RADIO TEST REPORT

Report No.:STS2201225W06

Issued for

BLU Products, Inc.

10814 NW 33rd St # 100 Doral, FL 33172, USA

Product Name:	Mobile Phone
Brand Name:	BLU
Model Name:	STUDIO X5
Series Model:	N/A
FCC ID:	YHLBLUSTX5
Test Standard:	FCC Part 15.407

Shenzhen STS Test Services Co., Ltd.
A 1/F, Building B, Zhuoke Science Park, No.190 Chongqing Road, HepingShequ,
Fuyong Sub-District, Bao'an District, Shenzhen, Guang Dong, China
TEL: +86-755 3688 6288 FAX: +86-755 3688 6277 E-mail:sts@stsapp.com

TEST RESULT CERTIFICATION

Applicant's Name	:	BLU Products, Inc.
Address	:	10814 NW 33rd St # 100 Doral, FL 33172, USA
Manufacturer's Name	:	BLU Products, Inc.
Address	:	10814 NW 33rd St # 100 Doral, FL 33172, USA

Product Description

Product Name	:	Mobile Phone
Brand Name	:	BLU
Model Name	:	STUDIO X5
Series Model	:	N/A
Test Standards	:	FCC Part15.407
Test Procedure		ANSI C63.10-2013

This device described above has been tested by STS, the test results show that the equipment under test (EUT) is in compliance with the FCC requirements. And it is applicable only to the tested sample identified in the report.
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Date of Test	:	
Date of receipt of test item	:	27 Jan. 2022
Date (s) of performance of tests	:	27 Jan. 2022 ~ 28 Mar. 2022
Date of Issue	:	28 Mar. 2022
Test Result	:	**Pass**

Testing Engineer : Chris Chen

(Chris Chen)

Technical Manager : Sean She

(Sean she)

Authorized Signatory : Bovey Yang

(Bovey Yang)

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Revision History

Rev.	Issue Date	Report NO.	Effect Page	Contents
00	28 Mar. 2022	STS2201225W06	ALL	Initial Issue

1. SUMMARY OF TEST RESULTS

Test procedures according to the technical standards:
§ 15.407,KDB 789033 D02 General U-NII Test Procedures New Rules v02r01

FCC Part 15.407		
FCC standard	Test Item	Results
15.207	AC Conducted Emission	PASS
15.407 (a) /15.407 (e)	26dB/6dB &99% Bandwidth	PASS
15.407(a)	Maximum Conducted Output Power	PASS
15.407(b)/15.205/15.209	Radiated Emission And (bandedge Emissions) Measurement	PASS
15.407(a)	Power Spectral Density	PASS
15.407(c)	Automatically Discontinue Transmission	PASS
15.203	Antenna Requirement	PASS

NOTE:

(1) “N/A” denotes test is not applicable in this Test Report.

(2) All tests are according to ANSI C63.10-2013.

1.1 TEST FACTORY

SHENZHEN STS TEST SERVICES CO., LTD
Add. : A 1/F, Building B, Zhuoke Science Park, No.190 Chongqing Road, HepingShequ, Fuyong Sub-District, Bao'an District, Shenzhen, Guang Dong, China
FCC test Firm Registration Number: 625569
IC test Firm Registration Number: 12108A
A2LA Certificate No.: 4338.01

1.2 MEASUREMENT UNCERTAINTY

The reported uncertainty of measurement **y** ± **U**, where expended uncertainty **U** is based on a standard uncertainty multiplied by a coverage factor of **k=2**, providing a level of confidence of approximately **95** %.

No.	Item	Uncertainty
1	RF output power, conducted	±0.87dB
2	Unwanted Emissions, conducted	±2.895dB
3	All emissions, radiated 9K-30MHz	±3.80dB
4	All emissions, radiated 30M-1GHz	±4.09dB
5	All emissions, radiated 1G-6GHz	±4.92dB
6	All emissions, radiated>6G	±5.49dB
7	Conducted Emission (9KHz-30MHz)	±2.73dB

2. GENERAL INFORMATION

2.1 GENERAL DESCRIPTION OF THE EUT

<table>
<tr><td>Product Name</td><td>Mobile Phone</td></tr>
<tr><td>Trade Name</td><td>BLU</td></tr>
<tr><td>Model Name</td><td>STUDIO X5</td></tr>
<tr><td>Series Model</td><td>N/A</td></tr>
<tr><td>Model Difference</td><td>N/A</td></tr>
<tr><td>Product Description</td><td>The EUT is a Mobile Phone
<table>
<tr><td rowspan="4">Operation Frequency:</td><td>IEEE 802.11a/ n(HT20):
5.180GHz-5.240GHz
IEEE 802.11n(HT40): 5.190GHz-5.230GHz</td></tr>
<tr><td>IEEE 802.11a/ n(HT20):
5.260GHz-5.320GHz
IEEE 802.11n(HT40): 5.270GHz-5.310GHz</td></tr>
<tr><td>IEEE 802.11a/ n(HT20):
5.500GHz-5.700GHz
IEEE 802.11n(HT40): 5.510GHz-5.670GHz</td></tr>
<tr><td>IEEE 802.11a/ n(HT20):
5.745GHz-5.825GHz
IEEE 802.11n(HT40): 5.755GHz-5.795GHz</td></tr>
<tr><td>Modulation Type:</td><td>802.11a(OFDM):
BPSK,QPSK,16-QAM,64-QAM
802.11n(OFDM):
BPSK,QPSK,16-QAM,64-QAM</td></tr>
<tr><td>Antenna Designation:</td><td>Please refer to the Note 3.</td></tr>
<tr><td>Max.Output Power(Conducted):</td><td>12.68 dBm</td></tr>
</table>
More details of EUT technical specification, please refer to the User Manual.</td></tr>
<tr><td>Test Channel</td><td>Please refer to the Note 2.</td></tr>
<tr><td>Adapter</td><td>Input: AC 100-240V, 50/60Hz, 0.2A
Output: DC 5V, 750mAh</td></tr>
<tr><td>Battery</td><td>Rated Voltage:3.7V
Charge Limit Voltage:4.2V
Capacity: 2000mAh</td></tr>
<tr><td>Hardware version number</td><td>HCT-M896MB-A2</td></tr>
<tr><td>Software version number</td><td>Bom3-cts-go-Blu-Latin_V1_S01_20220105_user_20220105_temp</td></tr>
<tr><td>Connecting I/O Port(s)</td><td>Please refer to the Note 1.</td></tr>
</table>

Note:

1. For a more detailed features description, please refer to the manufacturer's specifications or the User Manual.

2.

Operation Frequency of channel			
5.180GHz-5.240GHz		5.500GHz-5.720GHz	
Channel	Frequency	Channel	Frequency
36	5180	100	5500
38	5190	102	5510
40	5200	104	5520
42	5210	106	5530
44	5220	108	5540
46	5230	110	5550
48	5240	112	5560
		116	5580
5.260GHz-5.320GHz		118	5590
Channel	Frequency	120	5600
52	5260	122	5610
54	5270	124	5620
56	5280	126	5630
58	5290	128	5640
60	5300	132	5660
62	5310	134	5670
64	5320	136	5680
		140	5700
5.745GHz-5.825GHz			
Channel	Frequency		
149	5745		
151	5755		
153	5765		
155	5775		
157	5785		
159	5795		
161	5805		
165	5825		

Note:

In section 15.31(m), regards to the operating frequency range over 10 MHz, the Lowest frequency, the middle frequency, and the highest frequency of channel were selected to perform the test, and the selected channel see below:

Carrier Frequency Channel

5GHz:

For 802.11a/n(HT20)			
Channel	Freq.(MHz)	Channel	Freq.(MHz)
36	5180	52	5260
40	5200	60	5300
48	5240	64	5320

For 802.11a/n(HT20)			
Channel	Freq.(MHz)	Channel	Freq.(MHz)
100	5500	149	5745
116	5580	157	5785
140	5700	165	5825

For 802.11n(HT40)			
Channel	Freq.(MHz)	Channel	Freq.(MHz)
38	5190	54	5270
46	5230	62	5310

For 802.11n(HT40)			
Channel	Freq.(MHz)	Channel	Freq.(MHz)
102	5510	151	5755
110	5550	159	5795
134	5670		

3.

Ant	Brand	Model Name	Ant Type	Connector	Gain (dBi)	NOTE
A	BLU	STUDIO X5	PIFA	N/A	0.28dBi	WLAN Ant

Note: The antenna information refer the manufacturer provide report, applicable only to the tested sample identified in the report.

2.2 DESCRIPTION OF TEST MODES

To investigate the maximum EMI emission characteristics generates from EUT, the test system was pre-scanning tested base on the consideration of following EUT operation mode or test configuration mode which possible have effect on EMI emission level. Each of these EUT operation mode(s) or test configuration mode(s) mentioned above was evaluated respectively.

Worst Mode	Description	Data Rate
Mode 1	TX IEEE 802.11a HT20 CH36&CH40&CH48	6 Mbps
Mode 2	TX IEEE 802.11a HT20 CH52&CH60&CH64	6 Mbps
Mode 3	TX IEEE 802.11a HT20 CH100&CH116&CH140	6 Mbps
Mode 4	TX IEEE 802.11a HT20 CH149&CH157&CH165	6 Mbps
Mode 5	TX IEEE 802.11n HT20 CH36&CH40&CH48	MCS 0
Mode 6	TX IEEE 802.11n HT20 CH52&CH60&CH64	MCS 0
Mode 7	TX IEEE 802.11n HT20 CH100&CH116&CH140	MCS 0
Mode 8	TX IEEE 802.11n HT20 CH149&CH157&CH165	MCS 0
Mode 9	TX IEEE 802.11n HT40 CH38&CH46	MCS 0
Mode 10	TX IEEE 802.11n HT40 CH54 &CH62	MCS 0
Mode 11	TX IEEE 802.11n HT40 CH102&CH110&CH134	MCS 0
Mode 12	TX IEEE 802.11n HT40 CH151&CH159	MCS 0

Note: (1) The measurements are performed at the highest, middle, lowest available channels.

(2) The measurements are performed at all Bit Rate of Transmitter, the worst data was reported.

(3) We have be tested for all avaiable U.S. voltage and frequencies(For 120V,50/60Hz and 240V, 50/60Hz) for which the device is capable of operation.

(4) The battery is fully-charged during the radited and RF conducted test.

AC Conducted Emission

Test Case	
AC Conducted Emission	Mode 13: Keeping TX + WLAN Link

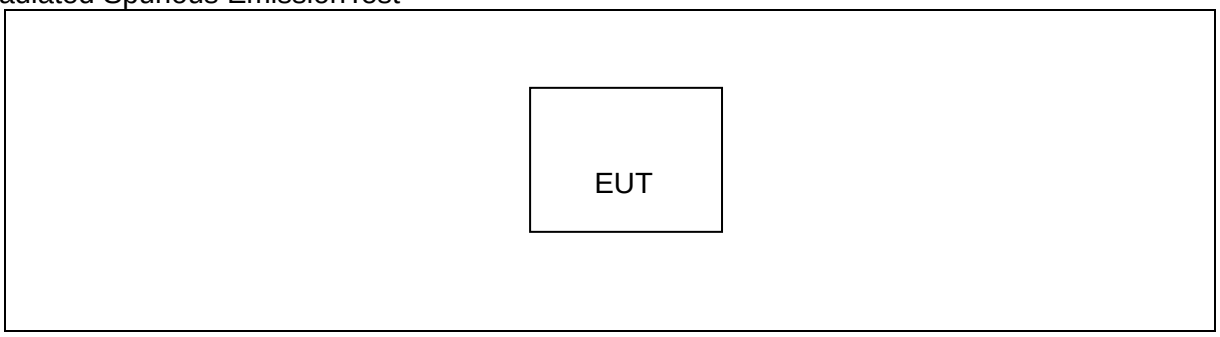
2.3 TEST SOFTWARE AND POWER LEVEL

During testing channel & power controlling software provided by the customer was used to control the operating channel as well as the output power level.

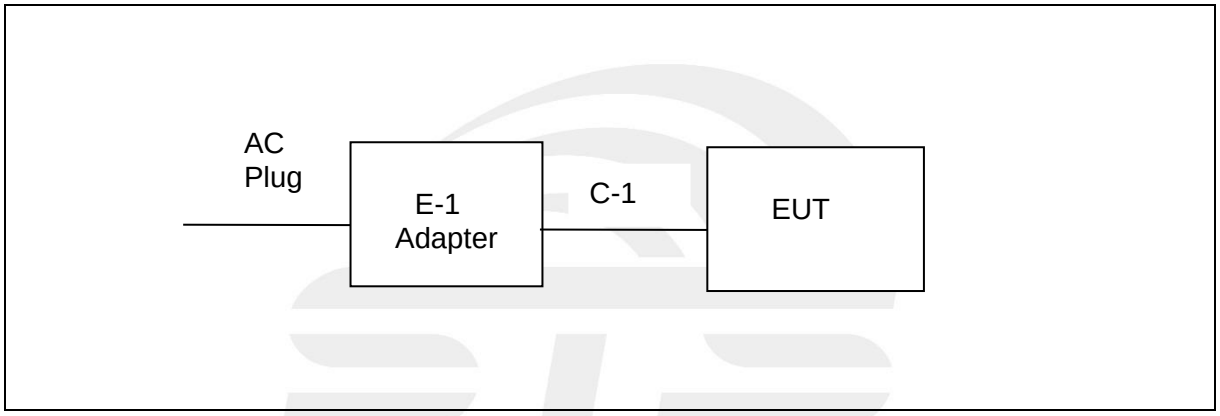
RF Function	Type	Mode Or Modulation type	ANT Gain(dBi)	Power Class	Software For Testing
WIFI(5G)	U-NII-1 (5150MHz-5250MHz)	802.11a	0.28	12	Engineering mode
		802.11n(HT20)		12	
		802.11n(HT40)		12	
RF Function	Type	Mode Or Modulation type	ANT Gain(dBi)	Power Class	Software For Testing
WIFI(5G)	U-NII-2A (5250MHz-5350MHz)	802.11a	0.28	12	Engineering mode
		802.11n(HT20)		12	
		802.11n(HT40)		12	
RF Function	Type	Mode Or Modulation type	ANT Gain(dBi)	Power Class	Software For Testing
WIFI(5G)	U-NII-2C (5470MHz-5725MHz)	802.11a	0.28	12	Engineering mode
		802.11n(HT20)		12	
		802.11n(HT40)		12	
RF Function	Type	Mode Or Modulation type	ANT Gain(dBi)	Power Class	Software For Testing
WIFI(5G)	U-NII-3 (5725MHz-5875MHz)	802.11a	0.28	12	Engineering mode
		802.11n(HT20)		12	
		802.11n(HT40)		12	

2.4 BLOCK DIAGRAM SHOWING THE CONFIGURATION OF SYSTEM TESTED

Radiated Spurious EmissionTest



Conducted Emission Test



2.5 DESCRIPTION OF NECESSARY ACCESSORIES AND SUPPORT UNITS

The EUT has been tested as an independent unit together with other necessary accessories or support units. The following support units or accessories were used to form a representative test configuration during the tests.

Necessary accessories

Item	Equipment	Mfr/Brand	Model/Type No.	Length	Note
E-1	Adapter	BLU	US-HY-0750	N/A	N/A
C-1	DC Cable	N/A	N/A	100cm	NO

Support units

Item	Equipment	Mfr/Brand	Model/Type No.	Length	Note
N/A	N/A	N/A	N/A	N/A	N/A

Note:

(1) For detachable type I/O cable should be specified the length in cm in『Length』column.
(2) “YES” is means “with core”; “NO” is means “without core”.

2.6 EQUIPMENTS LIST FOR ALL TEST ITEMS

Radiation Test equipment

Kind of Equipment	Manufacturer	Type No.	Serial No.	Last calibration	Calibrated until
Test Receiver	R&S	ESCI	101427	2021.09.30	2022.09.29
Signal Analyzer	R&S	FSV 40-N	101823	2021.09.30	2022.09.29
Active loop Antenna	ZHINAN	ZN30900C	16035	2021.04.11	2023.04.10
Bilog Antenna	TESEQ	CBL6111D	34678	2020.10.12	2022.10.11
Horn Antenna	SCHWARZBECK	BBHA 9120D	02014	2021.10.11	2023.10.10
SHF-EHF Horn Antenna (18G-40GHz)	A-INFO	LB-180400-KF	J211020657	2020.10.12	2022.10.11
Pre-Amplifier(0.1M-3GHz)	EM	EM330	060665	2021.10.08	2022.10.07
Pre-Amplifier (1G-18GHz)	SKET	LNPA-01018G-45	SK2018080901	2021.09.30	2022.09.29
Pre-Amplifier (18G-40GHz)	SKET	LNPA-1840-50	SK2018101801	2021.09.28	2022.09.27
Temperature & Humidity	HH660	Mieo	N/A	2021.10.09	2022.10.08
Turn table	EM	SC100_1	60531	N/A	N/A
Antenna mast	EM	SC100	N/A	N/A	N/A
Test SW	FARAD	EZ-EMC(Ver.STSLAB-03A1 RE)			

Conduction Test equipment

Kind of Equipment	Manufacturer	Type No.	Serial No.	Last calibration	Calibrated until
Test Receiver	R&S	ESCI	101427	2021.09.30	2022.09.29
LISN	R&S	ENV216	101242	2021.09.30	2022.09.29
LISN	EMCO	3810/2NM	23625	2021.09.30	2022.09.29
Temperature & Humidity	HH660	Mieo	N/A	2021.10.09	2022.10.08
Test SW	FARAD	EZ-EMC(Ver.STSLAB-03A1 CE)			

RF Connected Test

Kind of Equipment	Manufacturer	Type No.	Serial No.	Last calibration	Calibrated until
Power Sensor	Keysight	U2021XA	MY55520005	2021.09.30	2022.09.29
			MY55520006	2021.09.30	2022.09.29
			MY56120038	2021.09.30	2022.09.29
			MY56280002	2021.09.30	2022.09.29
Signal Analyzer	Agilent	N9020A	MY51110105	2022.03.01	2023.02.28
Temperature & Humidity	HH660	Mieo	N/A	2021.10.09	2022.10.08

3. EMC EMISSION TEST

3.1 CONDUCTED EMISSION MEASUREMENT

3.1.1 POWER LINE CONDUCTED EMISSION Limits (Frequency Range 150KHz-30MHz)

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

0.15 -0.5	66 - 56 *	56 - 46 *	FCC
0.50 -5.0	56.00	46.00	FCC
5.0 -30.0	60.00	50.00	FCC

Note:

(1) The tighter limit applies at the band edges.

(2) The limit of " * " marked band means the limitation decreases linearly with the logarithm of the frequency in the range.

The following table is the setting of the receiver

Receiver Parameters	Setting
Attenuation	10 dB
Start Frequency	0.15 MHz
Stop Frequency	30 MHz
IF Bandwidth	9 kHz

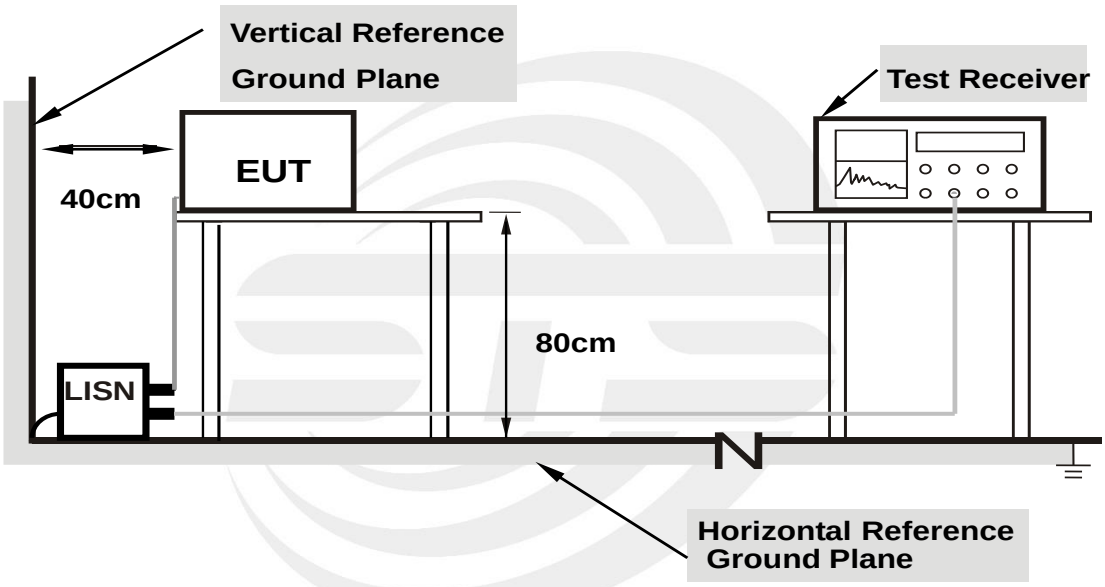
3.1.2 TEST PROCEDURE

a. The EUT is 0.8 m from the horizontal ground plane and 0.4 m from the vertical ground plane with EUT being connected to the power mains through a line impedance stabilization network (LISN). All other support equipments are powered from additional LISN(s). The LISN provides 50 Ohm/ 50uH of coupling impedance for the measuring instrument.
b. Interconnecting cables that hang closer than 40 cm to the ground plane shall be folded back and forth in the center forming a bundle 30 to 40 cm long.
c. I/O cables that are not connected to a peripheral shall be bundled in the center. The end of the cable may be terminated, if required, using the correct terminating impedance. The overall length shall not exceed 1 m.
d. LISN is at least 80 cm from the nearest part of EUT chassis.
e. For the actual test configuration, please refer to the related Item –EUT Test Photos.

3.1.3 DEVIATION FROM TEST STANDARD

No deviation

3.1.4 TEST SETUP



Note: 1. Support units were connected to second LISN.

2. Both of LISNs (AMN) are 80 cm from EUT and at least 80 cm from other units and other metal planes support units.

3.1.5 EUT OPERATING CONDITIONS

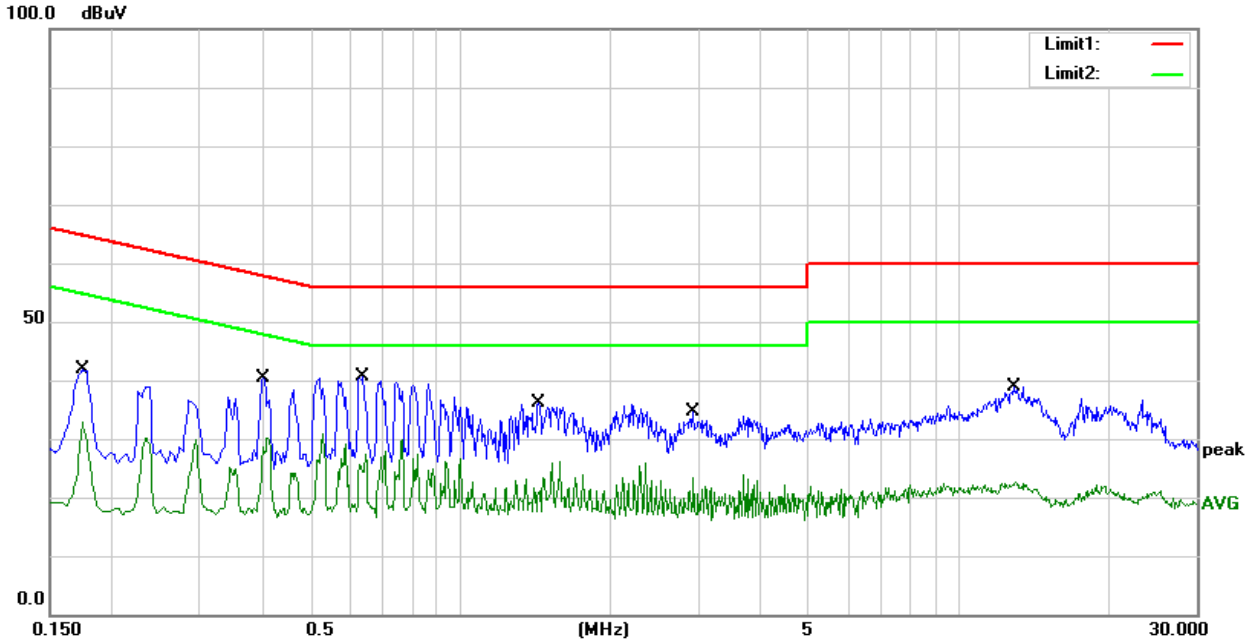
The EUT was configured for testing in a typical fashion (as a customer would normally use it). The EUT has been programmed to continuously transmit during test. This operating condition was tested and used to collect the included data.

3.1.6 TEST RESULTS

Temperature:	26.1(C)	Relative Humidity:	60%RH
Test Voltage:	AC 120V/60Hz	Phase:	L
Test Mode：	Mode 13		

No.	Frequency (MHz)	Reading (dBuV)	Correct Factor(dB)	Result (dBuV)	Limit (dBuV)	Margin (dB)	Remark
1	0.1740	21.45	20.35	41.80	64.77	-22.97	QP
2	0.1740	12.44	20.35	32.79	54.77	-21.98	AVG
3	0.4020	19.83	20.57	40.40	57.81	-17.41	QP
4	0.4020	9.58	20.57	30.15	47.81	-17.66	AVG
5	0.6380	20.16	20.41	40.57	56.00	-15.43	QP
6	0.6380	8.70	20.41	29.11	46.00	-16.89	AVG
7	1.4380	15.84	20.34	36.18	56.00	-19.82	QP
8	1.4380	2.76	20.34	23.10	46.00	-22.90	AVG
9	2.9300	14.06	20.45	34.51	56.00	-21.49	QP
10	2.9300	3.48	20.45	23.93	46.00	-22.07	AVG
11	12.8740	17.59	21.29	38.88	60.00	-21.12	QP
12	12.8740	1.32	21.29	22.61	50.00	-27.39	AVG

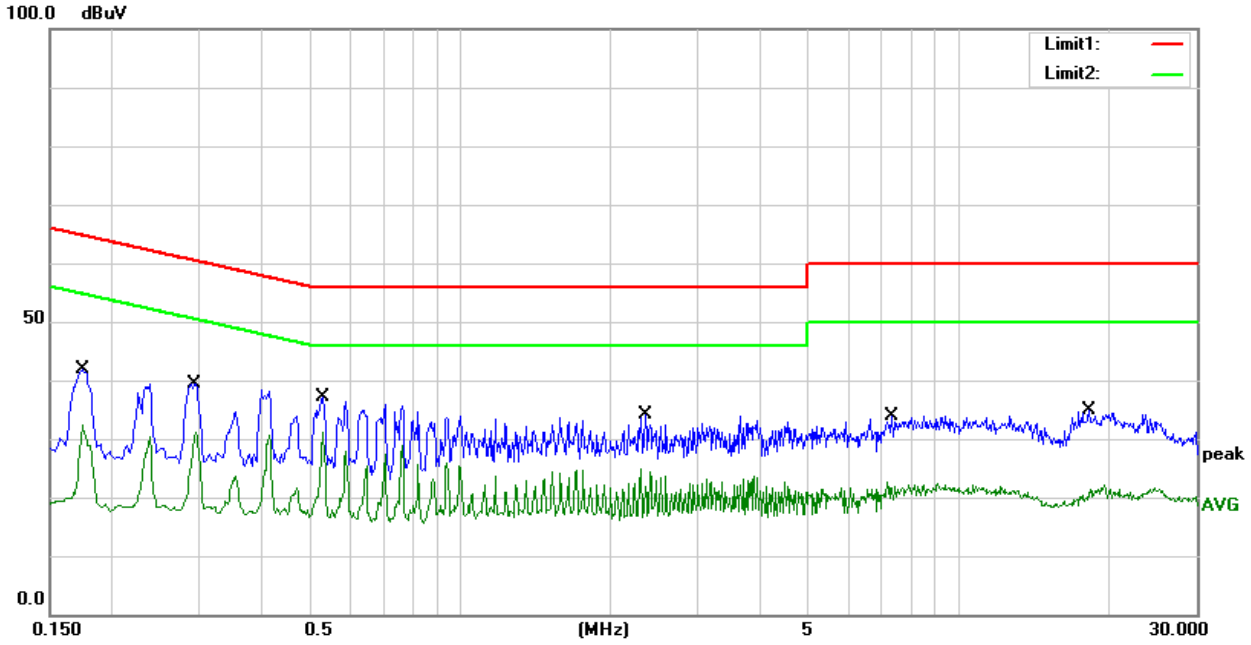
Remark:
1. All readings are Quasi-Peak and Average values.
2. Margin = Result (Result =Reading + Factor)–Limit
3. Factor=LISN factor+Cable loss+Limiter (10dB)



Temperature:	26.1(C)	Relative Humidity:	60%RH
Test Voltage	AC 120V/60Hz	Phase:	N
Test Mode	Mode 13		

No.	Frequency (MHz)	Reading (dBuV)	Correct Factor(dB)	Result (dBuV)	Limit (dBuV)	Margin (dB)	Remark
1	0.1740	21.48	20.35	41.83	64.77	-22.94	QP
2	0.1740	12.13	20.35	32.48	54.77	-22.29	AVG
3	0.2923	18.72	20.76	39.48	60.46	-20.98	QP
4	0.2923	10.31	20.76	31.07	50.46	-19.39	AVG
5	0.5300	16.62	20.47	37.09	56.00	-18.91	QP
6	0.5300	10.77	20.47	31.24	46.00	-14.76	AVG
7	2.3540	13.64	20.41	34.05	56.00	-21.95	QP
8	2.3540	4.46	20.41	24.87	46.00	-21.13	AVG
9	7.3540	13.20	20.62	33.82	60.00	-26.18	QP
10	7.3540	2.02	20.62	22.64	50.00	-27.36	AVG
11	18.2460	12.33	22.44	34.77	60.00	-25.23	QP
12	18.2460	-0.28	22.44	22.16	50.00	-27.84	AVG

Remark:
1. All readings are Quasi-Peak and Average values.
2. Margin = Result (Result =Reading + Factor)–Limit
3. Factor=LISN factor+Cable loss+Limiter (10dB)



3.2 RADIATED EMISSION AND (BANDEDGE) MEASUREMENT

3.2.1 RADIATED EMISSION LIMITS (Frequency Range 9kHz-1000MHz)

In case the emission fall within the restricted band specified on 15.407(b)7&15.205/209(a), then the limit in the table below has to be followed.

Frequencies (MHz)	Field Strength (micorvolts/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
30~88	100	3
88~216	150	3
216~960	200	3
Above 960	500	3

LIMITS OF RADIATED EMISSION MEASUREMENT (Above 1000MHz)

FREQUENCY (MHz)	Class B (dBuV/m) (at 3M)	
	PEAK	AVERAGE
Above 1000	68.2	54

Notes:

(1) The limit for radiated test was performed according to FCC PART 15E.

(2) The tighter limit applies at the band edges.

(3) Emission level (dBuV/m)=20log Emission level (uV/m).

LIMITS OF RESTRICTED FREQUENCY BANDS

FREQUENCY (MHz)	FREQUENCY (MHz)	FREQUENCY (MHz)	FREQUENCY (GHz)
0.090-0.110	16.42-16.423	399.9-410	4.5-5.15
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	Above 38.6
13.36-13.41			

Note: In case the emission radiated emission above 1000MHz fall within the restricted band the restricted frequency bands, the peak limit is 74 dBuV/m.

LIMITS OF EMISSIONS OUTSIDE OF THE FREQUENCY BANDS

Undesirable emission limits. Except as shown in paragraph (b)(7) of this section, the maximum emissions outside of the frequency bands of operation shall be attenuated in accordance with the following limits:

(1) For transmitters operating in the 5.15-5.25 GHz band: All emissions outside of the 5.15-5.35 GHz band shall not exceed an e.i.r.p. of −27 dBm/MHz.

(2) For transmitters operating in the 5.25-5.35 GHz band: All emissions outside of the 5.15-5.35 GHz band shall not exceed an e.i.r.p. of −27 dBm/MHz.

(3) For transmitters operating in the 5.47-5.725 GHz band: All emissions outside of the 5.47-5.725 GHz band shall not exceed an e.i.r.p. of −27 dBm/MHz.

(4) For transmitters operating in the 5.725-5.85 GHz band:

(i) All emissions shall be limited to a level of −27 dBm/MHz at 75 MHz or more above or below the band edge increasing linearly to 10 dBm/MHz at 25 MHz above or below the band edge, and from 25 MHz above or below the band edge increasing linearly to a level of 15.6 dBm/MHz at 5 MHz above or below the band edge, and from 5 MHz above or below the band edge increasing linearly to a level of 27 dBm/MHz at the band edge.

Note: dBuV/m(at 3M) = EIRP(dBm) + 95.2.

Peak Limit = -27dBm/MHz + 95.2 = 68.2 dBuV/m.

Spectrum Parameter	Setting
Attenuation	Auto
Detector	Peak
Start Frequency	1000 MHz (Peak/AV)
Stop Frequency	10th carrier harmonic (Peak/AV)
RB / VB (emission in restricted band)	1 MHz / 1 MHz, AV=1 MHz /3 MHz

For Band edge

Spectrum Parameter	Setting
Detector	Peak
RB / VB (emission in restricted band)	1 MHz / 1 MHz, AV=1 MHz /3 MHz

Receiver Parameter	Setting
Attenuation	Auto
Start ~ Stop Frequency	9kHz~90kHz / RB 200Hz for PK & AV
Start ~ Stop Frequency	90kHz~110kHz / RB 200Hz for QP
Start ~ Stop Frequency	110kHz~490kHz / RB 200Hz for PK & AV
Start ~ Stop Frequency	490kHz~30MHz / RB 9kHz for QP
Start ~ Stop Frequency	30MHz~1000MHz / RB 120kHz for QP

3.2.2 TEST PROCEDURE

a. The measuring distance at 3 m shall be used for measurements at frequency 0.009MHz up to 1GHz, and above 1GHz.
b. The EUT was placed on the top of a rotating table 0.8 m (above 1GHz is 1.5 m) above the ground at a 3 m anechoic chamber test site. The table was rotated 360 degree to determine the position of the highest radiation.
c. The height of the equipment shall be 0.8 m (above 1GHz is 1.5 m); the height of the test antenna shall vary between 1 m to 4 m. Horizontal and vertical polarization of the antenna are set to make the measurement.
d. 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 QuasiPeak detector mode will be re-measured.
e. If the Peak Mode measured value is compliance with and lower than Quasi Peak Mode Limit, the EUT shall be deemed to meet QP Limits and no additional QP Mode measurement was performed.
f. For the actual test configuration, please refer to the related Item –EUT Test Photos.

Note:

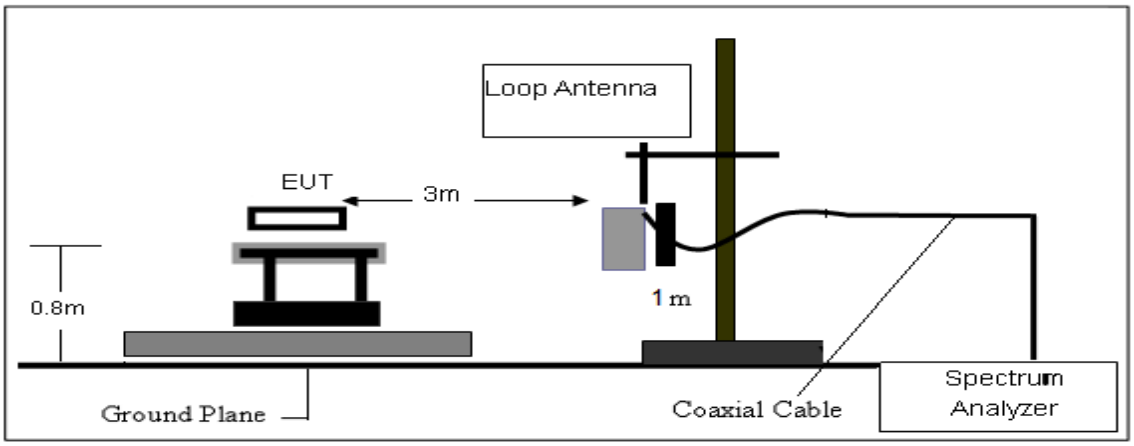
Both horizontal and vertical antenna polarities were tested and performed pretest to three orthogonal axis. The worst case emissions were reported.

3.2.2 DEVIATION FROM TEST STANDARD

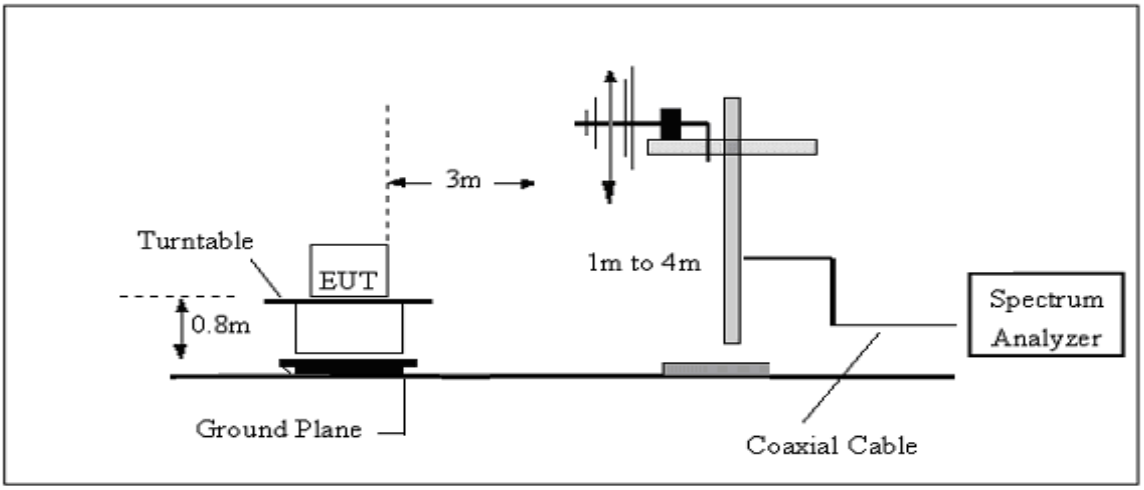
No deviation

3.2.3 TEST SETUP

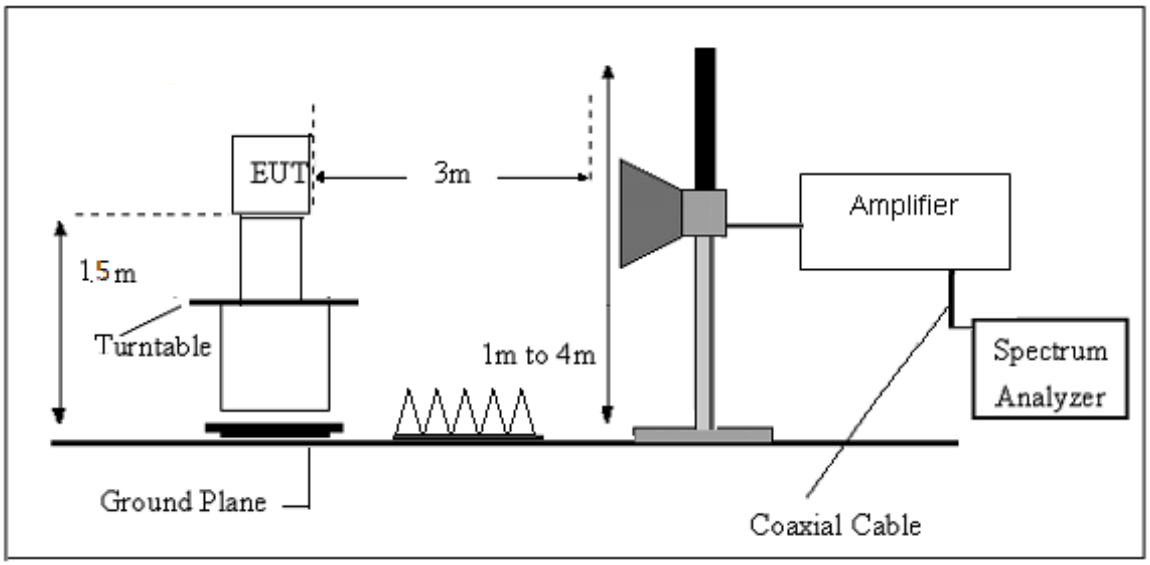
(A) Radiated Emission Test-Up Frequency Below 30MHz



(B) Radiated Emission Test-Up Frequency 30MHz~1GHz



(C) Radiated Emission Test-Up Frequency Above 1GHz



3.2.4 EUT OPERATING CONDITIONS

The EUT tested system was configured as the statements of 2.4 Unless otherwise a special operating condition is specified in the follows during the testing.

3.2.5 FIELD STRENGTH CALCULATION

The field strength is calculated by adding the Antenna Factor and Cable Factor and subtracting the Amplifier Gain and Duty Cycle Correction Factor (if any) from the measured reading. The basic equation with a sample calculation is as follows:
FS = RA + AF + CL - AG
Where
FS = Field Strength
CL = Cable Attenuation Factor (Cable Loss)
RA = Reading Amplitude
AG = Amplifier Gain
AF = Antenna Factor
For example

Frequency	FS	RA	AF	CL	AG	Factor
(MHz)	(dBμV/m)	(dBμV/m)	(dB)	(dB)	(dB)	(dB)
300	40	58.1	12.2	1.6	31.9	-18.1

Factor=AF+CL-AG

3.2.6 TEST RESULTS (Between 9KHz – 30 MHz)

Temperature：	23.1(C)	Relative Humidtity:	60%RH
Test Voltage ：	DC 3.7V	Polarization :	--
Test Mode ：	TX Mode		

Freq.	Reading	Limit	Margin	State
(MHz)	(dBuV/m)	(dBuV/m)	(dB)	P/F
--	--	--	--	PASS
--	--	--	--	PASS

Note:

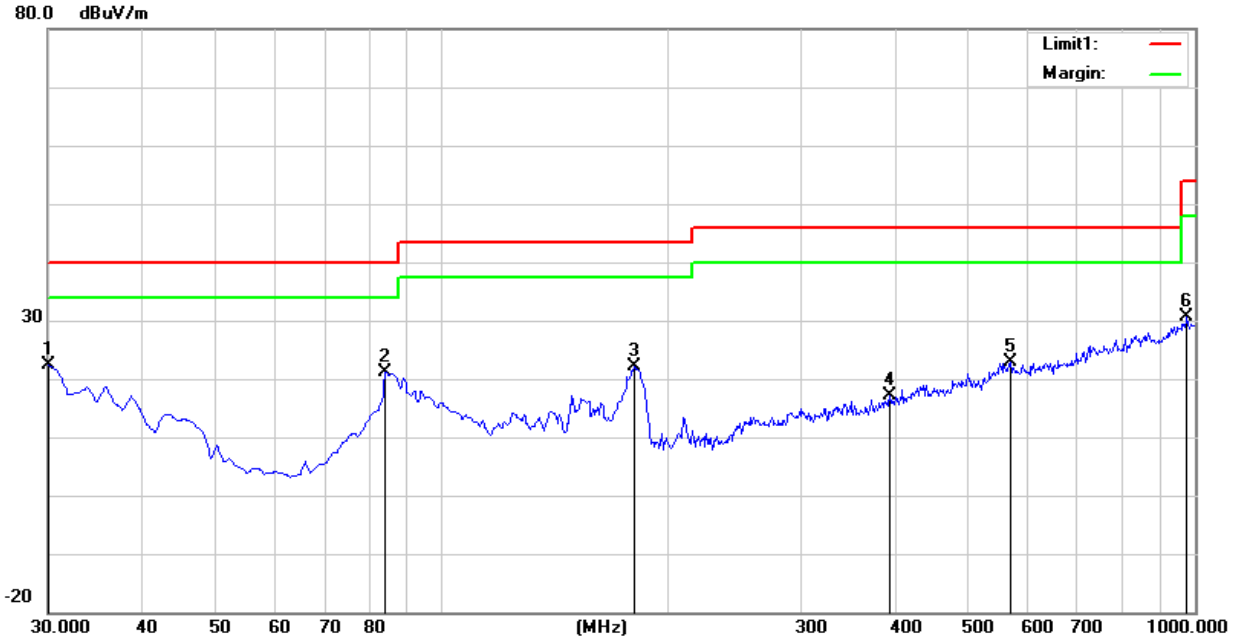
The amplitude of spurious emissions which are attenuated by more than 20dB below the permissible value has no need to be reported.
Distance extrapolation factor =40 log (specific distance/test distance)(dB);
Limit line = specific limits(dBuv) + distance extrapolation factor.

3.2.7 TEST RESULTS (Between 30MHz – 1GHz)

Temperature	23.1(C)	Relative Humidtity:	60%RH
Test Voltage	DC 3.7V	Polarization:	Horizontal
Test Mode	Mode 1~12(Mode 6 worst mode)		

No.	Frequency (MHz)	Reading (dBuV)	Correct Factor(dB/m)	Result (dBuV/m)	Limit (dBuV/m)	Margin (dB)	Remark
1	30.0000	35.30	-12.85	22.45	40.00	-17.55	peak
2	84.3200	43.43	-22.35	21.08	40.00	-18.92	peak
3	180.3500	42.05	-20.04	22.01	43.50	-21.49	peak
4	393.7500	28.66	-11.42	17.24	46.00	-28.76	peak
5	570.2900	28.56	-5.61	22.95	46.00	-23.05	peak
6	978.6600	28.07	2.58	30.65	54.00	-23.35	peak

Remark:
1. Margin = Result (Result =Reading + Factor)–Limit
2. Factor= Antenna factor+Cable attenuation factor(cable loss)-Amplifier gain

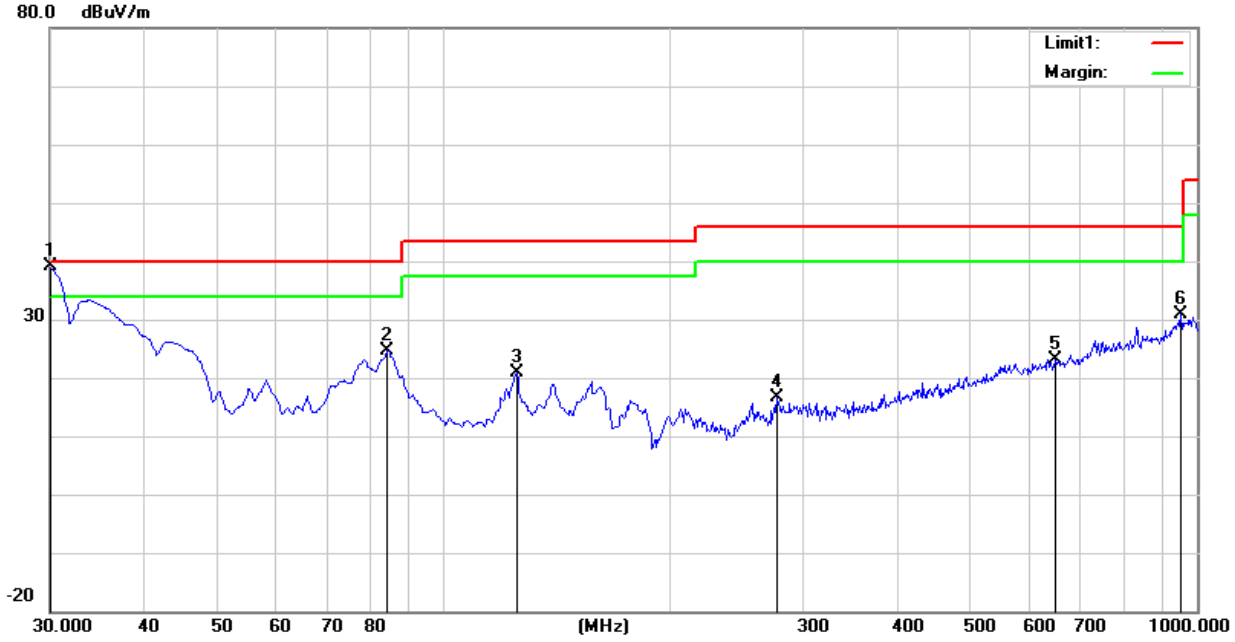


Temperature	23.1(C)	Relative Humidtity:	60%RH
Test Voltage	DC 3.7V	Polarization:	Vertical
Test Mode	Mode 1~12(Mode 6 worst mode)		

No.	Frequency	Reading	Correct	Result	Limit	Margin	Remark
	(MHz)	(dBuV)	Factor(dB/m)	(dBuV/m)	(dBuV/m)	(dB)	
1	30.0000	51.86	-12.85	39.01	40.00	-0.99	peak
2	84.3200	47.00	-22.35	24.65	40.00	-15.35	peak
3	125.0600	39.16	-18.22	20.94	43.50	-22.56	peak
4	277.3500	32.04	-15.52	16.52	46.00	-29.48	peak
5	648.8600	28.15	-4.90	23.25	46.00	-22.75	peak
6	954.4100	29.25	1.67	30.92	46.00	-15.08	peak

Remark:

1. Margin = Result (Result =Reading + Factor)–Limit
2. Factor= Antenna factor+Cable attenuation factor(cable loss)-Amplifier gain



3.2.8 TEST RESULTS (Above 1000 MHz)

U-NII-1 5150-5250MHz

Frequency (MHz)	Reading (dBuV)	Amplifier (dB)	Loss (dB)	Antenna Factor (dB/m)	Orrected Factor (dB)	Emission Level (dBμV/m)	Limit (dBuV/m)	Margin (dB)	Detector	Comment
Low Channel (802.11n20/ 5180 MHz)										
3253.87	44.06	44.70	6.70	28.20	-9.80	34.26	68.20	-33.94	Pk	Vertical
3253.87	40.91	44.70	6.70	28.20	-9.80	31.11	54.00	-22.89	AV	Vertical
3248.51	44.95	44.70	6.70	28.20	-9.80	35.15	68.20	-33.05	Pk	Horizontal
3248.51	41.80	44.70	6.70	28.20	-9.80	32.00	54.00	-22.00	AV	Horizontal
3982.15	39.46	44.20	7.90	29.70	-6.60	32.86	74.00	-41.14	Pk	Vertical
3982.15	35.84	44.20	7.90	29.70	-6.60	29.24	54.00	-24.76	AV	Vertical
3999.70	38.96	44.20	7.90	29.70	-6.60	32.36	74.00	-41.64	Pk	Horizontal
3999.70	37.04	44.20	7.90	29.70	-6.60	30.44	54.00	-23.56	AV	Horizontal
7235.72	37.78	43.50	11.40	35.50	3.40	41.18	68.20	-27.02	Pk	Vertical
7235.72	34.67	43.50	11.40	35.50	3.40	38.07	54.00	-15.93	AV	Vertical
7234.44	37.31	43.50	11.40	35.50	3.40	40.71	68.20	-27.49	Pk	Horizontal
7234.44	33.48	43.50	11.40	35.50	3.40	36.88	54.00	-17.12	AV	Horizontal
10360.04	38.74	44.50	13.80	38.80	8.10	46.84	68.20	-21.36	Pk	Vertical
10360.04	35.74	44.50	13.80	38.80	8.10	43.84	54.00	-10.16	AV	Vertical
10360.15	40.17	44.50	13.80	38.80	8.10	48.27	68.20	-19.93	Pk	Horizontal
10360.15	35.95	44.50	13.80	38.80	8.10	44.05	54.00	-9.95	AV	Horizontal
11019.16	33.76	43.60	14.30	39.50	10.20	43.96	74.00	-30.04	Pk	Vertical
11019.16	29.71	43.60	14.30	39.50	10.20	39.91	54.00	-14.09	AV	Vertical
11018.50	32.96	43.60	14.30	39.50	10.20	43.16	74.00	-30.84	Pk	Horizontal
11018.50	30.58	43.60	14.30	39.50	10.20	40.78	54.00	-13.22	AV	Horizontal
13299.27	32.56	42.60	15.90	38.90	12.20	44.76	74.00	-29.24	Pk	Vertical
13299.27	28.79	42.60	15.90	38.90	12.20	40.99	54.00	-13.01	AV	Vertical
13282.14	32.35	42.60	15.90	38.90	12.20	44.55	74.00	-29.45	Pk	Horizontal
13282.14	28.62	42.60	15.90	38.90	12.20	40.82	54.00	-13.18	AV	Horizontal
Mid Channel (802.11n20/ 5200 MHz)										
3254.15	43.76	44.70	6.70	28.20	-9.80	33.96	68.20	-34.24	Pk	Vertical
3254.15	40.99	44.70	6.70	28.20	-9.80	31.19	54.00	-22.81	AV	Vertical
3247.17	44.27	44.70	6.70	28.20	-9.80	34.47	68.20	-33.73	Pk	Horizontal
3247.17	41.79	44.70	6.70	28.20	-9.80	31.99	54.00	-22.01	AV	Horizontal
3992.19	39.25	44.20	7.90	29.70	-6.60	32.65	74.00	-41.35	Pk	Vertical
3992.19	36.98	44.20	7.90	29.70	-6.60	30.38	54.00	-23.62	AV	Vertical
3982.84	39.75	44.20	7.90	29.70	-6.60	33.15	74.00	-40.85	Pk	Horizontal
3982.84	35.94	44.20	7.90	29.70	-6.60	29.34	54.00	-24.66	AV	Horizontal
7229.30	37.04	43.50	11.40	35.50	3.40	40.44	68.20	-27.76	Pk	Vertical
7229.30	34.11	43.50	11.40	35.50	3.40	37.51	54.00	-16.49	AV	Vertical
7230.85	37.40	43.50	11.40	35.50	3.40	40.80	68.20	-27.40	Pk	Horizontal
7230.85	34.65	43.50	11.40	35.50	3.40	38.05	54.00	-15.95	AV	Horizontal
10400.34	39.98	44.50	13.80	38.80	8.10	48.08	68.20	-20.12	Pk	Vertical
10400.34	35.81	44.50	13.80	38.80	8.10	43.91	54.00	-10.09	AV	Vertical
10400.28	38.78	44.50	13.80	38.80	8.10	46.88	68.20	-21.32	Pk	Horizontal
10400.28	36.73	44.50	13.80	38.80	8.10	44.83	54.00	-9.17	AV	Horizontal
11023.51	33.87	43.60	14.30	39.50	10.20	44.07	74.00	-29.93	Pk	Vertical
11023.51	29.85	43.60	14.30	39.50	10.20	40.05	54.00	-13.95	AV	Vertical
11035.30	33.92	43.60	14.30	39.50	10.20	44.12	74.00	-29.88	Pk	Horizontal
11035.30	29.69	43.60	14.30	39.50	10.20	39.89	54.00	-14.11	AV	Horizontal
13290.50	32.20	42.60	15.90	38.90	12.20	44.40	74.00	-29.60	Pk	Vertical
13290.50	29.19	42.60	15.90	38.90	12.20	41.39	54.00	-12.61	AV	Vertical
13288.19	32.02	42.60	15.90	38.90	12.20	44.22	74.00	-29.78	Pk	Horizontal
13288.19	28.94	42.60	15.90	38.90	12.20	41.14	54.00	-12.86	AV	Horizontal

High Channel (802.11n20/ 5240 MHz)										
3262.88	45.25	44.70	6.70	28.20	-9.80	35.45	74.00	-38.55	Pk	Vertical
3262.88	41.60	44.70	6.70	28.20	-9.80	31.80	54.00	-22.20	AV	Vertical
3247.50	44.57	44.70	6.70	28.20	-9.80	34.77	68.20	-33.43	Pk	Horizontal
3247.50	42.08	44.70	6.70	28.20	-9.80	32.28	54.00	-21.72	AV	Horizontal
3982.53	40.00	44.20	7.90	29.70	-6.60	33.40	74.00	-40.60	Pk	Vertical
3982.53	35.71	44.20	7.90	29.70	-6.60	29.11	54.00	-24.89	AV	Vertical
3985.79	39.27	44.20	7.90	29.70	-6.60	32.67	74.00	-41.33	Pk	Horizontal
3985.79	37.00	44.20	7.90	29.70	-6.60	30.40	54.00	-23.60	AV	Horizontal
7221.98	37.14	43.50	11.40	35.50	3.40	40.54	68.20	-27.66	Pk	Vertical
7221.98	34.81	43.50	11.40	35.50	3.40	38.21	54.00	-15.79	AV	Vertical
7227.55	37.13	43.50	11.40	35.50	3.40	40.53	68.20	-27.67	Pk	Horizontal
7227.55	33.49	43.50	11.40	35.50	3.40	36.89	54.00	-17.11	AV	Horizontal
10480.18	40.12	44.50	13.80	38.80	8.10	48.22	68.20	-19.98	Pk	Vertical
10480.18	36.78	44.50	13.80	38.80	8.10	44.88	54.00	-9.12	AV	Vertical
10480.00	39.46	44.50	13.80	38.80	8.10	47.56	68.20	-20.64	Pk	Horizontal
10480.00	37.10	44.50	13.80	38.80	8.10	45.20	54.00	-8.80	AV	Horizontal
11018.57	32.88	43.60	14.30	39.50	10.20	43.08	74.00	-30.92	Pk	Vertical
11018.57	30.05	43.60	14.30	39.50	10.20	40.25	54.00	-13.75	AV	Vertical
11035.96	32.93	43.60	14.30	39.50	10.20	43.13	74.00	-30.87	Pk	Horizontal
11035.96	29.93	43.60	14.30	39.50	10.20	40.13	54.00	-13.87	AV	Horizontal
13294.37	32.52	42.60	15.90	38.90	12.20	44.72	74.00	-29.28	Pk	Vertical
13294.37	28.70	42.60	15.90	38.90	12.20	40.90	54.00	-13.10	AV	Vertical
13288.72	32.29	42.60	15.90	38.90	12.20	44.49	74.00	-29.51	Pk	Horizontal
13288.72	28.98	42.60	15.90	38.90	12.20	41.18	54.00	-12.82	AV	Horizontal

Remark:

1. Factor = Antenna Factor + Cable Loss – Pre-amplifier.
2. Scan with 802.11a,802.11n (HT-20),802.11n (HT-40) the worst case is 802.11n (HT-20).
3. The frequency emission of peak points that did not show above the forms are at least 20dB below the limit, the frequency emission is mainly from the environment noise.

U-NII-2A 5250-5350MHz

Frequency (MHz)	Reading (dBuV)	Amplifier (dB)	Loss (dB)	Antenna Factor (dB/m)	Orrected Factor (dB)	Emission Level (dBμV/m)	Limit (dBuV/m)	Margin (dB)	Detector	Comment
Low Channel (802.11n20/ 5260 MHz)										
3263.70	45.00	44.70	6.70	28.20	-9.80	35.20	74.00	-38.80	Pk	Vertical
3263.70	42.08	44.70	6.70	28.20	-9.80	32.28	54.00	-21.72	AV	Vertical
3263.20	44.51	44.70	6.70	28.20	-9.80	34.71	74.00	-39.29	Pk	Horizontal
3263.20	41.82	44.70	6.70	28.20	-9.80	32.02	54.00	-21.98	AV	Horizontal
3987.56	40.03	44.20	7.90	29.70	-6.60	33.43	74.00	-40.57	Pk	Vertical
3987.56	35.83	44.20	7.90	29.70	-6.60	29.23	54.00	-24.77	AV	Vertical
3992.93	40.10	44.20	7.90	29.70	-6.60	33.50	74.00	-40.50	Pk	Horizontal
3992.93	35.71	44.20	7.90	29.70	-6.60	29.11	54.00	-24.89	AV	Horizontal
7225.17	37.35	43.50	11.40	35.50	3.40	40.75	68.20	-27.45	Pk	Vertical
7225.17	33.57	43.50	11.40	35.50	3.40	36.97	54.00	-17.03	AV	Vertical
7232.93	37.14	43.50	11.40	35.50	3.40	40.54	68.20	-27.66	Pk	Horizontal
7232.93	33.62	43.50	11.40	35.50	3.40	37.02	54.00	-16.98	AV	Horizontal
10520.29	40.16	44.50	13.90	38.80	8.20	48.36	68.20	-19.84	Pk	Vertical
10520.29	36.84	44.50	13.90	38.80	8.20	45.04	54.00	-8.96	AV	Vertical
10520.25	38.86	44.50	13.90	38.80	8.20	47.06	68.20	-21.14	Pk	Horizontal
10520.25	36.53	44.50	13.90	38.80	8.20	44.73	54.00	-9.27	AV	Horizontal
11027.51	33.32	43.60	14.30	39.50	10.20	43.52	74.00	-30.48	Pk	Vertical
11027.51	30.92	43.60	14.30	39.50	10.20	41.12	54.00	-12.88	AV	Vertical
11029.74	33.31	43.60	14.30	39.50	10.20	43.51	74.00	-30.49	Pk	Horizontal
11029.74	30.77	43.60	14.30	39.50	10.20	40.97	54.00	-13.03	AV	Horizontal
13281.58	32.55	42.60	15.90	38.90	12.20	44.75	74.00	-29.25	Pk	Vertical
13281.58	28.56	42.60	15.90	38.90	12.20	40.76	54.00	-13.24	AV	Vertical
13298.65	32.07	42.60	15.90	38.90	12.20	44.27	74.00	-29.73	Pk	Horizontal
13298.65	29.50	42.60	15.90	38.90	12.20	41.70	54.00	-12.30	AV	Horizontal
Mid Channel (802.11n20/ 5300 MHz)										
3264.63	44.55	44.70	6.70	28.20	-9.80	34.75	74.00	-39.25	Pk	Vertical
3264.63	42.12	44.70	6.70	28.20	-9.80	32.32	54.00	-21.68	AV	Vertical
3247.94	44.44	44.70	6.70	28.20	-9.80	34.64	68.20	-33.56	Pk	Horizontal
3247.94	40.77	44.70	6.70	28.20	-9.80	30.97	54.00	-23.03	AV	Horizontal
3990.30	40.08	44.20	7.90	29.70	-6.60	33.48	74.00	-40.52	Pk	Vertical
3990.30	36.45	44.20	7.90	29.70	-6.60	29.85	54.00	-24.15	AV	Vertical
3998.01	39.53	44.20	7.90	29.70	-6.60	32.93	74.00	-41.07	Pk	Horizontal
3998.01	35.80	44.20	7.90	29.70	-6.60	29.20	54.00	-24.80	AV	Horizontal
7216.49	37.61	43.50	11.40	35.50	3.40	41.01	68.20	-27.19	Pk	Vertical
7216.49	34.84	43.50	11.40	35.50	3.40	38.24	54.00	-15.76	AV	Vertical
7220.25	37.51	43.50	11.40	35.50	3.40	40.91	68.20	-27.29	Pk	Horizontal
7220.25	33.95	43.50	11.40	35.50	3.40	37.35	54.00	-16.65	AV	Horizontal
10599.94	38.90	44.50	13.80	38.80	8.10	47.00	68.20	-21.20	Pk	Vertical
10599.94	36.41	44.50	13.80	38.80	8.10	44.51	54.00	-9.49	AV	Vertical
10600.22	40.01	44.50	13.80	38.80	8.10	48.11	74.00	-25.89	Pk	Horizontal
10600.22	36.14	44.50	13.80	38.80	8.10	44.24	54.00	-9.76	AV	Horizontal
11017.39	32.75	43.60	14.30	39.50	10.20	42.95	74.00	-31.05	Pk	Vertical
11017.39	30.14	43.60	14.30	39.50	10.20	40.34	54.00	-13.66	AV	Vertical
11017.30	33.11	43.60	14.30	39.50	10.20	43.31	74.00	-30.69	Pk	Horizontal
11017.30	30.46	43.60	14.30	39.50	10.20	40.66	54.00	-13.34	AV	Horizontal
13289.03	32.10	42.60	15.90	38.90	12.20	44.30	74.00	-29.70	Pk	Vertical
13289.03	29.16	42.60	15.90	38.90	12.20	41.36	54.00	-12.64	AV	Vertical
13281.37	32.82	42.60	15.90	38.90	12.20	45.02	74.00	-28.98	Pk	Horizontal
13281.37	29.99	42.60	15.90	38.90	12.20	42.19	54.00	-11.81	AV	Horizontal

High Channel (802.11n20/ 5320 MHz)										
3253.96	44.87	44.70	6.70	28.20	-9.80	35.07	68.20	-33.13	Pk	Vertical
3253.96	41.79	44.70	6.70	28.20	-9.80	31.99	54.00	-22.01	AV	Vertical
3246.11	44.28	44.70	6.70	28.20	-9.80	34.48	68.20	-33.72	Pk	Horizontal
3246.11	42.11	44.70	6.70	28.20	-9.80	32.31	54.00	-21.69	AV	Horizontal
3989.10	39.69	44.20	7.90	29.70	-6.60	33.09	74.00	-40.91	Pk	Vertical
3989.10	35.78	44.20	7.90	29.70	-6.60	29.18	54.00	-24.82	AV	Vertical
3997.38	40.13	44.20	7.90	29.70	-6.60	33.53	74.00	-40.47	Pk	Horizontal
3997.38	36.69	44.20	7.90	29.70	-6.60	30.09	54.00	-23.91	AV	Horizontal
7220.91	37.38	43.50	11.40	35.50	3.40	40.78	68.20	-27.42	Pk	Vertical
7220.91	34.76	43.50	11.40	35.50	3.40	38.16	54.00	-15.84	AV	Vertical
7232.73	36.74	43.50	11.40	35.50	3.40	40.14	68.20	-28.06	Pk	Horizontal
7232.73	34.73	43.50	11.40	35.50	3.40	38.13	54.00	-15.87	AV	Horizontal
10640.07	39.90	44.50	13.80	38.80	8.10	48.00	74.00	-26.00	Pk	Vertical
10640.07	36.87	44.50	13.80	38.80	8.10	44.97	54.00	-9.03	AV	Vertical
10640.26	39.87	44.50	13.80	38.80	8.10	47.97	74.00	-26.03	Pk	Horizontal
10640.26	36.81	44.50	13.80	38.80	8.10	44.91	54.00	-9.09	AV	Horizontal
11020.70	32.95	43.60	14.30	39.50	10.20	43.15	74.00	-30.85	Pk	Vertical
11020.70	30.35	43.60	14.30	39.50	10.20	40.55	54.00	-13.45	AV	Vertical
11024.43	33.22	43.60	14.30	39.50	10.20	43.42	74.00	-30.58	Pk	Horizontal
11024.43	30.46	43.60	14.30	39.50	10.20	40.66	54.00	-13.34	AV	Horizontal
13285.63	32.62	42.70	18.00	37.10	12.40	45.02	74.00	-28.98	Pk	Vertical
13285.63	29.42	42.70	18.00	37.10	12.40	41.82	54.00	-12.18	AV	Vertical
13299.26	32.60	42.70	18.00	37.10	12.40	45.00	74.00	-29.00	Pk	Horizontal
13299.26	28.97	42.70	18.00	37.10	12.40	41.37	54.00	-12.63	AV	Horizontal

Remark:
1. Factor = Antenna Factor + Cable Loss – Pre-amplifier.
2. Scan with 802.11a,802.11n (HT-20),802.11n (HT-40) the worst case is 802.11n (HT-20).
3. The frequency emission of peak points that did not show above the forms are at least 20dB below the limit, the frequency emission is mainly from the environment noise.

U-NII-2C 5470-5725MHz

Frequency (MHz)	Reading (dBuV)	Amplifier (dB)	Loss (dB)	Antenna Factor (dB/m)	Orrected Factor (dB)	Emission Level (dBμV/m)	Limit (dBuV/m)	Margin (dB)	Detector	Comment
Low Channel (802.11n20/ 5500 MHz)										
3249.65	44.69	44.70	6.70	28.20	-9.80	34.89	68.20	-33.31	Pk	Vertical
3249.65	41.67	44.70	6.70	28.20	-9.80	31.87	54.00	-22.13	AV	Vertical
3263.31	44.16	44.70	6.70	28.20	-9.80	34.36	74.00	-39.64	Pk	Horizontal
3263.31	41.56	44.70	6.70	28.20	-9.80	31.76	54.00	-22.24	AV	Horizontal
3993.65	38.93	44.20	7.90	29.70	-6.60	32.33	74.00	-41.67	Pk	Vertical
3993.65	35.79	44.20	7.90	29.70	-6.60	29.19	54.00	-24.81	AV	Vertical
3984.82	39.85	44.20	7.90	29.70	-6.60	33.25	74.00	-40.75	Pk	Horizontal
3984.82	35.83	44.20	7.90	29.70	-6.60	29.23	54.00	-24.77	AV	Horizontal
7218.69	36.44	43.50	11.40	35.50	3.40	39.84	68.20	-28.36	Pk	Vertical
7218.69	34.32	43.50	11.40	35.50	3.40	37.72	54.00	-16.28	AV	Vertical
7226.36	37.63	43.50	11.40	35.50	3.40	41.03	68.20	-27.17	Pk	Horizontal
7226.36	34.57	43.50	11.40	35.50	3.40	37.97	54.00	-16.03	AV	Horizontal
10353.85	38.91	44.50	13.80	38.80	8.10	47.01	68.20	-21.19	Pk	Vertical
10353.85	36.42	44.50	13.80	38.80	8.10	44.52	54.00	-9.48	AV	Vertical
10352.00	38.90	44.50	13.80	38.80	8.10	47.00	68.20	-21.20	Pk	Horizontal
10352.00	35.72	44.50	13.80	38.80	8.10	43.82	54.00	-10.18	AV	Horizontal
11000.33	32.90	43.60	14.30	39.50	10.20	43.10	74.00	-30.90	Pk	Vertical
11000.33	30.49	43.60	14.30	39.50	10.20	40.69	54.00	-13.31	AV	Vertical
11000.14	33.80	43.60	14.30	39.50	10.20	44.00	74.00	-30.00	Pk	Horizontal
11000.14	30.46	43.60	14.30	39.50	10.20	40.66	54.00	-13.34	AV	Horizontal
13288.83	32.72	42.60	15.90	38.90	12.20	44.92	74.00	-29.08	Pk	Vertical
13288.83	28.72	42.60	15.90	38.90	12.20	40.92	54.00	-13.08	AV	Vertical
13295.40	32.20	42.60	15.90	38.90	12.20	44.40	74.00	-29.60	Pk	Horizontal
13295.40	29.55	42.60	15.90	38.90	12.20	41.75	54.00	-12.25	AV	Horizontal
Mid Channel (802.11n20/ 5580 MHz)										
3262.26	44.88	44.70	6.70	28.20	-9.80	35.08	74.00	-38.92	Pk	Vertical
3262.26	40.78	44.70	6.70	28.20	-9.80	30.98	54.00	-23.02	AV	Vertical
3263.77	45.17	44.70	6.70	28.20	-9.80	35.37	74.00	-38.63	Pk	Horizontal
3263.77	40.93	44.70	6.70	28.20	-9.80	31.13	54.00	-22.87	AV	Horizontal
3995.79	40.11	44.20	7.90	29.70	-6.60	33.51	74.00	-40.49	Pk	Vertical
3995.79	36.95	44.20	7.90	29.70	-6.60	30.35	54.00	-23.65	AV	Vertical
3998.58	39.76	44.20	7.90	29.70	-6.60	33.16	74.00	-40.84	Pk	Horizontal
3998.58	36.12	44.20	7.90	29.70	-6.60	29.52	54.00	-24.48	AV	Horizontal
7222.17	36.74	43.50	11.40	35.50	3.40	40.14	68.20	-28.06	Pk	Vertical
7222.17	34.68	43.50	11.40	35.50	3.40	38.08	54.00	-15.92	AV	Vertical
7217.23	37.52	43.50	11.40	35.50	3.40	40.92	68.20	-27.28	Pk	Horizontal
7217.23	34.70	43.50	11.40	35.50	3.40	38.10	54.00	-15.90	AV	Horizontal
10397.49	39.63	44.50	13.80	38.80	8.10	47.73	68.20	-20.47	Pk	Vertical
10397.49	36.32	44.50	13.80	38.80	8.10	44.42	54.00	-9.58	AV	Vertical
10397.12	39.15	44.50	13.80	38.80	8.10	47.25	68.20	-20.95	Pk	Horizontal
10397.12	36.92	44.50	13.80	38.80	8.10	45.02	54.00	-8.98	AV	Horizontal
11160.10	33.11	43.60	14.30	39.50	10.20	43.31	74.00	-30.69	Pk	Vertical
11160.10	29.84	43.60	14.30	39.50	10.20	40.04	54.00	-13.96	AV	Vertical
11159.95	33.85	43.60	14.30	39.50	10.20	44.05	74.00	-29.95	Pk	Horizontal
11159.95	29.67	43.60	14.30	39.50	10.20	39.87	54.00	-14.13	AV	Horizontal
13296.30	32.40	42.60	15.90	38.90	12.20	44.60	74.00	-29.40	Pk	Vertical
13296.30	29.51	42.60	15.90	38.90	12.20	41.71	54.00	-12.29	AV	Vertical
13283.34	32.65	42.60	15.90	38.90	12.20	44.85	74.00	-29.15	Pk	Horizontal
13283.34	29.94	42.60	15.90	38.90	12.20	42.14	54.00	-11.86	AV	Horizontal

High Channel (802.11n20/ 5700 MHz)										
3247.45	44.87	44.70	6.70	28.20	-9.80	35.07	68.20	-33.13	Pk	Vertical
3247.45	40.97	44.70	6.70	28.20	-9.80	31.17	54.00	-22.83	AV	Vertical
3249.72	44.73	44.70	6.70	28.20	-9.80	34.93	68.20	-33.27	Pk	Horizontal
3249.72	41.81	44.70	6.70	28.20	-9.80	32.01	54.00	-21.99	AV	Horizontal
3992.89	39.36	44.20	7.90	29.70	-6.60	32.76	74.00	-41.24	Pk	Vertical
3992.89	36.04	44.20	7.90	29.70	-6.60	29.44	54.00	-24.56	AV	Vertical
3987.71	39.35	44.20	7.90	29.70	-6.60	32.75	74.00	-41.25	Pk	Horizontal
3987.71	37.06	44.20	7.90	29.70	-6.60	30.46	54.00	-23.54	AV	Horizontal
7228.43	37.47	43.50	11.40	35.50	3.40	40.87	68.20	-27.33	Pk	Vertical
7228.43	33.60	43.50	11.40	35.50	3.40	37.00	54.00	-17.00	AV	Vertical
7232.08	37.75	43.50	11.40	35.50	3.40	41.15	68.20	-27.05	Pk	Horizontal
7232.08	33.71	43.50	11.40	35.50	3.40	37.11	54.00	-16.89	AV	Horizontal
10475.57	39.11	44.50	13.80	38.80	8.10	47.21	68.20	-20.99	Pk	Vertical
10475.57	36.94	44.50	13.80	38.80	8.10	45.04	54.00	-8.96	AV	Vertical
10470.41	39.07	44.50	13.80	38.80	8.10	47.17	68.20	-21.03	Pk	Horizontal
10470.41	36.63	44.50	13.80	38.80	8.10	44.73	54.00	-9.27	AV	Horizontal
11400.07	33.17	43.60	14.30	39.50	10.20	43.37	74.00	-30.63	Pk	Vertical
11400.07	30.63	43.60	14.30	39.50	10.20	40.83	54.00	-13.17	AV	Vertical
11400.06	32.85	43.60	14.30	39.50	10.20	43.05	74.00	-30.95	Pk	Horizontal
11400.06	30.80	43.60	14.30	39.50	10.20	41.00	54.00	-13.00	AV	Horizontal
13287.76	31.53	42.60	15.90	38.90	12.20	43.73	74.00	-30.27	Pk	Vertical
13287.76	28.90	42.60	15.90	38.90	12.20	41.10	54.00	-12.90	AV	Vertical
13287.87	31.80	42.60	15.90	38.90	12.20	44.00	74.00	-30.00	Pk	Horizontal
13287.87	29.51	42.60	15.90	38.90	12.20	41.71	54.00	-12.29	AV	Horizontal

Remark:

1. Factor = Antenna Factor + Cable Loss – Pre-amplifier.
2. Scan with 802.11a,802.11n (HT-20),802.11n (HT-40) the worst case is 802.11n (HT-20).
3. The frequency emission of peak points that did not show above the forms are at least 20dB below the limit, the frequency emission is mainly from the environment noise.

U-NII-3(5.725-5.850) GHz

Frequency (MHz)	Reading (dBuV)	Amplifier (dB)	Loss (dB)	Antenna Factor (dB/m)	Orrected Factor (dB)	Emission Level (dBμV/m)	Limit (dBuV/m)	Margin (dB)	Detector	Comment
Low Channel (802.11n20/ 5745 MHz)										
3253.78	45.08	44.70	6.70	28.20	-9.80	35.28	68.20	-32.92	Pk	Vertical
3253.78	41.43	44.70	6.70	28.20	-9.80	31.63	54.00	-22.37	AV	Vertical
3254.20	45.01	44.70	6.70	28.20	-9.80	35.21	68.20	-32.99	Pk	Horizontal
3254.20	40.81	44.70	6.70	28.20	-9.80	31.01	54.00	-22.99	AV	Horizontal
3995.10	40.10	44.20	7.90	29.70	-6.60	33.50	74.00	-40.50	Pk	Vertical
3995.10	36.38	44.20	7.90	29.70	-6.60	29.78	54.00	-24.22	AV	Vertical
3994.77	38.82	44.20	7.90	29.70	-6.60	32.22	74.00	-41.78	Pk	Horizontal
3994.77	36.96	44.20	7.90	29.70	-6.60	30.36	54.00	-23.64	AV	Horizontal
7224.19	37.22	43.50	11.40	35.50	3.40	40.62	68.20	-27.58	Pk	Vertical
7224.19	34.48	43.50	11.40	35.50	3.40	37.88	54.00	-16.12	AV	Vertical
7225.11	36.46	43.50	11.40	35.50	3.40	39.86	68.20	-28.34	Pk	Horizontal
7225.11	34.89	43.50	11.40	35.50	3.40	38.29	54.00	-15.71	AV	Horizontal
10519.76	38.84	44.50	13.90	38.80	8.20	47.04	68.20	-21.16	Pk	Vertical
10519.76	36.39	44.50	13.90	38.80	8.20	44.59	54.00	-9.41	AV	Vertical
10511.03	38.92	44.50	13.90	38.80	8.20	47.12	68.20	-21.08	Pk	Horizontal
10511.03	37.02	44.50	13.90	38.80	8.20	45.22	54.00	-8.78	AV	Horizontal
11490.33	33.62	43.60	14.30	39.50	10.20	43.82	74.00	-30.18	Pk	Vertical
11490.33	30.22	43.60	14.30	39.50	10.20	40.42	54.00	-13.58	AV	Vertical
11490.12	32.78	43.60	14.30	39.50	10.20	42.98	74.00	-31.02	Pk	Horizontal
11490.12	29.70	43.60	14.30	39.50	10.20	39.90	54.00	-14.10	AV	Horizontal
13297.90	31.59	42.60	15.90	38.90	12.20	43.79	74.00	-30.21	Pk	Vertical
13297.90	29.94	42.60	15.90	38.90	12.20	42.14	54.00	-11.86	AV	Vertical
13290.16	32.79	42.60	15.90	38.90	12.20	44.99	74.00	-29.01	Pk	Horizontal
13290.16	29.47	42.60	15.90	38.90	12.20	41.67	54.00	-12.33	AV	Horizontal
Mid Channel (802.11n20/ 5785 MHz)										
3246.07	45.04	44.70	6.70	28.20	-9.80	35.24	68.20	-32.96	Pk	Vertical
3246.07	41.89	44.70	6.70	28.20	-9.80	32.09	54.00	-21.91	AV	Vertical
3261.30	44.92	44.70	6.70	28.20	-9.80	35.12	74.00	-38.88	Pk	Horizontal
3261.30	41.88	44.70	6.70	28.20	-9.80	32.08	54.00	-21.92	AV	Horizontal
3992.78	39.07	44.20	7.90	29.70	-6.60	32.47	74.00	-41.53	Pk	Vertical
3992.78	36.26	44.20	7.90	29.70	-6.60	29.66	54.00	-24.34	AV	Vertical
3992.69	39.29	44.20	7.90	29.70	-6.60	32.69	74.00	-41.31	Pk	Horizontal
3992.69	36.60	44.20	7.90	29.70	-6.60	30.00	54.00	-24.00	AV	Horizontal
7218.99	37.02	43.50	11.40	35.50	3.40	40.42	68.20	-27.78	Pk	Vertical
7218.99	34.45	43.50	11.40	35.50	3.40	37.85	54.00	-16.15	AV	Vertical
7221.72	37.45	43.50	11.40	35.50	3.40	40.85	68.20	-27.35	Pk	Horizontal
7221.72	33.69	43.50	11.40	35.50	3.40	37.09	54.00	-16.91	AV	Horizontal
10594.60	39.57	44.50	13.80	38.80	8.10	47.67	68.20	-20.53	Pk	Vertical
10594.60	36.91	44.50	13.80	38.80	8.10	45.01	54.00	-8.99	AV	Vertical
10598.92	39.85	44.50	13.80	38.80	8.10	47.95	68.20	-20.25	Pk	Horizontal
10598.92	35.95	44.50	13.80	38.80	8.10	44.05	54.00	-9.95	AV	Horizontal
11570.24	34.06	43.60	14.30	39.50	10.20	44.26	74.00	-29.74	Pk	Vertical
11570.24	30.68	43.60	14.30	39.50	10.20	40.88	54.00	-13.12	AV	Vertical
11570.15	33.99	43.60	14.30	39.50	10.20	44.19	74.00	-29.81	Pk	Horizontal
11570.15	29.98	43.60	14.30	39.50	10.20	40.18	54.00	-13.82	AV	Horizontal
13293.43	31.59	42.60	15.90	38.90	12.20	43.79	74.00	-30.21	Pk	Vertical
13293.43	29.06	42.60	15.90	38.90	12.20	41.26	54.00	-12.74	AV	Vertical
13297.59	32.31	42.60	15.90	38.90	12.20	44.51	74.00	-29.49	Pk	Horizontal
13297.59	28.92	42.60	15.90	38.90	12.20	41.12	54.00	-12.88	AV	Horizontal

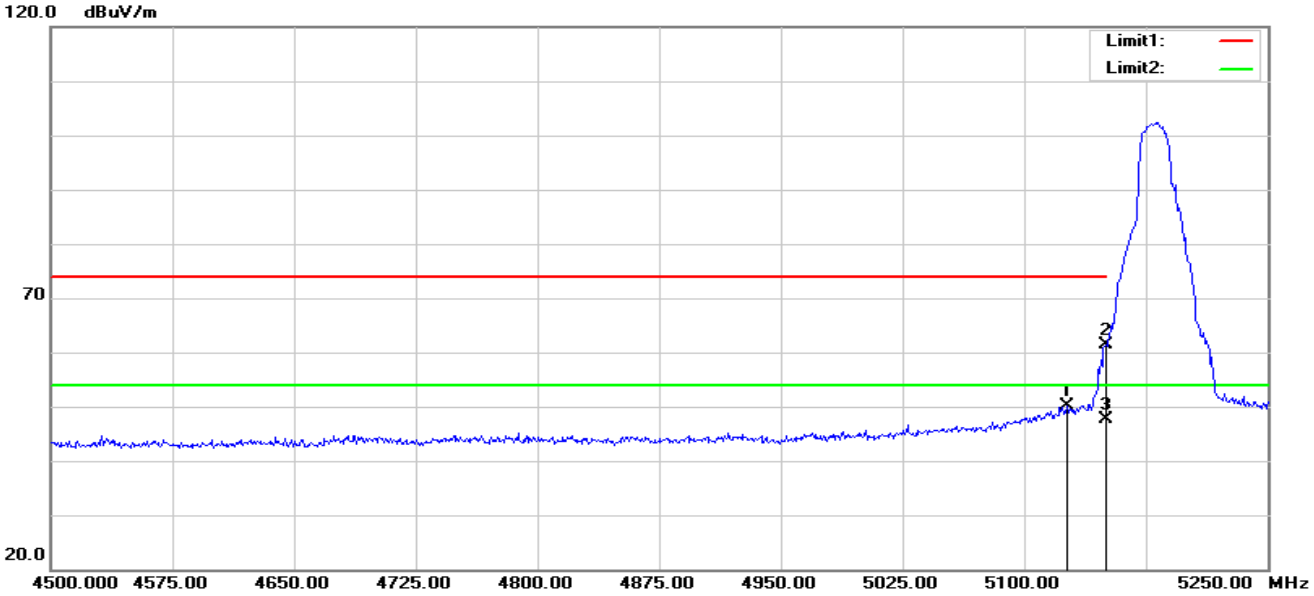
High Channel (802.11n20/ 5825 MHz)										
3248.35	45.07	44.70	6.70	28.20	-9.80	35.27	68.20	-32.93	Pk	Vertical
3248.35	40.84	44.70	6.70	28.20	-9.80	31.04	54.00	-22.96	AV	Vertical
3249.86	44.58	44.70	6.70	28.20	-9.80	34.78	68.20	-33.42	Pk	Horizontal
3249.86	41.54	44.70	6.70	28.20	-9.80	31.74	54.00	-22.26	AV	Horizontal
3981.57	39.23	44.20	7.90	29.70	-6.60	32.63	74.00	-41.37	Pk	Vertical
3981.57	36.59	44.20	7.90	29.70	-6.60	29.99	54.00	-24.01	AV	Vertical
3989.07	39.51	44.20	7.90	29.70	-6.60	32.91	74.00	-41.09	Pk	Horizontal
3989.07	36.42	44.20	7.90	29.70	-6.60	29.82	54.00	-24.18	AV	Horizontal
7228.35	37.75	43.50	11.40	35.50	3.40	41.15	68.20	-27.05	Pk	Vertical
7228.35	33.77	43.50	11.40	35.50	3.40	37.17	54.00	-16.83	AV	Vertical
7233.10	37.50	43.50	11.40	35.50	3.40	40.90	68.20	-27.30	Pk	Horizontal
7233.10	34.22	43.50	11.40	35.50	3.40	37.62	54.00	-16.38	AV	Horizontal
10623.69	38.92	44.50	13.80	38.80	8.10	47.02	74.00	-26.98	Pk	Vertical
10623.69	35.72	44.50	13.80	38.80	8.10	43.82	54.00	-10.18	AV	Vertical
10640.37	39.97	44.50	13.80	38.80	8.10	48.07	74.00	-25.93	Pk	Horizontal
10640.37	35.83	44.50	13.80	38.80	8.10	43.93	54.00	-10.07	AV	Horizontal
11650.14	33.99	43.60	14.30	39.50	10.20	44.19	74.00	-29.81	Pk	Vertical
11650.14	30.07	43.60	14.30	39.50	10.20	40.27	54.00	-13.73	AV	Vertical
11650.12	32.98	43.60	14.30	39.50	10.20	43.18	74.00	-30.82	Pk	Horizontal
11650.12	30.92	43.60	14.30	39.50	10.20	41.12	54.00	-12.88	AV	Horizontal
13297.91	31.73	42.70	18.00	37.10	12.40	44.13	74.00	-29.87	Pk	Vertical
13297.91	28.74	42.70	18.00	37.10	12.40	41.14	54.00	-12.86	AV	Vertical
13295.60	32.84	42.70	18.00	37.10	12.40	45.24	74.00	-28.76	Pk	Horizontal
13295.60	30.02	42.70	18.00	37.10	12.40	42.42	54.00	-11.58	AV	Horizontal

Remark:
1. Factor = Antenna Factor + Cable Loss – Pre-amplifier.
2. Scan with 802.11a,802.11n (HT-20),802.11n (HT-40) the worst case is 802.11n (HT-20).
3. The frequency emission of peak points that did not show above the forms are at least 20dB below the limit, the frequency emission is mainly from the environment noise.

3.2.9 RESTRICTED FREQUENCY BANDS AND BAND EDGE

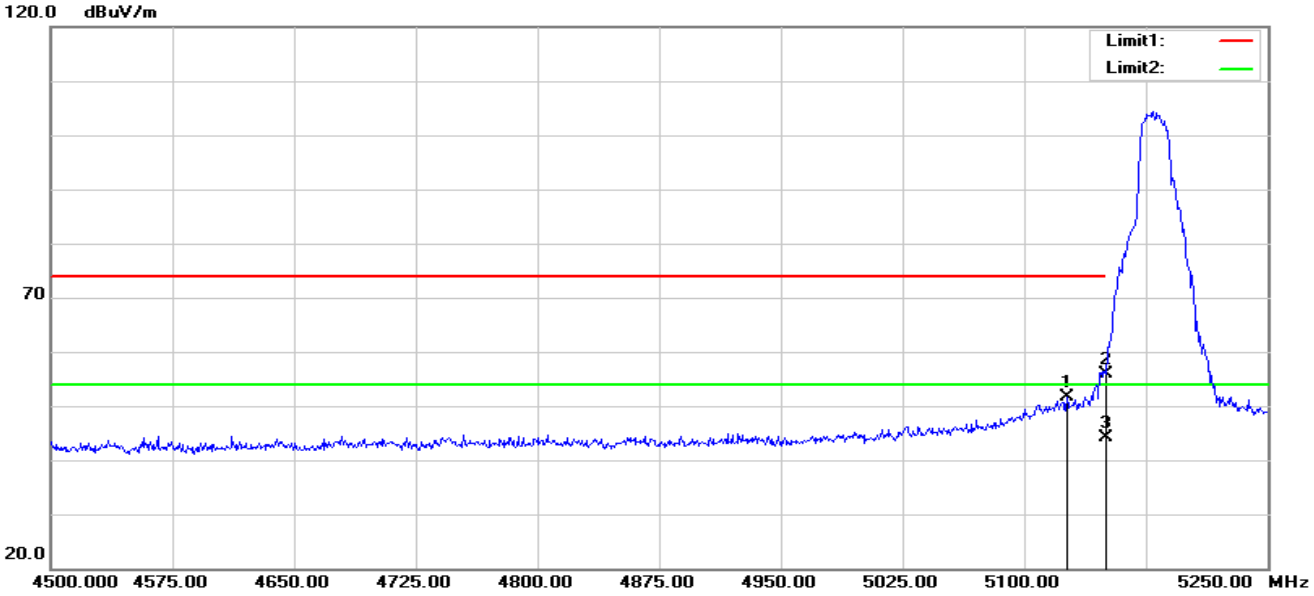
U-NII-1 5150-5250MHz

RSE-802.11n20-L-H



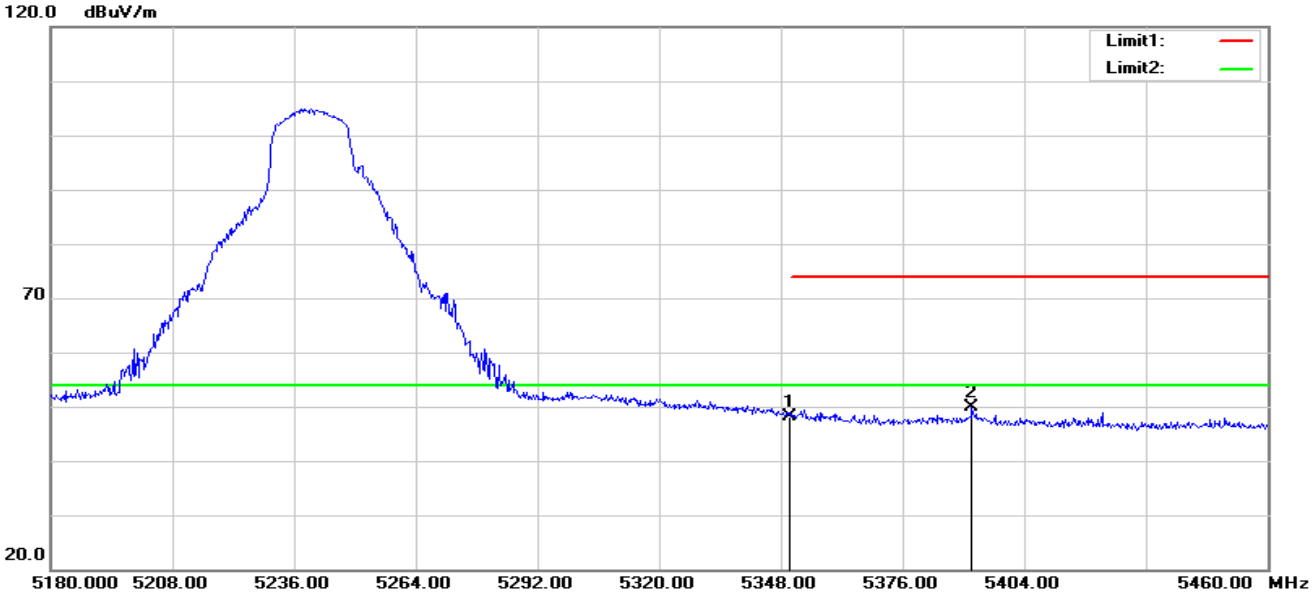
No.	Frequency (MHz)	Reading (dBuV)	Correct Factor(dB/m)	Result (dBuV/m)	Limit (dBuV/m)	Margin (dB)	Remark
1	5126.250	55.84	-5.74	50.10	74.00	-23.90	peak
2	5150.000	67.17	-5.73	61.44	74.00	-12.56	peak
3	5150.000	53.38	-5.73	47.65	54.00	-6.35	AVG

RSE-802.11n20-L-V



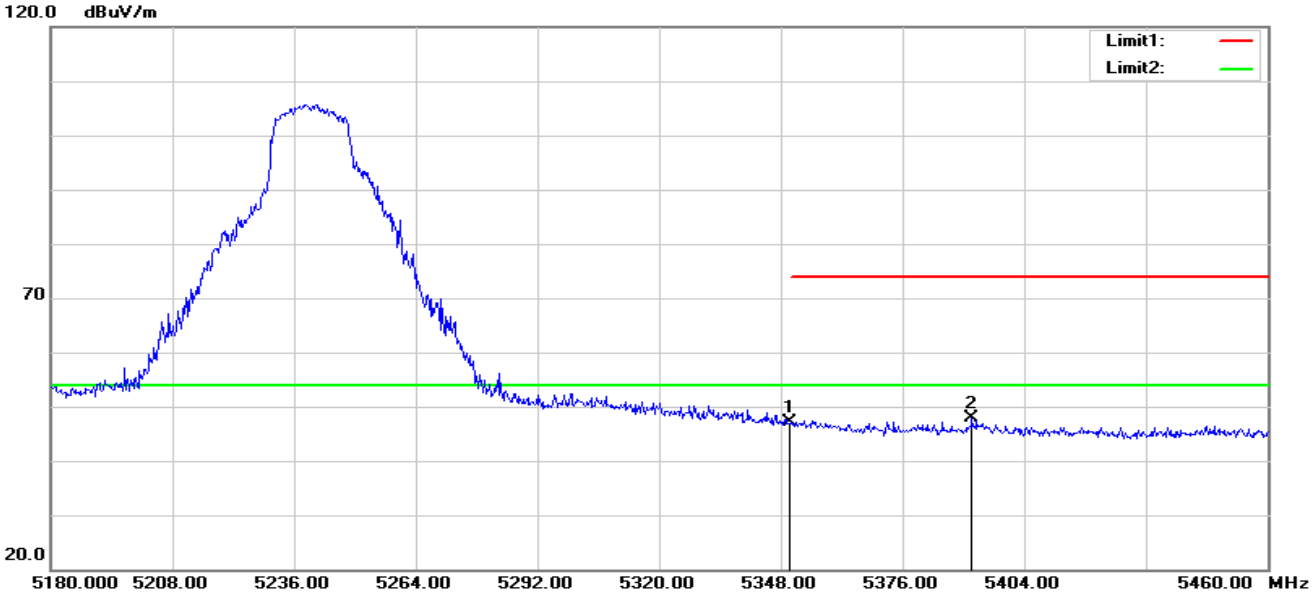
No.	Frequency (MHz)	Reading (dBuV)	Correct Factor(dB/m)	Result (dBuV/m)	Limit (dBuV/m)	Margin (dB)	Remark
1	5126.250	57.27	-5.74	51.53	74.00	-22.47	peak
2	5150.000	61.68	-5.73	55.95	74.00	-18.05	peak
3	5150.000	49.97	-5.73	44.24	54.00	-9.76	AVG

RSE-802.11n20-H-H



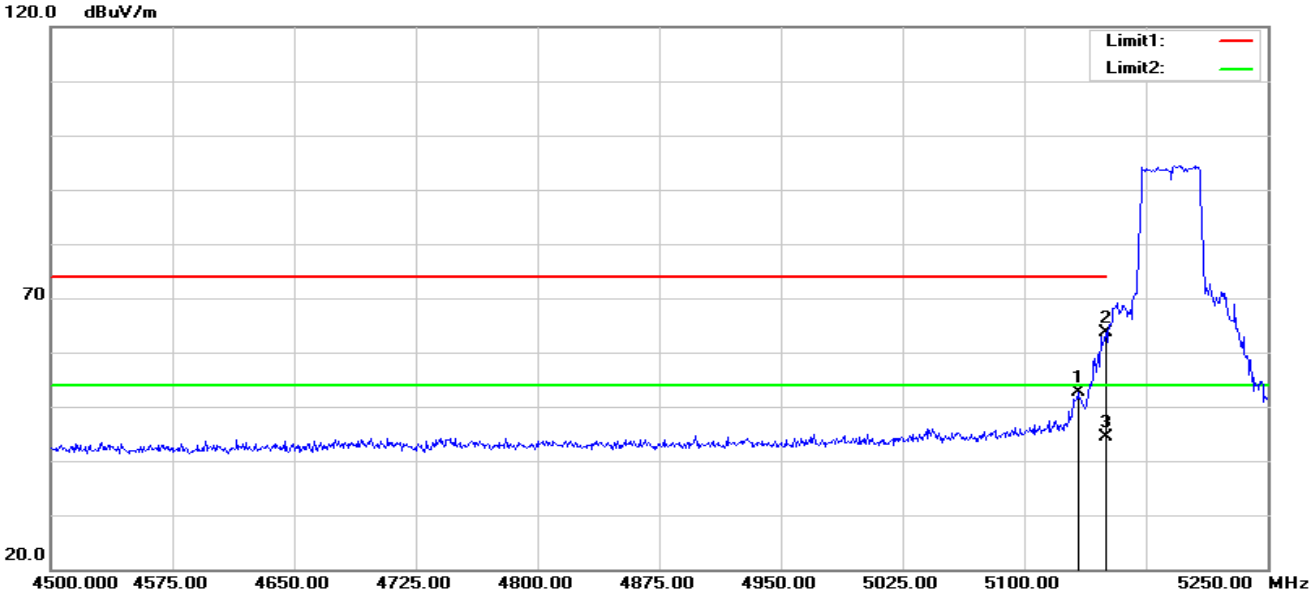
No.	Frequency	Reading	Correct	Result	Limit	Margin	Remark
	(MHz)	(dBuV)	Factor(dB/m)	(dBuV/m)	(dBuV/m)	(dB)	
1	5350.000	53.44	-5.23	48.21	74.00	-25.79	peak
2	5391.960	55.02	-5.25	49.77	74.00	-24.23	peak

RSE-802.11n20-H-V



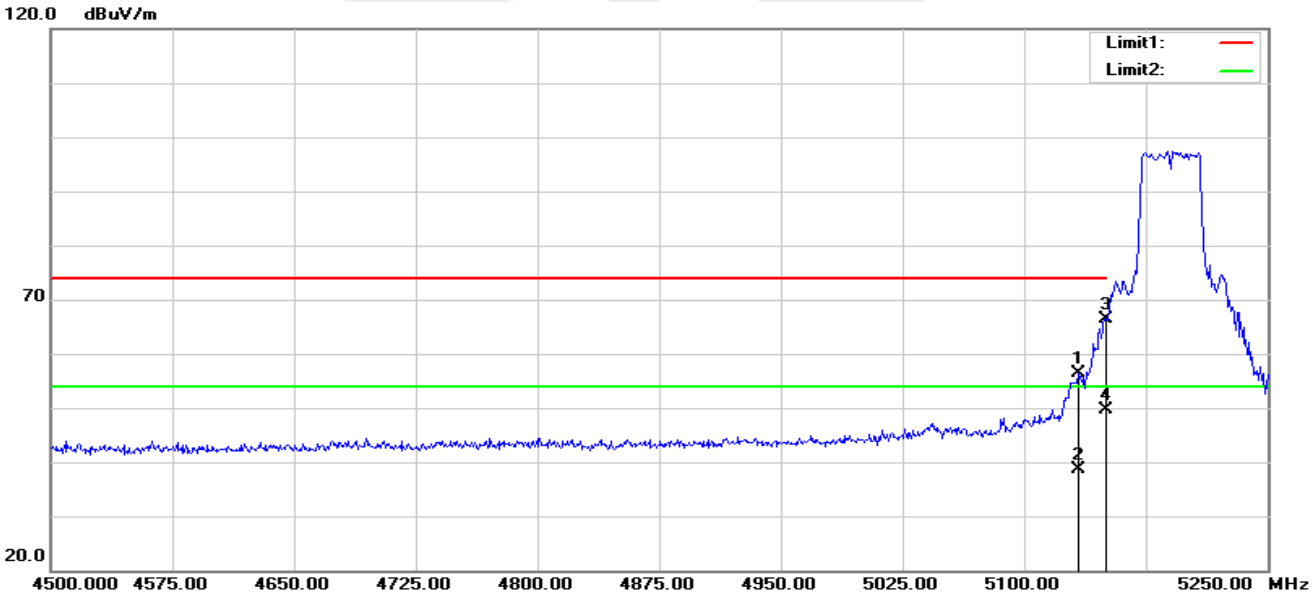
No.	Frequency	Reading	Correct	Result	Limit	Margin	Remark
	(MHz)	(dBuV)	Factor(dB/m)	(dBuV/m)	(dBuV/m)	(dB)	
1	5350.000	52.43	-5.23	47.20	74.00	-26.80	peak
2	5391.960	53.01	-5.25	47.76	74.00	-26.24	peak

RSE-802.11n40-L-H



No.	Frequency	Reading	Correct	Result	Limit	Margin	Remark
	(MHz)	(dBuV)	Factor(dB/m)	(dBuV/m)	(dBuV/m)	(dB)	
1	5133.000	58.36	-5.73	52.63	74.00	-21.37	peak
2	5150.000	69.31	-5.73	63.58	74.00	-10.42	peak
3	5150.000	50.07	-5.73	44.34	54.00	-9.66	AVG

RSE-802.11n40-L-V



No.	Frequency	Reading	Correct	Result	Limit	Margin	Remark
	(MHz)	(dBuV)	Factor(dB/m)	(dBuV/m)	(dBuV/m)	(dB)	
1	5133.750	62.21	-5.73	56.48	74.00	-17.52	peak
2	5133.750	44.43	-5.73	38.70	54.00	-15.30	AVG
3	5150.000	72.01	-5.73	66.28	74.00	-7.72	peak
4	5150.000	55.44	-5.73	49.71	54.00	-4.29	AVG