RADIO TEST REPORT

Product	:	Hypervsn
Model Name	:	M
FCC ID	:	2ANPD20110204
Test Regulation	:	FCC 47 CFR Part 15 Subpart C (Section 15.247)
Received Date	:	Jun. 25, 2018
Test Date	:	Jun. 26, 2018 ~ Sep 13, 2018
Issued Date	:	September 13, 2018
Applicant	:	Kino-mo Ltd Address The Light Bulb, London, SW I 8 4GQ, UK Company registration number 07517352
Issued By	:	Underwriters Laboratories Taiwan Co., Ltd. Building B and Building E, No. 372-7, Sec. 4, Zhongxing Rd., Zhudong Township, Hsinchu County, Taiwan

Testing Laboratory
3398

The results reported herein have been performed in accordance with the laboratory's terms of accreditation. This report shall not be reproduced except in full without the written approval of the Laboratory. The results in this report apply to the test sample(s) mentioned above at the time of the testing period only and are not to be used to indicate applicability to other similar products. This report does not imply that the product(s) has met the criteria for certification.

REVISION HISTORY

Original Test Report No.: 4788124164-US-R0-V0

Rev.	Test report No.	Date	Page revised	Contents
Original	4788124164-US-R0-V0	Sep. 13, 2018	-	Initial issue

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1. Attestation of Test Results

APPLICANT:	Kino-mo Ltd Address The Light Bulb, London, SW I 8 4GQ, UK Company registration number 07517352
MANUFACTURER	Kino-mo Ltd Address The Light Bulb, London, SW I 8 4GQ, UK Company registration number 07517352
EUT DESCRIPTION:	The equipment under testing was a display device designed to display video and images formed by spinning rays with LEDs. The content is uploaded through a WI-FI connection and can be operated continuously while plugged in the mains.
BRAND:	Kino-mo Hypervsn
MODEL:	M
SAMPLE STAGE:	Identical Prototype
DATE of TESTED:	Jun. 26, 2018 ~ Sep 13, 2018

APPLICABLE STANDARDS	
STANDARD	**Test Results**
FCC 47 CFR PART 15 Subpart C (Section 15.247)	PASS

Underwriters Laboratories Taiwan Co., Ltd. tested the above equipment in accordance with the requirements set forth in the above standards. All indications of Pass/Fail in this report are opinions expressed by Underwriters Laboratories Taiwan Co., Ltd. based on interpretations and/or observations of test results. Measurement Uncertainties were not taken into account and are published for informational purposes only. The test results show that the equipment tested is capable of demonstrating compliance with the requirements as documented in this report.

Note: The results documented in this report apply only to the tested sample, under the conditions and modes of operation as described herein. This document may not be altered or revised in any way unless done so by Underwriters Laboratories Taiwan Co., Ltd. and all revisions are duly noted in the revisions section. Any alteration of this document not carried out by Underwriters Laboratories Taiwan Co., Ltd. will constitute fraud and shall nullify the document. This report must not be used by the client to claim product certification, approval, or endorsement by NVLAP, NIST, any agency of the Federal Government, or any agency of any government.

Prepared By:

Evelyn Lee Date : September 13, 2018
Project Handler

Approved By:

John Cheng Date : September 13, 2018
Project Engineer

2. Summary of Test Results

Summary of Test Results		
FCC Clause	**Test Items**	**Result**
15.247(a)(2)	6dB Bandwidth	PASS
15.247(b)	Conducted Output Power	PASS
15.247(e)	Power Spectral Density	PASS
15.247(d)	Antenna Port Emission	PASS
15.205 / 15.209 / 15.247(d)	Radiated Emissions and Band Edge Measurement	PASS
15.207	AC Power Conducted Emission	PASS
15.203	Antenna Requirement	PASS

Note:
1. For FCC Clause 15.247(d), the Radiated Band Edge test plots were recorded in Appendix I, And Radiated Emissions measurements above 1 GHz recorded in Appendix II.

3. Test Methodology

The tests documented in this report were performed in accordance with FCC CFR 47 Part 2, FCC CFR 47 Part 15, KDB558074 D01 DTS Meas Guidance v05, KDB414788 D01 Radiated Test Site v01, ANSI C63.10-2013.

4. Facilities and Accreditation

Test Location	Underwriters Laboratories Taiwan Co., Ltd.
Address	Building B and Building E, No. 372-7, Sec. 4, Zhongxing Rd., Zhudong Township, Hsinchu County, Taiwan
Accreditation Certificate	Underwriters Laboratories Taiwan Co., Ltd. is accredited by TAF, Laboratory Code 3398. The full scope of accreditation can be viewed at http://accreditation.taftw.org.tw/taf/public/basic/viewApplyItems.action?unitNo=3398

5. Measurement Uncertainty

The following uncertainties have been calculated to provide a confidence level of 95 % using a coverage factor k=2.

Test Item	Measurement Frequency Range	K	U(dB)
Conducted disturbance at mains terminals ports	0.15MHz ~ 30MHz	2	2.6
RF Conducted	9 kHz - 40GHz	2	1.0
Radiated disturbance below 30MHz	9 kHz - 30 MHz	2	2.4
Radiated disturbance below 1 GHz	30MHz ~ 1GHz	2	5.5
Radiated disturbance above 1GHz	1GHz ~ 40GHz	2	5.0

6. Equipment under Test

6.1. Description of EUT

Product	Hypervsn
Brand Name	Kino-mo Hypervsn
Model Name	M
Operating Frequency	2412MHz ~ 2462MHz
Modulation	CCK, DQPSK, DBPSK for DSSS 64QAM, 16QAM, QPSK, BPSK for OFDM
Transfer Rate	802.11b: up to 11 Mbps 802.11g: up to 54 Mbps 802.11n: up to MCS7
Number of Channel	11 for 802.11b, 802.11g, 802.11n (HT20)
Maximum Output Power	802.11b: 8.93 dBm 802.11g: 8.95 dBm 802.11n (HT20): 8.99 dBm
Normal Voltage	120 to 240 Vac, 60 Hz
Test Sample Serial Number	H-R1800474 (Conducted / Radiated Sample)
Hardware Version	D
Software Version	R4.1.7

Note:

1. The EUT provides one completed transmitters and one receivers.

Modulation Mode	Tx,Rx Function
802.11b	1TX,1RX
802.11g	1TX,1RX
802.11n (HT20)	1TX,1RX

2. The above EUT information is declared by manufacturer and for more detailed features description, please refer the manufacturer's or user's manual.
3. Only one sample was used for the radiated testing and then modified to allow the conducted testing. The switch on base is not a usual part of devise (or basic kit) and was submitted only for testing.

6.2. Channel List

11 channels are provided for 802.11b, 802.11g and 802.11n (HT20):

Channel	Frequency	Channel	Frequency
1	2412MHz	7	2442MHz
2	2417MHz	8	2447MHz
3	2422MHz	9	2452MHz
4	2427MHz	10	2457MHz
5	2432MHz	11	2462MHz
6	2437MHz	-	-

6.3. Test Condition

Test Item	Test Site No.	Environmental Condition	Input Power	Test Date	Tested by
Antenna Port Conducted Measurement	SR4	24°C / 66%RH	120 Vac / 60 Hz	Jul. 31, 2018 ~ Sep 13, 2018	Wayne Chen
Radiated Spurious Emission	966-2	25°C / 69%RH	120 Vac / 60 Hz	Jun. 26, 2018~ Jul 25, 2018	Will Chen
AC power Line Conducted Emission	SR1	26°C / 64%RH	120 Vac / 60 Hz	Jul. 24, 2018 ~ Jul 24, 2018	Will Chen

Note: The detail test date for each test item of antenna port conducted measurement, please refer to test date of each test section.

FCC Test Firm Registration Number: 498077

6.4. Description Of Available Antennas

Antenna	Brand Name	Model Name	Antenna Type	Antenna Gain(dBi)
Chain(0)	N/A	N/A	N/A	3

6.5. Operating Mode and Worst Case of EUT

Test item	Mode	Modulation Technology	Modulation Type	Available Channel	Test Channel	Data Rate
Radiated Emissions (Above 1GHz)	802.11b	DSSS	DBPSK	1 to 11	1,6,11	1.0
	802.11g	OFDM	BPSK	1 to 11	1,6,11	6.0
	802.11n(HT20)	OFDM	BPSK	1 to 11	1,6,11	MCS0
Radiated Emissions (Below 1GHz)	802.11b	DSSS	DBPSK	1 to 11	1	1.0
AC Power Line Conducted Emission	802.11b	DSSS	DBPSK	1 to 11	1	1.0
Antenna Port Conducted Measurement	802.11b	DSSS	DBPSK	1 to 11	1,6,11	1.0
	802.11g	OFDM	BPSK	1 to 11	1,6,11	6.0
	802.11n(HT20)	OFDM	BPSK	1 to 11	1,6,11	MCS0

Note:

1. Pre-Scan has been conducted to determine the worst-case mode from all possible combinations between available modulations, data rates and antenna ports (if EUT with antenna diversity architecture).
2. For below 1 GHz radiated emission and AC power line conducted emission were performed with the EUT set to transmit at the channel with highest output power as worst-case.
3. X axis, Y axis, Z axis positions:
   Transmitter radiated spurious emissions and band edge tests pre-scan were performed with the EUT in X/Y/Z orientation. Final measurements were performed with the EUT in X Axis (EUT on its side with the antenna pointing directly at the receiving antenna) as this produced the worst case with respect to emissions.

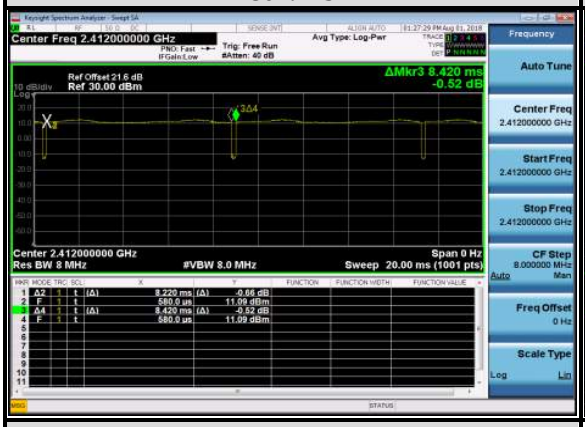
6.6. Duty cycle

802.11b: Duty cycle = 8.22/8.42 = 0.976, Duty factor = 10 * log(1/0.976) = 0.104

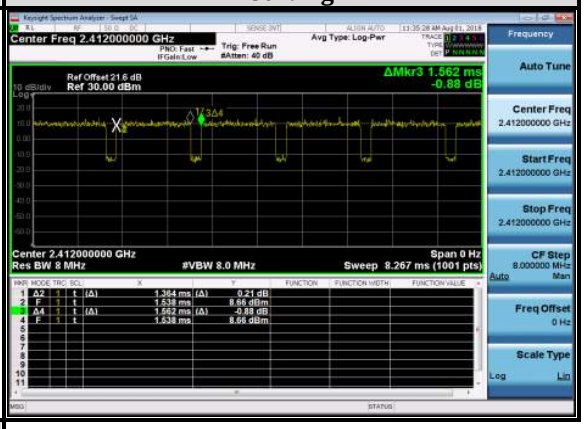
802.11g: Duty cycle = 1.364/1.562 = 0.873, Duty factor = 10 * log(1/0.873) = 0.589

802.11n (HT20): Duty cycle = 1.273/1.471 = 0.865, Duty factor = 10 * log(1/0.865) = 0.628

802.11b



802.11g



802.11n (HT20)

7. Test Equipment

Test Equipment List					
Equipment	**Manufacturer**	**Model No.**	**Serial No.**	**Cal. Date**	**Cal. Interval**
Radiated Spurious Emission					
Spectrum Analyzer	Keysight	N9010A	MY56070821	Nov. 28, 2017	1 year
Loop Antenna	ETS lindgren	6502	00213440	Dec. 7, 2017	1 year
Trilog-Broadband Antenna with 5dB Attenuator	Schwarzbeck & EMCI	VULB 9168 & N-6-05	VULB 9168-773 & AT-N0539	Feb. 12, 2018	1 year
Horn Antenna (1-18 GHz)	Schwarzbeck	BBHA 9120 D	BBHA 9120D-01686	Jan. 23, 2018	1 year
Horn Antenna(18-40 GHz)	Schwarzbeck	BBHA 9170	BBHA9170750	Jan.12, 2018	1 year
Preamplifier (30-1000 MHz)	EMCI	RMC330E	980404	Jan. 9, 2018	1 year
Preamplifier (1-18 GHz)	EMCI	EMC051835BE	980407	Jan. 10, 2018	1 year
Preamplifier (18-40GHz)	EMCI	EMC184040SEE	980408	Mar. 13, 2018	1 year
RF Cable (9 KHz~18 GHz)	UltraPhase & EMC Instrument	A1K50-UP0358-A1K50-1500&EMC106-NM-SM-2500/8000	170111-3&170104/170223	Feb. 1, 2018	1 year
RF Cable (18 GHz~40 GHz)	UltraPhase	K1K50-UP0264-K1K50-500/2500/4000	170214-3/170214-3/170214-1	Feb. 1, 2018	1 year

Test Equipment List					
Equipment	**Manufacturer**	**Model No.**	**Serial No.**	**Cal. Date**	**Cal. Interval**
Antenna Port Conducted Measurement					
Spectrum Analyzer	Keysight	N9010A	MY56070834	Nov. 20, 2017	1 year
Power meter	Anrisu	MA2411B	1531202	Dec. 14, 2017	1 year
Power sensor	Anrisu	ML2495A	1645002	Dec. 14, 2017	1 year
AC power Line Conducted Emission					
EMI Test Receiver	Rohde & Schwarz	ESR7	101753	Nov. 28, 2017	1 year
Two-Line V-Network	Rohde & Schwarz	ENV216	102136	Aug. 2, 2017	1 year
Impuls-Begrenzer Pulse Limiter	Rohde & Schwarz	ESH3-Z2	102219-Qt	July 31, 2017	1 year
Cables	Huber+Suhner	RG 214/U	FCC-BCICF-4_RF	Feb. 1, 2018	1 year

UL Software		
Description	**Name**	**Version**
Radiated measurement	EMC-RI	1.0.0.0
Conducted measurement	Keysight.TestSystem	1.0.0.0
AC power Line Conducted Emission	EZ_EMC	1.1.4.2

8. Description of Test Setup

Support Equipment

Item	Equipment	Brand Name	Model Name	S/N
1	Test Laptop	HP	TPN-C125	CND7141R3

Accessory

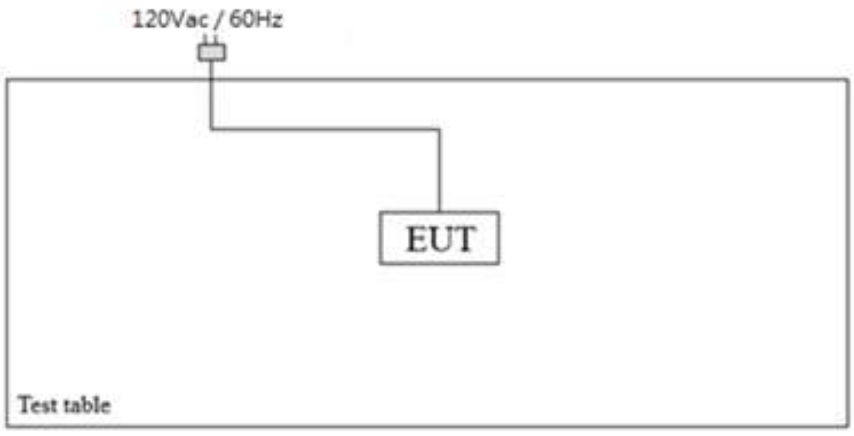
Item	Accessory	Brand Name	Model Name	Description
N/A	N/A	N/A	N/A	N/A

Test Setup

Android software version is 3.10.49-g3565efb-00022-g2243a874. This firmware was used for the WLAN module to configure parameters and additional features, including continuous data transfer, via the QRCT application.

Controlled using a bespoke application (QPST_Conn) on a test laptop PC supplied by the customer. The application was used to enable a continuous transmission mode and to select the test channels, data rates, modulation schemes and power setting as required. The power setting was set to 12 (provided by customer).

Setup Diagram for Test



9. Test Results

9.1. 6 dB Bandwidth

Requirements

The minimum 6 dB bandwidth shall be at least 500 kHz.

Test Method

FCC KDB 558074 D01v05 Section 8.2
Subclause 11.8 of ANSI C63.10

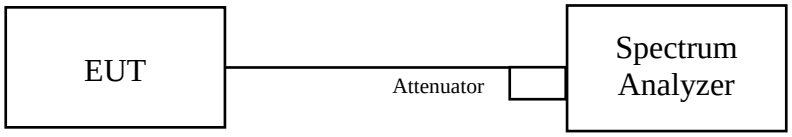
Test Date

Start Date	1 August 2018	**End Date**	1 August 2018

Test procedure

a. Set resolution bandwidth (RBW) = 100kHz
b. Set the video bandwidth (VBW) ≥ 3 x RBW, Detector = Peak.
c. Trace mode = max hold.
d. Sweep = auto couple.
e. Measure the maximum width of the emission that is constrained by the frequencies associated with the two amplitude points (upper and lower) that are attenuated by 6 dB relative to the maximum level measured in the fundamental emission

Test Setup



Test Data

802.11b

Channel	Frequency (MHz)	6 dB Bandwidth (MHz)	Minimum Limit (MHz)	Pass / Fail
1	2412	7.59	0.5	Pass
6	2437	8.04	0.5	Pass
11	2462	7.14	0.5	Pass

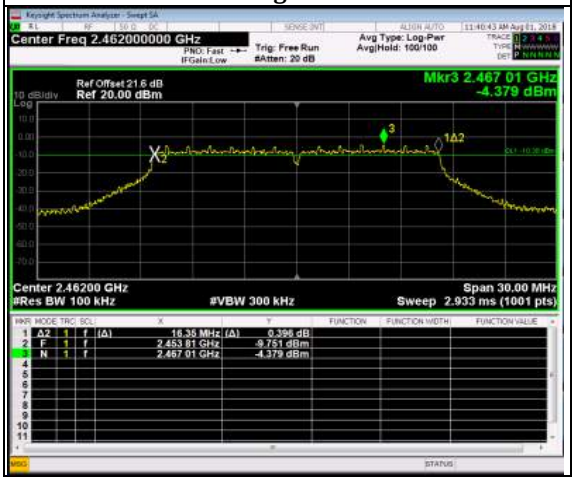
802.11g

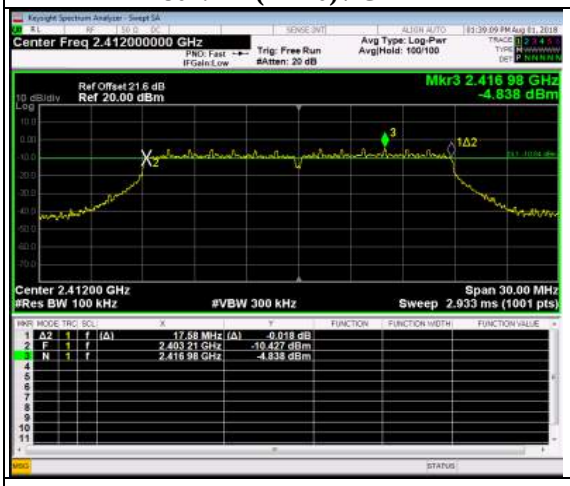
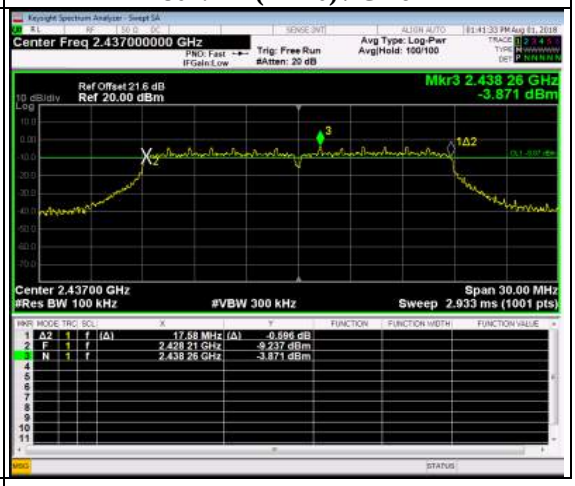
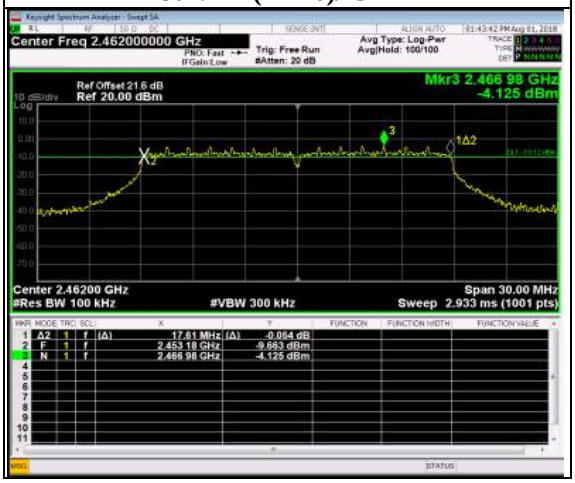
Channel	Frequency (MHz)	6 dB Bandwidth (MHz)	Minimum Limit (MHz)	Pass / Fail
1	2412	16.35	0.5	Pass
6	2437	16.38	0.5	Pass
11	2462	16.35	0.5	Pass

802.11n (HT20)

Channel	Frequency (MHz)	6 dB Bandwidth (MHz)	Minimum Limit (MHz)	Pass / Fail
1	2412	17.58	0.5	Pass
6	2437	17.58	0.5	Pass
11	2462	17.61	0.5	Pass

Spectrum Plot	
802.11b / CH1	**802.11b / CH6**
	
802.11b / CH11	
	

Spectrum Plot	
802.11g / CH1	**802.11g / CH6**
	
802.11g / CH11	
	

Spectrum Plot	
802.11n (HT20) / CH1	**802.11n (HT20) / CH6**
	
802.11n (HT20)/ CH11	
	

9.2. Conducted output power

Requirements

For systems using digital modulation in the 2400-2483.5 MHz bands: 1 Watt.

Test Method

FCC KDB 558074 D01v05 Section 8.3.2.3
Subclause 11.9.2.3 of ANSI C63.10

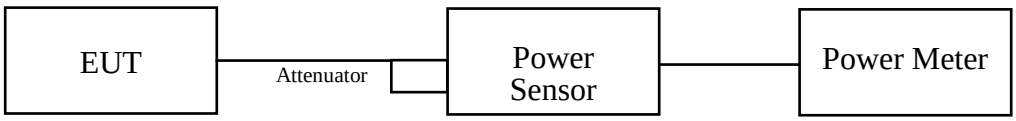
Test Date

Start Date	1 August 2018	**End Date**	1 August 2018

Test Procedure

Average power sensor was used to perform output power measurement, trigger and gating function of wide band power meter is enabled to measure max output power of TX on burst. Duty factor is not added to measured value..

Test Setup



Test Data

802.11b

Channel	Frequency (MHz)	Average Power (mW)	Average Power (dBm)	Limit (dBm)	Pass / Fail
1	2412	6.93	8.41	30	Pass
6	2437	7.23	8.59	30	Pass
11	2462	7.82	8.93	30	Pass

802.11g

Channel	Frequency (MHz)	Average Power (mW)	Average Power (dBm)	Limit (dBm)	Pass / Fail
1	2412	7.16	8.55	30	Pass
6	2437	7.46	8.73	30	Pass
11	2462	7.85	8.95	30	Pass

802.11n (HT20)

Channel	Frequency (MHz)	Average Power (mW)	Average Power (dBm)	Limit (dBm)	Pass / Fail
1	2412	7.18	8.56	30	Pass
6	2437	7.53	8.77	30	Pass
11	2462	7.93	8.99	30	Pass

9.3. Power Spectral Density

Requirements

The Maximum of Power Spectral Density Measurement is 8dBm in any 3 kHz.

Test Method

FCC KDB 558074 D01v05 Section 8.4
Subclause 11.10.2 of ANSI C63.10

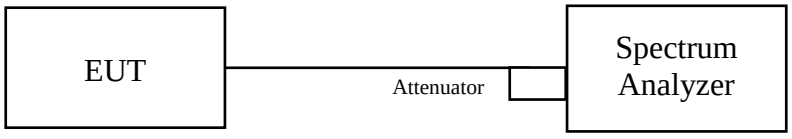
Test Date

Start Date	13 September 2018	**End Date**	13 September 2018

Test procedure

a) Set analyzer center frequency to DTS channel center frequency.
b) Set span to at least 1.5 times the DTS bandwidth.
c) Set RBW to: 3 kHz ≤ RBW ≤ 100 kHz..
d) Set VBW ≥3 x RBW.
e) Detector = peak.
f) Sweep time = auto couple.
g) Trace mode = max hold.
h) Allow trace to fully stabilize.
i) Use the peak marker function to determine the maximum amplitude level within the RBW.
j) If measured value exceeds limit, reduce RBW (no less than 3 kHz) and repeat.

Test Setup



Test Data

802.11b

Channel	Frequency (MHz)	Peak PSD (dBm/100 kHz)	Limit (dBm/3 kHz)	Pass / Fail
1	2412	0.159	8	Pass
6	2437	0.726	8	Pass
11	2462	0.260	8	Pass

Note: the measurement results were recorded using a 100 kHz RBW and are conservative when compared to the specified 8 dBm/3 kHz limit and can be considered a worse case result.

802.11g

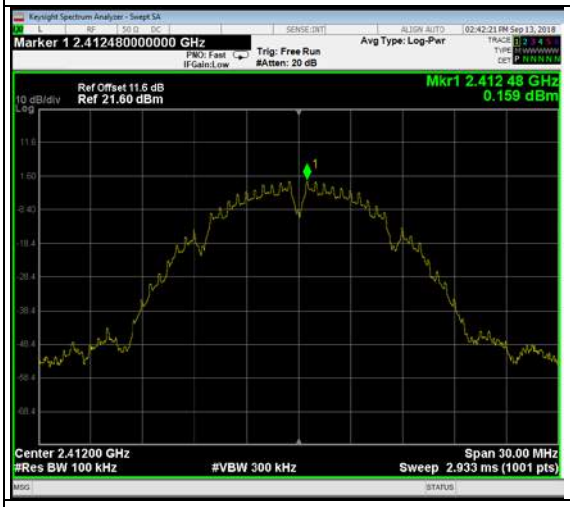
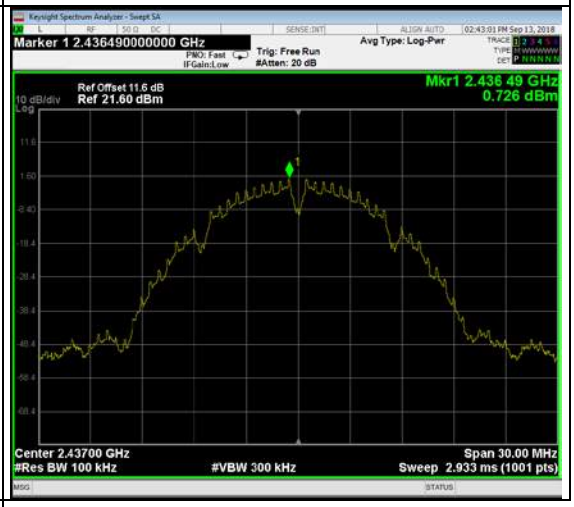
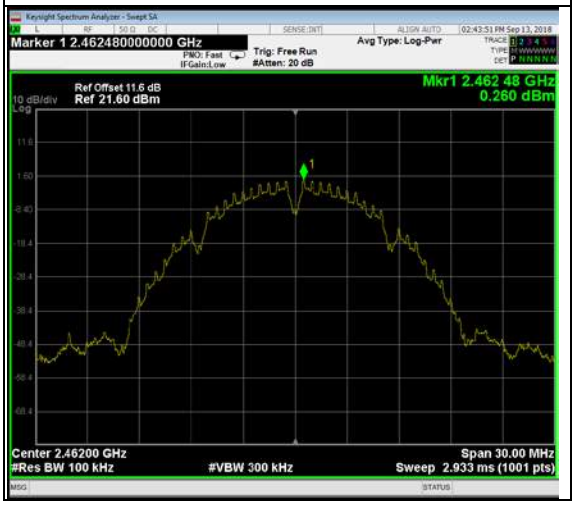
Channel	Frequency (MHz)	Peak PSD (dBm/100 kHz)	Limit (dBm/3 kHz)	Pass / Fail
1	2412	-3.432	8	Pass
6	2437	-3.012	8	Pass
11	2462	-3.106	8	Pass

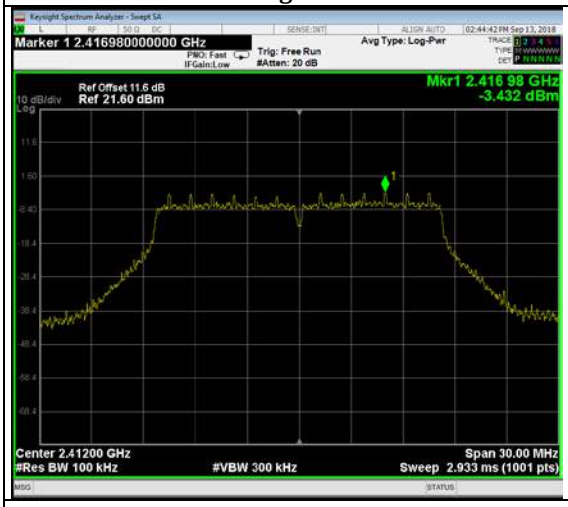
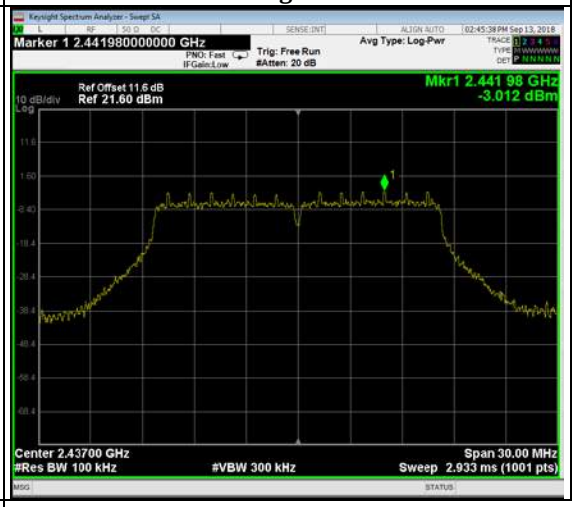
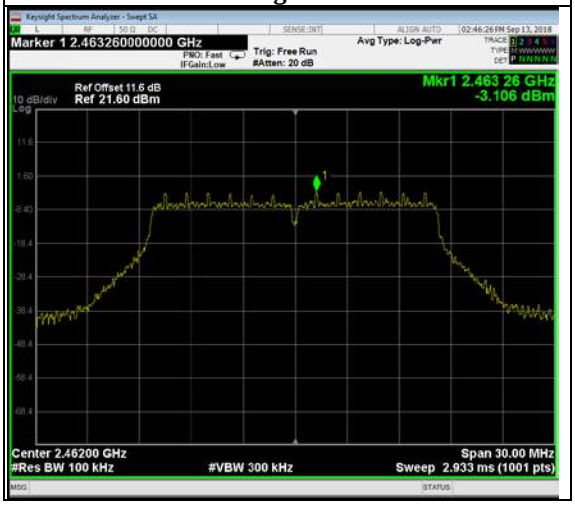
Note: the measurement results were recorded using a 100 kHz RBW and are conservative when compared to the specified 8 dBm/3 kHz limit and can be considered a worse case result.

802.11n (HT20)

Channel	Frequency (MHz)	Peak PSD (dBm/100 kHz)	Limit (dBm/3 kHz)	Pass / Fail
1	2412	-3.438	8	Pass
6	2437	-3.025	8	Pass
11	2462	-3.247	8	Pass

Note: the measurement results were recorded using a 100 kHz RBW and are conservative when compared to the specified 8 dBm/3 kHz limit and can be considered a worse case result.

Spectrum Plot	
802.11b / CH1	**802.11b / CH6**
	
802.11b / CH11	
	

Spectrum Plot	
802.11g / CH1	**802.11g / CH6**
	
802.11g / CH11	
	

Spectrum Plot	
802.11n (HT20) / CH1	**802.11n (HT20) / CH6**
	
802.11n (HT20) / CH11	
	

9.4. Conducted Out of Band Emission

Requirements

In any 100 kHz bandwidth outside the frequency band in which the spread spectrum or digitally modulated intentional radiator is operating, the radio frequency power that is produced by the intentional radiator shall be at least 20 dB below that in the 100 kHz bandwidth within the band that contains the highest level of the desired power, based on either an RF conducted or a radiated measurement, provided the transmitter demonstrates compliance with the peak conducted power limits. If the transmitter complies with the conducted power limits based on the use of RMS averaging over a time interval, as permitted under paragraph (b) (3) of this section, the attenuation required under this paragraph shall be 30 dB instead of 20 dB. Attenuation below the general limits specified in §15.209 (a) is not required.

Test Method

FCC KDB 558074 D01v05 Section 8.5
Subclause 11.11 of ANSI C63.10

Test Date

Start Date	1 August 2018	**End Date**	1 August 2018

Test procedure

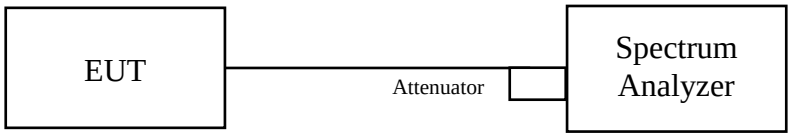
Measurement Procedure REF

1. Set the RBW = 100 kHz.
2. Set the VBW ≥ 300 kHz.
3. Detector = peak.
4. Sweep time = auto couple.
5. Trace mode = max hold.
6. Allow trace to fully stabilize.
7. Use the peak marker function to determine the maximum power level in any 100 kHz band segment within the fundamental EBW.

Measurement Procedure OOBE

1. Set RBW = 100 kHz.
2. Set VBW ≥ 300 kHz.
3. Detector = peak.
4. Sweep = auto couple.
5. Trace Mode = max hold.
6. Allow trace to fully stabilize.
7. Use the peak marker function to determine the maximum amplitude level

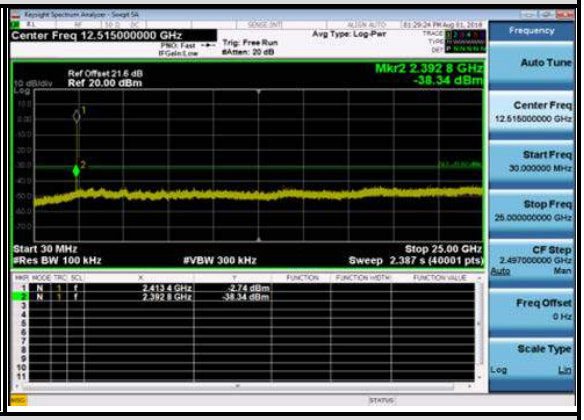
Test Setup



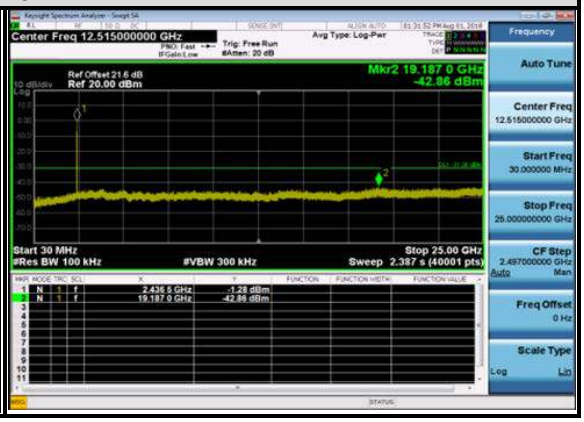
Test Data

802.11b

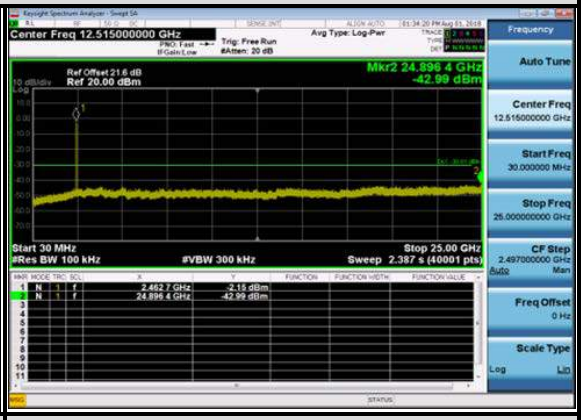
Ch 1



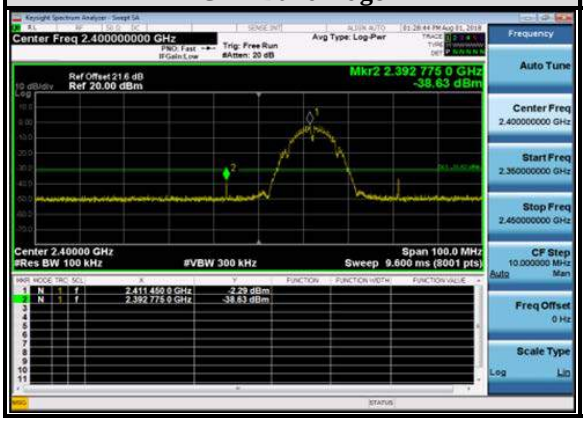
Ch 6



Ch 11



Ch 1 Band Edge

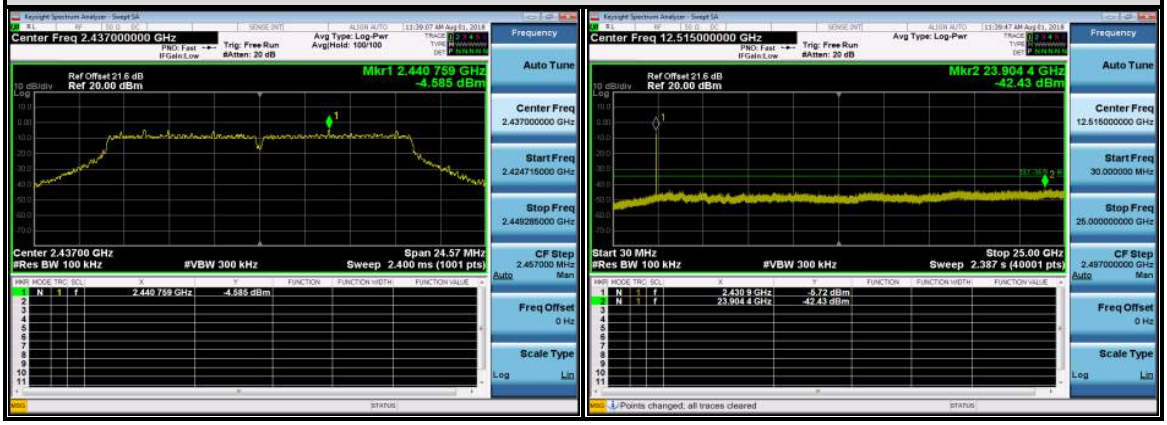


Ch 11 Band Edge

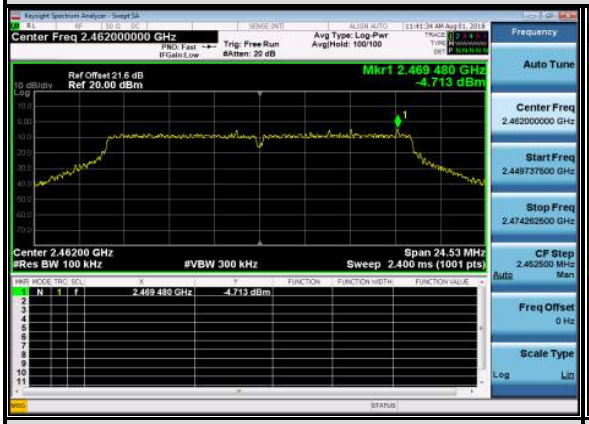
802.11g

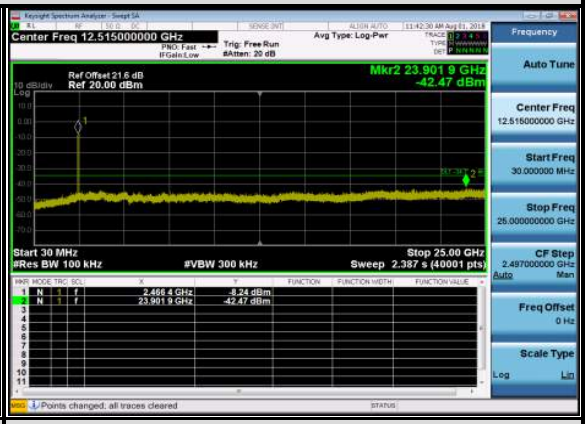
Ch 1

Ch 6

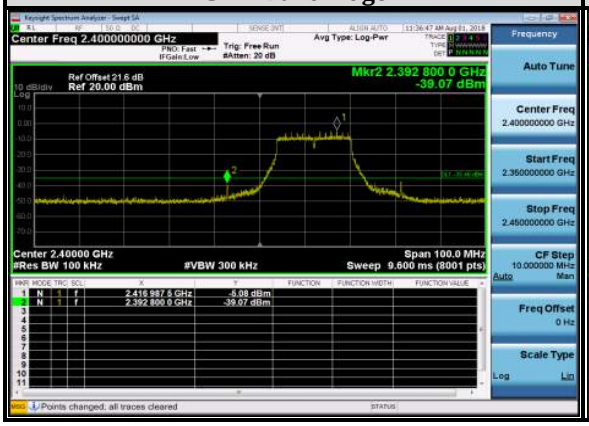


Ch 11

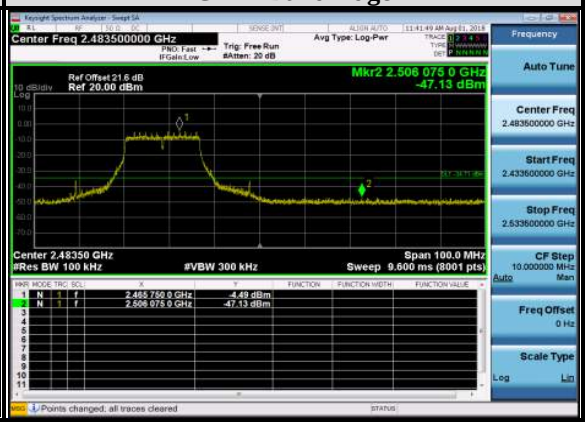




Ch 1 Band Edge



Ch 11 Band Edge

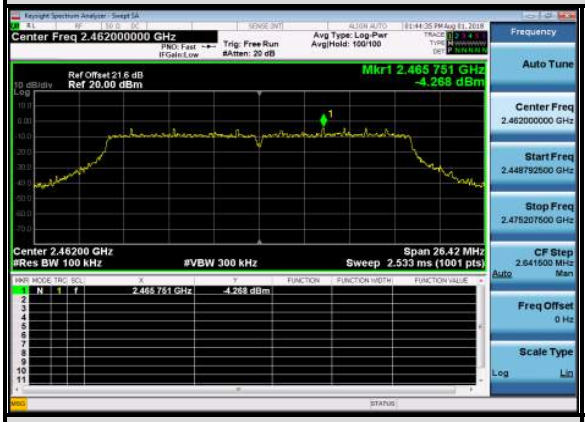


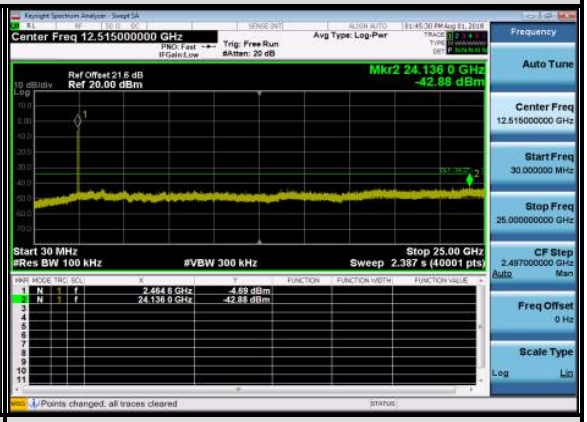
802.11n (HT20)

Ch 1

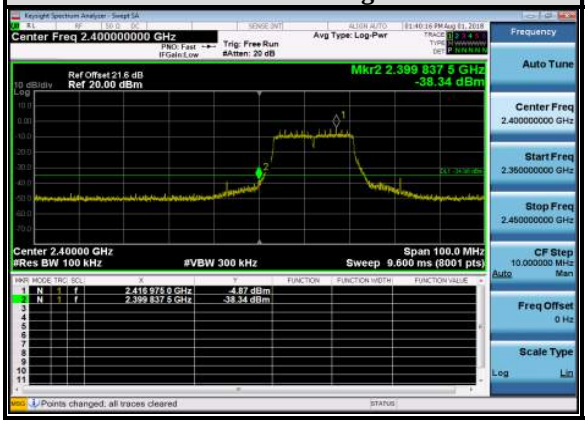
Ch 6

Ch 11

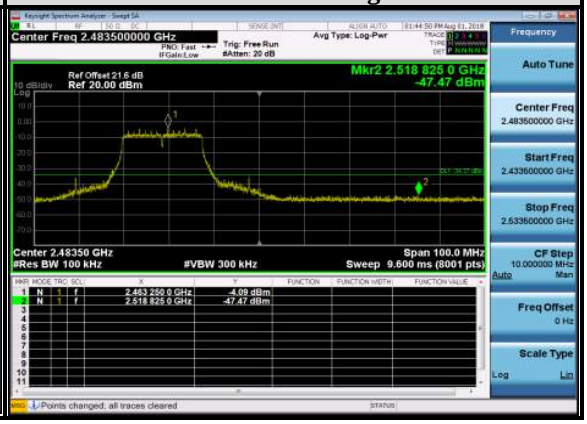




Ch 1 Band Edge



Ch 11 Band Edge



9.5. Radiated Spurious Emission

Requirements

Radiated emissions which fall in the restricted bands must comply with the radiated emission limits specified as below table. Other emissions shall be at least 30dB below the highest level of the desired power:

Frequency(MHz)	Field strength (microvolts/meter)	Measurement distance (meters)
30-88	100	3
88-216	150	3
216-960	200	3
Above 960	500	3

NOTE:
1. The lower limit shall apply at the transition frequencies.
2. Emission level (dBuV/m) = 20 log Emission level (uV/m).
3. For frequencies above 1000MHz, the field strength limits are based on average detector, however, the peak field strength of any emission shall not exceed the maximum permitted average limits, specified above by more than 20dB under any condition of modulation.

Test Method

Subclause 6.3 and 6.5 of ANSI C63.10

Test Procedures

a. The EUT was placed on the top of a rotating table 0.8 meters (for 30MHz ~ 1GHz) / 1.5 meters (for above 1GHz) above the ground at 3 meter chamber room for test. The table was rotated 360 degrees to determine the position of the highest radiation.
b. The EUT was set 3 meters away from the interference-receiving antenna, which was mounted on the top of a variable-height antenna tower.
c. The height of antenna is varied from one meter to four meters above the ground to determine the maximum value of the field strength. Both horizontal and vertical polarizations of the antenna are set to make the measurement.
d. For each suspected emission, the EUT was arranged to its worst case and then the antenna was tuned to heights from 1 meter to 4 meters and the rotatable table was turned from 0 degrees to 360 degrees to find the maximum reading.
e. For measurement below 1GHz, the initial step in collecting conducted emission data is a spectrum analyzer peak detector mode pre-scanning the measurement frequency range. Significant peaks are then marked and then Quasi Peak detector mode re-measured. If the emission level of the EUT measured by the peak detector is 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.
f. The test-receiver system was set to peak and average detects function and specified bandwidth with maximum hold mode when the test frequency is above 1 GHz. If the peak reading value also meets average limit, measurement with the average detector is unnecessary.

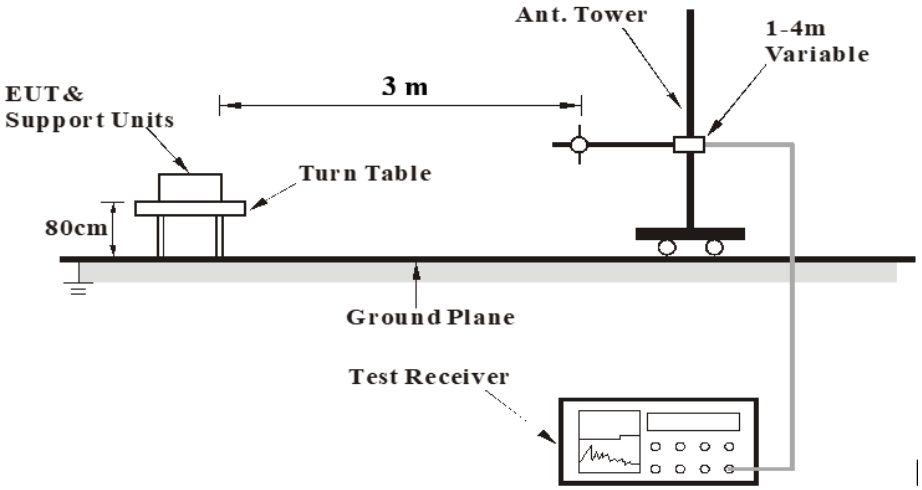
Note:

a. The resolution bandwidth and video bandwidth of test receiver/spectrum analyzer is 120kHz for Quasi-peak detection (QP) at frequency below 1GHz.
b. The resolution bandwidth of test receiver/spectrum analyzer is 1 MHz and the video bandwidth is 3 MHz for Peak detection (PK) at frequency above 1GHz.
c. The resolution bandwidth of test receiver/spectrum analyzer is 1MHz and the video bandwidth is ≥ 1/T (Duty cycle < 98%) or 10Hz (Duty cycle ≥ 98%) for Average detection (AV) at frequency above 1GHz.
d. All modes of operation were investigated and the worst-case emissions are reported.
e. Radiated emissions test plots of Band Edge and above 1GHz refer to Appendix I & II.
f. The actual setting at above 1GHz of resolution bandwidth and video bandwidth as below shown:

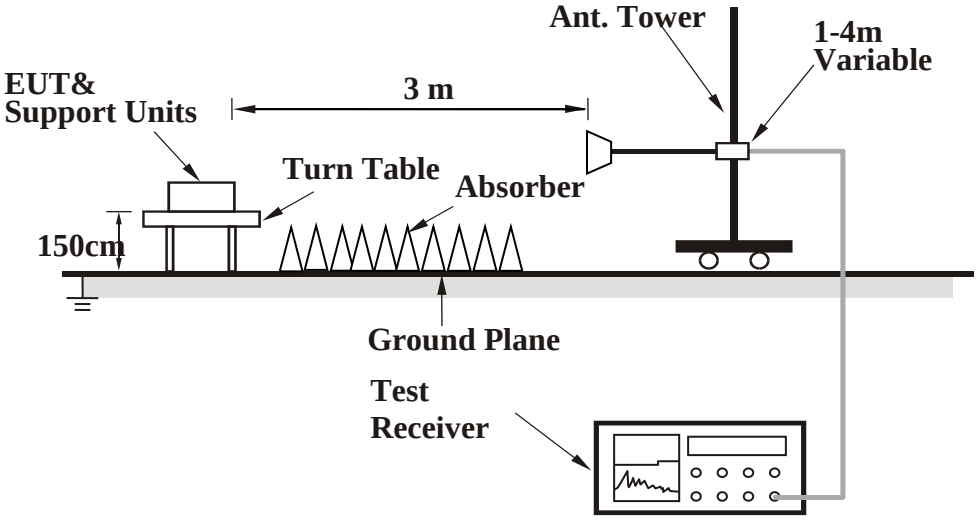
<table>
<tr><th colspan="4">Test Setting</th></tr>
<tr><td>Band edge emissions</td><td colspan="3">RBW / VBW</td></tr>
<tr><td>(Non-restricted Band)</td><td colspan="3">100k / 300k</td></tr>
<tr><td rowspan="4">(Restricted Band)</td><td>Mode</td><td>Average</td><td>Peak</td></tr>
<tr><td>802.11b</td><td>1M / 1k</td><td rowspan="3">1M / 3M</td></tr>
<tr><td>802.11g</td><td>1M / 1k</td></tr>
<tr><td>802.11n(HT20)</td><td>1M / 1k</td></tr>
</table>

Test Setup

<Frequency Range 30 MHz ~ 1 GHz >



<Frequency Range above 1 GHz>



For the actual test configuration, please refer to the Appendix III.

Test Data

Above 1GHz Data :

802.11b

EUT Test Condition		Measurement Detail	
Channel	Channel 1	**Frequency Range**	1 GHz ~ 25 GHz

Antenna Polarity & Test Distance: Horizontal at 3 m							
Notation	**Frequency**	**Reading**	**Correct**	**Result**	**Limit**	**Margin**	**Remark**
	(MHz)	**(dBuV/m)**	**dB/m**	**(dBuV/m)**	**(dBuV/m)**	**(dB)**	
-	2388.200	56.37	-8.46	47.91	74.00	-26.09	peak
@	2412.000	100.46	-8.49	91.97	-	-	peak
-	2375.800	44.00	-8.46	35.54	54.00	-18.46	AVG
@	2412.000	97.24	-8.49	88.75	-	-	AVG
-	1484.800	65.53	-11.31	54.22	74.00	-19.78	peak
-	1484.800	56.49	-11.31	45.18	54.00	-8.82	AVG
#	2970.400	65.50	-7.47	58.03	61.97	-3.94	peak
#	4453.600	55.59	-5.20	50.39	61.97	-11.58	peak
-	4824.000	44.40	-4.36	40.04	74.00	-33.96	peak
#	5939.200	47.58	-2.75	44.83	61.97	-17.14	peak
Antenna Polarity & Test Distance: Vertical at 3 m							
Notation	**Frequency**	**Reading**	**Correct**	**Result**	**Limit**	**Margin**	**Remark**
	(MHz)	**(dBuV/m)**	**dB/m**	**(dBuV/m)**	**(dBuV/m)**	**(dB)**	
-	2375.800	56.03	-8.46	47.57	74.00	-26.43	peak
@	2412.000	98.25	-8.49	89.76	-	-	peak
-	2376.000	45.10	-8.46	36.64	54.00	-17.36	AVG
@	2412.000	94.86	-8.49	86.37	-	-	AVG
-	1484.800	67.84	-11.31	56.53	74.00	-17.47	peak
-	1484.800	58.44	-11.31	47.13	54.00	-6.87	AVG
#	2970.400	64.86	-7.47	57.39	59.76	-2.37	peak
#	4455.200	57.92	-5.20	52.72	59.76	-7.04	peak
-	4824.000	44.82	-4.36	40.46	74.00	-33.54	peak
#	5940.000	50.33	-2.74	47.59	59.76	-12.17	peak

Remarks:

1. Result value (dBuV/m) = Reading value (dBuV/m) + Correction Factor (dB/m).
2. Margin(dB) = Result value (dBuV/m) - Limit value (dBuV/m).
3. Correction Factor (dB/m) = Antenna Factor (dBuV/m) + Cable Loss (dB) - Preamp Factor (dB).
4. "@": Fundamental Frequency.
5. " # ": The radiated frequency is out of the restricted band.
6. The other emission levels were very low against the limit.

EUT Test Condition		Measurement Detail	
Channel	Channel 6	**Frequency Range**	1 GHz ~ 25 GHz

Antenna Polarity & Test Distance: Horizontal at 3 m							
Notation	**Frequency**	**Reading**	**Correct**	**Result**	**Limit**	**Margin**	**Remark**
	(MHz)	**(dBuV/m)**	**dB/m**	**(dBuV/m)**	**(dBuV/m)**	**(dB)**	
-	2314.600	55.94	-8.41	47.53	74.00	-26.47	peak
@	2437.000	100.17	-8.50	91.67	-	-	peak
-	2486.600	55.38	-8.55	46.83	74.00	-27.17	peak
-	2359.400	43.58	-8.44	35.14	54.00	-18.86	AVG
@	2437.000	97.07	-8.50	88.57	-	-	AVG
-	2494.400	43.08	-8.55	34.53	54.00	-19.47	AVG
-	1484.800	65.47	-11.31	54.16	74.00	-19.84	peak
-	1484.800	56.35	-11.31	45.04	54.00	-8.96	AVG
#	2969.600	66.14	-7.47	58.67	61.67	-3.00	peak
#	4454.400	54.85	-5.20	49.65	61.67	-12.02	peak
-	4874.000	44.54	-4.24	40.30	74.00	-33.70	peak
#	5940.000	47.53	-2.74	44.79	61.67	-16.88	peak
Antenna Polarity & Test Distance: Vertical at 3 m							
Notation	**Frequency**	**Reading**	**Correct**	**Result**	**Limit**	**Margin**	**Remark**
	(MHz)	**(dBuV/m)**	**dB/m**	**(dBuV/m)**	**(dBuV/m)**	**(dB)**	
-	2354.800	55.79	-8.44	47.35	74.00	-26.65	peak
@	2437.000	99.52	-8.50	91.02	-	-	peak
-	2483.500	55.79	-8.55	47.24	74.00	-26.76	peak
-	2376.000	44.38	-8.46	35.92	54.00	-18.08	AVG
@	2437.000	96.28	-8.50	87.78	-	-	AVG
-	2494.000	43.03	-8.55	34.48	54.00	-19.52	AVG
-	1484.800	67.49	-11.31	56.18	74.00	-17.82	peak
-	1484.800	57.97	-11.31	46.66	54.00	-7.34	AVG
#	2969.600	64.82	-7.47	57.35	61.02	-3.67	peak
#	4456.000	57.68	-5.20	52.48	61.02	-8.54	peak
-	4874.000	46.03	-4.24	41.79	74.00	-32.21	peak
#	5940.000	49.47	-2.74	46.73	61.02	-14.29	peak

Remarks:

1. Result value (dBuV/m) = Reading value (dBuV/m) + Correction Factor (dB/m).
2. Margin(dB) = Result value (dBuV/m) - Limit value (dBuV/m).
3. Correction Factor (dB/m) = Antenna Factor (dBuV/m) + Cable Loss (dB) - Preamp Factor (dB).
4. "@": Fundamental Frequency.
5. " # ": The radiated frequency is out of the restricted band.
6. The other emission levels were very low against the limit.

EUT Test Condition		Measurement Detail	
Channel	Channel 11	**Frequency Range**	1 GHz ~ 25 GHz

Antenna Polarity & Test Distance: Horizontal at 3 m							
Notation	**Frequency**	**Reading**	**Correct**	**Result**	**Limit**	**Margin**	**Remark**
	(MHz)	**(dBuV/m)**	**dB/m**	**(dBuV/m)**	**(dBuV/m)**	**(dB)**	
@	2462.000	100.87	-8.53	92.34	-	-	peak
-	2492.800	56.77	-8.55	48.22	74.00	-25.78	peak
@	2462.000	97.67	-8.53	89.14	-	-	AVG
-	2495.600	45.29	-8.55	36.74	54.00	-17.26	AVG
-	1485.600	65.35	-11.31	54.04	74.00	-19.96	peak
-	1485.600	55.83	-11.31	44.52	54.00	-9.48	AVG
#	2969.600	65.92	-7.47	58.45	62.34	-3.89	peak
#	4454.400	53.79	-5.20	48.59	62.34	-13.75	peak
-	4924.000	46.19	-4.13	42.06	74.00	-31.94	peak
#	5940.000	46.68	-2.74	43.94	62.34	-18.40	peak
Antenna Polarity & Test Distance: Vertical at 3 m							
Notation	**Frequency**	**Reading**	**Correct**	**Result**	**Limit**	**Margin**	**Remark**
	(MHz)	**(dBuV/m)**	**dB/m**	**(dBuV/m)**	**(dBuV/m)**	**(dB)**	
@	2462.000	99.14	-8.53	90.61	-	-	peak
-	2491.200	56.51	-8.54	47.97	74.00	-26.03	peak
@	2462.000	95.80	-8.53	87.27	-	-	AVG
-	2491.400	43.69	-8.54	35.15	54.00	-18.85	AVG
-	1484.800	67.76	-11.31	56.45	74.00	-17.55	peak
-	1484.800	57.90	-11.31	46.59	54.00	-7.41	AVG
#	2970.400	64.99	-7.47	57.52	60.61	-3.09	peak
#	4454.400	57.86	-5.20	52.66	60.61	-7.95	peak
-	4924.000	46.71	-4.13	42.58	74.00	-31.42	peak
#	5940.000	50.49	-2.74	47.75	60.61	-12.86	peak

Remarks:

1. Result value (dBuV/m) = Reading value (dBuV/m) + Correction Factor (dB/m).
2. Margin(dB) = Result value (dBuV/m) - Limit value (dBuV/m).
3. Correction Factor (dB/m) = Antenna Factor (dBuV/m) + Cable Loss (dB) - Preamp Factor (dB).
4. "@": Fundamental Frequency.
5. " # ": The radiated frequency is out of the restricted band.
6. The other emission levels were very low against the limit.

802.11g

EUT Test Condition		Measurement Detail	
Channel	Channel 1	**Frequency Range**	1 GHz ~ 25 GHz

Antenna Polarity & Test Distance: Horizontal at 3 m							
Notation	**Frequency**	**Reading**	**Correct**	**Result**	**Limit**	**Margin**	**Remark**
	(MHz)	**(dBuV/m)**	**dB/m**	**(dBuV/m)**	**(dBuV/m)**	**(dB)**	
-	2390.000	62.16	-8.47	53.69	74.00	-20.31	peak
@	2412.000	101.97	-8.49	93.48	-	-	peak
-	2390.000	45.71	-8.47	37.24	54.00	-16.76	AVG
@	2412.000	92.04	-8.49	83.55	-	-	AVG
-	1484.800	65.39	-11.31	54.08	74.00	-19.92	peak
-	1484.800	55.77	-11.31	44.46	54.00	-9.54	AVG
#	2969.600	66.28	-7.47	58.81	63.48	-4.67	peak
#	4454.400	56.79	-5.20	51.59	63.48	-11.89	peak
-	4824.000	43.15	-4.36	38.79	74.00	-35.21	peak
#	5939.200	48.21	-2.75	45.46	63.48	-18.02	peak
Antenna Polarity & Test Distance: Vertical at 3 m							
Notation	**Frequency**	**Reading**	**Correct**	**Result**	**Limit**	**Margin**	**Remark**
	(MHz)	**(dBuV/m)**	**dB/m**	**(dBuV/m)**	**(dBuV/m)**	**(dB)**	
-	2389.800	58.60	-8.47	50.13	74.00	-23.87	peak
@	2412.000	99.71	-8.49	91.22	-	-	peak
-	2375.800	45.06	-8.46	36.60	54.00	-17.40	AVG
@	2412.000	90.33	-8.49	81.84	-	-	AVG
-	1484.800	67.26	-11.31	55.95	74.00	-18.05	peak
-	1484.800	57.94	-11.31	46.63	54.00	-7.37	AVG
#	2969.600	65.38	-7.47	57.91	61.22	-3.31	peak
#	4454.400	57.87	-5.20	52.67	61.22	-8.55	peak
-	4824.000	45.32	-4.36	40.96	74.00	-33.04	peak
#	5940.000	48.44	-2.74	45.70	61.22	-15.52	peak

Remarks:

1. Result value (dBuV/m) = Reading value (dBuV/m) + Correction Factor (dB/m).
2. Margin(dB) = Result value (dBuV/m) - Limit value (dBuV/m).
3. Correction Factor (dB/m) = Antenna Factor (dBuV/m) + Cable Loss (dB) - Preamp Factor (dB).
4. "@": Fundamental Frequency.
5. " # ": The radiated frequency is out of the restricted band.
6. The other emission levels were very low against the limit.

EUT Test Condition		Measurement Detail	
Channel	Channel 6	**Frequency Range**	1 GHz ~ 25 GHz

Antenna Polarity & Test Distance: Horizontal at 3 m							
Notation	**Frequency**	**Reading**	**Correct**	**Result**	**Limit**	**Margin**	**Remark**
	(MHz)	**(dBuV/m)**	**dB/m**	**(dBuV/m)**	**(dBuV/m)**	**(dB)**	
-	2382.000	55.70	-8.46	47.24	74.00	-26.76	peak
@	2437.000	102.48	-8.50	93.98	-	-	peak
-	2490.400	55.33	-8.55	46.78	74.00	-27.22	peak
-	2384.800	43.46	-8.46	35.00	54.00	-19.00	AVG
@	2437.000	92.99	-8.50	84.49	-	-	AVG
-	2489.600	43.93	-8.55	35.38	54.00	-18.62	AVG
-	1484.800	65.53	-11.31	54.22	74.00	-19.78	peak
-	1484.800	55.90	-11.31	44.59	54.00	-9.41	AVG
#	2969.600	66.43	-7.47	58.96	63.98	-5.02	peak
#	4455.200	56.51	-5.20	51.31	63.98	-12.67	peak
-	4874.000	46.10	-4.24	41.86	74.00	-32.14	peak
#	5940.000	47.51	-2.74	44.77	63.98	-19.21	peak
Antenna Polarity & Test Distance: Vertical at 3 m							
Notation	**Frequency**	**Reading**	**Correct**	**Result**	**Limit**	**Margin**	**Remark**
	(MHz)	**(dBuV/m)**	**dB/m**	**(dBuV/m)**	**(dBuV/m)**	**(dB)**	
-	2354.800	55.78	-8.44	47.34	74.00	-26.66	peak
@	2437.000	101.24	-8.50	92.74	-	-	peak
-	2489.800	56.86	-8.55	48.31	74.00	-25.69	peak
-	2375.800	44.82	-8.46	36.36	54.00	-17.64	AVG
@	2437.000	91.20	-8.50	82.70	-	-	AVG
-	2489.400	43.90	-8.55	35.35	54.00	-18.65	AVG
-	1484.800	67.40	-11.31	56.09	74.00	-17.91	peak
-	1484.800	57.88	-11.31	46.57	54.00	-7.43	AVG
#	2970.400	65.50	-7.47	58.03	62.74	-4.71	peak
#	4454.400	57.48	-5.20	52.28	62.74	-10.46	peak
-	4874.000	45.04	-4.24	40.80	74.00	-33.20	peak
#	5939.200	49.46	-2.75	46.71	62.74	-16.03	peak

Remarks:

1. Result value (dBuV/m) = Reading value (dBuV/m) + Correction Factor (dB/m).
2. Margin(dB) = Result value (dBuV/m) - Limit value (dBuV/m).
3. Correction Factor (dB/m) = Antenna Factor (dBuV/m) + Cable Loss (dB) - Preamp Factor (dB).
4. "@": Fundamental Frequency.
5. " # ": The radiated frequency is out of the restricted band.
6. The other emission levels were very low against the limit.

EUT Test Condition		Measurement Detail	
Channel	Channel 11	**Frequency Range**	1 GHz ~ 25 GHz

Antenna Polarity & Test Distance: Horizontal at 3 m							
Notation	**Frequency**	**Reading**	**Correct**	**Result**	**Limit**	**Margin**	**Remark**
	(MHz)	**(dBuV/m)**	**dB/m**	**(dBuV/m)**	**(dBuV/m)**	**(dB)**	
@	2462.000	102.56	-8.53	94.03	-	-	peak
-	2483.500	64.43	-8.55	55.88	74.00	-18.12	peak
@	2462.000	91.78	-8.53	83.25	-	-	AVG
-	2483.500	46.43	-8.55	37.88	54.00	-16.12	AVG
-	1485.600	65.37	-11.31	54.06	74.00	-19.94	peak
-	1485.600	55.82	-11.31	44.51	54.00	-9.49	AVG
#	2969.600	66.23	-7.47	58.76	64.03	-5.27	peak
#	4454.400	56.47	-5.20	51.27	64.03	-12.76	peak
-	4924.000	45.40	-4.13	41.27	74.00	-32.73	peak
#	5939.200	47.87	-2.75	45.12	64.03	-18.91	peak
Antenna Polarity & Test Distance: Vertical at 3 m							
Notation	**Frequency**	**Reading**	**Correct**	**Result**	**Limit**	**Margin**	**Remark**
	(MHz)	**(dBuV/m)**	**dB/m**	**(dBuV/m)**	**(dBuV/m)**	**(dB)**	
@	2462.000	99.84	-8.53	91.31	-	-	peak
-	2483.500	61.74	-8.55	53.19	74.00	-20.81	peak
@	2462.000	90.16	-8.53	81.63	-	-	AVG
-	2483.500	46.89	-8.55	38.34	54.00	-15.66	AVG
-	1484.800	67.50	-11.31	56.19	74.00	-17.81	peak
-	1484.800	57.94	-11.31	46.63	54.00	-7.37	AVG
#	2970.400	65.43	-7.47	57.96	61.31	-3.35	peak
#	4455.200	57.87	-5.20	52.67	61.31	-8.64	peak
-	4924.000	45.66	-4.13	41.53	74.00	-32.47	peak
#	5938.400	50.67	-2.75	47.92	61.31	-13.39	peak

Remarks:

1. Result value (dBuV/m) = Reading value (dBuV/m) + Correction Factor (dB/m).
2. Margin(dB) = Result value (dBuV/m) - Limit value (dBuV/m).
3. Correction Factor (dB/m) = Antenna Factor (dBuV/m) + Cable Loss (dB) - Preamp Factor (dB).
4. "@": Fundamental Frequency.
5. " # ": The radiated frequency is out of the restricted band.
6. The other emission levels were very low against the limit.

802.11n (HT-20)

EUT Test Condition		Measurement Detail	
Channel	Channel 1	**Frequency Range**	1 GHz ~ 25 GHz

Antenna Polarity & Test Distance: Horizontal at 3 m							
Notation	**Frequency**	**Reading**	**Correct**	**Result**	**Limit**	**Margin**	**Remark**
	(MHz)	**(dBuV/m)**	**dB/m**	**(dBuV/m)**	**(dBuV/m)**	**(dB)**	
-	2390.000	64.89	-8.47	56.42	74.00	-17.58	peak
@	2412.000	101.66	-8.49	93.17	-	-	peak
-	2390.000	47.65	-8.47	39.18	54.00	-14.82	AVG
@	2412.000	91.87	-8.49	83.38	-	-	AVG
-	1484.800	65.39	-11.31	54.08	74.00	-19.92	peak
-	1484.800	55.87	-11.31	44.56	54.00	-9.44	AVG
#	2969.600	66.07	-7.47	58.60	63.17	-4.57	peak
#	4454.400	56.26	-5.20	51.06	63.17	-12.11	peak
-	4824.000	44.31	-4.36	39.95	74.00	-34.05	peak
#	5939.200	46.58	-2.75	43.83	63.17	-19.34	peak
Antenna Polarity & Test Distance: Vertical at 3 m							
Notation	**Frequency**	**Reading**	**Correct**	**Result**	**Limit**	**Margin**	**Remark**
	(MHz)	**(dBuV/m)**	**dB/m**	**(dBuV/m)**	**(dBuV/m)**	**(dB)**	
-	2390.000	63.33	-8.47	54.86	74.00	-19.14	peak
@	2412.000	99.82	-8.49	91.33	-	-	peak
-	2390.000	45.72	-8.47	37.25	54.00	-16.75	AVG
@	2412.000	90.05	-8.49	81.56	-	-	AVG
-	1484.800	67.28	-11.31	55.97	74.00	-18.03	peak
-	1484.800	57.92	-11.31	46.61	54.00	-7.39	AVG
#	2970.400	65.00	-7.47	57.53	61.33	-3.80	peak
#	4454.400	58.00	-5.20	52.80	61.33	-8.53	peak
-	4824.000	44.91	-4.36	40.55	74.00	-33.45	peak
#	5939.200	49.52	-2.75	46.77	61.33	-14.56	peak

Remarks:

1. Result value (dBuV/m) = Reading value (dBuV/m) + Correction Factor (dB/m).
2. Margin(dB) = Result value (dBuV/m) - Limit value (dBuV/m).
3. Correction Factor (dB/m) = Antenna Factor (dBuV/m) + Cable Loss (dB) - Preamp Factor (dB).
4. "@": Fundamental Frequency.
5. " # ": The radiated frequency is out of the restricted band.
6. The other emission levels were very low against the limit.

EUT Test Condition		Measurement Detail	
Channel	Channel 6	**Frequency Range**	1 GHz ~ 25 GHz

Antenna Polarity & Test Distance: Horizontal at 3 m							
Notation	**Frequency**	**Reading**	**Correct**	**Result**	**Limit**	**Margin**	**Remark**
	(MHz)	**(dBuV/m)**	**dB/m**	**(dBuV/m)**	**(dBuV/m)**	**(dB)**	
-	2383.400	56.08	-8.47	47.61	74.00	-26.39	peak
@	2437.000	102.74	-8.50	94.24	-	-	peak
-	2489.000	56.40	-8.54	47.86	74.00	-26.14	peak
-	2385.000	43.87	-8.46	35.41	54.00	-18.59	AVG
@	2437.000	92.54	-8.50	84.04	-	-	AVG
-	2489.000	44.51	-8.54	35.97	54.00	-18.03	AVG
-	1484.800	65.49	-11.31	54.18	74.00	-19.82	peak
-	1484.800	55.89	-11.31	44.58	54.00	-9.42	AVG
#	2969.600	66.11	-7.47	58.64	64.24	-5.60	peak
#	4454.400	56.09	-5.20	50.89	64.24	-13.35	peak
-	4874.000	46.36	-4.24	42.12	74.00	-31.88	peak
#	5939.200	46.57	-2.75	43.82	64.24	-20.42	peak
Antenna Polarity & Test Distance: Vertical at 3 m							
Notation	**Frequency**	**Reading**	**Correct**	**Result**	**Limit**	**Margin**	**Remark**
	(MHz)	**(dBuV/m)**	**dB/m**	**(dBuV/m)**	**(dBuV/m)**	**(dB)**	
-	2343.600	56.45	-8.44	48.01	74.00	-25.99	peak
@	2437.000	101.63	-8.50	93.13	-	-	peak
-	2485.800	56.39	-8.54	47.85	74.00	-26.15	peak
-	2375.800	44.99	-8.46	36.53	54.00	-17.47	AVG
@	2437.000	90.95	-8.50	82.45	-	-	AVG
-	2489.200	43.85	-8.54	35.31	54.00	-18.69	AVG
-	1484.800	67.49	-11.31	56.18	74.00	-17.82	peak
-	1484.800	58.01	-11.31	46.70	54.00	-7.30	AVG
#	2970.400	65.42	-7.47	57.95	63.13	-5.18	peak
#	4455.200	58.34	-5.20	53.14	63.13	-9.99	peak
-	4874.000	45.51	-4.24	41.27	74.00	-32.73	peak
#	5939.200	50.66	-2.75	47.91	63.13	-15.22	peak

Remarks:

1. Result value (dBuV/m) = Reading value (dBuV/m) + Correction Factor (dB/m).
2. Margin(dB) = Result value (dBuV/m) - Limit value (dBuV/m).
3. Correction Factor (dB/m) = Antenna Factor (dBuV/m) + Cable Loss (dB) - Preamp Factor (dB).
4. "@": Fundamental Frequency.
5. " # ": The radiated frequency is out of the restricted band.
6. The other emission levels were very low against the limit.

EUT Test Condition		Measurement Detail	
Channel	Channel 11	**Frequency Range**	1 GHz ~ 25 GHz

Antenna Polarity & Test Distance: Horizontal at 3 m							
Notation	**Frequency**	**Reading**	**Correct**	**Result**	**Limit**	**Margin**	**Remark**
	(MHz)	**(dBuV/m)**	**dB/m**	**(dBuV/m)**	**(dBuV/m)**	**(dB)**	
@	2462.000	101.16	-8.53	92.63	-	-	peak
-	2483.500	66.92	-8.55	58.37	74.00	-15.63	peak
@	2462.000	91.53	-8.53	83.00	-	-	AVG
-	2483.500	47.85	-8.55	39.30	54.00	-14.70	AVG
-	1484.800	65.38	-11.31	54.07	74.00	-19.93	peak
-	1484.800	55.79	-11.31	44.48	54.00	-9.52	AVG
#	2969.600	66.11	-7.47	58.64	62.63	-3.99	peak
#	4455.200	55.27	-5.20	50.07	62.63	-12.56	peak
-	4924.000	44.37	-4.13	40.24	74.00	-33.76	peak
#	5939.200	47.31	-2.75	44.56	62.63	-18.07	peak
Antenna Polarity & Test Distance: Vertical at 3 m							
Notation	**Frequency**	**Reading**	**Correct**	**Result**	**Limit**	**Margin**	**Remark**
	(MHz)	**(dBuV/m)**	**dB/m**	**(dBuV/m)**	**(dBuV/m)**	**(dB)**	
@	2462.000	99.63	-8.53	91.10	-	-	peak
-	2483.500	64.07	-8.55	55.52	74.00	-18.48	peak
@	2462.000	89.87	-8.53	81.34	-	-	AVG
-	2483.500	46.67	-8.55	38.12	54.00	-15.88	AVG
-	1484.800	67.42	-11.31	56.11	74.00	-17.89	peak
-	1484.800	57.81	-11.31	46.50	54.00	-7.50	AVG
#	2969.600	64.52	-7.47	57.05	61.10	-4.05	peak
#	4454.400	58.16	-5.20	52.96	61.10	-8.14	peak
-	4924.000	45.11	-4.13	40.98	74.00	-33.02	peak
#	5939.200	49.44	-2.75	46.69	61.10	-14.41	peak

Remarks:

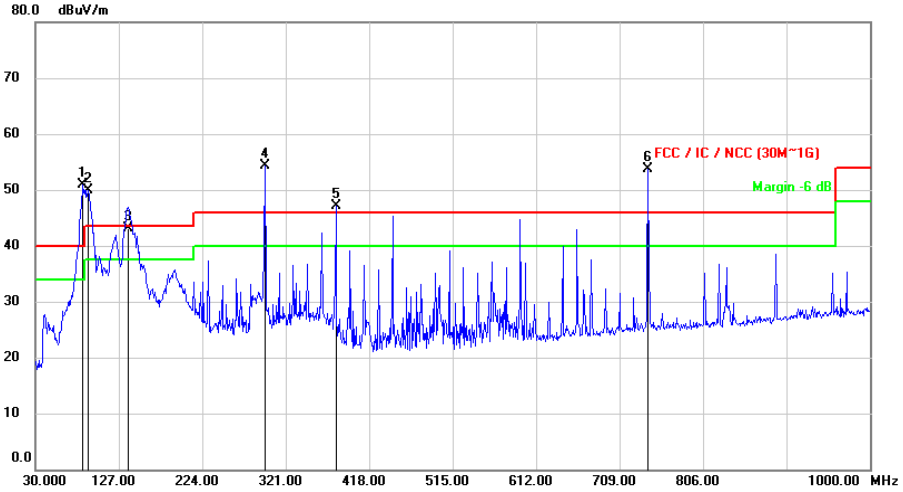
1. Result value (dBuV/m) = Reading value (dBuV/m) + Correction Factor (dB/m).
2. Margin(dB) = Result value (dBuV/m) - Limit value (dBuV/m).
3. Correction Factor (dB/m) = Antenna Factor (dBuV/m) + Cable Loss (dB) - Preamp Factor (dB).
4. "@": Fundamental Frequency.
5. " # ": The radiated frequency is out of the restricted band.
6. The other emission levels were very low against the limit.

Below 1GHz Data：

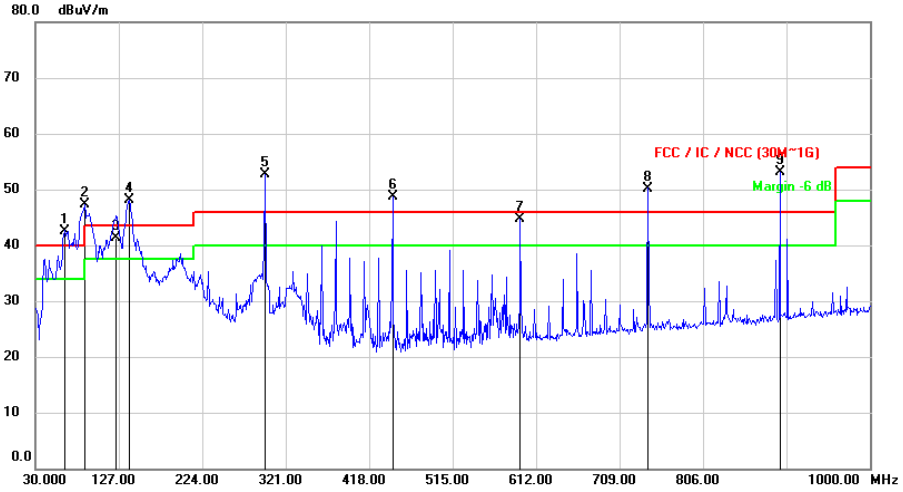
802.11b

EUT Test Condition		Measurement Detail	
Channel	Channel 1	**Frequency Range**	30 MHz ~ 1 GHz

Horizontal



Vertical



Antenna Polarity & Test Distance: Horizontal at 3 m							
Notation	**Frequency**	**Reading**	**Correct**	**Result**	**Limit**	**Margin**	**Remark**
	(MHz)	**(dBuV/m)**	**dB/m**	**(dBuV/m)**	**(dBuV/m)**	**(dB)**	
#	85.8072	71.77	-20.91	50.86	61.97	-11.11	peak
#	91.2393	71.48	-21.48	50.00	61.97	-11.97	peak
-	137.8317	59.40	-16.23	43.17	43.50	-0.33	QP
#	296.9763	68.87	-14.53	54.34	61.97	-7.63	peak
#	379.4587	59.62	-12.52	47.10	61.97	-14.87	peak
#	742.4650	58.74	-5.10	53.64	61.97	-8.33	peak
Antenna Polarity & Test Distance: Vertical at 3 m							
Notation	**Frequency**	**Reading**	**Correct**	**Result**	**Limit**	**Margin**	**Remark**
	(MHz)	**(dBuV/m)**	**dB/m**	**(dBuV/m)**	**(dBuV/m)**	**(dB)**	
#	64.5643	59.35	-16.75	42.60	59.76	-17.16	peak
#	87.7473	68.56	-21.23	47.33	59.76	-12.43	peak
-	124.9630	59.00	-17.60	41.40	43.50	-2.10	QP
#	139.6746	64.05	-16.02	48.03	59.76	-11.73	peak
#	296.9763	67.21	-14.53	52.68	59.76	-7.08	peak
#	445.4833	59.35	-10.74	48.61	59.76	-11.15	peak
#	593.9580	52.40	-7.61	44.79	59.76	-14.97	peak
#	742.4650	55.30	-5.10	50.20	59.76	-9.56	peak
#	895.5633	56.21	-3.09	53.12	59.76	-6.64	peak

Remarks:

1. Result value (dBuV/m) = Reading value (dBuV/m) + Correction Factor (dB/m).
2. Margin(dB) = Result value (dBuV/m) - Limit value (dBuV/m).
3. Correction Factor (dB/m) = Antenna Factor (dBuV/m) + Cable Loss (dB) - Preamp Factor (dB).
4. " # ": The radiated frequency is out of the restricted band.
5. The other emission levels were very low against the limit.

9.6. AC Power Line Conducted Emission

Requirements

Frequency (MHz)	Conducted limit (dBµV)	
	Quasi-peak	Average
0.15 - 0.5	66 - 56	56 - 46
0.50 - 5.0	56	46
5.0 - 30	60	50

Note:

1. The lower limit shall apply at the transition frequencies.
2. The limit decreases in line with the logarithm of the frequency in the range of 0.15 to 0.50MHz.

Test Procedures

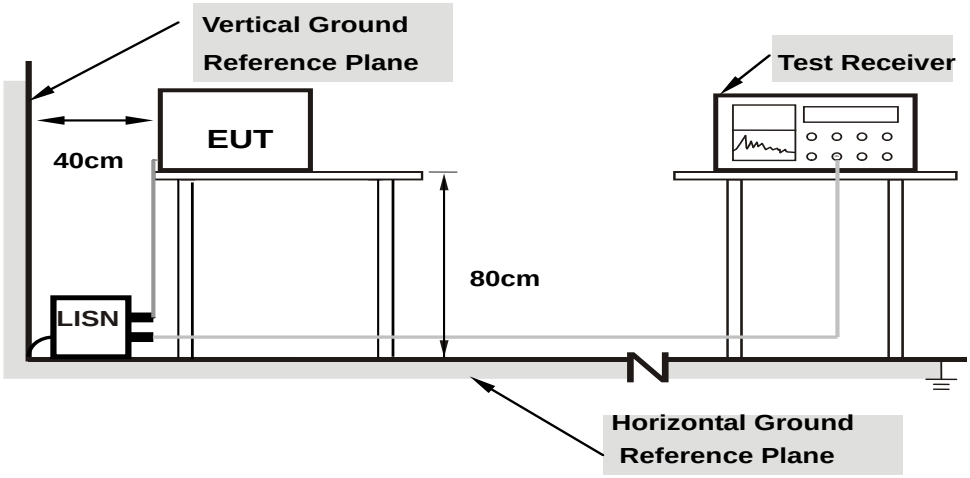
a. The EUT was placed 0.4 meters from the conducting wall of the shielded room with EUT being connected to the power mains through a line impedance stabilization network (LISN). Other support units were connected to the power mains through another LISN. The two LISNs provide 50 ohm/ 50uH of coupling impedance for the measuring instrument.

b. Both lines of the power mains connected to the EUT were checked for maximum conducted interference.

c. The frequency range from 150kHz to 30MHz was searched. Emission levels under (Limit - 20dB) was not recorded.

NOTE: The resolution bandwidth and video bandwidth of test receiver is 9kHz for quasi-peak detection (QP) and average detection (AV) at frequency 0.15MHz-30MHz.

Test Setup



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

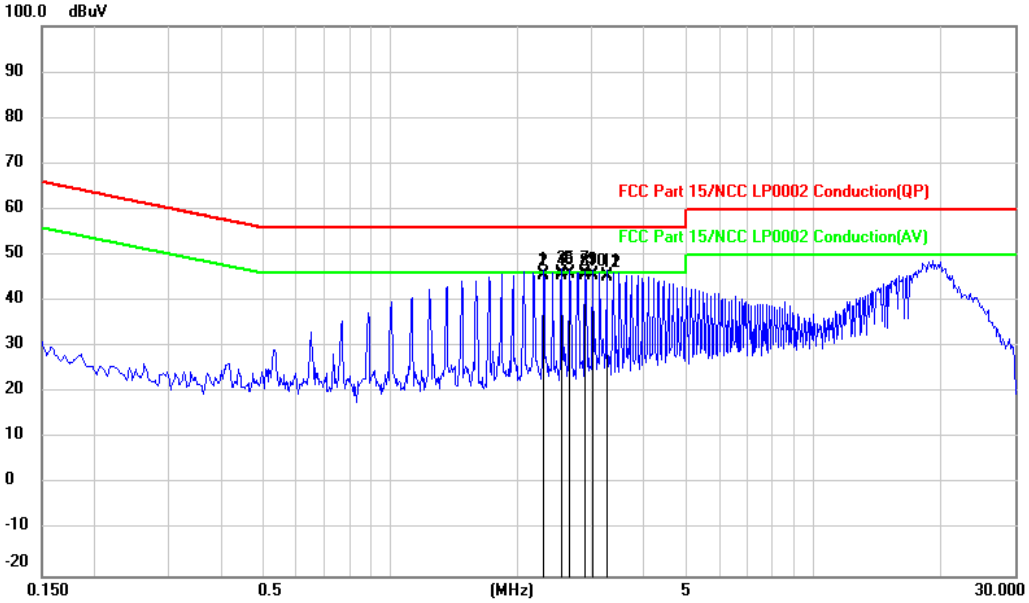
For the actual test configuration, please refer to the Appendix IV.

Test Data

802.11b

EUT Test Condition		Measurement Detail	
Channel	Channel 1	**Frequency Range**	150 kHz ~ 30 MHz

Phase of Power：Line (L)

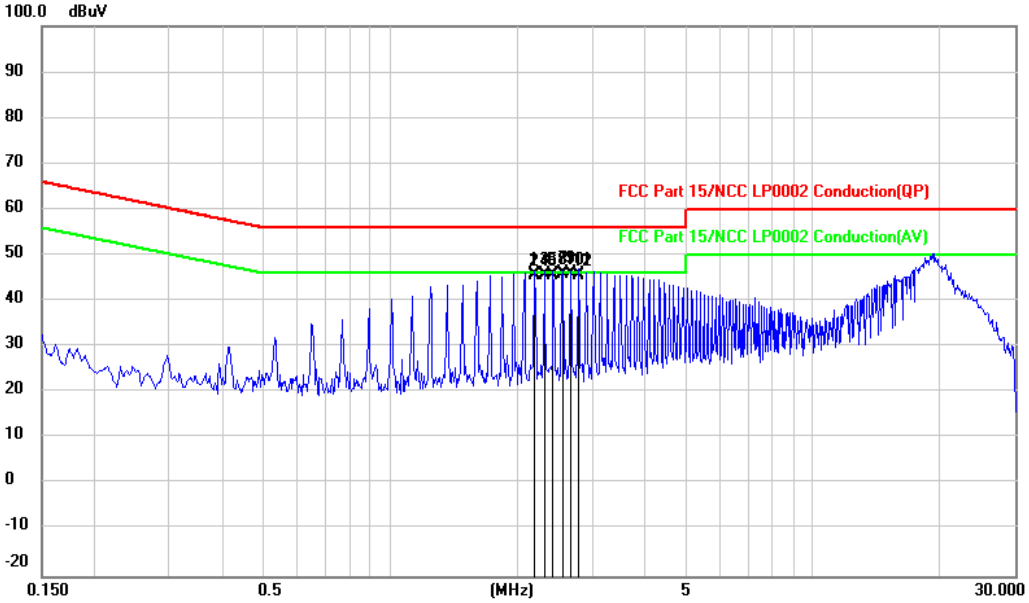


No.	Frequency	Reading	Correct	Result	Limit	Margin	Remark
	(MHz)	(dBuV)	dB	(dBuV)	(dBuV)	(dB)	
1	2.3079	26.26	19.64	45.90	56.00	-10.10	QP
2	2.3079	25.90	19.64	45.54	46.00	-0.46	AVG
3	2.5452	26.41	19.64	46.05	56.00	-9.95	QP
4	2.5452	26.04	19.64	45.68	46.00	-0.32	AVG
5	2.6642	26.44	19.65	46.09	56.00	-9.91	QP
6	2.6642	26.06	19.65	45.71	46.00	-0.29	AVG
7	2.9017	26.38	19.66	46.04	56.00	-9.96	QP
8	2.9017	25.98	19.66	45.64	46.00	-0.36	AVG
9	3.0209	26.22	19.68	45.90	56.00	-10.10	QP
10	3.0209	25.86	19.68	45.54	46.00	-0.46	AVG
11	3.2585	25.91	19.69	45.60	56.00	-10.40	QP
12	3.2585	25.54	19.69	45.23	46.00	-0.77	AVG

Remarks:

1. Result value (dBuV) = Reading value (dBuV) + Correction Factor (dB)
2. Margin(dB) = Result value (dBuV) - Limit value (dBuV)
3. Correction Factor(dB) = Insertion loss(dB) + Cable loss(dB)
4. The other emission levels were very low against the limit.

Phase of Power：Neutral (N)



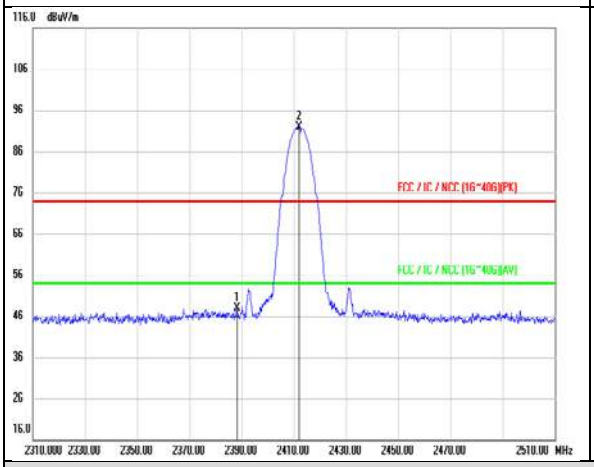
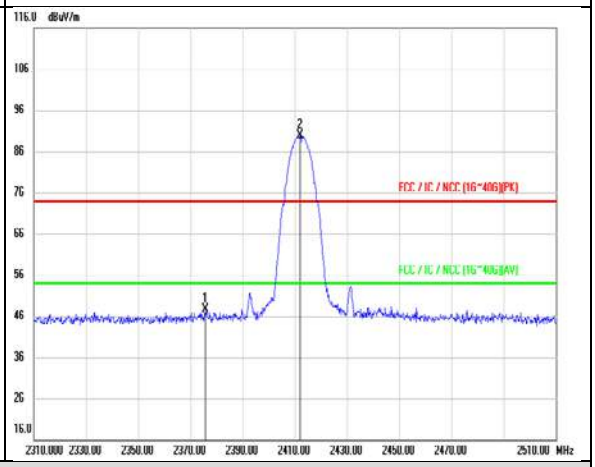
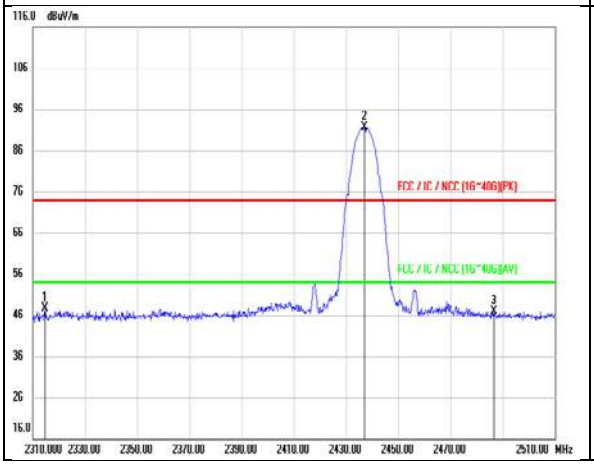
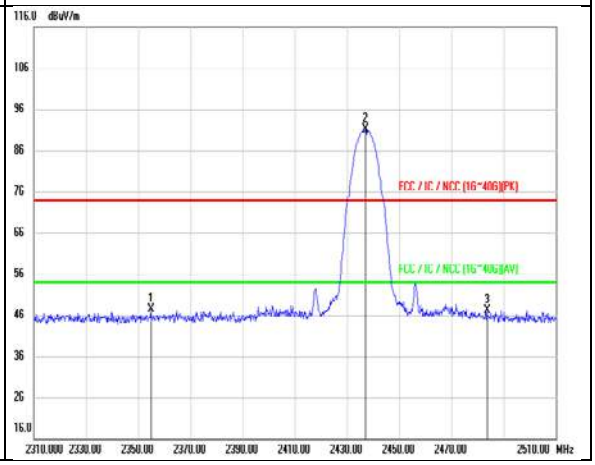
No.	Frequency	Reading	Correct	Result	Limit	Margin	Remark
	(MHz)	(dBuV)	dB	(dBuV)	(dBuV)	(dB)	
1	2.1977	26.07	19.65	45.72	56.00	-10.28	QP
2	2.1977	25.76	19.65	45.41	46.00	-0.59	AVG
3	2.3171	26.22	19.65	45.87	56.00	-10.13	QP
4	2.3171	25.91	19.65	45.56	46.00	-0.44	AVG
5	2.4364	26.31	19.65	45.96	56.00	-10.04	QP
6	2.4364	25.97	19.65	45.62	46.00	-0.38	AVG
7	2.5557	26.37	19.66	46.03	56.00	-9.97	QP
8	2.5557	26.04	19.66	45.70	46.00	-0.30	AVG
9	2.6751	26.36	19.67	46.03	56.00	-9.97	QP
10	2.6751	26.03	19.67	45.70	46.00	-0.30	AVG
11	2.7946	26.32	19.68	46.00	56.00	-10.00	QP
12	2.7946	26.01	19.68	45.69	46.00	-0.31	AVG

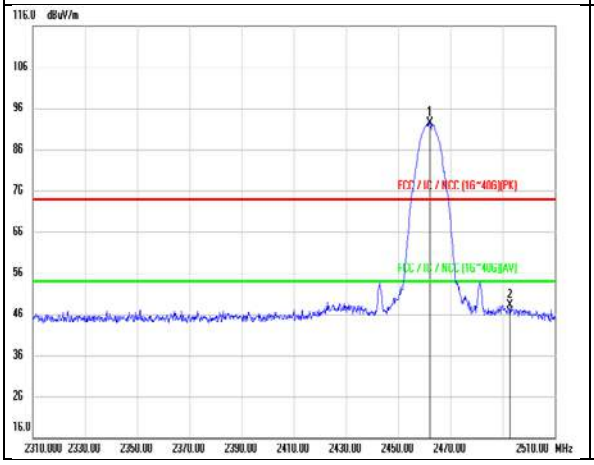
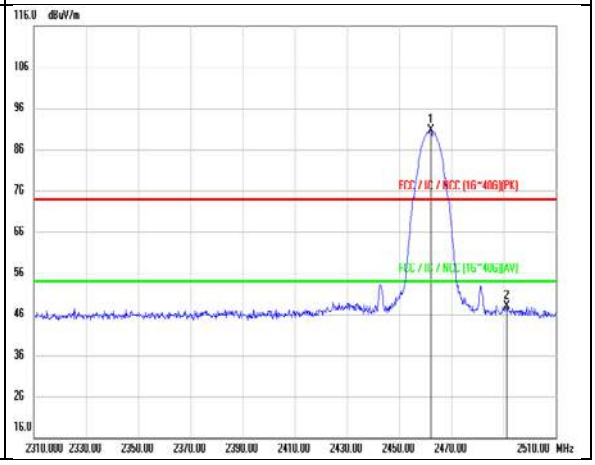
Remarks:

1. Result value (dBuV) = Reading value (dBuV) + Correction Factor (dB)
2. Margin(dB) = Result value (dBuV) - Limit value (dBuV)
3. Correction Factor(dB) = Insertion loss(dB) + Cable loss(dB)
4. The other emission levels were very low against the limit.

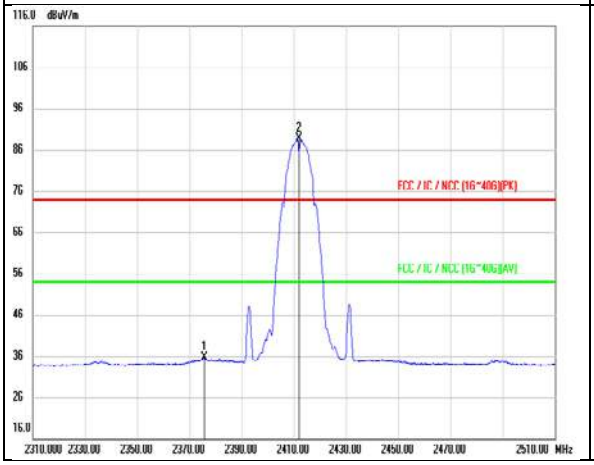
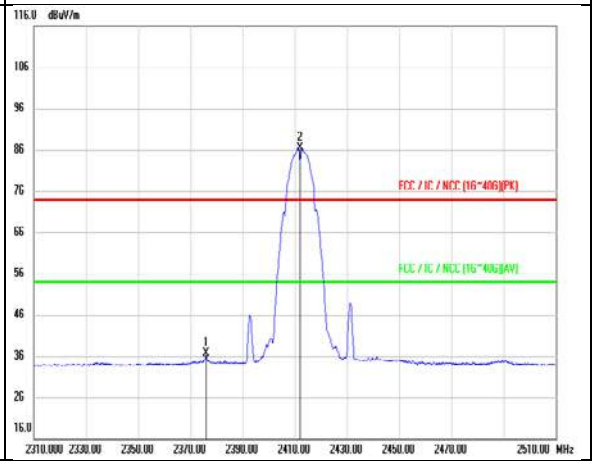
Appendix I Radiated Band Edge Measurement

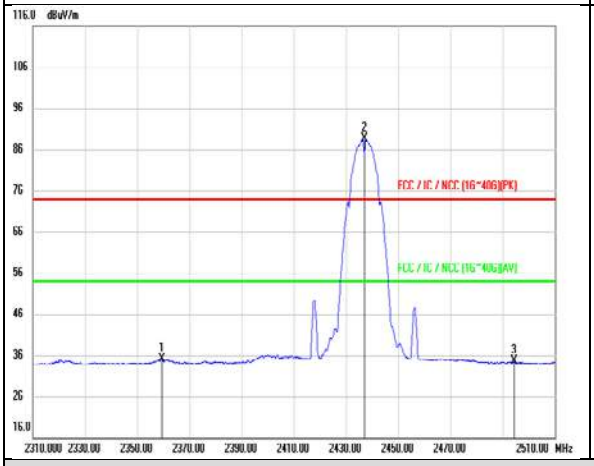
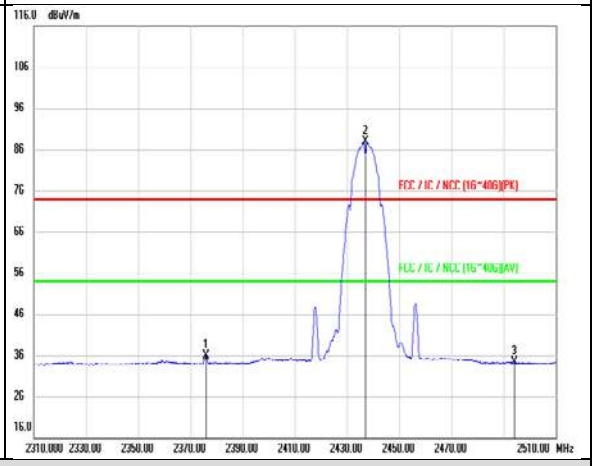
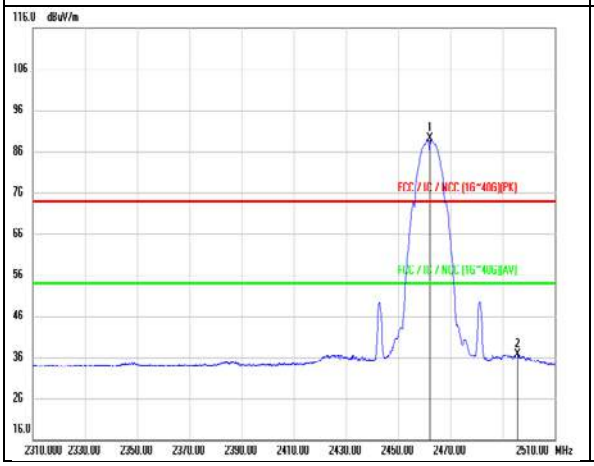
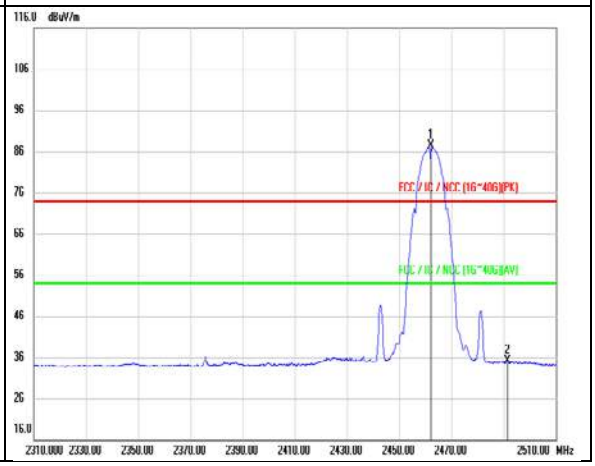
802.11b
Peak

Ch1	
Horizontal	Vertical
	
Ch6	
Horizontal	Vertical
	

Ch11	
Horizontal	Vertical
	

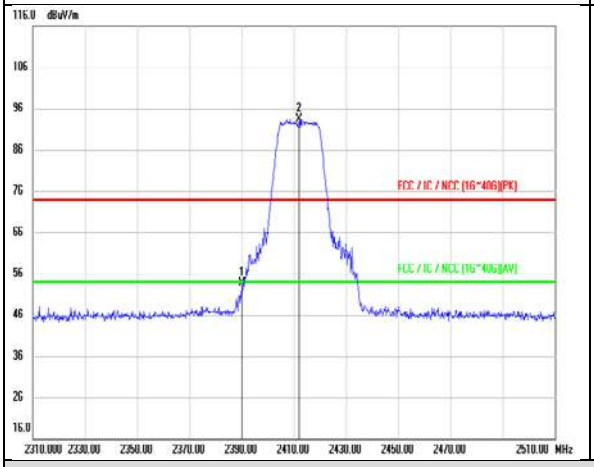
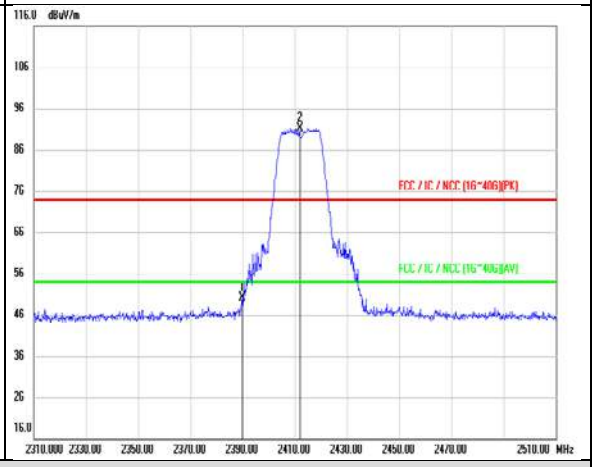
Average

Ch1	
Horizontal	Vertical
	

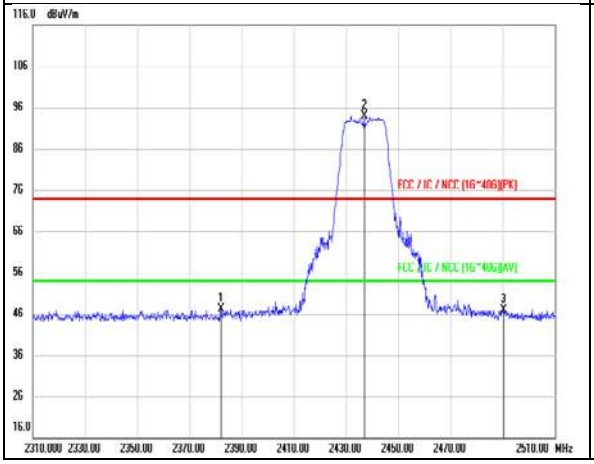
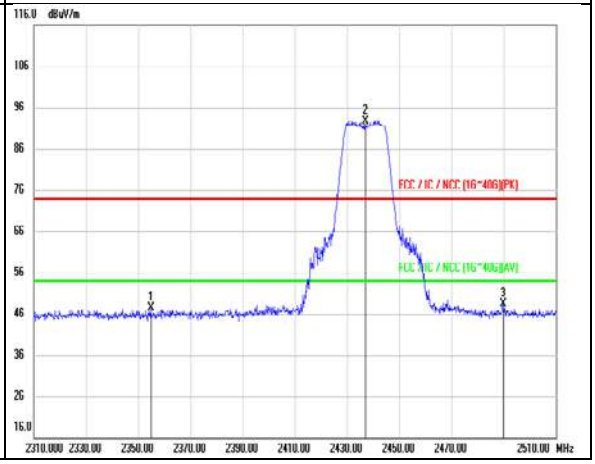
Ch6	
Horizontal	Vertical
	
Ch11	
Horizontal	Vertical
	

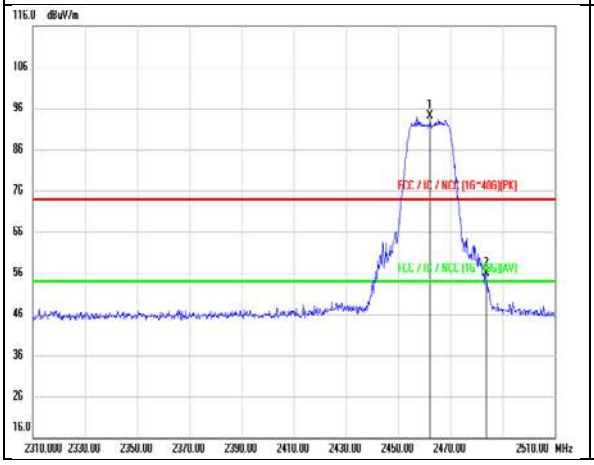
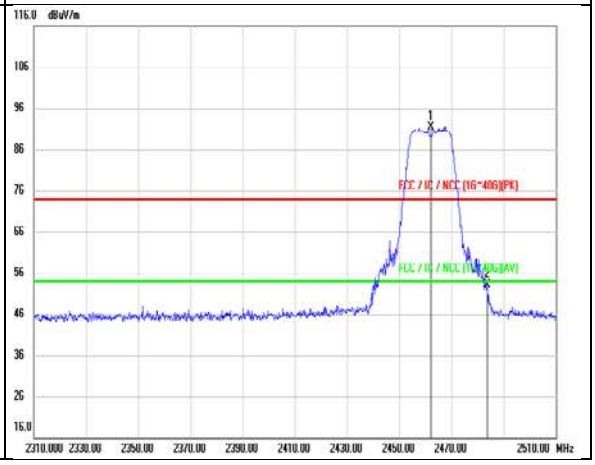
802.11g
Peak

Ch1

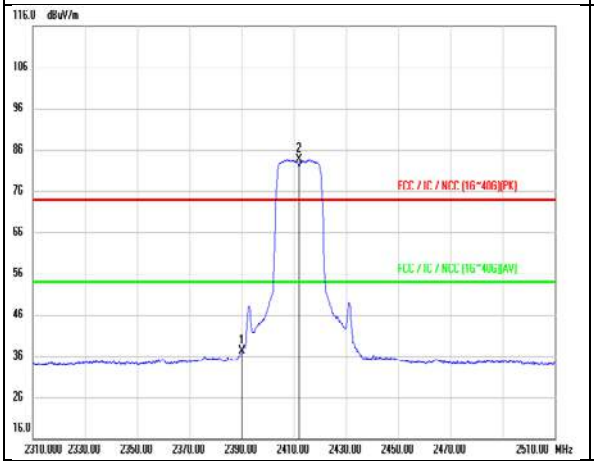
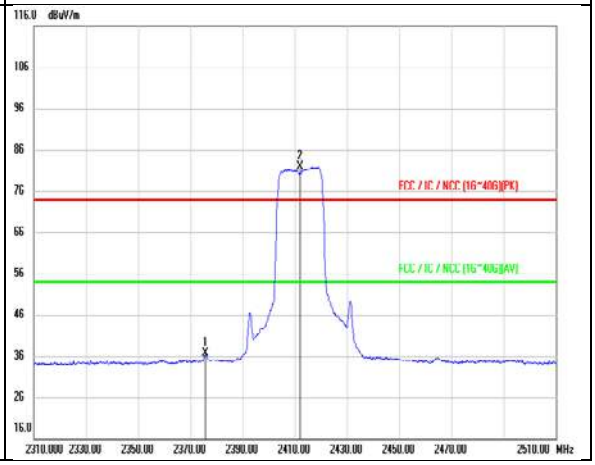
Horizontal	Vertical
	

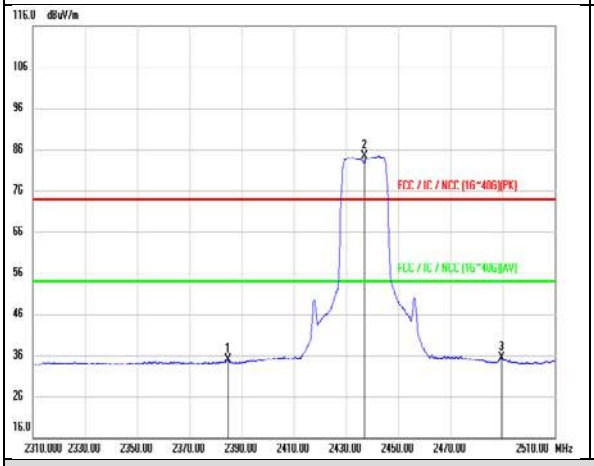
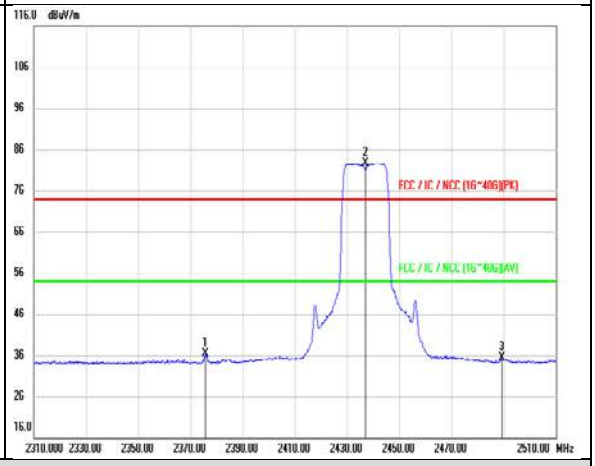
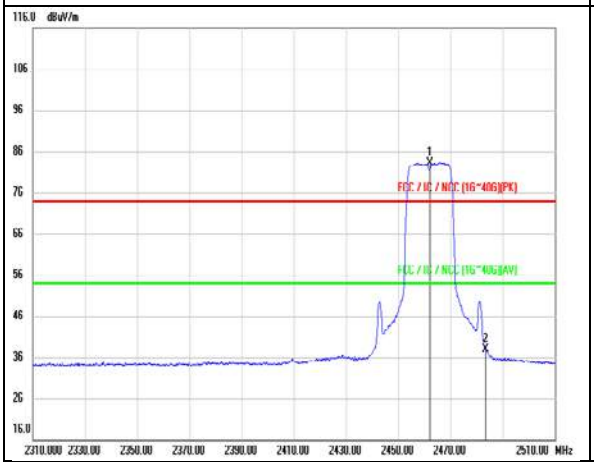
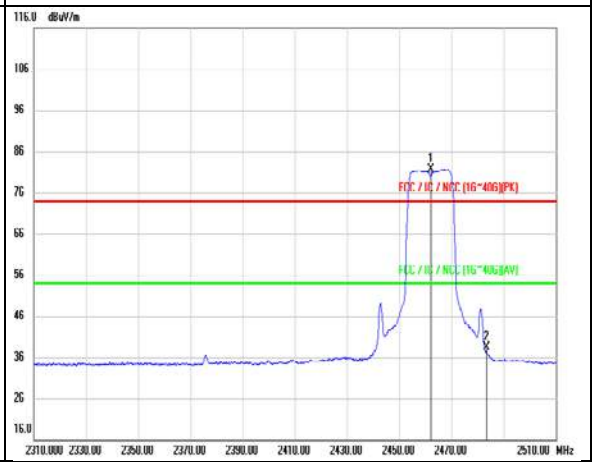
Ch6

Horizontal	Vertical
	

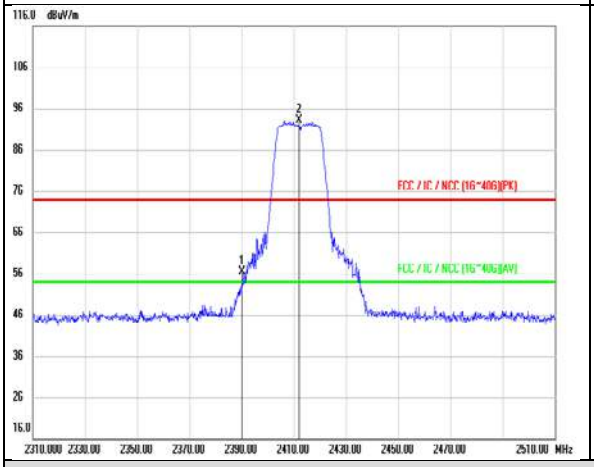
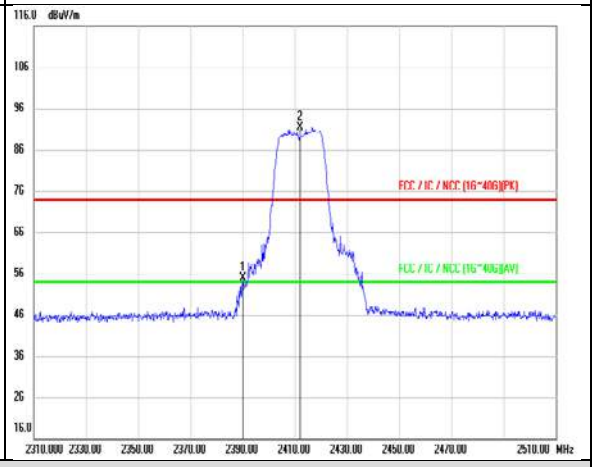
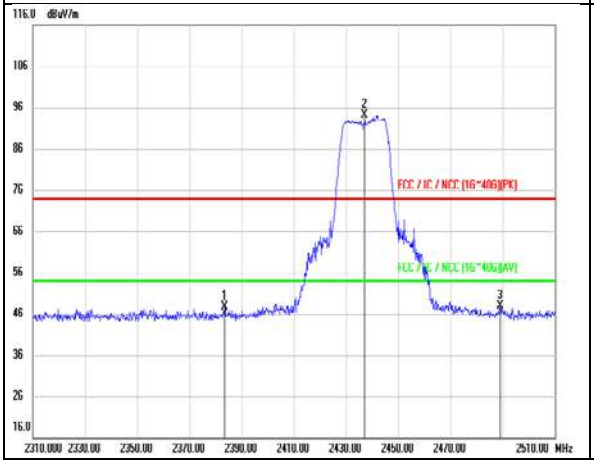
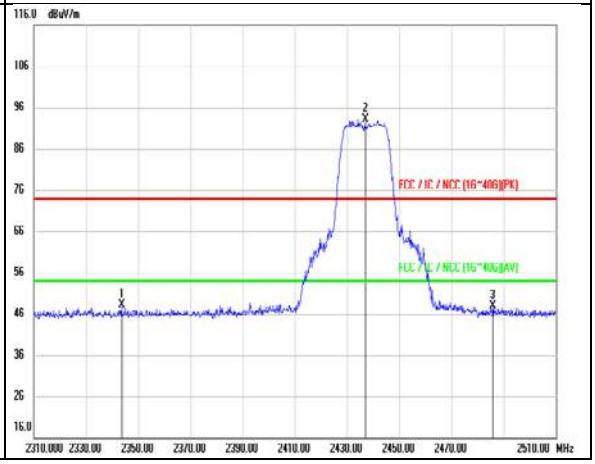
Ch11	
Horizontal	Vertical
	

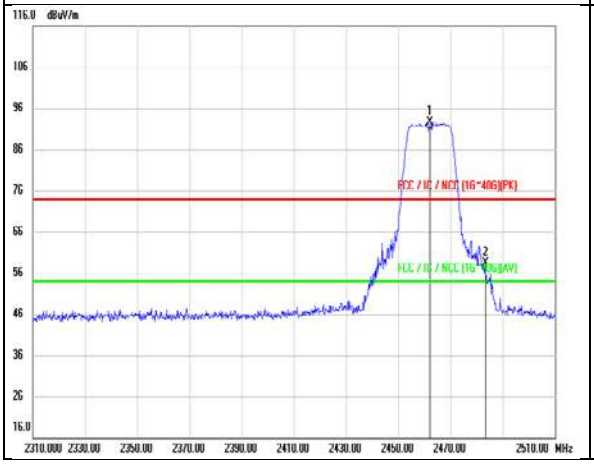
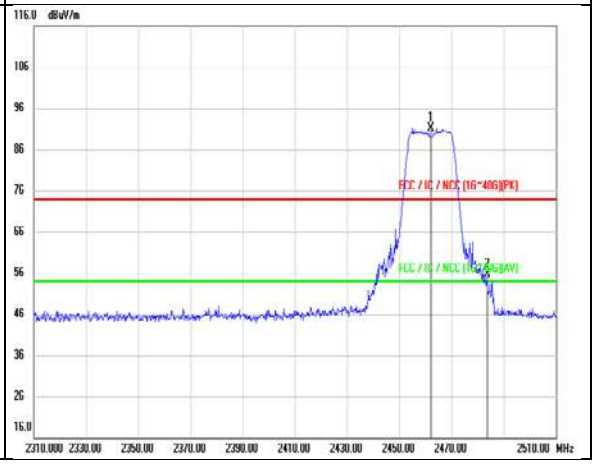
Average

Ch1	
Horizontal	Vertical
	

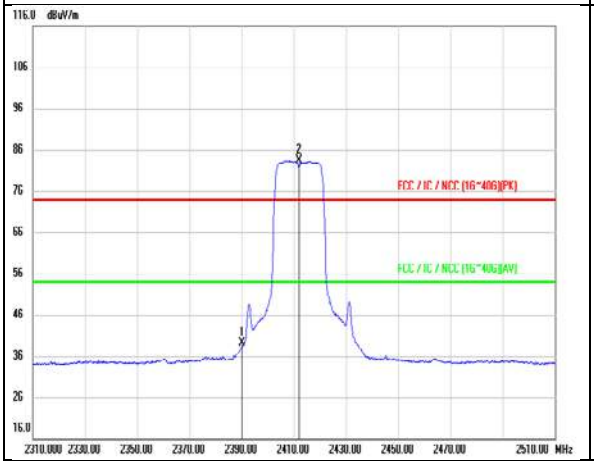
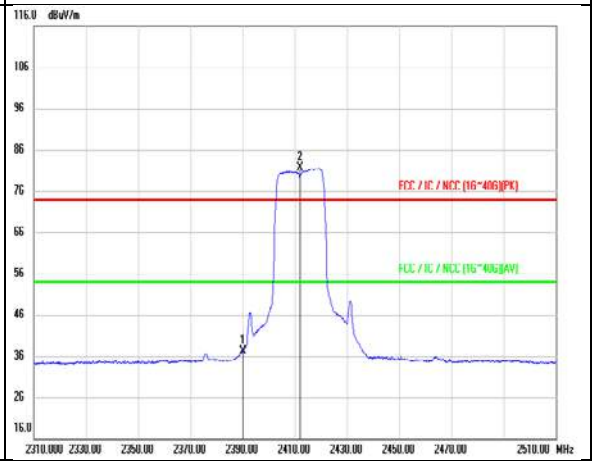
Ch6	
Horizontal	Vertical
	
Ch11	
Horizontal	Vertical
	

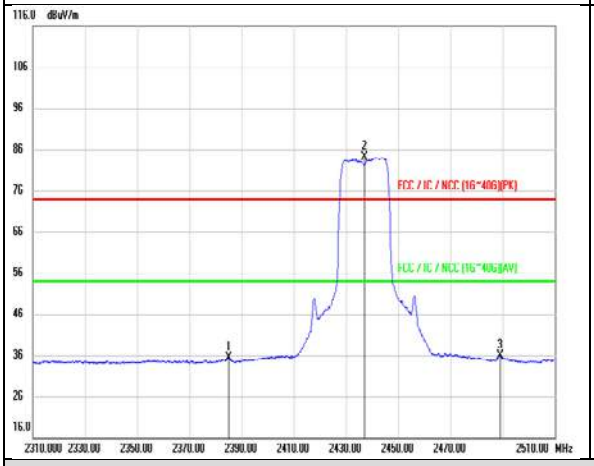
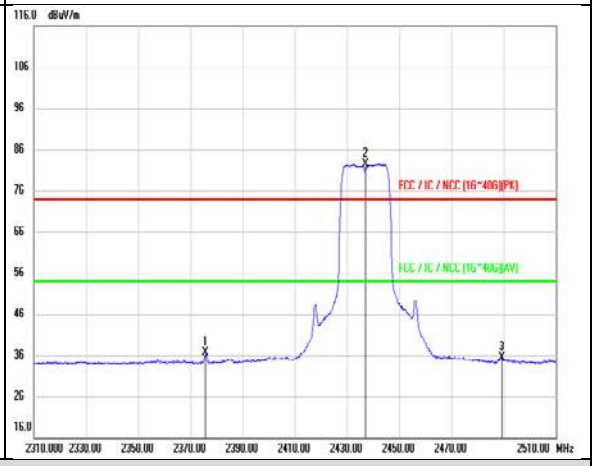
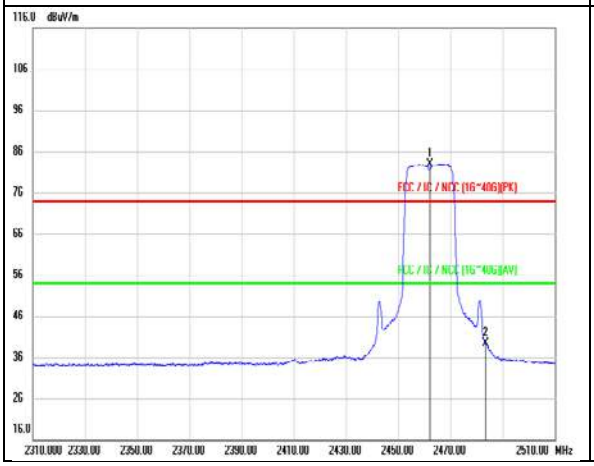
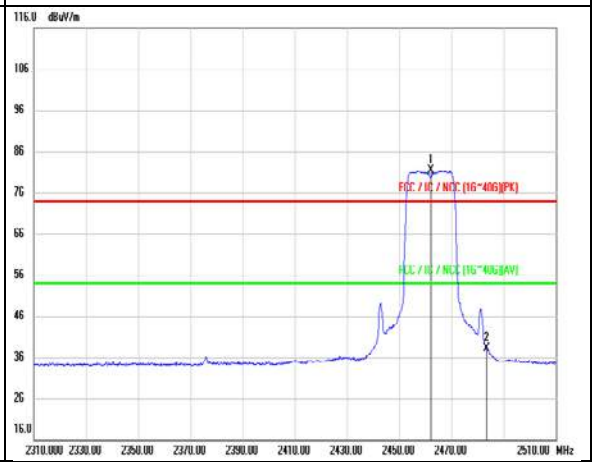
802.11n (HT-20)
Peak

Ch1	
Horizontal	Vertical
	
Ch6	
Horizontal	Vertical
	

Ch11	
Horizontal	Vertical
	

Average

Ch1	
Horizontal	Vertical
	

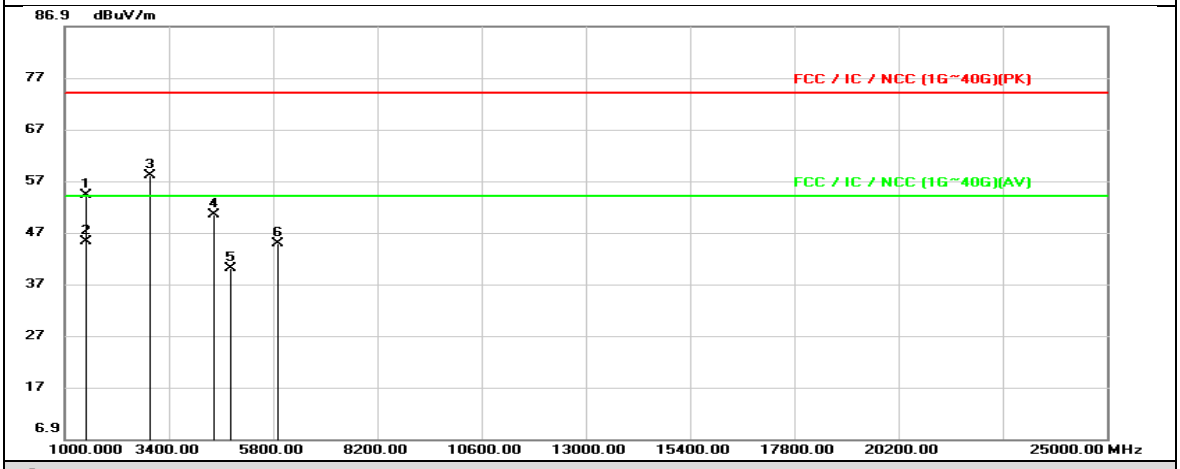
Ch6	
Horizontal	Vertical
	
Ch11	
Horizontal	Vertical
	

Appendix II 1GHz ~ 25 GHz Radiated Spurious Measurement

802.11b

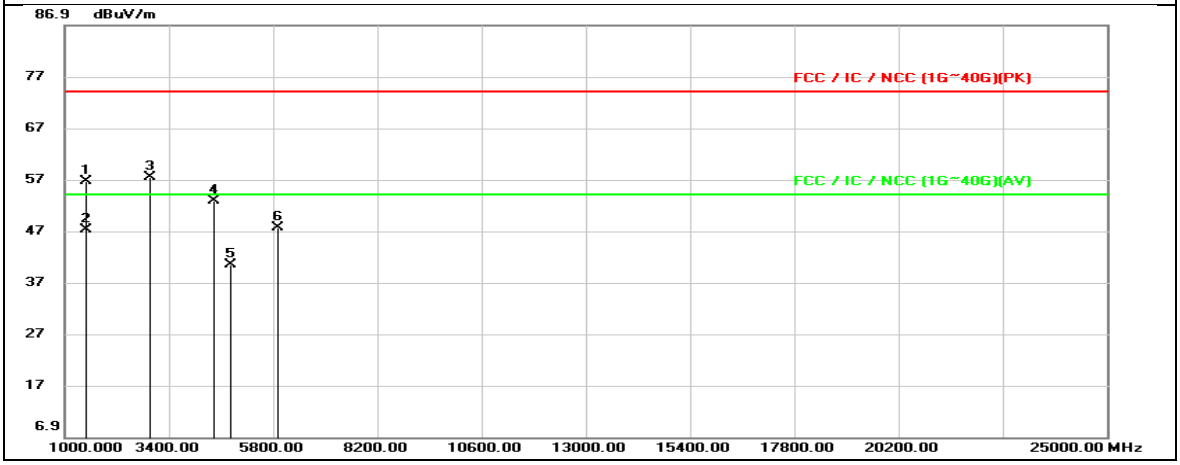
Ch1

Horizontal



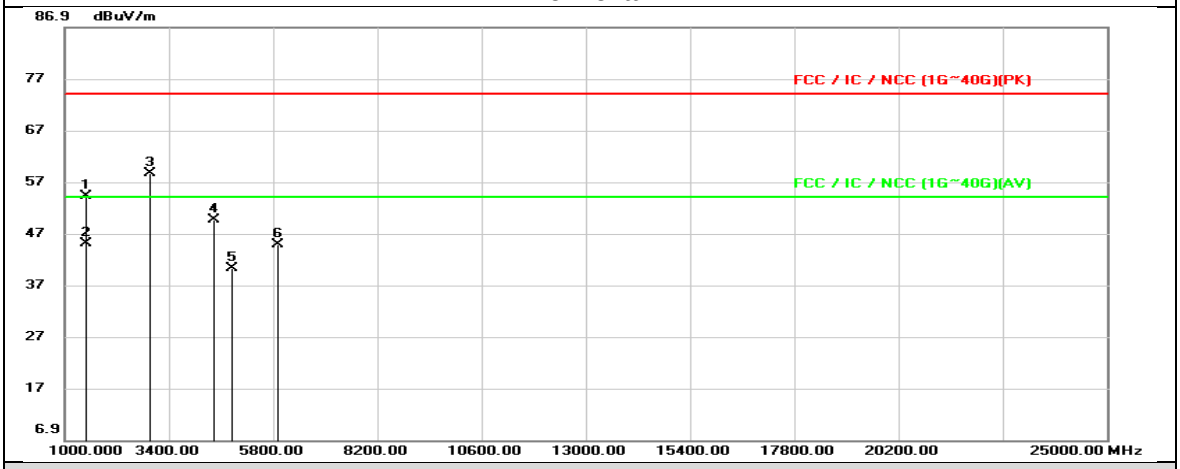
Ch1

Vertical



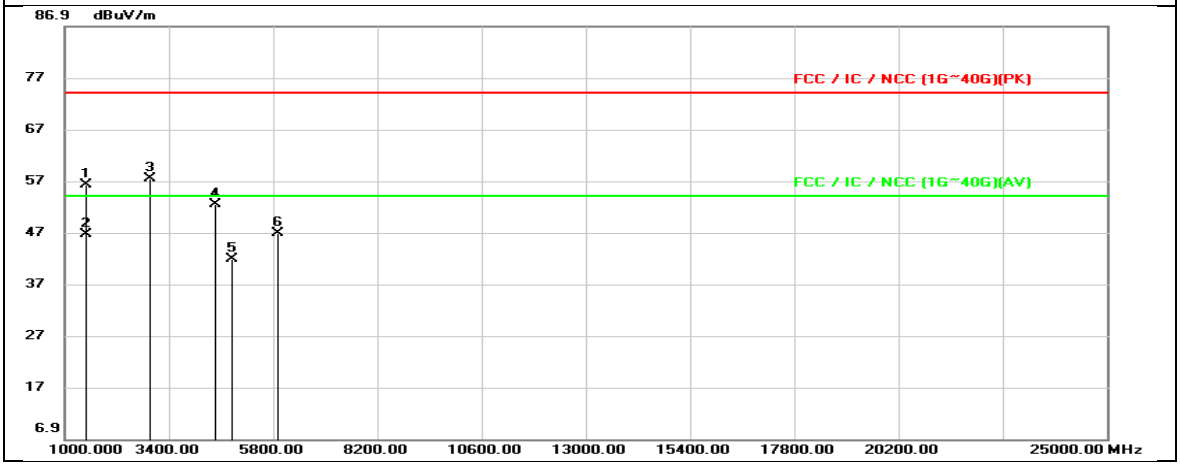
Ch6

Horizontal



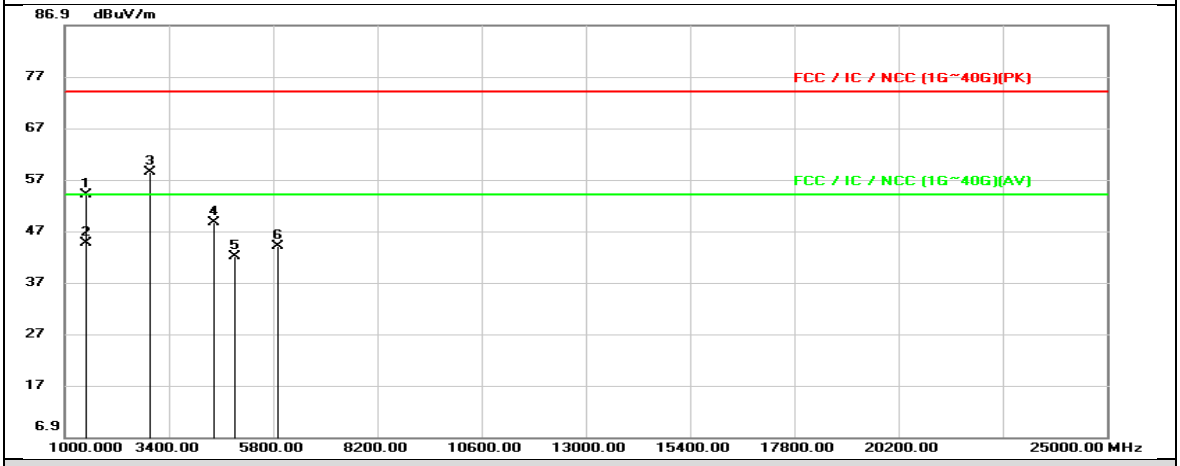
Ch6

Vertical



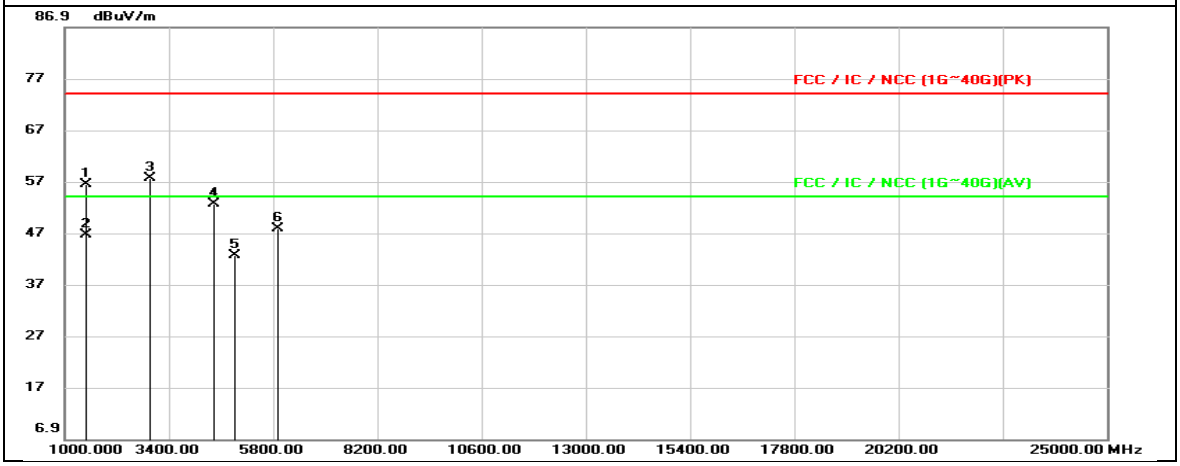
Ch11

Horizontal



Ch11

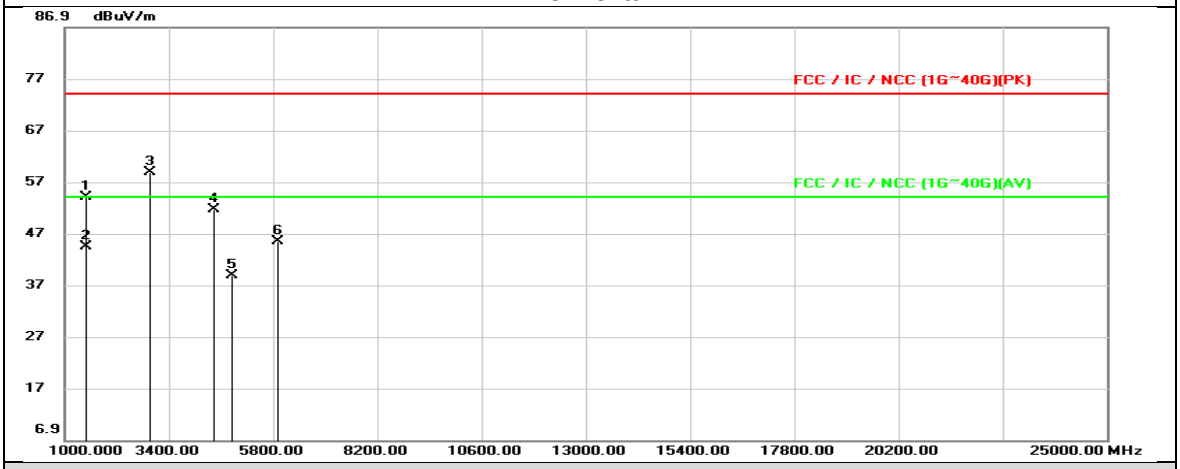
Vertical



802.11g

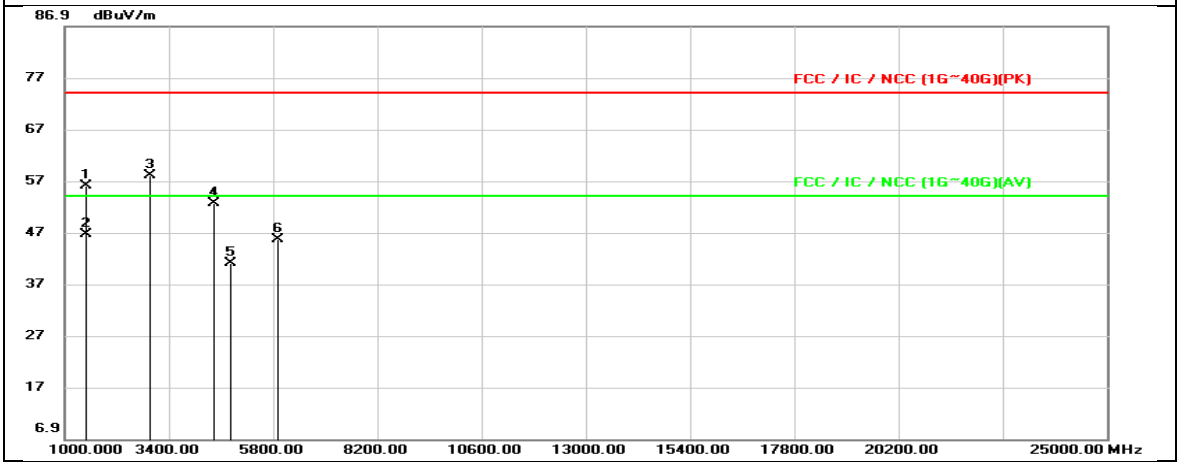
Ch1

Horizontal



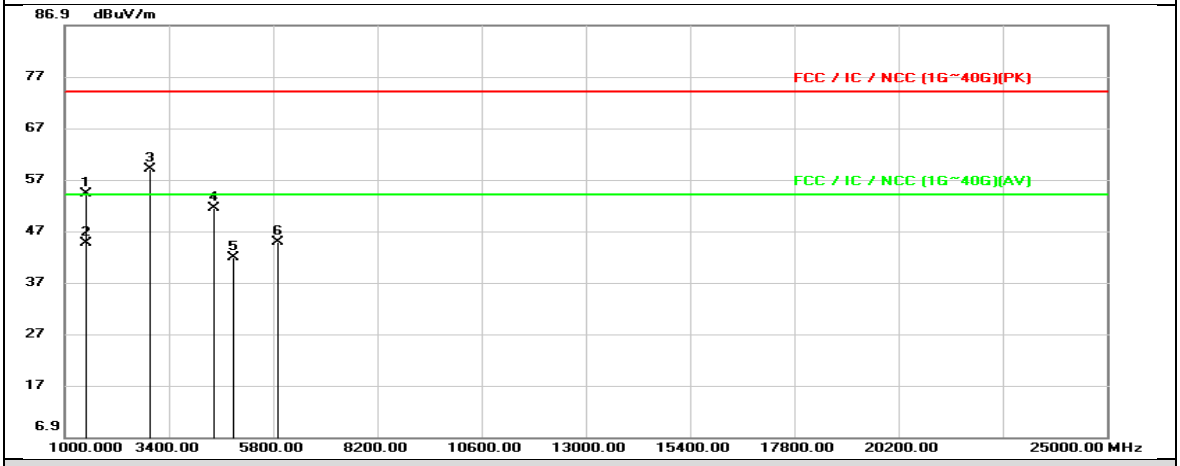
Ch1

Vertical



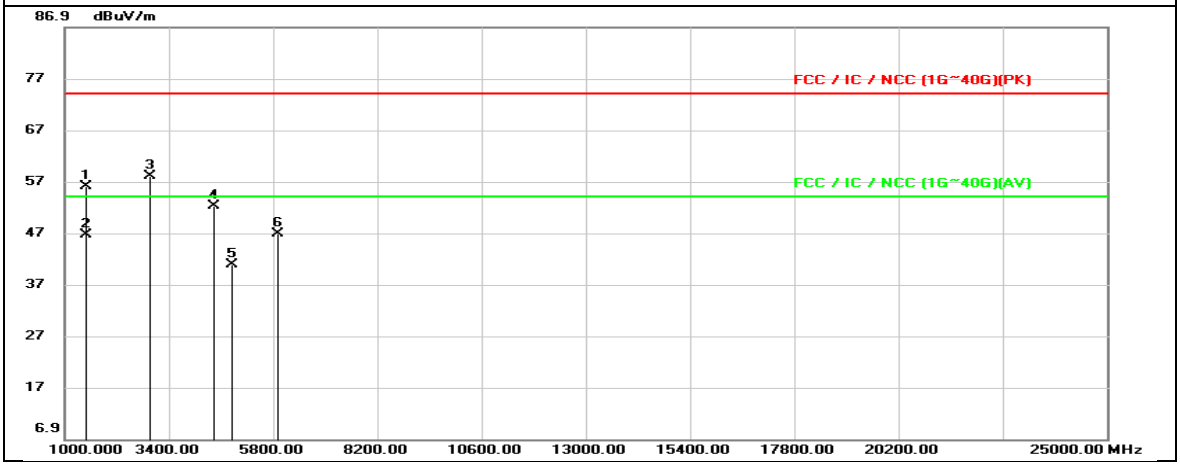
Ch6

Horizontal



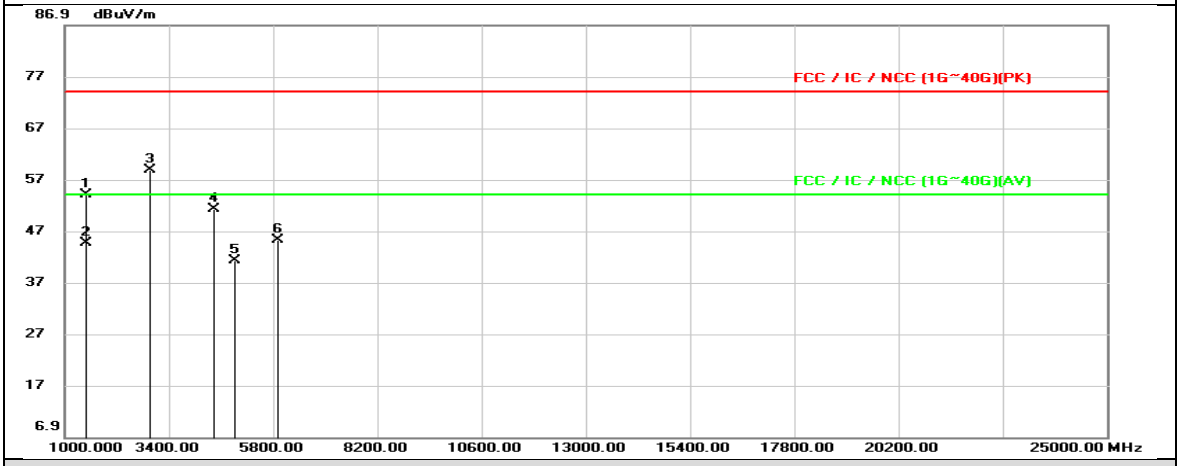
Ch6

Vertical



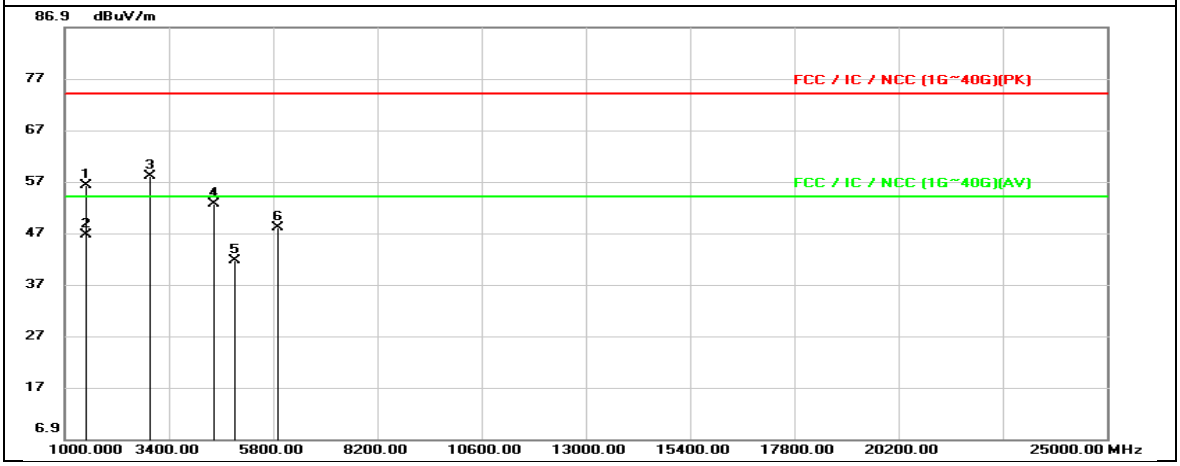
Ch11

Horizontal



Ch11

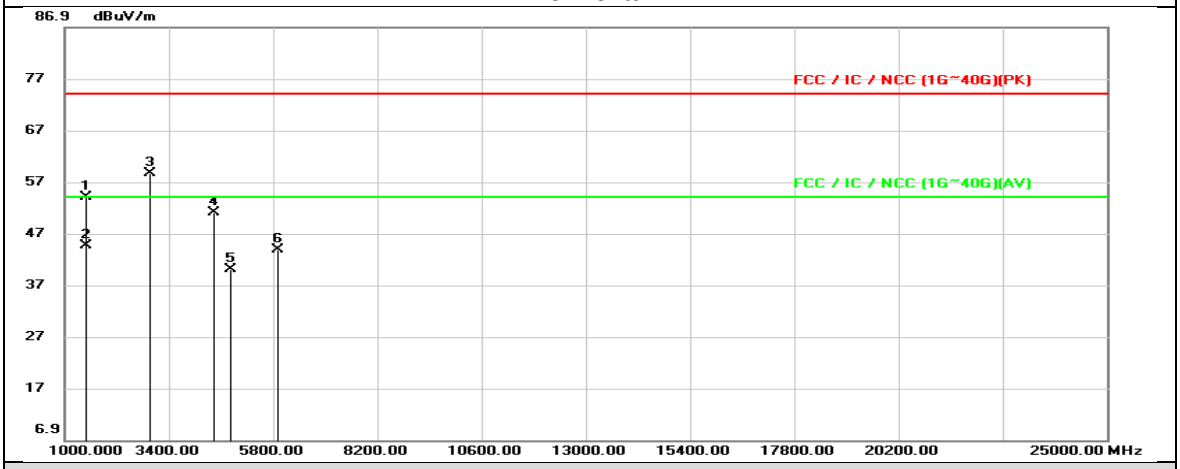
Vertical



802.11n(HT20)

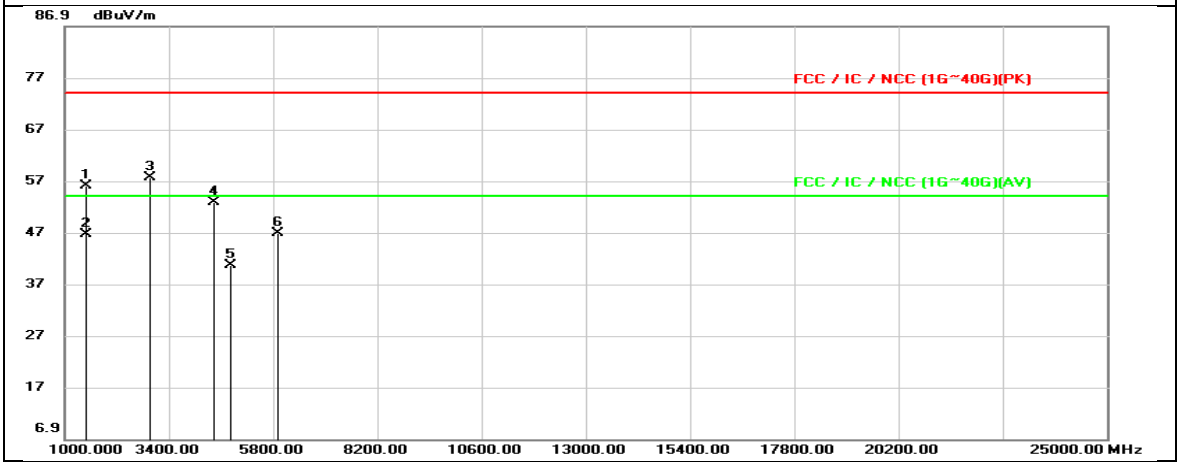
Ch1

Horizontal



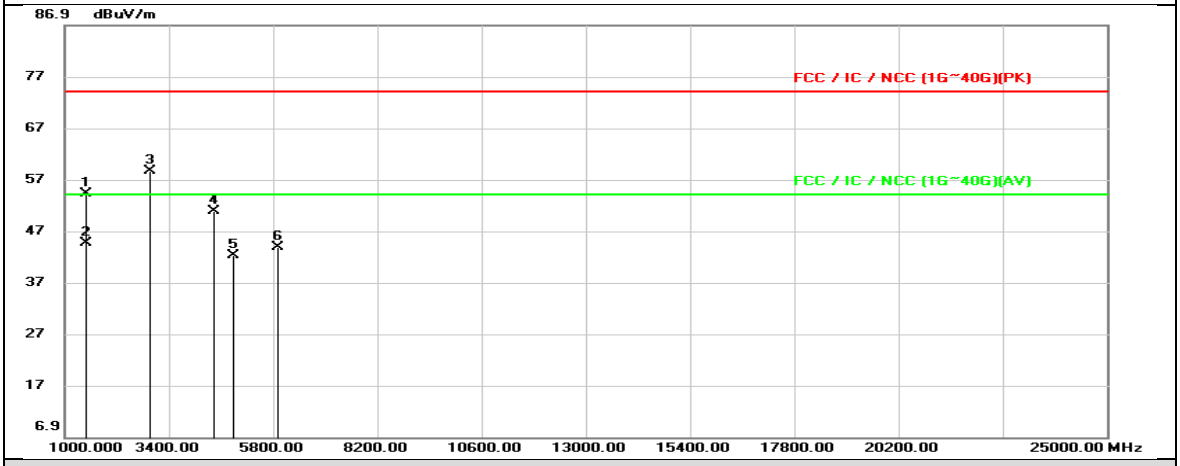
Ch1

Vertical



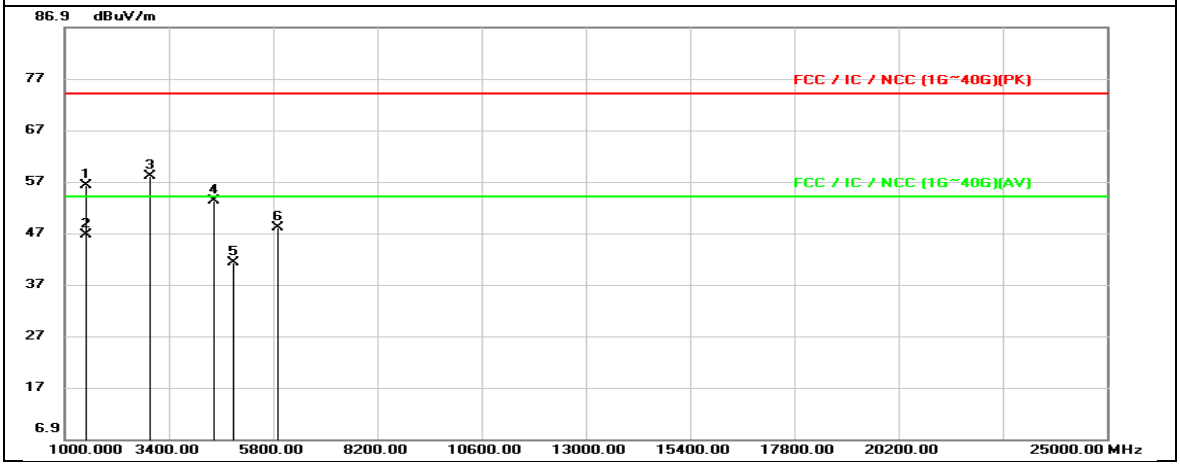
Ch6

Horizontal



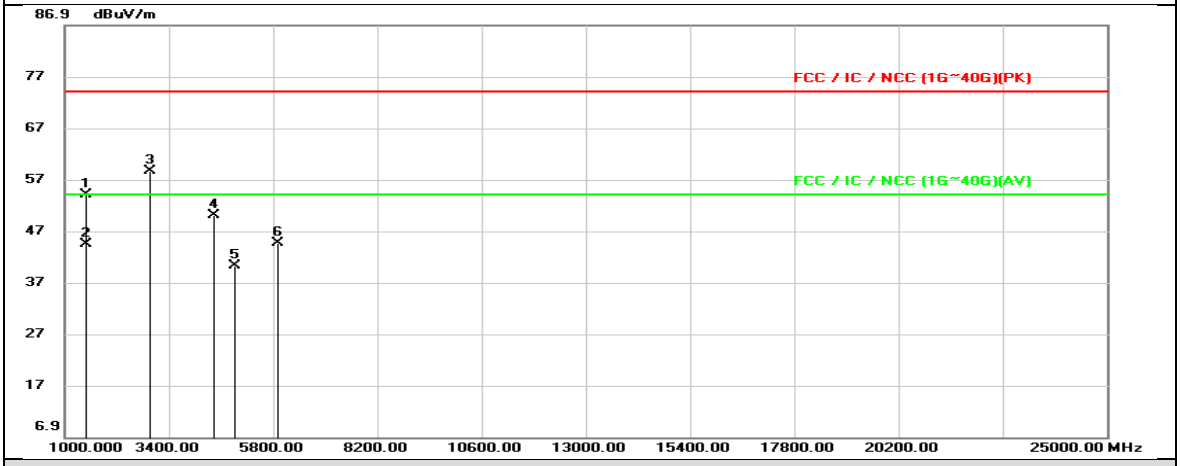
Ch6

Vertical



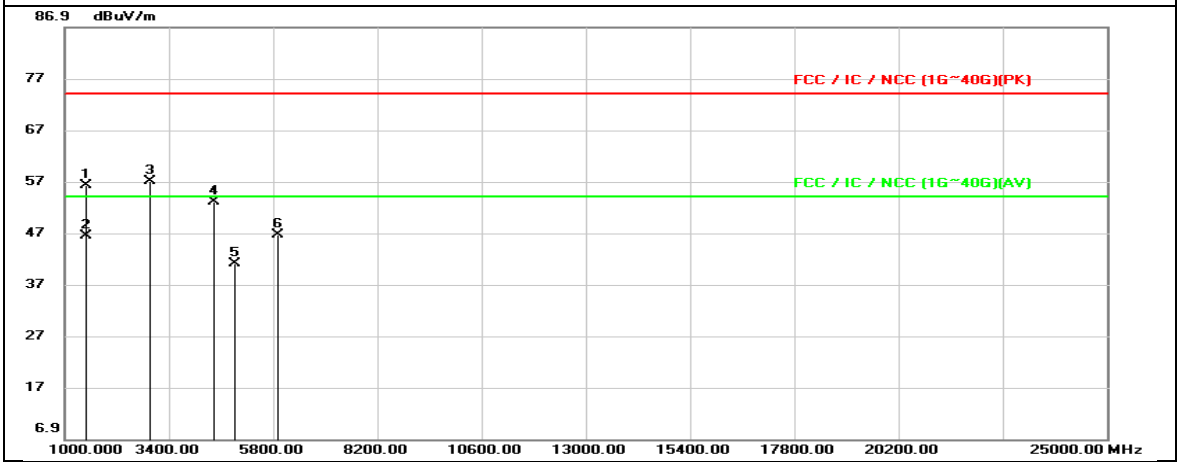
Ch11

Horizontal



Ch11

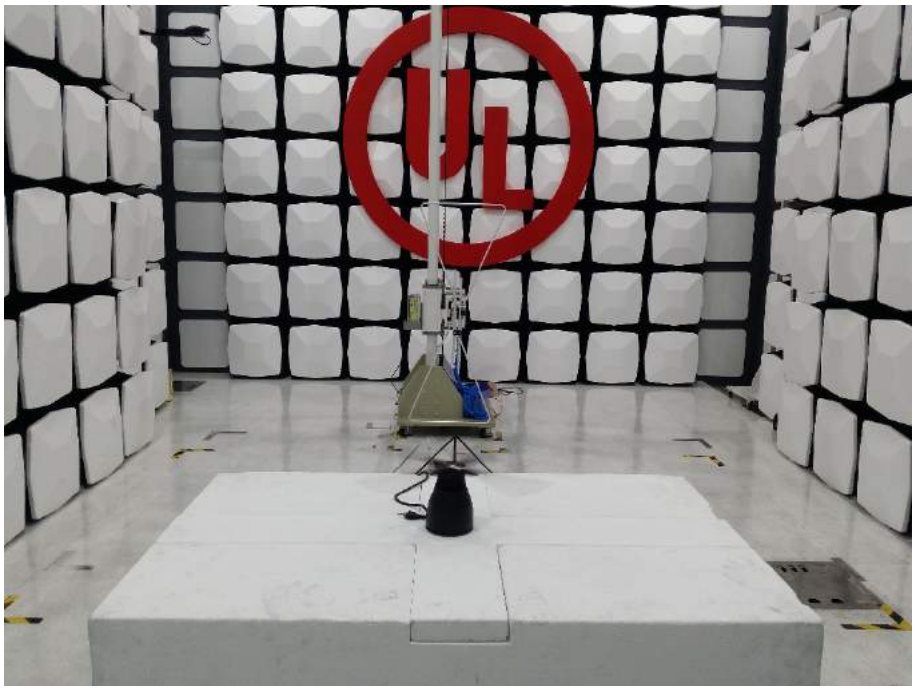
Vertical

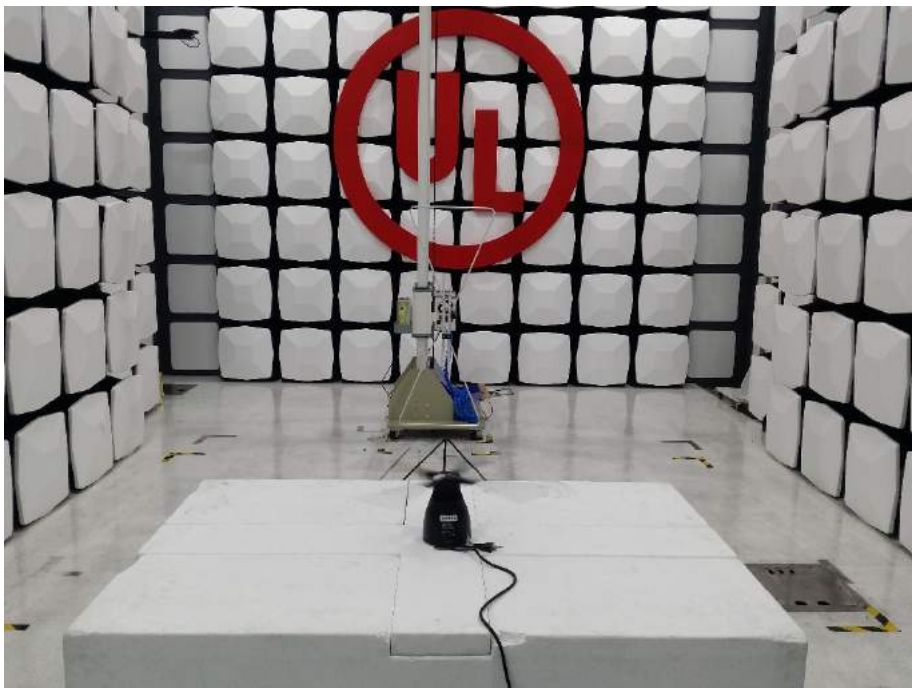


Appendix III Radiated Spurious Emission Setup Configurations

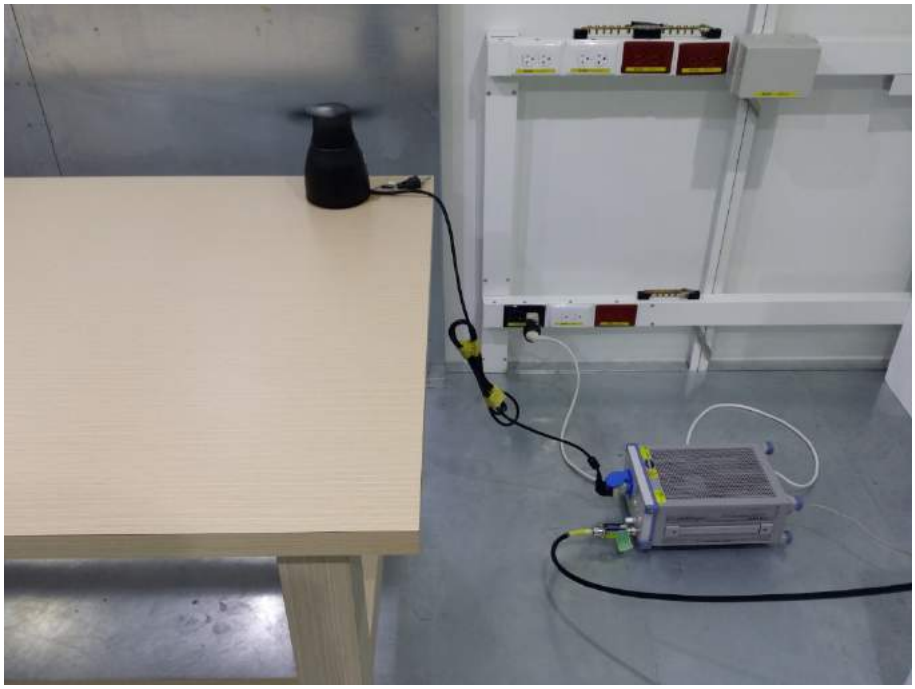
Above 1GHz

Below 1GHz





Appendix IV AC Power Line Conducted Emission Setup Configurations



Appendix V Conducted antenna port test set up