.000	37.01	10.49	47.50	74.00	-26.50	peak
3	11642.000	35.45	13.89	49.34	74.00	-24.66	peak
4	13930.000	34.31	16.24	50.55	74.00	-23.45	peak
5	15602.000	33.78	16.74	50.52	74.00	-23.48	peak
6	17791.000	29.72	23.43	53.15	74.00	-20.85	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



8.3. 802.11ac VHT40 MODE

8.3.1. UNII-1 BAND

RESTRICTED BANDEDGE (LOW CHANNEL, HORIZONTAL)



<u>PEAK</u>

No.	Frequency	Reading	Correct	Result	Limit	Margin	Remark
	(MHz)	(dBuV)	(dB/m)	(dBuV/m)	(dBuV/m)	(dB)	
1	5150.000	16.59	40.46	57.05	74.00	-16.95	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.

AVG



No.	Frequency	Reading	Correct	Result	Limit	Margin	Remark
	(MHz)	(dBuV)	(dB/m)	(dBuV/m)	(dBuV/m)	(dB)	
1	5150.000	2.96	40.46	43.42	54.00	-10.58	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.



RESTRICTED BANDEDGE (LOW CHANNEL, VERTICAL)

<u>PEAK</u>



No.	Frequency	Reading	Correct	Result	Limit	Margin	Remark
	(MHz)	(dBuV)	(dB/m)	(dBuV/m)	(dBuV/m)	(dB)	
1	5150.000	16.61	40.46	57.07	74.00	-16.93	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.

<u>AVG</u>



No.	Frequency	Reading	Correct	Result	Limit	Margin	Remark
	(MHz)	(dBuV)	(dB/m)	(dBuV/m)	(dBuV/m)	(dB)	
1	5150.000	2.48	40.46	42.94	54.00	-11.06	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.



HARMONICS AND SPURIOUS EMISSIONS (LOW CHANNEL, HORIZONTAL)

<u>1-7GHz</u>



No.	Frequency	Reading	Correct	Result	Limit	Margin	Remark
	(MHz)	(dBuV)	(dB/m)	(dBuV/m)	(dBuV/m)	(dB)	
1	1108.000	63.66	-13.53	50.13	74.00	-23.87	peak
2	1636.000	55.93	-11.34	44.59	74.00	-29.41	peak
3	2872.000	46.98	-6.63	40.35	74.00	-33.65	peak
4	4528.000	41.79	-1.14	40.65	74.00	-33.35	peak
5	5110.000	41.07	1.43	42.50	74.00	-31.50	peak
6	6838.000	36.48	4.54	41.02	74.00	-32.98	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



No.	Frequency	Reading	Correct	Result	Limit	Margin	Remark
	(MHz)	(dBuV)	(dB/m)	(dBuV/m)	(dBuV/m)	(dB)	
1	7847.000	39.08	7.91	46.99	74.00	-27.01	peak
2	9365.000	37.20	9.72	46.92	74.00	-27.08	peak
3	11510.000	35.36	13.39	48.75	74.00	-25.25	peak
4	13754.000	33.86	16.60	50.46	74.00	-23.54	peak
5	16438.000	32.88	19.41	52.29	74.00	-21.71	peak
6	17802.000	29.53	23.41	52.94	74.00	-21.06	peak

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

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

3. Peak: Peak detector.

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

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



HARMONICS AND SPURIOUS EMISSIONS (LOW CHANNEL, VERTICAL)

<u>1-7GHz</u>



No.	Frequency	Reading	Correct	Result	Limit	Margin	Remark
	(MHz)	(dBuV)	(dB/m)	(dBuV/m)	(dBuV/m)	(dB)	
1	1102.000	64.51	-13.56	50.95	74.00	-23.05	peak
2	1738.000	57.41	-10.57	46.84	74.00	-27.16	peak
3	2968.000	52.15	-6.22	45.93	74.00	-28.07	peak
4	4264.000	48.60	-1.84	46.76	74.00	-27.24	peak
5	5668.000	38.48	1.99	40.47	74.00	-33.53	peak
6	6790.000	37.14	4.44	41.58	74.00	-32.42	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



No.	Frequency	Reading	Correct	Result	Limit	Margin	Remark
	(MHz)	(dBuV)	(dB/m)	(dBuV/m)	(dBuV/m)	(dB)	
1	8100.000	39.10	8.13	47.23	74.00	-26.77	peak
2	10564.000	35.17	12.06	47.23	74.00	-26.77	peak
3	12489.000	33.40	14.79	48.19	74.00	-25.81	peak
4	13490.000	34.17	15.93	50.10	74.00	-23.90	peak
5	14854.000	35.23	16.13	51.36	74.00	-22.64	peak
6	16966.000	31.94	20.45	52.39	74.00	-21.61	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. 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 omplies with the lowest limit (54 dBuV/m), so all the test point was deemed to comply with the



HARMONICS AND SPURIOUS EMISSIONS (HIGH CHANNEL, HORIZONTAL)

<u>1-7GHz</u>



No.	Frequency	Reading	Correct	Result	Limit	Margin	Remark
	(MHz)	(dBuV)	(dB/m)	(dBuV/m)	(dBuV/m)	(dB)	
1	1108.000	65.42	-13.53	51.89	74.00	-22.11	peak
2	1438.000	59.17	-12.59	46.58	74.00	-27.42	peak
3	3562.000	44.93	-4.67	40.26	74.00	-33.74	peak
4	5038.000	40.84	1.06	41.90	74.00	-32.10	peak
5	5488.000	40.64	1.77	42.41	74.00	-31.59	peak
6	6784.000	36.75	4.44	41.19	74.00	-32.81	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



No.	Frequency	Reading	Correct	Result	Limit	Margin	Remark
	(MHz)	(dBuV)	(dB/m)	(dBuV/m)	(dBuV/m)	(dB)	
1	7847.000	39.06	7.91	46.97	74.00	-27.03	peak
2	10663.000	35.19	12.02	47.21	74.00	-26.79	peak
3	11807.000	36.03	13.27	49.30	74.00	-24.70	peak
4	13578.000	34.59	16.06	50.65	74.00	-23.35	peak
5	16031.000	33.02	17.97	50.99	74.00	-23.01	peak
6	17780.000	29.65	23.23	52.88	74.00	-21.12	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



HARMONICS AND SPURIOUS EMISSIONS (HIGH CHANNEL, VERTICAL)

<u>1-7GHz</u>



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	1438.000	59.39	-12.59	46.80	74.00	-27.20	peak
3	2968.000	53.85	-6.22	47.63	74.00	-26.37	peak
4	4264.000	49.50	-1.84	47.66	74.00	-26.34	peak
5	5284.000	39.02	1.78	40.80	74.00	-33.20	peak
6	6868.000	36.42	4.60	41.02	74.00	-32.98	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



No.	Frequency	Reading	Correct	Result	Limit	Margin	Remark
	(MHz)	(dBuV)	(dB/m)	(dBuV/m)	(dBuV/m)	(dB)	
1	7869.000	39.35	7.79	47.14	74.00	-26.86	peak
2	10113.000	36.10	10.74	46.84	74.00	-27.16	peak
3	11510.000	35.24	13.39	48.63	74.00	-25.37	peak
4	13622.000	34.36	16.08	50.44	74.00	-23.56	peak
5	15998.000	33.47	17.80	51.27	74.00	-22.73	peak
6	17923.000	29.56	23.42	52.98	74.00	-21.02	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



8.3.2. 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	5639.600	18.25	41.48	59.73	68.20	-8.47	peak
2	5725.000	16.85	41.61	58.46	122.20	-63.74	peak

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

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

3. Peak: Peak detector.


RESTRICTED BANDEDGE (LOW CHANNEL, VERTICAL)

<u>PEAK</u>



No.	Frequency	Reading	Correct	Result	Limit	Margin	Remark
	(MHz)	(dBuV)	(dB/m)	(dBuV/m)	(dBuV/m)	(dB)	
1	5646.980	17.84	41.48	59.32	68.20	-8.88	peak
2	5725.000	16.88	41.61	58.49	122.20	-63.71	peak

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

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

3. Peak: Peak detector.



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	5850.000	16.33	42.89	59.22	122.20	-62.98	peak
2	5954.920	19.43	42.91	62.34	68.20	-5.86	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.



RESTRICTED BANDEDGE (HIGH CHANNEL, VERTICAL)

<u>PEAK</u>



No.	Frequency	Reading	Correct	Result	Limit	Margin	Remark
	(MHz)	(dBuV)	(dB/m)	(dBuV/m)	(dBuV/m)	(dB)	
1	5850.000	16.70	42.89	59.59	122.20	-62.61	peak
2	5934.450	18.86	43.26	62.12	68.20	-6.08	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.



17

7.0

1600.000

2200.000

HARMONICS AND SPURIOUS EMISSIONS (LOW CHANNEL, HORIZONTAL)

87.0 dBuV/m

No.	Frequency	Reading	Correct	Result	Limit	Margin	Remark
	(MHz)	(dBuV)	(dB/m)	(dBuV/m)	(dBuV/m)	(dB)	
1	1114.000	65.59	-13.49	52.10	74.00	-21.90	peak
2	1630.000	56.47	-11.39	45.08	74.00	-28.92	peak
3	2872.000	49.19	-6.63	42.56	74.00	-31.44	peak
4	4264.000	41.51	-1.84	39.67	74.00	-34.33	peak
5	5770.000	47.89	1.96	49.85	74.00	-24.15	peak
6	6634.000	36.92	4.47	41.39	74.00	-32.61	peak

4000.00

4600.000

5200.000

5800.000

7000.000 MHz

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

2800.000

3400.000

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

3. Peak: Peak detector.

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

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.

<u>1-7GHz</u>





No.	Frequency	Reading	Correct	Result	Limit	Margin	Remark
	(MHz)	(dBuV)	(dB/m)	(dBuV/m)	(dBuV/m)	(dB)	
1	7847.000	39.15	7.91	47.06	74.00	-26.94	peak
2	10344.000	35.95	11.25	47.20	74.00	-26.80	peak
3	12511.000	34.54	14.80	49.34	74.00	-24.66	peak
4	14425.000	34.29	16.65	50.94	74.00	-23.06	peak
5	16328.000	33.31	18.67	51.98	74.00	-22.02	peak
6	17934.000	29.82	23.45	53.27	74.00	-20.73	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



HARMONICS AND SPURIOUS EMISSIONS (LOW CHANNEL, VERTICAL)

<u>1-7GHz</u>



No.	Frequency	Reading	Correct	Result	Limit	Margin	Remark
	(MHz)	(dBuV)	(dB/m)	(dBuV/m)	(dBuV/m)	(dB)	
1	1096.000	64.75	-13.59	51.16	74.00	-22.84	peak
2	1456.000	60.04	-12.50	47.54	74.00	-26.46	peak
3	1738.000	57.85	-10.57	47.28	74.00	-26.72	peak
4	2968.000	52.72	-6.22	46.50	74.00	-27.50	peak
5	4264.000	50.02	-1.84	48.18	74.00	-25.82	peak
6	6382.000	38.03	3.37	41.40	74.00	-32.60	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



No.	Frequency	Reading	Correct	Result	Limit	Margin	Remark
	(MHz)	(dBuV)	(dB/m)	(dBuV/m)	(dBuV/m)	(dB)	
1	7891.000	39.19	7.66	46.85	74.00	-27.15	peak
2	9189.000	38.54	8.95	47.49	74.00	-26.51	peak
3	11499.000	35.36	13.35	48.71	74.00	-25.29	peak
4	13589.000	34.33	16.08	50.41	74.00	-23.59	peak
5	15591.000	33.36	17.07	50.43	74.00	-23.57	peak
6	17945.000	29.37	23.46	52.83	74.00	-21.17	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



HARMONICS AND SPURIOUS EMISSIONS (HIGH CHANNEL, HORIZONTAL)



<u>1-7GHz</u>

No.	Frequency	Reading	Correct	Result	Limit	Margin	Remark
	(MHz)	(dBuV)	(dB/m)	(dBuV/m)	(dBuV/m)	(dB)	
1	1108.000	65.29	-13.53	51.76	74.00	-22.24	peak
2	1630.000	57.17	-11.39	45.78	74.00	-28.22	peak
З	3082.000	46.63	-5.90	40.73	74.00	-33.27	peak
4	4264.000	42.06	-1.84	40.22	74.00	-33.78	peak
5	5782.000	45.09	1.95	47.04	74.00	-26.96	peak
6	6664.000	36.65	4.47	41.12	74.00	-32.88	peak

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

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

3. Peak: Peak detector.

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

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

6. Owing to the highest peak level of unwanted emission out of the restricted bands



No.	Frequency	Reading	Correct	Result	Limit	Margin	Remark
	(MHz)	(dBuV)	(dB/m)	(dBuV/m)	(dBuV/m)	(dB)	
1	7847.000	39.10	7.91	47.01	74.00	-26.99	peak
2	9145.000	37.49	9.22	46.71	74.00	-27.29	peak
3	11510.000	35.89	13.39	49.28	74.00	-24.72	peak
4	13798.000	33.26	17.05	50.31	74.00	-23.69	peak
5	15217.000	34.66	16.12	50.78	74.00	-23.22	peak
6	17329.000	31.03	21.78	52.81	74.00	-21.19	peak

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

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

3. Peak: Peak detector.

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

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



HARMONICS AND SPURIOUS EMISSIONS (HIGH CHANNEL, VERTICAL)

<u>1-7GHz</u>



No.	Frequency	Reading	Correct	Result	Limit	Margin	Remark
	(MHz)	(dBuV)	(dB/m)	(dBuV/m)	(dBuV/m)	(dB)	
1	1108.000	66.30	-13.53	52.77	74.00	-21.23	peak
2	1444.000	60.43	-12.56	47.87	74.00	-26.13	peak
3	2968.000	52.11	-6.22	45.89	74.00	-28.11	peak
4	4264.000	49.34	-1.84	47.50	74.00	-26.50	peak
5	5650.000	39.19	2.01	41.20	74.00	-32.80	peak
6	6658.000	38.41	4.46	42.87	74.00	-31.13	peak

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

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

3. Peak: Peak detector.

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

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



No.	Frequency	Reading	Correct	Result	Limit	Margin	Remark
	(MHz)	(dBuV)	(dB/m)	(dBuV/m)	(dBuV/m)	(dB)	
1	7836.000	38.76	7.96	46.72	74.00	-27.28	peak
2	9343.000	37.13	9.57	46.70	74.00	-27.30	peak
3	11653.000	35.10	13.28	48.38	74.00	-25.62	peak
4	13545.000	34.78	15.98	50.76	74.00	-23.24	peak
5	15624.000	34.14	17.05	51.19	74.00	-22.81	peak
6	17703.000	30.61	22.52	53.13	74.00	-20.87	peak

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

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

3. Peak: Peak detector.

4. 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



8.4. 802.11ac VHT80 MODE

8.4.1. UNII-1 BAND

RESTRICTED BANDEDGE (LOW CHANNEL, HORIZONTAL)



<u>PEAK</u>

No.	Frequency	Reading	Correct	Result	Limit	Margin	Remark
	(MHz)	(dBuV)	(dB/m)	(dBuV/m)	(dBuV/m)	(dB)	
1	5150.000	16.74	40.46	57.20	74.00	-16.80	peak

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

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

3. Peak: Peak detector.

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AVG



No.	Frequency	Reading	Correct	Result	Limit	Margin	Remark
	(MHz)	(dBuV)	(dB/m)	(dBuV/m)	(dBuV/m)	(dB)	
1	5150.000	2.82	40.46	43.28	54.00	-10.72	AVG

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

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

3. AVG: VBW=1/Ton, where: Ton is the transmitting duration.

4. For the transmitting duration, please refer to clause 7.1.



RESTRICTED BANDEDGE (LOW CHANNEL, VERTICAL)

<u>PEAK</u>



No.	Frequency	Reading	Correct	Result	Limit	Margin	Remark
	(MHz)	(dBuV)	(dB/m)	(dBuV/m)	(dBuV/m)	(dB)	
1	5150.000	16.37	40.46	56.83	74.00	-17.17	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.

AVG



No.	Frequency	Reading	Correct	Result	Limit	Margin	Remark
	(MHz)	(dBuV)	(dB/m)	(dBuV/m)	(dBuV/m)	(dB)	
1	5150.000	2.48	40.46	42.94	54.00	-11.06	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.



HARMONICS AND SPURIOUS EMISSIONS (LOW CHANNEL, HORIZONTAL)

<u>1-7GHz</u>



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	1630.000	56.40	-11.39	45.01	74.00	-28.99	peak
3	2698.000	47.94	-7.57	40.37	74.00	-33.63	peak
4	5110.000	44.63	1.43	46.06	74.00	-27.94	peak
5	6010.000	39.08	2.61	41.69	74.00	-32.31	peak
6	6784.000	36.23	4.44	40.67	74.00	-33.33	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



No.	Frequency	Reading	Correct	Result	Limit	Margin	Remark
	(MHz)	(dBuV)	(dB/m)	(dBuV/m)	(dBuV/m)	(dB)	
1	7858.000	38.99	7.84	46.83	74.00	-27.17	peak
2	9189.000	38.05	8.95	47.00	74.00	-27.00	peak
3	11708.000	36.12	13.07	49.19	74.00	-24.81	peak
4	13578.000	34.57	16.06	50.63	74.00	-23.37	peak
5	15987.000	33.09	17.79	50.88	74.00	-23.12	peak
6	17813.000	29.62	23.41	53.03	74.00	-20.97	peak

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

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

3. Peak: Peak detector.

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

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

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)

<u>1-7GHz</u>



No.	Frequency	Reading	Correct	Result	Limit	Margin	Remark
	(MHz)	(dBuV)	(dB/m)	(dBuV/m)	(dBuV/m)	(dB)	
1	1102.000	64.79	-13.56	51.23	74.00	-22.77	peak
2	1432.000	61.83	-12.62	49.21	74.00	-24.79	peak
3	2968.000	51.92	-6.22	45.70	74.00	-28.30	peak
4	4264.000	49.82	-1.84	47.98	74.00	-26.02	peak
5	5686.000	39.18	1.98	41.16	74.00	-32.84	peak
6	6754.000	36.61	4.45	41.06	74.00	-32.94	peak

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

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

3. Peak: Peak detector.

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

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

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.



No.	Frequency	Reading	Correct	Result	Limit	Margin	Remark
	(MHz)	(dBuV)	(dB/m)	(dBuV/m)	(dBuV/m)	(dB)	
1	7803.000	38.85	8.15	47.00	74.00	-27.00	peak
2	10245.000	36.32	10.82	47.14	74.00	-26.86	peak
3	11356.000	35.82	12.51	48.33	74.00	-25.67	peak
4	13457.000	34.33	16.02	50.35	74.00	-23.65	peak
5	16075.000	32.72	18.20	50.92	74.00	-23.08	peak
6	17912.000	29.75	23.42	53.17	74.00	-20.83	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.



8.4.2. UNII-3 BAND



No.	Frequency	Reading	Correct	Result	Limit	Margin	Remark
	(MHz)	(dBuV)	(dB/m)	(dBuV/m)	(dBuV/m)	(dB)	
1	5644.800	18.22	41.47	59.69	68.20	-8.51	peak
2	5725.000	17.50	41.61	59.11	122.20	-63.09	peak
3	5850.000	17.03	42.89	59.92	122.20	-62.28	peak
4	5964.400	19.29	42.75	62.04	68.20	-6.16	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.







No.	Frequency	Reading	Correct	Result	Limit	Margin	Remark
	(MHz)	(dBuV)	(dB/m)	(dBuV/m)	(dBuV/m)	(dB)	
1	5606.800	18.09	41.46	59.55	68.20	-8.65	peak
2	5725.000	16.35	41.61	57.96	122.20	-64.24	peak
3	5850.000	17.01	42.89	59.90	122.20	-62.30	peak
4	5923.600	18.03	43.45	61.48	69.23	-7.75	peak

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

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

3. Peak: Peak detector.



HARMONICS AND SPURIOUS EMISSIONS (LOW CHANNEL, HORIZONTAL)

87.0 dBu¥/m 77 67 57 47 WWWWWWWW 37 27 17 7.0 1000.000 1600.000 2200.000 2800.000 3400.000 4000.00 4600.000 5200.000 5800.000 7000.000 MHz

No.	Frequency	Reading	Correct	Result	Limit	Margin	Remark
	(MHz)	(dBuV)	(dB/m)	(dBuV/m)	(dBuV/m)	(dB)	
1	1114.000	65.92	-13.49	52.43	74.00	-21.57	peak
2	1480.000	57.96	-12.40	45.56	74.00	-28.44	peak
3	2698.000	47.14	-7.57	39.57	74.00	-34.43	peak
4	4264.000	42.50	-1.84	40.66	74.00	-33.34	peak
5	5770.000	46.27	1.96	48.23	74.00	-25.77	peak
6	6784.000	36.97	4.44	41.41	74.00	-32.59	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.

<u>1-7GHz</u>



No.	Frequency	Reading	Correct	Result	Limit	Margin	Remark
	(MHz)	(dBuV)	(dB/m)	(dBuV/m)	(dBuV/m)	(dB)	
1	7836.000	38.27	7.96	46.23	74.00	-27.77	peak
2	8958.000	37.04	9.10	46.14	74.00	-27.86	peak
3	11587.000	36.20	13.52	49.72	74.00	-24.28	peak
4	12720.000	35.41	14.79	50.20	74.00	-23.80	peak
5	14810.000	34.29	16.07	50.36	74.00	-23.64	peak
6	17406.000	31.14	21.53	52.67	74.00	-21.33	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 (LOW CHANNEL, VERTICAL)

87.0 dBu¥/m 77 67 57 6 47 37 27 17 7.0 1000.000 1600.000 2200.000 2800.000 3400.000 4000.00 4600.000 5200.000 5800.000 7000.000 MHz

No. Reading Correct Result Limit Margin Remark Frequency (MHz) (dBuV) (dB/m) (dBuV/m) (dBuV/m) (dB) 64.39 1096.000 -13.59 50.80 74.00 -23.20 1 peak 2 1738.000 57.95 -10.57 47.38 74.00 -26.62 peak 3 2596.000 50.92 -8.18 42.74 74.00 -31.26 peak 4 2968.000 52.56 -6.22 46.34 74.00 -27.66 peak 5 3562.000 48.59 -4.67 43.92 74.00 -30.08 peak 4258.000 50.30 -1.84 74.00 6 48.46 -25.54 peak

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

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

3. Peak: Peak detector.

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

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.

<u>1-7GHz</u>



No.	Frequency	Reading	Correct	Result	Limit	Margin	Remark
	(MHz)	(dBuV)	(dB/m)	(dBuV/m)	(dBuV/m)	(dB)	
1	7748.000	39.40	7.48	46.88	74.00	-27.12	peak
2	9343.000	37.42	9.57	46.99	74.00	-27.01	peak
3	11499.000	35.06	13.35	48.41	74.00	-25.59	peak
4	14403.000	34.20	16.68	50.88	74.00	-23.12	peak
5	16372.000	32.18	19.05	51.23	74.00	-22.77	peak
6	17802.000	29.73	23.41	53.14	74.00	-20.86	peak

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

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

3. Peak: Peak detector.

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

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



8.5. SPURIOUS EMISSIONS (18GHz ~ 26GHz)

8.5.1. 802.11a20 MODE

SPURIOUS EMISSIONS (UNII-3 BAND LOW CHANNEL, HORIZONTAL, WORST-CASE CONFIGURATION)



No.	Frequency	Reading	Correct	Result	Limit	Margin	Remark
	(MHz)	(dBuV)	(dB/m)	(dBuV/m)	(dBuV/m)	(dB)	
1	18072.000	50.55	-4.02	46.53	74.00	-27.47	peak
2	19720.000	50.08	-4.39	45.69	74.00	-28.31	peak
3	20920.000	51.32	-5.23	46.09	74.00	-27.91	peak
4	22744.000	51.68	-5.74	45.94	74.00	-28.06	peak
5	24608.000	47.68	-2.31	45.37	74.00	-28.63	peak
6	25840.000	46.57	-1.73	44.84	74.00	-29.16	peak

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

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

3. Peak: Peak detector.



SPURIOUS EMISSIONS (UNII-3 BAND LOW CHANNEL, VERTICAL, WORST-CASE CONFIGURATION)



No.	Frequency	Reading	Correct	Result	Limit	Margin	Remark
	(MHz)	(dBuV)	(dB/m)	(dBuV/m)	(dBuV/m)	(dB)	
1	18464.000	50.20	-4.39	45.81	74.00	-28.19	peak
2	20160.000	50.57	-4.70	45.87	74.00	-28.13	peak
3	21024.000	51.14	-5.30	45.84	74.00	-28.16	peak
4	22488.000	50.60	-5.81	44.79	74.00	-29.21	peak
5	24000.000	49.91	-4.01	45.90	74.00	-28.10	peak
6	24560.000	48.00	-2.43	45.57	74.00	-28.43	peak

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

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

3. Peak: Peak detector.

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



8.6. SPURIOUS EMISSIONS (26GHz ~ 40GHz)

8.6.1. 802.11a20 MODE

ANTENNA 1 TEST RESULTS (WORST CASE)

SPURIOUS EMISSIONS (UNII-3 BAND LOW CHANNEL, HORIZONTAL, WORST-CASE CONFIGURATION)



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

44.18

5.08

39930.000

6

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

49.26

74.00

-24.74

peak



SPURIOUS EMISSIONS (UNII-3 BAND LOW CHANNEL, VERTICAL, WORST-CASE CONFIGURATION)



No.	Frequency	Reading	Correct	Result	Limit	Margin	Remark
	(MHz)	(dBuV)	(dB/m)	(dBuV/m)	(dBuV/m)	(dB)	
1	28828.000	47.63	-0.79	46.84	74.00	-27.16	peak
2	32104.000	49.49	-1.75	47.74	74.00	-26.26	peak
3	34302.000	47.45	1.10	48.55	74.00	-25.45	peak
4	35954.000	44.88	3.94	48.82	74.00	-25.18	peak
5	38908.000	44.58	4.28	48.86	74.00	-25.14	peak
6	39972.000	44.95	5.13	50.08	74.00	-23.92	peak

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

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

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



8.7. SPURIOUS EMISSIONS (30MHz ~ 1 GHz)

8.7.1. 802.11a20 MODE



SPURIOUS EMISSIONS (UNII-3 BAND LOW CHANNEL, HORIZONTAL, WORST-CASE CONFIGURATION)

No.	Frequency	Reading	Correct	Result	Limit	Margin	Remark
	(MHz)	(dBuV)	(dB/m)	(dBuV/m)	(dBuV/m)	(dB)	
1	33.8800	49.62	-19.38	30.24	40.00	-9.76	QP
2	96.9300	50.21	-21.49	28.72	43.50	-14.78	QP
3	242.4300	52.51	-19.39	33.12	46.00	-12.88	QP
4	368.5300	49.78	-14.09	35.69	46.00	-10.31	QP
5	746.8300	45.05	-8.39	36.66	46.00	-9.34	QP
6	900.0900	34.72	-5.65	29.07	46.00	-16.93	QP

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

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

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



SPURIOUS EMISSIONS (UNII-1 BAND LOW CHANNEL, VERTICAL, WORST-CASE CONFIGURATION)



No.	Frequency	Reading	Correct	Result	Limit	Margin	Remark
	(MHz)	(dBuV)	(dB/m)	(dBuV/m)	(dBuV/m)	(dB)	
1	95.9600	55.75	-21.56	34.19	43.50	-9.31	QP
2	167.7400	52.79	-17.45	35.34	43.50	-8.16	QP
3	405.3900	51.78	-13.35	38.43	46.00	-7.57	QP
4	531.4900	48.65	-11.08	37.57	46.00	-8.43	QP
5	676.9900	45.07	-9.01	36.06	46.00	-9.94	QP
6	746.8300	43.96	-8.39	35.57	46.00	-10.43	QP

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

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

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

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



8.8. SPURIOUS EMISSIONS BELOW 30MHz

8.8.1. 802.11a20 MODE

SPURIOUS EMISSIONS (UNII-3 BAND LOW CHANNEL, LOOP ANTENNA FACE ON TO THE EUT, WORST-CASE CONFIGURATION)



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

No.	Frequency	Reading	Correct	FCC Result	FCC Limit	ISED Result	ISED Limit	Margin	Remark
	(MHz)	(dBuV)	(dB/m)	(dBuV/m)	(dBuV/m)	(dBuA/m)	(dBuA/m)	(dB)	
1	0.0100	74.85	-101.40	-26.55	47.60	-78.05	-3.90	-74.15	peak
2	0.0171	69.88	-101.36	-31.48	42.94	-82.98	-8.56	-74.42	peak
3	0.0349	64.03	-101.41	-37.38	36.75	-88.88	-14.75	-74.13	peak
4	0.0609	59.83	-101.53	-41.70	31.91	-93.20	-19.59	-73.61	peak
5	0.0922	57.51	-101.74	-44.23	28.31	-95.73	-23.19	-72.54	peak
6	0.1272	55.35	-101.71	-46.36	25.52	-97.86	-25.98	-71.88	peak

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

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

3. All 3 polarizations (Horizontal, Face-on and Face-off) of the loop antenna had been tested, but only the worst data recorded in the report.

4. $dBuA/m = dBuV/m - 20log10(120\pi) = dBuV/m - 51.5$.



150kHz ~ 490kHz 60.0 dBuV/m 50 40 30 20 10 0 -10 -20 -30 -40 -50 -60 0.150 0.200 (MHz) 0.490

No.	Frequency	Reading	Correct	FCC Result	FCC Limit	ISED Result	ISED Limit	Margin	Remark
	(MHz)	(dBuV)	(dB/m)	(dBuV/m)	(dBuV/m)	(dBuA/m)	(dBuA/m)	(dB)	
1	0.1524	76.30	-101.63	-25.33	23.94	-76.83	-27.56	-49.27	peak
2	0.1849	70.04	-101.70	-31.66	22.27	-83.16	-29.23	-53.93	peak
3	0.2494	62.96	-101.80	-38.84	19.66	-90.34	-31.84	-58.50	peak
4	0.3205	60.45	-101.88	-41.43	17.49	-92.93	-34.01	-58.92	peak
5	0.3930	57.55	-101.96	-44.41	15.71	-95.91	-35.79	-60.12	peak
6	0.4193	56.18	-101.98	-45.80	15.15	-97.30	-36.35	-60.95	peak

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

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

3. All 3 polarizations (Horizontal, Face-on and Face-off) of the loop antenna had been tested, but only the worst data recorded in the report.

4. $dBuA/m = dBuV/m - 20log10(120\pi) = dBuV/m - 51.5$.



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



No.	Frequency	Reading	Correct	FCC	FCC	ISED	ISED	Margin	Remark
				Result	Limit	Result	Limit		
	(MHz)	(dBuV)	(dB/m)	(dBuV/m)	(dBuV/m)	(dBuA/m)	(dBuA/m)	(dB)	
1	0.5039	67.94	-62.07	5.87	33.56	-45.63	-17.94	-27.69	peak
2	1.2459	59.25	-62.16	-2.91	25.70	-54.41	-25.80	-28.61	peak
3	2.8803	54.34	-61.60	-7.26	29.54	-58.76	-21.96	-36.80	peak
4	8.9001	50.91	-60.95	-10.04	29.54	-61.54	-21.96	-39.58	peak
5	19.9954	50.44	-60.83	-10.39	29.54	-61.89	-21.96	-39.93	peak
6	29.3213	49.30	-60.02	-10.72	29.54	-62.22	-21.96	-40.26	peak

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

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

3. All 3 polarizations (Horizontal, Face-on and Face-off) of the loop antenna had been tested, but only the worst data recorded in the report.

4. $dBuA/m = dBuV/m - 20log10(120\pi) = dBuV/m - 51.5$.

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



9. AC POWER LINE CONDUCTED EMISSIONS

<u>LIMITS</u>

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

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

TEST SETUP AND PROCEDURE

Refer to ANSI C63.10-2013 clause 6.2.



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

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

TEST ENVIRONMENT

Temperature	23.6°C	Relative Humidity	64.2%
Atmosphere Pressure	101kPa	Test Voltage	AC120V,60Hz

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9.1. 802.11a20 MODE



LINE N RESULTS (UNII-1 BAND LOW CHANNEL, WORST-CASE CONFIGURATION)

No.	Frequency	Reading	Correct	Result	Limit	Margin	Remark
	(MHz)	(dBuV)	(dB)	(dBuV)	(dBuV)	(dB)	
1	0.1637	37.29	9.60	46.89	65.27	-18.38	QP
2	0.1637	19.46	9.60	29.06	55.27	-26.21	AVG
3	0.2033	30.77	9.60	40.37	63.47	-23.10	QP
4	0.2033	11.88	9.60	21.48	53.47	-31.99	AVG
5	0.2275	28.10	9.60	37.70	62.54	-24.84	QP
6	0.2275	11.31	9.60	20.91	52.54	-31.63	AVG
7	0.3601	25.88	9.60	35.48	58.73	-23.25	QP
8	0.3601	18.02	9.60	27.62	48.73	-21.11	AVG
9	5.7574	17.88	9.70	27.58	60.00	-32.42	QP
10	5.7574	11.24	9.70	20.94	50.00	-29.06	AVG
11	8.8400	18.77	9.74	28.51	60.00	-31.49	QP
12	8.8400	13.06	9.74	22.80	50.00	-27.20	AVG

Note: 1. Result = Reading +Correct Factor.

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


LINE L RESULTS (UNII-1 BAND LOW CHANNEL, WORST-CASE CONFIGURATION)



No.	Frequency	Reading	Correct	Result	Limit	Margin	Remark
	(MHz)	(dBuV)	(dB)	(dBuV)	(dBuV)	(dB)	
1	0.1505	38.75	9.61	48.36	65.97	-17.61	QP
2	0.1505	19.92	9.61	29.53	55.97	-26.44	AVG
3	0.1709	35.54	9.61	45.15	64.92	-19.77	QP
4	0.1709	18.01	9.61	27.62	54.92	-27.30	AVG
5	0.2062	30.80	9.60	40.40	63.36	-22.96	QP
6	0.2062	14.40	9.60	24.00	53.36	-29.36	AVG
7	0.2886	21.50	9.60	31.10	60.56	-29.46	QP
8	0.2886	6.19	9.60	15.79	50.56	-34.77	AVG
9	0.3493	25.28	9.60	34.88	58.98	-24.10	QP
10	0.3493	17.34	9.60	26.94	48.98	-22.04	AVG
11	10.0644	20.26	9.74	30.00	60.00	-30.00	QP
12	10.0644	14.77	9.74	24.51	50.00	-25.49	AVG

Note: 1. Result = Reading +Correct Factor.

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

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



10. FREQUENCY STABILITY

<u>LIMITS</u>

The frequency of the carrier signal shall be maintained within band of operation.

TEST PROCEDURE

1. The EUT was placed inside an environmental chamber as the temperature in the chamber was varied between $0^{\circ}C \sim 40^{\circ}C$ (declared by customer).

2. The temperature was incremented by 10°C intervals and the unit allowed to stabilize at each temperature before each measurement. The center frequency of the transmitting channel was evaluated at each temperature and the frequency deviation from the channel's center frequency was recorded.

3. The primary supply voltage is varied from 85% to 115% of the nominal value for non handcarried battery and AC powered equipment. For hand-carried, battery-powered equipment, primary supply voltage is reduced to the battery operating end point which shall be specified by the manufacturer.

Center Frequency	The center frequency of the channel under test
Detector	Peak
RBW	10kHz
VBW	≥3 × RBW
Span	Encompass the entire emissions bandwidth (EBW) of the signal
Trace	Max hold
Sweep time	Auto

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

4. While maintaining a constant temperature inside the environmental chamber, turn the EUT on and record the operating frequency at startup, and at 2 minutes, 5minutes, and 10 minutes after the EUT is energized.

5. Allow the trace to stabilize, find the peak value of the power envelope and record the frequency, then calculated the frequency drift.

TEST SETUP





	Normal Test Conditions	Extreme Test Conditions	
Relative Humidity	20% - 75%	/	
Atmospheric Pressure	100kPa ~102kPa	a /	
Tomporatura	T _N (Normal Temperature):	T _L (Low Temperature): 0°C	
remperature	23.14°C	T _H (High Temperature): 40°C	
		VL (Low Voltage):	
	V. (Normal Valtage): AC120V 60Hz	AC 108V,60Hz	
Supply vollage	VN (Normal Voltage). AC120V,00H2	VH (High Voltage):	
		AC 132V,60Hz	

RESULTS

Please refer to Appendix E.



11. ANTENNA REQUIREMENTS

APPLICABLE REQUIREMENTS

Please refer to FCC §15.203

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

Please refer to FCC §15.247(b)(4)

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

RESULTS

Complies



11.1. Appendix A1: Emission Bandwidth 11.1.1. Test Result

Test Mode	Antenna	Channel	26db EBW [MHz]	FL[MHz]	FH[MHz]	Limit[MHz]	Verdict
11A20	Ant2	5180	20.560	5169.840	5190.400		PASS
		5200	20.440	5190.000	5210.440		PASS
		5240	20.840	5229.720	5250.560		PASS
		5745	20.480	5734.560	5755.040		PASS
		5785	19.800	5775.040	5794.840		PASS
		5825	20.400	5814.760	5835.160		PASS
	Ant2	5180	20.920	5169.520	5190.440		PASS
		5200	21.880	5189.120	5211.000		PASS
1111206160		5240	20.920	5229.560	5250.480		PASS
1111205150		5745	20.600	5734.800	5755.400		PASS
		5785	21.240	5774.320	5795.560		PASS
		5825	21.200	5814.120	5835.320		PASS
	Ant2	5190	40.880	5169.680	5210.560		PASS
1111408180		5230	40.720	5208.880	5249.600		PASS
1111403130		5755	41.520	5734.280	5775.800		PASS
		5795	41.360	5774.280	5815.640		PASS
	Ant2	5180	20.560	5169.600	5190.160		PASS
		5200	20.800	5189.680	5210.480		PASS
1100205150		5240	20.720	5229.640	5250.360		PASS
TIA0203130		5745	21.040	5734.400	5755.440		PASS
		5785	20.840	5774.520	5795.360		PASS
		5825	20.680	5814.640	5835.320		PASS
	Ant2	5190	41.120	5169.280	5210.400		PASS
1100408180		5230	42.320	5209.280	5251.600		PASS
1140405150		5755	40.800	5734.280	5775.080		PASS
		5795	40.640	5774.440	5815.080		PASS
110000000	Ant2	5210	83.680	5167.920	5251.600		PASS
1140005150		5775	81.760	5733.560	5815.320		PASS

Note: For UNII-3bands test EBW data only for reference.



11.1.2. Test Graphs





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