FCC RF Test Report

APPLICANT	:	Moon Winker L.L.C.
EQUIPMENT	:	Wireless Speaker
MODEL NAME	:	PW3840KL
FCC ID	:	2AET6-0610
STANDARD	:	FCC Part 15 Subpart C §15.247
CLASSIFICATION	:	(DTS) Digital Transmission System

The testing was completed on Sep. 15, 2015. 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

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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APPENDIX A. CONDUCTED TEST RESULTS

APPENDIX B. RADIATED SPURIOUS EMISSION

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REVISION HISTORY

REPORT NO.	VERSION	DESCRIPTION	ISSUED DATE
FR552738-01C	Rev. 01	Initial issue of report	Sep. 22, 2015
FR552738-01C	Rev. 02	Update report of renewing standard	Jan. 21, 2016

SUMMARY OF TEST RESULT

Report Section	FCC Rule	Description	Limit	Result	Remark
3.1	15.247(a)(2)	6dB Bandwidth	≥ 0.5MHz	Pass	-
3.2	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	≤ 20dBc	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 0.54 dB at 2386.410 MHz
3.6	15.207	AC Conducted Emission	15.207(a)	Pass	Under limit 7.40 dB at 0.406 MHz
3.7	15.203 & 15.247(b)	Antenna Requirement	N/A	Pass	-

1 General Description

1.1 Applicant

Moon Winker L.L.C.
One Westbrook Corporate Center, Suite 300
Westchester, Illinois, 60154

1.2 Product Feature of Equipment Under Test

Product Feature	
Equipment	Wireless Speaker
Model Name	PW3840KL
FCC ID	2AET6-0610
EUT supports Radios application	WLAN 11b/g/n HT20 Bluetooth v4.0 EDR/LE

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

1.3 Product Specification subjective to this standard

Product Specification subjective to this standard	
Tx/Rx Channel Frequency Range	2412 MHz ~ 2462 MHz
Maximum (Peak) Output Power to Antenna	**<Ant. 1>** 802.11b : 20.63 dBm (0.1156 W) 802.11g : 26.19 dBm (0.4159 W) 802.11n HT20 : 25.99 dBm (0.3972 W) **<Ant. 2>** 802.11b : 20.99 dBm (0.1256 W) 802.11g : 25.64 dBm (0.3664 W) 802.11n HT20 : 25.08 dBm (0.3221 W)
Antenna Type	Fixed internal antenna
Antenna Gain	Channel / Ant. 1 / Ant. 2 1 / 3.43 / 1.77 6 / 2.91 / 1.49 11 / 2.92 / 1.35
Type of Modulation	802.11b : DSSS (DBPSK / DQPSK / CCK) 802.11g/n : OFDM (BPSK / QPSK / 16QAM / 64QAM)
Antenna Function for Transmitter	Ant. 1 / Ant. 2 802.11 b / V / V 802.11 g / V / V 802.11 n / V / V

1.4 Modification of EUT

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

1.5 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.**		
	TH05-HY	CO05-HY	03CH07-HY

Note: The test site complies with ANSI C63.4 2009 requirement.

1.6 Applicable Standards

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

- FCC Part 15 Subpart C §15.247
- FCC KDB Publication No. 558074 D01 DTS Meas. Guidance v03r04
- ANSI C63.10-2009

Remark:

1. All test items were verified and recorded according to the standards and without any deviation during the test.
2. FCC permits the use of the 1.5 meter table for frequency above 1GHz as an alternative in C63.10-2013 through inquiry tracking number 961829.
3. This EUT has also been tested and complied with the requirements of FCC Part 15, Subpart B, recorded in a separate test report.

2 Test Configuration of Equipment Under Test

The EUT has been associated with peripherals and configuration operated in a manner tended to maximize its emission characteristics in a typical application. Frequency range investigated: conducted emission (150 kHz to 30 MHz) and radiated emission (9 kHz to the 10th harmonic of the highest fundamental frequency or to 40 GHz, whichever is lower). For radiated measurement, pre-scanned in three orthogonal panels, X, Y, Z. The worst cases (Y plane for Ant. 1 and Ant. 2 (EUT with Base); Z plane for Ant. 2) were recorded in this report.

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

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

2.1 Carrier Frequency Channel

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

2.2 Pre-Scanned RF Power

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

<Ant. 1>

2.4GHz 802.11b mode				
Data Rate (MHz)	1M bps	2M bps	5.5M bps	11M bps
Peak Power (dBm)	20.63	20.59	17.61	20.60

2.4GHz 802.11g mode								
Data Rate (MHz)	6M bps	9M bps	12M bps	18M bps	24M bps	36M bps	48M bps	54M bps
Peak Power (dBm)	26.19	26.17	26.14	26.12	26.10	25.98	25.92	25.84

2.4GHz 802.11n HT20 mode								
Data Rate (MHz)	MCS0	MCS1	MCS2	MCS3	MCS4	MCS5	MCS6	MCS7
Peak Power (dBm)	25.99	25.92	25.86	25.82	25.76	25.67	25.56	25.43

<Ant. 2>

2.4GHz 802.11b mode				
Data Rate (MHz)	1M bps	2M bps	5.5M bps	11M bps
Peak Power (dBm)	20.99	20.91	20.92	20.94

2.4GHz 802.11g mode								
Data Rate (MHz)	6M bps	9M bps	12M bps	18M bps	24M bps	36M bps	48M bps	54M bps
Peak Power (dBm)	25.64	25.63	25.55	25.51	25.45	25.33	25.24	25.11

2.4GHz 802.11n HT20 mode								
Data Rate (MHz)	MCS0	MCS1	MCS2	MCS3	MCS4	MCS5	MCS6	MCS7
Peak Power (dBm)	25.08	25.06	25.03	25.01	25.00	24.87	24.81	24.76

2.3 Test Mode

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

<Ant. 1>

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

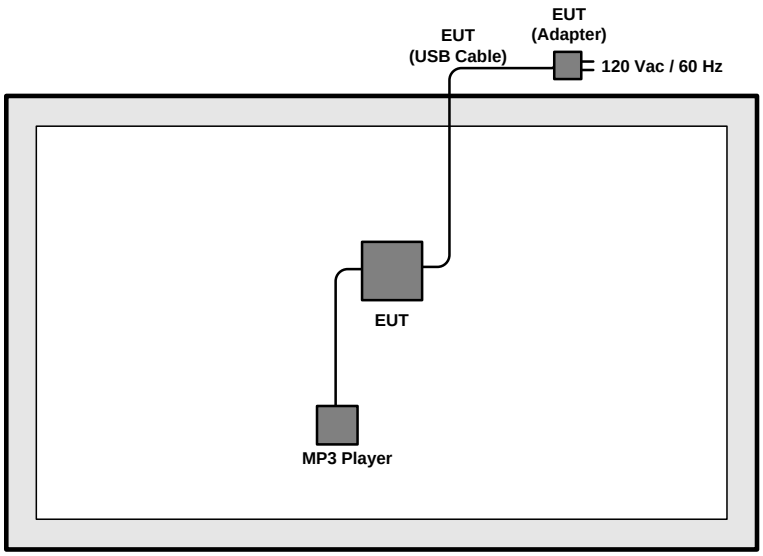
<Ant. 2>

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

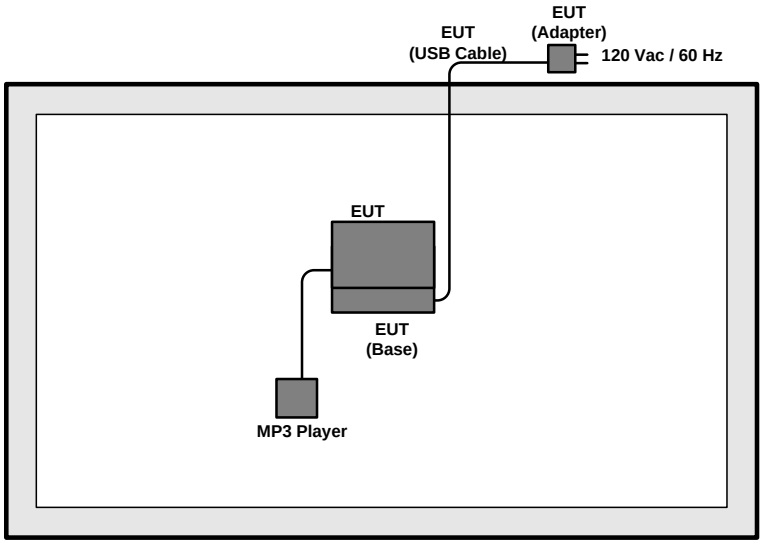
Test Cases	
AC Conducted Emission	Mode 1: WLAN Link + Bluetooth Link

2.4 Connection Diagram of Test System

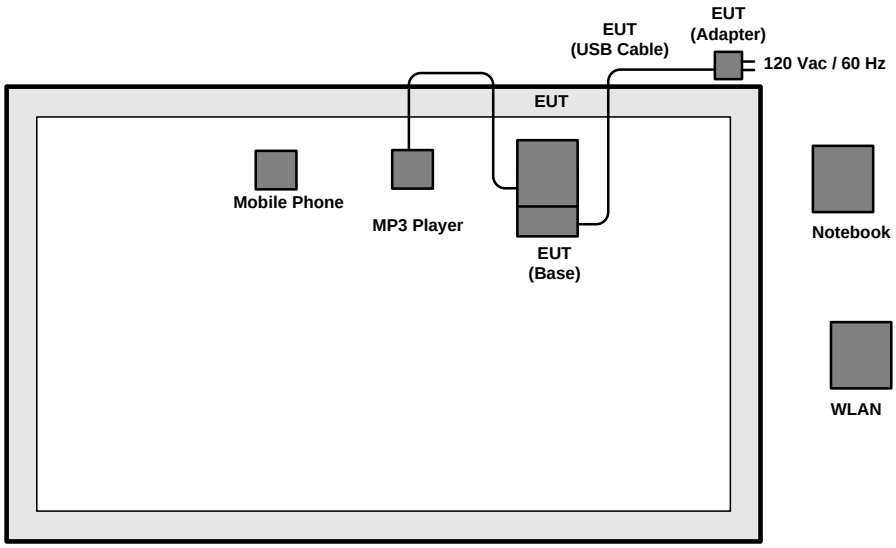
<WLAN Tx Mode>



<WLAN Tx Mode with Base>



<AC Conducted Emission Mode>



2.5 Support Unit used in test configuration and system

Item	Equipment	Trade Name	Model Name	FCC ID	Data Cable	Power Cord
1.	WLAN AP	N/A	N/A	N/A	N/A	N/A
2.	Notebook	N/A	N/A	N/A	N/A	N/A
3.	Mobile Phone	N/A	N/A	N/A	N/A	N/A
4.	MP3 Player	N/A	N/A	N/A	N/A	N/A

2.6 EUT Operation Test Setup

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

2.7 Measurement Results Explanation Example

For all conducted test items:

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

Example :

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

Offset = RF cable loss + attenuator factor.

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

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

= 4.2 + 10 = 14.2 (dB)

3 Test Result

3.1 6dB Bandwidth Measurement

3.1.1 Limit of 6dB Bandwidth

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

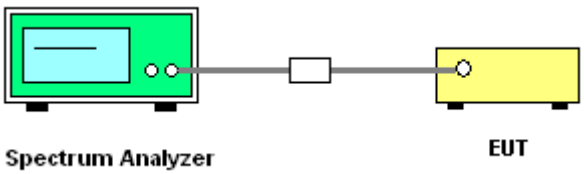
3.1.2 Measuring Instruments

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

3.1.3 Test Procedures

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

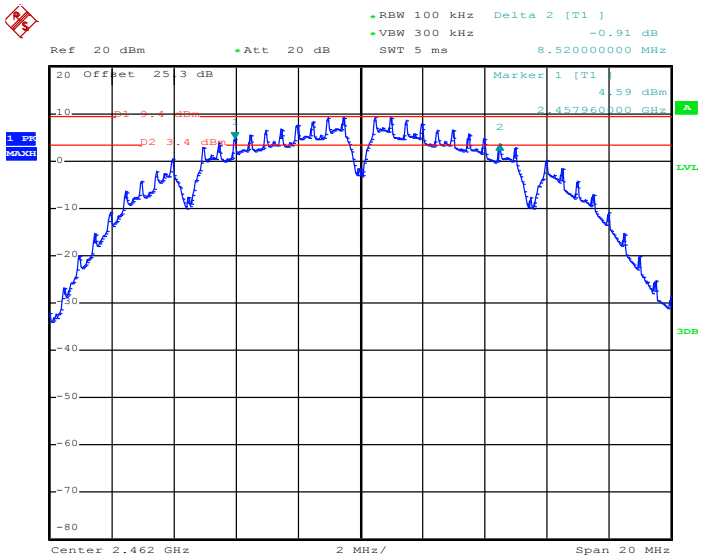
3.1.4 Test Setup



3.1.5 Test Result of 6dB Bandwidth

Please refer to Appendix A of this test report.

Minimum 6dB Bandwidth



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3.2 Output Power Measurement

3.2.1 Limit of Output Power

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

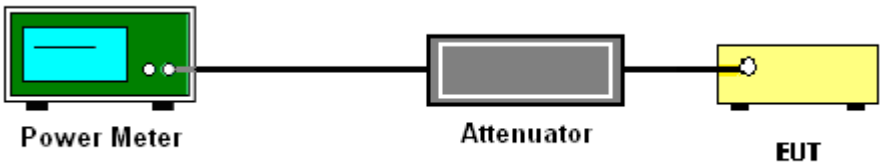
3.2.2 Measuring Instruments

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

3.2.3 Test Procedures

1. The testing follows the Measurement Procedure of FCC KDB No. 558074 DTS D01 Meas. Guidance v03r04 section 9.1.2 PKPM1 Peak power meter method.
1. 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.
2. Set to the maximum power setting and enable the EUT transmit continuously.
3. Measure the conducted output power and record the results in the test report.

3.2.4 Test Setup



3.2.5 Test Result of Peak Output Power

Please refer to Appendix A of this test report.

3.2.6 Test Result of Average output Power (Reporting Only)

Please refer to Appendix A of this test report.

3.3 Power Spectral Density Measurement

3.3.1 Limit of Power Spectral Density

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

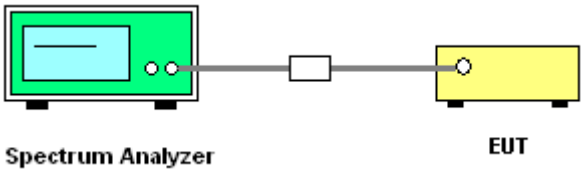
3.3.2 Measuring Instruments

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

3.3.3 Test Procedures

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

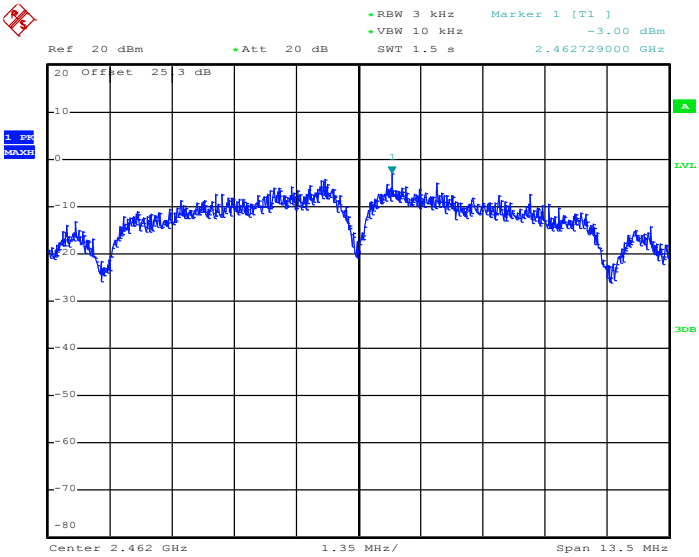
3.3.4 Test Setup



3.3.5 Test Result of Power Spectral Density

Please refer to Appendix A of this test report.

Worst Case Power Density (dBm/3kHz)



Date: 20.AUG.2015 23:51:07

3.4 Conducted Band Edges and Spurious Emission Measurement

3.4.1 Limit of Conducted Band Edges and Spurious Emission Measurement

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

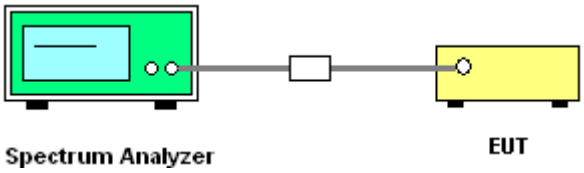
3.4.2 Measuring Instruments

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

3.4.3 Test Procedures

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

3.4.4 Test Setup



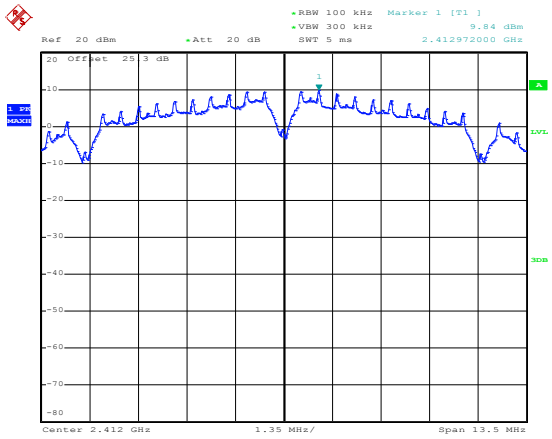
3.4.5 Test Result of Conducted Band Edges and Spurious Emission

Number of TX = 1, Ant. 1 (Measured)

Number of TX	1	**Ant. :**	1
Test Mode :	802.11b	**Temperature :**	21~25℃
Test Band :	2.4GHz Low	**Relative Humidity :**	51~54%
Test Channel :	01	**Test Engineer :**	AC Chang and Derek Hsu

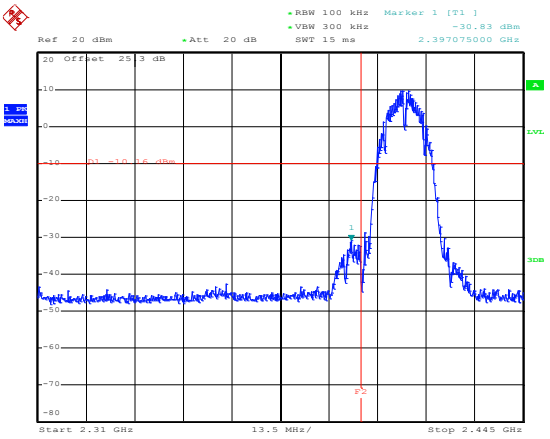
WLAN 802.11b Channel 01

100kHz PSD reference Level



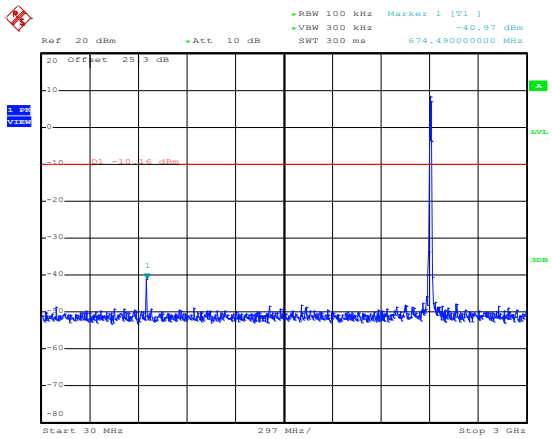
Date: 20.AUG.2015 23:43:57

Low Channel Plot



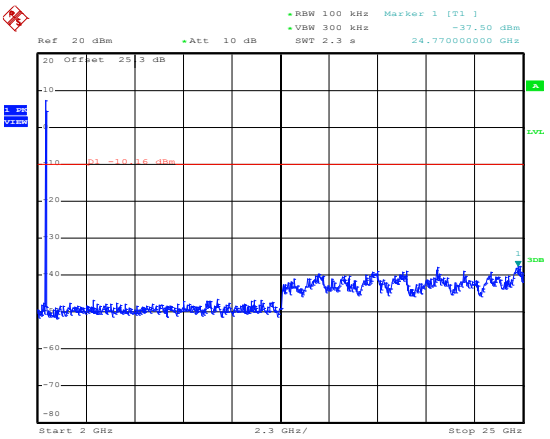
Date: 20.AUG.2015 23:44:44

Spurious Emission 30MHz~3GHz



Date: 20.AUG.2015 23:45:12

Spurious Emission 2GHz~25GHz

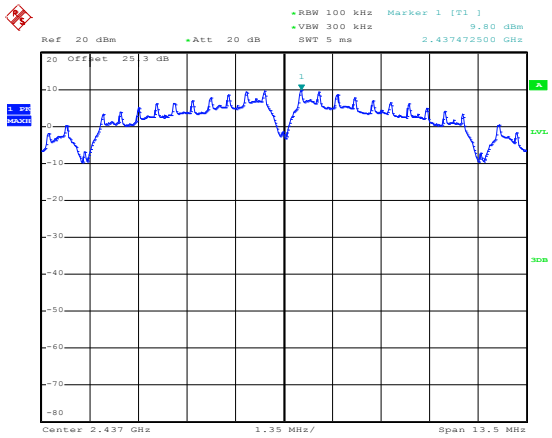


Date: 20.AUG.2015 23:45:20

Number of TX	1	**Ant. :**	1
Test Mode :	802.11b	**Temperature :**	21~25℃
Test Band :	2.4GHz Mid	**Relative Humidity :**	51~54%
Test Channel :	06	**Test Engineer :**	AC Chang and Derek Hsu

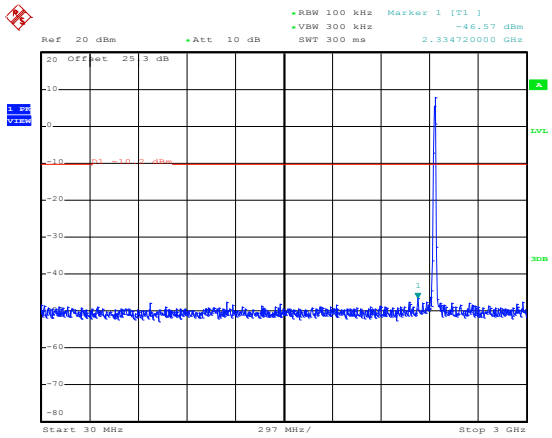
WLAN 802.11b Channel 06

100kHz PSD reference Level



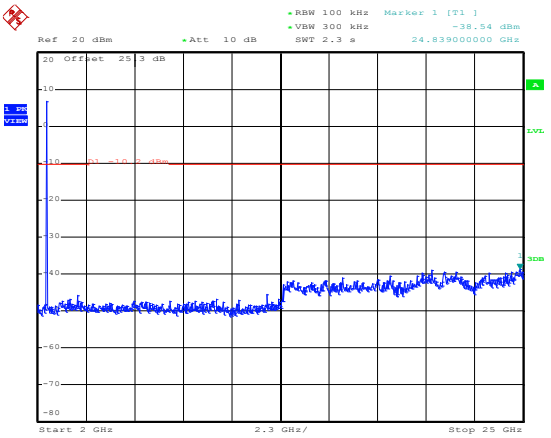
Date: 20.AUG.2015 23:48:37

Spurious Emission 30MHz~3GHz



Date: 31.AUG.2015 20:23:58

Spurious Emission 2GHz~25GHz

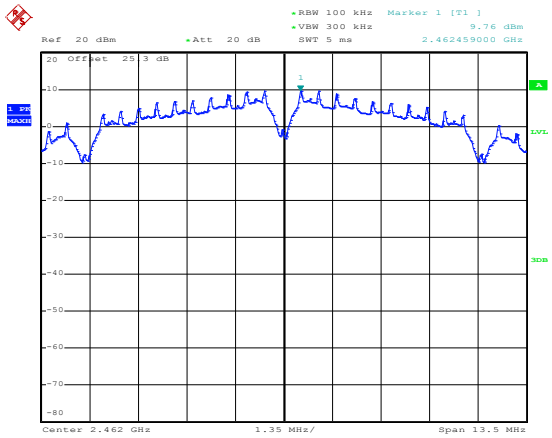


Date: 31.AUG.2015 20:24:06

Number of TX	1	**Ant. :**	1
Test Mode :	802.11b	**Temperature :**	21~25℃
Test Band :	2.4GHz High	**Relative Humidity :**	51~54%
Test Channel :	11	**Test Engineer :**	AC Chang and Derek Hsu

WLAN 802.11b Channel 11

100kHz PSD reference Level



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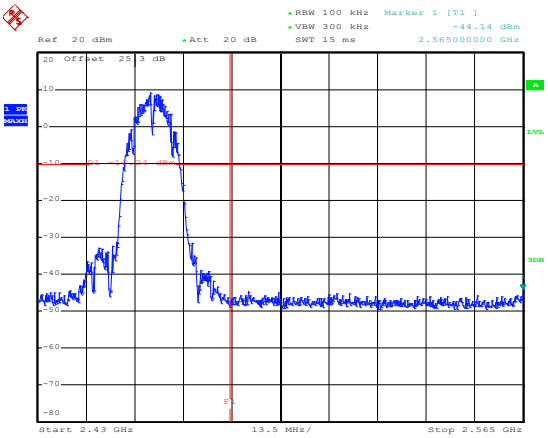
High Channel Plot



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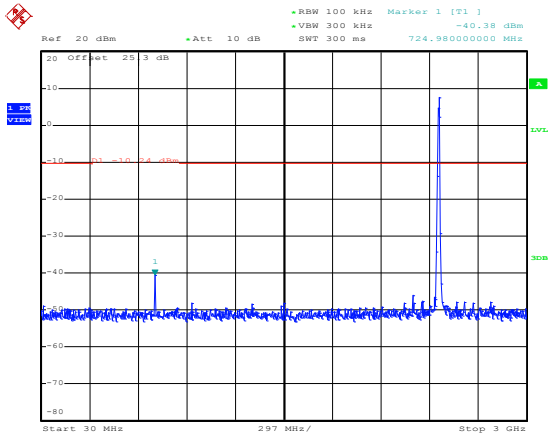
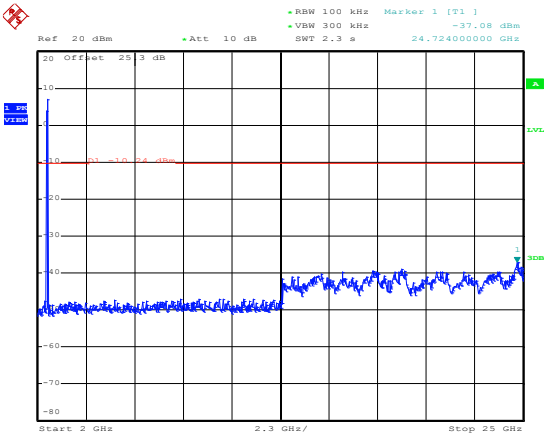
Spurious Emission 30MHz~3GHz



Date: 20.AUG.2015 23:52:10

Spurious Emission 2GHz~25GHz

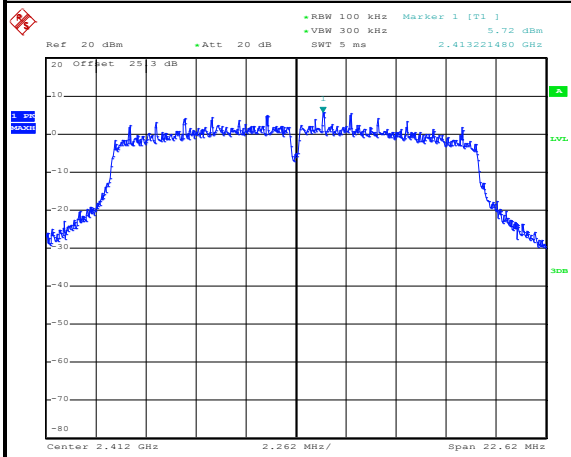


Date: 20.AUG.2015 23:52:18

Number of TX	1	**Ant. :**	1
Test Mode :	802.11g	**Temperature :**	21~25℃
Test Band :	2.4GHz Low	**Relative Humidity :**	51~54%
Test Channel :	01	**Test Engineer :**	AC Chang and Derek Hsu

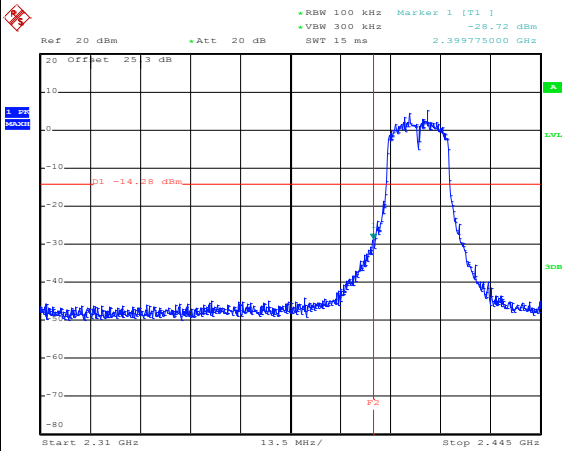
WLAN 802.11g Channel 01

100kHz PSD reference Level



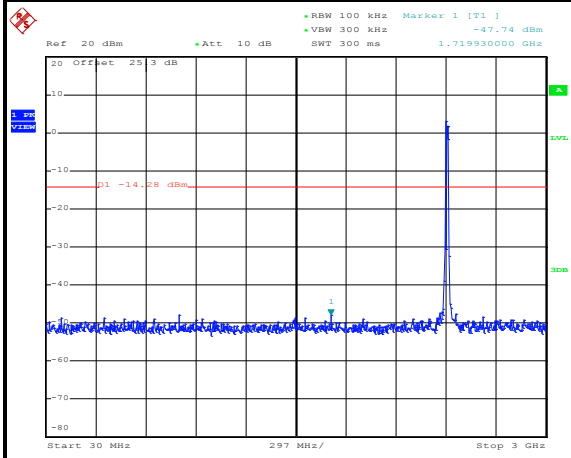
Date: 20.AUG.2015 23:55:53

Low Channel Plot



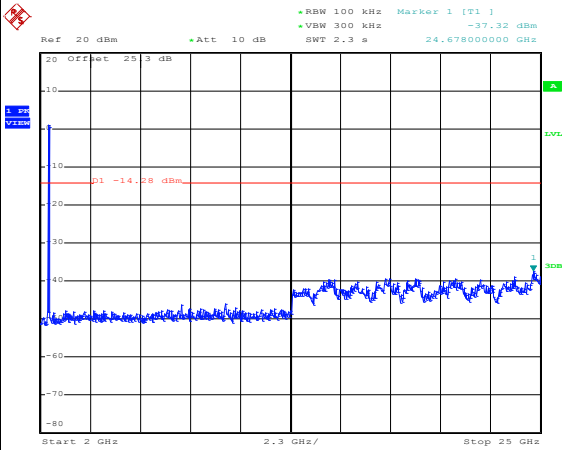
Date: 20.AUG.2015 23:56:07

Spurious Emission 30MHz~3GHz



Date: 20.AUG.2015 23:56:42

Spurious Emission 2GHz~25GHz

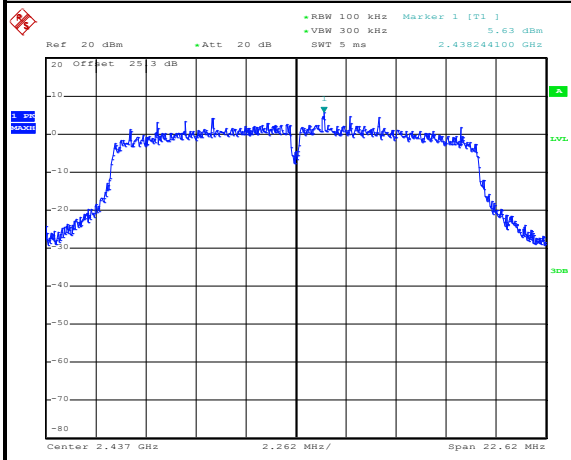


Date: 20.AUG.2015 23:56:50

Number of TX	1	**Ant. :**	1
Test Mode :	802.11g	**Temperature :**	21~25℃
Test Band :	2.4GHz Mid	**Relative Humidity :**	51~54%
Test Channel :	06	**Test Engineer :**	AC Chang and Derek Hsu

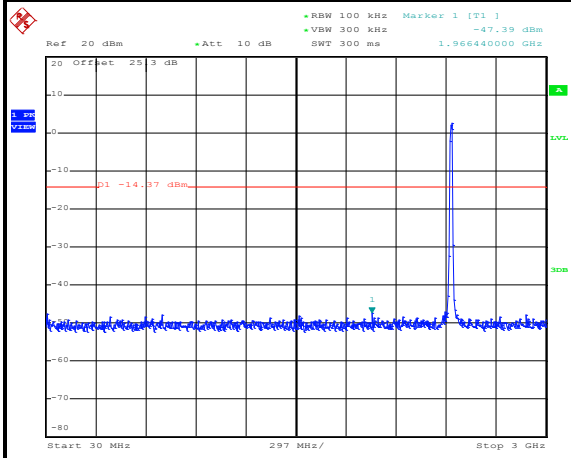
WLAN 802.11g Channel 06

100kHz PSD reference Level



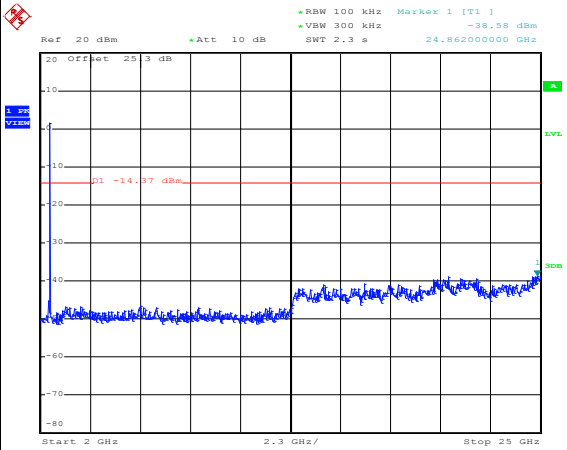
Date: 20.AUG.2015 23:58:53

Spurious Emission 30MHz~3GHz



Date: 31.AUG.2015 20:27:05

Spurious Emission 2GHz~25GHz

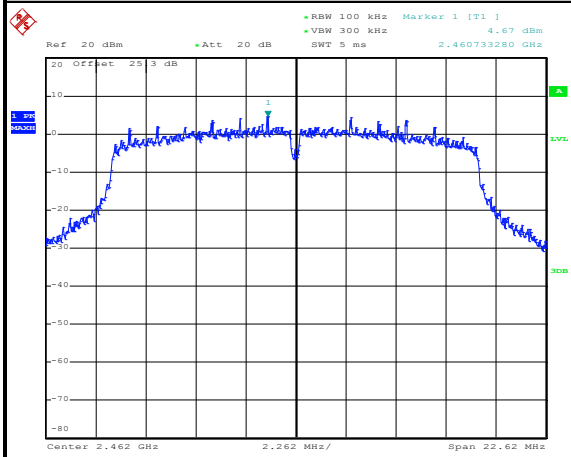


Date: 31.AUG.2015 20:27:13

Number of TX	1	**Ant. :**	1
Test Mode :	802.11g	**Temperature :**	21~25℃
Test Band :	2.4GHz High	**Relative Humidity :**	51~54%
Test Channel :	11	**Test Engineer :**	AC Chang and Derek Hsu

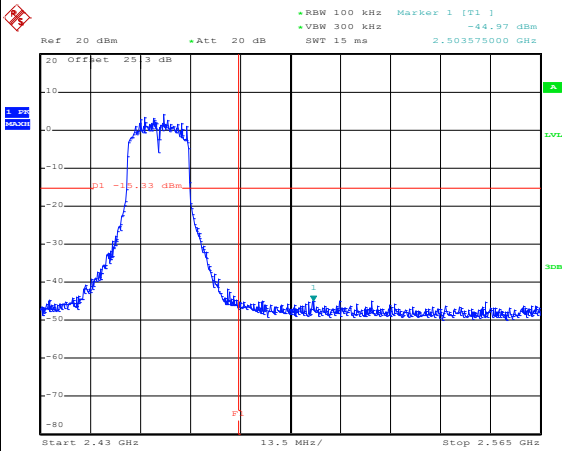
WLAN 802.11g Channel 11

100kHz PSD reference Level



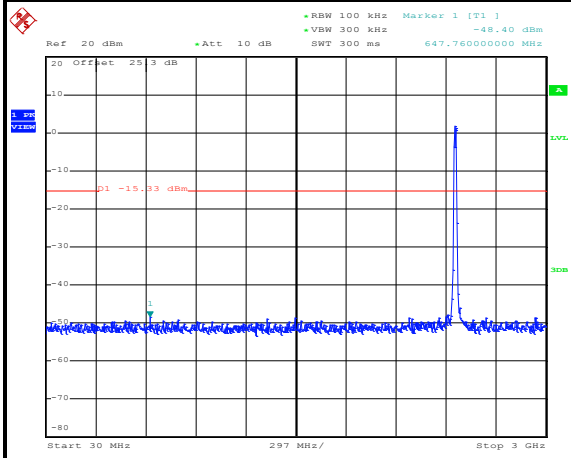
Date: 21.AUG.2015 00:03:11

High Channel Plot



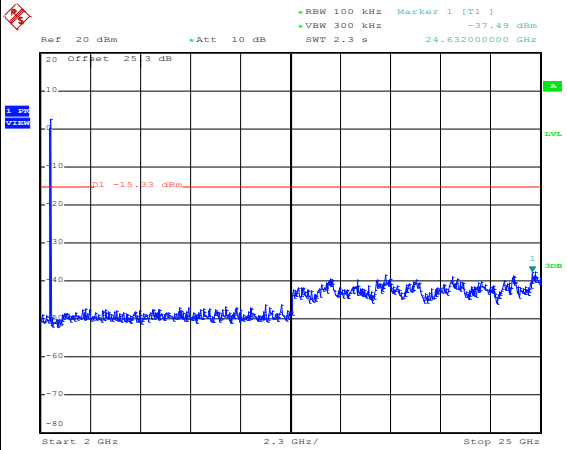
Date: 21.AUG.2015 00:03:29

Spurious Emission 30MHz~3GHz



Date: 21.AUG.2015 00:03:43

Spurious Emission 2GHz~25GHz

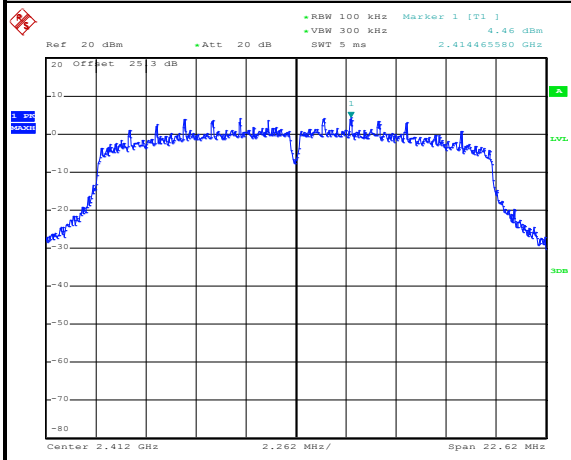


Date: 21.AUG.2015 00:03:52

Number of TX	1	**Ant. :**	1
Test Mode :	802.11n HT20	**Temperature :**	21~25℃
Test Band :	2.4GHz Low	**Relative Humidity :**	51~54%
Test Channel :	01	**Test Engineer :**	AC Chang and Derek Hsu

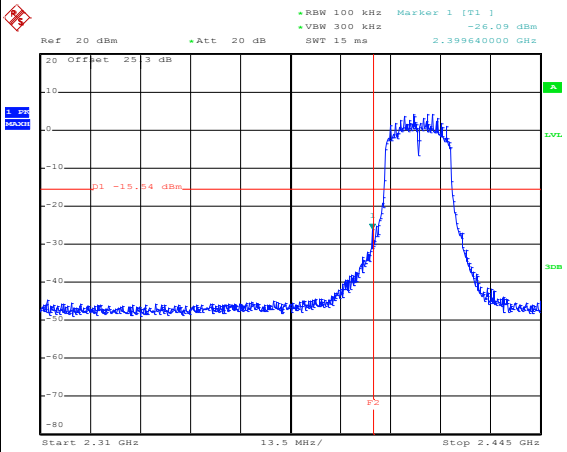
WLAN 802.11n HT20 Channel 01

100kHz PSD reference Level



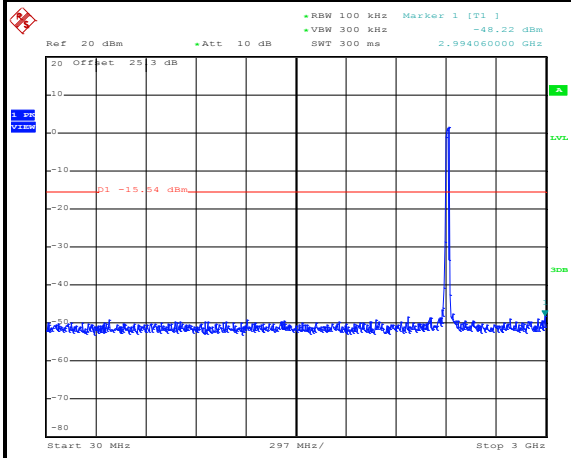
Date: 21.AUG.2015 00:07:46

Low Channel Plot



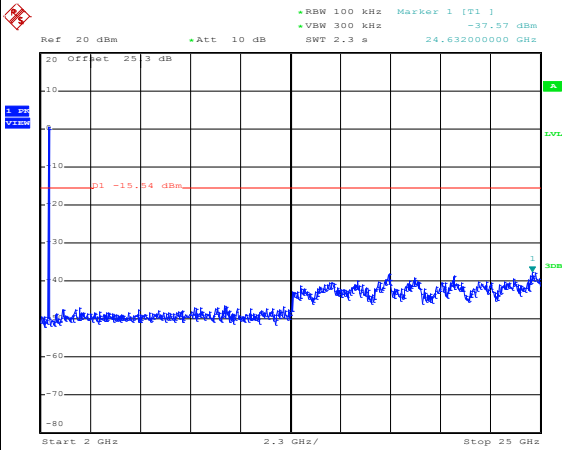
Date: 21.AUG.2015 00:08:02

Spurious Emission 30MHz~3GHz



Date: 21.AUG.2015 00:08:20

Spurious Emission 2GHz~25GHz

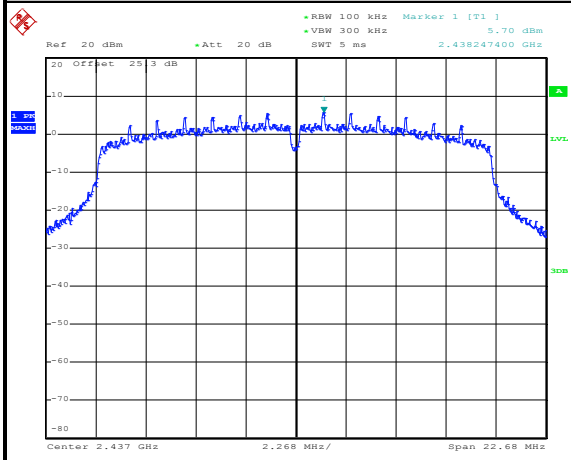


Date: 21.AUG.2015 00:08:28

Number of TX	1	**Ant. :**	1
Test Mode :	802.11n HT20	**Temperature :**	21~25℃
Test Band :	2.4GHz Mid	**Relative Humidity :**	51~54%
Test Channel :	06	**Test Engineer :**	AC Chang and Derek Hsu

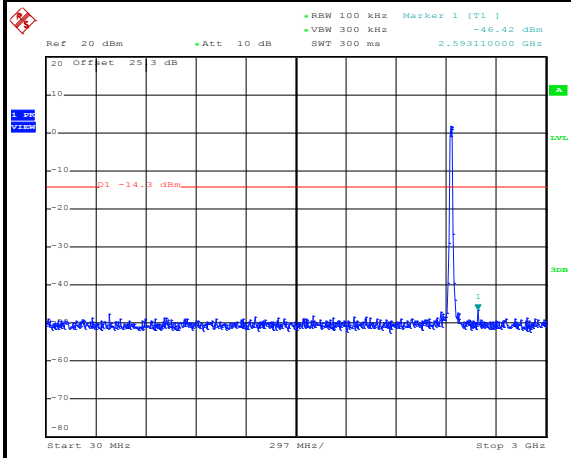
WLAN 802.11n HT20 Channel 06

100kHz PSD reference Level



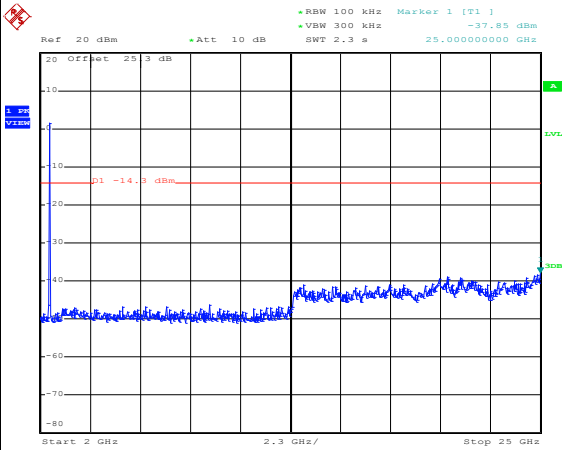
Date: 21.AUG.2015 00:20:01

Spurious Emission 30MHz~3GHz



Date: 31.AUG.2015 20:33:34

Spurious Emission 2GHz~25GHz

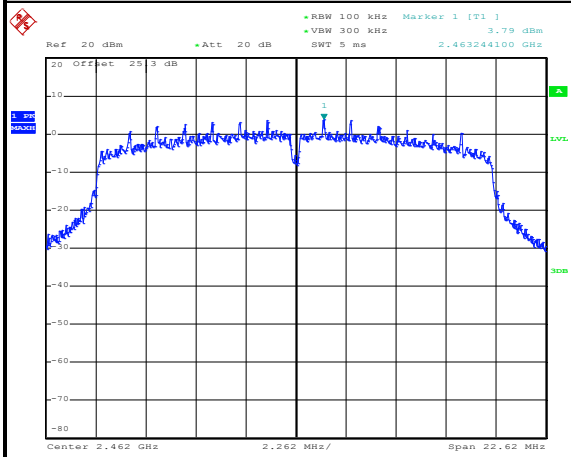


Date: 31.AUG.2015 20:33:42

Number of TX	1	**Ant. :**	1
Test Mode :	802.11n HT20	**Temperature :**	21~25℃
Test Band :	2.4GHz High	**Relative Humidity :**	51~54%
Test Channel :	11	**Test Engineer :**	AC Chang and Derek Hsu

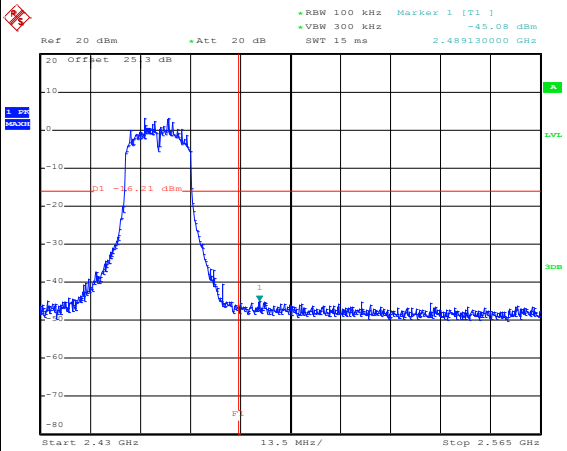
WLAN 802.11n HT20 Channel 11

100kHz PSD reference Level



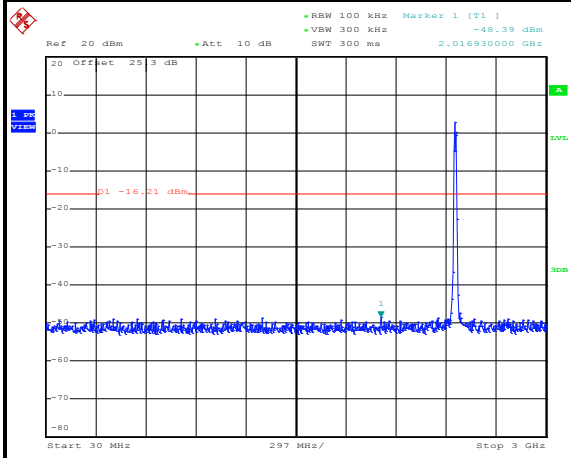
Date: 21.AUG.2015 00:29:52

High Channel Plot



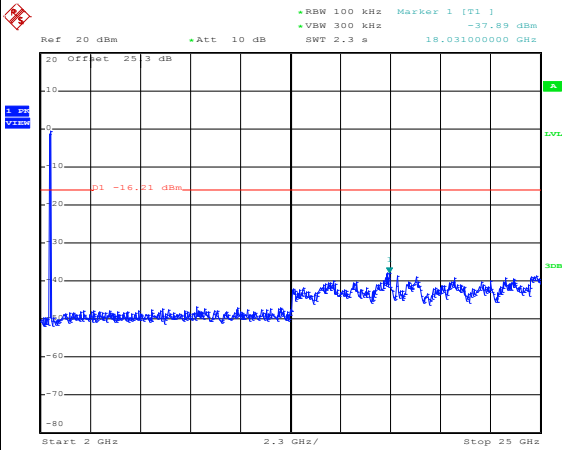
Date: 21.AUG.2015 00:30:05

Spurious Emission 30MHz~3GHz



Date: 21.AUG.2015 00:30:17

Spurious Emission 2GHz~25GHz



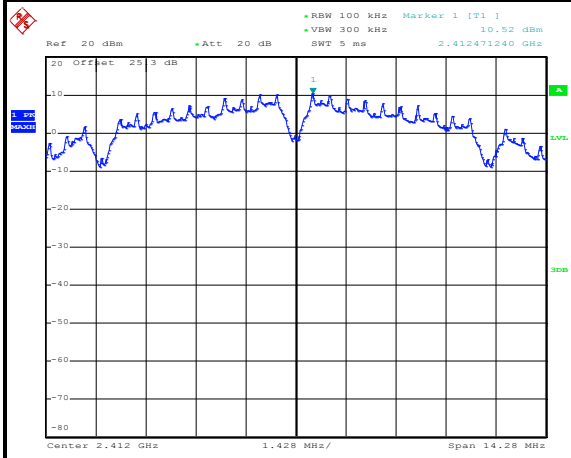
Date: 21.AUG.2015 00:30:25

Number of TX = 1, Ant. 2 (Measured)

Number of TX	1	**Ant. :**	2
Test Mode :	802.11b	**Temperature :**	21~25℃
Test Band :	2.4GHz Low	**Relative Humidity :**	51~54%
Test Channel :	01	**Test Engineer :**	AC Chang and Derek Hsu

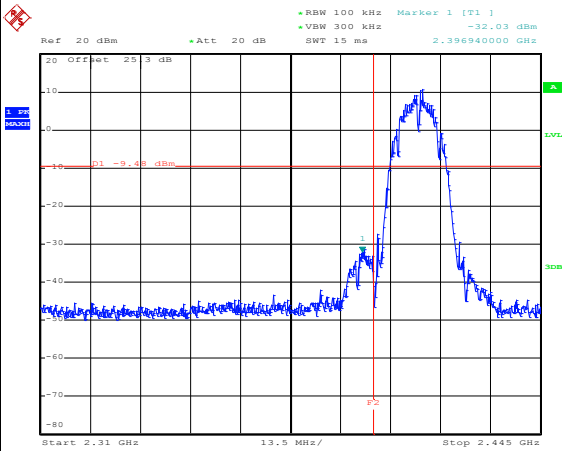
WLAN 802.11b Channel 01

100kHz PSD reference Level



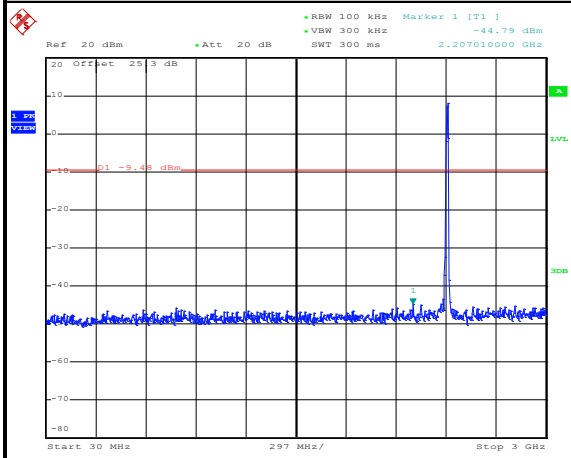
Date: 19.AUG.2015 15:14:06

Low Channel Plot



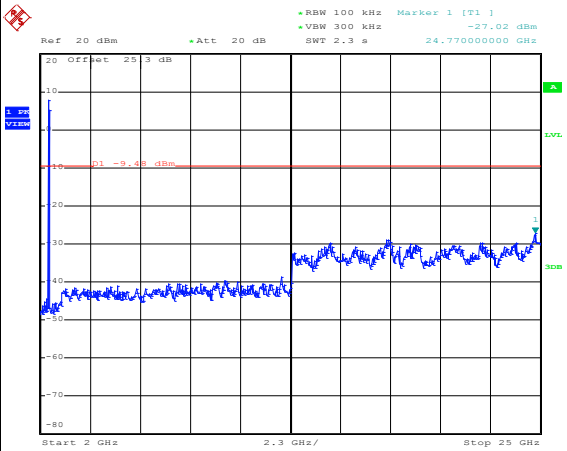
Date: 19.AUG.2015 17:00:48

Spurious Emission 30MHz~3GHz



Date: 19.AUG.2015 15:15:27

Spurious Emission 2GHz~25GHz

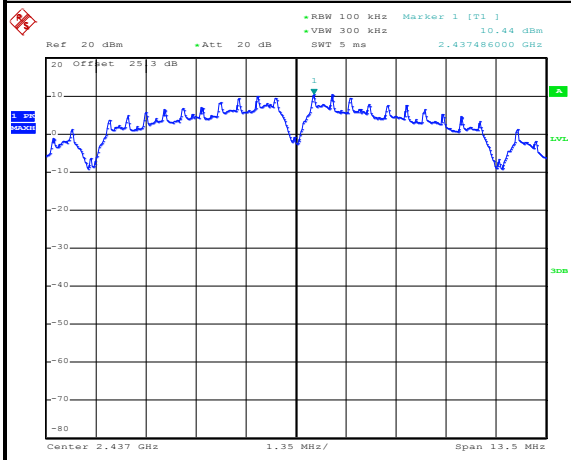


Date: 19.AUG.2015 15:15:35

Number of TX	1	**Ant. :**	2
Test Mode :	802.11b	**Temperature :**	21~25℃
Test Band :	2.4GHz Mid	**Relative Humidity :**	51~54%
Test Channel :	06	**Test Engineer :**	AC Chang and Derek Hsu

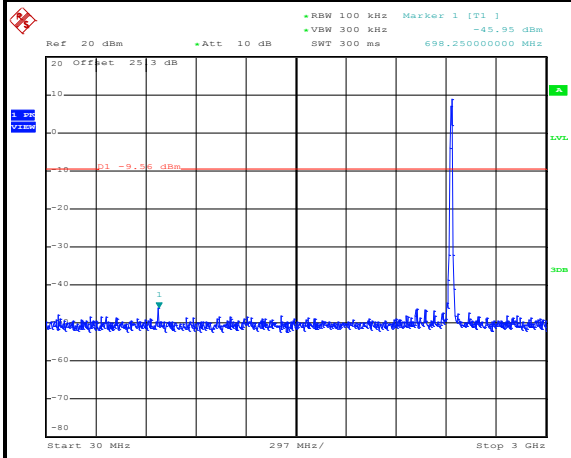
WLAN 802.11b Channel 06

100kHz PSD reference Level



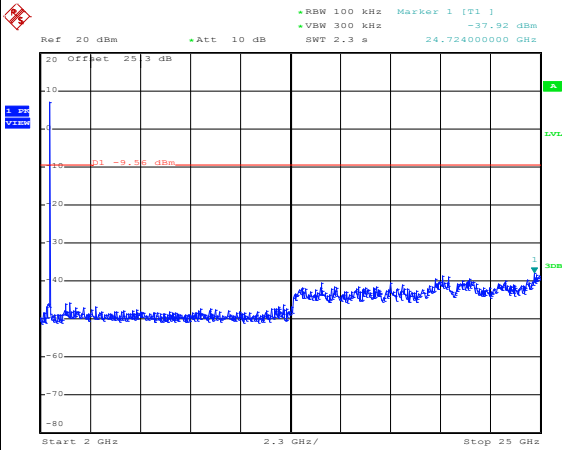
Date: 19.AUG.2015 15:17:44

Spurious Emission 30MHz~3GHz



Date: 31.AUG.2015 20:21:03

Spurious Emission 2GHz~25GHz

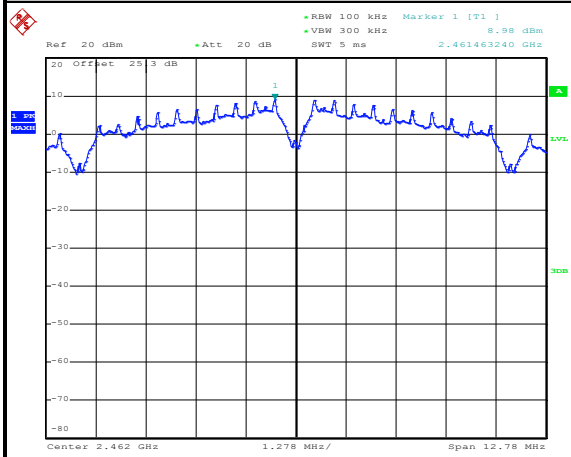


Date: 31.AUG.2015 20:21:11

Number of TX	1	**Ant. :**	2
Test Mode :	802.11b	**Temperature :**	21~25℃
Test Band :	2.4GHz High	**Relative Humidity :**	51~54%
Test Channel :	11	**Test Engineer :**	AC Chang and Derek Hsu

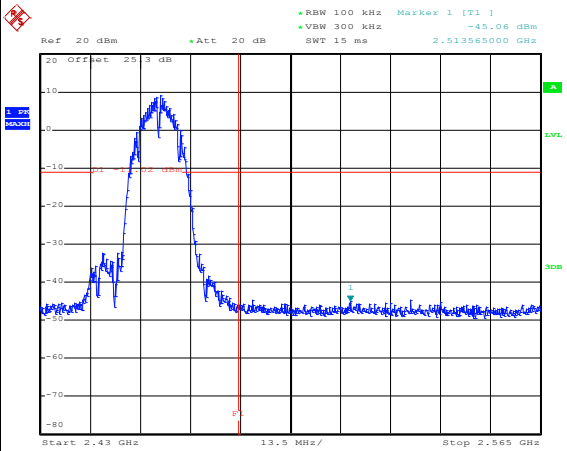
WLAN 802.11b Channel 11

100kHz PSD reference Level



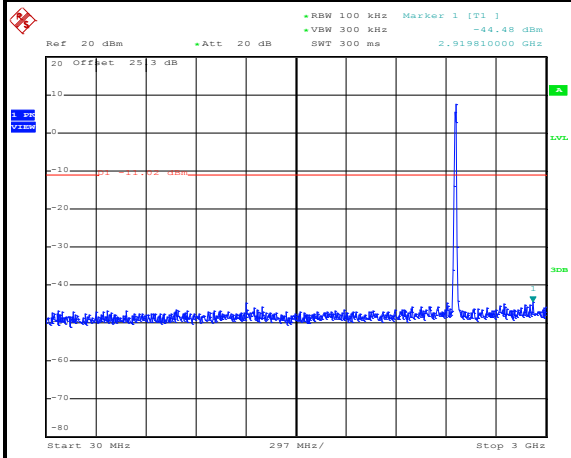
Date: 19.AUG.2015 15:20:55

High Channel Plot



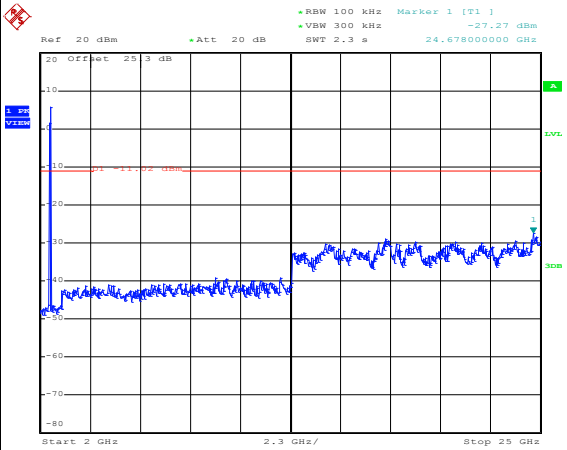
Date: 19.AUG.2015 17:01:31

Spurious Emission 30MHz~3GHz



Date: 19.AUG.2015 15:22:24

Spurious Emission 2GHz~25GHz

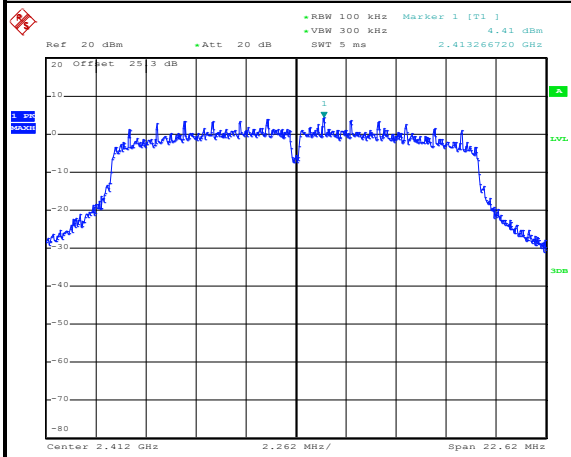


Date: 19.AUG.2015 15:22:32

Number of TX	1	**Ant. :**	2
Test Mode :	802.11g	**Temperature :**	21~25℃
Test Band :	2.4GHz Low	**Relative Humidity :**	51~54%
Test Channel :	01	**Test Engineer :**	AC Chang and Derek Hsu

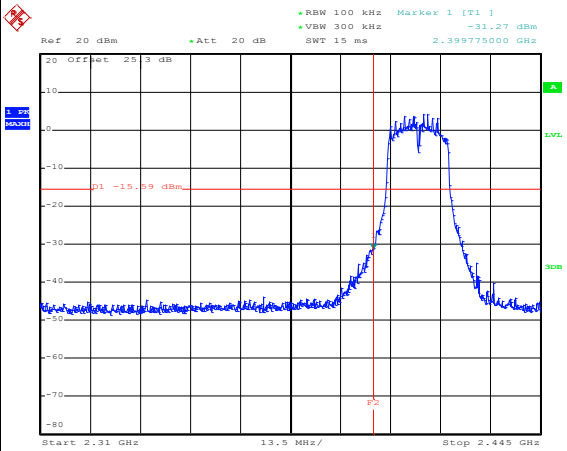
WLAN 802.11g Channel 01

100kHz PSD reference Level



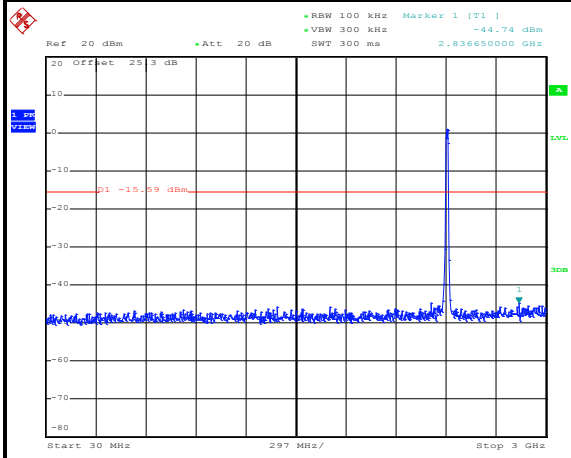
Date: 19.AUG.2015 15:43:43

Low Channel Plot



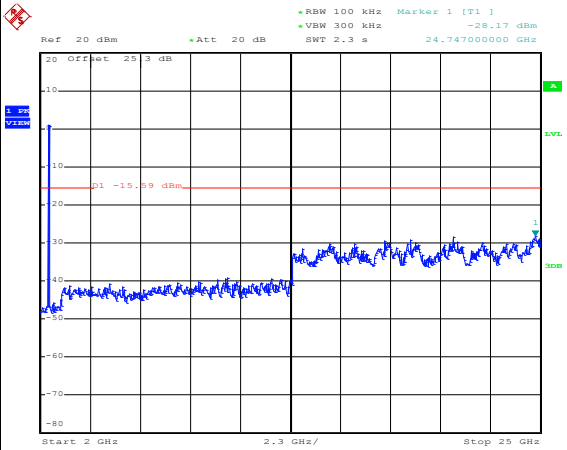
Date: 19.AUG.2015 16:54:22

Spurious Emission 30MHz~3GHz



Date: 19.AUG.2015 15:44:43

Spurious Emission 2GHz~25GHz

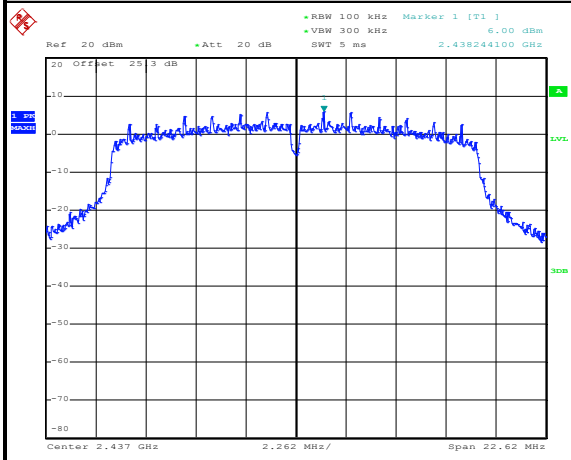


Date: 19.AUG.2015 15:44:51

Number of TX	1	**Ant. :**	2
Test Mode :	802.11g	**Temperature :**	21~25℃
Test Band :	2.4GHz Mid	**Relative Humidity :**	51~54%
Test Channel :	06	**Test Engineer :**	AC Chang and Derek Hsu

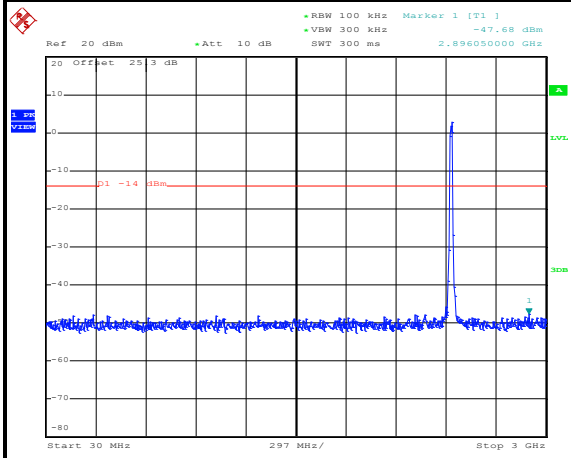
WLAN 802.11g Channel 06

100kHz PSD reference Level



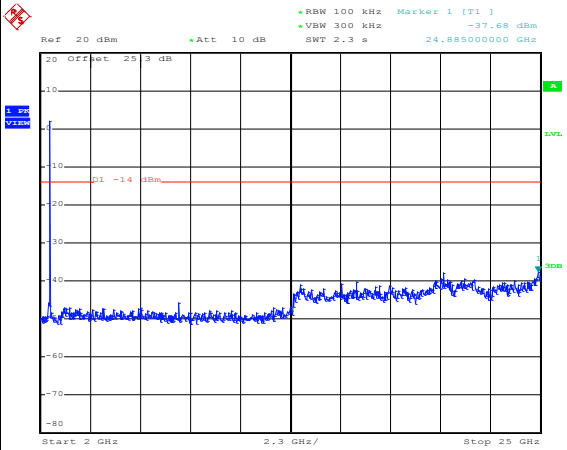
Date: 19.AUG.2015 15:48:22

Spurious Emission 30MHz~3GHz



Date: 31.AUG.2015 20:29:47

Spurious Emission 2GHz~25GHz

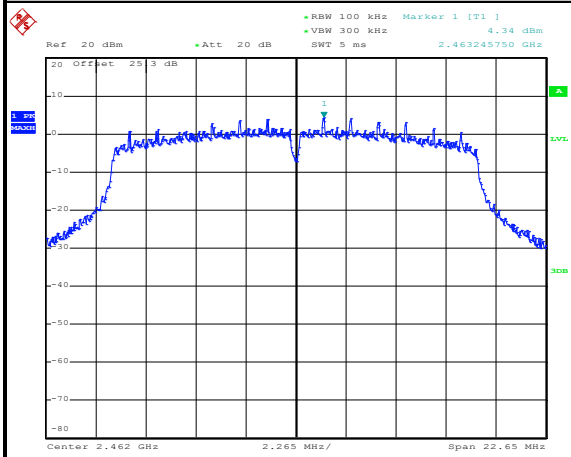


Date: 31.AUG.2015 20:29:56

Number of TX	1	**Ant. :**	2
Test Mode :	802.11g	**Temperature :**	21~25℃
Test Band :	2.4GHz High	**Relative Humidity :**	51~54%
Test Channel :	11	**Test Engineer :**	AC Chang and Derek Hsu

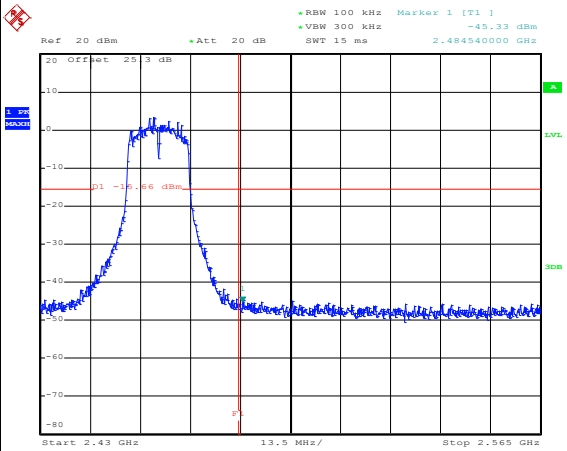
WLAN 802.11g Channel 11

100kHz PSD reference Level



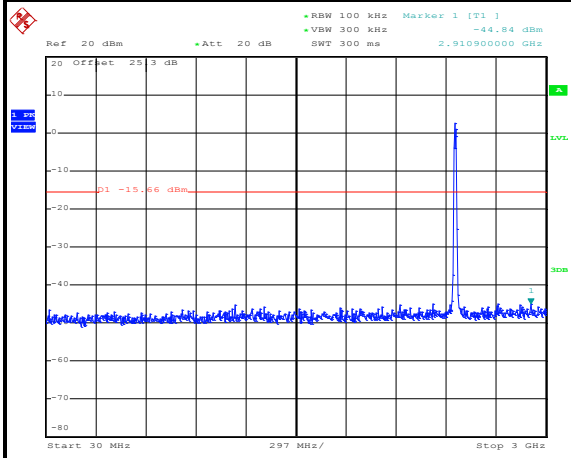
Date: 19.AUG.2015 15:51:37

High Channel Plot



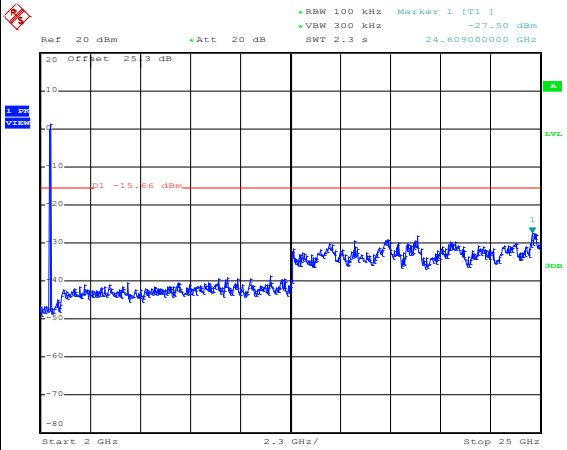
Date: 19.AUG.2015 16:55:37

Spurious Emission 30MHz~3GHz



Date: 19.AUG.2015 15:52:37

Spurious Emission 2GHz~25GHz

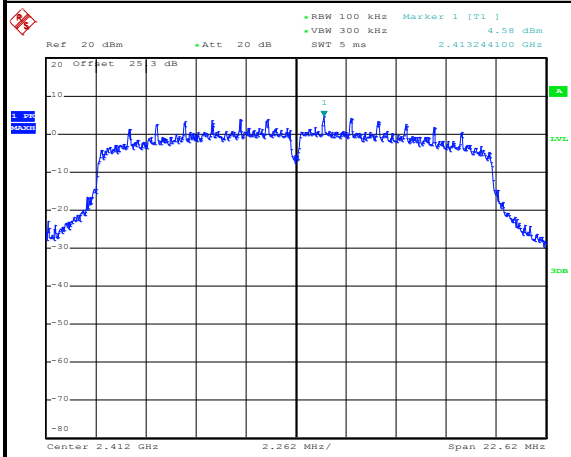


Date: 19.AUG.2015 15:52:45

Number of TX	1	**Ant. :**	2
Test Mode :	802.11n HT20	**Temperature :**	21~25℃
Test Band :	2.4GHz Low	**Relative Humidity :**	51~54%
Test Channel :	01	**Test Engineer :**	AC Chang and Derek Hsu

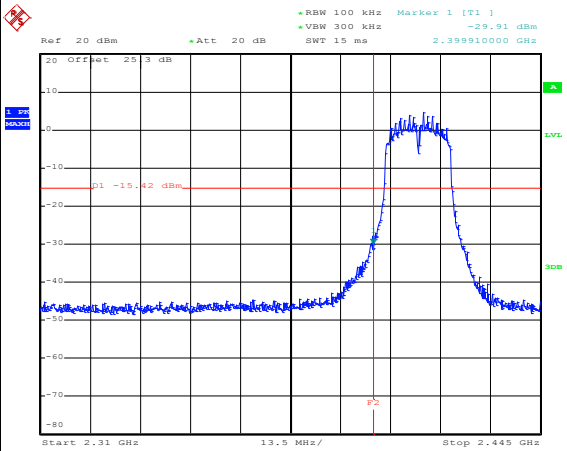
WLAN 802.11n HT20 Channel 01

100kHz PSD reference Level



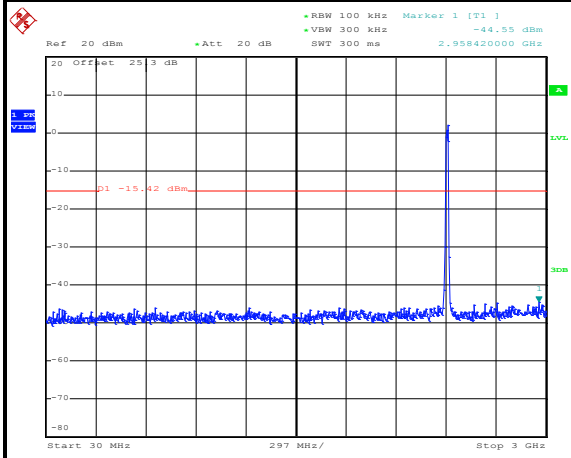
Date: 19.AUG.2015 16:16:46

Low Channel Plot



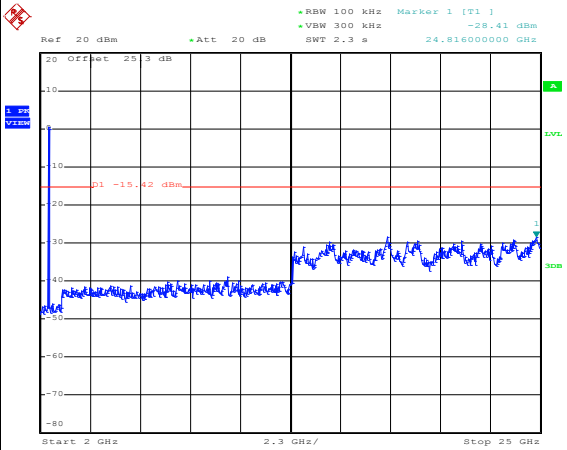
Date: 19.AUG.2015 16:36:41

Spurious Emission 30MHz~3GHz



Date: 19.AUG.2015 16:18:12

Spurious Emission 2GHz~25GHz

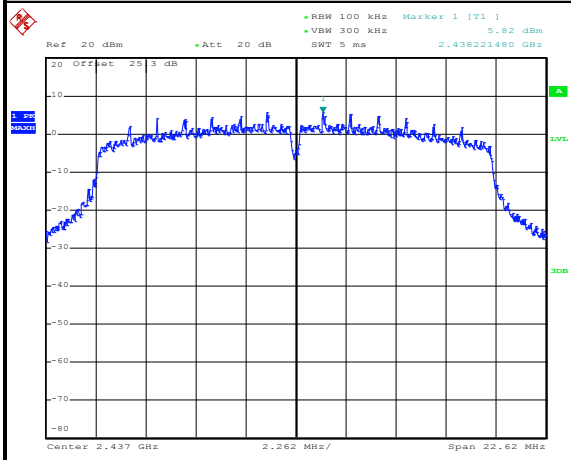


Date: 19.AUG.2015 16:18:20

Number of TX	1	**Ant. :**	2
Test Mode :	802.11n HT20	**Temperature :**	21~25℃
Test Band :	2.4GHz Mid	**Relative Humidity :**	51~54%
Test Channel :	06	**Test Engineer :**	AC Chang and Derek Hsu

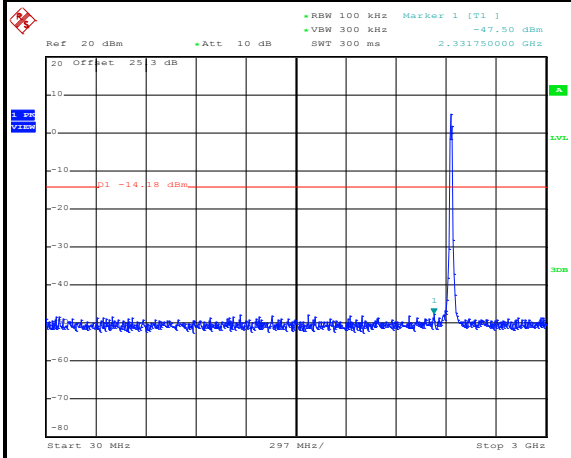
WLAN 802.11n HT20 Channel 06

100kHz PSD reference Level



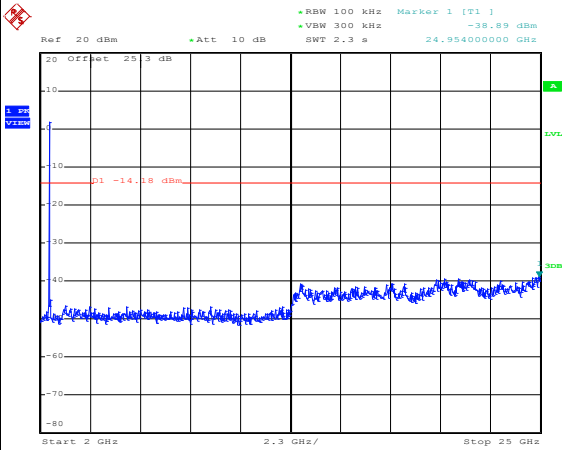
Date: 19.AUG.2015 16:20:38

Spurious Emission 30MHz~3GHz



Date: 31.AUG.2015 20:36:03

Spurious Emission 2GHz~25GHz

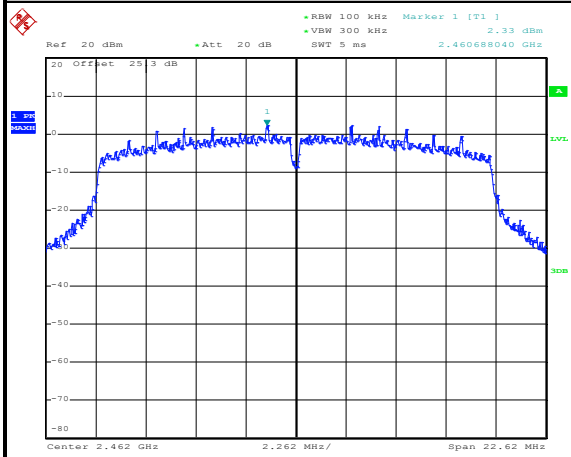


Date: 31.AUG.2015 20:36:12

Number of TX	1	**Ant. :**	2
Test Mode :	802.11n HT20	**Temperature :**	21~25℃
Test Band :	2.4GHz High	**Relative Humidity :**	51~54%
Test Channel :	11	**Test Engineer :**	AC Chang and Derek Hsu

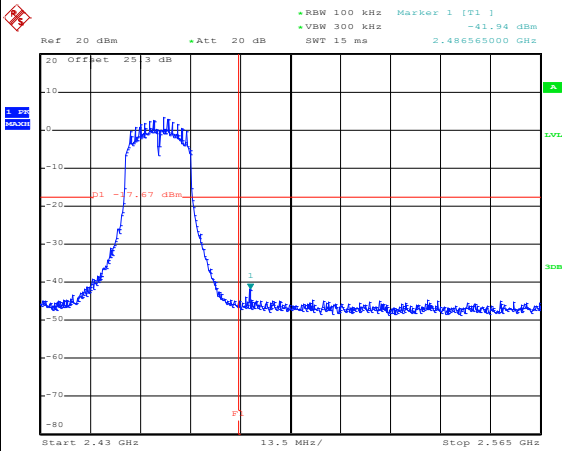
WLAN 802.11n HT20 Channel 11

100kHz PSD reference Level



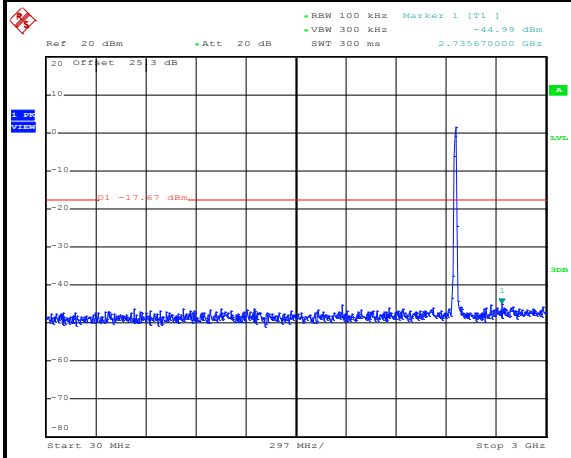
Date: 19.AUG.2015 16:23:20

High Channel Plot



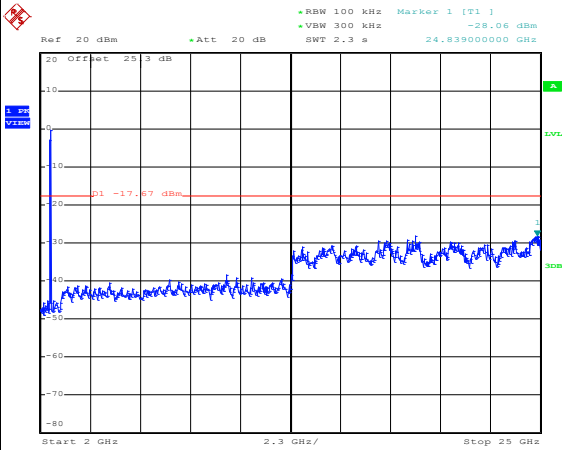
Date: 19.AUG.2015 16:24:24

Spurious Emission 30MHz~3GHz



Date: 19.AUG.2015 16:24:51

Spurious Emission 2GHz~25GHz



Date: 19.AUG.2015 16:25:00

3.5 Radiated Band Edges and Spurious Emission Measurement

3.5.1 Limit of Radiated band edge and Spurious Emission Measurement

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

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

3.5.2 Measuring Instruments

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

3.5.3 Test Procedures

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

(1) Span shall wide enough to fully capture the emission being measured;

(2) Set RBW=100 kHz for f < 1 GHz; VBW ≥ RBW; Sweep = auto; Detector function = peak; Trace = max hold;

(3) Set RBW = 1 MHz, VBW= 3MHz for f ≥ 1 GHz for peak measurement.

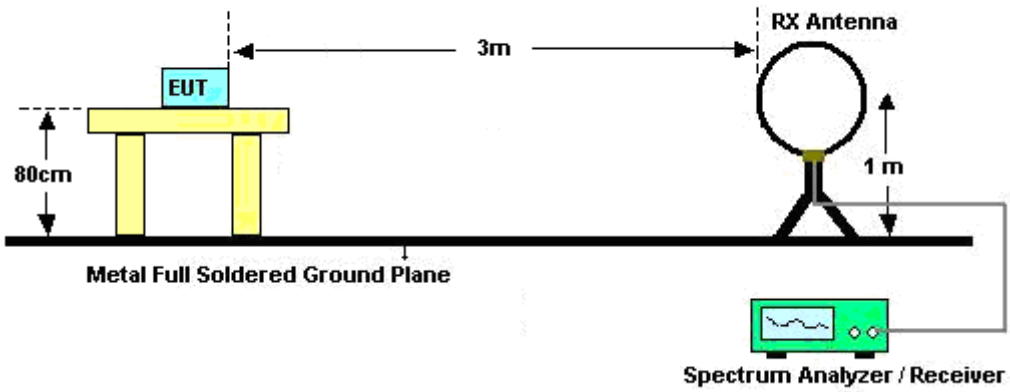
For average measurement:

- 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.

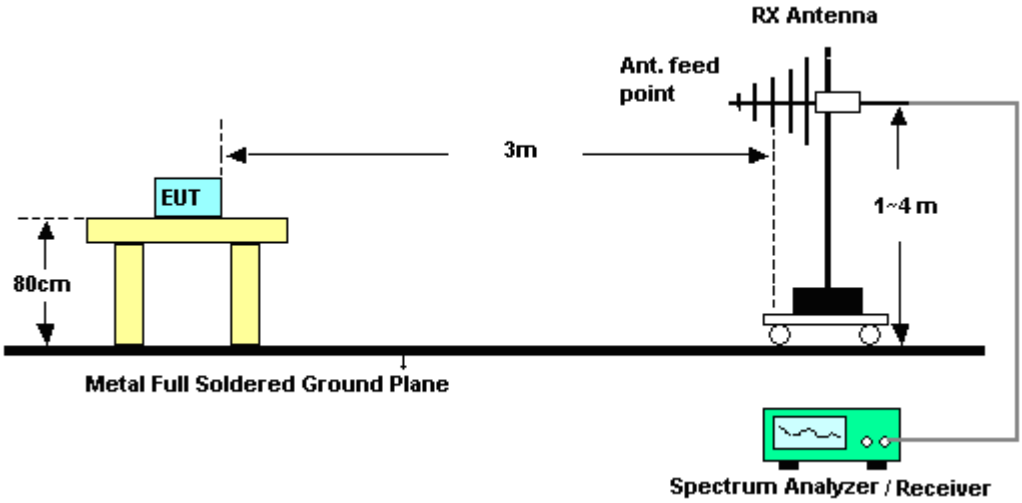
Antenna	Band	Duty Cycle(%)	T(μs)	1/T(kHz)	VBW Setting
1	802.11b	98.62	-	-	10Hz
2	802.11b	98.62	-	-	10Hz
1	802.11g	93.46	1430.00	0.70	1kHz
2	802.11g	93.46	1430.00	0.70	1kHz
1	2.4GHz 802.11n HT20	93.06	1340.00	0.75	1kHz
2	2.4GHz 802.11n HT20	93.06	1340.00	0.75	1kHz

3.5.4 Test Setup

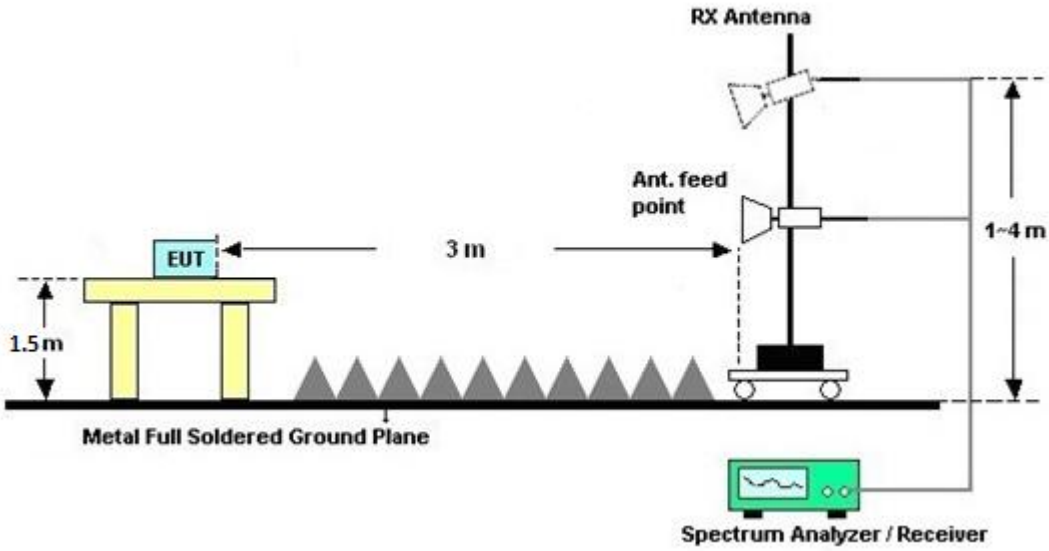
For radiated emissions below 30MHz



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.

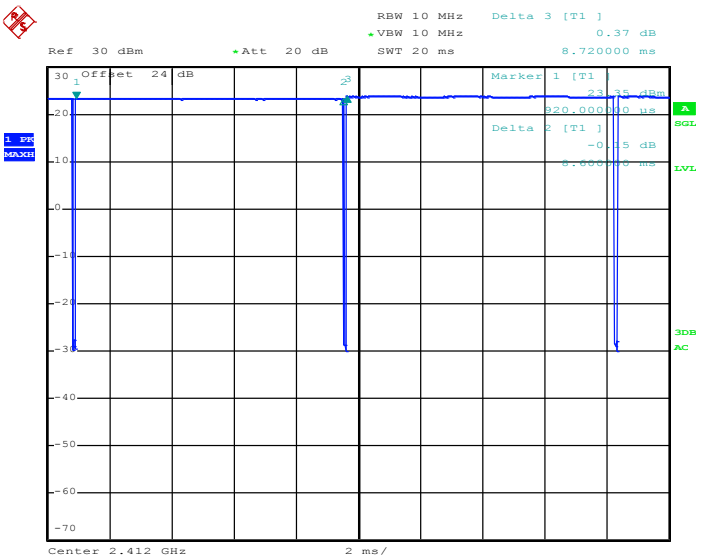
3.5.6 Test Result of Radiated Spurious at Band Edges

Please refer to Appendix B and Appendix C.

3.5.7 Duty Cycle

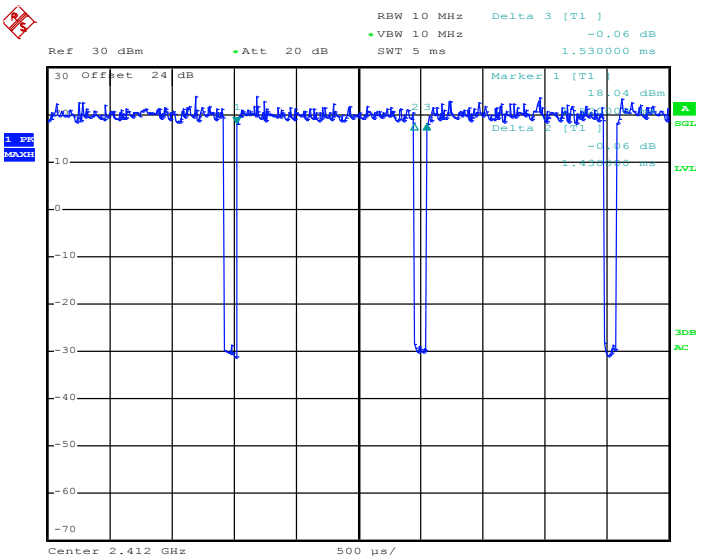
<Ant. 1>

802.11b



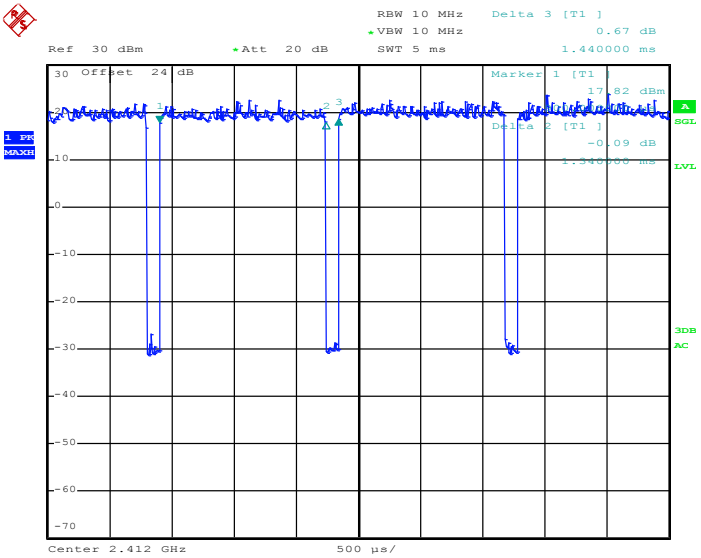
Date: 17.AUG.2015 20:26:07

802.11g



Date: 17.AUG.2015 20:27:28

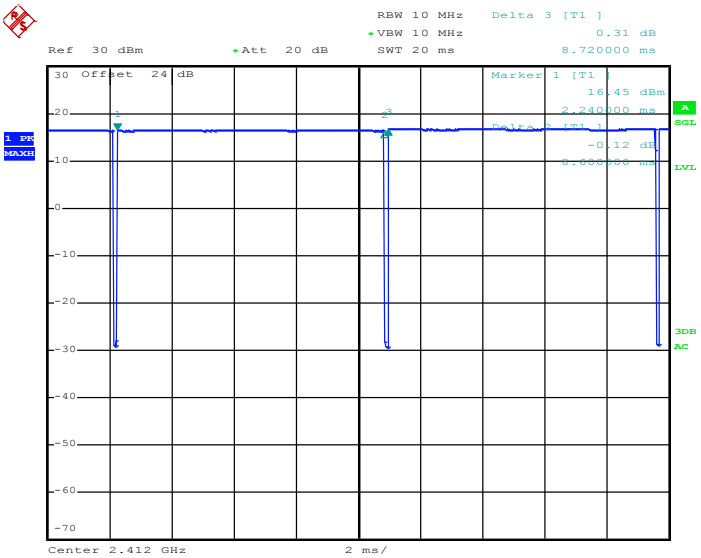
802.11n HT20



Date: 17.AUG.2015 20:28:20

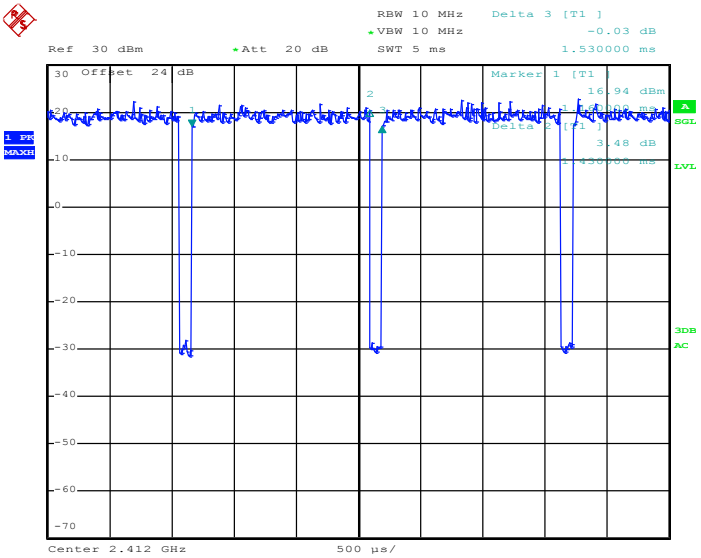
<Ant. 2>

802.11b



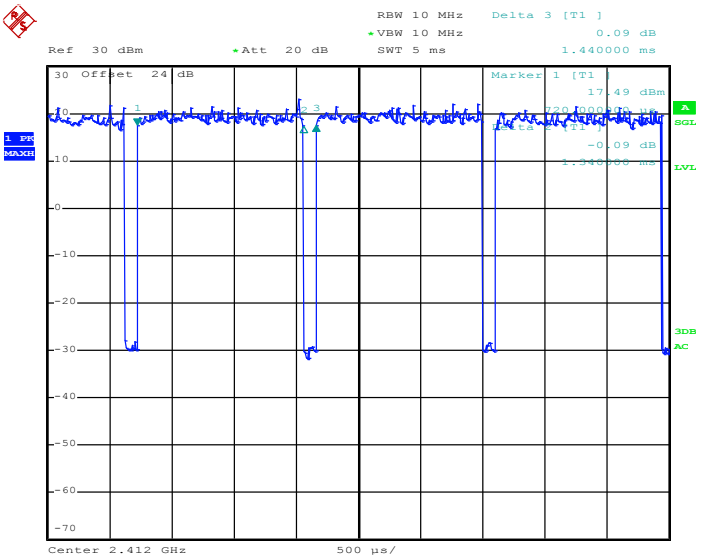
Date: 17.AUG.2015 20:30:43

802.11g



Date: 17.AUG.2015 20:29:57

802.11n HT20



Date: 17.AUG.2015 20:29:15

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

Please refer to Appendix B and Appendix 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.

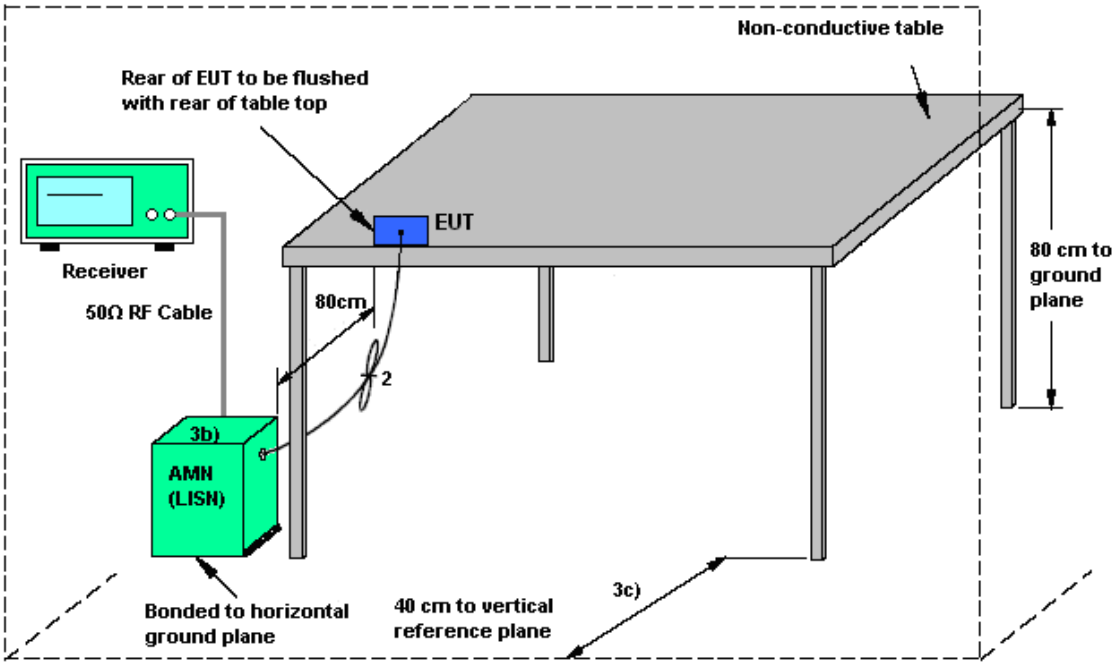
3.6.2 Measuring Instruments

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.

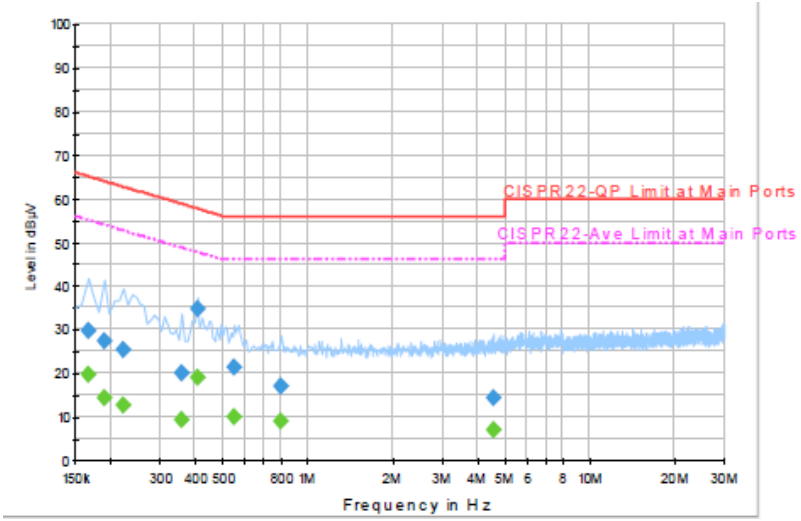
3.6.4 Test Setup



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 :**	24~26℃
Test Engineer :	Derreck Chen	**Relative Humidity :**	49~53%
Test Voltage :	120Vac / 60Hz	**Phase :**	Line
Function Type :	WLAN Link + Bluetooth Link		



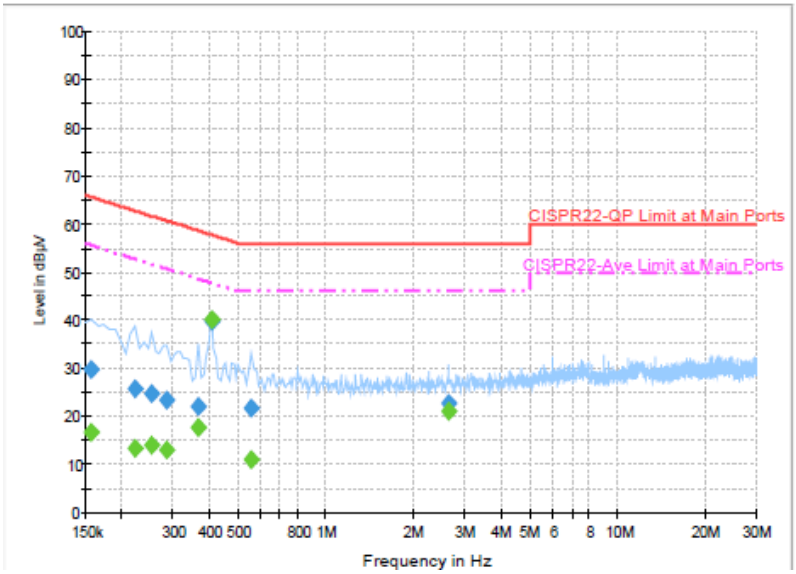
Final Result : Quasi-Peak

Frequency (MHz)	Quasi-Peak (dBµV)	Filter	Line	Corr. (dB)	Margin (dB)	Limit (dBµV)
0.166000	29.6	Off	L1	19.5	35.6	65.2
0.190000	27.4	Off	L1	19.5	36.6	64.0
0.222000	25.4	Off	L1	19.4	37.3	62.7
0.358000	20.2	Off	L1	19.5	38.6	58.8
0.406000	34.9	Off	L1	19.5	22.8	57.7
0.550000	21.3	Off	L1	19.5	34.7	56.0
0.806000	17.0	Off	L1	19.6	39.0	56.0
4.574000	14.5	Off	L1	19.7	41.5	56.0

Final Result : Average

Frequency (MHz)	Average (dBµV)	Filter	Line	Corr. (dB)	Margin (dB)	Limit (dBµV)
0.166000	19.6	Off	L1	19.5	35.6	55.2
0.190000	14.5	Off	L1	19.5	39.5	54.0
0.222000	12.6	Off	L1	19.4	40.1	52.7
0.358000	9.5	Off	L1	19.5	39.3	48.8
0.406000	18.9	Off	L1	19.5	28.8	47.7
0.550000	10.0	Off	L1	19.5	36.0	46.0
0.806000	9.1	Off	L1	19.6	36.9	46.0
4.574000	7.1	Off	L1	19.7	38.9	46.0

Test Mode :	Mode 1	**Temperature :**	24~26℃
Test Engineer :	Derreck Chen	**Relative Humidity :**	49~53%
Test Voltage :	120Vac / 60Hz	**Phase :**	Neutral
Function Type :	WLAN Link + Bluetooth Link		



Final Result : Quasi-Peak

Frequency (MHz)	Quasi-Peak (dBµV)	Filter	Line	Corr. (dB)	Margin (dB)	Limit (dBµV)
0.158000	29.7	Off	N	19.5	35.9	65.6
0.222000	25.7	Off	N	19.4	37.0	62.7
0.254000	24.8	Off	N	19.6	36.8	61.6
0.286000	23.5	Off	N	19.5	37.1	60.6
0.366000	22.0	Off	N	19.5	36.6	58.6
0.406000	39.8	Off	N	19.5	17.9	57.7
0.558000	21.8	Off	N	19.5	34.2	56.0
2.646000	22.7	Off	N	19.6	33.3	56.0

Final Result : Average

Frequency (MHz)	Average (dBµV)	Filter	Line	Corr. (dB)	Margin (dB)	Limit (dBµV)
0.158000	16.7	Off	N	19.5	38.9	55.6
0.222000	13.4	Off	N	19.4	39.3	52.7
0.254000	14.0	Off	N	19.6	37.6	51.6
0.286000	13.1	Off	N	19.5	37.5	50.6
0.366000	17.7	Off	N	19.5	30.9	48.6
0.406000	40.3	Off	N	19.5	7.4	47.7
0.558000	11.0	Off	N	19.5	35.0	46.0
2.646000	21.1	Off	N	19.6	24.9	46.0

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	1218006	300MHz~40GHz	Oct. 18, 2014	Aug. 17, 2015 ~ Aug. 31, 2015	Oct. 17, 2015	Conducted (TH05-HY)
Power Sensor	Anritsu	MA2411B	1126017	300MHz~40GHz	Oct. 18, 2014	Aug. 17, 2015 ~ Aug. 31, 2015	Oct. 17, 2015	Conducted (TH05-HY)
Spectrum Analyzer	Rohde & Schwarz	FSP40	100055	9kHz-40GHz	Jun. 18, 2015	Aug. 17, 2015 ~ Aug. 31, 2015	Jun. 17, 2016	Conducted (TH05-HY)
Bilog Antenna	Schaffner	CBL6111C	2726	30MHz ~ 1GHz	Sep. 27, 2014	Aug. 18, 2015 ~ Sep. 01, 2015	Sep. 26, 2015	Radiation (03CH07-HY)
Double Ridge Horn Antenna	ESCO	3117	00066583	1GHz ~ 18GHz	Jul. 20, 2015	Aug. 18, 2015 ~ Sep. 01, 2015	Jul. 19. 2016	Radiation (03CH07-HY)
EMI Test Receiver	Rohde & Schwarz	ESCI 7	100724	9kHz~7GHz	Aug. 30, 2014	Aug. 18, 2015 ~ Aug. 23, 2015	Aug. 29, 2015	Radiation (03CH07-HY)
EMI Test Receiver	Rohde & Schwarz	ESCI 7	100724	9kHz~7GHz	Aug. 26, 2015	Aug. 26, 2015 ~ Sep. 01, 2015	Aug. 25, 2016	Radiation (03CH07-HY)
Horn Antenna	SCHWARZBECK	BBHA 9170	BBHA9170584	18GHz- 40GHz	Nov. 03, 2014	Aug. 18, 2015 ~ Sep. 01, 2015	Nov. 02, 2015	Radiation (03CH07-HY)
Loop Antenna	TESEQ	HLA6120	31244	9 kHz~30 MHz	Feb. 02 ,2015	Aug. 18, 2015 ~ Sep. 01, 2015	Feb. 01, 2016	Radiation (03CH07-HY)
Hygrometer	Testo	608-H1	34897197	N/A	May 04, 2015	Aug. 18, 2015 ~ Sep. 01, 2015	May 03, 2016	Radiation (03CH07-HY)
Preamplifier	MITEQ	AMF-7D-0010 1800-30-10P	1590075	1GHz ~ 18GHz	Apr. 20, 2015	Aug. 18, 2015 ~ Sep. 01, 2015	Apr. 19, 2016	Radiation (03CH07-HY)
Preamplifier	COM-POWER	PA-103A	161241	10MHz-1000MHz	Mar. 12, 2015	Aug. 18, 2015 ~ Sep. 01, 2015	Mar. 11, 2016	Radiation (03CH07-HY)
Preamplifier	Agilent	8449B	3008A02362	1GHz~ 26.5GHz	Oct. 21, 2014	Aug. 18, 2015 ~ Sep. 01, 2015	Oct. 20, 2015	Radiation (03CH07-HY)
Signal Analyzer	Rohde & Schwarz	FSV 30	101749	10Hz~30GHz	Mar. 10, 2015	Aug. 18, 2015 ~ Sep. 01, 2015	Mar. 09, 2016	Radiation (03CH07-HY)
Antenna Mast	Max-Full	MFA520BS	N/A	1m~4m	N/A	Aug. 18, 2015 ~ Sep. 01, 2015	N/A	Radiation (03CH07-HY)
Turn Table	ChainTek	Chaintek 3000	N/A	0~360 degree	N/A	Aug. 18, 2015 ~ Sep. 01, 2015	N/A	Radiation (03CH07-HY)
Preamplifier	MITEQ	JS44-18004000-33-8P	1840917	18GHz ~ 40GHz	Jun. 02, 2015	Aug. 18, 2015 ~ Sep. 01, 2015	Jun. 01, 2016	Radiation (03CH07-HY)
EMI Test Receiver	Rohde & Schwarz	ESCS 30	100356	9kHz – 2.75GHz	Dec. 01, 2014	Sep. 15, 2015	Nov. 30, 2015	Conduction (CO05-HY)
LISN	Rohde & Schwarz	ENV216	100080	9kHz~30MHz	Dec. 02, 2014	Sep. 15, 2015	Dec. 01, 2015	Conduction (CO05-HY)
AC Power Source	ChainTek	APC-1000W	N/A	N/A	N/A	Sep. 15, 2015	N/A	Conduction (CO05-HY)

5 Uncertainty of Evaluation

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

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

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

Measuring Uncertainty for a Level of Confidence of 95% (U = 2Uc(y))	**4.8**

Appendix A. Conducted Test Results

Test Engineer:	AC Chang and Derek Hsu	Temperature:	21~25	°C
Test Date:	2015/08/17 ~ 2015/08/31	Relative Humidity:	51~54	%

Report Number : FR552738-01C

TEST RESULTS DATA
6dB Bandwidth

2.4GHz Band								
Mod.	Data Rate	NTX	CH.	Freq. (MHz)	6dB BW (MHz)		6dB BW Limit (MHz)	Pass/Fail
					Ant 1	Ant 2		
11b	1Mbps	1	1	2412	9.00	9.52	0.50	Pass
11b	1Mbps	1	6	2437	9.00	9.00	0.50	Pass
11b	1Mbps	1	11	2462	9.00	8.52	0.50	Pass
11g	6Mbps	1	1	2412	15.08	15.08	0.50	Pass
11g	6Mbps	1	6	2437	15.08	15.08	0.50	Pass
11g	6Mbps	1	11	2462	15.08	15.10	0.50	Pass
HT20	MCS0	1	1	2412	15.08	15.08	0.50	Pass
HT20	MCS0	1	6	2437	15.12	15.08	0.50	Pass
HT20	MCS0	1	11	2462	15.08	15.08	0.50	Pass

Report Number : FR552738-01C

TEST RESULTS DATA
Peak Output Power

2.4GHz Band																
Mod.	Data Rate	NTX	CH.	Freq. (MHz)	Peak Conducted Power (dBm)			Conducted Power Limit (dBm)		DG (dBi)		EIRP Power (dBm)		EIRP Power Limit (dBm)		Pass /Fail
					Ant 1	Ant 2	SUM	Ant 1	Ant 2	Ant 1	Ant 2	Ant 1	Ant 2	Ant 1	Ant 2	
11b	1Mbps	1	1	2412	20.62	20.99		30.00	30.00	3.43	1.77	24.05	22.76	36.00	36.00	Pass
11b	1Mbps	1	6	2437	20.63	20.81		30.00	30.00	2.91	1.49	23.54	22.30	36.00	36.00	Pass
11b	1Mbps	1	11	2462	20.39	19.95		30.00	30.00	2.92	1.35	23.31	21.30	36.00	36.00	Pass
11g	6Mbps	1	1	2412	26.19	25.64		30.00	30.00	3.43	1.77	29.62	27.41	36.00	36.00	Pass
11g	6Mbps	1	6	2437	26.11	25.21		30.00	30.00	2.91	1.49	29.02	26.70	36.00	36.00	Pass
11g	6Mbps	1	11	2462	25.17	25.22		30.00	30.00	2.92	1.35	28.09	26.57	36.00	36.00	Pass
HT20	MCS0	1	1	2412	25.73	24.92		30.00	30.00	3.43	1.77	29.16	26.69	36.00	36.00	Pass
HT20	MCS0	1	6	2437	25.99	25.08		30.00	30.00	2.91	1.49	28.90	26.57	36.00	36.00	Pass
HT20	MCS0	1	11	2462	23.94	24.84		30.00	30.00	2.92	1.35	26.86	26.19	36.00	36.00	Pass

Note: Measured power (dBm) has offset with cable loss.

TEST RESULTS DATA
Average Output Power

2.4GHz Band									
Mod.	Data Rate	NTX	CH.	Freq. (MHz)	Duty Factor (dB)		Average Conducted Power (dBm)		
					Ant 1	Ant 2	Ant 1	Ant 2	SUM
11b	1Mbps	1	1	2412	0.06	0.06	18.19	18.65	
11b	1Mbps	1	6	2437	0.06	0.06	18.21	18.61	
11b	1Mbps	1	11	2462	0.06	0.06	18.05	17.70	
11g	6Mbps	1	1	2412	0.29	0.29	16.58	15.35	
11g	6Mbps	1	6	2437	0.29	0.29	16.51	16.44	
11g	6Mbps	1	11	2462	0.29	0.29	15.41	15.03	
HT20	MCS0	1	1	2412	0.31	0.31	15.35	15.16	
HT20	MCS0	1	6	2437	0.31	0.31	16.30	16.10	
HT20	MCS0	1	11	2462	0.31	0.31	14.24	14.11	

Note: Measured power (dBm) has offset with cable loss.

Report Number : FR552738-01C

TEST RESULTS DATA
Peak Power Spectral Density

2.4GHz Band												
Mod.	Data Rate	NTX	CH.	Freq. (MHz)	Peak PSD (dBm/3kHz)			DG (dBi)		Peak PSD Limit (dBm/3kHz)		Pass/Fail
					Ant 1	Ant 2	Worse + 3.01	Ant 1	Ant 2	Ant 1	Ant 2	
11b	1Mbps	1	1	2412	-5.55	-3.52		3.43	1.77	8.00	8.00	Pass
11b	1Mbps	1	6	2437	-3.36	-3.87		2.91	1.49	8.00	8.00	Pass
11b	1Mbps	1	11	2462	-3.00	-5.38		2.92	1.35	8.00	8.00	Pass
11g	6Mbps	1	1	2412	-9.03	-10.00		3.43	1.77	8.00	8.00	Pass
11g	6Mbps	1	6	2437	-8.16	-8.43		2.91	1.49	8.00	8.00	Pass
11g	6Mbps	1	11	2462	-8.57	-10.45		2.92	1.35	8.00	8.00	Pass
HT20	MCS0	1	1	2412	-9.69	-10.93		3.43	1.77	8.00	8.00	Pass
HT20	MCS0	1	6	2437	-9.30	-8.93		2.91	1.49	8.00	8.00	Pass
HT20	MCS0	1	11	2462	-9.35	-11.51		2.92	1.35	8.00	8.00	Pass

Measured power density (dBm) has offset with cable loss.

Appendix B. Radiated Spurious Emission

Test Engineer :	Ken Wu, Wei Chen and James Chiu	Temperature :	21~23°C
		Relative Humidity :	60~63%

15C 2.4GHz 2400~2483.5MHz

WIFI 802.11b (Band Edge @ 3m)

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)
802.11b CH 01 2412MHz		2358.51	60.21	-13.79	74	54.65	32.13	7.68	34.25	126	256	P	H
		2359.32	49.18	-4.82	54	43.62	32.13	7.68	34.25	126	256	A	H
	*	2413.277	105.51	-	-	99.86	32.2	7.75	34.3	126	256	P	H
	*	2412.692	101.32	-	-	95.67	32.2	7.75	34.3	126	256	A	H
													H
													H
		2386.68	61.52	-12.48	74	55.86	32.18	7.75	34.27	144	2	P	V
		2383.8	52.01	-1.99	54	46.37	32.16	7.75	34.27	144	2	A	V
	*	2413.193	111.49	-	-	105.84	32.2	7.75	34.3	144	2	P	V
	*	2412.692	107.45	-	-	101.8	32.2	7.75	34.3	144	2	A	V
													V
													V
802.11b CH 06 2437MHz		2387.04	59.99	-14.01	74	54.33	32.18	7.75	34.27	143	255	P	H
		2333.85	47.24	-6.76	54	41.77	32.09	7.6	34.22	143	255	A	H
	*	2437.074	103.95	-	-	98.23	32.24	7.83	34.35	143	255	P	H
	*	2436.239	100.04	-	-	94.34	32.22	7.83	34.35	143	255	A	H
		2487.48	59.22	-14.78	74	53.46	32.28	7.91	34.43	143	255	P	H
		2489.84	44.97	-9.03	54	39.19	32.3	7.91	34.43	143	255	A	H
		2381.28	59.53	-14.47	74	53.89	32.16	7.75	34.27	252	360	P	V
		2383.89	46.81	-7.19	54	41.17	32.16	7.75	34.27	252	360	A	V
	*	2438.159	111.65	-	-	105.93	32.24	7.83	34.35	252	360	P	V
	*	2437.742	107.57	-	-	101.85	32.24	7.83	34.35	252	360	A	V
		2490.32	60.81	-13.19	74	55.03	32.3	7.91	34.43	252	360	P	V
		2489.96	48.18	-5.82	54	42.4	32.3	7.91	34.43	252	360	A	V

802.11b CH 11 2462MHz	*	2460.872	103.04	-	-	97.26	32.26	7.91	34.39	397	121	P	H
	*	2461.289	98.93	-	-	93.15	32.26	7.91	34.39	397	121	A	H
		2491.4	58.61	-15.39	74	52.83	32.3	7.91	34.43	397	121	P	H
		2491.2	44.74	-9.26	54	38.96	32.3	7.91	34.43	397	121	A	H
													H
													H
	*	2460.955	112.2	-	-	106.42	32.26	7.91	34.39	112	349	P	V
	*	2461.289	108.18	-	-	102.4	32.26	7.91	34.39	112	349	A	V
		2491.12	60.62	-13.38	74	54.84	32.3	7.91	34.43	112	349	P	V
		2491.16	48.66	-5.34	54	42.88	32.3	7.91	34.43	112	349	A	V
													V
													V
Remark	1. No other spurious found. 2. All results are PASS against Peak and Average limit line.												

15C 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	41.41	-32.59	74	55.63	34.26	11.16	59.64	100	0	P	H
													H
													H
													H
		4824	41.5	-32.5	74	55.72	34.26	11.16	59.64	100	0	P	V
													V
													V
													V
802.11b CH 06 2437MHz		4874	42.48	-31.52	74	56.54	34.3	11.21	59.57	100	0	P	H
		7311	53.6	-20.4	74	61.39	35.6	15.08	58.47	178	297	P	H
		7311	48.67	-5.33	54	56.46	35.6	15.08	58.47	178	297	A	H
													H
		4874	41.66	-32.34	74	55.72	34.3	11.21	59.57	100	0	P	V
		7311	52.62	-21.38	74	60.41	35.6	15.08	58.47	172	282	P	V
		7311	46.37	-7.63	54	54.16	35.6	15.08	58.47	172	282	A	V
													V
802.11b CH 11 2462MHz		4924	43.62	-30.38	74	57.51	34.34	11.27	59.5	100	0	P	H
		7386	54.48	-19.52	74	62.32	35.6	15.14	58.58	183	294	P	H
		7386	48.07	-5.93	54	55.91	35.6	15.14	58.58	183	294	A	H
													H
		4924	41.97	-32.03	74	55.86	34.34	11.27	59.5	100	0	P	V
		7386	52.36	-21.64	74	60.2	35.6	15.14	58.58	180	269	P	V
		7386	44.87	-9.13	54	52.71	35.6	15.14	58.58	180	269	A	V
													V
Remark	1. No other spurious found. 2. All results are PASS against Peak and Average limit line.												

15C 2.4GHz 2400~2483.5MHz

WIFI 802.11g (Band Edge @ 3m)

WIFI Ant.	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		2389.56	65.48	-8.52	74	59.82	32.18	7.75	34.27	128	276	P	H
		2389.92	47.21	-6.79	54	41.58	32.18	7.75	34.3	128	276	A	H
	*	2412	106.84	-	-	101.19	32.2	7.75	34.3	128	276	P	H
	*	2413.11	95.88	-	-	90.23	32.2	7.75	34.3	128	276	A	H
													H
													H
		2385.78	69.93	-4.07	74	64.27	32.18	7.75	34.27	143	360	P	V
		2389.65	49.09	-4.91	54	43.43	32.18	7.75	34.27	143	360	A	V
	*	2411.606	112.66	-	-	107.01	32.2	7.75	34.3	143	360	P	V
	*	2412.942	101.77	-	-	96.12	32.2	7.75	34.3	143	360	A	V
													V
													V
802.11g CH 06 2437MHz		2388.93	59.52	-14.48	74	53.86	32.18	7.75	34.27	143	273	P	H
		2388.93	45.95	-8.05	54	40.29	32.18	7.75	34.27	143	273	A	H
	*	2437	105.89	-	-	100.17	32.24	7.83	34.35	143	273	P	H
	*	2437.909	94.92	-	-	89.2	32.24	7.83	34.35	143	273	A	H
		2493.28	58.47	-15.53	74	52.74	32.3	7.91	34.48	143	273	P	H
		2485.44	45.24	-8.76	54	39.48	32.28	7.91	34.43	143	273	A	H
		2389.02	59.53	-14.47	74	53.87	32.18	7.75	34.27	200	21	P	V
		2389.83	46.3	-7.7	54	40.67	32.18	7.75	34.3	200	21	A	V
	*	2438.076	112.79	-	-	107.07	32.24	7.83	34.35	200	21	P	V
	*	2438.159	101.94	-	-	96.22	32.24	7.83	34.35	200	21	A	V
		2487.36	61.66	-12.34	74	55.9	32.28	7.91	34.43	200	21	P	V
		2485.2	47.5	-6.5	54	41.74	32.28	7.91	34.43	200	21	A	V

802.11g CH 11 2462MHz	*	2464.796	104.63	-	-	98.85	32.26	7.91	34.39	396	123	P	H
	*	2460.12	93.68	-	-	87.9	32.26	7.91	34.39	396	123	A	H
		2483.96	62.59	-11.41	74	56.83	32.28	7.91	34.43	396	123	P	H
		2483.92	45.81	-8.19	54	40.05	32.28	7.91	34.43	396	123	A	H
													H
													H
	*	2462	112.55	-	-	106.77	32.26	7.91	34.39	179	338	P	V
	*	2462	101.97	-	-	96.19	32.26	7.91	34.39	179	338	A	V
		2483.96	68.62	-5.38	74	62.86	32.28	7.91	34.43	179	338	P	V
		2484.36	48.21	-5.79	54	42.45	32.28	7.91	34.43	179	338	A	V
													V
													V
Remark	1. No other spurious found. 2. All results are PASS against Peak and Average limit line.												

15C 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	41.32	-32.68	74	55.54	34.26	11.16	59.64	100	0	P	H
													H
													H
													H
		4824	41.21	-32.79	74	55.43	34.26	11.16	59.64	100	0	P	V
													V
													V
													V
802.11g CH 06 2437MHz		4872	41.61	-32.39	74	55.67	34.3	11.21	59.57	100	0	P	H
		7311	57.52	-16.48	74	65.31	35.6	15.08	58.47	176	302	P	H
		7311	44.86	-9.14	54	52.65	35.6	15.08	58.47	176	302	A	H
													H
		4874	41.46	-32.54	74	55.52	34.3	11.21	59.57	100	0	P	V
		7311	51.73	-22.27	74	59.52	35.6	15.08	58.47	100	116	P	V
		7311	39.09	-14.91	54	46.88	35.6	15.08	58.47	100	116	A	V
													V
802.11g CH 11 2462MHz		4926	43.1	-30.9	74	56.99	34.34	11.27	59.5	100	0	P	H
		7386	51.65	-22.35	74	59.49	35.6	15.14	58.58	170	309	P	H
		7386	40.31	-13.69	54	48.15	35.6	15.14	58.58	170	309	A	H
													H
		4924	41.64	-32.36	74	55.53	34.34	11.27	59.5	100	0	P	V
		7386	51.99	-22.01	74	59.83	35.6	15.14	58.58	100	262	P	V
		7386	40.05	-13.95	54	47.89	35.6	15.14	58.58	100	262	A	V
													V
Remark	1. No other spurious found. 2. All results are PASS against Peak and Average limit line.												

15C 2.4GHz 2400~2483.5MHz

WIFI 802.11n HT20 (Band Edge @ 3m)

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)
802.11n HT20 CH 01 2412MHz		2388.12	66.29	-7.71	74	60.63	32.18	7.75	34.27	125	261	P	H
		2390	46.88	-7.12	54	41.25	32.18	7.75	34.3	125	261	A	H
	*	2412	105.48	-	-	99.83	32.2	7.75	34.3	125	261	P	H
	*	2412	94.85	-	-	89.2	32.2	7.75	34.3	125	261	A	H
													H
													H
		2389.47	72.56	-1.44	74	66.9	32.18	7.75	34.27	143	0	P	V
		2390	50.32	-3.68	54	44.69	32.18	7.75	34.3	143	0	A	V
	*	2412	112.56	-	-	106.91	32.2	7.75	34.3	143	0	P	V
	*	2412	101.44	-	-	95.79	32.2	7.75	34.3	143	0	A	V
													V
													V
802.11n HT20 CH 06 2437MHz		2329.89	59.16	-14.84	74	53.69	32.09	7.6	34.22	142	258	P	H
		2334.57	46.35	-7.65	54	40.86	32.11	7.6	34.22	142	258	A	H
	*	2437	106.05	-	-	100.33	32.24	7.83	34.35	142	258	P	H
	*	2437	95.22	-	-	89.5	32.24	7.83	34.35	142	258	A	H
		2491.8	59.02	-14.98	74	53.29	32.3	7.91	34.48	142	258	P	H
		2485.36	45.78	-8.22	54	40.02	32.28	7.91	34.43	142	258	A	H
		2386.5	60.14	-13.86	74	54.48	32.18	7.75	34.27	249	4	P	V
		2389.74	46.66	-7.34	54	41	32.18	7.75	34.27	249	4	A	V
	*	2437	114.01	-	-	108.29	32.24	7.83	34.35	249	4	P	V
	*	2437	102.64	-	-	96.92	32.24	7.83	34.35	249	4	A	V
		2489.2	60.82	-13.18	74	55.04	32.3	7.91	34.43	249	4	P	V
		2485.52	47.57	-6.43	54	41.81	32.28	7.91	34.43	249	4	A	V

802.11n HT20 CH 11 2462MHz	*	2462	103.82	-	-	98.04	32.26	7.91	34.39	397	134	P	H
	*	2462	93.25	-	-	87.47	32.26	7.91	34.39	397	134	A	H
		2484.76	62.07	-11.93	74	56.31	32.28	7.91	34.43	397	134	P	H
		2490	45.89	-8.11	54	40.11	32.3	7.91	34.43	397	134	A	H
													H
													H
	*	2462	113.14	-	-	107.36	32.26	7.91	34.39	179	349	P	V
	*	2462	102.08	-	-	96.3	32.26	7.91	34.39	179	349	A	V
		2484.8	72.45	-1.55	74	66.69	32.28	7.91	34.43	179	349	P	V
		2483.6	48.43	-5.57	54	42.67	32.28	7.91	34.43	179	349	A	V
													V
													V
Remark	1. No other spurious found. 2. All results are PASS against Peak and Average limit line.												

15C 2.4GHz 2400~2483.5MHz

WIFI 802.11n HT20 (Harmonic @ 3m)

WIFI Ant.	Note	Frequency (MHz)	Level (dBμV/m)	Over Limit (dB)	Limit Line (dBμV/m)	Read Level (dBμV)	Antenna Factor (dB/m)	Cable Loss (dB)	Preamp Factor (dB)	Ant Pos (cm)	Table Pos (deg)	Peak Avg. (P/A)	Pol. (H/V)
802.11n HT20 CH 01 2412MHz		4824	40.74	-33.26	74	54.96	34.26	11.16	59.64	100	0	P	H
													H
													H
													H
		4824	40.91	-33.09	74	55.13	34.26	11.16	59.64	100	0	P	V
													V
													V
													V
802.11n HT20 CH 06 2437MHz		4872	41.21	-32.79	74	55.27	34.3	11.21	59.57	100	0	P	H
		7311	52.36	-21.64	74	60.15	35.6	15.08	58.47	171	320	P	H
		7311	40.36	-13.64	54	48.15	35.6	15.08	58.47	171	320	A	H
													H
		4874	41.46	-32.54	74	55.52	34.3	11.21	59.57	100	0	P	V
		7308	49.97	-24.03	74	57.76	35.6	15.08	58.47	100	0	P	V
													V
													V
802.11n HT20 CH 11 2462MHz		4926	41.63	-32.37	74	55.52	34.34	11.27	59.5	100	0	P	H
		7386	49.99	-24.01	74	57.83	35.6	15.14	58.58	100	0	P	H
													H
													H
		4924	41.1	-32.9	74	54.99	34.34	11.27	59.5	100	0	P	V
		7386	49.55	-24.45	74	57.39	35.6	15.14	58.58	100	0	P	V
													V
													V
Remark	1. No other spurious found. 2. All results are PASS against Peak and Average limit line.												

15C Emission below 1GHz

2.4GHz WIFI 802.11n HT20 (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 802.11n HT20 LF		105.06	30.45	-13.05	43.5	48.72	10.5	2.38	31.15	-	-	P	H
		173.1	34.21	-9.29	43.5	53.26	9.38	2.61	31.04	-	-	P	H
		273.81	39.66	-6.34	46	54.6	12.86	3.16	30.96	100	0	P	H
		301.4	38.05	-7.95	46	52.55	13.22	3.28	31	-	-	P	H
		624.1	36.82	-9.18	46	42.88	20.27	4.22	30.55	-	-	P	H
		768.3	38.65	-7.35	46	42.43	22.1	4.48	30.36	-	-	P	H
													H
													H
													H
													H
													H
													H
		106.95	31.44	-12.06	43.5	49.61	10.62	2.38	31.17	-	-	P	V
		221.43	29.13	-16.87	46	47.79	9.38	2.96	31	-	-	P	V
		297.84	37.62	-8.38	46	52.3	13.18	3.16	31.02	-	-	P	V
		305.6	38.64	-7.36	46	53.11	13.25	3.28	31	100	0	P	V
		624.1	34.12	-11.88	46	40.18	20.27	4.22	30.55	-	-	P	V
		720	36.82	-9.18	46	41.41	21.4	4.41	30.4	-	-	P	V
													V
													V
													V
													V
													V
													V
Remark	1. No other spurious found. 2. All results are PASS against limit line.												

15C 2.4GHz 2400~2483.5MHz

WIFI 802.11b (Band Edge @ 3m)

WIFI Ant. 2	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		2383.44	63.42	-10.58	74	57.78	32.16	7.75	34.27	100	282	P	H
		2386.41	53.46	-0.54	54	47.8	32.18	7.75	34.27	100	282	A	H
	*	2412	115.37	-	-	109.72	32.2	7.75	34.3	100	282	P	H
	*	2412	111.26	-	-	105.61	32.2	7.75	34.3	100	282	A	H
													H
													H
		2386.68	59.36	-14.64	74	53.7	32.18	7.75	34.27	373	91	P	V
		2382.9	47.61	-6.39	54	41.97	32.16	7.75	34.27	373	91	A	V
	*	2412	107.66	-	-	102.01	32.2	7.75	34.3	373	91	P	V
	*	2412	103.63	-	-	97.98	32.2	7.75	34.3	373	91	A	V
													V
													V
802.11b CH 06 2437MHz		2385.78	61.06	-12.94	74	55.4	32.18	7.75	34.27	102	274	P	H
		2383.71	50.28	-3.72	54	44.64	32.16	7.75	34.27	102	274	A	H
	*	2437	115.84	-	-	110.12	32.24	7.83	34.35	102	274	P	H
	*	2437	111.73	-	-	106.01	32.24	7.83	34.35	102	274	A	H
		2489.12	61.39	-12.61	74	55.61	32.3	7.91	34.43	102	274	P	H
		2486.4	49.09	-4.91	54	43.33	32.28	7.91	34.43	102	274	A	H
		2318.19	59.06	-14.94	74	53.59	32.09	7.6	34.22	357	88	P	V
		2333.76	45.41	-8.59	54	39.94	32.09	7.6	34.22	357	88	A	V
	*	2437	108.14	-	-	102.42	32.24	7.83	34.35	357	88	P	V
	*	2437	104.12	-	-	98.4	32.24	7.83	34.35	357	88	A	V
		2494.88	59.63	-14.37	74	53.9	32.3	7.91	34.48	357	88	P	V
		2485.84	45.71	-8.29	54	39.95	32.28	7.91	34.43	357	88	A	V

802.11b CH 11 2462MHz	*	2462	113.73	-	-	107.95	32.26	7.91	34.39	163	274	P	H
	*	2462	109.56	-	-	103.78	32.26	7.91	34.39	163	274	A	H
		2486.2	61.75	-12.25	74	55.99	32.28	7.91	34.43	163	274	P	H
		2487.16	49.49	-4.51	54	43.73	32.28	7.91	34.43	163	274	A	H
													H
													H
	*	2462	106.26	-	-	100.48	32.26	7.91	34.39	315	95	P	V
	*	2462	102.1	-	-	96.32	32.26	7.91	34.39	315	95	A	V
		2487	59.89	-14.11	74	54.13	32.28	7.91	34.43	315	95	P	V
		2486.72	46.43	-7.57	54	40.67	32.28	7.91	34.43	315	95	A	V
													V
													V
802.11b CH 01 2412MHz + Base		2372.46	58.7	-15.3	74	53.13	32.16	7.68	34.27	100	297	P	H
		2387.49	45.94	-8.06	54	40.28	32.18	7.75	34.27	100	297	A	H
	*	2413.193	107.85	-	-	102.2	32.2	7.75	34.3	100	297	P	H
	*	2412.692	103.87	-	-	98.22	32.2	7.75	34.3	100	297	A	H
													H
													H
		2380.02	59.22	-14.78	74	53.58	32.16	7.75	34.27	311	91	P	V
		2387.58	45.75	-8.25	54	40.09	32.18	7.75	34.27	311	91	A	V
	*	2413.277	106.07	-	-	100.42	32.2	7.75	34.3	311	91	P	V
	*	2412.775	101.99	-	-	96.34	32.2	7.75	34.3	311	91	A	V
													V
													V
Remark	1. No other spurious found. 2. All results are PASS against Peak and Average limit line.												

15C 2.4GHz 2400~2483.5MHz

WIFI 802.11b (Harmonic @ 3m)

WIFI Ant. 2	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	43.04	-30.96	74	57.26	34.26	11.16	59.64	100	0	P	H
													H
													H
													H
		4824	42.63	-31.37	74	56.85	34.26	11.16	59.64	100	0	P	V
													V
													V
													V
802.11b CH 06 2437MHz		4872	44.92	-29.08	74	58.98	34.3	11.21	59.57	100	0	P	H
		7311	56.16	-17.84	74	63.95	35.6	15.08	58.47	170	310	P	H
		7311	50.44	-3.56	54	58.23	35.6	15.08	58.47	170	310	A	H
													H
		4872	43.32	-30.68	74	57.38	34.3	11.21	59.57	100	0	P	V
		7311	53.87	-20.13	74	61.66	35.6	15.08	58.47	102	263	P	V
		7311	45.2	-8.8	54	52.99	35.6	15.08	58.47	102	263	A	V
													V
802.11b CH 11 2462MHz		4926	44.68	-29.32	74	58.57	34.34	11.27	59.5	100	0	P	H
		7386	54.41	-19.59	74	62.25	35.6	15.14	58.58	169	314	P	H
		7386	48.02	-5.98	54	55.86	35.6	15.14	58.58	169	314	A	H
													H
		4926	43.94	-30.06	74	57.83	34.34	11.27	59.5	100	0	P	V
		7386	52.43	-21.57	74	60.27	35.6	15.14	58.58	180	270	P	V
		7386	45.73	-8.27	54	53.57	35.6	15.14	58.58	180	270	A	V
													V

802.11b CH 01 2412MHz + Base		4824	42.59	-31.41	74	56.81	34.26	11.16	59.64	100	0	P	H
													H
													H
													H
		4824	43.07	-30.93	74	57.29	34.26	11.16	59.64	100	0	P	V
													V
													V
													V
Remark	1. No other spurious found. 2. All results are PASS against Peak and Average limit line.												

15C 2.4GHz 2400~2483.5MHz

WIFI 802.11g (Band Edge @ 3m)

WIFI Ant. 2	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		2390	70.17	-3.83	74	64.54	32.18	7.75	34.3	126	281	P	H
		2390	51.96	-2.04	54	46.33	32.18	7.75	34.3	126	281	A	H
	*	2412	115.18	-	-	109.53	32.2	7.75	34.3	126	281	P	H
	*	2412	104.4	-	-	98.75	32.2	7.75	34.3	126	281	A	H
													H
													H
		2389.65	59.53	-14.47	74	53.87	32.18	7.75	34.27	367	110	P	V
		2389.83	45.96	-8.04	54	40.33	32.18	7.75	34.3	367	110	A	V
	*	2412	107.07	-	-	101.42	32.2	7.75	34.3	367	110	P	V
	*	2412	96.09	-	-	90.44	32.2	7.75	34.3	367	110	A	V
													V
													V
802.11g CH 06 2437MHz		2381	61.88	-12.12	74	56.24	32.16	7.75	34.27	101	277	P	H
		2384.07	47.71	-6.29	54	42.07	32.16	7.75	34.27	101	277	A	H
	*	2437	116.51	-	-	110.79	32.24	7.83	34.35	101	277	P	H
	*	2437	105.52	-	-	99.8	32.24	7.83	34.35	101	277	A	H
		2484.04	60.87	-13.13	74	55.11	32.28	7.91	34.43	101	277	P	H
		2484.44	47.54	-6.46	54	41.78	32.28	7.91	34.43	101	277	A	H
		2384.97	58.59	-15.41	74	52.95	32.16	7.75	34.27	313	94	P	V
		2388.66	45.34	-8.66	54	39.68	32.18	7.75	34.27	313	94	A	V
	*	2437	110.39	-	-	104.67	32.24	7.83	34.35	313	94	P	V
	*	2437	99.03	-	-	93.31	32.24	7.83	34.35	313	94	A	V
		2489.68	59.94	-14.06	74	54.16	32.3	7.91	34.43	313	94	P	V
		2484.4	46.17	-7.83	54	40.41	32.28	7.91	34.43	313	94	A	V

802.11g CH 11 2462MHz	*	2462	115.02	-	-	109.24	32.26	7.91	34.39	164	274	P	H
	*	2462	103.82	-	-	98.04	32.26	7.91	34.39	164	274	A	H
		2483.64	72.46	-1.54	74	66.7	32.28	7.91	34.43	164	274	P	H
		2483.84	50.73	-3.27	54	44.97	32.28	7.91	34.43	164	274	A	H
													H
													H
	*	2462	107.17	-	-	101.39	32.26	7.91	34.39	322	93	P	V
	*	2462	96.37	-	-	90.59	32.26	7.91	34.39	322	93	A	V
		2483.76	62.99	-11.01	74	57.23	32.28	7.91	34.43	322	93	P	V
		2483.88	46.19	-7.81	54	40.43	32.28	7.91	34.43	322	93	A	V
													V
													V
Remark	1. No other spurious found. 2. All results are PASS against Peak and Average limit line.												

15C 2.4GHz 2400~2483.5MHz

WIFI 802.11g (Harmonic @ 3m)

WIFI Ant. 2	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	41.61	-32.39	74	55.83	34.26	11.16	59.64	100	0	P	H
													H
													H
													H
		4824	41.11	-32.89	74	55.33	34.26	11.16	59.64	100	0	P	V
													V
													V
													V
802.11g CH 06 2437MHz		4872	42.13	-31.87	74	56.19	34.3	11.21	59.57	100	0	P	H
		7311	56.35	-17.65	74	64.14	35.6	15.08	58.47	165	323	P	H
		7311	45.2	-8.8	54	52.99	35.6	15.08	58.47	165	323	A	H
													H
		4872	42.39	-31.61	74	56.45	34.3	11.21	59.57	100	0	P	V
		7308	53.03	-20.97	74	60.82	35.6	15.08	58.47	254	270	P	V
		7308	40.92	-13.08	54	48.71	35.6	15.08	58.47	254	270	A	V
													V
802.11g CH 11 2462MHz		4926	41.95	-32.05	74	55.84	34.34	11.27	59.5	100	0	P	H
		7380	54.18	-19.82	74	62.03	35.6	15.11	58.56	100	314	P	H
		7380	42.61	-11.39	54	50.46	35.6	15.11	58.56	100	314	A	H
													H
		4926	42.44	-31.56	74	56.33	34.34	11.27	59.5	100	0	P	V
		7374	52.53	-21.47	74	60.38	35.6	15.11	58.56	180	284	P	V
		7374	40.45	-13.55	54	48.3	35.6	15.11	58.56	180	284	A	V
													V
Remark	1. No other spurious found. 2. All results are PASS against Peak and Average limit line.												

15C 2.4GHz 2400~2483.5MHz

WIFI 802.11n HT20 (Band Edge @ 3m)

WIFI Ant. 2	Note	Frequency (MHz)	Level (dBμV/m)	Over Limit (dB)	Limit Line (dBμV/m)	Read Level (dBμV)	Antenna Factor (dB/m)	Cable Loss (dB)	Preamp Factor (dB)	Ant Pos (cm)	Table Pos (deg)	Peak Avg. (P/A)	Pol. (H/V)
802.11n HT20 CH 01 2412MHz		2390	72.77	-1.23	74	67.14	32.18	7.75	34.3	100	277	P	H
		2389.92	52.54	-1.46	54	46.91	32.18	7.75	34.3	100	277	A	H
	*	2412	114.25	-	-	108.6	32.2	7.75	34.3	100	277	P	H
	*	2412	103.83	-	-	98.18	32.2	7.75	34.3	100	277	A	H
													H
													H
		2389.2	61.31	-12.69	74	55.65	32.18	7.75	34.27	367	108	P	V
		2389.74	46.56	-7.44	54	40.9	32.18	7.75	34.27	367	108	A	V
	*	2412	106.54	-	-	100.89	32.2	7.75	34.3	367	108	P	V
	*	2412	95.94	-	-	90.29	32.2	7.75	34.3	367	108	A	V
													V
													V
802.11n HT20 CH 06 2437MHz		2389.11	60.58	-13.42	74	54.92	32.18	7.75	34.27	102	277	P	H
		2387.58	48.18	-5.82	54	42.52	32.18	7.75	34.27	102	277	A	H
	*	2437	116.25	-	-	110.53	32.24	7.83	34.35	102	277	P	H
	*	2437	106	-	-	100.28	32.24	7.83	34.35	102	277	A	H
		2487.4	62.12	-11.88	74	56.36	32.28	7.91	34.43	102	277	P	H
		2483.64	48.19	-5.81	54	42.43	32.28	7.91	34.43	102	277	A	H
		2371.38	58.94	-15.06	74	53.37	32.16	7.68	34.27	357	92	P	V
		2329.98	45.48	-8.52	54	40.01	32.09	7.6	34.22	357	92	A	V
	*	2437	109.48	-	-	103.76	32.24	7.83	34.35	357	92	P	V
	*	2437	98.28	-	-	92.56	32.24	7.83	34.35	357	92	A	V
		2489.04	59.71	-14.29	74	53.93	32.3	7.91	34.43	357	92	P	V
		2484.72	46.06	-7.94	54	40.3	32.28	7.91	34.43	357	92	A	V

	*	2462	114.14	-	-	108.36	32.26	7.91	34.39	164	276	P	H
	*	2462	102.81	-	-	97.03	32.26	7.91	34.39	164	276	A	H
		2485.28	70.17	-3.83	74	64.41	32.28	7.91	34.43	164	276	P	H
		2483.52	49.56	-4.44	54	43.8	32.28	7.91	34.43	164	276	A	H
802.11n													H
HT20													H
CH 11	*	2462	106.57	-	-	100.79	32.26	7.91	34.39	344	110	P	V
2462MHz	*	2462	95.89	-	-	90.11	32.26	7.91	34.39	344	110	A	V
		2483.96	67.64	-6.36	74	61.88	32.28	7.91	34.43	344	110	P	V
		2483.92	46.8	-7.2	54	41.04	32.28	7.91	34.43	344	110	A	V
													V
													V
Remark	1. No other spurious found. 2. All results are PASS against Peak and Average limit line.												

15C 2.4GHz 2400~2483.5MHz

WIFI 802.11n HT20 (Harmonic @ 3m)

WIFI Ant. 2	Note	Frequency (MHz)	Level (dBμV/m)	Over Limit (dB)	Limit Line (dBμV/m)	Read Level (dBμV)	Antenna Factor (dB/m)	Cable Loss (dB)	Preamp Factor (dB)	Ant Pos (cm)	Table Pos (deg)	Peak Avg. (P/A)	Pol. (H/V)
802.11n HT20 CH 01 2412MHz		4824	40.98	-33.02	74	55.2	34.26	11.16	59.64	100	0	P	H
													H
													H
													H
		4824	40.82	-33.18	74	55.04	34.26	11.16	59.64	100	0	P	V
													V
													V
													V
802.11n HT20 CH 06 2437MHz		4872	41.85	-32.15	74	55.91	34.3	11.21	59.57	100	0	P	H
		7308	52.09	-21.91	74	59.88	35.6	15.08	58.47	100	224	P	H
		7308	39.32	-14.68	54	47.11	35.6	15.08	58.47	100	224	A	H
													H
		4872	42.79	-31.21	74	56.85	34.3	11.21	59.57	100	0	P	V
		7308	52.14	-21.86	74	59.93	35.6	15.08	58.47	100	277	P	V
		7308	40.63	-13.37	54	48.42	35.6	15.08	58.47	100	277	A	V
													V
802.11n HT20 CH 11 2462MHz		4926	41.09	-32.91	74	54.98	34.34	11.27	59.5	100	0	P	H
		7386	48.8	-25.2	74	56.64	35.6	15.14	58.58	100	0	P	H
													H
													H
		4924	41.55	-32.45	74	55.44	34.34	11.27	59.5	100	0	P	V
		7392	49.57	-24.43	74	57.41	35.6	15.14	58.58	100	0	P	V
													V
													V
Remark	1. No other spurious found. 2. All results are PASS against Peak and Average limit line.												

15C Emission below 1GHz

2.4GHz WIFI 802.11b (LF)

WIFI Ant. 2	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)
2.4GHz 802.11b LF		106.95	30.08	-13.42	43.5	48.25	10.62	2.38	31.17	-	-	P	H
		169.05	33.72	-9.78	43.5	52.5	9.72	2.61	31.11	-	-	P	H
		281.91	39.38	-6.62	46	54.28	12.86	3.16	30.92	100	0	P	H
		301.4	38.64	-7.36	46	53.14	13.22	3.28	31	-	-	P	H
		624.1	36.75	-9.25	46	42.81	20.27	4.22	30.55	-	-	P	H
		768.3	38.53	-7.47	46	42.31	22.1	4.48	30.36	-	-	P	H
													H
													H
													H
													H
													H
													H
		105.6	31.69	-11.81	43.5	49.91	10.56	2.38	31.16	-	-	P	V
		233.58	31.43	-14.57	46	48.89	10.58	2.96	31	-	-	P	V
		297.84	36.93	-9.07	46	51.61	13.18	3.16	31.02	-	-	P	V
		305.6	37.28	-8.72	46	51.75	13.25	3.28	31	100	0	P	V
		624.1	33.79	-12.21	46	39.85	20.27	4.22	30.55	-	-	P	V
		720	37.08	-8.92	46	41.67	21.4	4.41	30.4	-	-	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 per 15.209(c).
!	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 Ant. 1+2	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		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)

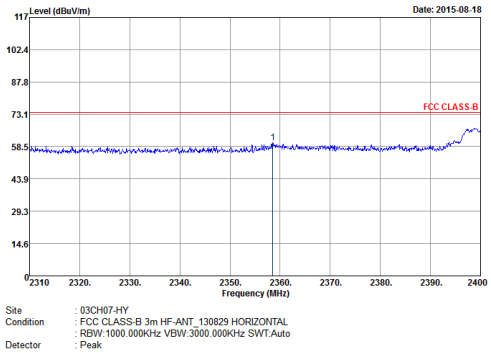
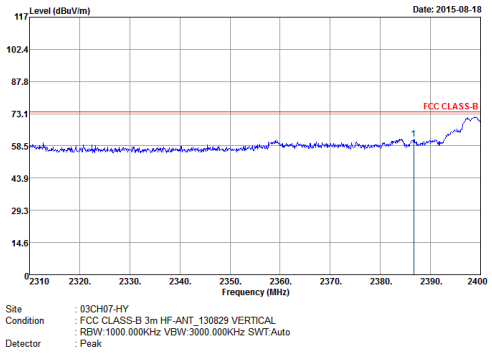
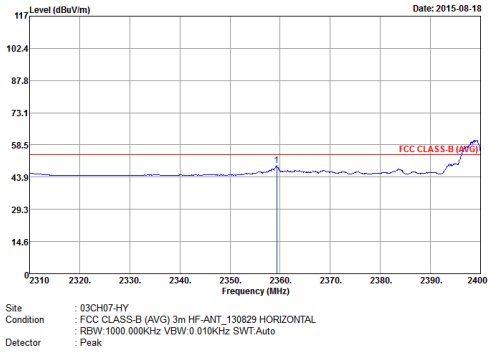
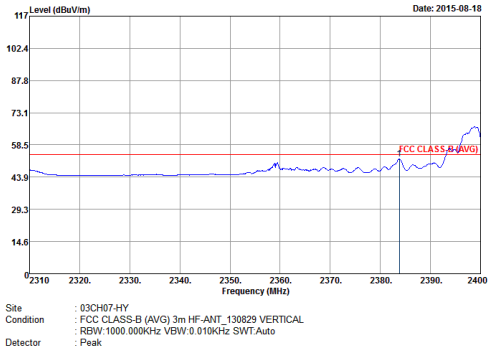
= -10.46(dB)

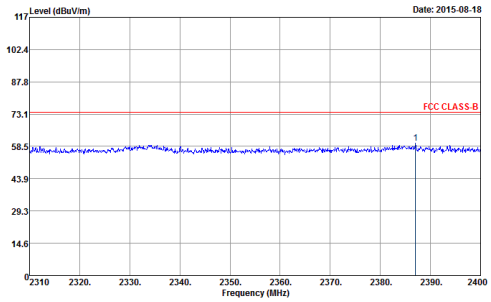
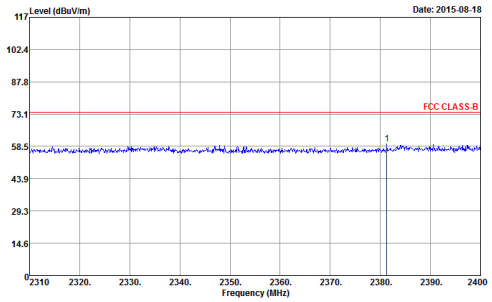
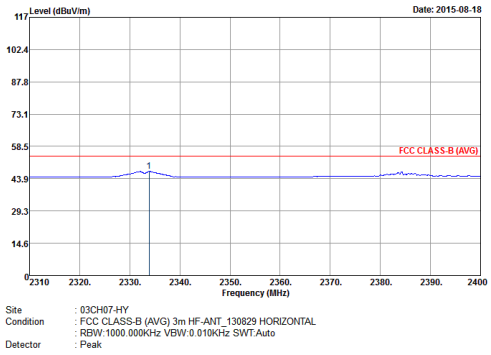
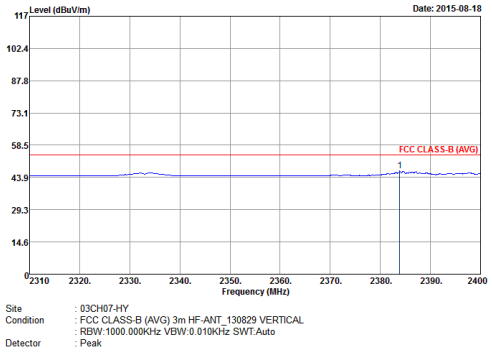
Both peak and average measured complies with the limit line, so test result is “PASS”.

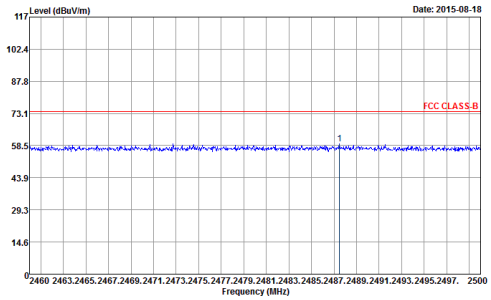
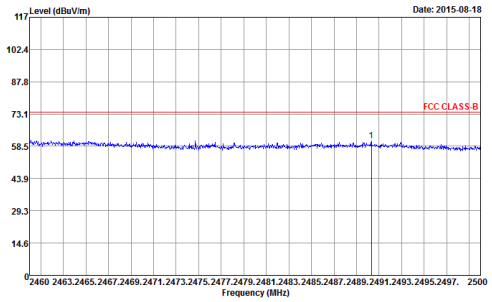
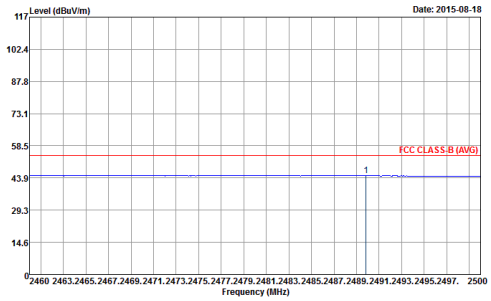
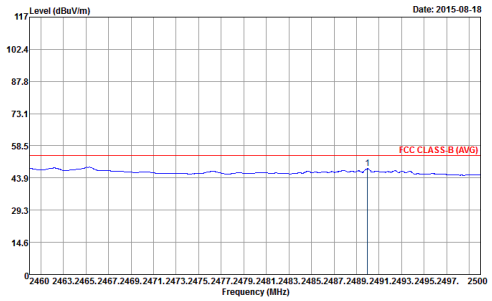
Appendix C. Radiated Spurious Emission Plots

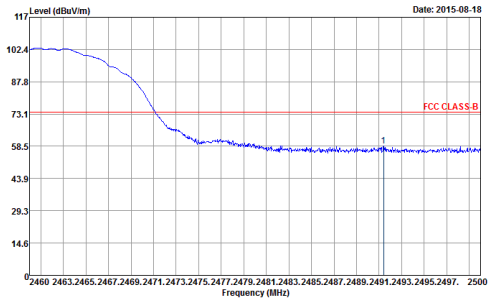
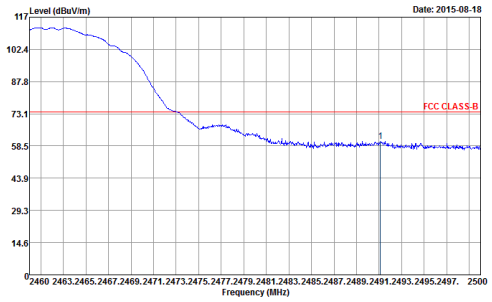
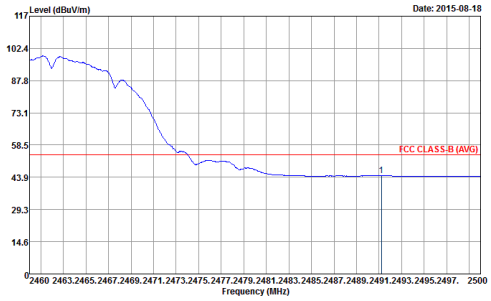
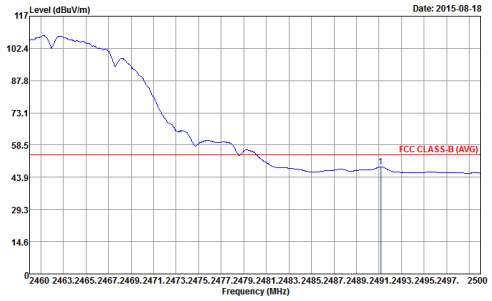
2.4GHz 2400~2483.5MHz

WIFI 802.11b (Band Edge @ 3m)

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

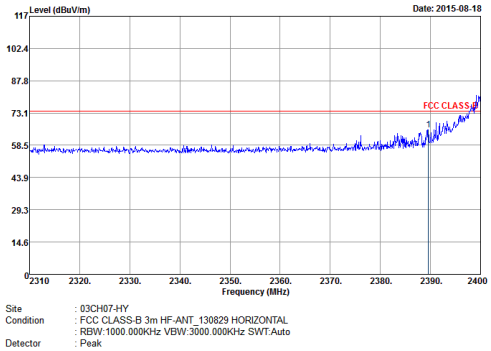
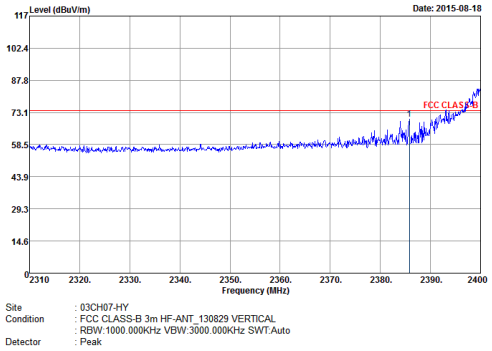
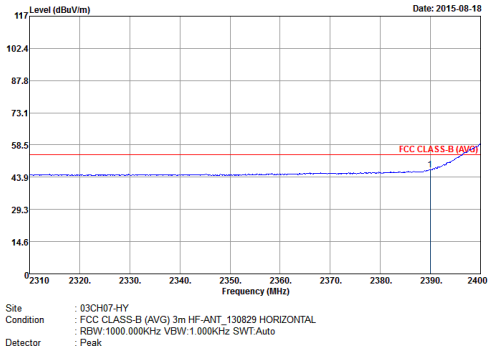
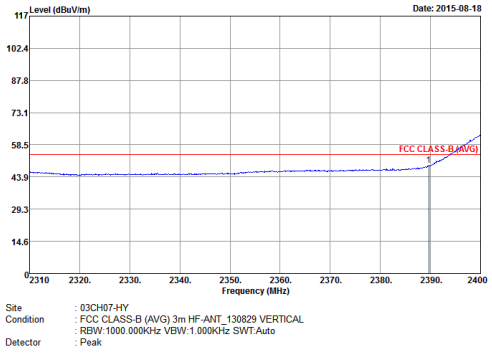
WIFI	2.4GHz 2400~2483.5MHz Band Edge @ 3m	
ANT	802.11b CH06 2437MHz – Low channel location	
1	Horizontal	Vertical
Peak		
Avg.		

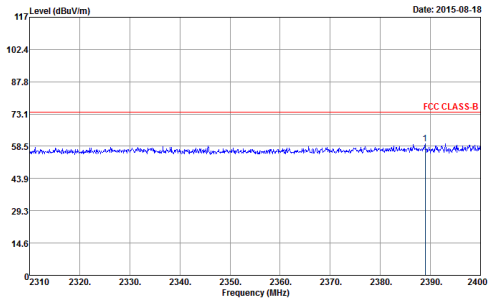
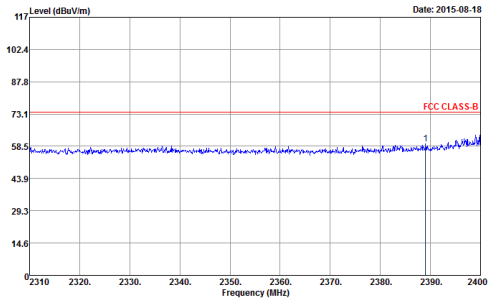
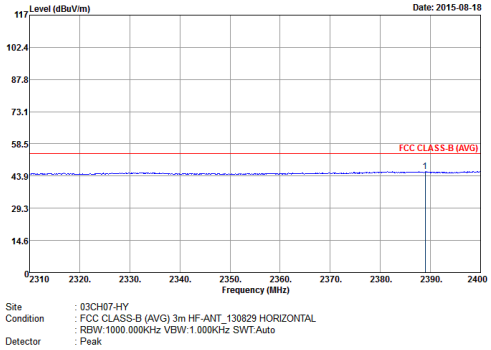
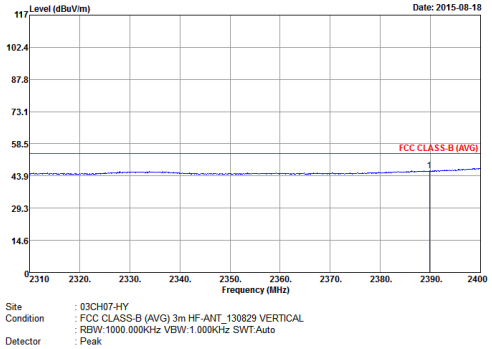
WIFI	2.4GHz 2400~2483.5MHz Band Edge @ 3m	
ANT	802.11b CH06 2437MHz - High channel location	
1	Horizontal	Vertical
Peak	 Site : 03CH07-HY Condition : FCC CLASS-B 3m HF-ANT_130829 HORIZONTAL : RBW:1000.000KHz VBW:3000.000KHz SWT:Auto Detector : Peak	 Site : 03CH07-HY Condition : FCC CLASS-B 3m HF-ANT_130829 VERTICAL : RBW:1000.000KHz VBW:3000.000KHz SWT:Auto Detector : Peak
Avg.	 Site : 03CH07-HY Condition : FCC CLASS-B (AVG) 3m HF-ANT_130829 HORIZONTAL : RBW:1000.000KHz VBW:0.010KHz SWT:Auto Detector : Peak	 Site : 03CH07-HY Condition : FCC CLASS-B (AVG) 3m HF-ANT_130829 VERTICAL : RBW:1000.000KHz VBW:0.010KHz SWT:Auto Detector : Peak

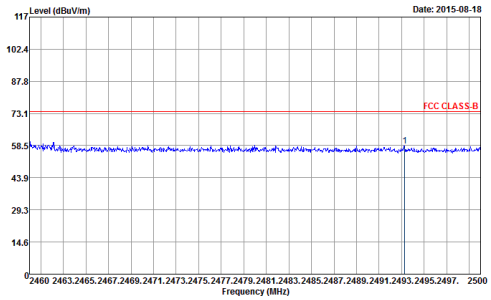
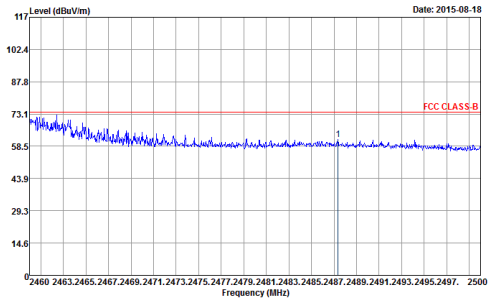
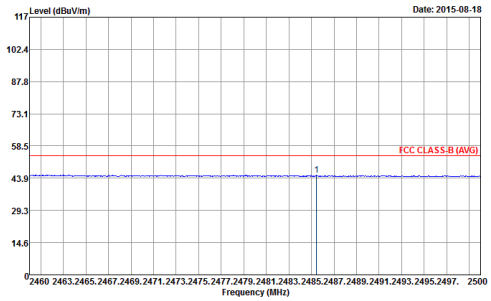
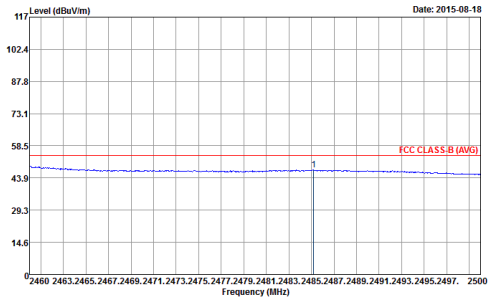
WIFI	2.4GHz 2400~2483.5MHz Band Edge @ 3m	
ANT	802.11b CH11 2462MHz	
1	Horizontal	Vertical
Peak	 Site : 03CH07-HY Condition : FCC CLASS-B 3m HF-ANT_130829 HORIZONTAL : RBW:1000.000KHz VBW:3000.000KHz SWT:Auto Detector : Peak	 Site : 03CH07-HY Condition : FCC CLASS-B 3m HF-ANT_130829 VERTICAL : RBW:1000.000KHz VBW:3000.000KHz SWT:Auto Detector : Peak
Avg.	 Site : 03CH07-HY Condition : FCC CLASS-B (AVG) 3m HF-ANT_130829 HORIZONTAL : RBW:1000.000KHz VBW:0.010KHz SWT:Auto Detector : Peak	 Site : 03CH07-HY Condition : FCC CLASS-B (AVG) 3m HF-ANT_130829 VERTICAL : RBW:1000.000KHz VBW:0.010KHz SWT:Auto Detector : Peak

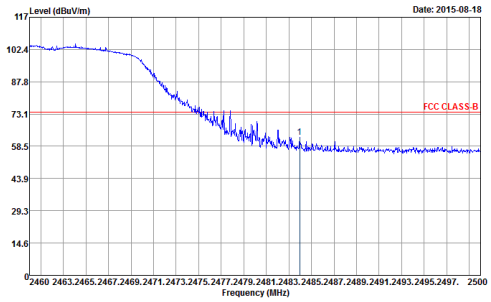
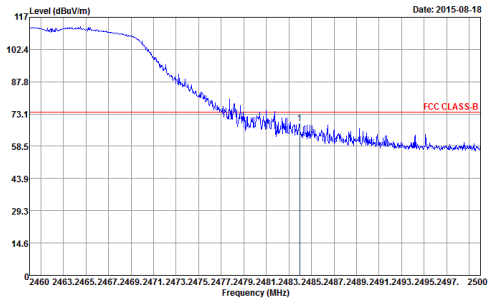
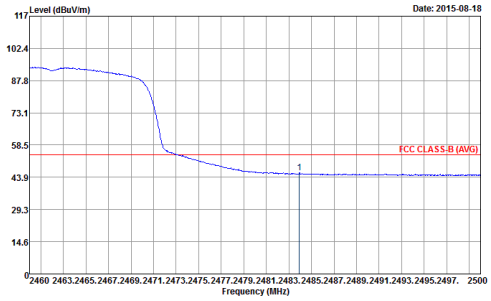
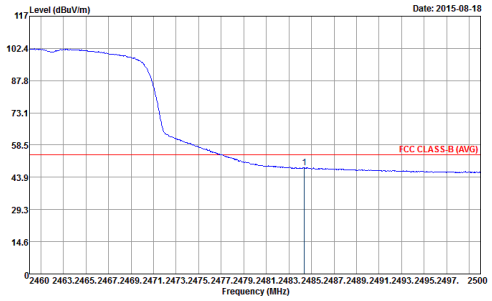
2.4GHz 2400~2483.5MHz

WIFI 802.11g (Band Edge @ 3m)

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

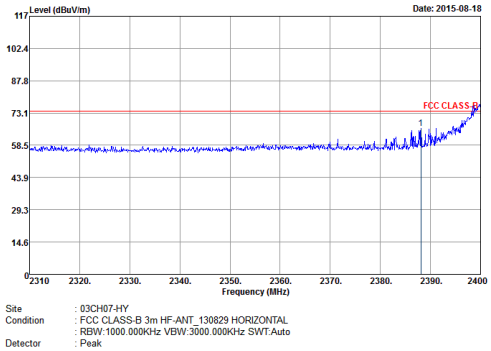
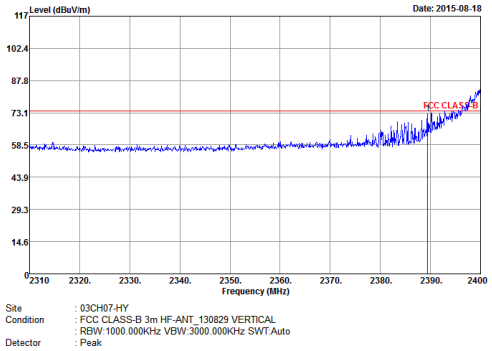
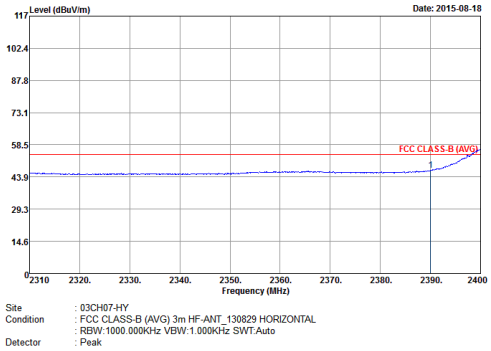
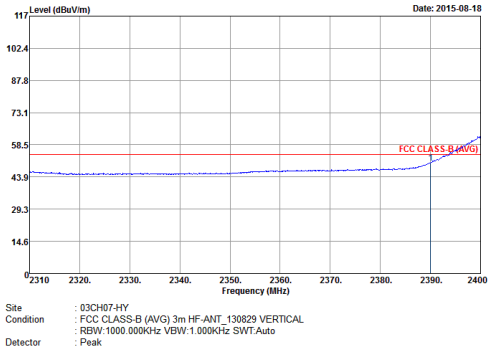
WIFI	2.4GHz 2400~2483.5MHz Band Edge @ 3m	
ANT	802.11g CH06 2437MHz - Low channel location	
1	Horizontal	Vertical
Peak		
Avg.		

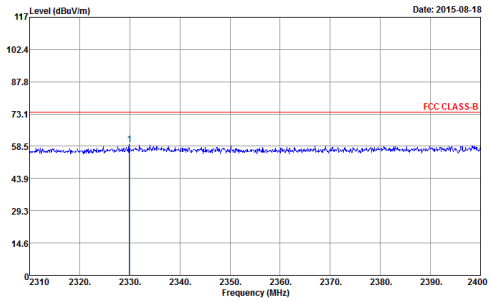
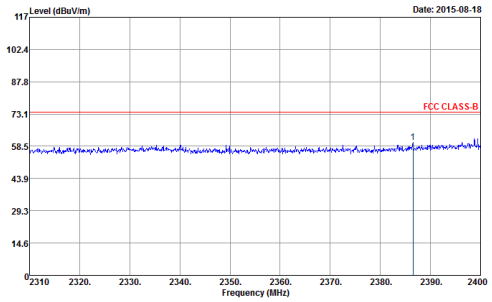
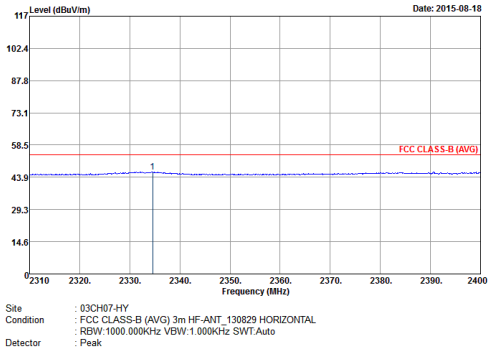
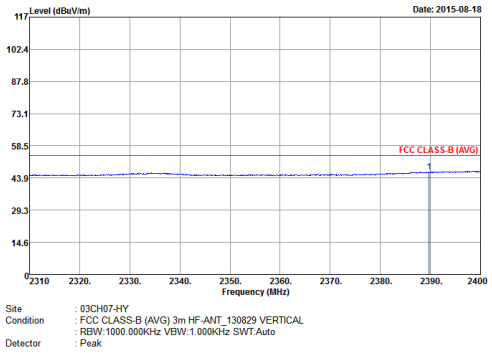
WIFI	2.4GHz 2400~2483.5MHz Band Edge @ 3m	
ANT	802.11g CH06 2437MHz - High channel location	
1	Horizontal	Vertical
Peak	 Site : 03CH07-HY Condition : FCC CLASS-B 3m HF-ANT_130829 HORIZONTAL : RBW:1000.000KHz VBW:3000.000KHz SWT:Auto Detector : Peak	 Site : 03CH07-HY Condition : FCC CLASS-B 3m HF-ANT_130829 VERTICAL : RBW:1000.000KHz VBW:3000.000KHz SWT:Auto Detector : Peak
Avg.	 Site : 03CH07-HY Condition : FCC CLASS-B (AVG) 3m HF-ANT_130829 HORIZONTAL : RBW:1000.000KHz VBW:1.000KHz SWT:Auto Detector : Peak	 Site : 03CH07-HY Condition : FCC CLASS-B (AVG) 3m HF-ANT_130829 VERTICAL : RBW:1000.000KHz VBW:1.000KHz SWT:Auto Detector : Peak

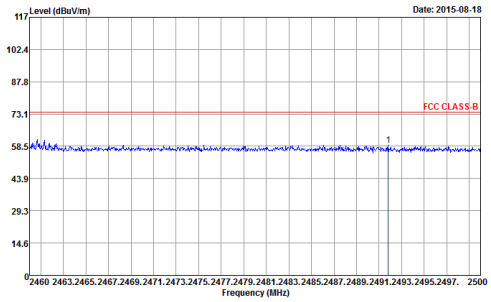
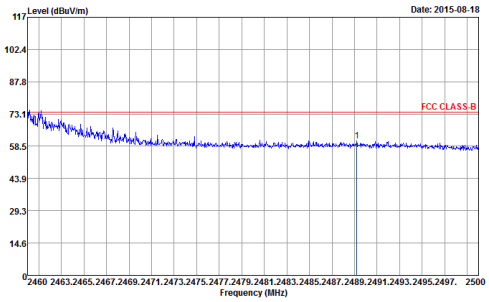
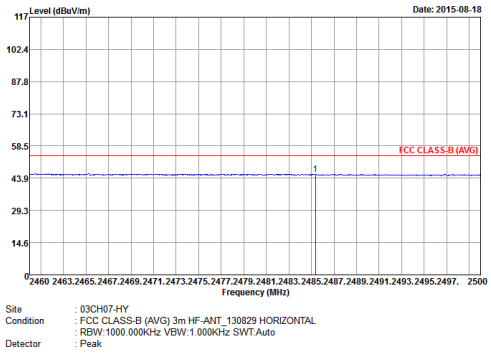
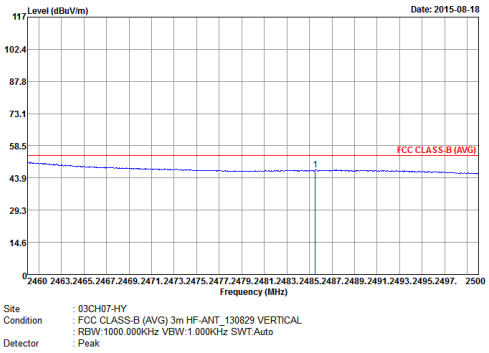
WIFI	2.4GHz 2400~2483.5MHz Band Edge @ 3m	
ANT	802.11g CH11 2462MHz	
1	Horizontal	Vertical
Peak	 Site : 03CH07-HY Condition : FCC CLASS-B 3m HF-ANT_130829 HORIZONTAL : RBW:1000.000KHz VBW:3000.000KHz SWT:Auto Detector : Peak	 Site : 03CH07-HY Condition : FCC CLASS-B 3m HF-ANT_130829 VERTICAL : RBW:1000.000KHz VBW:3000.000KHz SWT:Auto Detector : Peak
Avg.	 Site : 03CH07-HY Condition : FCC CLASS-B (AVG) 3m HF-ANT_130829 HORIZONTAL : RBW:1000.000KHz VBW:1.000KHz SWT:Auto Detector : Peak	 Site : 03CH07-HY Condition : FCC CLASS-B (AVG) 3m HF-ANT_130829 VERTICAL : RBW:1000.000KHz VBW:1.000KHz SWT:Auto Detector : Peak

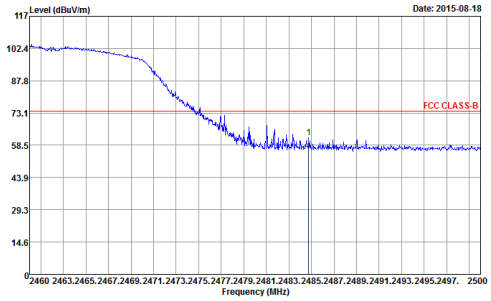
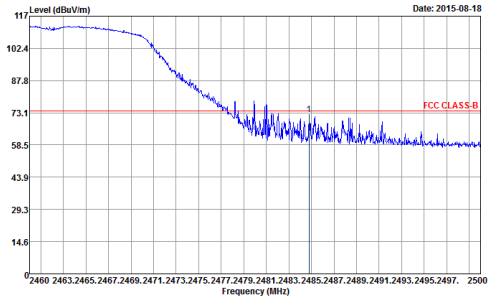
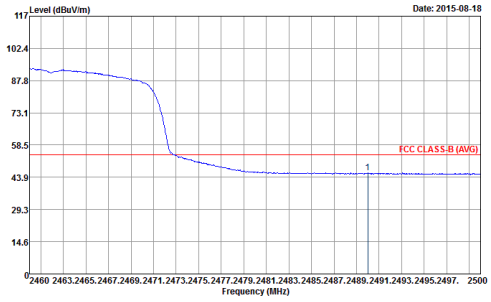
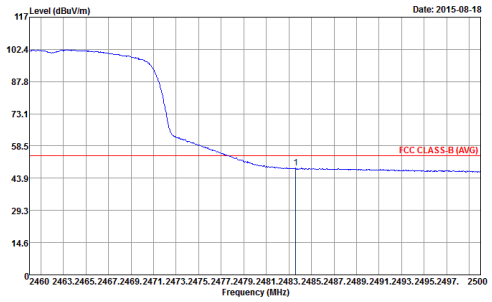
2.4GHz 2400~2483.5MHz

WIFI 802.11n HT20 (Band Edge @ 3m)

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

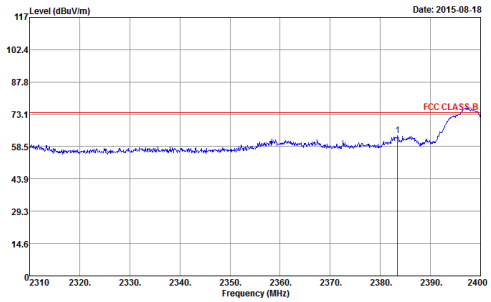
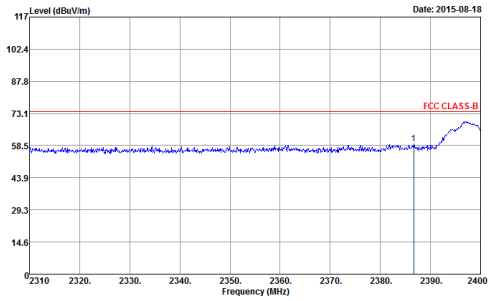
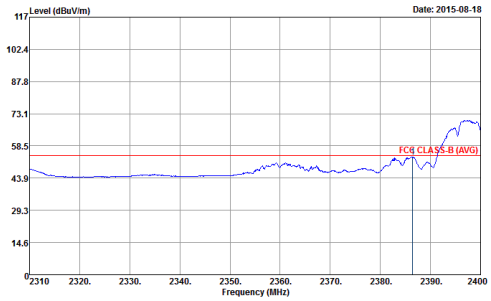
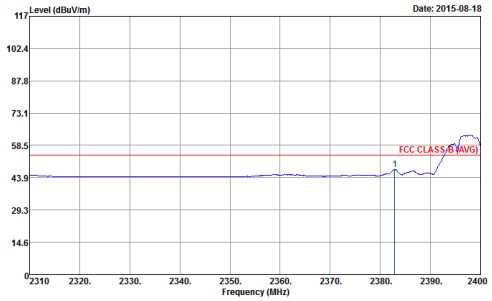
WIFI	2.4GHz 2400~2483.5MHz Band Edge @ 3m	
ANT	802.11n HT20 CH06 2437MHz - Low channel location	
1	Horizontal	Vertical
Peak		
Avg.		

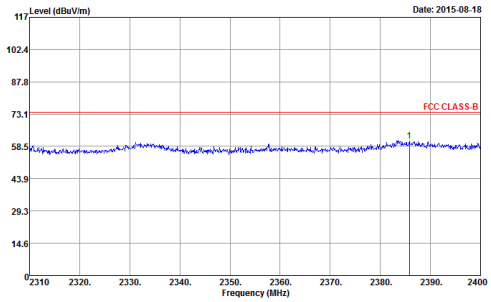
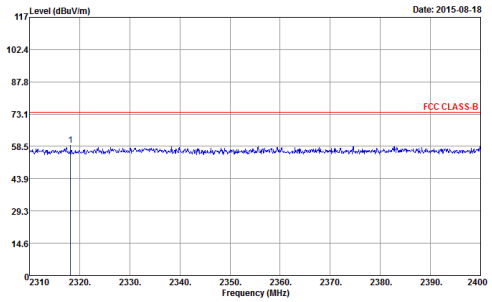
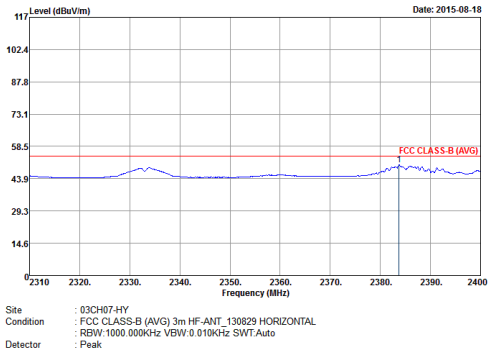
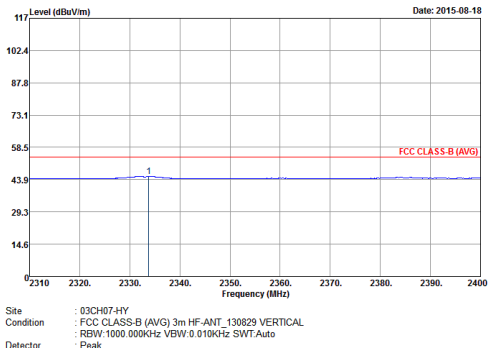
WIFI	2.4GHz 2400~2483.5MHz Band Edge @ 3m	
ANT	802.11n HT20 CH06 2437MHz - High channel location	
1	Horizontal	Vertical
Peak		
Avg.		

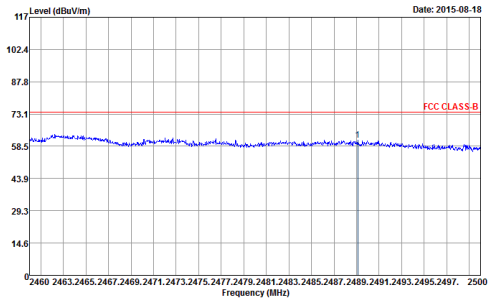
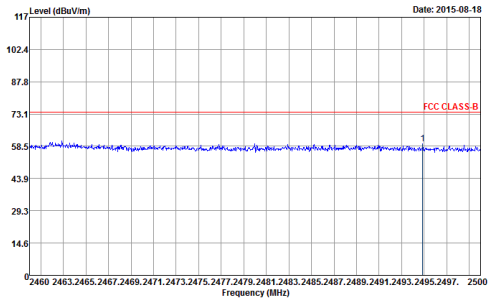
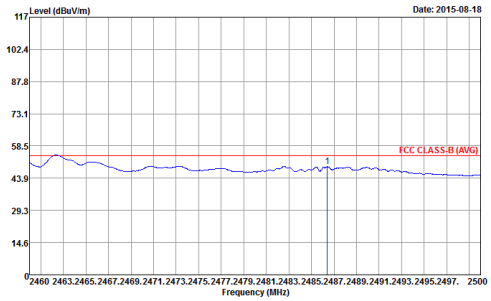
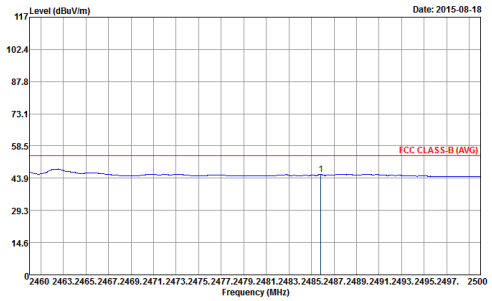
WIFI	2.4GHz 2400~2483.5MHz Band Edge @ 3m	
ANT	802.11n HT20 CH11 2462MHz	
1	Horizontal	Vertical
Peak	 Site : 03CH07-HY Condition : FCC CLASS-B 3m HF-ANT_130829 HORIZONTAL : RBW:1000.000KHz VBW:3000.000KHz SWT:Auto Detector : Peak	 Site : 03CH07-HY Condition : FCC CLASS-B 3m HF-ANT_130829 VERTICAL : RBW:1000.000KHz VBW:3000.000KHz SWT:Auto Detector : Peak
Avg.	 Site : 03CH07-HY Condition : FCC CLASS-B (AVG) 3m HF-ANT_130829 HORIZONTAL : RBW:1000.000KHz VBW:1.000KHz SWT:Auto Detector : Peak	 Site : 03CH07-HY Condition : FCC CLASS-B (AVG) 3m HF-ANT_130829 VERTICAL : RBW:1000.000KHz VBW:1.000KHz SWT:Auto Detector : Peak

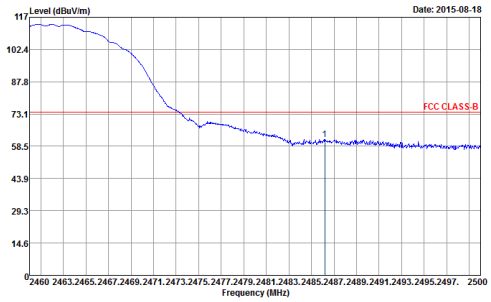
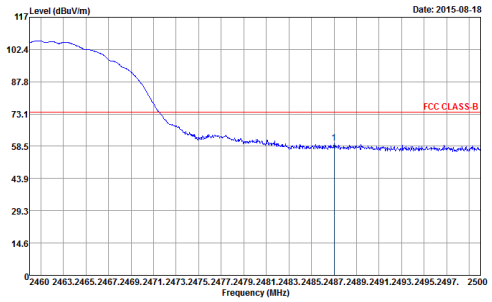
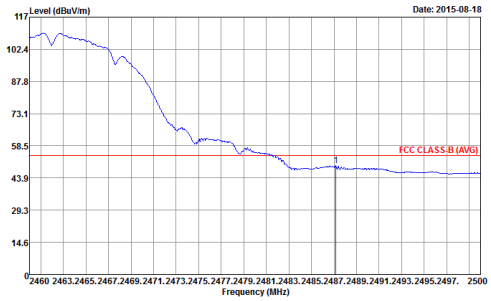
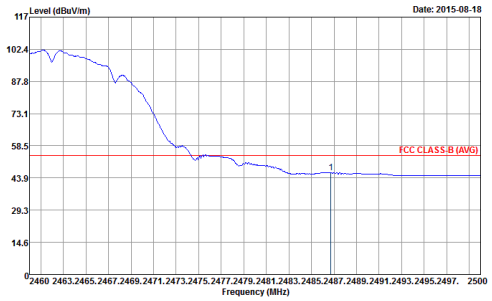
2.4GHz 2400~2483.5MHz

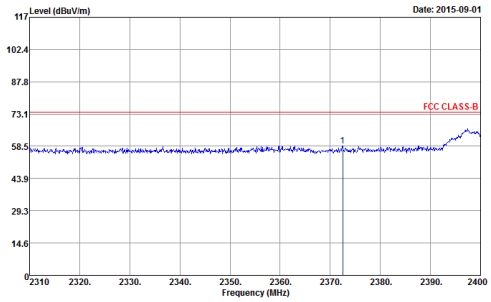
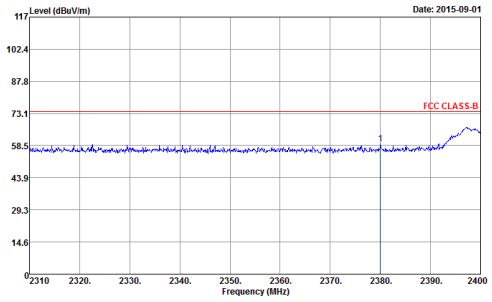
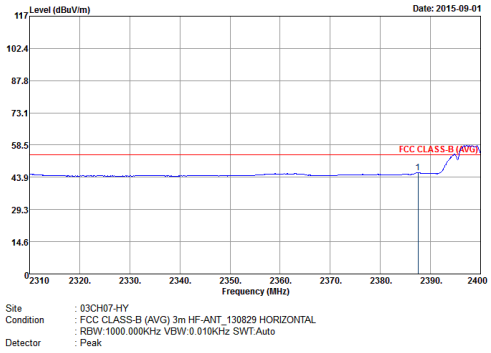
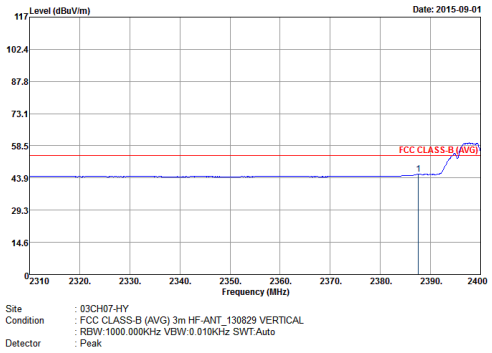
WIFI 802.11b (Band Edge @ 3m)

WIFI	2.4GHz 2400~2483.5MHz Band Edge @ 3m	
ANT	802.11b CH01 2412MHz	
2	Horizontal	Vertical
Peak	 Site : 03CH07-HY Condition : FCC CLASS-B 3m HF-ANT_130829 HORIZONTAL : RBW:1000.000KHz VBW:3000.000KHz SWT:Auto Detector : Peak	 Site : 03CH07-HY Condition : FCC CLASS-B 3m HF-ANT_130829 VERTICAL : RBW:1000.000KHz VBW:3000.000KHz SWT:Auto Detector : Peak
Avg.	 Site : 03CH07-HY Condition : FCC CLASS-B (AVG) 3m HF-ANT_130829 HORIZONTAL : RBW:1000.000KHz VBW:0.010KHz SWT:Auto Detector : Peak	 Site : 03CH07-HY Condition : FCC CLASS-B (AVG) 3m HF-ANT_130829 VERTICAL : RBW:1000.000KHz VBW:0.010KHz SWT:Auto Detector : Peak

WIFI	2.4GHz 2400~2483.5MHz Band Edge @ 3m	
ANT	802.11b CH06 2437MHz – Low channel location	
2	Horizontal	Vertical
Peak		
Avg.		

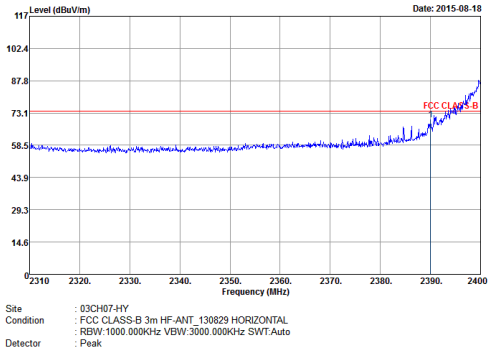
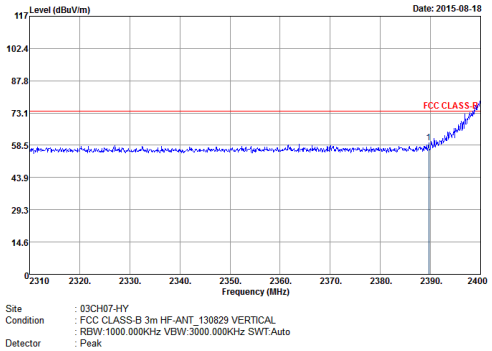
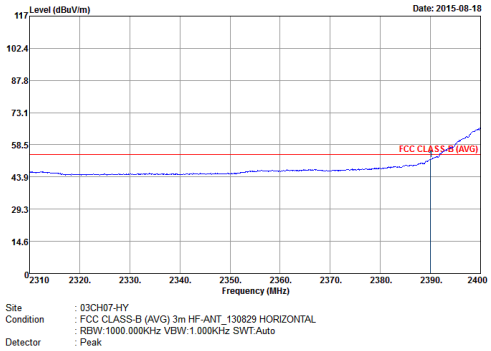
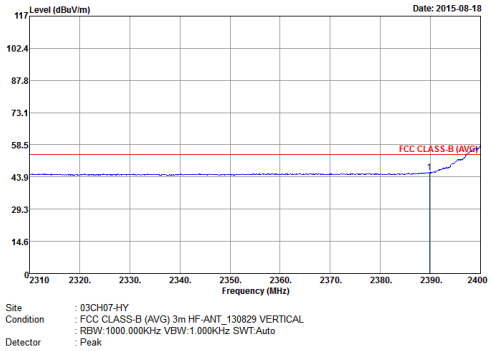
WIFI	2.4GHz 2400~2483.5MHz Band Edge @ 3m	
ANT	802.11b CH06 2437MHz - High channel location	
2	Horizontal	Vertical
Peak	 Site : 03CH07-HY Condition : FCC CLASS-B 3m HF-ANT_130829 HORIZONTAL : RBW:1000.000KHz VBW:3000.000KHz SWT:Auto Detector : Peak	 Site : 03CH07-HY Condition : FCC CLASS-B 3m HF-ANT_130829 VERTICAL : RBW:1000.000KHz VBW:3000.000KHz SWT:Auto Detector : Peak
Avg.	 Site : 03CH07-HY Condition : FCC CLASS-B (AVG) 3m HF-ANT_130829 HORIZONTAL : RBW:1000.000KHz VBW:0.010KHz SWT:Auto Detector : Peak	 Site : 03CH07-HY Condition : FCC CLASS-B (AVG) 3m HF-ANT_130829 VERTICAL : RBW:1000.000KHz VBW:0.010KHz SWT:Auto Detector : Peak

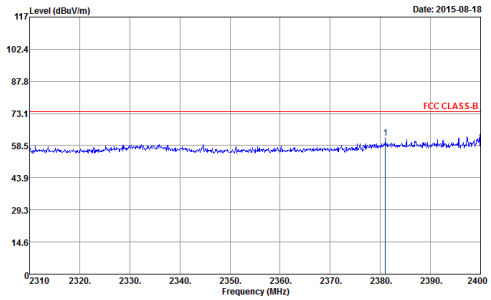
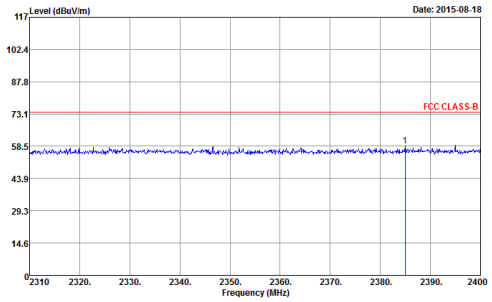
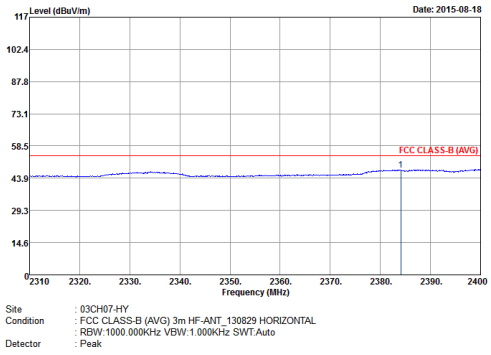
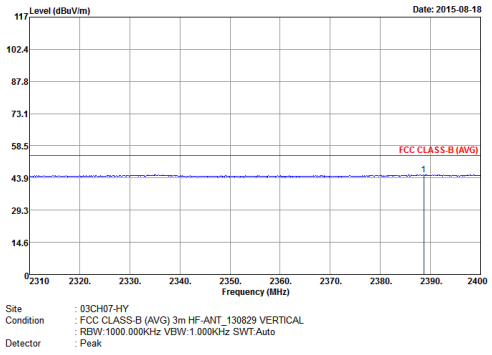
WIFI	2.4GHz 2400~2483.5MHz Band Edge @ 3m	
ANT	802.11b CH11 2462MHz	
2	Horizontal	Vertical
Peak	 Site : 03CH07-HY Condition : FCC CLASS-B 3m HF-ANT_130829 HORIZONTAL : RBW:1000.000KHz VBW:3000.000KHz SWT:Auto Detector : Peak	 Site : 03CH07-HY Condition : FCC CLASS-B 3m HF-ANT_130829 VERTICAL : RBW:1000.000KHz VBW:3000.000KHz SWT:Auto Detector : Peak
Avg.	 Site : 03CH07-HY Condition : FCC CLASS-B (AVG) 3m HF-ANT_130829 HORIZONTAL : RBW:1000.000KHz VBW:0.010KHz SWT:Auto Detector : Peak	 Site : 03CH07-HY Condition : FCC CLASS-B (AVG) 3m HF-ANT_130829 VERTICAL : RBW:1000.000KHz VBW:0.010KHz SWT:Auto Detector : Peak

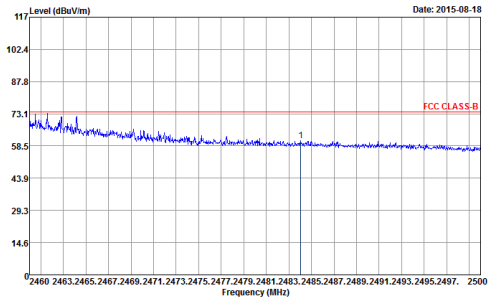
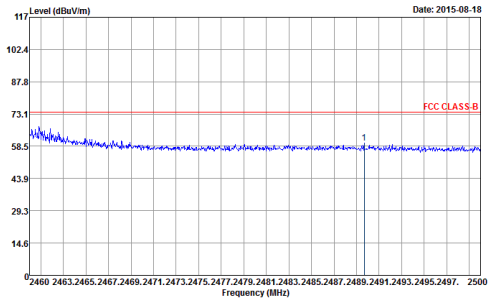
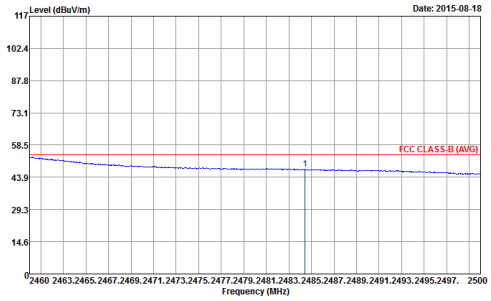
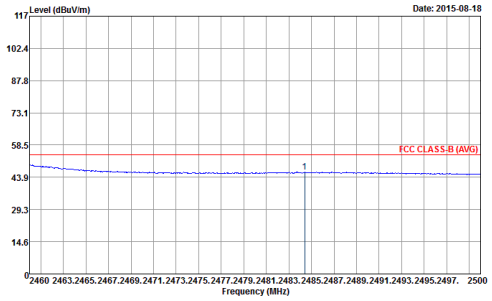
WIFI	2.4GHz 2400~2483.5MHz Band Edge @ 3m	
ANT	802.11b CH01 2412 MHz - Base	
2	Horizontal	Vertical
Peak		
Avg.		

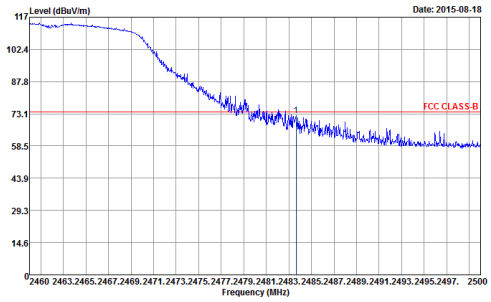
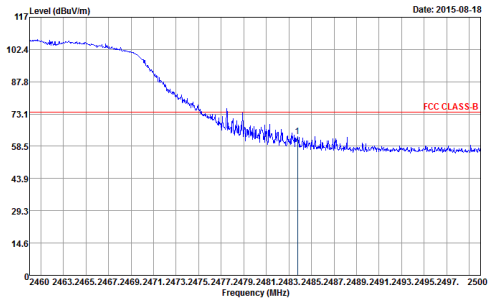
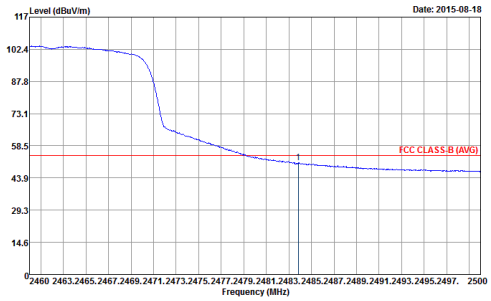
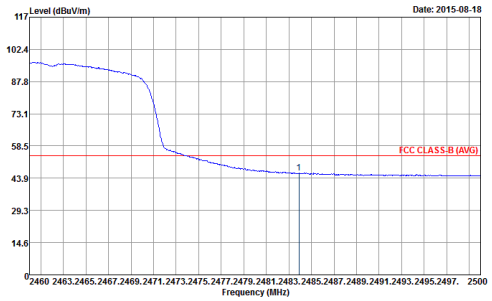
2.4GHz 2400~2483.5MHz

WIFI 802.11g (Band Edge @ 3m)

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

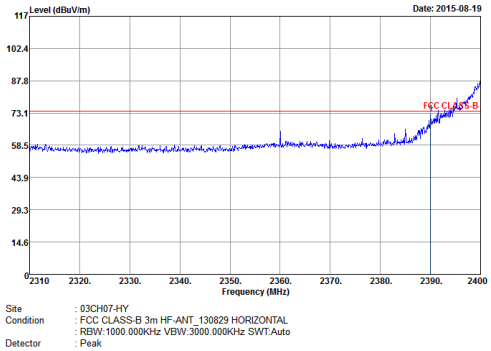
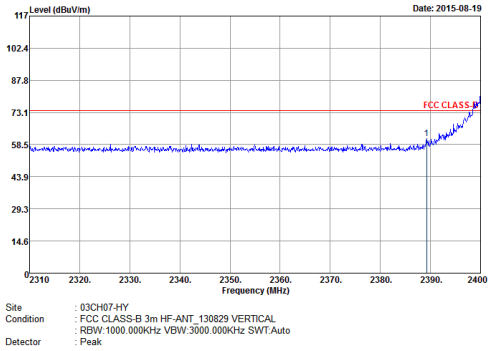
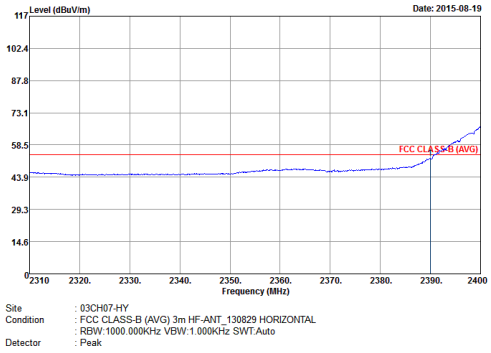
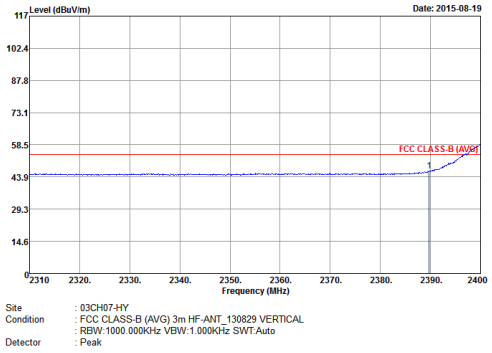
WIFI	2.4GHz 2400~2483.5MHz Band Edge @ 3m	
ANT	802.11g CH06 2437MHz - Low channel location	
2	Horizontal	Vertical
Peak		
Avg.		

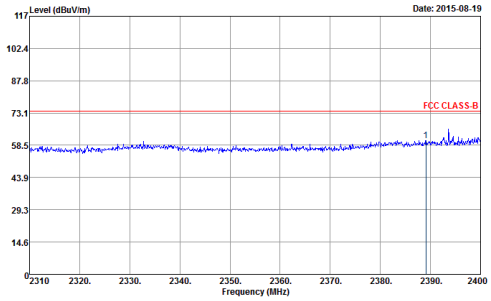
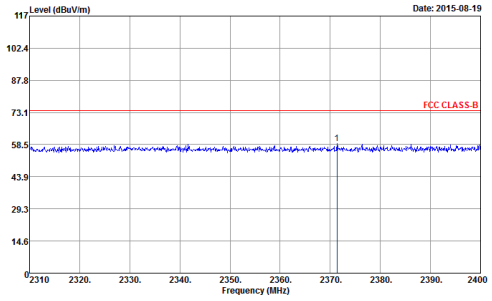
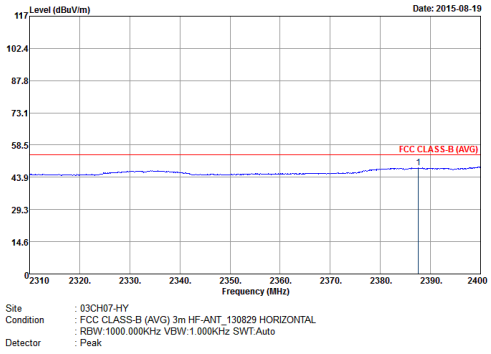
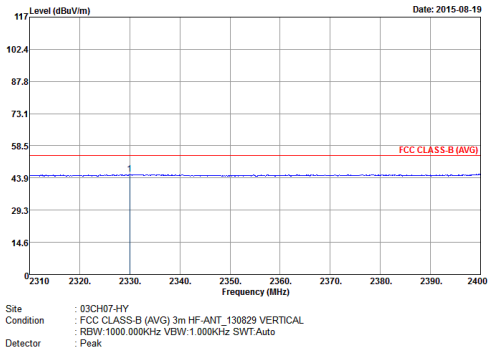
WIFI	2.4GHz 2400~2483.5MHz Band Edge @ 3m	
ANT	802.11g CH06 2437MHz - High channel location	
2	Horizontal	Vertical
Peak	 Site : 03CH07-HY Condition : FCC CLASS-B 3m HF-ANT_130829 HORIZONTAL : RBW:1000.000KHz VBW:3000.000KHz SWT:Auto Detector : Peak	 Site : 03CH07-HY Condition : FCC CLASS-B 3m HF-ANT_130829 VERTICAL : RBW:1000.000KHz VBW:3000.000KHz SWT:Auto Detector : Peak
Avg.	 Site : 03CH07-HY Condition : FCC CLASS-B (AVG) 3m HF-ANT_130829 HORIZONTAL : RBW:1000.000KHz VBW:1.000KHz SWT:Auto Detector : Peak	 Site : 03CH07-HY Condition : FCC CLASS-B (AVG) 3m HF-ANT_130829 VERTICAL : RBW:1000.000KHz VBW:1.000KHz SWT:Auto Detector : Peak

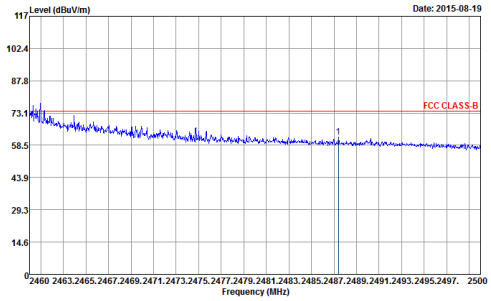
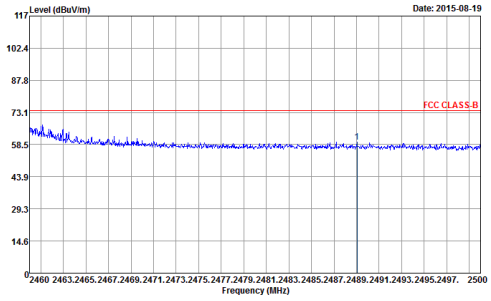
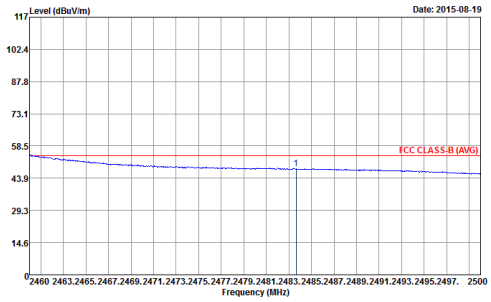
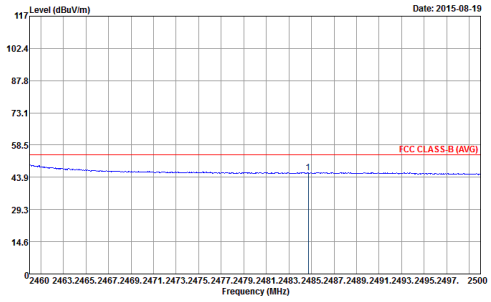
WIFI	2.4GHz 2400~2483.5MHz Band Edge @ 3m	
ANT	802.11g CH11 2462MHz	
2	Horizontal	Vertical
Peak	 Site : 03CH07-HY Condition : FCC CLASS-B 3m HF-ANT_130829 HORIZONTAL : RBW:1000.000KHz VBW:3000.000KHz SWT:Auto Detector : Peak	 Site : 03CH07-HY Condition : FCC CLASS-B 3m HF-ANT_130829 VERTICAL : RBW:1000.000KHz VBW:3000.000KHz SWT:Auto Detector : Peak
Avg.	 Site : 03CH07-HY Condition : FCC CLASS-B (AVG) 3m HF-ANT_130829 HORIZONTAL : RBW:1000.000KHz VBW:1.000KHz SWT:Auto Detector : Peak	 Site : 03CH07-HY Condition : FCC CLASS-B (AVG) 3m HF-ANT_130829 VERTICAL : RBW:1000.000KHz VBW:1.000KHz SWT:Auto Detector : Peak

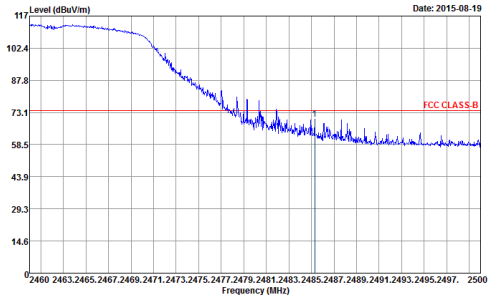
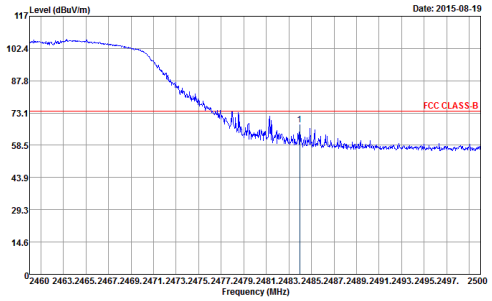
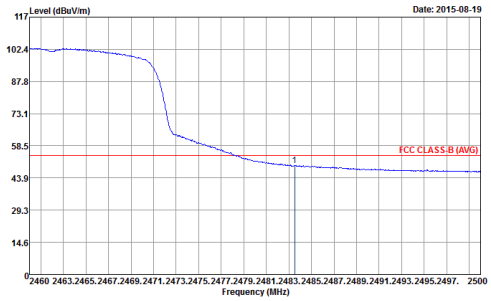
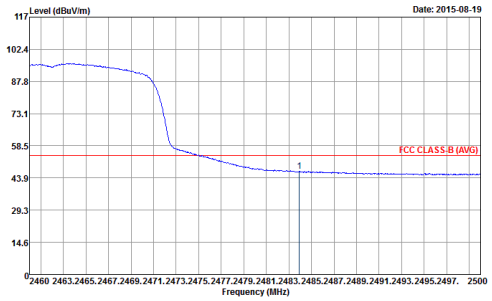
2.4GHz 2400~2483.5MHz

WIFI 802.11n HT20 (Band Edge @ 3m)

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

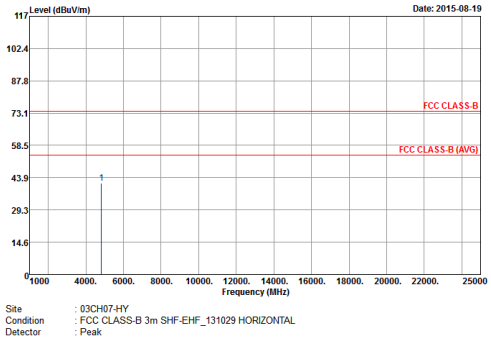
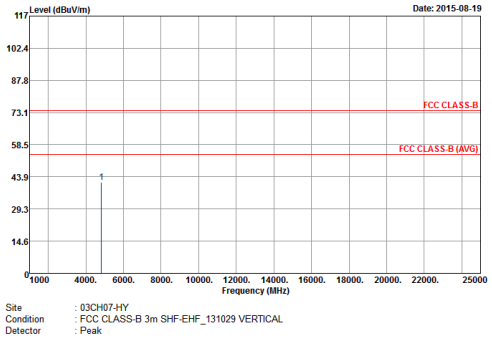
WIFI	2.4GHz 2400~2483.5MHz Band Edge @ 3m	
ANT	802.11n HT20 CH06 2437MHz - Low channel location	
2	Horizontal	Vertical
Peak		
Avg.		

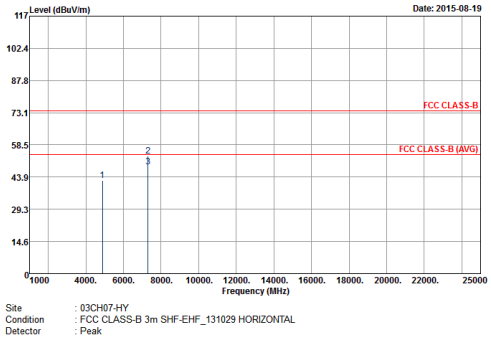
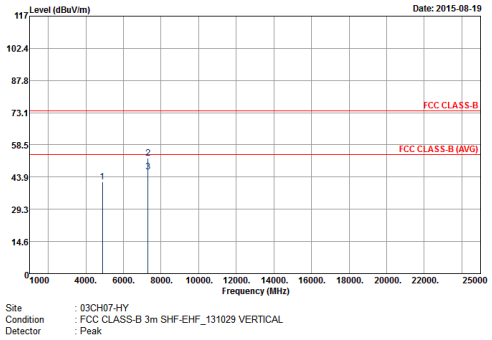
WIFI	2.4GHz 2400~2483.5MHz Band Edge @ 3m	
ANT	802.11n HT20 CH06 2437MHz - High channel location	
2	Horizontal	Vertical
Peak	 Site : 03CH07-HY Condition : FCC CLASS-B 3m HF-ANT_130829 HORIZONTAL : RBW:1000.000KHz VBW:3000.000KHz SWT:Auto Detector : Peak	 Site : 03CH07-HY Condition : FCC CLASS-B 3m HF-ANT_130829 VERTICAL : RBW:1000.000KHz VBW:3000.000KHz SWT:Auto Detector : Peak
Avg.	 Site : 03CH07-HY Condition : FCC CLASS-B (AVG) 3m HF-ANT_130829 HORIZONTAL : RBW:1000.000KHz VBW:1.000KHz SWT:Auto Detector : Peak	 Site : 03CH07-HY Condition : FCC CLASS-B (AVG) 3m HF-ANT_130829 VERTICAL : RBW:1000.000KHz VBW:1.000KHz SWT:Auto Detector : Peak

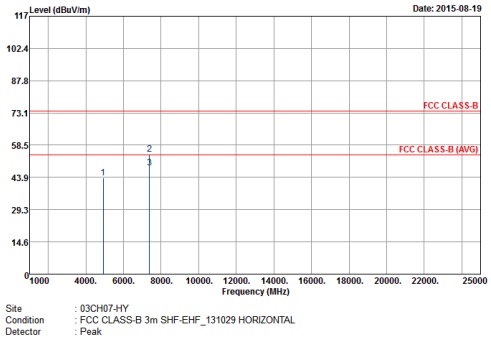
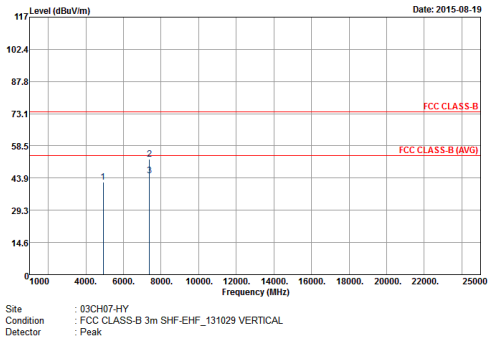
WIFI	2.4GHz 2400~2483.5MHz Band Edge @ 3m	
ANT	802.11n HT20 CH11 2462MHz	
2	Horizontal	Vertical
Peak	 Site : 03CH07-HY Condition : FCC CLASS-B 3m HF-ANT_130829 HORIZONTAL : RBW:1000.000KHz VBW:3000.000KHz SWT:Auto Detector : Peak	 Site : 03CH07-HY Condition : FCC CLASS-B 3m HF-ANT_130829 VERTICAL : RBW:1000.000KHz VBW:3000.000KHz SWT:Auto Detector : Peak
Avg.	 Site : 03CH07-HY Condition : FCC CLASS-B (AVG) 3m HF-ANT_130829 HORIZONTAL : RBW:1000.000KHz VBW:1.000KHz SWT:Auto Detector : Peak	 Site : 03CH07-HY Condition : FCC CLASS-B (AVG) 3m HF-ANT_130829 VERTICAL : RBW:1000.000KHz VBW:1.000KHz SWT:Auto Detector : Peak

2.4GHz 2400~2483.5MHz

WIFI 802.11b (Harmonic @ 3m)

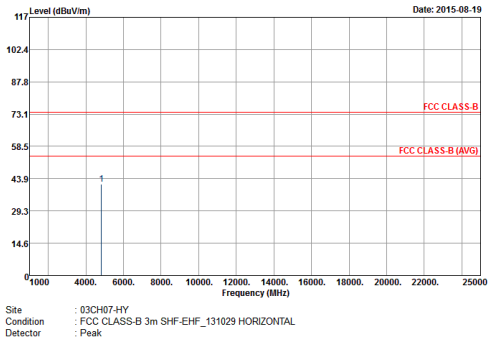
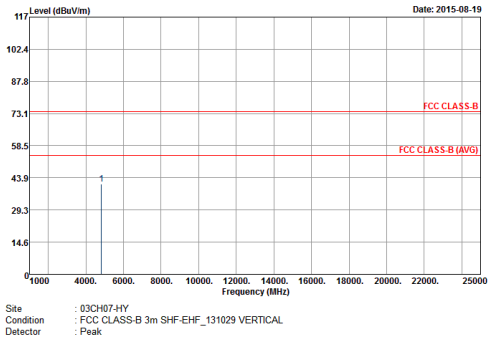
WIFI	2.4GHz 2400~2483.5MHz Harmonic @ 3m	
ANT	802.11b CH01 2412MHz	
1	Horizontal	Vertical
Peak Avg.		

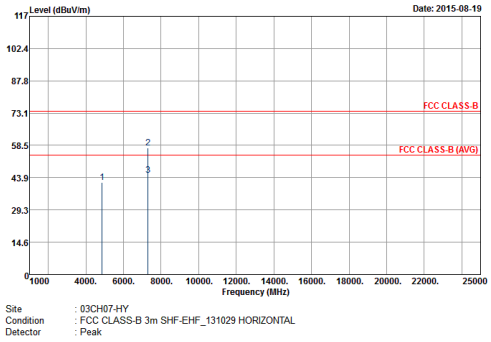
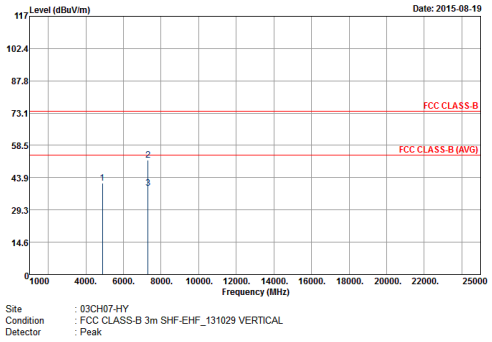
WIFI	2.4GHz 2400~2483.5MHz Harmonic @ 3m	
ANT	802.11b CH06 2437MHz	
1	Horizontal	Vertical
Peak Avg.		

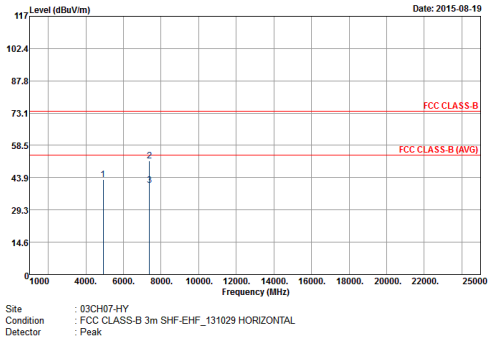
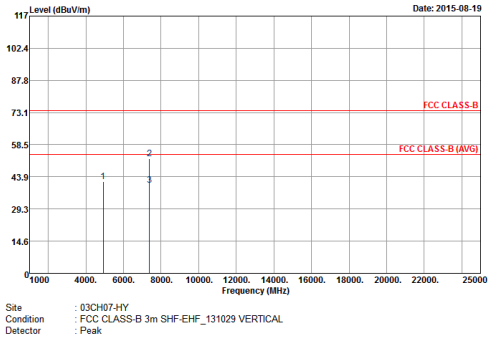
WIFI	2.4GHz 2400~2483.5MHz Harmonic @ 3m	
ANT	802.11b CH11 2462MHz	
1	Horizontal	Vertical
Peak Avg.		

2.4GHz 2400~2483.5MHz

WIFI 802.11g (Harmonic @ 3m)

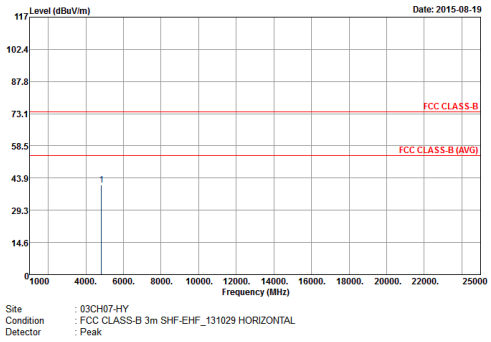
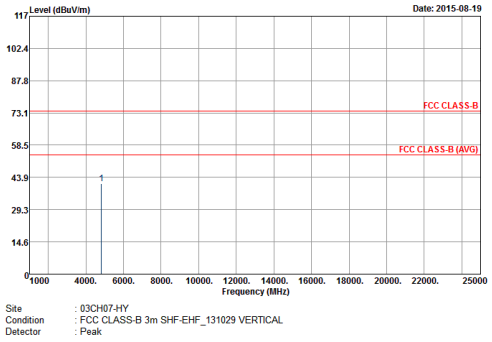
WIFI	2.4GHz 2400~2483.5MHz Harmonic @ 3m	
ANT	802.11g CH01 2412MHz	
1	Horizontal	Vertical
Peak Avg.		

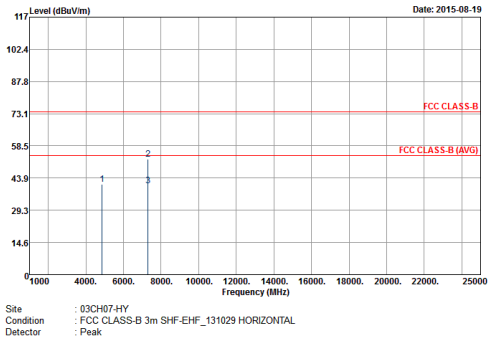
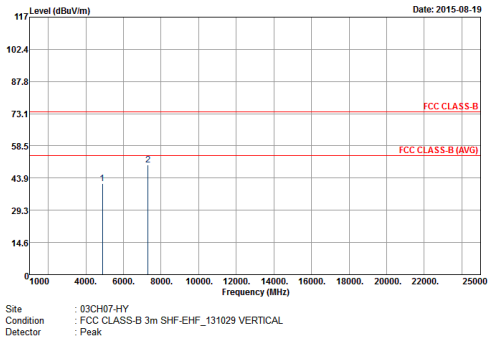
WIFI	2.4GHz 2400~2483.5MHz Harmonic @ 3m	
ANT	802.11g CH06 2437MHz	
1	Horizontal	Vertical
Peak Avg.		

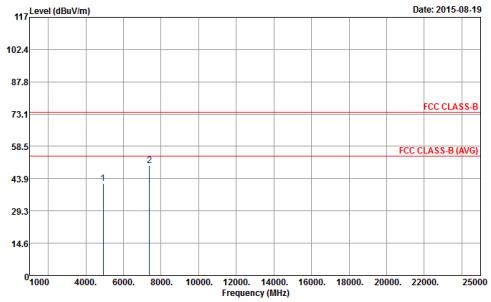
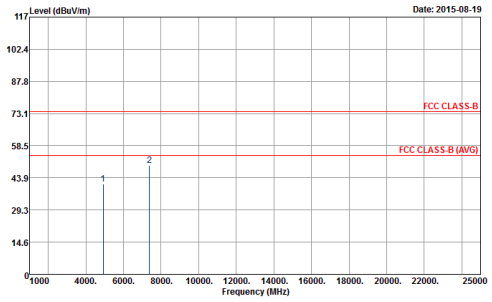
WIFI	2.4GHz 2400~2483.5MHz Harmonic @ 3m	
ANT	802.11g CH11 2462MHz	
1	Horizontal	Vertical
Peak Avg.		

2.4GHz 2400~2483.5MHz

WIFI 802.11n HT20 (Harmonic @ 3m)

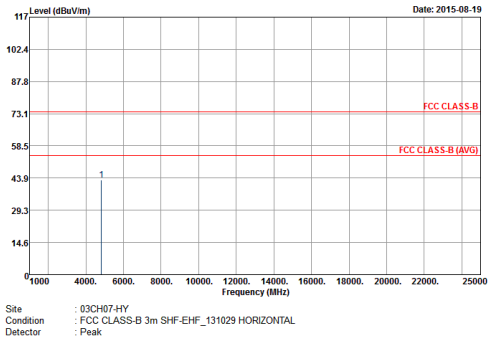
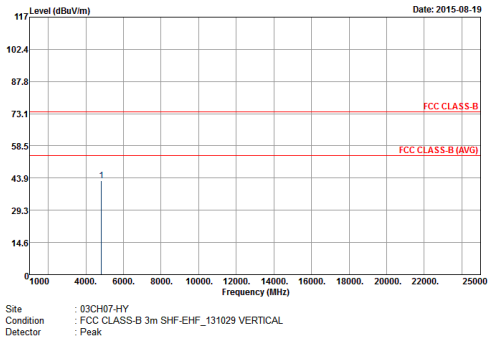
WIFI	2.4GHz 2400~2483.5MHz Harmonic @ 3m	
ANT	802.11n HT20 CH01 2412MHz	
1	Horizontal	Vertical
Peak Avg.		

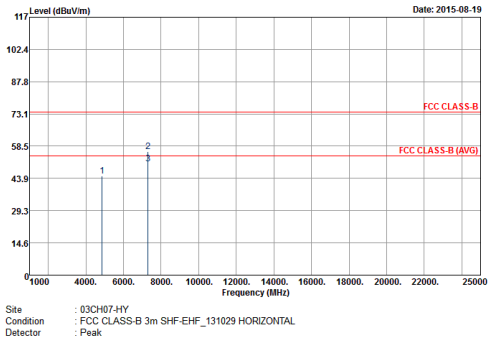
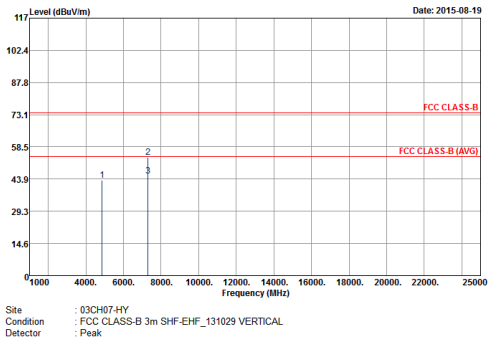
WIFI	2.4GHz 2400~2483.5MHz Harmonic @ 3m	
ANT	802.11n HT20 CH06 2437MHz	
1	Horizontal	Vertical
Peak Avg.		

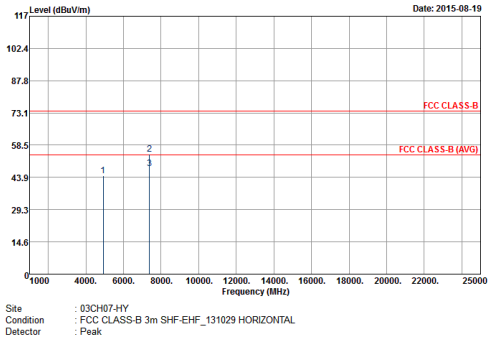
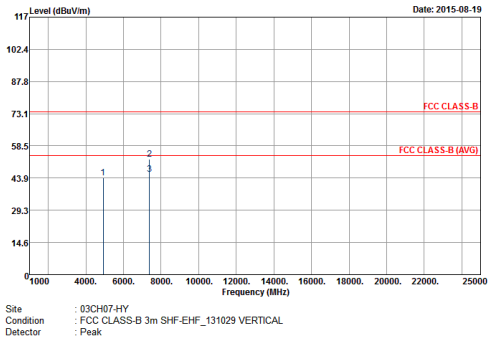
WIFI	2.4GHz 2400~2483.5MHz Harmonic @ 3m	
ANT	802.11n HT20 CH11 2462MHz	
1	Horizontal	Vertical
Peak Avg.		

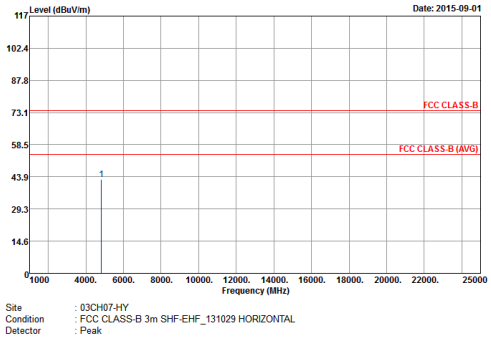
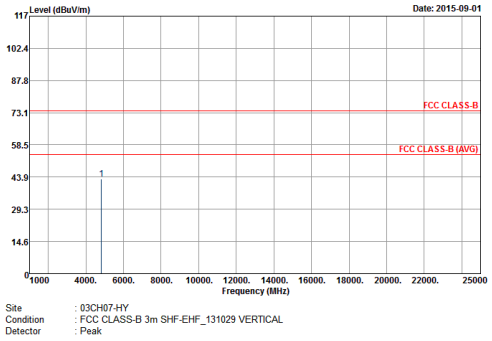
2.4GHz 2400~2483.5MHz

WIFI 802.11b (Harmonic @ 3m)

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

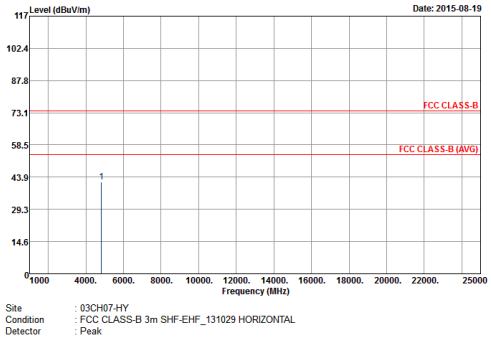
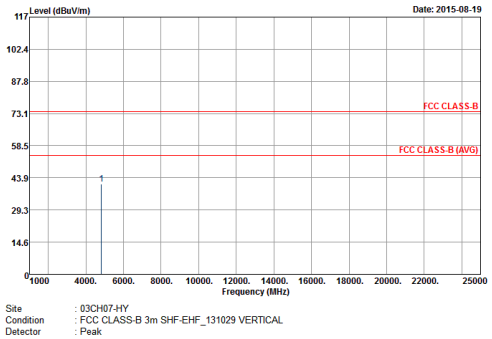
WIFI	2.4GHz 2400~2483.5MHz Harmonic @ 3m	
ANT	802.11b CH06 2437MHz	
2	Horizontal	Vertical
Peak Avg.		

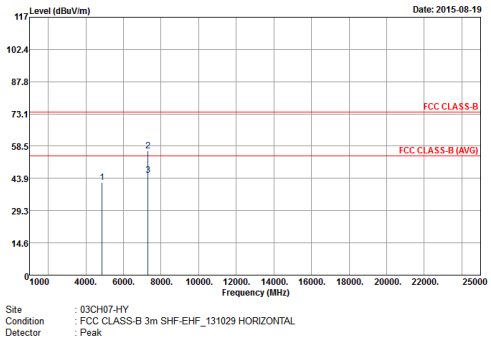
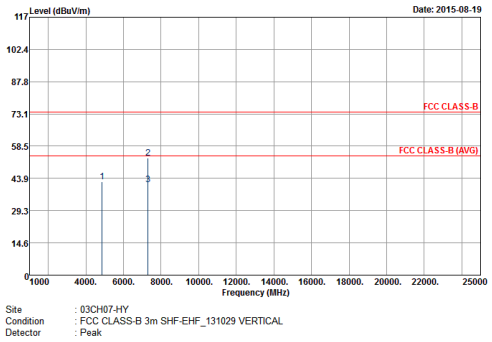
WIFI	2.4GHz 2400~2483.5MHz Harmonic @ 3m	
ANT	802.11b CH11 2462MHz	
2	Horizontal	Vertical
Peak Avg.		

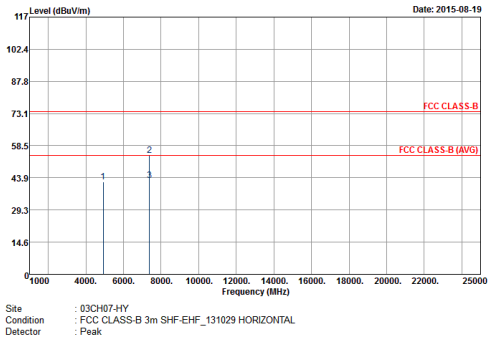
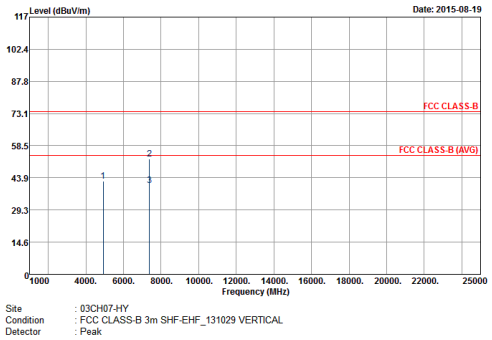
WIFI	2.4GHz 2400~2483.5MHz Harmonic @ 3m	
ANT	802.11b CH01 2412MHz - Base	
2	Horizontal	Vertical
Peak Avg.		

2.4GHz 2400~2483.5MHz

WIFI 802.11g (Harmonic @ 3m)

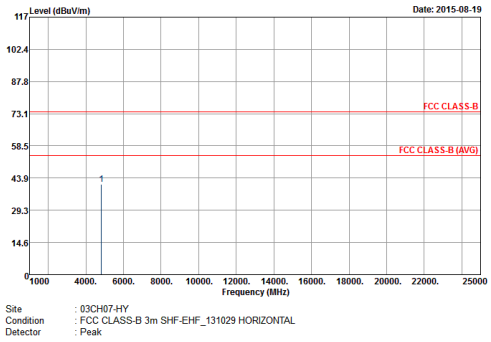
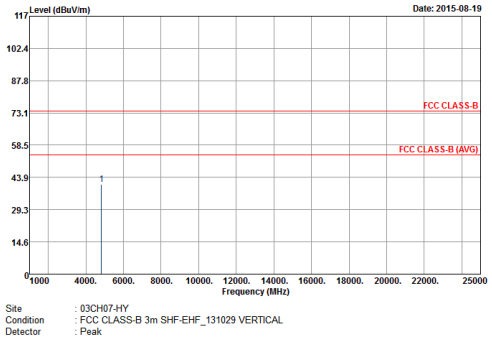
WIFI	2.4GHz 2400~2483.5MHz Harmonic @ 3m	
ANT	802.11g CH01 2412MHz	
2	Horizontal	Vertical
Peak Avg.		

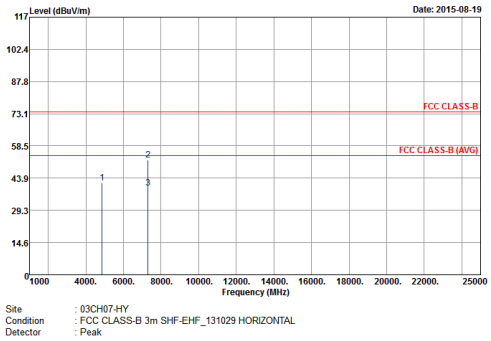
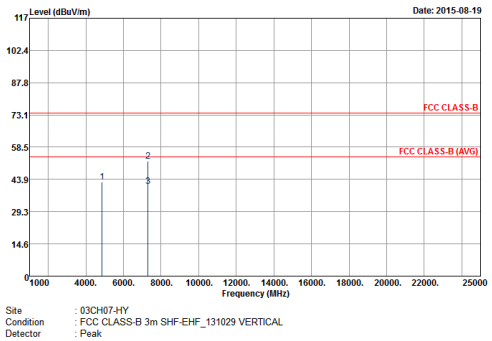
WIFI	2.4GHz 2400~2483.5MHz Harmonic @ 3m	
ANT	802.11g CH06 2437MHz	
2	Horizontal	Vertical
Peak Avg.		

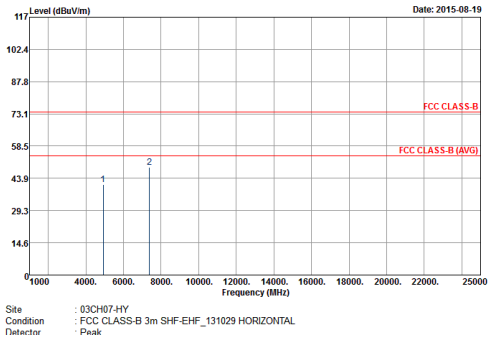
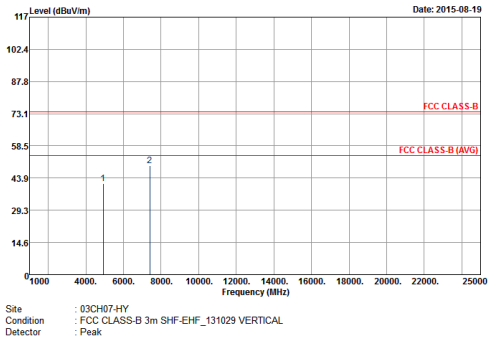
WIFI	2.4GHz 2400~2483.5MHz Harmonic @ 3m	
ANT	802.11g CH11 2462MHz	
2	Horizontal	Vertical
Peak Avg.		

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	
2	Horizontal	Vertical
Peak Avg.		

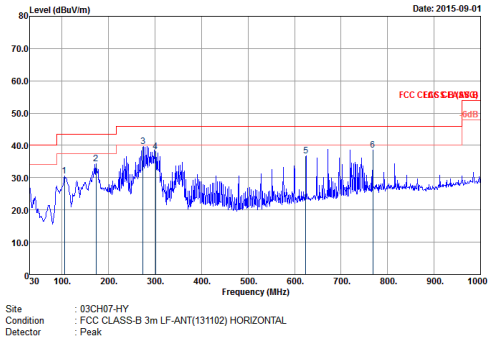
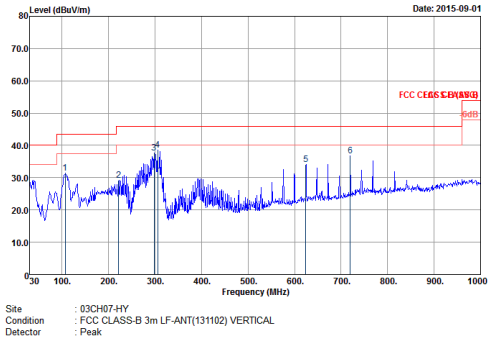
WIFI	2.4GHz 2400~2483.5MHz Harmonic @ 3m	
ANT	802.11n HT20 CH06 2437MHz	
2	Horizontal	Vertical
Peak Avg.		

WIFI	2.4GHz 2400~2483.5MHz Harmonic @ 3m	
ANT	802.11n HT20 CH11 2462MHz	
2	Horizontal	Vertical
Peak Avg.		

2.4GHz 2400~2483.5MHz

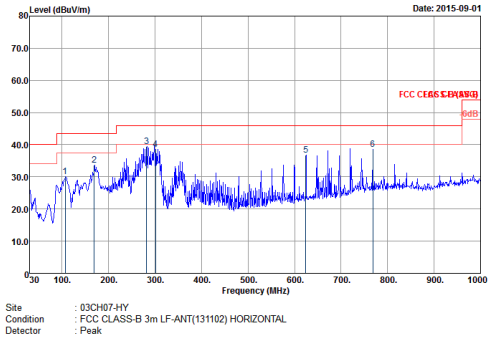
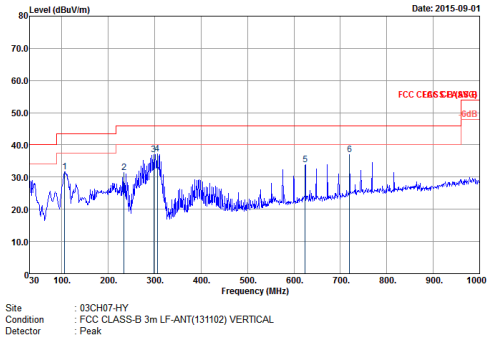
Emission below 1GHz

2.4GHz WIFI 802.11n HT20 (LF)

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

2.4GHz 2400~2483.5MHz

Emission below 1GHz

2.4GHz WIFI 802.11b (LF)

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