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

CERTIFICATION TEST REPORT

For

WiFi Module

MODEL NUMBER: SI07A

FCC ID: 2AFG6-SI07A

IC: 22166- SI07A

REPORT NUMBER: 4789708221-4

ISSUE DATE: January 21, 2021

Prepared for

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Revision History

Rev.	Issue Date	Revisions	Revised By
V0	01/21/2021	Initial Issue	

Note: This is a spot check report base on 4789708215-8 which is issued by UL Verification Services (Guangzhou) Co., Ltd, Song Shan Lake Branch on November 30, 2020. The WiFi module SI07 had already applied for FCC ID (2AFG6-SI07A) and IC (22166- SI07), the new WiFi module SI07A and SI07 are the same except to except for one less module SKI.WB7668CU.1, so we only follow the KDB KDB484596 D01 to add the spot check in this report. For other data, please refer to the original report 4789708215-8.

Parent Model SI07 FCC ID: 2AFG6-SI07, IC: 22166 -SI07

variant model SI07A, FCC ID: 2AFG6-SI07A, IC: 22166 -SI07A

Test Report	802.11 2.4GHz WIFI (DTS)	BLE (DTS)	Bluetooth DSS	802.11 5G WIFI UNII
SI07 Parent	Report #4789708215-6 #4789708215-7	Report #4789708215-5	Report #4789708215-4	Report #4789708215-8 #4789708215-9
SI07A Variant	Report #4789708221-3	Report #4789708221-2	Report #4789708221-1	Report #4789708221-4

Summary of Test Results			
Clause	Test Items	FCC/IC Rules	Test Results
1	Conducted Output Power	FCC 15.407 (a) RSS-247 Clause 6.2	PASS
2	Radiated Bandedge and Spurious Emission Spot Check	FCC 15.407 (b) FCC 15.209 FCC 15.205 RSS-247 Clause 6.2 RSS-GEN Clause 8.9	PASS
3	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.			

Test worst case of Conducted Output Power Spot Check				
Test Mode	Frequency (MHz)	Result[dBm]	original report Result[dBm]	Deviation(dB)
a	5745	15.54	15.77	-0.23
n HT20	5700	18.23	18.44	-0.21
n HT40	5670	18.30	18.47	-0.17
ac VHT20	5700	17.17	17.36	-0.19
ac VHT40	5670	17.35	17.54	-0.19
ac VHT80	5530	17.33	17.46	-0.13

The worst case of Radiated Bandedge and Spurious Emission Spot Check					
Test Mode	Test Item	Frequency (MHz)	Result[dBuV/m]	original report Result[dBuV/m]	Deviation(dB)
11n HT40	Band Edge	5350	52.01	52.64	-0.63
	RSE	17076	51.66	52.22	-0.56

Note: Comparison of two models, upper deviation is within 3 dB range and all test results are under FCC Technical limits.

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1. ATTESTATION OF TEST RESULTS

Applicant Information

Company Name:	Guangzhou Shirui Electronics Co Ltd
Address:	192 Kezhu Road, Scientech Park, guangzhou Economic Technology Development District Guangzhou China

Manufacturer Information

Company Name:	Guangzhou Shirui Electronics Co Ltd
Address:	192 Kezhu Road, Scientech Park, guangzhou Economic Technology Development District Guangzhou China

EUT Information

EUT Name:	WiFi Module
Model:	SI07A
Sample Received Date:	January 11, 2021
Sample Status:	Normal
Sample ID:	3616600
Date of Tested:	January 12, 2021~ January 20, 2021

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

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2. TEST METHODOLOGY

The tests documented in this report were performed in accordance with ANSI C63.10-2013, CFR 47 FCC Part 2, CFR 47 FCC Part 15, KDB 789033 D02 v02r01, RSS-GEN Issue 5, RSS-247 Issue 2, KDB414788 D01 Radiated Test Site v01, KDB 662911 D01 Multiple Transmitter Output v02r01, KDB 905462 D02 UNII DFS Compliance Procedures New Rules v02, KDB 905462 D03 UNII clients without radar detection New Rules v01r02 and KDB 905462 D04 Operational Modes for DFS Testing New Rules v01.

3. FACILITIES AND ACCREDITATION

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

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

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

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

4. CALIBRATION AND UNCERTAINTY

4.1. MEASURING INSTRUMENT CALIBRATION

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

4.2. MEASUREMENT UNCERTAINTY

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

Test Item	Uncertainty
Conduction emission	3.62 dB
Radiated Emission (Included Fundamental Emission) (9 kHz ~ 30 MHz)	2.2 dB
Radiated Emission (Included Fundamental Emission) (30 MHz ~ 1 GHz)	4.00 dB
Radiated Emission (Included Fundamental Emission) (1 GHz to 40 GHz)	5.78 dB (1 GHz-18 GHz)
	5.23dB (18 GHz-26 GHz)
	5.64 dB (26 GHz-40 GHz)
Note: This uncertainty represents an expanded uncertainty expressed at approximately the 95 % confidence level using a coverage factor of k=2.	

5. EQUIPMENT UNDER TEST

5.1. DESCRIPTION OF EUT

EUT Name	WiFi Module		
Model	SI07A		
Radio Technology	WLAN (IEEE 802.11a/n HT20/n HT40/ac VHT20/VHT 40/VHT 80)		
Operation frequency	UNII-1: 5150 ~ 5250 MHz UNII-2A: 5250 ~ 5350 MHz UNII-2C: 5470 ~ 5725 MHz UNII-3: 5725 ~ 5850 MHz		
Modulation	IEEE 802.11a: OFDM (64QAM, 16QAM, QPSK, BPSK) IEEE 802.11n HT20: OFDM (64QAM, 16QAM, QPSK, BPSK) IEEE 802.11n HT40: OFDM (64QAM, 16QAM, QPSK, BPSK) IEEE 802.11ac VHT20: OFDM (256QAM, 64QAM, 16QAM, QPSK, BPSK) IEEE 802.11ac VHT40: OFDM (256QAM, 64QAM, 16QAM, QPSK, BPSK) IEEE 802.11ac VHT80: OFDM (256QAM, 64QAM, 16QAM, QPSK, BPSK)		
Power Supply	DC State	Rate Input:	DC 5 V
Wireless Module	SKI.WB8822CU.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	5150 ~ 5250	14.98	17.99
n HT20		13.39	20.40
n HT40		14.77	21.78
ac VHT20		13.14	20.15
ac VHT40		14.75	21.76
ac VHT80		14.83	21.84

UNII-2A BAND

IEEE Std. 802.11	Frequency (MHz)	Maximum Average Conducted Power (dBm)
a	5250 ~ 5350	15.02
n HT20		18.05
n HT40		17.71
ac VHT20		17.09
ac VHT40		16.83
ac VHT80		16.77

UNII-2C BAND

IEEE Std. 802.11	Frequency (MHz)	Max Power (dBm)
a	5470 ~ 5725	15.22
n HT20		18.23
n HT40		18.30
ac VHT20		17.17
ac VHT40		17.35
ac VHT80		17.33

UNII-3 BAND

IEEE Std. 802.11	Frequency (MHz)	Max Power (dBm)
a	5725 ~ 5850	15.54
n HT20		17.98
n HT40		18.05
ac VHT20		17.13
ac VHT40		17.22
ac VHT80		16.72

5.3. CHANNEL LIST

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

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

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

UNII-3 (For Bandwidth = 20 MHz)		UNII-3 (For Bandwidth = 40 MHz)		UNII-3 (For Bandwidth = 80 MHz)	
Channel	Frequency (MHz)	Channel	Frequency (MHz)	Channel	Frequency (MHz)
149	5745	151	5755	155	5775
153	5765	159	5795		
157	5785				
161	5805				
165	5825				

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

5.4. TEST CHANNEL CONFIGURATION

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

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

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

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

5.5. DESCRIPTION OF AVAILABLE ANTENNAS

Antenna No.	Frequency (MHz)	Antenna Type	Max Antenna Gain (dBi)
1	5150-5850	FPC antenna	3.01
2	5150-5850	FPC antenna	4.88

Note: Directional gain= 10 log $[(10^{G1/20} + 10^{G2/20})^2/N_{ANT}]$ = 7.01 dBi
G_{ANT}: Average of the Antenna Gain
N_{ANT}: Antenna numbers
Note: The value of the antenna gain was declared by customer.

IEE Std. 802.11	Transmit and Receive Mode	Description
802.11a	☒2TX, 2RX	ANT 1,2 can be used as transmitting/receiving antenna.
802.11n HT20	☒2TX, 2RX	ANT 1,2 can be used as transmitting/receiving antenna.
802.11n HT40	☒2TX, 2RX	ANT 1,2 can be used as transmitting/receiving antenna.
802.11ac VHT20	☒2TX, 2RX	ANT 1,2 can be used as transmitting/receiving antenna.
802.11ac VHT40	☒2TX, 2RX	ANT 1,2 can be used as transmitting/receiving antenna.
802.11ac VHT80	☒2TX, 2RX	ANT 1,2 can be used as transmitting/receiving antenna.
Note: 1.BT&WLAN 2.4G & WLAN 5G can't transmit simultaneously. (declared by client)		

5.6. THE WORSE CASE POWER SETTING PARAMETER

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

UNII-1

IEEE Std. 802.11	Rate	Channel	Test Software Setting Value	
			ANT 1	ANT 2
a	6M	36	75	81
		40	75	80
		48	75	80
n HT20	MCS0	36	65	70
		40	65	70
		48	65	70
n HT40	MCS0	38	73	73
		46	78	78
ac VHT20	MCS0	36	65	70
		40	65	70
		48	65	70
ac VHT40	MCS0	38	73	78
		46	73	78
ac VHT80	MCS0	42	73	78

UNII-2A

IEEE Std. 802.11	Rate	Channel	Soft set value	
			ANT 1	ANT 2
a	6M	52	79	80
		60	82	82
		64	84	84
n HT20	MCS0	52	91	91
		60	95	95
		64	97	97
n HT40	MCS0	54	94	94
		62	97	97
ac VHT20	MCS0	52	88	88
		60	90	90
		64	91	91
ac VHT40	MCS0	54	89	89
		62	92	92
ac VHT80	MCS0	58	92	92

UNII-2C

IEEE Std. 802.11	Rate	Channel	Soft set value	
			ANT 1	ANT 2
a	6M	100	77	73
		120	68	65
		140	72	68
		144	76	76

n HT20	MCS0	100	85	58
		120	78	78
		140	85	85
		144	85	85
n HT40	MCS0	102	83	83
		118	80	80
		134	85	85
		142	85	85
ac VHT20	MCS0	100	80	80
		120	73	73
		140	80	80
		144	80	80
ac VHT40	MCS0	102	83	83
		118	75	75
		134	80	80
		142	80	80
ac VHT80	MCS0	106	82	82
		122	78	78
		138	78	78

UNII-3

IEEE Std. 802.11	Rate	Channel	Soft set value	
			ANT 1	ANT 2
a	6M	144	76	76
		149	75	75
		157	77	77
		165	78	78
n HT20	MCS0	144	85	85
		149	87	87
		157	90	90
		165	92	92
n HT40	MCS0	142	85	85
		151	88	88
		159	91	91
ac VHT20	MCS0	144	80	80
		149	84	84
		157	85	85
		165	87	87
ac VHT40	MCS0	142	80	80
		151	83	83
		159	86	86
ac VHT80	MCS0	138	78	78
		155	85	85

5.7. THE WORSE CASE CONFIGURATIONS

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

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

Test channels referring to section 5.4.

Maximum power setting referring to section 5.6.

Worst case Data Rates declared by the customer:

IEEE 802.11a / SISO – BPSK / 6 Mbps
IEEE 802.11n HT20 / MIMO – BPSK / MCS0
IEEE 802.11n HT40 / MIMO – BPSK / MCS0
IEEE 802.11ac VHT20 / MIMO – BPSK / MCS0
IEEE 802.11ac VHT40 / MIMO – BPSK / MCS0
IEEE 802.11ac VHT80 / MIMO – BPSK / MCS0

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

5.8. DESCRIPTION OF TEST SETUP

SUPPORT EQUIPMENT

Item	Equipment	Brand Name	Model Name	P/N
1	PC	Dell	Vostro 3902	8KNDDB2

I/O CABLES

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

ACCESSORIES

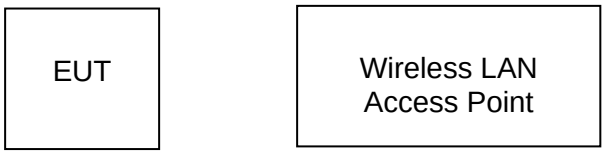
Item	Accessory	Brand Name	Model Name	Description
/	/	/	/	/

TEST SETUP

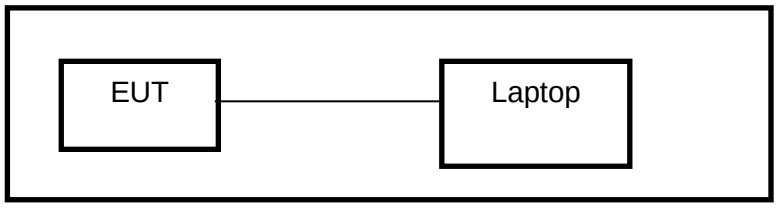
The EUT can work in engineering mode with a software through a Laptop.

SETUP DIAGRAM FOR TESTS

For DFS Test:



For the other RF Test:



6. MEASURING INSTRUMENT AND SOFTWARE USED

Radiated Emissions					
Equipment	Manufacturer	Model No.	Serial No.	Last Cal.	Due Date
MXE EMI Receiver	KESIGHT	N9038A	MY56400036	Nov. 12, 2020	Nov. 11, 2021
Hybrid Log Periodic Antenna	TDK	HLP-3003C	130960	Aug. 11, 2018	Aug. 10, 2021
Preamplifier	HP	8447D	2944A09099	Nov. 12, 2020	Nov. 11, 2021
EMI Measurement Receiver	R&S	ESR26	101377	Nov. 12, 2020	Nov. 11, 2021
Horn Antenna	TDK	HRN-0118	130939	Sept. 17, 2018	Sept. 17, 2021
Preamplifier	TDK	PA-02-0118	TRS-305-00067	Nov. 20, 2020	Nov. 19, 2021
Horn Antenna	Schwarzbeck	BBHA9170	#691	Aug. 11, 2018	Aug. 11, 2021
Preamplifier	TDK	PA-02-2	TRS-307-00003	Nov. 12, 2020	Nov. 11, 2021
Preamplifier	TDK	PA-02-3	TRS-308-00002	Nov. 12, 2020	Nov. 11, 2021
Loop antenna	Schwarzbeck	1519B	00008	Jan.17, 2019	Jan.17,2022
Preamplifier	TDK	PA-02-001-3000	TRS-302-00050	Nov. 12, 2020	Nov. 11, 2021
Preamplifier	Mini-Circuits	ZX60-83LN-S+	SUP01201941	Nov. 20, 2020	Nov. 19, 2021
Highpass Filter	Wainwright	WHKX10-5850-6500-1800-40SS	4	Nov. 12, 2020	Nov. 11, 2021
Band Reject Filter	Wainwright	WRCJV12-5695-5725-5850-5880-40SS	4	Nov. 12, 2020	Nov. 11, 2021
Band Reject Filter	Wainwright	WRCJV20-5120-5150-5350-5380-60SS	2	Nov. 12, 2020	Nov. 11, 2021
Band Reject Filter	Wainwright	WRCJV20-5440-5470-5725-5755-60SS	1	Nov. 12, 2020	Nov. 11, 2021
Software					
Description			Manufacturer	Name	Version
Test Software for Radiated Emissions			Farad	EZ-EMC	Ver. UL-3A1

Tonsend RF Test System					
Equipment	Manufacturer	Model No.	Serial No.	Last Cal.	Due. Date

Wideband Radio Communication Tester	R&S	CMW500	155523	Nov.20,2020	Nov.19,2021
PXA Signal Analyzer	Keysight	N9030A	MY55410512	Nov.20,2020	Nov.19,2021
MXG Vector Signal Generator	Keysight	N5182B	MY56200284	Nov.20,2020	Nov.19,2021
MXG Vector Signal Generator	Keysight	N5172B	MY56200301	Nov.20,2020	Nov.19,2021
DC power supply	Keysight	E3642A	MY55159130	Nov.24,2020	Nov.23,2021
Temperature & Humidity Chamber	SANMOOD	SG-80-CC-2	2088	Nov.20,2020	Nov.19,2021

Software			
Description	Manufacturer	Name	Version
Tonsend SRD Test System	Tonsend	JS1120-3 RF Test System	2.6.77.0518

Other Instruments					
Equipment	Manufacturer	Model No.	Serial No.	Last Cal.	Next Cal.
Power sensor, Power Meter	R&S	OSP120	100921	Mar.13,2020	Mar.13,2021

7. ANTENNA PORT TEST RESULTS

7.1. CONDUCTED OUTPUT POWER

LIMITS

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

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

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

TEST PROCEDURE

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

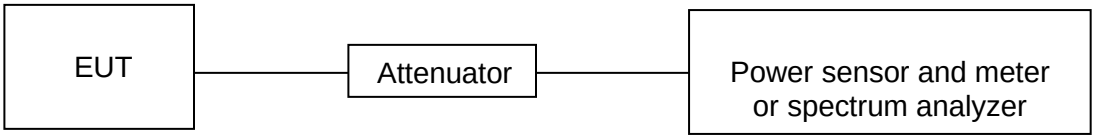
Method SA-1 (trace averaging with the EUT transmitting at full power throughout each sweep):
(i) Set span to encompass the entire emission bandwidth (EBW) (or, alternatively, the entire 99% occupied bandwidth) of the signal.
(ii) Set RBW = 1 MHz.
(iii) Set VBW ≥ 3 MHz.
(iv) Number of points in sweep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

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

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

Straddle channel power was measured using spectrum analyzer.

TEST SETUP



TEST ENVIRONMENT

Temperature	22.2 °C	Relative Humidity	51 %
Atmosphere Pressure	101 kPa	Test Voltage	DC 5 V

RESULTS

Test Mode	Antenna	Channel	Power [dBm]	FCC Limit [dBm]	ISED Limit [dBm]	EIRP [dBm]	Limit [dBm]	Verdict
11A	Ant1	5180	14.84	<=24	---	17.85	<=22.16	PASS
	Ant2	5180	14.85	<=24	---	19.73	<=22.18	PASS
	Ant1	5200	14.96	<=24	---	17.97	<=22.17	PASS
	Ant2	5200	14.89	<=24	---	19.77	<=22.16	PASS
	Ant1	5240	14.98	<=24	---	17.99	<=22.17	PASS
	Ant2	5240	14.93	<=24	---	19.81	<=22.16	PASS
	Ant1	5260	14.72	<=23.62	<=23.17	17.73	<=29.17	PASS
	Ant2	5260	15.00	<=23.52	<=23.17	19.88	<=29.17	PASS
	Ant1	5280	14.62	<=23.61	<=23.15	17.63	<=29.15	PASS
	Ant2	5280	15.02	<=23.64	<=23.17	19.90	<=29.17	PASS
	Ant1	5320	14.90	<=23.64	<=23.17	17.91	<=29.17	PASS
	Ant2	5320	15.01	<=23.53	<=23.17	19.89	<=29.17	PASS
	Ant1	5500	14.94	<=23.56	<=23.17	17.95	<=29.17	PASS
	Ant2	5500	14.98	<=23.63	<=23.16	19.86	<=29.16	PASS
	Ant1	5600	14.91	<=23.61	<=23.17	17.92	<=29.17	PASS
	Ant2	5600	15.22	<=23.65	<=23.17	20.10	<=29.17	PASS
	Ant1	5700	14.67	<=23.70	<=23.16	17.68	<=29.16	PASS
	Ant2	5700	15.21	<=23.57	<=23.17	20.09	<=29.17	PASS
	Ant1	5720_UNII-2C	13.44	<=22.50	<=22.20	16.45	<=28.20	PASS
	Ant2	5720_UNII-2C	14.89	<=22.47	<=22.20	19.77	<=28.20	PASS
	Ant1	5720_UNII-3	7.74	<=30	<=30	---	---	PASS
	Ant2	5720_UNII-3	8.86	<=30	<=30	---	---	PASS
	Ant1	5745	15.03	<=30	<=30	---	---	PASS
	Ant2	5745	15.54	<=30	<=30	---	---	PASS
	Ant1	5785	15.01	<=30	<=30	---	---	PASS
	Ant2	5785	15.34	<=30	<=30	---	---	PASS
	Ant1	5825	14.84	<=30	<=30	---	---	PASS
	Ant2	5825	15.16	<=30	<=30	---	---	PASS
11N20MIMO	Ant1	5180	10.23	<=24	---	---	---	PASS
	Ant2	5180	10.34	<=24	---	---	---	PASS
	total	5180	13.30	<=22.99	---	20.31	<=22.47	PASS
	Ant1	5200	10.34	<=24	---	---	---	PASS
	Ant2	5200	10.42	<=24	---	---	---	PASS
	total	5200	13.39	<=22.99	---	20.40	<=22.46	PASS
	Ant1	5240	10.18	<=24	---	---	---	PASS
	Ant2	5240	10.49	<=24	---	---	---	PASS

	total	5240	13.35	<=22.99	---	20.36	<=22.46	PASS
	Ant1	5260	14.90	<=23.82	<=23.46	---	---	PASS
	Ant2	5260	14.54	<=23.83	<=23.46	---	---	PASS
	total	5260	17.73	<=22.82	<=22.45	24.74	<=29.46	PASS
	Ant1	5280	15.20	<=23.82	<=23.45	---	---	PASS
	Ant2	5280	14.88	<=23.81	<=23.46	---	---	PASS
	total	5280	18.05	<=22.80	<=22.45	25.06	<=29.46	PASS
	Ant1	5320	14.92	<=23.84	<=23.47	---	---	PASS
	Ant2	5320	14.71	<=23.84	<=23.47	---	---	PASS
	total	5320	17.83	<=22.83	<=22.46	24.84	<=29.47	PASS
	Ant1	5500	14.97	<=23.83	<=23.46	---	---	PASS
	Ant2	5500	14.62	<=23.86	<=23.46	---	---	PASS
	total	5500	17.81	<=22.85	<=22.45	24.82	<=29.46	PASS
	Ant1	5600	14.66	<=23.89	<=23.47	---	---	PASS
	Ant2	5600	15.19	<=23.87	<=23.46	---	---	PASS
	total	5600	17.94	<=22.86	<=22.45	24.95	<=29.46	PASS
	Ant1	5700	15.07	<=23.81	<=23.46	---	---	PASS
	Ant2	5700	15.36	<=23.78	<=23.46	---	---	PASS
	total	5700	18.23	<=22.77	<=22.45	25.24	<=29.46	PASS
	Ant1	5720_UNII-2C	12.64	<=22.57	<=22.35	---	---	PASS
	Ant2	5720_UNII-2C	13.56	<=22.63	<=22.32	---	---	PASS
	total	5720_UNII-2C	16.13	<=21.62	<=21.31	23.14	<=28.32	PASS
	Ant1	5720_UNII-3	7.32	<=30	<=30	---	---	PASS
	Ant2	5720_UNII-3	8.34	<=30	<=30	---	---	PASS
	total	5720_UNII-3	10.87	<=28.99	<=28.99	---	---	PASS
	Ant1	5745	14.72	<=30	<=30	---	---	PASS
	Ant2	5745	14.93	<=30	<=30	---	---	PASS
	total	5745	17.84	<=28.99	<=28.99	---	---	PASS
	Ant1	5785	14.85	<=30	<=30	---	---	PASS
	Ant2	5785	14.75	<=30	<=30	---	---	PASS
	total	5785	17.81	<=28.99	<=28.99	---	---	PASS
	Ant1	5825	15.05	<=30	<=30	---	---	PASS
	Ant2	5825	14.89	<=30	<=30	---	---	PASS
	total	5825	17.98	<=28.99	<=28.99	---	---	PASS
11N40MIMO	Ant1	5190	11.71	<=24	---	---	---	PASS
	Ant2	5190	11.64	<=24	---	---	---	PASS
	total	5190	14.69	<=22.99	---	21.70	<=23	PASS
	Ant1	5230	11.72	<=24	---	---	---	PASS
	Ant2	5230	11.80	<=24	---	---	---	PASS
	total	5230	14.77	<=22.99	---	21.78	<=23	PASS
	Ant1	5270	14.80	<=24	<=24	---	---	PASS
	Ant2	5270	14.60	<=24	<=24	---	---	PASS
	total	5270	17.71	<=22.99	<=22.99	24.72	<=30	PASS
	Ant1	5310	14.79	<=24	<=24	---	---	PASS
	Ant2	5310	14.49	<=24	<=24	---	---	PASS
	total	5310	17.65	<=22.99	<=22.99	24.66	<=30	PASS
	Ant1	5510	15.11	<=24	<=24	---	---	PASS
	Ant2	5510	14.89	<=24	<=24	---	---	PASS
	total	5510	18.01	<=22.99	<=22.99	25.02	<=30	PASS
	Ant1	5590	14.70	<=24	<=24	---	---	PASS
	Ant2	5590	14.97	<=24	<=24	---	---	PASS
	total	5590	17.85	<=22.99	<=22.99	24.86	<=30	PASS
	Ant1	5670	15.09	<=24	<=24	---	---	PASS
	Ant2	5670	15.49	<=24	<=24	---	---	PASS
	total	5670	18.30	<=22.99	<=22.99	25.31	<=30	PASS
	Ant1	5710_UNII-2C	13.99	<=24	<=24	---	---	PASS
	Ant2	5710_UNII-	14.64	<=24	<=24	---	---	PASS

		2C						
	total	5710_UNII-2C	17.34	<=22.99	<=22.99	24.35	<=30	PASS
	Ant1	5710_UNII-3	2.05	<=30	<=30	---	---	PASS
	Ant2	5710_UNII-3	2.93	<=30	<=30	---	---	PASS
	total	5710_UNII-3	5.52	<=28.99	<=28.99	---	---	PASS
	Ant1	5755	15.08	<=30	<=30	---	---	PASS
	Ant2	5755	15.00	<=30	<=30	---	---	PASS
	total	5755	18.05	<=28.99	<=28.99	---	---	PASS
	Ant1	5795	14.60	<=30	<=30	---	---	PASS
	Ant2	5795	14.84	<=30	<=30	---	---	PASS
	total	5795	17.73	<=28.99	<=28.99	---	---	PASS
11AC20MIMO	Ant1	5180	9.83	<=24	---	---	---	PASS
	Ant2	5180	10.09	<=24	---	---	---	PASS
	total	5180	12.97	<=22.99	---	19.98	<=22.47	PASS
	Ant1	5200	9.87	<=24	---	---	---	PASS
	Ant2	5200	10.02	<=24	---	---	---	PASS
	total	5200	12.96	<=22.99	---	19.97	<=22.46	PASS
	Ant1	5240	9.87	<=24	---	---	---	PASS
	Ant2	5240	10.38	<=24	---	---	---	PASS
	total	5240	13.14	<=22.99	---	20.15	<=22.47	PASS
	Ant1	5260	14.26	<=23.85	<=23.45	---	---	PASS
	Ant2	5260	13.89	<=23.87	<=23.47	---	---	PASS
	total	5260	17.09	<=22.86	<=22.46	24.10	<=29.47	PASS
	Ant1	5280	13.95	<=23.90	<=23.46	---	---	PASS
	Ant2	5280	13.96	<=23.85	<=23.46	---	---	PASS
	total	5280	16.97	<=22.84	<=22.45	23.98	<=29.46	PASS
	Ant1	5320	13.74	<=23.82	<=23.47	---	---	PASS
	Ant2	5320	13.93	<=23.81	<=23.46	---	---	PASS
	total	5320	16.85	<=22.80	<=22.45	23.86	<=29.46	PASS
	Ant1	5500	13.87	<=23.89	<=23.46	---	---	PASS
	Ant2	5500	13.71	<=23.81	<=23.45	---	---	PASS
	total	5500	16.80	<=22.80	<=22.44	23.81	<=29.45	PASS
	Ant1	5600	14.18	<=23.84	<=23.47	---	---	PASS
	Ant2	5600	14.09	<=23.84	<=23.47	---	---	PASS
	total	5600	17.15	<=22.83	<=22.46	24.16	<=29.47	PASS
	Ant1	5700	13.68	<=23.81	<=23.45	---	---	PASS
	Ant2	5700	14.60	<=23.86	<=23.45	---	---	PASS
	total	5700	17.17	<=22.85	<=22.44	24.18	<=29.45	PASS
	Ant1	5720_UNII-2C	11.78	<=22.58	<=22.35	---	---	PASS
	Ant2	5720_UNII-2C	12.63	<=22.57	<=22.33	---	---	PASS
	total	5720_UNII-2C	15.24	<=22.57	<=22.33	22.25	<=28.33	PASS
	Ant1	5720_UNII-3	6.45	<=30	<=30	---	---	PASS
	Ant2	5720_UNII-3	7.35	<=30	<=30	---	---	PASS
	total	5720_UNII-3	9.93	<=28.99	<=28.99	---	---	PASS
	Ant1	5745	13.88	<=30	<=30	---	---	PASS
	Ant2	5745	14.34	<=30	<=30	---	---	PASS
	total	5745	17.13	<=28.99	<=28.99	---	---	PASS
	Ant1	5785	13.80	<=30	<=30	---	---	PASS
	Ant2	5785	14.02	<=30	<=30	---	---	PASS
	total	5785	16.92	<=28.99	<=28.99	---	---	PASS
	Ant1	5825	13.86	<=30	<=30	---	---	PASS
	Ant2	5825	14.05	<=30	<=30	---	---	PASS
	total	5825	16.97	<=28.99	<=28.99	---	---	PASS
11AC40MIMO	Ant1	5190	11.37	<=24	---	---	---	PASS
	Ant2	5190	11.60	<=24	---	---	---	PASS
	total	5190	14.50	<=22.99	---	21.51	<=23	PASS
	Ant1	5230	11.66	<=24	---	---	---	PASS

	Ant2	5230	11.81	<=24	---	---	---	PASS
	total	5230	14.75	<=22.99	---	21.76	<=23	PASS
	Ant1	5270	13.85	<=24	<=24	---	---	PASS
	Ant2	5270	13.78	<=24	<=24	---	---	PASS
	total	5270	16.83	<=22.99	<=22.99	23.84	<=30	PASS
	Ant1	5310	13.84	<=24	<=24	---	---	PASS
	Ant2	5310	13.73	<=24	<=24	---	---	PASS
	total	5310	16.80	<=22.99	<=22.99	23.81	<=30	PASS
	Ant1	5510	13.66	<=24	<=24	---	---	PASS
	Ant2	5510	13.84	<=24	<=24	---	---	PASS
	total	5510	16.76	<=22.99	<=22.99	23.77	<=30	PASS
	Ant1	5590	13.81	<=24	<=24	---	---	PASS
	Ant2	5590	14.11	<=24	<=24	---	---	PASS
	total	5590	16.97	<=22.99	<=22.99	23.98	<=30	PASS
	Ant1	5670	14.17	<=24	<=24	---	---	PASS
	Ant2	5670	14.50	<=24	<=24	---	---	PASS
	total	5670	17.35	<=22.99	<=22.99	24.36	<=30	PASS
	Ant1	5710_UNII-2C	12.88	<=24	<=24	---	---	PASS
	Ant2	5710_UNII-2C	13.82	<=24	<=24	---	---	PASS
	total	5710_UNII-2C	16.39	<=22.99	<=22.99	23.40	<=30	PASS
	Ant1	5710_UNII-3	1.28	<=30	<=30	---	---	PASS
	Ant2	5710_UNII-3	1.82	<=30	<=30	---	---	PASS
	total	5710_UNII-3	4.57	<=28.99	<=28.99	---	---	PASS
	Ant1	5755	14.13	<=30	<=30	---	---	PASS
	Ant2	5755	14.29	<=30	<=30	---	---	PASS
	total	5755	17.22	<=28.99	<=28.99	---	---	PASS
	Ant1	5795	14.17	<=30	<=30	---	---	PASS
	Ant2	5795	14.04	<=30	<=30	---	---	PASS
	total	5795	17.12	<=28.99	<=28.99	---	---	PASS
11AC80MIMO	Ant1	5210	11.78	<=24	---	---	---	PASS
	Ant2	5210	11.85	<=24	---	---	---	PASS
	total	5210	14.83	<=22.99	---	21.83	<=23	PASS
	Ant1	5290	13.93	<=24	<=24	---	---	PASS
	Ant2	5290	13.59	<=24	<=24	---	---	PASS
	total	5290	16.77	<=22.99	<=22.99	23.78	<=30	PASS
	Ant1	5530	14.05	<=24	<=24	---	---	PASS
	Ant2	5530	14.58	<=24	<=24	---	---	PASS
	total	5530	17.33	<=22.99	<=22.99	24.34	<=30	PASS
	Ant1	5610	13.57	<=24	<=24	---	---	PASS
	Ant2	5610	14.66	<=24	<=24	---	---	PASS
	total	5610	17.16	<=22.99	<=22.99	24.17	<=30	PASS
	Ant1	5690_UNII-2C	12.28	<=24	<=24	---	---	PASS
	Ant2	5690_UNII-2C	13.45	<=24	<=24	---	---	PASS
	total	5690_UNII-2C	15.91	<=22.99	<=22.99	22.92	<=30	PASS
	Ant1	5690_UNII-3	-5.24	<=30	<=30	---	---	PASS
	Ant2	5690_UNII-3	-4.03	<=30	<=30	---	---	PASS
	total	5690_UNII-3	-1.58	<=28.99	<=28.99	---	---	PASS
	Ant1	5775	13.61	<=30	<=30	---	---	PASS
	Ant2	5775	13.81	<=30	<=30	---	---	PASS
	total	5775	16.72	<=28.99	<=28.99	---	---	PASS

Note: The Duty Cycle Factor is compensated in the results.

Test worst case results of Spot Check					
Test Mode	Antenna	Frequency (MHz)	Result[dBm]	original report Result[dBm]	Deviation(dB)
a	Ant2	5745	15.54	15.77	-0.23
n HT20	total	5700	18.23	18.44	-0.21
n HT40	total	5670	18.30	18.47	-0.17
ac VHT20	total	5700	17.17	17.36	-0.19
ac VHT40	total	5670	17.35	17.54	-0.19
ac VHT80	total	5530	17.33	17.46	-0.13

8. RADIATED TEST RESULTS

LIMITS

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

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

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

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

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

ISED General field strength limits at frequencies below 30 MHz

Table 6 – General field strength limits at frequencies below 30 MHz		
Frequency	**Magnetic field strength (H-Field) (μA/m)**	**Measurement distance (m)**
9 - 490 kHz[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	156.52475 - 156.52525	9.3 - 9.5
2.1735 - 2.1905	156.7 - 156.9	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 - 1646.5	Above 38.6
8.362 - 8.366	1660 - 1710	
8.37625 - 8.38675	1718.8 - 1722.2	
8.41425 - 8.41475	2200 - 2300	
12.29 - 12.293	2310 - 2390	
12.51975 - 12.52025	2483.5 - 2500	
12.57675 - 12.57725	2655 - 2900	
13.36 - 13.41	3260 – 3267	
16.42 - 16.423	3332 - 3339	
16.69475 - 16.69525	3345.8 - 3358	
16.80425 - 16.80475	3500 - 4400	
25.5 - 25.67	4500 - 5150	
37.5 - 38.25	5350 - 5460	
73 - 74.6	7250 - 7750	
74.8 - 75.2	8025 – 8500	
108 – 138		

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

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

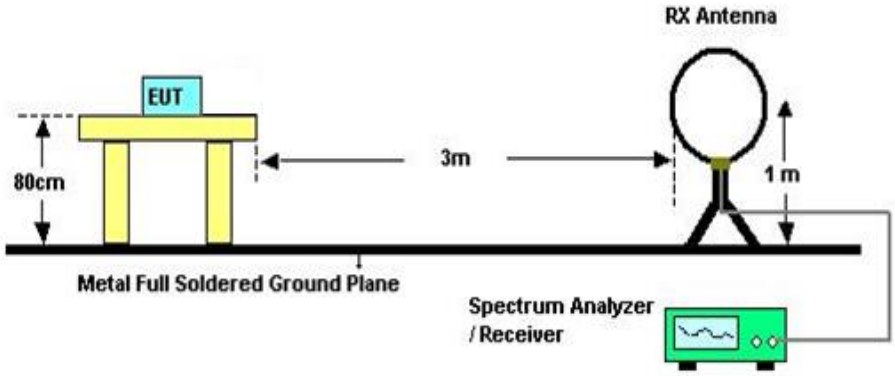
MHz	MHz	MHz	GHz
0.090-0.110	16.42-16.423	399.9-410	4.5-5.15
[1]0.495-0.505	16.69475-16.69525	608-614	5.35-5.46
2.1735-2.1905	16.80425-16.80475	960-1240	7.25-7.75
4.125-4.128	25.5-25.67	1300-1427	8.025-8.5
4.17725-4.17775	37.5-38.25	1435-1626.5	9.0-9.2
4.20725-4.20775	73-74.6	1645.5-1646.5	9.3-9.5
6.215-6.218	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: [1]Until February 1, 1999, this restricted band shall be 0.490-0.510 MHz.
[2]Above 38.6c
Limits of unwanted/undesirable emission out of the restricted bands refer to CFR 47 FCC §15.407 (b) and ISED RSS-247 6.2.

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



The setting of the spectrum analyser

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

1. The testing follows the guidelines in ANSI C63.10-2013 clause 11.11.

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

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

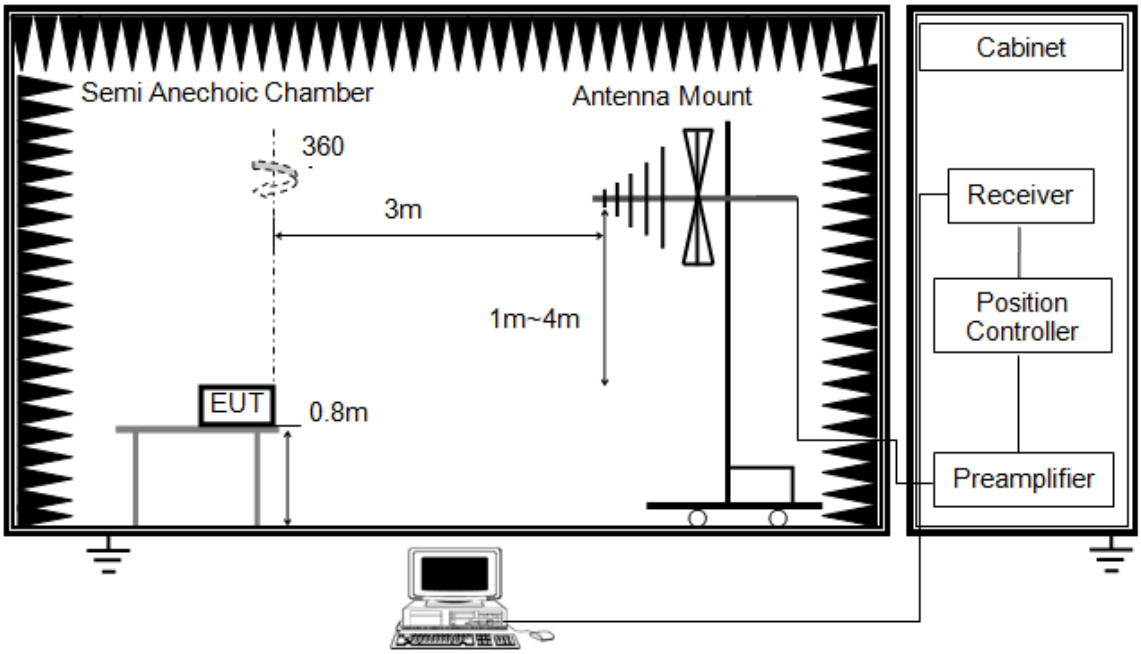
4. The EUT was set 3 meters from the interference receiving antenna, which was mounted on the top of a 1 m height antenna tower.

5. The radiated emission limits are based on measurements employing a CISPR quasi-peak detector except for the frequency bands 9-90 kHz, 110-490 kHz and above 1000 MHz. Radiated emission limits in these three bands are based on measurements employing an average detector.

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

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

Below 1 GHz and above 30 MHz



The setting of the spectrum analyser

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

1. The testing follows the guidelines in ANSI C63.10-2013 clause 11.11.

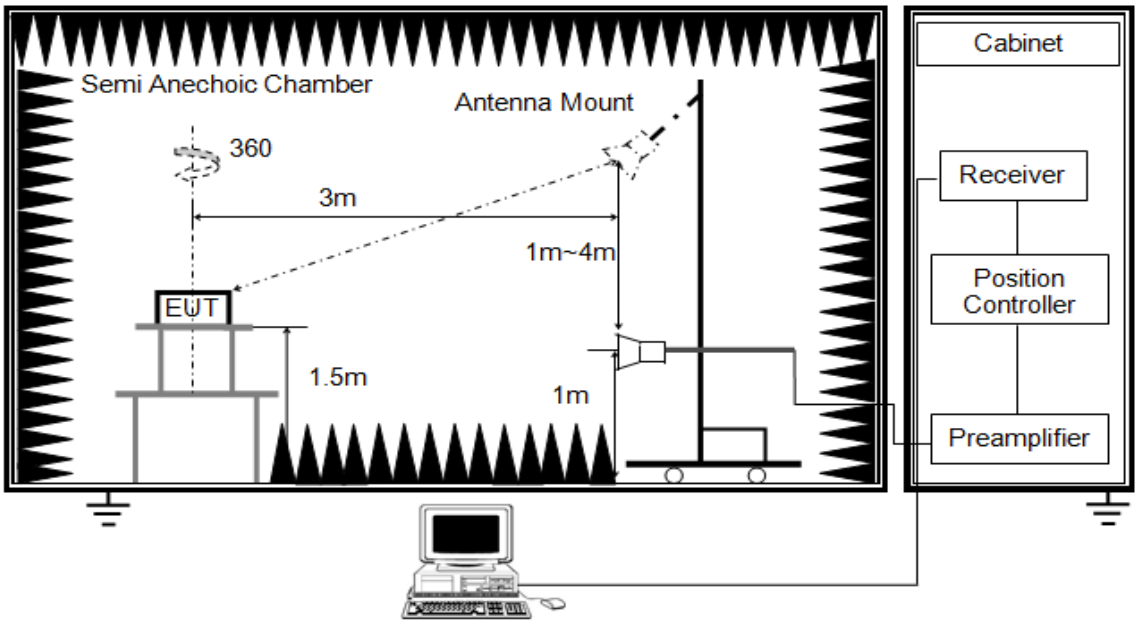
2. The EUT was arranged to its worst case and then tune the antenna tower (from 1 m to 4 m) and turntable (from 0 degree to 360 degrees) to find the maximum reading. A pre-amp and a high pass filter are used for the test in order to get better signal level. Both horizontal and vertical polarizations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

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

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

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

Above 1 GHz



The setting of the spectrum analyser

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

1. The testing follows the guidelines in KDB 789033 D02 General U-NII Test Procedures New Rules v02r01 section II.G.3 ~ II.G.6.

2. The EUT was arranged to its worst case and then tune the antenna tower (1.5 m) and turntable (from 0 degree to 360 degrees) to find the maximum reading. A pre-amp and a high pass filter are used for the test in order to get better signal level. Both horizontal and vertical polarizations of the antenna are set to make the measurement.

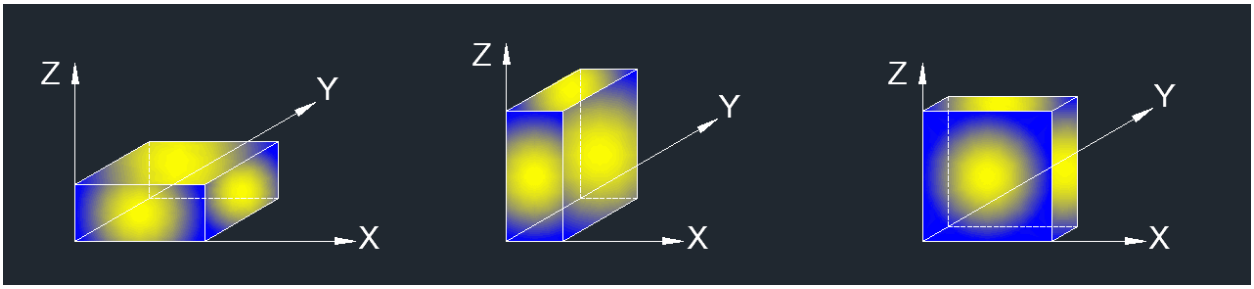
3. The EUT was placed on a turntable with 1.5 m above ground.

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

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

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

X axis, Y axis, Z axis positions:



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

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

TEST ENVIRONMENT

Temperature	24.9 °C	Relative Humidity	57 %
Atmosphere Pressure	101 kPa	Test Voltage	DC 5 V

RESULTS

Test worst case results of Spot Check					
Test Mode	Test Item	Frequency (MHz)	Result[dBuV/m]	original report Result[dBuV/m]	Deviation(dB)
11n HT40	Band Edge	5350	52.01	52.64	-0.63
	RSE	17076	51.66	52.22	-0.56

Note: Comparison of two models, upper deviation is within 3 dB range and all test results are under FCC Technical limits.

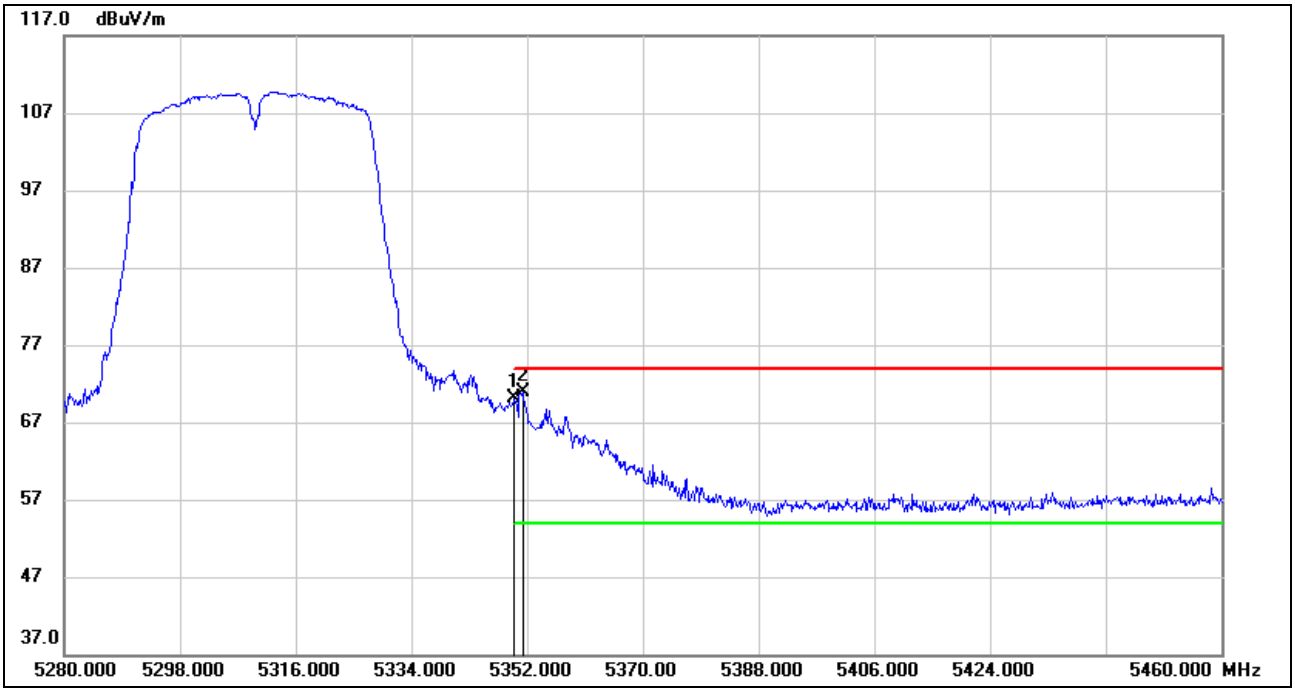
8.1. RESTRICTED BANDEDGE

8.1.1. 802. 11n HT40 MODE

UNII-2A BAND

RESTRICTED BANDEDGE (HIGH CHANNEL, HORIZONTAL)

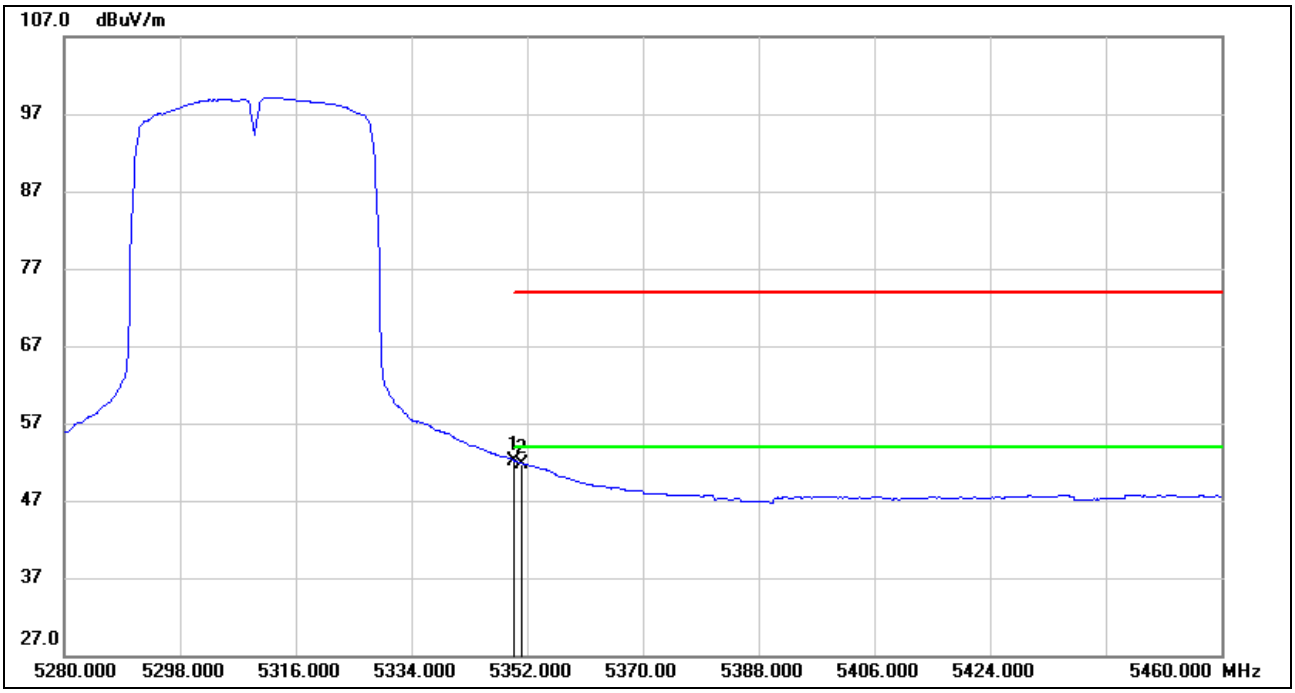
PEAK



No.	Frequency (MHz)	Reading (dBuV)	Correct (dB/m)	Result (dBuV/m)	Limit (dBuV/m)	Margin (dB)	Remark
1	5350.000	29.46	40.64	70.10	74.00	-3.90	peak
2	5351.280	30.26	40.63	70.89	74.00	-3.11	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. Only the worst data was recorded, if it complies with the limit, the other emissions deemed to comply with the limit.

AVG



No.	Frequency (MHz)	Reading (dBuV)	Correct (dB/m)	Result (dBuV/m)	Limit (dBuV/m)	Margin (dB)	Remark
1	5350.000	11.37	40.64	52.01	54.00	-1.99	AVG
2	5351.280	11.14	40.63	51.77	54.00	-2.23	AVG

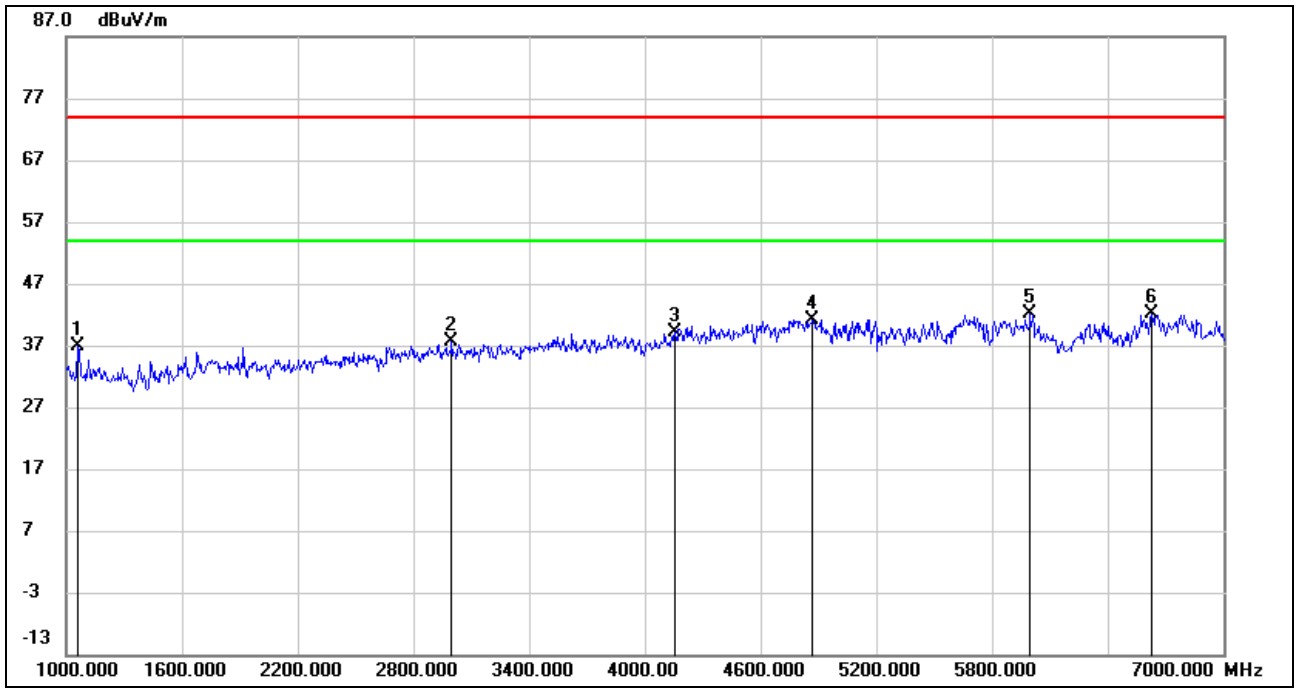
Note: 1. Measurement = Reading Level + Correct Factor.
2. If Peak Result complies with AV limit, AV Result is deemed to comply with AV limit.
3. AVG: VBW=1/Ton, where: Ton is the transmitting duration.
4. Only the worst data was recorded, if it complies with the limit, the other emissions deemed to comply with the limit.

8.2. SPURIOUS EMISSIONS (1 GHz ~ 7 GHz)

8.2.1. 802.11a SISO MODE

UNII-3 BAND

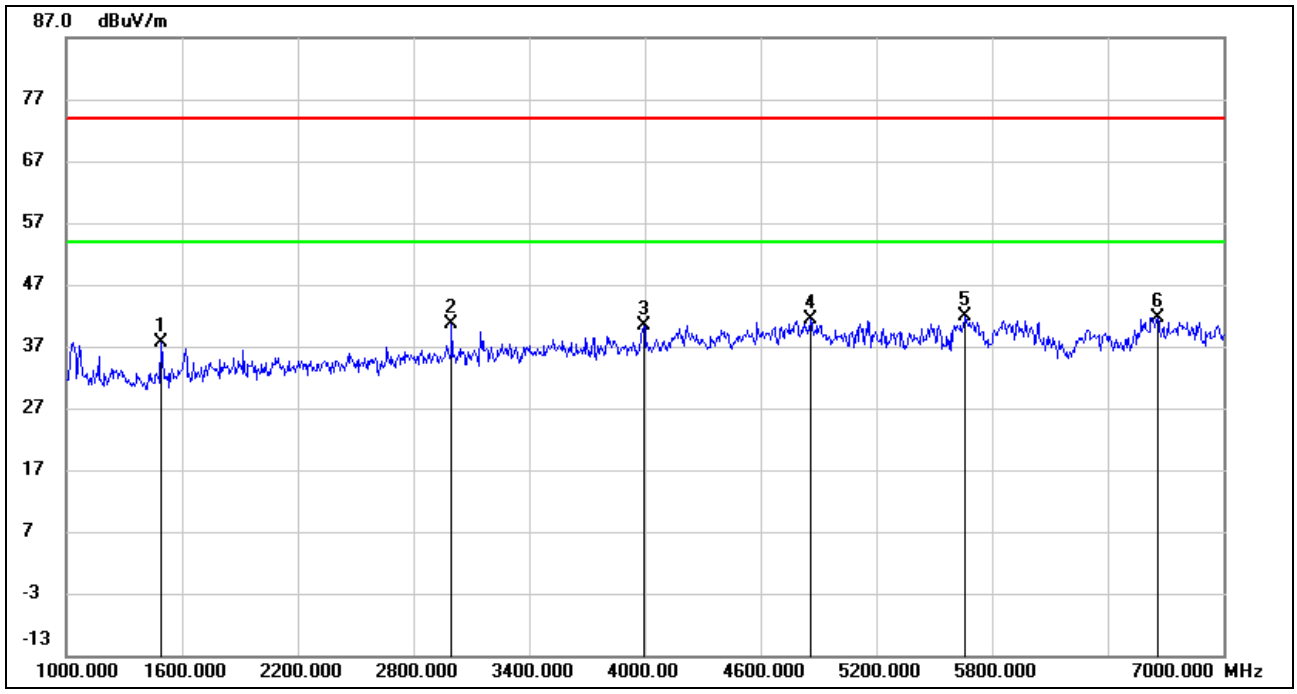
HARMONICS AND SPURIOUS EMISSIONS (LOW CHANNEL, HORIZONTAL)



No.	Frequency (MHz)	Reading (dBuV)	Correct (dB/m)	Result (dBuV/m)	Limit (dBuV/m)	Margin (dB)	Remark
1	1060.000	50.58	-13.68	36.90	74.00	-37.10	peak
2	2998.000	43.17	-5.60	37.57	74.00	-36.43	peak
3	4156.000	41.23	-2.10	39.13	74.00	-34.87	peak
4	4870.000	40.51	0.69	41.20	74.00	-32.80	peak
5	5998.000	38.88	3.30	42.18	74.00	-31.82	peak
6	6628.000	36.72	5.50	42.22	74.00	-31.78	peak

Note: 1. Measurement = Reading Level + Correct Factor.
2. If Peak Result complies with AV limit, AV Result is deemed to comply with AV limit.
3. Peak: Peak detector.
4. Filter losses were only considered in the spurious frequency bands and the authorized band was not corrected for Band reject filter losses.
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 are lower than the line(54dBuV/m) in the graph, so all the peak test point was deemed to comply with the limits -27dBm/MHz (68.2dBuV/m) list in the standard.

HARMONICS AND SPURIOUS EMISSIONS (LOW CHANNEL, VERTICAL)



No.	Frequency (MHz)	Reading (dBuV)	Correct (dB/m)	Result (dBuV/m)	Limit (dBuV/m)	Margin (dB)	Remark
1	1492.000	49.84	-12.26	37.58	74.00	-36.42	peak
2	2998.000	46.13	-5.60	40.53	74.00	-33.47	peak
3	3994.000	44.00	-3.60	40.40	74.00	-33.60	peak
4	4858.000	40.59	0.68	41.27	74.00	-32.73	peak
5	5662.000	39.35	2.47	41.82	74.00	-32.18	peak
6	6658.000	36.17	5.51	41.68	74.00	-32.32	peak

Note: 1. Measurement = Reading Level + Correct Factor.
2. If Peak Result complies with AV limit, AV Result is deemed to comply with AV limit.
3. Peak: Peak detector.
4. Filter losses were only considered in the spurious frequency bands and the authorized band was not corrected for Band reject filter losses.
5. Proper operation of the transmitter prior to adding the filter to the measurement chain.
6. Owing to the highest peak level of unwanted emission out of the restricted bands are lower than the line(54dBuV/m) in the graph, so all the peak test point was deemed to comply with the limits -27dBm/MHz (68.2dBuV/m) list in the standard.

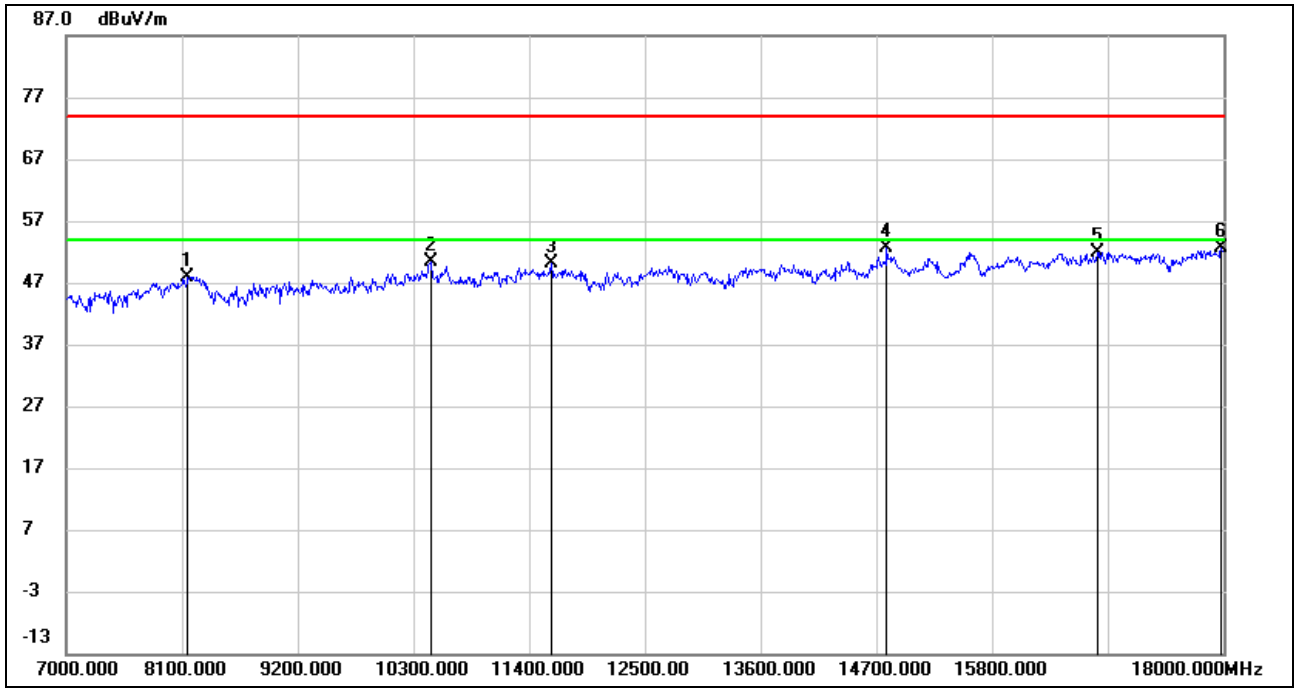
Note: All the modes, bands and antennas had been tested, but only the worst data was recorded in the report.

8.3. SPURIOUS EMISSIONS (7 GHz ~ 18 GHz)

8.3.1. 802.11n HT40 MODE

UNII-2C BAND

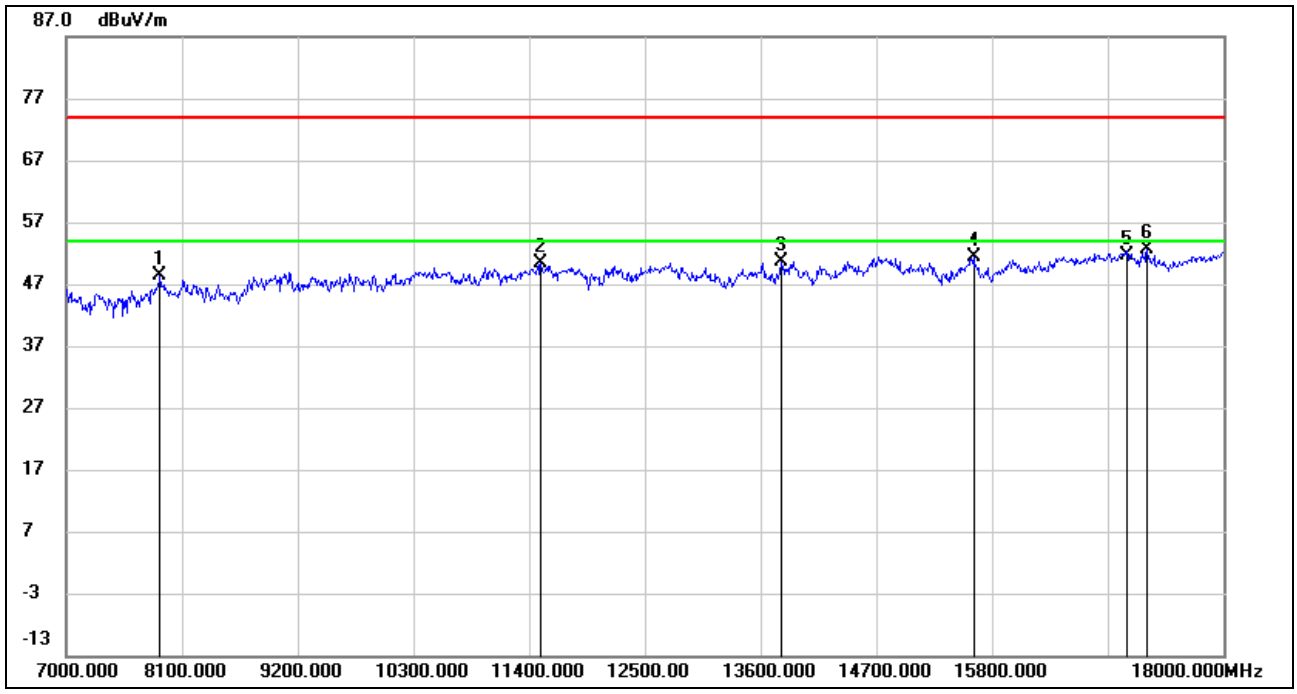
HARMONICS AND SPURIOUS EMISSIONS (HIGH CHANNEL, HORIZONTAL)



No.	Frequency (MHz)	Reading (dBuV)	Correct (dB/m)	Result (dBuV/m)	Limit (dBuV/m)	Margin (dB)	Remark
1	8155.000	39.46	8.52	47.98	74.00	-26.02	peak
2	10465.000	39.01	11.28	50.29	74.00	-23.71	peak
3	11609.000	36.71	13.50	50.21	74.00	-23.79	peak
4	14799.000	36.46	16.06	52.52	74.00	-21.48	peak
5	16801.000	31.76	20.19	51.95	74.00	-22.05	peak
6	17978.000	29.07	23.51	52.58	74.00	-21.42	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 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 are lower than the line(54dBuV/m) in the graph, so all the peak test point was deemed to comply with the limits -27dBm/MHz (68.2dBuV/m) list in the standard.

HARMONICS AND SPURIOUS EMISSIONS (HIGH CHANNEL, VERTICAL)



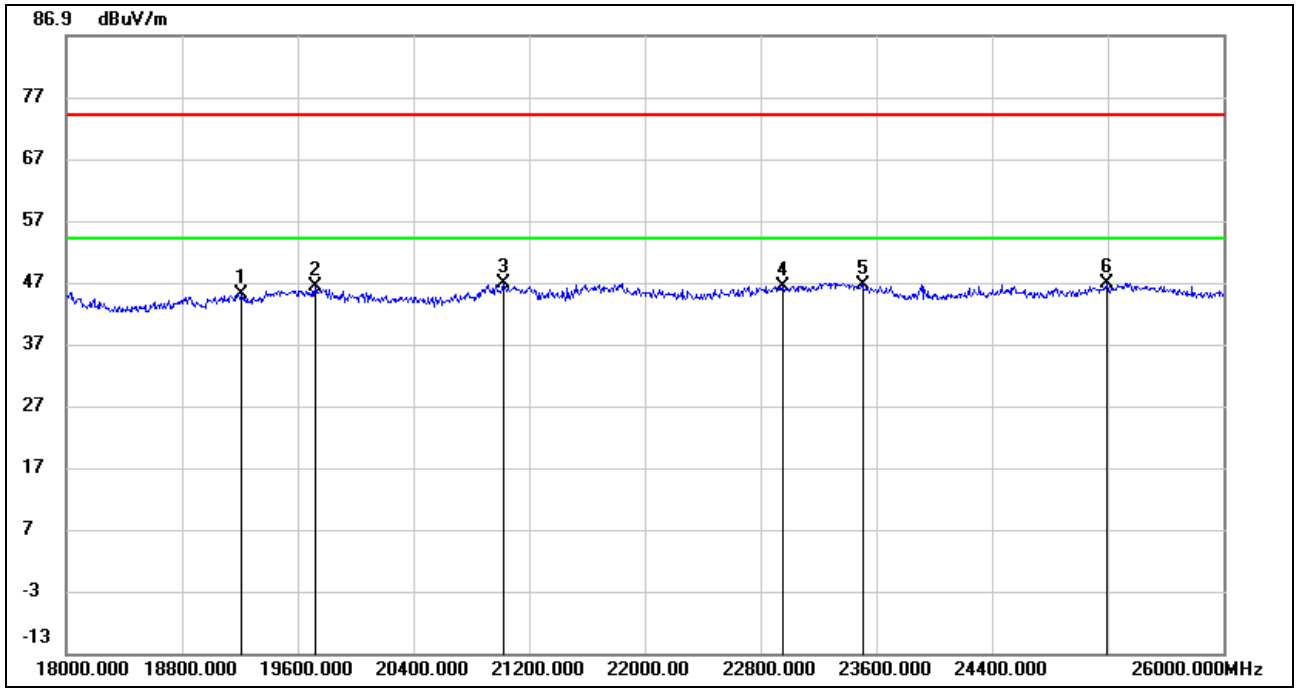
No.	Frequency (MHz)	Reading (dBuV)	Correct (dB/m)	Result (dBuV/m)	Limit (dBuV/m)	Margin (dB)	Remark
1	7891.000	40.61	7.66	48.27	74.00	-25.73	peak
2	11510.000	36.89	13.39	50.28	74.00	-23.72	peak
3	13798.000	33.68	17.05	50.73	74.00	-23.27	peak
4	15624.000	34.24	17.05	51.29	74.00	-22.71	peak
5	17076.000	30.84	20.82	51.66	74.00	-22.34	peak
6	17274.000	30.96	21.71	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 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 are lower than the line(54dBuV/m) in the graph, so all the peak test point was deemed to comply with the limits -27dBm/MHz (68.2dBuV/m) list in the standard.

8.4. SPURIOUS EMISSIONS (18 GHz ~ 26 GHz)

8.4.1. 802.11n HT40 MODE

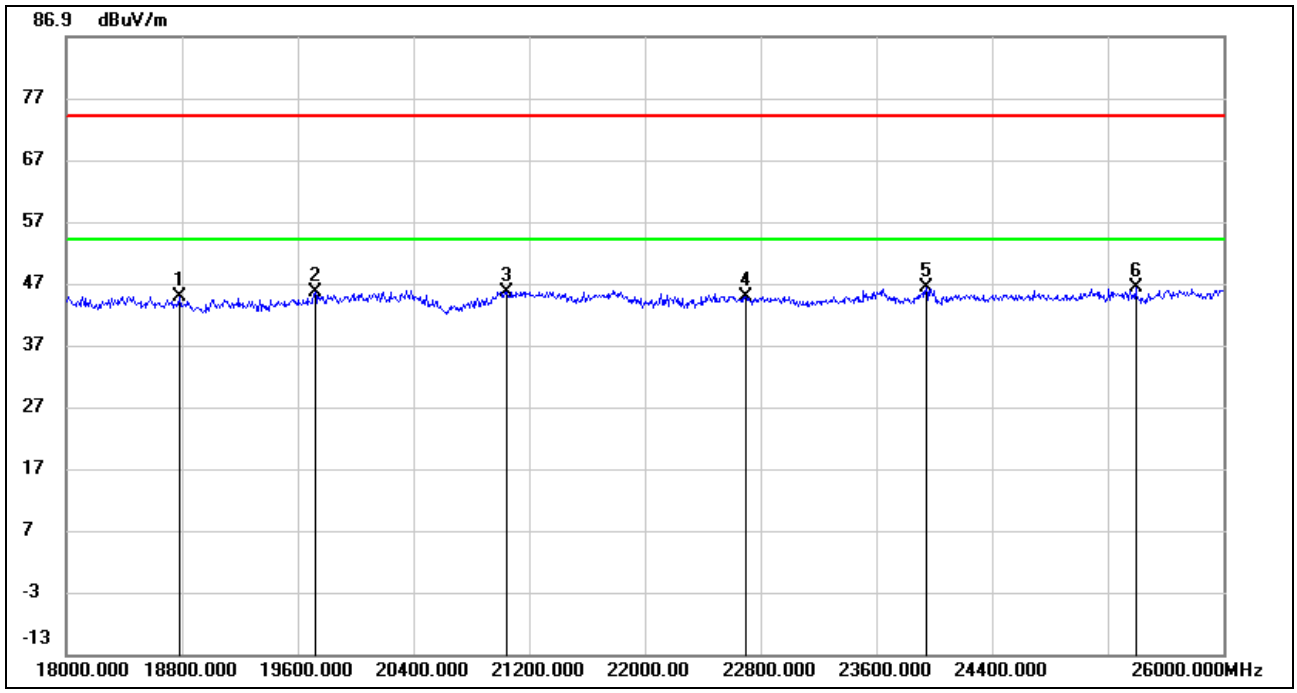
SPURIOUS EMISSIONS (UNII-2C BAND HIGH CHANNEL, HORIZONTAL, WORST-CASE CONFIGURATION)



No.	Frequency (MHz)	Reading (dBuV)	Correct (dB/m)	Result (dBuV/m)	Limit (dBuV/m)	Margin (dB)	Remark
1	19208.000	49.99	-5.02	44.97	74.00	-29.03	peak
2	19720.000	50.58	-4.39	46.19	74.00	-27.81	peak
3	21024.000	52.12	-5.30	46.82	74.00	-27.18	peak
4	22952.000	52.03	-5.63	46.40	74.00	-27.60	peak
5	23504.000	51.41	-4.76	46.65	74.00	-27.35	peak
6	25192.000	47.99	-1.16	46.83	74.00	-27.17	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.

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



No.	Frequency (MHz)	Reading (dBuV)	Correct (dB/m)	Result (dBuV/m)	Limit (dBuV/m)	Margin (dB)	Remark
1	18784.000	49.55	-4.84	44.71	74.00	-29.29	peak
2	19720.000	50.00	-4.39	45.61	74.00	-28.39	peak
3	21048.000	50.97	-5.32	45.65	74.00	-28.35	peak
4	22696.000	50.63	-5.75	44.88	74.00	-29.12	peak
5	23944.000	50.45	-4.14	46.31	74.00	-27.69	peak
6	25392.000	47.82	-1.55	46.27	74.00	-27.73	peak

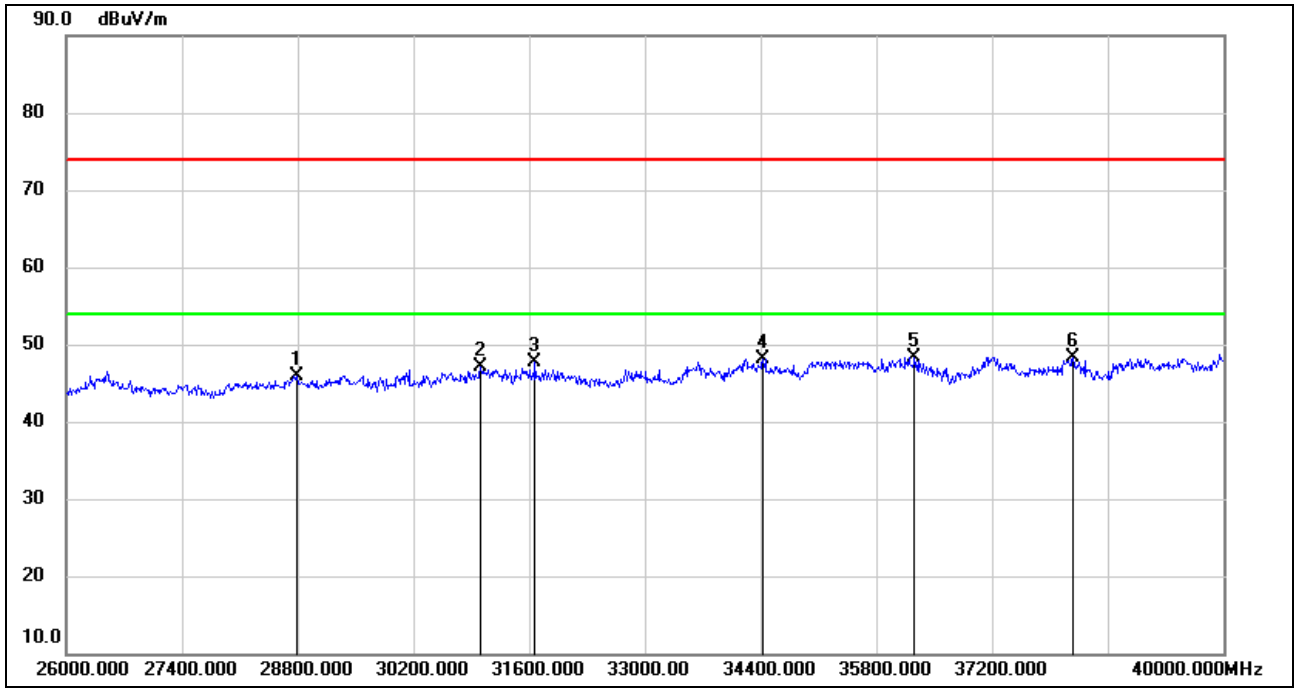
Note: 1. Measurement = Reading Level + Correct Factor.
2. If Peak Result complies with AV limit, AV Result is deemed to comply with AV limit.
3. Peak: Peak detector.

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

8.5. SPURIOUS EMISSIONS (26 GHz ~ 40 GHz)

8.5.1. 802.11n HT40 MODE

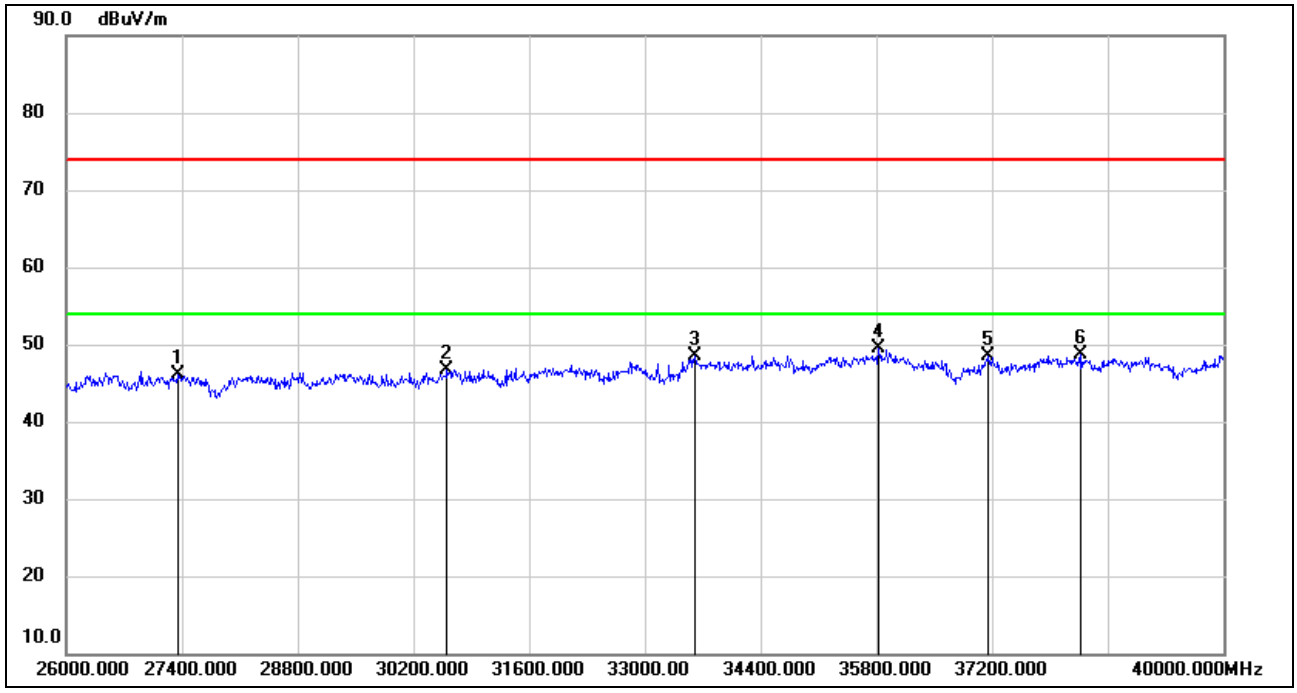
SPURIOUS EMISSIONS (UNII-2C BAND HIGH CHANNEL, HORIZONTAL, WORST-CASE CONFIGURATION)



No.	Frequency (MHz)	Reading (dBuV)	Correct (dB/m)	Result (dBuV/m)	Limit (dBuV/m)	Margin (dB)	Remark
1	28786.000	46.49	-0.64	45.85	74.00	-28.15	peak
2	31012.000	47.83	-0.71	47.12	74.00	-26.88	peak
3	31670.000	48.86	-1.21	47.65	74.00	-26.35	peak
4	34428.000	47.20	0.99	48.19	74.00	-25.81	peak
5	36262.000	45.10	3.28	48.38	74.00	-25.62	peak
6	38180.000	44.64	3.69	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. Proper operation of the transmitter prior to adding the filter to the measurement chain.

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



No.	Frequency (MHz)	Reading (dBuV)	Correct (dB/m)	Result (dBuV/m)	Limit (dBuV/m)	Margin (dB)	Remark
1	27344.000	50.10	-4.00	46.10	74.00	-27.90	peak
2	30606.000	47.69	-1.01	46.68	74.00	-27.32	peak
3	33602.000	48.01	0.46	48.47	74.00	-25.53	peak
4	35828.000	45.75	3.67	49.42	74.00	-24.58	peak
5	37158.000	45.34	3.17	48.51	74.00	-25.49	peak
6	38278.000	44.82	3.82	48.64	74.00	-25.36	peak

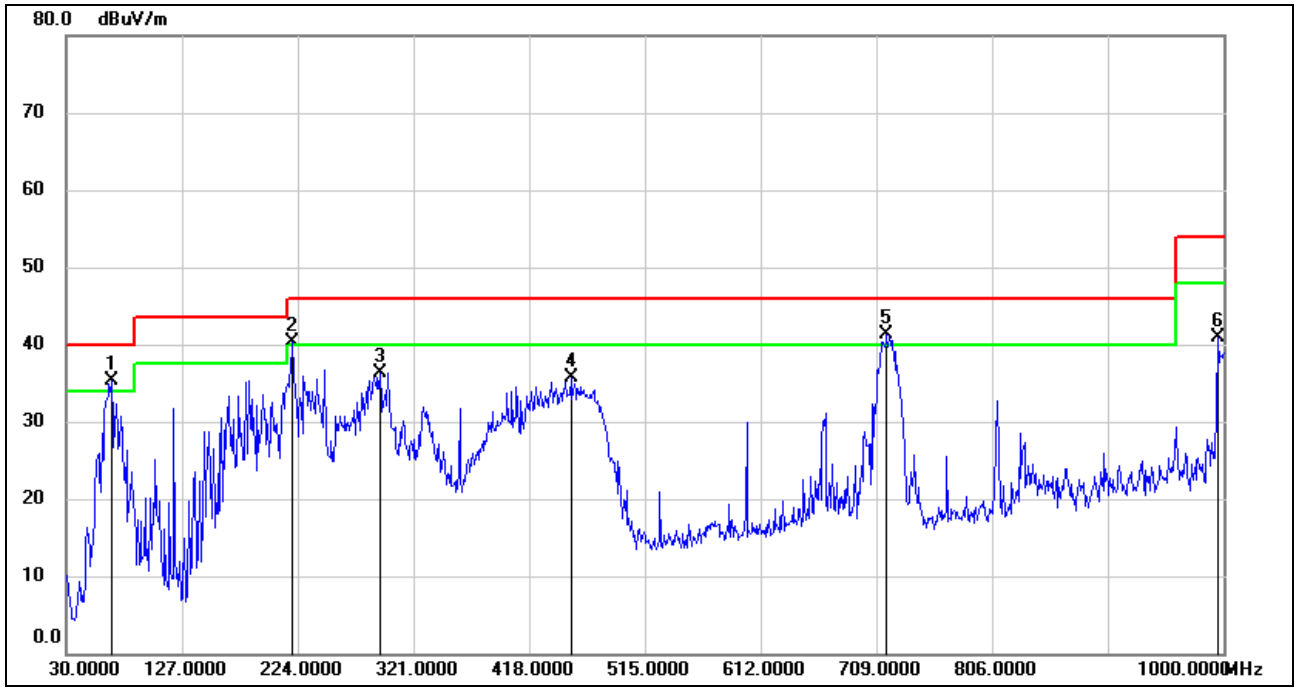
Note: 1. Measurement = Reading Level + Correct Factor.
2. If Peak Result complies with AV limit, AV Result is deemed to comply with AV limit.
3. Peak: Peak detector.
4. Proper operation of the transmitter prior to adding the filter to the measurement chain.

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

8.6. SPURIOUS EMISSIONS (30 MHz ~ 1 GHz)

8.6.1. 802.11n HT40 MODE

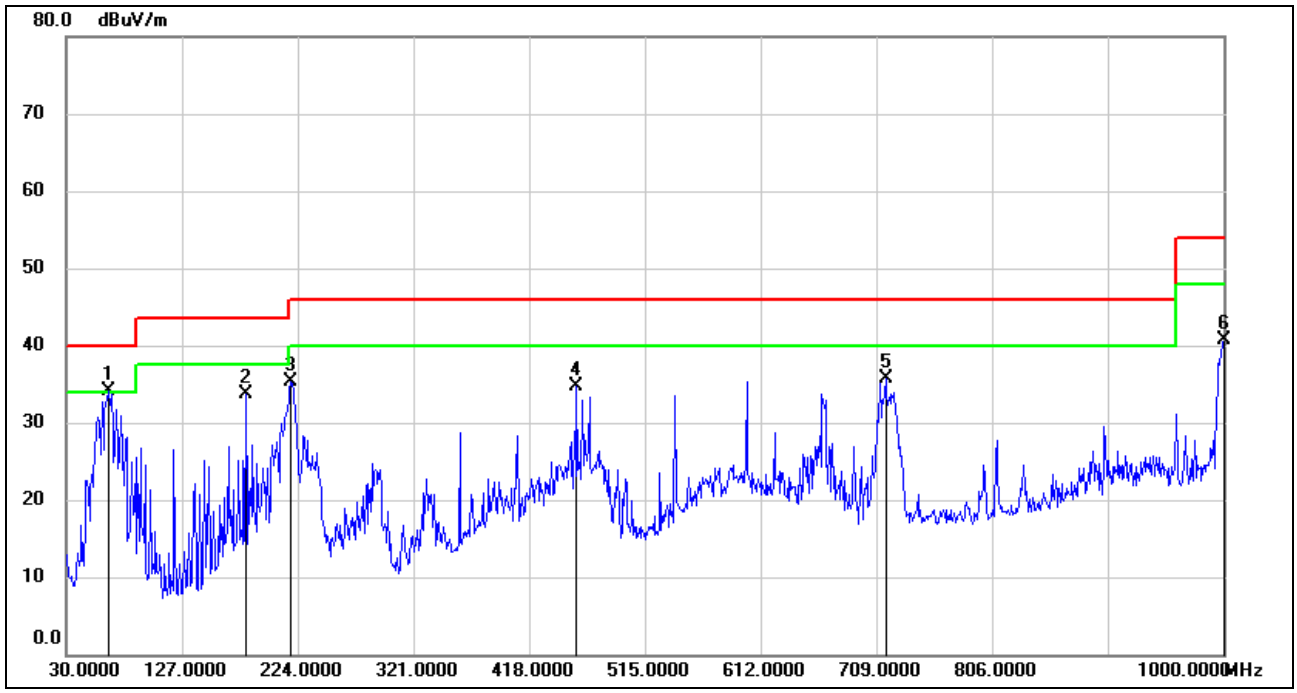
SPURIOUS EMISSIONS (UNII-2C BAND HIGH CHANNEL, HORIZONTAL, WORST-CASE CONFIGURATION)



No.	Frequency (MHz)	Reading (dBuV)	Correct (dB/m)	Result (dBuV/m)	Limit (dBuV/m)	Margin (dB)	Remark
1	67.8300	55.88	-20.55	35.33	40.00	-4.67	QP
2	219.1500	58.38	-18.10	40.28	46.00	-5.72	QP
3	292.8700	52.13	-15.73	36.40	46.00	-9.60	QP
4	452.9200	48.02	-12.38	35.64	46.00	-10.36	QP
5	717.7300	49.34	-8.11	41.23	46.00	-4.77	QP
6	995.1500	45.08	-4.20	40.88	54.00	-13.12	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 (MHz)	Reading (dBuV)	Correct (dB/m)	Result (dBuV/m)	Limit (dBuV/m)	Margin (dB)	Remark
1	65.8900	54.66	-20.55	34.11	40.00	-5.89	QP
2	180.3500	50.50	-16.82	33.68	43.50	-9.82	QP
3	218.1800	53.26	-18.02	35.24	46.00	-10.76	QP
4	457.7700	46.86	-12.20	34.66	46.00	-11.34	QP
5	716.7600	43.90	-8.14	35.76	46.00	-10.24	QP
6	1000.0000	44.92	-4.15	40.77	54.00	-13.23	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

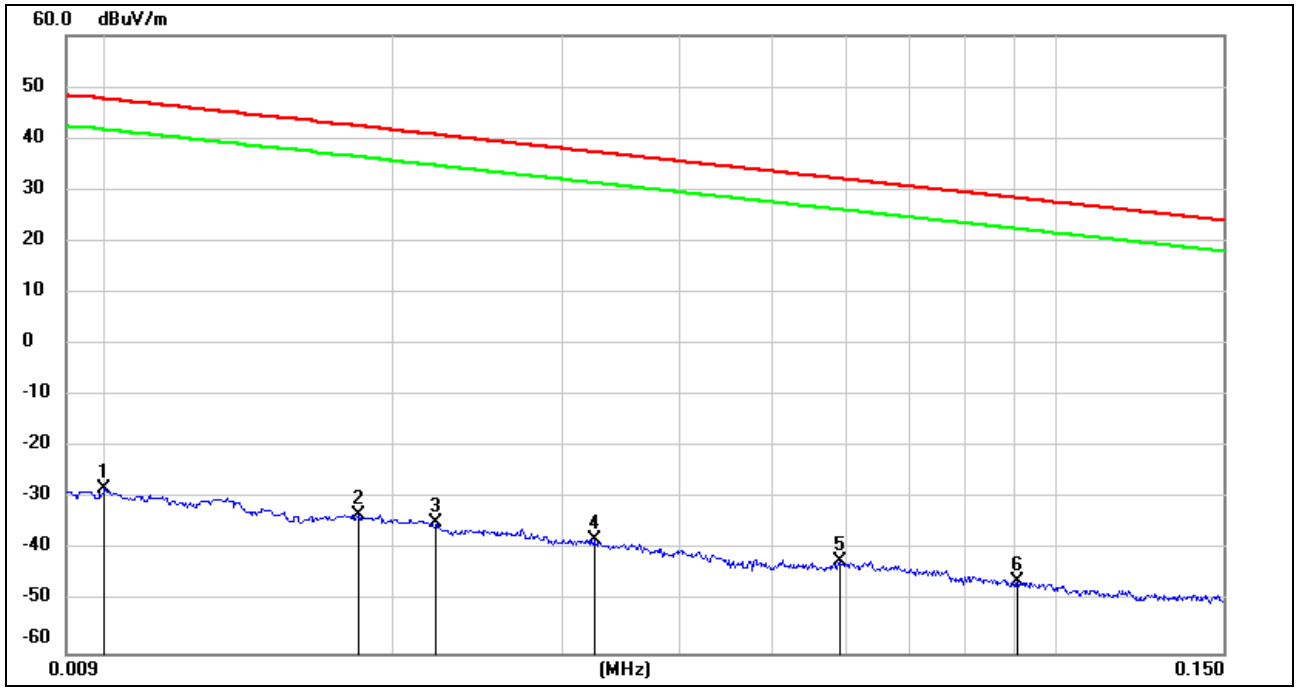
Note: All the modes and antennas had been tested, but only the worst data was recorded in the report.

8.7. SPURIOUS EMISSIONS BELOW 30 MHz

8.7.1. 802.11n HT40 MODE

SPURIOUS EMISSIONS (UNII-2C BAND HIGH CHANNEL LOOP ANTENNA FACE ON TO THE EUT, WORST-CASE CONFIGURATION)

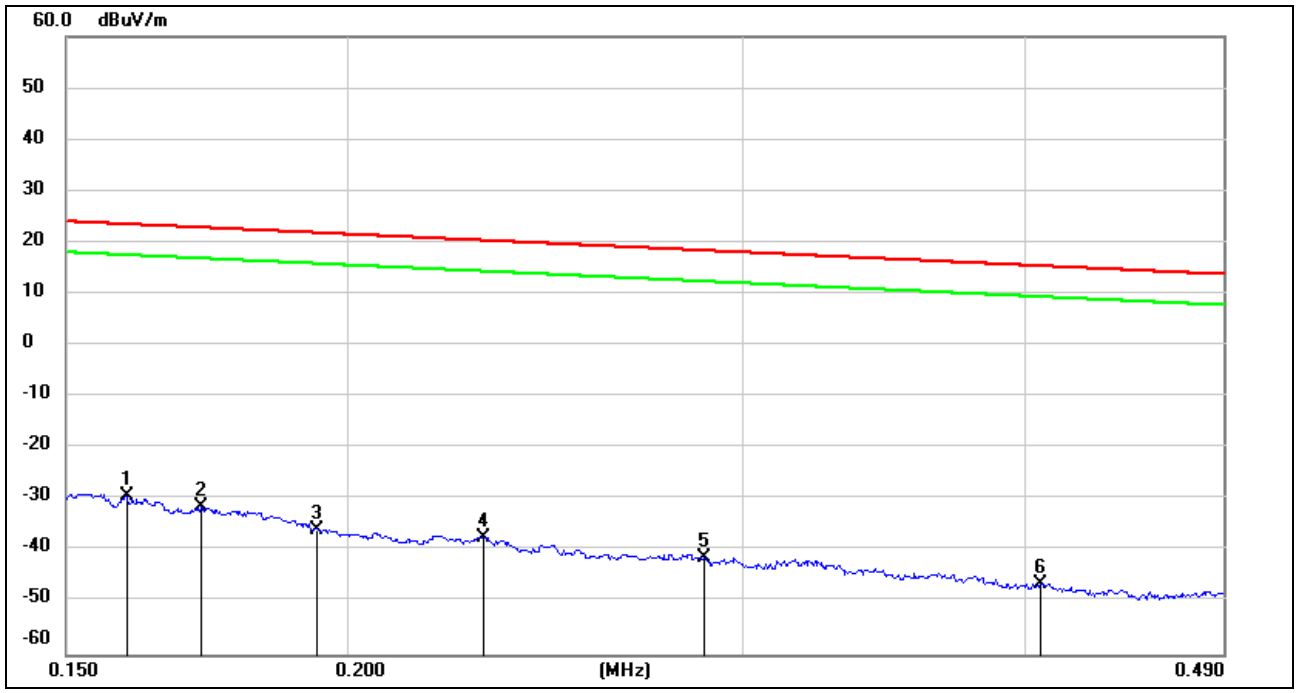
9 kHz~ 150 kHz



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	73.22	-101.40	-28.18	47.60	-79.68	-3.90	-75.78	peak
2	0.0183	68.20	-101.36	-33.16	42.35	-84.66	-9.15	-75.51	peak
3	0.0221	66.63	-101.35	-34.72	40.71	-86.22	-10.79	-75.43	peak
4	0.0325	63.49	-101.40	-37.91	37.36	-89.41	-14.14	-75.27	peak
5	0.0589	59.31	-101.52	-42.21	32.20	-93.71	-19.30	-74.41	peak
6	0.0911	55.61	-101.72	-46.11	28.41	-97.61	-23.09	-74.52	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(120π) = dBuV/m -51.5.

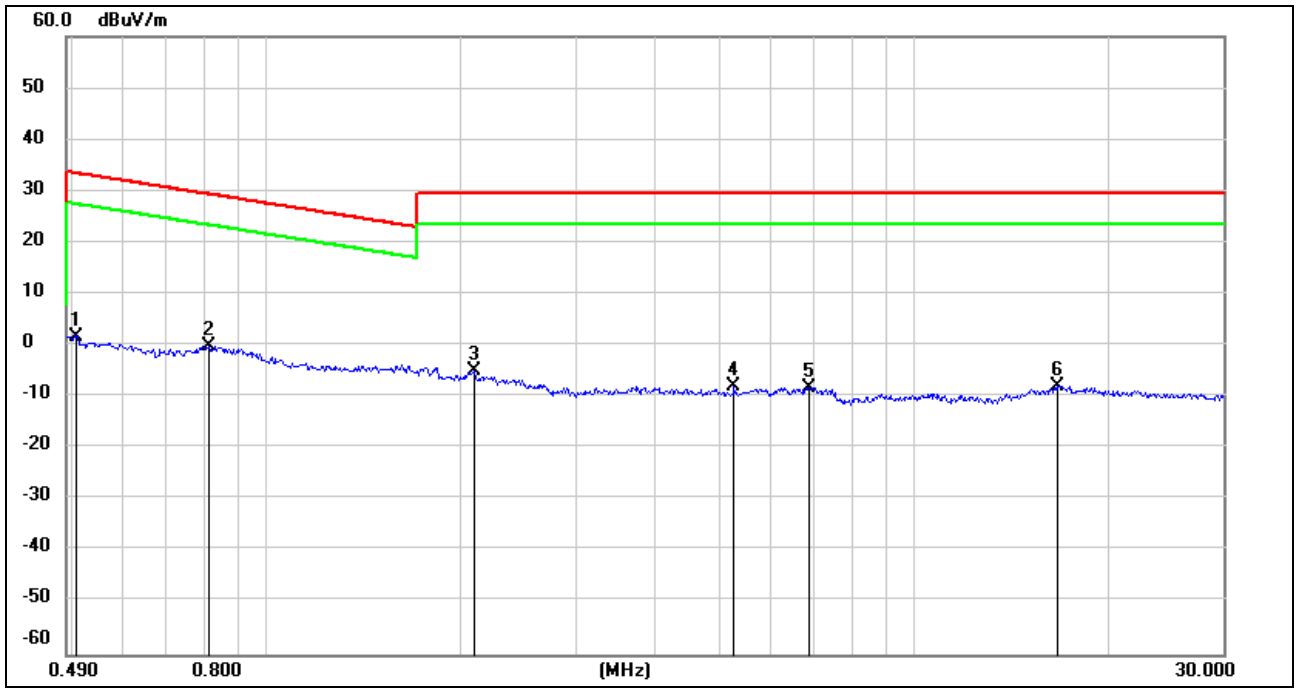
150 kHz ~ 490 kHz



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	0.1595	72.36	-101.65	-29.29	23.55	-80.79	-27.95	-52.84	peak
2	0.1720	70.19	-101.67	-31.48	22.90	-82.98	-28.60	-54.38	peak
3	0.1938	66.00	-101.70	-35.70	21.86	-87.20	-29.64	-57.56	peak
4	0.2298	64.55	-101.77	-37.22	20.37	-88.72	-31.13	-57.59	peak
5	0.2878	60.72	-101.85	-41.13	18.42	-92.63	-33.08	-59.55	peak
6	0.4062	55.64	-101.96	-46.32	15.43	-97.82	-36.07	-61.75	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(120π) = dBuV/m -51.5.

490 kHz ~ 30 MHz



No.	Frequency	Reading	Correct	FCC Result	FCC Limit	ISED Result	ISED Limit	Margin	Remark
	(MHz)	(dBuV)	(dB/m)	(dBuV/m)	(dBuV/m)	(dBuA/m)	(dBuA/m)	(dB)	
1	0.5080	63.85	-62.07	1.78	33.49	-49.72	-18.01	-31.71	peak
2	0.8145	62.02	-62.16	-0.14	29.38	-51.64	-22.12	-29.52	peak
3	2.0939	56.89	-61.79	-4.90	29.54	-56.40	-21.96	-34.44	peak
4	5.2705	53.54	-61.45	-7.91	29.54	-59.41	-21.96	-37.45	peak
5	6.8936	53.09	-61.22	-8.13	29.54	-59.63	-21.96	-37.67	peak
6	16.6021	53.02	-60.96	-7.94	29.54	-59.44	-21.96	-37.48	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(120π) = dBuV/m -51.5.

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

9. 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

END OF REPORT