



FCC RF Test Report

APPLICANT : Ubiquiti Networks, Inc.
EQUIPMENT : UniFi® VoIP Phone X
BRAND NAME : UBIQUITI
MODEL NAME : UVP-X
FCC ID : SWX-UVPX
STANDARD : FCC Part 15 Subpart C §15.247
CLASSIFICATION : (DTS) Digital Transmission System

The product was received on Jan. 22, 2016 and testing was completed on Feb. 22, 2016. We, SPORTON INTERNATIONAL INC., would like to declare that the tested sample has been evaluated in accordance with the test procedures and has been in compliance with the applicable technical standards.

The test results in this report apply exclusively to the tested model / sample. Without written approval of SPORTON INTERNATIONAL INC., the test report shall not be reproduced except in full.

Reviewed by: Joseph Lin / Supervisor

Approved by: Jones Tsai / Manager

**SPORTON INTERNATIONAL INC.**

No. 52, Hwa Ya 1st Rd., Hwa Ya Technology Park, Kwei-Shan District, Tao Yuan City, Taiwan, R.O.C.

SPORTON INTERNATIONAL INC.

TEL : 886-3-327-3456

FAX : 886-3-328-4978

FCC ID : SWX-UVPX

Page Number : 1 of 41

Report Issued Date : Mar. 07, 2016

Report Version : Rev. 02

Report Template No.: BU5-FR15CWL Version 1.2



TABLE OF CONTENTS

REVISION HISTORY	3
SUMMARY OF TEST RESULT	4
1 GENERAL DESCRIPTION	5
1.1 Applicant	5
1.2 Manufacturer	5
1.3 Product Feature of Equipment Under Test	5
1.4 Product Specification of Equipment Under Test	5
1.5 Modification of EUT	6
1.6 Testing Location	6
1.7 Applicable Standards	7
2 TEST CONFIGURATION OF EQUIPMENT UNDER TEST	8
2.1 Carrier Frequency Channel	8
2.2 Pre-Scanned RF Power	9
2.3 Test Mode	10
2.4 Connection Diagram of Test System	11
2.5 Support Unit used in test configuration and system	12
2.6 EUT Operation Test Setup	12
2.7 Measurement Results Explanation Example	12
3 TEST RESULT	13
3.1 6dB and 99% Bandwidth Measurement	13
3.2 Output Power Measurement	15
3.3 Power Spectral Density Measurement	16
3.4 Conducted Band Edges and Spurious Emission Measurement	18
3.5 Radiated Band Edges and Spurious Emission Measurement	31
3.6 AC Conducted Emission Measurement	35
3.7 Antenna Requirements	39
4 LIST OF MEASURING EQUIPMENT	40
5 UNCERTAINTY OF EVALUATION	41
APPENDIX A. CONDUCTED TEST RESULTS	
APPENDIX B. RADIATED TEST RESULTS	
APPENDIX C. RADIATED SPURIOUS EMISSION PLOTS	
APPENDIX D. SETUP PHOTOGRAPHS	



REVISION HISTORY

REPORT NO.	VERSION	DESCRIPTION	ISSUED DATE
FR612211C	Rev. 01	Initial issue of report	Feb. 26, 2016
FR612211C	Rev. 02	Updating AC Conducted Emission test data.	Mar. 07, 2016

SUMMARY OF TEST RESULT

Report Section	FCC Rule	Description	Limit	Result	Remark
3.1	15.247(a)(2)	6dB Bandwidth	$\geq 0.5\text{MHz}$	Pass	-
3.1	-	99% Bandwidth	-	Pass	-
3.2	15.247(b)	Power Output Measurement	$\leq 30\text{dBm}$	Pass	-
3.3	15.247(e)	Power Spectral Density	$\leq 8\text{dBm}/3\text{kHz}$	Pass	-
3.4	15.247(d)	Conducted Band Edges	$\leq 20\text{dBc}$	Pass	-
		Conducted Spurious Emission		Pass	-
3.5	15.247(d)	Radiated Band Edges and Radiated Spurious Emission	15.209(a) & 15.247(d)	Pass	Under limit 0.07 dB at 2483.520 MHz
3.6	15.207	AC Conducted Emission	15.207(a)	Pass	Under limit 4.60 dB at 0.534 MHz
3.7	15.203 & 15.247(b)	Antenna Requirement	N/A	Pass	-

1 General Description

1.1 Applicant

Ubiquiti Networks, Inc.

12F, No. 105, Song Ren Rd., SinYi District, Taipei 110, Taiwan

1.2 Manufacturer

Ubiquiti Networks, Inc.

12F, No. 105, Song Ren Rd., SinYi District, Taipei 110, Taiwan

1.3 Product Feature of Equipment Under Test

Product Feature	
Equipment	UniFi® VoIP Phone X
Brand Name	UBIQUITI
Model Name	UVP-X
FCC ID	SWX-UVPX
EUT supports Radios application	WLAN 11b/g/n HT20/HT40 Bluetooth v4.0 EDR/LE
EUT Stage	Identical Prototype

Remark: The above EUT's information was declared by manufacturer. Please refer to the specifications or user's manual for more detailed description.

1.4 Product Specification of Equipment Under Test

Standards-related Product Specification	
Tx/Rx Channel Frequency Range	802.11b/g/n : 2412 MHz ~ 2462 MHz
Maximum (Peak) Output Power to Antenna	802.11b : 23.29 dBm (0.2133 W) 802.11g : 23.65 dBm (0.2317 W) 802.11n HT20 : 23.70 dBm (0.2344 W) 802.11n HT40 : 23.02 dBm (0.2004 W)
99% Occupied Bandwidth	802.11b : 16.55MHz 802.11g : 18.05MHz 802.11n HT20 : 19.15MHz 802.11n HT40 : 36.80MHz
Antenna Type	802.11b/g/n : PCB Antenna type with gain 1.00 dBi
Type of Modulation	802.11b : DSSS (DBPSK / DQPSK / CCK) 802.11g/n : OFDM (BPSK / QPSK / 16QAM / 64QAM)



1.5 Modification of EUT

No modifications are made to the EUT during all test items.

1.6 Testing Location

Sporton Lab is accredited to ISO 17025 by Taiwan Accreditation Foundation (TAF code : 1190) and the FCC designation No. TW1022 under the FCC 2.948(e) by Mutual Recognition Agreement (MRA) in FCC Test.

Test Site	SPORTON INTERNATIONAL INC.	
Test Site Location	No. 52, Hwa Ya 1 st Rd., Hwa Ya Technology Park, Kwei-Shan District, Tao Yuan City, Taiwan, R.O.C. TEL: +886-3-327-3456 FAX: +886-3-328-4978	
Test Site No.	Sporton Site No.	
	TH02-HY	CO05-HY

Note: The test site complies with ANSI C63.4 2014 requirement.

Test Site	SPORTON INTERNATIONAL INC.	
Test Site Location	No.58, Aly. 75, Ln. 564, Wenhua 3rd Rd. Guishan Dist, Taoyuan City, Taiwan (R.O.C.) TEL: +886-3-327-0868 FAX: +886-3-327-0855	
Test Site No.	Sporton Site No.	
	03CH11-HY	

Note: The test site complies with ANSI C63.4 2014 requirement.



1.7 Applicable Standards

According to the specifications of the manufacturer, the EUT must comply with the requirements of the following standards:

- ♦ FCC Part 15 Subpart C §15.247
- ♦ FCC KDB Publication No. 558074 D01 DTS Meas. Guidance v03r04
- ♦ ANSI C63.10-2013

Remark:

1. All test items were verified and recorded according to the standards and without any deviation during the test.
2. This EUT has also been tested and complied with the requirements of FCC Part 15, Subpart B, recorded in a separate test report.

2 Test Configuration of Equipment Under Test

The EUT has been associated with peripherals and configuration operated in a manner tended to maximize its emission characteristics in a typical application. Frequency range investigated: conducted emission (150 kHz to 30 MHz) and radiated emission (9 kHz to the 10th harmonic of the highest fundamental frequency or to 40 GHz, whichever is lower). For radiated measurement, pre-scanned in three orthogonal panels, X, Y, Z. The worst cases (Y plane) were recorded in this report.

The final configuration from all the combinations and the worst-case data rates were investigated by measuring the maximum power across all the data rates and modulation modes under section 2.2.

Based on the worst configuration found above, the RF power setting is set individually to meet FCC compliance limit for the final conducted and radiated tests shown in section 2.3.

2.1 Carrier Frequency Channel

Frequency Band	Channel	Freq. (MHz)	Channel	Freq. (MHz)
2400-2483.5 MHz	1	2412	7	2442
	2	2417	8	2447
	3	2422	9	2452
	4	2427	10	2457
	5	2432	11	2462
	6	2437	-	-

2.2 Pre-Scanned RF Power

Preliminary tests were performed in different data rate and data rate associated with the highest power were chosen for full test shown in the following tables.

2.4GHz 802.11b mode				
Data Rate (MHz)	1M bps	2M bps	5.5M bps	11M bps
Peak Power (dBm)	23.29	23.24	23.27	23.23

2.4GHz 802.11g mode								
Data Rate (MHz)	6M bps	9M bps	12M bps	18M bps	24M bps	36M bps	48M bps	54M bps
Peak Power (dBm)	23.65	23.56	23.47	23.44	23.53	23.51	23.62	23.45

2.4GHz 802.11n HT20 mode								
Data Rate (MHz)	MCS0	MCS1	MCS2	MCS3	MCS4	MCS5	MCS6	MCS7
Peak Power (dBm)	23.70	23.66	23.65	23.58	23.62	23.47	23.53	23.56

2.4GHz 802.11n HT40 mode								
Data Rate (MHz)	MCS0	MCS1	MCS2	MCS3	MCS4	MCS5	MCS6	MCS7
Peak Power (dBm)	23.02	22.62	22.49	22.54	22.69	22.67	22.57	22.49

2.3 Test Mode

Final test mode of conducted test items and radiated spurious emissions are considering the modulation and worse data rates from the power table described in section 2.2.

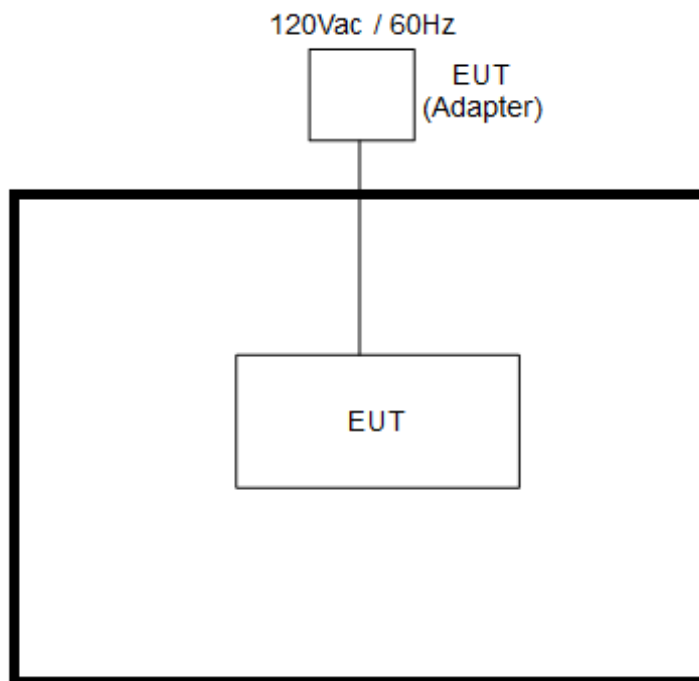
<2.4GHz>

Modulation	Data Rate
802.11b	1 Mbps
802.11g	6 Mbps
802.11n HT20	MCS0
802.11n HT40	MCS0

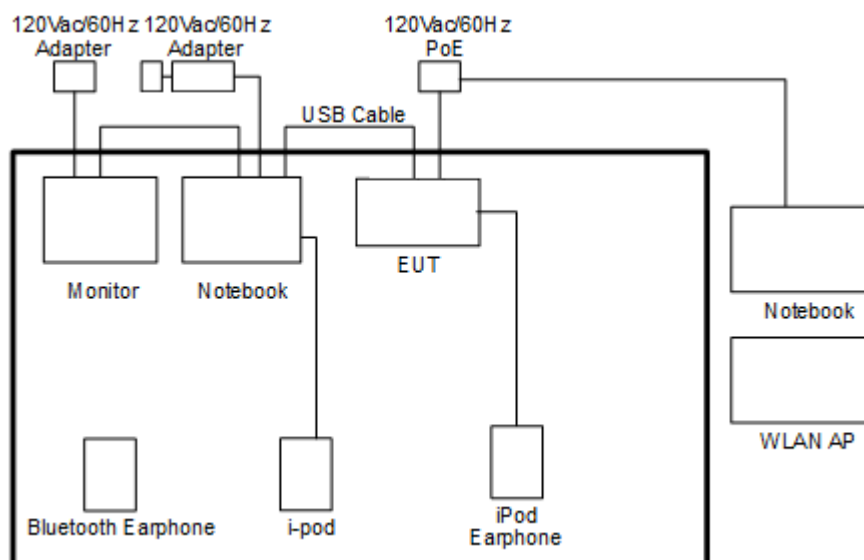
Test Cases	
AC Conducted Emission	Mode 1 : Bluetooth Link + WLAN Link + MPEG4 + LAN Link + PoE Link + USB Cable (Data Link with Notebook)

2.4 Connection Diagram of Test System

<WLAN Tx Mode>



<AC Conducted Emission Mode>



2.5 Support Unit used in test configuration and system

Item	Equipment	Trade Name	Model Name	FCC ID	Data Cable	Power Cord
1.	WLAN AP	D-Link	DIR-628	KA2DIR628A2	N/A	Unshielded, 1.8 m
2.	Notebook	DELL	Latitude E6320	FCC DoC/ Contains FCC ID: QDS-BRCM1054	N/A	AC I/P: Unshielded, 1.2 m DC O/P: Shielded, 1.8 m
3.	Notebook	DELL	P20G	FCC DoC/ Contains FCC ID: QDS-BRCM1051	N/A	AC I/P: Unshielded, 1.2 m DC O/P: Shielded, 1.8 m
4.	LCD Monitor	DELL	U2410	FCC DoC	Shielded, 1.6 m	Unshielded, 1.8 m
5.	Bluetooth Earphone	Sony Ericsson	MW600	PY7DDA-2029	N/A	N/A
6.	iPod	Apple	A1285	FCC DoC	Shielded, 1.0 m	N/A
7.	iPod Earphone	Apple	N/A	Verification	Unshielded, 1.0 m	N/A

2.6 EUT Operation Test Setup

For WLAN function, programmed RF utility, "SP META Tool" installed in the notebook make the EUT provide functions like channel selection and power level for continuous transmitting and receiving signals.

2.7 Measurement Results Explanation Example

For all conducted test items:

The offset level is set in the spectrum analyzer to compensate the RF cable loss and attenuator factor between EUT conducted output port and spectrum analyzer. With the offset compensation, the spectrum analyzer reading level is exactly the EUT RF output level.

Example :

The spectrum analyzer offset is derived from RF cable loss and attenuator factor.

Offset = RF cable loss + attenuator factor.

Following shows an offset computation example with cable loss 4.2 dB and 10dB attenuator.

$$\begin{aligned}
 \text{Offset(dB)} &= \text{RF cable loss(dB)} + \text{attenuator factor(dB)}. \\
 &= 4.2 + 10 = 14.2 \text{ (dB)}
 \end{aligned}$$

3 Test Result

3.1 6dB and 99% Bandwidth Measurement

3.1.1 Limit of 6dB and 99% Bandwidth

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

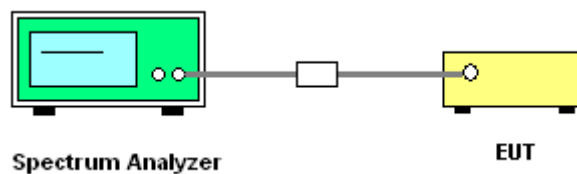
3.1.2 Measuring Instruments

The measuring equipment is listed in the section 4 of this test report.

3.1.3 Test Procedures

1. The testing follows FCC KDB Publication No. 558074 DTS D01 Meas. Guidance v03r04.
2. The RF output of EUT was connected to the spectrum analyzer by RF cable and attenuator. The path loss was compensated to the results for each measurement.
3. Set to the maximum power setting and enable the EUT transmit continuously.
4. Make the measurement with the spectrum analyzer's resolution bandwidth (RBW) = 100 kHz. Set the Video bandwidth (VBW) = 300 kHz. In order to make an accurate measurement. The 6 dB bandwidth must be greater than 500 kHz.
5. For 99% Bandwidth Measurement, the spectrum analyzer's resolution bandwidth (RBW) = 1MHz and set the Video bandwidth (VBW) = 3MHz.
6. Measure and record the results in the test report.

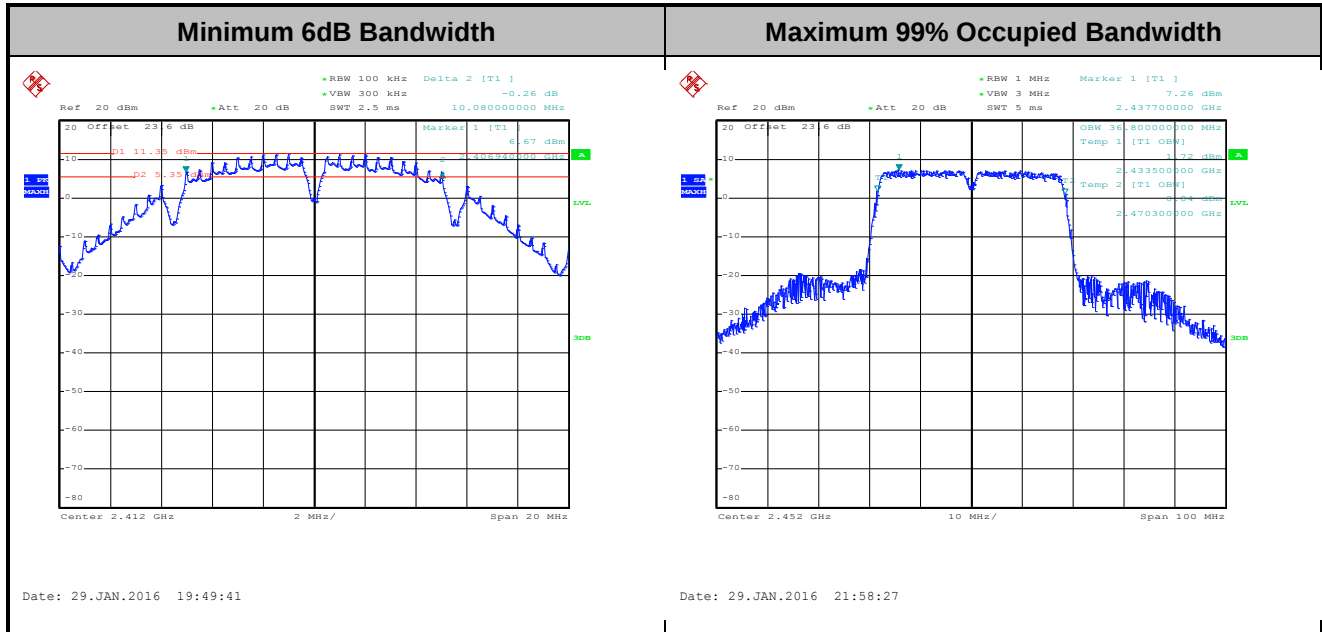
3.1.4 Test Setup





3.1.5 Test Result of 6dB and 99% Occupied Bandwidth

Please refer to Appendix A of this test report.



Note : The occupied channel bandwidth is maintained within the band of operation for all of the modulations.

3.2 Output Power Measurement

3.2.1 Limit of Output Power

For systems using digital modulation in the 2400-2483.5MHz, the limit for peak output power is 30dBm. If transmitting Antenna of directional gain greater than 6dBi are used the peak output power from the intentional radiator shall be reduced below the above stated value by the amount in dB that the directional gain of the Antenna exceeds 6 dBi. In case of point-to-point operation, the limit has to be reduced by 1dB for every 3dB that the directional gain of the Antenna exceeds 6dBi.

3.2.2 Measuring Instruments

The measuring equipment is listed in the section 4 of this test report.

3.2.3 Test Procedures

1. The testing follows the Measurement Procedure of FCC KDB No. 558074 DTS D01 Meas. Guidance v03r04 section 9.1.2 PKPM1 Peak power meter method.
2. The RF output of EUT was connected to the power meter by RF cable and attenuator. The path loss was compensated to the results for each measurement.
3. Set to the maximum power setting and enable the EUT transmit continuously.
4. Measure the conducted output power and record the results in the test report.

3.2.4 Test Setup



3.2.5 Test Result of Peak Output Power

Please refer to Appendix A of this test report.

3.2.6 Test Result of Average output Power (Reporting Only)

Please refer to Appendix A of this test report.

3.3 Power Spectral Density Measurement

3.3.1 Limit of Power Spectral Density

The peak power spectral density shall not be greater than 8dBm in any 3kHz band at any time interval of continuous transmission.

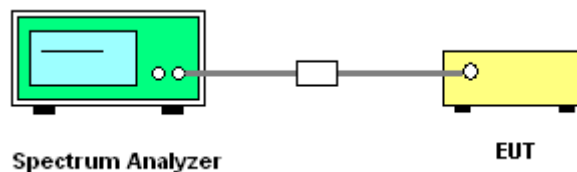
3.3.2 Measuring Instruments

The measuring equipment is listed in the section 4 of this test report.

3.3.3 Test Procedures

1. The testing follows Measurement Procedure 10.2 Method PKPSD of FCC KDB Publication No. 558074 D01 DTS Meas. Guidance v03r04
2. The RF output of EUT was connected to the spectrum analyzer by RF cable and attenuator. The path loss was compensated to the results for each measurement.
3. Set to the maximum power setting and enable the EUT transmit continuously.
4. Make the measurement with the spectrum analyzer's resolution bandwidth (RBW) = 3 kHz. Video bandwidth VBW = 10 kHz In order to make an accurate measurement, set the span to 1.5 times DTS Channel Bandwidth. (6dB BW)
5. Detector = peak, Sweep time = auto couple, Trace mode = max hold, Allow trace to fully stabilize. Use the peak marker function to determine the maximum power level.
6. Measure and record the results in the test report.

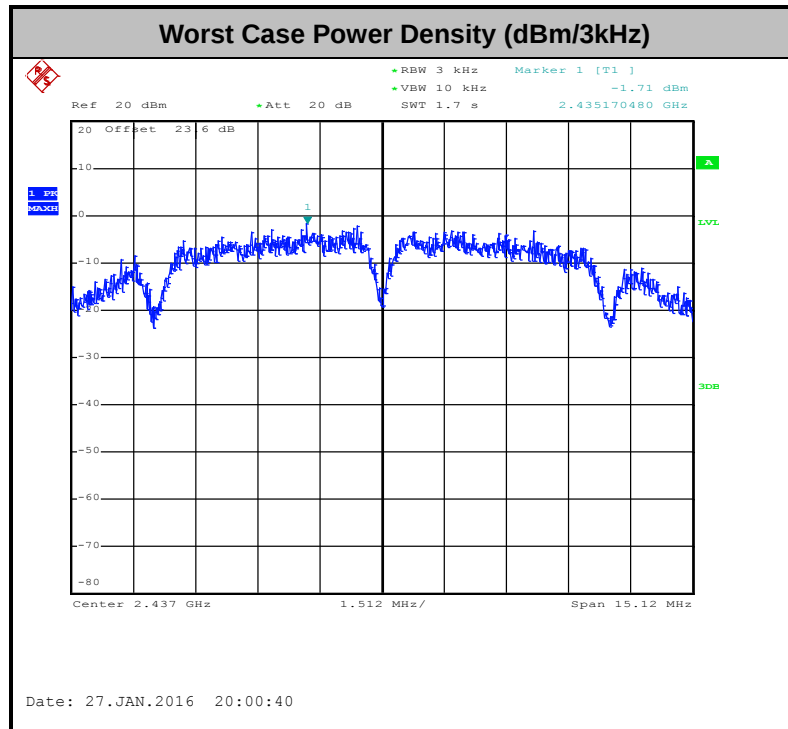
3.3.4 Test Setup





3.3.5 Test Result of Power Spectral Density

Please refer to Appendix A of this test report.



3.4 Conducted Band Edges and Spurious Emission Measurement

3.4.1 Limit of Conducted Band Edges and Spurious Emission Measurement

In any 100 kHz bandwidth outside of the authorized frequency band, the emissions which fall in the non-restricted bands shall be attenuated at least 20 dB / 30dB relative to the maximum PSD level in 100 kHz by RF conducted measurement and radiated emissions which fall in the restricted bands, as defined in Section 15.205(a), must also comply with the radiated emission limits specified in Section 15.209(a).

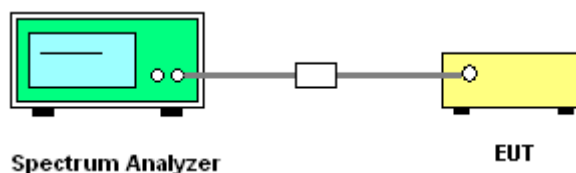
3.4.2 Measuring Instruments

The measuring equipment is listed in the section 4 of this test report.

3.4.3 Test Procedures

1. The testing follows FCC KDB Publication No. 558074 D01 DTS Meas. Guidance v03r04.
2. The RF output of EUT was connected to the spectrum analyzer by RF cable and attenuator. The path loss was compensated to the results for each measurement.
3. Set to the maximum power setting and enable the EUT transmit continuously.
4. Set RBW = 100 kHz, VBW=300 kHz, Peak Detector. Unwanted Emissions measured in any 100 kHz bandwidth outside of the authorized frequency band shall be attenuated by at least 20 dB relative to the maximum in-band peak PSD level in 100 kHz when maximum peak conducted output power procedure is used. If the transmitter complies with the conducted power limits based on the use of RMS averaging over a time interval, the attenuation required under this paragraph shall be 30 dB instead of 20 dB per 15.247(d).
5. Measure and record the results in the test report.
6. The RF fundamental frequency should be excluded against the limit line in the operating frequency band.

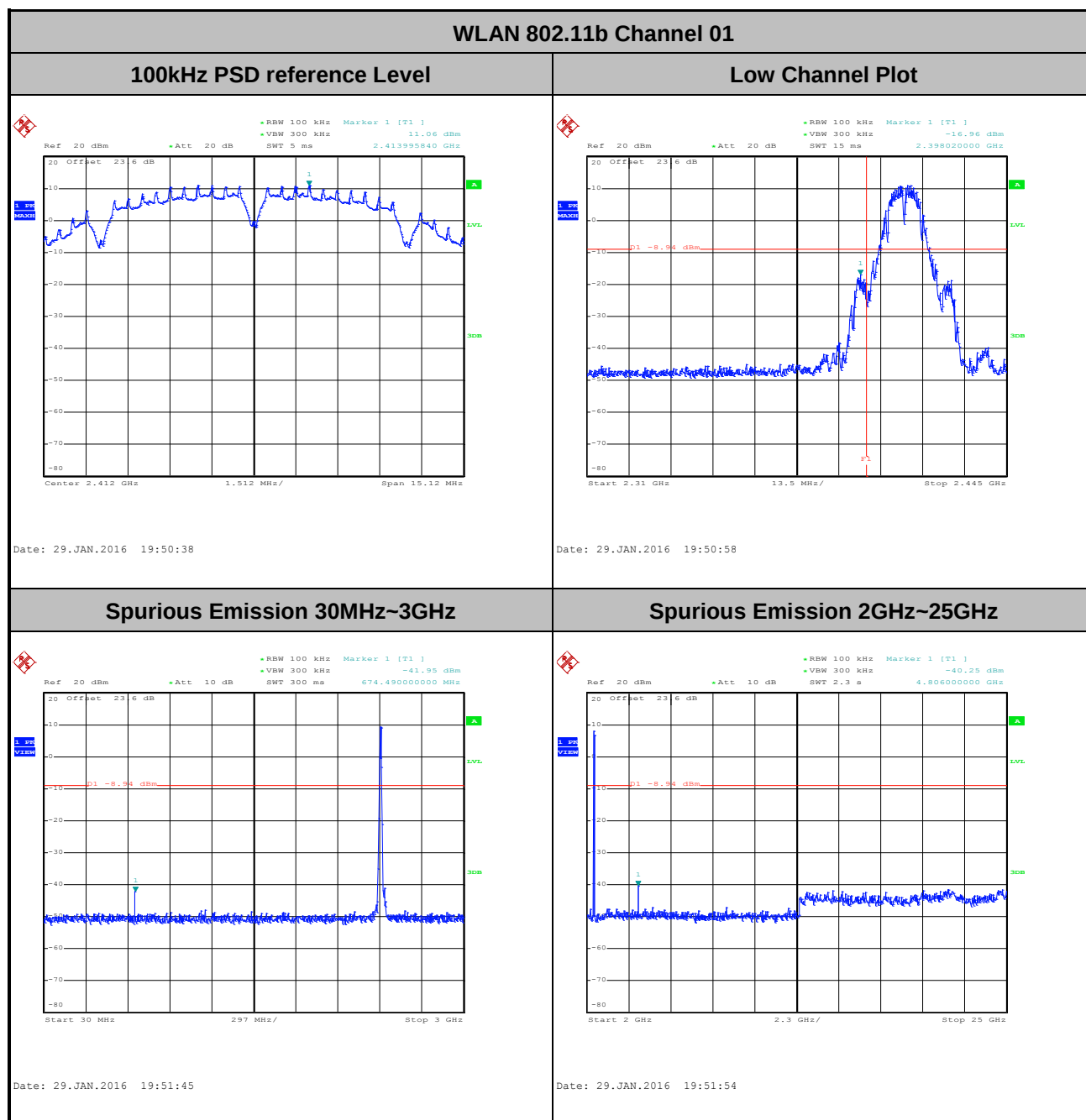
3.4.4 Test Setup





3.4.5 Test Result of Conducted Band Edges and Spurious Emission

Test Mode :	802.11b	Temperature :	21~25°C
Test Band :	2.4GHz Low	Relative Humidity :	51~54%
Test Channel :	01	Test Engineer :	AC Chang

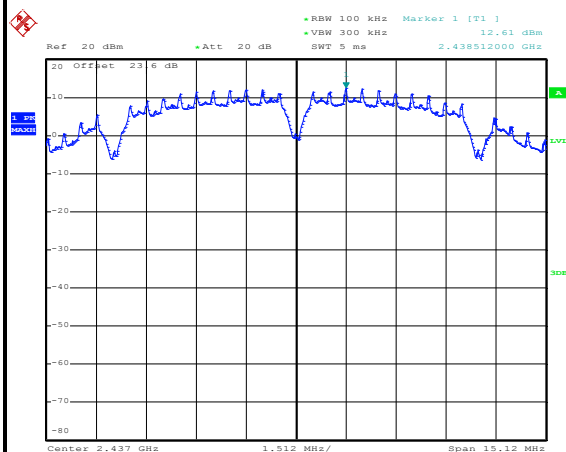




Test Mode :	802.11b	Temperature :	21~25°C
Test Band :	2.4GHz Mid	Relative Humidity :	51~54%
Test Channel :	06	Test Engineer :	AC Chang

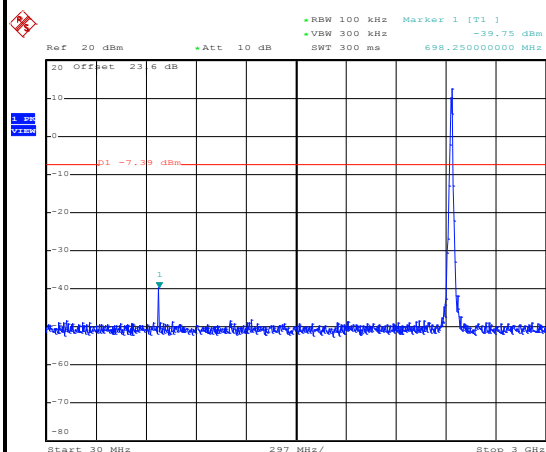
WLAN 802.11b Channel 06

100kHz PSD reference Level



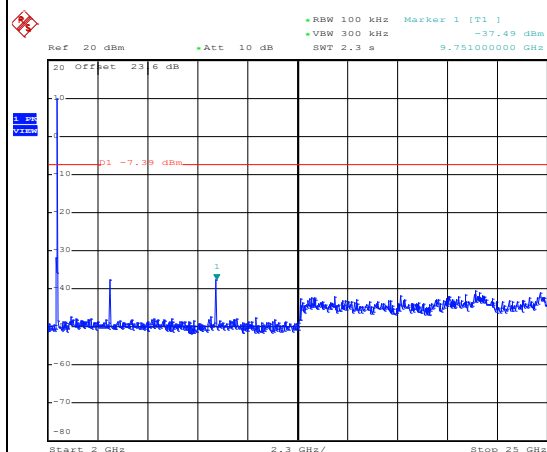
Date: 27.JAN.2016 20:00:59

Spurious Emission 30MHz~3GHz



Date: 27.JAN.2016 20:01:26

Spurious Emission 2GHz~25GHz



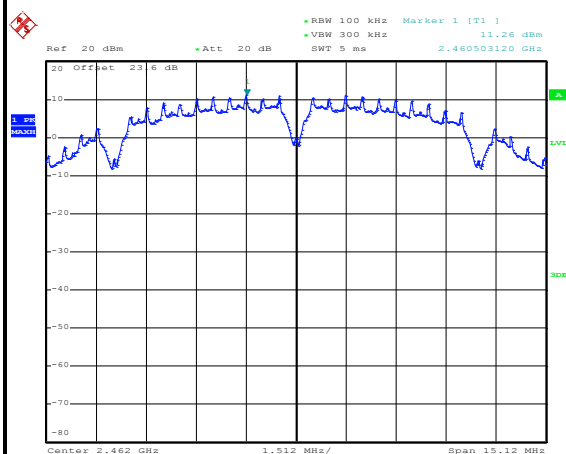
Date: 27.JAN.2016 20:01:34



Test Mode :	802.11b	Temperature :	21~25°C
Test Band :	2.4GHz High	Relative Humidity :	51~54%
Test Channel :	11	Test Engineer :	AC Chang

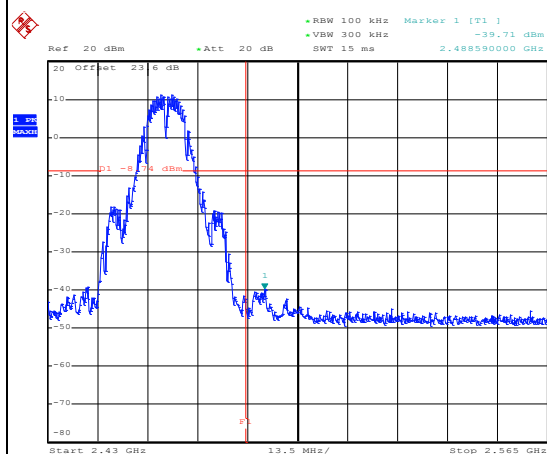
WLAN 802.11b Channel 11

100kHz PSD reference Level



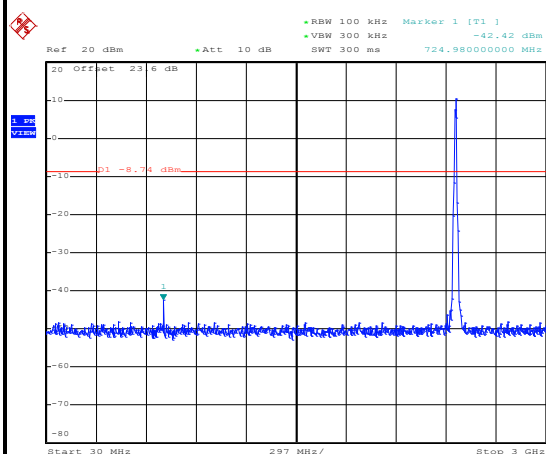
Date: 29.JAN.2016 19:55:45

High Channel Plot



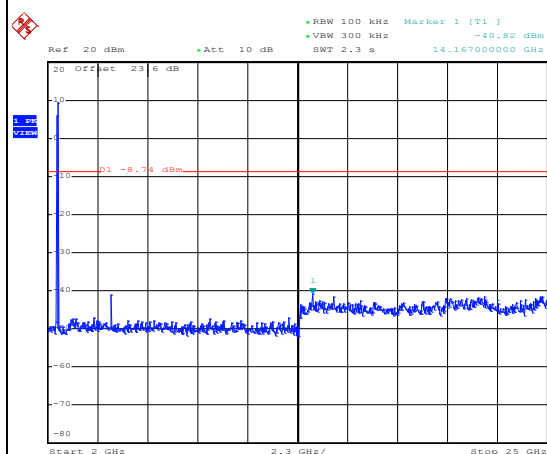
Date: 29.JAN.2016 19:56:10

Spurious Emission 30MHz~3GHz



Date: 29.JAN.2016 19:56:22

Spurious Emission 2GHz~25GHz



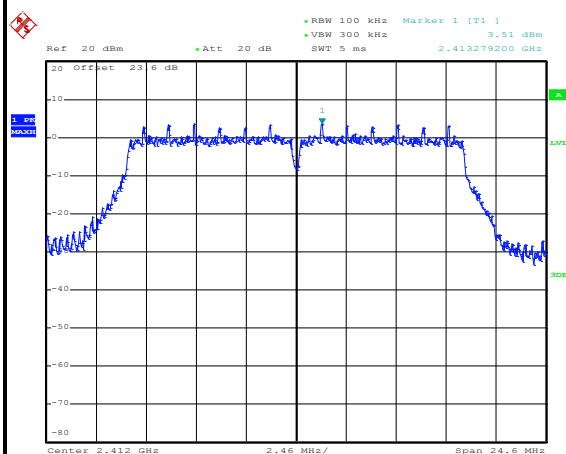
Date: 29.JAN.2016 19:56:30



Test Mode :	802.11g	Temperature :	21~25°C
Test Band :	2.4GHz Low	Relative Humidity :	51~54%
Test Channel :	01	Test Engineer :	AC Chang

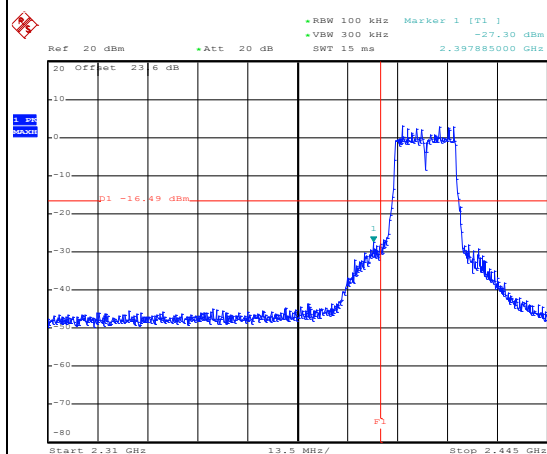
WLAN 802.11g Channel 01

100kHz PSD reference Level



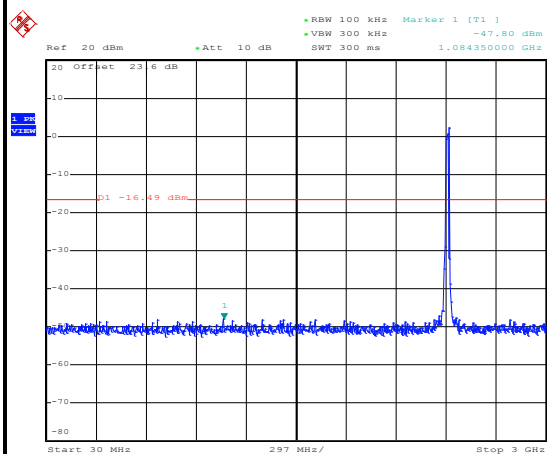
Date: 29.JAN.2016 20:10:11

Low Channel Plot



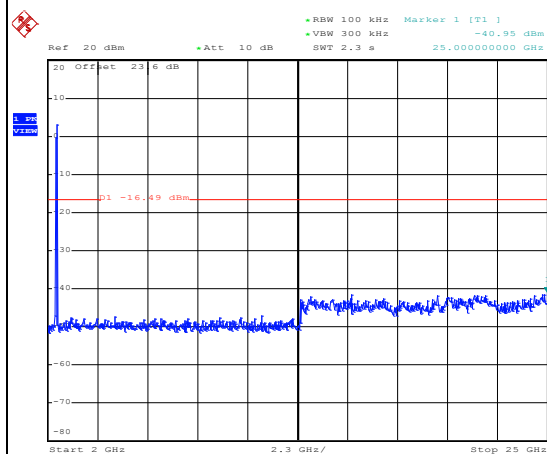
Date: 29.JAN.2016 20:10:30

Spurious Emission 30MHz~3GHz



Date: 29.JAN.2016 20:13:17

Spurious Emission 2GHz~25GHz



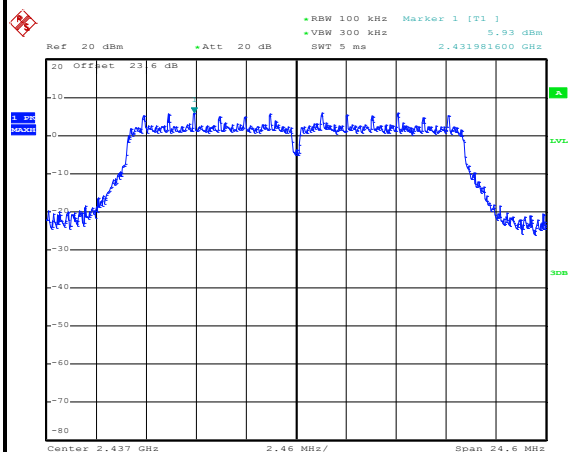
Date: 29.JAN.2016 20:13:25



Test Mode :	802.11g	Temperature :	21~25°C
Test Band :	2.4GHz Mid	Relative Humidity :	51~54%
Test Channel :	06	Test Engineer :	AC Chang

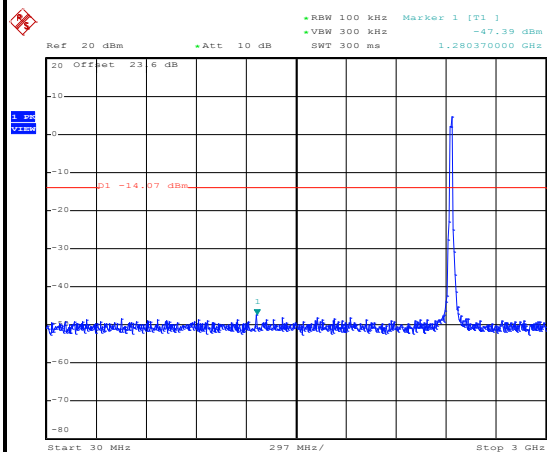
WLAN 802.11g Channel 06

100kHz PSD reference Level



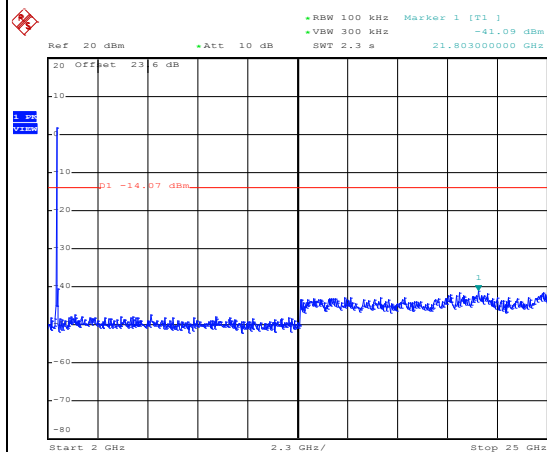
Date: 27.JAN.2016 20:20:30

Spurious Emission 30MHz~3GHz



Date: 27.JAN.2016 20:20:42

Spurious Emission 2GHz~25GHz



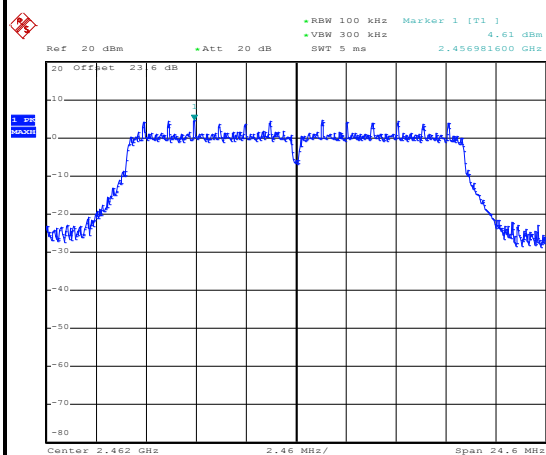
Date: 27.JAN.2016 20:20:51



Test Mode :	802.11g	Temperature :	21~25°C
Test Band :	2.4GHz High	Relative Humidity :	51~54%
Test Channel :	11	Test Engineer :	AC Chang

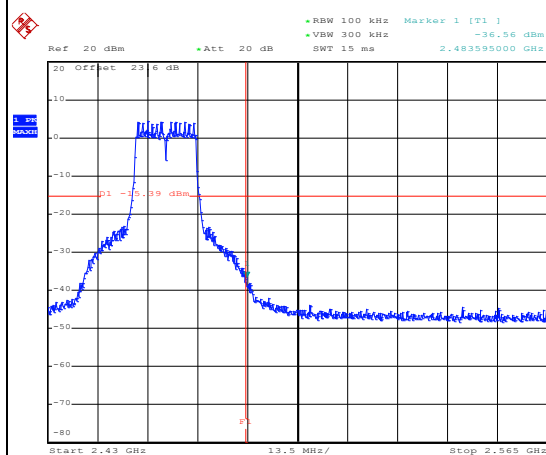
WLAN 802.11g Channel 11

100kHz PSD reference Level



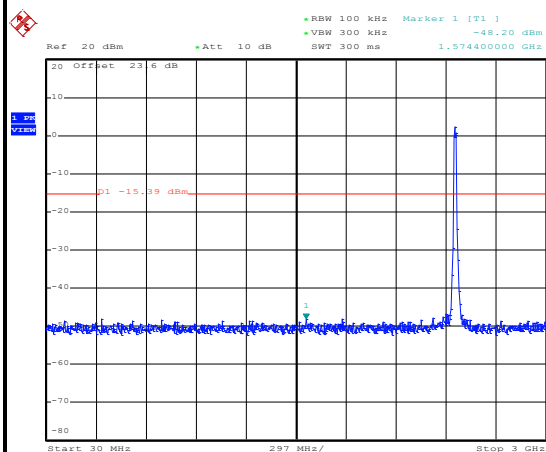
Date: 29.JAN.2016 20:18:09

High Channel Plot



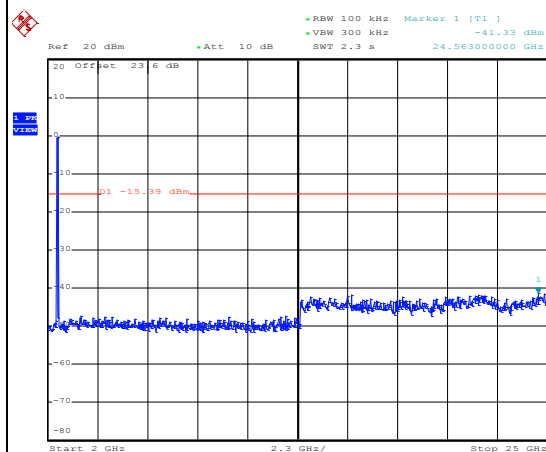
Date: 29.JAN.2016 20:20:42

Spurious Emission 30MHz~3GHz



Date: 29.JAN.2016 20:22:26

Spurious Emission 2GHz~25GHz



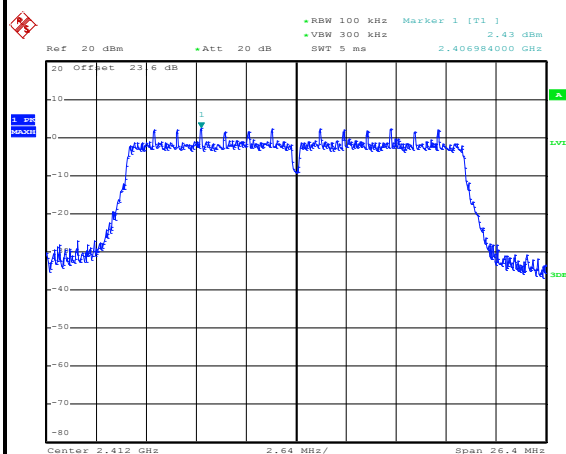
Date: 29.JAN.2016 20:22:35



Test Mode :	802.11n HT20	Temperature :	21~25°C
Test Band :	2.4GHz Low	Relative Humidity :	51~54%
Test Channel :	01	Test Engineer :	AC Chang

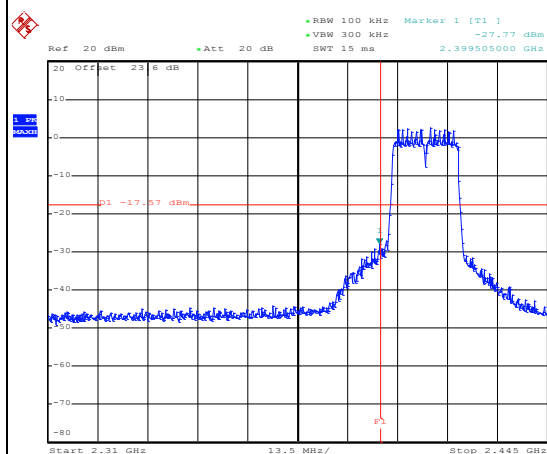
WLAN 802.11n HT20 Channel 01

100kHz PSD reference Level



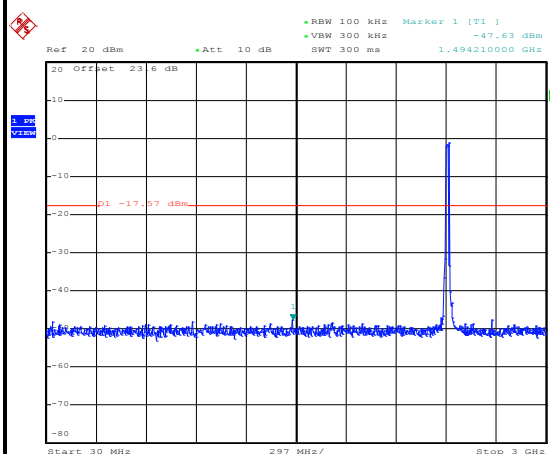
Date: 29.JAN.2016 20:29:52

Low Channel Plot



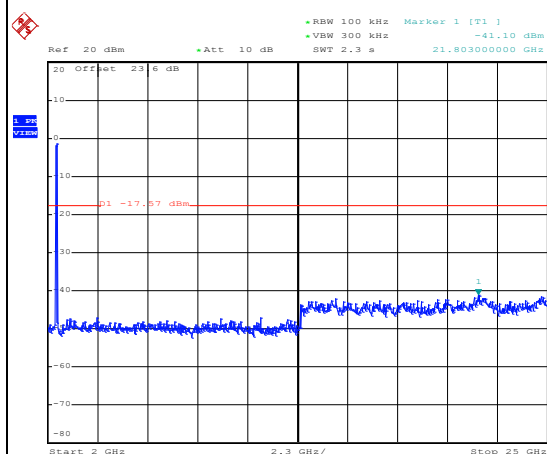
Date: 29.JAN.2016 20:30:43

Spurious Emission 30MHz~3GHz



Date: 29.JAN.2016 20:30:57

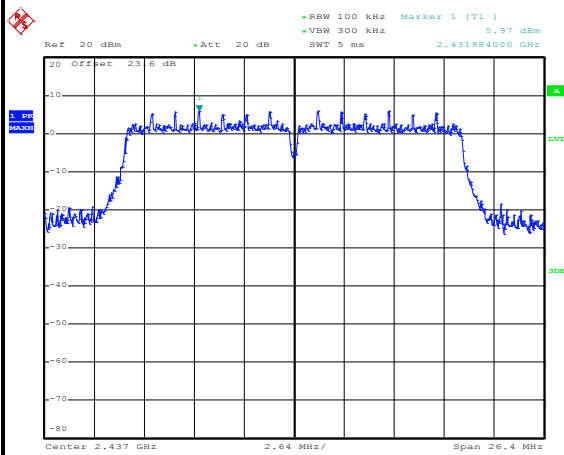
Spurious Emission 2GHz~25GHz



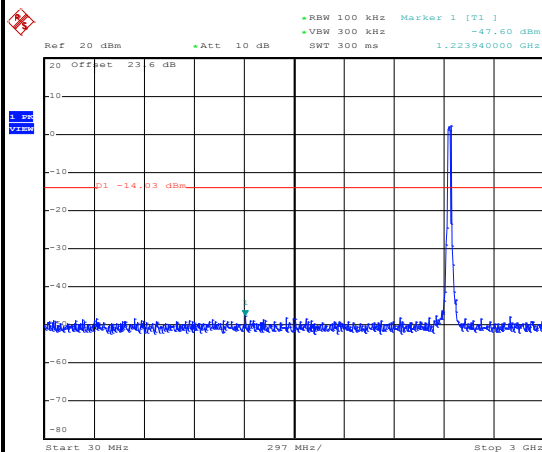
Date: 29.JAN.2016 20:31:05



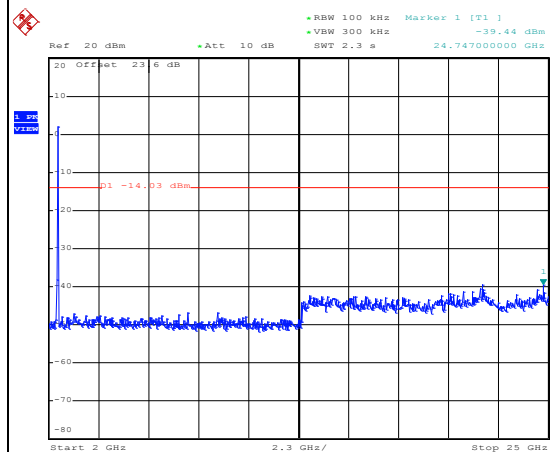
Test Mode :	802.11n HT20	Temperature :	21~25°C
Test Band :	2.4GHz Mid	Relative Humidity :	51~54%
Test Channel :	06	Test Engineer :	AC Chang

WLAN 802.11n HT20 Channel 06**100kHz PSD reference Level**

Date: 27.JAN.2016 20:38:16

Spurious Emission 30MHz~3GHz

Date: 27.JAN.2016 20:38:28

Spurious Emission 2GHz~25GHz

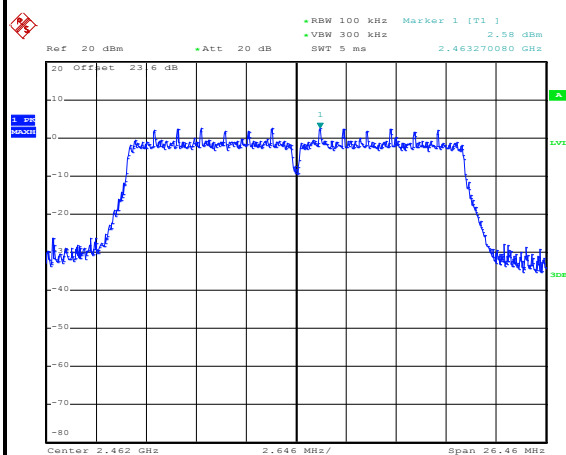
Date: 27.JAN.2016 20:38:36



Test Mode :	802.11n HT20	Temperature :	21~25°C
Test Band :	2.4GHz High	Relative Humidity :	51~54%
Test Channel :	11	Test Engineer :	AC Chang

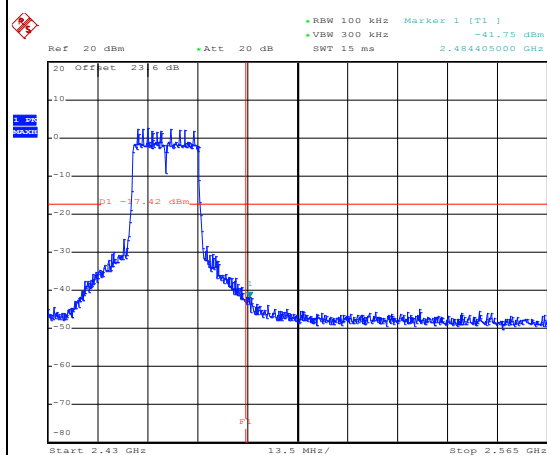
WLAN 802.11n HT20 Channel 11

100kHz PSD reference Level



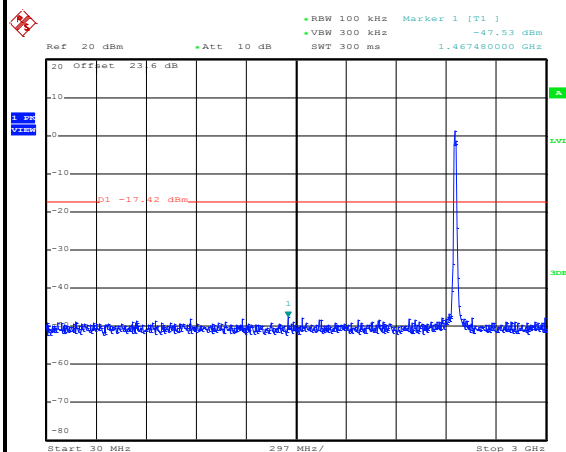
Date: 29.JAN.2016 20:38:38

High Channel Plot



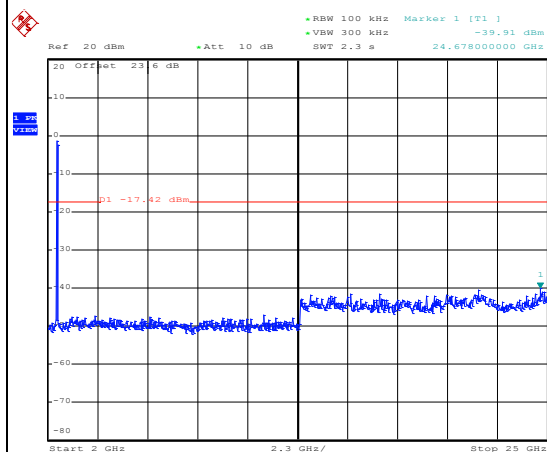
Date: 29.JAN.2016 20:40:17

Spurious Emission 30MHz~3GHz



Date: 29.JAN.2016 20:41:47

Spurious Emission 2GHz~25GHz



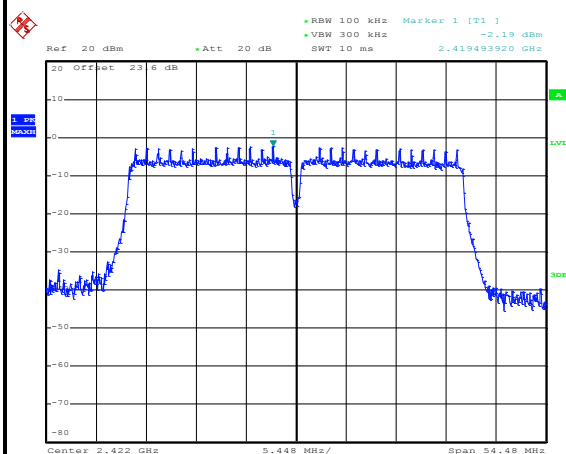
Date: 29.JAN.2016 20:41:56



Test Mode :	802.11n HT40	Temperature :	21~25°C
Test Band :	2.4GHz Low	Relative Humidity :	51~54%
Test Channel :	03	Test Engineer :	AC Chang

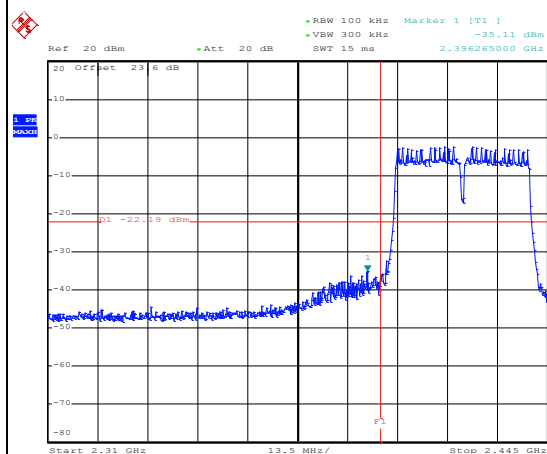
WLAN 802.11n HT40 Channel 03

100kHz PSD reference Level



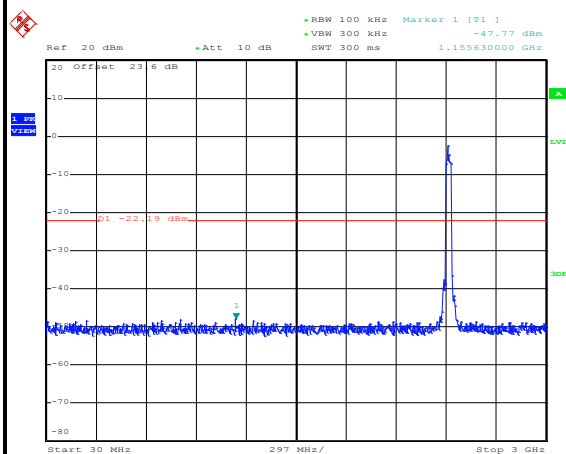
Date: 29.JAN.2016 21:35:25

Low Channel Plot



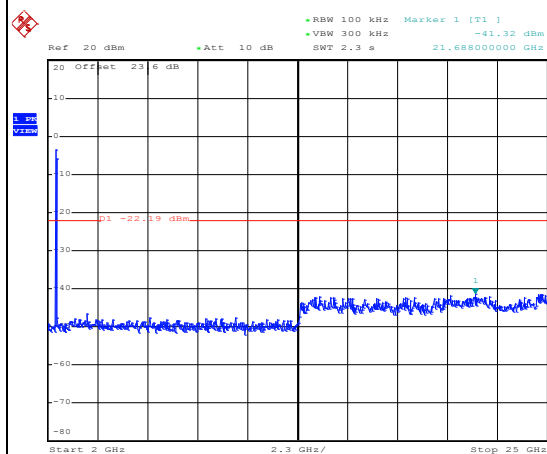
Date: 29.JAN.2016 21:36:47

Spurious Emission 30MHz~3GHz



Date: 29.JAN.2016 21:37:20

Spurious Emission 2GHz~25GHz



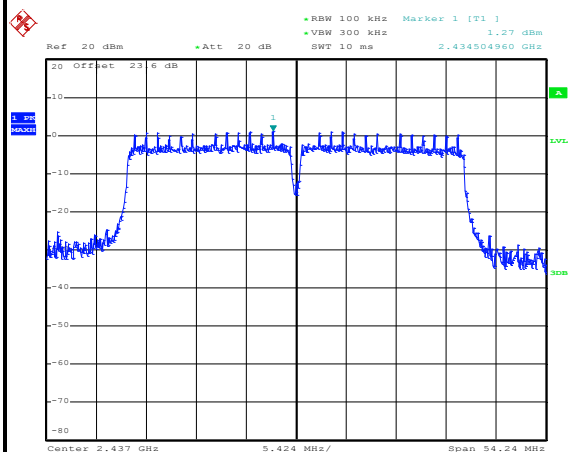
Date: 29.JAN.2016 21:37:28



Test Mode :	802.11n HT40	Temperature :	21~25°C
Test Band :	2.4GHz Mid	Relative Humidity :	51~54%
Test Channel :	06	Test Engineer :	AC Chang

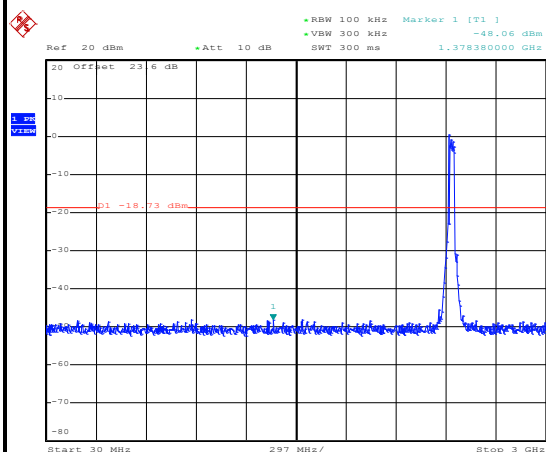
WLAN 802.11n HT40 Channel 06

100kHz PSD reference Level



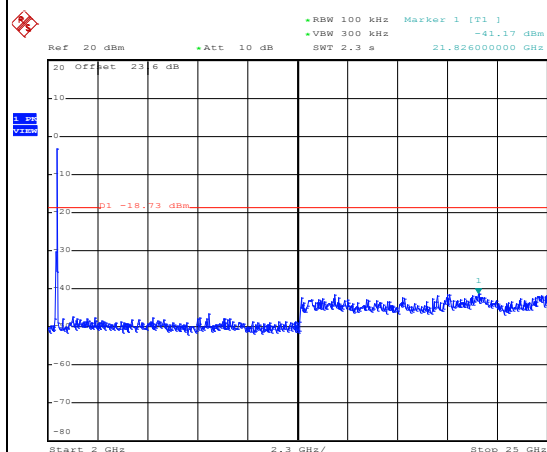
Date: 29.JAN.2016 21:42:51

Spurious Emission 30MHz~3GHz



Date: 29.JAN.2016 21:43:33

Spurious Emission 2GHz~25GHz



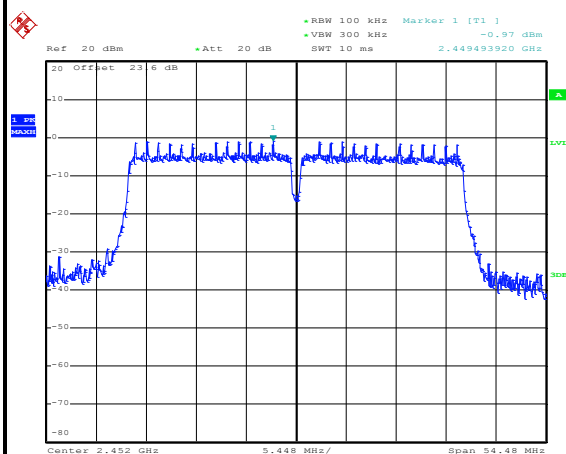
Date: 29.JAN.2016 21:43:42



Test Mode :	802.11n HT40	Temperature :	21~25°C
Test Band :	2.4GHz High	Relative Humidity :	51~54%
Test Channel :	09	Test Engineer :	AC Chang

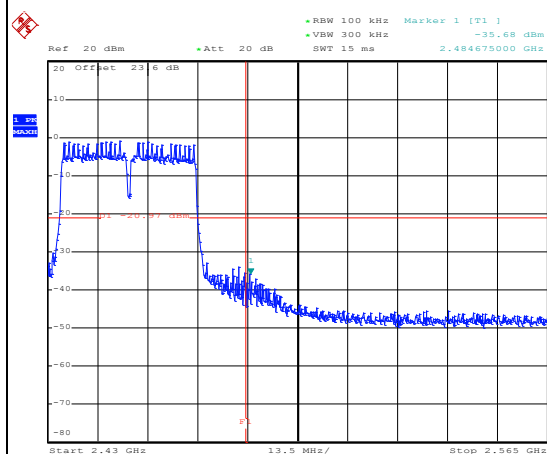
WLAN 802.11n HT40 Channel 09

100kHz PSD reference Level



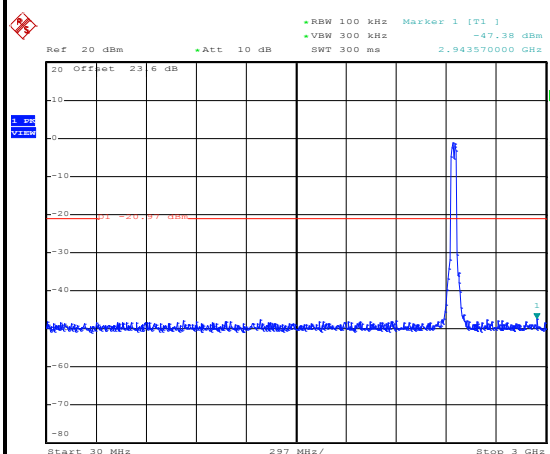
Date: 29.JAN.2016 21:49:57

High Channel Plot



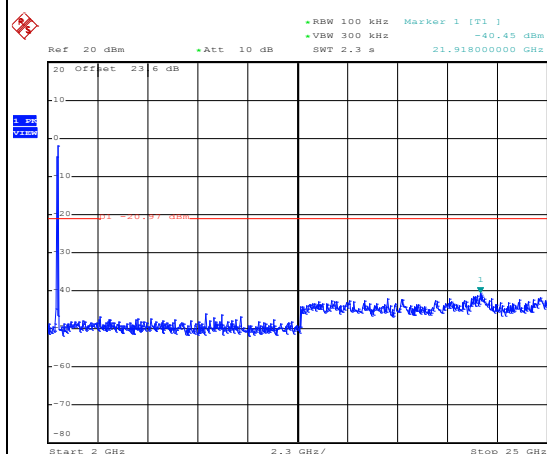
Date: 29.JAN.2016 21:50:18

Spurious Emission 30MHz~3GHz



Date: 29.JAN.2016 21:56:37

Spurious Emission 2GHz~25GHz



Date: 29.JAN.2016 21:56:59

3.5 Radiated Band Edges and Spurious Emission Measurement

3.5.1 Limit of Radiated band edge and Spurious Emission Measurement

In any 100 kHz bandwidth outside the intentional radiator frequency band, all harmonics/spurious must be at least 20 dB below the highest emission level within the authorized band. If the output power of this device was measured by spectrum analyzer, the attenuation under this paragraph shall be 30 dB instead of 20 dB. In addition, radiated emissions which fall in the restricted bands must also comply with the FCC section 15.209 limits as below.

Frequency (MHz)	Field Strength (microvolts/meter)	Measurement Distance (meters)
0.009 – 0.490	2400/F(kHz)	300
0.490 – 1.705	24000/F(kHz)	30
1.705 – 30.0	30	30
30 – 88	100	3
88 – 216	150	3
216 - 960	200	3
Above 960	500	3

3.5.2 Measuring Instruments

The measuring equipment is listed in the section 4 of this test report.

3.5.3 Test Procedures

1. The testing follows FCC KDB Publication No. 558074 D01 DTS Meas. Guidance v03r04.
2. The EUT was arranged to its worst case and then tune the antenna tower (from 1 m to 4 m) and turntable (from 0 degree to 360 degrees) to find the maximum reading. A pre-amp and a high pass filter are used for the test in order to get better signal level.
3. The EUT was placed on a turntable with 0.8 meter for frequency below 1GHz and 1.5 meter for frequency above 1GHz respectively above ground.
4. The EUT was set 3 meters from the interference receiving antenna, which was mounted on the top of a variable height antenna tower.
5. Corrected Reading: Antenna Factor + Cable Loss + Read Level - Preamp Factor = Level
6. For measurement below 1GHz, If the emission level of the EUT measured by the peak detector is 3 dB lower than the applicable limit, the peak emission level will be reported. Otherwise, the emission measurement will be repeated using the quasi-peak detector and reported.
7. Use the following spectrum analyzer settings:
 - (1) Span shall wide enough to fully capture the emission being measured;
 - (2) Set RBW=100 kHz for $f < 1$ GHz; VBW $\geq$ RBW; Sweep = auto; Detector function = peak; Trace = max hold;
 - (3) Set RBW = 1 MHz, VBW= 3MHz for $f \geq 1$ GHz for peak measurement.

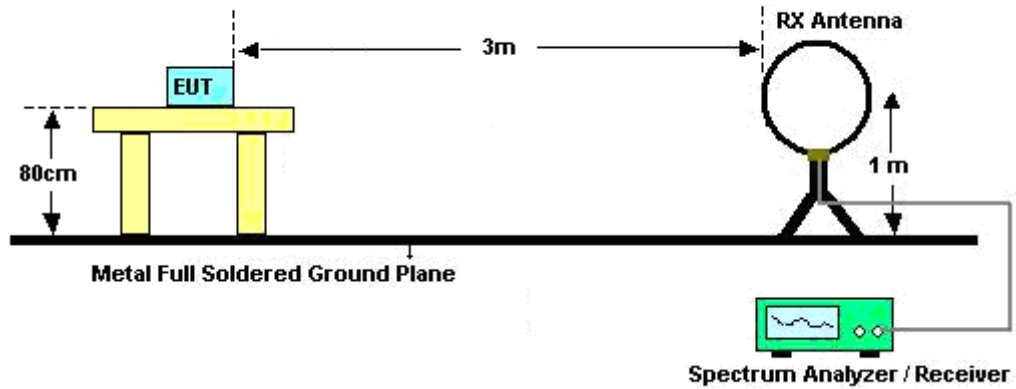
For average measurement:

 - VBW = 10 Hz, when duty cycle is no less than 98 percent.
 - VBW $\geq 1/T$, when duty cycle is less than 98 percent where T is the minimum transmission duration over which the transmitter is on and is transmitting at its maximum power control level for the tested mode of operation.

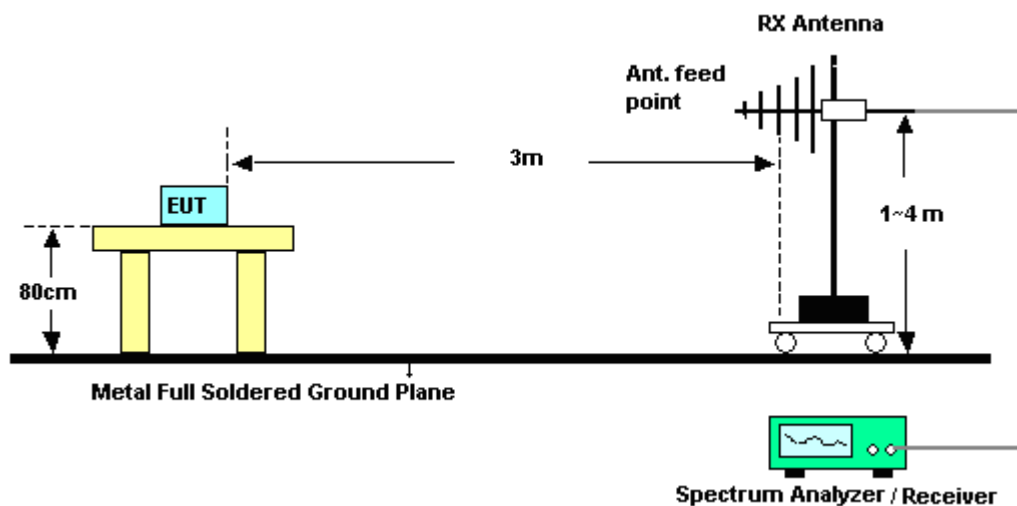
Band	Duty Cycle(%)	T(μ s)	1/T(kHz)	VBW Setting
802.11b	97.76	8375	0.12	300Hz
802.11g	88.22	1379.808	0.72	1kHz
2.4GHz 802.11n HT20	87.71	1280.449	0.78	1kHz
2.4GHz 802.11n HT40	85.03	638.461538	1.57	3kHz

3.5.4 Test Setup

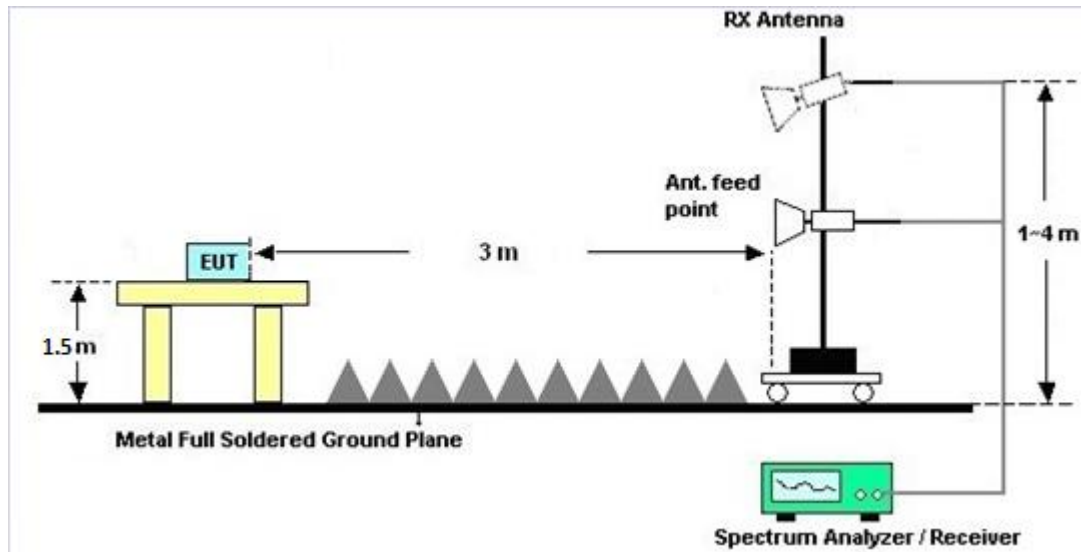
For radiated emissions below 30MHz



For radiated emissions from 30MHz to 1GHz



For radiated emissions above 1GHz



3.5.5 Test Results of Radiated Spurious Emissions (9kHz ~ 30MHz)

The low frequency, which started from 9 kHz to 30MHz, was pre-scanned and the result which was 20dB lower than the limit line per 15.31(o) was not reported.

3.5.6 Test Result of Radiated Spurious at Band Edges

Please refer to Appendix B and C.

3.5.7 Test Result of Radiated Spurious Emission (30MHz ~ 10th Harmonic)

Please refer to Appendix B and C.

3.6 AC Conducted Emission Measurement

3.6.1 Limit of AC Conducted Emission

For equipment that is designed to be connected to the public utility (AC) power line, the radio frequency voltage that is conducted back onto the AC power line on any frequency or frequencies within the band 150 kHz to 30 MHz shall not exceed the limits in the following table.

Frequency of emission (MHz)	Conducted limit (dB μ V)	
	Quasi-peak	Average
0.15-0.5	66 to 56*	56 to 46*
0.5-5	56	46
5-30	60	50

*Decreases with the logarithm of the frequency.

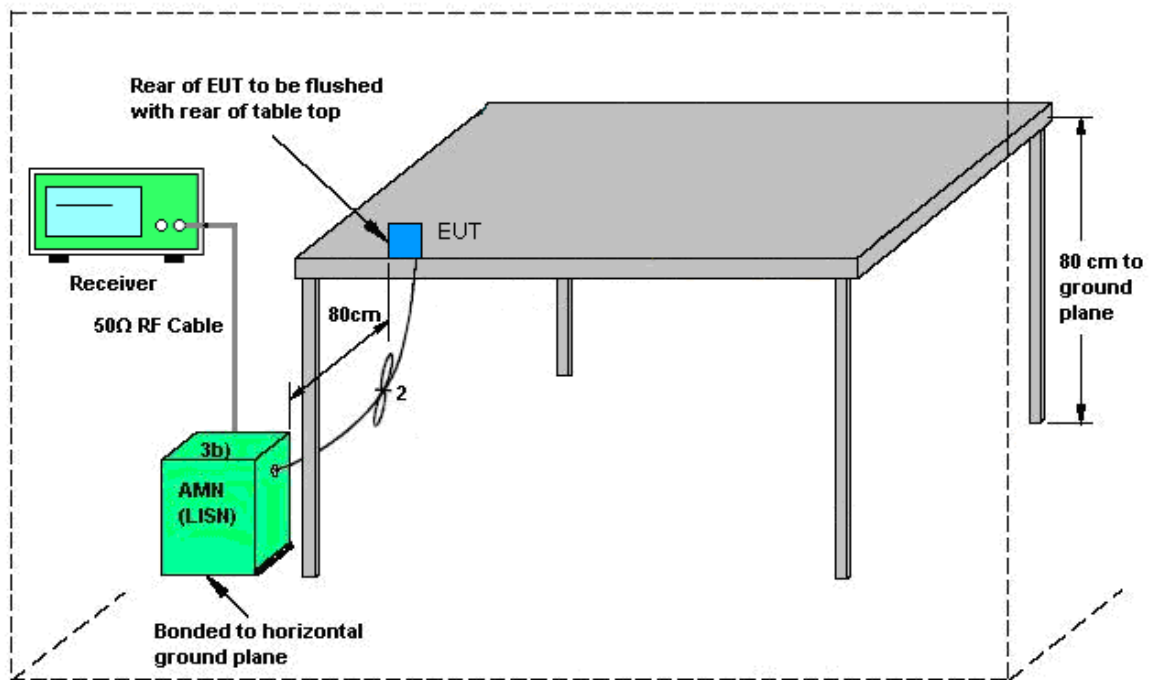
3.6.2 Measuring Instruments

The measuring equipment is listed in the section 4 of this test report.

3.6.3 Test Procedures

1. The EUT was placed 0.4 meter from the conducting wall of the shielding room, and it was kept at least 80 centimeters from any other grounded conducting surface.
2. Connect EUT to the power mains through a line impedance stabilization network (LISN).
3. All the support units are connecting to the other LISN.
4. The LISN provides 50 ohm coupling impedance for the measuring instrument.
5. The FCC states that a 50 ohm, 50 microhenry LISN should be used.
6. Both sides of AC line were checked for maximum conducted interference.
7. The frequency range from 150 kHz to 30 MHz was searched.
8. Set the test-receiver system to Peak Detect Function and specified bandwidth (IF bandwidth = 9kHz) with Maximum Hold Mode.

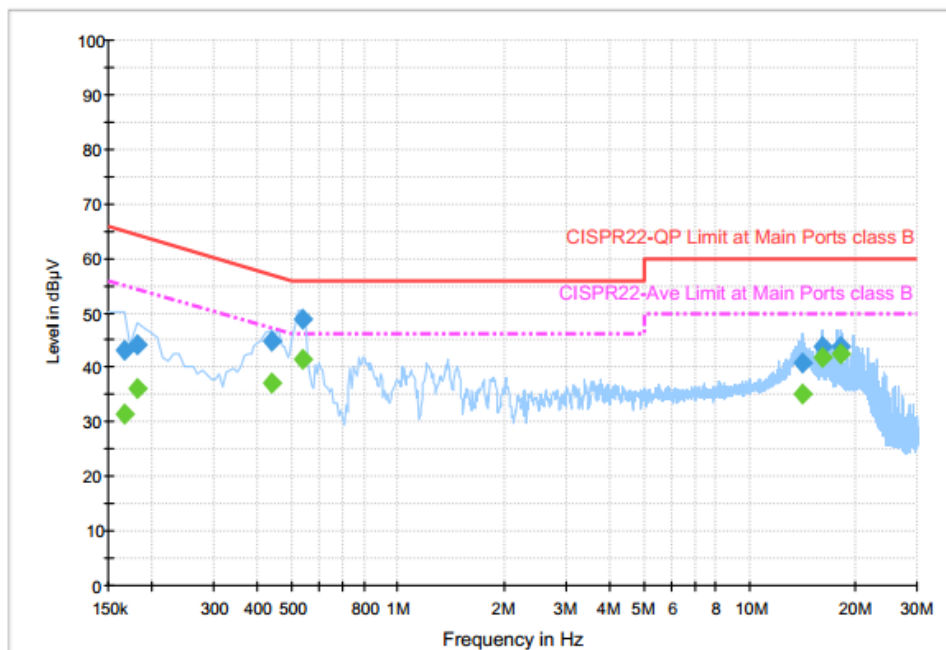
3.6.4 Test Setup



AMN = Artificial mains network (LISN)
 AE = Associated equipment
 EUT = Equipment under test
 ISN = Impedance stabilization network

3.6.5 Test Result of AC Conducted Emission

Test Mode :	Mode 1	Temperature :	21~23℃
Test Engineer :	Derreck Chen	Relative Humidity :	48~50%
Test Voltage :	120Vac / 60Hz	Phase :	Line
Function Type :	Bluetooth Link + WLAN Link + MPEG4 + LAN Link + PoE Link + USB Cable (Data Link with Notebook)		



Final Result : Quasi-Peak

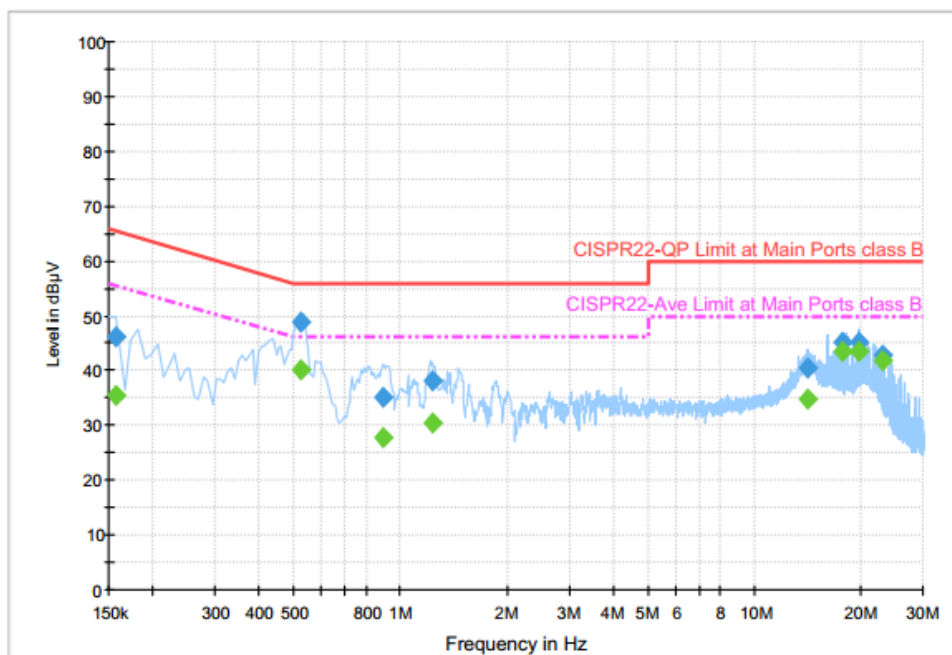
Frequency (MHz)	Quasi-Peak (dBμV)	Filter	Line	Corr. (dB)	Margin (dB)	Limit (dBμV)
0.166000	43.0	Off	L1	19.6	22.2	65.2
0.182000	44.1	Off	L1	19.6	20.3	64.4
0.438000	44.8	Off	L1	19.6	12.3	57.1
0.534000	48.9	Off	L1	19.6	7.1	56.0
14.150000	41.0	Off	L1	19.8	19.0	60.0
16.230000	43.9	Off	L1	19.8	16.1	60.0
18.246000	43.9	Off	L1	19.9	16.1	60.0

Final Result : Average

Frequency (MHz)	Average (dBμV)	Filter	Line	Corr. (dB)	Margin (dB)	Limit (dBμV)
0.166000	31.4	Off	L1	19.6	23.8	55.2
0.182000	36.1	Off	L1	19.6	18.3	54.4
0.438000	37.2	Off	L1	19.6	9.9	47.1
0.534000	41.4	Off	L1	19.6	4.6	46.0
14.150000	35.2	Off	L1	19.8	14.8	50.0
16.230000	41.9	Off	L1	19.8	8.1	50.0
18.246000	42.4	Off	L1	19.9	7.6	50.0



Test Mode :	Mode 1	Temperature :	21~23℃
Test Engineer :	Derreck Chen	Relative Humidity :	48~50%
Test Voltage :	120Vac / 60Hz	Phase :	Neutral
Function Type :	Bluetooth Link + WLAN Link + MPEG4 + LAN Link + PoE Link + USB Cable (Data Link with Notebook)		

**Final Result : Quasi-Peak**

Frequency (MHz)	Quasi-Peak (dBμV)	Filter	Line	Corr. (dB)	Margin (dB)	Limit (dBμV)
0.158000	46.2	Off	N	19.6	19.4	65.6
0.526000	48.9	Off	N	19.6	7.1	56.0
0.894000	35.1	Off	N	19.6	20.9	56.0
1.230000	38.2	Off	N	19.6	17.8	56.0
14.214000	40.5	Off	N	19.9	19.5	60.0
17.694000	45.2	Off	N	19.9	14.8	60.0
19.710000	45.1	Off	N	20.0	14.9	60.0
23.126000	43.0	Off	N	20.0	17.0	60.0

Final Result : Average

Frequency (MHz)	Average (dBμV)	Filter	Line	Corr. (dB)	Margin (dB)	Limit (dBμV)
0.158000	35.4	Off	N	19.6	20.2	55.6
0.526000	40.0	Off	N	19.6	6.0	46.0
0.894000	27.7	Off	N	19.6	18.3	46.0
1.230000	30.3	Off	N	19.6	15.7	46.0
14.214000	34.8	Off	N	19.9	15.2	50.0
17.694000	43.6	Off	N	19.9	6.4	50.0
19.710000	43.6	Off	N	20.0	6.4	50.0
23.126000	41.9	Off	N	20.0	8.1	50.0



3.7 Antenna Requirements

3.7.1 Standard Applicable

If directional gain of transmitting antennas is greater than 6dBi, the power shall be reduced by the same level in dB comparing to gain minus 6dBi. For the fixed point-to-point operation, the power shall be reduced by one dB for every 3 dB that the directional gain of the antenna exceeds 6 dBi. The use of a permanently attached antenna or of an antenna that uses a unique coupling to the intentional radiator shall be considered sufficient to comply with the FCC rule.

3.7.2 Antenna Anti-Replacement Construction

An embedded-in antenna design is used.

3.7.3 Antenna Gain

The antenna peak gain of EUT is less than 6 dBi. Therefore, it is not necessary to reduce maximum peak output power limit.



4 List of Measuring Equipment

Instrument	Manufacturer	Model No.	Serial No.	Characteristics	Calibration Date	Test Date	Due Date	Remark
Power Meter	Anritsu	ML2495A	1132003	300MHz~40GHz	Aug. 12, 2015	Jan. 22, 2016 ~ Jan. 29, 2016	Aug. 11, 2016	Conducted (TH05-HY)
Power Sensor	Anritsu	MA2411B	1126017	300MHz~40GHz	Aug. 12, 2015	Jan. 22, 2016 ~ Jan. 29, 2016	Aug. 11, 2016	Conducted (TH05-HY)
Spectrum Analyzer	Rohde & Schwarz	FSP40	100057	9kHz-40GHz	Nov. 23, 2015	Jan. 22, 2016 ~ Jan. 29, 2016	Nov. 22, 2016	Conducted (TH05-HY)
Loop Antenna	Rohde & Schwarz	HFH2-Z2	100315	9 kHz~30 MHz	Sep. 02, 2015	Jan. 28, 2016 ~ Jan. 29, 2016	Sep. 01, 2016	Radiation (03CH11-HY)
Amplifier	SONOMA	310N	187312	9kHz~1GHz	Nov. 20, 2015	Jan. 28, 2016 ~ Jan. 29, 2016	Nov. 19, 2016	Radiation (03CH11-HY)
Horn Antenna	SCHWARZBECK	BBHA 9120 D	9120D-1326	1GHz ~ 18GHz	Oct. 08, 2015	Jan. 28, 2016 ~ Jan. 29, 2016	Oct. 07, 2016	Radiation (03CH11-HY)
Preamplifier	Keysight	83017A	MY53270080	1GHz~26.5GHz	Nov. 19, 2015	Jan. 28, 2016 ~ Jan. 29, 2016	Nov. 18, 2016	Radiation (03CH11-HY)
Preamplifier	MITEQ	AMF-7D-0010 1800-30-10P	1902247	1GHz~18GHz	Jul. 01, 2015	Jan. 28, 2016 ~ Jan. 29, 2016	Jun. 30, 2016	Radiation (03CH11-HY)
Spectrum Analyzer	Keysight	N9010A	MY54200486	10Hz ~ 44GHZ	Sep. 24, 2015	Jan. 28, 2016 ~ Jan. 29, 2016	Sep. 23, 2016	Radiation (03CH11-HY)
EMI Test Receiver	Agilent	N9038A (MXE)	MY53290053	20Hz to 26.5GHz	Feb. 02, 2015	Jan. 28, 2016 ~ Jan. 29, 2016	Feb. 01, 2016	Radiation (03CH11-HY)
Antenna Mast	EMEC	AM-BS-4500-B	N/A	1~4m	N/A	Jan. 28, 2016 ~ Jan. 29, 2016	N/A	Radiation (03CH11-HY)
Turn Table	EMEC	TT 2000	N/A	0-360 degree	N/A	Jan. 28, 2016 ~ Jan. 29, 2016	N/A	Radiation (03CH11-HY)
Bilog Antenna	TESEQ	CBL 6111D	35414	30MHz to 1GHz	Nov. 17, 2015	Jan. 28, 2016 ~ Jan. 29, 2016	Nov. 16, 2016	Radiation (03CH11-HY)
SHF-EHF Horn Antenna	SCHWARZBECK	BBHA 9170	BBHA9170576	18GHz ~ 40GHz	Apr. 20, 2015	Jan. 28, 2016 ~ Jan. 29, 2016	Apr. 19, 2016	Radiation (03CH11-HY)
Preamplifier	MITEQ	JS44-180040 00-33-8P	1840917	18GHz ~ 40GHz	Jun. 02, 2015	Jan. 28, 2016 ~ Jan. 29, 2016	Jun. 01, 2016	Radiation (03CH11-HY)
AC Power Source	ChainTek	APC-1000W	N/A	N/A	N/A	Feb. 22, 2016	N/A	Conduction (CO05-HY)
EMI Test Receiver	Rohde & Schwarz	ESCI 7	100724	9kHz~7GHz	Aug. 26, 2015	Feb. 22, 2016	Aug. 25, 2016	Conduction (CO05-HY)
LISN	Rohde & Schwarz	ENV216	100080	9kHz~30MHz	Dec. 02, 2015	Feb. 22, 2016	Dec. 01, 2016	Conduction (CO05-HY)
Pulse Limiter	Rohde & Schwarz	ESH3-Z2	100851	N/A	Jan. 08, 2016	Feb. 22, 2016	Jan. 07, 2017	Conduction (CO05-HY)



5 Uncertainty of Evaluation

Uncertainty of Conducted Emission Measurement (150kHz ~ 30MHz)

Measuring Uncertainty for a Level of Confidence of 95% ($U = 2Uc(y)$)	2.26
---	------

Uncertainty of Radiated Emission Measurement (30 MHz ~ 1000 MHz)

Measuring Uncertainty for a Level of Confidence of 95% ($U = 2Uc(y)$)	4.9
---	-----



Appendix A. Conducted Test Results

A1 - DTS Part

Test Engineer:	Osolemio Chang	Temperature:	23.7~24.5	°C
Test Date:	2016/1/22~2016/1/29	Relative Humidity:	52.5~53.6	%

TEST RESULTS DATA
6dB and 99% Occupied Bandwidth

2.4GHz Band								
Mod.	Data Rate	N _{TX}	CH.	Freq. (MHz)	99% Occupied BW (MHz)	6dB BW (MHz)	6dB BW Limit (MHz)	Pass/Fail
11b	1Mbps	1	1	2412	14.45	10.08	0.50	Pass
11b	1Mbps	1	6	2437	16.55	10.08	0.50	Pass
11b	1Mbps	1	11	2462	14.35	10.08	0.50	Pass
11g	6Mbps	1	1	2412	17.85	16.40	0.50	Pass
11g	6Mbps	1	6	2437	18.05	16.40	0.50	Pass
11g	6Mbps	1	11	2462	17.80	16.40	0.50	Pass
HT20	MCS0	1	1	2412	18.50	17.60	0.50	Pass
HT20	MCS0	1	6	2437	19.15	17.60	0.50	Pass
HT20	MCS0	1	11	2462	18.50	17.64	0.50	Pass
HT40	MCS0	1	3	2422	36.50	36.32	0.50	Pass
HT40	MCS0	1	6	2437	36.80	36.16	0.50	Pass
HT40	MCS0	1	9	2452	36.80	36.32	0.50	Pass

TEST RESULTS DATA
Peak Power Table

2.4GHz Band										
Mod.	Data Rate	NTx	CH.	Freq. (MHz)	Peak Conducted Power (dBm)	Conducted Power Limit (dBm)	DG (dBi)	EIRP Power (dBm)	EIRP Power Limit (dBm)	Pass /Fail
11b	1Mbps	1	1	2412	22.57	30.00	1.00	23.57	36.00	Pass
11b	1Mbps	1	6	2437	23.29	30.00	1.00	24.29	36.00	Pass
11b	1Mbps	1	11	2462	22.49	30.00	1.00	23.49	36.00	Pass
11g	6Mbps	1	1	2412	22.35	30.00	1.00	23.35	36.00	Pass
11g	6Mbps	1	6	2437	23.65	30.00	1.00	24.65	36.00	Pass
11g	6Mbps	1	11	2462	22.93	30.00	1.00	23.93	36.00	Pass
HT20	MCS0	1	1	2412	22.23	30.00	1.00	23.23	36.00	Pass
HT20	MCS0	1	6	2437	23.70	30.00	1.00	24.70	36.00	Pass
HT20	MCS0	1	11	2462	22.19	30.00	1.00	23.19	36.00	Pass
HT40	MCS0	1	3	2422	21.82	30.00	1.00	22.82	36.00	Pass
HT40	MCS0	1	6	2437	23.02	30.00	1.00	24.02	36.00	Pass
HT40	MCS0	1	9	2452	22.36	30.00	1.00	23.36	36.00	Pass

TEST RESULTS DATA
Average Power Table
(Reporting Only)

2.4GHz Band						
Mod.	Data Rate	N _{TX}	CH.	Freq. (MHz)	Duty Factor (dB)	Average Conducted Power (dBm)
11b	1Mbps	1	1	2412	0.10	20.87
11b	1Mbps	1	6	2437	0.10	22.01
11b	1Mbps	1	11	2462	0.10	20.50
11g	6Mbps	1	1	2412	0.54	15.11
11g	6Mbps	1	6	2437	0.54	17.49
11g	6Mbps	1	11	2462	0.54	15.95
HT20	MCS0	1	1	2412	0.57	14.10
HT20	MCS0	1	6	2437	0.57	17.64
HT20	MCS0	1	11	2462	0.57	14.02
HT40	MCS0	1	3	2422	0.70	12.18
HT40	MCS0	1	6	2437	0.70	15.93
HT40	MCS0	1	9	2452	0.70	13.32

TEST RESULTS DATA
Peak Power Density

2.4GHz Band								
Mod.	Data Rate	NTx	CH.	Freq. (MHz)	Peak PSD (dBm /3kHz)	DG (dBi)	Peak PSD Limit (dBm /3kHz)	Pass/Fail
11b	1Mbps	1	1	2412	-2.05	1.00	8.00	Pass
11b	1Mbps	1	6	2437	-1.71	1.00	8.00	Pass
11b	1Mbps	1	11	2462	-2.42	1.00	8.00	Pass
11g	6Mbps	1	1	2412	-8.74	1.00	8.00	Pass
11g	6Mbps	1	6	2437	-7.36	1.00	8.00	Pass
11g	6Mbps	1	11	2462	-10.07	1.00	8.00	Pass
HT20	MCS0	1	1	2412	-11.12	1.00	8.00	Pass
HT20	MCS0	1	6	2437	-9.15	1.00	8.00	Pass
HT20	MCS0	1	11	2462	-10.91	1.00	8.00	Pass
HT40	MCS0	1	3	2422	-17.10	1.00	8.00	Pass
HT40	MCS0	1	6	2437	-13.18	1.00	8.00	Pass
HT40	MCS0	1	9	2452	-14.80	1.00	8.00	Pass



Appendix B. Radiated Spurious Emission

Test Engineer :	J.C. Liang and Bill Chang and Ken Wu	Temperature :	20~22°C
		Relative Humidity :	54~56%

2.4GHz 2400~2483.5MHz

WIFI 802.11b (Band Edge @ 3m)

WIFI Ant. 1	Note	Frequency (MHz)	Level (dBμV/m)	Over Limit (dB)	Limit Line (dBμV/m)	Read Level (dBμV)	Antenna Factor (dB/m)	Cable Loss (dB)	Preamp Factor (dB)	Ant Pos (cm)	Table Pos (deg)	Peak Avg. (P/A)	Pol. (H/V)
802.11b CH 01 2412MHz		2389.83	55.96	-18.04	74	56.22	27.01	6.71	33.98	184	26	P	H
		2389.2	49.41	-4.59	54	49.68	27.01	6.71	33.99	184	26	A	H
	*	2412	105.36	-	-	105.57	27.06	6.71	33.98	184	26	P	H
	*	2412	102.78	-	-	102.99	27.06	6.71	33.98	184	26	A	H
													H
													H
		2390	57.27	-16.73	74	57.53	27.01	6.71	33.98	123	188	P	V
		2389.29	51.14	-2.86	54	51.41	27.01	6.71	33.99	123	188	A	V
	*	2412	108.56	-	-	108.77	27.06	6.71	33.98	123	188	P	V
	*	2412	105.97	-	-	106.18	27.06	6.71	33.98	123	188	A	V
													V
													V
802.11b CH 06 2437MHz		2390	53.44	-20.56	74	53.7	27.01	6.71	33.98	174	26	P	H
		2390	45.89	-8.11	54	46.15	27.01	6.71	33.98	174	26	A	H
	*	2437	107.39	-	-	107.46	27.16	6.74	33.97	174	26	P	H
	*	2437	104.81	-	-	104.88	27.16	6.74	33.97	174	26	A	H
		2484.8	53.86	-20.14	74	53.79	27.25	6.77	33.95	174	26	P	H
		2484	46.13	-7.87	54	46.06	27.25	6.77	33.95	174	26	A	H
		2389.29	54.19	-19.81	74	54.46	27.01	6.71	33.99	145	182	P	V
		2390	47.15	-6.85	54	47.41	27.01	6.71	33.98	145	182	A	V
	*	2437	109.09	-	-	109.16	27.16	6.74	33.97	145	182	P	V
	*	2437	106.54	-	-	106.61	27.16	6.74	33.97	145	182	A	V
		2483.52	55.09	-18.91	74	55.02	27.25	6.77	33.95	145	182	P	V
		2484	47.15	-6.85	54	47.08	27.25	6.77	33.95	145	182	A	V



802.11b CH 11 2462MHz	*	2462	106.47	-	-	106.46	27.2	6.77	33.96	169	22	P	H
	*	2462	103.9	-	-	103.89	27.2	6.77	33.96	169	22	A	H
		2483.68	56.16	-17.84	74	56.09	27.25	6.77	33.95	169	22	P	H
		2487.64	49.65	-4.35	54	49.53	27.3	6.77	33.95	169	22	A	H
													H
													H
	*	2462	109.09	-	-	109.08	27.2	6.77	33.96	142	181	P	V
	*	2462	106.54	-	-	106.53	27.2	6.77	33.96	142	181	A	V
		2483.68	57.89	-16.11	74	57.82	27.25	6.77	33.95	142	181	P	V
		2487.72	52.01	-1.99	54	51.89	27.3	6.77	33.95	142	181	A	V
													V
													V
Remark	1. No other spurious found. 2. All results are PASS against Peak and Average limit line.												



2.4GHz 2400~2483.5MHz

WIFI 802.11b (Harmonic @ 3m)

WIFI Ant. 1	Note	Frequency (MHz)	Level (dBμV/m)	Over Limit (dB)	Limit Line (dBμV/m)	Read Level (dBμV)	Antenna Factor (dB/m)	Cable Loss (dB)	Preamp Factor (dB)	Ant Pos (cm)	Table Pos (deg)	Peak Avg. (P/A)	Pol. (H/V)
802.11b CH 01 2412MHz		4824	50	-24	74	73.37	31.12	10.58	65.07	100	0	P	H
													H
													H
													H
		4824	50.17	-23.83	74	73.54	31.12	10.58	65.07	100	0	P	V
													V
													V
													V
802.11b CH 06 2437MHz		4874	54.55	-19.45	74	77.88	31.21	10.48	65.02	258	328	P	H
		4874	52.93	-1.07	54	76.26	31.21	10.48	65.02	258	328	A	H
		7311	45.97	-28.03	74	62.67	36.08	12.28	65.06	100	0	P	H
													H
		4874	52.47	-21.53	74	75.8	31.21	10.48	65.02	100	221	P	V
		4874	51.35	-2.65	54	74.68	31.21	10.48	65.02	100	221	A	V
		7311	48.23	-25.77	74	64.93	36.08	12.28	65.06	100	0	P	V
													V
802.11b CH 11 2462MHz		4924	45.77	-28.23	74	69.06	31.29	10.39	64.97	100	0	P	H
		7386	45.23	-28.77	74	61.55	36.27	12.49	65.08	100	0	P	H
													H
													H
		4924	47.25	-26.75	74	70.54	31.29	10.39	64.97	100	0	P	V
		7386	46.88	-27.12	74	63.2	36.27	12.49	65.08	100	0	P	V
													V
													V
Remark	1. No other spurious found. 2. All results are PASS against Peak and Average limit line.												



2.4GHz 2400~2483.5MHz
WIFI 802.11g (Band Edge @ 3m)

WIFI Ant. 1	Note	Frequency (MHz)	Level (dBμV/m)	Over Limit (dB)	Limit Line (dBμV/m)	Read Level (dBμV)	Antenna Factor (dB/m)	Cable Loss (dB)	Preamp Factor (dB)	Ant Pos (cm)	Table Pos (deg)	Peak Avg. (P/A)	Pol. (H/V)
802.11g CH 01 2412MHz		2389.65	62.55	-11.45	74	62.82	27.01	6.71	33.99	181	22	P	H
		2390	51.49	-2.51	54	51.75	27.01	6.71	33.98	181	22	A	H
	*	2412	102.44	-	-	102.65	27.06	6.71	33.98	181	22	P	H
	*	2412	94.88	-	-	95.09	27.06	6.71	33.98	181	22	A	H
													H
													H
		2390	65.76	-8.24	74	66.02	27.01	6.71	33.98	121	188	P	V
		2390	52.47	-1.53	54	52.73	27.01	6.71	33.98	121	188	A	V
	*	2412	105.86	-	-	106.07	27.06	6.71	33.98	121	188	P	V
	*	2412	98.05	-	-	98.26	27.06	6.71	33.98	121	188	A	V
													V
													V
802.11g CH 06 2437MHz		2389.11	53.3	-20.7	74	53.57	27.01	6.71	33.99	162	22	P	H
		2389.65	43.67	-10.33	54	43.94	27.01	6.71	33.99	162	22	A	H
	*	2437	105.48	-	-	105.55	27.16	6.74	33.97	162	22	P	H
	*	2437	98.15	-	-	98.22	27.16	6.74	33.97	162	22	A	H
		2484.56	54.65	-19.35	74	54.58	27.25	6.77	33.95	162	22	P	H
		2484.92	43.81	-10.19	54	43.74	27.25	6.77	33.95	162	22	A	H
		2388.21	56.13	-17.87	74	56.4	27.01	6.71	33.99	146	183	P	V
		2389.38	44.06	-9.94	54	44.33	27.01	6.71	33.99	146	183	A	V
	*	2437	107.42	-	-	107.49	27.16	6.74	33.97	146	183	P	V
	*	2437	99.29	-	-	99.36	27.16	6.74	33.97	146	183	A	V
		2488.24	56.53	-17.47	74	56.41	27.3	6.77	33.95	146	183	P	V
		2483.64	44.13	-9.87	54	44.06	27.25	6.77	33.95	146	183	A	V



802.11g CH 11 2462MHz	*	2462	104.93	-	-	104.92	27.2	6.77	33.96	167	23	P	H
	*	2462	96.84	-	-	96.83	27.2	6.77	33.96	167	23	A	H
		2483.64	68.45	-5.55	74	68.38	27.25	6.77	33.95	167	23	P	H
		2483.6	53.41	-0.59	54	53.34	27.25	6.77	33.95	167	23	A	H
													H
													H
	*	2462	106.98	-	-	106.97	27.2	6.77	33.96	100	181	P	V
	*	2462	98.92	-	-	98.91	27.2	6.77	33.96	100	181	A	V
		2484	69.36	-4.64	74	69.29	27.25	6.77	33.95	100	181	P	V
		2483.52	53.93	-0.07	54	53.86	27.25	6.77	33.95	100	181	A	V
													V
													V
Remark	1. No other spurious found. 2. All results are PASS against Peak and Average limit line.												



2.4GHz 2400~2483.5MHz

WIFI 802.11g (Harmonic @ 3m)

WIFI Ant. 1	Note	Frequency (MHz)	Level (dBμV/m)	Over Limit (dB)	Limit Line (dBμV/m)	Read Level (dBμV)	Antenna Factor (dB/m)	Cable Loss (dB)	Preamp Factor (dB)	Ant Pos (cm)	Table Pos (deg)	Peak Avg. (P/A)	Pol. (H/V)
802.11g CH 01 2412MHz		4824	34.95	-39.05	74	58.32	31.12	10.58	65.07	100	0	P	H
													H
													H
													H
		4824	34.62	-39.38	74	57.99	31.12	10.58	65.07	100	0	P	V
													V
													V
													V
802.11g CH 06 2437MHz		4874	38.94	-35.06	74	62.27	31.21	10.48	65.02	100	0	P	H
		7311	39.51	-34.49	74	56.21	36.08	12.28	65.06	100	0	P	H
													H
													H
		4874	38.58	-35.42	74	61.91	31.21	10.48	65.02	100	0	P	V
		7311	42.76	-31.24	74	59.46	36.08	12.28	65.06	100	0	P	V
													V
													V
802.11g CH 11 2462MHz		4924	35.32	-38.68	74	58.61	31.29	10.39	64.97	100	0	P	H
		7386	39.81	-34.19	74	56.13	36.27	12.49	65.08	100	0	P	H
													H
													H
		4924	35.82	-38.18	74	59.11	31.29	10.39	64.97	100	0	P	V
		7386	39.92	-34.08	74	56.24	36.27	12.49	65.08	100	0	P	V
													V
													V
Remark	1. No other spurious found. 2. All results are PASS against Peak and Average limit line.												



2.4GHz 2400~2483.5MHz

WIFI 802.11n HT20 (Band Edge @ 3m)

WIFI Ant. 1	Note	Frequency (MHz)	Level (dBμV/m)	Over Limit (dB)	Limit Line (dBμV/m)	Read Level (dBμV)	Antenna Factor (dB/m)	Cable Loss (dB)	Preamp Factor (dB)	Ant Pos (cm)	Table Pos (deg)	Peak Avg. (P/A)	Pol. (H/V)
802.11n HT20 CH 01 2412MHz		2389.56	63.59	-10.41	74	63.86	27.01	6.71	33.99	183	23	P	H
		2390	50.65	-3.35	54	50.91	27.01	6.71	33.98	183	23	A	H
	*	2412	101.24	-	-	101.45	27.06	6.71	33.98	183	23	P	H
	*	2412	93.32	-	-	93.53	27.06	6.71	33.98	183	23	A	H
													H
													H
		2388.66	67.55	-6.45	74	67.82	27.01	6.71	33.99	124	190	P	V
		2390	53.03	-0.97	54	53.29	27.01	6.71	33.98	124	190	A	V
	*	2412	104.09	-	-	104.3	27.06	6.71	33.98	124	190	P	V
	*	2412	96.84	-	-	97.05	27.06	6.71	33.98	124	190	A	V
													V
													V
802.11n HT20 CH 06 2437MHz		2385.42	54.65	-19.35	74	54.97	26.96	6.71	33.99	163	25	P	H
		2389.92	43.7	-10.3	54	43.96	27.01	6.71	33.98	163	25	A	H
	*	2437	105.53	-	-	105.6	27.16	6.74	33.97	163	25	P	H
	*	2437	97.54	-	-	97.61	27.16	6.74	33.97	163	25	A	H
		2485.56	56.13	-17.87	74	56.06	27.25	6.77	33.95	163	25	P	H
		2483.84	44.34	-9.66	54	44.27	27.25	6.77	33.95	163	25	A	H
		2385.06	54.4	-19.6	74	54.72	26.96	6.71	33.99	145	184	P	V
		2389.65	44.12	-9.88	54	44.39	27.01	6.71	33.99	145	184	A	V
	*	2437	106.76	-	-	106.83	27.16	6.74	33.97	145	184	P	V
	*	2437	98.26	-	-	98.33	27.16	6.74	33.97	145	184	A	V
		2486.48	56.95	-17.05	74	56.88	27.25	6.77	33.95	145	184	P	V
		2484.12	44.32	-9.68	54	44.25	27.25	6.77	33.95	145	184	A	V



802.11n HT20 CH 11 2462MHz	*	2462	102.27	-	-	102.26	27.2	6.77	33.96	167	21	P	H
	*	2462	94.4	-	-	94.39	27.2	6.77	33.96	167	21	A	H
		2484.12	64.48	-9.52	74	64.41	27.25	6.77	33.95	167	21	P	H
		2483.68	48.88	-5.12	54	48.81	27.25	6.77	33.95	167	21	A	H
													H
													H
	*	2462	104.58	-	-	104.57	27.2	6.77	33.96	143	182	P	V
	*	2462	97.2	-	-	97.19	27.2	6.77	33.96	143	182	A	V
		2483.88	65.5	-8.5	74	65.43	27.25	6.77	33.95	143	182	P	V
		2483.64	51.24	-2.76	54	51.17	27.25	6.77	33.95	143	182	A	V
													V
													V
Remark	1. No other spurious found. 2. All results are PASS against Peak and Average limit line.												



2.4GHz 2400~2483.5MHz
WIFI 802.11n HT20 (Harmonic @ 3m)

WIFI Ant. 1	Note	Frequency (MHz)	Level (dBμV/m)	Over Limit (dB)	Limit Line (dBμV/m)	Read Level (dBμV)	Antenna Factor (dB/m)	Cable Loss (dB)	Preamp Factor (dB)	Ant Pos (cm)	Table Pos (deg)	Peak Avg. (P/A)	Pol. (H/V)
802.11n HT20 CH 01 2412MHz		4824	35.17	-38.83	74	58.54	31.12	10.58	65.07	100	0	P	H
													H
													H
													H
		4824	35.39	-38.61	74	58.76	31.12	10.58	65.07	100	0	P	V
													V
													V
													V
802.11n HT20 CH 06 2437MHz		4874	34.78	-39.22	74	58.11	31.21	10.48	65.02	100	0	P	H
		7311	38.93	-35.07	74	55.63	36.08	12.28	65.06	100	0	P	H
													H
													H
		4874	34.96	-39.04	74	58.29	31.21	10.48	65.02	100	0	P	V
		7311	38.56	-35.44	74	55.26	36.08	12.28	65.06	100	0	P	V
													V
													V
802.11n HT20 CH 11 2462MHz		4924	35.1	-38.9	74	58.39	31.29	10.39	64.97	100	0	P	H
		7386	39.44	-34.56	74	55.76	36.27	12.49	65.08	100	0	P	H
													H
													H
		4924	35.93	-38.07	74	59.22	31.29	10.39	64.97	100	0	P	V
		7386	39.18	-34.82	74	55.5	36.27	12.49	65.08	100	0	P	V
													V
													V
Remark	1. No other spurious found. 2. All results are PASS against Peak and Average limit line.												



2.4GHz 2400~2483.5MHz

WIFI 802.11n HT40 (Band Edge @ 3m)

WIFI Ant. 1	Note	Frequency (MHz)	Level (dBμV/m)	Over Limit (dB)	Limit Line (dBμV/m)	Read Level (dBμV)	Antenna Factor (dB/m)	Cable Loss (dB)	Preamp Factor (dB)	Ant Pos (cm)	Table Pos (deg)	Peak Avg. (P/A)	Pol. (H/V)
802.11n HT40 CH 03 2422MHz		2388.48	63.46	-10.54	74	63.73	27.01	6.71	33.99	175	17	P	H
		2389.56	49.23	-4.77	54	49.5	27.01	6.71	33.99	175	17	A	H
	*	2422	97.4	-	-	97.52	27.11	6.74	33.97	175	17	P	H
	*	2422	89.23	-	-	89.35	27.11	6.74	33.97	175	17	A	H
		2485.8	51.92	-22.08	74	51.85	27.25	6.77	33.95	175	17	P	H
		2485.48	42.69	-11.31	54	42.62	27.25	6.77	33.95	175	17	A	H
		2389.47	66.4	-7.6	74	66.67	27.01	6.71	33.99	100	197	P	V
		2389.38	52.19	-1.81	54	52.46	27.01	6.71	33.99	100	197	A	V
	*	2422	99.03	-	-	99.15	27.11	6.74	33.97	100	197	P	V
	*	2422	91.75	-	-	91.87	27.11	6.74	33.97	100	197	A	V
		2494.16	51.98	-22.02	74	51.85	27.3	6.77	33.94	100	197	P	V
		2488.2	43.34	-10.66	54	43.22	27.3	6.77	33.95	100	197	A	V
802.11n HT40 CH 06 2437MHz		2389.74	62.4	-11.6	74	62.67	27.01	6.71	33.99	141	17	P	H
		2389.92	49.5	-4.5	54	49.76	27.01	6.71	33.98	141	17	A	H
	*	2437	100.98	-	-	101.05	27.16	6.74	33.97	141	17	P	H
	*	2437	93.26	-	-	93.33	27.16	6.74	33.97	141	17	A	H
		2484.76	62.54	-11.46	74	62.47	27.25	6.77	33.95	141	17	P	H
		2483.64	50.93	-3.07	54	50.86	27.25	6.77	33.95	141	17	A	H
		2389.56	64.67	-9.33	74	64.94	27.01	6.71	33.99	146	186	P	V
		2389.56	53.05	-0.95	54	53.32	27.01	6.71	33.99	146	186	A	V
	*	2437	103.66	-	-	103.73	27.16	6.74	33.97	146	186	P	V
	*	2437	95.89	-	-	95.96	27.16	6.74	33.97	146	186	A	V
		2483.68	65.59	-8.41	74	65.52	27.25	6.77	33.95	146	186	P	V
		2484	53.01	-0.99	54	52.94	27.25	6.77	33.95	146	186	A	V



802.11n HT40 CH 09 2452MHz		2381.55	51.33	-22.67	74	51.65	26.96	6.71	33.99	146	16	P	H
		2390	43.05	-10.95	54	43.31	27.01	6.71	33.98	146	16	A	H
	*	2452	99.1	-	-	99.16	27.16	6.74	33.96	146	16	P	H
	*	2452	91.76	-	-	91.82	27.16	6.74	33.96	146	16	A	H
		2484.6	66.73	-7.27	74	66.66	27.25	6.77	33.95	146	16	P	H
		2484.44	51.46	-2.54	54	51.39	27.25	6.77	33.95	146	16	A	H
		2386.5	53.07	-20.93	74	53.34	27.01	6.71	33.99	147	187	P	V
		2388.48	43.83	-10.17	54	44.1	27.01	6.71	33.99	147	187	A	V
	*	2452	101.88	-	-	101.94	27.16	6.74	33.96	147	187	P	V
	*	2452	93.85	-	-	93.91	27.16	6.74	33.96	147	187	A	V
		2484.76	68.75	-5.25	74	68.68	27.25	6.77	33.95	147	187	P	V
		2484.48	53.51	-0.49	54	53.44	27.25	6.77	33.95	147	187	A	V
Remark	1. No other spurious found. 2. All results are PASS against Peak and Average limit line.												



2.4GHz 2400~2483.5MHz
WIFI 802.11n HT40 (Harmonic @ 3m)

WIFI Ant. 1	Note	Frequency (MHz)	Level (dBμV/m)	Over Limit (dB)	Limit Line (dBμV/m)	Read Level (dBμV)	Antenna Factor (dB/m)	Cable Loss (dB)	Preamp Factor (dB)	Ant Pos (cm)	Table Pos (deg)	Peak Avg. (P/A)	Pol. (H/V)
802.11n HT40 CH 03 2422MHz		4844	34.51	-39.49	74	57.84	31.15	10.58	65.06	100	0	P	H
		7266	39.47	-34.53	74	56.35	36.01	12.17	65.06	100	0	P	H
													H
													H
		4844	35.53	-38.47	74	58.86	31.15	10.58	65.06	100	0	P	V
		7266	39.46	-34.54	74	56.34	36.01	12.17	65.06	100	0	P	V
													V
													V
802.11n HT40 CH 06 2437MHz		4874	35.46	-38.54	74	58.79	31.21	10.48	65.02	100	0	P	H
		7311	38.52	-35.48	74	55.22	36.08	12.28	65.06	100	0	P	H
													H
													H
		4874	36.03	-37.97	74	59.36	31.21	10.48	65.02	100	0	P	V
		7311	38.26	-35.74	74	54.96	36.08	12.28	65.06	100	0	P	V
													V
													V
802.11n HT40 CH 09 2452MHz		4904	35.22	-38.78	74	58.56	31.26	10.39	64.99	100	0	P	H
		7356	40.18	-33.82	74	56.67	36.2	12.38	65.07	100	0	P	H
													H
													H
		4904	36.63	-37.37	74	59.97	31.26	10.39	64.99	100	0	P	V
		7356	40.72	-33.28	74	57.21	36.2	12.38	65.07	100	0	P	V
													V
													V
Remark	1. No other spurious found. 2. All results are PASS against Peak and Average limit line.												

Emission below 1GHz

2.4GHz WIFI 802.11g (LF)

WIFI	Note	Frequency	Level	Over	Limit	Read	Antenna	Cable	Preamp	Ant	Table	Peak	Pol.
Ant.				Limit	Line	Level	Factor	Loss	Factor	Pos	Pos	Avg.	
1		(MHz)	(dBμV/m)	(dB)	(dBμV/m)	(dBμV)	(dB/m)	(dB)	(dB)	(cm)	(deg)	(P/A)	(H/V)
2.4GHz 802.11g LF		60.51	28.7	-11.3	40	47.43	11.9	1.17	31.8			P	H
		95.61	31.11	-12.39	43.5	46.1	15.62	1.17	31.78			P	H
		289.74	29.28	-16.72	46	39.41	19.5	2.13	31.76			P	H
		398.7	35.18	-10.82	46	42.03	22.37	2.58	31.8			P	H
		666.8	36	-10	46	38.23	26.36	3.45	32.04	200	85	P	H
		991.6	33.43	-20.57	54	29.69	30.52	3.92	30.7			P	H
													H
													H
													H
													H
													H
													H
													H
		38.1	36.57	-3.43	40	46.04	21.42	0.93	31.82	100	178	P	V
		100.47	33.67	-9.83	43.5	47.76	16.21	1.48	31.78			P	V
		153.66	31.24	-12.26	43.5	44.09	17.25	1.68	31.78			P	V
		414.8	33.5	-12.5	46	40.05	22.68	2.58	31.81			P	V
		666.8	32.1	-13.9	46	34.33	26.36	3.45	32.04			P	V
		989.5	33.64	-20.36	54	29.93	30.52	3.92	30.73			P	V
													V
													V
													V
													V
													V
												V	
Remark	1. No other spurious found. 2. All results are PASS against limit line.												



Note symbol

*	Fundamental Frequency which can be ignored. However, the level of any unwanted emissions shall not exceed the level of the fundamental frequency.
!	Test result is over limit line.
P/A	Peak or Average
H/V	Horizontal or Vertical



A calculation example for radiated spurious emission is shown as below:

WIFI	Note	Frequency	Level	Over	Limit	Read	Antenna	Cable	Preamp	Ant	Table	Peak	Pol.
Ant.				Limit	Line	Level	Factor	Loss	Factor	Pos	Pos	Avg.	
1		(MHz)	(dBμV/m)	(dB)	(dBμV/m)	(dBμV)	(dB/m)	(dB)	(dB)	(cm)	(deg)	(P/A)	(H/V)
802.11b		2390	55.45	-18.55	74	54.51	32.22	4.58	35.86	103	308	P	H
CH 01													
2412MHz		2390	43.54	-10.46	54	42.6	32.22	4.58	35.86	103	308	A	H

1. Level(dBμV/m) =

Antenna Factor(dB/m) + Cable Loss(dB) + Read Level(dBμV) - Preamp Factor(dB)

2. Over Limit(dB) = Level(dBμV/m) – Limit Line(dBμV/m)

For Peak Limit @ 2390MHz:

1. Level(dBμV/m)

= Antenna Factor(dB/m) + Cable Loss(dB) + Read Level(dBμV) - Preamp Factor(dB)

= 32.22(dB/m) + 4.58(dB) + 54.51(dBμV) – 35.86 (dB)

= 55.45 (dBμV/m)

2. Over Limit(dB)

= Level(dBμV/m) – Limit Line(dBμV/m)

= 55.45(dBμV/m) – 74(dBμV/m)

= -18.55(dB)

For Average Limit @ 2390MHz:

1. Level(dBμV/m)

= Antenna Factor(dB/m) + Cable Loss(dB) + Read Level(dBμV) - Preamp Factor(dB)

= 32.22(dB/m) + 4.58(dB) + 42.6(dBμV) – 35.86 (dB)

= 43.54 (dBμV/m)

2. Over Limit(dB)

= Level(dBμV/m) – Limit Line(dBμV/m)

= 43.54(dBμV/m) – 54(dBμV/m)

= -10.46(dB)

Both peak and average measured complies with the limit line, so test result is “PASS”.



Appendix C. Radiated Spurious Emission Plots

Test Engineer :	J.C. Liang and Bill Chang and Ken Wu	Temperature :	20~22°C
		Relative Humidity :	54~56%

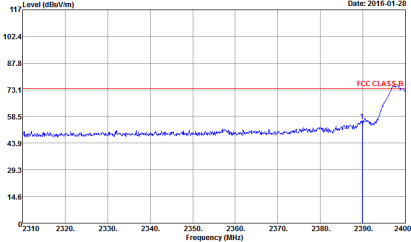
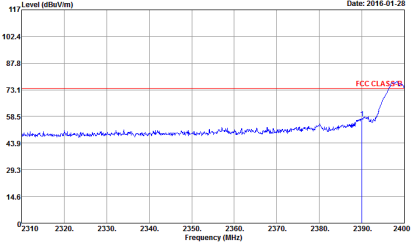
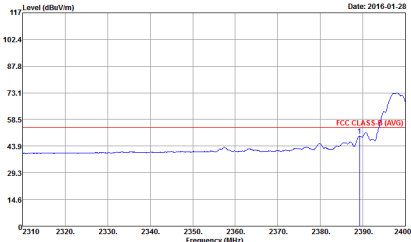
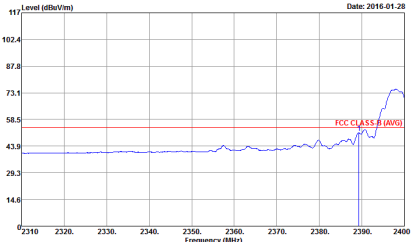
Note symbol

-L	Low channel location
-R	High channel location

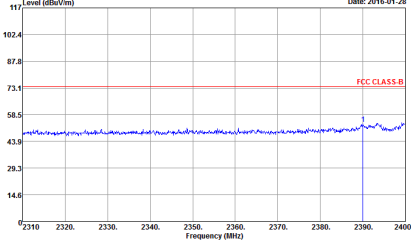
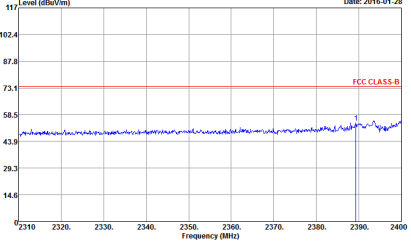
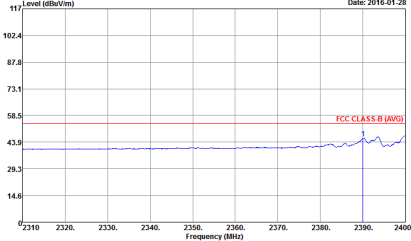
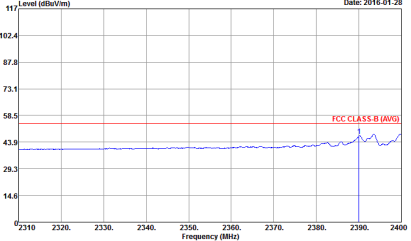


2.4GHz 2400~2483.5MHz

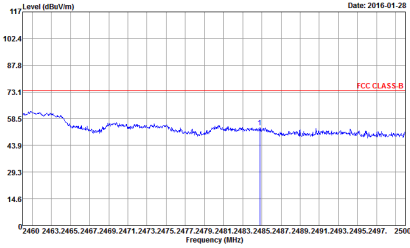
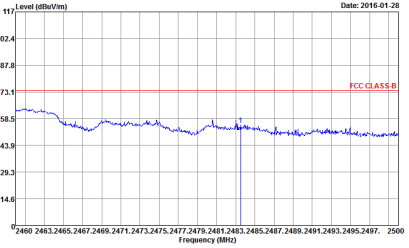
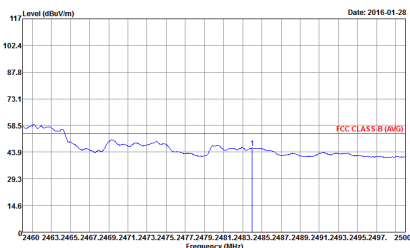
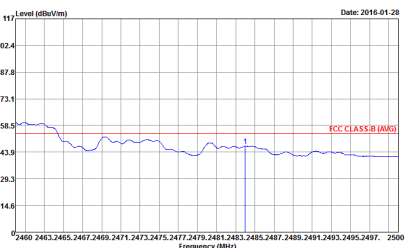
WIFI 802.11b (Band Edge @ 3m)

WIFI	2.4GHz 2400~2483.5MHz Band Edge @ 3m	
ANT	802.11b CH01 2412MHz	
1	Horizontal	Vertical
Peak	 Site : 03CH11-HY Condition : FCC CLASS-B 3m HORN 9120D-HF HORIZONTAL Detector : Peak Project : 612211 Mode : 7 Setting : 14	 Site : 03CH11-HY Condition : FCC CLASS-B 3m HORN 9120D-HF VERTICAL Detector : Peak Project : 612211 Mode : 7 Setting : 14
Avg.	 Site : 03CH11-HY Condition : FCC CLASS-B (AVG) 3m HORN 9120D-HF HORIZONTAL Detector : Peak Project : 612211 Mode : 7 Setting : 14	 Site : 03CH11-HY Condition : FCC CLASS-B (AVG) 3m HORN 9120D-HF VERTICAL Detector : Peak Project : 612211 Mode : 7 Setting : 14

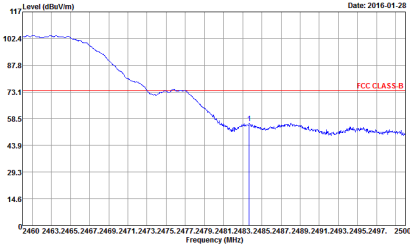
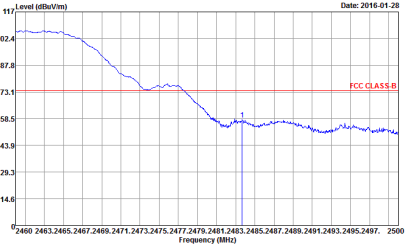
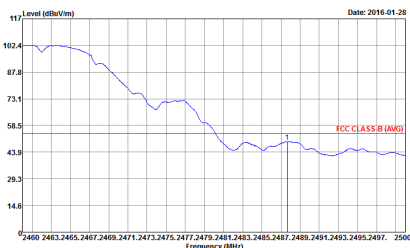
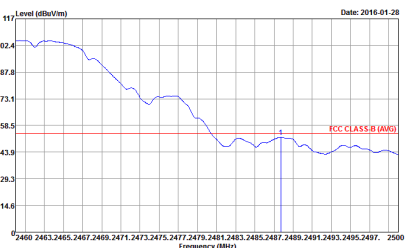


WIFI	2.4GHz 2400~2483.5MHz Band Edge @ 3m	
ANT	802.11b CH06 2437MHz - L	
1	Horizontal	Vertical
Peak	 Site : 03CH11-HY Condition : FCC CLASS-B 3m HORN 9120D-HF HORIZONTAL Detector : Peak Project : 612211 Mode : 8	 Site : 03CH11-HY Condition : FCC CLASS-B 3m HORN 9120D-HF VERTICAL Detector : Peak Project : 612211 Mode : 8
Avg.	 Site : 03CH11-HY Condition : FCC CLASS-B (AVG) 3m HORN 9120D-HF HORIZONTAL Detector : Peak Project : 612211 Mode : 8	 Site : 03CH11-HY Condition : FCC CLASS-B (AVG) 3m HORN 9120D-HF VERTICAL Detector : Peak Project : 612211 Mode : 8



WIFI	2.4GHz 2400~2483.5MHz Band Edge @ 3m	
ANT	802.11b CH06 2437MHz - R	
1	Horizontal	Vertical
Peak	 Site : 03CH11-HY Condition : FCC CLASS-B 3m HORN 9120D-HF HORIZONTAL Detector : Peak Project : 612211 Mode : 8	 Site : 03CH11-HY Condition : FCC CLASS-B 3m HORN 9120D-HF VERTICAL Detector : Peak Project : 612211 Mode : 8
Avg.	 Site : 03CH11-HY Condition : FCC CLASS-B (AVG) 3m HORN 9120D-HF HORIZONTAL Detector : Peak Project : 612211 Mode : 8	 Site : 03CH11-HY Condition : FCC CLASS-B (AVG) 3m HORN 9120D-HF VERTICAL Detector : Peak Project : 612211 Mode : 8

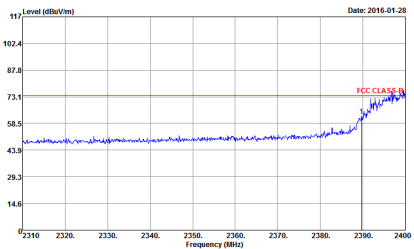
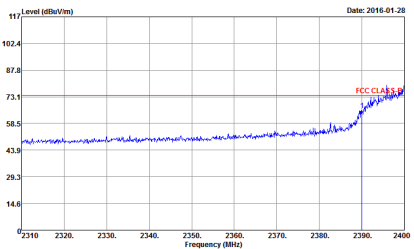
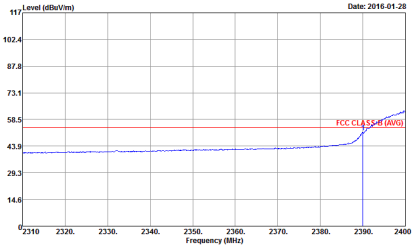
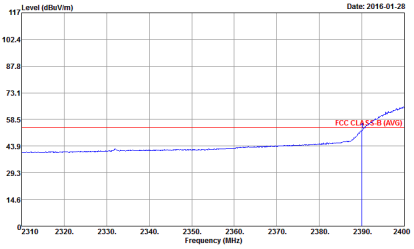


WIFI	2.4GHz 2400~2483.5MHz Band Edge @ 3m	
ANT	802.11b CH11 2462MHz	
1	Horizontal	Vertical
Peak	 Level (dBuV/m) vs Frequency (MHz) plot for Horizontal orientation. The plot shows a blue line representing the measured signal level, which starts at approximately 102.4 dBuV/m at 2400 MHz and decreases to about 58.5 dBuV/m at 2483.5 MHz. A red horizontal line indicates the FCC CLASS-B limit at 73.1 dBuV/m. The plot is dated 2016-01-28. Site : 03CH11-HY Condition : FCC CLASS-B 3m HORN 9120D-HF HORIZONTAL RBW:1000.000KHz VBW:3000.000KHz SWT:Auto Detector : Peak Project : 612211 Mode : 9 Setting : 15	 Level (dBuV/m) vs Frequency (MHz) plot for Vertical orientation. The plot shows a blue line representing the measured signal level, which starts at approximately 102.4 dBuV/m at 2400 MHz and decreases to about 58.5 dBuV/m at 2483.5 MHz. A red horizontal line indicates the FCC CLASS-B limit at 73.1 dBuV/m. The plot is dated 2016-01-28. Site : 03CH11-HY Condition : FCC CLASS-B 3m HORN 9120D-HF VERTICAL RBW:1000.000KHz VBW:3000.000KHz SWT:Auto Detector : Peak Project : 612211 Mode : 9 Setting : 15
Avg.	 Level (dBuV/m) vs Frequency (MHz) plot for Horizontal orientation. The plot shows a blue line representing the measured signal level, which starts at approximately 102.4 dBuV/m at 2400 MHz and decreases to about 58.5 dBuV/m at 2483.5 MHz. A red horizontal line indicates the FCC CLASS-B (AVG) limit at 73.1 dBuV/m. The plot is dated 2016-01-28. Site : 03CH11-HY Condition : FCC CLASS-B (AVG) 3m HORN 9120D-HF HORIZONTAL RBW:1000.000KHz VBW:0.300KHz SWT:Auto Detector : Peak Project : 612211 Mode : 9 Setting : 15	 Level (dBuV/m) vs Frequency (MHz) plot for Vertical orientation. The plot shows a blue line representing the measured signal level, which starts at approximately 102.4 dBuV/m at 2400 MHz and decreases to about 58.5 dBuV/m at 2483.5 MHz. A red horizontal line indicates the FCC CLASS-B (AVG) limit at 73.1 dBuV/m. The plot is dated 2016-01-28. Site : 03CH11-HY Condition : FCC CLASS-B (AVG) 3m HORN 9120D-HF VERTICAL RBW:1000.000KHz VBW:0.300KHz SWT:Auto Detector : Peak Project : 612211 Mode : 9 Setting : 15

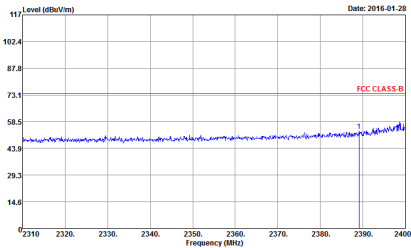
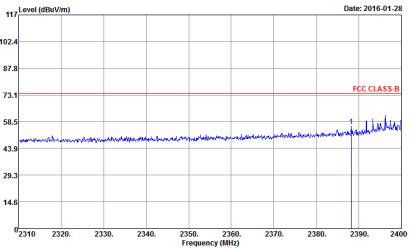
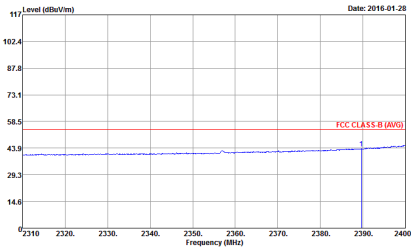
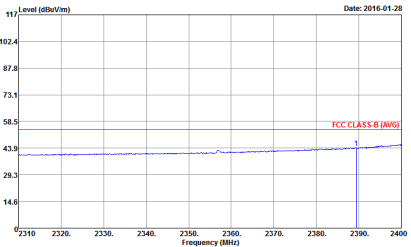


2.4GHz 2400~2483.5MHz

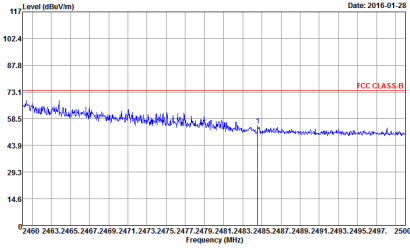
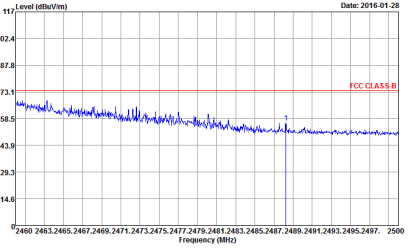
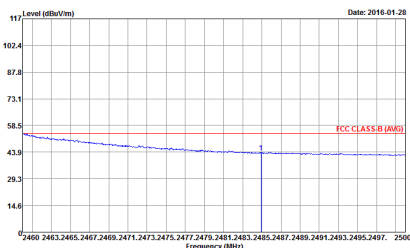
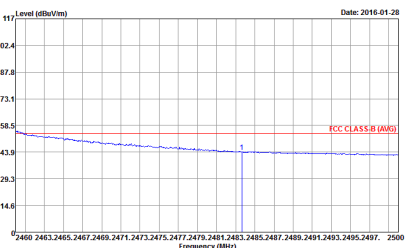
WIFI 802.11g (Band Edge @ 3m)

WIFI	2.4GHz 2400~2483.5MHz Band Edge @ 3m	
ANT	802.11g CH01 2412MHz	
1	Horizontal	Vertical
Peak	 Site : 03CH11-HY Condition : FCC CLASS-B 3m HORN 9120D-HF HORIZONTAL Detector : Peak Project : 612211 Mode : IO Setting : 8	 Site : 03CH11-HY Condition : FCC CLASS-B 3m HORN 9120D-HF VERTICAL Detector : Peak Project : 612211 Mode : IO Setting : 8
Avg.	 Site : 03CH11-HY Condition : FCC CLASS-B (AVG) 3m HORN 9120D-HF HORIZONTAL Detector : Peak Project : 612211 Mode : IO Setting : 8	 Site : 03CH11-HY Condition : FCC CLASS-B (AVG) 3m HORN 9120D-HF VERTICAL Detector : Peak Project : 612211 Mode : IO Setting : 8

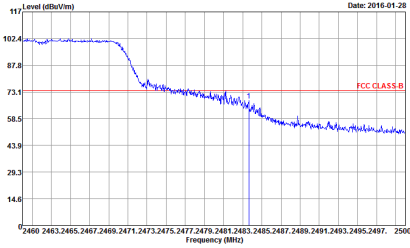
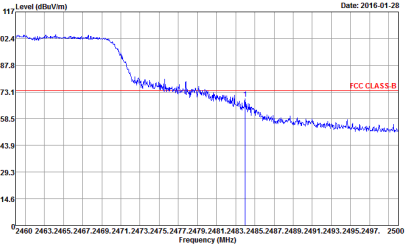
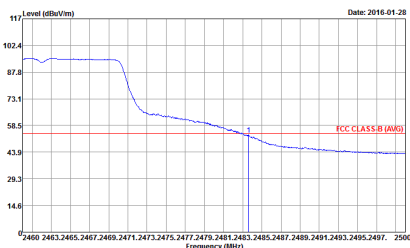
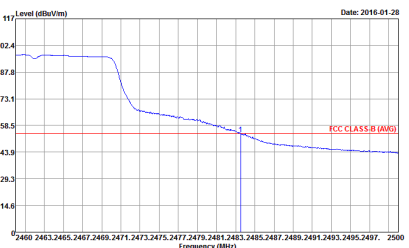


WIFI	2.4GHz 2400~2483.5MHz Band Edge @ 3m	
ANT	802.11g CH06 2437MHz - L	
1	Horizontal	Vertical
Peak	 Site : 03CH11-HY Condition : FCC CLASS-B 3m HORN 91200-HF HORIZONTAL Detector : Peak Project : 612211 Mode : 11	 Site : 03CH11-HY Condition : FCC CLASS-B 3m HORN 91200-HF VERTICAL Detector : Peak Project : 612211 Mode : 11
Avg.	 Site : 03CH11-HY Condition : FCC CLASS-B (AVG) 3m HORN 91200-HF HORIZONTAL Detector : Peak Project : 612211 Mode : 11	 Site : 03CH11-HY Condition : FCC CLASS-B (AVG) 3m HORN 91200-HF VERTICAL Detector : Peak Project : 612211 Mode : 11



WIFI	2.4GHz 2400~2483.5MHz Band Edge @ 3m	
ANT	802.11g CH06 2437MHz - R	
1	Horizontal	Vertical
Peak	 Site : 03CH11-HY Condition : FCC CLASS-B 3m HORN 9120D-HF HORIZONTAL Detector : Peak Project : 612211 Mode : 11	 Site : 03CH11-HY Condition : FCC CLASS-B 3m HORN 9120D-HF VERTICAL Detector : Peak Project : 612211 Mode : 11
Avg.	 Site : 03CH11-HY Condition : FCC CLASS-B (AVG) 3m HORN 9120D-HF HORIZONTAL Detector : Peak Project : 612211 Mode : 11	 Site : 03CH11-HY Condition : FCC CLASS-B (AVG) 3m HORN 9120D-HF VERTICAL Detector : Peak Project : 612211 Mode : 11

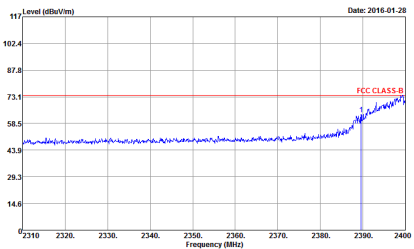
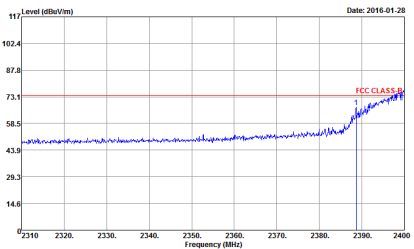
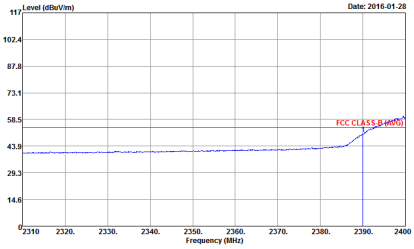
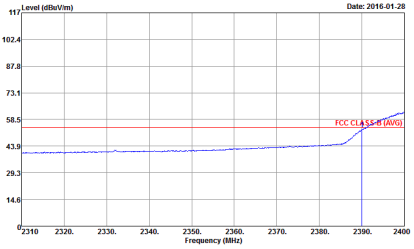


WIFI	2.4GHz 2400~2483.5MHz Band Edge @ 3m	
ANT	802.11g CH11 2462MHz	
1	Horizontal	Vertical
Peak	 Level (dBuV/m) vs Frequency (MHz) plot for Horizontal orientation. The plot shows a signal level starting at approximately 102.4 dBuV/m at 2400 MHz, dropping to about 73.1 dBuV/m by 2462 MHz, and then fluctuating between 58.5 and 73.1 dBuV/m up to 2500 MHz. A red horizontal line at 73.1 dBuV/m is labeled 'FCC CLASS B'. The x-axis ranges from 2460 to 2500 MHz, and the y-axis ranges from 14.6 to 117 dBuV/m. Site : 03CH11-HY Condition : FCC CLASS-B 3m HORN 9120D-HF HORIZONTAL RBW:1000.000KHz VBW:3000.000KHz SWT:Auto Detector : Peak Project : 612211 Mode : 12 Setting : 10	 Level (dBuV/m) vs Frequency (MHz) plot for Vertical orientation. The plot shows a signal level starting at approximately 102.4 dBuV/m at 2400 MHz, dropping to about 73.1 dBuV/m by 2462 MHz, and then fluctuating between 58.5 and 73.1 dBuV/m up to 2500 MHz. A red horizontal line at 73.1 dBuV/m is labeled 'FCC CLASS B'. The x-axis ranges from 2460 to 2500 MHz, and the y-axis ranges from 14.6 to 117 dBuV/m. Site : 03CH11-HY Condition : FCC CLASS-B 3m HORN 9120D-HF VERTICAL RBW:1000.000KHz VBW:3000.000KHz SWT:Auto Detector : Peak Project : 612211 Mode : 12 Setting : 10
Avg.	 Level (dBuV/m) vs Frequency (MHz) plot for Horizontal orientation (Average). The plot shows a signal level starting at approximately 102.4 dBuV/m at 2400 MHz, dropping to about 73.1 dBuV/m by 2462 MHz, and then fluctuating between 58.5 and 73.1 dBuV/m up to 2500 MHz. A red horizontal line at 73.1 dBuV/m is labeled 'FCC CLASS-B (AVG)'. The x-axis ranges from 2460 to 2500 MHz, and the y-axis ranges from 14.6 to 117 dBuV/m. Site : 03CH11-HY Condition : FCC CLASS-B (AVG) 3m HORN 9120D-HF HORIZONTAL RBW:1000.000KHz VBW:10000KHz SWT:Auto Detector : Peak Project : 612211 Mode : 12 Setting : 10	 Level (dBuV/m) vs Frequency (MHz) plot for Vertical orientation (Average). The plot shows a signal level starting at approximately 102.4 dBuV/m at 2400 MHz, dropping to about 73.1 dBuV/m by 2462 MHz, and then fluctuating between 58.5 and 73.1 dBuV/m up to 2500 MHz. A red horizontal line at 73.1 dBuV/m is labeled 'FCC CLASS-B (AVG)'. The x-axis ranges from 2460 to 2500 MHz, and the y-axis ranges from 14.6 to 117 dBuV/m. Site : 03CH11-HY Condition : FCC CLASS-B (AVG) 3m HORN 9120D-HF VERTICAL RBW:1000.000KHz VBW:10000KHz SWT:Auto Detector : Peak Project : 612211 Mode : 12 Setting : 10

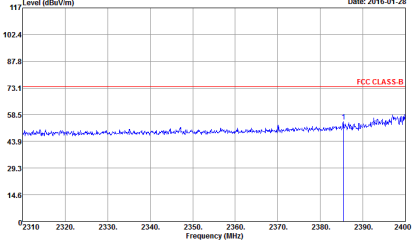
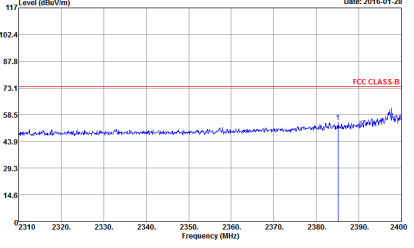
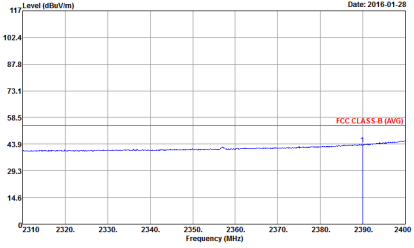
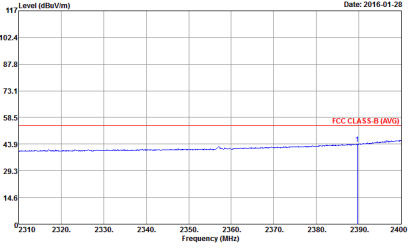


2.4GHz 2400~2483.5MHz

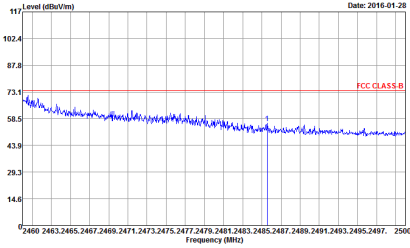
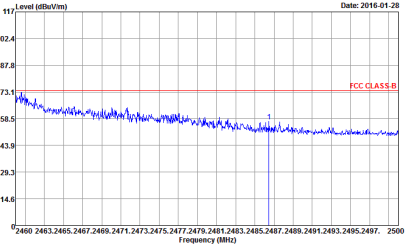
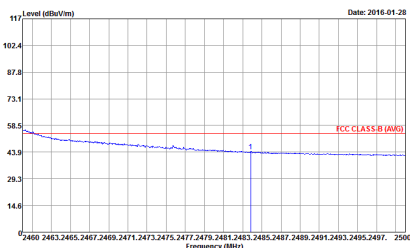
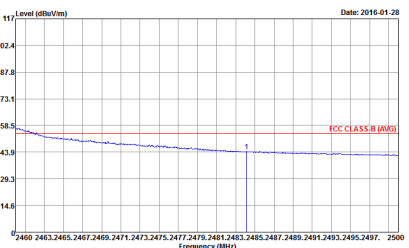
WIFI 802.11n HT20 (Band Edge @ 3m)

WIFI	2.4GHz 2400~2483.5MHz Band Edge @ 3m	
ANT	802.11n HT20 CH01 2412MHz	
1	Horizontal	Vertical
Peak	 Site : 03CH11-HY Condition : FCC CLASS-B 3m HORN 9120D-HF HORIZONTAL Detector : Peak Project : 612211 Mode : 13 Setting : 7	 Site : 03CH11-HY Condition : FCC CLASS-B 3m HORN 9120D-HF VERTICAL Detector : Peak Project : 612211 Mode : 13 Setting : 7
Avg.	 Site : 03CH11-HY Condition : FCC CLASS-B (AVG) 3m HORN 9120D-HF HORIZONTAL Detector : Peak Project : 612211 Mode : 13 Setting : 7	 Site : 03CH11-HY Condition : FCC CLASS-B (AVG) 3m HORN 9120D-HF VERTICAL Detector : Peak Project : 612211 Mode : 13 Setting : 7

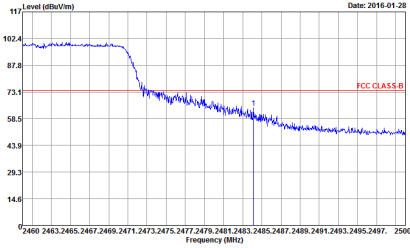
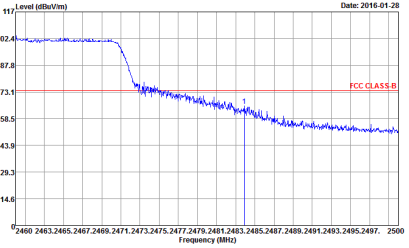
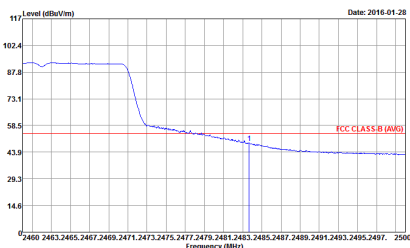
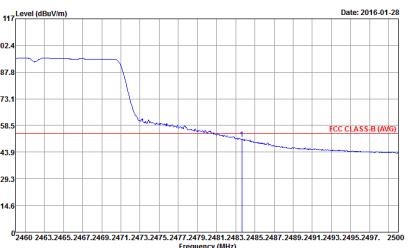


WIFI	2.4GHz 2400~2483.5MHz Band Edge @ 3m	
ANT	802.11n HT20 CH06 2437MHz - L	
1	Horizontal	Vertical
Peak	 Site : 03CH11-HY Condition : FCC CLASS-B 3m HORN 9120D-HF HORIZONTAL Detector : Peak Project : 612211 Mode : 14	 Site : 03CH11-HY Condition : FCC CLASS-B 3m HORN 9120D-HF VERTICAL Detector : Peak Project : 612211 Mode : 14
Avg.	 Site : 03CH11-HY Condition : FCC CLASS-B (AVG) 3m HORN 9120D-HF HORIZONTAL Detector : Peak Project : 612211 Mode : 14	 Site : 03CH11-HY Condition : FCC CLASS-B (AVG) 3m HORN 9120D-HF VERTICAL Detector : Peak Project : 612211 Mode : 14



WIFI	2.4GHz 2400~2483.5MHz Band Edge @ 3m	
ANT	802.11n HT20 CH06 2437MHz - R	
1	Horizontal	Vertical
Peak	 Level (dBuV/m) Date: 2016-01-28 Frequency (MHz) Site : 03CH11-HY Condition : FCC CLASS-B 3m HORN 9120D-HF HORIZONTAL RBW:1000.000KHz VBW:3000.000KHz SWT:Auto Detector : Peak Project : 612211 Mode : 14	 Level (dBuV/m) Date: 2016-01-28 Frequency (MHz) Site : 03CH11-HY Condition : FCC CLASS-B 3m HORN 9120D-HF VERTICAL RBW:1000.000KHz VBW:3000.000KHz SWT:Auto Detector : Peak Project : 612211 Mode : 14
Avg.	 Level (dBuV/m) Date: 2016-01-28 Frequency (MHz) Site : 03CH11-HY Condition : FCC CLASS-B (AVG) 3m HORN 9120D-HF HORIZONTAL RBW:1000.000KHz VBW:1000KHz SWT:Auto Detector : Peak Project : 612211 Mode : 14	 Level (dBuV/m) Date: 2016-01-28 Frequency (MHz) Site : 03CH11-HY Condition : FCC CLASS-B (AVG) 3m HORN 9120D-HF VERTICAL RBW:1000.000KHz VBW:1000KHz SWT:Auto Detector : Peak Project : 612211 Mode : 14

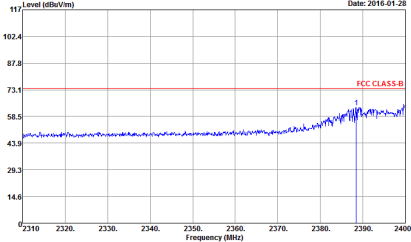
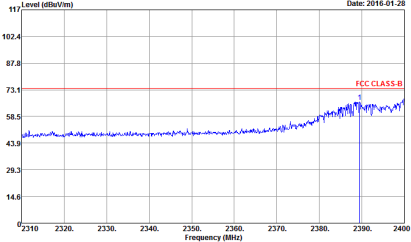
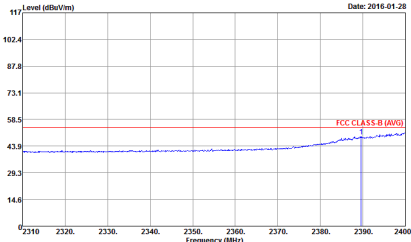
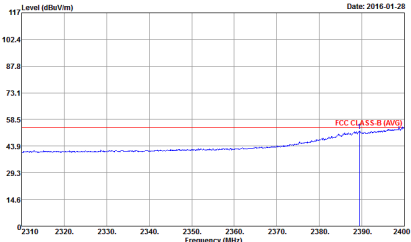


WIFI	2.4GHz 2400~2483.5MHz Band Edge @ 3m	
ANT	802.11n HT20 CH11 2462MHz	
1	Horizontal	Vertical
Peak	 Site : 03CH11-HY Condition : FCC CLASS-B 3m HORN 9120D-HF HORIZONTAL RBW:1000.000KHz VBW:3000.000KHz SWT:Auto Detector : Peak Project : 612211 Mode : 15 Setting : 8	 Site : 03CH11-HY Condition : FCC CLASS-B 3m HORN 9120D-HF VERTICAL RBW:1000.000KHz VBW:3000.000KHz SWT:Auto Detector : Peak Project : 612211 Mode : 15 Setting : 8
Avg.	 Site : 03CH11-HY Condition : FCC CLASS-B (AVG) 3m HORN 9120D-HF HORIZONTAL RBW:1000.000KHz VBW:10000KHz SWT:Auto Detector : Peak Project : 612211 Mode : 15 Setting : 8	 Site : 03CH11-HY Condition : FCC CLASS-B (AVG) 3m HORN 9120D-HF VERTICAL RBW:1000.000KHz VBW:10000KHz SWT:Auto Detector : Peak Project : 612211 Mode : 15 Setting : 8

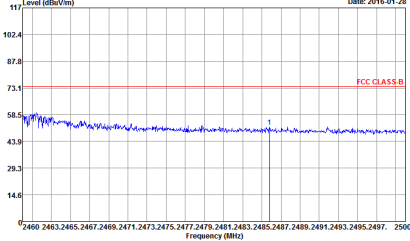
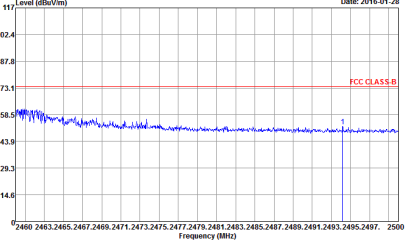
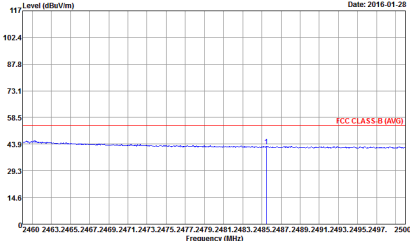
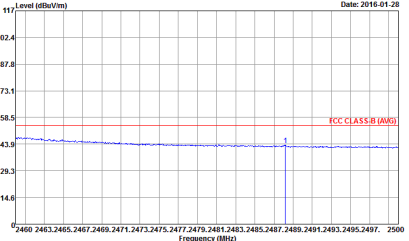


2.4GHz 2400~2483.5MHz

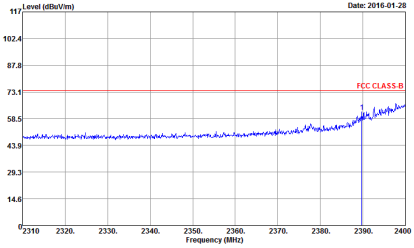
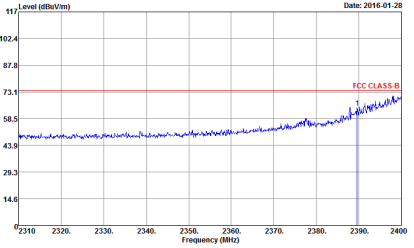
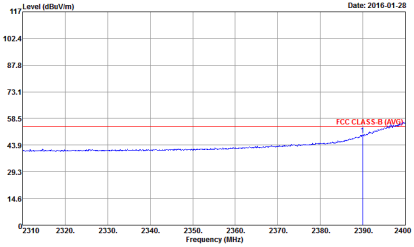
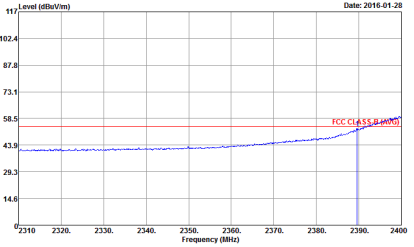
WIFI 802.11n HT40 (Band Edge @ 3m)

WIFI	2.4GHz 2400~2483.5MHz Band Edge @ 3m	
ANT	802.11n HT40 CH03 2422MHz - L	
1	Horizontal	Vertical
Peak	 Site : 03CH11-HY Condition : FCC CLASS-B 3m HORN 9120D-HF HORIZONTAL Detector : Peak Project : 612211 Mode : 16 Setting : 5	 Site : 03CH11-HY Condition : FCC CLASS-B 3m HORN 9120D-HF VERTICAL Detector : Peak Project : 612211 Mode : 16 Setting : 5
Avg.	 Site : 03CH11-HY Condition : FCC CLASS-B (AVG) 3m HORN 9120D-HF HORIZONTAL Detector : Peak Project : 612211 Mode : 16 Setting : 5	 Site : 03CH11-HY Condition : FCC CLASS-B (AVG) 3m HORN 9120D-HF VERTICAL Detector : Peak Project : 612211 Mode : 16 Setting : 5

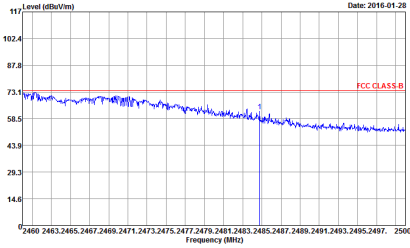
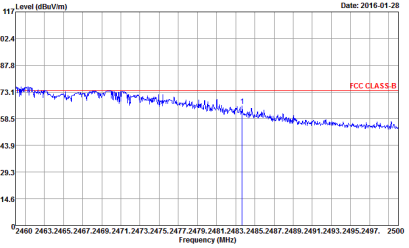
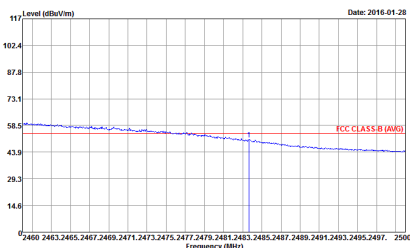
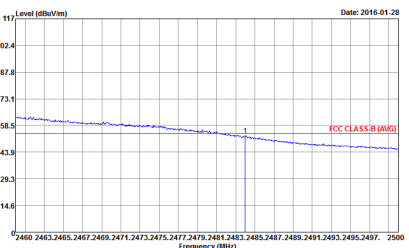


WIFI	2.4GHz 2400~2483.5MHz Band Edge @ 3m	
ANT	802.11n HT40 CH03 2422MHz - R	
1	Horizontal	Vertical
Peak	 Site : 03CH11-HY Condition : FCC CLASS-B 3m HORN 9120D-HF HORIZONTAL Detector : Peak Project : 612211 Mode : 16 Setting : 5	 Site : 03CH11-HY Condition : FCC CLASS-B 3m HORN 9120D-HF VERTICAL Detector : Peak Project : 612211 Mode : 16 Setting : 5
Avg.	 Site : 03CH11-HY Condition : FCC CLASS-B (AVG) 3m HORN 9120D-HF HORIZONTAL Detector : Peak Project : 612211 Mode : 16 Setting : 5	 Site : 03CH11-HY Condition : FCC CLASS-B (AVG) 3m HORN 9120D-HF VERTICAL Detector : Peak Project : 612211 Mode : 16 Setting : 5

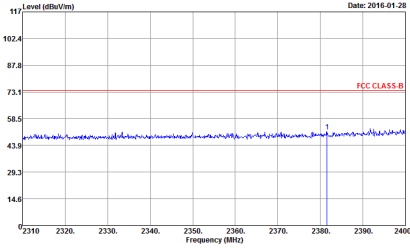
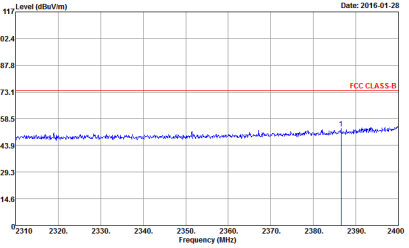
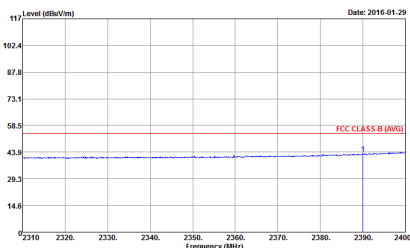
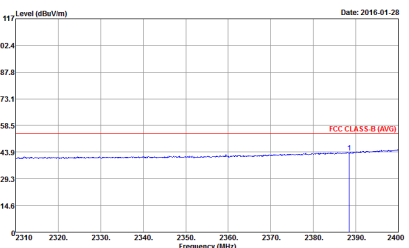


WIFI	2.4GHz 2400~2483.5MHz Band Edge @ 3m	
ANT	802.11n HT40 CH06 2437MHz - L	
1	Horizontal	Vertical
Peak	 Level (dBuV/m) Frequency (MHz) Date: 2016-01-28 FCC CLASS-B Site : 03CH11-HY Condition : FCC CLASS-B 3m HORN 91200-HF HORIZONTAL RBW:1000.000KHz VBW:3000.000KHz SWT:Auto Detector : Peak Project : 612211 Mode : 17 Power : 9	 Level (dBuV/m) Frequency (MHz) Date: 2016-01-28 FCC CLASS-B Site : 03CH11-HY Condition : FCC CLASS-B 3m HORN 91200-HF VERTICAL RBW:1000.000KHz VBW:3000.000KHz SWT:Auto Detector : Peak Project : 612211 Mode : 17 Power : 9
Avg.	 Level (dBuV/m) Frequency (MHz) Date: 2016-01-28 FCC CLASS-B (AVG) Site : 03CH11-HY Condition : FCC CLASS-B (AVG) 3m HORN 91200-HF HORIZONTAL RBW:1000.000KHz VBW:3.000KHz SWT:Auto Detector : Peak Project : 612211 Mode : 17 Power : 9	 Level (dBuV/m) Frequency (MHz) Date: 2016-01-28 FCC CLASS-B (AVG) Site : 03CH11-HY Condition : FCC CLASS-B (AVG) 3m HORN 91200-HF VERTICAL RBW:1000.000KHz VBW:3.000KHz SWT:Auto Detector : Peak Project : 612211 Mode : 17 Power : 9

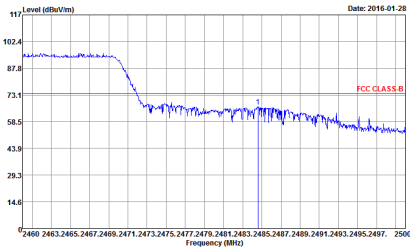
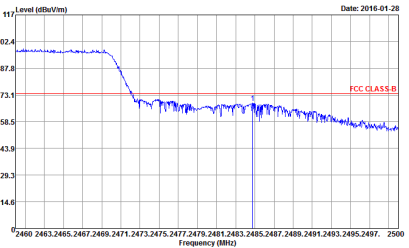
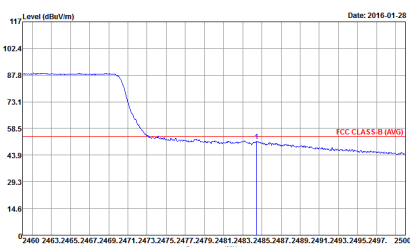
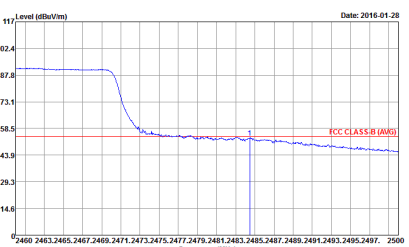


WIFI	2.4GHz 2400~2483.5MHz Band Edge @ 3m	
ANT	802.11n HT40 CH06 2437MHz - R	
1	Horizontal	Vertical
Peak	 Site : 03CH11-HY Condition : FCC CLASS-B 3m HORN 9120D-HF HORIZONTAL RBW:1000.000KHz VBW:3000.000KHz SWT:Auto Detector : Peak Project : 612211 Mode : 17 Power : 9	 Site : 03CH11-HY Condition : FCC CLASS-B 3m HORN 9120D-HF VERTICAL RBW:1000.000KHz VBW:3000.000KHz SWT:Auto Detector : Peak Project : 612211 Mode : 17 Power : 9
Avg.	 Site : 03CH11-HY Condition : FCC CLASS-B (AVG) 3m HORN 9120D-HF HORIZONTAL RBW:1000.000KHz VBW:3.000KHz SWT:Auto Detector : Peak Project : 612211 Mode : 17 Power : 9	 Site : 03CH11-HY Condition : FCC CLASS-B (AVG) 3m HORN 9120D-HF VERTICAL RBW:1000.000KHz VBW:3.000KHz SWT:Auto Detector : Peak Project : 612211 Mode : 17 Power : 9



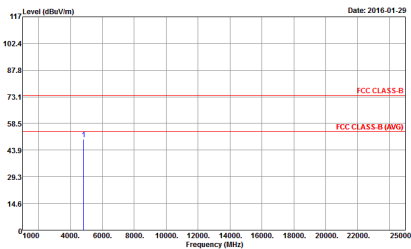
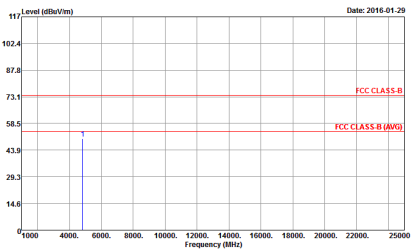
WIFI	2.4GHz 2400~2483.5MHz Band Edge @ 3m	
ANT	802.11n HT40 CH09 2452MHz - L	
1	Horizontal	Vertical
Peak	 Level (dBuV/m) Frequency (MHz) Date: 2016-01-28 FCC CLASS-B Site : 03CH11-HY Condition : FCC CLASS-B 3m HORN 91200-HF HORIZONTAL RBW:1000.000KHz VBW:3000.000KHz SWT:Auto Detector : Peak Project : 612211 Mode : 18 Power : 7	 Level (dBuV/m) Frequency (MHz) Date: 2016-01-28 FCC CLASS-B Site : 03CH11-HY Condition : FCC CLASS-B 3m HORN 91200-HF VERTICAL RBW:1000.000KHz VBW:3000.000KHz SWT:Auto Detector : Peak Project : 612211 Mode : 18 Power : 7
Avg.	 Level (dBuV/m) Frequency (MHz) Date: 2016-01-29 FCC CLASS-B (AVG) Site : 03CH11-HY Condition : FCC CLASS-B (AVG) 3m HORN 91200-HF HORIZONTAL RBW:1000.000KHz VBW:3.000KHz SWT:Auto Detector : Peak Project : 612211 Mode : 18 Power : 7	 Level (dBuV/m) Frequency (MHz) Date: 2016-01-28 FCC CLASS-B (AVG) Site : 03CH11-HY Condition : FCC CLASS-B (AVG) 3m HORN 91200-HF VERTICAL RBW:1000.000KHz VBW:3.000KHz SWT:Auto Detector : Peak Project : 612211 Mode : 18 Power : 7



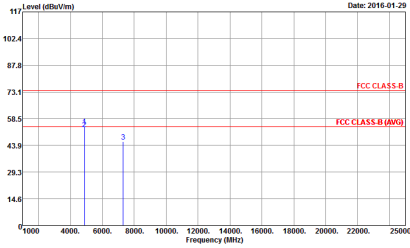
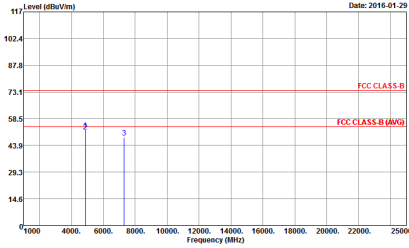
WIFI	2.4GHz 2400~2483.5MHz Band Edge @ 3m	
ANT	802.11n HT40 CH09 2452MHz - R	
1	Horizontal	Vertical
Peak	 Site : 03CH11-HY Condition : FCC CLASS-B 3m HORN 91200-HF HORIZONTAL Detector : Peak Project : 612211 Mode : 18 Power : 7	 Site : 03CH11-HY Condition : FCC CLASS-B 3m HORN 91200-HF VERTICAL Detector : Peak Project : 612211 Mode : 18 Power : 7
Avg.	 Site : 03CH11-HY Condition : FCC CLASS-B (AVG) 3m HORN 91200-HF HORIZONTAL Detector : Peak Project : 612211 Mode : 18 Power : 7	 Site : 03CH11-HY Condition : FCC CLASS-B (AVG) 3m HORN 91200-HF VERTICAL Detector : Peak Project : 612211 Mode : 18 Power : 7



2.4GHz 2400~2483.5MHz
WIFI 802.11b (Harmonic @ 3m)

WIFI	2.4GHz 2400~2483.5MHz Harmonic @ 3m	
ANT	802.11b CH01 2412MHz	
1	Horizontal	Vertical
Peak Avg.	 Site : 03CH11-HY Condition : FCC CLASS-B 3m 9170 SHF HORM_150809 HORIZONTAL Detector : Peak Project : 612211 Mode : 7	 Site : 03CH11-HY Condition : FCC CLASS-B 3m 9170 SHF HORM_150809 VERTICAL Detector : Peak Project : 612211 Mode : 7



WIFI	2.4GHz 2400~2483.5MHz Harmonic @ 3m	
ANT	802.11b CH06 2437MHz	
1	Horizontal	Vertical
Peak Avg.	 Site : 03CH11-HY Condition : FCC CLASS-B 3m 9170 SHF HORM_150809 HORIZONTAL Detector : Peak Project : 612211 Mode : 8	 Site : 03CH11-HY Condition : FCC CLASS-B 3m 9170 SHF HORM_150809 VERTICAL Detector : Peak Project : 612211 Mode : 8



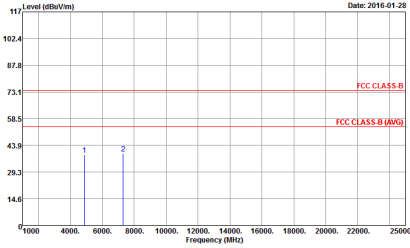
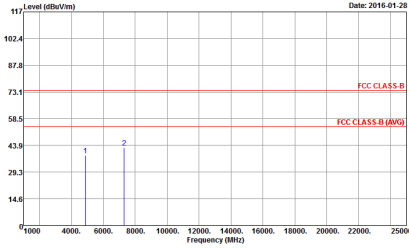
WIFI	2.4GHz 2400~2483.5MHz Harmonic @ 3m	
ANT	802.11b CH11 2462MHz	
1	Horizontal	Vertical
Peak Avg.	Site : 03CH11-HY Condition : FCC CLASS-B 3m 9170 SHF HORM_150809 HORIZONTAL Detector : Peak Project : 612211 Mode : 9	Site : 03CH11-HY Condition : FCC CLASS-B 3m 9170 SHF HORM_150809 VERTICAL Detector : Peak Project : 612211 Mode : 9



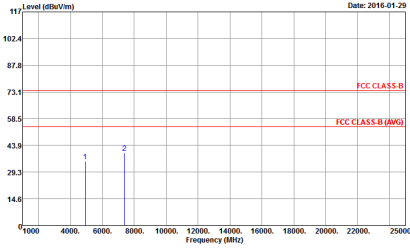
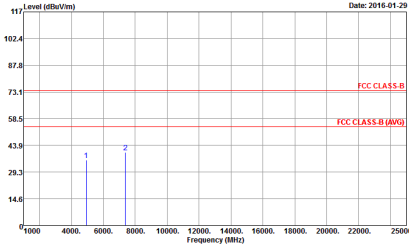
2.4GHz 2400~2483.5MHz
WIFI 802.11g (Harmonic @ 3m)

WIFI	2.4GHz 2400~2483.5MHz Harmonic @ 3m	
ANT	802.11g CH01 2412MHz	
1	Horizontal	Vertical
Peak Avg.	Site : 03CH11-HY Condition : FCC CLASS-B 3m 9170 SHF HORM_150809 HORIZONTAL Detector : Peak Project : 612211 Mode : IO	Site : 03CH11-HY Condition : FCC CLASS-B 3m 9170 SHF HORM_150809 VERTICAL Detector : Peak Project : 612211 Mode : IO



WIFI	2.4GHz 2400~2483.5MHz Harmonic @ 3m	
ANT	802.11g CH06 2437MHz	
1	Horizontal	Vertical
Peak Avg.	 Site : 03CH11-HY Condition : FCC CLASS-B 3m 9170 SHF HORM_150809 HORIZONTAL Detector : Peak Project : 612211 Mode : 11	 Site : 03CH11-HY Condition : FCC CLASS-B 3m 9170 SHF HORM_150809 VERTICAL Detector : Peak Project : 612211 Mode : 11

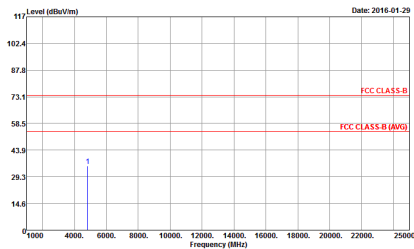
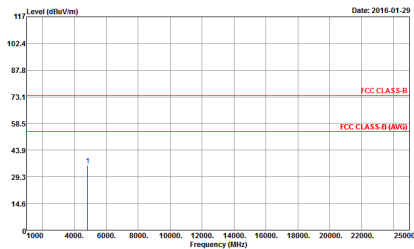


WIFI	2.4GHz 2400~2483.5MHz Harmonic @ 3m	
ANT	802.11g CH11 2462MHz	
1	Horizontal	Vertical
Peak Avg.	 Site : 03CH11-HY Condition : FCC CLASS-B 3m 9170 SHF HORM_150809 HORIZONTAL Detector : Peak Project : 612211 Mode : 12	 Site : 03CH11-VY Condition : FCC CLASS-B 3m 9170 SHF HORM_150809 VERTICAL Detector : Peak Project : 612211 Mode : 12

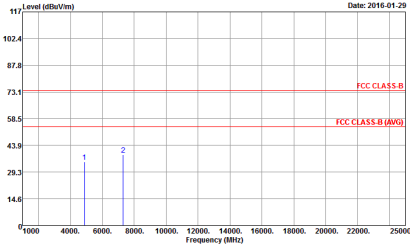
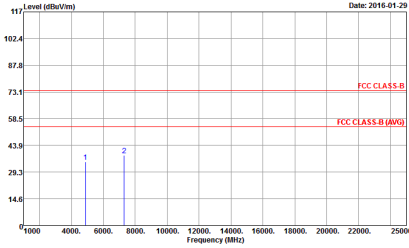


2.4GHz 2400~2483.5MHz

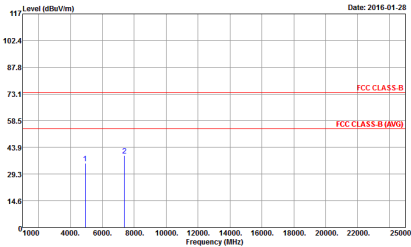
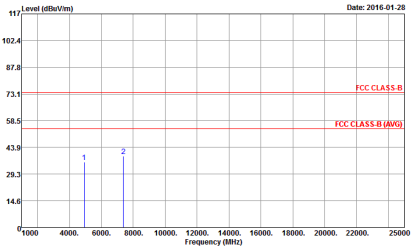
WIFI 802.11n HT20 (Harmonic @ 3m)

WIFI	2.4GHz 2400~2483.5MHz Harmonic @ 3m	
ANT	802.11n HT20 CH01 2412MHz	
1	Horizontal	Vertical
Peak Avg.	 Site : 03CH11-HY Condition : FCC CLASS-B 3m 9170 SHF HORM_150809 HORIZONTAL Detector : Peak Project : 612211 Mode : 13	 Site : 03CH11-HY Condition : FCC CLASS-B 3m 9170 SHF HORM_150809 VERTICAL Detector : Peak Project : 612211 Mode : 13



WIFI	2.4GHz 2400~2483.5MHz Harmonic @ 3m	
ANT	802.11n HT20 CH06 2437MHz	
1	Horizontal	Vertical
Peak Avg.	 Site : 03CH11-HY Condition : FCC CLASS-B 3m 9170 SHF HORM_150809 HORIZONTAL Detector : Peak Project : 612211 Mode : 14	 Site : 03CH11-HY Condition : FCC CLASS-B 3m 9170 SHF HORM_150809 VERTICAL Detector : Peak Project : 612211 Mode : 14



WIFI	2.4GHz 2400~2483.5MHz Harmonic @ 3m	
ANT	802.11n HT20 CH11 2462MHz	
1	Horizontal	Vertical
Peak Avg.	 Site : 03CH11-HY Condition : FCC CLASS-B 3m 9170 SHF HORM_150809 HORIZONTAL Detector : Peak Project : 612211 Mode : 15 Power : 8	 Site : 03CH11-VY Condition : FCC CLASS-B 3m 9170 SHF HORM_150809 VERTICAL Detector : Peak Project : 612211 Mode : 15 Power : 8



2.4GHz 2400~2483.5MHz

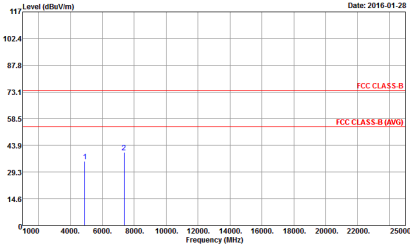
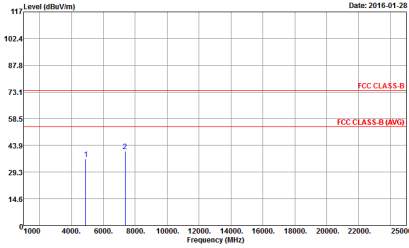
WIFI 802.11n HT40 (Harmonic @ 3m)

WIFI	2.4GHz 2400~2483.5MHz Harmonic @ 3m	
ANT	802.11n HT40 CH03 2422MHz	
1	Horizontal	Vertical
Peak Avg.	Level (dBuV/m) Date: 2016-01-28 Site : 03CH11-HY Condition : FCC CLASS-B 3m 9170 SHF HORM_150809 HORIZONTAL Detector : Peak Project : 612211 Mode : 16	Level (dBuV/m) Date: 2016-01-28 Site : 03CH11-HY Condition : FCC CLASS-B 3m 9170 SHF HORM_150809 VERTICAL Detector : Peak Project : 612211 Mode : 16



WIFI	2.4GHz 2400~2483.5MHz Harmonic @ 3m	
ANT	802.11n HT40 CH06 2437MHz	
1	Horizontal	Vertical
Peak Avg.	Site : 03CH11-HY Condition : FCC CLASS-B 3m 9170 SHF HORM_150809 HORIZONTAL Detector : Peak Project : 612211 Mode : 17	Site : 03CH11-HY Condition : FCC CLASS-B 3m 9170 SHF HORM_150809 VERTICAL Detector : Peak Project : 612211 Mode : 17



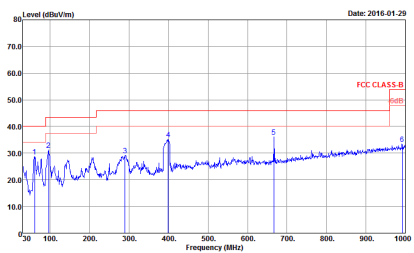
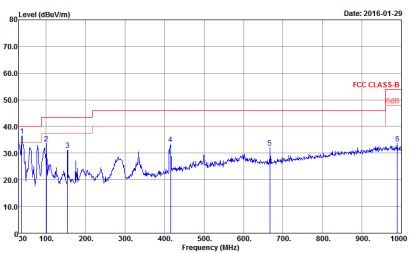
WIFI	2.4GHz 2400~2483.5MHz Harmonic @ 3m	
ANT	802.11n HT40 CH09 2452MHz	
1	Horizontal	Vertical
Peak Avg.	 Site : 03CH11-HY Condition : FCC CLASS-B 3m 9170 SHF HORM_150809 HORIZONTAL Detector : Peak Project : 612211 Mode : 1B Power : 7	 Site : 03CH11-HY Condition : FCC CLASS-B 3m 9170 SHF HORM_150809 VERTICAL Detector : Peak Project : 612211 Mode : 1B Power : 7



2.4GHz 2400~2483.5MHz

Emission below 1GHz

2.4GHz WIFI 802.11g (LF)

WIFI	2.4GHz 2400~2483.5MHz	
ANT	802.11g LF	
1	Horizontal	Vertical
QP / Peak	 Site : 03CH11-HY Condition : FCC CLASS-B 3m BI-LOG 6111D-LF_ETC HORIZONTAL Detector : Peak Project : 612211 Mode : Z1	 Site : 03CH11-HY Condition : FCC CLASS-B 3m BI-LOG 6111D-LF_ETC VERTICAL Detector : Peak Project : 612211 Mode : Z1