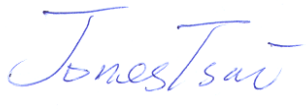
FCC RF Test Report

APPLICANT	:	Ignition Design Labs (US) LLC
EQUIPMENT	:	Advanced Wireless Router
BRAND NAME	:	Ignition Design Labs
MODEL NAME	:	Portal
MARKETING NAME	:	Portal
FCC ID	:	2AFZUSAP102
STANDARD	:	FCC Part 15 Subpart C §15.247
CLASSIFICATION	:	(DTS) Digital Transmission System

The product was received on May 20, 2016 and testing was completed on Jul. 13, 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

ilac-MRA TAF Testing Laboratory 1190

SPORTON INTERNATIONAL INC.

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

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REVISION HISTORY

REPORT NO.	VERSION	DESCRIPTION	ISSUED DATE
FR652049C	Rev. 01	Initial issue of report	Jul. 14, 2016

SUMMARY OF TEST RESULT

Report Section	FCC Rule	Description	Limit	Result	Remark
3.1	15.247(a)(2)	6dB Bandwidth	≥ 0.5MHz	Pass	-
3.1	-	99% Bandwidth	-	Pass	-
3.2	15.247(b)	Power Output Measurement	≤ 30dBm	Pass	-
3.3	15.247(e)	Power Spectral Density	≤ 8dBm/3kHz	Pass	-
3.4	15.247(d)	Conducted Band Edges	≤ 30dBc	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 0.30 dB at 2390.000 MHz
3.6	15.207	AC Conducted Emission	15.207(a)	Pass	Under limit 4.70 dB at 0.550 MHz
3.7	15.203 & 15.247(b)	Antenna Requirement	N/A	Pass	-

1 General Description

1.1 Applicant

Ignition Design Labs (US) LLC
5F-2., No.158, Sec.2, Gongdao 5th Rd., Hsinchu City 30070, Taiwan

1.2 Manufacturer

Ignition Design Labs (US) LLC
5F-2., No.158, Sec.2, Gongdao 5th Rd., Hsinchu City 30070, Taiwan

1.3 Product Feature of Equipment Under Test

Product Feature	
Equipment	Advanced Wireless Router
Brand Name	Ignition Design Labs
Model Name	Portal
Marketing Name	Portal
FCC ID	2AFZUSAP102
EUT supports Radios application	WLAN 11a/b/g/n HT20/HT40 WLAN 11ac VHT20/VHT40/VHT80 Bluetooth v4.1 EDR/LE
HW Version	v1.0
SW Version	v1.0
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 (Average) Output Power to Antenna	802.11b : 15.87 dBm (0.0386 W) 802.11g : 22.15 dBm (0.1641 W) 802.11n HT20 : 22.17 dBm (0.1648 W) 802.11n HT40 : 16.99 dBm (0.0500 W)
99% Occupied Bandwidth	802.11b : 16.70MHz 802.11g : 32.25MHz 802.11n HT20 : 32.70MHz 802.11n HT40 : 36.20MHz
Antenna Type	802.11b/g/n : PCB Antenna type with gain 2.73 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 1st 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.**
	03CH10-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 v03r05
- 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 (X plane) were recorded in this report.

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 2.2.

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 Test Mode

Final test mode of conducted test items and radiated spurious emissions are considering the modulation and worse data rates as below table.

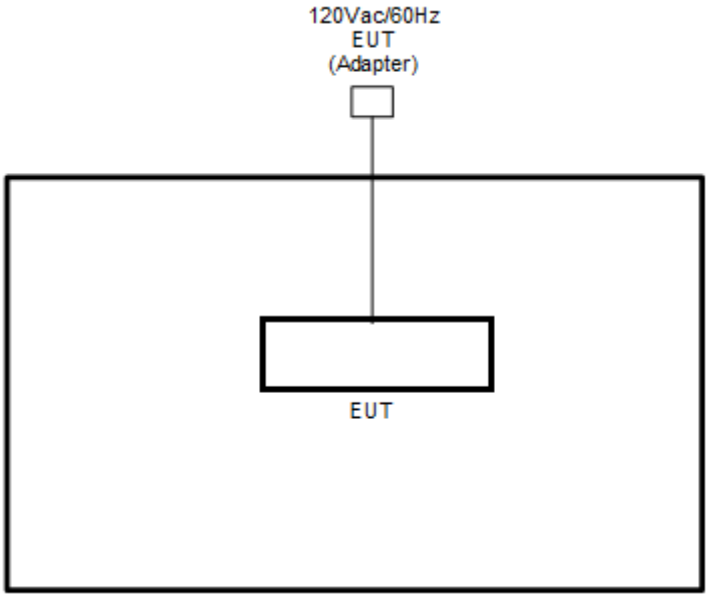
<2.4GHz>

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

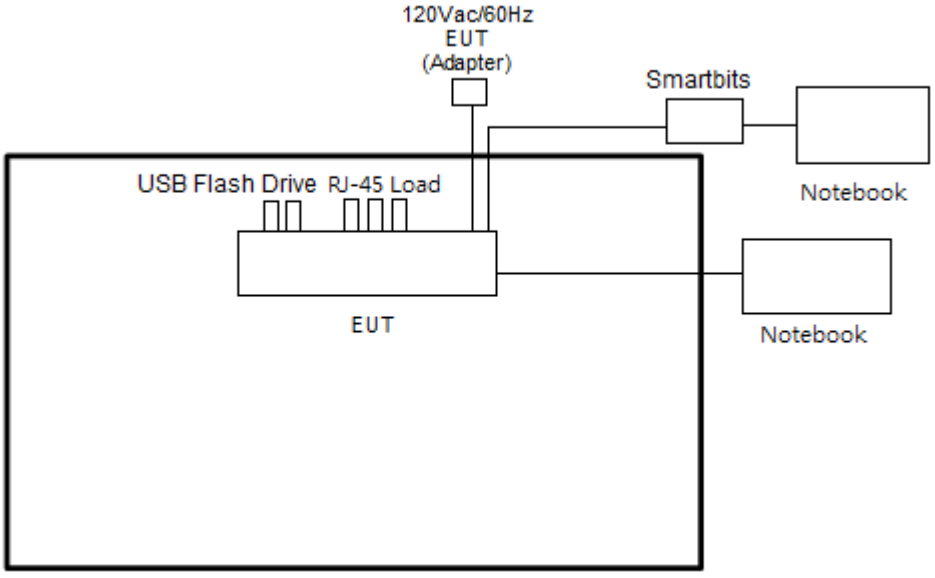
Test Cases	
AC Conducted Emission	Mode 1 : WLAN (2.4GHz) Link 802.11n HT20 MCS0 + Bluetooth Link + WAN Link + LAN Link + USB Link + Adapter 1

2.3 Connection Diagram of Test System

<WLAN Tx Mode>



<AC Conducted Emission Mode>



2.4 Support Unit used in test configuration and system

Item	Equipment	Trade Name	Model Name	FCC ID	Data Cable	Power Cord
1.	Notebook	DELL	P20G	FCC DoC	N/A	AC I/P: Unshielded, 1.2 m DC O/P: Shielded, 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.	USB Flash Drive	Transcend	JetFlash 700	FCC DoC	N/A	N/A
4.	Smartbits	Spirent	SMB600B	N/A	Shielded, 1.5m	Unshielded, 1.5m

2.5 EUT Operation Test Setup

For WLAN function, programmed RF utility, “Putty.exe” installed in the notebook make the EUT provide functions like channel selection and power level for continuous transmitting and receiving signals.

2.6 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.

Offset(dB) = RF cable loss(dB) + attenuator factor(dB).

= 4.2 + 10 = 14.2 (dB)

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.

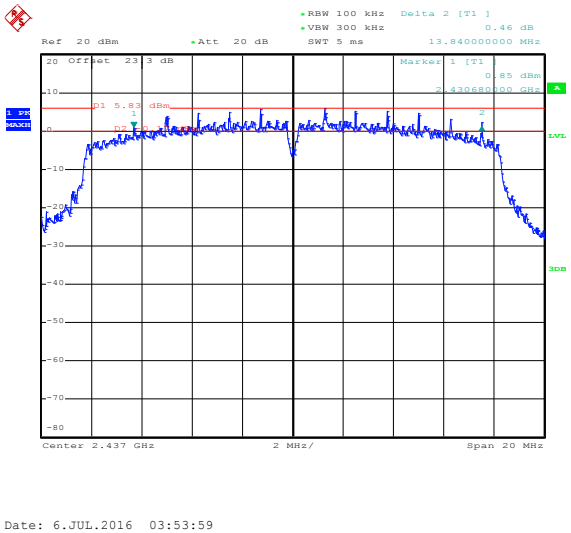
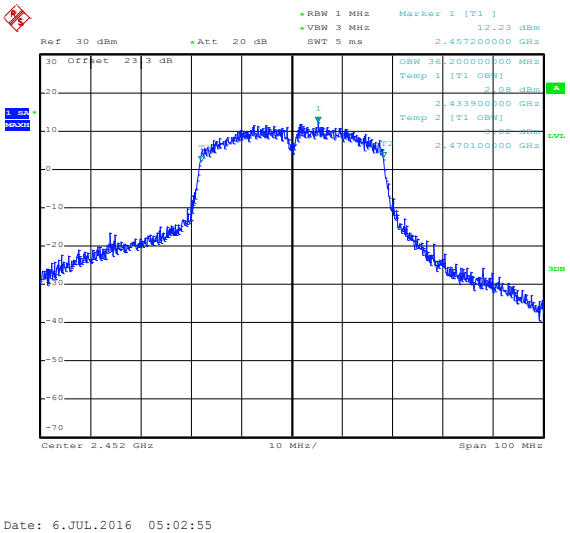
3.1.3 Test Procedures

1. The testing follows FCC KDB Publication No. 558074 DTS D01 Meas. Guidance v03r05.
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.

Minimum 6dB Bandwidth	Maximum 99% Occupied Bandwidth
	

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

3.2 Average Output Power Measurement

3.2.1 Limit of Output Power

For systems using digital modulation in the 2400-2483.5MHz, the limit for average output power is 30dBm. If transmitting Antenna of directional gain greater than 6dBi are used the average 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.

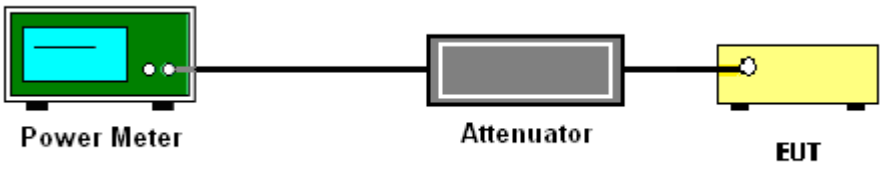
3.2.2 Measuring Instruments

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 v03r05 section 9.2.3.1 Method AVGPM
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

Please refer to Appendix A of this test report.

3.3 Power Spectral Density Measurement

3.3.1 Limit of Power Spectral Density

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

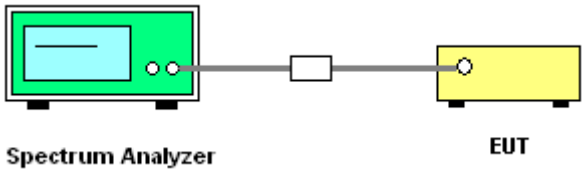
3.3.2 Measuring Instruments

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

3.3.3 Test Procedures

1. The testing follows Measurement Procedure 10.5 Method AVGPSD-2 of FCC KDB Publication No. 558074 D01 DTS Meas. Guidance v03r05.
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) = 10 kHz. Video bandwidth VBW = 30 kHz In order to make an accurate measurement, set the span to 1.5 times DTS Channel Bandwidth. (6dB BW).
5. Number of points in sweep ≥ 2 Span / RBW. (This ensures that bin-to-bin spacing is ≤ RBW/2, so that narrowband signals are not lost between frequency bins).
6. Detector = RMS, Sweep time = auto couple.
7. Trace average at least 100 traces in power averaging mode.
8. Add 10 log(1/x), where x is the duty cycle, to the measured power in order to compute the average power during the actual transmission times. For example, add 10 log(1/0.25) = 6 dB if the duty cycle is 25 percent.
9. Measure and record the results in the test report.

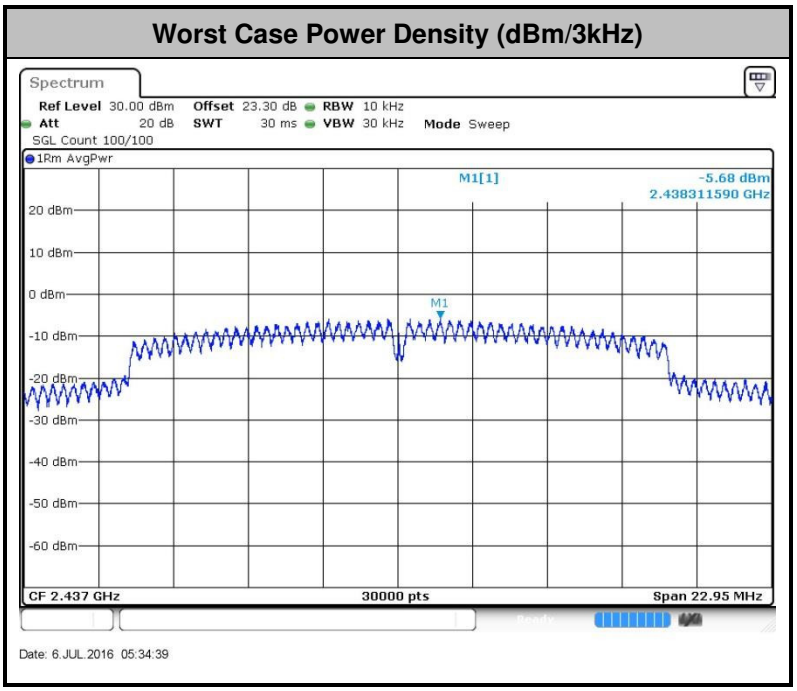
3.3.4 Test Setup



3.3.5 Test Result of Power Spectral Density

Please refer to Appendix A of this test report.

Worst Case Power Density (dBm/3kHz)



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).

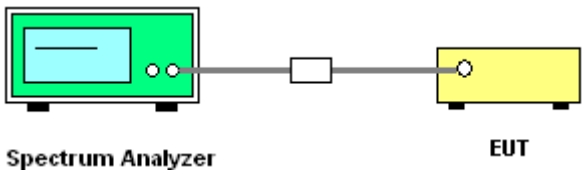
3.4.2 Measuring Instruments

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 v03r05.
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

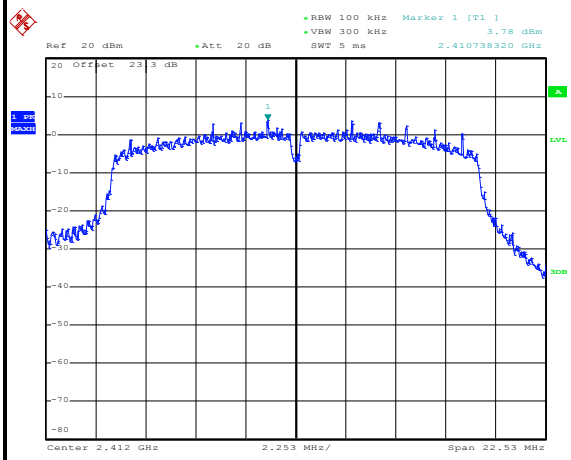


3.4.5 Test Result of Conducted Band Edges and Spurious Emission

Test Mode :	802.11b	Temperature :	21~25℃
Test Band :	2.4GHz Low	Relative Humidity :	51~54%
Test Channel :	01	Test Engineer :	Derek Hsu

WLAN 802.11b Channel 01

100kHz PSD reference Level



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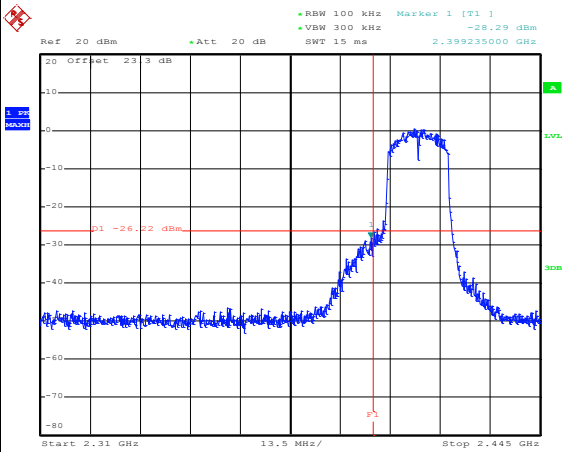
Low Channel Plot



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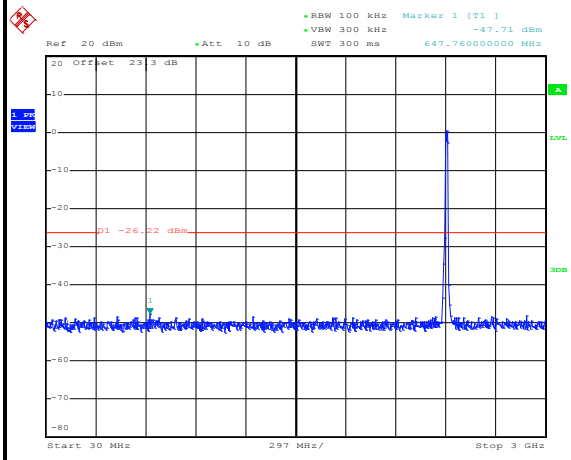
Spurious Emission 30MHz~3GHz



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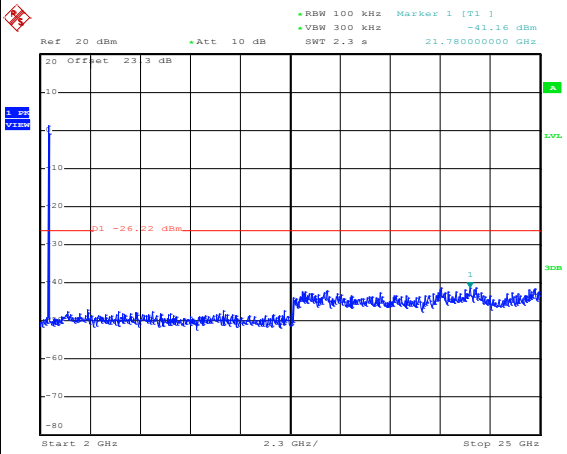
Spurious Emission 2GHz~25GHz



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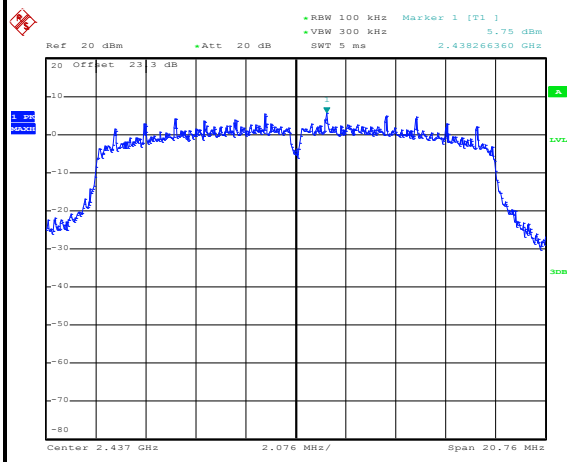
Test Band :	2.4GHz Mid	Relative Humidity :	51~54%
Test Channel :	06	Test Engineer :	Derek Hsu

WLAN 802.11b Channel 06

100kHz PSD reference Level



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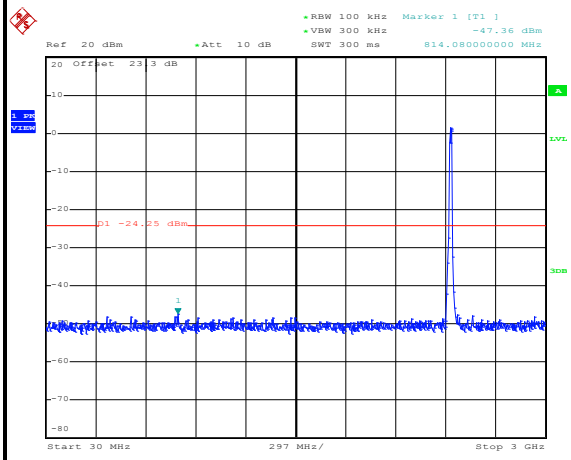
Spurious Emission 30MHz~3GHz



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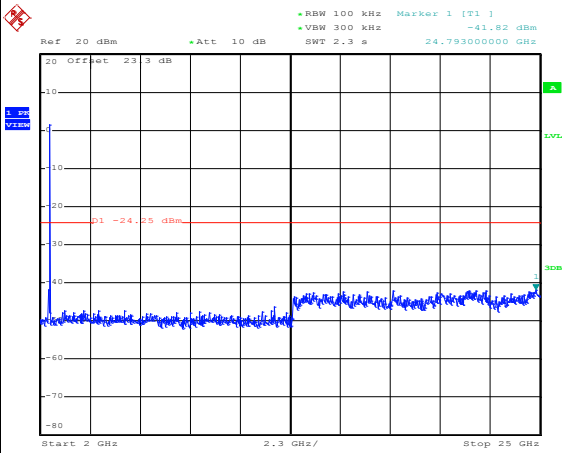
Spurious Emission 2GHz~25GHz



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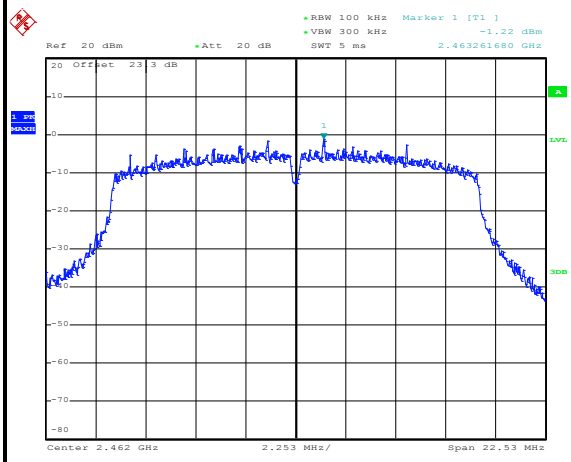
Test Mode :	802.11b	Temperature :	21~25℃
Test Band :	2.4GHz High	Relative Humidity :	51~54%
Test Channel :	11	Test Engineer :	Derek Hsu

WLAN 802.11b Channel 11

100kHz PSD reference Level



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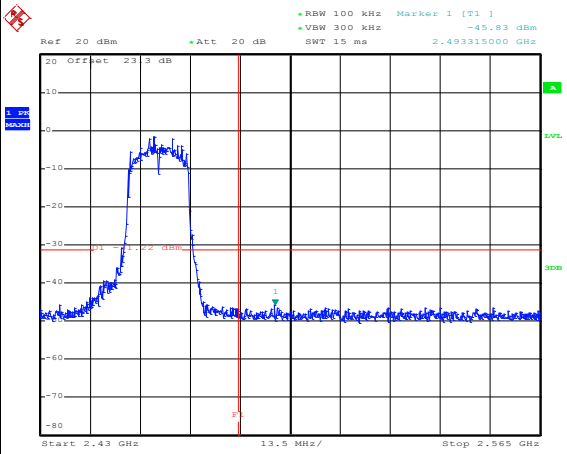
High Channel Plot



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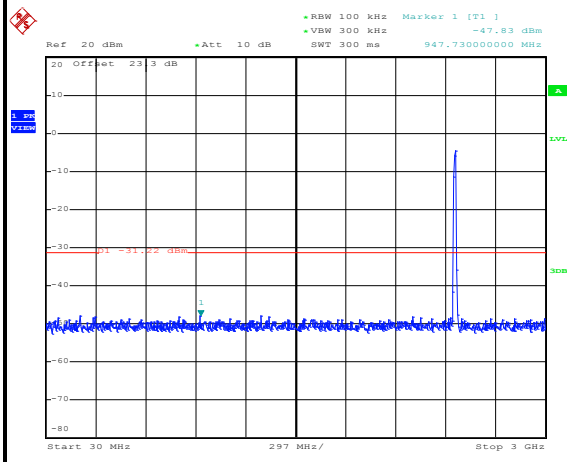
Spurious Emission 30MHz~3GHz



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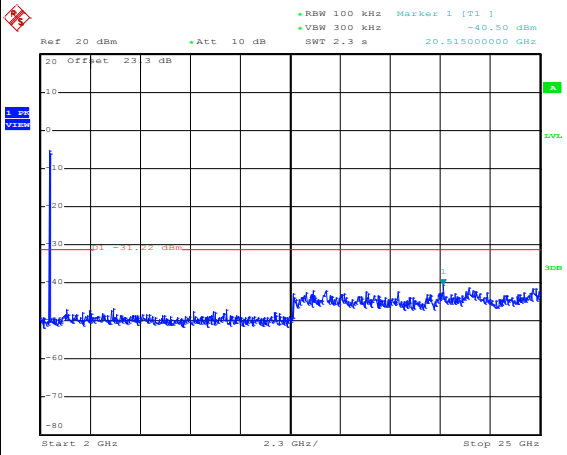
Spurious Emission 2GHz~25GHz



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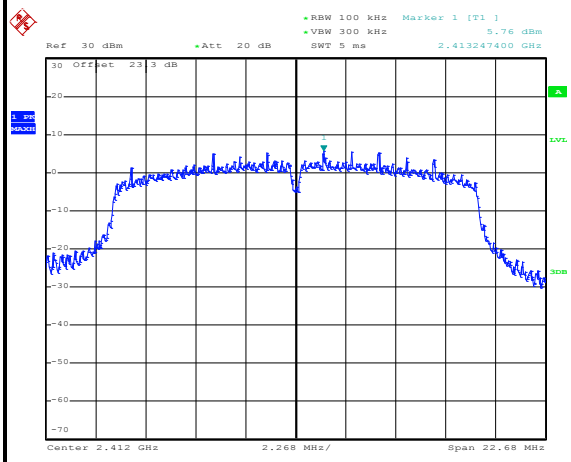
Test Mode :	802.11g	Temperature :	21~25℃
Test Band :	2.4GHz Low	Relative Humidity :	51~54%
Test Channel :	01	Test Engineer :	Derek Hsu

WLAN 802.11g Channel 01

100kHz PSD reference Level



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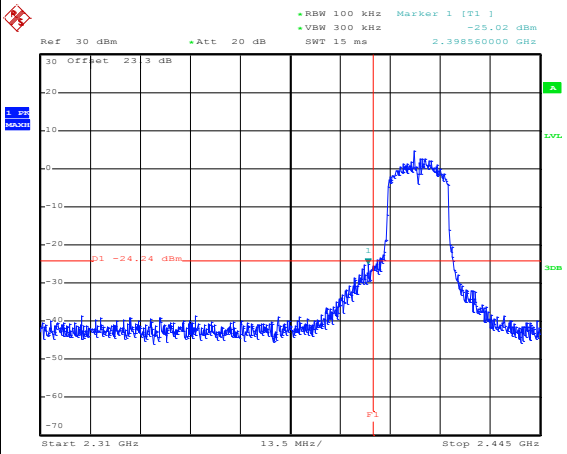
Low Channel Plot



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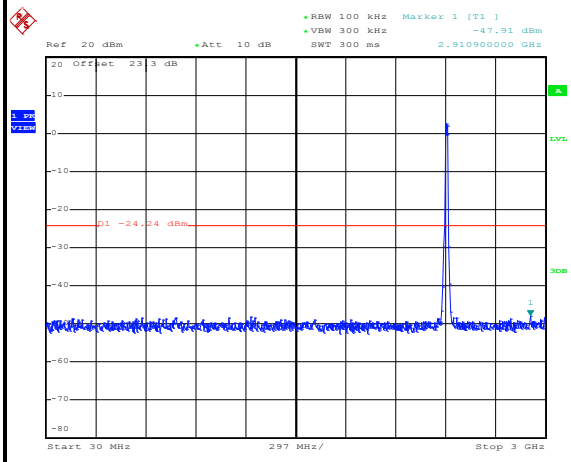
Spurious Emission 30MHz~3GHz



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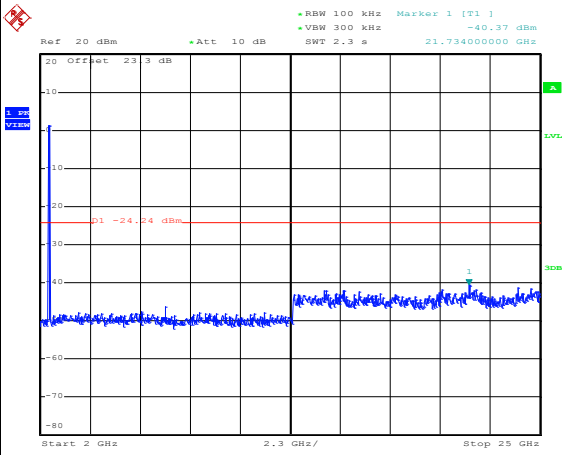
Spurious Emission 2GHz~25GHz



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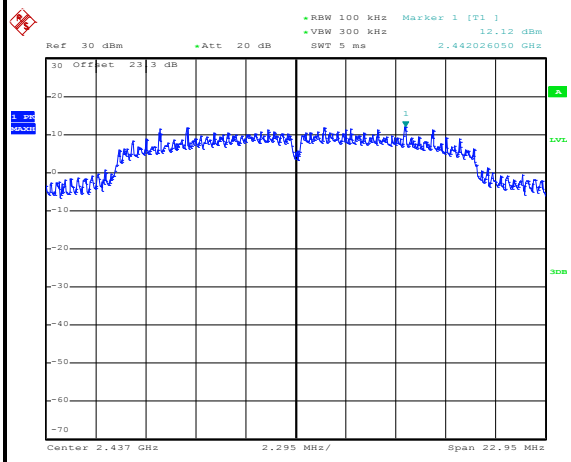
Test Mode :	802.11g	Temperature :	21~25℃
Test Band :	2.4GHz Mid	Relative Humidity :	51~54%
Test Channel :	06	Test Engineer :	Derek Hsu

WLAN 802.11g Channel 06

100kHz PSD reference Level



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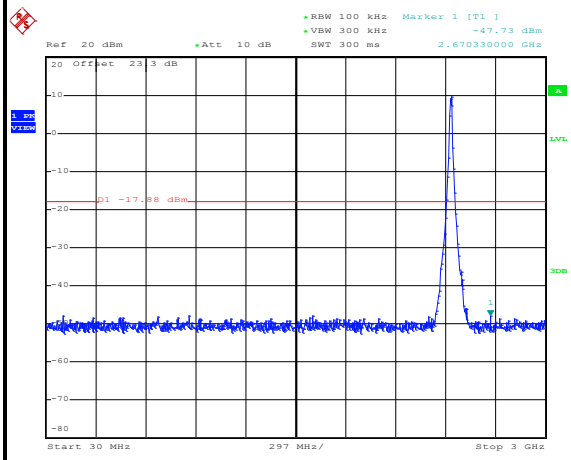
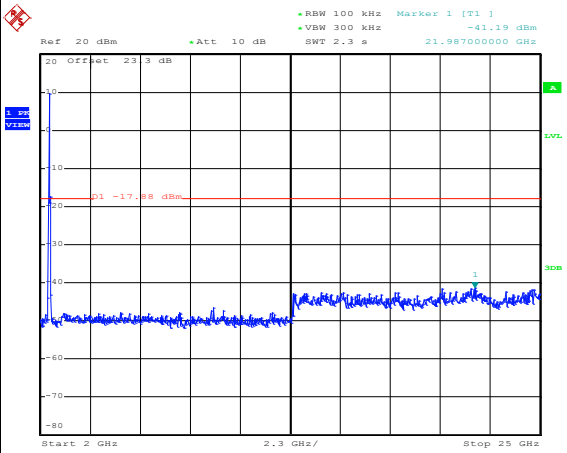
Spurious Emission 30MHz~3GHz



Date: 6.JUL.2016 04:28:33

Spurious Emission 2GHz~25GHz

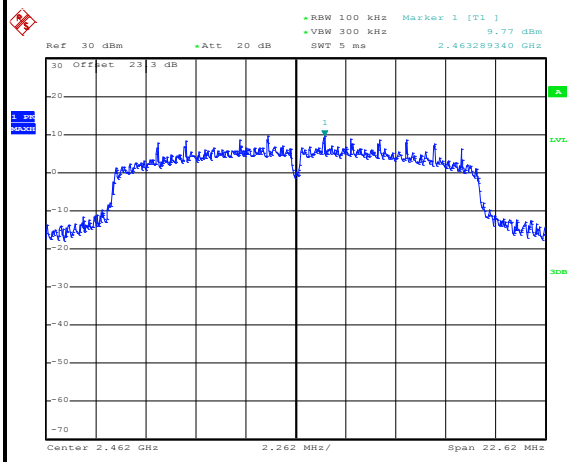


Date: 6.JUL.2016 04:28:41

Test Mode :	802.11g	Temperature :	21~25℃
Test Band :	2.4GHz High	Relative Humidity :	51~54%
Test Channel :	11	Test Engineer :	Derek Hsu

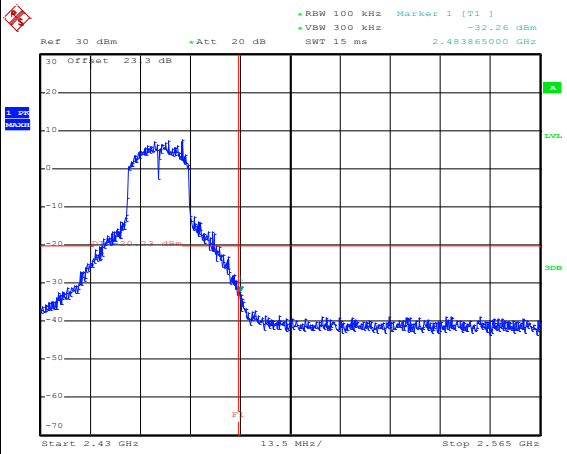
WLAN 802.11g Channel 11

100kHz PSD reference Level



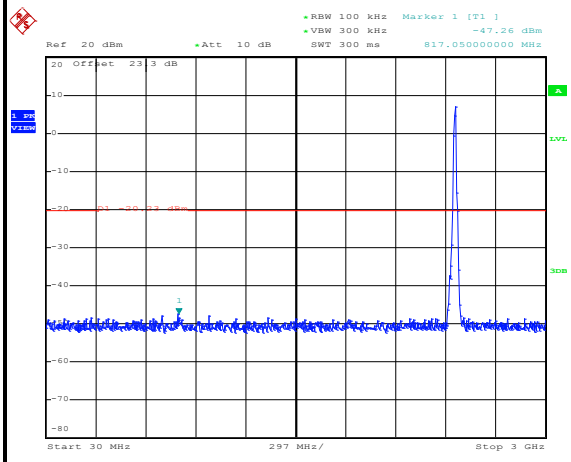
Date: 6.JUL.2016 04:35:09

High Channel Plot



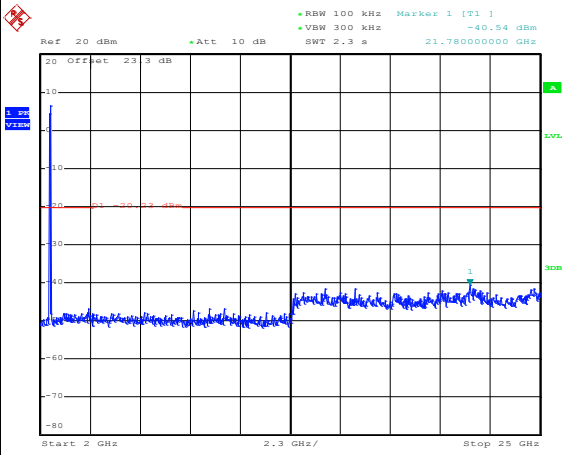
Date: 6.JUL.2016 04:35:19

Spurious Emission 30MHz~3GHz



Date: 6.JUL.2016 04:35:36

Spurious Emission 2GHz~25GHz

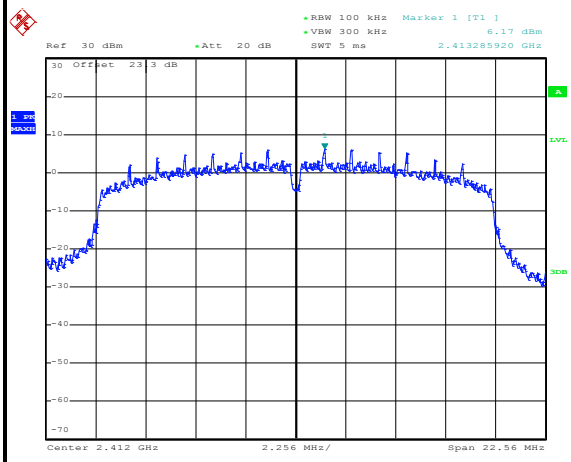


Date: 6.JUL.2016 04:35:44

Test Mode :	802.11n HT20	Temperature :	21~25℃
Test Band :	2.4GHz Low	Relative Humidity :	51~54%
Test Channel :	01	Test Engineer :	Derek Hsu

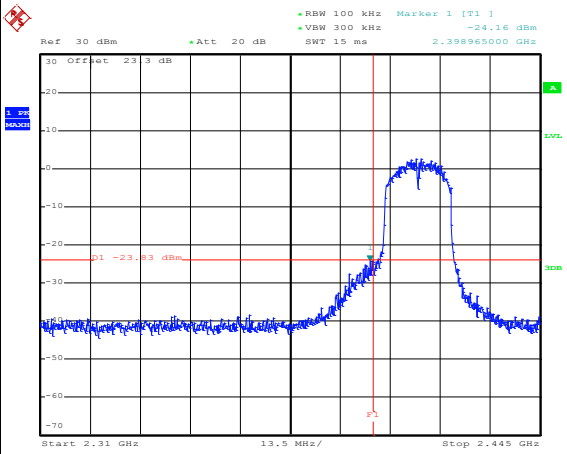
WLAN 802.11n HT20 Channel 01

100kHz PSD reference Level



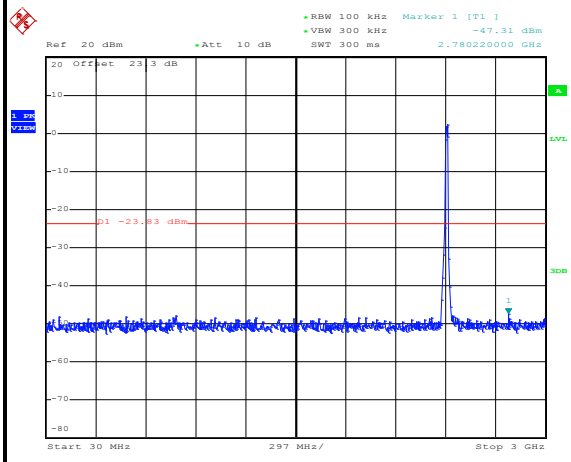
Date: 6.JUL.2016 04:52:21

Low Channel Plot



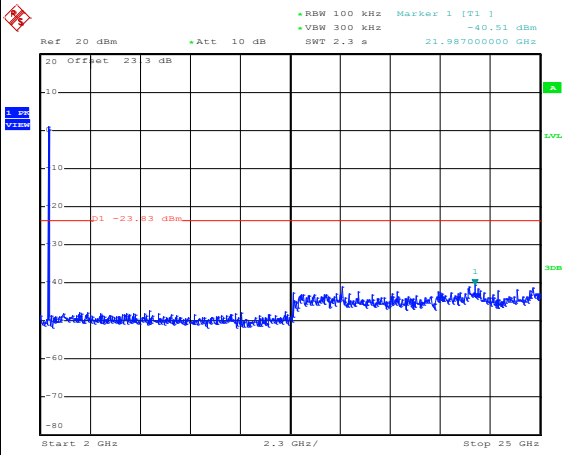
Date: 6.JUL.2016 04:52:30

Spurious Emission 30MHz~3GHz



Date: 6.JUL.2016 04:52:57

Spurious Emission 2GHz~25GHz

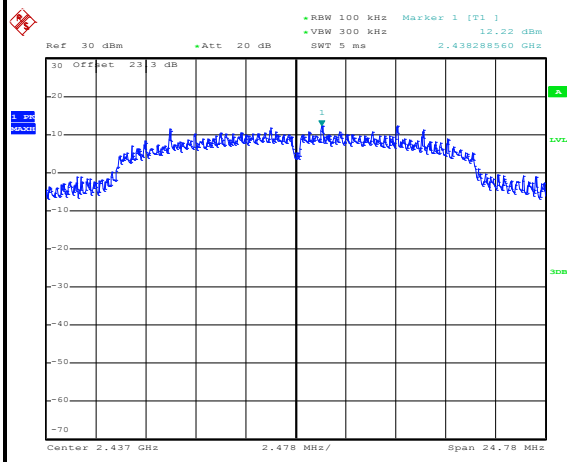


Date: 6.JUL.2016 04:53:06

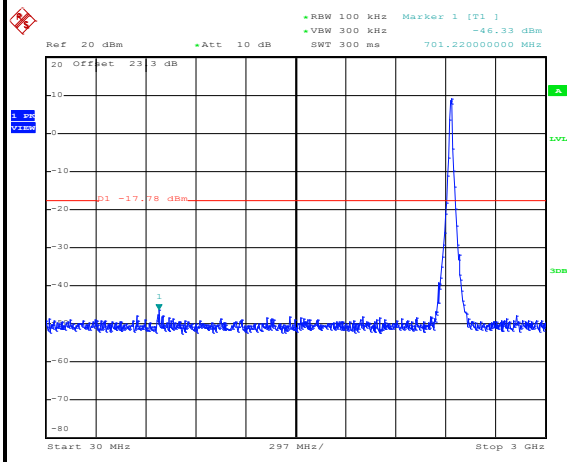
Test Mode :	802.11n HT20	Temperature :	21~25℃
Test Band :	2.4GHz Mid	Relative Humidity :	51~54%
Test Channel :	06	Test Engineer :	Derek Hsu

WLAN 802.11n HT20 Channel 06

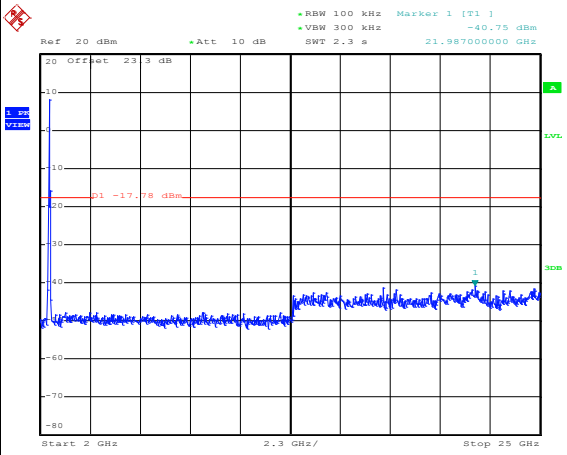
100kHz PSD reference Level



Spurious Emission 30MHz~3GHz



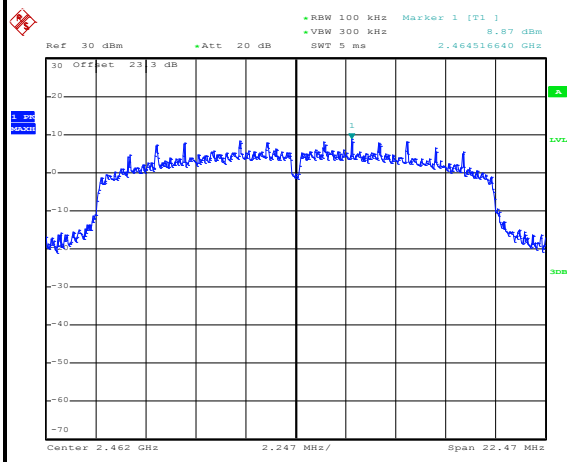
Spurious Emission 2GHz~25GHz



Test Mode :	802.11n HT20	Temperature :	21~25℃
Test Band :	2.4GHz High	Relative Humidity :	51~54%
Test Channel :	11	Test Engineer :	Derek Hsu

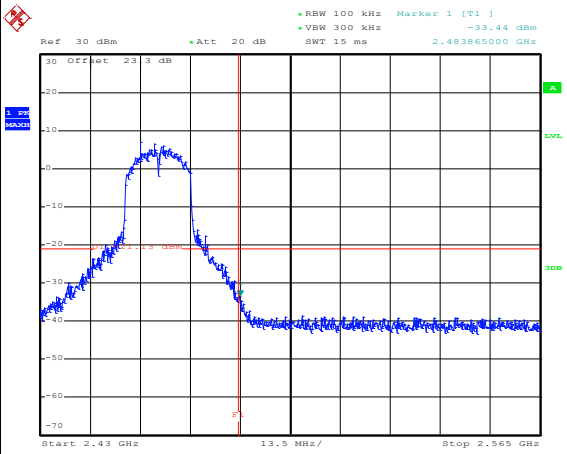
WLAN 802.11n HT20 Channel 11

100kHz PSD reference Level



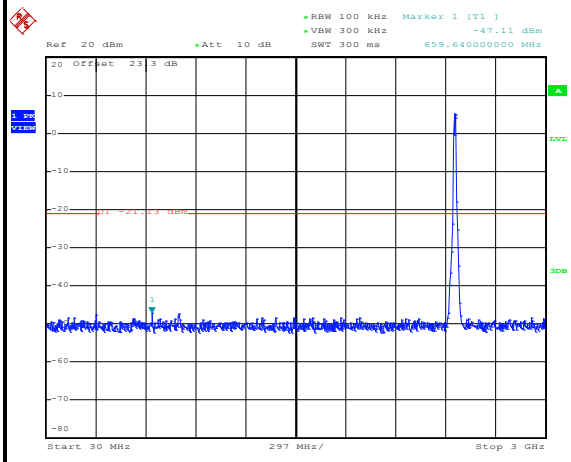
Date: 6.JUL.2016 04:44:54

High Channel Plot



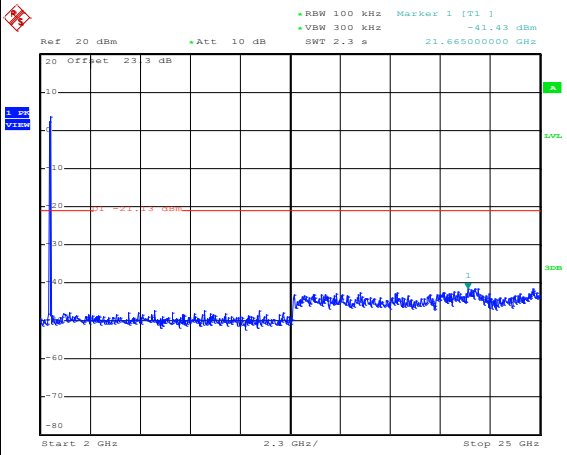
Date: 6.JUL.2016 04:45:05

Spurious Emission 30MHz~3GHz



Date: 6.JUL.2016 04:45:18

Spurious Emission 2GHz~25GHz

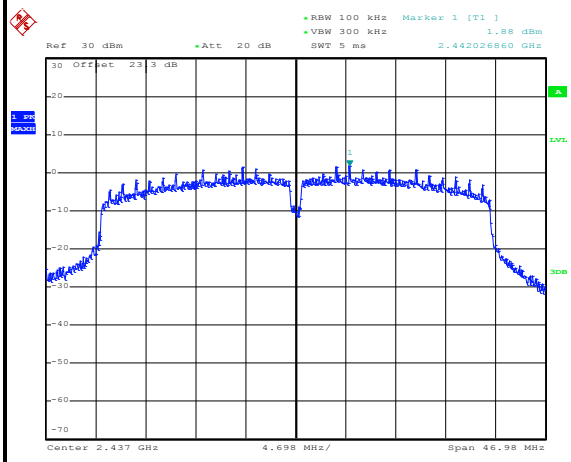


Date: 6.JUL.2016 04:45:26

Test Mode :	802.11n HT40	Temperature :	21~25℃
Test Band :	2.4GHz Low	Relative Humidity :	51~54%
Test Channel :	03	Test Engineer :	Derek Hsu

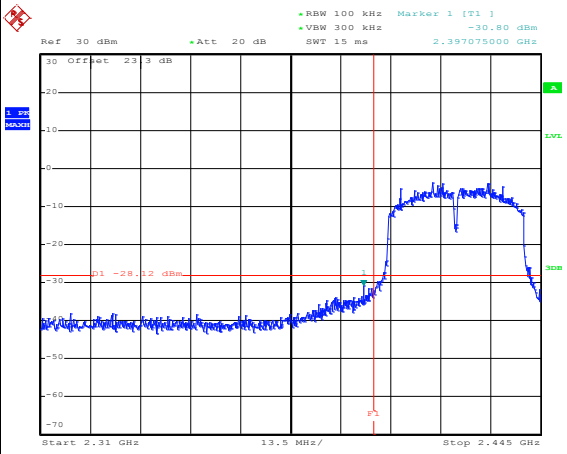
WLAN 802.11n HT40 Channel 03

100kHz PSD reference Level



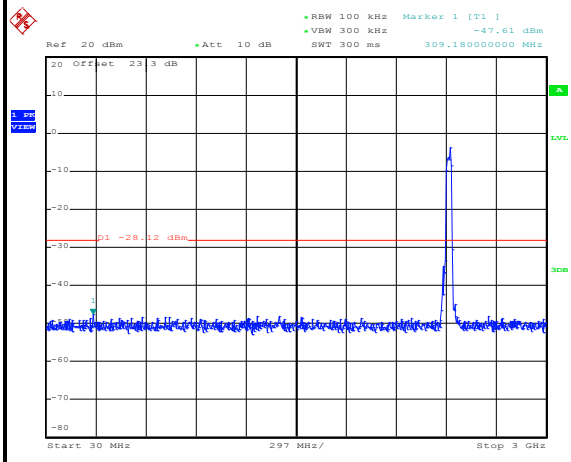
Date: 6.JUL.2016 05:07:22

Low Channel Plot



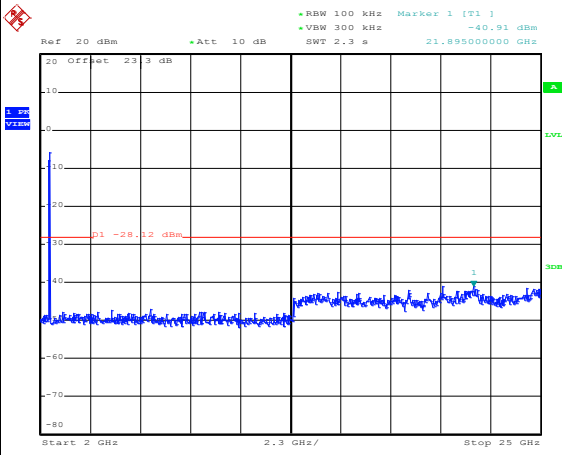
Date: 7.JUL.2016 03:27:48

Spurious Emission 30MHz~3GHz



Date: 7.JUL.2016 03:28:02

Spurious Emission 2GHz~25GHz

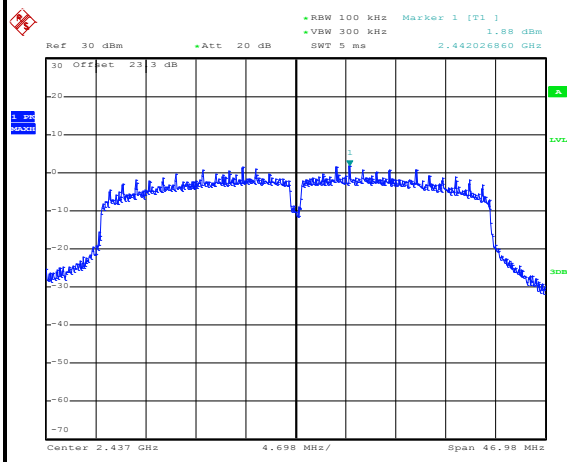


Date: 7.JUL.2016 03:28:10

Test Mode :	802.11n HT40	Temperature :	21~25℃
Test Band :	2.4GHz Mid	Relative Humidity :	51~54%
Test Channel :	06	Test Engineer :	Derek Hsu

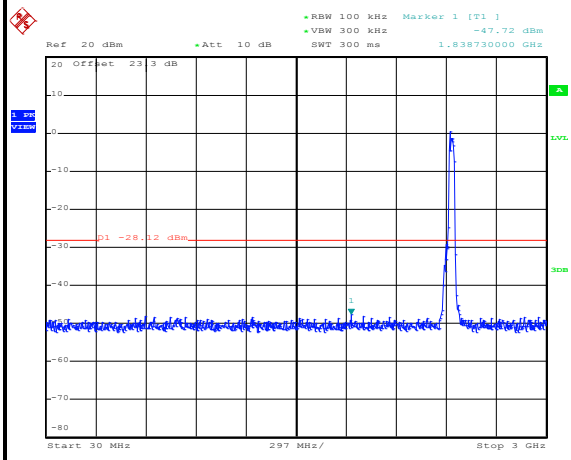
WLAN 802.11n HT40 Channel 06

100kHz PSD reference Level



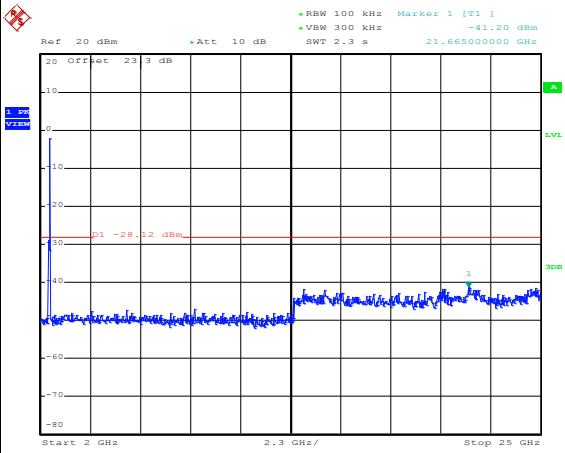
Date: 6.JUL.2016 05:07:22

Spurious Emission 30MHz~3GHz



Date: 6.JUL.2016 05:08:00

Spurious Emission 2GHz~25GHz

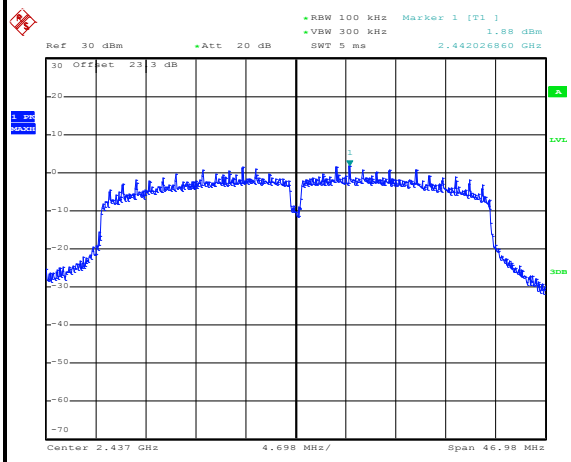


Date: 6.JUL.2016 05:08:09

Test Mode :	802.11n HT40	Temperature :	21~25℃
Test Band :	2.4GHz High	Relative Humidity :	51~54%
Test Channel :	09	Test Engineer :	Derek Hsu

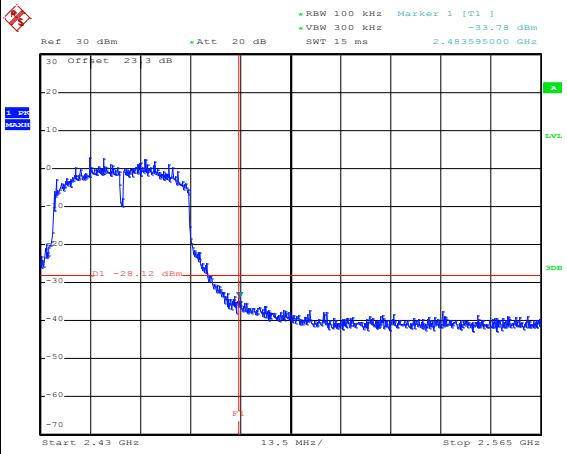
WLAN 802.11n HT40 Channel 09

100kHz PSD reference Level



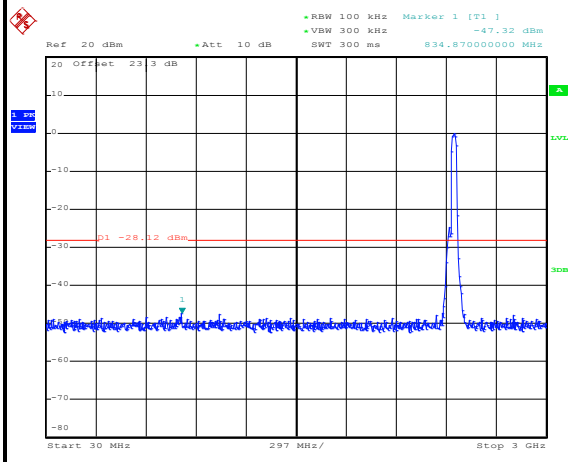
Date: 6.JUL.2016 05:07:22

High Channel Plot



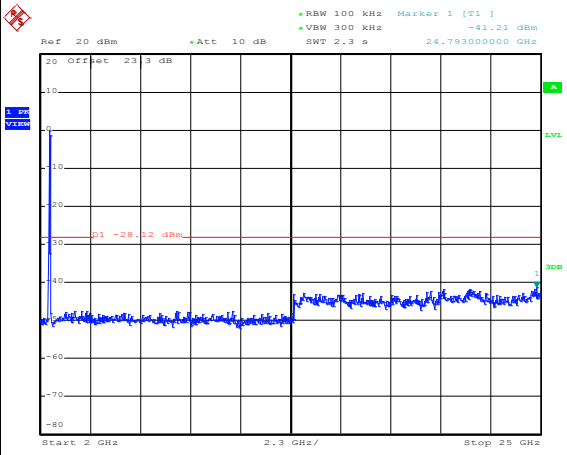
Date: 7.JUL.2016 03:30:29

Spurious Emission 30MHz~3GHz



Date: 7.JUL.2016 03:30:49

Spurious Emission 2GHz~25GHz



Date: 7.JUL.2016 03:30:58

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

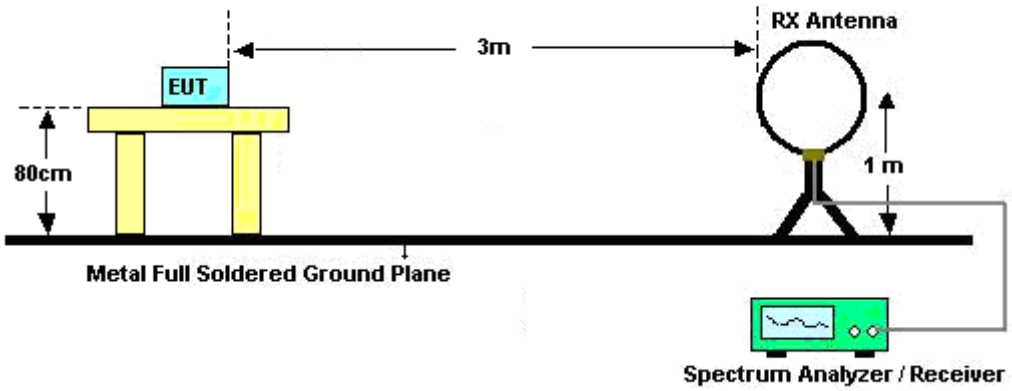
The measuring equipment is listed in the section 4 of this test report.

3.5.3 Test Procedures

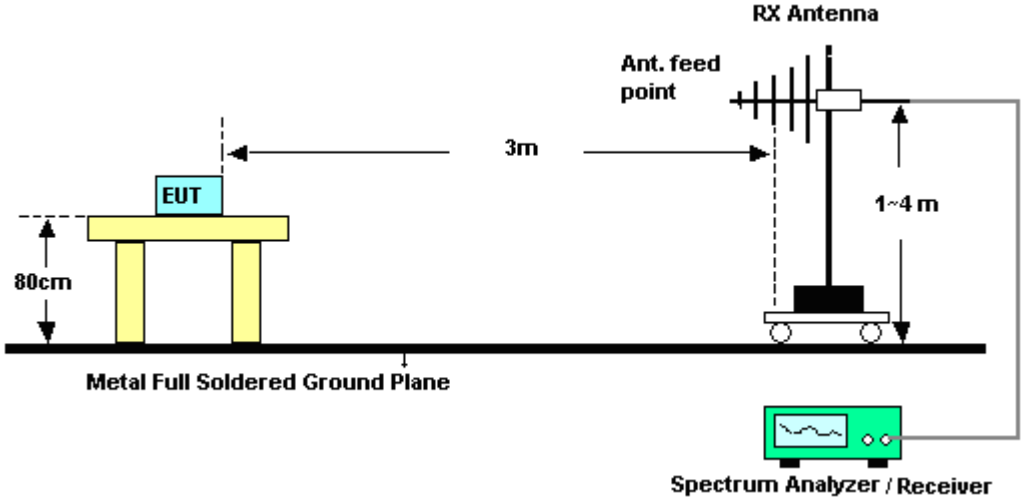
1. The testing follows FCC KDB Publication No. 558074 D01 DTS Meas. Guidance v03r05.
2. The EUT was arranged to its worst case and then tune the antenna tower (from 1 m to 4 m) and turntable (from 0 degree to 360 degrees) to find the maximum reading. A pre-amp and a high pass filter are used for the 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 ≥ RBW; Sweep = auto; Detector function = peak; Trace = max hold;
   (3) Set RBW = 1 MHz, VBW= 3MHz for f ≥ 1 GHz for peak measurement.
   For average measurement:
   - VBW = 10 Hz, when duty cycle is no less than 98 percent.
   - VBW ≥ 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.

3.5.4 Test Setup

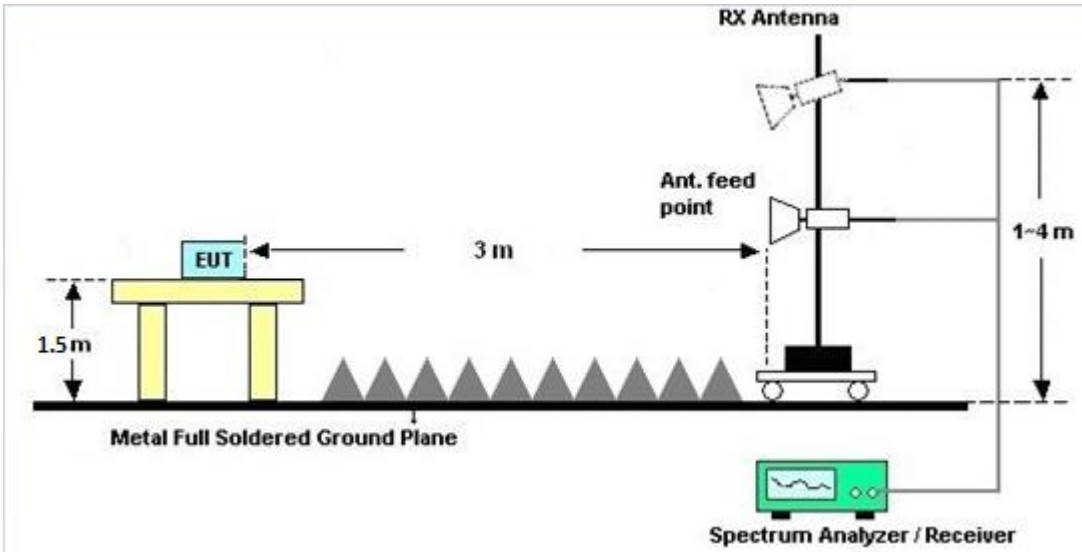
For radiated emissions below 30MHz



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 Duty Cycle

Please refer to Appendix D.

3.5.8 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 (dBμV)	
	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.

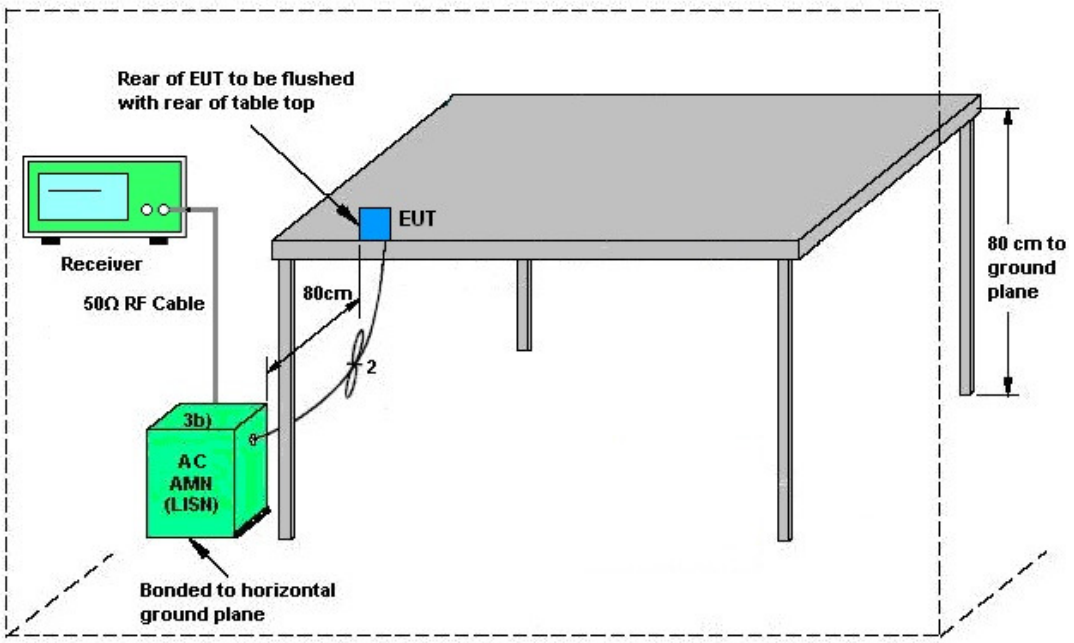
3.6.2 Measuring Instruments

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.

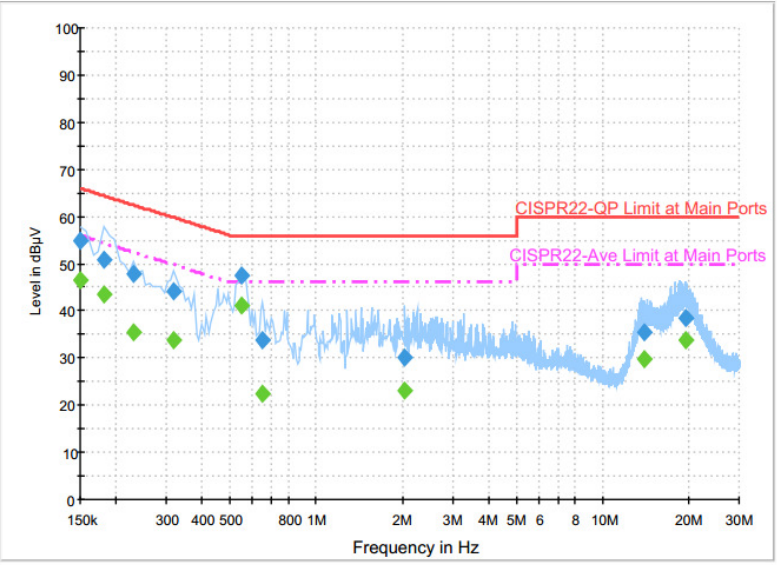
3.6.4 Test Setup



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 :	22~23℃
Test Engineer :	Arthur Hsieh	Relative Humidity :	50~51%
Test Voltage :	120Vac / 60Hz	Phase :	Line
Function Type :	WLAN (2.4GHz) Link 802.11n HT20 MCS0 + Bluetooth Link + WAN Link + LAN Link + USB Link + Adapter 1		



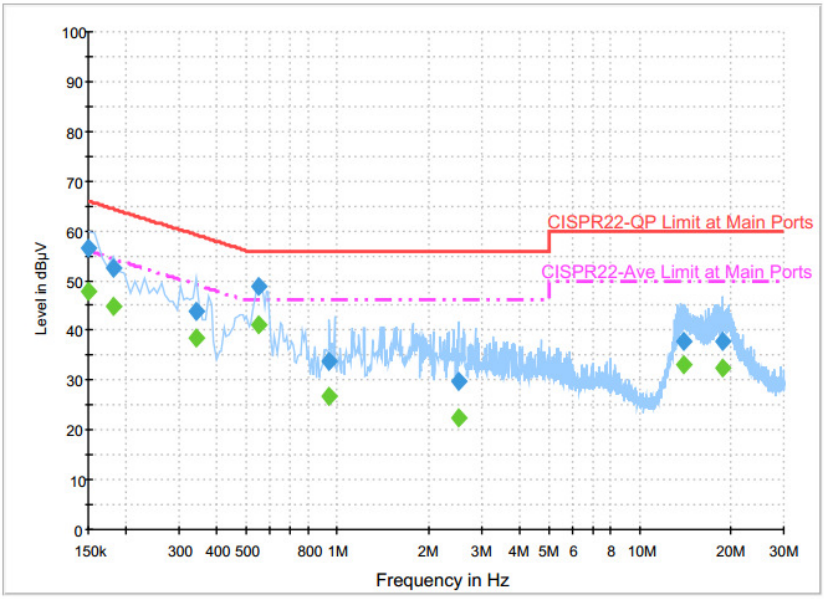
Final Result : Quasi-Peak

Frequency (MHz)	Quasi-Peak (dBµV)	Filter	Line	Corr. (dB)	Margin (dB)	Limit (dBµV)
0.150000	54.9	Off	L1	19.6	11.1	66.0
0.182000	51.0	Off	L1	19.6	13.4	64.4
0.230000	47.7	Off	L1	19.6	14.7	62.4
0.318000	44.3	Off	L1	19.6	15.5	59.8
0.550000	47.6	Off	L1	19.6	8.4	56.0
0.646000	33.9	Off	L1	19.6	22.1	56.0
2.046000	30.0	Off	L1	19.6	26.0	56.0
13.926000	35.4	Off	L1	20.3	24.6	60.0
19.462000	38.5	Off	L1	20.7	21.5	60.0

Final Result : Average

Frequency (MHz)	Average (dBµV)	Filter	Line	Corr. (dB)	Margin (dB)	Limit (dBµV)
0.150000	46.5	Off	L1	19.6	9.5	56.0
0.182000	43.5	Off	L1	19.6	10.9	54.4
0.230000	35.3	Off	L1	19.6	17.1	52.4
0.318000	33.7	Off	L1	19.6	16.1	49.8
0.550000	41.2	Off	L1	19.6	4.8	46.0
0.646000	22.6	Off	L1	19.6	23.4	46.0
2.046000	23.1	Off	L1	19.6	22.9	46.0
13.926000	29.8	Off	L1	20.3	20.2	50.0
19.462000	33.8	Off	L1	20.7	16.2	50.0

Test Mode :	Mode 1	Temperature :	22~23℃
Test Engineer :	Arthur Hsieh	Relative Humidity :	50~51%
Test Voltage :	120Vac / 60Hz	Phase :	Neutral
Function Type :	WLAN (2.4GHz) Link 802.11n HT20 MCS0 + Bluetooth Link + WAN Link + LAN Link + USB Link + Adapter 1		



Final Result : Quasi-Peak

Frequency (MHz)	Quasi-Peak (dBµV)	Filter	Line	Corr. (dB)	Margin (dB)	Limit (dBµV)
0.150000	56.5	Off	N	19.6	9.5	66.0
0.182000	52.6	Off	N	19.6	11.8	64.4
0.342000	43.9	Off	N	19.6	15.3	59.2
0.550000	48.7	Off	N	19.6	7.3	56.0
0.942000	33.8	Off	N	19.6	22.2	56.0
2.510000	29.7	Off	N	19.7	26.3	56.0
13.974000	37.8	Off	N	20.4	22.2	60.0
18.878000	37.9	Off	N	20.7	22.1	60.0

Final Result : Average

Frequency (MHz)	Average (dBµV)	Filter	Line	Corr. (dB)	Margin (dB)	Limit (dBµV)
0.150000	47.7	Off	N	19.6	8.3	56.0
0.182000	44.9	Off	N	19.6	9.5	54.4
0.342000	38.5	Off	N	19.6	10.7	49.2
0.550000	41.3	Off	N	19.6	4.7	46.0
0.942000	26.6	Off	N	19.6	19.4	46.0
2.510000	22.5	Off	N	19.7	23.5	46.0
13.974000	33.3	Off	N	20.4	16.7	50.0
18.878000	32.5	Off	N	20.7	17.5	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	Jul. 05, 2016 ~ Jul. 07, 2016	Aug. 11, 2016	Conducted (TH02-HY)
Power Sensor	Anritsu	MA2411B	1126017	300MHz~40GHz	Aug. 12, 2015	Jul. 05, 2016 ~ Jul. 07, 2016	Aug. 11, 2016	Conducted (TH02-HY)
Signal Analyzer	Rohde & Schwarz	FSV40	101397	10Hz~40GHz	Sep. 11, 2015	Jul. 05, 2016 ~ Jul. 07, 2016	Sep. 10, 2016	Conducted (TH02-HY)
Spectrum Analyzer	Rohde & Schwarz	FSP40	100057	9kHz-40GHz	Nov. 23, 2015	Jul. 05, 2016 ~ Jul. 07, 2016	Nov. 22, 2016	Conducted (TH02-HY)
AC Power Source	ChainTek	APC-1000W	N/A	N/A	N/A	Jun. 24, 2016	N/A	Conduction (CO05-HY)
EMI Test Receiver	Rohde & Schwarz	ESCI 7	100724	9kHz~7GHz	Aug. 26, 2015	Jun. 24, 2016	Aug. 25, 2016	Conduction (CO05-HY)
LISN	Rohde & Schwarz	ENV216	100080	9kHz~30MHz	Dec. 02, 2015	Jun. 24, 2016	Dec. 01, 2016	Conduction (CO05-HY)
LISN	Rohde & Schwarz	ENV216	100081	9kHz~30MHz	Dec. 14, 2015	Jun. 24, 2016	Dec. 13, 2016	Conduction (CO05-HY)
Loop Antenna	Rohde & Schwarz	HFH2-Z2	100315	9 kHz~30 MHz	Sep. 02, 2015	Jun. 22, 2016 ~ Jul. 13, 2016	Sep. 01, 2016	Radiation (03CH10-HY)
Amplifier	SONOMA	310N	187311	9kHz~1GHz	Nov. 16, 2015	Jun. 22, 2016 ~ Jul. 13, 2016	Nov. 15, 2016	Radiation (03CH10-HY)
Bilog Antenna	TESEQ	CBL 6111D	35413	30MHz~1GHz	Jan. 13, 2016	Jun. 22, 2016 ~ Jul. 13, 2016	Jan. 12, 2017	Radiation (03CH10-HY)
Horn Antenna	SCHWARZBECK	BBHA 9120 D	9120D-1325	1GHz ~ 18GHz	Sep. 30, 2015	Jun. 22, 2016 ~ Jul. 13, 2016	Sep. 29, 2016	Radiation (03CH10-HY)
Preamplifier	Keysight	83017A	MY53270078	1GHz~26.5GHz	Nov. 13, 2015	Jun. 22, 2016 ~ Jul. 13, 2016	Nov. 12, 2016	Radiation (03CH10-HY)
Preamplifier	MITEQ	AMF-7D-00101800-30-10P	1902246	1GHz~18GHz	Nov. 16, 2015	Jun. 22, 2016 ~ Jul. 13, 2016	Nov. 15, 2016	Radiation (03CH10-HY)
Spectrum Analyzer	Keysight	N9010A	MY54200485	10Hz ~ 44GHz	Oct. 15, 2015	Jun. 22, 2016 ~ Jul. 13, 2016	Oct. 14, 2016	Radiation (03CH10-HY)
Controller	EMEC	EM 1000	N/A	Control Turn table & Ant Mast	N/A	Jun. 22, 2016 ~ Jul. 13, 2016	N/A	Radiation (03CH10-HY)
Antenna Mast	EMEC	AM-BS-4500-B	N/A	1~4m	N/A	Jun. 22, 2016 ~ Jul. 13, 2016	N/A	Radiation (03CH10-HY)
Turn Table	EMEC	TT 2200	N/A	0~360 Degree	N/A	Jun. 22, 2016 ~ Jul. 13, 2016	N/A	Radiation (03CH10-HY)
EMI Test Receiver	Keysight	N9038A(MXE)	MY55420170	N/A	Mar. 10, 2016	Jun. 22, 2016 ~ Jul. 13, 2016	Mar. 09, 2017	Radiation (03CH10-HY)
Preamplifier	MITEQ	JS44-18004000-33-8P	1840917	18GHz ~ 40GHz	Jun. 14, 2016	Jun. 22, 2016 ~ Jul. 13, 2016	Jun. 13, 2017	Radiation (03CH10-HY)
SHF-EHF Horn Antenna	SCHWARZBECK	BBHA 9170	BBHA9170584	18GHz- 40GHz	Nov. 02, 2015	Jun. 22, 2016 ~ Jul. 13, 2016	Nov. 01, 2016	Radiation (03CH10-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))	**5.50**

Uncertainty of Radiated Emission Measurement (1GHz ~ 40GHz)

Measuring Uncertainty for a Level of Confidence of 95% (U = 2Uc(y))	**4.90**

Appendix A. Conducted Test Results

A1 - DTS Part

Test Engineer:	Derek Hsu	Temperature:	21~25	°C
Test Date:	2016/07/05 ~ 2016/07/07	Relative Humidity:	51~54	%

TEST RESULTS DATA
6dB and 99% Occupied Bandwidth

2.4GHz Band								
Mod.	Data Rate	NTX	CH.	Freq. (MHz)	99% Occupied BW (MHz)	6dB BW (MHz)	6dB BW Limit (MHz)	Pass/Fail
11b	1Mbps	1	1	2412	16.70	15.02	0.50	Pass
11b	1Mbps	1	6	2437	16.70	13.84	0.50	Pass
11b	1Mbps	1	11	2462	16.65	15.02	0.50	Pass
11g	6Mbps	1	1	2412	16.70	15.12	0.50	Pass
11g	6Mbps	1	6	2437	32.25	15.30	0.50	Pass
11g	6Mbps	1	11	2462	17.30	15.08	0.50	Pass
HT20	MCS0	1	1	2412	17.70	15.04	0.50	Pass
HT20	MCS0	1	6	2437	32.70	16.52	0.50	Pass
HT20	MCS0	1	11	2462	17.95	14.98	0.50	Pass
HT40	MCS0	1	3	2422	36.00	33.80	0.50	Pass
HT40	MCS0	1	6	2437	36.00	31.32	0.50	Pass
HT40	MCS0	1	9	2452	36.20	33.72	0.50	Pass

TEST RESULTS DATA
Peak Power Table

2.4GHz Band							
Mod.	Data Rate	NTX	CH.	Freq. (MHz)	Peak Conducted Power (dBm)	DG (dBi)	EIRP Power (dBm)
11b	1Mbps	1	1	2412	21.08	2.73	23.81
11b	1Mbps	1	6	2437	22.28	2.73	25.01
11b	1Mbps	1	11	2462	16.17	2.73	18.90
11g	6Mbps	1	1	2412	21.91	2.73	24.64
11g	6Mbps	1	6	2437	23.73	2.73	26.46
11g	6Mbps	1	11	2462	23.67	2.73	26.40
HT20	MCS0	1	1	2412	21.75	2.73	24.48
HT20	MCS0	1	6	2437	23.74	2.73	26.47
HT20	MCS0	1	11	2462	23.30	2.73	26.03
HT40	MCS0	1	3	2422	16.46	2.73	19.19
HT40	MCS0	1	6	2437	19.87	2.73	22.60
HT40	MCS0	1	9	2452	21.51	2.73	24.24

TEST RESULTS DATA
Average Power Table
(Reporting Only)

2.4GHz Band											
Mod.	Data Rate	NTX	CH.	Freq. (MHz)	Duty Factor (dB)	Average Conducted Power (dBm)	Conducted Power Limit (dBm)	DG (dBi)	EIRP Power (dBm)	EIRP Power Limit (dBm)	Pass /Fail
11b	1Mbps	1	1	2412	0.00	14.08	30.00	0.00	14.08	36.00	Pass
11b	1Mbps	1	6	2437	0.00	15.87	30.00	0.00	15.87	36.00	Pass
11b	1Mbps	1	11	2462	0.00	8.82	30.00	0.00	8.82	36.00	Pass
11g	6Mbps	1	1	2412	0.05	15.90	30.00	0.00	15.90	36.00	Pass
11g	6Mbps	1	6	2437	0.05	22.15	30.00	0.00	22.15	36.00	Pass
11g	6Mbps	1	11	2462	0.05	19.60	30.00	0.00	19.60	36.00	Pass
HT20	MCS0	1	1	2412	0.08	15.39	30.00	0.00	15.39	36.00	Pass
HT20	MCS0	1	6	2437	0.08	22.17	30.00	0.00	22.17	36.00	Pass
HT20	MCS0	1	11	2462	0.08	18.78	30.00	0.00	18.78	36.00	Pass
HT40	MCS0	1	3	2422	0.11	11.41	30.00	0.00	11.41	36.00	Pass
HT40	MCS0	1	6	2437	0.11	14.95	30.00	0.00	14.95	36.00	Pass
HT40	MCS0	1	9	2452	0.11	16.99	30.00	0.00	16.99	36.00	Pass

TEST RESULTS DATA
Average Power Density

2.4GHz Band										
Mod.	Data Rate	NTX	CH.	Freq. (MHz)	Duty Factor (dB)	Average PSD (dBm /3kHz)	Average PSD With Duty Factor (dBm/3kHz)	DG (dBi)	Average PSD Limit (dBm /3kHz)	Pass/Fail
11b	1Mbps	1	1	2412	0.00	-13.89	-13.89	2.73	8.00	Pass
11b	1Mbps	1	6	2437	0.00	-11.93	-11.93	2.73	8.00	Pass
11b	1Mbps	1	11	2462	0.00	-19.06	-19.06	2.73	8.00	Pass
11g	6Mbps	1	1	2412	0.05	-12.14	-12.09	2.73	8.00	Pass
11g	6Mbps	1	6	2437	0.05	-5.68	-5.63	2.73	8.00	Pass
11g	6Mbps	1	11	2462	0.05	-8.52	-8.47	2.73	8.00	Pass
HT20	MCS0	1	1	2412	0.08	-12.58	-12.50	2.73	8.00	Pass
HT20	MCS0	1	6	2437	0.08	-6.26	-6.18	2.73	8.00	Pass
HT20	MCS0	1	11	2462	0.08	-9.52	-9.44	2.73	8.00	Pass
HT40	MCS0	1	3	2422	0.11	-20.46	-20.35	2.73	8.00	Pass
HT40	MCS0	1	6	2437	0.11	-16.32	-16.21	2.73	8.00	Pass
HT40	MCS0	1	9	2452	0.11	-14.10	-13.99	2.73	8.00	Pass

Appendix B. Radiated Spurious Emission

Test Engineer :	Tsung Lee and Stan Hsieh	Temperature :	25~26°C
		Relative Humidity :	48~49%

2.4GHz 2400~2483.5MHz

WIFI 802.11b (Band Edge @ 3m)

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 CH 01 2412MHz		2386.545	55.2	-18.8	74	55.82	27.23	5.39	33.24	152	155	P	H
		2386.125	49.5	-4.5	54	50.12	27.23	5.39	33.24	152	155	A	H
	*	2412	103.07	-	-	103.59	27.28	5.42	33.22	152	155	P	H
	*	2410	100	-	-	100.52	27.28	5.42	33.22	152	155	A	H
													H
													H
		2386.125	58.4	-15.6	74	59.02	27.23	5.39	33.24	285	113	P	V
		2386.335	53.28	-0.72	54	53.9	27.23	5.39	33.24	285	113	A	V
	*	2414	108	-	-	108.52	27.28	5.42	33.22	285	113	P	V
	*	2414	105	-	-	105.52	27.28	5.42	33.22	285	113	A	V
													V
													V
802.11b CH 06 2437MHz		2389.24	52.86	-21.14	74	53.48	27.23	5.39	33.24	146	154	P	H
		2389.52	45.16	-8.84	54	45.78	27.23	5.39	33.24	146	154	A	H
	*	2438	106.54	-	-	106.96	27.37	5.42	33.21	146	154	P	H
	*	2438	103.53	-	-	103.95	27.37	5.42	33.21	146	154	A	H
		2496.36	52.25	-21.75	74	52.46	27.5	5.46	33.17	146	154	P	H
		2485.02	41.35	-12.65	54	41.61	27.46	5.46	33.18	146	154	A	H
		2389.24	55.49	-18.51	74	56.11	27.23	5.39	33.24	263	114	P	V
		2389.1	49.46	-4.54	54	50.08	27.23	5.39	33.24	263	114	A	V
	*	2436	111.41	-	-	111.88	27.32	5.42	33.21	263	114	P	V
	*	2436	108.37	-	-	108.84	27.32	5.42	33.21	263	114	A	V
		2483.55	52.75	-21.25	74	53.01	27.46	5.46	33.18	263	114	P	V
		2485.02	43.13	-10.87	54	43.39	27.46	5.46	33.18	263	114	A	V

802.11b CH 11 2462MHz	*	2462	105.41	-	-	105.76	27.41	5.44	33.2	110	157	P	H
	*	2464	102.27	-	-	102.62	27.41	5.44	33.2	110	157	A	H
		2486.68	53.48	-20.52	74	53.74	27.46	5.46	33.18	110	157	P	H
		2487.12	45.78	-8.22	54	46.04	27.46	5.46	33.18	110	157	A	H
													H
													H
	*	2462	111.02	-	-	111.37	27.41	5.44	33.2	316	119	P	V
	*	2464	107.96	-	-	108.31	27.41	5.44	33.2	316	119	A	V
		2485.4	59.69	-14.31	74	59.95	27.46	5.46	33.18	316	119	P	V
		2486.84	51.86	-2.14	54	52.12	27.46	5.46	33.18	316	119	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	52.33	-21.67	74	64.47	31.46	7.58	51.18	319	230	P	H
		4824	50.78	-3.22	54	62.92	31.46	7.58	51.18	319	230	A	H
													H
													H
		4824	54.68	-19.32	74	66.82	31.46	7.58	51.18	353	337	P	V
		4824	53.5	-0.5	54	65.64	31.46	7.58	51.18	353	337	A	V
													V
													V
802.11b CH 06 2437MHz		4872	50.11	-23.89	74	62	31.56	7.7	51.15	100	0	P	H
		7309	42	-32	74	47.13	36.18	9.49	50.8	100	0	P	H
													H
													H
		4872	54.52	-19.48	74	66.41	31.56	7.7	51.15	345	336	P	V
		4872	53.04	-0.96	54	64.93	31.56	7.7	51.15	345	336	A	V
		7309	43.39	-30.61	74	48.52	36.18	9.49	50.8	100	0	P	V
													V
802.11b CH 11 2462MHz		4926	54.43	-19.57	74	65.97	31.66	7.93	51.13	100	258	P	H
		4926	49.81	-4.19	54	61.35	31.66	7.93	51.13	100	258	A	H
		7386	45.02	-28.98	74	49.92	36.37	9.53	50.8	100	0	P	H
													H
		4926	56.13	-17.87	74	67.67	31.66	7.93	51.13	100	240	P	V
		4926	53.02	-0.98	54	64.56	31.66	7.93	51.13	100	240	A	V
		7386	46.99	-27.01	74	51.89	36.37	9.53	50.8	100	0	P	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		2389.905	62.04	-11.96	74	62.64	27.23	5.39	33.22	122	156	P	H
		2390	50.23	-3.77	54	50.83	27.23	5.39	33.22	122	156	A	H
	*	2412	103.9	-	-	104.42	27.28	5.42	33.22	122	156	P	H
	*	2412	95.95	-	-	96.47	27.28	5.42	33.22	122	156	A	H
													H
													H
		2390	65.58	-8.42	74	66.18	27.23	5.39	33.22	329	113	P	V
		2390	53.7	-0.3	54	54.3	27.23	5.39	33.22	329	113	A	V
	*	2412	108.64	-	-	109.16	27.28	5.42	33.22	329	113	P	V
	*	2412	100.32	-	-	100.84	27.28	5.42	33.22	329	113	A	V
													V
													V
802.11g CH 06 2437MHz		2389.94	59.84	-14.16	74	60.44	27.23	5.39	33.22	170	158	P	H
		2389.94	46.77	-7.23	54	47.37	27.23	5.39	33.22	170	158	A	H
	*	2437	107.88	-	-	108.3	27.37	5.42	33.21	170	158	P	H
	*	2437	100.33	-	-	100.75	27.37	5.42	33.21	170	158	A	H
		2485.23	51.53	-22.47	74	51.79	27.46	5.46	33.18	170	158	P	H
		2485.16	44.51	-9.49	54	44.77	27.46	5.46	33.18	170	158	A	H
		2387.7	64.79	-9.21	74	65.41	27.23	5.39	33.24	288	120	P	V
		2389.94	51.28	-2.72	54	51.88	27.23	5.39	33.22	288	120	A	V
	*	2437	114.04	-	-	114.46	27.37	5.42	33.21	288	120	P	V
	*	2437	106.59	-	-	107.01	27.37	5.42	33.21	288	120	A	V
		2485.58	55.79	-18.21	74	56.05	27.46	5.46	33.18	288	120	P	V
		2483.48	44.37	-9.63	54	44.63	27.46	5.46	33.18	288	120	A	V

802.11g CH 11 2462MHz	*	2466	104.57	-	-	104.92	27.41	5.44	33.2	168	154	P	H
	*	2460	97.13	-	-	97.48	27.41	5.44	33.2	168	154	A	H
		2483.52	56.97	-17.03	74	57.23	27.46	5.46	33.18	168	154	P	H
		2483.52	46.98	-7.02	54	47.24	27.46	5.46	33.18	168	154	A	H
													H
													H
	*	2464	110.68	-	-	111.03	27.41	5.44	33.2	282	122	P	V
	*	2460	102.93	-	-	103.28	27.41	5.44	33.2	282	122	A	V
		2483.76	64.61	-9.39	74	64.87	27.46	5.46	33.18	282	122	P	V
		2483.52	53.51	-0.49	54	53.77	27.46	5.46	33.18	282	122	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	49.82	-24.18	74	593.42	-500	7.58	51.18	100	0	P	H
													H
													H
													H
		4824	55.4	-18.6	74	67.54	31.46	7.58	51.18	100	0	P	V
		4824	44.48	-9.52	54	56.62	31.46	7.58	51.18	100	0	A	V
													V
													V
802.11g CH 06 2437MHz		4874	54.11	-19.89	74	66	31.56	7.7	51.15	384	27	P	H
		4874	42.81	-11.19	54	54.7	31.56	7.7	51.15	384	27	A	H
		7311	41.53	-32.47	74	46.66	36.18	9.49	50.8	100	0	P	H
													H
		4874	57.4	-16.6	74	69.29	31.56	7.7	51.15	289	122	P	V
		4874	46.86	-7.14	54	58.75	31.56	7.7	51.15	289	122	A	V
		7311	43.71	-30.29	74	48.84	36.18	9.49	50.8	100	0	P	V
													V
802.11g CH 11 2462MHz		4924	50.09	-23.91	74	61.63	31.66	7.93	51.13	100	0	P	H
		7386	41.03	-32.97	74	45.93	36.37	9.53	50.8	100	0	P	H
													H
													H
		4924	55.37	-18.63	74	66.91	31.66	7.93	51.13	242	177	P	V
		4924	44.97	-9.03	54	56.51	31.66	7.93	51.13	242	177	A	V
		7386	41.67	-32.33	74	46.57	36.37	9.53	50.8	100	0	P	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)
		2389.905	60.49	-13.51	74	61.09	27.23	5.39	33.22	152	154	P	H
		2390	49.23	-4.77	54	49.83	27.23	5.39	33.22	152	154	A	H
	*	2414	102.24	-	-	102.76	27.28	5.42	33.22	152	154	P	H
	*	2410	94.36	-	-	94.88	27.28	5.42	33.22	152	154	A	H
802.11n													H
HT20													H
CH 01		2390	65.25	-8.75	74	65.85	27.23	5.39	33.22	329	121	P	V
2412MHz		2390	53.37	-0.63	54	53.97	27.23	5.39	33.22	329	121	A	V
	*	2414	107.91	-	-	108.43	27.28	5.42	33.22	329	121	P	V
	*	2414	99.82	-	-	100.34	27.28	5.42	33.22	329	121	A	V
													V
													V
		2389.8	57.36	-16.64	74	57.96	27.23	5.39	33.22	145	154	P	H
		2389.94	45.55	-8.45	54	46.15	27.23	5.39	33.22	145	154	A	H
	*	2436	108.17	-	-	108.64	27.32	5.42	33.21	145	154	P	H
	*	2436	100.44	-	-	100.91	27.32	5.42	33.21	145	154	A	H
802.11n		2486.77	51.91	-22.09	74	52.17	27.46	5.46	33.18	145	154	P	H
HT20		2484.11	41.19	-12.81	54	41.45	27.46	5.46	33.18	145	154	A	H
CH 06		2389.66	64.81	-9.19	74	65.43	27.23	5.39	33.24	286	121	P	V
2437MHz		2389.94	52.1	-1.9	54	52.7	27.23	5.39	33.22	286	121	A	V
	*	2436	114.74	-	-	115.21	27.32	5.42	33.21	286	121	P	V
	*	2436	106.43	-	-	106.9	27.32	5.42	33.21	286	121	A	V
		2484.39	57.06	-16.94	74	57.32	27.46	5.46	33.18	286	121	P	V
		2483.48	44.66	-9.34	54	44.92	27.46	5.46	33.18	286	121	A	V

	*	2460	104.68	-	-	105.03	27.41	5.44	33.2	166	153	P	H
	*	2460	96.85	-	-	97.2	27.41	5.44	33.2	166	153	A	H
		2483.6	56.54	-17.46	74	56.8	27.46	5.46	33.18	166	153	P	H
		2483.52	46.91	-7.09	54	47.17	27.46	5.46	33.18	166	153	A	H
802.11n													H
HT20													H
CH 11	*	2464	110.76	-	-	111.11	27.41	5.44	33.2	316	121	P	V
2462MHz	*	2464	102.77	-	-	103.12	27.41	5.44	33.2	316	121	A	V
		2483.64	64.67	-9.33	74	64.93	27.46	5.46	33.18	316	121	P	V
		2483.52	53.43	-0.57	54	53.69	27.46	5.46	33.18	316	121	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)
		4824	47	-27	74	59.14	31.46	7.58	51.18	100	0	P	H
													H
802.11n													H
HT20													H
CH 01		4824	54.15	-19.85	74	66.29	31.46	7.58	51.18	281	131	P	V
2412MHz		4824	40.95	-13.05	54	53.09	31.46	7.58	51.18	281	131	A	V
													V
													V
		4874	50.89	-23.11	74	62.78	31.56	7.7	51.15	100	0	P	H
		7311	41.52	-32.48	74	46.65	36.18	9.49	50.8	100	0	P	H
802.11n													H
HT20													H
CH 06		4874	57.26	-16.74	74	69.15	31.56	7.7	51.15	243	124	P	V
2437MHz		4874	46.43	-7.57	54	58.32	31.56	7.7	51.15	243	124	A	V
		7311	42.43	-31.57	74	47.56	36.18	9.49	50.8	100	0	P	V
													V
		4924	53.73	-20.27	74	65.27	31.66	7.93	51.13	379	27	P	H
		4924	42.72	-11.28	54	54.26	31.66	7.93	51.13	379	27	A	H
802.11n		7386	41.95	-32.05	74	46.85	36.37	9.53	50.8	100	0	P	H
HT20													H
CH 11		4924	54.99	-19.01	74	66.53	31.66	7.93	51.13	291	177	P	V
2462MHz		4924	44.15	-9.85	54	55.69	31.66	7.93	51.13	291	177	A	V
		7386	42.13	-31.87	74	47.03	36.37	9.53	50.8	100	0	P	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)
		2389.1	58.7	-15.3	74	59.32	27.23	5.39	33.24	139	155	P	H
		2389.94	48.62	-5.38	54	49.22	27.23	5.39	33.22	139	155	A	H
	*	2422	95.47	-	-	95.94	27.32	5.42	33.21	139	155	P	H
	*	2422	87.2	-	-	87.67	27.32	5.42	33.21	139	155	A	H
802.11n		2495.38	51.3	-22.7	74	51.51	27.5	5.46	33.17	139	155	P	H
HT40		2485.3	40.7	-13.3	54	40.96	27.46	5.46	33.18	139	155	A	H
CH 03		2389.66	61.63	-12.37	74	62.25	27.23	5.39	33.24	331	121	P	V
2422MHz		2389.8	51.92	-2.08	54	52.52	27.23	5.39	33.22	331	121	A	V
	*	2422	100.77	-	-	101.24	27.32	5.42	33.21	331	121	P	V
	*	2422	92.47	-	-	92.94	27.32	5.42	33.21	331	121	A	V
		2494.19	51.61	-22.39	74	51.82	27.5	5.46	33.17	331	121	P	V
		2483.62	41.11	-12.89	54	41.37	27.46	5.46	33.18	331	121	A	V
		2388.82	59.43	-14.57	74	60.05	27.23	5.39	33.24	141	157	P	H
		2389.94	48.67	-5.33	54	49.27	27.23	5.39	33.22	141	157	A	H
	*	2437	98.38	-	-	98.8	27.37	5.42	33.21	141	157	P	H
	*	2437	90.24	-	-	90.66	27.37	5.42	33.21	141	157	A	H
802.11n		2486.7	52.07	-21.93	74	52.33	27.46	5.46	33.18	141	157	P	H
HT40		2483.5	41.04	-12.96	54	41.3	27.46	5.46	33.18	141	157	A	H
CH 06		2389.94	63.66	-10.34	74	64.26	27.23	5.39	33.22	294	112	P	V
2437MHz		2389.94	53.38	-0.62	54	53.98	27.23	5.39	33.22	294	112	A	V
	*	2437	103.62	-	-	104.04	27.37	5.42	33.21	294	112	P	V
	*	2437	95.75	-	-	96.17	27.37	5.42	33.21	294	112	A	V
		2489.64	52.49	-21.51	74	52.71	27.5	5.46	33.18	294	112	P	V
		2483.5	42.79	-11.21	54	43.05	27.46	5.46	33.18	294	112	A	V

		2389.8	52.45	-21.55	74	53.05	27.23	5.39	33.22	139	156	P	H
		2389.94	42.65	-11.35	54	43.25	27.23	5.39	33.22	139	156	A	H
	*	2452	100.91	-	-	101.3	27.37	5.44	33.2	139	156	P	H
	*	2452	92.73	-	-	93.12	27.37	5.44	33.2	139	156	A	H
802.11n		2483.69	57.69	-16.31	74	57.95	27.46	5.46	33.18	139	156	P	H
HT40		2483.5	47.42	-6.58	54	47.68	27.46	5.46	33.18	139	156	A	H
CH 09		2389.66	55.49	-18.51	74	56.11	27.23	5.39	33.24	247	117	P	V
2452MHz		2389.94	45.19	-8.81	54	45.79	27.23	5.39	33.22	247	117	A	V
	*	2452	106	-	-	106.39	27.37	5.44	33.2	247	117	P	V
	*	2452	97.81	-	-	98.2	27.37	5.44	33.2	247	117	A	V
		2483.5	62.96	-11.04	74	63.22	27.46	5.46	33.18	247	117	P	V
		2483.5	52.32	-1.68	54	52.58	27.46	5.46	33.18	247	117	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)
		4844	40.28	-33.72	74	52.25	31.49	7.7	51.16	100	0	P	H
		7266	40.42	-33.58	74	45.65	36.11	9.46	50.8	100	0	P	H
802.11n													H
HT40													H
CH 03		4844	40.54	-33.46	74	52.51	31.49	7.7	51.16	100	0	P	V
2422MHz		7266	41.42	-32.58	74	46.65	36.11	9.46	50.8	100	0	P	V
													V
													V
		4874	42.68	-31.32	74	54.57	31.56	7.7	51.15	100	0	P	H
		7311	41.43	-32.57	74	46.56	36.18	9.49	50.8	100	0	P	H
802.11n													H
HT40													H
CH 06		4874	47.5	-26.5	74	59.39	31.56	7.7	51.15	100	0	P	V
2437MHz		7311	41.18	-32.82	74	46.31	36.18	9.49	50.8	100	0	P	V
													V
													V
		4904	47.79	-26.21	74	59.49	31.63	7.82	51.15	100	0	P	H
		7356	40.92	-33.08	74	45.91	36.3	9.51	50.8	100	0	P	H
802.11n													H
HT40													H
CH 09		4904	50.93	-23.07	74	62.63	31.63	7.82	51.15	100	0	P	V
2452MHz		7356	41.77	-32.23	74	46.76	36.3	9.51	50.8	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

Emission below 1GHz

2.4GHz WIFI 802.11b (LF)

WIFI Ant.	Note	Frequency	Level	Over Limit	Limit Line	Read Level	Antenna Factor	Cable Loss	Preamp Factor	Ant Pos	Table Pos	Peak Avg.	Pol.
1		(MHz)	(dBµV/m)	(dB)	(dBµV/m)	(dBµV)	(dB/m)	(dB)	(dB)	(cm)	(deg)	(P/A)	(H/V)
2.4GHz 802.11b LF		83.73	36.33	-3.67	40	53.82	14.26	0.93	32.68			P	H
		178.5	39.52	-3.98	43.5	55.12	15.63	1.48	32.71			P	H
		274.35	38.87	-7.13	46	50.49	19.35	1.76	32.73	100	163	QP	H
		300	40.89	-5.11	46	52.04	19.7	1.88	32.73			P	H
		467.3	36.39	-9.61	46	43.43	23.55	2.3	32.89			P	H
		650	39.35	-6.65	46	43.69	26	2.67	33.01			P	H
													H
													H
													H
													H
													H
		42.42	35.23	-4.77	40	48.56	18.82	0.65	32.8			P	V
		81.3	34.26	-5.74	40	52	14.02	0.93	32.69			P	V
		299.73	42.05	-3.95	46	53.2	19.7	1.88	32.73	100	54	P	V
		355.3	36.78	-9.22	46	46.31	21.32	1.94	32.79			P	V
		597.5	32.39	-13.61	46	37.41	25.44	2.57	33.03			P	V
		650	38.6	-7.4	46	42.94	26	2.67	33.01			P	V
													V
													V
													V
													V
													V
													V

Remark

1. No other spurious found.
2. All results are PASS against 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		82.11	34.66	-5.34	40	52.27	14.14	0.93	32.68	259	337	QP	H
		82.11	38.74	-1.26	40	56.35	14.14	0.93	32.68	259	337	P	H
		180.12	39.83	-3.67	43.5	55.56	15.5	1.48	32.71			P	H
		275.43	40.83	-5.17	46	52.45	19.35	1.76	32.73	100	171	QP	H
		300	37.78	-8.22	46	48.93	19.7	1.88	32.73	100	211	QP	H
		300	45.98	-0.02	46	57.13	19.7	1.88	32.73	100	211	P	H
		393.1	35.3	-10.7	46	43.76	22.24	2.13	32.83			P	H
		650	39.46	-6.54	46	43.8	26	2.67	33.01			P	H
													H
													H
													H
		81.03	36.83	-3.17	40	54.57	14.02	0.93	32.69	100	116	QP	V
		176.34	38.08	-5.42	43.5	53.56	15.75	1.48	32.71			P	V
		299.19	41.46	-4.54	46	52.61	19.7	1.88	32.73			P	V
		352.5	36.55	-9.45	46	46.15	21.25	1.94	32.79			P	V
		597.5	32.23	-13.77	46	37.25	25.44	2.57	33.03			P	V
		650	38.1	-7.9	46	42.44	26	2.67	33.01			P	V
													V
													V
													V
													V
													V

Remark

1. No other spurious found.
2. All results are PASS against limit line.

Emission below 1GHz

2.4GHz WIFI 802.11n HT20 (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)
		83.46	37.54	-2.46	40	55.03	14.26	0.93	32.68	234	344	QP	H
		181.74	39.44	-4.06	43.5	55.16	15.51	1.48	32.71			P	H
		275.7	41.46	-4.54	46	53.08	19.35	1.76	32.73	115	148	QP	H
		300	42.89	-3.11	46	54.04	19.7	1.88	32.73			P	H
		393.1	36	-10	46	44.46	22.24	2.13	32.83			P	H
		650	39.47	-6.53	46	43.81	26	2.67	33.01			P	H
													H
													H
2.4GHz													H
802.11n													H
HT20		81.3	36.52	-3.48	40	54.26	14.02	0.93	32.69	100	0	P	V
LF		182.01	36.69	-6.81	43.5	52.4	15.52	1.48	32.71			P	V
		299.73	41.77	-4.23	46	52.92	19.7	1.88	32.73			P	V
		351.8	37.12	-8.88	46	46.72	21.25	1.94	32.79			P	V
		391.7	34.62	-11.38	46	43.11	22.21	2.13	32.83			P	V
		650	38.37	-7.63	46	42.71	26	2.67	33.01			P	V
													V
													V
													V
													V
													V
													V

Remark

1. No other spurious found.
2. All results are PASS against limit line.

Emission below 1GHz

2.4GHz WIFI 802.11n HT40 (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)
		83.46	36.66	-3.34	40	54.15	14.26	0.93	32.68	159	251	QP	H
		180.12	38.95	-4.55	43.5	54.68	15.5	1.48	32.71			P	H
		275.43	41.57	-4.43	46	53.19	19.35	1.76	32.73	106	147	QP	H
		300	40.86	-5.14	46	52.01	19.7	1.88	32.73			P	H
		391.7	36	-10	46	44.49	22.21	2.13	32.83			P	H
		650	39	-7	46	43.34	26	2.67	33.01			P	H
													H
													H
2.4GHz													H
802.11n													H
HT40		83.46	35.31	-4.69	40	52.8	14.26	0.93	32.68			P	V
LF		180.12	39.34	-4.16	43.5	55.07	15.5	1.48	32.71	100	0	P	V
		299.19	38.08	-7.92	46	49.23	19.7	1.88	32.73			P	V
		358.8	37.07	-8.93	46	46.52	21.41	1.94	32.8			P	V
		391.7	34.18	-11.82	46	42.67	22.21	2.13	32.83			P	V
		650	37.92	-8.08	46	42.26	26	2.67	33.01			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	**P**eak or **A**verage
H/V	**H**orizontal or **V**ertical

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 CH 01 2412MHz		2390	55.45	-18.55	74	54.51	32.22	4.58	35.86	103	308	P	H
		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

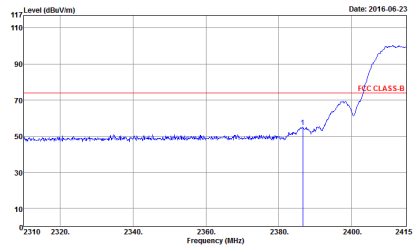
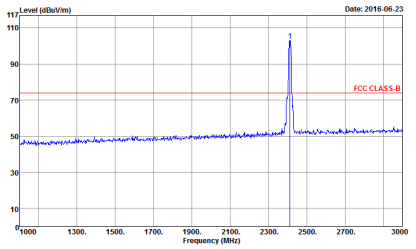
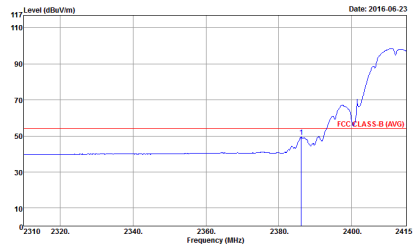
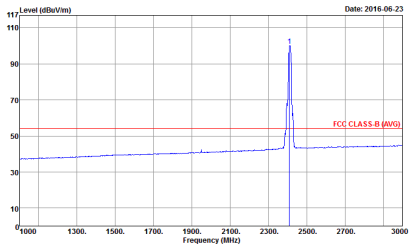
Test Engineer :	Tsung Lee and Stan Hsieh	**Temperature :**	25~26°C
		Relative Humidity :	48~49%

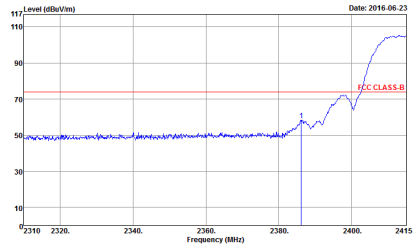
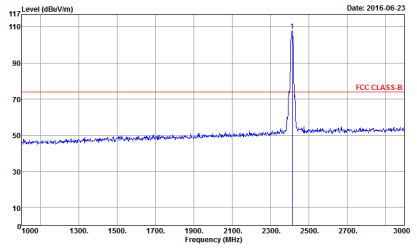
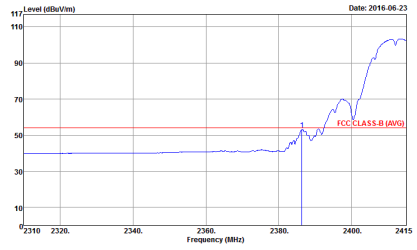
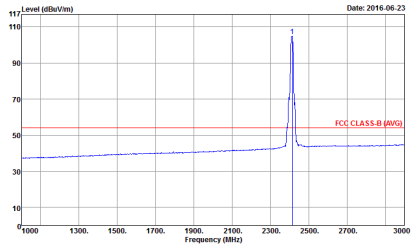
Note symbol

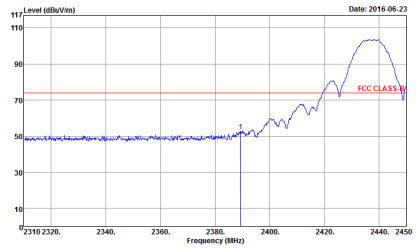
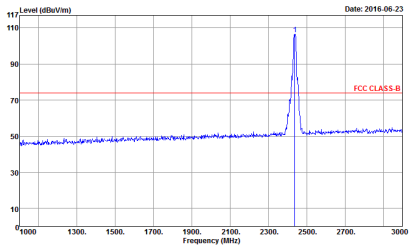
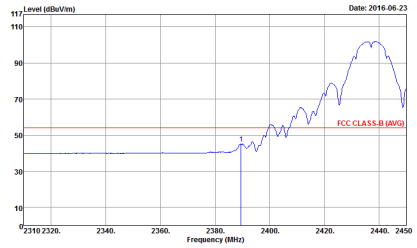
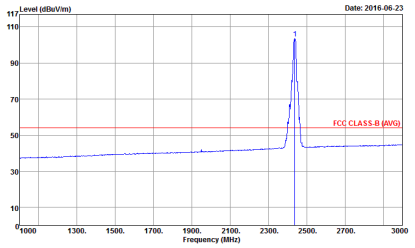
-L	**Low channel location**
-R	**High channel location**

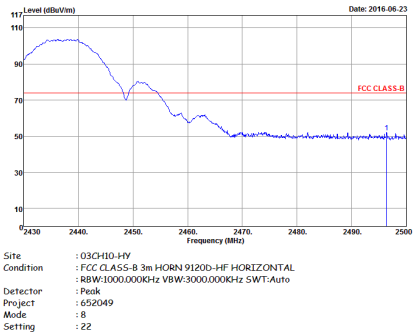
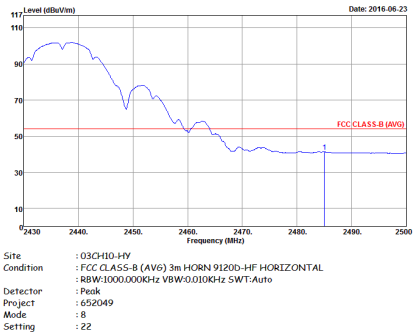
2.4GHz 2400~2483.5MHz

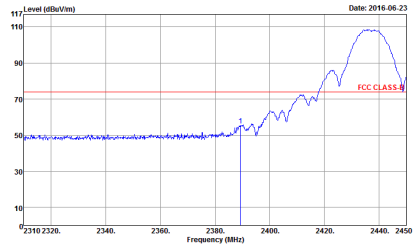
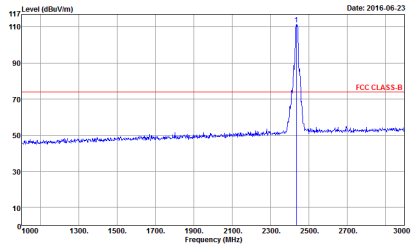
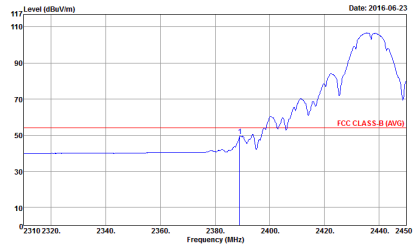
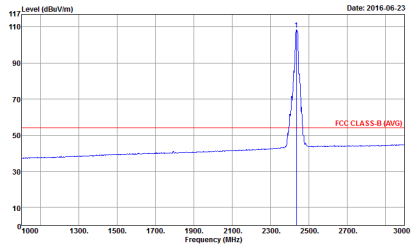
WIFI 802.11b (Band Edge @ 3m)

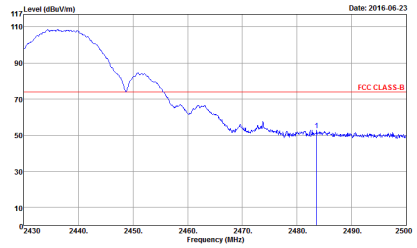
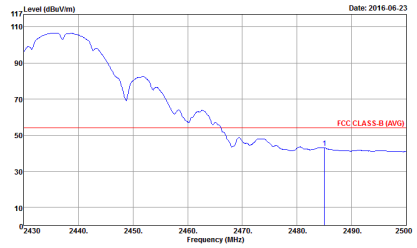
WIFI	2.4GHz 2400~2483.5MHz Band Edge @ 3m	
ANT	802.11b CH01 2412MHz	
1	Horizontal	Fundamental
Peak	 Site : 03CH10-HY Condition : FCC CLASS-B 3m HORN 9120D-HF HORIZONTAL : RBW:1000.000KHz VBW:3000.000KHz SWT:Auto Detector : Peak Project : 652049 Mode : 7 Setting : 18.5	 Site : 03CH10-HY Condition : FCC CLASS-B 3m HORN 9120D-HF HORIZONTAL : RBW:1000.000KHz VBW:3000.000KHz SWT:Auto Detector : Peak Project : 652049 Mode : 7 Setting : 18.5
Avg.	 Site : 03CH10-HY Condition : FCC CLASS-B (AVG) 3m HORN 9120D-HF HORIZONTAL : RBW:1000.000KHz VBW:0.010KHz SWT:Auto Detector : Peak Project : 652049 Mode : 7 Setting : 18.5	 Site : 03CH10-HY Condition : FCC CLASS-B (AVG) 3m HORN 9120D-HF HORIZONTAL : RBW:1000.000KHz VBW:0.010KHz SWT:Auto Detector : Peak Project : 652049 Mode : 7 Setting : 18.5

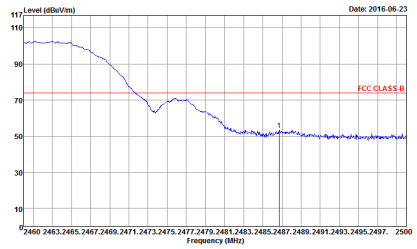
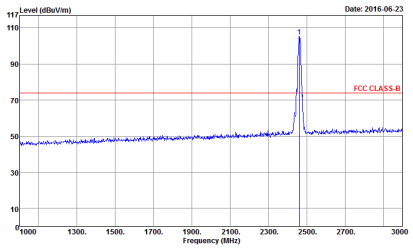
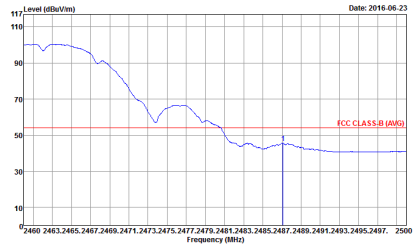
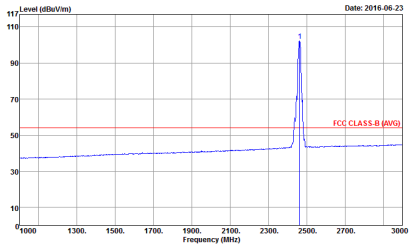
WIFI	2.4GHz 2400~2483.5MHz Band Edge @ 3m	
ANT	802.11b CH01 2412MHz	
1	Vertical	Fundamental
Peak	 Site : 03CH10-HY Condition : FCC CLASS-B 3m HORN 9120D-HF VERTICAL : RBW:1000.000KHz VBW:3000.000KHz SWT:Auto Detector : Peak Project : 652049 Mode : 7 Setting : 18.5	 Site : 03CH10-HY Condition : FCC CLASS-B 3m HORN 9120D-HF VERTICAL : RBW:1000.000KHz VBW:3000.000KHz SWT:Auto Detector : Peak Project : 652049 Mode : 7 Setting : 18.5
Avg.	 Site : 03CH10-HY Condition : FCC CLASS-B (AVG) 3m HORN 9120D-HF VERTICAL : RBW:1000.000KHz VBW:0.010KHz SWT:Auto Detector : Peak Project : 652049 Mode : 7 Setting : 18.5	 Site : 03CH10-HY Condition : FCC CLASS-B (AVG) 3m HORN 9120D-HF VERTICAL : RBW:1000.000KHz VBW:0.010KHz SWT:Auto Detector : Peak Project : 652049 Mode : 7 Setting : 18.5

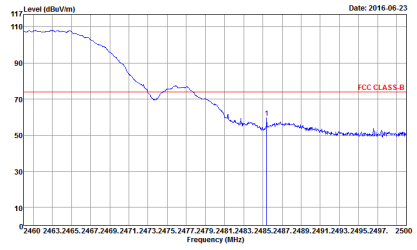
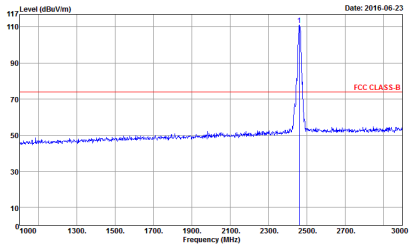
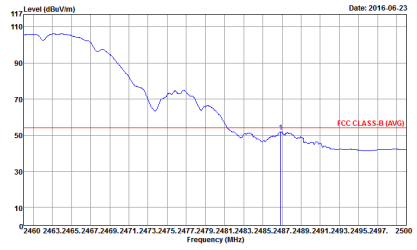
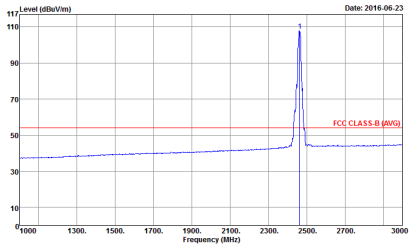
WIFI	2.4GHz 2400~2483.5MHz Band Edge @ 3m	
ANT	802.11b CH06 2437MHz - L	
1	Horizontal	Fundamental
Peak	 Site : 03CH10-HY Condition : FCC CLASS-B 3m HORN 9120D-HF HORIZONTAL : RBW:1000.000KHz VBW:3000.000KHz SWT:Auto Detector : S Project : 652049 Mode : 8 Setting : 22	 Site : 03CH10-HY Condition : FCC CLASS-B 3m HORN 9120D-HF HORIZONTAL : RBW:1000.000KHz VBW:3000.000KHz SWT:Auto Detector : Peak Project : 652049 Mode : 8 Setting : 22
Avg.	 Site : 03CH10-HY Condition : FCC CLASS-B (AVG) 3m HORN 9120D-HF HORIZONTAL : RBW:1000.000KHz VBW:0.010KHz SWT:Auto Detector : Peak Project : 652049 Mode : 8 Setting : 22	 Site : 03CH10-HY Condition : FCC CLASS-B (AVG) 3m HORN 9120D-HF HORIZONTAL : RBW:1000.000KHz VBW:0.010KHz SWT:Auto Detector : Peak Project : 652049 Mode : 8 Setting : 22

WIFI	2.4GHz 2400~2483.5MHz Band Edge @ 3m	
ANT	802.11b CH06 2437MHz - R	
1	Horizontal	Fundamental
Peak		Left blank
Avg.		Left blank

WIFI	2.4GHz 2400~2483.5MHz Band Edge @ 3m	
ANT	802.11b CH06 2437MHz - L	
1	Vertical	Fundamental
Peak	 Site : 03CH10-HY Condition : FCC CLASS-B 3m HORN 9120D-HF VERTICAL : RBW:1000.000KHz VBW:3000.000KHz SWT:Auto Detector : Peak Project : 652049 Mode : 8 Setting : 22	 Site : 03CH10-HY Condition : FCC CLASS-B 3m HORN 9120D-HF VERTICAL : RBW:1000.000KHz VBW:3000.000KHz SWT:Auto Detector : Peak Project : 652049 Mode : 8 Setting : 22
Avg.	 Site : 03CH10-HY Condition : FCC CLASS-B (AVG) 3m HORN 9120D-HF VERTICAL : RBW:1000.000KHz VBW:0.010KHz SWT:Auto Detector : Peak Project : 652049 Mode : 8 Setting : 22	 Site : 03CH10-HY Condition : FCC CLASS-B (AVG) 3m HORN 9120D-HF VERTICAL : RBW:1000.000KHz VBW:0.010KHz SWT:Auto Detector : Peak Project : 652049 Mode : 8 Setting : 22

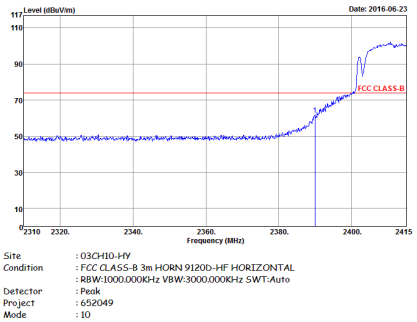
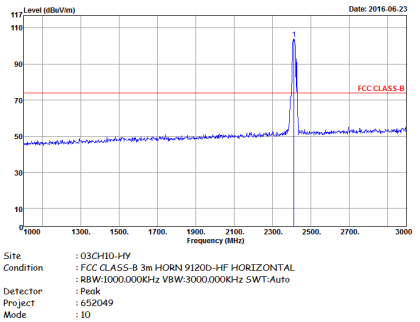
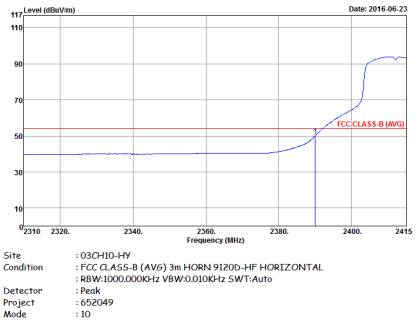
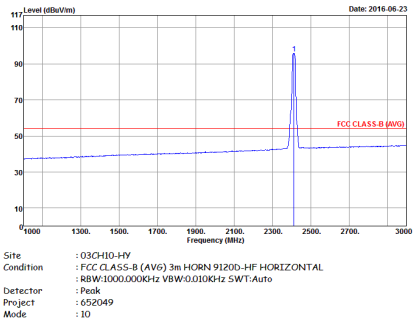
WIFI	2.4GHz 2400~2483.5MHz Band Edge @ 3m	
ANT	802.11b CH06 2437MHz - R	
1	Vertical	Fundamental
Peak	 Site : 03CH10-HY Condition : FCC CLASS-B 3m HORN 9120D-HF VERTICAL : RBW:1000.000KHz VBW:3000.000KHz SWT:Auto Detector : Peak Project : 652049 Mode : 8 Setting : 22	Left blank
Avg.	 Site : 03CH10-HY Condition : FCC CLASS-B (AVG) 3m HORN 9120D-HF VERTICAL : RBW:1000.000KHz VBW:0.010KHz SWT:Auto Detector : Peak Project : 652049 Mode : 8 Setting : 22	Left blank

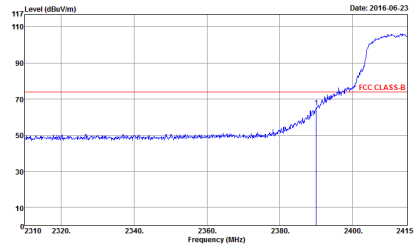
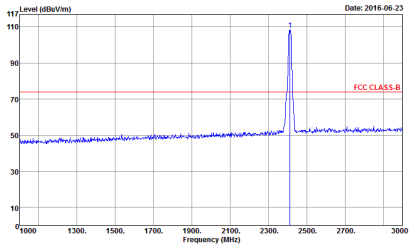
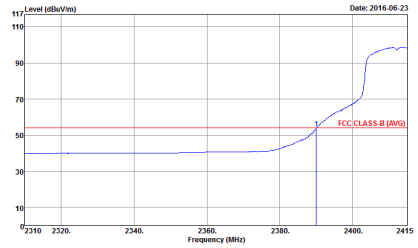
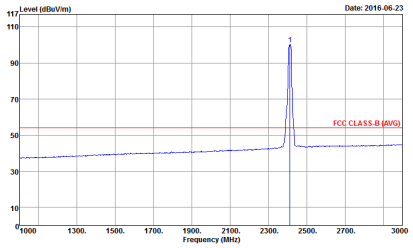
WIFI	2.4GHz 2400~2483.5MHz Band Edge @ 3m	
ANT	802.11b CH11 2462MHz	
1	Horizontal	Fundamental
Peak	 Site : 03CH10-HY Condition : FCC CLASS-B 3m HORN 9120D-HF HORIZONTAL : RBW:1000.000KHz VBW:3000.000KHz SWT:Auto Detector : Peak Project : 652049 Mode : 9 Setting : 21	 Site : 03CH10-HY Condition : FCC CLASS-B 3m HORN 9120D-HF HORIZONTAL : RBW:1000.000KHz VBW:3000.000KHz SWT:Auto Detector : Peak Project : 652049 Mode : 9 Setting : 21
Avg.	 Site : 03CH10-HY Condition : FCC CLASS-B (AVG) 3m HORN 9120D-HF HORIZONTAL : RBW:1000.000KHz VBW:0.010KHz SWT:Auto Detector : Peak Project : 652049 Mode : 9 Setting : 21	 Site : 03CH10-HY Condition : FCC CLASS-B (AVG) 3m HORN 9120D-HF HORIZONTAL : RBW:1000.000KHz VBW:0.010KHz SWT:Auto Detector : Peak Project : 652049 Mode : 9 Setting : 21

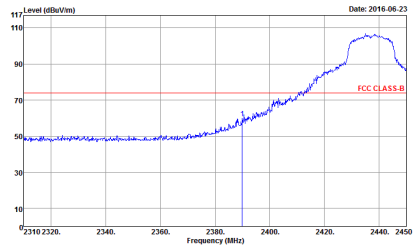
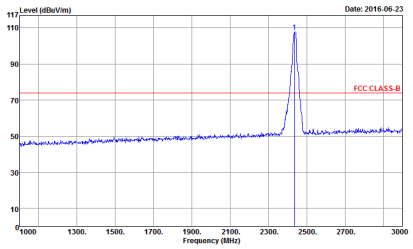
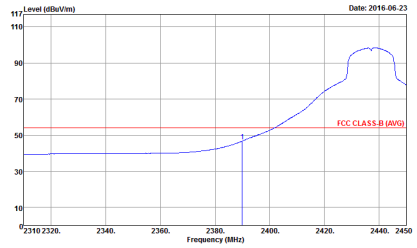
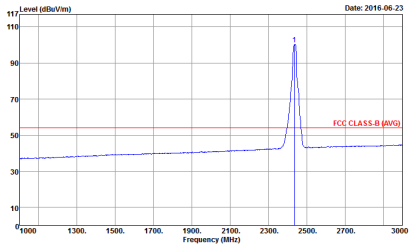
WIFI	2.4GHz 2400~2483.5MHz Band Edge @ 3m	
ANT	802.11b CH11 2462MHz	
1	Vertical	Fundamental
Peak	 Site : 03CH10-HY Condition : FCC CLASS-B 3m HORN 9120D-HF VERTICAL : RBW:1000.000KHz VBW:3000.000KHz SWT:Auto Detector : Peak Project : 652049 Mode : 9 Setting : 21	 Site : 03CH10-HY Condition : FCC CLASS-B 3m HORN 9120D-HF VERTICAL : RBW:1000.000KHz VBW:3000.000KHz SWT:Auto Detector : Peak Project : 652049 Mode : 9 Setting : 21
Avg.	 Site : 03CH10-HY Condition : FCC CLASS-B (AVG) 3m HORN 9120D-HF VERTICAL : RBW:1000.000KHz VBW:0.010KHz SWT:Auto Detector : Peak Project : 652049 Mode : 9 Setting : 21	 Site : 03CH10-HY Condition : FCC CLASS-B (AVG) 3m HORN 9120D-HF VERTICAL : RBW:1000.000KHz VBW:0.010KHz SWT:Auto Detector : Peak Project : 652049 Mode : 9 Setting : 21

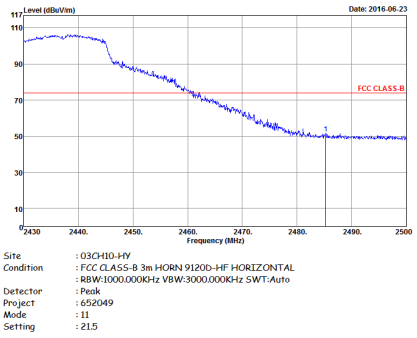
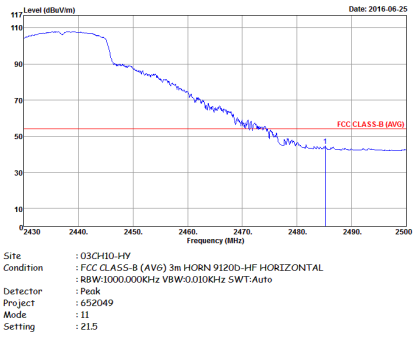
2.4GHz 2400~2483.5MHz

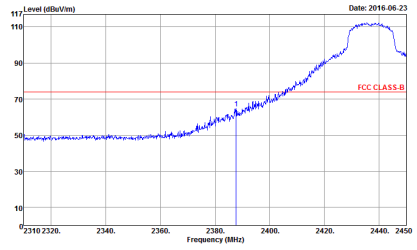
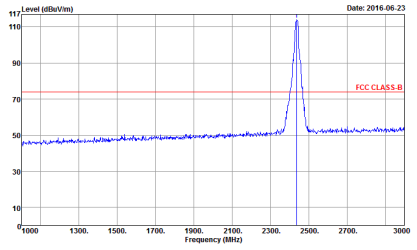
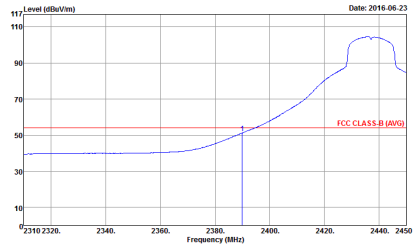
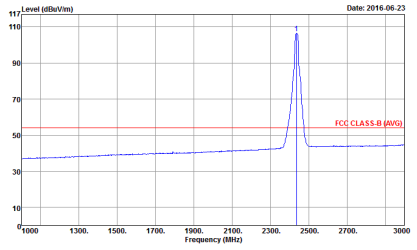
WIFI 802.11g (Band Edge @ 3m)

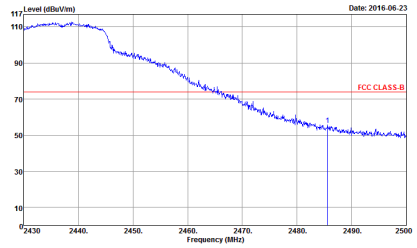
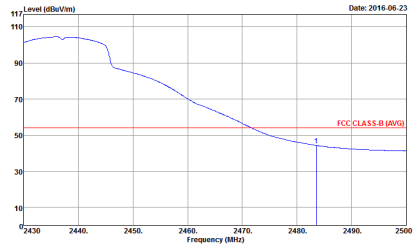
WIFI	2.4GHz 2400~2483.5MHz Band Edge @ 3m	
ANT	802.11g CH01 2412MHz	
1	Horizontal	Fundamental
Peak		
Avg.		

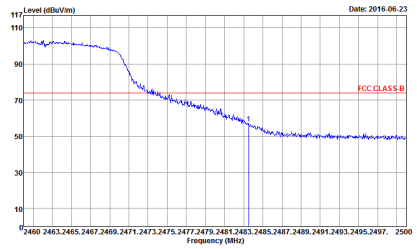
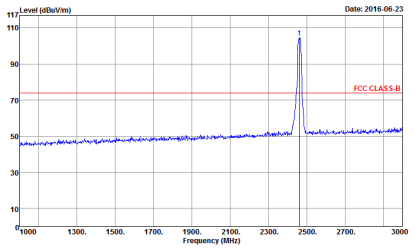
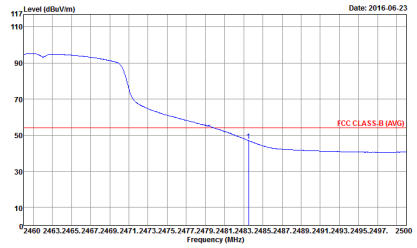
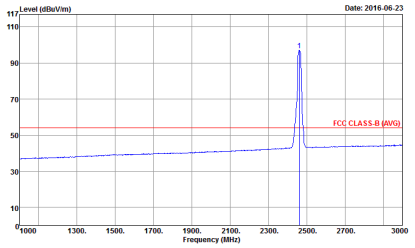
WIFI	2.4GHz 2400~2483.5MHz Band Edge @ 3m	
ANT	802.11g CH01 2412MHz	
1	Vertical	Fundamental
Peak	 Site : 03CH10-HY Condition : FCC CLASS-B 3m HORN 9120D-HF VERTICAL : RBW:1000.000KHz VBW:3000.000KHz SWT:Auto Detector : Peak Project : 652049 Mode : 10	 Site : 03CH10-HY Condition : FCC CLASS-B 3m HORN 9120D-HF VERTICAL : RBW:1000.000KHz VBW:3000.000KHz SWT:Auto Detector : Peak Project : 652049 Mode : 10
Avg.	 Site : 03CH10-HY Condition : FCC CLASS-B (AVG) 3m HORN 9120D-HF VERTICAL : RBW:1000.000KHz VBW:0.010KHz SWT:Auto Detector : Peak Project : 652049 Mode : 10	 Site : 03CH10-HY Condition : FCC CLASS-B (AVG) 3m HORN 9120D-HF VERTICAL : RBW:1000.000KHz VBW:0.010KHz SWT:Auto Detector : Peak Project : 652049 Mode : 10

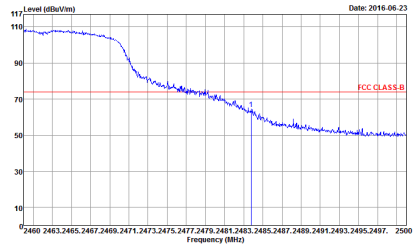
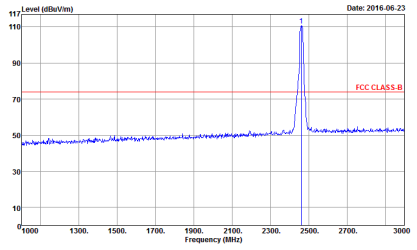
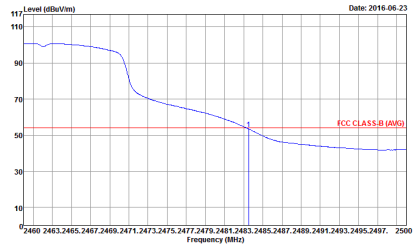
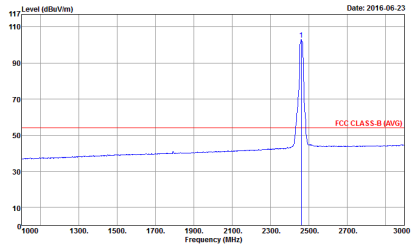
WIFI	2.4GHz 2400~2483.5MHz Band Edge @ 3m	
ANT	802.11g CH06 2437MHz - L	
1	Horizontal	Fundamental
Peak	 Site : 03CH10-HY Condition : FCC CLASS-B 3m HORN 9120D-HF HORIZONTAL : RBW:1000.000KHz VBW:3000.000KHz SWT:Auto Detector : Peak Project : 652049 Mode : 11 Setting : 21.5	 Site : 03CH10-HY Condition : FCC CLASS-B 3m HORN 9120D-HF HORIZONTAL : RBW:1000.000KHz VBW:3000.000KHz SWT:Auto Detector : Peak Project : 652049 Mode : 11 Setting : 21.5
Avg.	 Site : 03CH10-HY Condition : FCC CLASS-B (AVG) 3m HORN 9120D-HF HORIZONTAL : RBW:1000.000KHz VBW:0.010KHz SWT:Auto Detector : Peak Project : 652049 Mode : 11 Setting : 21.5	 Site : 03CH10-HY Condition : FCC CLASS-B (AVG) 3m HORN 9120D-HF HORIZONTAL : RBW:1000.000KHz VBW:0.010KHz SWT:Auto Detector : Peak Project : 652049 Mode : 11 Setting : 21.5

WIFI	2.4GHz 2400~2483.5MHz Band Edge @ 3m	
ANT	802.11g CH06 2437MHz - R	
1	Horizontal	Fundamental
Peak	 Site : 03CH10-HY Condition : FCC CLASS-B 3m HORN 9120D-HF HORIZONTAL : RBW:1000.000KHz VBW:3000.000KHz SWT:Auto Detector : Peak Project : 652049 Mode : 11 Setting : 21.5	Left blank
Avg.	 Site : 03CH10-HY Condition : FCC CLASS-B (AVG) 3m HORN 9120D-HF HORIZONTAL : RBW:1000.000KHz VBW:0.010KHz SWT:Auto Detector : Peak Project : 652049 Mode : 11 Setting : 21.5	Left blank

WIFI	2.4GHz 2400~2483.5MHz Band Edge @ 3m	
ANT	802.11g CH06 2437MHz - L	
1	Vertical	Fundamental
Peak	 Site : 03CH10-HY Condition : FCC CLASS-B 3m HORN 9120D-HF VERTICAL : RBW:1000.000KHz VBW:3000.000KHz SWT:Auto Detector : Peak Project : 652049 Mode : 11 Setting : 21.5	 Site : 03CH10-HY Condition : FCC CLASS-B 3m HORN 9120D-HF VERTICAL : RBW:1000.000KHz VBW:3000.000KHz SWT:Auto Detector : Peak Project : 652049 Mode : 11 Setting : 21.5
Avg.	 Site : 03CH10-HY Condition : FCC CLASS-B (AVG) 3m HORN 9120D-HF VERTICAL : RBW:1000.000KHz VBW:0.010KHz SWT:Auto Detector : Peak Project : 652049 Mode : 11 Setting : 21.5	 Site : 03CH10-HY Condition : FCC CLASS-B (AVG) 3m HORN 9120D-HF VERTICAL : RBW:1000.000KHz VBW:0.010KHz SWT:Auto Detector : Peak Project : 652049 Mode : 11 Setting : 21.5

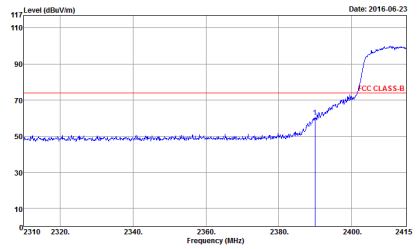
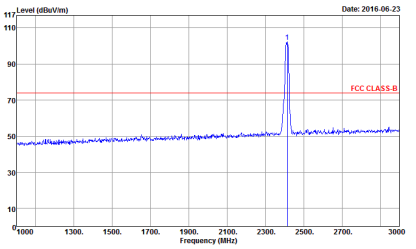
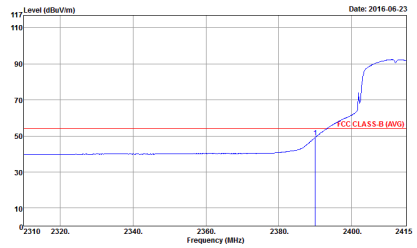
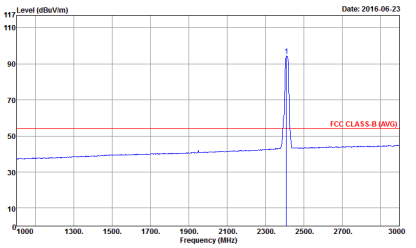
WIFI	2.4GHz 2400~2483.5MHz Band Edge @ 3m	
ANT	802.11g CH06 2437MHz - R	
1	Vertical	Fundamental
Peak	 Site : 03CH10-HY Condition : FCC CLASS-B 3m HORN 9120D-HF VERTICAL : RBW:1000.000KHz VBW:3000.000KHz SWT:Auto Detector : Peak Project : 652049 Mode : 11 Setting : 21.5	Left Blank
Avg.	 Site : 03CH10-HY Condition : FCC CLASS-B (AVG) 3m HORN 9120D-HF VERTICAL : RBW:1000.000KHz VBW:0.010KHz SWT:Auto Detector : Peak Project : 652049 Mode : 11 Setting : 21.5	Left Blank

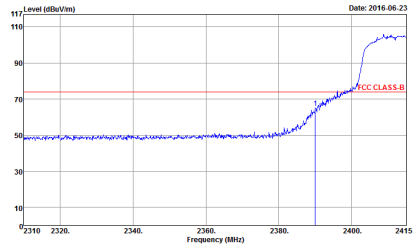
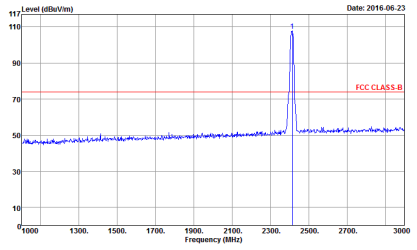
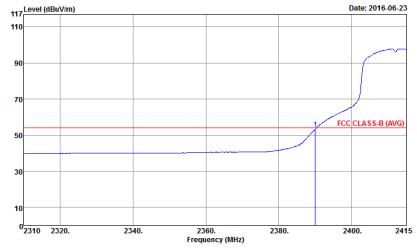
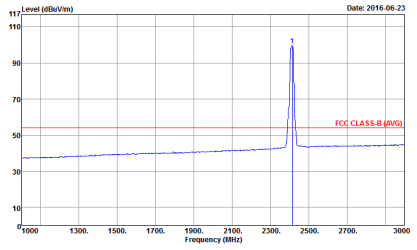
WIFI	2.4GHz 2400~2483.5MHz Band Edge @ 3m	
ANT	802.11g CH11 2462MHz	
1	Horizontal	Fundamental
Peak	 Site : 03CH10-HY Condition : FCC CLASS-B 3m HORN 9120D-HF HORIZONTAL : RBW:1000.000KHz VBW:3000.000KHz SWT:Auto Detector : Peak Project : 652049 Mode : 12 Setting : 18.5	 Site : 03CH10-HY Condition : FCC CLASS-B 3m HORN 9120D-HF HORIZONTAL : RBW:1000.000KHz VBW:3000.000KHz SWT:Auto Detector : Peak Project : 652049 Mode : 12 Setting : 18.5
Avg.	 Site : 03CH10-HY Condition : FCC CLASS-B (AV6) 3m HORN 9120D-HF HORIZONTAL : RBW:1000.000KHz VBW:0.010KHz SWT:Auto Detector : Peak Project : 652049 Mode : 12 Setting : 18.5	 Site : 03CH10-HY Condition : FCC CLASS-B (AV6) 3m HORN 9120D-HF HORIZONTAL : RBW:1000.000KHz VBW:0.010KHz SWT:Auto Detector : Peak Project : 652049 Mode : 12 Setting : 18.5

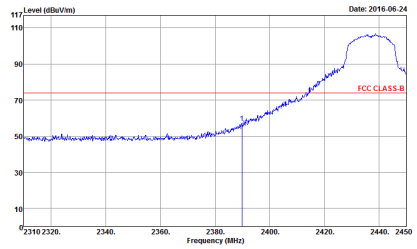
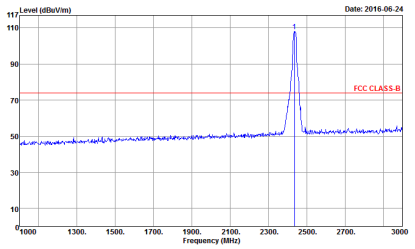
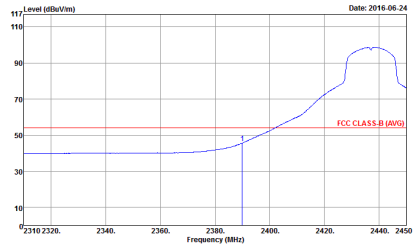
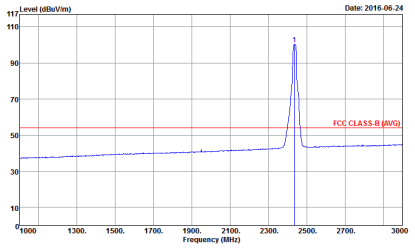
WIFI	2.4GHz 2400~2483.5MHz Band Edge @ 3m	
ANT	802.11g CH11 2462MHz	
1	Vertical	Fundamental
Peak	 Site : 03CH10-HY Condition : FCC CLASS-B 3m HORN 9120D-HF VERTICAL : RBW:1000.000KHz VBW:3000.000KHz SWT:Auto Detector : Peak Project : 652049 Mode : 12 Setting : 18.5	 Site : 03CH10-HY Condition : FCC CLASS-B 3m HORN 9120D-HF VERTICAL : RBW:1000.000KHz VBW:3000.000KHz SWT:Auto Detector : Peak Project : 652049 Mode : 12 Setting : 18.5
Avg.	 Site : 03CH10-HY Condition : FCC CLASS-B (AVG) 3m HORN 9120D-HF VERTICAL : RBW:1000.000KHz VBW:0.010KHz SWT:Auto Detector : Peak Project : 652049 Mode : 12 Setting : 18.5	 Site : 03CH10-HY Condition : FCC CLASS-B (AVG) 3m HORN 9120D-HF VERTICAL : RBW:1000.000KHz VBW:0.010KHz SWT:Auto Detector : Peak Project : 652049 Mode : 12 Setting : 18.5

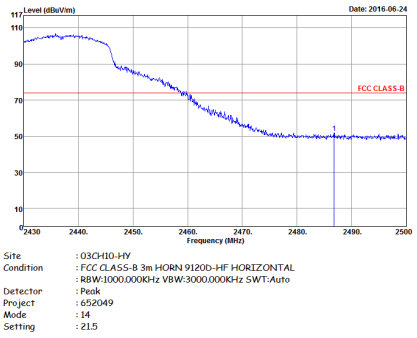
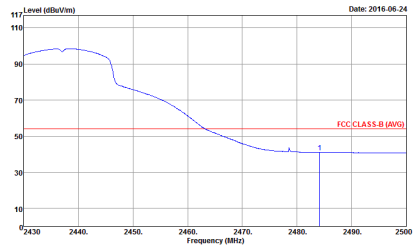
2.4GHz 2400~2483.5MHz

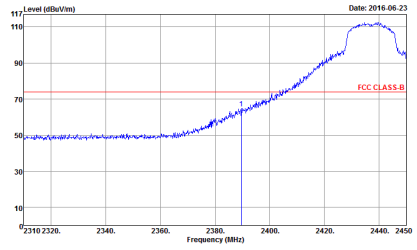
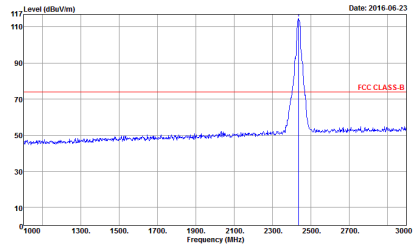
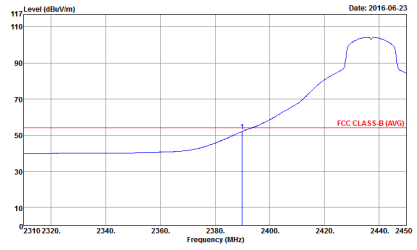
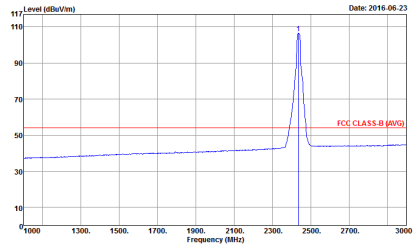
WIFI 802.11n HT20 (Band Edge @ 3m)

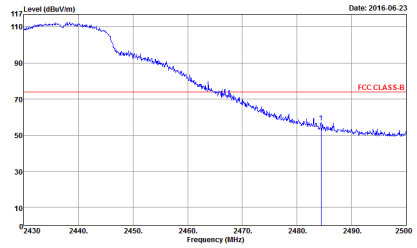
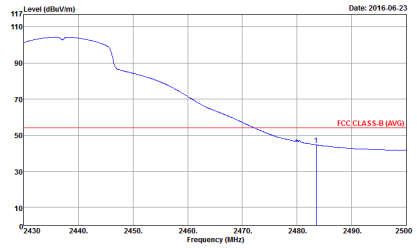
WIFI	2.4GHz 2400~2483.5MHz Band Edge @ 3m	
ANT	802.11n HT20 CH01 2412MHz	
1	Horizontal	Fundamental
Peak	 Site : 03CH10-HY Condition : FCC CLASS-B 3m HORN 9120D-HF HORIZONTAL : RBW:1000.000KHz VBW:3000.000KHz SWT:Auto Detector : Peak Project : 652049 Mode : 13 Setting : 14.5	 Site : 03CH10-HY Condition : FCC CLASS-B 3m HORN 9120D-HF HORIZONTAL : RBW:1000.000KHz VBW:3000.000KHz SWT:Auto Detector : Peak Project : 652049 Mode : 13 Setting : 14.5
Avg.	 Site : 03CH10-HY Condition : FCC CLASS-B (AVG) 3m HORN 9120D-HF HORIZONTAL : RBW:1000.000KHz VBW:0.010KHz SWT:Auto Detector : Peak Project : 652049 Mode : 13 Setting : 14.5	 Site : 03CH10-HY Condition : FCC CLASS-B (AVG) 3m HORN 9120D-HF HORIZONTAL : RBW:1000.000KHz VBW:0.010KHz SWT:Auto Detector : Peak Project : 652049 Mode : 13 Setting : 14.5

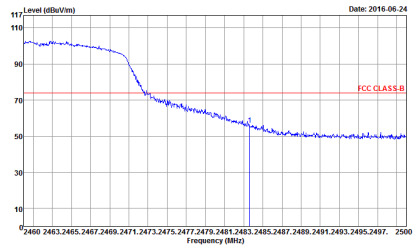
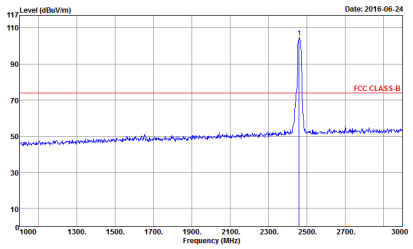
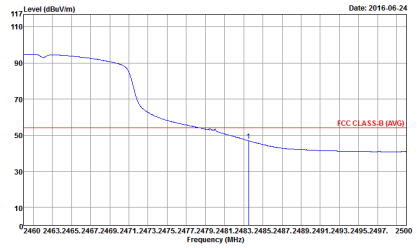
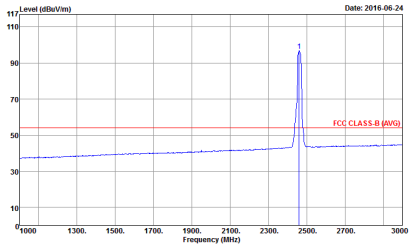
WIFI	2.4GHz 2400~2483.5MHz Band Edge @ 3m	
ANT	802.11n HT20 CH01 2412MHz	
1	Vertical	Fundamental
Peak	 Site : 03CH10-HY Condition : FCC CLASS-B 3m HORN 9120D-HF VERTICAL : RBW:1000.000KHz VBW:3000.000KHz SWT:Auto Detector : Peak Project : 652049 Mode : 13 Setting : 14.5	 Site : 03CH10-HY Condition : FCC CLASS-B 3m HORN 9120D-HF VERTICAL : RBW:1000.000KHz VBW:3000.000KHz SWT:Auto Detector : Peak Project : 652049 Mode : 13 Setting : 14.5
Avg.	 Site : 03CH10-HY Condition : FCC CLASS-B (AVG) 3m HORN 9120D-HF VERTICAL : RBW:1000.000KHz VBW:0.010KHz SWT:Auto Detector : Peak Project : 652049 Mode : 13 Setting : 14.5	 Site : 03CH10-HY Condition : FCC CLASS-B (AVG) 3m HORN 9120D-HF VERTICAL : RBW:1000.000KHz VBW:0.010KHz SWT:Auto Detector : Peak Project : 652049 Mode : 13 Setting : 14.5

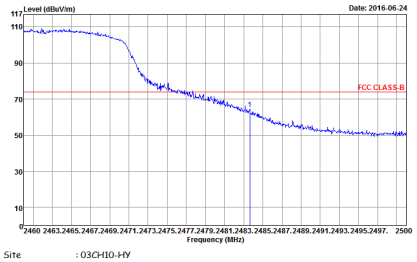
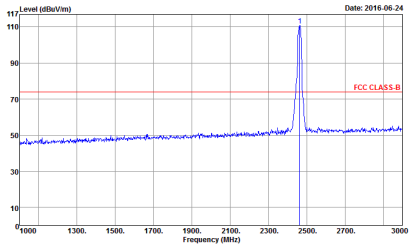
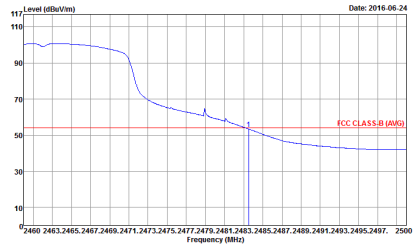
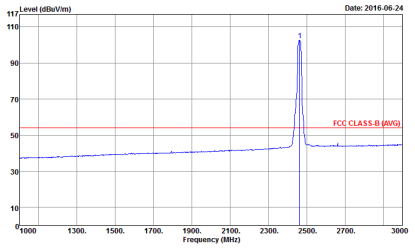
WIFI	2.4GHz 2400~2483.5MHz Band Edge @ 3m	
ANT	802.11n HT20 CH06 2437MHz - L	
1	Horizontal	Fundamental
Peak	 Site : 03CH10-HY Condition : FCC CLASS-B 3m HORN 9120D-HF HORIZONTAL : RBW:1000.000KHz VBW:3000.000KHz SWT:Auto Detector : Peak Project : 652049 Mode : 14 Setting : 21.5	 Site : 03CH10-HY Condition : FCC CLASS-B 3m HORN 9120D-HF HORIZONTAL : RBW:1000.000KHz VBW:3000.000KHz SWT:Auto Detector : Peak Project : 652049 Mode : 14 Setting : 21.5
Avg.	 Site : 03CH10-HY Condition : FCC CLASS-B (AVG) 3m HORN 9120D-HF HORIZONTAL : RBW:1000.000KHz VBW:0.010KHz SWT:Auto Detector : Peak Project : 652049 Mode : 14 Setting : 21.5	 Site : 03CH10-HY Condition : FCC CLASS-B (AVG) 3m HORN 9120D-HF HORIZONTAL : RBW:1000.000KHz VBW:0.010KHz SWT:Auto Detector : Peak Project : 652049 Mode : 14 Setting : 21.5

WIFI	2.4GHz 2400~2483.5MHz Band Edge @ 3m	
ANT	802.11n HT20 CH06 2437MHz - R	
1	Horizontal	Fundamental
Peak	 Site : 03CH10-HY Condition : FCC CLASS-B 3m HORN 9120D-HF HORIZONTAL : RBW:1000.000KHz VBW:3000.000KHz SWT:Auto Detector : Peak Project : 652049 Mode : 14 Setting : 21.5	Left blank
Avg.	 Site : 03CH10-HY Condition : FCC CLASS-B (AVG) 3m HORN 9120D-HF HORIZONTAL : RBW:1000.000KHz VBW:0.010KHz SWT:Auto Detector : Peak Project : 652049 Mode : 14 Setting : 21.5	Left blank

WIFI	2.4GHz 2400~2483.5MHz Band Edge @ 3m	
ANT	802.11n HT20 CH06 2437MHz - L	
1	Vertical	Fundamental
Peak	 Site : 03CH10-HY Condition : FCC CLASS-B 3m HORN 9120D-HF VERTICAL : RBW:1000.000KHz VBW:3000.000KHz SWT:Auto Detector : Peak Project : 652049 Mode : 14 Setting : 21.5	 Site : 03CH10-HY Condition : FCC CLASS-B 3m HORN 9120D-HF VERTICAL : RBW:1000.000KHz VBW:3000.000KHz SWT:Auto Detector : Peak Project : 652049 Mode : 14 Setting : 21.5
Avg.	 Site : 03CH10-HY Condition : FCC CLASS-B (AVG) 3m HORN 9120D-HF VERTICAL : RBW:1000.000KHz VBW:0.010KHz SWT:Auto Detector : Peak Project : 652049 Mode : 14 Setting : 21.5	 Site : 03CH10-HY Condition : FCC CLASS-B (AVG) 3m HORN 9120D-HF VERTICAL : RBW:1000.000KHz VBW:0.010KHz SWT:Auto Detector : Peak Project : 652049 Mode : 14 Setting : 21.5

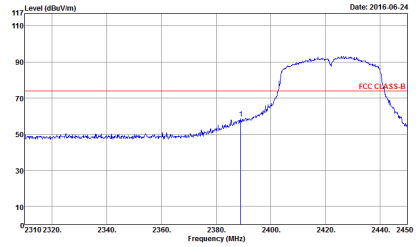
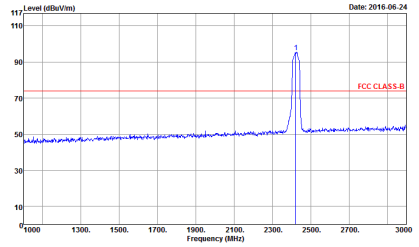
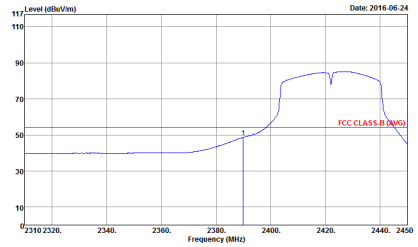
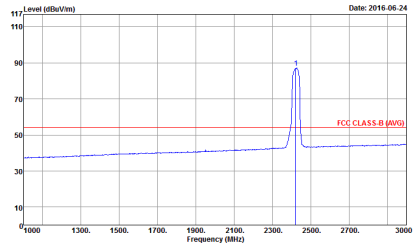
WIFI	2.4GHz 2400~2483.5MHz Band Edge @ 3m	
ANT	802.11n HT20 CH06 2437MHz - R	
1	Vertical	Fundamental
Peak	 Site : 03CH10-HY Condition : FCC CLASS-B 3m HORN 9120D-HF VERTICAL : RBW:1000.000KHz VBW:3000.000KHz SWT:Auto Detector : Peak Project : 652049 Mode : 14 Setting : 21.5	Left Blank
Avg.	 Site : 03CH10-HY Condition : FCC CLASS-B (AVG) 3m HORN 9120D-HF VERTICAL : RBW:1000.000KHz VBW:0.010KHz SWT:Auto Detector : Peak Project : 652049 Mode : 14 Setting : 21.5	Left Blank

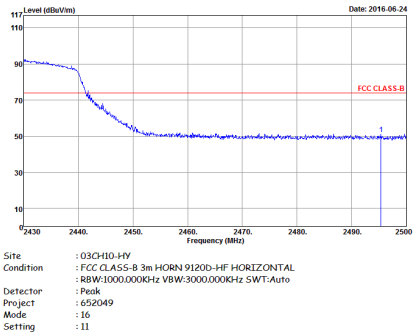
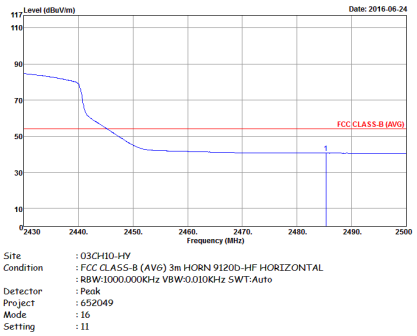
WIFI	2.4GHz 2400~2483.5MHz Band Edge @ 3m	
ANT	802.11n HT20 CH11 2462MHz	
1	Horizontal	Fundamental
Peak	 Site : 03CH10-HY Condition : FCC CLASS-B 3m HORN 9120D-HF HORIZONTAL : RBW:1000.000KHz VBW:3000.000KHz SWT:Auto Detector : Peak Project : 652049 Mode : 15 Setting : 18	 Site : 03CH10-HY Condition : FCC CLASS-B 3m HORN 9120D-HF HORIZONTAL : RBW:1000.000KHz VBW:3000.000KHz SWT:Auto Detector : Peak Project : 652049 Mode : 15 Setting : 18
Avg.	 Site : 03CH10-HY Condition : FCC CLASS-B (AVG) 3m HORN 9120D-HF HORIZONTAL : RBW:1000.000KHz VBW:0.010KHz SWT:Auto Detector : Peak Project : 652049 Mode : 15 Setting : 18	 Site : 03CH10-HY Condition : FCC CLASS-B (AVG) 3m HORN 9120D-HF HORIZONTAL : RBW:1000.000KHz VBW:0.010KHz SWT:Auto Detector : Peak Project : 652049 Mode : 15 Setting : 18

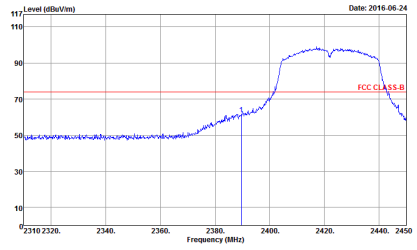
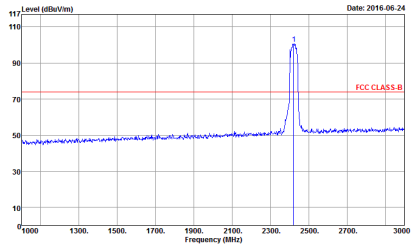
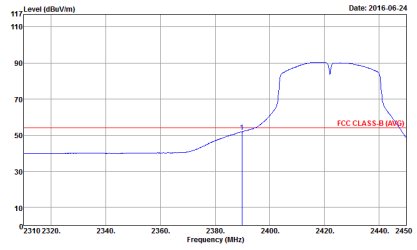
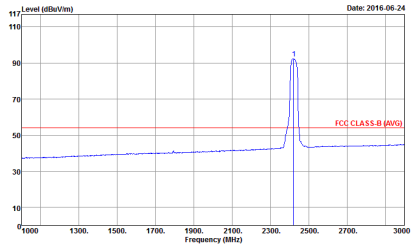
WIFI	2.4GHz 2400~2483.5MHz Fundamental @ 3m	
ANT	802.11n HT20 CH11 2462MHz	
1	Vertical	Fundamental
Peak	 Site : 03CH10-HY Condition : FCC CLASS-B 3m HORN 9120D-HF VERTICAL : RBW:1000.000KHz VBW:3000.000KHz SWT:Auto Detector : Peak Project : 652049 Mode : 15 Setting : 18	 Site : 03CH10-HY Condition : FCC CLASS-B 3m HORN 9120D-HF VERTICAL : RBW:1000.000KHz VBW:3000.000KHz SWT:Auto Detector : Peak Project : 652049 Mode : 15 Setting : 18
Avg.	 Site : 03CH10-HY Condition : FCC CLASS-B (AVG) 3m HORN 9120D-HF VERTICAL : RBW:1000.000KHz VBW:0.010KHz SWT:Auto Detector : Peak Project : 652049 Mode : 15 Setting : 18	 Site : 03CH10-HY Condition : FCC CLASS-B (AVG) 3m HORN 9120D-HF VERTICAL : RBW:1000.000KHz VBW:0.010KHz SWT:Auto Detector : Peak Project : 652049 Mode : 15 Setting : 18

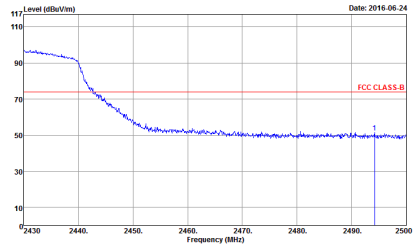
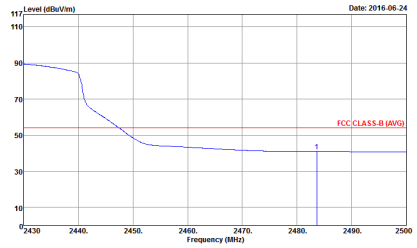
2.4GHz 2400~2483.5MHz

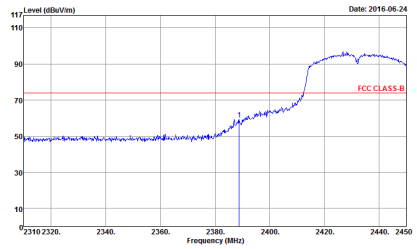
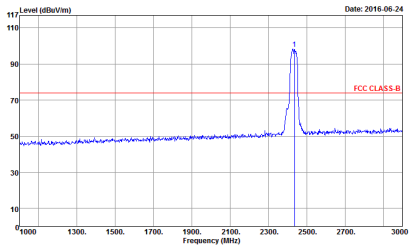
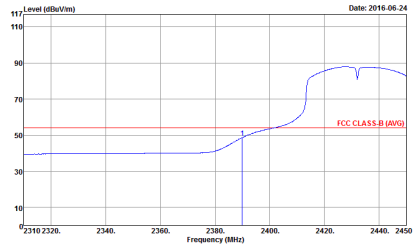
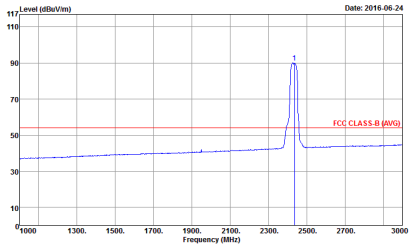
WIFI 802.11n HT40 (Band Edge @ 3m)

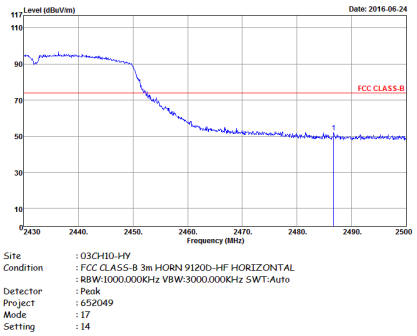
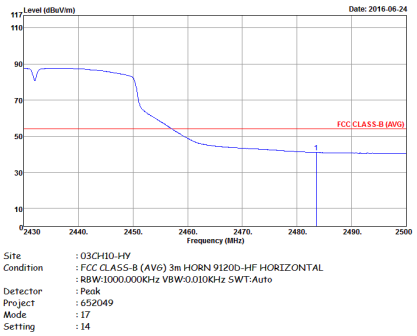
WIFI	2.4GHz 2400~2483.5MHz Band Edge @ 3m	
ANT	802.11n HT40 CH03 2422MHz - L	
1	Horizontal	Fundamental
Peak	 Site : 03CH10-HY Condition : FCC CLASS-B 3m HORN 9120D-HF HORIZONTAL : RBW:1000.000KHz VBW:3000.000KHz SWT:Auto Detector : Peak Project : 652049 Mode : 16 Setting : 11	 Site : 03CH10-HY Condition : FCC CLASS-B 3m HORN 9120D-HF HORIZONTAL : RBW:1000.000KHz VBW:3000.000KHz SWT:Auto Detector : Peak Project : 652049 Mode : 16 Setting : 11
Avg.	 Site : 03CH10-HY Condition : FCC CLASS-B (AVG) 3m HORN 9120D-HF HORIZONTAL : RBW:1000.000KHz VBW:0.010KHz SWT:Auto Detector : Peak Project : 652049 Mode : 16 Setting : 11	 Site : 03CH10-HY Condition : FCC CLASS-B (AVG) 3m HORN 9120D-HF HORIZONTAL : RBW:1000.000KHz VBW:0.010KHz SWT:Auto Detector : Peak Project : 652049 Mode : 16 Setting : 11

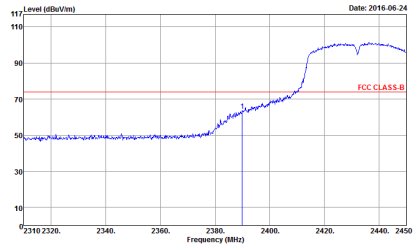
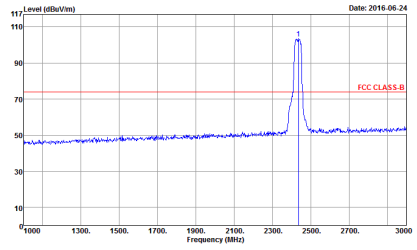
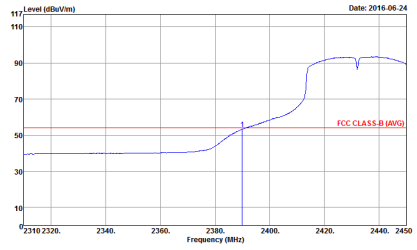
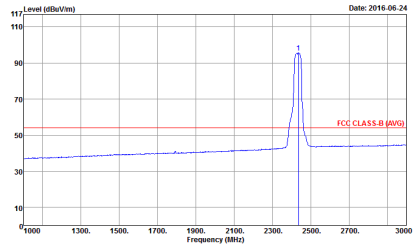
WIFI	2.4GHz 2400~2483.5MHz Band Edge @ 3m	
ANT	802.11n HT40 CH03 2422MHz - R	
1	Horizontal	Fundamental
Peak		Left Blank
Avg.		Left Blank

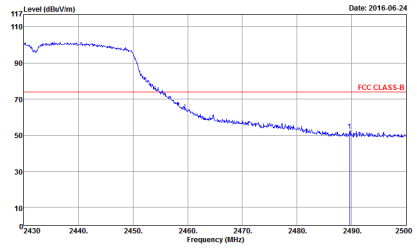
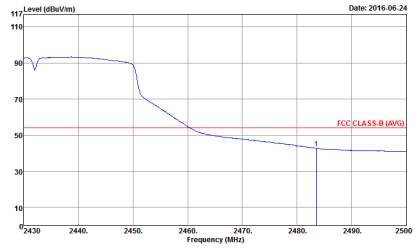
WIFI	2.4GHz 2400~2483.5MHz Band Edge @ 3m	
ANT	802.11n HT40 CH03 2422MHz - L	
1	Vertical	Fundamental
Peak	 Site : 03CH10-HY Condition : FCC CLASS-B 3m HORN 9120D-HF VERTICAL : RBW:1000.000KHz VBW:3000.000KHz SWT:Auto Detector : Peak Project : 652049 Mode : 16 Setting : 11	 Site : 03CH10-HY Condition : FCC CLASS-B 3m HORN 9120D-HF VERTICAL : RBW:1000.000KHz VBW:3000.000KHz SWT:Auto Detector : Peak Project : 652049 Mode : 16 Setting : 11
Avg.	 Site : 03CH10-HY Condition : FCC CLASS-B (AVG) 3m HORN 9120D-HF VERTICAL : RBW:1000.000KHz VBW:0.010KHz SWT:Auto Detector : Peak Project : 652049 Mode : 16 Setting : 11	 Site : 03CH10-HY Condition : FCC CLASS-B (AVG) 3m HORN 9120D-HF VERTICAL : RBW:1000.000KHz VBW:0.010KHz SWT:Auto Detector : Peak Project : 652049 Mode : 16 Setting : 11

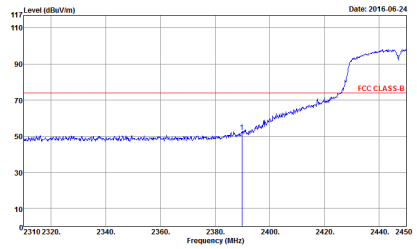
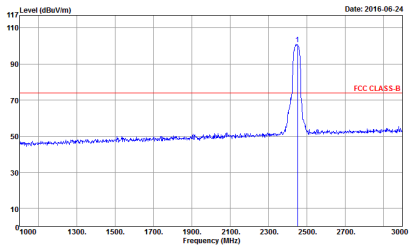
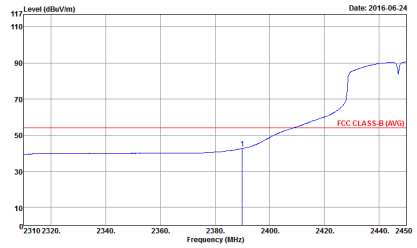
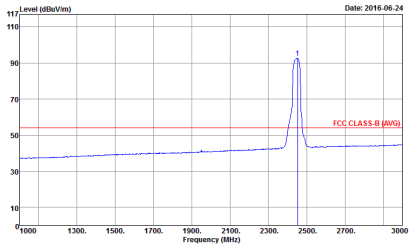
WIFI	2.4GHz 2400~2483.5MHz Band Edge @ 3m	
ANT	802.11n HT40 CH03 2422MHz - R	
1	Vertical	Fundamental
Peak	 Site : 03CH10-HY Condition : FCC CLASS-B 3m HORN 9120D-HF VERTICAL : RBW:1000.000KHz VBW:3000.000KHz SWT:Auto Detector : Peak Project : 652049 Mode : 16 Setting : 11	Left blank
Avg.	 Site : 03CH10-HY Condition : FCC CLASS-B (AVG) 3m HORN 9120D-HF VERTICAL : RBW:1000.000KHz VBW:0.010KHz SWT:Auto Detector : Peak Project : 652049 Mode : 16 Setting : 11	Left blank

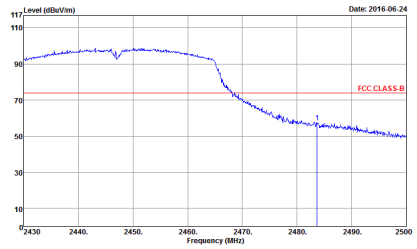
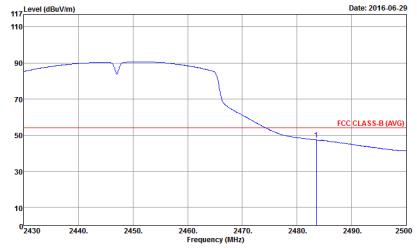
WIFI	2.4GHz 2400~2483.5MHz Band Edge @ 3m	
ANT	802.11n HT40 CH06 2437MHz - L	
1	Horizontal	Fundamental
Peak	 Site : 03CH10-HY Condition : FCC CLASS-B 3m HORN 9120D-HF HORIZONTAL : RBW:1000.000KHz VBW:3000.000KHz SWT:Auto Detector : Peak Project : 652049 Mode : 17 Setting : 14	 Site : 03CH10-HY Condition : FCC CLASS-B 3m HORN 9120D-HF HORIZONTAL : RBW:1000.000KHz VBW:3000.000KHz SWT:Auto Detector : Peak Project : 652049 Mode : 17 Setting : 14
Avg.	 Site : 03CH10-HY Condition : FCC CLASS-B (AVG) 3m HORN 9120D-HF HORIZONTAL : RBW:1000.000KHz VBW:0.010KHz SWT:Auto Detector : Peak Project : 652049 Mode : 17 Setting : 14	 Site : 03CH10-HY Condition : FCC CLASS-B (AVG) 3m HORN 9120D-HF HORIZONTAL : RBW:1000.000KHz VBW:0.010KHz SWT:Auto Detector : Peak Project : 652049 Mode : 17 Setting : 14

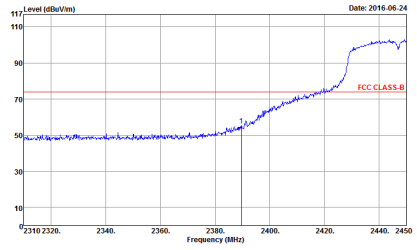
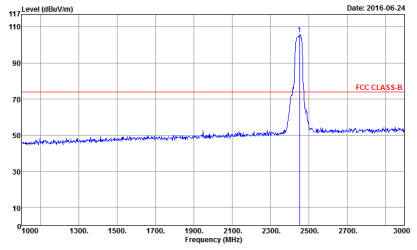
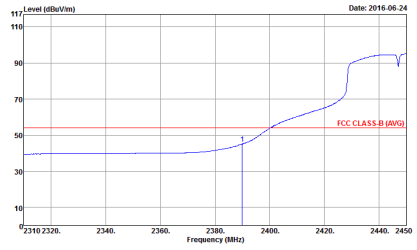
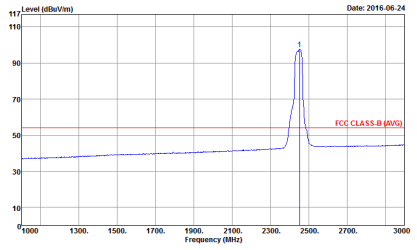
WIFI	2.4GHz 2400~2483.5MHz Band Edge @ 3m	
ANT	802.11n HT40 CH06 2437MHz - R	
1	Horizontal	Fundamental
Peak	 Site : 03CH10-HY Condition : FCC CLASS-B 3m HORN 9120D-HF HORIZONTAL : RBW:1000.000KHz VBW:3000.000KHz SWT:Auto Detector : Peak Project : 652049 Mode : 17 Setting : 14	Left blank
Avg.	 Site : 03CH10-HY Condition : FCC CLASS-B (AV6) 3m HORN 9120D-HF HORIZONTAL : RBW:1000.000KHz VBW:0.010KHz SWT:Auto Detector : Peak Project : 652049 Mode : 17 Setting : 14	Left blank

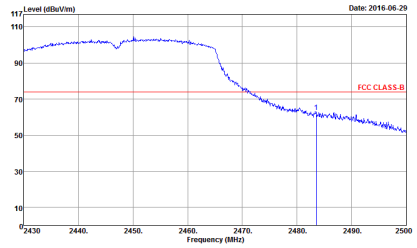
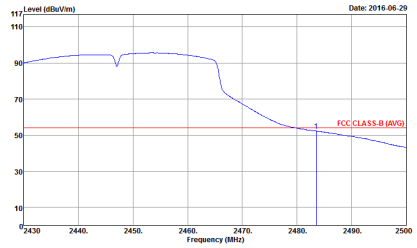
WIFI	2.4GHz 2400~2483.5MHz Band Edge @ 3m	
ANT	802.11n HT40 CH06 2437MHz - L	
1	Vertical	Fundamental
Peak	 Site : 03CH10-HY Condition : FCC CLASS-B 3m HORN 9120D-HF VERTICAL : RBW:1000.000KHz VBW:3000.000KHz SWT:Auto Detector : Peak Project : 652049 Mode : 17 Setting : 14	 Site : 03CH10-HY Condition : FCC CLASS-B 3m HORN 9120D-HF VERTICAL : RBW:1000.000KHz VBW:3000.000KHz SWT:Auto Detector : Peak Project : 652049 Mode : 17 Setting : 14
Avg.	 Site : 03CH10-HY Condition : FCC CLASS-B (AVG) 3m HORN 9120D-HF VERTICAL : RBW:1000.000KHz VBW:0.010KHz SWT:Auto Detector : Peak Project : 652049 Mode : 17 Setting : 14	 Site : 03CH10-HY Condition : FCC CLASS-B (AVG) 3m HORN 9120D-HF VERTICAL : RBW:1000.000KHz VBW:0.010KHz SWT:Auto Detector : Peak Project : 652049 Mode : 17 Setting : 14

WIFI	2.4GHz 2400~2483.5MHz Band Edge @ 3m	
ANT	802.11n HT40 CH06 2437MHz - R	
1	Vertical	Fundamental
Peak	 Site : 03CH10-HY Condition : FCC CLASS-B 3m HORN 9120D-HF VERTICAL : RBW:1000.000KHz VBW:3000.000KHz SWT:Auto Detector : Peak Project : 652049 Mode : 17 Setting : 14	Left blank
Avg.	 Site : 03CH10-HY Condition : FCC CLASS-B (AVG) 3m HORN 9120D-HF VERTICAL : RBW:1000.000KHz VBW:0.010KHz SWT:Auto Detector : Peak Project : 652049 Mode : 17 Setting : 14	Left blank

WIFI	2.4GHz 2400~2483.5MHz Band Edge @ 3m	
ANT	802.11n HT40 CH09 2452MHz - L	
1	Horizontal	Fundamental
Peak	 Site : 03CH10-HY Condition : FCC CLASS-B 3m HORN 9120D-HF HORIZONTAL : RBW:1000.000KHz VBW:3000.000KHz SWT:Auto Detector : Peak Project : 652049 Mode : 18 Setting : 16	 Site : 03CH10-HY Condition : FCC CLASS-B 3m HORN 9120D-HF HORIZONTAL : RBW:1000.000KHz VBW:3000.000KHz SWT:Auto Detector : Peak Project : 652049 Mode : 18 Setting : 16
Avg.	 Site : 03CH10-HY Condition : FCC CLASS-B (AVG) 3m HORN 9120D-HF HORIZONTAL : RBW:1000.000KHz VBW:0.010KHz SWT:Auto Detector : Peak Project : 652049 Mode : 18 Setting : 16	 Site : 03CH10-HY Condition : FCC CLASS-B (AVG) 3m HORN 9120D-HF HORIZONTAL : RBW:1000.000KHz VBW:0.010KHz SWT:Auto Detector : Peak Project : 652049 Mode : 18 Setting : 16

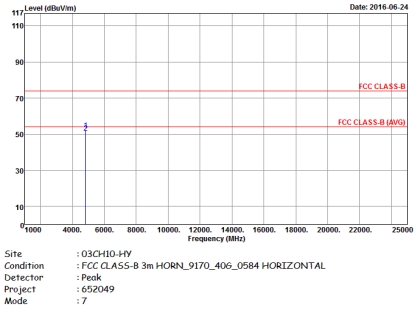
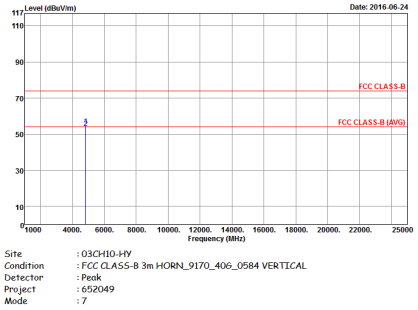
WIFI	2.4GHz 2400~2483.5MHz Band Edge @ 3m	
ANT	802.11n HT40 CH09 2452MHz - R	
1	Horizontal	Fundamental
Peak	 Site : 03CH10-HY Condition : FCC CLASS-B 3m HORN 9120D-HF HORIZONTAL : RBW:1000.000KHz VBW:3000.000KHz SWT:Auto Detector : Peak Project : 652049 Mode : 18 Setting : 16	Left blank
Avg.	 Site : 03CH10-HY Condition : FCC CLASS-B (AVG) 3m HORN 9120D-HF HORIZONTAL : RBW:1000.000KHz VBW:0.010KHz SWT:Auto Detector : Peak Project : 652049 Mode : 18 Setting : 16	Left blank

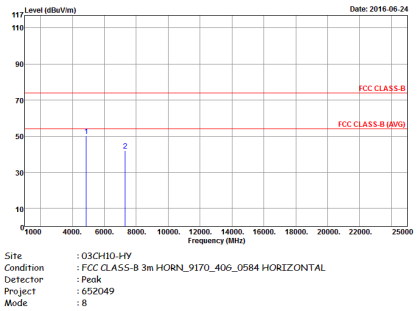
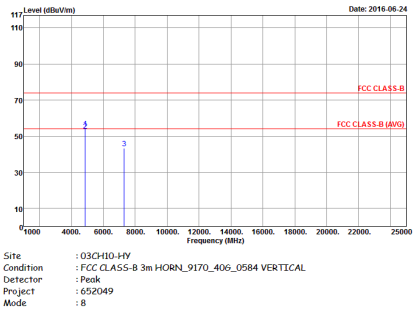
WIFI	2.4GHz 2400~2483.5MHz Band Edge @ 3m	
ANT	802.11n HT40 CH09 2452MHz - L	
1	Vertical	Fundamental
Peak	 Site : 03CH10-HY Condition : FCC CLASS-B 3m HORN 9120D-HF VERTICAL : RBW:1000.000KHz VBW:3000.000KHz SWT:Auto Detector : Peak Project : 652049 Mode : 18 Setting : 16	 Site : 03CH10-HY Condition : FCC CLASS-B 3m HORN 9120D-HF VERTICAL : RBW:1000.000KHz VBW:3000.000KHz SWT:Auto Detector : Peak Project : 652049 Mode : 18 Setting : 16
Avg.	 Site : 03CH10-HY Condition : FCC CLASS-B (AVG) 3m HORN 9120D-HF VERTICAL : RBW:1000.000KHz VBW:0.010KHz SWT:Auto Detector : Peak Project : 652049 Mode : 18 Setting : 16	 Site : 03CH10-HY Condition : FCC CLASS-B (AVG) 3m HORN 9120D-HF VERTICAL : RBW:1000.000KHz VBW:0.010KHz SWT:Auto Detector : Peak Project : 652049 Mode : 18 Setting : 16

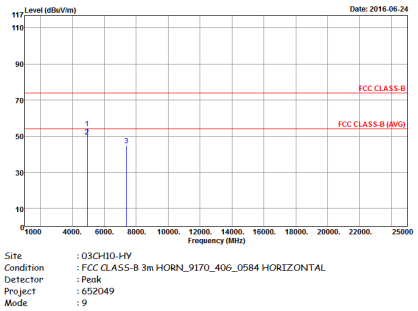
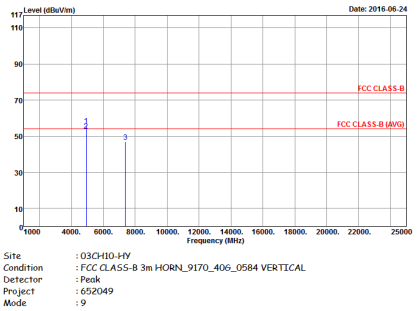
WIFI	2.4GHz 2400~2483.5MHz Band Edge @ 3m	
ANT	802.11n HT40 CH09 2452MHz - R	
1	Vertical	Fundamental
Peak	 Site : 03CH10-HY Condition : FCC CLASS-B 3m HORN 9120D-HF VERTICAL : RBW:1000.000KHz VBW:3000.000KHz SWT:Auto Detector : Peak Project : 652049 Mode : 18 Setting : 16	Left blank
Avg.	 Site : 03CH10-HY Condition : FCC CLASS-B (AVG) 3m HORN 9120D-HF VERTICAL : RBW:1000.000KHz VBW:0.010KHz SWT:Auto Detector : Peak Project : 652049 Mode : 18 Setting : 16	Left blank

2.4GHz 2400~2483.5MHz

WIFI 802.11b (Harmonic @ 3m)

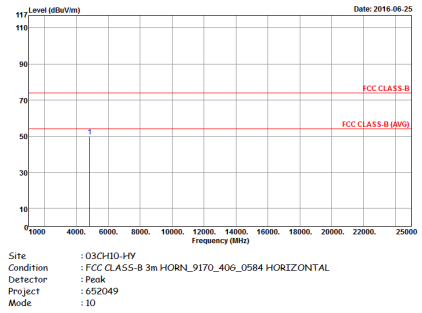
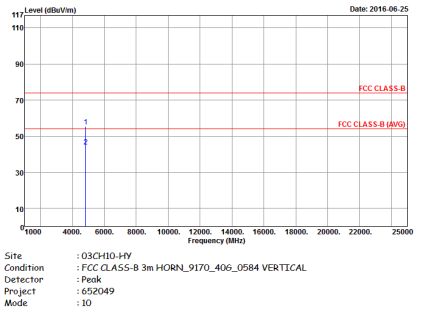
WIFI	2.4GHz 2400~2483.5MHz Harmonic @ 3m	
ANT	802.11b CH01 2412MHz	
1	Horizontal	Vertical
Peak Avg.		

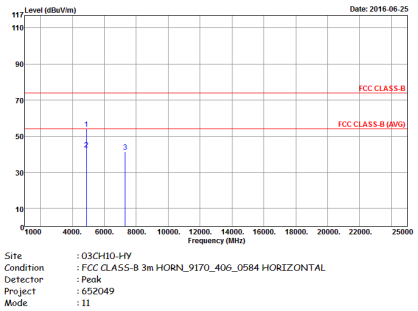
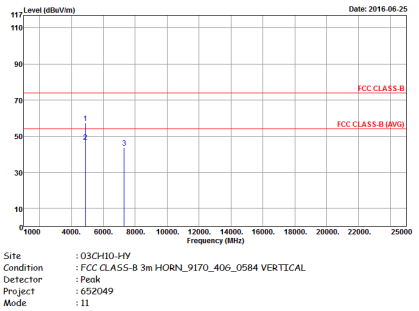
WIFI	2.4GHz 2400~2483.5MHz Harmonic @ 3m	
ANT	802.11b CH06 2437MHz	
1	Horizontal	Vertical
Peak Avg.		

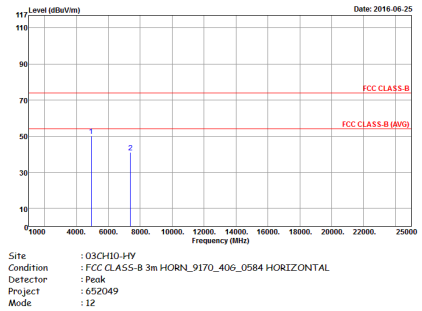
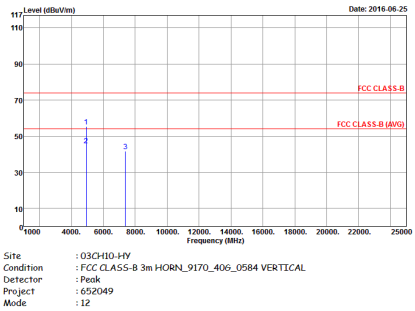
WIFI	2.4GHz 2400~2483.5MHz Harmonic @ 3m	
ANT	802.11b CH11 2462MHz	
1	Horizontal	Vertical
Peak Avg.		

2.4GHz 2400~2483.5MHz

WIFI 802.11g (Harmonic @ 3m)

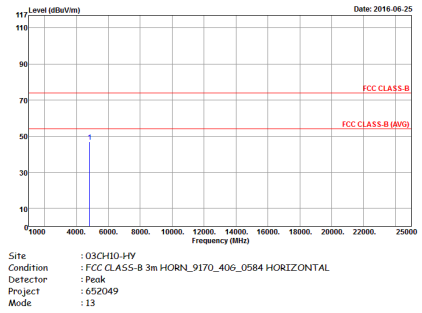
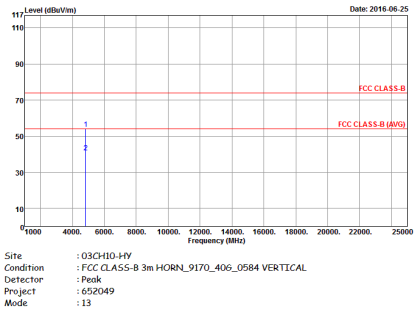
WIFI	2.4GHz 2400~2483.5MHz Harmonic @ 3m	
ANT	802.11g CH01 2412MHz	
1	Horizontal	Vertical
Peak Avg.		

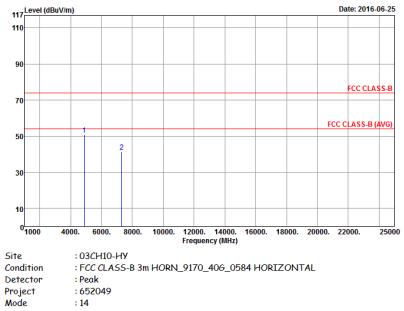
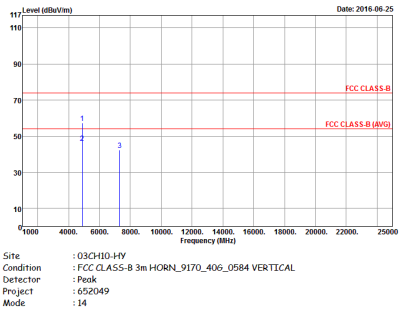
WIFI	2.4GHz 2400~2483.5MHz Harmonic @ 3m	
ANT	802.11g CH06 2437MHz	
1	Horizontal	Vertical
Peak Avg.		

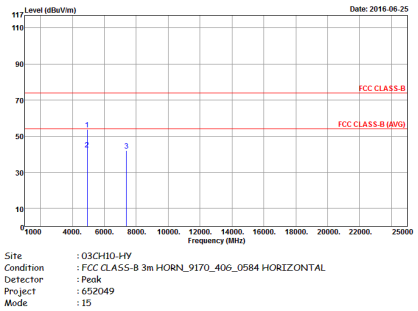
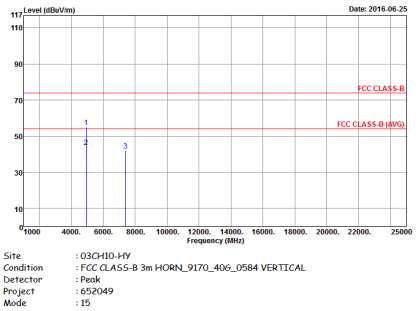
WIFI	2.4GHz 2400~2483.5MHz Harmonic @ 3m	
ANT	802.11g CH11 2462MHz	
1	Horizontal	Vertical
Peak Avg.		

2.4GHz 2400~2483.5MHz

WIFI 802.11n HT20 (Harmonic @ 3m)

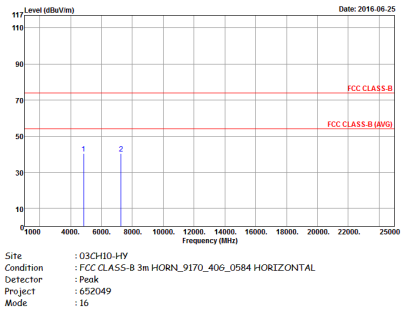
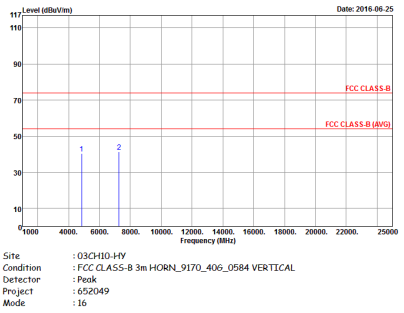
WIFI	2.4GHz 2400~2483.5MHz Harmonic @ 3m	
ANT	802.11n HT20 CH01 2412MHz	
1	Horizontal	Vertical
Peak Avg.		

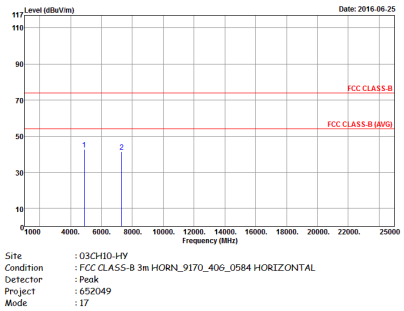
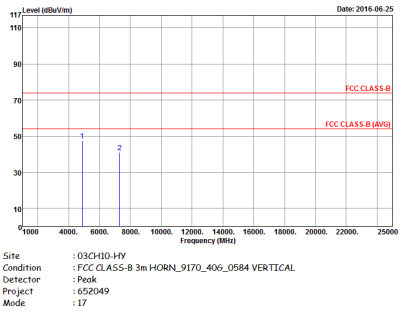
WIFI	2.4GHz 2400~2483.5MHz Harmonic @ 3m	
ANT	802.11n HT20 CH06 2437MHz	
1	Horizontal	Vertical
Peak Avg.		

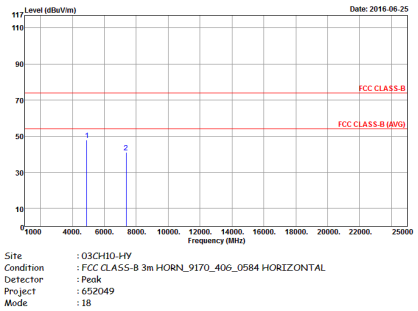
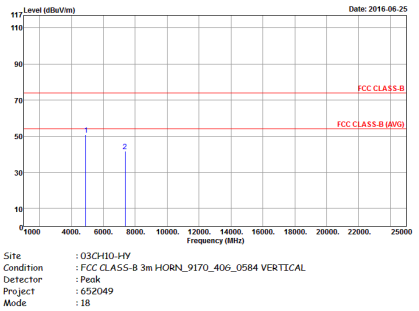
WIFI	2.4GHz 2400~2483.5MHz Harmonic @ 3m	
ANT	802.11n HT20 CH11 2462MHz	
1	Horizontal	Vertical
Peak Avg.	 Site : 03CH10-HY Condition : FCC CLASS-B 3m HORN_9170_406_0584 HORIZONTAL Detector : Peak Project : 652049 Mode : 15	 Site : 03CH10-HY Condition : FCC CLASS-B 3m HORN_9170_406_0584 VERTICAL Detector : Peak Project : 652049 Mode : 15

2.4GHz 2400~2483.5MHz

WIFI 802.11n HT40 (Harmonic @ 3m)

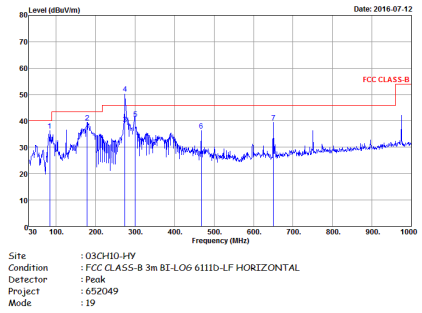
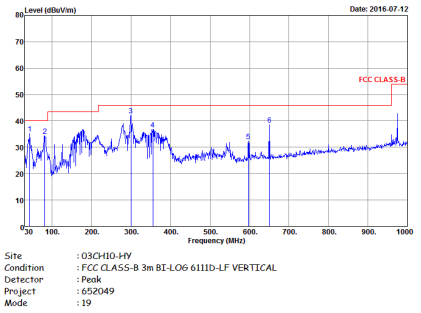
WIFI	2.4GHz 2400~2483.5MHz Harmonic @ 3m	
ANT	802.11n HT40 CH03 2422MHz	
1	Horizontal	Vertical
Peak Avg.		

WIFI	2.4GHz 2400~2483.5MHz Harmonic @ 3m	
ANT	802.11n HT40 CH06 2437MHz	
1	Horizontal	Vertical
Peak Avg.		

WIFI	2.4GHz 2400~2483.5MHz Harmonic @ 3m	
ANT	802.11n HT40 CH09 2452MHz	
1	Horizontal	Vertical
Peak Avg.	 Site : 03CH10-HY Condition : FCC CLASS-B 3m HORN_9170_406_0584 HORIZONTAL Detector : Peak Project : 652049 Mode : 18	 Site : 03CH10-HY Condition : FCC CLASS-B 3m HORN_9170_406_0584 VERTICAL Detector : Peak Project : 652049 Mode : 18

Emission below 1GHz

2.4GHz WIFI 802.11b (LF)

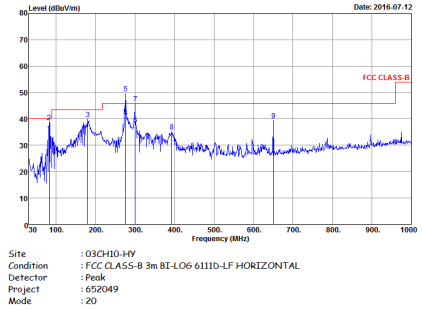
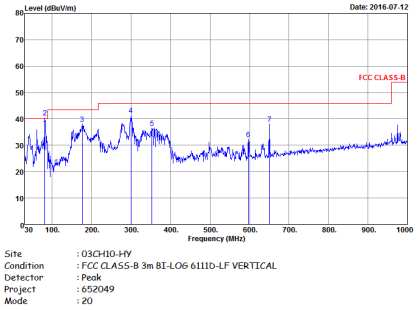
WIFI	2.4GHz 2400~2483.5MHz	
ANT	802.11b LF	
1	Horizontal	Vertical
QP / Peak		

Note: The quasi peak value can pass the limit line as listed in Appendix B.

2.4GHz 2400~2483.5MHz

Emission below 1GHz

2.4GHz WIFI 802.11g (LF)

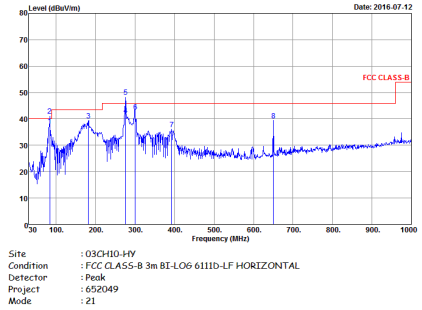
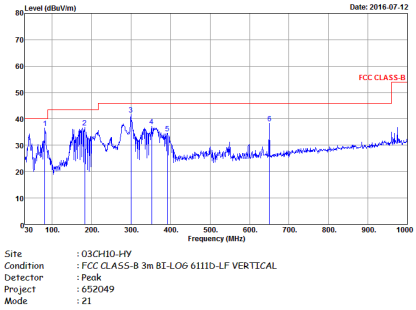
WIFI	2.4GHz 2400~2483.5MHz	
ANT	802.11g LF	
1	Horizontal	Vertical
QP / Peak		

Note: The quasi peak value can pass the limit line as listed in Appendix B.

2.4GHz 2400~2483.5MHz

Emission below 1GHz

2.4GHz WIFI 802.11n HT20 (LF)

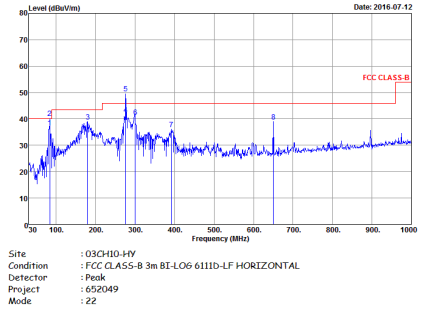
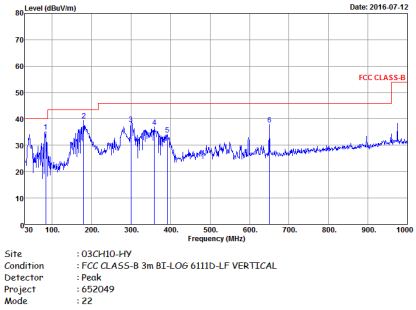
WIFI	2.4GHz 2400~2483.5MHz	
ANT	802.11n HT20 LF	
1	Horizontal	Vertical
QP / Peak		

Note: The quasi peak value can pass the limit line as listed in Appendix B.

2.4GHz 2400~2483.5MHz

Emission below 1GHz

2.4GHz WIFI 802.11n HT40 (LF)

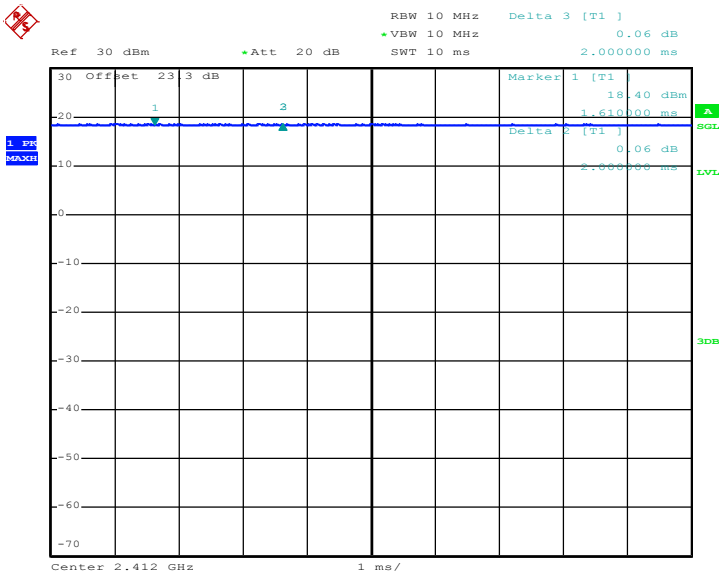
WIFI	2.4GHz 2400~2483.5MHz	
ANT	802.11n HT40 LF	
1	Horizontal	Vertical
QP / Peak		

Note: The quasi peak value can pass the limit line as listed in Appendix B.

Appendix D. Duty Cycle Plots

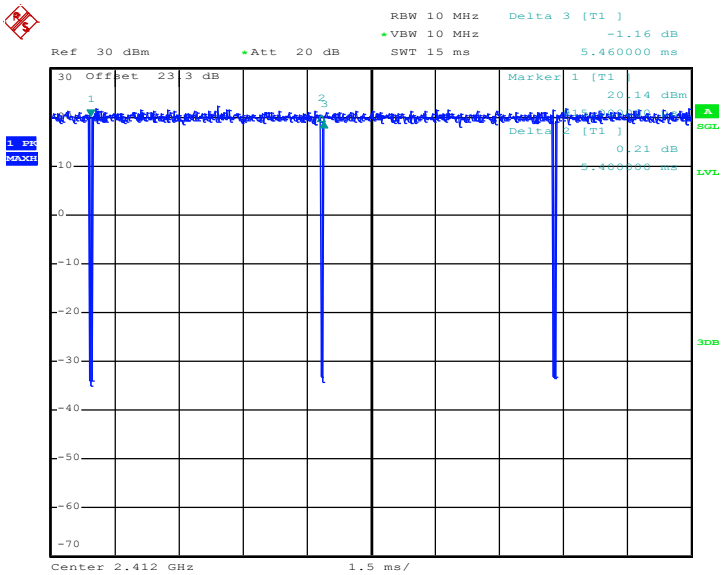
Antenna	Band	Duty Cycle(%)	T(us)	1/T(kHz)	VBW Setting
1	802.11b	100	-	-	10Hz
1	802.11g	98.9	-	-	10Hz
1	2.4GHz 802.11n HT20	98.21	-	-	10Hz
1	2.4GHz 802.11n HT40	97.56	2400	0.42	1kHz

802.11b



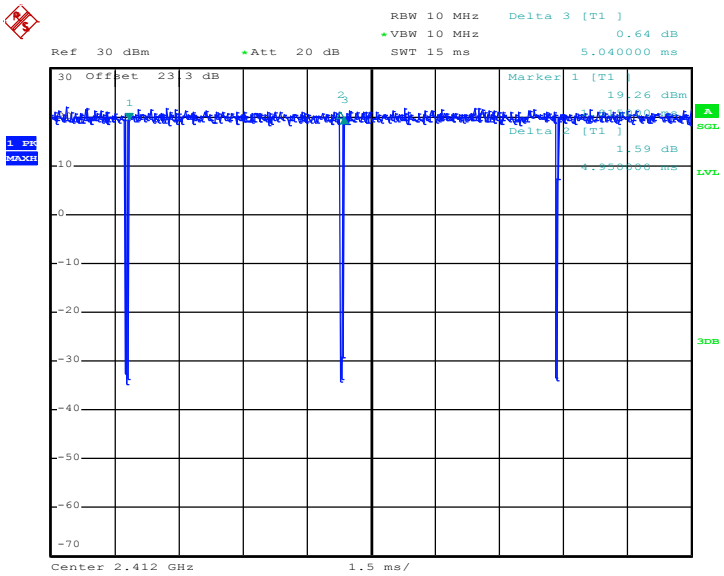
Date: 5.JUL.2016 04:13:24

802.11g



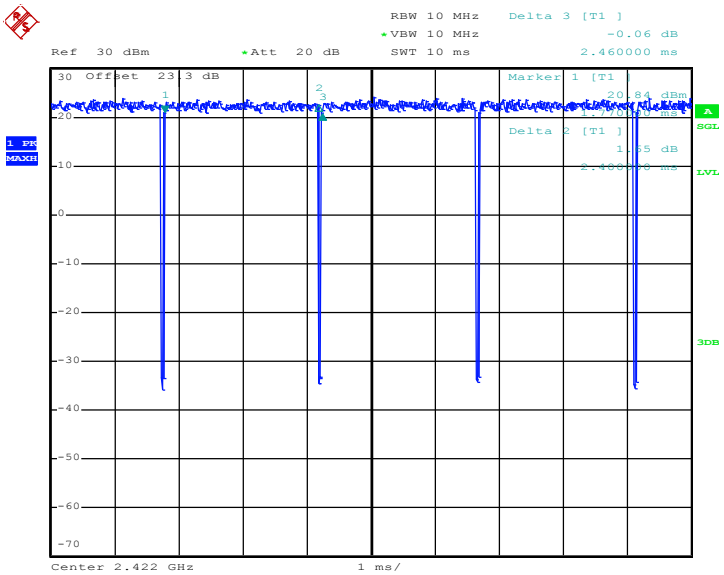
Date: 5.JUL.2016 04:30:23

802.11n HT20



Date: 5.JUL.2016 04:35:55

802.11n HT40



Date: 5.JUL.2016 04:42:13