

FCC RF Test Report

APPLICANT : Ubiquiti Networks, Inc.
EQUIPMENT : Mesh Points
BRAND NAME : ULABS
MODEL NAME : AFi-P-LP
AFi-P
FCC ID : SWX-AFP
STANDARD : FCC Part 15 Subpart C §15.247
CLASSIFICATION : (DTS) Digital Transmission System

The product was received on Mar. 03, 2016 and testing was completed on Jun. 04, 2016. We, SPORTON INTERNATIONAL INC., would like to declare that the tested sample has been evaluated in accordance with the test procedures and has been in compliance with the applicable technical standards.

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



Reviewed by: Joseph Lin / Supervisor



Approved by: Jones Tsai / Manager



SPORTON INTERNATIONAL INC.

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



TABLE OF CONTENTS

REVISION HISTORY	3
SUMMARY OF TEST RESULT	4
1 GENERAL DESCRIPTION	5
1.1 Applicant	5
1.2 Manufacturer	5
1.3 Product Feature of Equipment Under Test	5
1.4 Product Specification of Equipment Under Test	6
1.5 Modification of EUT	6
1.6 Testing Location	7
1.7 Applicable Standards	7
2 TEST CONFIGURATION OF EQUIPMENT UNDER TEST	8
2.1 Carrier Frequency and Channel	8
2.2 Pre-Scanned RF Power	9
2.3 Test Mode	10
2.4 Connection Diagram of Test System	11
2.5 Support Unit used in test configuration and system	13
2.6 EUT Operation Test Setup	13
2.7 Measurement Results Explanation Example	13
3 TEST RESULT	14
3.1 6dB and 99% Bandwidth Measurement	14
3.2 Peak Output Power Measurement	16
3.3 Power Spectral Density Measurement	17
3.4 Conducted Band Edges and Spurious Emission Measurement	20
3.5 Radiated Band Edges and Spurious Emission Measurement	45
3.6 AC Conducted Emission Measurement	48
3.7 Antenna Requirements	52
4 LIST OF MEASURING EQUIPMENT	53
5 UNCERTAINTY OF EVALUATION	54
APPENDIX A. CONDUCTED TEST RESULTS	
APPENDIX B. RADIATED SPURIOUS EMISSION	
APPENDIX C. RADIATED SPURIOUS EMISSION PLOTS	
APPENDIX D. DUTY CYCLE PLOTS	
APPENDIX E. SETUP PHOTOGRAPHS	



REVISION HISTORY

REPORT NO.	VERSION	DESCRIPTION	ISSUED DATE
FR630314C	Rev. 01	Initial issue of report	Jun. 08, 2016

SUMMARY OF TEST RESULT

Report Section	FCC Rule	Description	Limit	Result	Remark
3.1	15.247(a)(2)	6dB Bandwidth	$\geq 0.5\text{MHz}$	Pass	-
3.1	-	99% Bandwidth	-	Pass	-
3.2	15.247(b)	Power Output Measurement	$\leq 30\text{dBm}$	Pass	-
3.3	15.247(e)	Power Spectral Density	$\leq 8\text{dBm}/3\text{kHz}$	Pass	-
3.4	15.247(d)	Conducted Band Edges	$\leq 20\text{dBc}$	Pass	-
		Conducted Spurious Emission		Pass	-
3.5	15.247(d)	Radiated Band Edges and Radiated Spurious Emission	15.209(a) & 15.247(d)	Pass	Under limit 6.98 dB at 250.050 MHz
3.6	15.207	AC Conducted Emission	15.207(a)	Pass	Under limit 19.00 dB at 0.766 MHz
3.7	15.203 & 15.247(b)	Antenna Requirement	N/A	Pass	-

1 General Description

1.1 Applicant

Ubiquiti Networks, Inc.

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

1.2 Manufacturer

Ubiquiti Networks, Inc.

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

1.3 Product Feature of Equipment Under Test

Product Feature	
Equipment	Mesh Points
Brand Name	ULABS
Model Name	AFi-P-LP AFi-P
FCC ID	SWX-AFP
EUT supports Radios application	WLAN 11a/b/g/n HT20/HT40 Bluetooth v4.0 EDR/LE
EUT Stage	Production Unit

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

1.4 Product Specification of Equipment Under Test

Standards-related Product Specification				
Tx/Rx Channel Frequency Range		802.11b/g/n : 2412 MHz ~ 2462 MHz		
Maximum (Peak) Output Power to antenna		<MIMO Ant. 1+2> 802.11b : 21.74 dBm (0.1493 W) 802.11g : 29.84 dBm (0.9638 W) 802.11n HT20 : 29.13 dBm (0.8185 W) 802.11n HT40 : 29.95 dBm (0.9886 W)		
99% Occupied Bandwidth		802.11b : 14.25MHz 802.11g : 18.65MHz 802.11n HT20 : 19.50MHz 802.11n HT40 : 38.20MHz		
Antenna Type		<Ant 1> 802.11b/g/n : PIFA Antenna type with gain 5.00 dBi <Ant 2> 802.11b/g/n : PIFA Antenna type with gain 5.00 dBi		
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/g/n MIMO	V	V

1.5 Modification of EUT

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

1.6 Testing Location

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

Test Site	SPORTON INTERNATIONAL INC.	
Test Site Location	No. 52, Hwa Ya 1 st Rd., Hwa Ya Technology Park, Kwei-Shan District, Tao Yuan City, Taiwan, R.O.C. TEL: +886-3-327-3456 FAX: +886-3-328-4978	
Test Site No.	Sporton Site No.	
	TH05-HY	CO05-HY

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

Test Site	SPORTON INTERNATIONAL INC.	
Test Site Location	No.58, Aly. 75, Ln. 564, Wenhua 3rd Rd. Guishan Dist, Taoyuan City, Taiwan (R.O.C.) TEL: +886-3-327-0868 FAX: +886-3-327-0855	
Test Site No.	Sporton Site No. :	
	03CH10-HY	

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

1.7 Applicable Standards

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

- ♦ FCC Part 15 Subpart C §15.247
- ♦ FCC KDB Publication No. 558074 D01 DTS Meas. Guidance v03r05
- ♦ FCC KDB 662911 D01 Multiple Transmitter Output v02r01.
- ♦ ANSI C63.10-2013

Remark:

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

2 Test Configuration of Equipment Under Test

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

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

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

2.1 Carrier Frequency and 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.

MIMO <Ant. 1+2>

802.11b				
Data Rate (MHz)	1M bps	2M bps	5.5M bps	11M bps
Peak Power (dBm)	21.74	21.53	21.56	21.64

802.11g								
Data Rate (MHz)	6M bps	9M bps	12M bps	18M bps	24M bps	36M bps	48M bps	54M bps
Peak Power (dBm)	29.84	29.81	29.75	29.77	29.76	29.79	29.77	29.72

2.4GHz 802.11n HT20								
Data Rate (MHz)	MCS0	MCS1	MCS2	MCS3	MCS4	MCS5	MCS6	MCS7
Peak Power (dBm)	29.13	28.46	28.63	28.64	28.59	28.90	28.85	28.64

2.4GHz 802.11n HT40								
Data Rate (MHz)	MCS0	MCS1	MCS2	MCS3	MCS4	MCS5	MCS6	MCS7
Peak Power (dBm)	29.95	28.72	28.76	27.89	27.76	27.95	27.94	28.06

Note: MIMO Ant. 1+2 is a calculated result from sum of the power MIMO Ant. 1 and MIMO Ant. 2.

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.

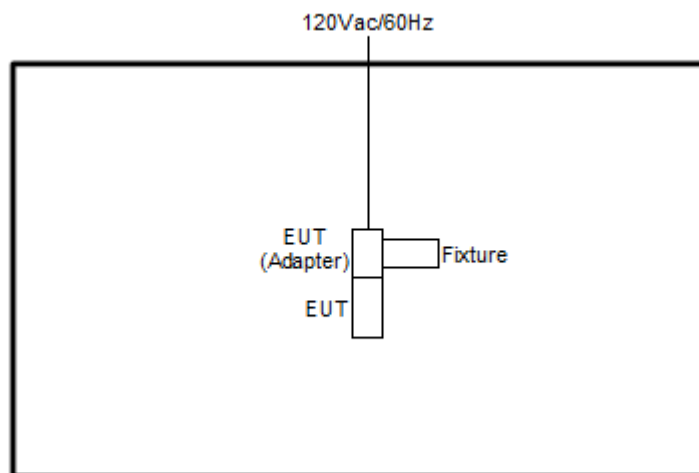
MIMO Antenna

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

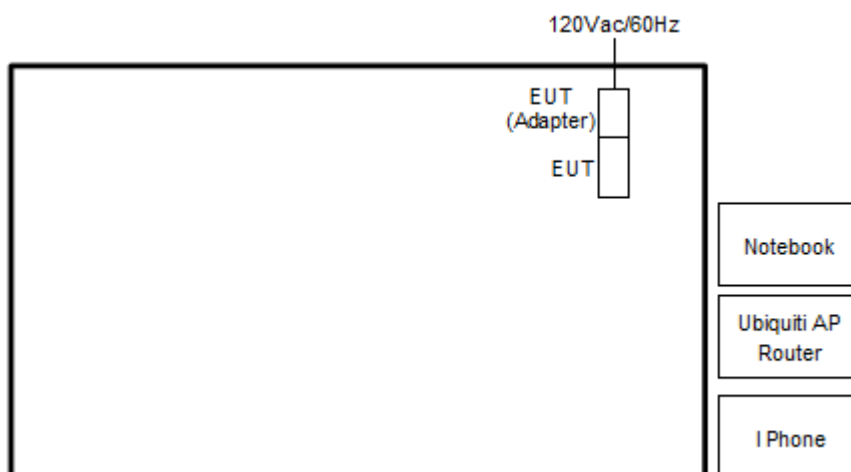
Test Cases	
AC	Mode 1 : WLAN (2.4GHz) Link + Adapter
Conducted	Mode 2 BT Tx + Adapter
Emission	Mode 3 BLE Tx + Adapter
Remark: The worst case of conducted emission is mode 3; only the test data of it was reported.	

2.4 Connection Diagram of Test System

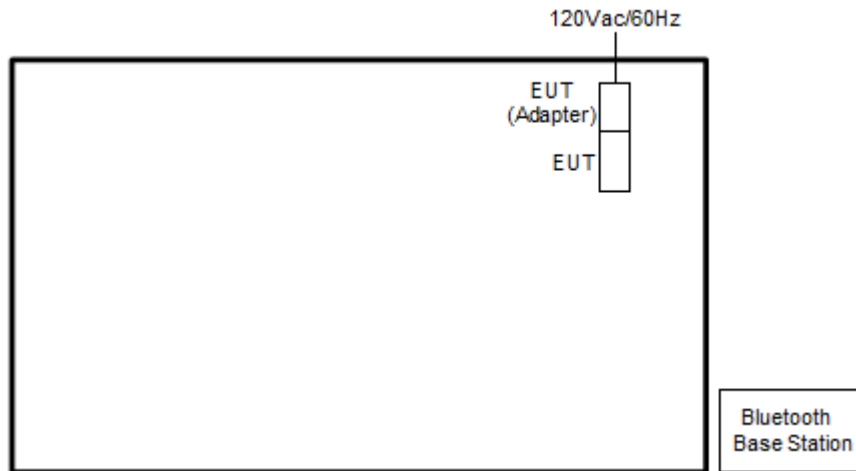
<WLAN Tx Mode>



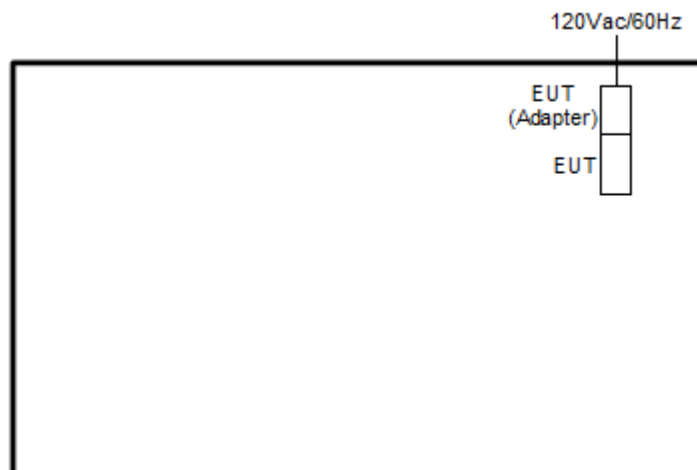
<AC Conducted Emission for WLAN (2.4GHz) Link Mode>



<AC Conducted Emission for BT Tx Mode>



<AC Conducted Emission for BT LE Tx 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	Ubiquiti	AFi-R	FCC DoC	N/A	Unshielded, 1.8 m
2.	Notebook	DELL	Latitude E6320	FCC DoC/ Contains FCC ID: QDS-BRCM1054	N/A	AC I/P: Unshielded, 1.2 m DC O/P: Shielded, 1.8 m
3.	iPhone	Apple	iPhone 6s	FCC DoC	N/A	N/A
4.	Fixture	N/A	N/A	N/A	N/A	N/A

2.6 EUT Operation Test Setup

For WLAN function, programmed RF utility, "artgui.exe" installed in the notebook make the EUT provide

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 and 99% Bandwidth Measurement

3.1.1 Limit of 6dB and 99% Bandwidth

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

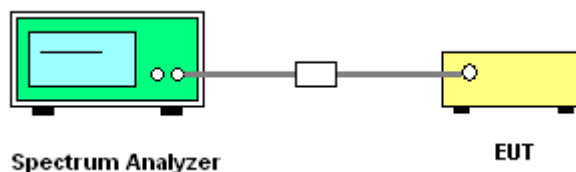
3.1.2 Measuring Instruments

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

3.1.3 Test Procedures

1. The testing follows FCC KDB Publication No. 558074 DTS D01 Meas. Guidance v03r05.
2. The RF output of EUT was connected to the spectrum analyzer by RF cable and attenuator. The path loss was compensated to the results for each measurement.
3. Set to the maximum power setting and enable the EUT transmit continuously.
4. Make the measurement with the spectrum analyzer's resolution bandwidth (RBW) = 100 kHz. Set the Video bandwidth (VBW) = 300 kHz. In order to make an accurate measurement. The 6 dB bandwidth must be greater than 500 kHz.
5. For 99% Bandwidth Measurement, the spectrum analyzer's resolution bandwidth (RBW) = 1MHz and set the Video bandwidth (VBW) = 3MHz.
6. Measure and record the results in the test report.

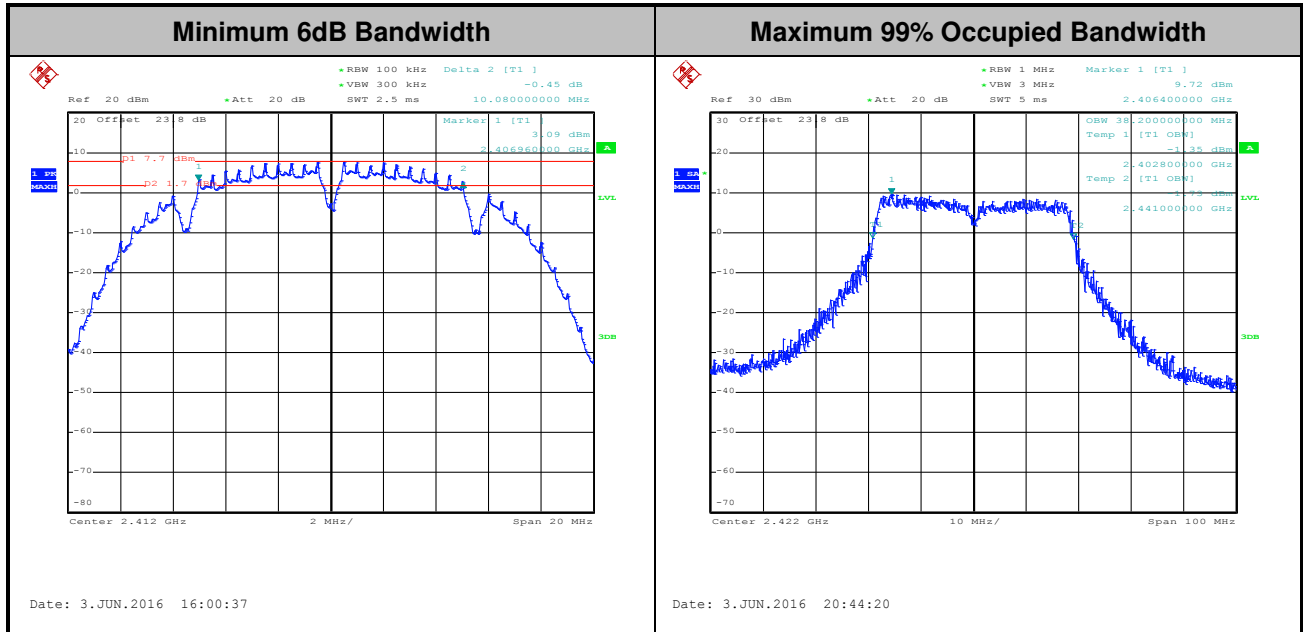
3.1.4 Test Setup





3.1.5 Test Result of 6dB and 99% Occupied Bandwidth

Please refer to Appendix A of this test report.



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

3.2 Peak Output Power Measurement

3.2.1 Limit of Peak Output Power

For systems using digital modulation in the 2400-2483.5MHz, the limit for peak output power is 30dBm. If transmitting antenna with directional gain greater than 6dBi is 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.

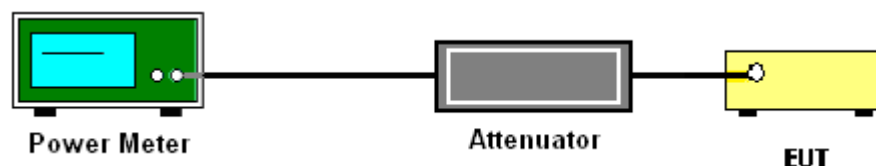
3.2.2 Measuring Instruments

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 v03r05 section 9.1.2 PKPM1 Peak power meter method.
2. The RF output of EUT was connected to the power meter by RF cable and attenuator. The path loss was compensated to the results for each measurement.
3. Set to the maximum power setting and enable the EUT transmit continuously.
4. Measure the conducted output power and record the results in the test report.
5. For MIMO mode, calculation method follows FCC KDB 662911 D01 Multiple Transmitter Output v02r01.

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 v03r05.
2. The RF output of EUT was connected to the spectrum analyzer by RF cable and attenuator. The path loss was compensated to the results for each measurement.
3. Set to the maximum power setting and enable the EUT transmit continuously.
4. Make the measurement with the spectrum analyzer's resolution bandwidth (RBW) = 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.
7. For MIMO mode, calculation method follows FCC KDB 662911 D01 Multiple Transmitter Output v02r01.

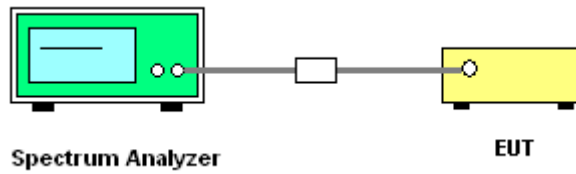
If measurements performed using method (2) plus $10 \log(N)$ exceeds the emission limit, the test should choose method (1) before declaring that the device fails the emission limit.

Method (1): Measure and sum the spectra across the outputs.

The total final Power Spectral Density is from a device with 2 transmitter outputs. The spectrum measurements of the individual outputs are all performed with the same span and number of points, the spectrum value in the first spectral bin of output 1 is summed with that in the first spectral bin of output 2 to obtain the value for the first frequency bin of the summed spectrum.

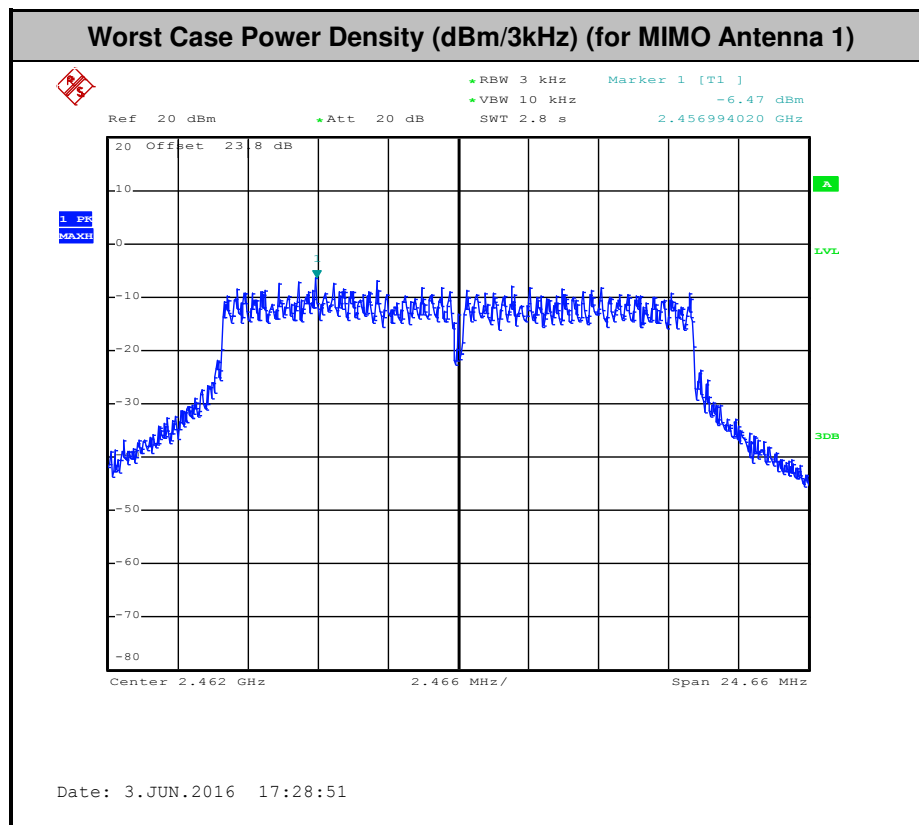
Method (2): Measure and add $10 \log(N)$ dB, where N is the number of outputs. (N=2)

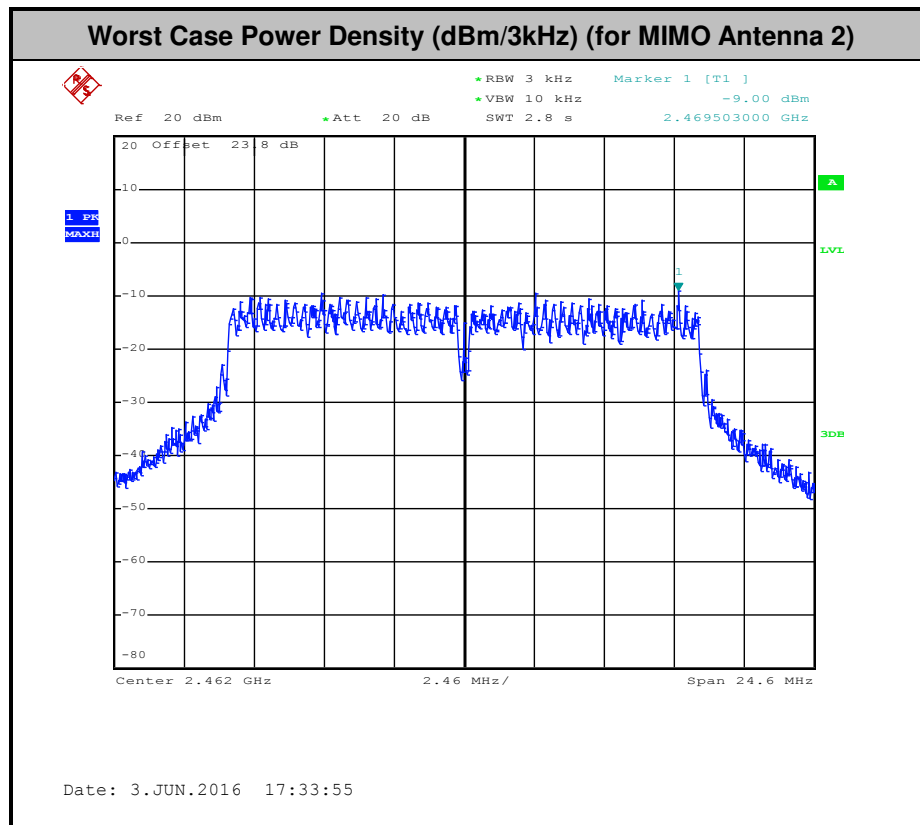
3.3.4 Test Setup



3.3.5 Test Result of Power Spectral Density

Please refer to Appendix A of this test report.





3.4 Conducted Band Edges and Spurious Emission Measurement

3.4.1 Limit of Conducted Band Edges and Spurious Emission Measurement

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

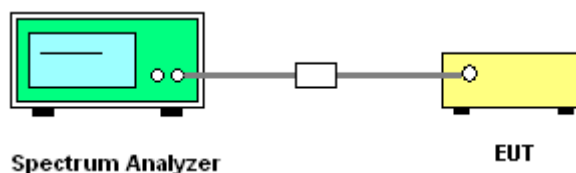
3.4.2 Measuring Instruments

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

3.4.3 Test Procedures

1. The testing follows FCC KDB Publication No. 558074 D01 DTS Meas. Guidance v03r05.
2. The RF output of EUT was connected to the spectrum analyzer by RF cable and attenuator. The path loss was compensated to the results for each measurement.
3. Set to the maximum power setting and enable the EUT transmit continuously.
4. Set RBW = 100 kHz, VBW=300 kHz, Peak Detector. Unwanted Emissions measured in any 100 kHz bandwidth outside of the authorized frequency band shall be attenuated by at least 20 dB relative to the maximum in-band peak PSD level in 100 kHz when maximum peak conducted output power procedure is used. If the transmitter complies with the conducted power limits based on the use of RMS averaging over a time interval, the attenuation required under this paragraph shall be 30 dB instead of 20 dB per 15.247(d).
5. Measure and record the results in the test report.
6. The RF fundamental frequency should be excluded against the limit line in the operating frequency band.

3.4.4 Test Setup

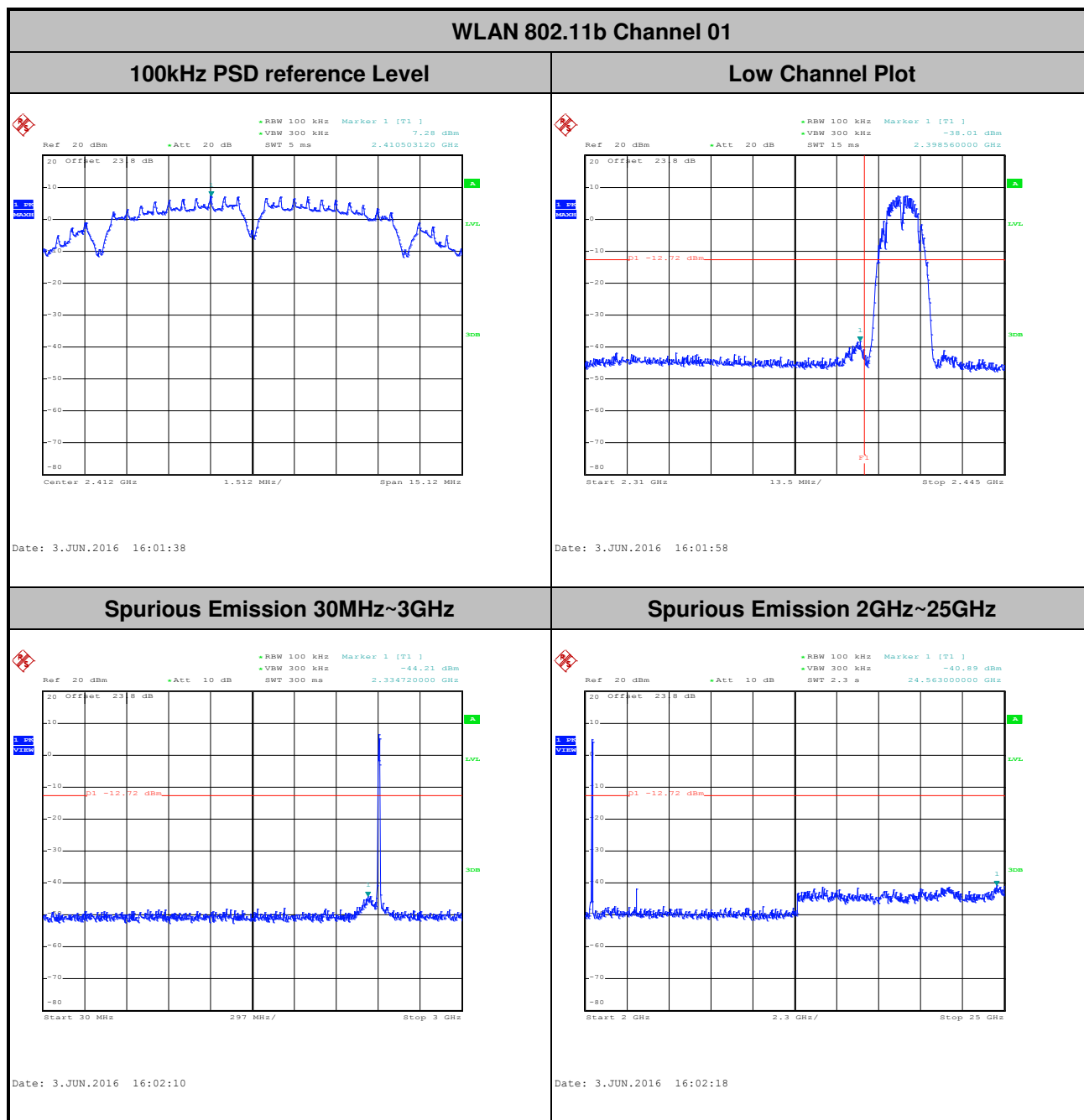




3.4.5 Test Result of Conducted Band Edges and Spurious Emission

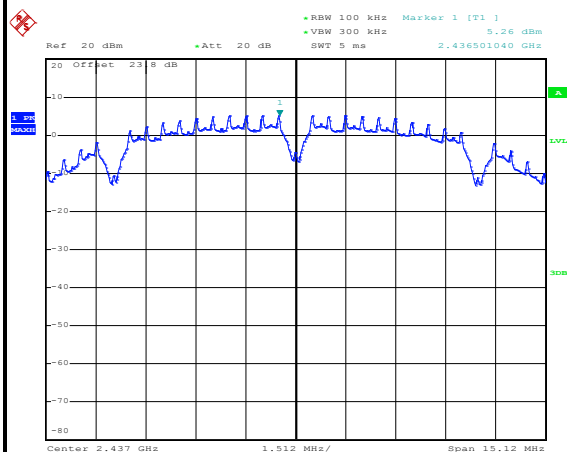
Number of TX = 2, Ant. 1 (Measured)

Number of TX	2	Ant. :	1
Test Mode :	802.11b	Temperature :	21~25℃
Test Band :	2.4GHz Low	Relative Humidity :	51~54%
Test Channel :	01	Test Engineer :	PH Yang and Bill Kuo

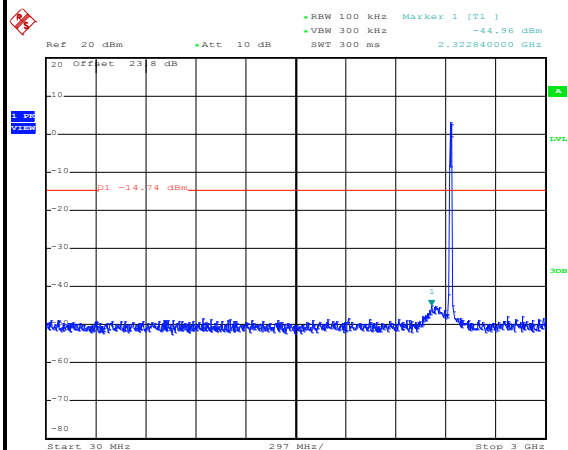




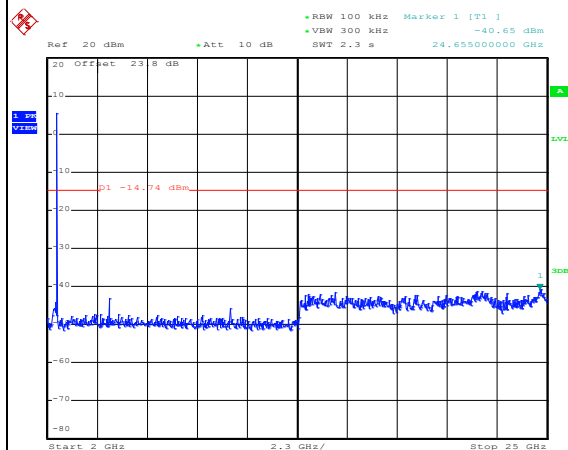
Number of TX :	2	Ant. :	1
Test Mode :	802.11b	Temperature :	21~25°C
Test Band :	2.4GHz Mid	Relative Humidity :	51~54%
Test Channel :	06	Test Engineer :	PH Yang and Bill Kuo

WLAN 802.11b Channel 06**100kHz PSD reference Level****Mid Channel Plot**

Date: 3.JUN.2016 16:50:48

Spurious Emission 30MHz~3GHz**Spurious Emission 2GHz~25GHz**

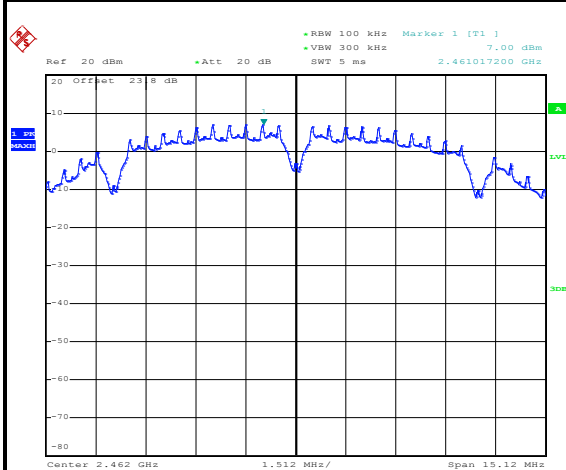
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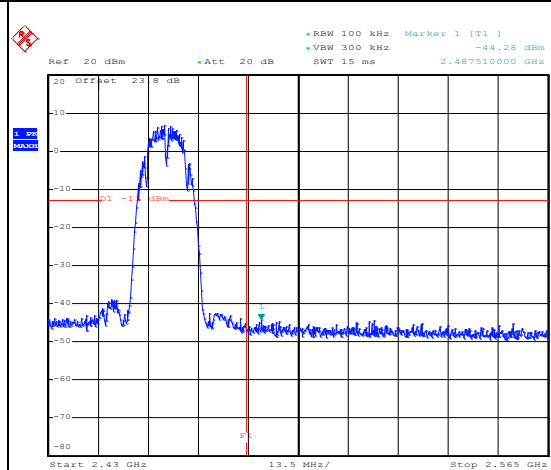
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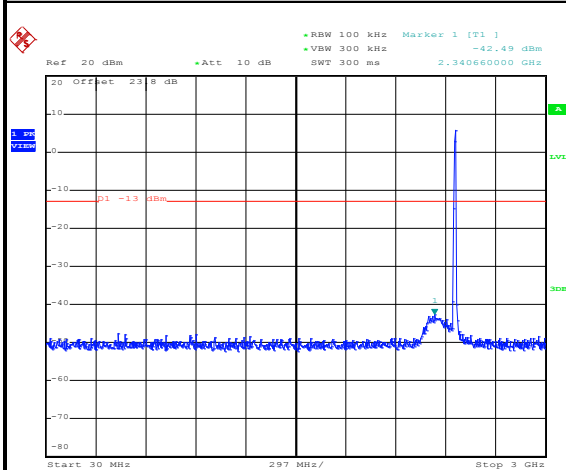
Number of TX :	2	Ant. :	1
Test Mode :	802.11b	Temperature :	21~25°C
Test Band :	2.4GHz High	Relative Humidity :	51~54%
Test Channel :	11	Test Engineer :	PH Yang and Bill Kuo

WLAN 802.11b Channel 11**100kHz PSD reference Level**

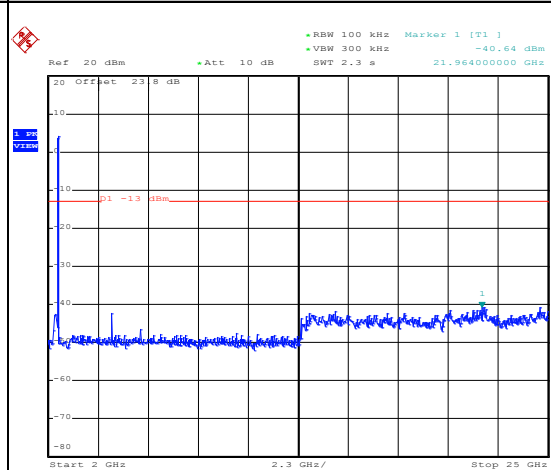
Date: 3.JUN.2016 17:00:09

High Channel Plot

Date: 3.JUN.2016 17:00:30

Spurious Emission 30MHz~3GHz

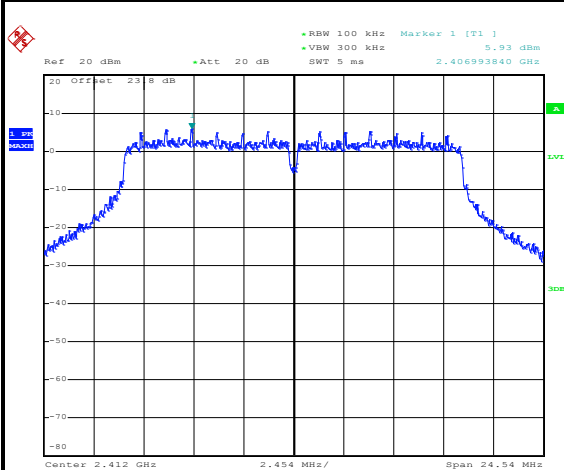
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Spurious Emission 2GHz~25GHz

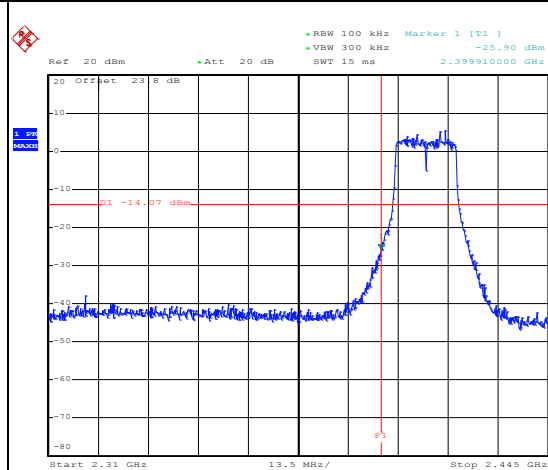
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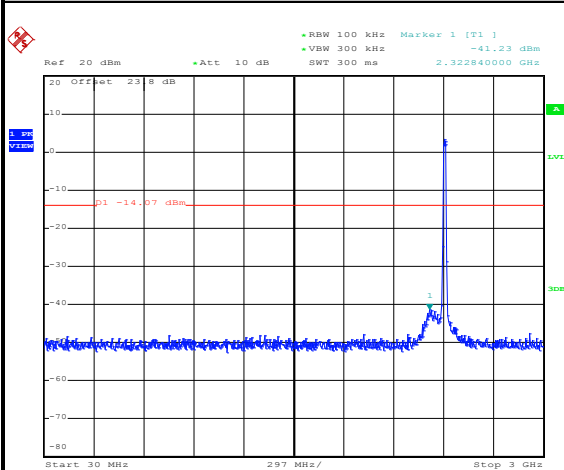
Number of TX :	2	Ant. :	1
Test Mode :	802.11g	Temperature :	21~25°C
Test Band :	2.4GHz Low	Relative Humidity :	51~54%
Test Channel :	01	Test Engineer :	PH Yang and Bill Kuo

WLAN 802.11g Channel 01**100kHz PSD reference Level**

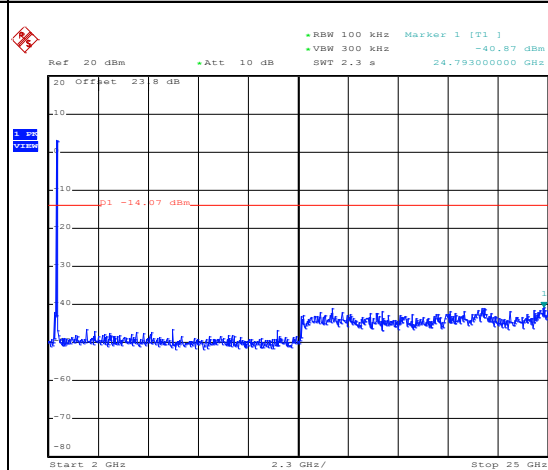
Date: 3.JUN.2016 16:31:33

Low Channel Plot

Date: 3.JUN.2016 16:32:16

Spurious Emission 30MHz~3GHz

Date: 3.JUN.2016 16:32:40

Spurious Emission 2GHz~25GHz

Date: 3.JUN.2016 16:32:48

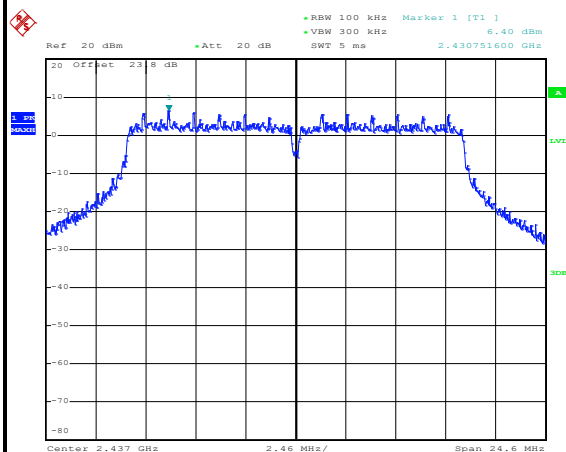


Number of TX :	2	Ant. :	1
Test Mode :	802.11g	Temperature :	21~25°C
Test Band :	2.4GHz Mid	Relative Humidity :	51~54%
Test Channel :	06	Test Engineer :	PH Yang and Bill Kuo

WLAN 802.11g Channel 06

100kHz PSD reference Level

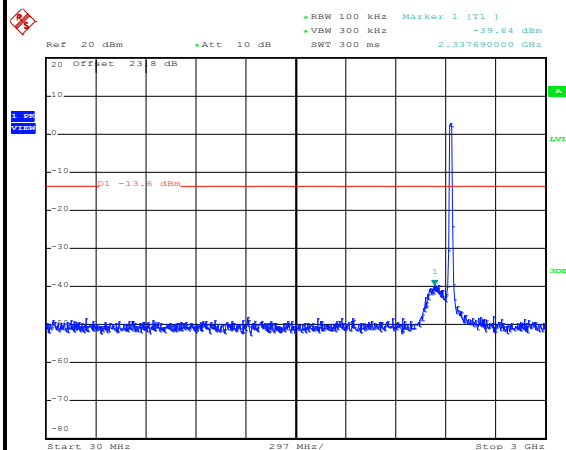
Mid Channel Plot



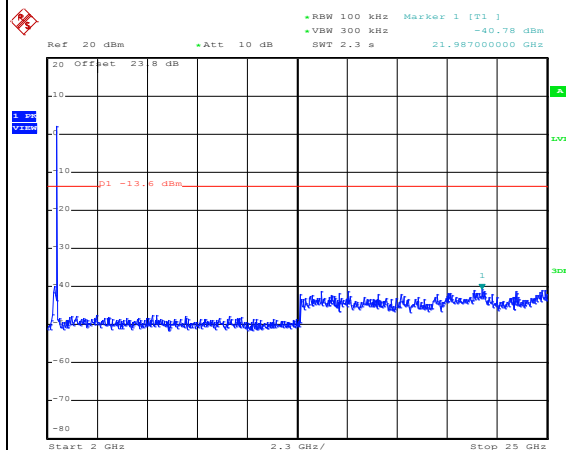
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Spurious Emission 30MHz~3GHz

Spurious Emission 2GHz~25GHz



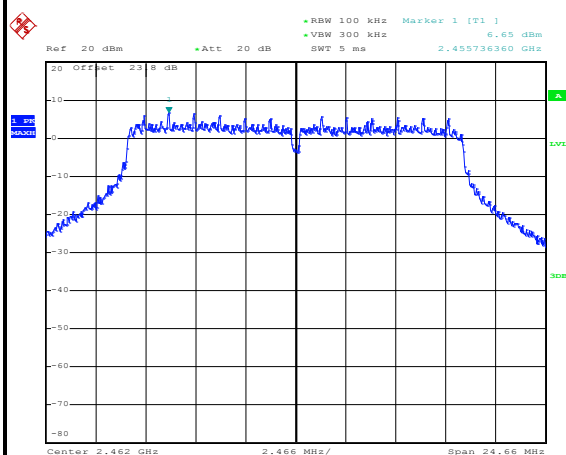
Date: 3.JUN.2016 17:19:41



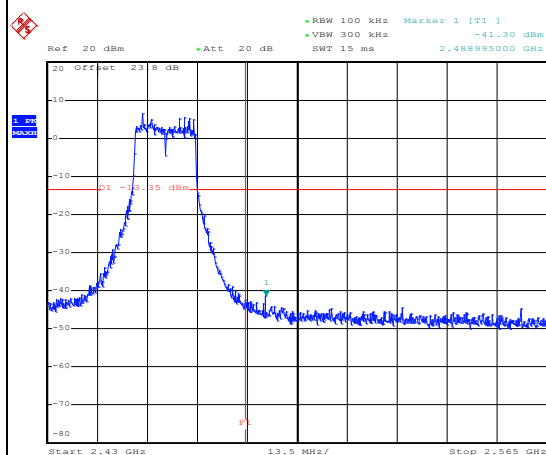
Date: 3.JUN.2016 17:19:49



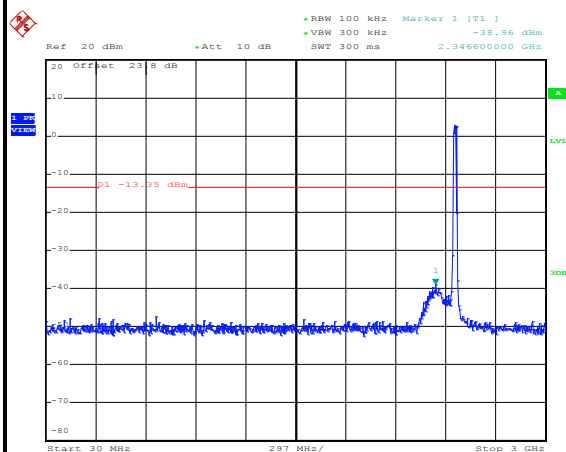
Number of TX :	2	Ant. :	1
Test Mode :	802.11g	Temperature :	21~25°C
Test Band :	2.4GHz High	Relative Humidity :	51~54%
Test Channel :	11	Test Engineer :	PH Yang and Bill Kuo

WLAN 802.11g Channel 11**100kHz PSD reference Level**

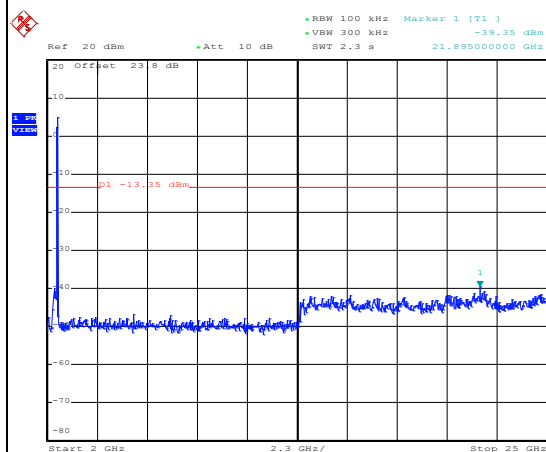
Date: 3.JUN.2016 17:29:13

High Channel Plot

Date: 3.JUN.2016 17:30:04

Spurious Emission 30MHz~3GHz

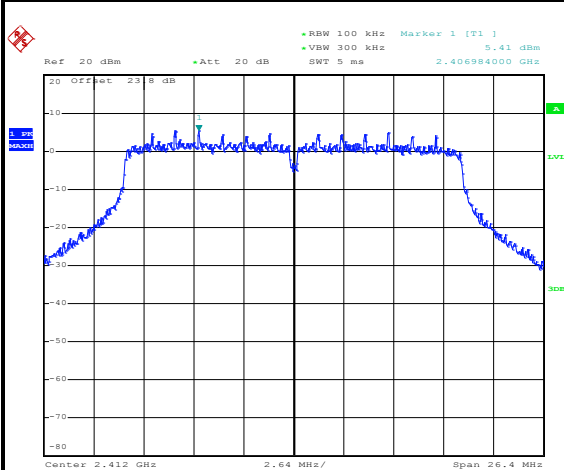
Date: 3.JUN.2016 17:30:17

Spurious Emission 2GHz~25GHz

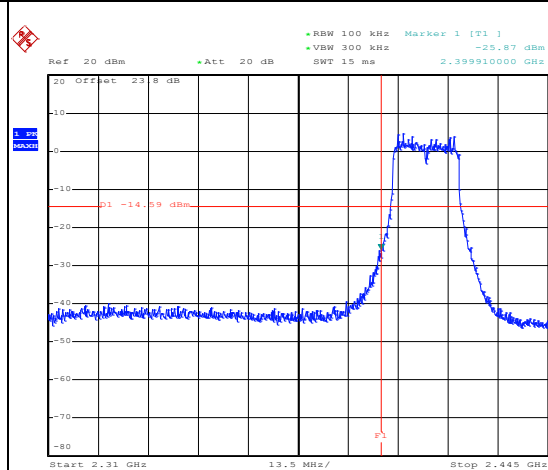
Date: 3.JUN.2016 17:30:25



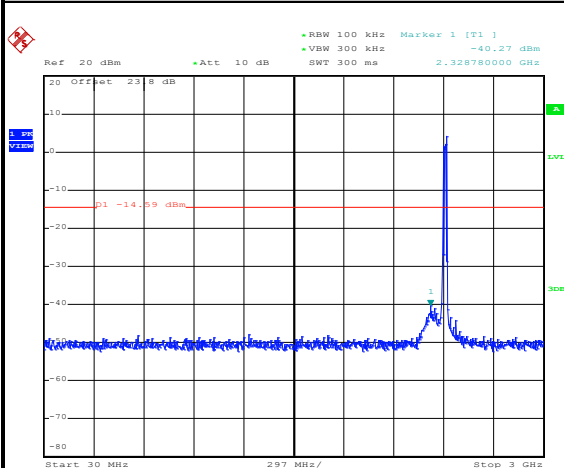
Number of TX :	2	Ant. :	1
Test Mode :	802.11n HT20	Temperature :	21~25°C
Test Band :	2.4GHz Low	Relative Humidity :	51~54%
Test Channel :	01	Test Engineer :	PH Yang and Bill Kuo

WLAN 802.11n HT20 Channel 01**100kHz PSD reference Level**

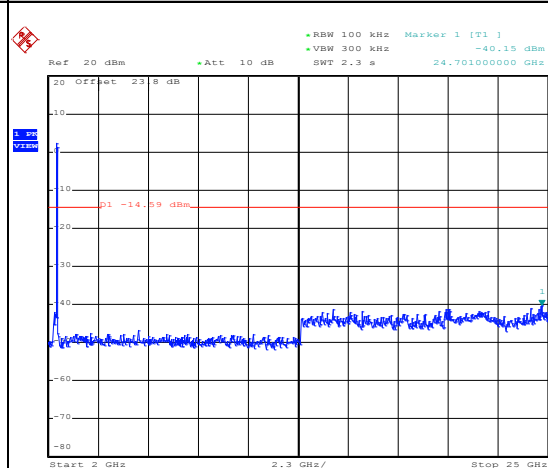
Date: 3.JUN.2016 17:39:53

Low Channel Plot

Date: 3.JUN.2016 17:40:30

Spurious Emission 30MHz~3GHz

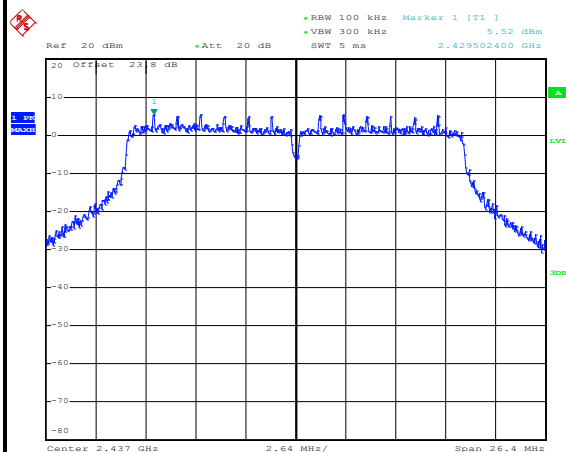
Date: 3.JUN.2016 17:40:45

Spurious Emission 2GHz~25GHz

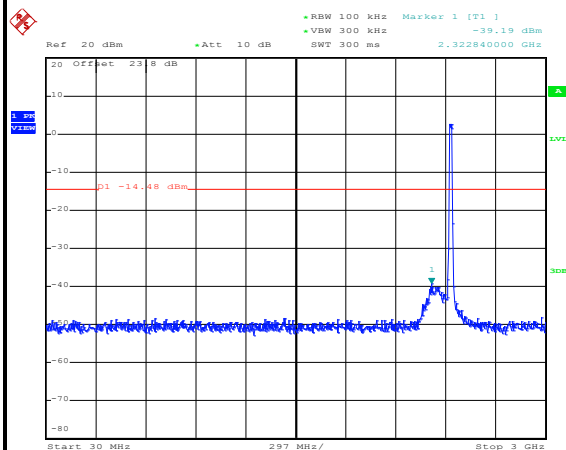
Date: 3.JUN.2016 17:40:53



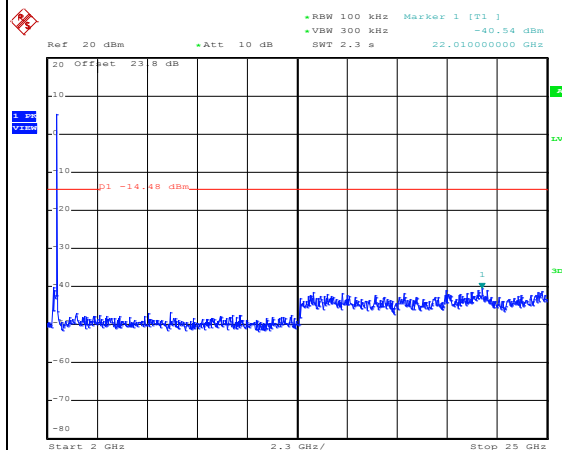
Number of TX :	2	Ant. :	1
Test Mode :	802.11n HT20	Temperature :	21~25°C
Test Band :	2.4GHz Mid	Relative Humidity :	51~54%
Test Channel :	06	Test Engineer :	PH Yang and Bill Kuo

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

Date: 3.JUN.2016 17:57:02

Spurious Emission 30MHz~3GHz**Spurious Emission 2GHz~25GHz**

Date: 3.JUN.2016 17:57:17



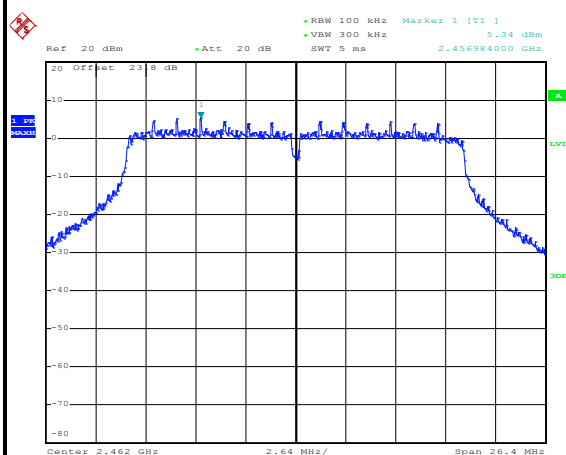
Date: 3.JUN.2016 17:57:25



Number of TX :	2	Ant. :	1
Test Mode :	802.11n HT20	Temperature :	21~25°C
Test Band :	2.4GHz High	Relative Humidity :	51~54%
Test Channel :	11	Test Engineer :	PH Yang and Bill Kuo

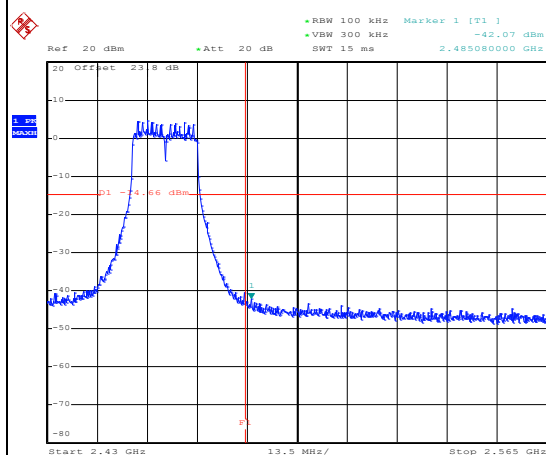
WLAN 802.11n HT20 Channel 11

100kHz PSD reference Level



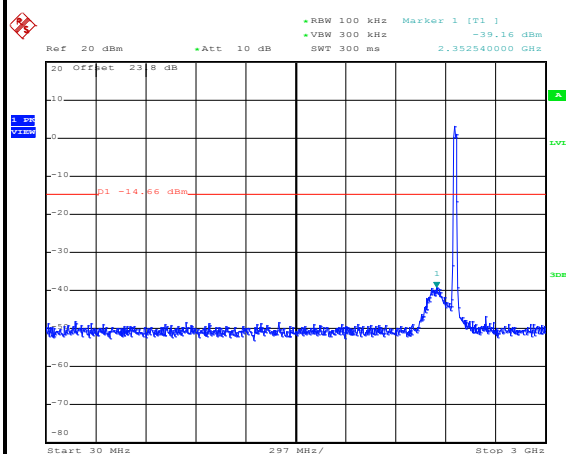
Date: 3.JUN.2016 20:30:38

High Channel Plot



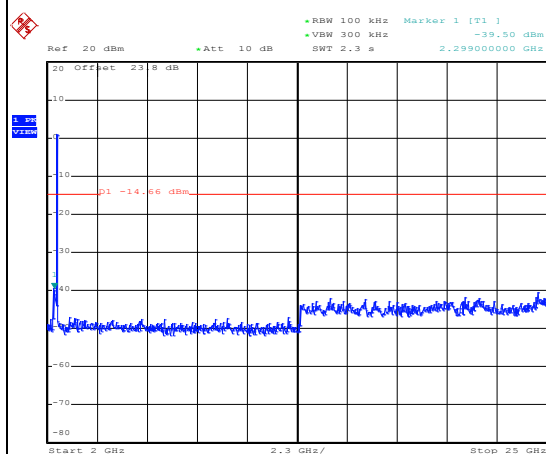
Date: 3.JUN.2016 20:31:00

Spurious Emission 30MHz~3GHz



Date: 3.JUN.2016 20:31:11

Spurious Emission 2GHz~25GHz



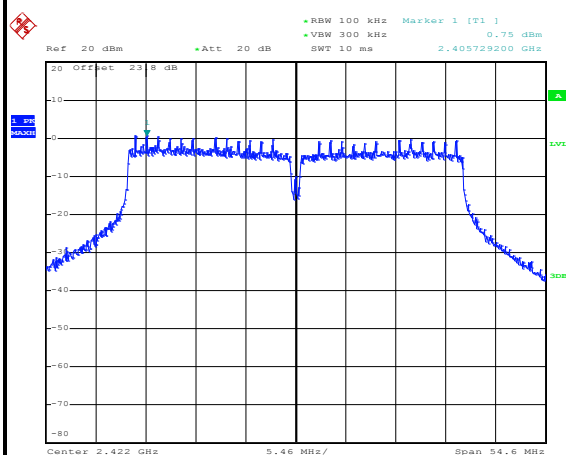
Date: 3.JUN.2016 20:31:19



Number of TX :	2	Ant. :	1
Test Mode :	802.11n HT40	Temperature :	21~25°C
Test Band :	2.4GHz Low	Relative Humidity :	51~54%
Test Channel :	03	Test Engineer :	PH Yang and Bill Kuo

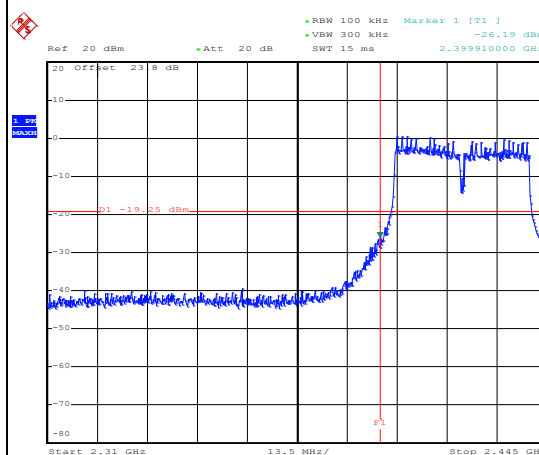
WLAN 802.11n HT40 Channel 03

100kHz PSD reference Level



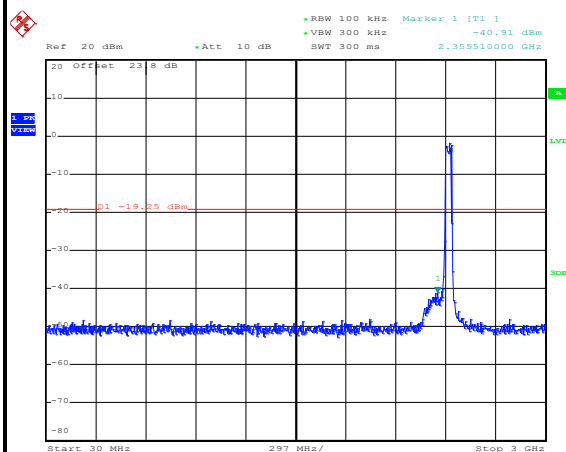
Date: 3.JUN.2016 20:43:31

Low Channel Plot



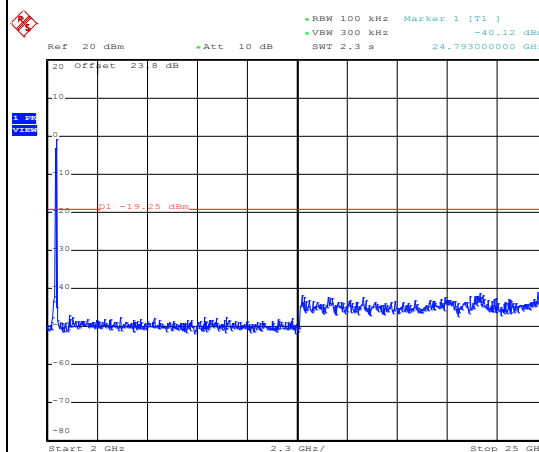
Date: 3.JUN.2016 20:43:45

Spurious Emission 30MHz~3GHz



Date: 3.JUN.2016 20:43:56

Spurious Emission 2GHz~25GHz



Date: 3.JUN.2016 20:44:05

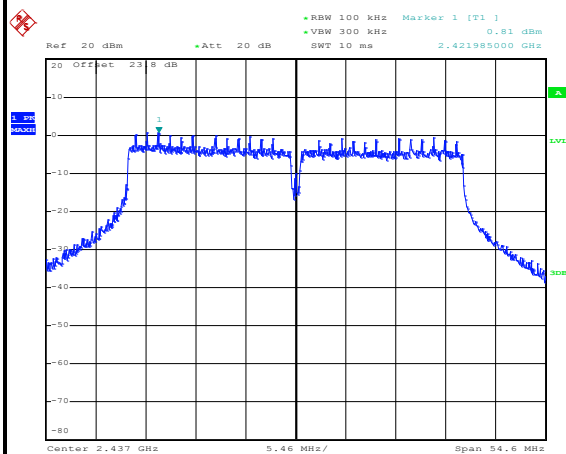


Number of TX :	2	Ant. :	1
Test Mode :	802.11n HT40	Temperature :	21~25°C
Test Band :	2.4GHz Mid	Relative Humidity :	51~54%
Test Channel :	06	Test Engineer :	PH Yang and Bill Kuo

WLAN 802.11n HT40 Channel 06

100kHz PSD reference Level

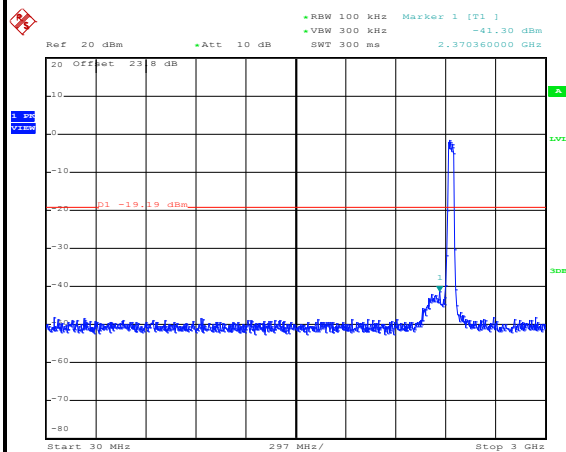
Mid Channel Plot



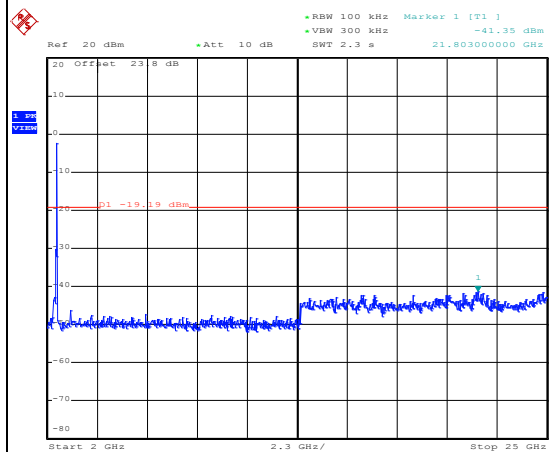
Date: 3.JUN.2016 20:48:18

Spurious Emission 30MHz~3GHz

Spurious Emission 2GHz~25GHz



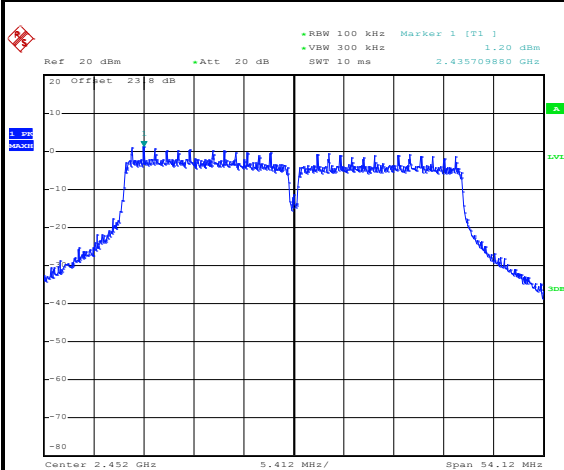
Date: 3.JUN.2016 20:48:29



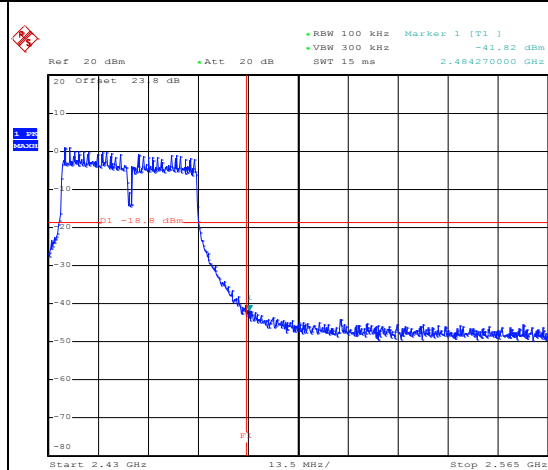
Date: 3.JUN.2016 20:48:38



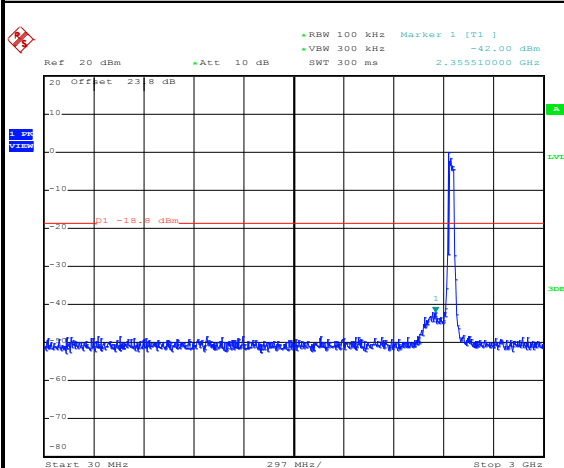
Number of TX :	2	Ant. :	1
Test Mode :	802.11n HT40	Temperature :	21~25°C
Test Band :	2.4GHz High	Relative Humidity :	51~54%
Test Channel :	09	Test Engineer :	PH Yang and Bill Kuo

WLAN 802.11n HT40 Channel 09**100kHz PSD reference Level**

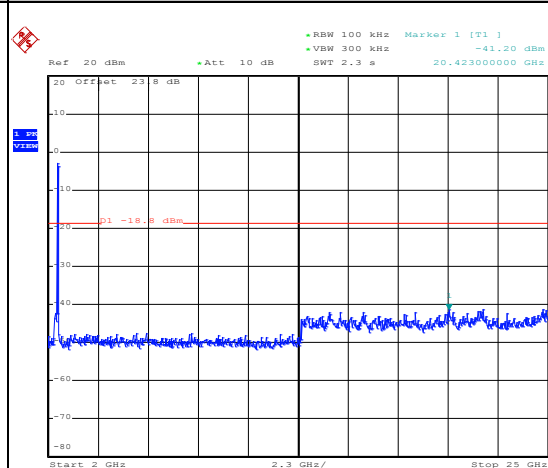
Date: 3.JUN.2016 20:51:49

High Channel Plot

Date: 3.JUN.2016 20:52:02

Spurious Emission 30MHz~3GHz

Date: 3.JUN.2016 20:52:13

Spurious Emission 2GHz~25GHz

Date: 3.JUN.2016 20:52:21

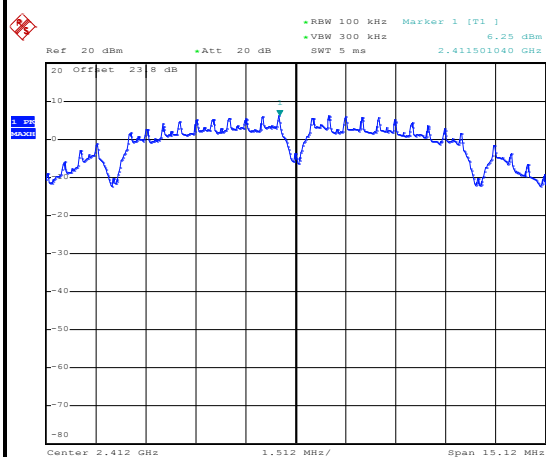


Number of TX = 2, Ant. 2 (Measured)

Number of TX :	2	Ant. :	2
Test Mode :	802.11b	Temperature :	21~25°C
Test Band :	2.4GHz Low	Relative Humidity :	51~54%
Test Channel :	01	Test Engineer :	PH Yang and Bill Kuo

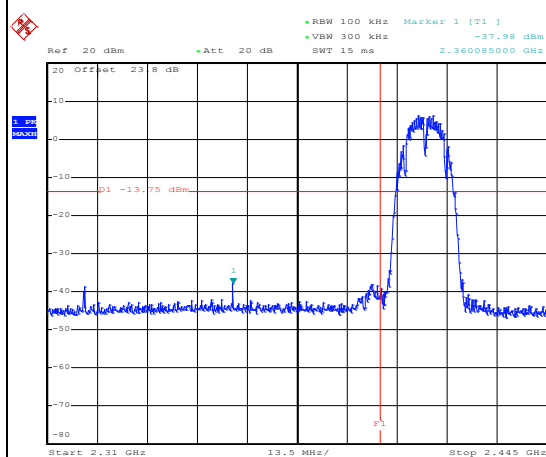
WLAN 802.11b Channel 01

100kHz PSD reference Level



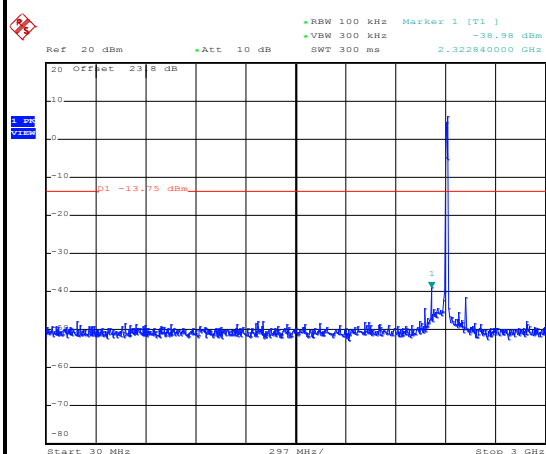
Date: 3.JUN.2016 16:09:35

Low Channel Plot



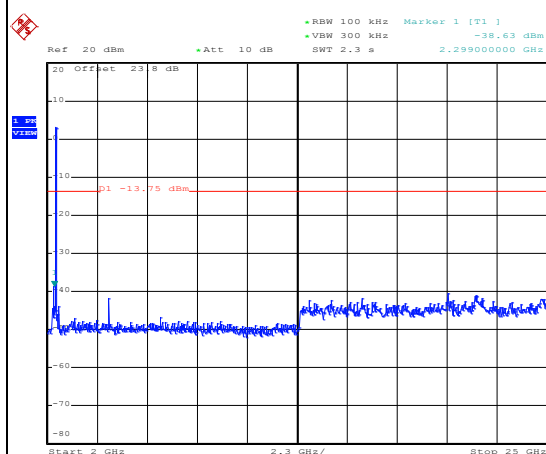
Date: 3.JUN.2016 16:10:11

Spurious Emission 30MHz~3GHz



Date: 3.JUN.2016 21:36:30

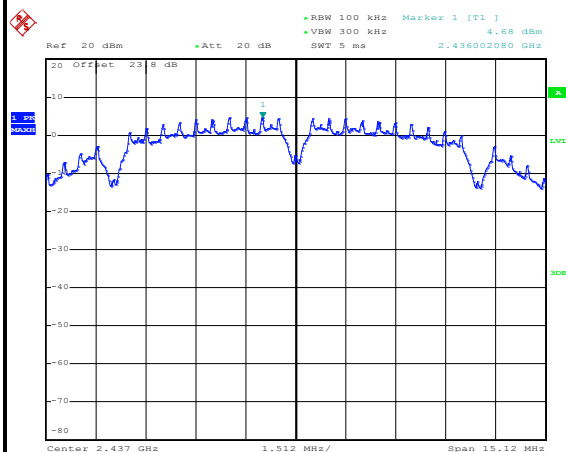
Spurious Emission 2GHz~25GHz



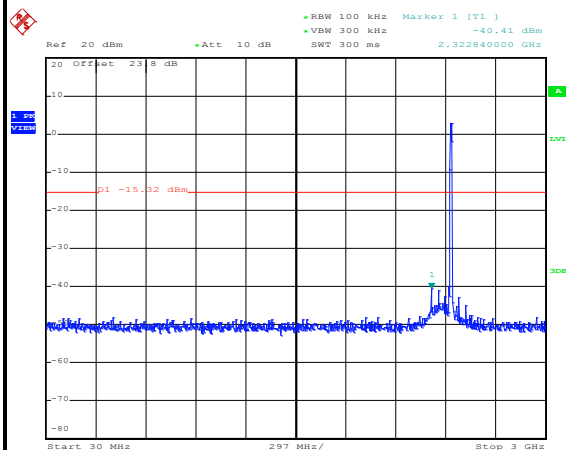
Date: 3.JUN.2016 21:36:39



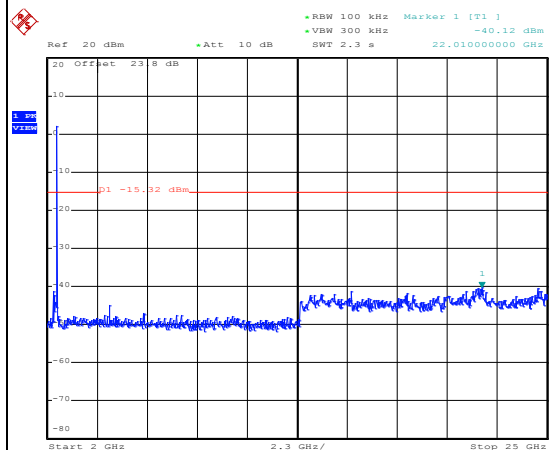
Number of TX :	2	Ant. :	2
Test Mode :	802.11b	Temperature :	21~25°C
Test Band :	2.4GHz Mid	Relative Humidity :	51~54%
Test Channel :	06	Test Engineer :	PH Yang and Bill Kuo

WLAN 802.11b Channel 06**100kHz PSD reference Level****Mid Channel Plot**

Date: 3.JUN.2016 16:54:56

Spurious Emission 30MHz~3GHz**Spurious Emission 2GHz~25GHz**

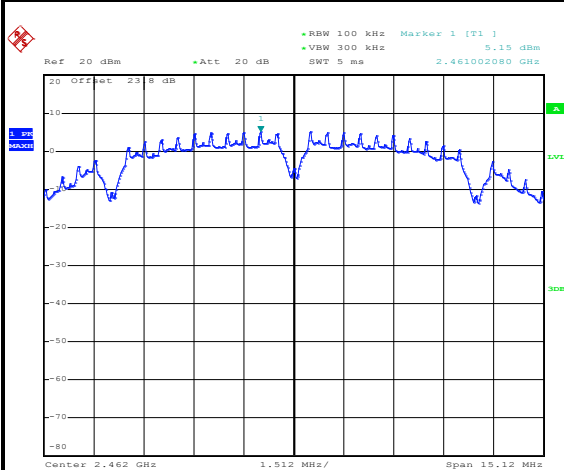
Date: 3.JUN.2016 16:55:09



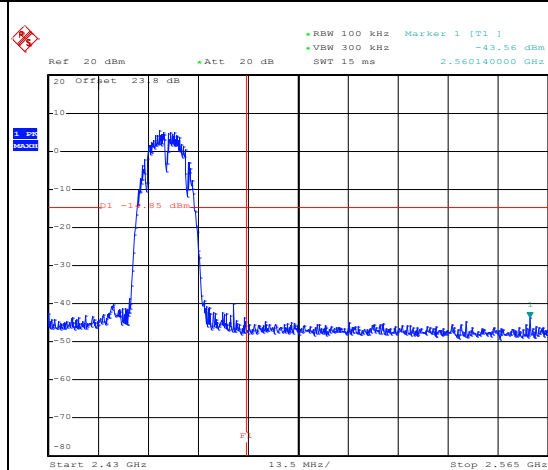
Date: 3.JUN.2016 16:55:17



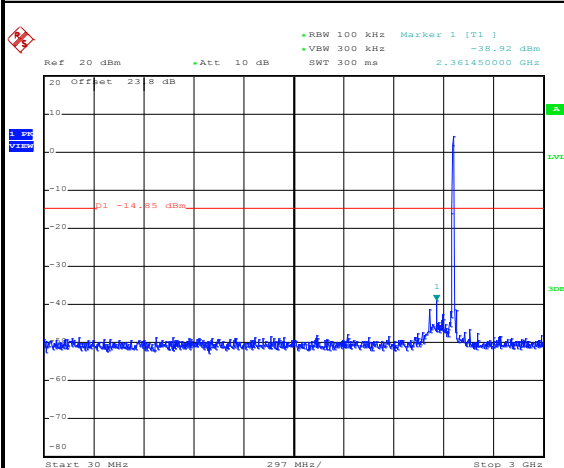
Number of TX :	2	Ant. :	2
Test Mode :	802.11b	Temperature :	21~25°C
Test Band :	2.4GHz High	Relative Humidity :	51~54%
Test Channel :	11	Test Engineer :	PH Yang and Bill Kuo

WLAN 802.11b Channel 11**100kHz PSD reference Level**

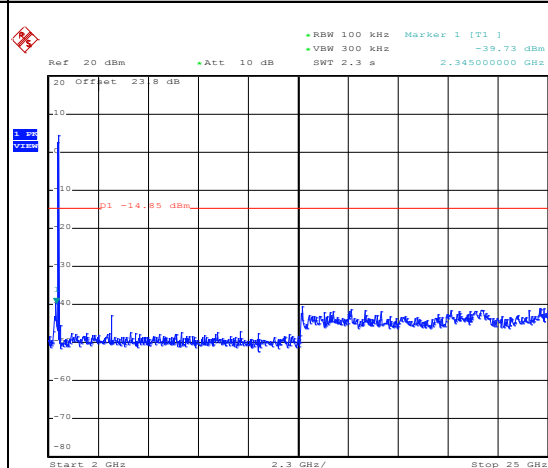
Date: 3.JUN.2016 17:04:33

High Channel Plot

Date: 3.JUN.2016 17:04:55

Spurious Emission 30MHz~3GHz

Date: 3.JUN.2016 17:05:27

Spurious Emission 2GHz~25GHz

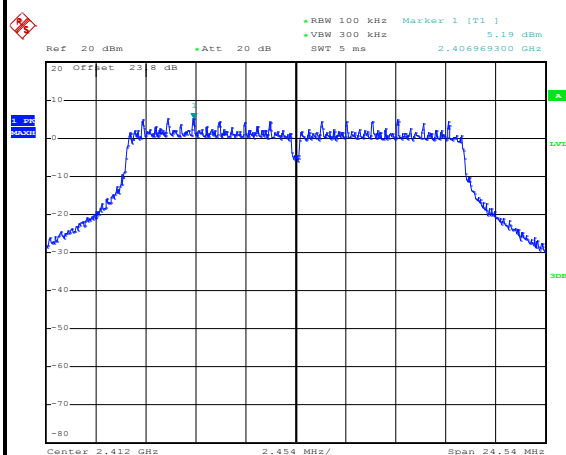
Date: 3.JUN.2016 17:05:35



Number of TX :	2	Ant. :	2
Test Mode :	802.11g	Temperature :	21~25°C
Test Band :	2.4GHz Low	Relative Humidity :	51~54%
Test Channel :	01	Test Engineer :	PH Yang and Bill Kuo

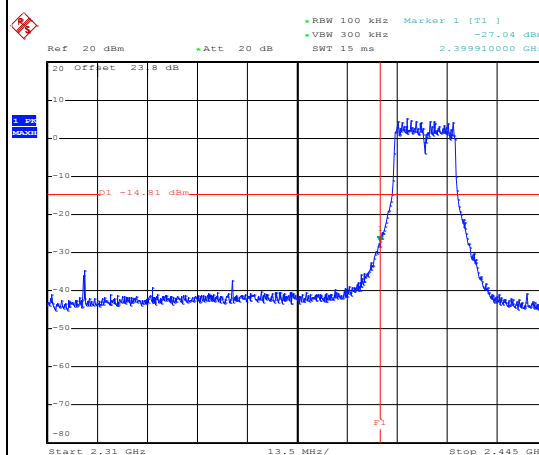
WLAN 802.11g Channel 01

100kHz PSD reference Level



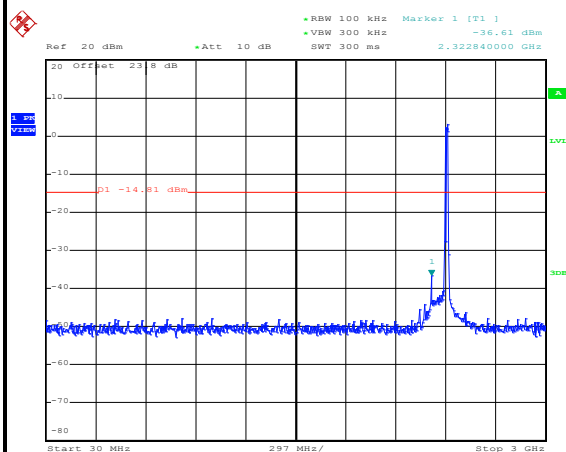
Date: 3.JUN.2016 16:36:45

Low Channel Plot



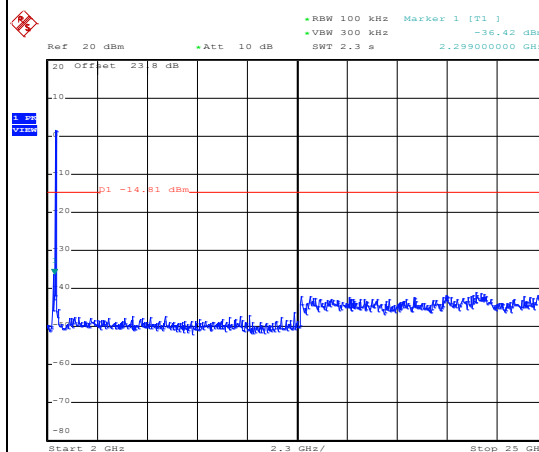
Date: 3.JUN.2016 16:41:45

Spurious Emission 30MHz~3GHz



Date: 3.JUN.2016 16:39:46

Spurious Emission 2GHz~25GHz



Date: 3.JUN.2016 16:39:54

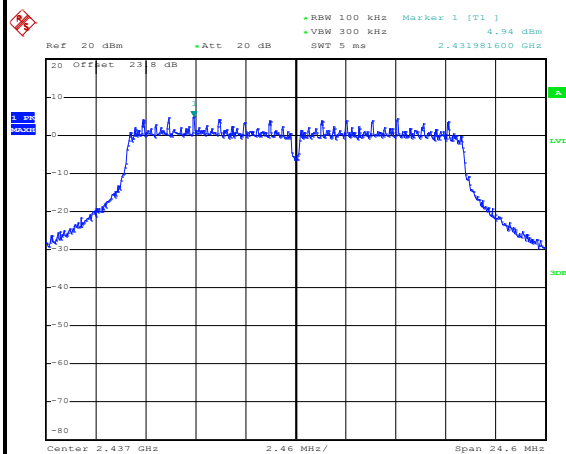


Number of TX :	2	Ant. :	2
Test Mode :	802.11g	Temperature :	21~25°C
Test Band :	2.4GHz Mid	Relative Humidity :	51~54%
Test Channel :	06	Test Engineer :	PH Yang and Bill Kuo

WLAN 802.11g Channel 06

100kHz PSD reference Level

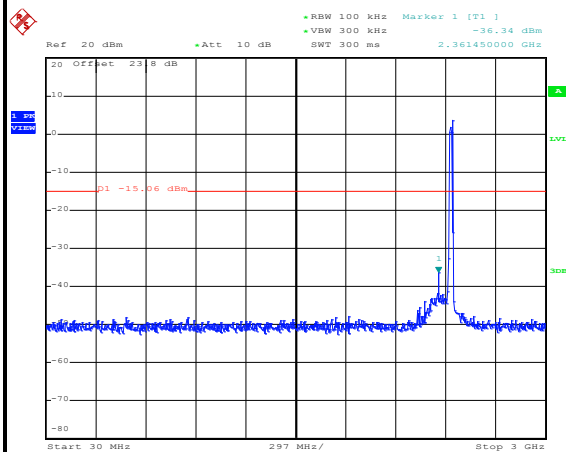
Mid Channel Plot



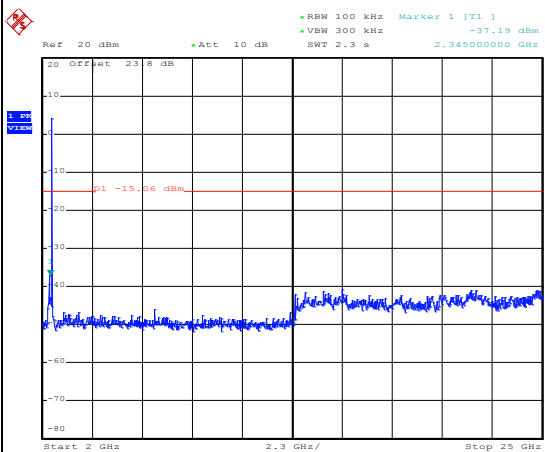
Date: 3.JUN.2016 17:23:20

Spurious Emission 30MHz~3GHz

Spurious Emission 2GHz~25GHz



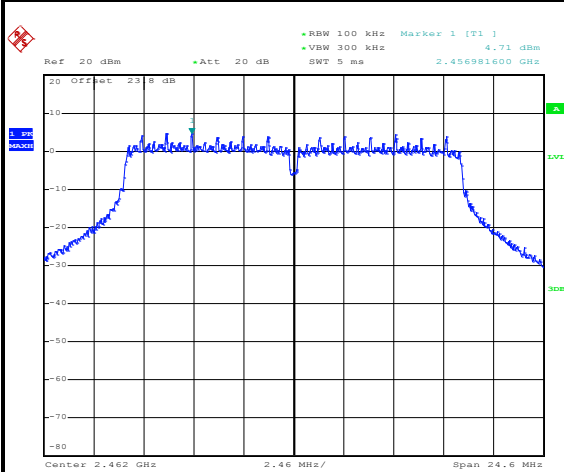
Date: 3.JUN.2016 17:24:15



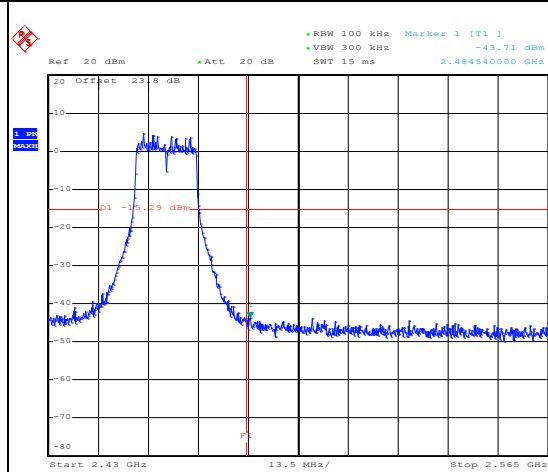
Date: 3.JUN.2016 17:24:23



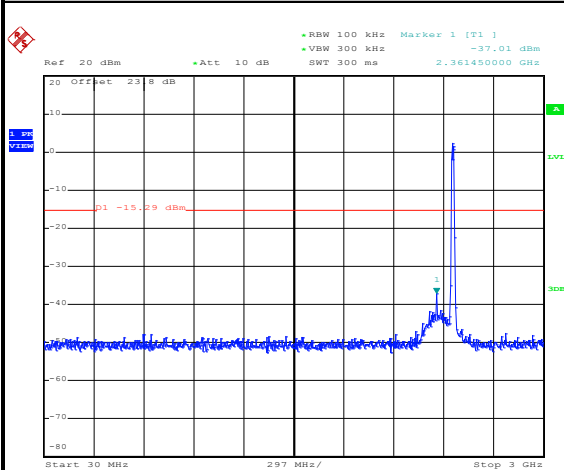
Number of TX :	2	Ant. :	2
Test Mode :	802.11g	Temperature :	21~25°C
Test Band :	2.4GHz High	Relative Humidity :	51~54%
Test Channel :	11	Test Engineer :	PH Yang and Bill Kuo

WLAN 802.11g Channel 11**100kHz PSD reference Level**

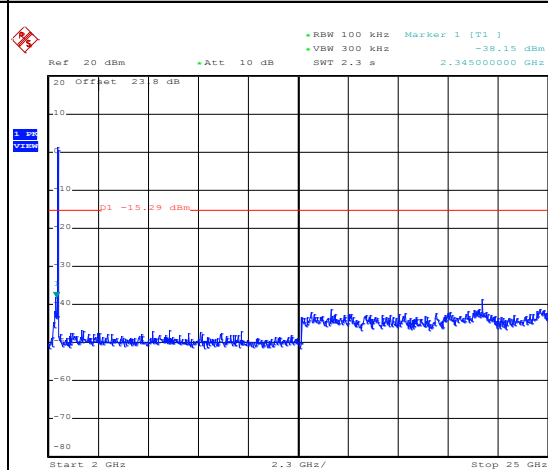
Date: 3.JUN.2016 17:34:16

High Channel Plot

Date: 3.JUN.2016 17:34:34

Spurious Emission 30MHz~3GHz

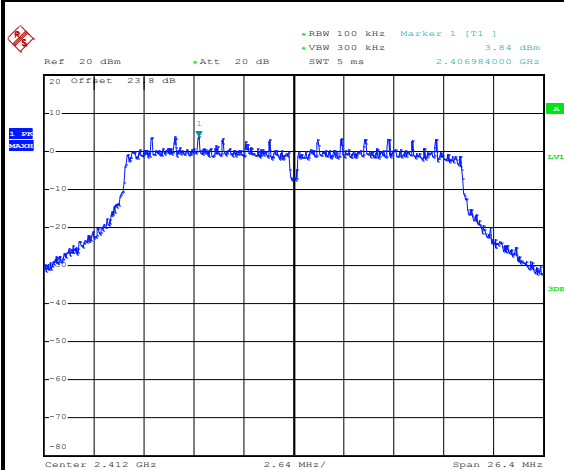
Date: 3.JUN.2016 17:35:49

Spurious Emission 2GHz~25GHz

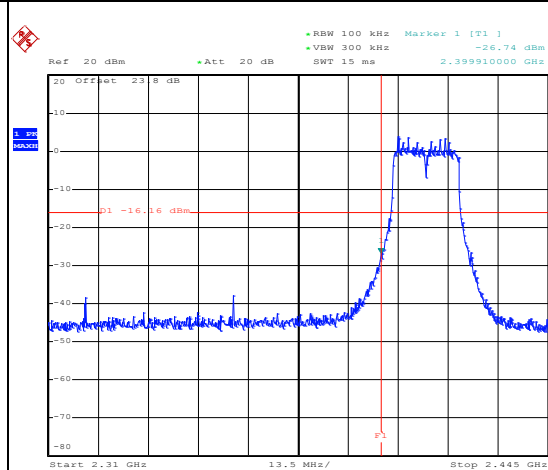
Date: 3.JUN.2016 17:35:58



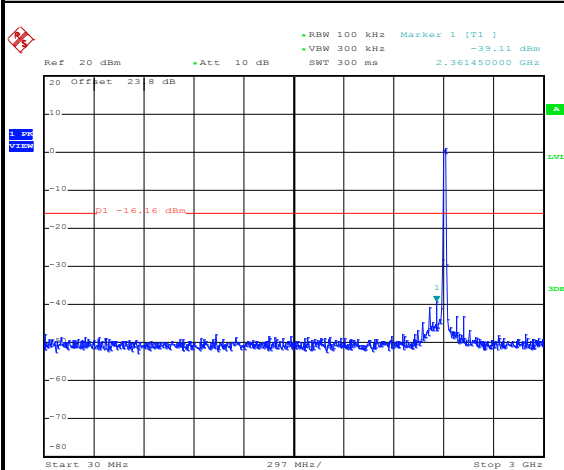
Number of TX :	2	Ant. :	2
Test Mode :	802.11n HT20	Temperature :	21~25°C
Test Band :	2.4GHz Low	Relative Humidity :	51~54%
Test Channel :	01	Test Engineer :	PH Yang and Bill Kuo

WLAN 802.11n HT20 Channel 01**100kHz PSD reference Level**

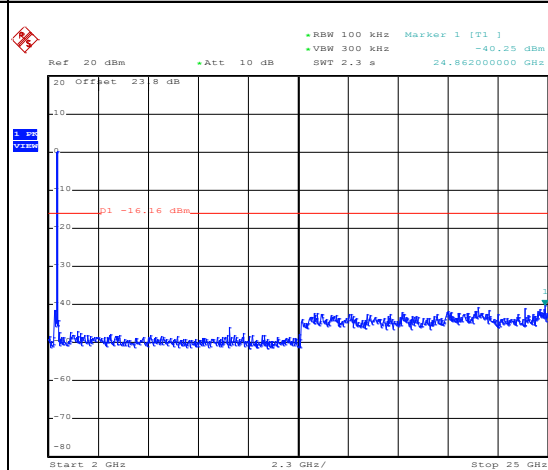
Date: 3.JUN.2016 17:44:26

Low Channel Plot

Date: 3.JUN.2016 17:44:55

Spurious Emission 30MHz~3GHz

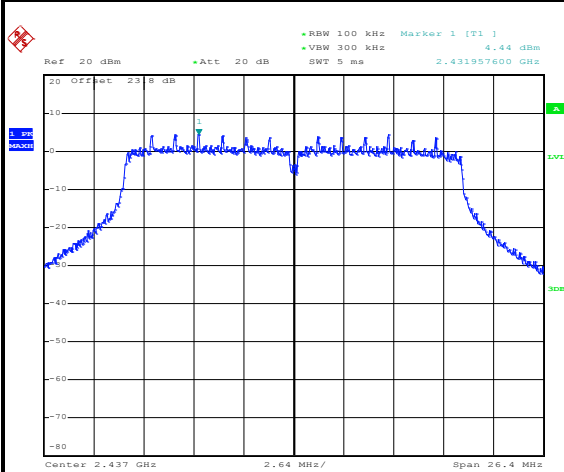
Date: 3.JUN.2016 17:45:11

Spurious Emission 2GHz~25GHz

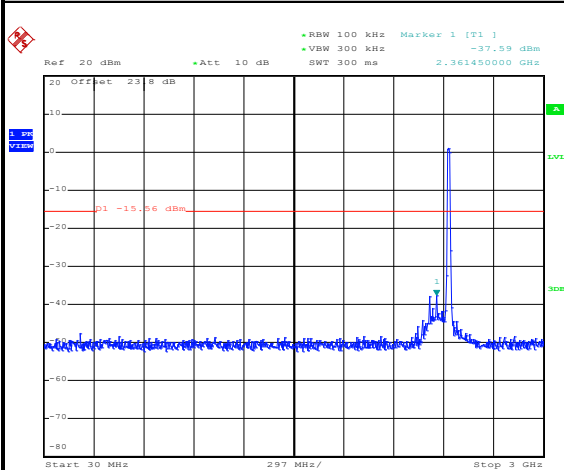
Date: 3.JUN.2016 17:45:19



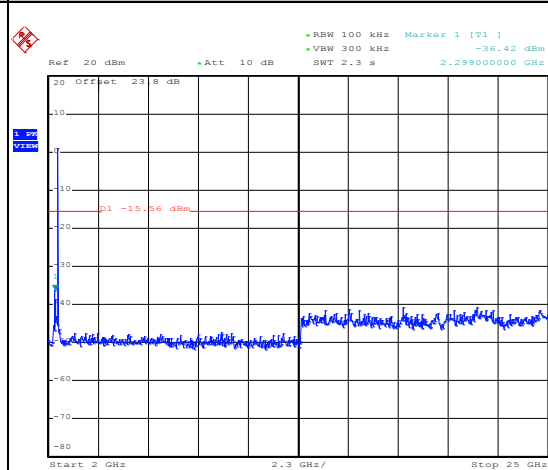
Number of TX :	2	Ant. :	2
Test Mode :	802.11n HT20	Temperature :	21~25°C
Test Band :	2.4GHz Mid	Relative Humidity :	51~54%
Test Channel :	06	Test Engineer :	PH Yang and Bill Kuo

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

Date: 3.JUN.2016 17:51:40

Mid Channel Plot**Spurious Emission 30MHz~3GHz**

Date: 3.JUN.2016 17:51:53

Spurious Emission 2GHz~25GHz

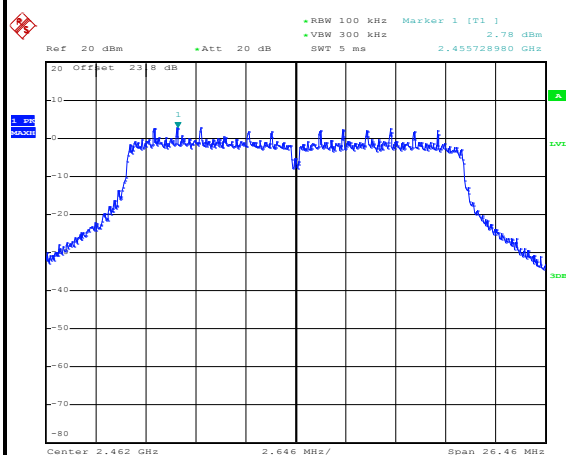
Date: 3.JUN.2016 17:52:02



Number of TX :	2	Ant. :	2
Test Mode :	802.11n HT20	Temperature :	21~25°C
Test Band :	2.4GHz High	Relative Humidity :	51~54%
Test Channel :	11	Test Engineer :	PH Yang and Bill Kuo

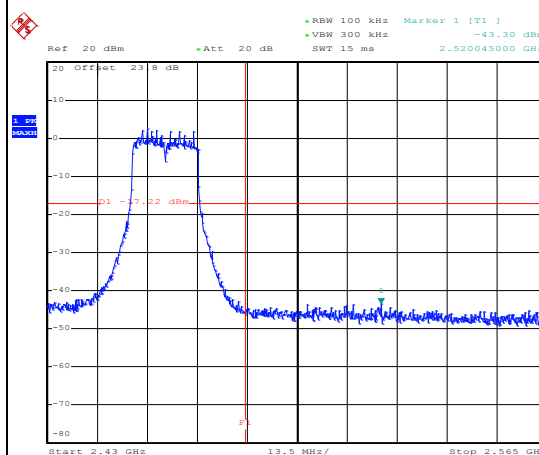
WLAN 802.11n HT20 Channel 11

100kHz PSD reference Level



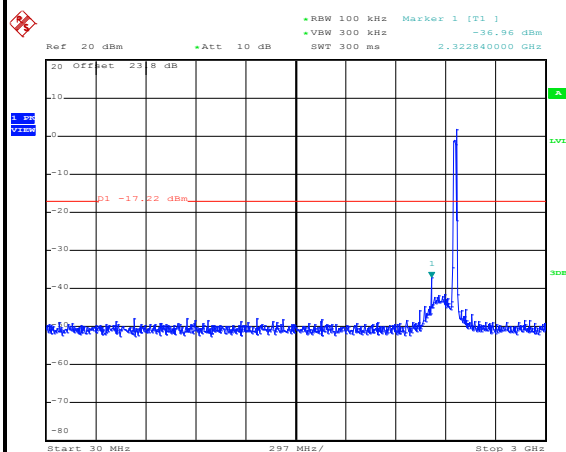
Date: 3.JUN.2016 20:36:53

High Channel Plot



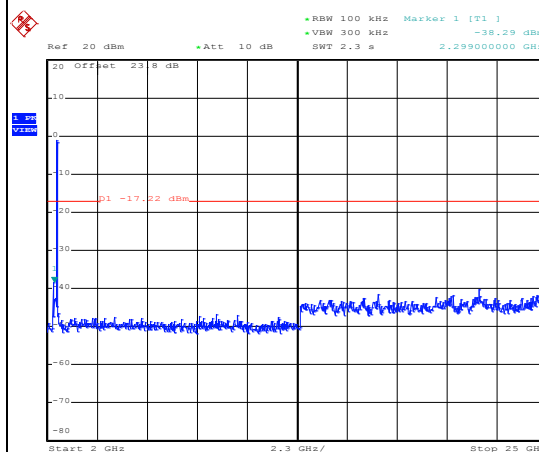
Date: 3.JUN.2016 20:37:07

Spurious Emission 30MHz~3GHz



Date: 3.JUN.2016 20:37:19

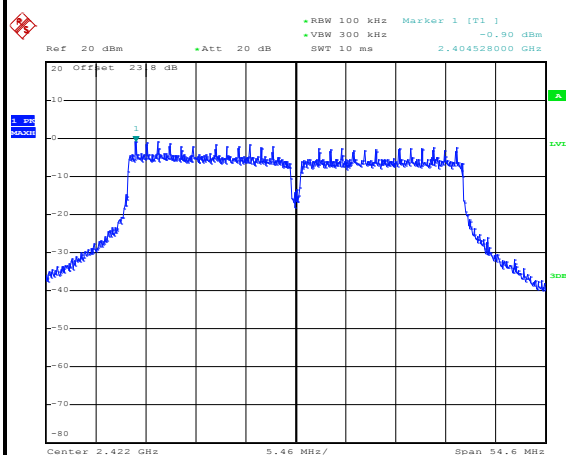
Spurious Emission 2GHz~25GHz



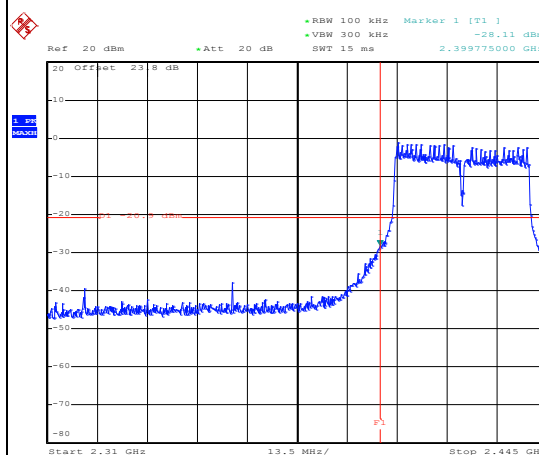
Date: 3.JUN.2016 20:37:27



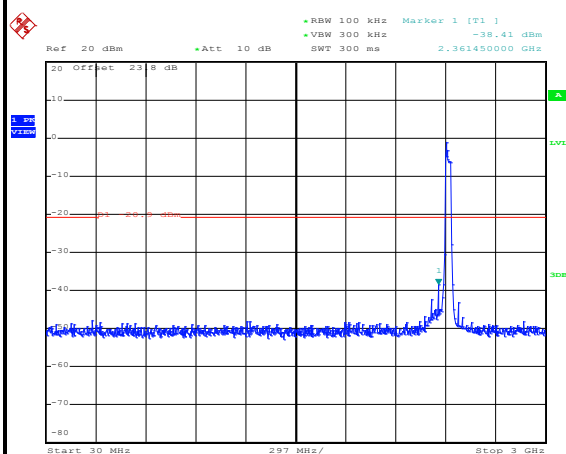
Number of TX :	2	Ant. :	2
Test Mode :	802.11n HT40	Temperature :	21~25°C
Test Band :	2.4GHz Low	Relative Humidity :	51~54%
Test Channel :	03	Test Engineer :	PH Yang and Bill Kuo

WLAN 802.11n HT40 Channel 03**100kHz PSD reference Level**

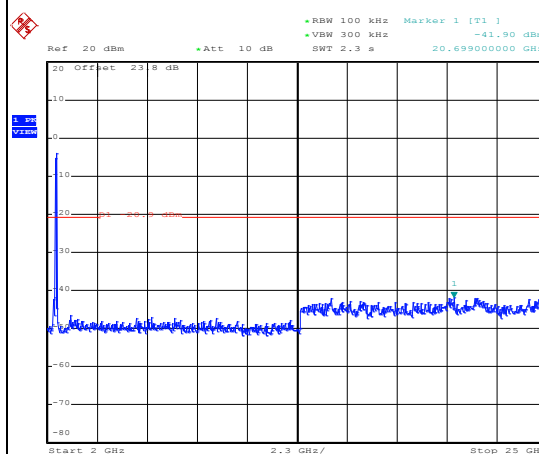
Date: 3.JUN.2016 21:22:36

Low Channel Plot

Date: 3.JUN.2016 21:22:51

Spurious Emission 30MHz~3GHz

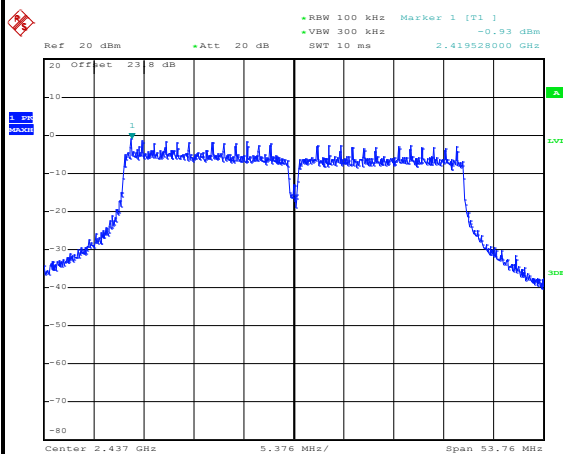
Date: 3.JUN.2016 21:23:32

Spurious Emission 2GHz~25GHz

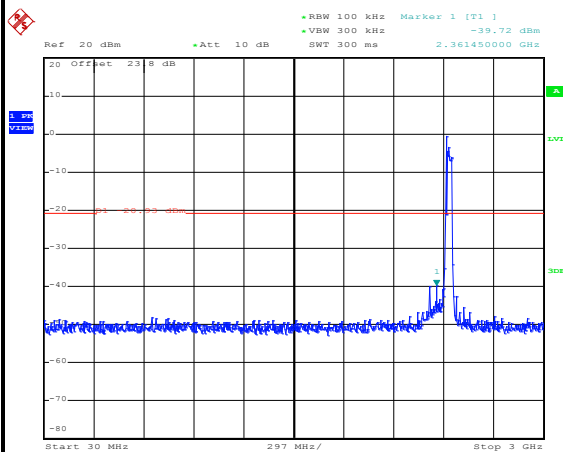
Date: 3.JUN.2016 21:23:49



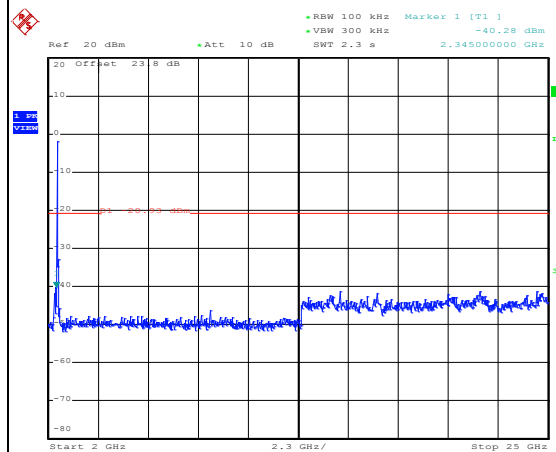
Number of TX :	2	Ant. :	2
Test Mode :	802.11n HT40	Temperature :	21~25°C
Test Band :	2.4GHz Mid	Relative Humidity :	51~54%
Test Channel :	06	Test Engineer :	PH Yang and Bill Kuo

WLAN 802.11n HT40 Channel 06**100kHz PSD reference Level****Mid Channel Plot**

Date: 3.JUN.2016 21:13:43

Spurious Emission 30MHz~3GHz**Spurious Emission 2GHz~25GHz**

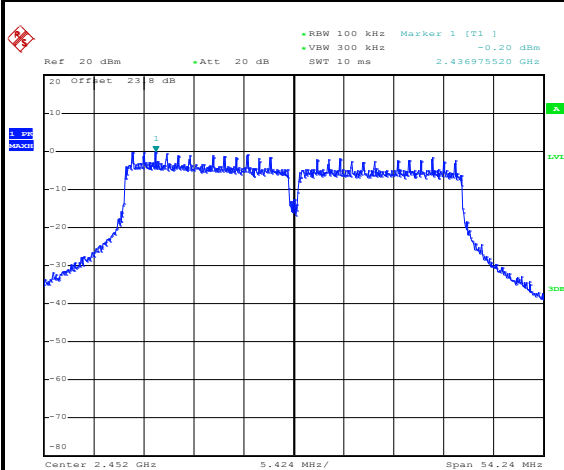
Date: 3.JUN.2016 21:14:17



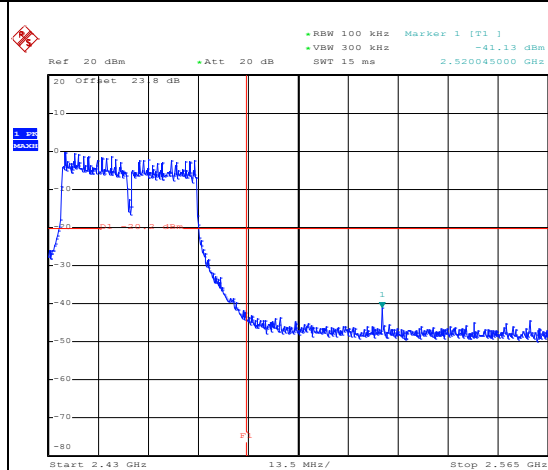
Date: 3.JUN.2016 21:14:25



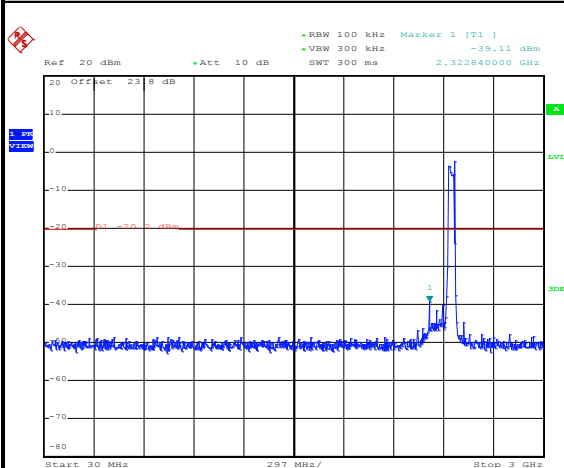
Number of TX :	2	Ant. :	2
Test Mode :	802.11n HT40	Temperature :	21~25°C
Test Band :	2.4GHz High	Relative Humidity :	51~54%
Test Channel :	09	Test Engineer :	PH Yang and Bill Kuo

WLAN 802.11n HT40 Channel 09**100kHz PSD reference Level**

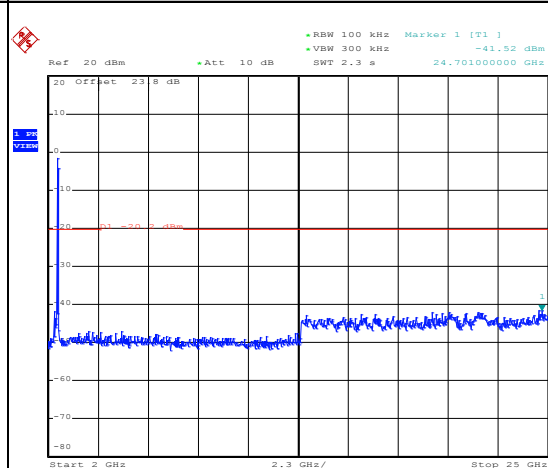
Date: 3.JUN.2016 21:10:42

High Channel Plot

Date: 3.JUN.2016 21:11:02

Spurious Emission 30MHz~3GHz

Date: 3.JUN.2016 21:11:32

Spurious Emission 2GHz~25GHz

Date: 3.JUN.2016 21:11:41

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.

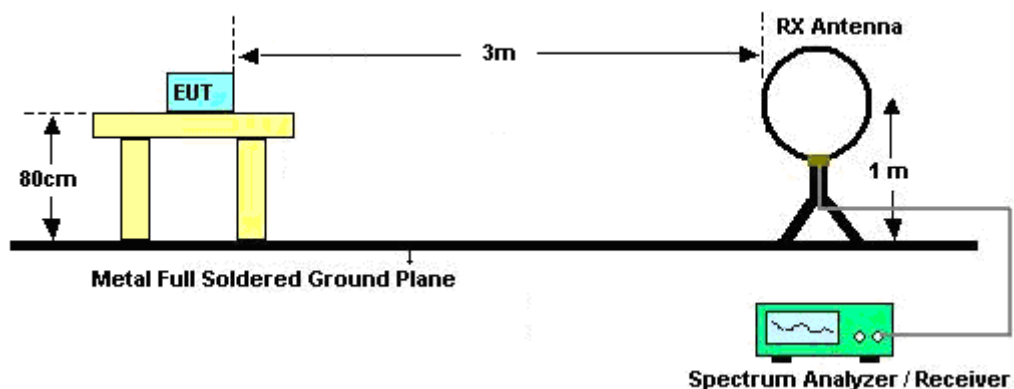
3.5.3 Test Procedure

1. The testing follows FCC KDB Publication No. 558074 D01 DTS Meas. Guidance v03r05.
2. The EUT was arranged to its worst case and then tune the antenna tower (from 1 m to 4 m) and turntable (from 0 degree to 360 degrees) to find the maximum reading. A pre-amp and a high pass filter are used for the test in order to get better signal level.
3. The EUT was placed on a turntable with 0.8 meter for frequency below 1GHz and 1.5 meter for frequency above 1GHz respectively above ground.
4. The EUT was set 3 meters from the interference receiving antenna, which was mounted on the top of a variable height antenna tower.
5. Corrected Reading: Antenna Factor + Cable Loss + Read Level - Preamp Factor = Level
6. For measurement below 1GHz, If the emission level of the EUT measured by the peak detector is 3 dB lower than the applicable limit, the peak emission level will be reported. Otherwise, the emission measurement will be repeated using the quasi-peak detector and reported.

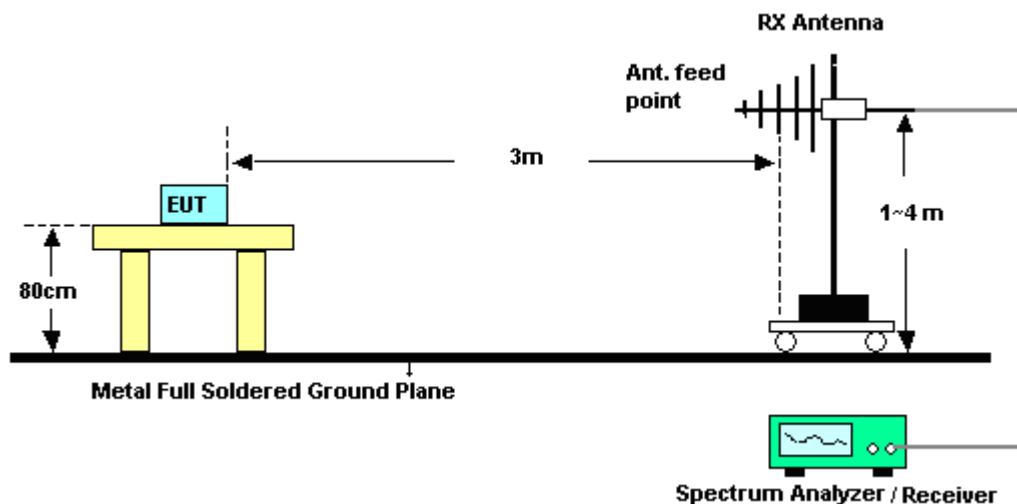
7. Use the following spectrum analyzer settings:
- (1) Span shall wide enough to fully capture the emission being measured;
 - (2) Set RBW=100 kHz for $f < 1$ GHz; VBW $\geq$ RBW; Sweep = auto; Detector function = peak; Trace = max hold;
 - (3) Set RBW = 1 MHz, VBW= 3MHz for $f \geq 1$ GHz for peak measurement.
- For average measurement:
- VBW = 10 Hz, when duty cycle is no less than 98 percent.
 - VBW $\geq 1/T$, when duty cycle is less than 98 percent where T is the minimum transmission duration over which the transmitter is on and is transmitting at its maximum power control level for the tested mode of operation.

3.5.4 Test Setup

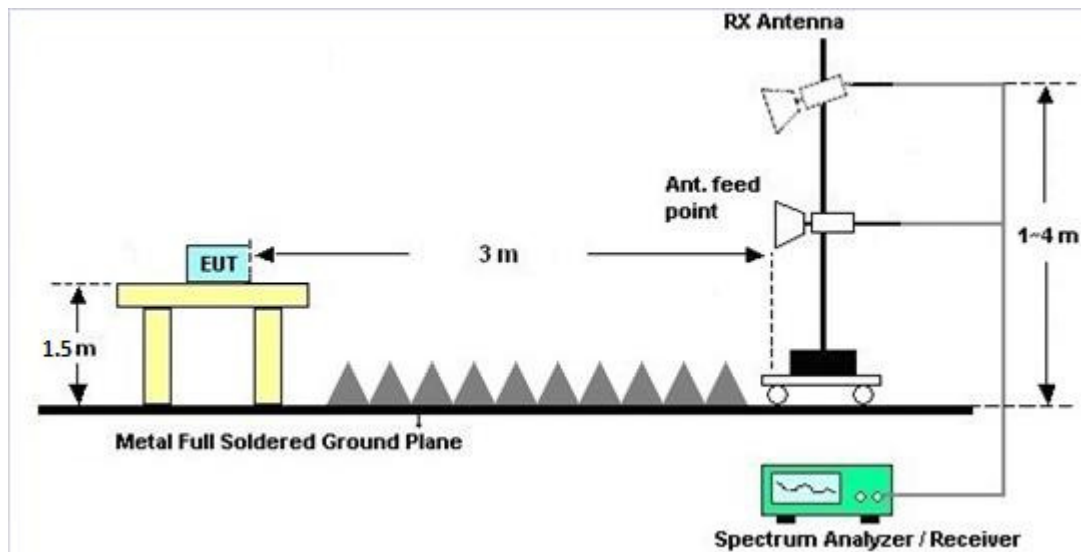
For radiated emissions below 30MHz



For radiated emissions from 30MHz to 1GHz



For radiated emissions above 1GHz



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

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

3.5.6 Test Result of Radiated Spurious at Band Edges

Please refer to Appendix B and C of this test report.

3.5.7 Duty Cycle

Please refer to Appendix D of this test report.

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

Please refer to Appendix B and C of this test report.

3.6 AC Conducted Emission Measurement

3.6.1 Limit of AC Conducted Emission

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

Frequency of Emission (MHz)	Conducted Limit (dB μ V)	
	Quasi-Peak	Average
0.15-0.5	66 to 56*	56 to 46*
0.5-5	56	46
5-30	60	50

*Decreases with the logarithm of the frequency.

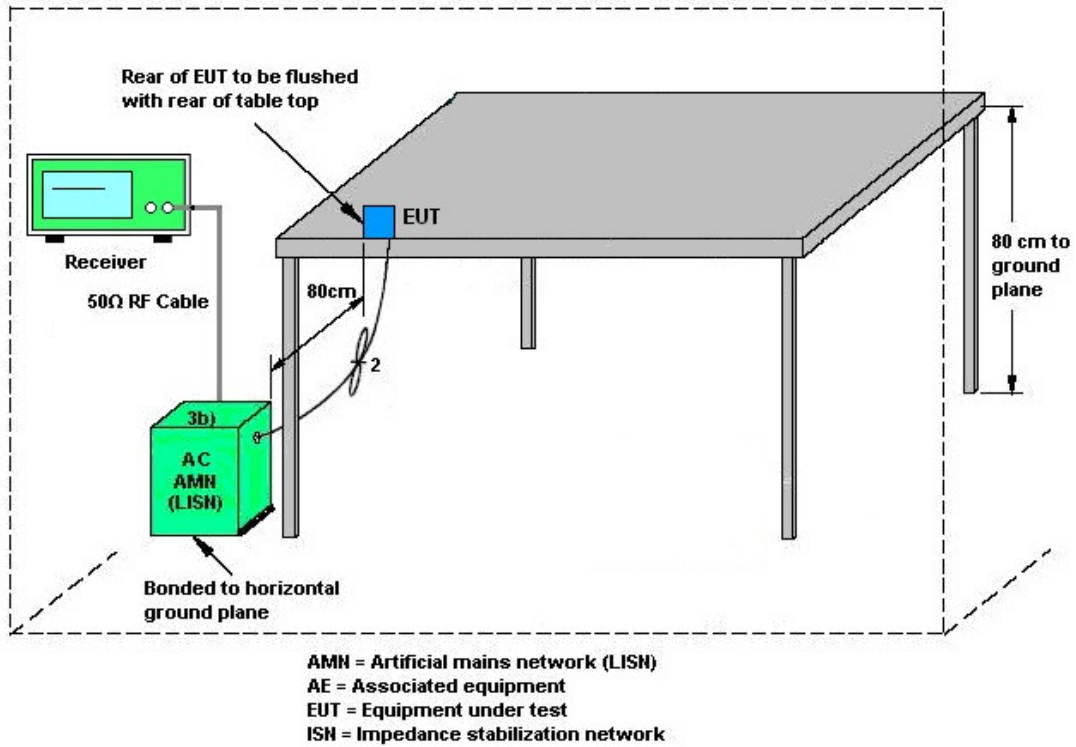
3.6.2 Measuring Instruments

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

3.6.3 Test Procedures

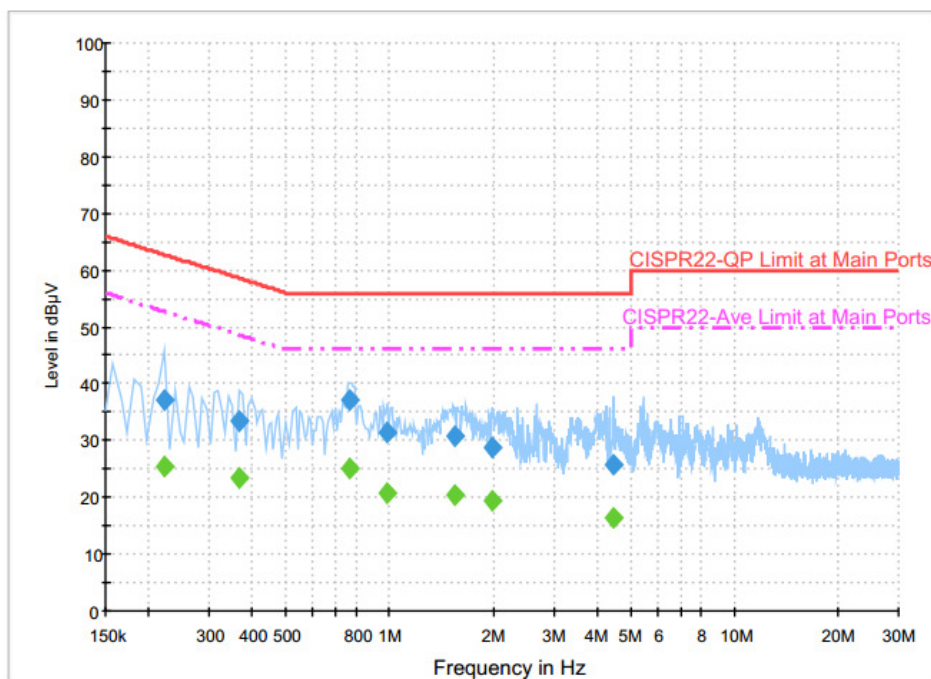
1. The EUT was placed 0.4 meter from the conducting wall of the shielding room, and it was kept at least 80 centimeters from any other grounded conducting surface.
2. Connect EUT to the power mains through a line impedance stabilization network (LISN).
3. All the support units are connecting to the other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

3.6.4 Test Setup



3.6.5 Test Result of AC Conducted Emission

Test Mode :	Mode 3	Temperature :	22~23℃
Test Engineer :	Kai-Chun Chu	Relative Humidity :	59~60%
Test Voltage :	120Vac / 60Hz	Phase :	Line
Function Type :	BLE Tx + Adapter		



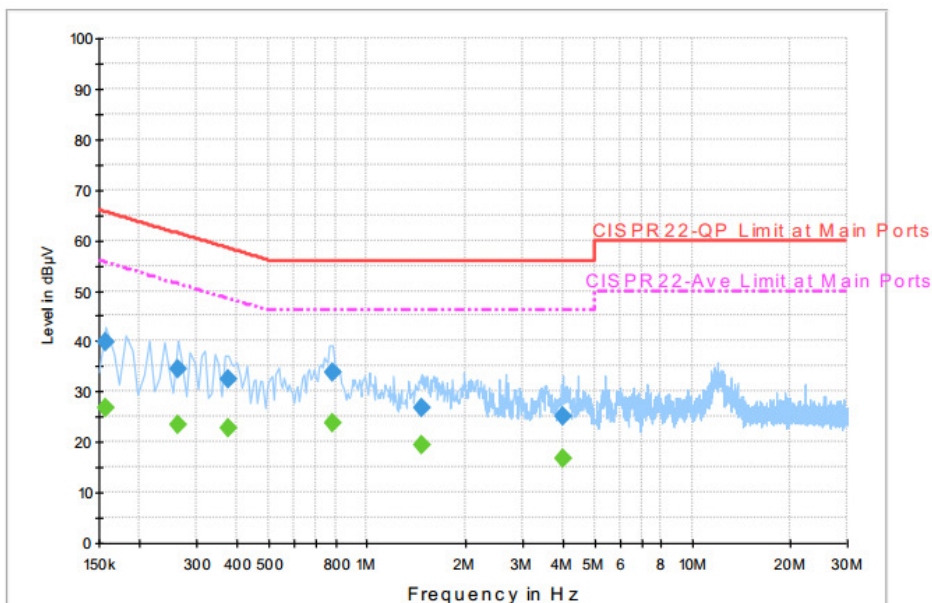
Final Result : QuasiPeak

Frequency (MHz)	QuasiPeak (dBμV)	Filter	Line	Corr. (dB)	Margin (dB)	Limit (dBμV)
0.222000	37.0	Off	L1	19.6	25.7	62.7
0.366000	33.4	Off	L1	19.6	25.2	58.6
0.766000	37.0	Off	L1	19.6	19.0	56.0
0.990000	31.4	Off	L1	19.6	24.6	56.0
1.550000	30.6	Off	L1	19.6	25.4	56.0
1.998000	28.9	Off	L1	19.6	27.1	56.0
4.462000	25.6	Off	L1	19.7	30.4	56.0

Final Result : Average

Frequency (MHz)	Average (dBμV)	Filter	Line	Corr. (dB)	Margin (dB)	Limit (dBμV)
0.222000	25.5	Off	L1	19.6	27.2	52.7
0.366000	23.5	Off	L1	19.6	25.1	48.6
0.766000	24.9	Off	L1	19.6	21.1	46.0
0.990000	20.9	Off	L1	19.6	25.1	46.0
1.550000	20.4	Off	L1	19.6	25.6	46.0
1.998000	19.3	Off	L1	19.6	26.7	46.0
4.462000	16.4	Off	L1	19.7	29.6	46.0

Test Mode :	Mode 3	Temperature :	22~23°C
Test Engineer :	Kai-Chun Chu	Relative Humidity :	59~60%
Test Voltage :	120Vac / 60Hz	Phase :	Neutral
Function Type :	BLE Tx + Adapter		


Final Result : QuasiPeak

Frequency (MHz)	QuasiPeak (dBµV)	Filter	Line	Corr. (dB)	Margin (dB)	Limit (dBµV)
0.158000	39.9	Off	N	19.6	25.7	65.6
0.262000	34.3	Off	N	19.6	27.1	61.4
0.374000	32.5	Off	N	19.6	25.9	58.4
0.782000	33.9	Off	N	19.6	22.1	56.0
1.470000	26.6	Off	N	19.6	29.4	56.0
4.022000	25.1	Off	N	19.6	30.9	56.0

Final Result : Average

Frequency (MHz)	Average (dBµV)	Filter	Line	Corr. (dB)	Margin (dB)	Limit (dBµV)
0.158000	26.8	Off	N	19.6	28.8	55.6
0.262000	23.3	Off	N	19.6	28.1	51.4
0.374000	22.7	Off	N	19.6	25.7	48.4
0.782000	23.6	Off	N	19.6	22.4	46.0
1.470000	19.5	Off	N	19.6	26.5	46.0
4.022000	16.7	Off	N	19.6	29.3	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

Non-standard antenna connector is used.

3.7.3 Antenna Gain

FCC KDB 662911 D01 Multiple Transmitter Output v02r01.

The power and PSD limit should be modified if the directional gain of EUT is over 6 dBi,

The directional gain "DG" is calculated as following table.

			DG	DG	Power	PSD
	Ant. 1	Ant. 2	for	for	Limit	Limit
	(dBi)	(dBi)	Power	PSD	Reduction	Reduction
	(dBi)	(dBi)	(dBi)	(dBi)	(dB)	(dB)
2.4 GHz	5.00	5.00	5.00	8.01	0.00	2.01

$Power\ Limit\ Reduction = DG(Power) - 6dBi, (min = 0)$

$PSD\ Limit\ Reduction = DG(PSD) - 6dBi, (min = 0)$



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. 07, 2015	Mar. 09, 2016~ Jun. 03, 2016	Oct. 06, 2016	Conducted (TH05-HY)
Power Sensor	Anritsu	MA2411B	0846202	300MHz~40GHz	Oct. 05, 2015	Mar. 09, 2016~ Jun. 03, 2016	Oct. 04, 2016	Conducted (TH05-HY)
Spectrum Analyzer	Rohde & Schwarz	FSP40	100057	9kHz-40GHz	Nov. 23, 2015	Mar. 09, 2016~ Jun. 03, 2016	Nov. 22, 2016	Conducted (TH05-HY)
AC Power Source	ChainTek	APC-1000W	N/A	N/A	N/A	Apr. 22, 2016 ~ May 12, 2016	N/A	Conduction (CO05-HY)
EMI Test Receiver	Rohde & Schwarz	ESCI 7	100724	9kHz~7GHz	Aug. 26, 2015	Apr. 22, 2016 ~ May 12, 2016	Aug. 25, 2016	Conduction (CO05-HY)
LISN	Rohde & Schwarz	ENV216	100080	9kHz~30MHz	Dec. 02, 2015	Apr. 22, 2016 ~ May 12, 2016	Dec. 01, 2016	Conduction (CO05-HY)
Loop Antenna	Rohde & Schwarz	HFH2-Z2	100315	9 kHz~30 MHz	Sep. 02, 2015	Jun. 01, 2016 ~ Jun. 04, 2016	Sep. 01, 2016	Radiation (03CH10-HY)
Amplifier	SONOMA	310N	187311	9kHz~1GHz	Nov. 16, 2015	Jun. 01, 2016 ~ Jun. 04, 2016	Nov. 15, 2016	Radiation (03CH10-HY)
Bilog Antenna	TESEQ	CBL 6111D	35413	30MHz~1GHz	Jan. 13, 2016	Jun. 01, 2016 ~ Jun. 04, 2016	Jan. 12, 2017	Radiation (03CH10-HY)
Horn Antenna	SCHWARZBECK	BBHA 9120 D	9120D-1325	1GHz ~ 18GHz	Sep. 30, 2015	Jun. 01, 2016 ~ Jun. 04, 2016	Sep. 29, 2016	Radiation (03CH10-HY)
Preamplifier	Keysight	83017A	MY53270078	1GHz~26.5GHz	Nov. 13, 2015	Jun. 01, 2016 ~ Jun. 04, 2016	Nov. 12, 2016	Radiation (03CH10-HY)
Preamplifier	MITEQ	AMF-7D-00101 800-30-10P	1902246	1GHz~18GHz	Nov. 16, 2015	Jun. 01, 2016 ~ Jun. 04, 2016	Nov. 15, 2016	Radiation (03CH10-HY)
Spectrum Analyzer	Keysight	N9010A	MY54200485	10Hz ~ 44GHz	Oct. 15, 2015	Jun. 01, 2016 ~ Jun. 04, 2016	Oct. 14, 2016	Radiation (03CH10-HY)
Controller	EMEC	EM 1000	N/A	Control Turn table & Ant Mast	N/A	Jun. 01, 2016 ~ Jun. 04, 2016	N/A	Radiation (03CH10-HY)
Antenna Mast	EMEC	AM-BS-4500-B	N/A	1~4m	N/A	Jun. 01, 2016 ~ Jun. 04, 2016	N/A	Radiation (03CH10-HY)
Turn Table	EMEC	TT 2200	N/A	0~360 Degree	N/A	Jun. 01, 2016 ~ Jun. 04, 2016	N/A	Radiation (03CH10-HY)
EMI Test Receiver	Keysight	N9038A (MXE)	MY55420170	N/A	Mar. 10, 2016	Jun. 01, 2016 ~ Jun. 04, 2016	Mar. 09, 2017	Radiation (03CH10-HY)
Preamplifier	MITEQ	TTA0204	BBHA9170576	18GHz ~ 40GHz	Apr. 04, 2016	Jun. 01, 2016 ~ Jun. 04, 2016	Apr. 15, 2017	Radiation (03CH10-HY)
SHF-EHF Horn Antenna	SCHWARZBECK	BBHA 9170	BBHA9170584	18GHz- 40GHz	Nov. 02, 2015	Jun. 01, 2016 ~ Jun. 04, 2016	Nov. 01, 2016	Radiation (03CH10-HY)



5 Uncertainty of Evaluation

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

Measuring Uncertainty for a Level of Confidence of 95% ($U = 2Uc(y)$)	2.26
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Uncertainty of Radiated Emission Measurement (30 MHz ~ 1000 MHz)

Measuring Uncertainty for a Level of Confidence of 95% ($U = 2Uc(y)$)	4.90
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Appendix A. Conducted Test Results

Report Number : FR630314C

Test Engineer:	PH Yang and Bill Kuo	Temperature:	21~25	°C
Test Date:	2016/03/09~2016/6/3	Relative Humidity:	51~54	%

TEST RESULTS DATA
6dB and 99% Occupied Bandwidth

2.4GHz Band										
Mod.	Data Rate	NTx	CH.	Freq. (MHz)	99% Occupied BW (MHz)		6dB BW (MHz)		6dB BW Limit (MHz)	Pass/Fail
					Ant 1	Ant 2	Ant 1	Ant 2		
11b	1Mbps	2	1	2412	14.10	14.15	10.08	10.08	0.50	Pass
11b	1Mbps	2	6	2437	14.25	14.15	10.08	10.08	0.50	Pass
11b	1Mbps	2	11	2462	14.15	14.20	10.08	10.08	0.50	Pass
11g	6Mbps	2	1	2412	18.55	18.05	16.36	16.36	0.50	Pass
11g	6Mbps	2	6	2437	18.65	18.05	16.40	16.40	0.50	Pass
11g	6Mbps	2	11	2462	18.60	18.05	16.44	16.40	0.50	Pass
HT20	MCS0	2	1	2412	19.30	19.30	17.60	17.60	0.50	Pass
HT20	MCS0	2	6	2437	19.45	19.05	17.60	17.60	0.50	Pass
HT20	MCS0	2	11	2462	19.50	19.20	17.60	17.64	0.50	Pass
HT40	MCS0	2	3	2422	38.20	37.70	36.40	36.40	0.50	Pass
HT40	MCS0	2	6	2437	38.20	37.90	36.40	35.84	0.50	Pass
HT40	MCS0	2	9	2452	38.10	38.00	36.08	36.16	0.50	Pass

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	2	1	2412	19.17	18.23	21.74	30.00		5.00		26.74		36.00		Pass
11b	1Mbps	2	6	2437	17.42	16.53	20.01	30.00		5.00		25.01		36.00		Pass
11b	1Mbps	2	11	2462	18.69	16.85	20.88	30.00		5.00		25.88		36.00		Pass
11g	6Mbps	2	1	2412	27.04	26.61	29.84	30.00		5.00		34.84		36.00		Pass
11g	6Mbps	2	6	2437	27.06	26.07	29.60	30.00		5.00		34.60		36.00		Pass
11g	6Mbps	2	11	2462	27.62	25.80	29.81	30.00		5.00		34.81		36.00		Pass
HT20	MCS0	2	1	2412	26.53	25.31	28.97	30.00		5.00		33.97		36.00		Pass
HT20	MCS0	2	6	2437	26.21	25.71	28.98	30.00		5.00		33.98		36.00		Pass
HT20	MCS0	2	11	2462	27.60	23.84	29.13	30.00		5.00		34.13		36.00		Pass
HT40	MCS0	2	3	2422	26.74	25.87	29.34	30.00		5.00		34.34		36.00		Pass
HT40	MCS0	2	6	2437	27.51	26.29	29.95	30.00		5.00		34.95		36.00		Pass
HT40	MCS0	2	9	2452	26.84	25.96	29.43	30.00		5.00		34.43		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	2	1	2412	0.00	0.00	16.96	15.96	19.50
11b	1Mbps	2	6	2437	0.00	0.00	14.75	14.18	17.48
11b	1Mbps	2	11	2462	0.00	0.00	16.03	14.53	18.35
11g	6Mbps	2	1	2412	0.19	0.19	17.11	16.37	19.76
11g	6Mbps	2	6	2437	0.19	0.19	16.76	16.03	19.42
11g	6Mbps	2	11	2462	0.19	0.19	17.97	15.96	20.09
HT20	MCS0	2	1	2412	0.20	0.20	16.43	15.25	18.89
HT20	MCS0	2	6	2437	0.20	0.20	16.42	15.66	19.07
HT20	MCS0	2	11	2462	0.20	0.20	17.62	13.65	19.08
HT40	MCS0	2	3	2422	0.27	0.33	14.69	12.68	16.81
HT40	MCS0	2	6	2437	0.27	0.33	14.79	12.55	16.82
HT40	MCS0	2	9	2452	0.27	0.33	14.68	12.65	16.79

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

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	2	1	2412	-7.38	-8.53	-4.37	8.01		5.99		Pass
11b	1Mbps	2	6	2437	-9.56	-9.50	-6.49	8.01		5.99		Pass
11b	1Mbps	2	11	2462	-7.86	-9.11	-4.85	8.01		5.99		Pass
11g	6Mbps	2	1	2412	-7.76	-8.47	-4.75	8.01		5.99		Pass
11g	6Mbps	2	6	2437	-7.97	-9.68	-4.96	8.01		5.99		Pass
11g	6Mbps	2	11	2462	-6.47	-9.00	-3.46	8.01		5.99		Pass
HT20	MCS0	2	1	2412	-8.71	-9.13	-5.70	8.01		5.99		Pass
HT20	MCS0	2	6	2437	-8.46	-8.77	-5.45	8.01		5.99		Pass
HT20	MCS0	2	11	2462	-9.11	-10.61	-6.10	8.01		5.99		Pass
HT40	MCS0	2	3	2422	-13.60	-15.71	-10.59	8.01		5.99		Pass
HT40	MCS0	2	6	2437	-13.27	-13.98	-10.26	8.01		5.99		Pass
HT40	MCS0	2	9	2452	-13.33	-12.91	-9.90	8.01		5.99		Pass

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



Appendix B. Radiated Spurious Emission

Test Engineer :	Tsung Lee and Donny Tang	Temperature :	24~25°C
		Relative Humidity :	47~49%

2.4GHz 2400~2483.5MHz

WIFI 802.11b (Band Edge @ 3m)

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		2384.88	54.66	-19.34	74	55.32	27.19	5.39	33.24	277	254	P	H
		2389.2	42.08	-11.92	54	42.7	27.23	5.39	33.24	277	254	A	H
	*	2410	103.57	-	-	104.09	27.28	5.42	33.22	277	254	P	H
	*	2410	99.43	-	-	99.95	27.28	5.42	33.22	277	254	A	H
		2487.8	51.71	-22.29	74	51.93	27.5	5.46	33.18	277	254	P	H
		2483.68	40.37	-13.63	54	40.63	27.46	5.46	33.18	277	254	A	H
		2337.9	55.28	-18.72	74	56.11	27.1	5.33	33.26	100	277	P	V
		2375.07	43.73	-10.27	54	44.39	27.19	5.39	33.24	100	277	A	V
	*	2410	104.13	-	-	104.65	27.28	5.42	33.22	100	277	P	V
	*	2410	99.93	-	-	100.45	27.28	5.42	33.22	100	277	A	V
		2488.44	54.26	-19.74	74	54.48	27.5	5.46	33.18	100	277	P	V
		2484.44	41.18	-12.82	54	41.44	27.46	5.46	33.18	100	277	A	V
802.11b CH 06 2437MHz		2380.74	53.7	-20.3	74	54.36	27.19	5.39	33.24	239	258	P	H
		2345.82	41.79	-12.21	54	42.61	27.1	5.33	33.25	239	258	A	H
	*	2436	101.94	-	-	102.41	27.32	5.42	33.21	239	258	P	H
	*	2436	98.05	-	-	98.52	27.32	5.42	33.21	239	258	A	H
		2486.56	52.18	-21.82	74	52.44	27.46	5.46	33.18	239	258	P	H
		2484.2	40.34	-13.66	54	40.6	27.46	5.46	33.18	239	258	A	H
		2376.42	54.04	-19.96	74	54.7	27.19	5.39	33.24	100	271	P	V
		2375.07	43.08	-10.92	54	43.74	27.19	5.39	33.24	100	271	A	V
	*	2439	103.29	-	-	103.71	27.37	5.42	33.21	100	271	P	V
	*	2439	99.79	-	-	100.21	27.37	5.42	33.21	100	271	A	V
		2483.52	52.3	-21.7	74	52.56	27.46	5.46	33.18	100	271	P	V
		2483.6	40.85	-13.15	54	41.11	27.46	5.46	33.18	100	271	A	V



802.11b CH 11 2462MHz		2351.31	54.1	-19.9	74	54.92	27.1	5.33	33.25	112	252	P	H
		2349.96	43.1	-10.9	54	43.92	27.1	5.33	33.25	112	252	A	H
	*	2462	102.16	-	-	102.51	27.41	5.44	33.2	112	252	P	H
	*	2462	98.39	-	-	98.74	27.41	5.44	33.2	112	252	A	H
		2485.64	54.5	-19.5	74	54.76	27.46	5.46	33.18	112	252	P	H
		2483.52	40.99	-13.01	54	41.25	27.46	5.46	33.18	112	252	A	H
		2373.9	55.04	-18.96	74	55.7	27.19	5.39	33.24	251	262	P	V
		2350.05	45.15	-8.85	54	45.97	27.1	5.33	33.25	251	262	A	V
	*	2462	102.31	-	-	102.66	27.41	5.44	33.2	251	262	P	V
	*	2462	98.54	-	-	98.89	27.41	5.44	33.2	251	262	A	V
		2484.52	58.13	-15.87	74	58.39	27.46	5.46	33.18	251	262	P	V
		2484	41.65	-12.35	54	41.91	27.46	5.46	33.18	251	262	A	V
Remark	1. No other spurious found. 2. All results are PASS against Peak and Average limit line.												



2.4GHz 2400~2483.5MHz

WIFI 802.11b (Harmonic @ 3m)

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		4824	47.51	-26.49	74	69.08	31.46	7.58	60.61	100	0	P	H
													H
													H
													H
		4824	53.94	-20.06	74	75.51	31.46	7.58	60.61	229	278	P	V
		4824	53.68	-0.32	54	75.25	31.46	7.58	60.61	229	278	A	V
													V
													V
802.11b CH 06 2437MHz		4874	46.19	-27.81	74	67.45	31.56	7.7	60.52	100	0	P	H
		7311	41.18	-32.82	74	56.44	36.18	9.49	60.93	100	0	P	H
													H
													H
		4874	54.53	-19.47	74	75.79	31.56	7.7	60.52	221	280	P	V
		4874	53.15	-0.85	54	74.41	31.56	7.7	60.52	221	280	A	V
		7311	40.45	-33.55	74	55.71	36.18	9.49	60.93	100	0	P	V
													V
802.11b CH 11 2462MHz		4926	45.27	-28.73	74	66.1	31.66	7.93	60.42	100	0	P	H
		7386	40.13	-33.87	74	55.42	36.37	9.53	61.19	100	0	P	H
													H
													H
		4926	53.74	-20.26	74	74.57	31.66	7.93	60.42	277	280	P	V
		4926	53.54	-0.46	54	74.37	31.66	7.93	60.42	277	280	A	V
		7386	39.24	-34.76	74	54.53	36.37	9.53	61.19	100	0	P	V
													V
Remark	1. No other spurious found. 2. All results are PASS against Peak and Average limit line.												



2.4GHz 2400~2483.5MHz

WIFI 802.11g (Band Edge @ 3m)

WIFI Ant. 1+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	62.15	-11.85	74	62.75	27.23	5.39	33.22	148	264	P	H
		2390	51.73	-2.27	54	52.33	27.23	5.39	33.22	148	264	A	H
	*	2412	110.39	-	-	110.91	27.28	5.42	33.22	148	264	P	H
	*	2412	102.11	-	-	102.63	27.28	5.42	33.22	148	264	A	H
		2485.28	53.76	-20.24	74	54.02	27.46	5.46	33.18	148	264	P	H
		2500	43.64	-10.36	54	43.85	27.5	5.46	33.17	148	264	A	H
		2388.84	64.22	-9.78	74	64.84	27.23	5.39	33.24	129	262	P	V
		2374.89	53.89	-0.11	54	54.55	27.19	5.39	33.24	129	262	A	V
	*	2412	112.11	-	-	112.63	27.28	5.42	33.22	129	262	P	V
	*	2412	103.86	-	-	104.38	27.28	5.42	33.22	129	262	A	V
		2484.88	55.68	-18.32	74	55.94	27.46	5.46	33.18	129	262	P	V
		2500	44.99	-9.01	54	45.2	27.5	5.46	33.17	129	262	A	V
802.11g CH 06 2437MHz		2349.87	59.44	-14.56	74	60.26	27.1	5.33	33.25	259	256	P	H
		2350.05	48.44	-5.56	54	49.26	27.1	5.33	33.25	259	256	A	H
	*	2439	106.74	-	-	107.16	27.37	5.42	33.21	259	256	P	H
	*	2439	98.5	-	-	98.92	27.37	5.42	33.21	259	256	A	H
		2484.24	54.02	-19.98	74	54.28	27.46	5.46	33.18	259	256	P	H
		2484.4	43.55	-10.45	54	43.81	27.46	5.46	33.18	259	256	A	H
		2349.96	57.06	-16.94	74	57.88	27.1	5.33	33.25	129	251	P	V
		2350.05	50.04	-3.96	54	50.86	27.1	5.33	33.25	129	251	A	V
	*	2435	105.61	-	-	106.08	27.32	5.42	33.21	129	251	P	V
	*	2435	97.83	-	-	98.3	27.32	5.42	33.21	129	251	A	V
		2484	53.79	-20.21	74	54.05	27.46	5.46	33.18	129	251	P	V
		2484.64	43.24	-10.76	54	43.5	27.46	5.46	33.18	129	251	A	V



802.11g CH 11 2462MHz		2349.96	56.32	-17.68	74	57.14	27.1	5.33	33.25	139	3	P	H
		2350.05	49.72	-4.28	54	50.54	27.1	5.33	33.25	139	3	A	H
	*	2462	103.54	-	-	103.89	27.41	5.44	33.2	139	3	P	H
	*	2462	95	-	-	95.35	27.41	5.44	33.2	139	3	A	H
		2483.72	53.52	-20.48	74	53.78	27.46	5.46	33.18	139	3	P	H
		2483.6	43.21	-10.79	54	43.47	27.46	5.46	33.18	139	3	A	H
		2361.84	57.61	-16.39	74	58.39	27.14	5.33	33.25	106	262	P	V
		2349.96	50.4	-3.6	54	51.22	27.1	5.33	33.25	106	262	A	V
	*	2462	107.15	-	-	107.5	27.41	5.44	33.2	106	262	P	V
	*	2462	97.79	-	-	98.14	27.41	5.44	33.2	106	262	A	V
		2485.24	56.03	-17.97	74	56.29	27.46	5.46	33.18	106	262	P	V
		2485.48	44.26	-9.74	54	44.52	27.46	5.46	33.18	106	262	A	V
Remark	1. No other spurious found. 2. All results are PASS against Peak and Average limit line.												



2.4GHz 2400~2483.5MHz

WIFI 802.11g (Harmonic @ 3m)

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)
802.11g CH 01 2412MHz		4824	48.6	-25.4	74	70.17	31.46	7.58	60.61	100	0	P	H
													H
													H
													H
		4824	58.76	-15.24	74	80.33	31.46	7.58	60.61	223	281	P	V
		4824	49.35	-4.65	54	70.92	31.46	7.58	60.61	223	281	A	V
													V
													V
802.11g CH 06 2437MHz		4872	46.26	-27.74	74	67.52	31.56	7.7	60.52	100	0	P	H
		7309	40.8	-33.2	74	56.06	36.18	9.49	60.93	100	0	P	H
													H
													H
		4872	54.85	-19.15	74	76.11	31.56	7.7	60.52	219	282	P	V
		4872	46.26	-7.74	54	67.52	31.56	7.7	60.52	219	282	A	V
		7309	41.31	-32.69	74	56.57	36.18	9.49	60.93	100	0	P	V
													V
802.11g CH 11 2462MHz		4924	44.45	-29.55	74	65.28	31.66	7.93	60.42	100	0	P	H
		7386	39.61	-34.39	74	54.9	36.37	9.53	61.19	100	0	P	H
													H
													H
		4926	50.47	-23.53	74	71.3	31.66	7.93	60.42	100	0	P	V
		7386	38.83	-35.17	74	54.12	36.37	9.53	61.19	100	0	P	V
													V
													V
Remark	1. No other spurious found. 2. All results are PASS against Peak and Average limit line.												



2.4GHz 2400~2483.5MHz

WIFI 802.11n HT20 (Band Edge @ 3m)

WIFI Ant. 1+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		2389.38	63.69	-10.31	74	64.31	27.23	5.39	33.24	100	264	P	H
		2390	52.27	-1.73	54	52.87	27.23	5.39	33.22	100	264	A	H
	*	2412	110.32	-	-	110.84	27.28	5.42	33.22	100	264	P	H
	*	2412	101.83	-	-	102.35	27.28	5.42	33.22	100	264	A	H
		2490.44	53.77	-20.23	74	53.99	27.5	5.46	33.18	100	264	P	H
		2500	43.97	-10.03	54	44.18	27.5	5.46	33.17	100	264	A	H
		2390	66.12	-7.88	74	66.72	27.23	5.39	33.22	129	262	P	V
		2374.98	53.65	-0.35	54	54.31	27.19	5.39	33.24	129	262	A	V
	*	2412	111.34	-	-	111.86	27.28	5.42	33.22	129	262	P	V
	*	2412	102.72	-	-	103.24	27.28	5.42	33.22	129	262	A	V
		2487.4	54.98	-19.02	74	55.24	27.46	5.46	33.18	129	262	P	V
		2483.72	44.22	-9.78	54	44.48	27.46	5.46	33.18	129	262	A	V
802.11n HT20 CH 06 2437MHz		2350.14	58.89	-15.11	74	59.71	27.1	5.33	33.25	100	263	P	H
		2349.96	49.04	-4.96	54	49.86	27.1	5.33	33.25	100	263	A	H
	*	2437	109.93	-	-	110.35	27.37	5.42	33.21	100	263	P	H
	*	2437	101.42	-	-	101.84	27.37	5.42	33.21	100	263	A	H
		2486.48	55.24	-18.76	74	55.5	27.46	5.46	33.18	100	263	P	H
		2488.92	43.69	-10.31	54	43.91	27.5	5.46	33.18	100	263	A	H
		2375.16	60.21	-13.79	74	60.87	27.19	5.39	33.24	270	256	P	V
		2375.07	53.54	-0.46	54	54.2	27.19	5.39	33.24	270	256	A	V
	*	2437	109.84	-	-	110.26	27.37	5.42	33.21	270	256	P	V
	*	2437	101.09	-	-	101.51	27.37	5.42	33.21	270	256	A	V
		2485.28	53.95	-20.05	74	54.21	27.46	5.46	33.18	270	256	P	V
		2500	43.81	-10.19	54	44.02	27.5	5.46	33.17	270	256	A	V



802.11n HT20 CH 11 2462MHz		2350.05	60.01	-13.99	74	60.83	27.1	5.33	33.25	110	263	P	H
		2374.98	50.36	-3.64	54	51.02	27.19	5.39	33.24	110	263	A	H
	*	2462	110.42	-	-	110.77	27.41	5.44	33.2	110	263	P	H
	*	2462	101.75	-	-	102.1	27.41	5.44	33.2	110	263	A	H
		2483.52	58.17	-15.83	74	58.43	27.46	5.46	33.18	110	263	P	H
		2488.24	46.42	-7.58	54	46.64	27.5	5.46	33.18	110	263	A	H
		2350.05	60.9	-13.1	74	61.72	27.1	5.33	33.25	129	259	P	V
		2374.98	53.55	-0.45	54	54.21	27.19	5.39	33.24	129	259	A	V
	*	2462	111.08	-	-	111.43	27.41	5.44	33.2	129	259	P	V
	*	2462	102.53	-	-	102.88	27.41	5.44	33.2	129	259	A	V
		2483.56	58.96	-15.04	74	59.22	27.46	5.46	33.18	129	259	P	V
		2483.52	47.63	-6.37	54	47.89	27.46	5.46	33.18	129	259	A	V
Remark	1. No other spurious found. 2. All results are PASS against Peak and Average limit line.												



2.4GHz 2400~2483.5MHz

WIFI 802.11n HT20 (Harmonic @ 3m)

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)
802.11n HT20 CH 01 2412MHz		4824	48.76	-25.24	74	70.33	31.46	7.58	60.61	100	0	P	H
													H
													H
													H
		4824	51.4	-22.6	74	72.97	31.46	7.58	60.61	100	0	P	V
													V
													V
													V
802.11n HT20 CH 06 2437MHz		4874	47.17	-26.83	74	68.43	31.56	7.7	60.52	100	0	P	H
		7311	43.51	-30.49	74	58.77	36.18	9.49	60.93	100	0	P	H
													H
													H
		4874	51.19	-22.81	74	72.45	31.56	7.7	60.52	100	0	P	V
		7311	40.23	-33.77	74	55.49	36.18	9.49	60.93	100	0	P	V
													V
													V
802.11n HT20 CH 11 2462MHz		4924	48.54	-25.46	74	69.37	31.66	7.93	60.42	100	0	P	H
		7386	41.33	-32.67	74	56.62	36.37	9.53	61.19	100	0	P	H
													H
													H
		4926	53.12	-20.88	74	73.95	31.66	7.93	60.42	-	-	P	V
		7386	38.31	-35.69	74	28.78	-500	9.53	-500	-	-	P	V
													V
													V
Remark	1. No other spurious found. 2. All results are PASS against Peak and Average limit line.												



2.4GHz 2400~2483.5MHz

WIFI 802.11n HT40 (Band Edge @ 3m)

WIFI Ant. 1+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 HT40 CH 03 2422MHz		2388.66	65.45	-8.55	74	66.07	27.23	5.39	33.24	248	258	P	H
		2389.38	52.21	-1.79	54	52.83	27.23	5.39	33.24	248	258	A	H
	*	2422	103.38	-	-	103.85	27.32	5.42	33.21	248	258	P	H
	*	2422	95.29	-	-	95.76	27.32	5.42	33.21	248	258	A	H
		2483.68	53.61	-20.39	74	53.87	27.46	5.46	33.18	248	258	P	H
		2485.56	42.54	-11.46	54	42.8	27.46	5.46	33.18	248	258	A	H
		2389.92	68.5	-5.5	74	69.1	27.23	5.39	33.22	100	267	P	V
		2389.92	53.72	-0.28	54	54.32	27.23	5.39	33.22	100	267	A	V
	*	2422	105.1	-	-	105.57	27.32	5.42	33.21	100	267	P	V
	*	2422	96.25	-	-	96.72	27.32	5.42	33.21	100	267	A	V
		2498.12	53.31	-20.69	74	53.52	27.5	5.46	33.17	100	267	P	V
		2486.56	42.98	-11.02	54	43.24	27.46	5.46	33.18	100	267	A	V
802.11n HT40 CH 06 2437MHz		2390	65.94	-8.06	74	66.54	27.23	5.39	33.22	275	258	P	H
		2389.74	53.23	-0.77	54	53.85	27.23	5.39	33.24	275	258	A	H
	*	2435	110.95	-	-	111.42	27.32	5.42	33.21	275	258	P	H
	*	2435	102.55	-	-	103.02	27.32	5.42	33.21	275	258	A	H
		2483.56	65.31	-8.69	74	65.57	27.46	5.46	33.18	275	258	P	H
		2483.64	49.54	-4.46	54	49.8	27.46	5.46	33.18	275	258	A	H
		2389.74	67.45	-6.55	74	68.07	27.23	5.39	33.24	100	271	P	V
		2374.98	53.94	-0.06	54	54.6	27.19	5.39	33.24	100	271	A	V
	*	2435	111.04	-	-	111.51	27.32	5.42	33.21	100	271	P	V
	*	2435	102.96	-	-	103.43	27.32	5.42	33.21	100	271	A	V
		2485.44	66.8	-7.2	74	67.06	27.46	5.46	33.18	100	271	P	V
		2484.92	53.1	-0.9	54	53.36	27.46	5.46	33.18	100	271	A	V



802.11n HT40 CH 09 2452MHz		2349.96	58.76	-15.24	74	59.58	27.1	5.33	33.25	273	258	P	H
		2350.05	49.5	-4.5	54	50.32	27.1	5.33	33.25	273	258	A	H
	*	2450	105.87	-	-	106.26	27.37	5.44	33.2	273	258	P	H
	*	2450	97.69	-	-	98.08	27.37	5.44	33.2	273	258	A	H
		2486.76	62.84	-11.16	74	63.1	27.46	5.46	33.18	273	258	P	H
		2483.52	48.91	-5.09	54	49.17	27.46	5.46	33.18	273	258	A	H
		2374.89	58.01	-15.99	74	58.67	27.19	5.39	33.24	100	271	P	V
		2375.07	52.02	-1.98	54	52.68	27.19	5.39	33.24	100	271	A	V
	*	2450	106.08	-	-	106.47	27.37	5.44	33.2	100	271	P	V
	*	2450	97.7	-	-	98.09	27.37	5.44	33.2	100	271	A	V
		2483.56	66.29	-7.71	74	66.55	27.46	5.46	33.18	100	271	P	V
		2483.6	53.19	-0.81	54	53.45	27.46	5.46	33.18	100	271	A	V
Remark	1. No other spurious found. 2. All results are PASS against Peak and Average limit line.												



2.4GHz 2400~2483.5MHz

WIFI 802.11n HT40 (Harmonic @ 3m)

WIFI Ant. 1+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 HT40 CH 03 2422MHz		4844	33.99	-40.01	74	55.38	31.49	7.7	60.58	100	0	P	H
		7266	37.62	-36.38	74	52.88	36.11	9.46	60.83	100	0	P	H
													H
													H
		4844	36.9	-37.1	74	58.29	31.49	7.7	60.58	100	0	P	V
		7266	33.81	-40.19	74	49.07	36.11	9.46	60.83	100	0	P	V
													V
													V
802.11n HT40 CH 06 2437MHz		4874	41.93	-32.07	74	63.19	31.56	7.7	60.52	100	0	P	H
		7311	34.32	-39.68	74	49.58	36.18	9.49	60.93	100	0	P	H
													H
													H
		4874	47.82	-26.18	74	69.08	31.56	7.7	60.52	100	0	P	V
		7311	37.86	-36.14	74	53.12	36.18	9.49	60.93	100	0	P	V
													V
													V
802.11n HT40 CH 09 2452MHz		4904	37.83	-36.17	74	58.66	31.66	7.93	60.42	100	0	P	H
		7356	33.42	-40.58	74	48.71	36.37	9.53	61.19	100	0	P	H
													H
													H
		4904	46.94	-27.06	74	67.77	31.66	7.93	60.42	100	0	P	V
		7356	36.44	-37.56	74	51.73	36.37	9.53	61.19	100	0	P	V
													V
													V
Remark	1. No other spurious found. 2. All results are PASS against Peak and Average limit line.												

Emission below 1GHz

2.4GHz WIFI 802.11b (LF)

WIFI	Note	Frequency	Level	Over	Limit	Read	Antenna	Cable	Preamp	Ant	Table	Peak	Pol.
Ant.				Limit	Line	Level	Factor	Loss	Factor	Pos	Pos	Avg.	
1+2		(MHz)	(dBμV/m)	(dB)	(dBμV/m)	(dBμV)	(dB/m)	(dB)	(dB)	(cm)	(deg)	(P/A)	(H/V)
2.4GHz 802.11b LF		200.1	42.06	-1.44	43.5	57.31	16	1.48	32.73	152	217	QP	H
		200.1	43.46	-0.04	43.5	58.71	16	1.48	32.73	152	217	P	H
	*	250.05	51.04	5.04	46	63.21	18.8	1.76	32.73	142	84	QP	H
	*	250.05	52.07	6.07	46	64.24	18.8	1.76	32.73	142	84	P	H
		275.16	40.74	-5.26	46	52.36	19.35	1.76	32.73	-	-	P	H
		300	41.45	-4.55	46	52.6	19.7	1.88	32.73	-	-	P	H
		750.1	38.64	-7.36	46	41.17	27.5	2.91	32.94	-	-	P	H
		875.4	37.92	-8.08	46	38.51	28.7	3.16	32.45	-	-	P	H
													H
													H
													H
													H
		73.74	36.32	-3.68	40	55.03	13.07	0.93	32.71	100	0	P	V
		200.1	39.78	-3.72	43.5	55.03	16	1.48	32.73	-	-	P	V
	*	250.05	44.78	-1.22	46	56.95	18.8	1.76	32.73	100	95	QP	V
	*	250.05	45.42	-0.58	46	57.59	18.8	1.76	32.73	100	95	P	V
		374.9	30.02	-15.98	46	38.89	21.81	2.13	32.81	-	-	P	V
		750.1	31.22	-14.78	46	33.75	27.5	2.91	32.94	-	-	P	V
		875.4	32.44	-13.56	46	33.03	28.7	3.16	32.45	-	-	P	V
													V
													V
													V
													V
												V	
Remark	1. No other spurious found. 2. All results are PASS against limit line.												

Emission below 1GHz

2.4GHz WIFI 802.11g (LF)

[illegible]

Emission below 1GHz

2.4GHz WIFI 802.11n HT20 (LF)

[illegible]

Emission below 1GHz

2.4GHz WIFI 802.11n HT40 (LF)

[illegible]



Note symbol

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

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

WIFI	Note	Frequency	Level	Over	Limit	Read	Antenna	Cable	Preamp	Ant	Table	Peak	Pol.
Ant.				Limit	Line	Level	Factor	Loss	Factor	Pos	Pos	Avg.	
1+2		(MHz)	(dBμV/m)	(dB)	(dBμV/m)	(dBμV)	(dB/m)	(dB)	(dB)	(cm)	(deg)	(P/A)	(H/V)
802.11b		2390	55.45	-18.55	74	54.51	32.22	4.58	35.86	103	308	P	H
CH 01													
2412MHz		2390	43.54	-10.46	54	42.6	32.22	4.58	35.86	103	308	A	H

1. Level(dBμV/m) =

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

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

For Peak Limit @ 2390MHz:

1. Level(dBμV/m)

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

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

= 55.45 (dBμV/m)

2. Over Limit(dB)

= Level(dBμV/m) – Limit Line(dBμV/m)

= 55.45(dBμV/m) – 74(dBμV/m)

= -18.55(dB)

For Average Limit @ 2390MHz:

1. Level(dBμV/m)

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

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

= 43.54 (dBμV/m)

2. Over Limit(dB)

= Level(dBμV/m) – Limit Line(dBμV/m)

= 43.54(dBμV/m) – 54(dBμV/m)

= -10.46(dB)

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



Appendix C. Radiated Spurious Emission Plots

Test Engineer :	Tsung Lee and Donny Tang	Temperature :	24~25°C
		Relative Humidity :	47~49%

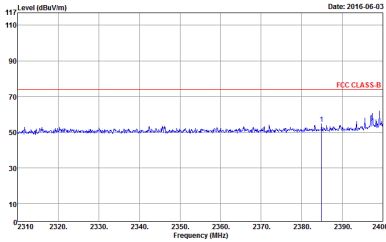
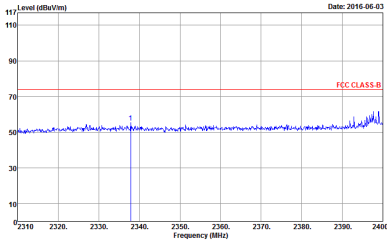
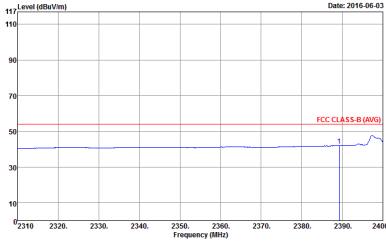
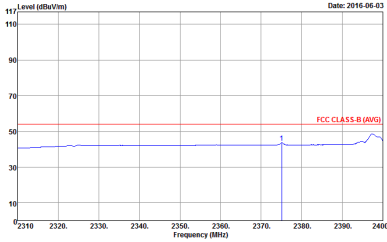
Note symbol

-L	Low channel location
-R	High channel location

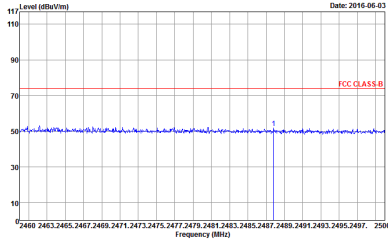
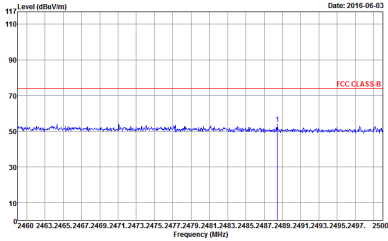
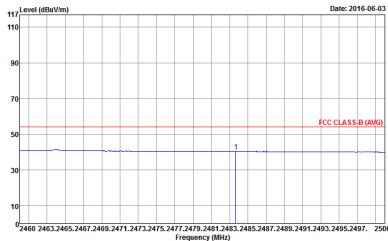
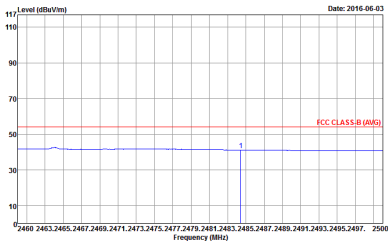


2.4GHz 2400~2483.5MHz

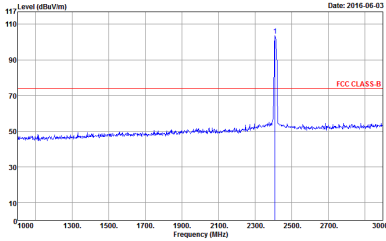
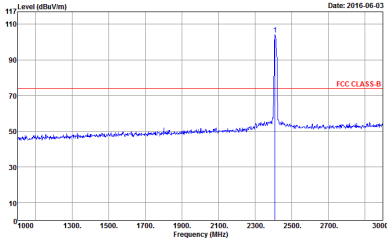
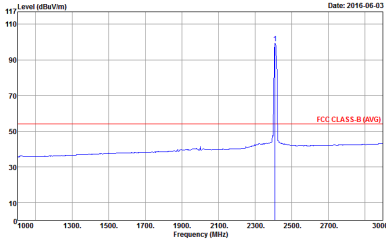
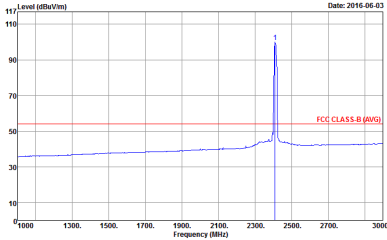
WIFI 802.11b (Band Edge @ 3m)

WIFI	2.4GHz 2400~2483.5MHz Band Edge @ 3m	
ANT	802.11b CH01 2412MHz-L	
1+2	Horizontal	Vertical
Peak	 Site : 03CH10-HY Condition : FCC CLASS-B 3m HORN 9120D-HF HORIZONTAL RBW:1000.000KHz VBW:3000.000KHz SWT:Auto Detector : Peak Project : 630314 Mode : 9 Avg Type : Voltage	 Site : 03CH10-HY Condition : FCC CLASS-B 3m HORN 9120D-HF VERTICAL RBW:1000.000KHz VBW:3000.000KHz SWT:Auto Detector : Peak Project : 630314 Mode : 9 Avg Type : Voltage
Avg.	 Site : 03CH10-HY Condition : FCC CLASS-B (AVG) 3m HORN 9120D-HF HORIZONTAL RBW:1000.000KHz VBW:0.010KHz SWT:Auto Detector : Peak Project : 630314 Mode : 9 Avg Type : Voltage	 Site : 03CH10-HY Condition : FCC CLASS-B (AVG) 3m HORN 9120D-HF VERTICAL RBW:1000.000KHz VBW:0.010KHz SWT:Auto Detector : Peak Project : 630314 Mode : 9 Avg Type : Voltage

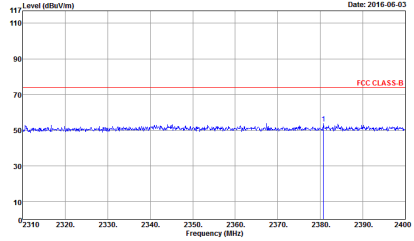
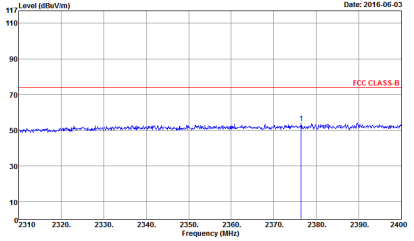
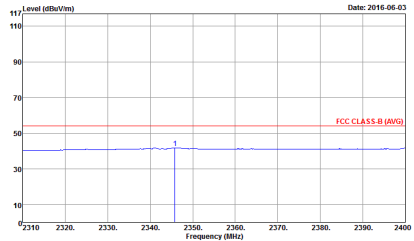
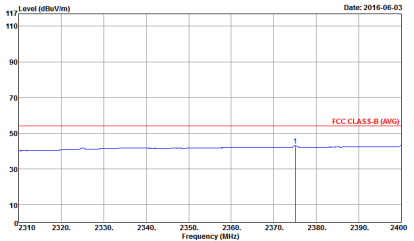


WIFI	2.4GHz 2400~2483.5MHz Fundamental @ 3m	
ANT	802.11b CH01 2412MHz-R	
1+2	Horizontal	Vertical
Peak	 Site : 03CH10-HY Condition : FCC CLASS-B 3m HORN 91200-HF HORIZONTAL Detector : Peak Project : 630314 Mode : 9 Avg Type : Voltage	 Site : 03CH10-HY Condition : FCC CLASS-B 3m HORN 91200-HF VERTICAL Detector : Peak Project : 630314 Mode : 9 Avg Type : Voltage
Avg.	 Site : 03CH10-HY Condition : FCC CLASS-B (AVG) 3m HORN 91200-HF HORIZONTAL Detector : Peak Project : 630314 Mode : 9 Avg Type : Voltage	 Site : 03CH10-HY Condition : FCC CLASS-B (AVG) 3m HORN 91200-HF VERTICAL Detector : Peak Project : 630314 Mode : 9 Avg Type : Voltage

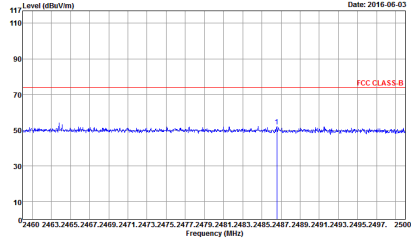
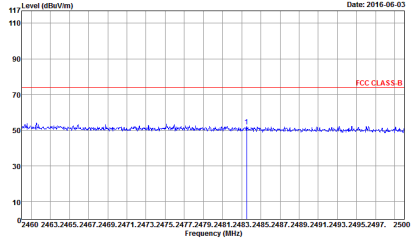
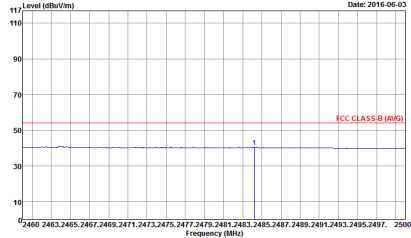
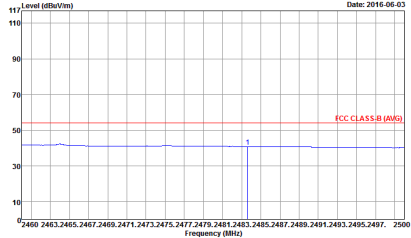


WIFI	2.4GHz 2400~2483.5MHz Fundamental @ 3m	
ANT	802.11b CH01 2412MHz	
1+2	Horizontal	Vertical
Peak	 Site : 03CH10-HY Condition : FCC CLASS-B 3m HORN 91200-HF HORIZONTAL RBW:1000.000KHz VBW:3000.000KHz SWT:Auto Detector : Peak Project : 630314 Mode : 9 Avg Type : Voltage	 Site : 03CH10-HY Condition : FCC CLASS-B 3m HORN 91200-HF VERTICAL RBW:1000.000KHz VBW:3000.000KHz SWT:Auto Detector : Peak Project : 630314 Mode : 9 Avg Type : Voltage
Avg.	 Site : 03CH10-HY Condition : FCC CLASS-B (AVG) 3m HORN 91200-HF HORIZONTAL RBW:1000.000KHz VBW:0.010KHz SWT:Auto Detector : Peak Project : 630314 Mode : 9 Avg Type : Voltage	 Site : 03CH10-HY Condition : FCC CLASS-B (AVG) 3m HORN 91200-HF VERTICAL RBW:1000.000KHz VBW:0.010KHz SWT:Auto Detector : Peak Project : 630314 Mode : 9 Avg Type : Voltage

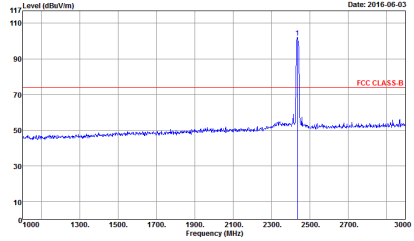
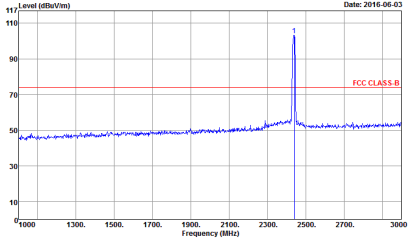
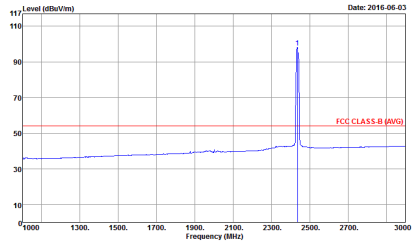
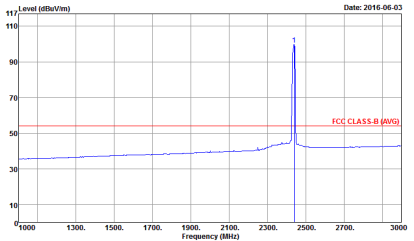


WIFI	2.4GHz 2400~2483.5MHz Band Edge @ 3m	
ANT	802.11b CH06 2437MHz - L	
1+2	Horizontal	Vertical
Peak	 Site : 03CH10-HY Condition : FCC CLASS-B 3m HORN 9120D-HF HORIZONTAL Detector : Peak Project : 630314 Mode : IO Avg Type : Voltage	 Site : 03CH10-HY Condition : FCC CLASS-B 3m HORN 9120D-HF VERTICAL Detector : Peak Project : 630314 Mode : IO Avg Type : Voltage
Avg.	 Site : 03CH10-HY Condition : FCC CLASS-B (AVG) 3m HORN 9120D-HF HORIZONTAL Detector : Peak Project : 630314 Mode : IO Avg Type : Voltage	 Site : 03CH10-HY Condition : FCC CLASS-B (AVG) 3m HORN 9120D-HF VERTICAL Detector : Peak Project : 630314 Mode : IO Avg Type : Voltage

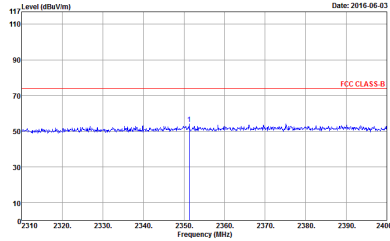
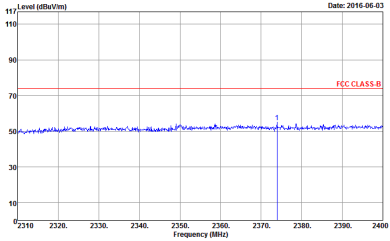
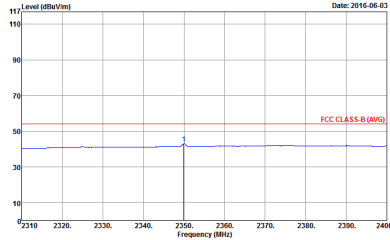
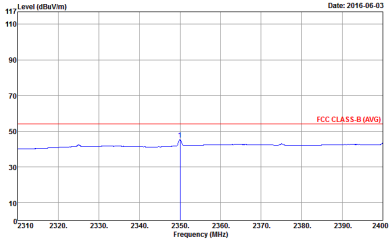


WIFI	2.4GHz 2400~2483.5MHz Band Edge @ 3m	
ANT	802.11b CH06 2437MHz - R	
1+2	Horizontal	Vertical
Peak	 Site : 03CH10-HY Condition : FCC CLASS-B 3m HORN 9120D-HF HORIZONTAL Detector : Peak Project : 630314 Mode : IO Avg Type : Voltage	 Site : 03CH10-HY Condition : FCC CLASS-B 3m HORN 9120D-HF VERTICAL Detector : Peak Project : 630314 Mode : IO Avg Type : Voltage
Avg.	 Site : 03CH10-HY Condition : FCC CLASS-B (AVG) 3m HORN 9120D-HF HORIZONTAL Detector : Peak Project : 630314 Mode : IO Avg Type : Voltage	 Site : 03CH10-HY Condition : FCC CLASS-B (AVG) 3m HORN 9120D-HF VERTICAL Detector : Peak Project : 630314 Mode : IO Avg Type : Voltage

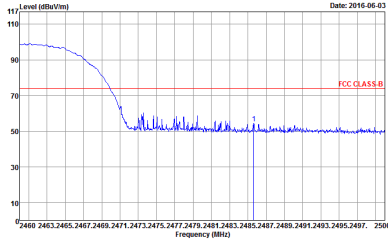
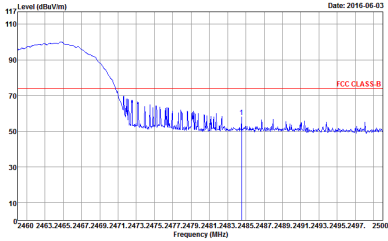
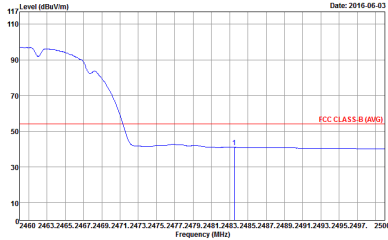
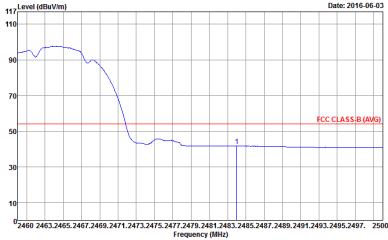


WIFI	2.4GHz 2400~2483.5MHz Fundamental @ 3m	
ANT	802.11b CH06 2437MHz	
1+2	Horizontal	Vertical
Peak	 Site : 03CH10-HY Condition : FCC CLASS-B 3m HORN 9120D-HF HORIZONTAL Detector : Peak Project : 630314 Mode : IO Avg Type : Voltage	 Site : 03CH10-HY Condition : FCC CLASS-B 3m HORN 9120D-HF VERTICAL Detector : Peak Project : 630314 Mode : IO Avg Type : Voltage
Avg.	 Site : 03CH10-HY Condition : FCC CLASS-B (AVG) 3m HORN 9120D-HF HORIZONTAL Detector : Peak Project : 630314 Mode : IO Avg Type : Voltage	 Site : 03CH10-HY Condition : FCC CLASS-B (AVG) 3m HORN 9120D-HF VERTICAL Detector : Peak Project : 630314 Mode : IO Avg Type : Voltage

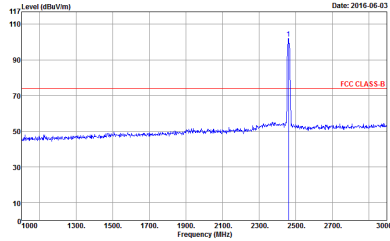
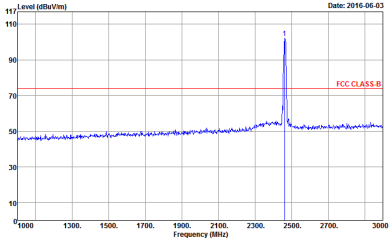
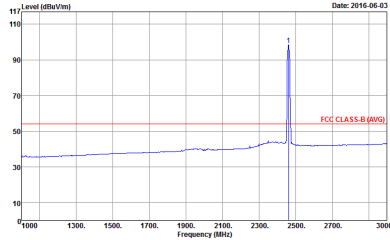
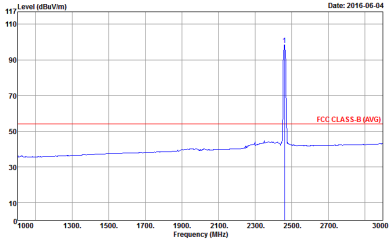


WIFI	2.4GHz 2400~2483.5MHz Band Edge @ 3m	
ANT	802.11b CH11 2462MHz-L	
1+2	Horizontal	Vertical
Peak	 Level (dBuV/m) Frequency (MHz) Date: 2016-06-03 FCC CLASS-B Site : 03CH10-HY Condition : FCC CLASS-B 3m HORN 91200-HF HORIZONTAL RBW:1000.000KHz VBW:3000.000KHz SWT:Auto Detector : Peak Project : 630314 Mode : II Avg Type : Voltage	 Level (dBuV/m) Frequency (MHz) Date: 2016-06-03 FCC CLASS-B Site : 03CH10-HY Condition : FCC CLASS-B 3m HORN 91200-HF VERTICAL RBW:1000.000KHz VBW:3000.000KHz SWT:Auto Detector : Peak Project : 630314 Mode : II Avg Type : Voltage
Avg.	 Level (dBuV/m) Frequency (MHz) Date: 2016-06-03 FCC CLASS-B (AVG) Site : 03CH10-HY Condition : FCC CLASS-B (AVG) 3m HORN 91200-HF HORIZONTAL RBW:1000.000KHz VBW:0.010KHz SWT:Auto Detector : Peak Project : 630314 Mode : II Avg Type : Voltage	 Level (dBuV/m) Frequency (MHz) Date: 2016-06-03 FCC CLASS-B (AVG) Site : 03CH10-HY Condition : FCC CLASS-B (AVG) 3m HORN 91200-HF VERTICAL RBW:1000.000KHz VBW:0.010KHz SWT:Auto Detector : Peak Project : 630314 Mode : II Avg Type : Voltage



WIFI	2.4GHz 2400~2483.5MHz Fundamental @ 3m	
ANT	802.11b CH11 2462MHz-R	
1+2	Horizontal	Vertical
Peak	 Site : 03CH10-HY Condition : FCC CLASS-B 3m HORN 91200-HF HORIZONTAL Detector : Peak Project : 630314 Mode : II Avg Type : Voltage	 Site : 03CH10-HY Condition : FCC CLASS-B 3m HORN 91200-HF VERTICAL Detector : Peak Project : 630314 Mode : II Avg Type : Voltage
Avg.	 Site : 03CH10-HY Condition : FCC CLASS-B (AVG) 3m HORN 91200-HF HORIZONTAL Detector : Peak Project : 630314 Mode : II Avg Type : Voltage	 Site : 03CH10-HY Condition : FCC CLASS-B (AVG) 3m HORN 91200-HF VERTICAL Detector : Peak Project : 630314 Mode : II Avg Type : Voltage

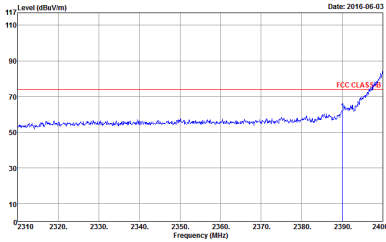
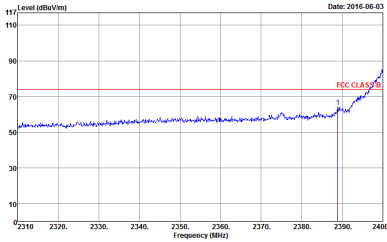
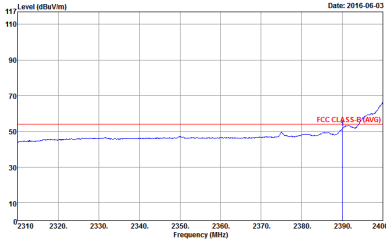
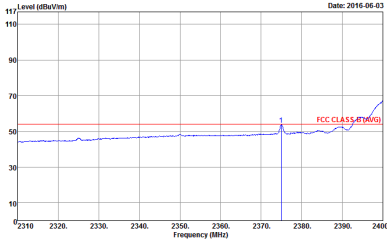


WIFI	2.4GHz 2400~2483.5MHz Fundamental @ 3m	
ANT	802.11b CH11 2462MHz	
1+2	Horizontal	Vertical
Peak	 Site : 03CH10-HY Condition : FCC CLASS-B 3m HORN 91200-HF HORIZONTAL Detector : Peak Project : 630314 Mode : II Avg Type : Voltage	 Site : 03CH10-HY Condition : FCC CLASS-B 3m HORN 91200-HF VERTICAL Detector : Peak Project : 630314 Mode : II Avg Type : Voltage
Avg.	 Site : 03CH10-HY Condition : FCC CLASS-B (AVG) 3m HORN 91200-HF HORIZONTAL Detector : Peak Project : 630314 Mode : II Avg Type : Voltage	 Site : 03CH10-HY Condition : FCC CLASS-B (AVG) 3m HORN 91200-HF HORIZONTAL Detector : Peak Project : 630314 Mode : II Avg Type : Voltage

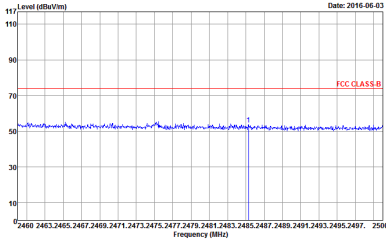
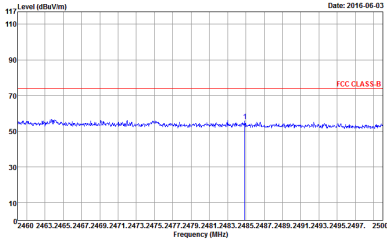
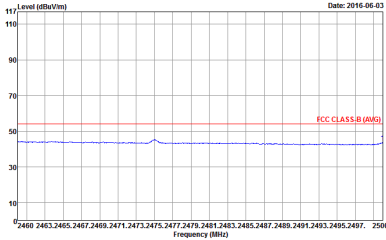
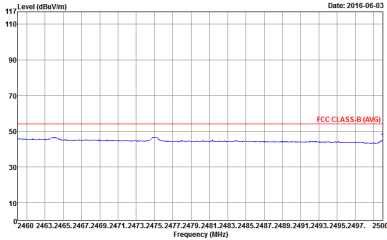


2.4GHz 2400~2483.5MHz

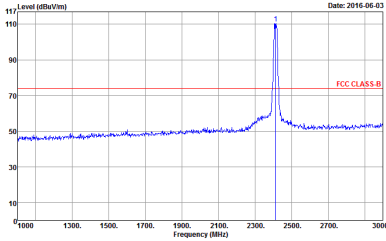
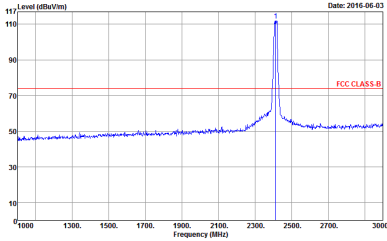
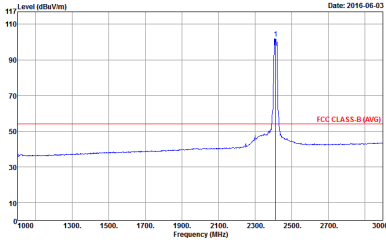
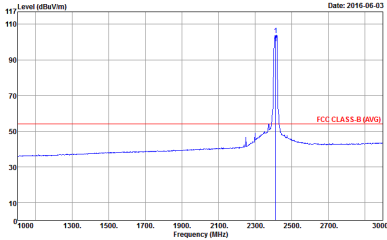
WIFI 802.11g (Band Edge @ 3m)

WIFI	2.4GHz 2400~2483.5MHz Band Edge @ 3m	
ANT	802.11g CH01 2412MHz-L	
1+2	Horizontal	Vertical
Peak	 Site : 03CH10-HY Condition : FCC CLASS-B 3m HORN 9120D-HF HORIZONTAL Detector : Peak Project : 630314 Mode : 12 Setting : 24.5 Avg Type : Voltage	 Site : 03CH10-HY Condition : FCC CLASS-B 3m HORN 9120D-HF VERTICAL Detector : Peak Project : 630314 Mode : 12 Setting : 24.5 Avg Type : Voltage
Avg.	 Site : 03CH10-HY Condition : FCC CLASS-B (AVG) 3m HORN 9120D-HF HORIZONTAL Detector : Peak Project : 630314 Mode : 12 Setting : 24.5 Avg Type : Voltage	 Site : 03CH10-HY Condition : FCC CLASS-B (AVG) 3m HORN 9120D-HF VERTICAL Detector : Peak Project : 630314 Mode : 12 Setting : 24.5 Avg Type : Voltage

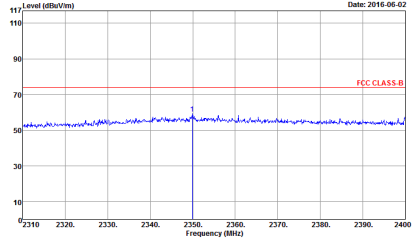
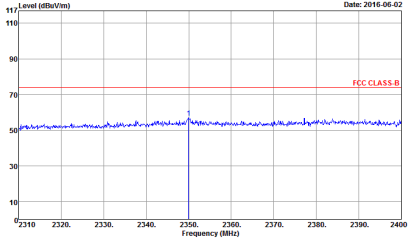
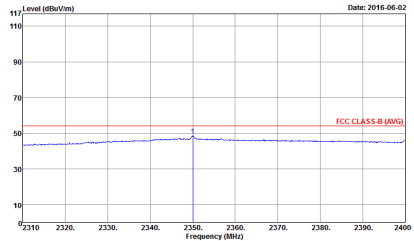
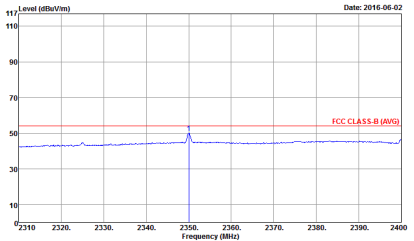


WIFI	2.4GHz 2400~2483.5MHz Fundamental @ 3m	
ANT	802.11g CH01 2412MHz-R	
1+2	Horizontal	Vertical
Peak	 Site : 03CH10-HY Condition : FCC CLASS-B 3m HORN 91200-HF HORIZONTAL Detector : Peak Project : 630314 Mode : 12 Setting : 24.5 Avg Type : Voltage	 Site : 03CH10-HY Condition : FCC CLASS-B 3m HORN 91200-HF VERTICAL Detector : Peak Project : 630314 Mode : 12 Setting : 24.5 Avg Type : Voltage
Avg.	 Site : 03CH10-HY Condition : FCC CLASS-B (AVG) 3m HORN 91200-HF HORIZONTAL Detector : Peak Project : 630314 Mode : 12 Setting : 24.5 Avg Type : Voltage	 Site : 03CH10-HY Condition : FCC CLASS-B (AVG) 3m HORN 91200-HF VERTICAL Detector : Peak Project : 630314 Mode : 12 Setting : 24.5 Avg Type : Voltage

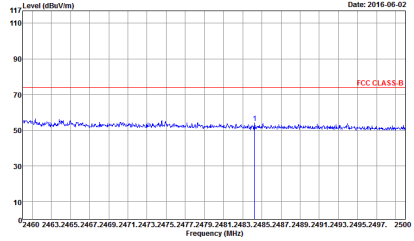
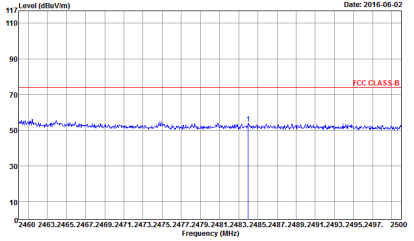
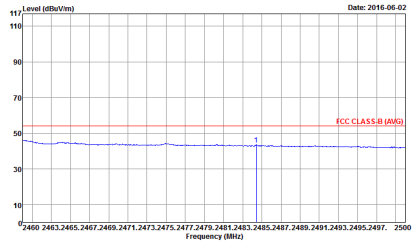
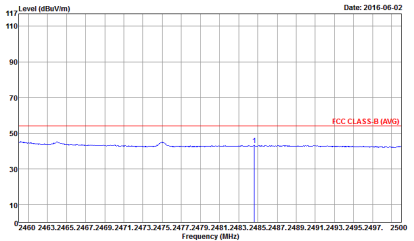


WIFI	2.4GHz 2400~2483.5MHz Fundamental @ 3m	
ANT	802.11g CH01 2412MHz	
1+2	Horizontal	Vertical
Peak	 Site : 03CH10-HY Condition : FCC CLASS-B 3m HORN 91200-HF HORIZONTAL Detector : Peak Project : 630314 Mode : 12 Setting : 24.5 Avg Type : Voltage	 Site : 03CH10-HY Condition : FCC CLASS-B 3m HORN 91200-HF VERTICAL Detector : Peak Project : 630314 Mode : 12 Setting : 24.5 Avg Type : Voltage
Avg.	 Site : 03CH10-HY Condition : FCC CLASS-B (AVG) 3m HORN 91200-HF HORIZONTAL Detector : Peak Project : 630314 Mode : 12 Setting : 24.5 Avg Type : Voltage	 Site : 03CH10-HY Condition : FCC CLASS-B (AVG) 3m HORN 91200-HF VERTICAL Detector : Peak Project : 630314 Mode : 12 Setting : 24.5 Avg Type : Voltage

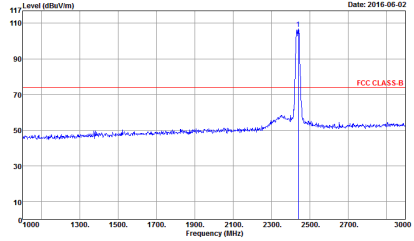
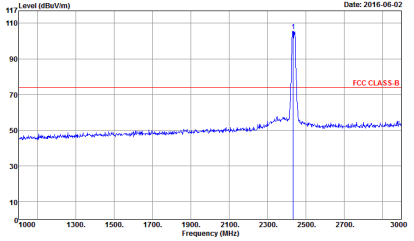
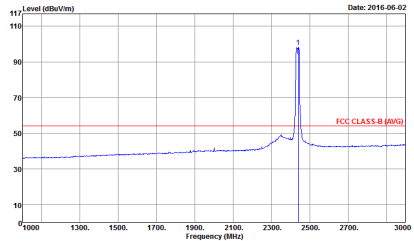
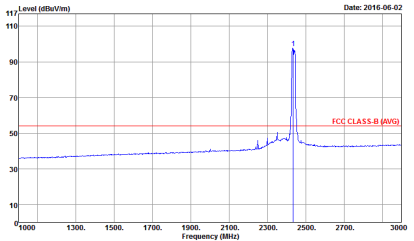


WIFI	2.4GHz 2400~2483.5MHz Band Edge @ 3m	
ANT	802.11g CH06 2437MHz - L	
1+2	Horizontal	Vertical
Peak	 Site : 03CH10-HY Condition : FCC CLASS-B 3m HORN 9120D-HF HORIZONTAL Detector : Peak Project : 630314 Mode : I3 Avg Type : Voltage	 Site : 03CH10-HY Condition : FCC CLASS-B 3m HORN 9120D-HF VERTICAL Detector : Peak Project : 630314 Mode : I3 Avg Type : Voltage
Avg.	 Site : 03CH10-HY Condition : FCC CLASS-B (AVG) 3m HORN 9120D-HF HORIZONTAL Detector : Peak Project : 630314 Mode : I3 Avg Type : Voltage	 Site : 03CH10-HY Condition : FCC CLASS-B (AVG) 3m HORN 9120D-HF VERTICAL Detector : Peak Project : 630314 Mode : I3 Avg Type : Voltage

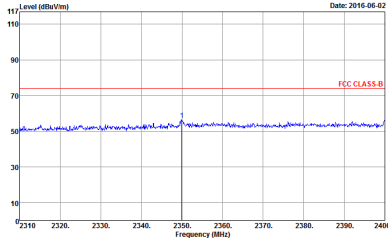
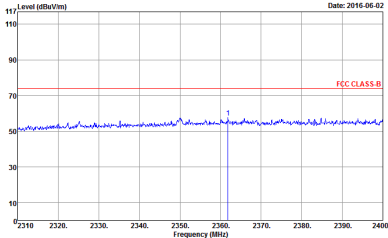
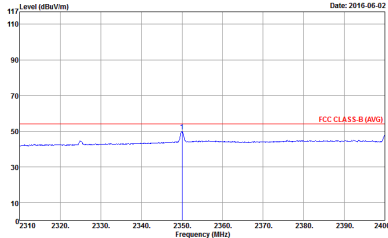
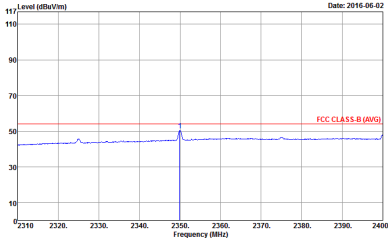


WIFI	2.4GHz 2400~2483.5MHz Band Edge @ 3m	
ANT	802.11g CH06 2437MHz - R	
1+2	Horizontal	Vertical
Peak	 Site : 03CH10-HY Condition : FCC CLASS-B 3m HORN 9120D-HF HORIZONTAL Detector : Peak Project : 630314 Mode : I3 Avg Type : Voltage	 Site : 03CH10-HY Condition : FCC CLASS-B 3m HORN 9120D-HF VERTICAL Detector : Peak Project : 630314 Mode : I3 Avg Type : Voltage
Avg.	 Site : 03CH10-HY Condition : FCC CLASS-B (AVG) 3m HORN 9120D-HF HORIZONTAL Detector : Peak Project : 630314 Mode : I3 Avg Type : Voltage	 Site : 03CH10-HY Condition : FCC CLASS-B (AVG) 3m HORN 9120D-HF VERTICAL Detector : Peak Project : 630314 Mode : I3 Avg Type : Voltage

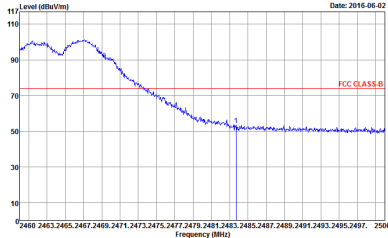
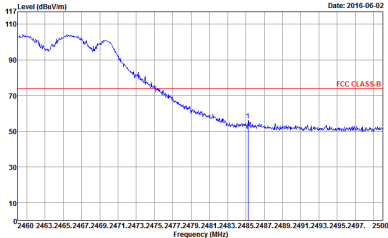
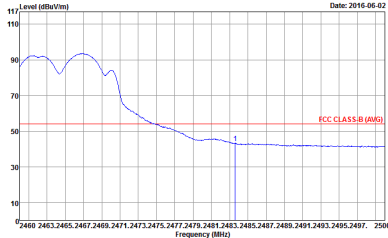
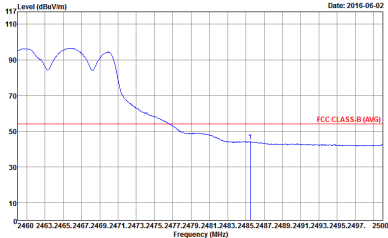


WIFI	2.4GHz 2400~2483.5MHz Fundamental @ 3m	
ANT	802.11g CH06 2437MHz	
1+2	Horizontal	Vertical
Peak	 Site : 03CH10-HY Condition : FCC CLASS-B 3m HORN 9120D-HF HORIZONTAL Detector : Peak Project : 630314 Mode : 13 Avg Type : Voltage	 Site : 03CH10-HY Condition : FCC CLASS-B 3m HORN 9120D-HF VERTICAL Detector : Peak Project : 630314 Mode : 13 Avg Type : Voltage
Avg.	 Site : 03CH10-HY Condition : FCC CLASS-B (AVG) 3m HORN 9120D-HF HORIZONTAL Detector : Peak Project : 630314 Mode : 13 Avg Type : Voltage	 Site : 03CH10-HY Condition : FCC CLASS-B (AVG) 3m HORN 9120D-HF VERTICAL Detector : Peak Project : 630314 Mode : 13 Avg Type : Voltage

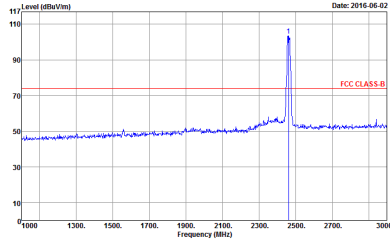
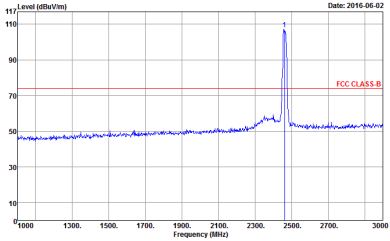
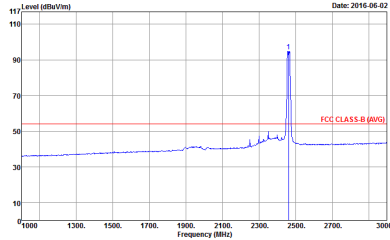
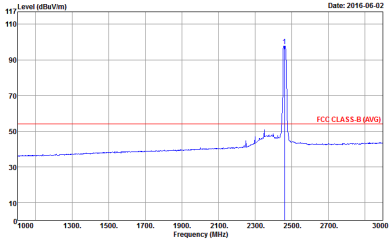


WIFI	2.4GHz 2400~2483.5MHz Band Edge @ 3m	
ANT	802.11g CH11 2462MHz-L	
1+2	Horizontal	Vertical
Peak	 Level (dBuV/m) Frequency (MHz) Date: 2016-06-02 FCC CLASS-B Site : 03CH10-HY Condition : FCC CLASS-B 3m HORN 91200-HF HORIZONTAL RBW:1000.000KHz VBW:3000.000KHz SWT:Auto Detector : Peak Project : 630314 Mode : 14 Avg Type : Voltage	 Level (dBuV/m) Frequency (MHz) Date: 2016-06-02 FCC CLASS-B Site : 03CH10-HY Condition : FCC CLASS-B 3m HORN 91200-HF VERTICAL RBW:1000.000KHz VBW:3000.000KHz SWT:Auto Detector : Peak Project : 630314 Mode : 14 Avg Type : Voltage
Avg.	 Level (dBuV/m) Frequency (MHz) Date: 2016-06-02 FCC CLASS-B (AVG) Site : 03CH10-HY Condition : FCC CLASS-B (AVG) 3m HORN 91200-HF HORIZONTAL RBW:1000.000KHz VBW:1000KHz SWT:Auto Detector : Peak Project : 630314 Mode : 14 Avg Type : Voltage	 Level (dBuV/m) Frequency (MHz) Date: 2016-06-02 FCC CLASS-B (AVG) Site : 03CH10-HY Condition : FCC CLASS-B (AVG) 3m HORN 91200-HF VERTICAL RBW:1000.000KHz VBW:1000KHz SWT:Auto Detector : Peak Project : 630314 Mode : 14 Avg Type : Voltage

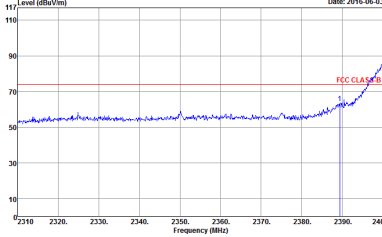
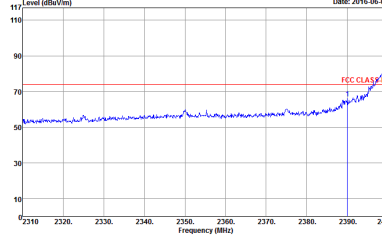
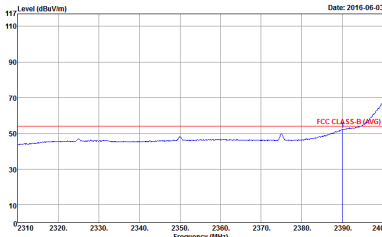
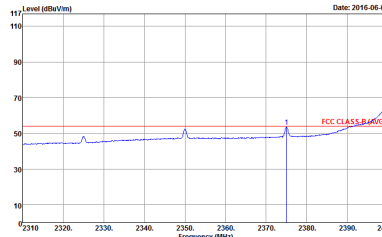


WIFI	2.4GHz 2400~2483.5MHz Fundamental @ 3m	
ANT	802.11g CH11 2462MHz-R	
1+2	Horizontal	Vertical
Peak	 Site : 03CH10-HY Condition : FCC CLASS-B 3m HORN 9120D-HF HORIZONTAL Detector : Peak Project : 630314 Mode : 14 Avg Type : Voltage	 Site : 03CH10-HY Condition : FCC CLASS-B 3m HORN 9120D-HF VERTICAL Detector : Peak Project : 630314 Mode : 14 Avg Type : Voltage
Avg.	 Site : 03CH10-HY Condition : FCC CLASS-B (AVG) 3m HORN 9120D-HF HORIZONTAL Detector : Peak Project : 630314 Mode : 14 Avg Type : Voltage	 Site : 03CH10-HY Condition : FCC CLASS-B (AVG) 3m HORN 9120D-HF VERTICAL Detector : Peak Project : 630314 Mode : 14 Avg Type : Voltage

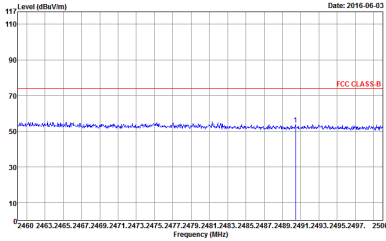
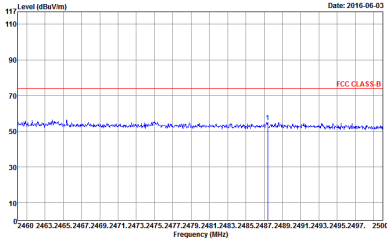
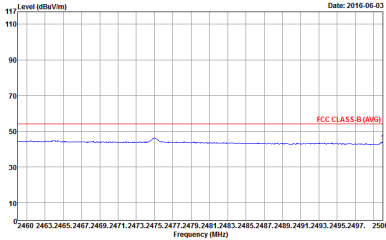
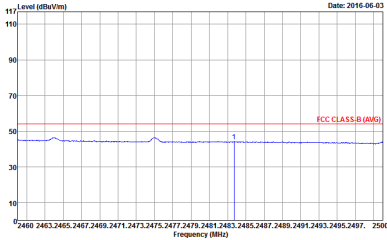


WIFI	2.4GHz 2400~2483.5MHz Fundamental @ 3m	
ANT	802.11g CH11 2462MHz	
1+2	Horizontal	Vertical
Peak	 Site : 03CH10-HY Condition : FCC CLASS-B 3m HORN 91200-HF HORIZONTAL Detector : Peak Project : 630314 Mode : I4 Avg Type : Voltage	 Site : 03CH10-HY Condition : FCC CLASS-B 3m HORN 91200-HF VERTICAL Detector : Peak Project : 630314 Mode : I4 Avg Type : Voltage
Avg.	 Site : 03CH10-HY Condition : FCC CLASS-B (AVG) 3m HORN 91200-HF HORIZONTAL Detector : Peak Project : 630314 Mode : I4 Avg Type : Voltage	 Site : 03CH10-HY Condition : FCC CLASS-B (AVG) 3m HORN 91200-HF VERTICAL Detector : Peak Project : 630314 Mode : I4 Avg Type : Voltage

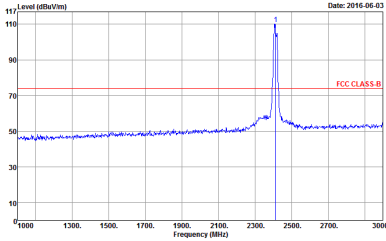
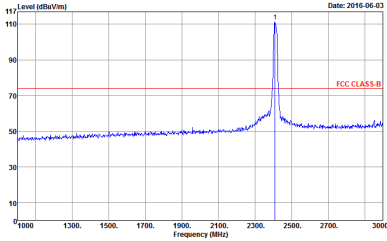
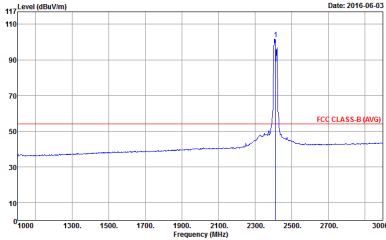
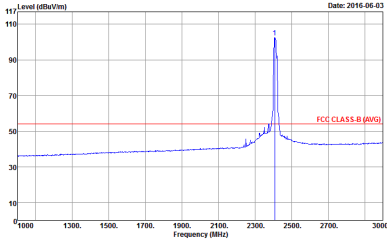
2.4GHz 2400~2483.5MHz
WIFI 802.11n HT20 (Band Edge @ 3m)

WIFI	2.4GHz 2400~2483.5MHz Band Edge @ 3m	
ANT	802.11n HT20 CH01 2412MHz-L	
1+2	Horizontal	Vertical
Peak	 Site : 03CH10-HY Condition : FCC CLASS-B 3m HORN 9120D-HF HORIZONTAL Detector : Peak Project : 630314 Mode : 15 Setting : 23.5 Avg Type : Voltage	 Site : 03CH10-HY Condition : FCC CLASS-B 3m HORN 9120D-HF VERTICAL Detector : Peak Project : 630314 Mode : 15 Setting : 23.5 Avg Type : Voltage
Avg.	 Site : 03CH10-HY Condition : FCC CLASS-B (AVG) 3m HORN 9120D-HF HORIZONTAL Detector : Peak Project : 630314 Mode : 15 Setting : 23.5 Avg Type : Voltage	 Site : 03CH10-HY Condition : FCC CLASS-B (AVG) 3m HORN 9120D-HF VERTICAL Detector : Peak Project : 630314 Mode : 15 Setting : 23.5 Avg Type : Voltage

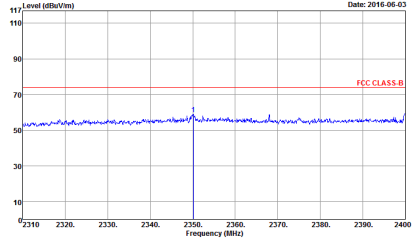
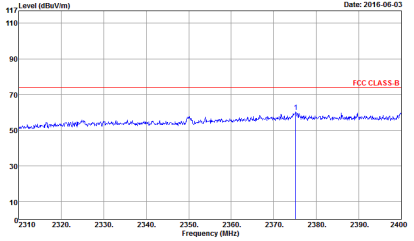
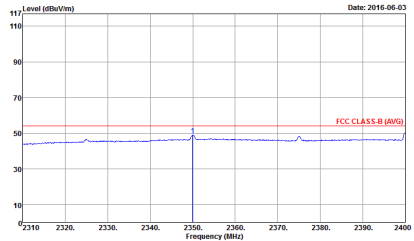
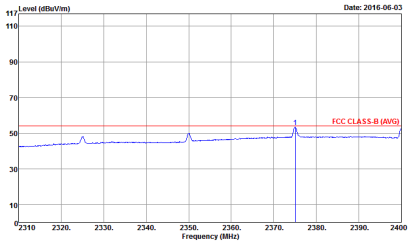


WIFI	2.4GHz 2400~2483.5MHz Fundamental @ 3m	
ANT	802.11n HT20 CH01 2412MHz-R	
1+2	Horizontal	Vertical
Peak	 Site : 03CH10-HY Condition : FCC CLASS-B 3m HORN 91200-HF HORIZONTAL RBW:1000.000KHz VBW:3000.000KHz SWT:Auto Detector : Peak Project : 630314 Mode : IS Setting : 23.5 Avg Type : Voltage	 Site : 03CH10-HY Condition : FCC CLASS-B 3m HORN 91200-HF VERTICAL RBW:1000.000KHz VBW:3000.000KHz SWT:Auto Detector : Peak Project : 630314 Mode : IS Setting : 23.5 Avg Type : Voltage
Avg.	 Site : 03CH10-HY Condition : FCC CLASS-B (AVG) 3m HORN 91200-HF HORIZONTAL RBW:1000.000KHz VBW:1000KHz SWT:Auto Detector : Peak Project : 630314 Mode : IS Setting : 23.5 Avg Type : Voltage	 Site : 03CH10-HY Condition : FCC CLASS-B (AVG) 3m HORN 91200-HF VERTICAL RBW:1000.000KHz VBW:1000KHz SWT:Auto Detector : Peak Project : 630314 Mode : IS Setting : 23.5 Avg Type : Voltage

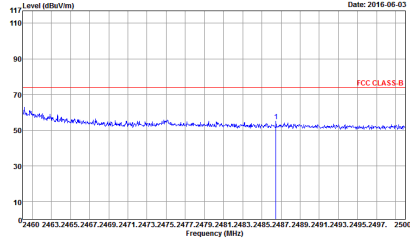
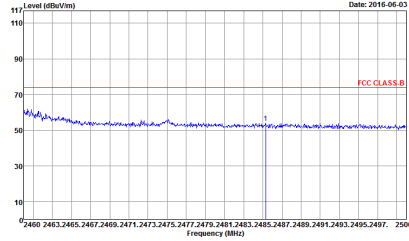
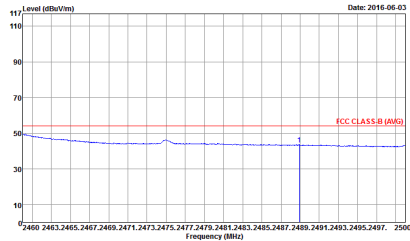
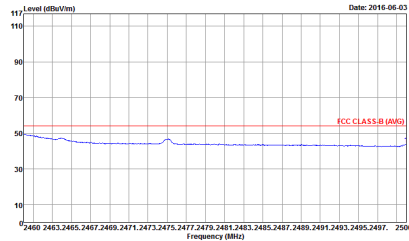


WIFI	2.4GHz 2400~2483.5MHz Fundamental @ 3m	
ANT	802.11n HT20 CH01 2412MHz	
1+2	Horizontal	Vertical
Peak	 Site : 03CH10-HY Condition : FCC CLASS-B 3m HORN 9120D-HF HORIZONTAL Detector : Peak Project : 630314 Mode : IS Setting : 23.5 Avg Type : Voltage	 Site : 03CH10-HY Condition : FCC CLASS-B 3m HORN 9120D-HF VERTICAL Detector : Peak Project : 630314 Mode : IS Setting : 23.5 Avg Type : Voltage
Avg.	 Site : 03CH10-HY Condition : FCC CLASS-B (AVG) 3m HORN 9120D-HF HORIZONTAL Detector : Peak Project : 630314 Mode : IS Setting : 23.5 Avg Type : Voltage	 Site : 03CH10-HY Condition : FCC CLASS-B (AVG) 3m HORN 9120D-HF VERTICAL Detector : Peak Project : 630314 Mode : IS Setting : 23.5 Avg Type : Voltage

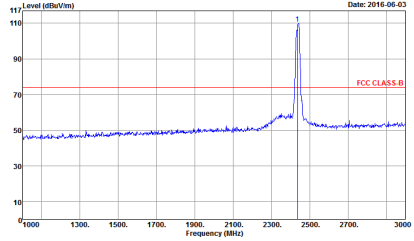
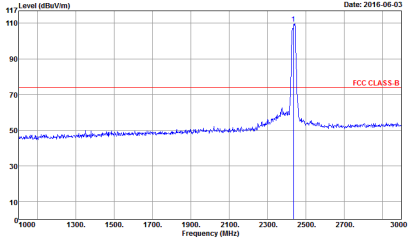
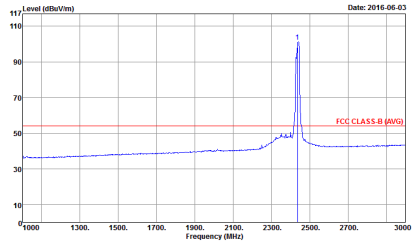
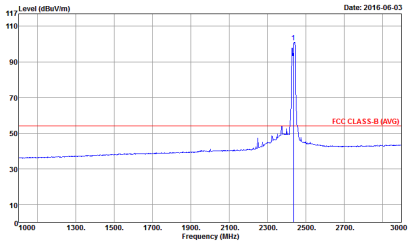


WIFI	2.4GHz 2400~2483.5MHz Band Edge @ 3m	
ANT	802.11n HT20 CH06 2437MHz - L	
1+2	Horizontal	Vertical
Peak	 Site : 03CH10-HY Condition : FCC CLASS-B 3m HORN 9120D-HF HORIZONTAL Detector : Peak Project : 630314 Mode : 16 Setting : 23.5 Avg Type : Voltage	 Site : 03CH10-HY Condition : FCC CLASS-B 3m HORN 9120D-HF VERTICAL Detector : Peak Project : 630314 Mode : 16 Setting : 23.5 Avg Type : Voltage
Avg.	 Site : 03CH10-HY Condition : FCC CLASS-B (AVG) 3m HORN 9120D-HF HORIZONTAL Detector : Peak Project : 630314 Mode : 16 Setting : 23.5 Avg Type : Voltage	 Site : 03CH10-HY Condition : FCC CLASS-B (AVG) 3m HORN 9120D-HF VERTICAL Detector : Peak Project : 630314 Mode : 16 Setting : 23.5 Avg Type : Voltage

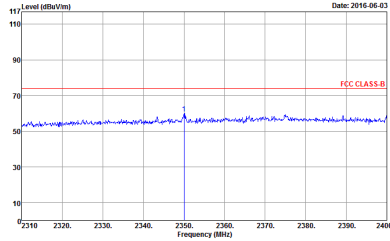
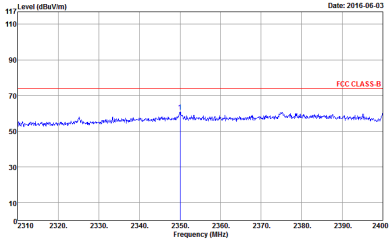
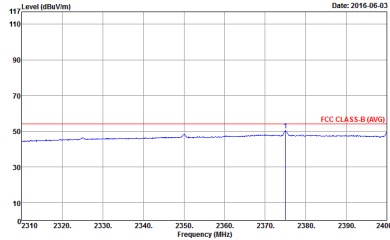
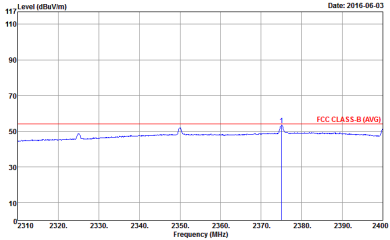


WIFI	2.4GHz 2400~2483.5MHz Band Edge @ 3m	
ANT	802.11n HT20 CH06 2437MHz - R	
1+2	Horizontal	Vertical
Peak	 Site : 03CH10-HY Condition : FCC CLASS-B 3m HORN 9120D-HF HORIZONTAL Detector : Peak Project : 630314 Mode : 16 Setting : 23.5 Avg Type : Voltage	 Site : 03CH10-HY Condition : FCC CLASS-B 3m HORN 9120D-HF VERTICAL Detector : Peak Project : 630314 Mode : 16 Setting : 23.5 Avg Type : Voltage
Avg.	 Site : 03CH10-HY Condition : FCC CLASS-B (AVG) 3m HORN 9120D-HF HORIZONTAL Detector : Peak Project : 630314 Mode : 16 Setting : 23.5 Avg Type : Voltage	 Site : 03CH10-HY Condition : FCC CLASS-B (AVG) 3m HORN 9120D-HF VERTICAL Detector : Peak Project : 630314 Mode : 16 Setting : 23.5 Avg Type : Voltage

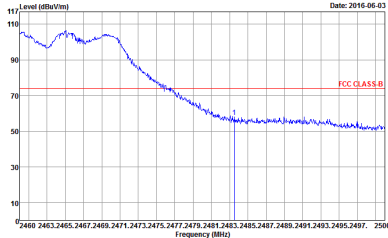
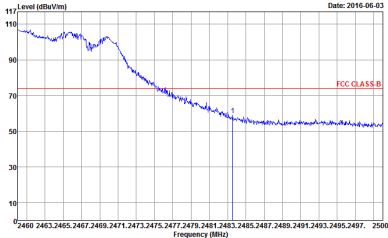
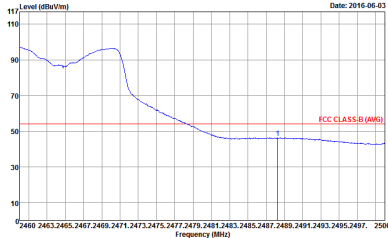
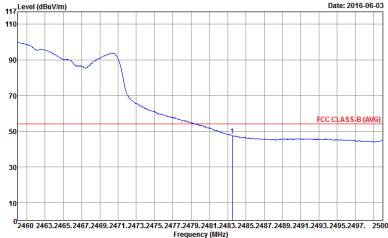


WIFI	2.4GHz 2400~2483.5MHz Fundamental @ 3m	
ANT	802.11n HT20 CH06 2437MHz	
1+2	Horizontal	Vertical
Peak	 Site : 03CH10-HY Condition : FCC CLASS-B 3m HORN 9120D-HF HORIZONTAL Detector : Peak Project : 630314 Mode : 16 Setting : 23.5 Avg Type : Voltage	 Site : 03CH10-HY Condition : FCC CLASS-B 3m HORN 9120D-HF VERTICAL Detector : Peak Project : 630314 Mode : 16 Setting : 23.5 Avg Type : Voltage
Avg.	 Site : 03CH10-HY Condition : FCC CLASS-B (AVG) 3m HORN 9120D-HF HORIZONTAL Detector : Peak Project : 630314 Mode : 16 Setting : 23.5 Avg Type : Voltage	 Site : 03CH10-HY Condition : FCC CLASS-B (AVG) 3m HORN 9120D-HF VERTICAL Detector : Peak Project : 630314 Mode : 16 Setting : 23.5 Avg Type : Voltage

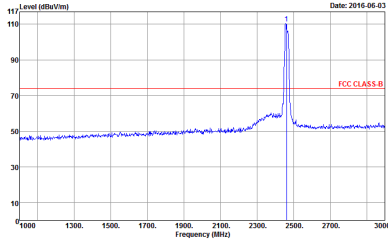
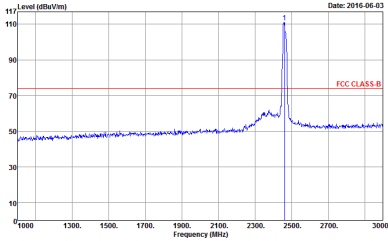
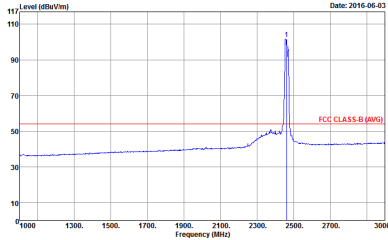
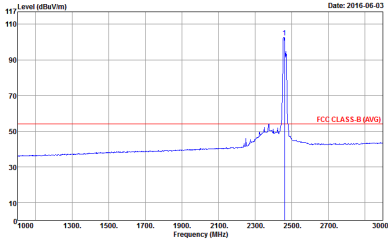


WIFI	2.4GHz 2400~2483.5MHz Band Edge @ 3m	
ANT	802.11n HT20 CH11 2462MHz-L	
1+2	Horizontal	Vertical
Peak	 Site : 03CH10-HY Condition : FCC CLASS-B 3m HORN 91200-HF HORIZONTAL Detector : Peak Project : 630314 Mode : 17 Setting : 23.5 Avg Type : Voltage	 Site : 03CH10-HY Condition : FCC CLASS-B 3m HORN 91200-HF VERTICAL Detector : Peak Project : 630314 Mode : 17 Setting : 23.5 Avg Type : Voltage
Avg.	 Site : 03CH10-HY Condition : FCC CLASS-B (AVG) 3m HORN 91200-HF HORIZONTAL Detector : Peak Project : 630314 Mode : 17 Setting : 23.5 Avg Type : Voltage	 Site : 03CH10-HY Condition : FCC CLASS-B (AVG) 3m HORN 91200-HF VERTICAL Detector : Peak Project : 630314 Mode : 17 Setting : 23.5 Avg Type : Voltage



WIFI	2.4GHz 2400~2483.5MHz Fundamental @ 3m	
ANT	802.11n HT20 CH11 2462MHz-R	
1+2	Horizontal	Vertical
Peak	 Site : 03CH10-HY Condition : FCC CLASS-B 3m HORN 9120D-HF HORIZONTAL Detector : Peak Project : 630314 Mode : 17 Setting : 23.5 Avg Type : Voltage	 Site : 03CH10-HY Condition : FCC CLASS-B 3m HORN 9120D-HF VERTICAL Detector : Peak Project : 630314 Mode : 17 Setting : 23.5 Avg Type : Voltage
Avg.	 Site : 03CH10-HY Condition : FCC CLASS-B (AVG) 3m HORN 9120D-HF HORIZONTAL Detector : Peak Project : 630314 Mode : 17 Setting : 23.5 Avg Type : Voltage	 Site : 03CH10-HY Condition : FCC CLASS-B (AVG) 3m HORN 9120D-HF VERTICAL Detector : Peak Project : 630314 Mode : 17 Setting : 23.5 Avg Type : Voltage

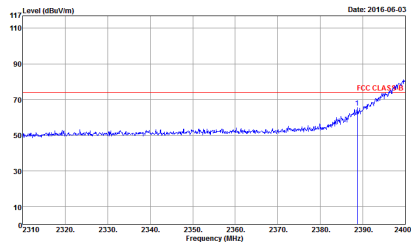
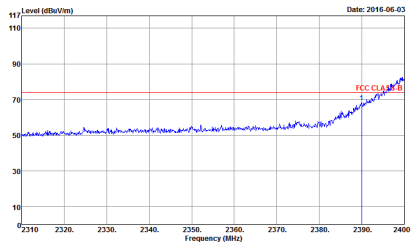
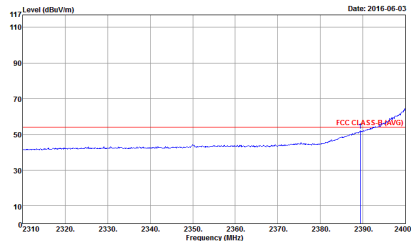
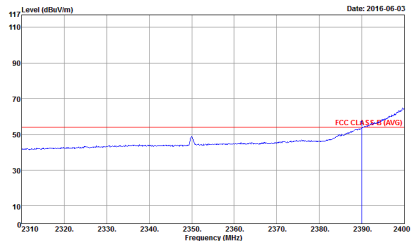


WIFI	2.4GHz 2400~2483.5MHz Fundamental @ 3m	
ANT	802.11n HT20 CH11 2462MHz	
1+2	Horizontal	Vertical
Peak	 Site : 03CH10-HY Condition : FCC CLASS-B 3m HORN 9120D-HF HORIZONTAL Detector : Peak Project : 630314 Mode : 17 Setting : 23.5 Avg Type : Voltage	 Site : 03CH10-HY Condition : FCC CLASS-B 3m HORN 9120D-HF VERTICAL Detector : Peak Project : 630314 Mode : 17 Setting : 23.5 Avg Type : Voltage
Avg.	 Site : 03CH10-HY Condition : FCC CLASS-B (AVG) 3m HORN 9120D-HF HORIZONTAL Detector : Peak Project : 630314 Mode : 17 Setting : 23.5 Avg Type : Voltage	 Site : 03CH10-HY Condition : FCC CLASS-B (AVG) 3m HORN 9120D-HF VERTICAL Detector : Peak Project : 630314 Mode : 17 Setting : 23.5 Avg Type : Voltage

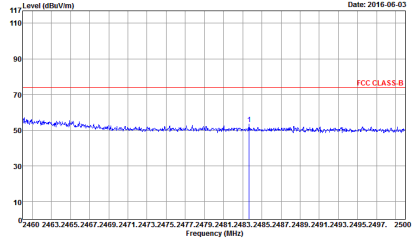
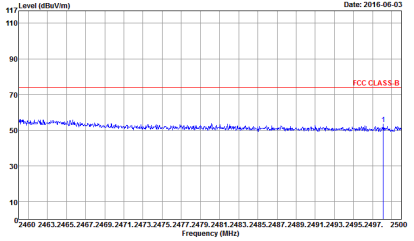
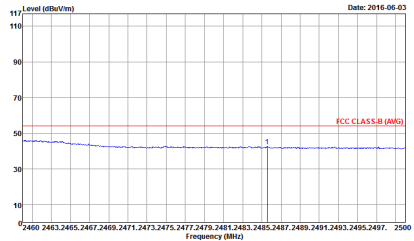
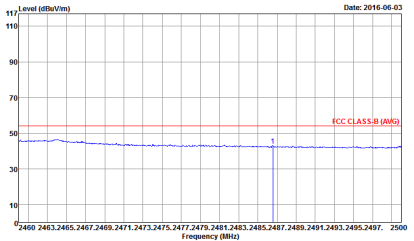


2.4GHz 2400~2483.5MHz

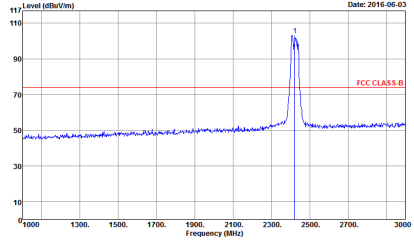
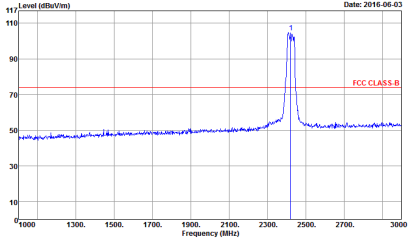
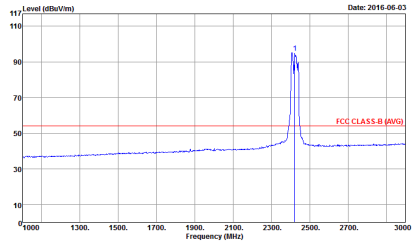
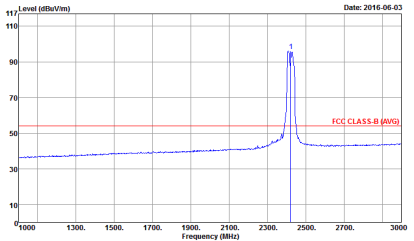
WIFI 802.11n HT40 (Band Edge @ 3m)

WIFI	2.4GHz 2400~2483.5MHz Band Edge @ 3m	
ANT	802.11n HT40 CH03 2422MHz - L	
1+2	Horizontal	Vertical
Peak	 Site : 03CH10-HY Condition : FCC CLASS-B 3m HORN 9120D-HF HORIZONTAL Detector : Peak Project : 630314 Mode : 18 Setting : 19 Avg Type : Voltage	 Site : 03CH10-HY Condition : FCC CLASS-B 3m HORN 9120D-HF VERTICAL Detector : Peak Project : 630314 Mode : 18 Setting : 19 Avg Type : Voltage
Avg.	 Site : 03CH10-HY Condition : FCC CLASS-B (AVG) 3m HORN 9120D-HF HORIZONTAL Detector : Peak Project : 630314 Mode : 18 Setting : 19 Avg Type : Voltage	 Site : 03CH10-HY Condition : FCC CLASS-B (AVG) 3m HORN 9120D-HF VERTICAL Detector : Peak Project : 630314 Mode : 18 Setting : 19 Avg Type : Voltage

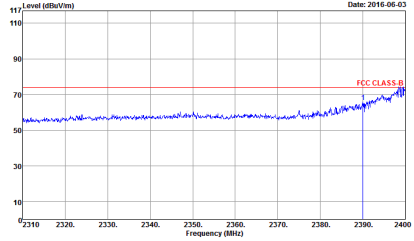
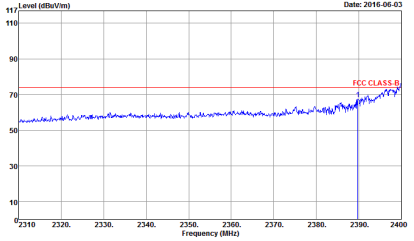
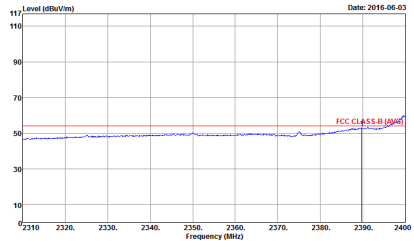
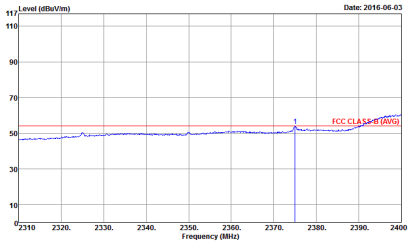


WIFI	2.4GHz 2400~2483.5MHz Band Edge @ 3m	
ANT	802.11n HT40 CH03 2422MHz - R	
1+2	Horizontal	Vertical
Peak	 Site : 03CH10-HY Condition : FCC CLASS-B 3m HORN 9120D-HF HORIZONTAL Detector : Peak Project : 630314 Mode : 18 Setting : 19 Avg Type : Voltage	 Site : 03CH10-HY Condition : FCC CLASS-B 3m HORN 9120D-HF VERTICAL Detector : Peak Project : 630314 Mode : 18 Setting : 19 Avg Type : Voltage
Avg.	 Site : 03CH10-HY Condition : FCC CLASS-B (AVG) 3m HORN 9120D-HF HORIZONTAL Detector : Peak Project : 630314 Mode : 18 Setting : 19 Avg Type : Voltage	 Site : 03CH10-HY Condition : FCC CLASS-B (AVG) 3m HORN 9120D-HF VERTICAL Detector : Peak Project : 630314 Mode : 18 Setting : 19 Avg Type : Voltage

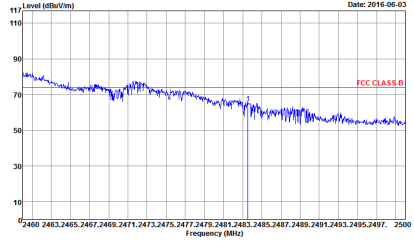
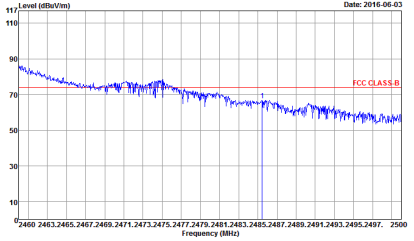
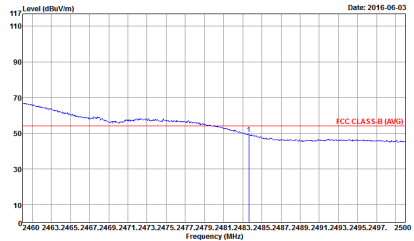
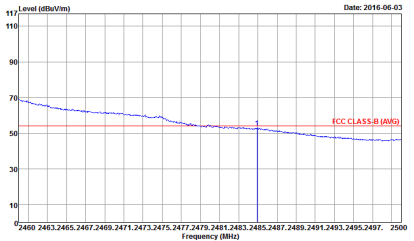


WIFI	2.4GHz 2400~2483.5MHz Fundamental @ 3m	
ANT	802.11n HT40 CH03 2422MHz	
1+2	Horizontal	Vertical
Peak	 Site : 03CH10-HY Condition : FCC CLASS-B 3m HORN 9120D-HF HORIZONTAL Detector : Peak Project : 630314 Mode : 18 Setting : 19 Avg Type : Voltage	 Site : 03CH10-HY Condition : FCC CLASS-B 3m HORN 9120D-HF VERTICAL Detector : Peak Project : 630314 Mode : 18 Setting : 19 Avg Type : Voltage
Avg.	 Site : 03CH10-HY Condition : FCC CLASS-B (AVG) 3m HORN 9120D-HF HORIZONTAL Detector : Peak Project : 630314 Mode : 18 Setting : 19 Avg Type : Voltage	 Site : 03CH10-HY Condition : FCC CLASS-B (AVG) 3m HORN 9120D-HF VERTICAL Detector : Peak Project : 630314 Mode : 18 Setting : 19 Avg Type : Voltage

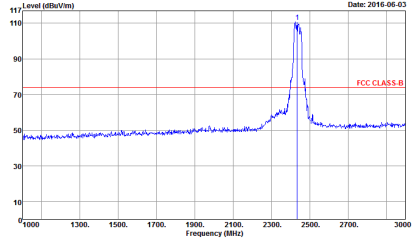
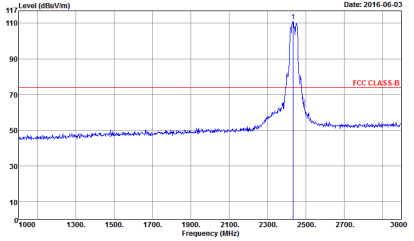
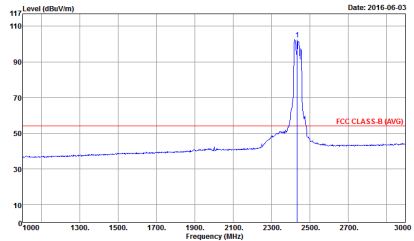
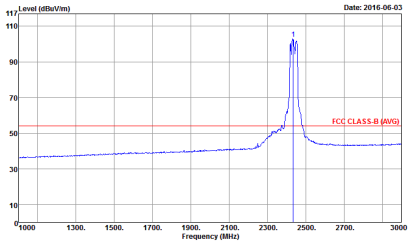


WIFI	2.4GHz 2400~2483.5MHz Band Edge @ 3m	
ANT	802.11n HT40 CH06 2437MHz - L	
1+2	Horizontal	Vertical
Peak	 Site : 03CH10-HY Condition : FCC CLASS-B 3m HORN 9120D-HF HORIZONTAL Detector : Peak Project : 630314 Mode : 19 Avg Type : Voltage	 Site : 03CH10-HY Condition : FCC CLASS-B 3m HORN 9120D-HF VERTICAL Detector : Peak Project : 630314 Mode : 19 Avg Type : Voltage
Avg.	 Site : 03CH10-HY Condition : FCC CLASS-B (AVG) 3m HORN 9120D-HF HORIZONTAL Detector : Peak Project : 630314 Mode : 19 Avg Type : Voltage	 Site : 03CH10-HY Condition : FCC CLASS-B (AVG) 3m HORN 9120D-HF VERTICAL Detector : Peak Project : 630314 Mode : 19 Avg Type : Voltage

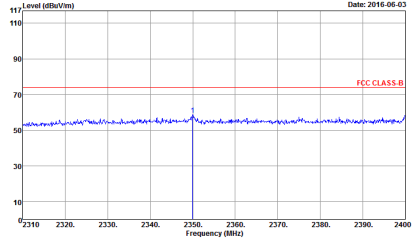
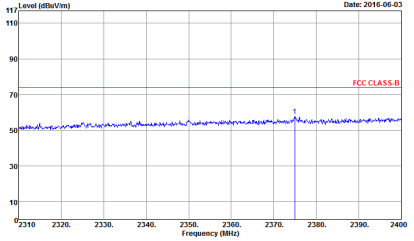
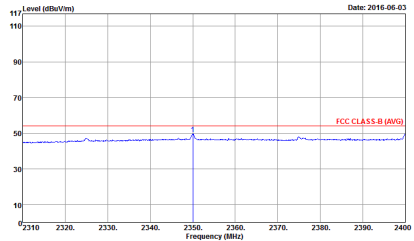
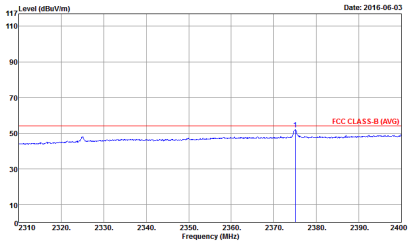


WIFI	2.4GHz 2400~2483.5MHz Band Edge @ 3m	
ANT	802.11n HT40 CH06 2437MHz - R	
1+2	Horizontal	Vertical
Peak	 Site : 03CH10-HY Condition : FCC CLASS-B 3m HORN 9120D-HF HORIZONTAL Detector : Peak Project : 630314 Mode : I9 Avg Type : Voltage	 Site : 03CH10-HY Condition : FCC CLASS-B 3m HORN 9120D-HF VERTICAL Detector : Peak Project : 630314 Mode : I9 Avg Type : Voltage
Avg.	 Site : 03CH10-HY Condition : FCC CLASS-B (AVG) 3m HORN 9120D-HF HORIZONTAL Detector : Peak Project : 630314 Mode : I9 Avg Type : Voltage	 Site : 03CH10-HY Condition : FCC CLASS-B (AVG) 3m HORN 9120D-HF VERTICAL Detector : Peak Project : 630314 Mode : I9 Avg Type : Voltage

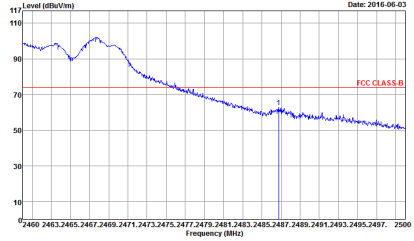
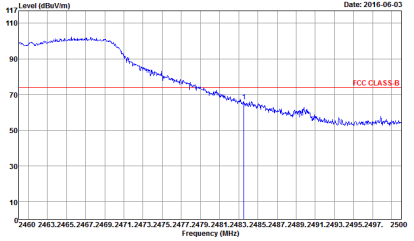
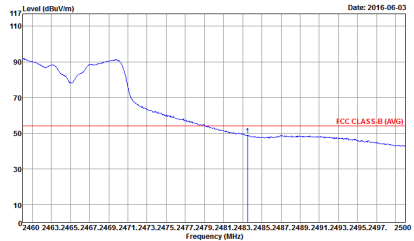
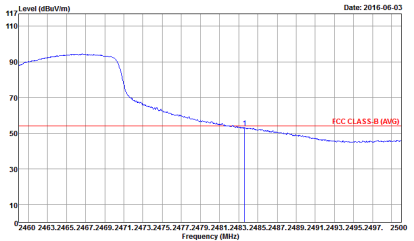


WIFI	2.4GHz 2400~2483.5MHz Fundamental @ 3m	
ANT	802.11n HT40 CH06 2437MHz	
1+2	Horizontal	Vertical
Peak	 Site : 03CH10-HY Condition : FCC CLASS-B 3m HORN 9120D-HF HORIZONTAL Detector : Peak Project : 630314 Mode : I9 Avg Type : Voltage	 Site : 03CH10-HY Condition : FCC CLASS-B 3m HORN 9120D-HF VERTICAL Detector : Peak Project : 630314 Mode : I9 Avg Type : Voltage
Avg.	 Site : 03CH10-HY Condition : FCC CLASS-B (AVG) 3m HORN 9120D-HF HORIZONTAL Detector : Peak Project : 630314 Mode : I9 Avg Type : Voltage	 Site : 03CH10-HY Condition : FCC CLASS-B (AVG) 3m HORN 9120D-HF VERTICAL Detector : Peak Project : 630314 Mode : I9 Avg Type : Voltage

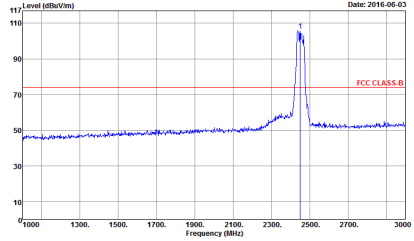
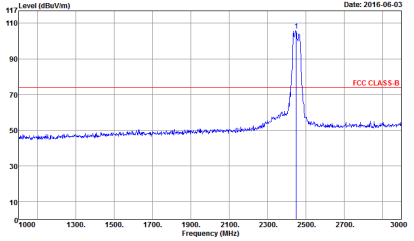
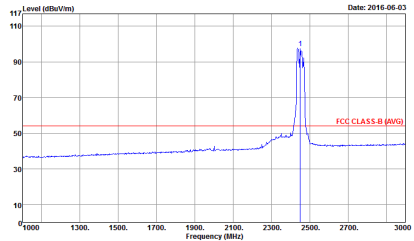
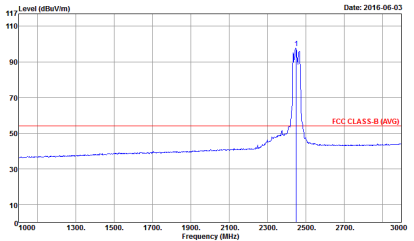


WIFI	2.4GHz 2400~2483.5MHz Band Edge @ 3m	
ANT	802.11n HT40 CH09 2452MHz - L	
1+2	Horizontal	Vertical
Peak	 Site : 03CH10-HY Condition : FCC CLASS-B 3m HORN 9120D-HF HORIZONTAL Detector : Peak Project : 630314 Mode : 20 Avg Type : Voltage	 Site : 03CH10-HY Condition : FCC CLASS-B 3m HORN 9120D-HF VERTICAL Detector : Peak Project : 630314 Mode : 20 Avg Type : Voltage
Avg.	 Site : 03CH10-HY Condition : FCC CLASS-B (AVG) 3m HORN 9120D-HF HORIZONTAL Detector : Peak Project : 630314 Mode : 20 Avg Type : Voltage	 Site : 03CH10-HY Condition : FCC CLASS-B (AVG) 3m HORN 9120D-HF VERTICAL Detector : Peak Project : 630314 Mode : 20 Avg Type : Voltage



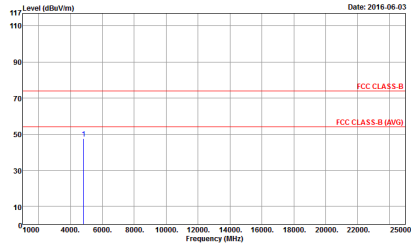
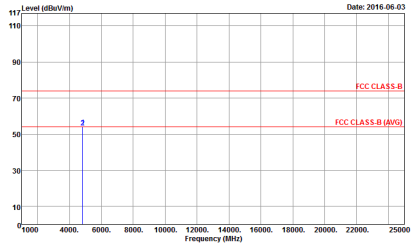
WIFI	2.4GHz 2400~2483.5MHz Band Edge @ 3m	
ANT	802.11n HT40 CH09 2452MHz - R	
1+2	Horizontal	Vertical
Peak	 Site : 03CH10-HY Condition : FCC CLASS-B 3m HORN 9120D-HF HORIZONTAL Detector : Peak Project : 630314 Mode : 20 Avg Type : Voltage	 Site : 03CH10-HY Condition : FCC CLASS-B 3m HORN 9120D-HF VERTICAL Detector : Peak Project : 630314 Mode : 20 Avg Type : Voltage
Avg.	 Site : 03CH10-HY Condition : FCC CLASS-B (AVG) 3m HORN 9120D-HF HORIZONTAL Detector : Peak Project : 630314 Mode : 20 Avg Type : Voltage	 Site : 03CH10-HY Condition : FCC CLASS-B (AVG) 3m HORN 9120D-HF VERTICAL Detector : Peak Project : 630314 Mode : 20 Avg Type : Voltage



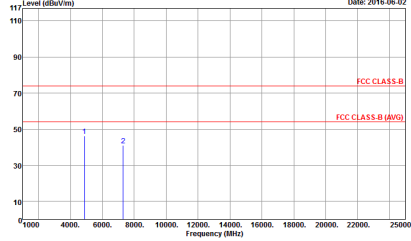
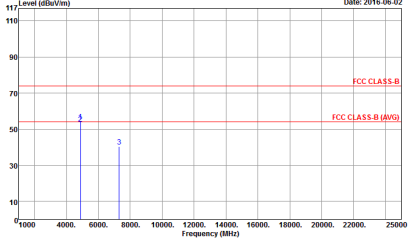
WIFI	2.4GHz 2400~2483.5MHz Fundamental @ 3m	
ANT	802.11n HT40 CH09 2452MHz	
1+2	Horizontal	Vertical
Peak	 Site : 03CH10-HY Condition : FCC CLASS-B 3m HORN 9120D-HF HORIZONTAL Detector : Peak Project : 630314 Mode : 20 Avg Type : Voltage	 Site : 03CH10-HY Condition : FCC CLASS-B 3m HORN 9120D-HF VERTICAL Detector : Peak Project : 630314 Mode : 20 Avg Type : Voltage
Avg.	 Site : 03CH10-HY Condition : FCC CLASS-B (AVG) 3m HORN 9120D-HF HORIZONTAL Detector : Peak Project : 630314 Mode : 20 Avg Type : Voltage	 Site : 03CH10-HY Condition : FCC CLASS-B (AVG) 3m HORN 9120D-HF VERTICAL Detector : Peak Project : 630314 Mode : 20 Avg Type : Voltage



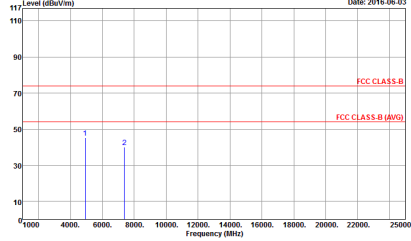
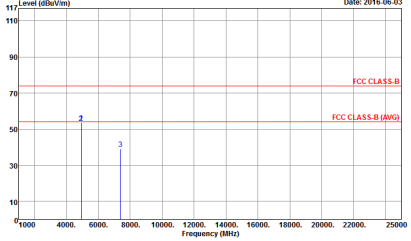
2.4GHz 2400~2483.5MHz
WIFI 802.11b (Harmonic @ 3m)

WIFI	2.4GHz 2400~2483.5MHz Harmonic @ 3m	
ANT	802.11b CH01 2412MHz	
1+2	Horizontal	Vertical
Peak Avg.	 Site : 03CH10-HY Condition : FCC CLASS-B 3m HORN_9170_406_0584 HORIZONTAL Detector : Peak Project : 630314 Mode : 9	 Site : 03CH10-HY Condition : FCC CLASS-B 3m HORN_9170_406_0584 VERTICAL Detector : Peak Project : 630314 Mode : 9



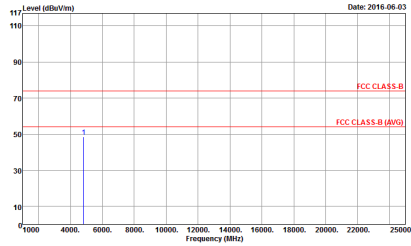
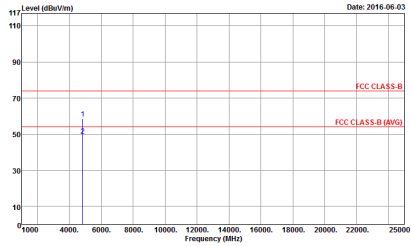
WIFI	2.4GHz 2400~2483.5MHz Harmonic @ 3m	
ANT	802.11b CH06 2437MHz	
1+2	Horizontal	Vertical
Peak Avg.	 Site : 03CH10-HY Condition : FCC CLASS-B 3m HORN_9170_406_0584 HORIZONTAL Detector : Peak Project : 630314 Mode : 10	 Site : 03CH10-HY Condition : FCC CLASS-B 3m HORN_9170_406_0584 VERTICAL Detector : Peak Project : 630314 Mode : 10



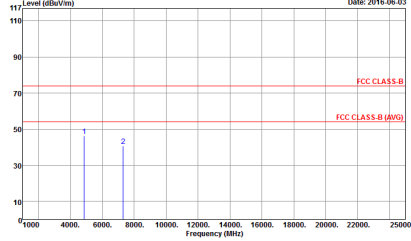
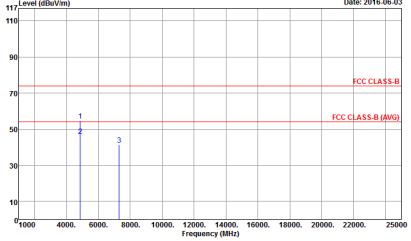
WIFI	2.4GHz 2400~2483.5MHz Harmonic @ 3m	
ANT	802.11b CH11 2462MHz	
1+2	Horizontal	Vertical
Peak Avg.	 Site : 03CH10-HY Condition : FCC CLASS-B 3m HORN_9170_406_0584 HORIZONTAL Detector : Peak Project : 630314 Mode : 11	 Site : 03CH10-HY Condition : FCC CLASS-B 3m HORN_9170_406_0584 VERTICAL Detector : Peak Project : 630314 Mode : 11



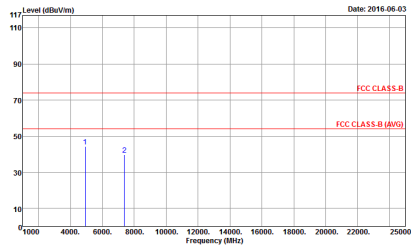
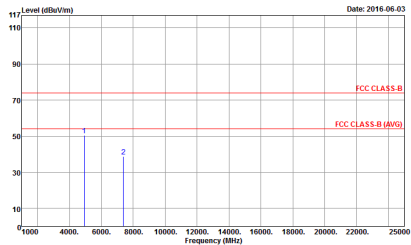
2.4GHz 2400~2483.5MHz
WIFI 802.11g (Harmonic @ 3m)

WIFI	2.4GHz 2400~2483.5MHz Harmonic @ 3m	
ANT	802.11g CH01 2412MHz	
1+2	Horizontal	Vertical
Peak Avg.	 Site : 03CH10-HY Condition : FCC CLASS-B 3m HORN_9170_406_0584 HORIZONTAL Detector : Peak Project : 630314 Mode : 12	 Site : 03CH10-HY Condition : FCC CLASS-B 3m HORN_9170_406_0584 VERTICAL Detector : Peak Project : 630314 Mode : 12



WIFI	2.4GHz 2400~2483.5MHz Harmonic @ 3m	
ANT	802.11g CH06 2437MHz	
1+2	Horizontal	Vertical
Peak Avg.	 Site : 03CH10-HY Condition : FCC CLASS-B 3m HORN_9170_406_0584 HORIZONTAL Detector : Peak Project : 630314 Mode : 13	 Site : 03CH10-HY Condition : FCC CLASS-B 3m HORN_9170_406_0584 VERTICAL Detector : Peak Project : 630314 Mode : 13



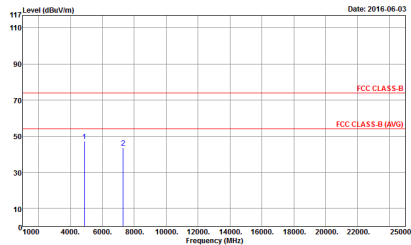
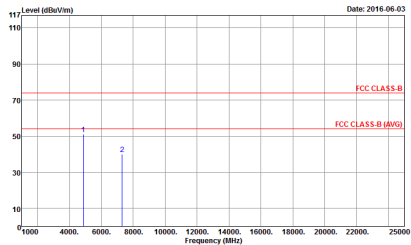
WIFI	2.4GHz 2400~2483.5MHz Harmonic @ 3m	
ANT	802.11g CH11 2462MHz	
1+2	Horizontal	Vertical
Peak Avg.	 Site : 03CH10-HY Condition : FCC CLASS-B 3m HORN_9170_406_0584 HORIZONTAL Detector : Peak Project : 630314 Mode : 14	 Site : 03CH10-HY Condition : FCC CLASS-B 3m HORN_9170_406_0584 VERTICAL Detector : Peak Project : 630314 Mode : 14



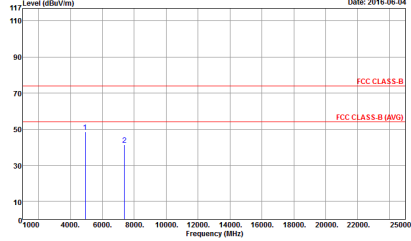
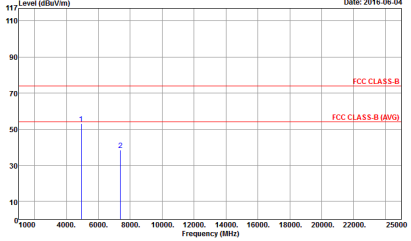
2.4GHz 2400~2483.5MHz
WIFI 802.11n HT20 (Harmonic @ 3m)

WIFI	2.4GHz 2400~2483.5MHz Harmonic @ 3m	
ANT	802.11n HT20 CH01 2412MHz	
1+2	Horizontal	Vertical
Peak Avg.	117 Level (dBuV/m) Date: 2016.06.03 Site : 03CH10-HY Condition : FCC CLASS-B 3m HORN_9170_406_0584 HORIZONTAL Detector : Peak Project : 630314 Mode : 15	117 Level (dBuV/m) Date: 2016.06.03 Site : 03CH10-HY Condition : FCC CLASS-B 3m HORN_9170_406_0584 VERTICAL Detector : Peak Project : 630314 Mode : 15



WIFI	2.4GHz 2400~2483.5MHz Harmonic @ 3m	
ANT	802.11n HT20 CH06 2437MHz	
1+2	Horizontal	Vertical
Peak Avg.	 Site : 03CH10-HY Condition : FCC CLASS-B 3m HORN_9170_406_0584 HORIZONTAL Detector : Peak Project : 630314 Mode : 16	 Site : 03CH10-HY Condition : FCC CLASS-B 3m HORN_9170_406_0584 VERTICAL Detector : Peak Project : 630314 Mode : 16



WIFI	2.4GHz 2400~2483.5MHz Harmonic @ 3m	
ANT	802.11n HT20 CH11 2462MHz	
1+2	Horizontal	Vertical
Peak Avg.	 Site : 03CH10-HY Condition : FCC CLASS-B 3m HORN_9170_406_0584 HORIZONTAL Detector : Peak Project : 630314 Mode : 17	 Site : 03CH10-HY Condition : FCC CLASS-B 3m HORN_9170_406_0584 VERTICAL Detector : Peak Project : 630314 Mode : 17

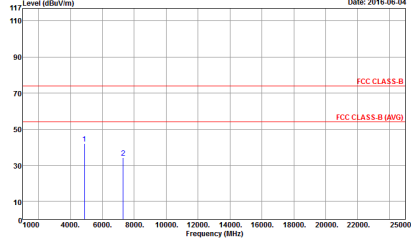
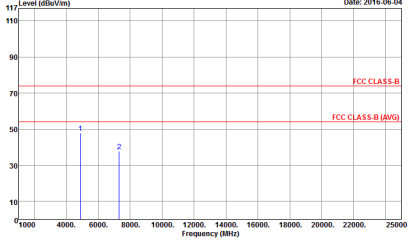


2.4GHz 2400~2483.5MHz

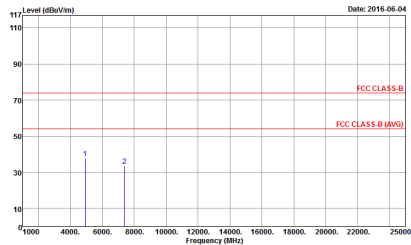
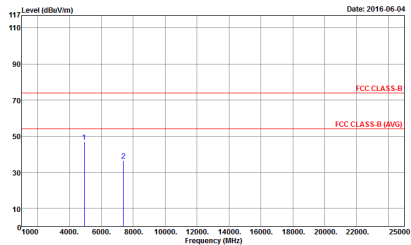
WIFI 802.11n HT40 (Harmonic @ 3m)

WIFI	2.4GHz 2400~2483.5MHz Harmonic @ 3m	
ANT	802.11n HT40 CH03 2422MHz	
1+2	Horizontal	Vertical
Peak Avg.	Site : 03CH10-1FY Condition : FCC CLASS-B 3m HORN_9170_406_0584 HORIZONTAL Detector : Peak Project : 630314 Mode : 18 setting : 19 Avg Type : voltage	Site : 03CH10-1FY Condition : FCC CLASS-B 3m HORN_9170_406_0584 VERTICAL Detector : Peak Project : 630314 Mode : 18 setting : 19 Avg Type : voltage



WIFI	2.4GHz 2400~2483.5MHz Harmonic @ 3m	
ANT	802.11n HT40 CH06 2437MHz	
1+2	Horizontal	Vertical
Peak Avg.	 Site : 03CH10-HY Condition : FCC CLASS-B 3m HORN_9170_406_0584 HORIZONTAL Detector : Peak Project : 630314 Mode : 19 Setting : 26 Avg Type : Voltage	 Site : 03CH10-HY Condition : FCC CLASS-B 3m HORN_9170_406_0584 VERTICAL Detector : Peak Project : 630314 Mode : 19 Setting : 26 Avg Type : Voltage



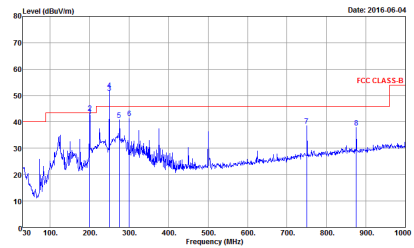
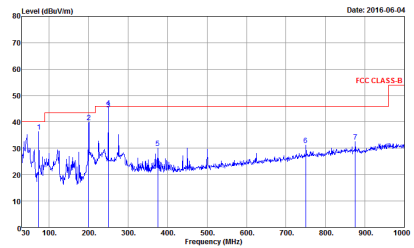
WIFI	2.4GHz 2400~2483.5MHz Harmonic @ 3m	
ANT	802.11n HT40 CH09 2452MHz	
1+2	Horizontal	Vertical
Peak Avg.	 Site : 03CH10-HY Condition : FCC CLASS-B 3m HORN_9170_406_0584 HORIZONTAL Detector : Peak Project : 630314 Mode : 20 Setting : 21 Avg Type : Voltage	 Site : 03CH10-HY Condition : FCC CLASS-B 3m HORN_9170_406_0584 VERTICAL Detector : Peak Project : 630314 Mode : 20 Setting : 21 Avg Type : Voltage



2.4GHz 2400~2483.5MHz

Emission below 1GHz

2.4GHz WIFI 802.11b (LF)

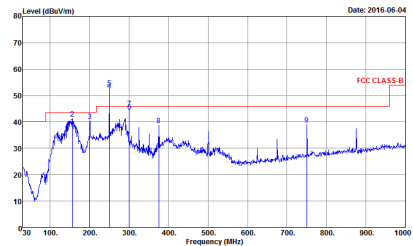
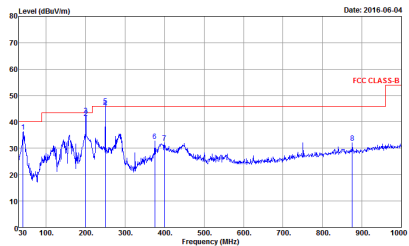
WIFI	2.4GHz 2400~2483.5MHz	
ANT	802.11b LF	
1+2	Horizontal	Vertical
QP / Peak	 Site : 03CH10-HY Condition : FCC CLASS-B 3m BI-LOG 6111D-LF HORIZONTAL Detector : Peak Project : 630314 Mode : Z1	 Site : 03CH10-HY Condition : FCC CLASS-B 3m BI-LOG 6111D-LF VERTICAL Detector : Peak Project : 630314 Mode : Z1



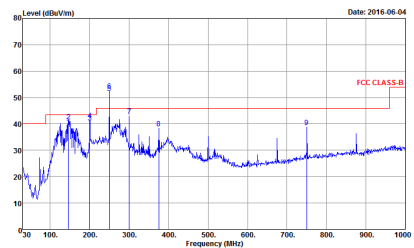
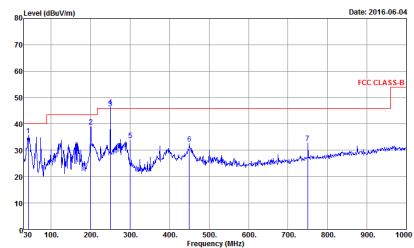
2.4GHz 2400~2483.5MHz

Emission below 1GHz

2.4GHz WIFI 802.11g (LF)

WIFI	2.4GHz 2400~2483.5MHz	
ANT	802.11g LF	
1+2	Horizontal	Vertical
QP / Peak	 Site : 03CH10-HY Condition : FCC CLASS-B 3m BI-LOG 6111D-LF HORIZONTAL Detector : Peak Project : 630314 Mode : 22	 Site : 03CH10-HY Condition : FCC CLASS-B 3m BI-LOG 6111D-LF VERTICAL Detector : Peak Project : 630314 Mode : 22

2.4GHz 2400~2483.5MHz
Emission below 1GHz
2.4GHz WIFI 802.11n HT20 (LF)

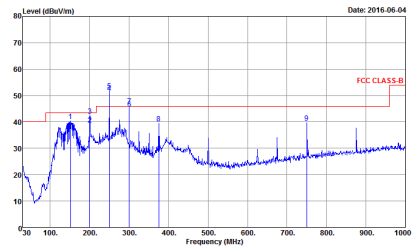
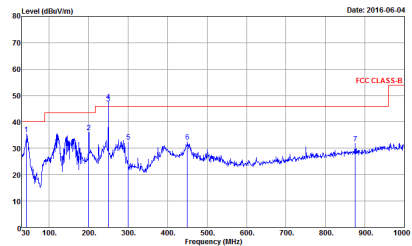
WIFI	2.4GHz 2400~2483.5MHz	
ANT	802.11n HT20 LF	
1+2	Horizontal	Vertical
QP / Peak	 Site : 03CH10-HY Condition : FCC CLASS-B 3m BI-LOG 6111D-LF HORIZONTAL Detector : Peak Project : 630314 Mode : Z3	 Site : 03CH10-HY Condition : FCC CLASS-B 3m BI-LOG 6111D-LF VERTICAL Detector : Peak Project : 630314 Mode : Z3



2.4GHz 2400~2483.5MHz

Emission below 1GHz

2.4GHz WIFI 802.11n HT40 (LF)

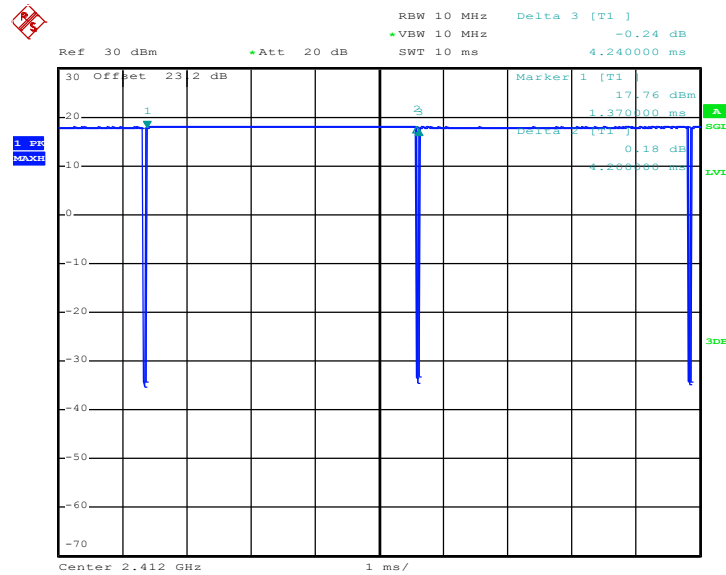
WIFI	2.4GHz 2400~2483.5MHz	
ANT	802.11n HT40 LF	
1+2	Horizontal	Vertical
QP / Peak	 Site : 03CH10-1FY Condition : FCC CLASS-B 3m BT-LOG 6111D-LF HORIZONTAL Detector : Peak Project : 630314 Mode : 24	 Site : 03CH10-1FY Condition : FCC CLASS-B 3m BT-LOG 6111D-LF VERTICAL Detector : Peak Project : 630314 Mode : 24

Appendix D. Duty Cycle Plots

Antenna	Band	Duty Cycle(%)	T(us)	1/T(kHz)	VBW Setting
1+2	802.11b for Ant 1	100	-	-	10Hz
1+2	802.11b for Ant 2	100	-	-	10Hz
1+2	802.11g for Ant 1	95.78	1360	0.74	1kHz
1+2	802.11g for Ant 2	95.78	1360	0.74	1kHz
1+2	2.4GHz 802.11n HT20 for Ant 1	95.49	1270	0.79	1kHz
1+2	2.4GHz 802.11n HT20 for Ant 2	95.49	1270	0.79	1kHz
1+2	2.4GHz 802.11n HT40 for Ant 1	94.03	630	1.59	3kHz
1+2	2.4GHz 802.11n HT40 for Ant 2	92.65	630	1.59	3kHz

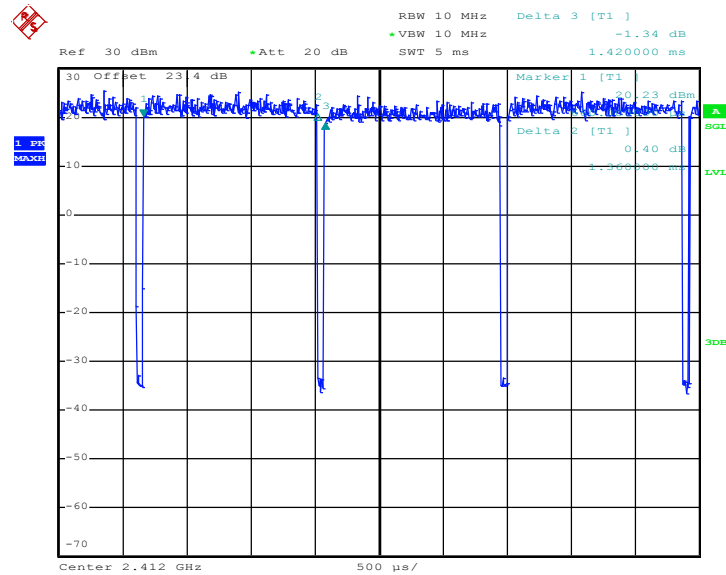
MIMO <Ant. 1+2(1)>

802.11b



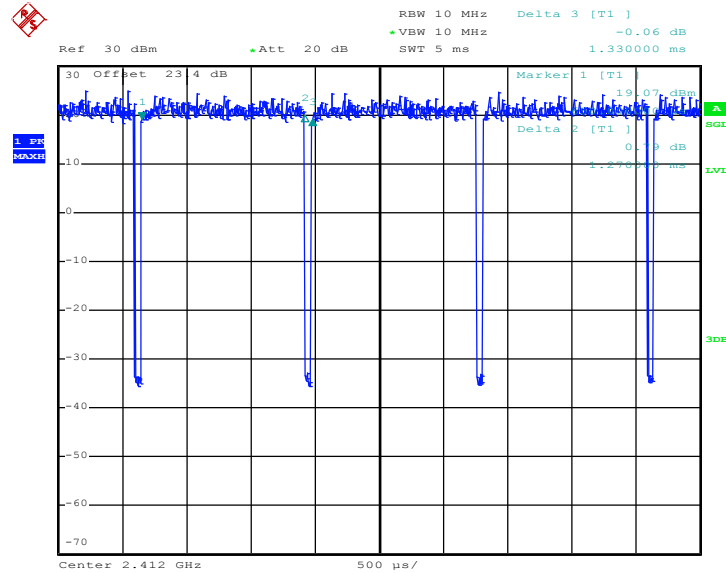
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802.11g



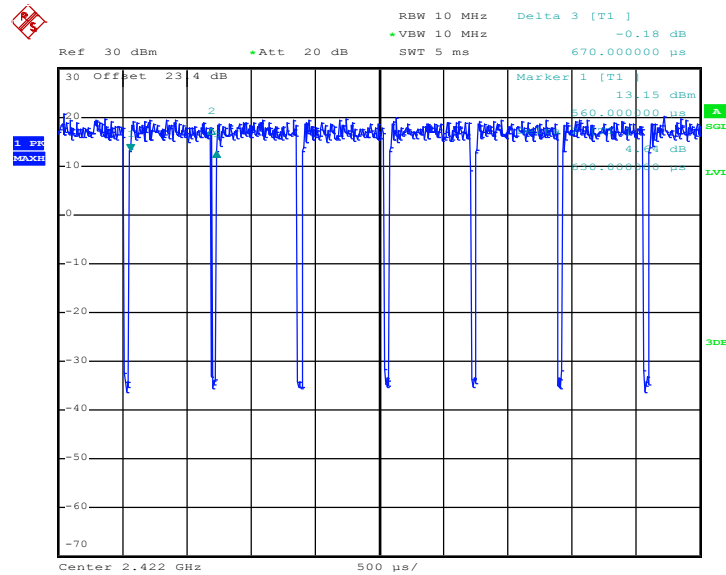
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802.11n HT20

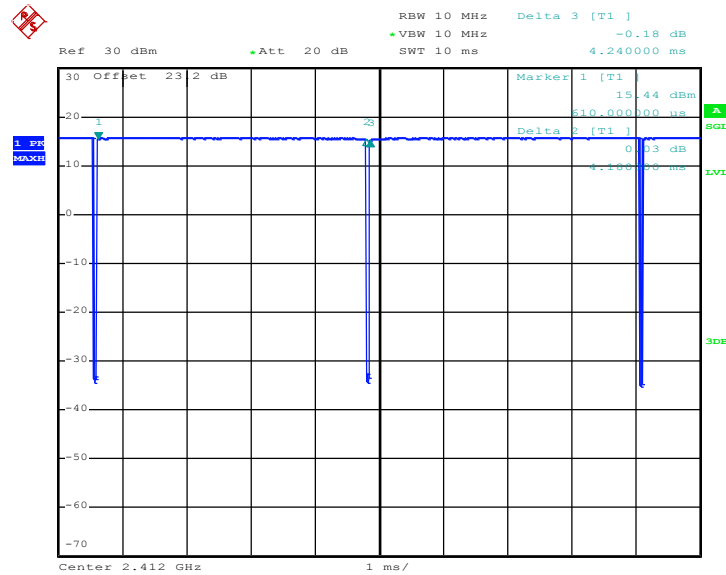


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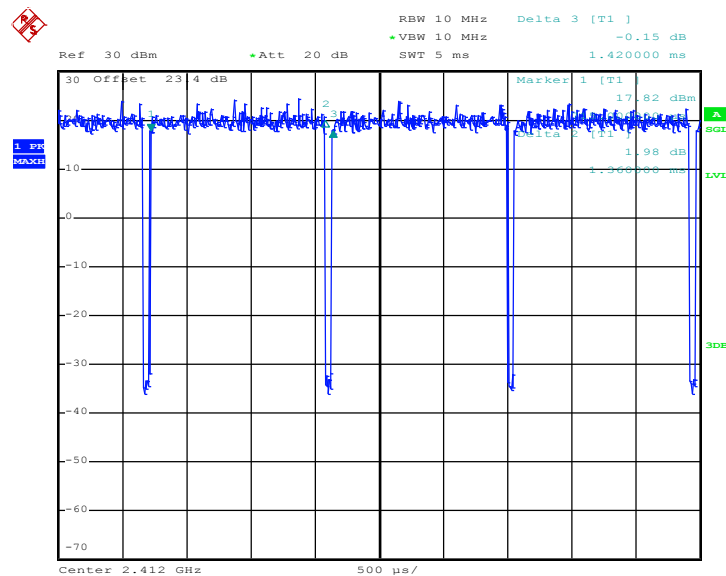
802.11n HT40



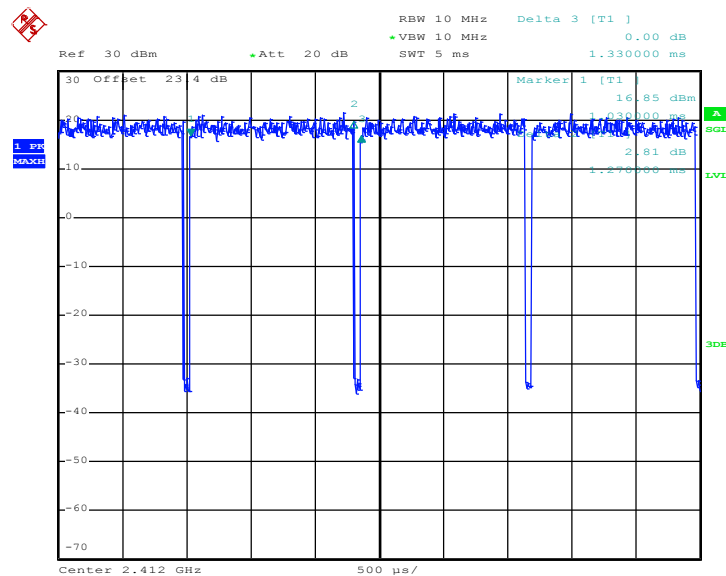
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MIMO <Ant. 1+2(2)>
802.11b


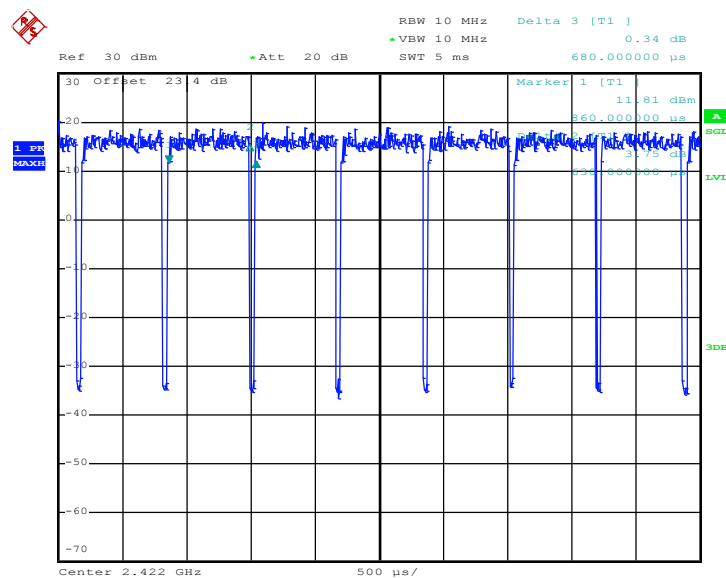
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802.11g


Date: 9.MAR.2016 20:31:21

802.11n HT20


Date: 9.MAR.2016 21:01:13

802.11n HT40


Date: 9.MAR.2016 21:30:08