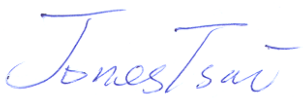
FCC RF Test Report

APPLICANT	:	**Quanta Computer Inc.**
EQUIPMENT	:	**Computing Device with external power supply, battery, WiFi and Bluetooth**
MODEL NAME	:	**C0A**
FCC ID	:	**HFSC0A**
STANDARD	:	**FCC Part 15 Subpart C §15.247**
CLASSIFICATION	:	**(DTS) Digital Transmission System**

The testing was completed on Jun. 21, 2017. 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 Product Feature of Equipment Under Test 5
1.3 Product Specification of Equipment Under Test 6
1.4 Modification of EUT 6
1.5 Testing Location 7
1.6 Applicable Standards 7

2 TEST CONFIGURATION OF EQUIPMENT UNDER TEST **8**

2.1 Carrier Frequency and Channel 8
2.2 Test Mode 9
2.3 Connection Diagram of Test System 10
2.4 Support Unit used in test configuration and system 11
2.5 EUT Operation Test Setup 11
2.6 Measurement Results Explanation Example 11

3 TEST RESULT **12**

3.1 6dB and 99% Bandwidth Measurement 12
3.2 Peak Output Power Measurement 14
3.3 Power Spectral Density Measurement 15
3.4 Conducted Band Edges and Spurious Emission Measurement 18
3.5 Radiated Band Edges and Spurious Emission Measurement 61
3.6 AC Conducted Emission Measurement 65
3.7 Antenna Requirements 67

4 LIST OF MEASURING EQUIPMENT **68**

5 UNCERTAINTY OF EVALUATION **69**

APPENDIX A. CONDUCTED TEST RESULTS

APPENDIX B. AC CONDUCTED EMISSION TEST RESULT

APPENDIX C. RADIATED SPURIOUS EMISSION

APPENDIX D. RADIATED SPURIOUS EMISSION PLOTS

APPENDIX E. DUTY CYCLE PLOTS

REVISION HISTORY

REPORT NO.	VERSION	DESCRIPTION	ISSUED DATE
FR742622C	Rev. 01	Initial issue of report	Aug. 01, 2017

SUMMARY OF TEST RESULT

Report Section	FCC Rule	Description	Limit	Result	Remark
3.1	15.247(a)(2)	6dB Bandwidth	≥ 0.5MHz	Pass	-
3.1	-	99% Bandwidth	-	Pass	-
3.2	15.247(b)	Power Output Measurement	≤ 30dBm	Pass	-
3.3	15.247(e)	Power Spectral Density	≤ 8dBm/3kHz	Pass	-
3.4	15.247(d)	Conducted Band Edges	≤ 20dBc	Pass	-
		Conducted Spurious Emission		Pass	-
3.5	15.247(d)	Radiated Band Edges and Radiated Spurious Emission	15.209(a) & 15.247(d)	Pass	Under limit 3.03 dB at 2389.100 MHz
3.6	15.207	AC Conducted Emission	15.207(a)	Pass	Under limit 12.80 dB at 2.902 MHz
3.7	15.203 & 15.247(b)	Antenna Requirement	N/A	Pass	-

1 General Description

1.1 Applicant

Quanta Computer Inc.
No. 188, Wenhua 2nd Rd., Guishan Dist., Taoyuan City 33377, Taiwan

1.2 Product Feature of Equipment Under Test

Product Feature	
Equipment	Computing Device with external power supply, battery, WiFi and Bluetooth
Model Name	C0A
FCC ID	HFSC0A
EUT supports Radios application	WLAN 11a/b/g/n HT20/HT40 WLAN 11ac VHT20/VHT40/VHT80 Bluetooth BR/EDR/LE

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

1.3 Product Specification of Equipment Under Test

Standards-related Product Specification	
Tx/Rx Channel Frequency Range	2412 MHz ~ 2462 MHz
Maximum (Peak) Output Power to antenna	**<Ant. 1>** 802.11b : 17.22 dBm (0.0527 W) 802.11g : 19.68 dBm (0.0929 W) 802.11n HT20 : 20.12 dBm (0.1028 W) 802.11n HT40 : 15.62 dBm (0.0365 W) **<Ant. 2>** 802.11b : 18.00 dBm (0.0631 W) 802.11g : 19.79 dBm (0.0953 W) 802.11n HT20 : 20.21 dBm (0.1050 W) 802.11n HT40 : 17.90 dBm (0.0617 W) **MIMO <Ant. 1 + 2>** 802.11g : 19.55 dBm (0.0902 W) 802.11n HT20 : 19.92 dBm (0.0982 W) 802.11n HT40 : 17.87 dBm (0.0612 W)
99% Occupied Bandwidth	802.11b : 13.05MHz 802.11g : 17.60MHz 802.11n HT20 : 18.70MHz 802.11n HT40 : 36.40MHz
Antenna Type / Gain	**<Ant 1>** Fixed Internal Antenna type with gain 5.40 dBi **<Ant 2>** Fixed Internal 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	<table><tr><td></td><td>Ant. 1</td><td>Ant. 2</td></tr><tr><td>802.11 b/g/n</td><td>V</td><td>V</td></tr><tr><td>802.11 g/n MIMO</td><td>V</td><td>V</td></tr></table>

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

1.4 Modification of EUT

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

1.5 Testing Location

Sporton Lab is accredited to ISO 17025 by Taiwan Accreditation Foundation (TAF code : 1190) and the FCC designation No. TW0007 under the FCC 2.948(e) by Mutual Recognition Agreement (MRA) in FCC Test.

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

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

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

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

1.6 Applicable Standards

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

- FCC Part 15 Subpart C §15.247
- FCC KDB Publication No. 558074 D01 DTS Meas. Guidance v04
- 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

a. 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: conduction emission (150 kHz to 30 MHz), radiation emission (9 kHz to the 10th harmonic of the highest fundamental frequency or to 40 GHz, whichever is lower). The following tables for radiated measurement, pre-scanned in three orthogonal panels, X, Y, Z in tablet mode and Notebook mode The worst cases (Notebook Mode) were recorded in this report.

b. AC power line Conducted Emission was tested under maximum output power.

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 Test Mode

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

Single Antenna

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

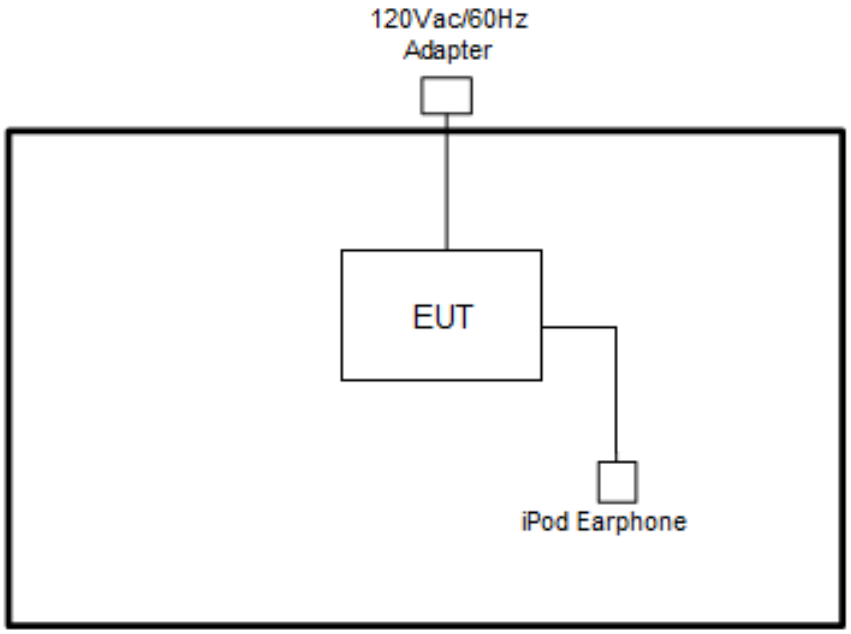
MIMO Antenna

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

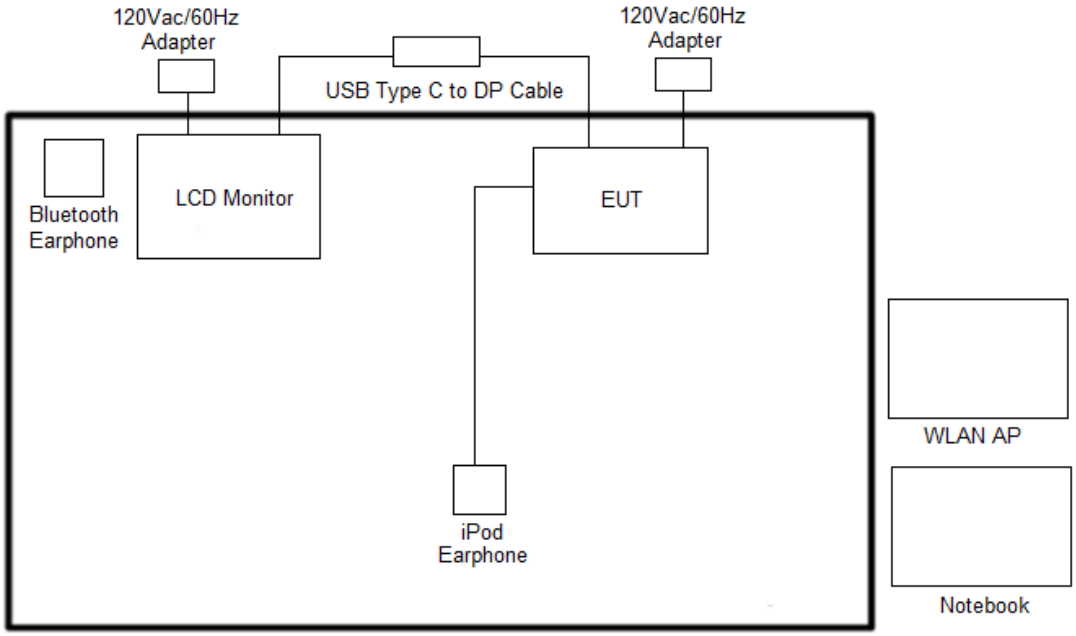
Test Cases	
AC Conducted Emission	Mode 1 :WLAN (2.4GHz) Link + Bluetooth Link + MPEG 4 + USB port 1_USB Cable (Charging from Adapter) + Laptop mode + Earphone + Resolution (1800*1200) + USB port 2_Type C to DP Cable with TV (voice output from Bluetooth earphone)

2.3 Connection Diagram of Test System

<WLAN Tx Mode>



<AC Conducted Emission Mode>



2.4 Support Unit used in test configuration and system

Item	Equipment	Trade Name	Model Name	FCC ID	Data Cable	Power Cord
1.	Bluetooth Earphone	Sony Ericsson	MW600	PY7DDA-2029	N/A	N/A
2.	WLAN AP	ASUS	RT-AC66U	MSQ-RTAC66U	N/A	Unshielded, 1.8 m
3.	Notebook	DELL	Latitude E6320	FCC DoC	N/A	AC I/P: Unshielded, 1.2 m DC O/P: Shielded, 1.8 m
4.	iPod Earphone	Apple	N/A	Verification	Unshielded, 1.0 m	N/A
5.	LCD Monitor	DELL	U2410	FCC DoC	Shielded, 1.6 m	Unshielded, 1.8 m

2.5 EUT Operation Test Setup

The RF test items, programmed RF utility, “DRTU” installed in the notebook make the EUT provide functions like channel selection and power level for continuous transmitting and receiving signals.

2.6 Measurement Results Explanation Example

For all conducted test items:

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

Example:

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

Offset = RF cable loss + attenuator factor.

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

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

= 4.2 + 10 = 14.2 (dB)

3 Test Result

3.1 6dB and 99% Bandwidth Measurement

3.1.1 Limit of 6dB and 99% Bandwidth

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

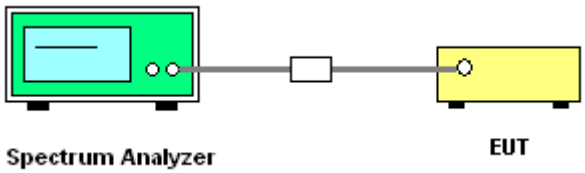
3.1.2 Measuring Instruments

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

3.1.3 Test Procedures

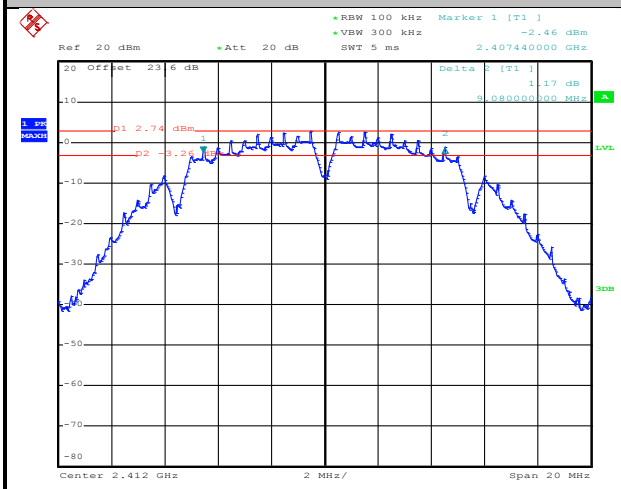
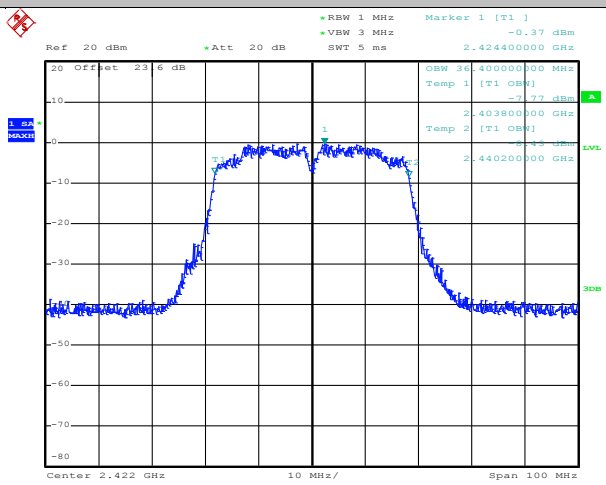
1. The testing follows FCC KDB Publication No. 558074 DTS D01 Meas. Guidance v04.
2. The RF output of EUT was connected to the spectrum analyzer by RF cable and attenuator. The path loss was compensated to the results for each measurement.
3. Set to the maximum power setting and enable the EUT transmit 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.

Minimum 6dB Bandwidth	Maximum 99% Occupied Bandwidth
	
Date: 27.MAY.2017 13:10:11	Date: 27.MAY.2017 15:51:51

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.

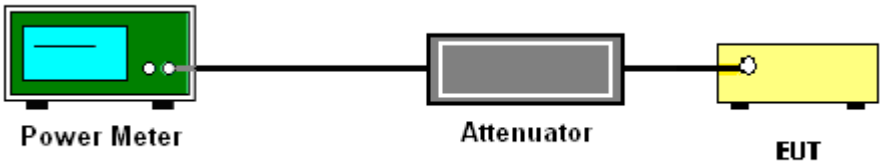
3.2.2 Measuring Instruments

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 v04 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.

3.2.6 Test Result of Average output Power (Reporting Only)

Please refer to Appendix A

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 v04.
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.

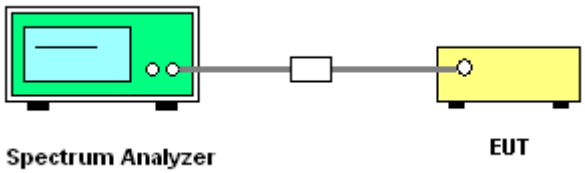
   If measurements performed using method (2) plus 10 log (N) exceeds the emission limit, the test should choose method (1) before declaring that the device fails the emission limit.

   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)

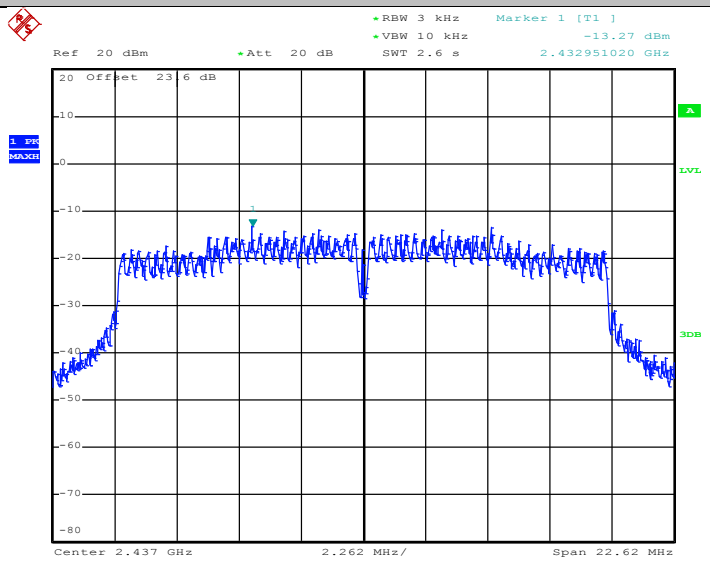
3.3.4 Test Setup



3.3.5 Test Result of Power Spectral Density

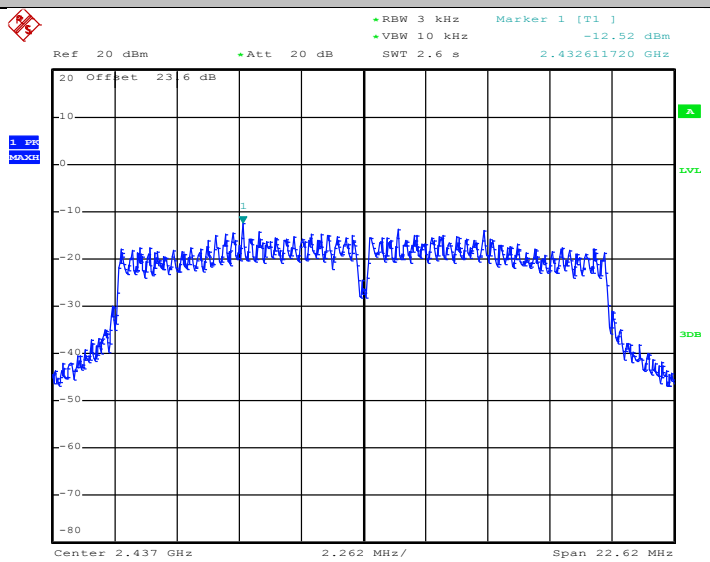
Please refer to Appendix A.

Worst Case Power Density (dBm/3kHz) for Ant. 1



Date: 27.MAY.2017 14:45:08

Worst Case Power Density (dBm/3kHz) for Ant. 2



Date: 27.MAY.2017 14:57:23

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.

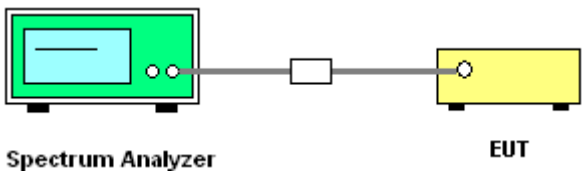
3.4.2 Measuring Instruments

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 v04.
2. The RF output of EUT was connected to the spectrum analyzer by RF cable and attenuator. The path loss was compensated to the results for each measurement.
3. Set to the maximum power setting and enable the EUT transmit continuously.
4. Set RBW = 100 kHz, VBW=300 kHz, Peak Detector. Unwanted Emissions measured in any 100 kHz bandwidth outside of the authorized frequency band shall be attenuated by at least 20 dB relative to the maximum in-band peak PSD level in 100 kHz when maximum peak conducted output power procedure is used. If the transmitter complies with the conducted power limits based on the use of RMS averaging over a time interval, the attenuation required under this paragraph shall be 30 dB instead of 20 dB per 15.247(d).
5. Measure and record the results in the test report.
6. The RF fundamental frequency should be excluded against the limit line in the operating frequency band.

3.4.4 Test Setup



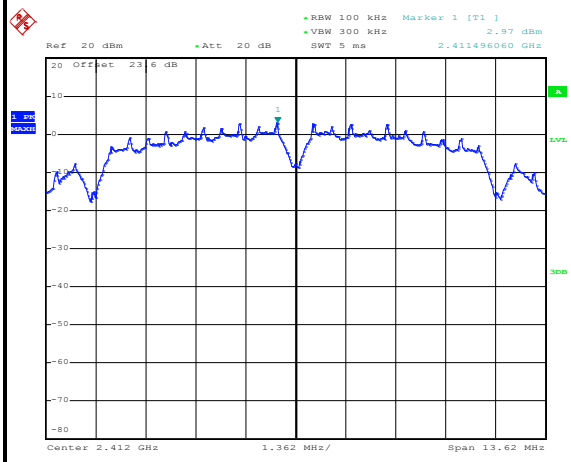
3.4.5 Test Result of Conducted Band Edges and Spurious Emission

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

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

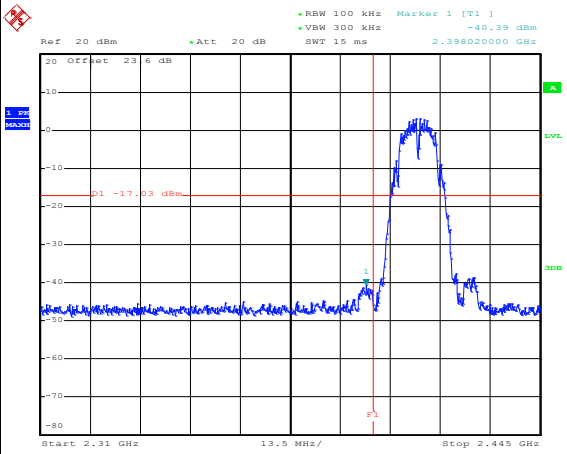
WLAN 802.11b Channel 01

100kHz PSD reference Level



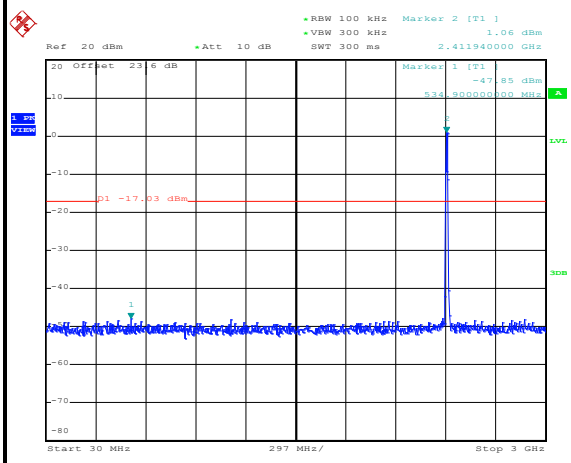
Date: 27.MAY.2017 13:10:48

Low Channel Plot



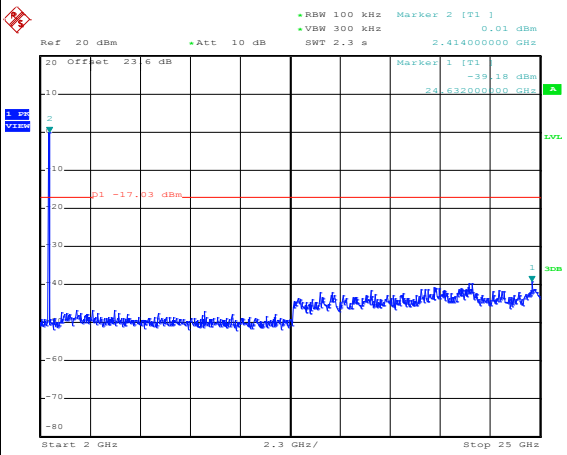
Date: 27.MAY.2017 13:21:18

Spurious Emission 30MHz~3GHz



Date: 27.MAY.2017 13:21:38

Spurious Emission 2GHz~25GHz

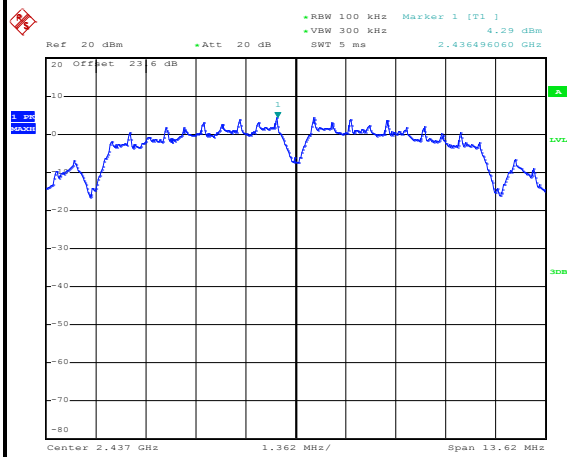


Date: 27.MAY.2017 13:21:47

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

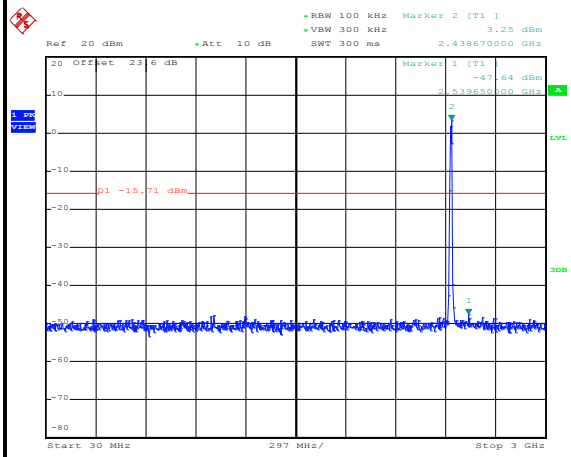
WLAN 802.11b Channel 06

100kHz PSD reference Level



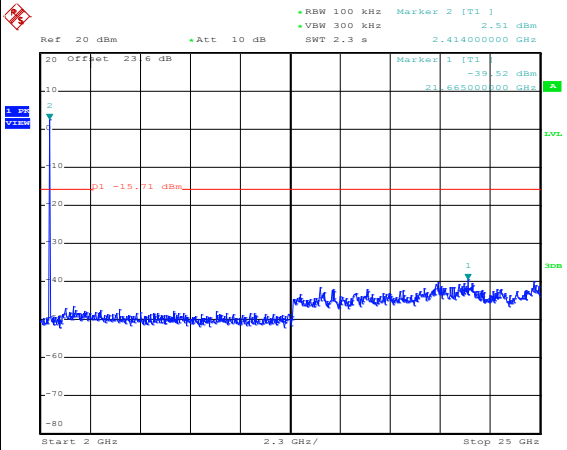
Date: 27.MAY.2017 13:24:11

Spurious Emission 30MHz~3GHz



Date: 27.MAY.2017 13:25:13

Spurious Emission 2GHz~25GHz

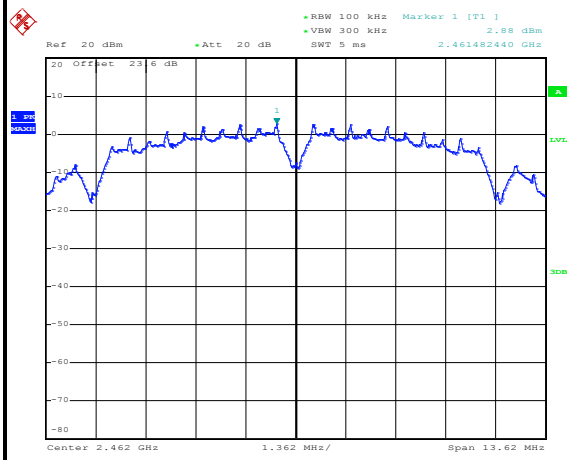


Date: 27.MAY.2017 13:25:22

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

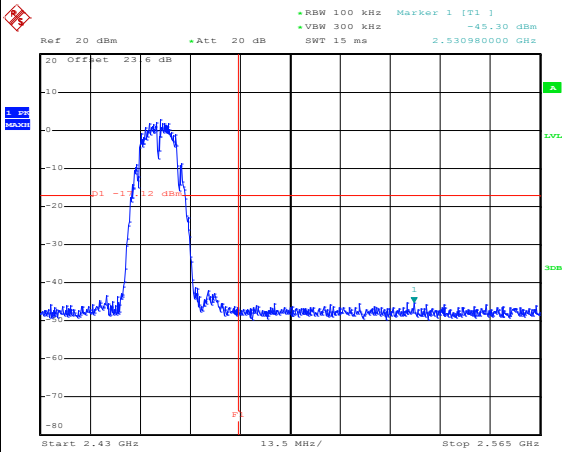
WLAN 802.11b Channel 11

100kHz PSD reference Level



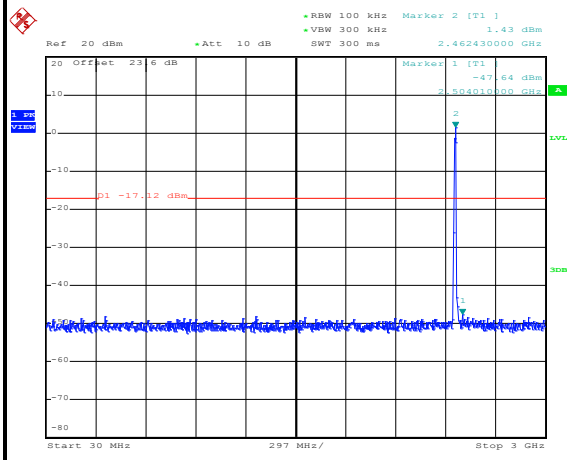
Date: 27.MAY.2017 13:33:13

High Channel Plot



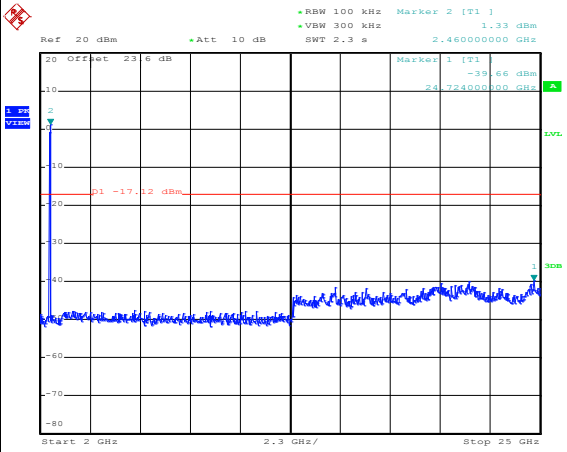
Date: 27.MAY.2017 13:33:39

Spurious Emission 30MHz~3GHz



Date: 27.MAY.2017 13:33:50

Spurious Emission 2GHz~25GHz

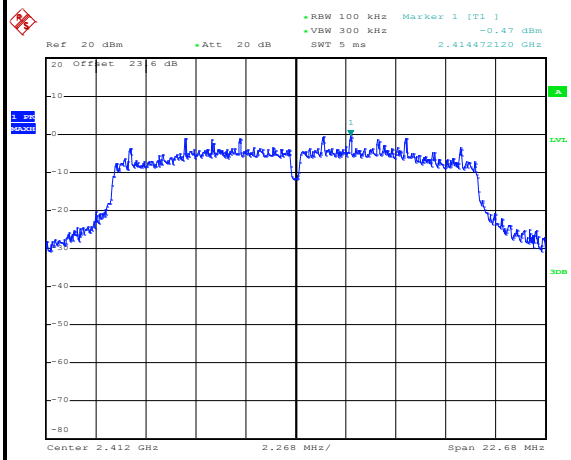


Date: 27.MAY.2017 13:33:59

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

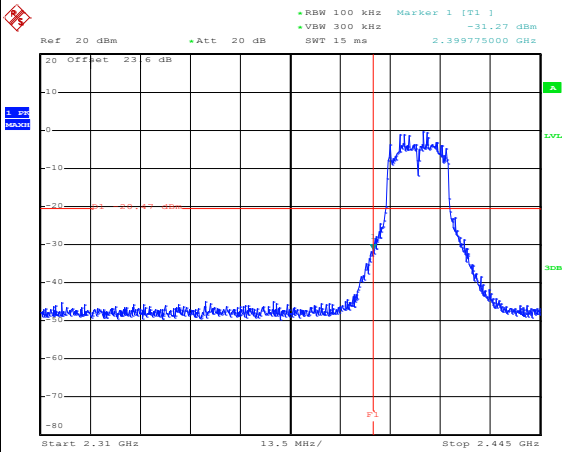
WLAN 802.11g Channel 01

100kHz PSD reference Level



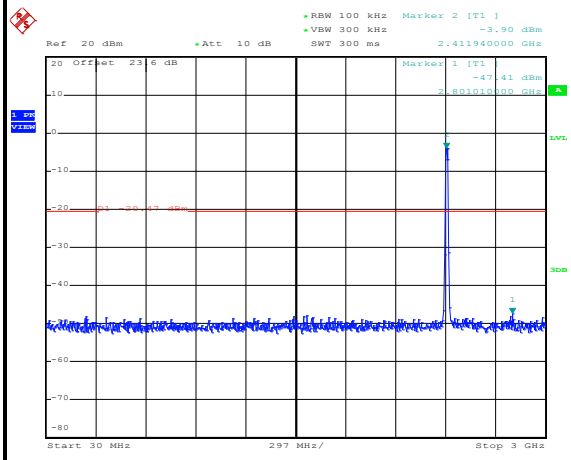
Date: 27.MAY.2017 14:09:09

Low Channel Plot



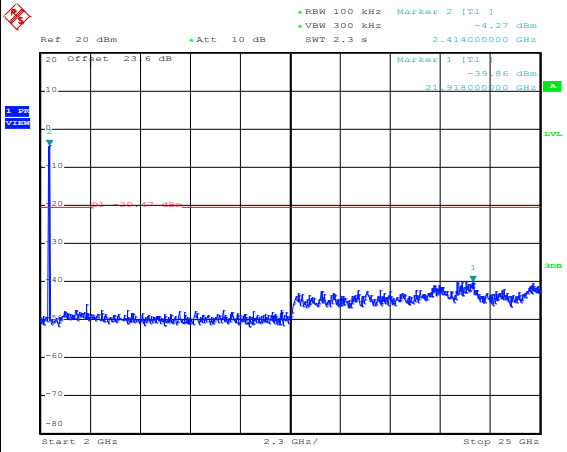
Date: 27.MAY.2017 14:10:01

Spurious Emission 30MHz~3GHz



Date: 27.MAY.2017 14:10:12

Spurious Emission 2GHz~25GHz

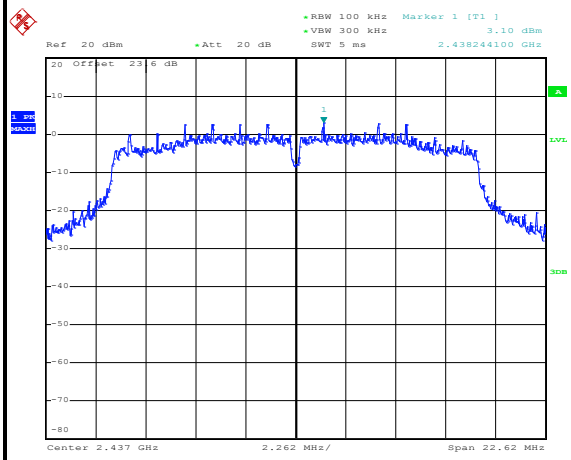


Date: 27.MAY.2017 14:10:21

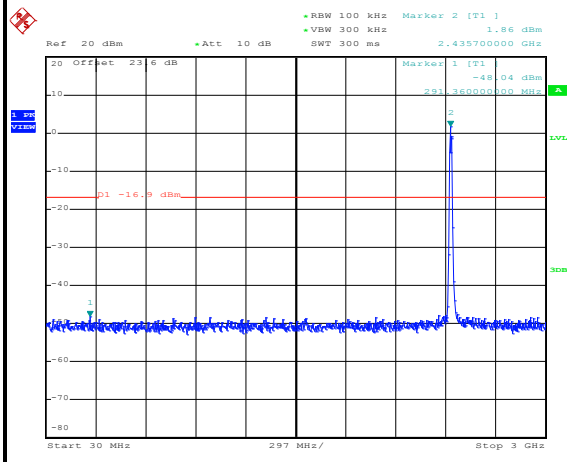
Number of TX :	1	**Ant. :**	1
Test Mode :	802.11g	**Temperature :**	21~25℃
Test Band :	2.4GHz Mid	**Relative Humidity :**	51~54%
Test Channel :	06	**Test Engineer :**	Jeremy Lin

WLAN 802.11g Channel 06

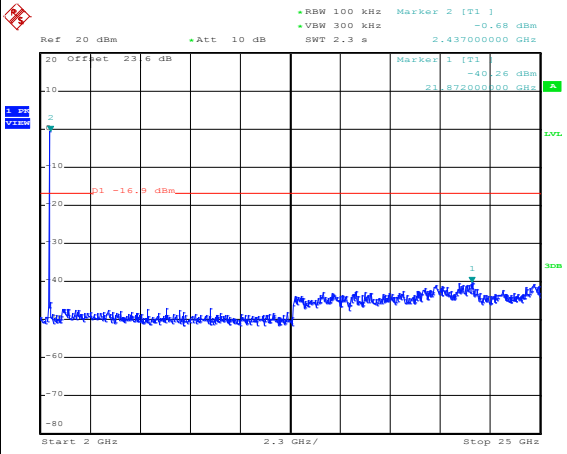
100kHz PSD reference Level



Spurious Emission 30MHz~3GHz



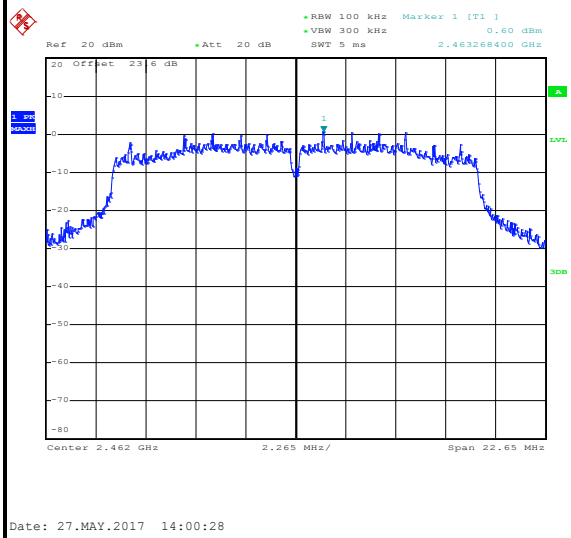
Spurious Emission 2GHz~25GHz



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

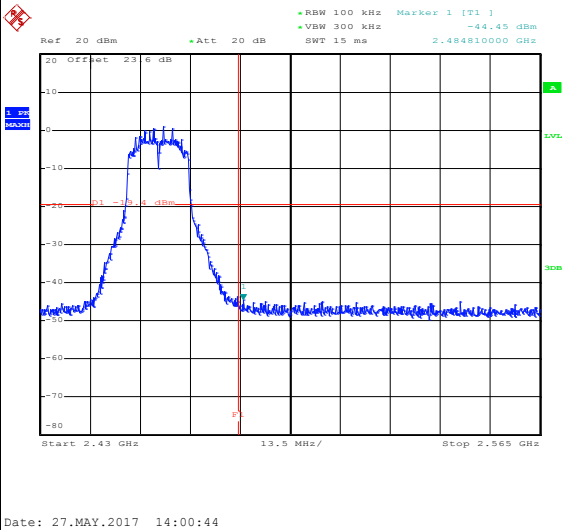
WLAN 802.11g Channel 11

100kHz PSD reference Level



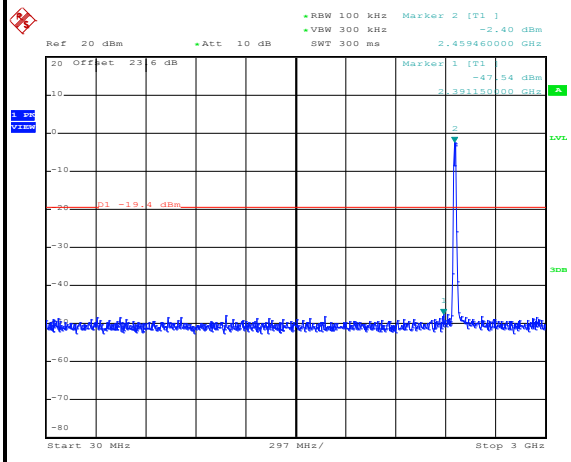
Date: 27.MAY.2017 14:00:28

High Channel Plot



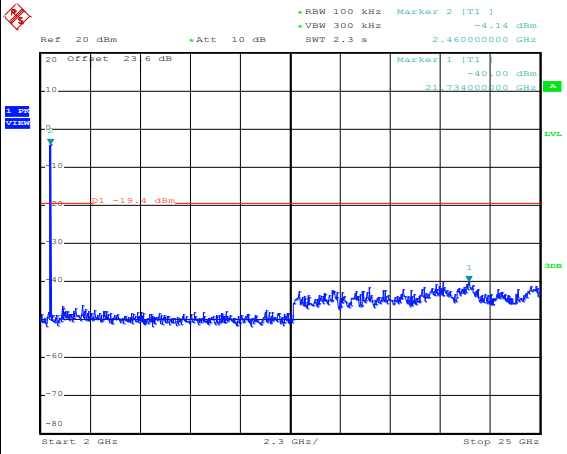
Date: 27.MAY.2017 14:00:44

Spurious Emission 30MHz~3GHz



Date: 27.MAY.2017 14:01:06

Spurious Emission 2GHz~25GHz

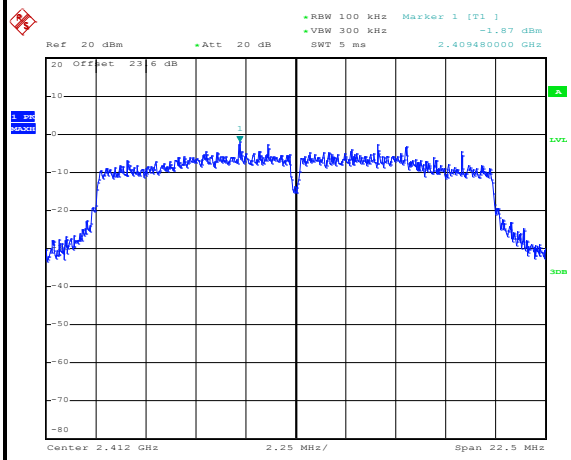


Date: 27.MAY.2017 14:01:14

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

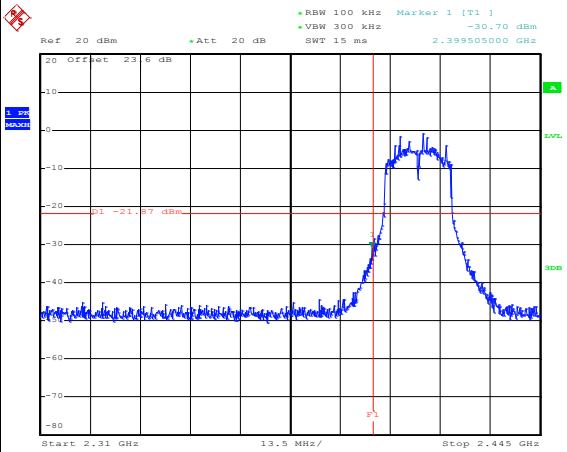
WLAN 802.11n HT20 Channel 01

100kHz PSD reference Level



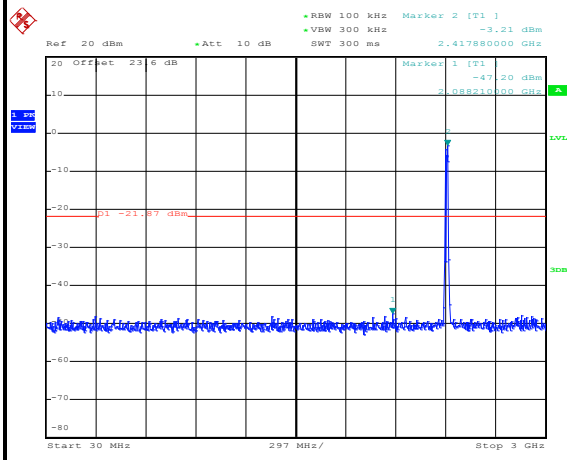
Date: 27.MAY.2017 15:01:12

Low Channel Plot



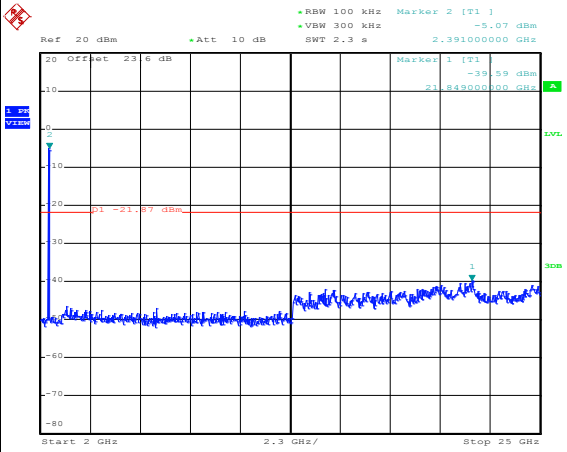
Date: 27.MAY.2017 15:01:55

Spurious Emission 30MHz~3GHz



Date: 27.MAY.2017 15:02:09

Spurious Emission 2GHz~25GHz

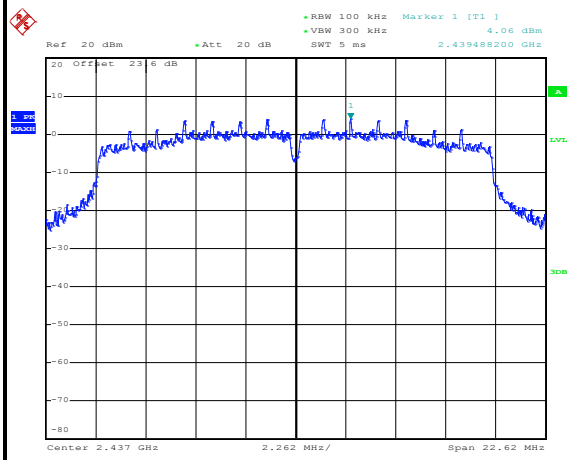


Date: 27.MAY.2017 15:02:17

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

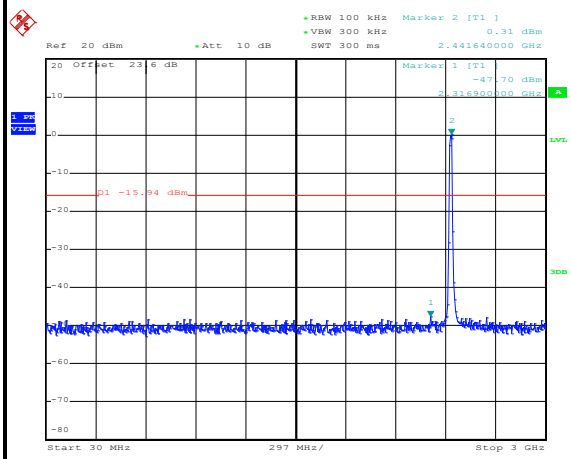
WLAN 802.11n HT20 Channel 06

100kHz PSD reference Level



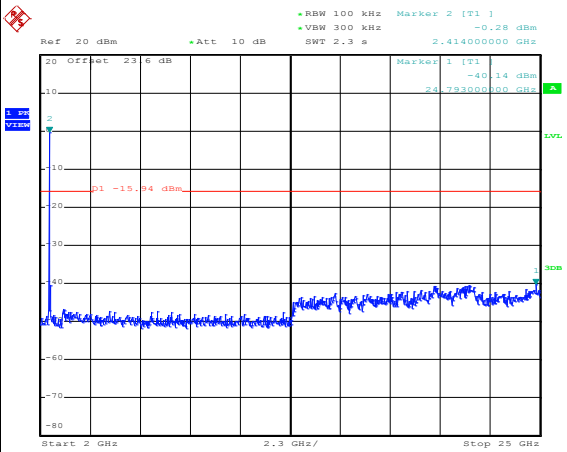
Date: 27.MAY.2017 15:04:45

Spurious Emission 30MHz~3GHz



Date: 27.MAY.2017 15:04:58

Spurious Emission 2GHz~25GHz

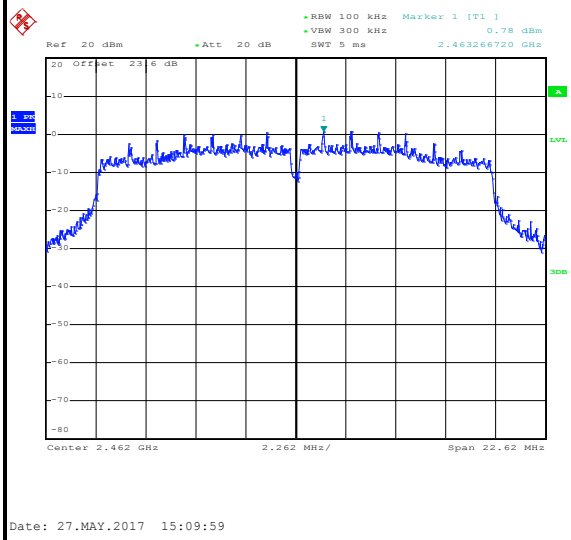


Date: 27.MAY.2017 15:05:06

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

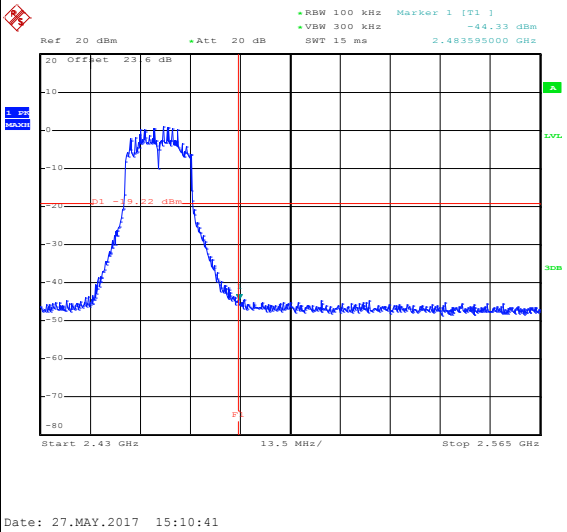
WLAN 802.11n HT20 Channel 11

100kHz PSD reference Level



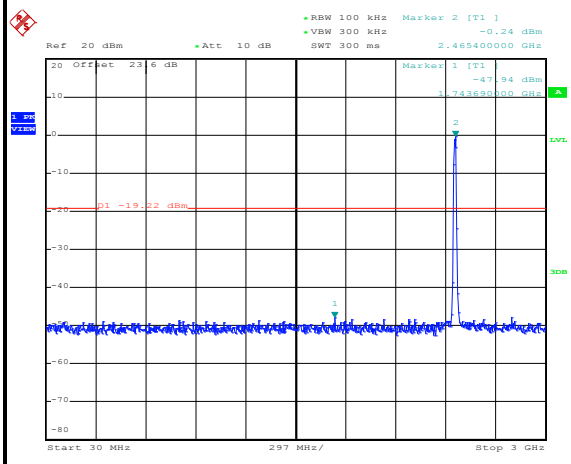
Date: 27.MAY.2017 15:09:59

High Channel Plot



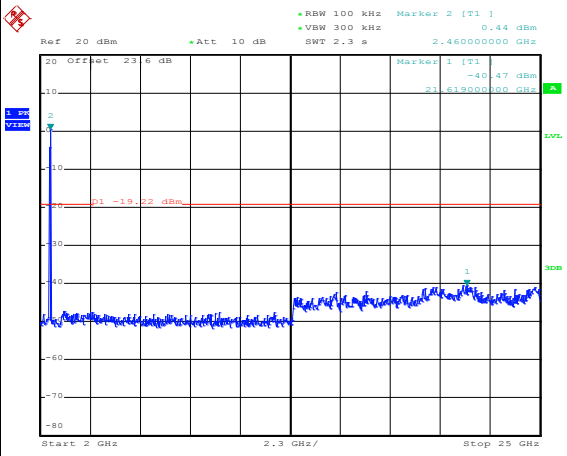
Date: 27.MAY.2017 15:10:41

Spurious Emission 30MHz~3GHz



Date: 27.MAY.2017 15:10:55

Spurious Emission 2GHz~25GHz

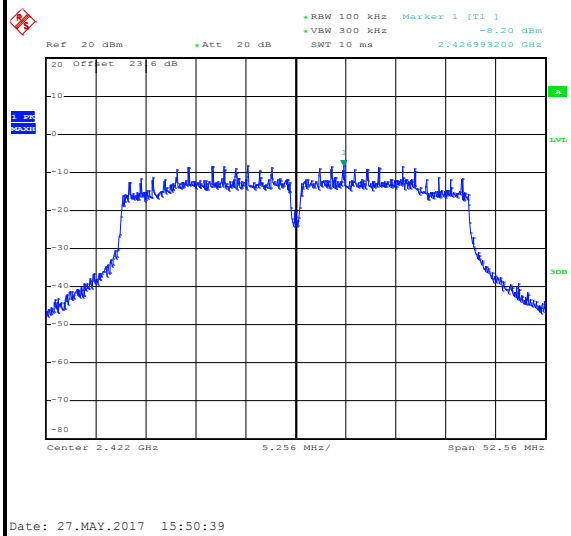


Date: 27.MAY.2017 15:11:04

Number of TX :	1	**Ant. :**	1
Test Mode :	802.11n HT40	**Temperature :**	21~25℃
Test Band :	2.4GHz Low	**Relative Humidity :**	51~54%
Test Channel :	03	**Test Engineer :**	Jeremy Lin

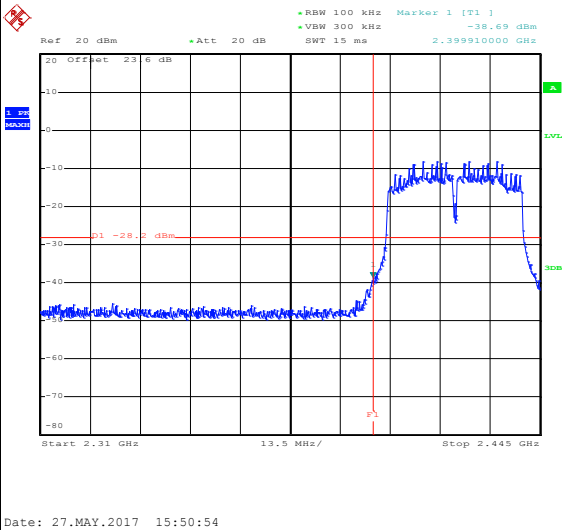
WLAN 802.11n HT40 Channel 03

100kHz PSD reference Level



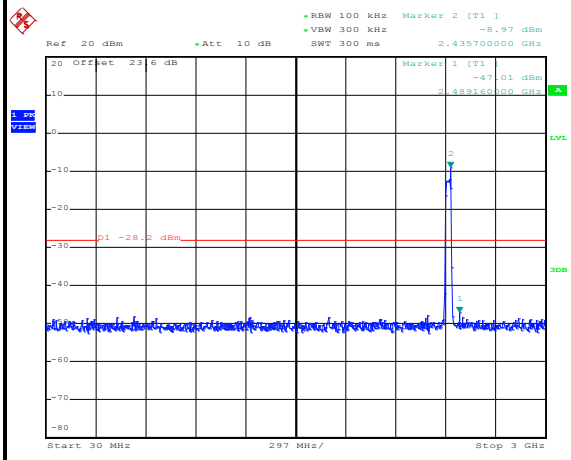
Date: 27.MAY.2017 15:50:39

Low Channel Plot



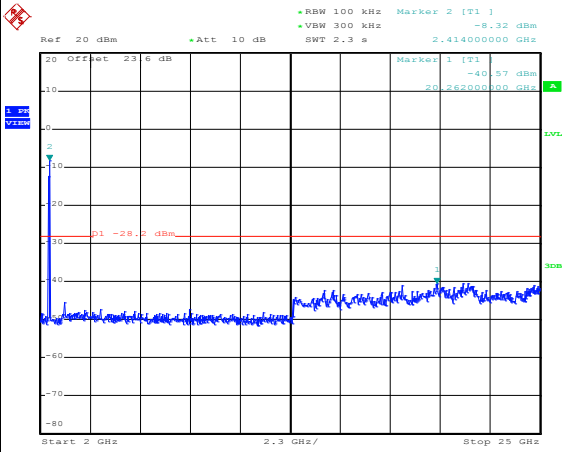
Date: 27.MAY.2017 15:50:54

Spurious Emission 30MHz~3GHz



Date: 27.MAY.2017 15:51:10

Spurious Emission 2GHz~25GHz

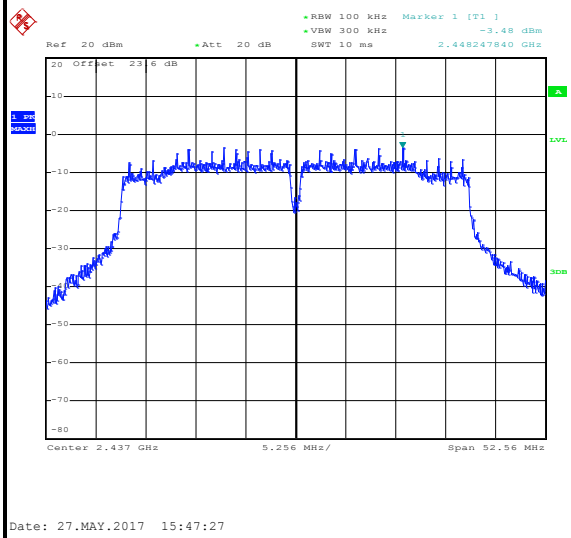


Date: 27.MAY.2017 15:51:21

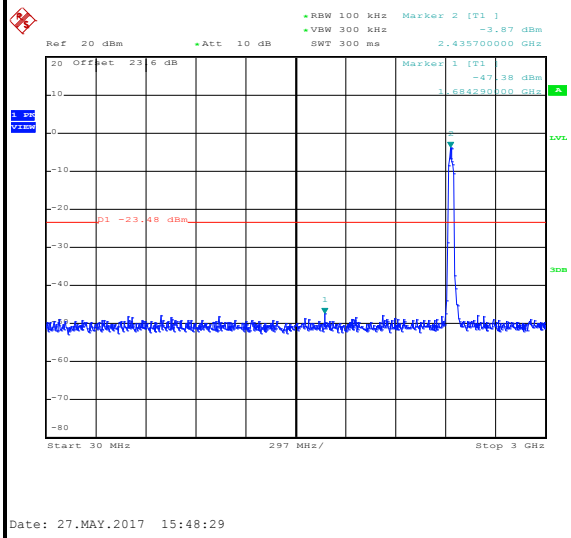
Number of TX :	1	**Ant. :**	1
Test Mode :	802.11n HT40	**Temperature :**	21~25℃
Test Band :	2.4GHz Mid	**Relative Humidity :**	51~54%
Test Channel :	06	**Test Engineer :**	Jeremy Lin

WLAN 802.11n HT40 Channel 06

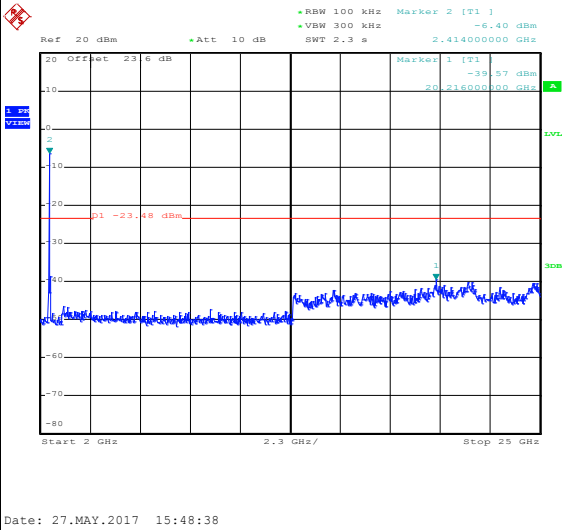
100kHz PSD reference Level



Spurious Emission 30MHz~3GHz



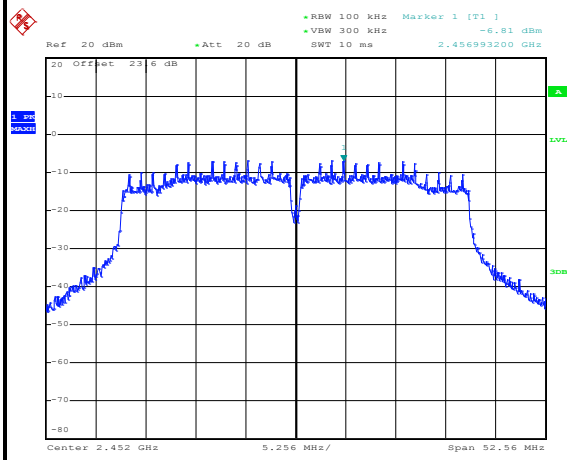
Spurious Emission 2GHz~25GHz



Number of TX :	1	**Ant. :**	1
Test Mode :	802.11n HT40	**Temperature :**	21~25℃
Test Band :	2.4GHz High	**Relative Humidity :**	51~54%
Test Channel :	09	**Test Engineer :**	Jeremy Lin

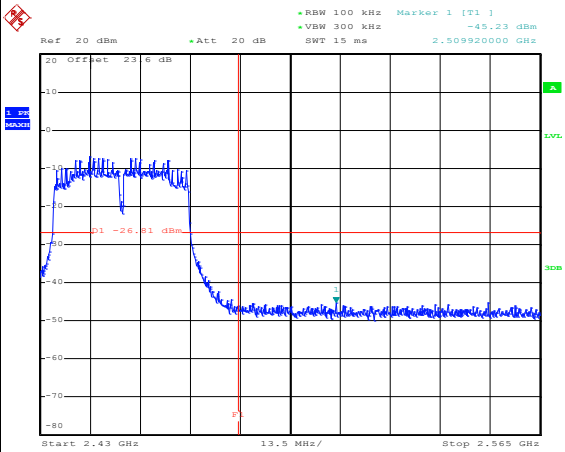
WLAN 802.11n HT40 Channel 09

100kHz PSD reference Level



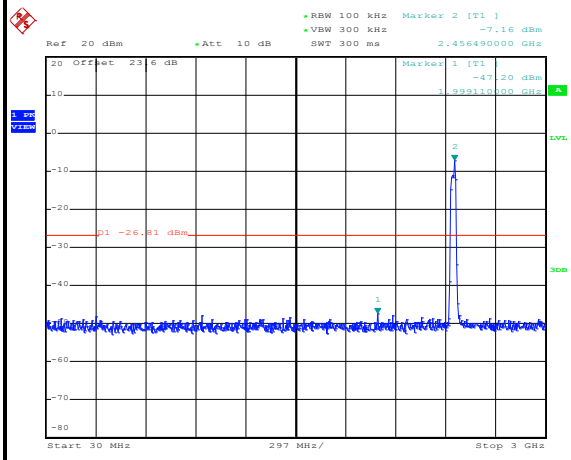
Date: 27.MAY.2017 15:42:44

High Channel Plot



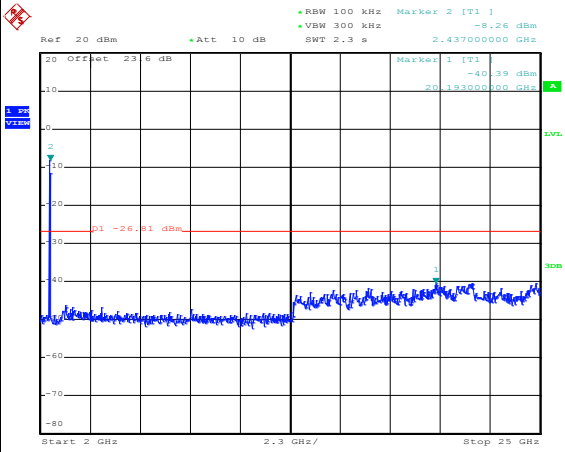
Date: 27.MAY.2017 15:43:02

Spurious Emission 30MHz~3GHz



Date: 27.MAY.2017 15:43:21

Spurious Emission 2GHz~25GHz



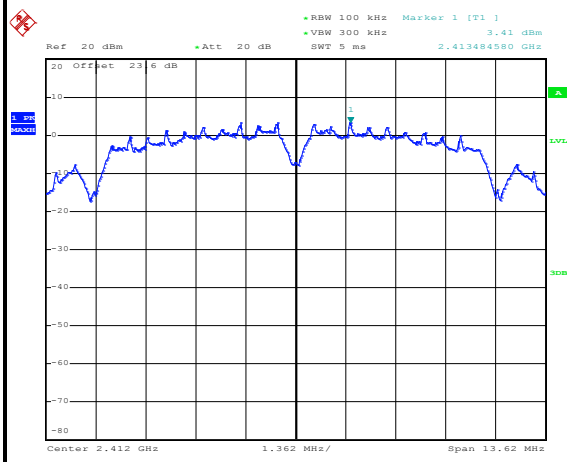
Date: 27.MAY.2017 15:43:33

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

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

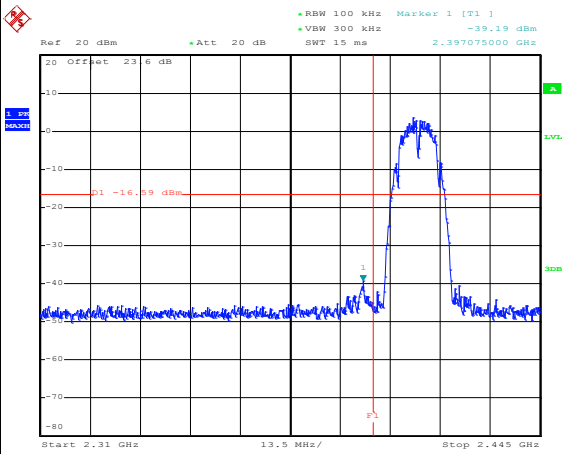
WLAN 802.11b Channel 01

100kHz PSD reference Level



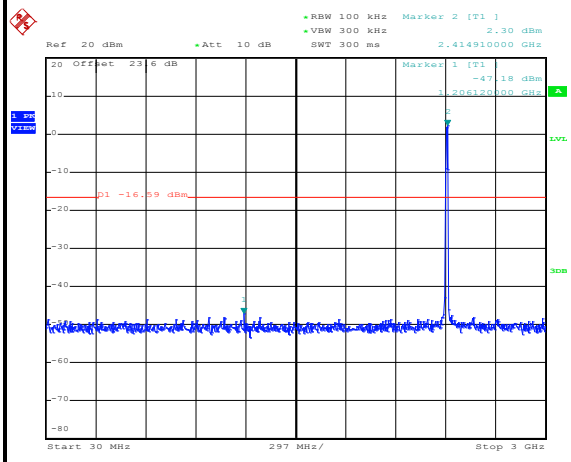
Date: 27.MAY.2017 13:45:09

Low Channel Plot



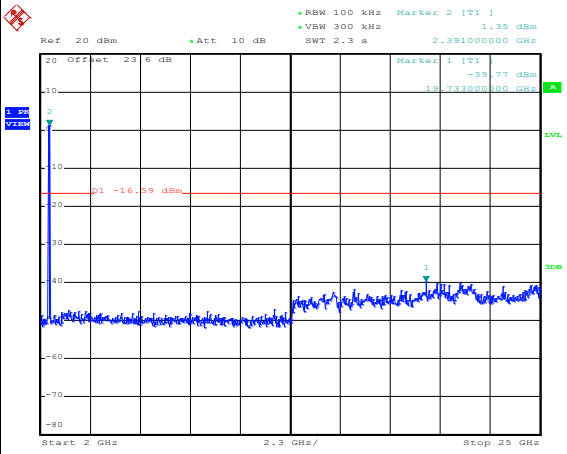
Date: 27.MAY.2017 13:45:24

Spurious Emission 30MHz~3GHz



Date: 27.MAY.2017 13:45:39

Spurious Emission 2GHz~25GHz

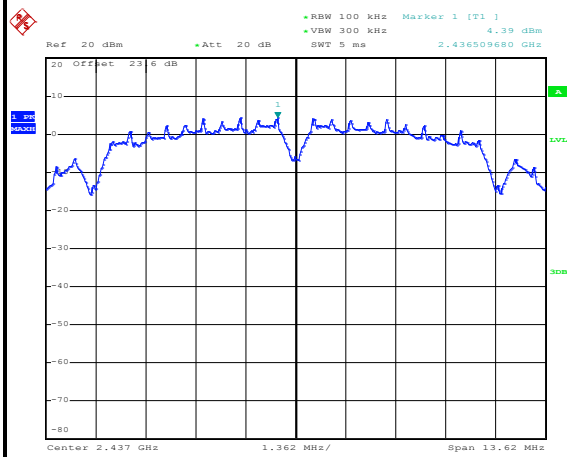


Date: 27.MAY.2017 13:45:47

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

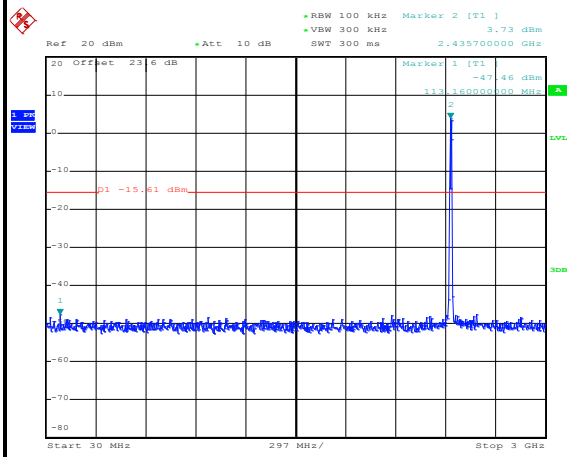
WLAN 802.11b Channel 06

100kHz PSD reference Level



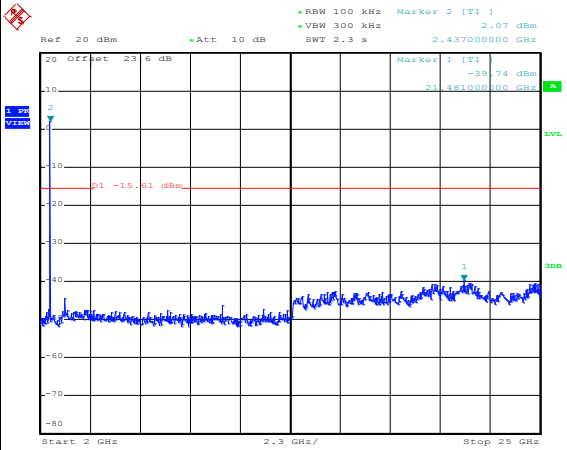
Date: 27.MAY.2017 13:42:36

Spurious Emission 30MHz~3GHz



Date: 27.MAY.2017 13:42:49

Spurious Emission 2GHz~25GHz

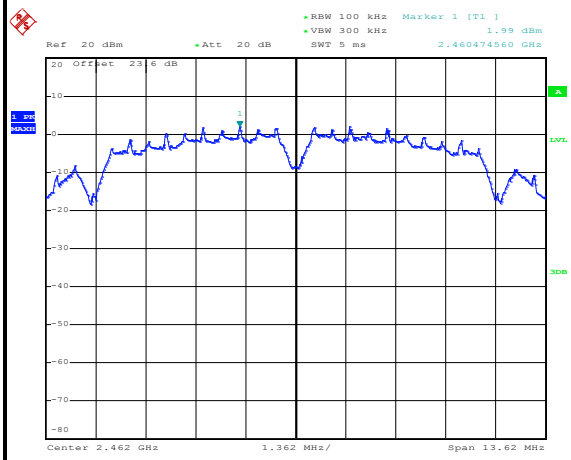


Date: 27.MAY.2017 13:42:58

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

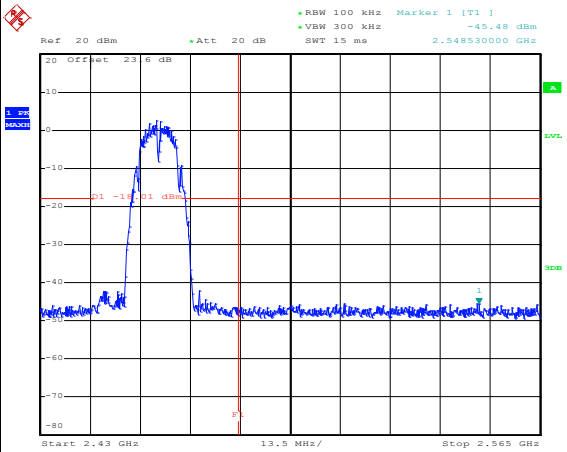
WLAN 802.11b Channel 11

100kHz PSD reference Level



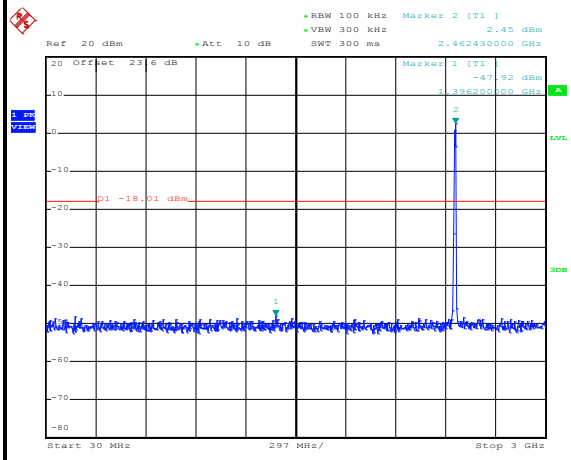
Date: 27.MAY.2017 13:39:15

High Channel Plot



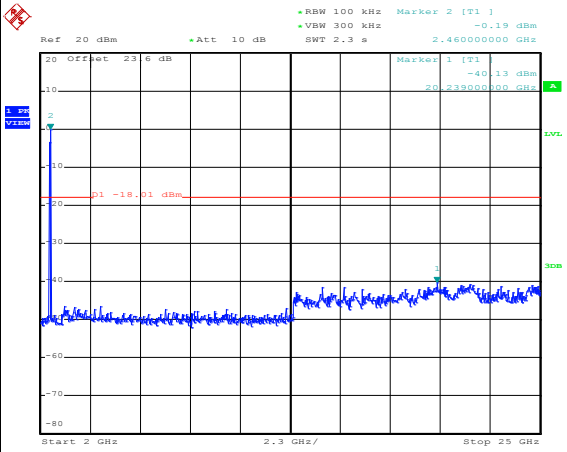
Date: 27.MAY.2017 13:39:41

Spurious Emission 30MHz~3GHz



Date: 27.MAY.2017 13:40:07

Spurious Emission 2GHz~25GHz

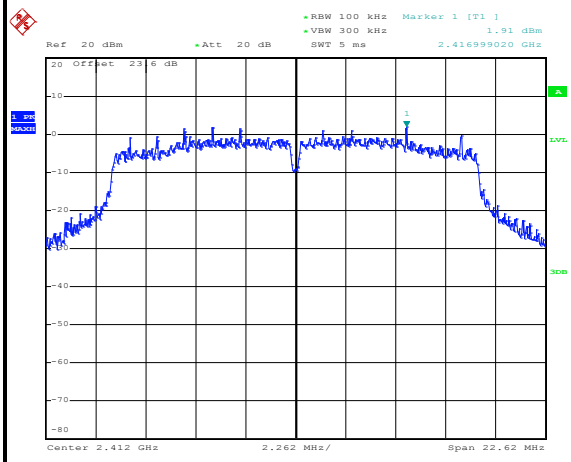


Date: 27.MAY.2017 13:40:15

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

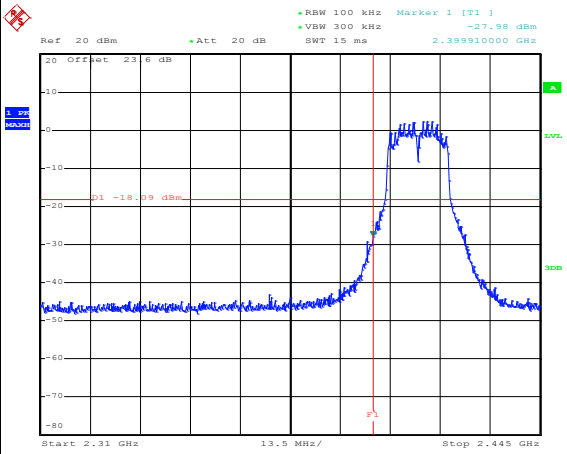
WLAN 802.11g Channel 01

100kHz PSD reference Level



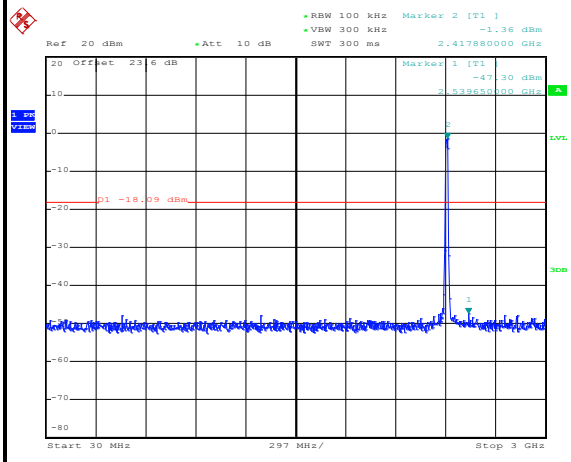
Date: 27.MAY.2017 13:48:29

Low Channel Plot



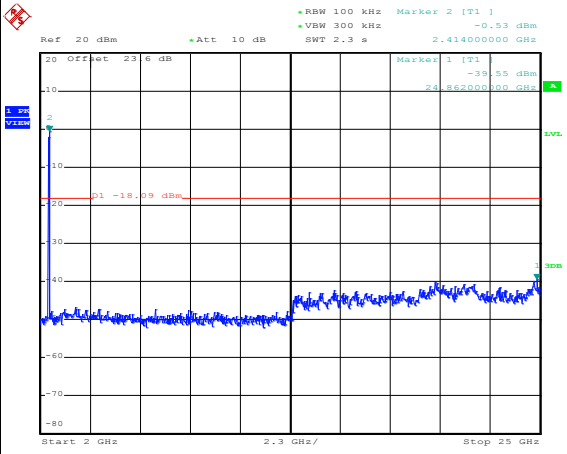
Date: 27.MAY.2017 13:49:31

Spurious Emission 30MHz~3GHz



Date: 27.MAY.2017 13:49:44

Spurious Emission 2GHz~25GHz

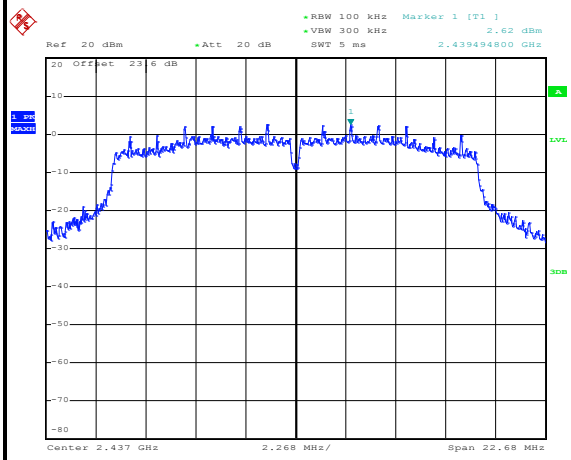


Date: 27.MAY.2017 13:49:53

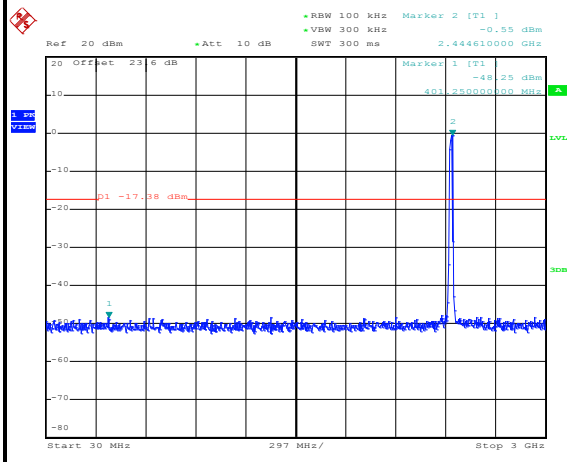
Number of TX :	1	**Ant. :**	2
Test Mode :	802.11g	**Temperature :**	21~25℃
Test Band :	2.4GHz Mid	**Relative Humidity :**	51~54%
Test Channel :	06	**Test Engineer :**	Jeremy Lin

WLAN 802.11g Channel 06

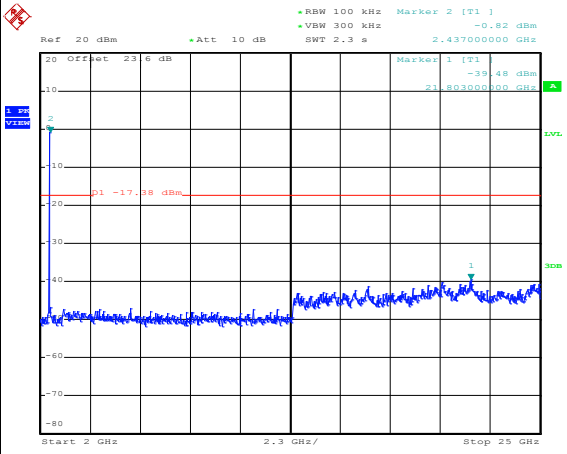
100kHz PSD reference Level



Spurious Emission 30MHz~3GHz



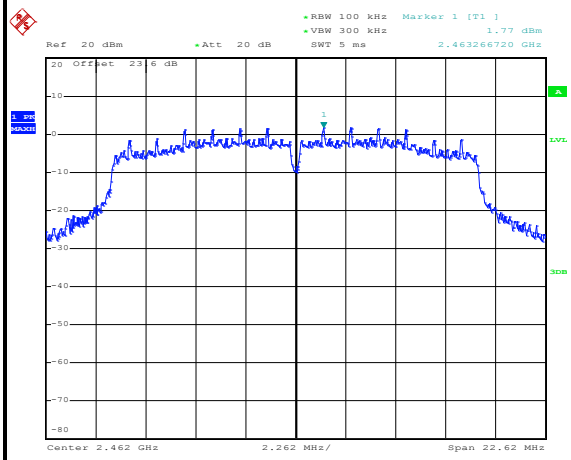
Spurious Emission 2GHz~25GHz



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

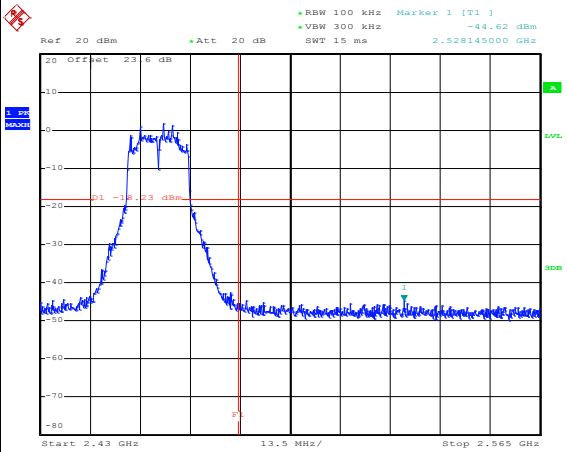
WLAN 802.11g Channel 11

100kHz PSD reference Level



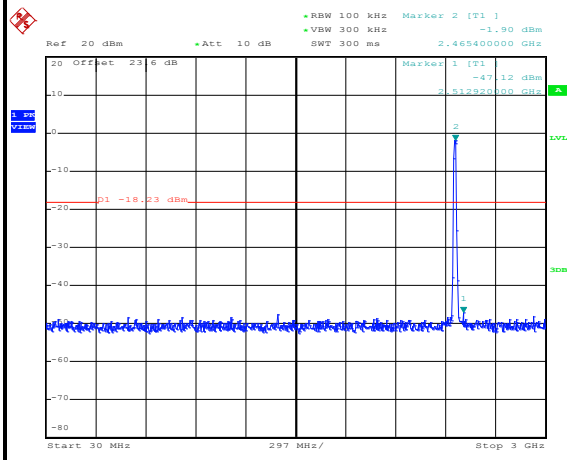
Date: 27.MAY.2017 13:56:42

High Channel Plot



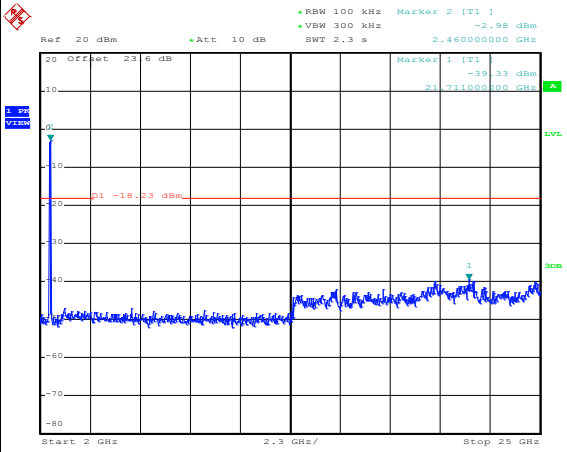
Date: 27.MAY.2017 13:57:01

Spurious Emission 30MHz~3GHz



Date: 27.MAY.2017 13:57:14

Spurious Emission 2GHz~25GHz

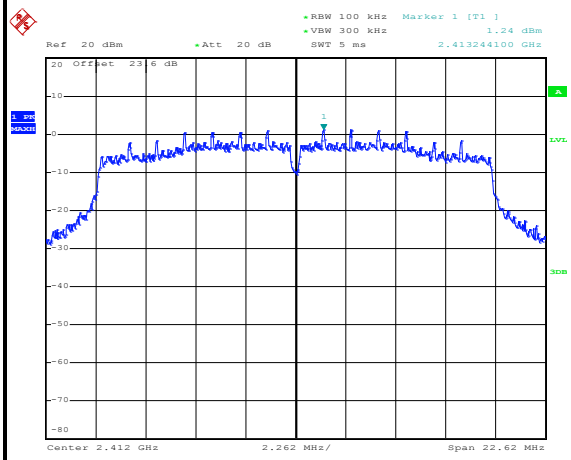


Date: 27.MAY.2017 13:57:23

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

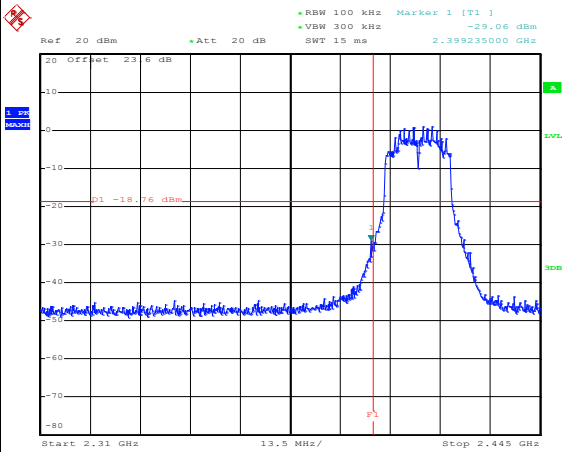
WLAN 802.11n HT20 Channel 01

100kHz PSD reference Level



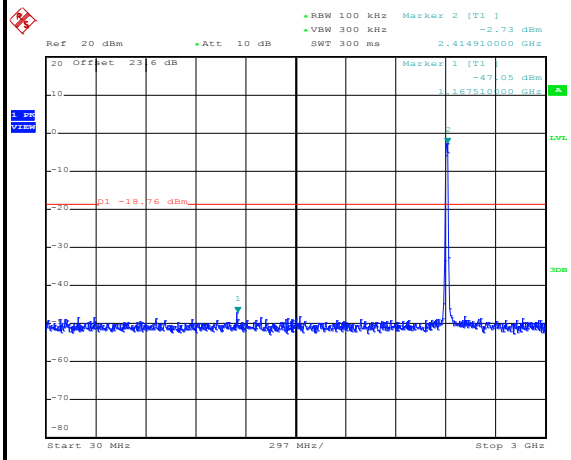
Date: 27.MAY.2017 15:19:44

Low Channel Plot



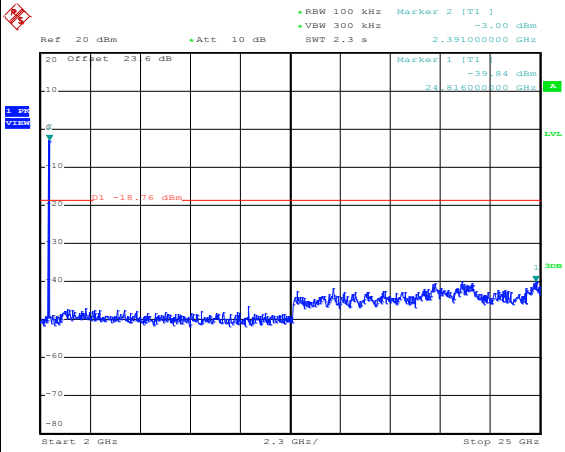
Date: 27.MAY.2017 15:20:11

Spurious Emission 30MHz~3GHz



Date: 27.MAY.2017 15:20:28

Spurious Emission 2GHz~25GHz

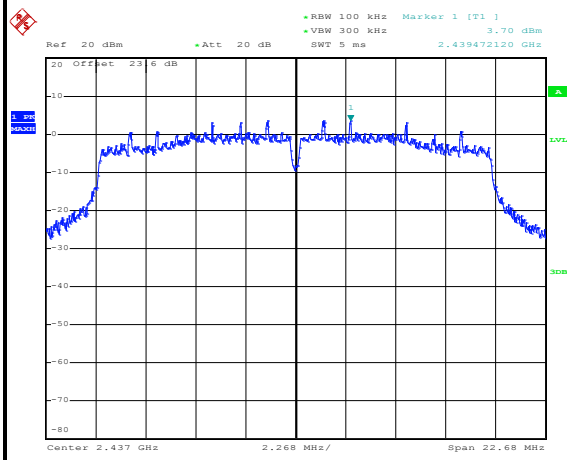


Date: 27.MAY.2017 15:20:37

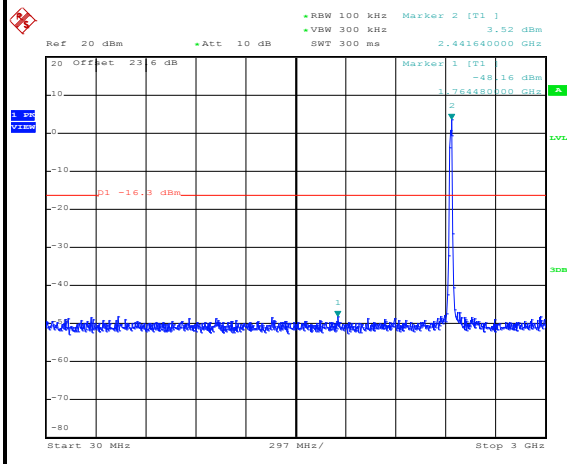
Number of TX :	1	**Ant. :**	2
Test Mode :	802.11n HT20	**Temperature :**	21~25℃
Test Band :	2.4GHz Mid	**Relative Humidity :**	51~54%
Test Channel :	06	**Test Engineer :**	Jeremy Lin

WLAN 802.11n HT20 Channel 06

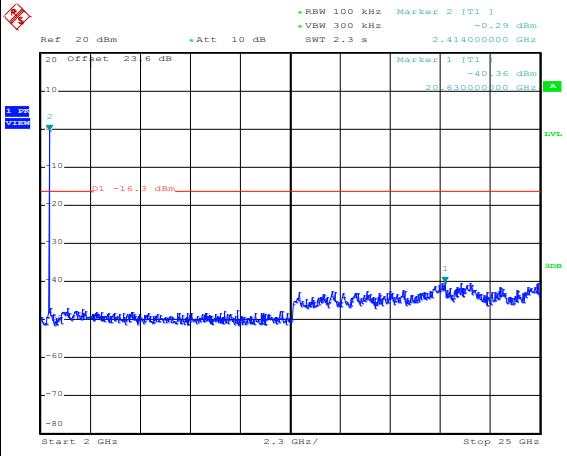
100kHz PSD reference Level



Spurious Emission 30MHz~3GHz



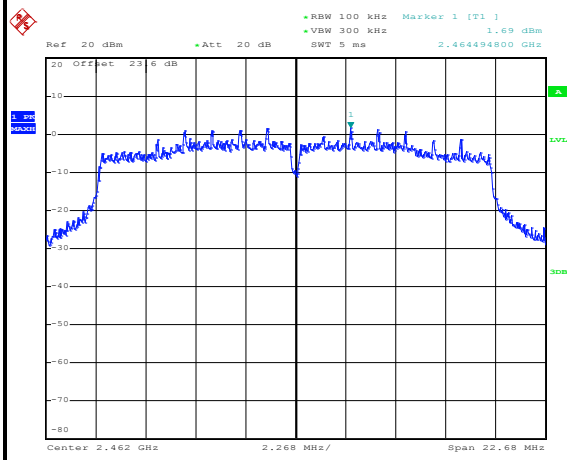
Spurious Emission 2GHz~25GHz



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

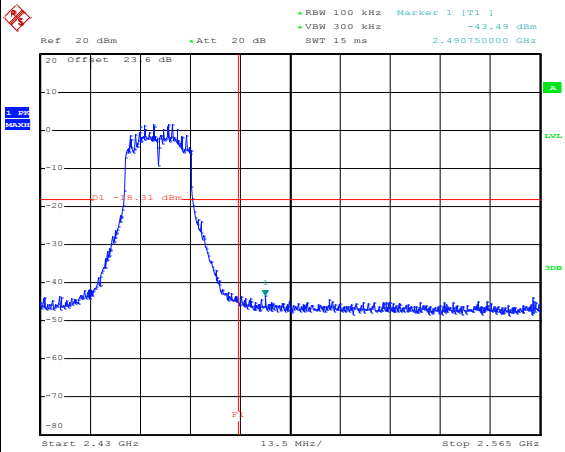
WLAN 802.11n HT20 Channel 11

100kHz PSD reference Level



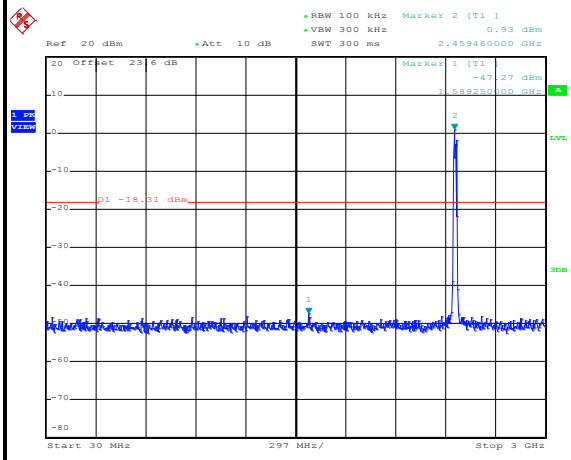
Date: 27.MAY.2017 15:13:51

High Channel Plot



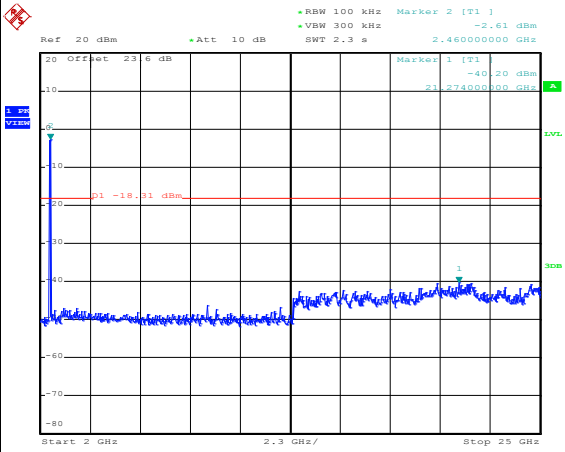
Date: 27.MAY.2017 15:14:41

Spurious Emission 30MHz~3GHz



Date: 27.MAY.2017 15:14:53

Spurious Emission 2GHz~25GHz

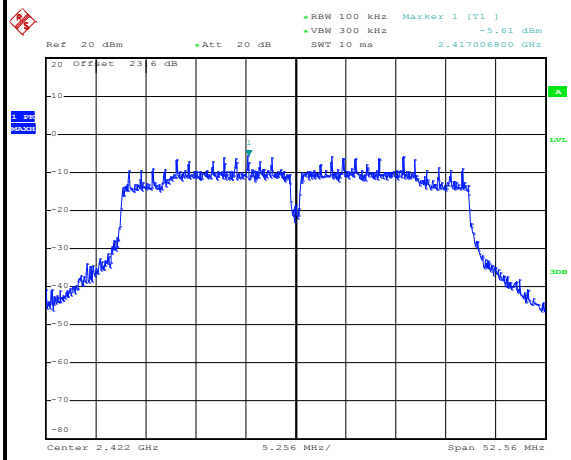


Date: 27.MAY.2017 15:15:01

Number of TX :	1	**Ant. :**	2
Test Mode :	802.11n HT40	**Temperature :**	21~25℃
Test Band :	2.4GHz Low	**Relative Humidity :**	51~54%
Test Channel :	03	**Test Engineer :**	Jeremy Lin

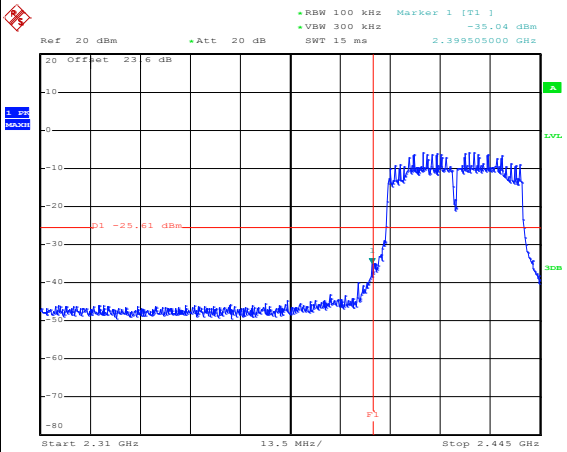
WLAN 802.11n HT40 Channel 03

100kHz PSD reference Level



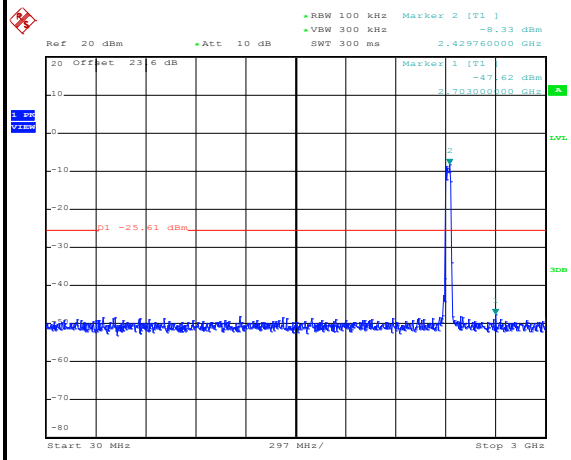
Date: 27.MAY.2017 15:28:56

Low Channel Plot



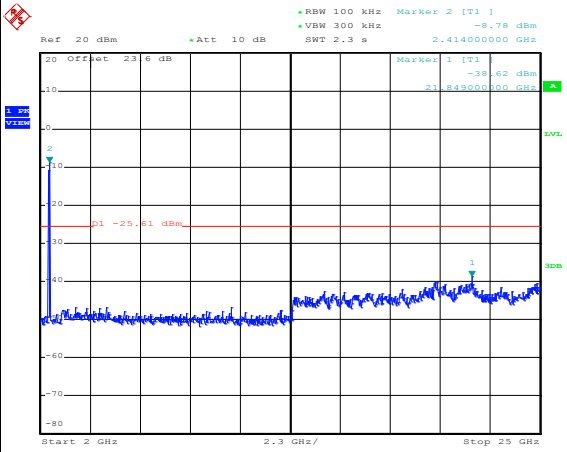
Date: 27.MAY.2017 15:29:28

Spurious Emission 30MHz~3GHz



Date: 27.MAY.2017 15:29:41

Spurious Emission 2GHz~25GHz

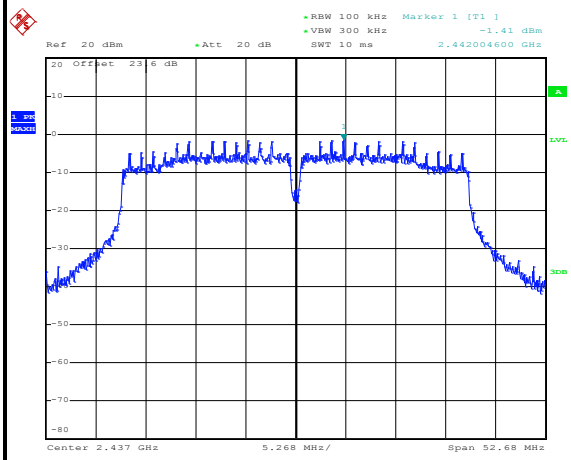


Date: 27.MAY.2017 15:29:50

Number of TX :	1	**Ant. :**	2
Test Mode :	802.11n HT40	**Temperature :**	21~25℃
Test Band :	2.4GHz Mid	**Relative Humidity :**	51~54%
Test Channel :	06	**Test Engineer :**	Jeremy Lin

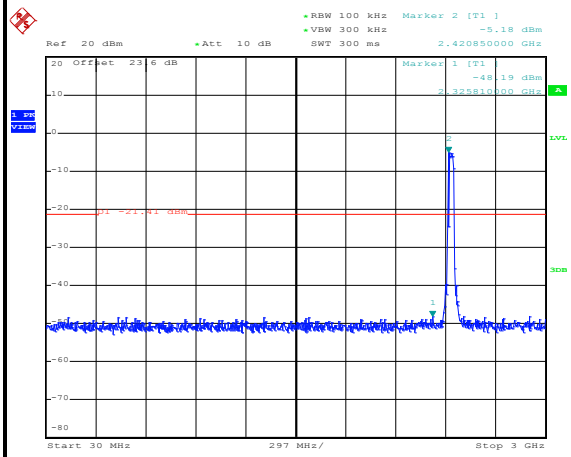
WLAN 802.11n HT40 Channel 06

100kHz PSD reference Level



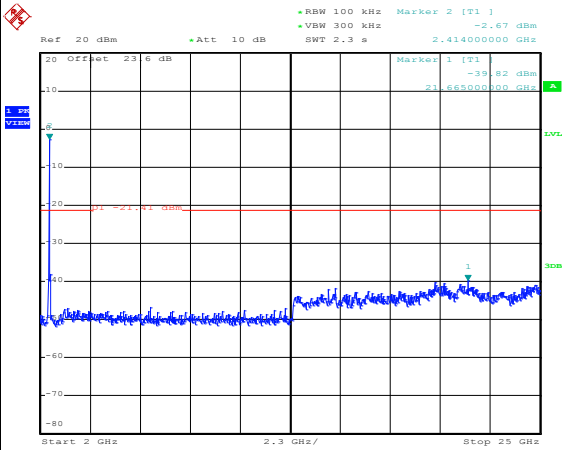
Date: 27.MAY.2017 15:32:08

Spurious Emission 30MHz~3GHz



Date: 27.MAY.2017 15:34:22

Spurious Emission 2GHz~25GHz

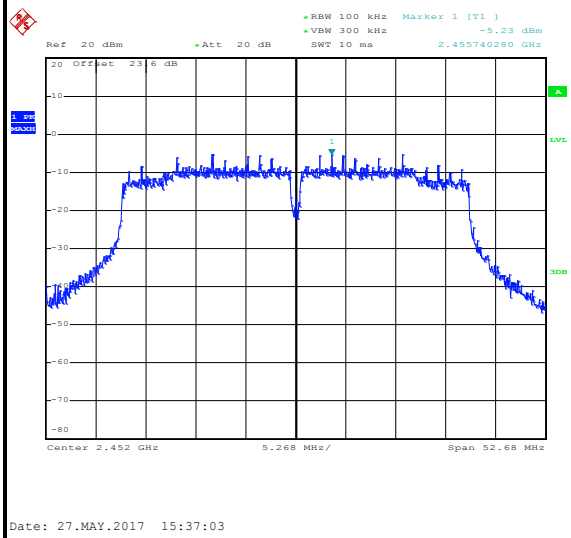


Date: 27.MAY.2017 15:34:31

Number of TX :	1	**Ant. :**	2
Test Mode :	802.11n HT40	**Temperature :**	21~25℃
Test Band :	2.4GHz High	**Relative Humidity :**	51~54%
Test Channel :	09	**Test Engineer :**	Jeremy Lin

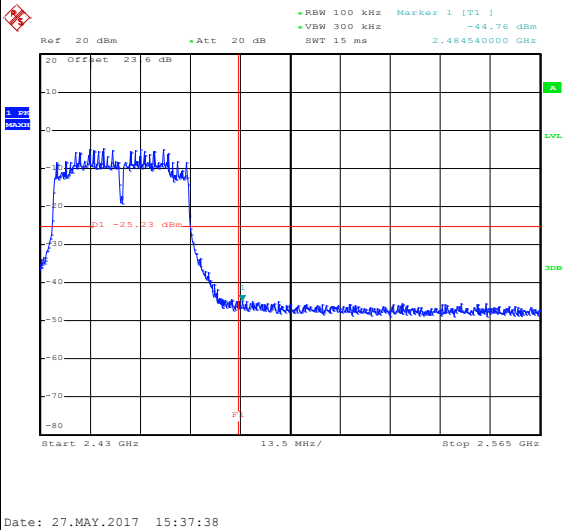
WLAN 802.11n HT40 Channel 09

100kHz PSD reference Level



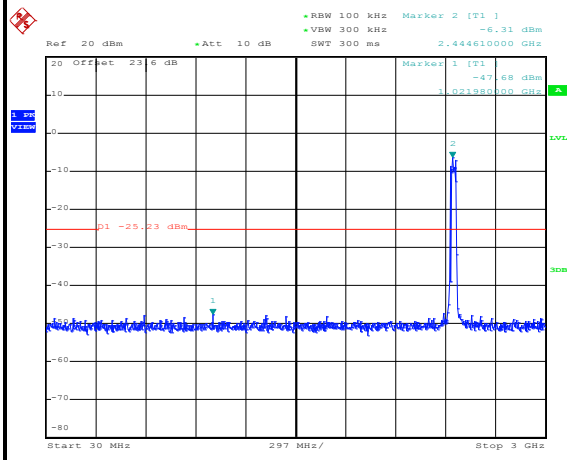
Date: 27.MAY.2017 15:37:03

High Channel Plot



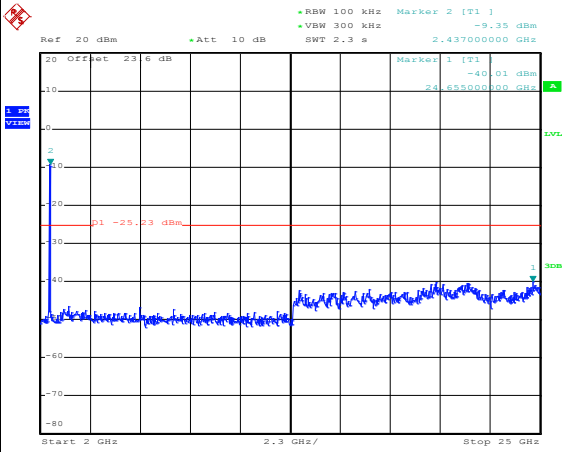
Date: 27.MAY.2017 15:37:38

Spurious Emission 30MHz~3GHz



Date: 27.MAY.2017 15:38:04

Spurious Emission 2GHz~25GHz



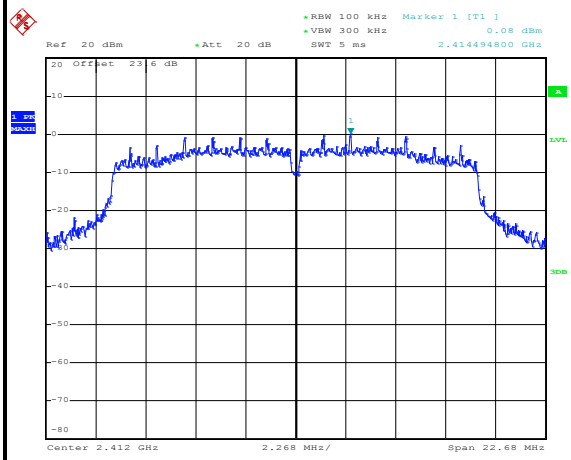
Date: 27.MAY.2017 15:38:36

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

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

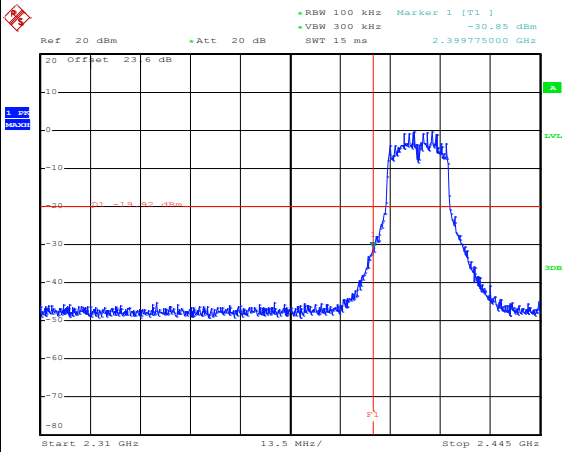
WLAN 802.11g Channel 01

100kHz PSD reference Level



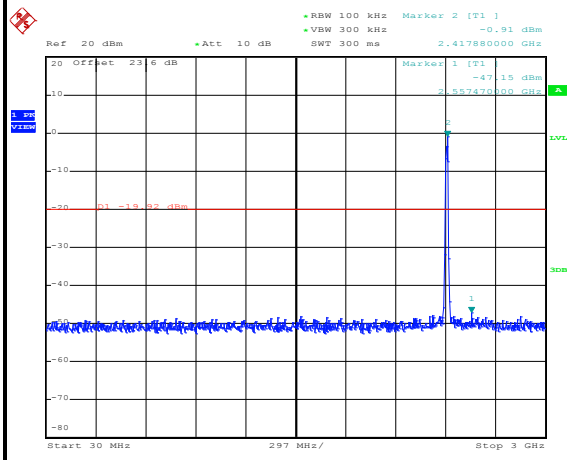
Date: 27.MAY.2017 14:13:36

Low Channel Plot



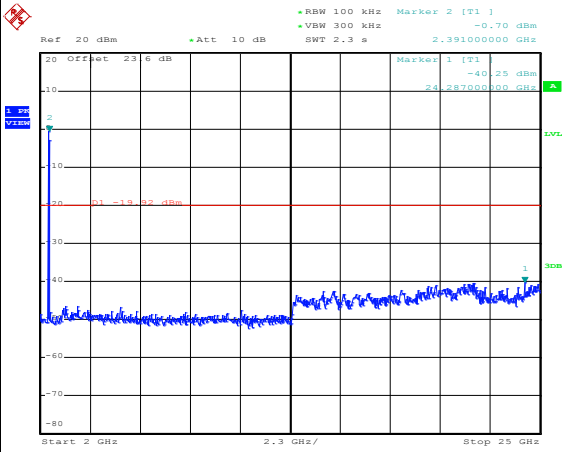
Date: 27.MAY.2017 14:13:53

Spurious Emission 30MHz~3GHz



Date: 27.MAY.2017 14:14:36

Spurious Emission 2GHz~25GHz

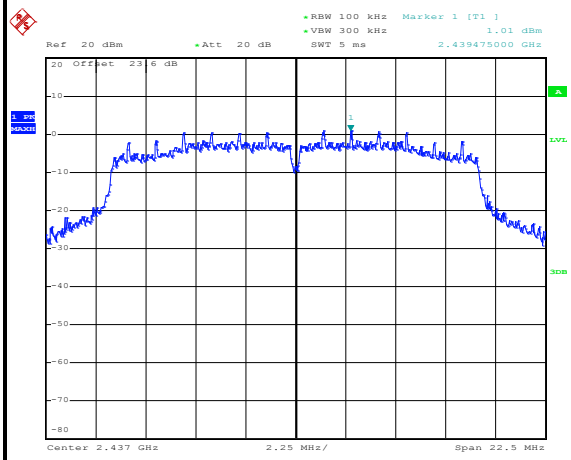


Date: 27.MAY.2017 14:14:45

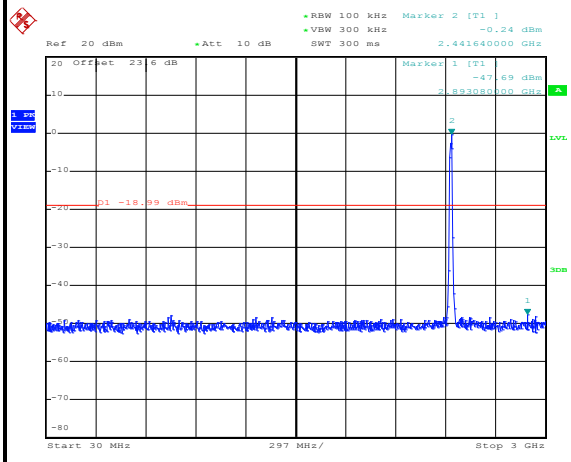
Number of TX :	2	**Ant. :**	1
Test Mode :	802.11g	**Temperature :**	21~25℃
Test Band :	2.4GHz Mid	**Relative Humidity :**	51~54%
Test Channel :	06	**Test Engineer :**	Jeremy Lin

WLAN 802.11g Channel 06

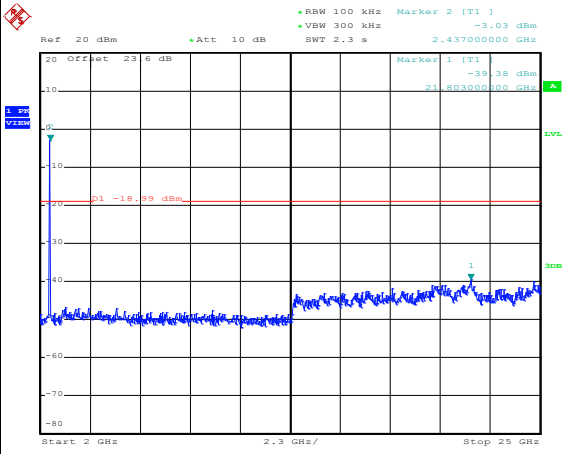
100kHz PSD reference Level



Spurious Emission 30MHz~3GHz



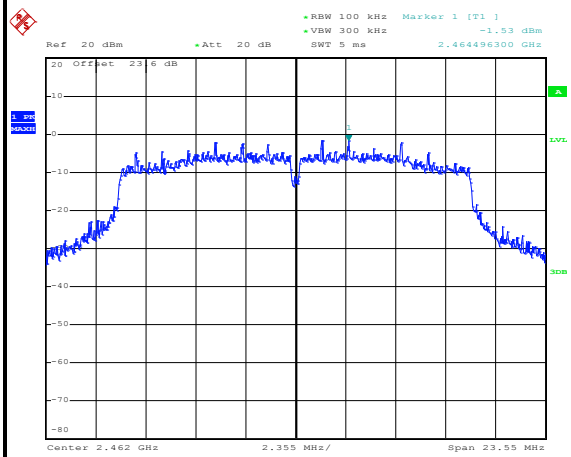
Spurious Emission 2GHz~25GHz



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

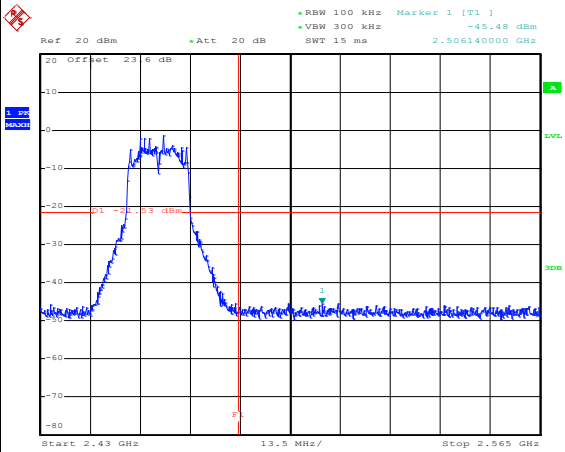
WLAN 802.11g Channel 11

100kHz PSD reference Level



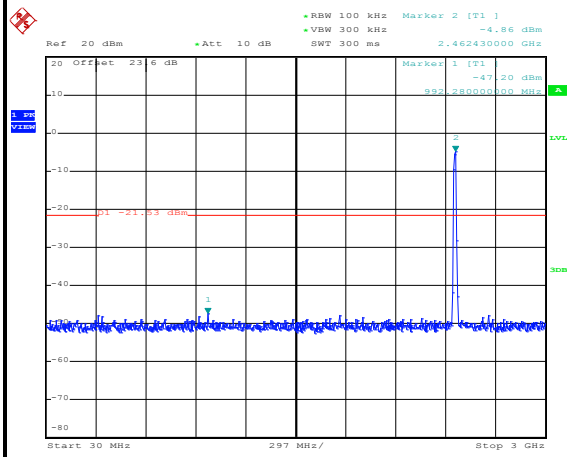
Date: 27.MAY.2017 14:21:01

High Channel Plot



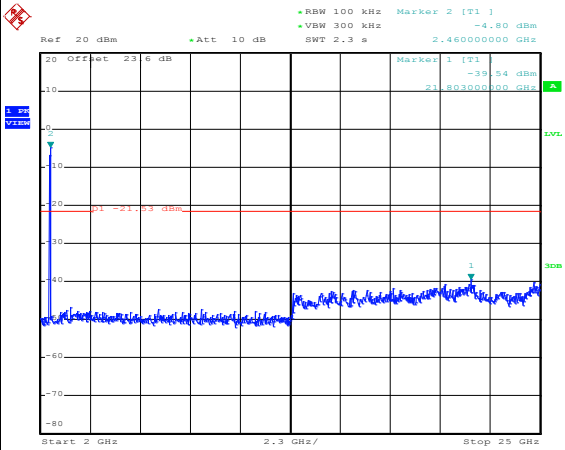
Date: 27.MAY.2017 14:21:17

Spurious Emission 30MHz~3GHz



Date: 27.MAY.2017 14:21:39

Spurious Emission 2GHz~25GHz

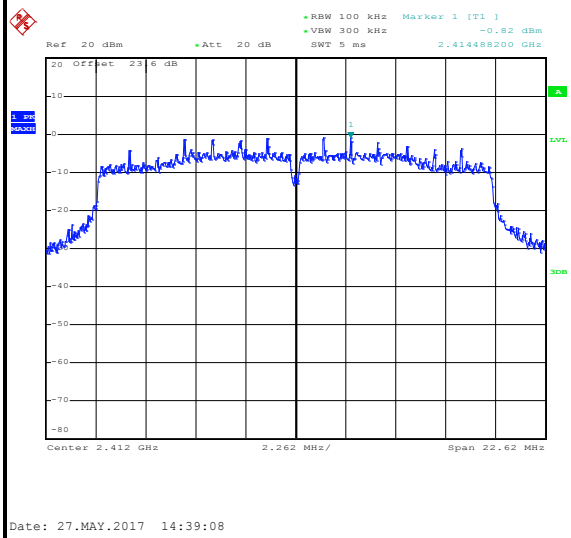


Date: 27.MAY.2017 14:21:48

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

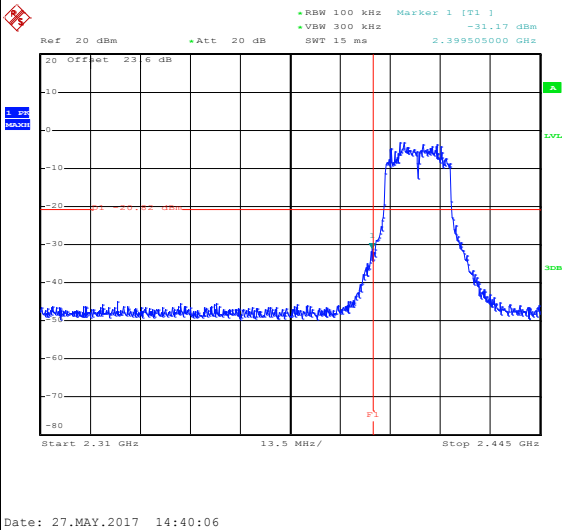
WLAN 802.11n HT20 Channel 01

100kHz PSD reference Level



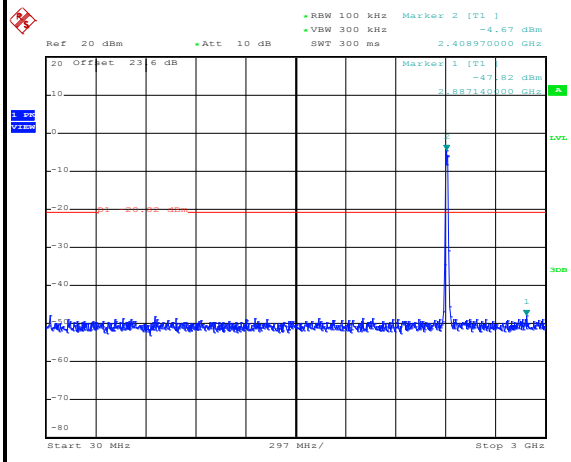
Date: 27.MAY.2017 14:39:08

Low Channel Plot



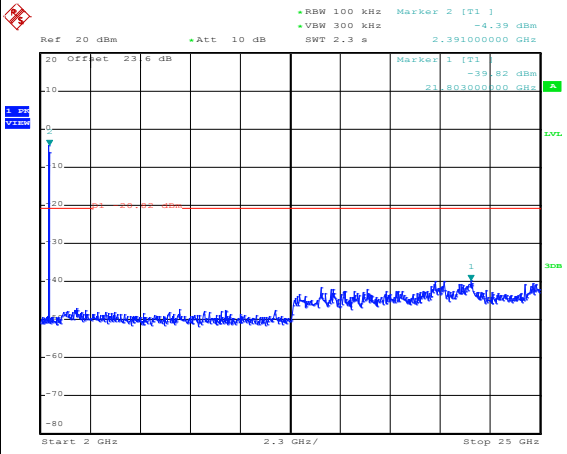
Date: 27.MAY.2017 14:40:06

Spurious Emission 30MHz~3GHz



Date: 27.MAY.2017 14:40:19

Spurious Emission 2GHz~25GHz

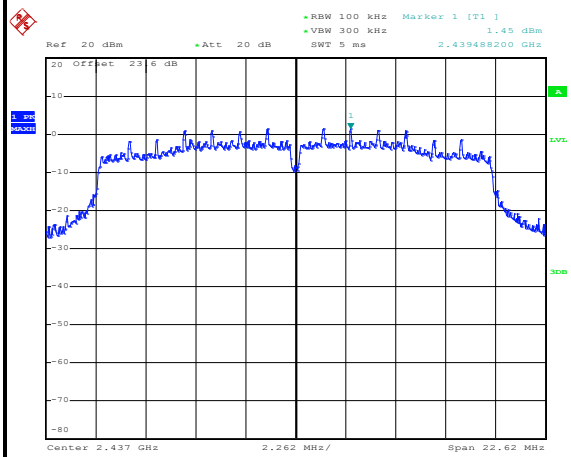


Date: 27.MAY.2017 14:40:27

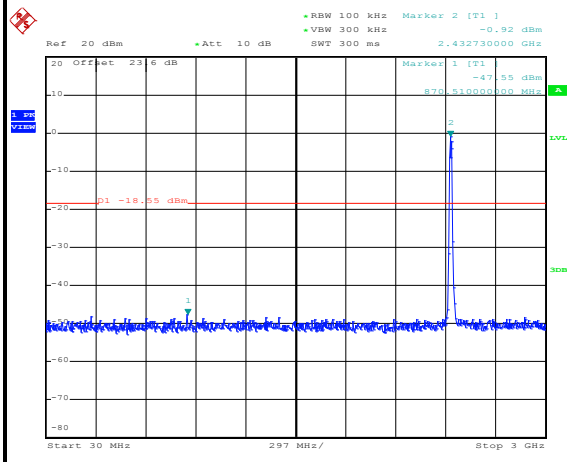
Number of TX :	2	**Ant. :**	1
Test Mode :	802.11n HT20	**Temperature :**	21~25℃
Test Band :	2.4GHz Mid	**Relative Humidity :**	51~54%
Test Channel :	06	**Test Engineer :**	Jeremy Lin

WLAN 802.11n HT20 Channel 06

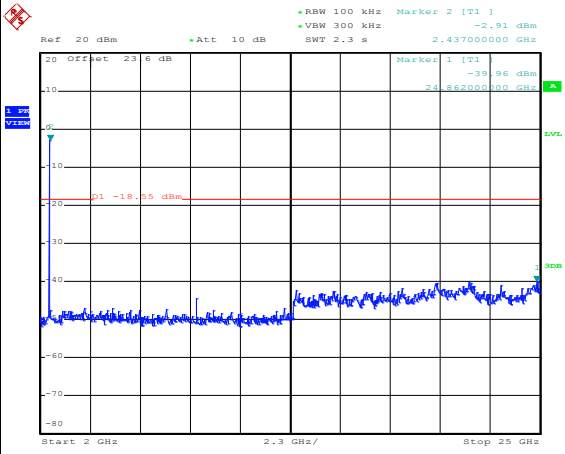
100kHz PSD reference Level



Spurious Emission 30MHz~3GHz



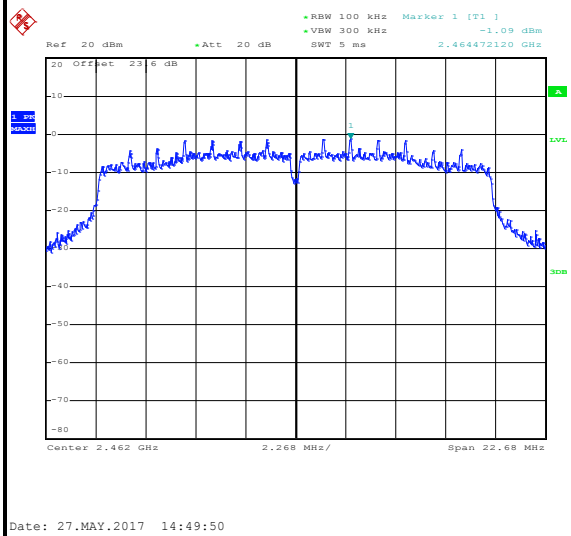
Spurious Emission 2GHz~25GHz



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

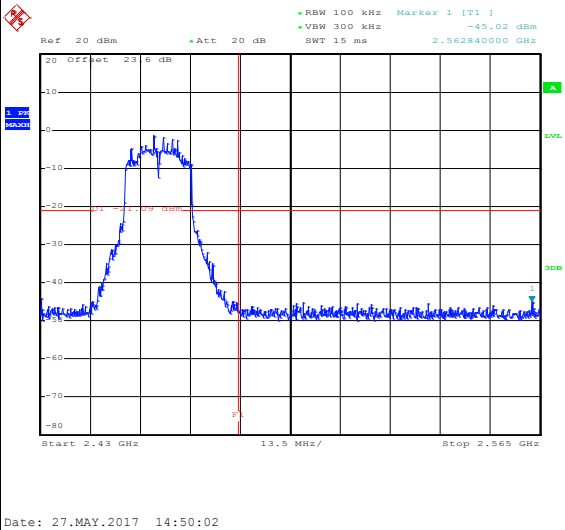
WLAN 802.11n HT20 Channel 11

100kHz PSD reference Level



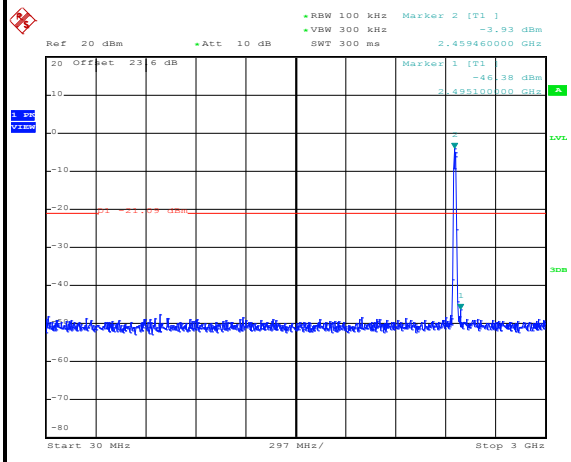
Date: 27.MAY.2017 14:49:50

High Channel Plot



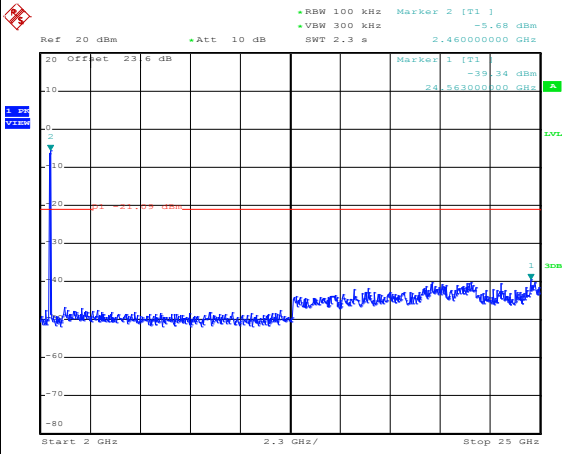
Date: 27.MAY.2017 14:50:02

Spurious Emission 30MHz~3GHz



Date: 27.MAY.2017 14:50:15

Spurious Emission 2GHz~25GHz

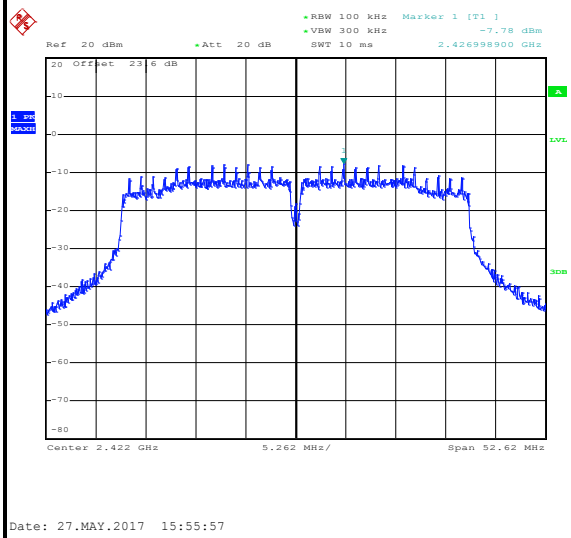


Date: 27.MAY.2017 14:50:23

Number of TX :	2	**Ant. :**	1
Test Mode :	802.11n HT40	**Temperature :**	21~25℃
Test Band :	2.4GHz Low	**Relative Humidity :**	51~54%
Test Channel :	03	**Test Engineer :**	Jeremy Lin

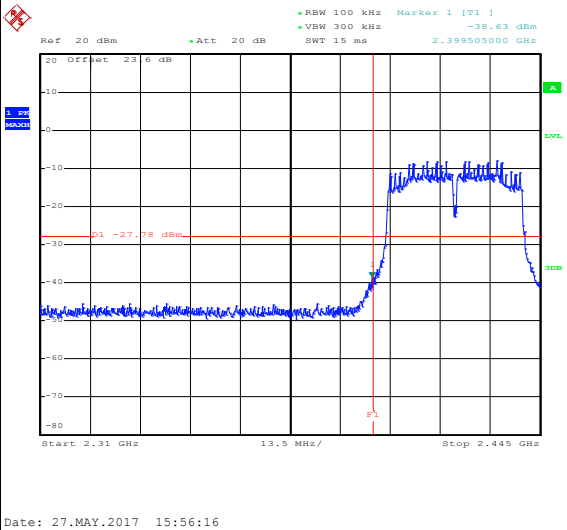
WLAN 802.11n HT40 Channel 03

100kHz PSD reference Level



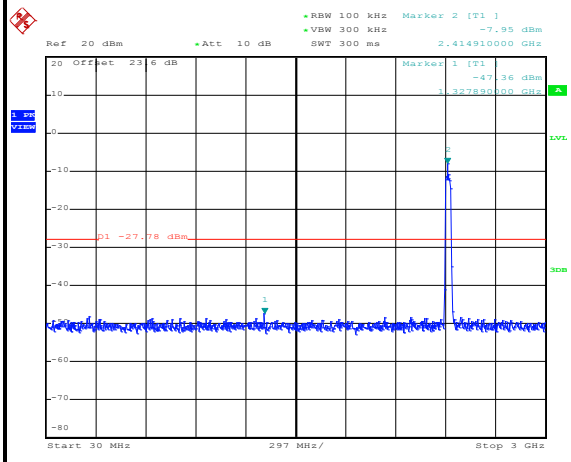
Date: 27.MAY.2017 15:55:57

Low Channel Plot



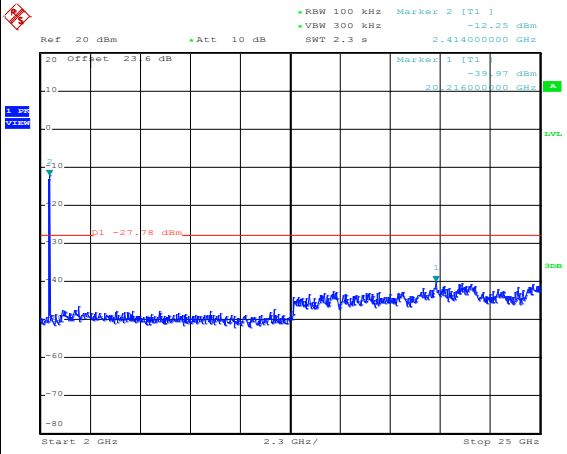
Date: 27.MAY.2017 15:56:16

Spurious Emission 30MHz~3GHz



Date: 27.MAY.2017 15:56:46

Spurious Emission 2GHz~25GHz

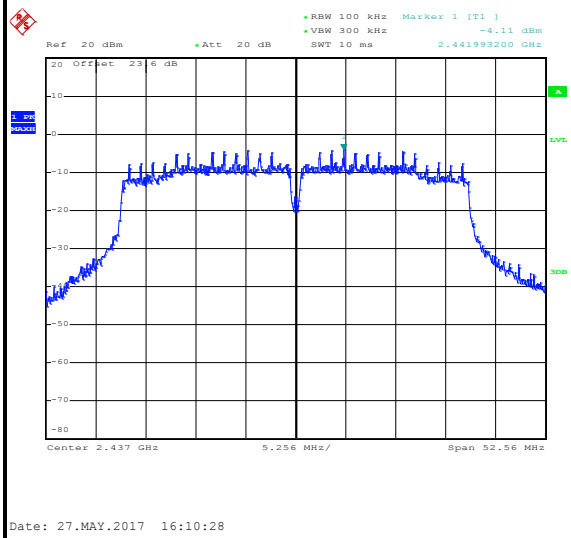


Date: 27.MAY.2017 15:56:58

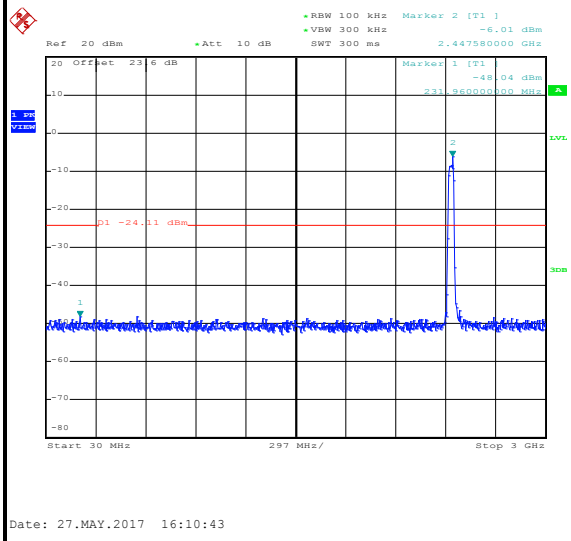
Number of TX :	2	**Ant. :**	1
Test Mode :	802.11n HT40	**Temperature :**	21~25℃
Test Band :	2.4GHz Mid	**Relative Humidity :**	51~54%
Test Channel :	06	**Test Engineer :**	Jeremy Lin

WLAN 802.11n HT40 Channel 06

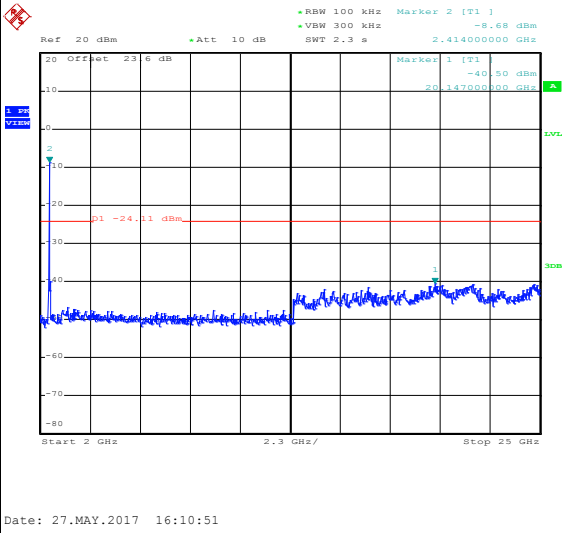
100kHz PSD reference Level



Spurious Emission 30MHz~3GHz



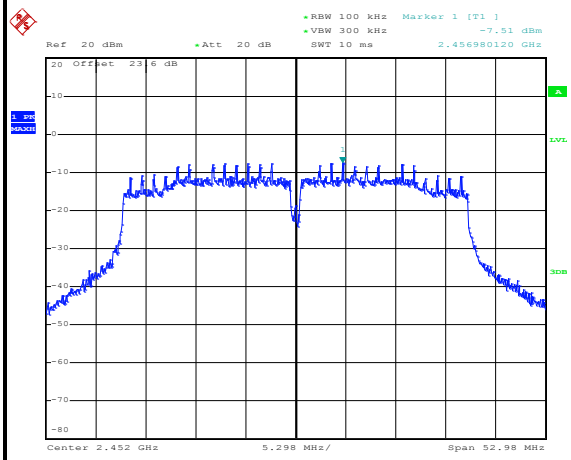
Spurious Emission 2GHz~25GHz



Number of TX :	2	**Ant. :**	1
Test Mode :	802.11n HT40	**Temperature :**	21~25℃
Test Band :	2.4GHz High	**Relative Humidity :**	51~54%
Test Channel :	09	**Test Engineer :**	Jeremy Lin

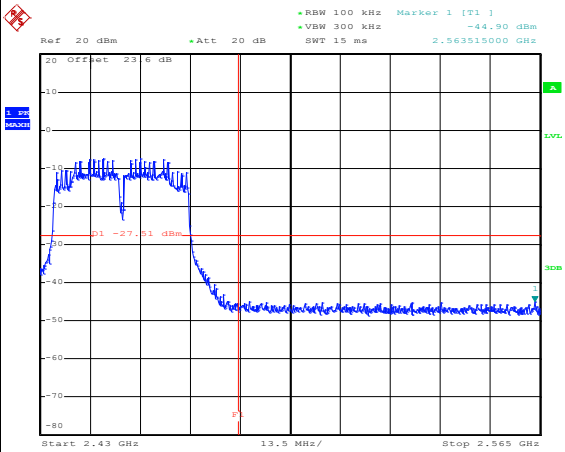
WLAN 802.11n HT40 Channel 09

100kHz PSD reference Level



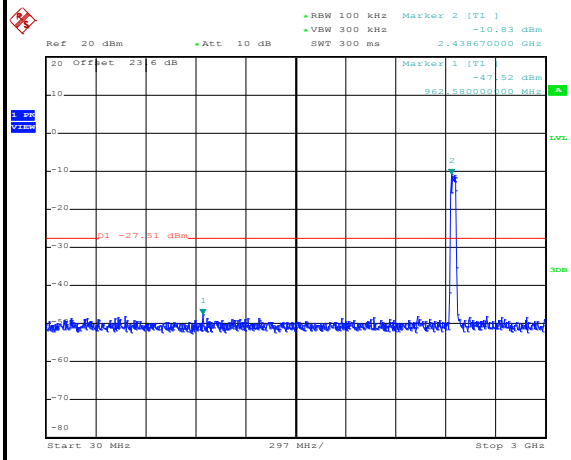
Date: 27.MAY.2017 16:14:05

High Channel Plot



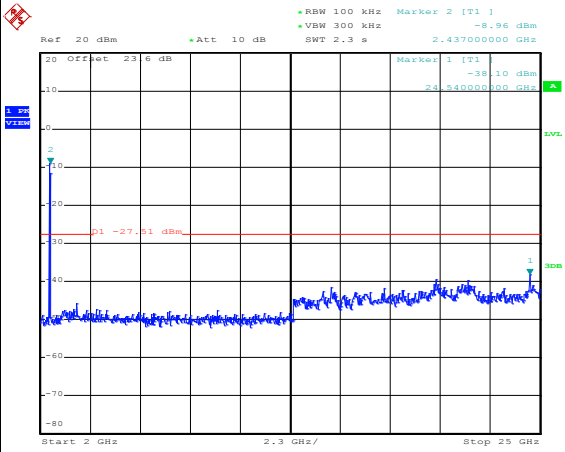
Date: 27.MAY.2017 16:14:57

Spurious Emission 30MHz~3GHz



Date: 27.MAY.2017 16:15:09

Spurious Emission 2GHz~25GHz



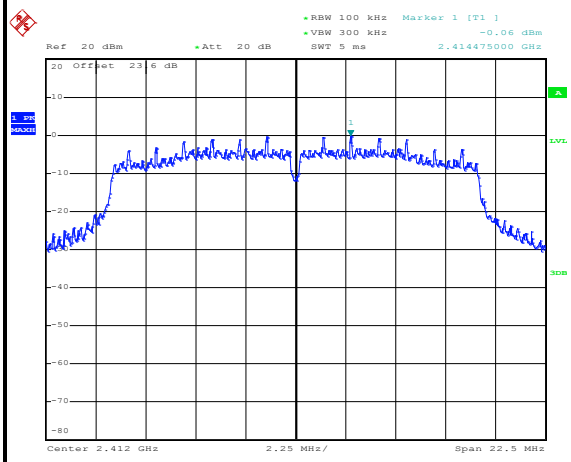
Date: 27.MAY.2017 16:15:17

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

Number of TX :	2	**Ant. :**	2
Test Mode :	802.11g	**Temperature :**	21~25℃
Test Band :	2.4GHz Low	**Relative Humidity :**	51~54%
Test Channel :	01	**Test Engineer :**	Jeremy Lin

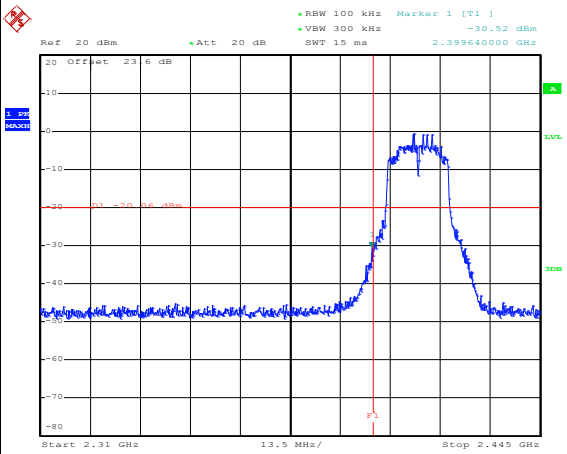
WLAN 802.11g Channel 01

100kHz PSD reference Level



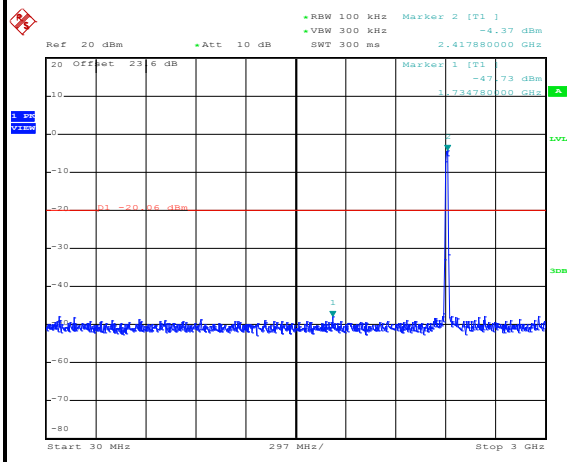
Date: 27.MAY.2017 14:33:01

Low Channel Plot



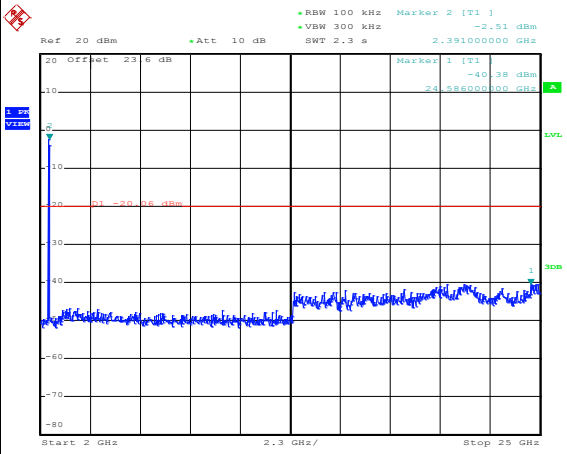
Date: 27.MAY.2017 14:33:20

Spurious Emission 30MHz~3GHz



Date: 27.MAY.2017 14:33:34

Spurious Emission 2GHz~25GHz

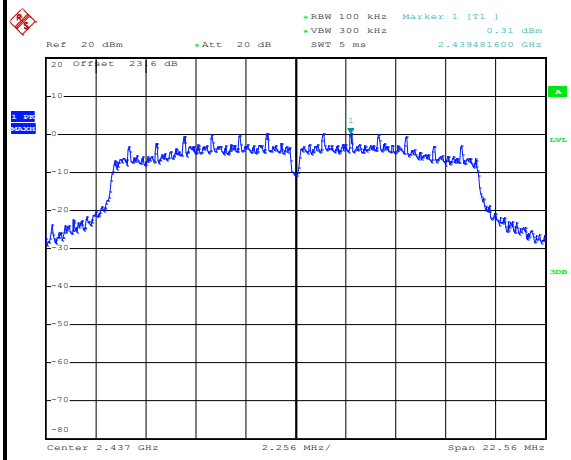


Date: 27.MAY.2017 14:33:42

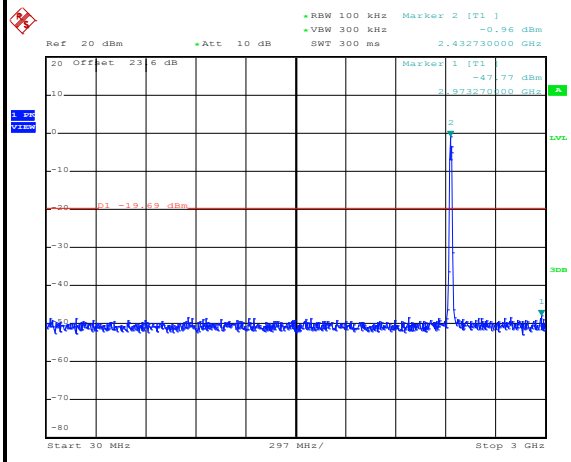
Number of TX :	2	**Ant. :**	2
Test Mode :	802.11g	**Temperature :**	21~25℃
Test Band :	2.4GHz Mid	**Relative Humidity :**	51~54%
Test Channel :	06	**Test Engineer :**	Jeremy Lin

WLAN 802.11g Channel 06

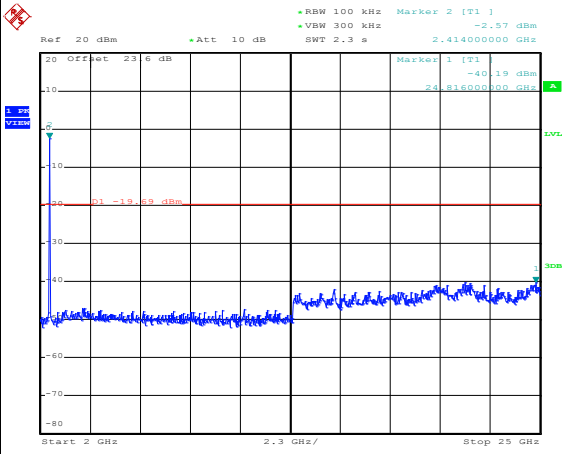
100kHz PSD reference Level



Spurious Emission 30MHz~3GHz



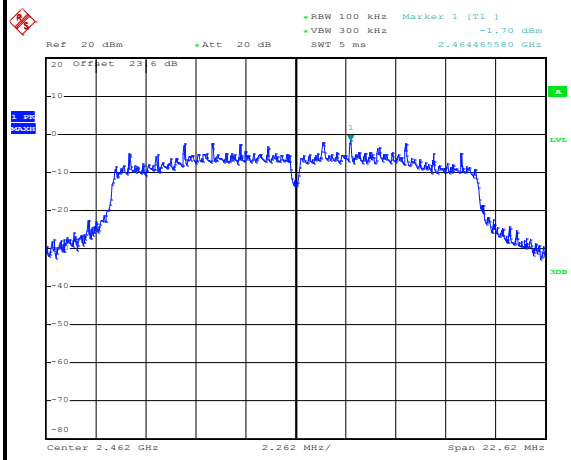
Spurious Emission 2GHz~25GHz



Number of TX :	2	**Ant. :**	2
Test Mode :	802.11g	**Temperature :**	21~25℃
Test Band :	2.4GHz High	**Relative Humidity :**	51~54%
Test Channel :	11	**Test Engineer :**	Jeremy Lin

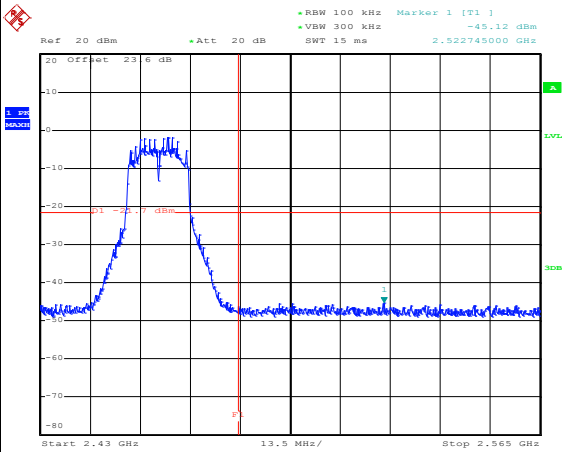
WLAN 802.11g Channel 11

100kHz PSD reference Level



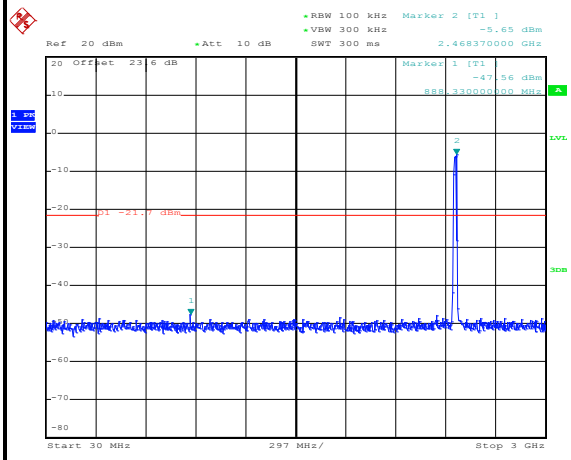
Date: 27.MAY.2017 14:24:26

High Channel Plot



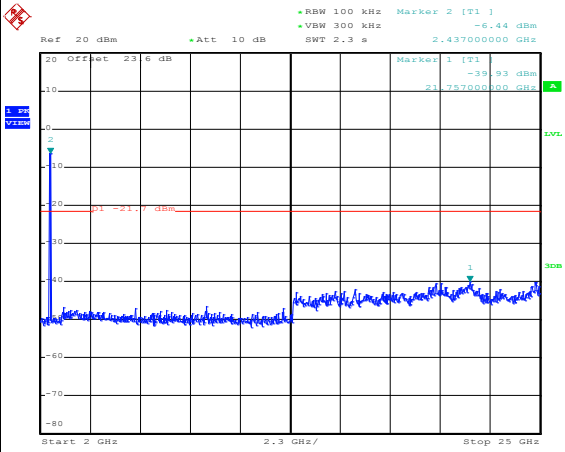
Date: 27.MAY.2017 14:24:47

Spurious Emission 30MHz~3GHz



Date: 27.MAY.2017 14:24:58

Spurious Emission 2GHz~25GHz

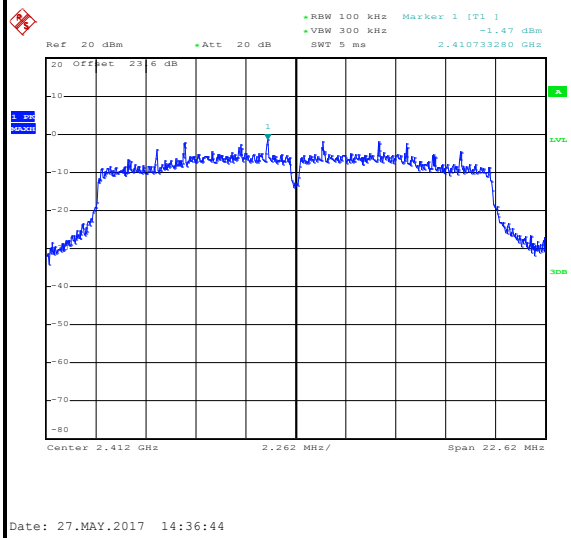


Date: 27.MAY.2017 14:25:07

Number of TX :	2	**Ant. :**	2
Test Mode :	802.11n HT20	**Temperature :**	21~25℃
Test Band :	2.4GHz Low	**Relative Humidity :**	51~54%
Test Channel :	01	**Test Engineer :**	Jeremy Lin

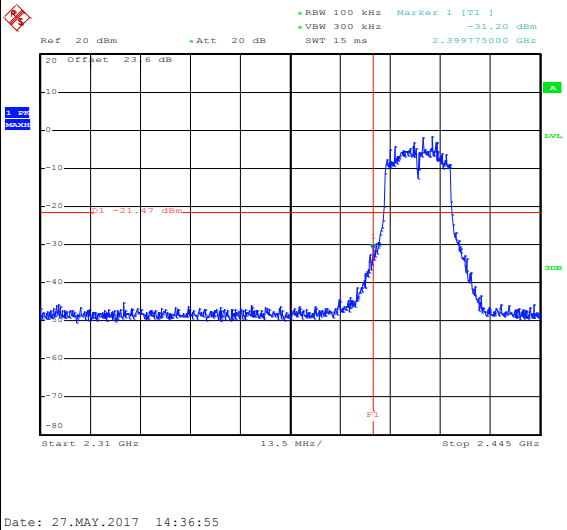
WLAN 802.11n HT20 Channel 01

100kHz PSD reference Level



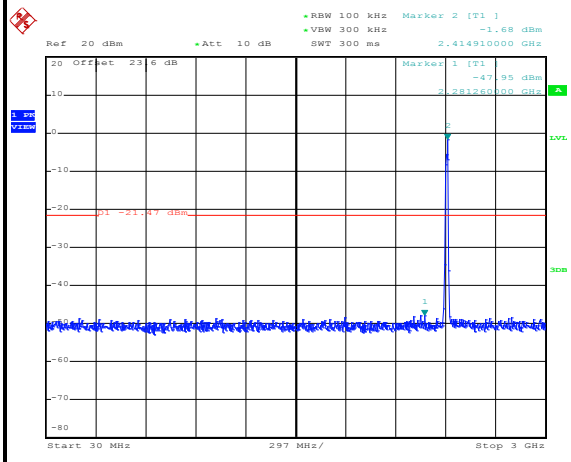
Date: 27.MAY.2017 14:36:44

Low Channel Plot



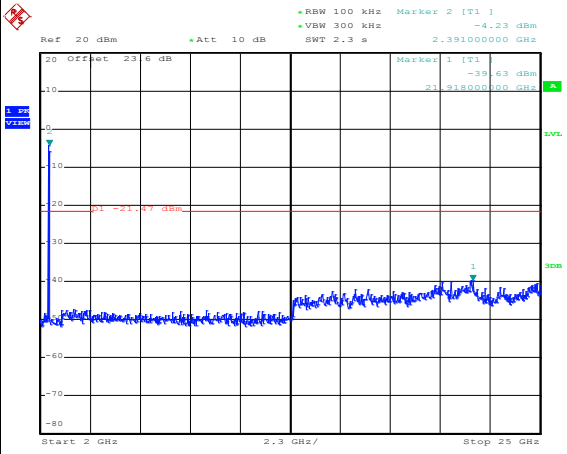
Date: 27.MAY.2017 14:36:55

Spurious Emission 30MHz~3GHz



Date: 27.MAY.2017 14:37:06

Spurious Emission 2GHz~25GHz

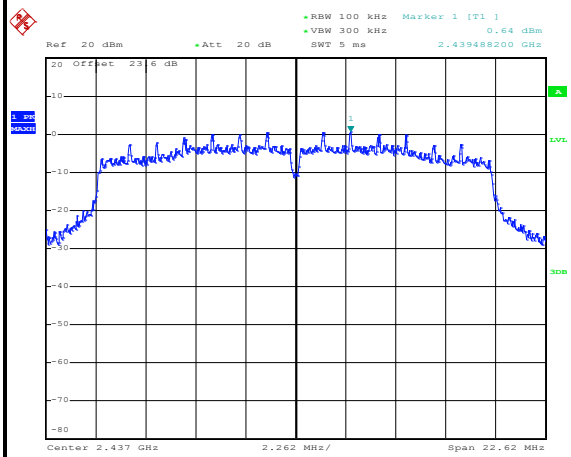


Date: 27.MAY.2017 14:37:15

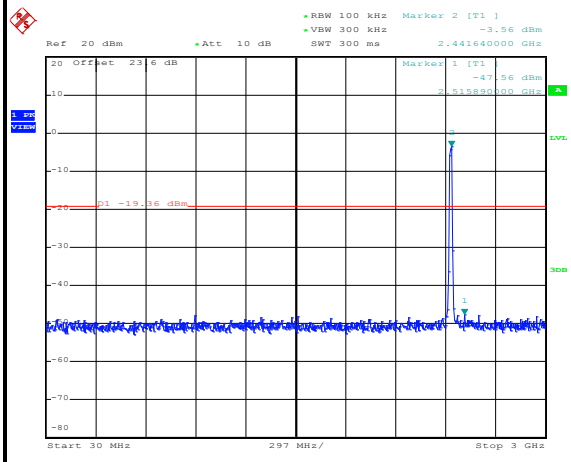
Number of TX :	2	**Ant. :**	2
Test Mode :	802.11n HT20	**Temperature :**	21~25℃
Test Band :	2.4GHz Mid	**Relative Humidity :**	51~54%
Test Channel :	06	**Test Engineer :**	Jeremy Lin

WLAN 802.11n HT20 Channel 06

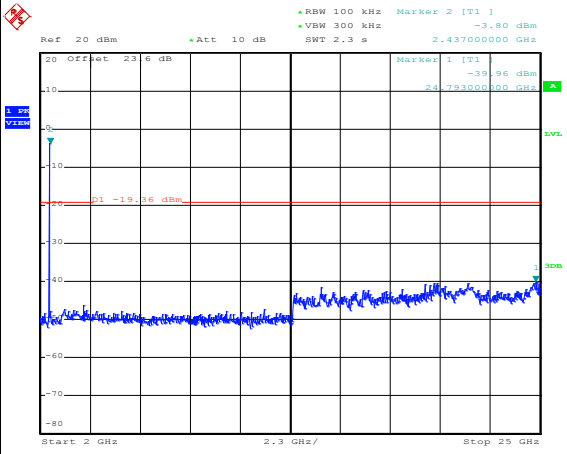
100kHz PSD reference Level



Spurious Emission 30MHz~3GHz



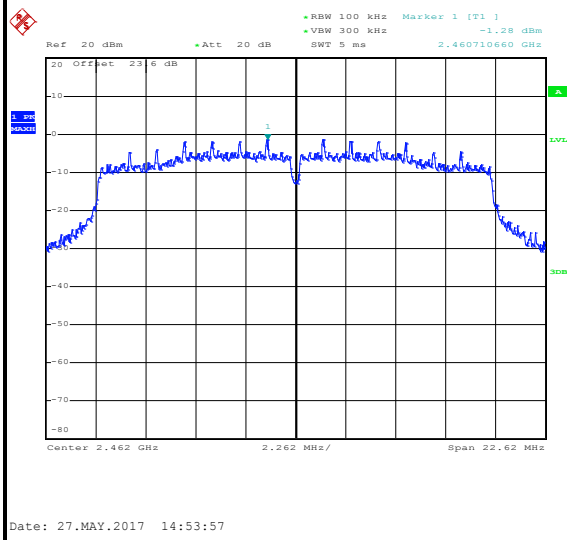
Spurious Emission 2GHz~25GHz



Number of TX :	2	**Ant. :**	2
Test Mode :	802.11n HT20	**Temperature :**	21~25℃
Test Band :	2.4GHz High	**Relative Humidity :**	51~54%
Test Channel :	11	**Test Engineer :**	Jeremy Lin

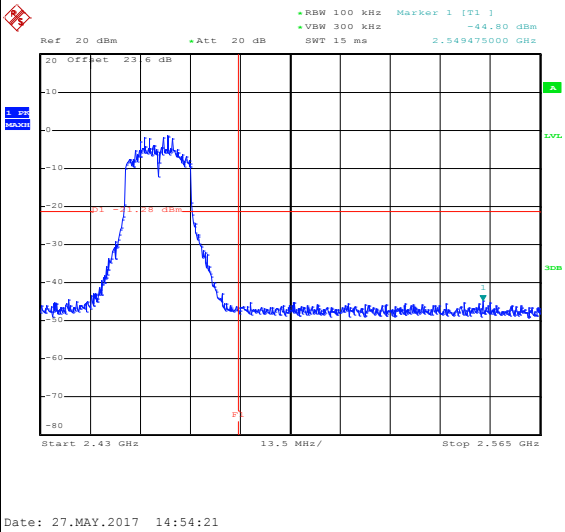
WLAN 802.11n HT20 Channel 11

100kHz PSD reference Level



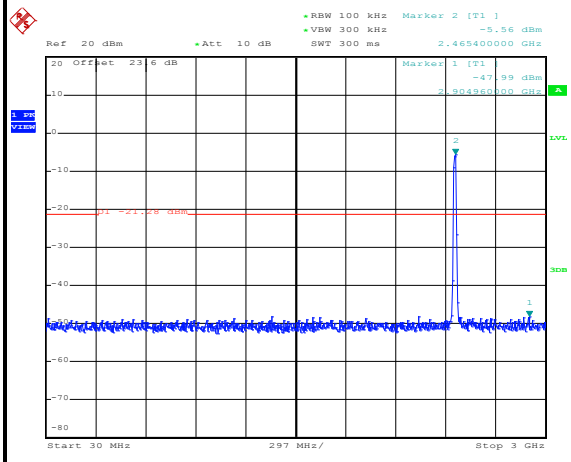
Date: 27.MAY.2017 14:53:57

High Channel Plot



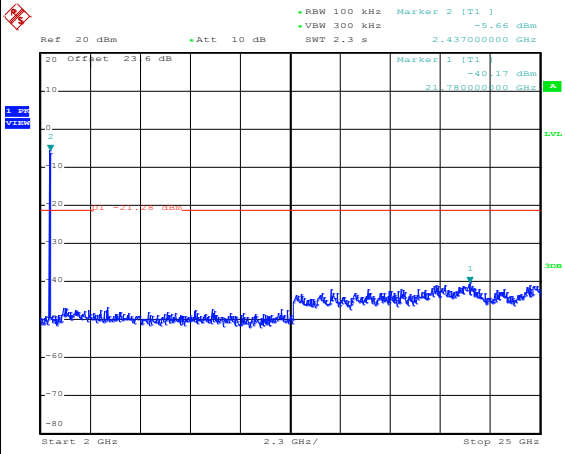
Date: 27.MAY.2017 14:54:21

Spurious Emission 30MHz~3GHz



Date: 27.MAY.2017 14:54:39

Spurious Emission 2GHz~25GHz

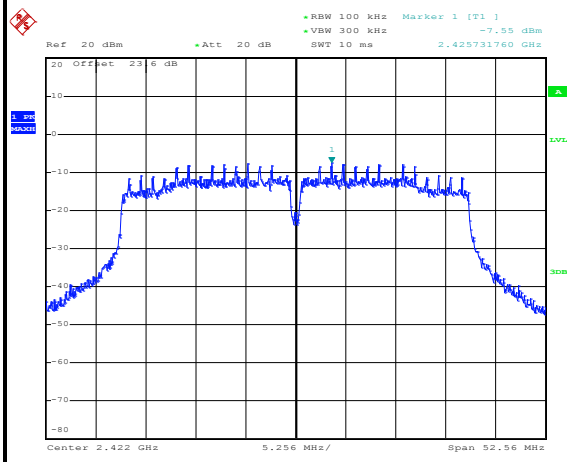


Date: 27.MAY.2017 14:54:48

Number of TX :	2	**Ant. :**	2
Test Mode :	802.11n HT40	**Temperature :**	21~25℃
Test Band :	2.4GHz Low	**Relative Humidity :**	51~54%
Test Channel :	03	**Test Engineer :**	Jeremy Lin

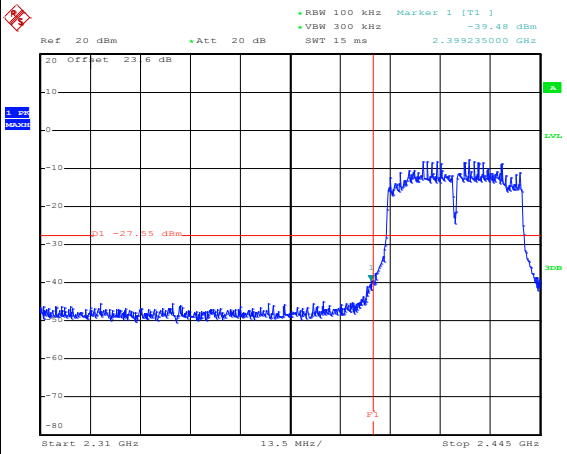
WLAN 802.11n HT40 Channel 03

100kHz PSD reference Level



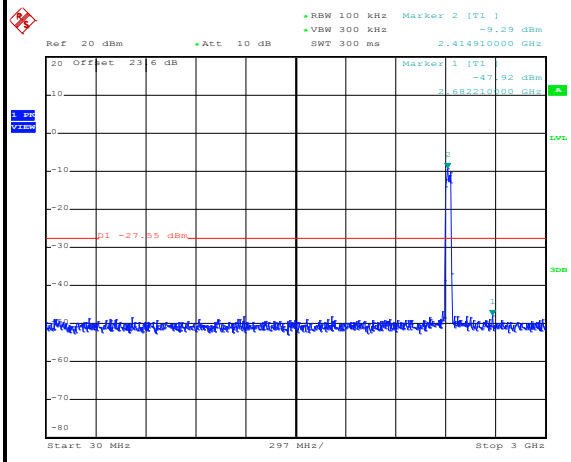
Date: 27.MAY.2017 16:00:30

Low Channel Plot



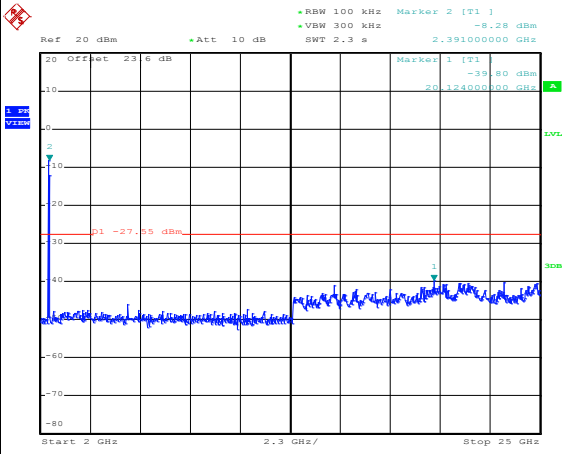
Date: 27.MAY.2017 16:00:47

Spurious Emission 30MHz~3GHz



Date: 27.MAY.2017 16:01:26

Spurious Emission 2GHz~25GHz

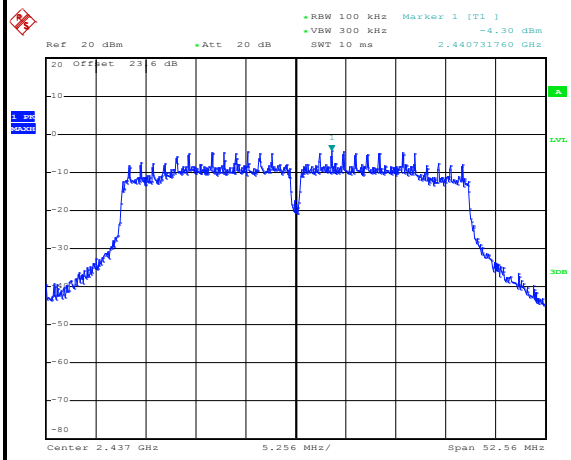


Date: 27.MAY.2017 16:01:35

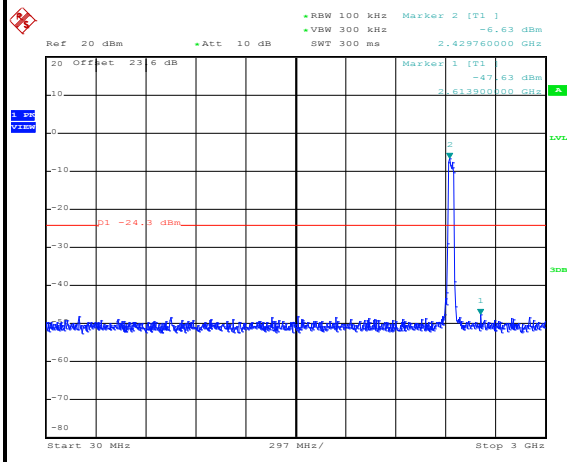
Number of TX :	2	**Ant. :**	2
Test Mode :	802.11n HT40	**Temperature :**	21~25℃
Test Band :	2.4GHz Mid	**Relative Humidity :**	51~54%
Test Channel :	06	**Test Engineer :**	Jeremy Lin

WLAN 802.11n HT40 Channel 06

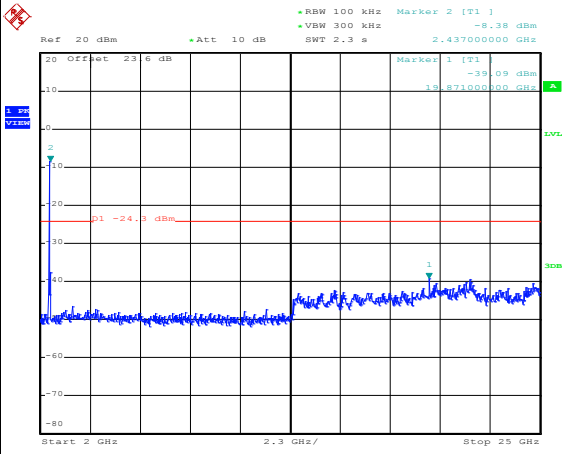
100kHz PSD reference Level



Spurious Emission 30MHz~3GHz



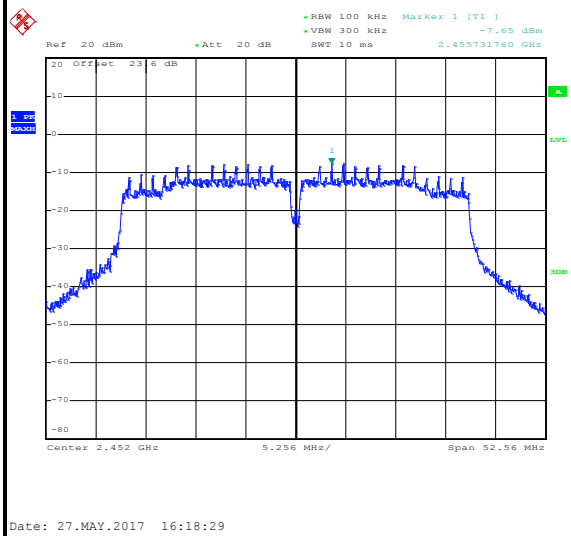
Spurious Emission 2GHz~25GHz



Number of TX :	2	**Ant. :**	2
Test Mode :	802.11n HT40	**Temperature :**	21~25℃
Test Band :	2.4GHz High	**Relative Humidity :**	51~54%
Test Channel :	09	**Test Engineer :**	Jeremy Lin

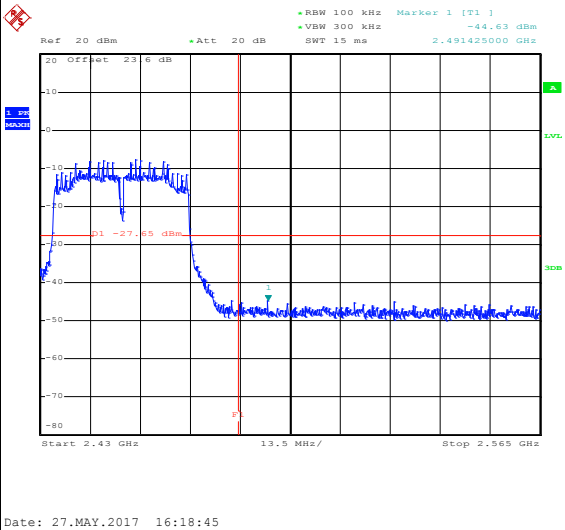
WLAN 802.11n HT40 Channel 09

100kHz PSD reference Level



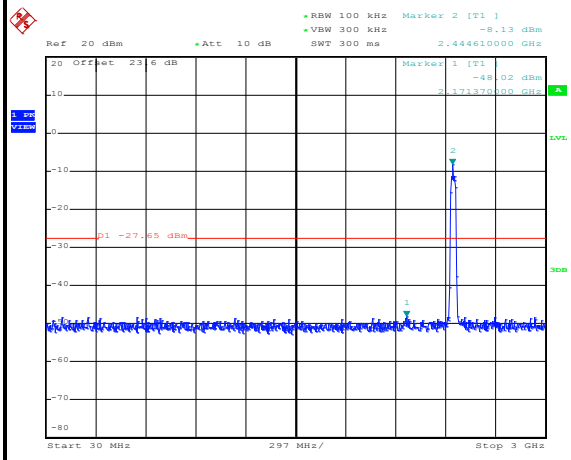
Date: 27.MAY.2017 16:18:29

High Channel Plot



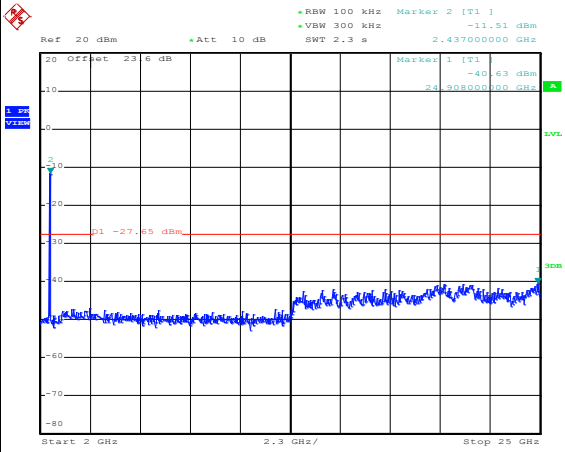
Date: 27.MAY.2017 16:18:45

Spurious Emission 30MHz~3GHz



Date: 27.MAY.2017 16:18:56

Spurious Emission 2GHz~25GHz



Date: 27.MAY.2017 16:19:04

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 limits as below.

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

3.5.2 Measuring Instruments

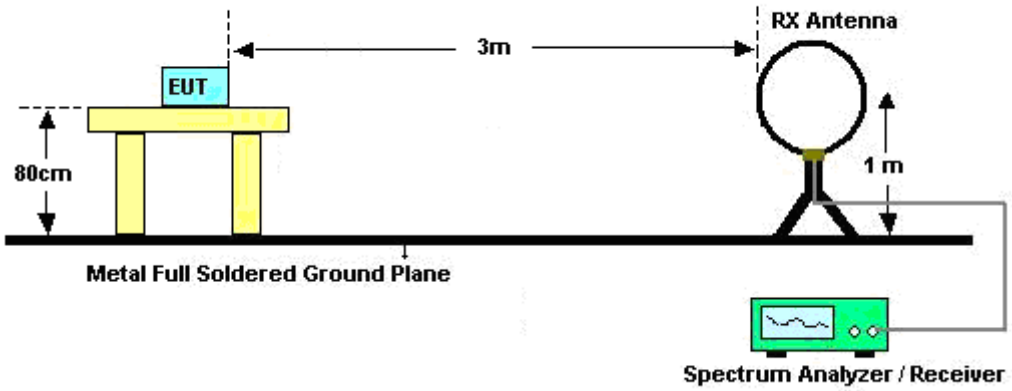
The measuring equipment is listed in the section 4 of this test report.

3.5.3 Test Procedures

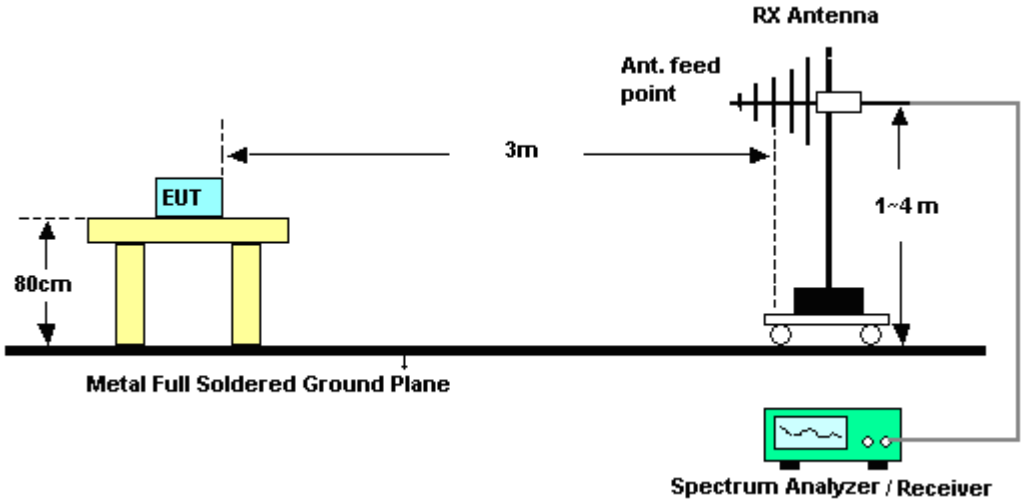
1. The testing follows FCC KDB Publication No. 558074 D01 DTS Meas. Guidance v04.
2. The EUT was arranged to its worst case and then tune the antenna tower (from 1 m to 4 m) and turntable (from 0 degree to 360 degrees) to find the maximum reading. A pre-amp and a high pass filter are used for the test in order to get better signal level.
3. The EUT was placed on a turntable with 0.8 meter for frequency below 1GHz and 1.5 meter for frequency above 1GHz respectively above ground.
4. The EUT was set 3 meters from the interference receiving antenna, which was mounted on the top of a variable height antenna tower.
5. Corrected Reading: Antenna Factor + Cable Loss + Read Level - Preamp Factor = Level
6. For measurement below 1GHz, If the emission level of the EUT measured by the peak detector is 3 dB lower than the applicable limit, the peak emission level will be reported. Otherwise, the emission measurement will be repeated using the quasi-peak detector and reported.
7. Use the following spectrum analyzer settings:
   (1) Span shall wide enough to fully capture the emission being measured;
   (2) Set RBW=100 kHz for f < 1 GHz; VBW ≥ RBW; Sweep = auto; Detector function = peak; Trace = max hold;
   (3) Set RBW = 1 MHz, VBW= 3MHz for f ≥ 1 GHz for peak measurement.
   For average measurement:
   - VBW = 10 Hz, when duty cycle is no less than 98 percent.
   - VBW ≥ 1/T, when duty cycle is less than 98 percent where T is the minimum transmission duration over which the transmitter is on and is transmitting at its maximum power control level for the tested mode of operation.

3.5.4 Test Setup

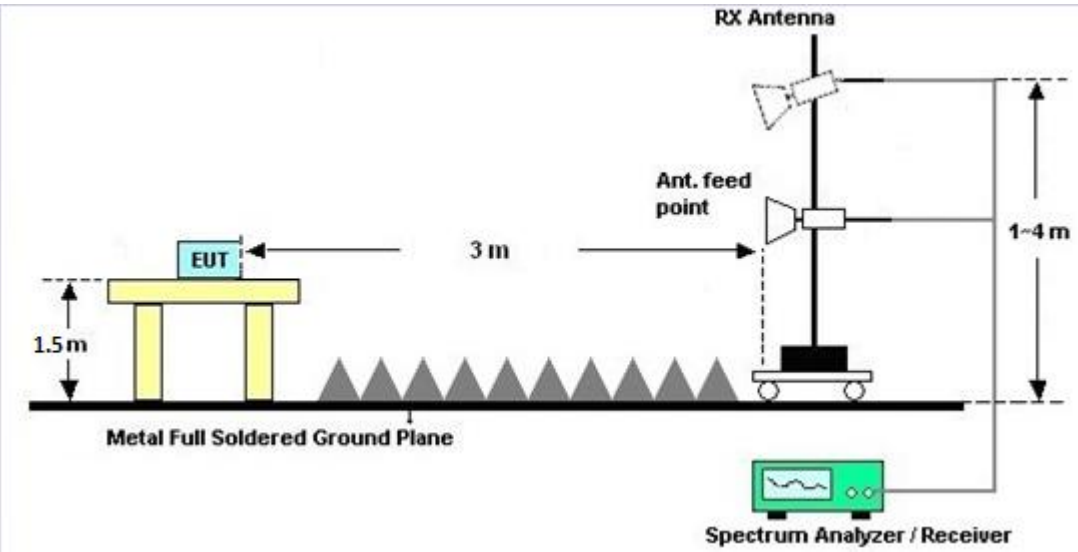
For radiated emissions below 30MHz



For radiated emissions from 30MHz to 1GHz



For radiated emissions above 1GHz



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

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

There is a comparison data of both open-field test site and semi-Anechoic chamber, and the result came out very similar.

3.5.6 Test Result of Radiated Spurious at Band Edges

Please refer to Appendix C and D.

3.5.7 Duty Cycle

Please refer to Appendix E.

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

Please refer to Appendix C and D.

3.6 AC Conducted Emission Measurement

3.6.1 Limit of AC Conducted Emission

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

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

*Decreases with the logarithm of the frequency.

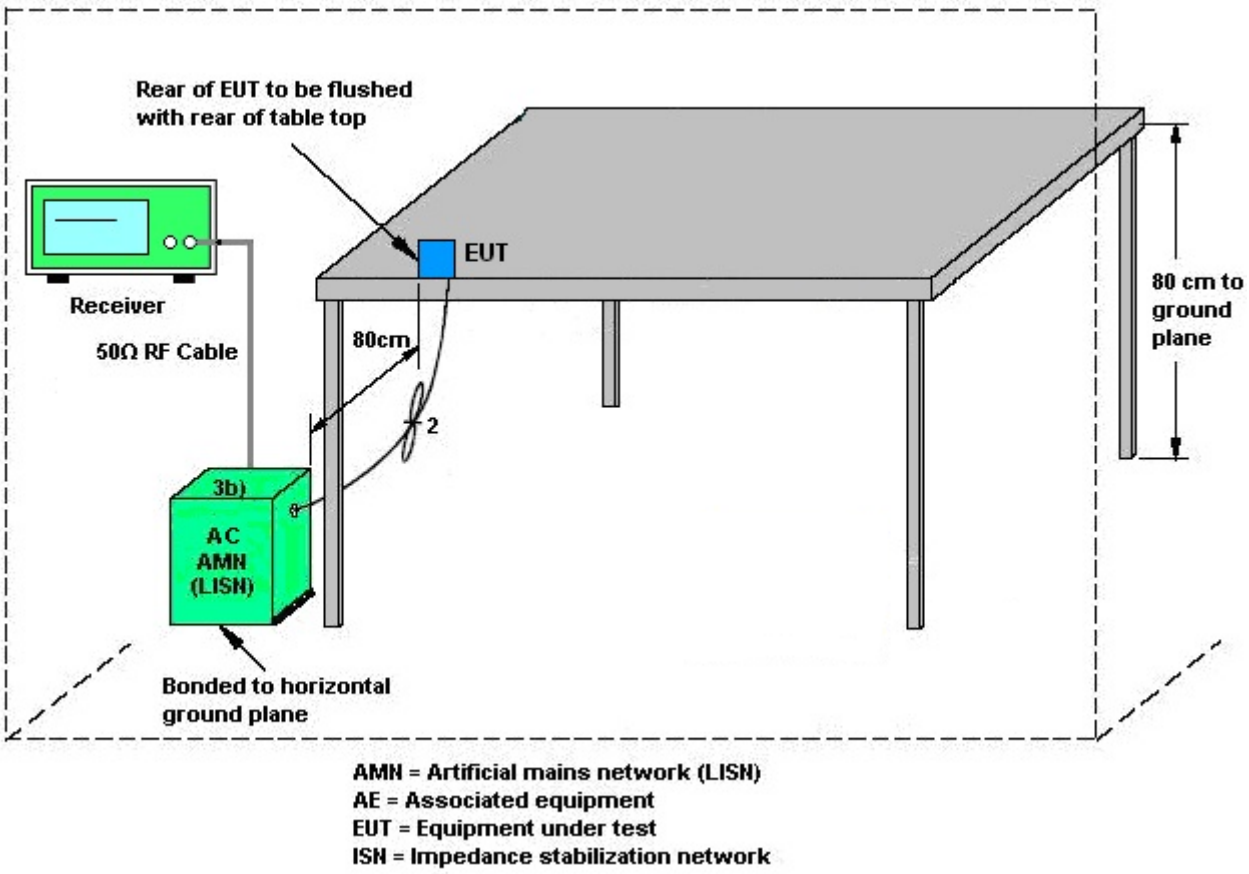
3.6.2 Measuring Instruments

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

3.6.3 Test Procedures

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

3.6.4 Test Setup



3.6.5 Test Result of AC Conducted Emission

Please refer to Appendix B.

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 rule.

3.7.2 Antenna Anti-Replacement Construction

An embedded-in antenna design is used.

3.7.3 Antenna Gain

FCC KDB 662911 D01 Multiple Transmitter Output v02r01

For CDD transmissions, directional gain is calculated as

Directional gain = G_{ANT} + Array Gain, where Array Gain is as follows.

For power spectral density (PSD) measurements on all devices,

Array Gain = 10 log(N_{ANT}/N_{SS}=1) dB.

For power measurements on IEEE 802.11 devices,

Array Gain = 0 dB (i.e., no array gain) for $N_{ANT} \leq 4$.

Directional gain may be calculated by using the formulas applicable to equal gain antennas with G_{ANT} set equal to the gain of the antenna having the highest gain;

The EUT supports CDD mode.

For power, the directional gain G_{ANT} is set equal to the antenna having the highest gain, i.e., F)2)f)i).

For PSD, the directional gain calculation is following F)2)f)ii) of KDB 662911 D01 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.

	Ant. 1 (dBi)	Ant. 2 (dBi)	DG for Power (dBi)	DG for PSD (dBi)	Power Limit Reduction (dB)	PSD Limit Reduction (dB)
2.4 GHz	6.00	6.00	6.00	9.01	0.00	3.01

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	0932001	300MHz~40GHz	Sep. 29, 2016	May 04, 2017 ~ Jun. 02, 2017	Sep. 28, 2017	Conducted (TH05-HY)
Power Sensor	Anritsu	MA2411B	0846202	300MHz~40GHz	Sep. 29, 2016	May 04, 2017 ~ Jun. 02, 2017	Sep. 28, 2017	Conducted (TH05-HY)
Spectrum Analyzer	Rohde & Schwarz	FSP40	100055	9kHz-40GHz	Jul. 17, 2016	May 04, 2017 ~ Jun. 02, 2017	Jul. 16, 2017	Conducted (TH05-HY)
AC Power Source	ChainTek	APC-1000W	N/A	N/A	N/A	May 20, 2017	N/A	Conduction (CO05-HY)
EMI Test Receiver	Rohde & Schwarz	ESCI 7	100724	9kHz~7GHz	Aug. 30, 2016	May 20, 2017	Aug. 29, 2017	Conduction (CO05-HY)
LISN	Rohde & Schwarz	ENV216	100080	9kHz~30MHz	Nov. 29, 2016	May 20, 2017	Nov. 28, 2017	Conduction (CO05-HY)
LISN	Rohde & Schwarz	ENV216	100081	9kHz~30MHz	Dec. 06, 2016	May 20, 2017	Dec. 05, 2017	Conduction (CO05-HY)
Spectrum Analyzer	Keysight	N9010A	MY54200486	10Hz ~ 44GHz	Oct. 12, 2016	May 12, 2017 ~ Jun. 21, 2017	Oct. 11, 2017	Radiation (03CH11-HY)
EMI Test Receiver	Agilent	N9038A(MXE)	MY53290053	20Hz to 26.5GHz	Jan. 12, 2017	May 12, 2017 ~ Jun. 21, 2017	Jan. 11, 2018	Radiation (03CH11-HY)
Loop Antenna	Rohde & Schwarz	HFH2-Z2	100488	9 kHz~30 MHz	Oct. 20, 2016	May 12, 2017 ~ Jun. 21, 2017	Oct. 19, 2018	Radiation (03CH11-HY)
Bilog Antenna	TESEQ	CBL 6111D&N-6-06	35414&AT-N0602	30MHz~1GHz	Oct. 15, 2016	May 12, 2017 ~ Jun. 21, 2017	Oct. 14, 2017	Radiation (03CH11-HY)
Horn Antenna	SCHWARZBECK	BBHA 9120 D	9120D-1326	1GHz ~ 18GHz	Oct. 07, 2016	May 12, 2017 ~ Jun. 21, 2017	Oct. 06, 2017	Radiation (03CH11-HY)
SHF-EHF Horn Antenna	SCHWARZBECK	BBHA 9170	BBHA9170584	18GHz- 40GHz	Nov. 08, 2016	May 12, 2017 ~ Jun. 21, 2017	Nov. 07, 2017	Radiation (03CH11-HY)
Amplifier	SONOMA	310N	187312	9kHz~1GHz	Nov. 10, 2016	May 12, 2017 ~ Jun. 21, 2017	Nov. 09, 2017	Radiation (03CH11-HY)
Preamplifier	Keysight	83017A	MY53270080	1GHz~26.5GHz	Nov. 10, 2016	May 12, 2017 ~ Jun. 21, 2017	Nov. 09, 2017	Radiation (03CH11-HY)
Preamplifier	MITEQ	AMF-7D-00101800	2025787	1GHz~18GHz	Feb. 13, 2017	May 12, 2017 ~ Jun. 21, 2017	Feb. 12, 2018	Radiation (03CH11-HY)
Preamplifier	MITEQ	TTA1840-35-HG	1871923	18GHz ~ 40GHz	Jul. 16, 2016	May 12, 2017 ~ Jun. 21, 2017	Jul. 15, 2017	Radiation (03CH11-HY)
Antenna Mast	EMEC	AM-BS-4500-B	N/A	1~4m	N/A	May 12, 2017 ~ Jun. 21, 2017	N/A	Radiation (03CH11-HY)
Turn Table	EMEC	TT 2000	N/A	0~360 Degree	N/A	May 12, 2017 ~ Jun. 21, 2017	N/A	Radiation (03CH11-HY)

5 Uncertainty of Evaluation

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

Measuring Uncertainty for a Level of Confidence of 95% (U = 2Uc(y))	**2.70**

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

Measuring Uncertainty for a Level of Confidence of 95% (U = 2Uc(y))	**5.2**

Uncertainty of Radiated Emission Measurement (1000 MHz ~ 18000 MHz)

Measuring Uncertainty for a Level of Confidence of 95% (U = 2Uc(y))	**5.5**

Uncertainty of Radiated Emission Measurement (18000 MHz ~ 40000 MHz)

Measuring Uncertainty for a Level of Confidence of 95% (U = 2Uc(y))	**5.2**

Appendix A. Test Result of Conducted Test Items

Test Engineer:	Jeremy Lin	Temperature:	21~25	°C
Test Date:	2017/05/04~2017/06/02	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	1	1	2412	13.05	12.75	9.08	9.08	0.50	Pass
11b	1Mbps	1	6	2437	12.95	12.75	9.08	9.08	0.50	Pass
11b	1Mbps	1	11	2462	12.95	12.85	9.08	9.08	0.50	Pass
11g	6Mbps	1	1	2412	17.50	17.45	15.12	15.08	0.50	Pass
11g	6Mbps	1	6	2437	17.55	17.50	15.08	15.12	0.50	Pass
11g	6Mbps	1	11	2462	17.45	17.20	15.10	15.08	0.50	Pass
HT20	MCS0	1	1	2412	18.50	18.35	15.00	15.08	0.50	Pass
HT20	MCS0	1	6	2437	18.40	18.55	15.08	15.12	0.50	Pass
HT20	MCS0	1	11	2462	18.60	18.35	15.08	15.12	0.50	Pass
HT40	MCS0	1	3	2422	36.40	36.30	35.04	35.04	0.50	Pass
HT40	MCS0	1	6	2437	36.30	36.30	35.04	35.12	0.50	Pass
HT40	MCS0	1	9	2452	36.30	36.30	35.04	35.12	0.50	Pass
11g	6Mbps	2	1	2412	17.60	17.35	15.12	15.00	0.50	Pass
11g	6Mbps	2	6	2437	17.45	17.35	15.00	15.04	0.50	Pass
11g	6Mbps	2	11	2462	17.45	17.40	15.70	15.08	0.50	Pass
HT20	MCS0	2	1	2412	18.50	18.45	15.08	15.08	0.50	Pass
HT20	MCS0	2	6	2437	18.60	18.70	15.08	15.08	0.50	Pass
HT20	MCS0	2	11	2462	18.55	18.40	15.12	15.08	0.50	Pass
HT40	MCS0	2	3	2422	36.30	36.20	35.08	35.04	0.50	Pass
HT40	MCS0	2	6	2437	36.20	36.30	35.04	35.04	0.50	Pass
HT40	MCS0	2	9	2452	36.30	36.30	35.32	35.04	0.50	Pass

Report Number : FR742622C

TEST RESULTS DATA
Peak Output Power

2.4GHz Band																
Mod.	Data Rate	NTX	CH.	Freq. (MHz)	Peak Conducted Power (dBm)			Conducted Power Limit (dBm)		DG (dBi)		EIRP Power (dBm)		EIRP Power Limit (dBm)		Pass /Fail
					Ant 1	Ant 2	SUM	Ant 1	Ant 2	Ant 1	Ant 2	Ant 1	Ant 2	Ant 1	Ant 2	
11b	1Mbps	1	1	2412	17.04	17.28		30.00	30.00	5.40	5.00	22.44	22.28	36.00	36.00	Pass
11b	1Mbps	1	6	2437	17.22	18.00		30.00	30.00	5.40	5.00	22.62	23.00	36.00	36.00	Pass
11b	1Mbps	1	11	2462	16.11	15.84		30.00	30.00	5.40	5.00	21.51	20.84	36.00	36.00	Pass
11g	6Mbps	1	1	2412	16.03	19.63		30.00	30.00	5.40	5.00	21.43	24.63	36.00	36.00	Pass
11g	6Mbps	1	6	2437	19.68	19.79		30.00	30.00	5.40	5.00	25.08	24.79	36.00	36.00	Pass
11g	6Mbps	1	11	2462	17.78	18.55		30.00	30.00	5.40	5.00	23.18	23.55	36.00	36.00	Pass
HT20	MCS0	1	1	2412	15.70	18.50		30.00	30.00	5.40	5.00	21.10	23.50	36.00	36.00	Pass
HT20	MCS0	1	6	2437	20.12	20.21		30.00	30.00	5.40	5.00	25.52	25.21	36.00	36.00	Pass
HT20	MCS0	1	11	2462	17.70	18.62		30.00	30.00	5.40	5.00	23.10	23.62	36.00	36.00	Pass
HT40	MCS0	1	3	2422	11.57	13.44		30.00	30.00	5.40	5.00	16.97	18.44	36.00	36.00	Pass
HT40	MCS0	1	6	2437	15.62	17.90		30.00	30.00	5.40	5.00	21.02	22.90	36.00	36.00	Pass
HT40	MCS0	1	9	2452	12.20	14.13		30.00	30.00	5.40	5.00	17.60	19.13	36.00	36.00	Pass
11g	6Mbps	2	1	2412	16.65	16.42	19.55	30.00		5.40		24.95		36.00		Pass
11g	6Mbps	2	6	2437	16.51	15.73	19.15	30.00		5.40		24.55		36.00		Pass
11g	6Mbps	2	11	2462	15.11	14.93	18.03	30.00		5.40		23.43		36.00		Pass
HT20	MCS0	2	1	2412	15.16	15.30	18.24	30.00		5.40		23.64		36.00		Pass
HT20	MCS0	2	6	2437	17.02	16.79	19.92	30.00		5.40		25.32		36.00		Pass
HT20	MCS0	2	11	2462	15.45	15.36	18.42	30.00		5.40		23.82		36.00		Pass
HT40	MCS0	2	3	2422	11.18	10.35	13.80	30.00		5.40		19.20		36.00		Pass
HT40	MCS0	2	6	2437	14.82	14.90	17.87	30.00		5.40		23.27		36.00		Pass
HT40	MCS0	2	9	2452	11.91	11.41	14.68	30.00		5.40		20.08		36.00		Pass

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

TEST RESULTS DATA
Average Output Power

2.4GHz Band									
Mod.	Data Rate	NTX	CH.	Freq. (MHz)	Duty Factor (dB)		Average Conducted Power (dBm)		
					Ant 1	Ant 2	Ant 1	Ant 2	SUM
11b	1Mbps	1	1	2412	0.06	0.06	13.98	14.01	
11b	1Mbps	1	6	2437	0.06	0.06	14.16	14.36	
11b	1Mbps	1	11	2462	0.06	0.06	12.98	12.74	
11g	6Mbps	1	1	2412	0.08	0.08	10.99	14.33	
11g	6Mbps	1	6	2437	0.08	0.08	14.49	14.44	
11g	6Mbps	1	11	2462	0.08	0.08	12.51	12.98	
HT20	MCS0	1	1	2412	0.07	0.07	10.47	12.94	
HT20	MCS0	1	6	2437	0.07	0.07	14.86	14.77	
HT20	MCS0	1	11	2462	0.07	0.07	12.42	12.98	
HT40	MCS0	1	3	2422	0.15	0.15	6.70	8.74	
HT40	MCS0	1	6	2437	0.15	0.15	11.18	12.74	
HT40	MCS0	1	9	2452	0.15	0.15	7.43	9.54	
11g	6Mbps	2	1	2412	0.08	0.08	11.41	11.10	14.27
11g	6Mbps	2	6	2437	0.08	0.08	11.59	10.54	14.11
11g	6Mbps	2	11	2462	0.08	0.08	9.92	9.72	12.84
HT20	MCS0	2	1	2412	0.07	0.07	9.93	9.95	12.95
HT20	MCS0	2	6	2437	0.07	0.07	11.70	11.32	14.52
HT20	MCS0	2	11	2462	0.07	0.07	10.14	9.80	12.98
HT40	MCS0	2	3	2422	0.15	0.15	6.30	5.41	8.88
HT40	MCS0	2	6	2437	0.15	0.15	10.40	10.23	13.32
HT40	MCS0	2	9	2452	0.15	0.15	7.18	6.65	9.93

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

Report Number : FR742622C

TEST RESULTS DATA
Peak Power Spectral Density

2.4GHz Band												
Mod.	Data Rate	NTX	CH.	Freq. (MHz)	Peak PSD (dBm/3kHz)			DG (dBi)		Peak PSD Limit (dBm/3kHz)		Pass/Fail
					Ant 1	Ant 2	Worse + 3.01	Ant 1	Ant 2	Ant 1	Ant 2	
11b	1Mbps	1	1	2412	-12.07	-11.35		5.40	5.00	8.00	8.00	Pass
11b	1Mbps	1	6	2437	-10.64	-10.42		5.40	5.00	8.00	8.00	Pass
11b	1Mbps	1	11	2462	-12.24	-12.48		5.40	5.00	8.00	8.00	Pass
11g	6Mbps	1	1	2412	-15.53	-11.82		5.40	5.00	8.00	8.00	Pass
11g	6Mbps	1	6	2437	-12.04	-11.91		5.40	5.00	8.00	8.00	Pass
11g	6Mbps	1	11	2462	-13.89	-12.05		5.40	5.00	8.00	8.00	Pass
HT20	MCS0	1	1	2412	-16.20	-13.18	-	5.40	5.00	8.00	8.00	Pass
HT20	MCS0	1	6	2437	-11.56	-10.50		5.40	5.00	8.00	8.00	Pass
HT20	MCS0	1	11	2462	-12.49	-13.34		5.40	5.00	8.00	8.00	Pass
HT40	MCS0	1	3	2422	-23.41	-20.53		5.40	5.00	8.00	8.00	Pass
HT40	MCS0	1	6	2437	-16.63	-14.73		5.40	5.00	8.00	8.00	Pass
HT40	MCS0	1	9	2452	-20.20	-18.99		5.40	5.00	8.00	8.00	Pass
11g	6Mbps	2	1	2412	-14.41	-14.78	-11.40	8.21		5.79		Pass
11g	6Mbps	2	6	2437	-14.41	-14.81	-11.40	8.21		5.79		Pass
11g	6Mbps	2	11	2462	-16.56	-16.56	-13.55	8.21		5.79		Pass
HT20	MCS0	2	1	2412	-15.88	-16.42	-12.87	8.21		5.79		Pass
HT20	MCS0	2	6	2437	-13.27	-12.52	-9.51	8.21		5.79		Pass
HT20	MCS0	2	11	2462	-15.96	-15.88	-12.87	8.21		5.79		Pass
HT40	MCS0	2	3	2422	-21.66	-23.28	-18.65	8.21		5.79		Pass
HT40	MCS0	2	6	2437	-18.58	-18.88	-15.57	8.21		5.79		Pass
HT40	MCS0	2	9	2452	-23.06	-22.58	-19.57	8.21		5.79		Pass

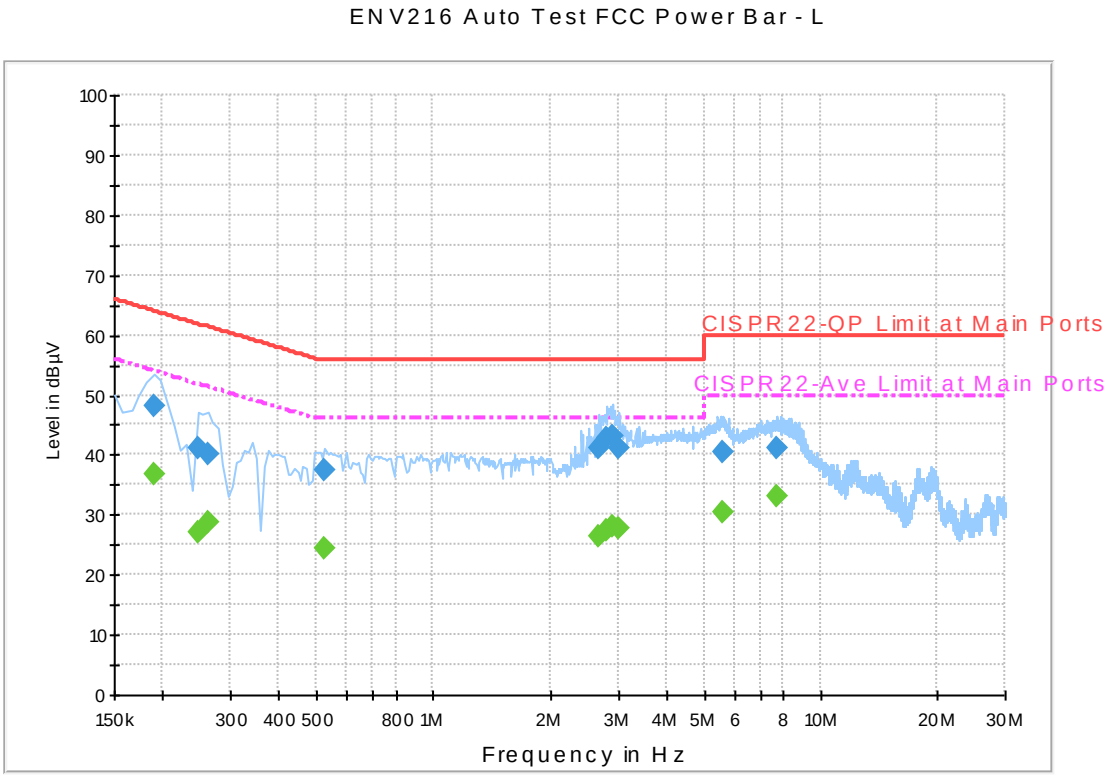
Measured power density (dBm) has offset with cable loss.

Appendix B. AC Conducted Emission Test Results

Test Engineer :	Eric Jeng	**Temperature :**	22~25℃
		Relative Humidity :	51~54%

EUT Information

Report NO :	742622
Test Mode :	Mode 1
Test Voltage :	120Vac/60Hz
Phase :	Line



Final Result 1

Frequency (MHz)	QuasiPeak (dBµV)	Filter	Line	Corr. (dB)	Margin (dB)	Limit (dBµV)
0.190000	48.3	Off	L1	19.6	15.7	64.0
0.246000	41.1	Off	L1	19.6	20.8	61.9
0.262000	40.2	Off	L1	19.6	21.2	61.4
0.526000	37.3	Off	L1	19.6	18.7	56.0
2.686000	41.0	Off	L1	19.4	15.0	56.0
2.814000	42.9	Off	L1	19.5	13.1	56.0
2.902000	43.2	Off	L1	19.5	12.8	56.0
3.030000	41.0	Off	L1	19.6	15.0	56.0
5.630000	40.5	Off	L1	19.8	19.5	60.0
7.694000	41.0	Off	L1	19.9	19.0	60.0

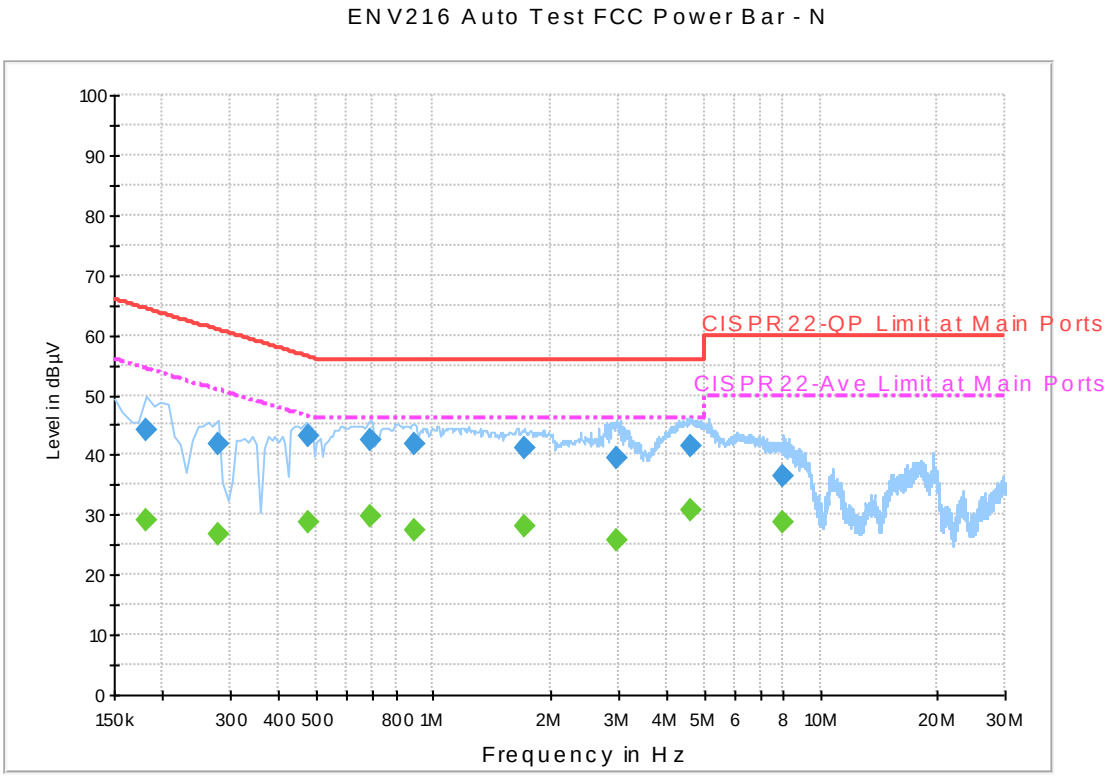
Final Result 2

Frequency (MHz)	Average (dBµV)	Filter	Line	Corr. (dB)	Margin (dB)	Limit (dBµV)
0.190000	36.7	Off	L1	19.6	17.3	54.0
0.246000	27.1	Off	L1	19.6	24.8	51.9
0.262000	28.9	Off	L1	19.6	22.5	51.4
0.526000	24.5	Off	L1	19.6	21.5	46.0
2.686000	26.3	Off	L1	19.4	19.7	46.0
2.814000	27.3	Off	L1	19.5	18.7	46.0
2.902000	28.1	Off	L1	19.5	17.9	46.0
3.030000	27.7	Off	L1	19.6	18.3	46.0
5.630000	30.6	Off	L1	19.8	19.4	50.0

7.694000	**33.2**	**Off**	**L1**	**19.9**	**16.8**	**50.0**

EUT Information

Report NO :	742622
Test Mode :	Mode 1
Test Voltage :	120Vac/60Hz
Phase :	Neutral



Final Result 1

Frequency (MHz)	QuasiPeak (dBµV)	Filter	Line	Corr. (dB)	Margin (dB)	Limit (dBµV)
0.182000	44.3	Off	N	19.5	20.1	64.4
0.278000	41.8	Off	N	19.5	19.1	60.9
0.478000	43.0	Off	N	19.5	13.4	56.4
0.686000	42.5	Off	N	19.5	13.5	56.0
0.894000	41.7	Off	N	19.5	14.3	56.0
1.718000	41.1	Off	N	19.6	14.9	56.0
2.990000	39.5	Off	N	19.5	16.5	56.0
4.654000	41.5	Off	N	19.7	14.5	56.0
8.046000	36.5	Off	N	19.9	23.5	60.0

Final Result 2

Frequency (MHz)	Average (dBµV)	Filter	Line	Corr. (dB)	Margin (dB)	Limit (dBµV)
0.182000	29.2	Off	N	19.5	25.2	54.4
0.278000	26.7	Off	N	19.5	24.2	50.9
0.478000	28.8	Off	N	19.5	17.6	46.4
0.686000	29.8	Off	N	19.5	16.2	46.0
0.894000	27.5	Off	N	19.5	18.5	46.0
1.718000	27.9	Off	N	19.6	18.1	46.0
2.990000	25.6	Off	N	19.5	20.4	46.0
4.654000	30.9	Off	N	19.7	15.1	46.0
8.046000	28.6	Off	N	19.9	21.4	50.0

Appendix C. Radiated Spurious Emission

Test Engineer :	J.C. Liang, Jacky Hung and Ken Wu	Temperature :	20~23°C
		Relative Humidity :	58~63%

2.4GHz 2400~2483.5MHz

WIFI 802.11b (Band Edge @ 3m)

WIFI	Note	Frequency	Level	Over	Limit	Read	Antenna	Cable	Preamp	Ant	Table	Peak	Pol.
Ant.				Limit	Line	Level	Factor	Loss	Factor	Pos	Pos	Avg.	
1		(MHz)	(dBμV/m)	(dB)	(dBμV/m)	(dBμV)	(dB/m)	(dB)	(dB)	(cm)	(deg)	(P/A)	(H/V)
802.11b CH 01 2412MHz		2387.385	56.48	-17.52	74	46.96	26.87	6.32	33.6	183	117	P	H
		2389.275	49.67	-4.33	54	40.15	26.87	6.32	33.6	183	117	A	H
	*	2412	108.27	-	-	98.64	26.92	6.37	33.59	183	117	P	H
	*	2412	104.56	-	-	94.93	26.92	6.37	33.59	183	117	A	H
		2387.07	54.46	-19.54	74	44.94	26.87	6.32	33.6	275	94	P	V
		2385.075	46.78	-7.22	54	37.32	26.81	6.32	33.6	275	94	A	V
	*	2412	102.53	-	-	92.9	26.92	6.37	33.59	275	94	P	V
	*	2412	98.93	-	-	89.3	26.92	6.37	33.59	275	94	A	V
802.11b CH 06 2437MHz		2389.38	54.82	-19.18	74	45.3	26.87	6.32	33.6	197	119	P	H
		2389.66	46.24	-7.76	54	36.72	26.87	6.32	33.6	197	119	A	H
	*	2437	108.93	-	-	99.19	27.03	6.37	33.59	197	119	P	H
	*	2437	105.34	-	-	95.6	27.03	6.37	33.59	197	119	A	H
		2487.82	55.01	-18.99	74	45.07	27.2	6.39	33.58	197	119	P	H
		2487.19	45.97	-8.03	54	36.09	27.14	6.39	33.58	197	119	A	H
		2388.96	52.4	-21.6	74	42.88	26.87	6.32	33.6	306	89	P	V
		2389.66	43.24	-10.76	54	33.72	26.87	6.32	33.6	306	89	A	V
	*	2437	103.33	-	-	93.59	27.03	6.37	33.59	306	89	P	V
	*	2437	99.78	-	-	90.04	27.03	6.37	33.59	306	89	A	V
		2496.71	53.69	-20.31	74	43.74	27.2	6.39	33.57	306	89	P	V
		2487.19	43.17	-10.83	54	33.29	27.14	6.39	33.58	306	89	A	V

802.11b CH 11 2462MHz	*	2462	109.17	-	-	99.35	27.09	6.38	33.58	186	121	P	H
	*	2462	105.63	-	-	95.81	27.09	6.38	33.58	186	121	A	H
		2485.12	57.14	-16.86	74	47.26	27.14	6.39	33.58	186	121	P	H
		2483.52	49.63	-4.37	54	39.75	27.14	6.39	33.58	186	121	A	H
	*	2462	104.03	-	-	94.21	27.09	6.38	33.58	287	92	P	V
	*	2462	100.35	-	-	90.53	27.09	6.38	33.58	287	92	A	V
		2493.84	54.03	-19.97	74	44.08	27.2	6.39	33.57	287	92	P	V
		2483.52	44.9	-9.1	54	35.02	27.14	6.39	33.58	287	92	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	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	40.78	-33.22	74	63.57	31.62	9.9	64.74	100	0	P	H
		4824	40.05	-33.95	74	62.84	31.62	9.9	64.74	100	0	P	V
802.11b CH 06 2437MHz		4874	41.73	-32.27	74	64.44	31.71	9.85	64.7	100	0	P	H
		7311	49.11	-24.89	74	64.39	37.43	11.65	64.82	100	0	P	H
		4874	40.38	-33.62	74	63.09	31.71	9.85	64.7	100	0	P	V
		7311	44.86	-29.14	74	60.14	37.43	11.65	64.82	100	0	P	V
802.11b CH 11 2462MHz		4924	41.82	-32.18	74	64.42	31.79	9.83	64.66	100	0	P	H
		7386	46.67	-27.33	74	61.69	37.82	11.64	64.86	100	0	P	H
		4924	41.41	-32.59	74	64.01	31.79	9.83	64.66	100	0	P	V
		7386	44.73	-29.27	74	59.75	37.82	11.64	64.86	100	0	P	V
Remark	1. No other spurious found. 2. All results are PASS against Peak and Average limit line.												

2.4GHz 2400~2483.5MHz

WIFI 802.11g (Band Edge @ 3m)

WIFI Ant. 1	Note	Frequency (MHz)	Level (dBµV/m)	Over Limit (dB)	Limit Line (dBµV/m)	Read Level (dBµV)	Antenna Factor (dB/m)	Cable Loss (dB)	Preamp Factor (dB)	Ant Pos (cm)	Table Pos (deg)	Peak Avg. (P/A)	Pol. (H/V)
802.11g CH 01 2412MHz		2389.905	63.77	-10.23	74	54.24	26.87	6.32	33.59	188	120	P	H
		2390	50.46	-3.54	54	40.93	26.87	6.32	33.59	188	120	A	H
	*	2412	107.75	-	-	98.12	26.92	6.37	33.59	188	120	P	H
	*	2412	99.35	-	-	89.72	26.92	6.37	33.59	188	120	A	H
		2389.695	58.47	-15.53	74	48.95	26.87	6.32	33.6	293	93	P	V
		2390	47.19	-6.81	54	37.66	26.87	6.32	33.59	293	93	A	V
	*	2412	102.27	-	-	92.64	26.92	6.37	33.59	293	93	P	V
	*	2412	93.67	-	-	84.04	26.92	6.37	33.59	293	93	A	V
802.11g CH 02 2417MHz		2389.94	60.88	-13.12	74	51.35	26.87	6.32	33.59	187	120	P	H
		2389.94	48.79	-5.21	54	39.26	26.87	6.32	33.59	187	120	A	H
	*	2417	109.09	-	-	99.46	26.92	6.37	33.59	187	120	P	H
	*	2417	100.54	-	-	90.91	26.92	6.37	33.59	187	120	A	H
		2388.82	55.75	-18.25	74	46.23	26.87	6.32	33.6	305	90	P	V
		2389.94	45.16	-8.84	54	35.63	26.87	6.32	33.59	305	90	A	V
	*	2417	103.34	-	-	93.71	26.92	6.37	33.59	305	90	P	V
	*	2417	94.69	-	-	85.06	26.92	6.37	33.59	305	90	A	V

802.11g CH 06 2437MHz		2385.18	57.63	-16.37	74	48.17	26.81	6.32	33.6	198	119	P	H
		2389.94	47.13	-6.87	54	37.6	26.87	6.32	33.59	198	119	A	H
	*	2437	111.12	-	-	101.38	27.03	6.37	33.59	198	119	P	H
	*	2437	102.63	-	-	92.89	27.03	6.37	33.59	198	119	A	H
		2491.88	57.79	-16.21	74	47.84	27.2	6.39	33.57	198	119	P	H
		2483.55	47.34	-6.66	54	37.46	27.14	6.39	33.58	198	119	A	H
		2388.82	53.77	-20.23	74	44.25	26.87	6.32	33.6	297	90	P	V
		2388.82	43.69	-10.31	54	34.17	26.87	6.32	33.6	297	90	A	V
	*	2437	105.72	-	-	96.03	26.98	6.37	33.59	297	90	P	V
	*	2437	97.16	-	-	87.47	26.98	6.37	33.59	297	90	A	V
		2491.53	54.5	-19.5	74	44.56	27.2	6.39	33.58	297	90	P	V
		2494.89	43.6	-10.4	54	33.65	27.2	6.39	33.57	297	90	A	V
802.11g CH 10 2447MHz	*	2457	110.04	-	-	100.22	27.09	6.38	33.58	183	119	P	H
	*	2457	101.36	-	-	91.54	27.09	6.38	33.58	183	119	A	H
		2483.76	60.81	-13.19	74	50.93	27.14	6.39	33.58	183	119	P	H
		2483.5	49.49	-4.51	54	39.61	27.14	6.39	33.58	183	119	A	H
	*	2457	104.98	-	-	95.16	27.09	6.38	33.58	305	102	P	V
	*	2457	96.21	-	-	86.39	27.09	6.38	33.58	305	102	A	V
		2488.17	56.65	-17.35	74	46.71	27.2	6.39	33.58	305	102	P	V
		2483.5	46.51	-7.49	54	36.63	27.14	6.39	33.58	305	102	A	V
802.11g CH 11 2462MHz	*	2462	108.77	-	-	98.95	27.09	6.38	33.58	192	117	P	H
	*	2462	100.08	-	-	90.26	27.09	6.38	33.58	192	117	A	H
		2484.04	62.74	-11.26	74	52.86	27.14	6.39	33.58	192	117	P	H
		2483.52	49.32	-4.68	54	39.44	27.14	6.39	33.58	192	117	A	H
	*	2462	103.83	-	-	94.01	27.09	6.38	33.58	283	93	P	V
	*	2462	94.92	-	-	85.1	27.09	6.38	33.58	283	93	A	V
		2484.68	56.93	-17.07	74	47.05	27.14	6.39	33.58	283	93	P	V
		2483.52	45.05	-8.95	54	35.17	27.14	6.39	33.58	283	93	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	Note	Frequency (MHz)	Level (dBµV/m)	Over Limit (dB)	Limit Line (dBµV/m)	Read Level (dBµV)	Antenna Factor (dB/m)	Cable Loss (dB)	Preamp Factor (dB)	Ant Pos (cm)	Table Pos (deg)	Peak Avg. (P/A)	Pol. (H/V)
802.11g CH 01 2412MHz		4824	41.42	-32.58	74	64.21	31.62	9.9	64.74	100	0	P	H
		4824	42.1	-31.9	74	64.89	31.62	9.9	64.74	100	0	P	V
802.11g CH 06 2437MHz		4874	42.35	-31.65	74	65.06	31.71	9.85	64.7	100	0	P	H
		7311	48.36	-25.64	74	63.64	37.43	11.65	64.82	100	0	P	H
		4874	40.5	-33.5	74	63.21	31.71	9.85	64.7	100	0	P	V
		7311	43.89	-30.11	74	59.17	37.43	11.65	64.82	100	0	P	V
802.11g CH 11 2462MHz		4924	40.79	-33.21	74	63.39	31.79	9.83	64.66	100	0	P	H
		7386	44.48	-29.52	74	59.5	37.82	11.64	64.86	100	0	P	H
		4924	40.82	-33.18	74	63.42	31.79	9.83	64.66	100	0	P	V
		7386	44.06	-29.94	74	59.08	37.82	11.64	64.86	100	0	P	V
Remark	1. No other spurious found. 2. All results are PASS against Peak and Average limit line.												

2.4GHz 2400~2483.5MHz

WIFI 802.11n HT20 (Band Edge @ 3m)

WIFI Ant. 1	Note	Frequency (MHz)	Level (dBμV/m)	Over Limit (dB)	Limit Line (dBμV/m)	Read Level (dBμV)	Antenna Factor (dB/m)	Cable Loss (dB)	Preamp Factor (dB)	Ant Pos (cm)	Table Pos (deg)	Peak Avg. (P/A)	Pol. (H/V)
		2390	62.08	-11.92	74	52.55	26.87	6.32	33.59	171	120	P	H
		2390	50.87	-3.13	54	41.34	26.87	6.32	33.59	171	120	A	H
802.11n	*	2412	107.42	-	-	97.79	26.92	6.37	33.59	171	120	P	H
HT20	*	2412	98.66	-	-	89.03	26.92	6.37	33.59	171	120	A	H
CH 01		2389.59	59.23	-14.77	74	49.71	26.87	6.32	33.6	291	94	P	V
2412MHz		2390	46.94	-7.06	54	37.41	26.87	6.32	33.59	291	94	A	V
	*	2412	101.27	-	-	91.64	26.92	6.37	33.59	291	94	P	V
	*	2412	92.55	-	-	82.92	26.92	6.37	33.59	291	94	A	V
		2389.1	60.6	-13.4	74	51.08	26.87	6.32	33.6	173	122	P	H
		2389.94	50.93	-3.07	54	41.4	26.87	6.32	33.59	173	122	A	H
802.11n	*	2417	109.02	-	-	99.39	26.92	6.37	33.59	173	122	P	H
HT20	*	2417	100.6	-	-	90.97	26.92	6.37	33.59	173	122	A	H
CH 02		2389.24	58.18	-15.82	74	48.66	26.87	6.32	33.6	301	89	P	V
2417MHz		2389.94	46.68	-7.32	54	37.15	26.87	6.32	33.59	301	89	A	V
	*	2417	103.57	-	-	93.94	26.92	6.37	33.59	301	89	P	V
	*	2417	95.02	-	-	85.39	26.92	6.37	33.59	301	89	A	V

		2388.54	58.65	-15.35	74	49.13	26.87	6.32	33.6	198	118	P	H
		2389.8	47.67	-6.33	54	38.14	26.87	6.32	33.59	198	118	A	H
	*	2437	111.55	-	-	101.81	27.03	6.37	33.59	198	118	P	H
	*	2437	102.99	-	-	93.25	27.03	6.37	33.59	198	118	A	H
802.11n		2483.97	59.21	-14.79	74	49.33	27.14	6.39	33.58	198	118	P	H
HT20		2483.5	48.11	-5.89	54	38.23	27.14	6.39	33.58	198	118	A	H
CH 06		2378.88	54.85	-19.15	74	45.39	26.81	6.32	33.6	298	93	P	V
2437MHz		2389.38	44.15	-9.85	54	34.63	26.87	6.32	33.6	298	93	A	V
	*	2437	106.03	-	-	96.29	27.03	6.37	33.59	298	93	P	V
	*	2437	97.55	-	-	87.81	27.03	6.37	33.59	298	93	A	V
		2499.65	54.2	-19.8	74	44.25	27.2	6.39	33.57	298	93	P	V
		2492.72	43.95	-10.05	54	34	27.2	6.39	33.57	298	93	A	V
	*	2457	109.81	-	-	99.99	27.09	6.38	33.58	187	120	P	H
	*	2457	101	-	-	91.18	27.09	6.38	33.58	187	120	A	H
802.11n		2485.51	61.84	-12.16	74	51.96	27.14	6.39	33.58	187	120	P	H
HT20		2483.5	50.69	-3.31	54	40.81	27.14	6.39	33.58	187	120	A	H
CH 10	*	2457	104.53	-	-	94.71	27.09	6.38	33.58	285	89	P	V
2457MHz	*	2457	96.25	-	-	86.43	27.09	6.38	33.58	285	89	A	V
		2490.13	56.66	-17.34	74	46.72	27.2	6.39	33.58	285	89	P	V
		2483.5	45.55	-8.45	54	35.67	27.14	6.39	33.58	285	89	A	V
	*	2462	108.22	-	-	98.4	27.09	6.38	33.58	186	120	P	H
	*	2462	99.5	-	-	89.68	27.09	6.38	33.58	186	120	A	H
802.11n		2483.96	63.01	-10.99	74	53.13	27.14	6.39	33.58	186	120	P	H
HT20		2483.52	50.79	-3.21	54	40.91	27.14	6.39	33.58	186	120	A	H
CH 11	*	2462	103.24	-	-	93.42	27.09	6.38	33.58	285	92	P	V
2462MHz	*	2462	94.59	-	-	84.77	27.09	6.38	33.58	285	92	A	V
		2483.96	56.68	-17.32	74	46.8	27.14	6.39	33.58	285	92	P	V
		2483.52	45.77	-8.23	54	35.89	27.14	6.39	33.58	285	92	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	Note	Frequency (MHz)	Level (dBμV/m)	Over Limit (dB)	Limit Line (dBμV/m)	Read Level (dBμV)	Antenna Factor (dB/m)	Cable Loss (dB)	Preamp Factor (dB)	Ant Pos (cm)	Table Pos (deg)	Peak Avg. (P/A)	Pol. (H/V)
802.11n HT20 CH 01 2412MHz		4824	40.54	-33.46	74	63.33	31.62	9.9	64.74	100	0	P	H
		4824	40.73	-33.27	74	63.52	31.62	9.9	64.74	100	0	P	V
802.11n HT20 CH 06 2437MHz		4874	41.31	-32.69	74	64.02	31.71	9.85	64.7	100	0	P	H
		7311	48.05	-25.95	74	63.33	37.43	11.65	64.82	100	0	P	H
		4874	40.5	-33.5	74	63.21	31.71	9.85	64.7	100	0	P	V
		7311	44.13	-29.87	74	59.41	37.43	11.65	64.82	100	0	P	V
802.11n HT20 CH 11 2462MHz		4924	40.96	-33.04	74	63.56	31.79	9.83	64.66	100	0	P	H
		7386	44.69	-29.31	74	59.71	37.82	11.64	64.86	100	0	P	H
		4924	40.03	-33.97	74	62.63	31.79	9.83	64.66	100	0	P	V
		7386	44.51	-29.49	74	59.53	37.82	11.64	64.86	100	0	P	V
Remark	1. No other spurious found. 2. All results are PASS against Peak and Average limit line.												

2.4GHz 2400~2483.5MHz

WIFI 802.11n HT40 (Band Edge @ 3m)

WIFI Ant. 1	Note	Frequency (MHz)	Level (dBµV/m)	Over Limit (dB)	Limit Line (dBµV/m)	Read Level (dBµV)	Antenna Factor (dB/m)	Cable Loss (dB)	Preamp Factor (dB)	Ant Pos (cm)	Table Pos (deg)	Peak Avg. (P/A)	Pol. (H/V)
		2389.94	57.8	-16.2	74	48.27	26.87	6.32	33.59	196	118	P	H
		2389.38	50.18	-3.82	54	40.66	26.87	6.32	33.6	196	118	A	H
	*	2422	100.46	-	-	90.77	26.98	6.37	33.59	196	118	P	H
	*	2422	92.11	-	-	82.42	26.98	6.37	33.59	196	118	A	H
802.11n		2492.86	54.01	-19.99	74	44.06	27.2	6.39	33.57	196	118	P	H
HT40		2483.76	45.46	-8.54	54	35.58	27.14	6.39	33.58	196	118	A	H
CH 03		2388.54	54.37	-19.63	74	44.85	26.87	6.32	33.6	292	92	P	V
2422MHz		2389.52	45.93	-8.07	54	36.41	26.87	6.32	33.6	292	92	A	V
	*	2422	94.61	-	-	84.92	26.98	6.37	33.59	292	92	P	V
	*	2422	85.87	-	-	76.18	26.98	6.37	33.59	292	92	A	V
		2499.86	52.7	-21.3	74	42.75	27.2	6.39	33.57	292	92	P	V
		2484.81	43.62	-10.38	54	33.74	27.14	6.39	33.58	292	92	A	V
		2388.96	59.21	-14.79	74	49.69	26.87	6.32	33.6	176	120	P	H
		2389.38	50.13	-3.87	54	40.61	26.87	6.32	33.6	176	120	A	H
	*	2427	102.5	-	-	92.81	26.98	6.37	33.59	176	120	P	H
	*	2427	93.59	-	-	83.9	26.98	6.37	33.59	176	120	A	H
802.11n		2488.31	55.17	-18.83	74	45.23	27.2	6.39	33.58	176	120	P	H
HT40		2485.37	46.33	-7.67	54	36.45	27.14	6.39	33.58	176	120	A	H
CH 04		2388.68	55.92	-18.08	74	46.4	26.87	6.32	33.6	292	89	P	V
2427MHz		2389.66	47.15	-6.85	54	37.63	26.87	6.32	33.6	292	89	A	V
	*	2427	96.97	-	-	87.28	26.98	6.37	33.59	292	89	P	V
	*	2427	88.11	-	-	78.42	26.98	6.37	33.59	292	89	A	V
		2490.41	52.66	-21.34	74	42.72	27.2	6.39	33.58	292	89	P	V
		2484.11	43.85	-10.15	54	33.97	27.14	6.39	33.58	292	89	A	V

		2385.6	56.34	-17.66	74	46.82	26.87	6.32	33.6	194	117	P	H
		2389.94	48.07	-5.93	54	38.54	26.87	6.32	33.59	194	117	A	H
	*	2437	105.45	-	-	95.71	27.03	6.37	33.59	194	117	P	H
	*	2437	96.27	-	-	86.53	27.03	6.37	33.59	194	117	A	H
802.11n		2483.55	59.52	-14.48	74	49.64	27.14	6.39	33.58	194	117	P	H
HT40		2483.5	50.7	-3.3	54	40.82	27.14	6.39	33.58	194	117	A	H
CH 06		2382.66	54.6	-19.4	74	45.14	26.81	6.32	33.6	295	92	P	V
2437MHz		2389.38	45.26	-8.74	54	35.74	26.87	6.32	33.6	295	92	A	V
	*	2437	99.87	-	-	90.13	27.03	6.37	33.59	295	92	P	V
	*	2437	91.3	-	-	81.56	27.03	6.37	33.59	295	92	A	V
		2483.69	55.29	-18.71	74	45.41	27.14	6.39	33.58	295	92	P	V
		2483.55	45.74	-8.26	54	35.86	27.14	6.39	33.58	295	92	A	V
		2389.94	53.99	-20.01	74	44.46	26.87	6.32	33.59	165	122	P	H
		2388.26	45.4	-8.6	54	35.88	26.87	6.32	33.6	165	122	A	H
	*	2447	102.5	-	-	92.74	27.03	6.38	33.58	165	122	P	H
	*	2447	93.76	-	-	84	27.03	6.38	33.58	165	122	A	H
802.11n		2483.69	60.02	-13.98	74	50.14	27.14	6.39	33.58	165	122	P	H
HT40		2483.52	50.91	-3.09	54	41.03	27.14	6.39	33.58	165	122	A	H
CH 08		2351.16	52.55	-21.45	74	43.29	26.7	6.23	33.6	315	103	P	V
2447MHz		2388.96	44.09	-9.91	54	34.57	26.87	6.32	33.6	315	103	A	V
	*	2447	97.55	-	-	87.79	27.03	6.38	33.58	315	103	P	V
	*	2447	88.72	-	-	78.96	27.03	6.38	33.58	315	103	A	V
		2483.62	57.09	-16.91	74	47.21	27.14	6.39	33.58	315	103	P	V
		2483.55	47.29	-6.71	54	37.41	27.14	6.39	33.58	315	103	A	V

		2388.26	53.93	-20.07	74	44.41	26.87	6.32	33.6	193	117	P	H
		2389.52	44.37	-9.63	54	34.85	26.87	6.32	33.6	193	117	A	H
	*	2452	101.02	-	-	91.26	27.03	6.38	33.58	193	117	P	H
	*	2452	92.17	-	-	82.41	27.03	6.38	33.58	193	117	A	H
802.11n		2483.76	58.6	-15.4	74	48.72	27.14	6.39	33.58	193	117	P	H
HT40		2484.32	50.42	-3.58	54	40.54	27.14	6.39	33.58	193	117	A	H
CH 09		2384.76	52.21	-21.79	74	42.75	26.81	6.32	33.6	283	91	P	V
2452MHz		2379.86	42.94	-11.06	54	33.48	26.81	6.32	33.6	283	91	A	V
	*	2452	95.27	-	-	85.51	27.03	6.38	33.58	283	91	P	V
	*	2452	86.7	-	-	76.94	27.03	6.38	33.58	283	91	A	V
		2486.14	54.71	-19.29	74	44.83	27.14	6.39	33.58	283	91	P	V
		2483.9	46.24	-7.76	54	36.36	27.14	6.39	33.58	283	91	A	V
Remark	1. No other spurious found. 2. All results are PASS against Peak and Average limit line.												

2.4GHz 2400~2483.5MHz

WIFI 802.11n HT40 (Harmonic @ 3m)

WIFI Ant. 1	Note	Frequency (MHz)	Level (dBμV/m)	Over Limit (dB)	Limit Line (dBμV/m)	Read Level (dBμV)	Antenna Factor (dB/m)	Cable Loss (dB)	Preamp Factor (dB)	Ant Pos (cm)	Table Pos (deg)	Peak Avg. (P/A)	Pol. (H/V)
802.11n		4844	39.95	-34.05	74	62.69	31.65	9.9	64.72	100	0	P	H
HT40		7266	45.29	-28.71	74	60.67	37.27	11.66	64.81	100	0	P	H
CH 03		4844	41.69	-32.31	74	64.43	31.65	9.9	64.72	100	0	P	V
2422MHz		7266	43.53	-30.47	74	58.91	37.27	11.66	64.81	100	0	P	V
802.11n		4874	39.96	-34.04	74	62.67	31.71	9.85	64.7	100	0	P	H
HT40		7311	46.04	-27.96	74	61.32	37.43	11.65	64.82	100	0	P	H
CH 06		4874	40.04	-33.96	74	62.75	31.71	9.85	64.7	100	0	P	V
2437MHz		7311	44.88	-29.12	74	60.16	37.43	11.65	64.82	100	0	P	V
802.11n		4904	40.53	-33.47	74	63.18	31.76	9.83	64.67	100	0	P	H
HT40		7356	43.69	-30.31	74	58.81	37.67	11.64	64.84	100	0	P	H
CH 09		4904	40.97	-33.03	74	63.62	31.76	9.83	64.67	100	0	P	V
2452MHz		7356	44.6	-29.4	74	59.72	37.67	11.64	64.84	100	0	P	V
Remark	1. No other spurious found. 2. All results are PASS against Peak and Average limit line.												

2.4GHz 2400~2483.5MHz

Emission below 1GHz

2.4GHz WIFI 802.11n HT20 (LF)

WIFI Ant.	Note	Frequency	Level	Over Limit	Limit Line	Read Level	Antenna Factor	Cable Loss	Preamp Factor	Ant Pos	Table Pos	Peak Avg.	Pol.
1		(MHz)	(dBµV/m)	(dB)	(dBµV/m)	(dBµV)	(dB/m)	(dB)	(dB)	(cm)	(deg)	(P/A)	(H/V)
2.4GHz 802.11n HT20 LF		181.2	22.63	-20.87	43.5	38.38	14.88	1.69	32.41			P	H
		251.13	24.92	-21.08	46	36.6	18.68	1.95	32.38			P	H
		293.52	26.67	-19.33	46	37.66	19.06	2.22	32.37			P	H
		787.2	30.39	-15.61	46	30.65	28.31	3.5	32.22			P	H
		882.4	32.99	-13.01	46	31.64	29.21	3.73	31.75			P	H
		948.2	33.49	-12.51	46	29.99	30.73	3.82	31.22	100	0	P	H
		38.91	31.7	-8.3	40	43.65	19.85	0.68	32.49	100	0	P	V
		64.02	25.67	-14.33	40	45.28	11.81	1.06	32.49			P	V
		177.96	27.12	-16.38	43.5	42.75	15	1.69	32.41			P	V
		825.7	31.22	-14.78	46	31.03	28.5	3.58	32.04			P	V
		937.7	32.8	-13.2	46	29.83	30.29	3.82	31.31			P	V
		960.1	34.28	-19.72	54	30.12	31.22	3.87	31.11			P	V
Remark	1. No other spurious found. 2. All results are PASS against limit line.												

Note symbol

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

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

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

1. Level(dBμV/m) =

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

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

For Peak Limit @ 2390MHz:

1. Level(dBμV/m)

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

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

= 55.45 (dBμV/m)

2. Over Limit(dB)

= Level(dBμV/m) – Limit Line(dBμV/m)

= 55.45(dBμV/m) – 74(dBμV/m)

= -18.55(dB)

For Average Limit @ 2390MHz:

1. Level(dBμV/m)

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

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

= 43.54 (dBμV/m)

2. Over Limit(dB)

= Level(dBμV/m) – Limit Line(dBμV/m)

= 43.54(dBμV/m) – 54(dBμV/m)

= -10.46(dB)

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

2.4GHz 2400~2483.5MHz

WIFI 802.11b (Band Edge @ 3m)

WIFI	Note	Frequency	Level	Over	Limit	Read	Antenna	Cable	Preamp	Ant	Table	Peak	Pol.
Ant.				Limit	Line	Level	Factor	Loss	Factor	Pos	Pos	Avg.	
2		(MHz)	(dBμV/m)	(dB)	(dBμV/m)	(dBμV)	(dB/m)	(dB)	(dB)	(cm)	(deg)	(P/A)	(H/V)
802.11b CH 01 2412MHz		2387.595	56.66	-17.34	74	47.14	26.87	6.32	33.6	202	301	P	H
		2387.91	49.39	-4.61	54	39.87	26.87	6.32	33.6	202	301	A	H
	*	2412	109.04	-	-	99.41	26.92	6.37	33.59	202	301	P	H
	*	2412	105.51	-	-	95.88	26.92	6.37	33.59	202	301	A	H
		2389.8	54.02	-19.98	74	44.49	26.87	6.32	33.59	338	273	P	V
		2388.015	45.28	-8.72	54	35.76	26.87	6.32	33.6	338	273	A	V
	*	2412	103.99	-	-	94.36	26.92	6.37	33.59	338	273	P	V
	*	2412	100.26	-	-	90.63	26.92	6.37	33.59	338	273	A	V
802.11b CH 06 2437MHz		2387.14	55.28	-18.72	74	45.76	26.87	6.32	33.6	212	298	P	H
		2381.68	45.42	-8.58	54	35.96	26.81	6.32	33.6	212	298	A	H
	*	2437	108.93	-	-	99.19	27.03	6.37	33.59	212	298	P	H
	*	2437	105.4	-	-	95.66	27.03	6.37	33.59	212	298	A	H
		2486	56.24	-17.76	74	46.36	27.14	6.39	33.58	212	298	P	H
		2485.86	46.33	-7.67	54	36.45	27.14	6.39	33.58	212	298	A	H
		2381.54	52.92	-21.08	74	43.46	26.81	6.32	33.6	291	275	P	V
		2387.14	42.91	-11.09	54	33.39	26.87	6.32	33.6	291	275	A	V
	*	2437	104.28	-	-	94.54	27.03	6.37	33.59	291	275	P	V
	*	2437	100.47	-	-	90.73	27.03	6.37	33.59	291	275	A	V
		2496.43	53.91	-20.09	74	43.96	27.2	6.39	33.57	291	275	P	V
		2485.93	43.76	-10.24	54	33.88	27.14	6.39	33.58	291	275	A	V

802.11b CH 11 2462MHz	*	2462	109.43	-	-	99.61	27.09	6.38	33.58	206	239	P	H
	*	2462	105.84	-	-	96.02	27.09	6.38	33.58	206	239	A	H
		2494.6	56.81	-17.19	74	46.86	27.2	6.39	33.57	206	239	P	H
		2496.84	48.5	-5.5	54	38.55	27.2	6.39	33.57	206	239	A	H
	*	2462	103.83	-	-	94.01	27.09	6.38	33.58	315	259	P	V
	*	2462	100.23	-	-	90.41	27.09	6.38	33.58	315	259	A	V
		2497.08	53.58	-20.42	74	43.63	27.2	6.39	33.57	315	259	P	V
		2496.8	44.45	-9.55	54	34.5	27.2	6.39	33.57	315	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 802.11b (Harmonic @ 3m)

WIFI Ant. 2	Note	Frequency (MHz)	Level (dBμV/m)	Over Limit (dB)	Limit Line (dBμV/m)	Read Level (dBμV)	Antenna Factor (dB/m)	Cable Loss (dB)	Preamp Factor (dB)	Ant Pos (cm)	Table Pos (deg)	Peak Avg. (P/A)	Pol. (H/V)
802.11b CH 01 2412MHz		4824	42.37	-31.63	74	65.16	31.62	9.9	64.74	100	0	P	H
		4824	42.09	-31.91	74	64.88	31.62	9.9	64.74	100	0	P	V
802.11b CH 06 2437MHz		4874	40.95	-33.05	74	63.66	31.71	9.85	64.7	100	0	P	H
		7311	45.73	-28.27	74	61.01	37.43	11.65	64.82	100	0	P	H
		4874	40.72	-33.28	74	63.43	31.71	9.85	64.7	100	0	P	V
		7311	43.45	-30.55	74	58.73	37.43	11.65	64.82	100	0	P	V
802.11b CH 11 2462MHz		4924	42.85	-31.15	74	65.45	31.79	9.83	64.66	100	0	P	H
		7386	45.39	-28.61	74	60.41	37.82	11.64	64.86	100	0	P	H
		4924	41.39	-32.61	74	63.99	31.79	9.83	64.66	100	0	P	V
		7386	44.35	-29.65	74	59.37	37.82	11.64	64.86	100	0	P	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. 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		2383.92	60.69	-13.31	74	51.23	26.81	6.32	33.6	191	240	P	H
		2390	49.61	-4.39	54	40.08	26.87	6.32	33.59	191	240	A	H
	*	2412	110.76	-	-	101.13	26.92	6.37	33.59	191	240	P	H
	*	2412	102.88	-	-	93.25	26.92	6.37	33.59	191	240	A	H
		2389.8	55.23	-18.77	74	45.7	26.87	6.32	33.59	328	269	P	V
		2389.485	45.75	-8.25	54	36.23	26.87	6.32	33.6	328	269	A	V
	*	2412	105.92	-	-	96.29	26.92	6.37	33.59	328	269	P	V
	*	2412	98.25	-	-	88.62	26.92	6.37	33.59	328	269	A	V
802.11g CH 02 2417MHz		2389.66	62.12	-11.88	74	52.6	26.87	6.32	33.6	199	241	P	H
		2389.94	50.77	-3.23	54	41.24	26.87	6.32	33.59	199	241	P	H
	*	2417	112.56	-	-	102.93	26.92	6.37	33.59	199	241	P	H
	*	2417	103.79	-	-	94.16	26.92	6.37	33.59	199	241	A	H
		2389.66	58.17	-15.83	74	48.65	26.87	6.32	33.6	300	267	P	V
		2389.94	46.63	-7.37	54	37.1	26.87	6.32	33.59	300	267	A	V
	*	2417	107.44	-	-	97.81	26.92	6.37	33.59	300	267	P	V
	*	2417	98.68	-	-	89.05	26.92	6.37	33.59	300	267	A	V

802.11g CH 06 2437MHz		2389.24	57.16	-16.84	74	47.64	26.87	6.32	33.6	191	240	P	H
		2389.52	46.42	-7.58	54	36.9	26.87	6.32	33.6	191	240	P	H
	*	2437	109.86	-	-	100.12	27.03	6.37	33.59	191	240	P	H
	*	2437	102.02	-	-	92.28	27.03	6.37	33.59	191	240	A	H
		2494.12	57.43	-16.57	74	47.48	27.2	6.39	33.57	191	240	P	H
		2483.62	47.03	-6.97	54	37.15	27.14	6.39	33.58	191	240	A	H
		2388.54	53.21	-20.79	74	43.69	26.87	6.32	33.6	321	275	P	V
		2389.66	43.28	-10.72	54	33.76	26.87	6.32	33.6	321	275	A	V
	*	2437	104.91	-	-	95.17	27.03	6.37	33.59	321	275	P	V
	*	2437	97.05	-	-	87.31	27.03	6.37	33.59	321	275	A	V
		2495.52	54.38	-19.62	74	44.43	27.2	6.39	33.57	321	275	P	V
		2488.45	43.69	-10.31	54	33.75	27.2	6.39	33.58	321	275	A	V
802.11g CH 10 2457MHz	*	2457	111.99	-	-	102.17	27.09	6.38	33.58	195	241	P	H
	*	2457	103.8	-	-	93.98	27.09	6.38	33.58	195	241	P	H
		2483.55	64.48	-9.52	74	54.6	27.14	6.39	33.58	195	241	P	H
		2483.5	50.57	-3.43	54	40.69	27.14	6.39	33.58	195	241	A	H
	*	2457	106.79	-	-	96.97	27.09	6.38	33.58	317	272	P	V
	*	2457	98.04	-	-	88.22	27.09	6.38	33.58	317	272	A	V
		2486.42	58.48	-15.52	74	48.6	27.14	6.39	33.58	317	272	P	V
		2483.5	46.58	-7.42	54	36.7	27.14	6.39	33.58	317	272	A	V
802.11g CH 11 2462MHz	*	2462	109.98	-	-	100.16	27.09	6.38	33.58	201	300	P	H
	*	2462	101.51	-	-	91.69	27.09	6.38	33.58	201	300	A	H
		2484.24	62.46	-11.54	74	52.58	27.14	6.39	33.58	201	300	P	H
		2483.52	49.68	-4.32	54	39.8	27.14	6.39	33.58	201	300	A	H
	*	2462	104.89	-	-	95.07	27.09	6.38	33.58	316	278	P	V
	*	2462	96.39	-	-	86.57	27.09	6.38	33.58	316	278	A	V
		2484.4	56.81	-17.19	74	46.93	27.14	6.39	33.58	316	278	P	V
		2483.52	45.51	-8.49	54	35.63	27.14	6.39	33.58	316	278	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. 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	40.45	-33.55	74	63.24	31.62	9.9	64.74	100	0	P	H
		4824	39.4	-34.6	74	62.19	31.62	9.9	64.74	100	0	P	V
802.11g CH 06 2437MHz		4874	40.32	-33.68	74	63.03	31.71	9.85	64.7	100	0	P	H
		7311	43.29	-30.71	74	58.57	37.43	11.65	64.82	100	0	P	H
		4874	39.12	-34.88	74	61.83	31.71	9.85	64.7	100	0	P	V
		7311	43.11	-30.89	74	58.39	37.43	11.65	64.82	100	0	P	V
802.11g CH 11 2462MHz		4924	42.58	-31.42	74	65.18	31.79	9.83	64.66	100	0	P	H
		7386	44.62	-29.38	74	59.64	37.82	11.64	64.86	100	0	P	H
		4924	40.9	-33.1	74	63.5	31.79	9.83	64.66	100	0	P	V
		7386	43.5	-30.5	74	58.52	37.82	11.64	64.86	100	0	P	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. 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)
		2381.925	60.98	-13.02	74	51.52	26.81	6.32	33.6	203	301	P	H
		2389.695	50.84	-3.16	54	41.32	26.87	6.32	33.6	203	301	P	H
802.11n	*	2412	111.58	-	-	101.95	26.92	6.37	33.59	203	301	P	H
HT20	*	2412	102.53	-	-	92.9	26.92	6.37	33.59	203	301	A	H
CH 01		2390	59.2	-14.8	74	49.67	26.87	6.32	33.59	316	274	P	V
2412MHz		2390	45.88	-8.12	54	36.35	26.87	6.32	33.59	316	274	A	V
	*	2412	106.26	-	-	96.63	26.92	6.37	33.59	316	274	P	V
	*	2412	97.45	-	-	87.82	26.92	6.37	33.59	316	274	A	V
		2389.38	64.74	-9.26	74	55.22	26.87	6.32	33.6	178	300	P	H
		2389.94	49.5	-4.5	54	39.97	26.87	6.32	33.59	178	300	A	H
802.11n	*	2417	111.13	-	-	101.5	26.92	6.37	33.59	178	300	P	H
HT20	*	2417	102.58	-	-	92.95	26.92	6.37	33.59	178	300	A	H
CH 02		2388.26	59.15	-14.85	74	49.63	26.87	6.32	33.6	299	270	P	V
2417MHz		2389.94	45.76	-8.24	54	36.23	26.87	6.32	33.59	299	270	A	V
	*	2417	106.35	-	-	96.72	26.92	6.37	33.59	299	270	P	V
	*	2417	97.64	-	-	88.01	26.92	6.37	33.59	299	270	A	V

		2379.44	57.59	-16.41	74	48.13	26.81	6.32	33.6	204	298	P	H
		2389.8	46.7	-7.3	54	37.17	26.87	6.32	33.59	204	298	A	H
	*	2437	111.73	-	-	101.99	27.03	6.37	33.59	204	298	P	H
	*	2437	103.05	-	-	93.31	27.03	6.37	33.59	204	298	A	H
802.11n		2488.38	58.37	-15.63	74	48.43	27.2	6.39	33.58	204	298	P	H
HT20		2485.72	47.49	-6.51	54	37.61	27.14	6.39	33.58	204	298	A	H
CH 06		2385.6	53.79	-20.21	74	44.27	26.87	6.32	33.6	290	272	P	V
2437MHz		2389.8	43.62	-10.38	54	34.09	26.87	6.32	33.59	290	272	A	V
	*	2437	106.73	-	-	96.99	27.03	6.37	33.59	290	272	P	V
	*	2437	98.01	-	-	88.27	27.03	6.37	33.59	290	272	A	V
		2488.1	55	-19	74	45.06	27.2	6.39	33.58	290	272	P	V
		2483.97	44.12	-9.88	54	34.24	27.14	6.39	33.58	290	272	A	V
	*	2457	111.53	-	-	101.71	27.09	6.38	33.58	200	300	P	H
	*	2457	102.89	-	-	93.07	27.09	6.38	33.58	200	300	A	H
802.11n		2484.39	63.16	-10.84	74	53.28	27.14	6.39	33.58	200	300	P	H
HT20		2483.5	50.11	-3.89	54	40.23	27.14	6.39	33.58	200	300	A	H
CH 10	*	2457	106.55	-	-	96.73	27.09	6.38	33.58	314	269	P	V
2457MHz	*	2457	97.76	-	-	87.94	27.09	6.38	33.58	314	269	A	V
		2487.4	59.67	-14.33	74	49.79	27.14	6.39	33.58	314	269	P	V
		2483.5	46.79	-7.21	54	36.91	27.14	6.39	33.58	314	269	A	V
	*	2462	109.73	-	-	99.91	27.09	6.38	33.58	183	299	P	H
	*	2462	101.26	-	-	91.44	27.09	6.38	33.58	183	299	A	H
802.11n		2484.12	63.52	-10.48	74	53.64	27.14	6.39	33.58	183	299	P	H
HT20		2483.52	50.68	-3.32	54	40.8	27.14	6.39	33.58	183	299	A	H
CH 11	*	2462	104.34	-	-	94.52	27.09	6.38	33.58	342	255	P	V
2462MHz	*	2462	95.77	-	-	85.95	27.09	6.38	33.58	342	255	A	V
		2483.84	57.69	-16.31	74	47.81	27.14	6.39	33.58	342	255	P	V
		2483.52	45.81	-8.19	54	35.93	27.14	6.39	33.58	342	255	P	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. 2	Note	Frequency (MHz)	Level (dBμV/m)	Over Limit (dB)	Limit Line (dBμV/m)	Read Level (dBμV)	Antenna Factor (dB/m)	Cable Loss (dB)	Preamp Factor (dB)	Ant Pos (cm)	Table Pos (deg)	Peak Avg. (P/A)	Pol. (H/V)
802.11n HT20 CH 01 2412MHz		4824	40.73	-33.27	74	63.52	31.62	9.9	64.74	100	0	P	H
		4824	40.53	-33.47	74	63.32	31.62	9.9	64.74	100	0	P	V
802.11n HT20 CH 06 2437MHz		4874	40.78	-33.22	74	63.49	31.71	9.85	64.7	100	0	P	H
		7311	46.02	-27.98	74	61.3	37.43	11.65	64.82	100	0	P	H
		4874	40.18	-33.82	74	62.89	31.71	9.85	64.7	100	0	P	V
		7311	43.1	-30.9	74	58.38	37.43	11.65	64.82	100	0	P	V
802.11n HT20 CH 11 2462MHz		4924	40.32	-33.68	74	62.92	31.79	9.83	64.66	100	0	P	H
		7386	45.01	-28.99	74	60.03	37.82	11.64	64.86	100	0	P	H
		4924	40.89	-33.11	74	63.49	31.79	9.83	64.66	100	0	P	V
		7386	43.47	-30.53	74	58.49	37.82	11.64	64.86	100	0	P	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. 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)
		2388.96	60.01	-13.99	74	50.49	26.87	6.32	33.6	205	302	P	H
		2389.66	51	-3	54	41.48	26.87	6.32	33.6	205	302	A	H
	*	2422	104.62	-	-	94.93	26.98	6.37	33.59	205	302	P	H
	*	2422	95.85	-	-	86.16	26.98	6.37	33.59	205	302	A	H
802.11n		2489.85	57.45	-16.55	74	47.51	27.2	6.39	33.58	205	302	P	H
HT40		2487.19	47.37	-6.63	54	37.49	27.14	6.39	33.58	205	302	A	H
CH 03		2384.34	55.43	-18.57	74	45.97	26.81	6.32	33.6	321	272	P	V
2422MHz		2389.94	47.2	-6.8	54	37.67	26.87	6.32	33.59	321	272	A	V
	*	2422	99.29	-	-	89.6	26.98	6.37	33.59	321	272	P	V
	*	2422	90.59	-	-	80.9	26.98	6.37	33.59	321	272	A	V
		2485.37	54	-20	74	44.12	27.14	6.39	33.58	321	272	P	V
		2484.32	44.61	-9.39	54	34.73	27.14	6.39	33.58	321	272	A	V
		2387.98	59.25	-14.75	74	49.73	26.87	6.32	33.6	183	297	P	H
		2389.1	50.97	-3.03	54	41.45	26.87	6.32	33.6	183	297	A	H
	*	2427	104.17	-	-	94.48	26.98	6.37	33.59	183	297	P	H
	*	2427	95.64	-	-	85.95	26.98	6.37	33.59	183	297	A	H
802.11n		2492.86	55.97	-18.03	74	46.02	27.2	6.39	33.57	183	297	P	H
HT40		2486.63	46.79	-7.21	54	36.91	27.14	6.39	33.58	183	297	A	H
CH 04		2389.8	55.59	-18.41	74	46.06	26.87	6.32	33.59	301	269	P	V
2427MHz		2389.24	47.88	-6.12	54	38.36	26.87	6.32	33.6	301	269	A	V
	*	2427	99.11	-	-	89.42	26.98	6.37	33.59	301	269	P	V
	*	2427	90.48	-	-	80.79	26.98	6.37	33.59	301	269	A	V
		2495.66	54.88	-19.12	74	44.93	27.2	6.39	33.57	301	269	P	V
		2494.89	46.14	-7.86	54	36.19	27.2	6.39	33.57	301	269	A	V

		2387	58.19	-15.81	74	48.67	26.87	6.32	33.6	210	300	P	H
		2389.8	50.52	-3.48	54	40.99	26.87	6.32	33.59	210	300	A	H
	*	2437	106.63	-	-	96.89	27.03	6.37	33.59	210	300	P	H
	*	2437	97.69	-	-	87.95	27.03	6.37	33.59	210	300	A	H
802.11n		2483.83	59.37	-14.63	74	49.49	27.14	6.39	33.58	210	300	P	H
HT40		2483.62	50.94	-3.06	54	41.06	27.14	6.39	33.58	210	300	A	H
CH 06		2388.82	55.1	-18.9	74	45.58	26.87	6.32	33.6	300	277	P	V
2437MHz		2389.38	46.67	-7.33	54	37.15	26.87	6.32	33.6	300	277	A	V
	*	2437	100.97	-	-	91.23	27.03	6.37	33.59	300	277	P	V
	*	2437	92.41	-	-	82.67	27.03	6.37	33.59	300	277	A	V
		2489.5	55.01	-18.99	74	45.07	27.2	6.39	33.58	300	277	P	V
		2483.83	46.59	-7.41	54	36.71	27.14	6.39	33.58	300	277	A	V
		2373.56	54.33	-19.67	74	44.92	26.81	6.27	33.6	202	299	P	H
		2389.24	45.9	-8.1	54	36.38	26.87	6.32	33.6	202	299	A	H
	*	2447	103.08	-	-	93.32	27.03	6.38	33.58	202	299	P	H
	*	2447	94.51	-	-	84.75	27.03	6.38	33.58	202	299	A	H
802.11n		2484.95	59.55	-14.45	74	49.67	27.14	6.39	33.58	202	299	P	H
HT40		2483.52	50.32	-3.68	54	40.44	27.14	6.39	33.58	202	299	A	H
CH 08		2385.46	52.65	-21.35	74	43.19	26.81	6.32	33.6	321	266	P	V
2447MHz		2389.38	44.17	-9.83	54	34.65	26.87	6.32	33.6	321	266	A	V
	*	2447	98.55	-	-	88.79	27.03	6.38	33.58	321	266	P	V
	*	2447	90.04	-	-	80.28	27.03	6.38	33.58	321	266	A	V
		2484.11	56.07	-17.93	74	46.19	27.14	6.39	33.58	321	266	P	V
		2483.97	47.2	-6.8	54	37.32	27.14	6.39	33.58	321	266	A	V

		2386.02	54.57	-19.43	74	45.05	26.87	6.32	33.6	202	299	P	H
		2388.54	45.56	-8.44	54	36.04	26.87	6.32	33.6	202	299	A	H
	*	2452	103.4	-	-	93.64	27.03	6.38	33.58	202	299	P	H
	*	2452	94.29	-	-	84.53	27.03	6.38	33.58	202	299	A	H
802.11n		2487.19	59.24	-14.76	74	49.36	27.14	6.39	33.58	202	299	P	H
HT40		2483.62	50.71	-3.29	54	40.83	27.14	6.39	33.58	202	299	A	H
CH 09		2381.4	52.76	-21.24	74	43.3	26.81	6.32	33.6	292	274	P	V
2452MHz		2387.28	43.59	-10.41	54	34.07	26.87	6.32	33.6	292	274	A	V
	*	2452	97.9	-	-	88.14	27.03	6.38	33.58	292	274	P	V
	*	2452	89.43	-	-	79.67	27.03	6.38	33.58	292	274	A	V
		2485.93	56.46	-17.54	74	46.58	27.14	6.39	33.58	292	274	P	V
		2484.39	46.62	-7.38	54	36.74	27.14	6.39	33.58	292	274	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. 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		4844	40.91	-33.09	74	63.65	31.65	9.9	64.72	100	0	P	H
HT40		7266	45.09	-28.91	74	60.47	37.27	11.66	64.81	100	0	P	H
CH 03		4844	40.29	-33.71	74	63.03	31.65	9.9	64.72	100	0	P	V
2422MHz		7266	44.43	-29.57	74	59.81	37.27	11.66	64.81	100	0	P	V
802.11n		4874	39.45	-34.55	74	62.16	31.71	9.85	64.7	100	0	P	H
HT40		7311	44.93	-29.07	74	60.21	37.43	11.65	64.82	100	0	P	H
CH 06		4874	39.78	-34.22	74	62.49	31.71	9.85	64.7	100	0	P	V
2437MHz		7311	42.84	-31.16	74	58.12	37.43	11.65	64.82	100	0	P	V
802.11n		4904	39.62	-34.38	74	62.27	31.76	9.83	64.67	100	0	P	H
HT40		7356	45	-29	74	60.12	37.67	11.64	64.84	100	0	P	H
CH 09		4904	39.72	-34.28	74	62.37	31.76	9.83	64.67	100	0	P	V
2452MHz		7356	44.4	-29.6	74	59.52	37.67	11.64	64.84	100	0	P	V
Remark	1. No other spurious found. 2. All results are PASS against Peak and Average limit line.												

2.4GHz 2400~2483.5MHz

Emission below 1GHz

2.4GHz WIFI 802.11n HT40 (LF)

WIFI Ant.	Note	Frequency	Level	Over Limit	Limit Line	Read Level	Antenna Factor	Cable Loss	Preamp Factor	Ant Pos	Table Pos	Peak Avg.	Pol.
2		(MHz)	(dBµV/m)	(dB)	(dBµV/m)	(dBµV)	(dB/m)	(dB)	(dB)	(cm)	(deg)	(P/A)	(H/V)
2.4GHz 802.11n HT40 LF		140.97	24.04	-19.46	43.5	37.49	17.42	1.51	32.44			P	H
		240.06	24.49	-21.51	46	37.55	17.3	1.95	32.38			P	H
		255.45	25.44	-20.56	46	36.53	19.18	2.04	32.38			P	H
		753.6	29.92	-16.08	46	30.5	28.16	3.44	32.31			P	H
		857.9	33.64	-12.36	46	32.32	29.38	3.67	31.88			P	H
		948.2	34.18	-11.82	46	30.68	30.73	3.82	31.22	100	0	P	H
		38.64	30.83	-9.17	40	42.78	19.85	0.68	32.49	100	0	P	V
		98.31	24.12	-19.38	43.5	39.52	15.79	1.27	32.48			P	V
		132.33	21	-22.5	43.5	34.33	17.56	1.51	32.45			P	V
		875.4	32.01	-13.99	46	30.65	29.26	3.73	31.79			P	V
		943.3	33.29	-12.71	46	30.03	30.53	3.82	31.26			P	V
		958.7	34.09	-11.91	46	30.02	31.14	3.87	31.12			P	V
Remark	1. No other spurious found. 2. All results are PASS against limit line.												

Note symbol

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

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

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

1. Level(dBµV/m) =

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

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

For Peak Limit @ 2390MHz:

1. Level(dBµV/m)

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

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

= 55.45 (dBµV/m)

2. Over Limit(dB)

= Level(dBµV/m) – Limit Line(dBµV/m)

= 55.45(dBµV/m) – 74(dBµV/m)

= -18.55(dB)

For Average Limit @ 2390MHz:

1. Level(dBµV/m)

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

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

= 43.54 (dBµV/m)

2. Over Limit(dB)

= Level(dBµV/m) – Limit Line(dBµV/m)

= 43.54(dBµV/m) – 54(dBµV/m)

= -10.46(dB)

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

2.4GHz 2400~2483.5MHz

WIFI 802.11g (Band Edge @ 3m)

WIFI	Note	Frequency	Level	Over	Limit	Read	Antenna	Cable	Preamp	Ant	Table	Peak	Pol.
Ant.				Limit	Line	Level	Factor	Loss	Factor	Pos	Pos	Avg.	
1+2		(MHz)	(dBμV/m)	(dB)	(dBμV/m)	(dBμV)	(dB/m)	(dB)	(dB)	(cm)	(deg)	(P/A)	(H/V)
802.11g CH 01 2412MHz		2389.695	61.68	-12.32	74	52.16	26.87	6.32	33.6	120	360	P	H
		2389.8	50.48	-3.52	54	40.95	26.87	6.32	33.59	120	360	A	H
	*	2412	109.65	-	-	100.02	26.92	6.37	33.59	120	360	P	H
	*	2412	102.31	-	-	92.68	26.92	6.37	33.59	120	360	A	H
		2389.485	60.47	-13.53	74	50.95	26.87	6.32	33.6	200	110	P	V
		2390	48.62	-5.38	54	39.09	26.87	6.32	33.59	200	110	A	V
	*	2412	103.98	-	-	94.35	26.92	6.37	33.59	200	110	P	V
	*	2412	96.14	-	-	86.51	26.92	6.37	33.59	200	110	A	V
802.11g CH 02 2417MHz		2389.38	62.59	-11.41	74	53.07	26.87	6.32	33.6	151	178	P	H
		2389.94	50.33	-3.67	54	40.8	26.87	6.32	33.59	151	178	A	H
	*	2417	111.73	-	-	102.1	26.92	6.37	33.59	151	178	P	H
	*	2417	103.46	-	-	93.83	26.92	6.37	33.59	151	178	A	H
		2389.1	59.05	-14.95	74	49.53	26.87	6.32	33.6	220	77	P	V
		2389.94	47.56	-6.44	54	38.03	26.87	6.32	33.59	220	77	A	V
	*	2417	105.75	-	-	96.12	26.92	6.37	33.59	220	77	P	V
	*	2417	97.3	-	-	87.67	26.92	6.37	33.59	220	77	A	V

802.11g CH 06 2437MHz		2378.88	55.86	-18.14	74	46.4	26.81	6.32	33.6	163	24	P	H
		2389.8	46.05	-7.95	54	36.52	26.87	6.32	33.59	163	24	A	H
	*	2437	111.2	-	-	101.46	27.03	6.37	33.59	163	24	P	H
	*	2437	102.93	-	-	93.19	27.03	6.37	33.59	163	24	A	H
		2487.68	57.38	-16.62	74	47.44	27.2	6.39	33.58	163	24	P	H
		2483.5	46.2	-7.8	54	36.32	27.14	6.39	33.58	163	24	A	H
		2384.48	53.73	-20.27	74	44.27	26.81	6.32	33.6	197	109	P	V
		2389.8	43.2	-10.8	54	33.67	26.87	6.32	33.59	197	109	A	V
	*	2437	104.19	-	-	94.45	27.03	6.37	33.59	197	109	P	V
	*	2437	95.55	-	-	85.81	27.03	6.37	33.59	197	109	A	V
		2490.55	55.41	-18.59	74	45.47	27.2	6.39	33.58	197	109	P	V
		2483.83	44.16	-9.84	54	34.28	27.14	6.39	33.58	197	109	A	V
802.11g CH 10 2457MHz	*	2457	113.43	-	-	103.61	27.09	6.38	33.58	115	153	P	H
	*	2457	104.74	-	-	94.92	27.09	6.38	33.58	115	153	A	H
		2488.66	62.74	-11.26	74	52.8	27.2	6.39	33.58	115	153	P	H
		2483.55	50.19	-3.81	54	40.31	27.14	6.39	33.58	115	153	A	H
	*	2457	106.36	-	-	96.54	27.09	6.38	33.58	218	76	P	V
	*	2457	98.11	-	-	88.29	27.09	6.38	33.58	218	76	A	V
		2484.25	57.48	-16.52	74	47.6	27.14	6.39	33.58	218	76	P	V
		2483.62	47.29	-6.71	54	37.41	27.14	6.39	33.58	218	76	A	V
802.11g CH 11 2462MHz	*	2462	110.8	-	-	100.98	27.09	6.38	33.58	100	0	P	H
	*	2462	102.18	-	-	92.36	27.09	6.38	33.58	100	0	A	H
		2484.56	63.67	-10.33	74	53.79	27.14	6.39	33.58	100	0	P	H
		2483.52	49.75	-4.25	54	39.87	27.14	6.39	33.58	100	0	A	H
	*	2462	105.27	-	-	95.45	27.09	6.38	33.58	200	109	P	V
	*	2462	96.72	-	-	86.9	27.09	6.38	33.58	200	109	A	V
		2483.76	61.49	-12.51	74	51.61	27.14	6.39	33.58	200	109	P	V
		2483.52	47.72	-6.28	54	37.84	27.14	6.39	33.58	200	109	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	40.83	-33.17	74	63.62	31.62	9.9	64.74	100	0	P	H
		4824	40.11	-33.89	74	62.9	31.62	9.9	64.74	100	0	P	V
802.11g CH 06 2437MHz		4874	44.01	-29.99	74	66.72	31.71	9.85	64.7	100	0	P	H
		7311	48.16	-25.84	74	63.44	37.43	11.65	64.82	100	0	P	H
		4874	42.31	-31.69	74	65.02	31.71	9.85	64.7	100	0	P	V
		7311	44.38	-29.62	74	59.66	37.43	11.65	64.82	100	0	P	V
802.11g CH 11 2462MHz		4924	40.73	-33.27	74	63.33	31.79	9.83	64.66	100	0	P	H
		7386	47.04	-26.96	74	62.06	37.82	11.64	64.86	100	0	P	H
		4924	40.63	-33.37	74	63.23	31.79	9.83	64.66	100	0	P	V
		7386	44.33	-29.67	74	59.35	37.82	11.64	64.86	100	0	P	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)
		2388.435	60.49	-13.51	74	50.97	26.87	6.32	33.6	189	4	P	H
		2390	50.17	-3.83	54	40.64	26.87	6.32	33.59	189	4	A	H
802.11n	*	2412	110.25	-	-	100.62	26.92	6.37	33.59	189	4	P	H
HT20	*	2412	101.63	-	-	92	26.92	6.37	33.59	189	4	A	H
CH 01		2389.38	61.57	-12.43	74	52.05	26.87	6.32	33.6	253	82	P	V
2412MHz		2390	49.24	-4.76	54	39.71	26.87	6.32	33.59	253	82	A	V
	*	2412	104.83	-	-	95.2	26.92	6.37	33.59	253	82	P	V
	*	2412	96.03	-	-	86.4	26.92	6.37	33.59	253	82	A	V
		2389.8	62.79	-11.21	74	53.26	26.87	6.32	33.59	119	178	P	H
		2389.38	50.58	-3.42	54	41.06	26.87	6.32	33.6	119	178	A	H
802.11n	*	2417	113.71	-	-	104.08	26.92	6.37	33.59	119	178	P	H
HT20	*	2417	104.7	-	-	95.07	26.92	6.37	33.59	119	178	A	H
CH 02		2388.4	57.95	-16.05	74	48.43	26.87	6.32	33.6	222	79	P	V
2417MHz		2389.8	48.58	-5.42	54	39.05	26.87	6.32	33.59	222	79	A	V
	*	2417	106.89	-	-	97.26	26.92	6.37	33.59	222	79	P	V
	*	2417	98.23	-	-	88.6	26.92	6.37	33.59	222	79	A	V

		2379.16	56.21	-17.79	74	46.75	26.81	6.32	33.6	116	336	P	H
		2387.84	45.19	-8.81	54	35.67	26.87	6.32	33.6	116	336	A	H
	*	2437	110.11	-	-	100.37	27.03	6.37	33.59	116	336	P	H
	*	2437	102.24	-	-	92.5	27.03	6.37	33.59	116	336	A	H
802.11n		2488.59	57.33	-16.67	74	47.39	27.2	6.39	33.58	116	336	P	H
HT20		2483.76	46.04	-7.96	54	36.16	27.14	6.39	33.58	116	336	A	H
CH 06		2380.84	53.34	-20.66	74	43.88	26.81	6.32	33.6	245	81	P	V
2437MHz		2388.68	43.12	-10.88	54	33.6	26.87	6.32	33.6	245	81	A	V
	*	2437	105.56	-	-	95.82	27.03	6.37	33.59	245	81	P	V
	*	2437	97.15	-	-	87.41	27.03	6.37	33.59	245	81	A	V
		2484.18	54.39	-19.61	74	44.51	27.14	6.39	33.58	245	81	P	V
		2484.32	43.49	-10.51	54	33.61	27.14	6.39	33.58	245	81	A	V
	*	2457	112.82	-	-	103	27.09	6.38	33.58	143	177	P	H
	*	2457	104.14	-	-	94.32	27.09	6.38	33.58	143	177	A	H
802.11n		2486.14	63.47	-10.53	74	53.59	27.14	6.39	33.58	143	177	P	H
HT20		2483.5	50.76	-3.24	54	40.88	27.14	6.39	33.58	143	177	A	H
CH 10	*	2457	106.65	-	-	96.83	27.09	6.38	33.58	194	78	P	V
2457MHz	*	2457	98.13	-	-	88.31	27.09	6.38	33.58	194	78	A	V
		2485.09	60.99	-13.01	74	51.11	27.14	6.39	33.58	194	78	P	V
		2483.62	48.47	-5.53	54	38.59	27.14	6.39	33.58	194	78	A	V
	*	2462	109.66	-	-	99.84	27.09	6.38	33.58	187	338	P	H
	*	2462	102.01	-	-	92.19	27.09	6.38	33.58	187	338	A	H
802.11n		2483.8	64.47	-9.53	74	54.59	27.14	6.39	33.58	187	338	P	H
HT20		2483.6	50.44	-3.56	54	40.56	27.14	6.39	33.58	187	338	A	H
CH 11	*	2462	105.6	-	-	95.78	27.09	6.38	33.58	260	95	P	V
2462MHz	*	2462	96.84	-	-	87.02	27.09	6.38	33.58	260	95	A	V
		2483.52	61.2	-12.8	74	51.32	27.14	6.39	33.58	260	95	P	V
		2483.52	48.61	-5.39	54	38.73	27.14	6.39	33.58	260	95	P	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	39.9	-34.1	74	62.69	31.62	9.9	64.74	100	0	P	H
		4824	42.31	-31.69	74	65.1	31.62	9.9	64.74	100	0	P	V
802.11n HT20 CH 06 2437MHz		4874	39.96	-34.04	74	62.67	31.71	9.85	64.7	100	0	P	H
		7311	48.02	-25.98	74	63.3	37.43	11.65	64.82	100	0	P	H
		4874	39.22	-34.78	74	61.93	31.71	9.85	64.7	100	0	P	V
		7311	44.64	-29.36	74	59.92	37.43	11.65	64.82	100	0	P	V
802.11n HT20 CH 11 2462MHz		4924	39.97	-34.03	74	62.57	31.79	9.83	64.66	100	0	P	H
		7386	44.73	-29.27	74	59.75	37.82	11.64	64.86	100	0	P	H
		4924	40.82	-33.18	74	63.42	31.79	9.83	64.66	100	0	P	V
		7386	43.93	-30.07	74	58.95	37.82	11.64	64.86	100	0	P	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)
		2389.24	58.38	-15.62	74	48.86	26.87	6.32	33.6	202	302	P	H
		2389.24	50.91	-3.09	54	41.39	26.87	6.32	33.6	202	302	A	H
	*	2422	104.38	-	-	94.69	26.98	6.37	33.59	202	302	P	H
	*	2422	95.87	-	-	86.18	26.98	6.37	33.59	202	302	A	H
802.11n		2493.63	54.85	-19.15	74	44.9	27.2	6.39	33.57	202	302	P	H
HT40		2495.03	45.85	-8.15	54	35.9	27.2	6.39	33.57	202	302	A	H
CH 03		2389.8	58.23	-15.77	74	48.7	26.87	6.32	33.59	242	81	P	V
2422MHz		2389.38	50.4	-3.6	54	40.88	26.87	6.32	33.6	242	81	A	V
	*	2422	98.98	-	-	89.29	26.98	6.37	33.59	242	81	P	V
	*	2422	90.34	-	-	80.65	26.98	6.37	33.59	242	81	A	V
		2486.14	53.01	-20.99	74	43.13	27.14	6.39	33.58	242	81	P	V
		2485.79	44.32	-9.68	54	34.44	27.14	6.39	33.58	242	81	A	V
		2389.52	58.68	-15.32	74	49.16	26.87	6.32	33.6	149	178	P	H
		2389.52	50.72	-3.28	54	41.2	26.87	6.32	33.6	149	178	A	H
	*	2427	104.18	-	-	94.49	26.98	6.37	33.59	149	178	P	H
	*	2427	95.34	-	-	85.65	26.98	6.37	33.59	149	178	A	H
802.11n		2490.55	53.74	-20.26	74	43.8	27.2	6.39	33.58	149	178	P	H
HT40		2484.6	45.27	-8.73	54	35.39	27.14	6.39	33.58	149	178	A	H
CH 04		2385.32	56.45	-17.55	74	46.99	26.81	6.32	33.6	220	76	P	V
2427MHz		2389.52	47.59	-6.41	54	38.07	26.87	6.32	33.6	220	76	A	V
	*	2427	97.08	-	-	87.39	26.98	6.37	33.59	220	76	P	V
	*	2427	88.46	-	-	78.77	26.98	6.37	33.59	220	76	A	V
		2494.75	53.04	-20.96	74	43.09	27.2	6.39	33.57	220	76	P	V
		2484.53	44.17	-9.83	54	34.29	27.14	6.39	33.58	220	76	A	V

		2388.26	55.26	-18.74	74	45.74	26.87	6.32	33.6	169	3	P	H
		2386.72	46.71	-7.29	54	37.19	26.87	6.32	33.6	169	3	A	H
	*	2437	105.61	-	-	95.87	27.03	6.37	33.59	169	3	P	H
	*	2437	97.51	-	-	87.77	27.03	6.37	33.59	169	3	A	H
802.11n		2485.72	59.43	-14.57	74	49.55	27.14	6.39	33.58	169	3	P	H
HT40		2483.52	50.01	-3.99	54	40.13	27.14	6.39	33.58	169	3	A	H
CH 06		2387.14	53.36	-20.64	74	43.84	26.87	6.32	33.6	244	80	P	V
2437MHz		2389.8	45.22	-8.78	54	35.69	26.87	6.32	33.59	244	80	A	V
	*	2437	100.82	-	-	91.08	27.03	6.37	33.59	244	80	P	V
	*	2437	91.95	-	-	82.21	27.03	6.37	33.59	244	80	A	V
		2484.04	55.49	-18.51	74	45.61	27.14	6.39	33.58	244	80	P	V
		2483.76	46.95	-7.05	54	37.07	27.14	6.39	33.58	244	80	A	V
		2388.4	54.14	-19.86	74	44.62	26.87	6.32	33.6	137	203	P	H
		2388.4	45.34	-8.66	54	35.82	26.87	6.32	33.6	137	203	A	H
	*	2447	103.83	-	-	94.07	27.03	6.38	33.58	137	203	P	H
	*	2447	95.48	-	-	85.72	27.03	6.38	33.58	137	203	A	H
802.11n		2485.09	59.68	-14.32	74	49.8	27.14	6.39	33.58	137	203	P	H
HT40		2483.83	50.71	-3.29	54	40.83	27.14	6.39	33.58	137	203	A	H
CH 08		2335.9	52.04	-21.96	74	42.84	26.7	6.18	33.61	209	79	P	V
2447MHz		2388.68	43.48	-10.52	54	33.96	26.87	6.32	33.6	209	79	A	V
	*	2447	97.62	-	-	87.86	27.03	6.38	33.58	209	79	P	V
	*	2447	88.96	-	-	79.2	27.03	6.38	33.58	209	79	A	V
		2483.9	57.75	-16.25	74	47.87	27.14	6.39	33.58	209	79	P	V
		2483.69	48.22	-5.78	54	38.34	27.14	6.39	33.58	209	79	A	V

802.11n HT40 CH 09 2452MHz		2383.92	53.35	-20.65	74	43.89	26.81	6.32	33.6	198	303	P	H
		2383.36	44.27	-9.73	54	34.81	26.81	6.32	33.6	198	303	A	H
	*	2452	102.77	-	-	93.01	27.03	6.38	33.58	198	303	P	H
	*	2452	94.12	-	-	84.36	27.03	6.38	33.58	198	303	A	H
		2486	59.53	-14.47	74	49.65	27.14	6.39	33.58	198	303	P	H
		2483.62	50.23	-3.77	54	40.35	27.14	6.39	33.58	198	303	A	H
		2377.9	51.74	-22.26	74	42.28	26.81	6.32	33.6	244	95	P	V
		2386.72	43.24	-10.76	54	33.72	26.87	6.32	33.6	244	95	A	V
	*	2452	96.71	-	-	86.95	27.03	6.38	33.58	244	95	P	V
	*	2452	88.19	-	-	78.43	27.03	6.38	33.58	244	95	A	V
		2486.63	57.05	-16.95	74	47.17	27.14	6.39	33.58	244	95	P	V
		2483.83	48.28	-5.72	54	38.4	27.14	6.39	33.58	244	95	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		4844	39.59	-34.41	74	62.33	31.65	9.9	64.72	100	0	P	H
HT40		7266	45.76	-28.24	74	61.14	37.27	11.66	64.81	100	0	P	H
CH 03		4844	40.34	-33.66	74	63.08	31.65	9.9	64.72	100	0	P	V
2422MHz		7266	43.92	-30.08	74	59.3	37.27	11.66	64.81	100	0	P	V
802.11n		4874	40.09	-33.91	74	62.8	31.71	9.85	64.7	100	0	P	H
HT40		7311	46.9	-27.1	74	62.18	37.43	11.65	64.82	100	0	P	H
CH 06		4874	39.74	-34.26	74	62.45	31.71	9.85	64.7	100	0	P	V
2437MHz		7311	44.04	-29.96	74	59.32	37.43	11.65	64.82	100	0	P	V
802.11n		4904	40.15	-33.85	74	62.8	31.76	9.83	64.67	100	0	P	H
HT40		7356	44.68	-29.32	74	59.8	37.67	11.64	64.84	100	0	P	H
CH 09		4904	39.85	-34.15	74	62.5	31.76	9.83	64.67	100	0	P	V
2452MHz		7356	43.95	-30.05	74	59.07	37.67	11.64	64.84	100	0	P	V
Remark	1. No other spurious found. 2. All results are PASS against Peak and Average limit line.												

Emission below 1GHz

2.4GHz WIFI 802.11n HT40 (LF)

WIFI	Note	Frequency	Level	Over	Limit	Read	Antenna	Cable	Preamp	Ant	Table	Peak	Pol.
Ant.				Limit	Line	Level	Factor	Loss	Factor	Pos	Pos	Avg.	
1+2		(MHz)	(dBµV/m)	(dB)	(dBµV/m)	(dBµV)	(dB/m)	(dB)	(dB)	(cm)	(deg)	(P/A)	(H/V)
2.4GHz 802.11n HT40 LF		71.31	20.84	-19.16	40	39.88	12.37	1.06	32.49			P	H
		138.54	21.82	-21.68	43.5	35.25	17.45	1.51	32.45			P	H
		273.81	24.86	-21.14	46	35.95	19.08	2.13	32.38			P	H
		560.4	27.87	-18.13	46	30.94	26.25	3.02	32.43			P	H
		767.6	31.41	-14.59	46	31.8	28.27	3.47	32.27			P	H
		953.1	33.78	-12.22	46	30.02	30.94	3.82	31.17	100	0	P	H
		38.91	36.56	-3.44	40	48.51	19.85	0.68	32.49	100	0	P	V
		61.32	30.61	-9.39	40	50.29	11.73	1.06	32.49			P	V
		223.59	29.64	-16.36	46	44.49	15.6	1.88	32.39			P	V
		776	30.2	-15.8	46	30.48	28.32	3.5	32.25			P	V
		840.4	31.29	-14.71	46	30.53	28.95	3.63	31.97			P	V
		945.4	33.75	-12.25	46	30.4	30.61	3.82	31.25			P	V
Remark	1. No other spurious found. 2. All results are PASS against limit line.												

Note symbol

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

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

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

1. Level(dBμV/m) =

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

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

For Peak Limit @ 2390MHz:

1. Level(dBμV/m)

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

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

= 55.45 (dBμV/m)

2. Over Limit(dB)

= Level(dBμV/m) – Limit Line(dBμV/m)

= 55.45(dBμV/m) – 74(dBμV/m)

= -18.55(dB)

For Average Limit @ 2390MHz:

1. Level(dBμV/m)

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

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

= 43.54 (dBμV/m)

2. Over Limit(dB)

= Level(dBμV/m) – Limit Line(dBμV/m)

= 43.54(dBμV/m) – 54(dBμV/m)

= -10.46(dB)

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

Appendix D. Radiated Spurious Emission Plots

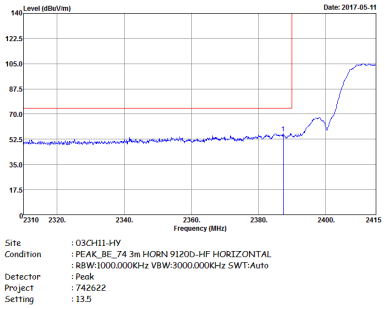
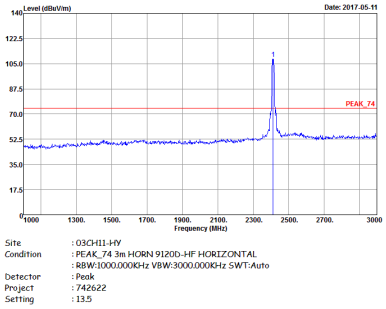
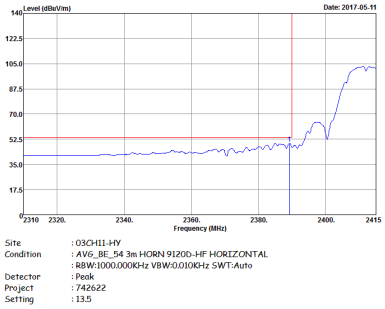
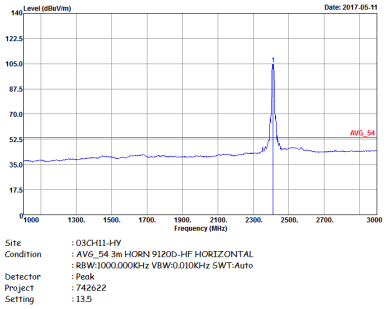
Test Engineer :	J.C. Liang, Jacky Hung and Ken Wu	**Temperature :**	20~23°C
		Relative Humidity :	58~63%

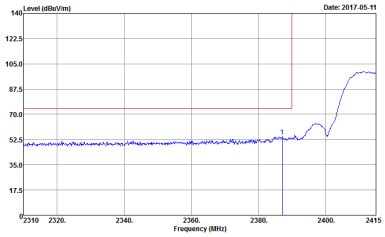
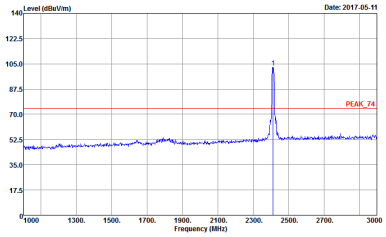
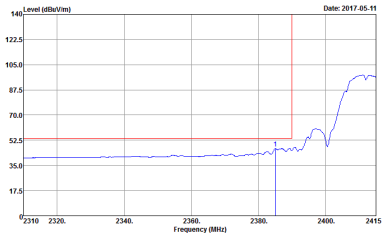
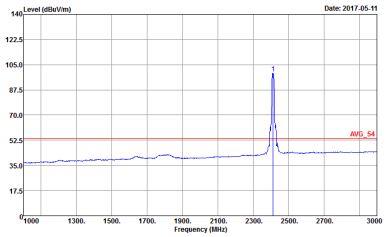
Note symbol

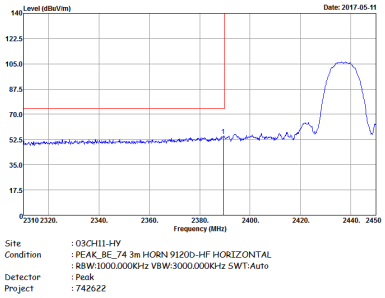
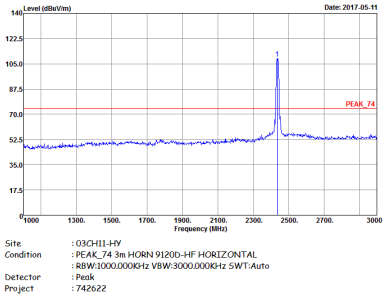
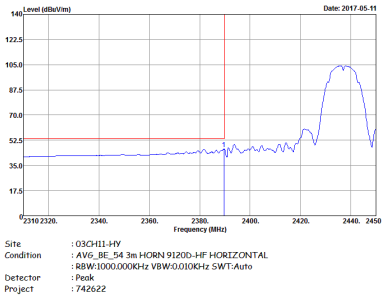
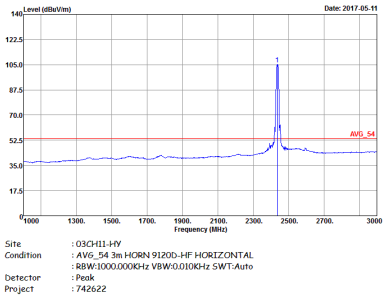
-L	**Low channel location**
-R	**High channel location**

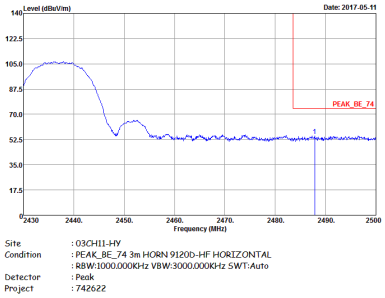
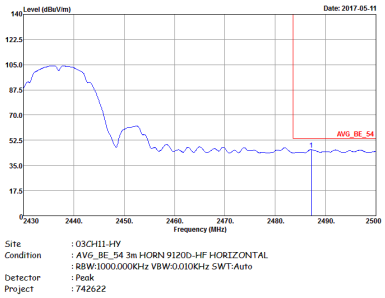
2.4GHz 2400~2483.5MHz

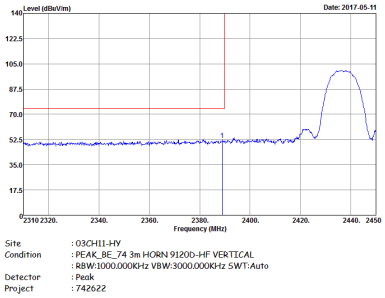
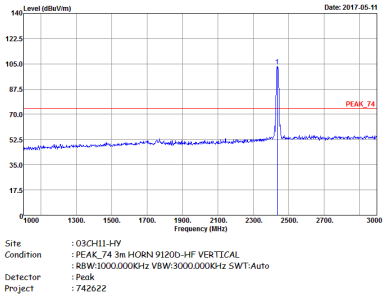
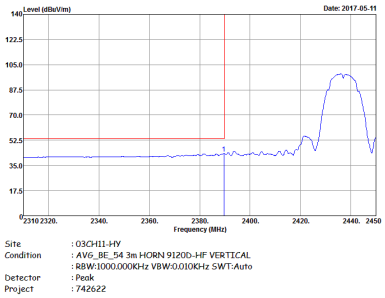
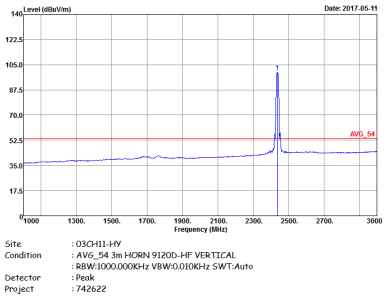
WIFI 802.11b (Band Edge @ 3m)

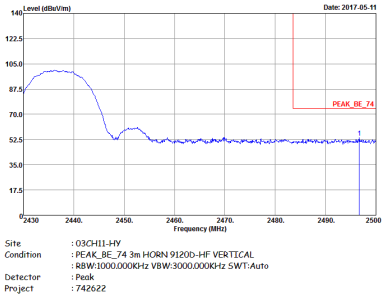
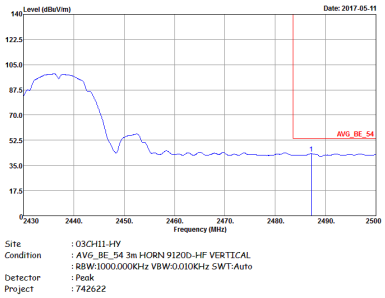
WIFI	2.4GHz 2400~2483.5MHz Band Edge @ 3m	
ANT	802.11b CH01 2412MHz	
1	Horizontal	Fundamental
Peak		
Avg.		

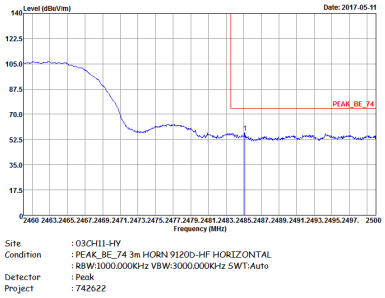
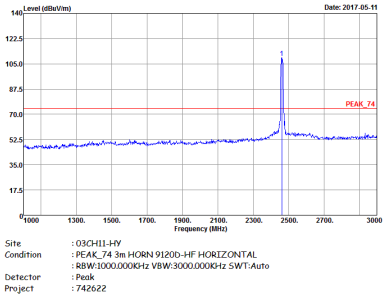
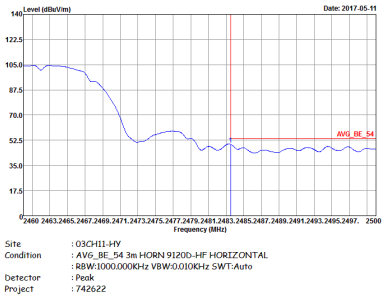
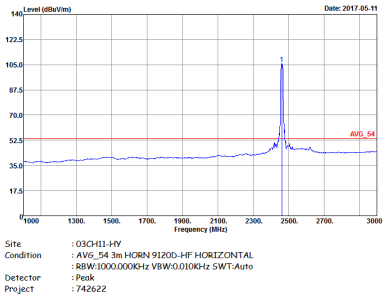
WIFI	2.4GHz 2400~2483.5MHz Band Edge @ 3m	
ANT	802.11b CH01 2412MHz	
1	Vertical	Fundamental
Peak	 Site : 03CH11-HV Condition : PEAK_BE_74 3m HORN 9120D-HF VERTICAL : RBW:1000.000KHz VBW:3000.000KHz SWT:Auto Detector : Peak Project : 742622 Setting : 13.5	 Site : 03CH11-HV Condition : PEAK_74 3m HORN 9120D-HF VERTICAL : RBW:1000.000KHz VBW:3000.000KHz SWT:Auto Detector : Peak Project : 742622 Setting : 13.5
Avg.	 Site : 03CH11-HV Condition : AVG_BE_54 3m HORN 9120D-HF VERTICAL : RBW:1000.000KHz VBW:0.010KHz SWT:Auto Detector : Peak Project : 742622 Setting : 13.5	 Site : 03CH11-HV Condition : AVG_54 3m HORN 9120D-HF VERTICAL : RBW:1000.000KHz VBW:0.010KHz SWT:Auto Detector : Peak Project : 742622 Setting : 13.5

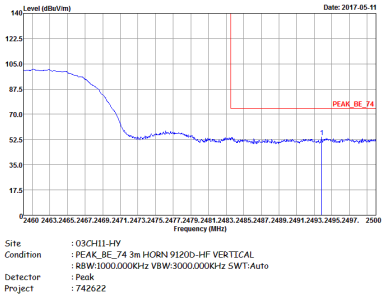
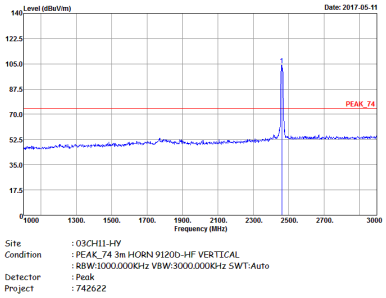
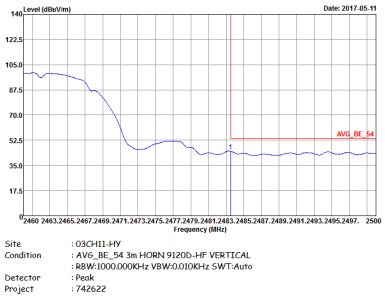
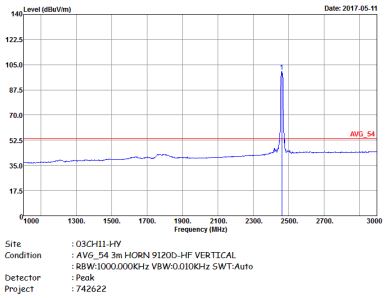
WIFI	2.4GHz 2400~2483.5MHz Band Edge @ 3m	
ANT	802.11b CH06 2437MHz - L	
1	Horizontal	Fundamental
Peak		
Avg.		

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

WIFI	2.4GHz 2400~2483.5MHz Band Edge @ 3m	
ANT	802.11b CH06 2437MHz - L	
1	Vertical	Fundamental
Peak		
Avg.		

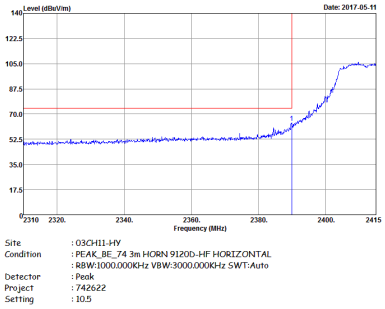
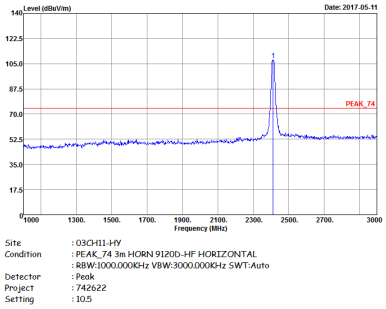
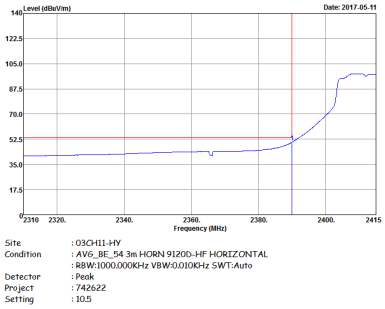
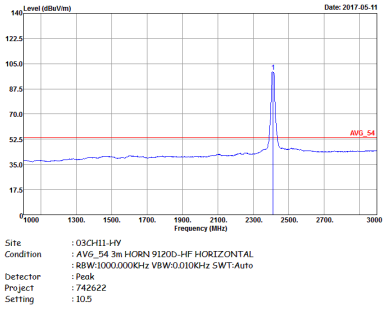
WIFI	2.4GHz 2400~2483.5MHz Band Edge @ 3m	
ANT	802.11b CH06 2437MHz - R	
1	Vertical	Fundamental
Peak	 Site : 03CH11-HV Condition : PEAK_BE_74 3m HORN 9120D-HF VERTICAL : RBW:1000.000KHz VBW:3000.000KHz SWT:Auto Detector : Peak Project : 742622	Left blank
Avg.	 Site : 03CH11-HV Condition : AVG_BE_54 3m HORN 9120D-HF VERTICAL : RBW:1000.000KHz VBW:0.010KHz SWT:Auto Detector : Peak Project : 742622	Left blank

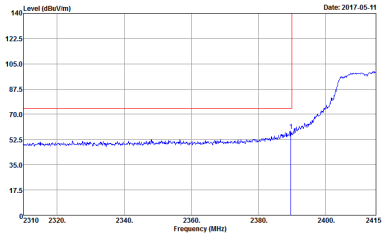
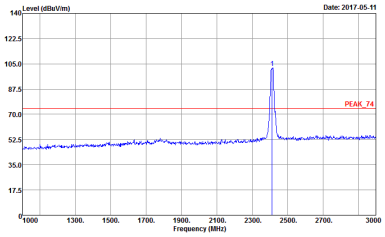
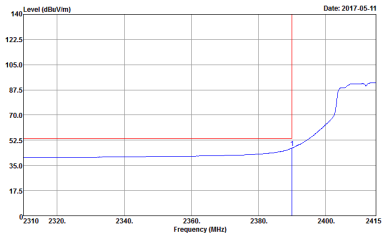
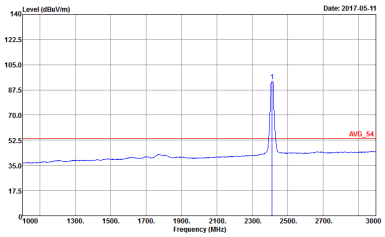
WIFI	2.4GHz 2400~2483.5MHz Band Edge @ 3m	
ANT	802.11b CH11 2462MHz	
1	Horizontal	Fundamental
Peak	 Site : 03CH11-HY Condition : PEAK_BE_74 3m HORN 9120D-HF HORIZONTAL : RBW:1000.000KHz VBW:3000.000KHz SWT:Auto Detector : Peak Project : 742622	 Site : 03CH11-HY Condition : PEAK_74 3m HORN 9120D-HF HORIZONTAL : RBW:1000.000KHz VBW:3000.000KHz SWT:Auto Detector : Peak Project : 742622
Avg.	 Site : 03CH11-HY Condition : AVG_BE_54 3m HORN 9120D-HF HORIZONTAL : RBW:1000.000KHz VBW:0.010KHz SWT:Auto Detector : Peak Project : 742622	 Site : 03CH11-HY Condition : AVG_54 3m HORN 9120D-HF HORIZONTAL : RBW:1000.000KHz VBW:0.010KHz SWT:Auto Detector : Peak Project : 742622

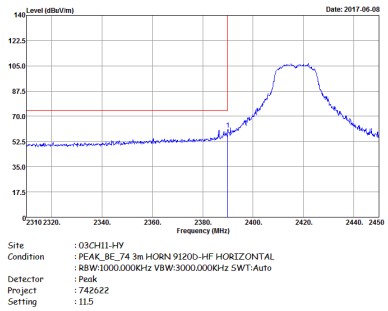
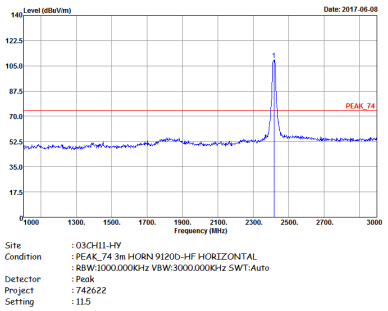
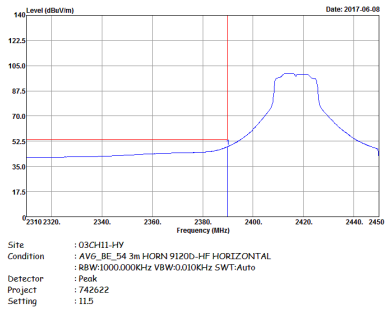
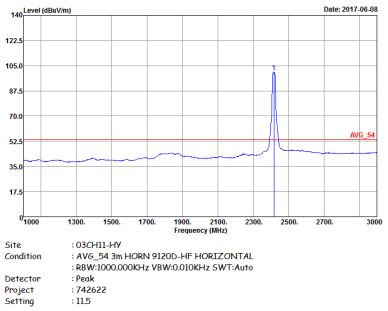
WIFI	2.4GHz 2400~2483.5MHz Band Edge @ 3m	
ANT	802.11b CH11 2462MHz	
1	Vertical	Fundamental
Peak	 Site : 03CH11-HY Condition : PEAK_BE_74 3m HORN 9120D-HF VERTICAL : RBW:1000.000KHz VBW:3000.000KHz SWT:Auto Detector : Peak Project : 742622	 Site : 03CH11-HY Condition : PEAK_74 3m HORN 9120D-HF VERTICAL : RBW:1000.000KHz VBW:3000.000KHz SWT:Auto Detector : Peak Project : 742622
Avg.	 Site : 03CH11-HY Condition : AVG_BE_54 3m HORN 9120D-HF VERTICAL : RBW:1000.000KHz VBW:0.010KHz SWT:Auto Detector : Peak Project : 742622	 Site : 03CH11-HY Condition : AVG_54 3m HORN 9120D-HF VERTICAL : RBW:1000.000KHz VBW:0.010KHz SWT:Auto Detector : Peak Project : 742622

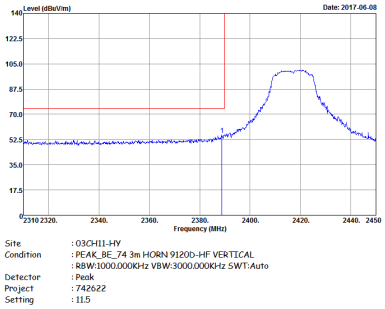
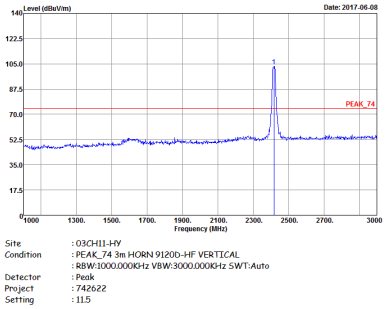
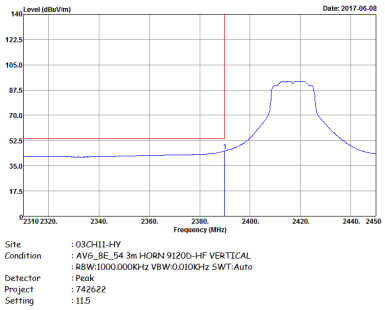
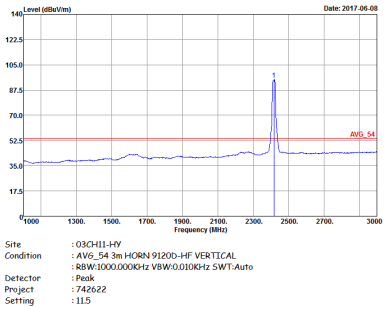
2.4GHz 2400~2483.5MHz

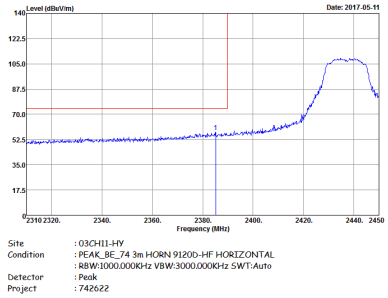
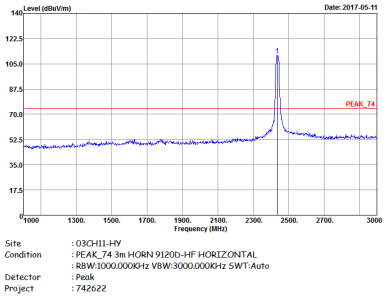
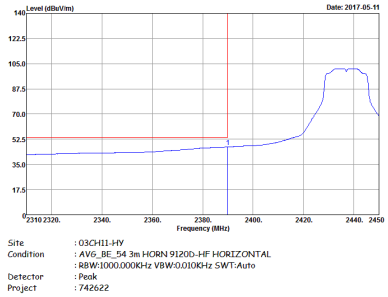
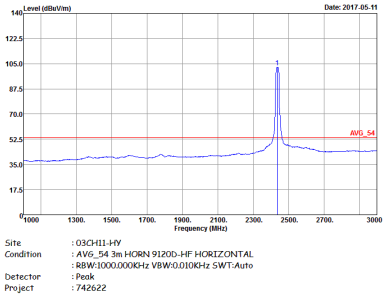
WIFI 802.11g (Band Edge @ 3m)

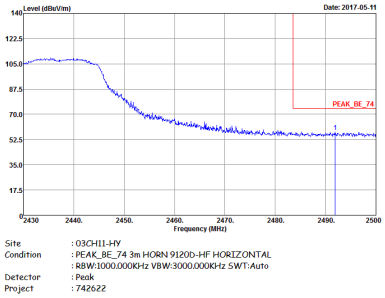
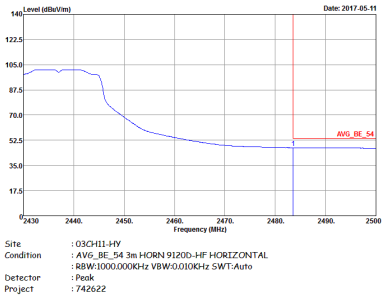
WIFI	2.4GHz 2400~2483.5MHz Band Edge @ 3m	
ANT	802.11g CH01 2412MHz	
1	Horizontal	Fundamental
Peak		
Avg.		

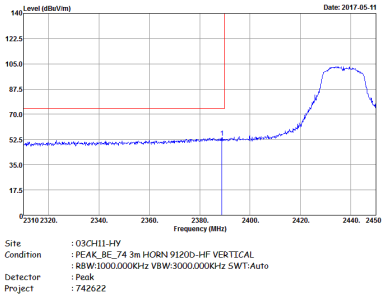
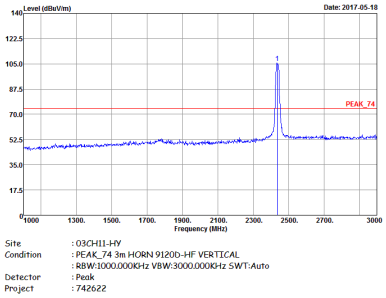
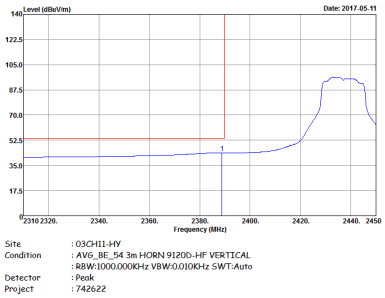
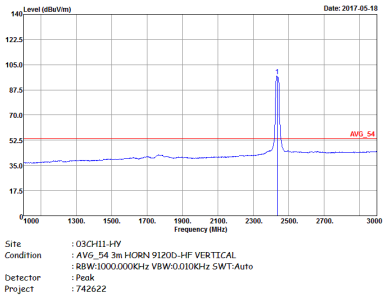
WIFI	2.4GHz 2400~2483.5MHz Band Edge @ 3m	
ANT	802.11g CH01 2412MHz	
1	Vertical	Fundamental
Peak	 Site : 03CH11-HY Condition : PEAK_BE_74 3m HORN 9120D-HF VERTICAL : RBW:1000.000KHz VBW:3000.000KHz SWT:Auto Detector : Peak Project : 742622 Setting : 10.5	 Site : 03CH11-HY Condition : PEAK_74 3m HORN 9120D-HF VERTICAL : RBW:1000.000KHz VBW:3000.000KHz SWT:Auto Detector : Peak Project : 742622 Setting : 10.5
Avg.	 Site : 03CH11-HY Condition : AVG_BE_54 3m HORN 9120D-HF VERTICAL : RBW:1000.000KHz VBW:0.010KHz SWT:Auto Detector : Peak Project : 742622 Setting : 10.5	 Site : 03CH11-HY Condition : AVG_54 3m HORN 9120D-HF VERTICAL : RBW:1000.000KHz VBW:0.010KHz SWT:Auto Detector : Peak Project : 742622 Setting : 10.5

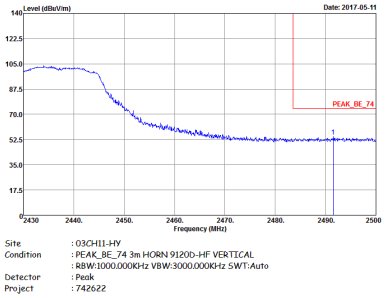
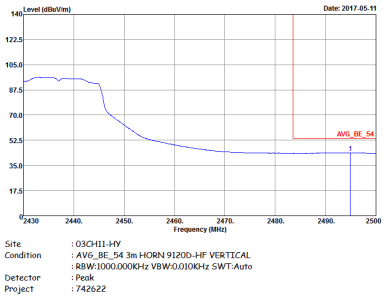
WIFI	2.4GHz 2400~2483.5MHz Band Edge @ 3m	
ANT	802.11g CH02 2417MHz	
1	Horizontal	Fundamental
Peak	 Site : 03CH11-HY Condition : PEAK_BE_74 3m HORN 9120D-HF HORIZONTAL : RBW:1000.000KHz VBW:3000.000KHz SWT:Auto Detector : Peak Project : 742622 Setting : 11.5	 Site : 03CH11-HY Condition : PEAK_74 3m HORN 9120D-HF HORIZONTAL : RBW:1000.000KHz VBW:3000.000KHz SWT:Auto Detector : Peak Project : 742622 Setting : 11.5
Avg.	 Site : 03CH11-HY Condition : AVG_BE_54 3m HORN 9120D-HF HORIZONTAL : RBW:1000.000KHz VBW:0.010KHz SWT:Auto Detector : Peak Project : 742622 Setting : 11.5	 Site : 03CH11-HY Condition : AVG_54 3m HORN 9120D-HF HORIZONTAL : RBW:1000.000KHz VBW:0.010KHz SWT:Auto Detector : Peak Project : 742622 Setting : 11.5

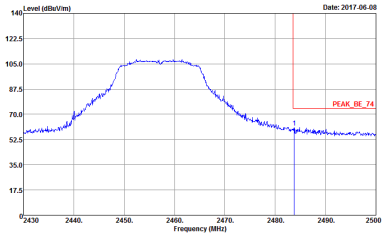
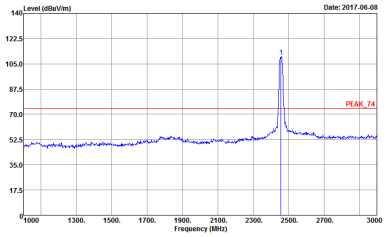
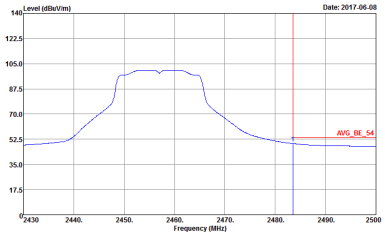
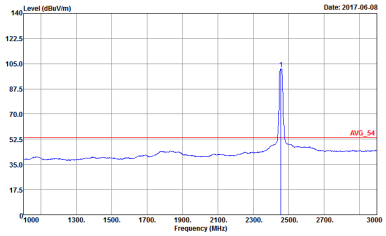
WIFI	2.4GHz 2400~2483.5MHz Band Edge @ 3m	
ANT	802.11g CH02 2417MHz	
1	Vertical	Fundamental
Peak		
Avg.		

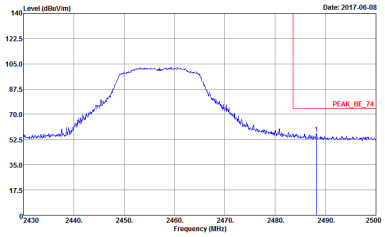
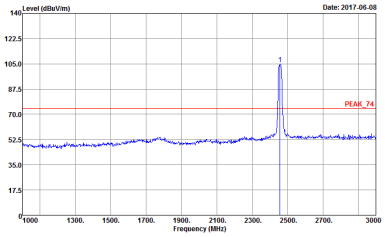
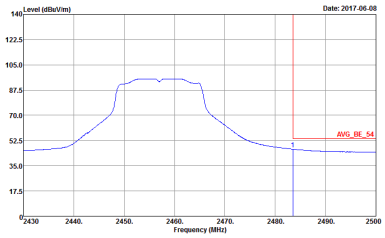
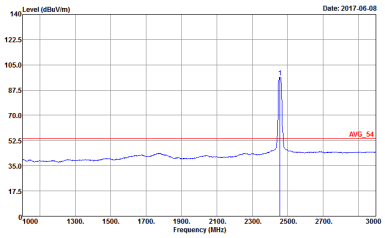
WIFI	2.4GHz 2400~2483.5MHz Band Edge @ 3m	
ANT	802.11g CH06 2437MHz - L	
1	Horizontal	Fundamental
Peak		
Avg.		

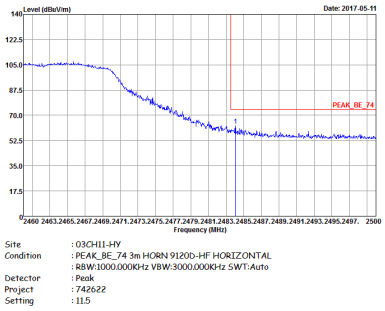
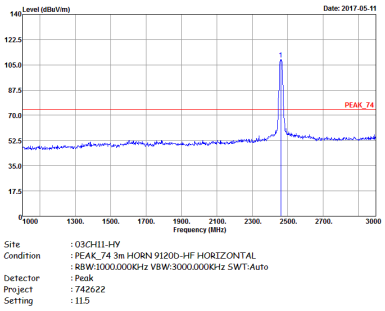
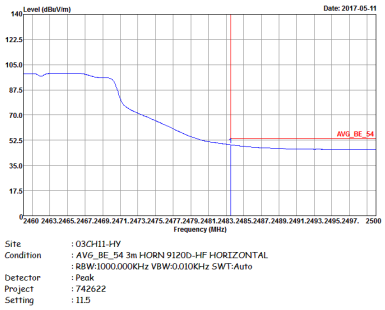
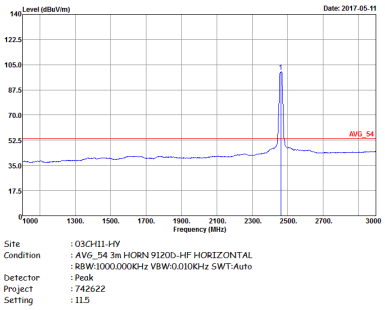
WIFI	2.4GHz 2400~2483.5MHz Band Edge @ 3m	
ANT	802.11g CH06 2437MHz - R	
1	Horizontal	Fundamental
Peak		Left blank
Avg.		Left blank

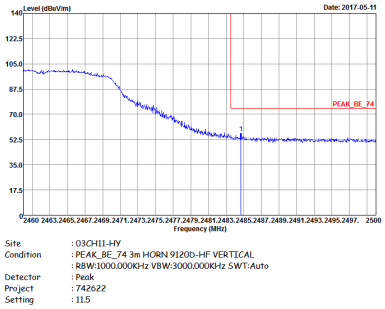
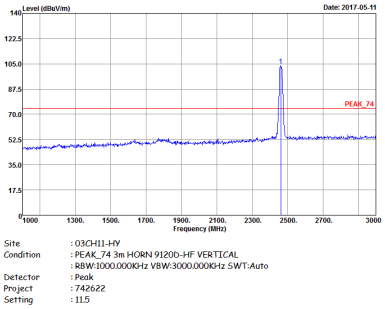
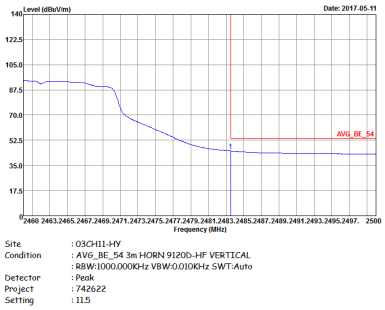
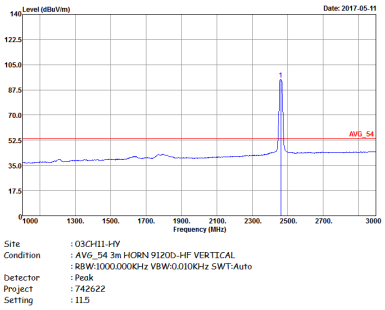
WIFI	2.4GHz 2400~2483.5MHz Band Edge @ 3m	
ANT	802.11g CH06 2437MHz - L	
1	Vertical	Fundamental
Peak		
Avg.		

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

WIFI	2.4GHz 2400~2483.5MHz Band Edge @ 3m	
ANT	802.11g CH10 2457MHz	
1	Horizontal	Fundamental
Peak	 Site : 03CH11-HY Condition : PEAK_BE_74 3m HORN 9120D-HF HORIZONTAL : RBW:1000.000KHz VBW:3000.000KHz SWT:Auto Detector : Peak Project : 742622 Setting : 12.5	 Site : 03CH11-HY Condition : PEAK_74 3m HORN 9120D-HF HORIZONTAL : RBW:1000.000KHz VBW:3000.000KHz SWT:Auto Detector : Peak Project : 742622 Setting : 12.5
Avg.	 Site : 03CH11-HY Condition : AVG_BE_54 3m HORN 9120D-HF HORIZONTAL : RBW:1000.000KHz VBW:0.010KHz SWT:Auto Detector : Peak Project : 742622 Setting : 12.5	 Site : 03CH11-HY Condition : AVG_54 3m HORN 9120D-HF HORIZONTAL : RBW:1000.000KHz VBW:0.010KHz SWT:Auto Detector : Peak Project : 742622 Setting : 12.5

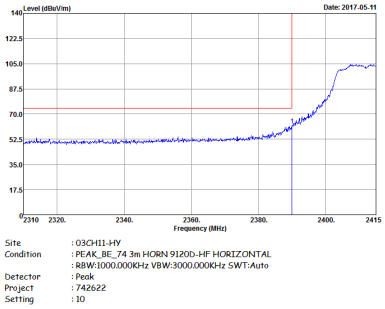
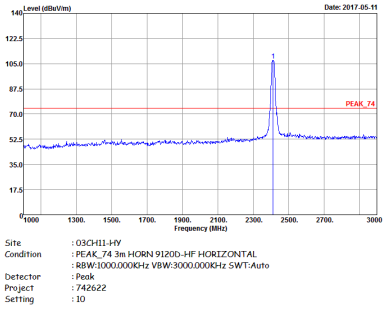
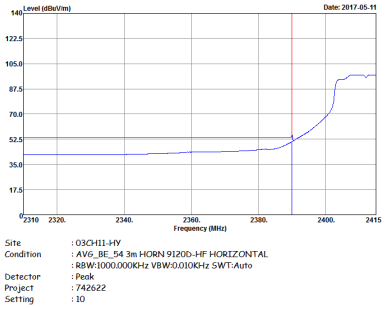
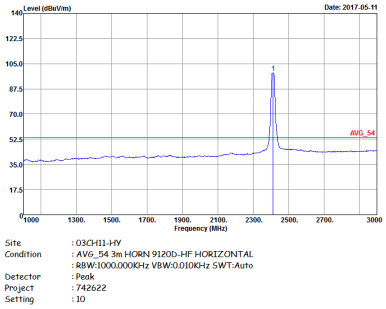
WIFI	2.4GHz 2400~2483.5MHz Band Edge @ 3m	
ANT	802.11g CH10 2457MHz	
1	Vertical	Fundamental
Peak	 Site : 03CH11-HV Condition : PEAK_BE_74 3m HORN 9120D-HF VERTICAL : RBW:1000.000KHz VBW:3000.000KHz SWT:Auto Detector : Peak Project : 742622 Setting : 12.5	 Site : 03CH11-HV Condition : PEAK_74 3m HORN 9120D-HF VERTICAL : RBW:1000.000KHz VBW:3000.000KHz SWT:Auto Detector : Peak Project : 742622 Setting : 12.5
Avg.	 Site : 03CH11-HV Condition : AVG_BE_54 3m HORN 9120D-HF VERTICAL : RBW:1000.000KHz VBW:0.010KHz SWT:Auto Detector : Peak Project : 742622 Setting : 12.5	 Site : 03CH11-HV Condition : AVG_54 3m HORN 9120D-HF VERTICAL : RBW:1000.000KHz VBW:0.010KHz SWT:Auto Detector : Peak Project : 742622 Setting : 12.5

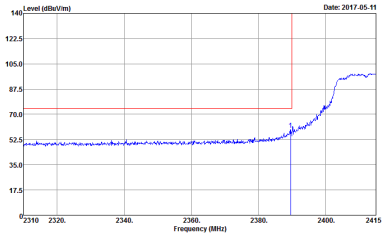
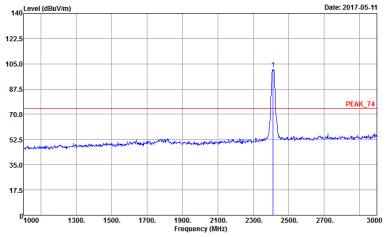
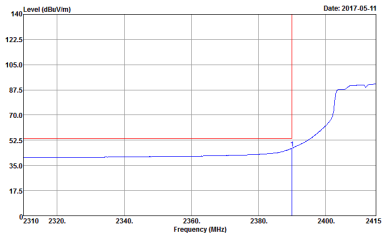
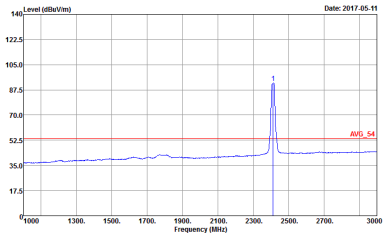
WIFI	2.4GHz 2400~2483.5MHz Band Edge @ 3m	
ANT	802.11g CH11 2462MHz	
1	Horizontal	Fundamental
Peak	 Site : 03CH11-HV Condition : PEAK_BE_74 3m HORN 9120D-HF HORIZONTAL : RBW:1000.000KHz VBW:3000.000KHz SWT:Auto Detector : Peak Project : 742622 Setting : 11.5	 Site : 03CH11-HV Condition : PEAK_74 3m HORN 9120D-HF HORIZONTAL : RBW:1000.000KHz VBW:3000.000KHz SWT:Auto Detector : Peak Project : 742622 Setting : 11.5
Avg.	 Site : 03CH11-HV Condition : AVG_BE_54 3m HORN 9120D-HF HORIZONTAL : RBW:1000.000KHz VBW:0.010KHz SWT:Auto Detector : Peak Project : 742622 Setting : 11.5	 Site : 03CH11-HV Condition : AVG_54 3m HORN 9120D-HF HORIZONTAL : RBW:1000.000KHz VBW:0.010KHz SWT:Auto Detector : Peak Project : 742622 Setting : 11.5

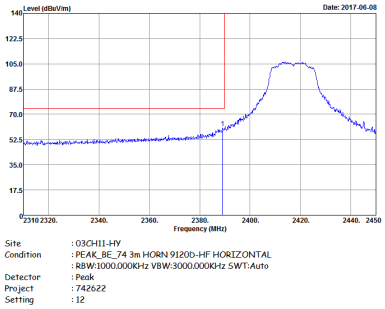
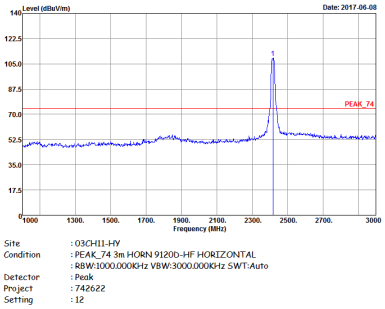
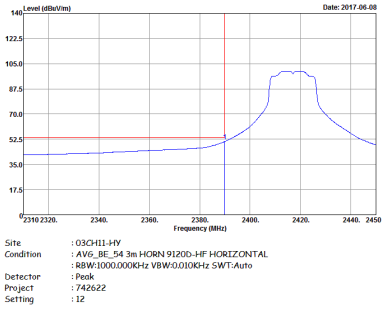
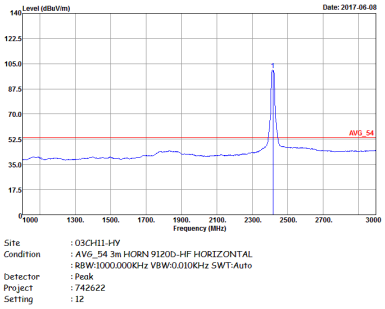
WIFI	2.4GHz 2400~2483.5MHz Band Edge @ 3m	
ANT	802.11g CH11 2462MHz	
1	Vertical	Fundamental
Peak	 Site : 03CH11-HY Condition : PEAK_BE_74 3m HORN 9120D-HF VERTICAL : RBW:1000.000KHz VBW:3000.000KHz SWT:Auto Detector : Peak Project : 742622 Setting : 11.5	 Site : 03CH11-HY Condition : PEAK_74 3m HORN 9120D-HF VERTICAL : RBW:1000.000KHz VBW:3000.000KHz SWT:Auto Detector : Peak Project : 742622 Setting : 11.5
Avg.	 Site : 03CH11-HY Condition : AVG_BE_54 3m HORN 9120D-HF VERTICAL : RBW:1000.000KHz VBW:0.010KHz SWT:Auto Detector : Peak Project : 742622 Setting : 11.5	 Site : 03CH11-HY Condition : AVG_54 3m HORN 9120D-HF VERTICAL : RBW:1000.000KHz VBW:0.010KHz SWT:Auto Detector : Peak Project : 742622 Setting : 11.5

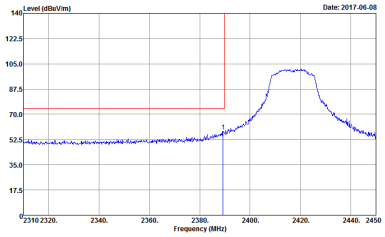
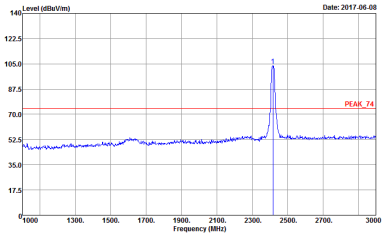
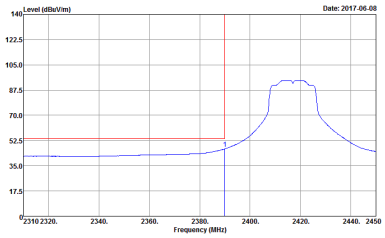
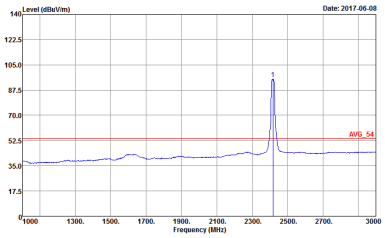
2.4GHz 2400~2483.5MHz

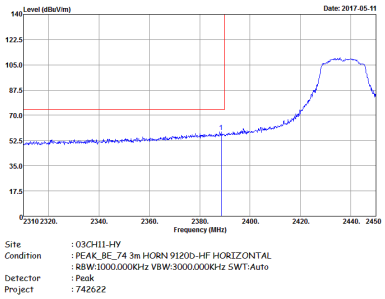
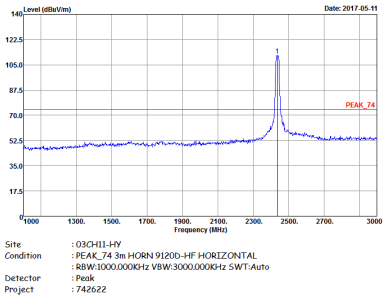
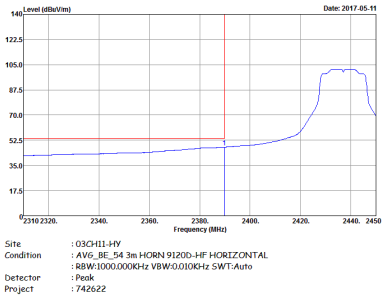
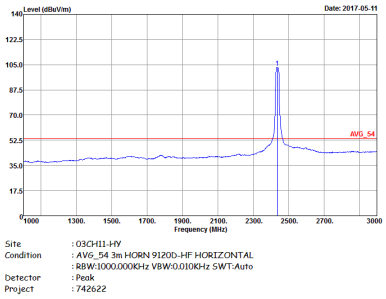
WIFI 802.11n HT20 (Band Edge @ 3m)

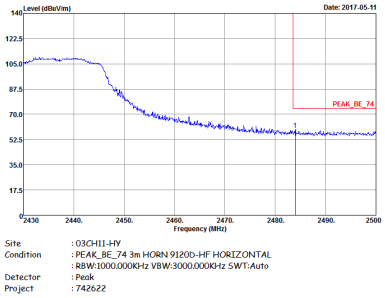
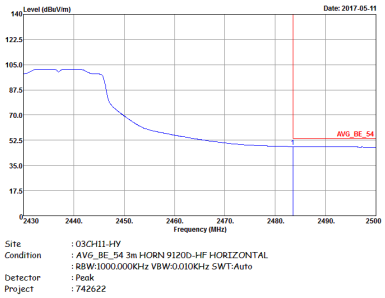
WIFI	2.4GHz 2400~2483.5MHz Band Edge @ 3m	
ANT	802.11n HT20 CH01 2412MHz	
1	Horizontal	Fundamental
Peak		
Avg.		

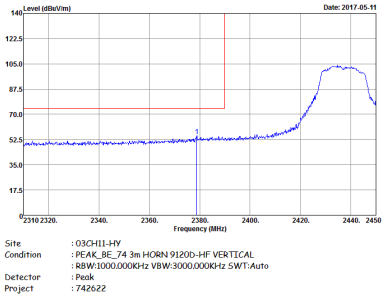
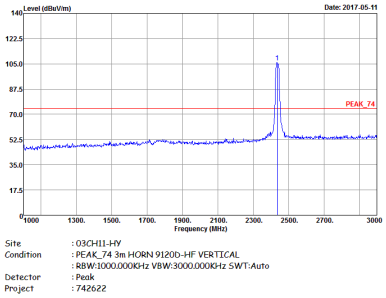
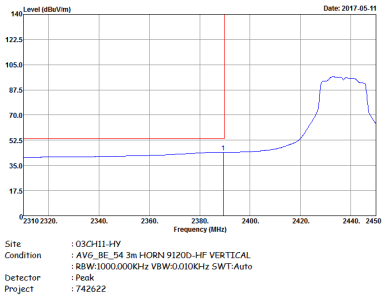
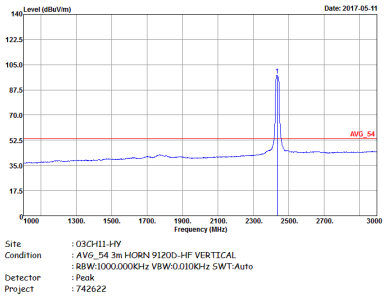
WIFI	2.4GHz 2400~2483.5MHz Band Edge @ 3m	
ANT	802.11n HT20 CH01 2412MHz	
1	Vertical	Fundamental
Peak	 Site : 03CH11-HY Condition : PEAK_BE_74 3m HORN 9120D-HF VERTICAL : RBW:1000.000KHz VBW:3000.000KHz SWT:Auto Detector : Peak Project : 742622 Setting : 10	 Site : 03CH11-HY Condition : PEAK_74 3m HORN 9120D-HF VERTICAL : RBW:1000.000KHz VBW:3000.000KHz SWT:Auto Detector : Peak Project : 742622 Setting : 10
Avg.	 Site : 03CH11-HY Condition : AVG_BE_54 3m HORN 9120D-HF VERTICAL : RBW:1000.000KHz VBW:0.010KHz SWT:Auto Detector : Peak Project : 742622 Setting : 10	 Site : 03CH11-HY Condition : AVG_54 3m HORN 9120D-HF VERTICAL : RBW:1000.000KHz VBW:0.010KHz SWT:Auto Detector : Peak Project : 742622 Setting : 10

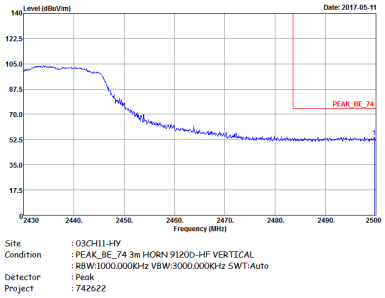
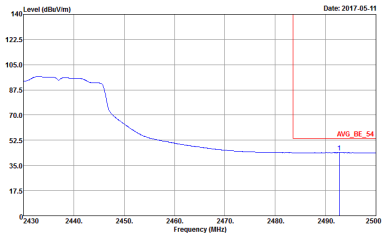
WIFI	2.4GHz 2400~2483.5MHz Band Edge @ 3m	
ANT	802.11n HT20 CH02 2417MHz	
1	Horizontal	Fundamental
Peak	 Site : 03CH11-HY Condition : PEAK_BE_74 3m HORN 9120D-HF HORIZONTAL : RBW:1000.000KHz VBW:3000.000KHz SWT:Auto Detector : Peak Project : 742622 Setting : 12	 Site : 03CH11-HY Condition : PEAK_74 3m HORN 9120D-HF HORIZONTAL : RBW:1000.000KHz VBW:3000.000KHz SWT:Auto Detector : Peak Project : 742622 Setting : 12
Avg.	 Site : 03CH11-HY Condition : AVG_BE_54 3m HORN 9120D-HF HORIZONTAL : RBW:1000.000KHz VBW:0.010KHz SWT:Auto Detector : Peak Project : 742622 Setting : 12	 Site : 03CH11-HY Condition : AVG_54 3m HORN 9120D-HF HORIZONTAL : RBW:1000.000KHz VBW:0.010KHz SWT:Auto Detector : Peak Project : 742622 Setting : 12

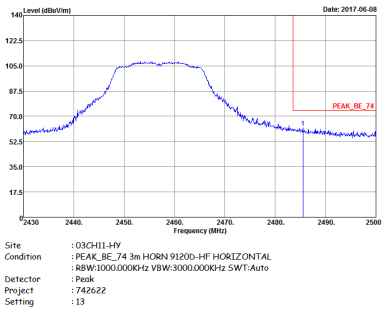
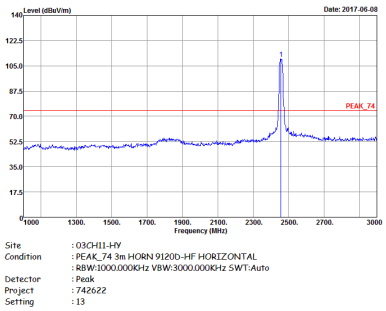
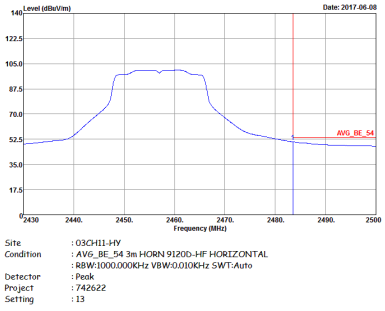
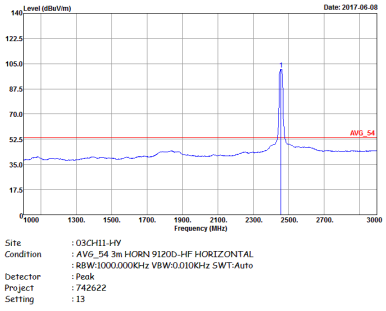
WIFI	2.4GHz 2400~2483.5MHz Band Edge @ 3m	
ANT	802.11n HT20 CH02 2417MHz	
1	Vertical	Fundamental
Peak	 Site : 03CH11-HY Condition : PEAK_BE_74 3m HORN 9120D-HF VERTICAL : RBW:1000.000KHz VBW:3000.000KHz SWT:Auto Detector : Peak Project : 742622 Setting : 12	 Site : 03CH11-HY Condition : PEAK_74 3m HORN 9120D-HF VERTICAL : RBW:1000.000KHz VBW:3000.000KHz SWT:Auto Detector : Peak Project : 742622 Setting : 12
Avg.	 Site : 03CH11-HY Condition : AVG_BE_54 3m HORN 9120D-HF VERTICAL : RBW:1000.000KHz VBW:0.010KHz SWT:Auto Detector : Peak Project : 742622 Setting : 12	 Site : 03CH11-HY Condition : AVG_54 3m HORN 9120D-HF VERTICAL : RBW:1000.000KHz VBW:0.010KHz SWT:Auto Detector : Peak Project : 742622 Setting : 12

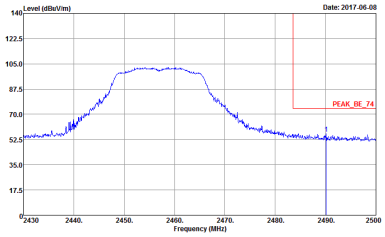
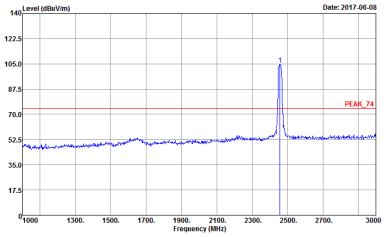
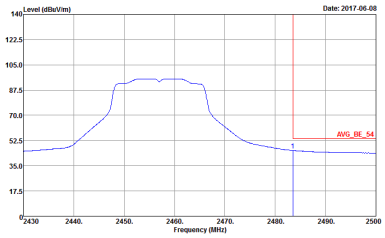
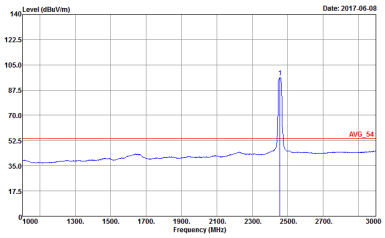
WIFI	2.4GHz 2400~2483.5MHz Band Edge @ 3m	
ANT	802.11n HT20 CH06 2437MHz - L	
1	Horizontal	Fundamental
Peak		
Avg.		

WIFI	2.4GHz 2400~2483.5MHz Band Edge @ 3m	
ANT	802.11n HT20 CH06 2437MHz - R	
1	Horizontal	Fundamental
Peak		Left blank
Avg.		Left blank

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

WIFI	2.4GHz 2400~2483.5MHz Band Edge @ 3m	
ANT	802.11n HT20 CH06 2437MHz - R	
1	Vertical	Fundamental
Peak	 Site : 03CH11-HV Condition : PEAK_BE_74 3m HORN 9120D-HF VERTICAL : RBW:1000.000KHz VBW:3000.000KHz SWT:Auto Detector : Peak Project : 742622	Left Blank
Avg.	 Site : 03CH11-HV Condition : AVG_BE_54 3m HORN 9120D-HF VERTICAL : RBW:1000.000KHz VBW:0.010KHz SWT:Auto Detector : Peak Project : 742622	Left Blank

WIFI	2.4GHz 2400~2483.5MHz Band Edge @ 3m	
ANT	802.11n HT20 CH010 2457MHz	
1	Horizontal	Fundamental
Peak	 Site : 03CH11-HY Condition : PEAK_BE_74 3m HORN 9120D-HF HORIZONTAL : RBW:1000.000KHz VBW:3000.000KHz SWT:Auto Detector : Peak Project : 742622 Setting : 13	 Site : 03CH11-HY Condition : PEAK_74 3m HORN 9120D-HF HORIZONTAL : RBW:1000.000KHz VBW:3000.000KHz SWT:Auto Detector : Peak Project : 742622 Setting : 13
Avg.	 Site : 03CH11-HY Condition : AVG_BE_54 3m HORN 9120D-HF HORIZONTAL : RBW:1000.000KHz VBW:0.010KHz SWT:Auto Detector : Peak Project : 742622 Setting : 13	 Site : 03CH11-HY Condition : AVG_54 3m HORN 9120D-HF HORIZONTAL : RBW:1000.000KHz VBW:0.010KHz SWT:Auto Detector : Peak Project : 742622 Setting : 13

WIFI	2.4GHz 2400~2483.5MHz Band Edge @ 3m	
ANT	802.11n HT20 CH10 2457MHz	
1	Vertical	Fundamental
Peak	 Site : 03CH11-HV Condition : PEAK_BE_74 3m HORN 9120D-HF VERTICAL : RBW:1000.000KHz VBW:3000.000KHz SWT:Auto Detector : Peak Project : 742622 Setting : 13	 Site : 03CH11-HV Condition : PEAK_74 3m HORN 9120D-HF VERTICAL : RBW:1000.000KHz VBW:3000.000KHz SWT:Auto Detector : Peak Project : 742622 Setting : 13
Avg.	 Site : 03CH11-HV Condition : AVG_BE_54 3m HORN 9120D-HF VERTICAL : RBW:1000.000KHz VBW:0.010KHz SWT:Auto Detector : Peak Project : 742622 Setting : 13	 Site : 03CH11-HV Condition : AVG_54 3m HORN 9120D-HF VERTICAL : RBW:1000.000KHz VBW:0.010KHz SWT:Auto Detector : Peak Project : 742622 Setting : 13