FCC/IC RF Test Report

APPLICANT	**:**	**NetComm Wireless Limited**
EQUIPMENT	**:**	**4G WiFi M2M Router**
BRAND NAME	**:**	**NetComm Wireless**
MODEL NAME	**:**	**NTC-140W-01**
MARKETING NAME	**:**	**4G WIFI M2M ROUTER**
FCC ID	**:**	**XIA-NTC140W**
IC	**:**	**8847A-NTC140W**
STANDARD	**:**	**FCC Part 15 Subpart C §15.247** **IC RSS-210 issue 8**
CLASSIFICATION	**:**	**(DTS) Digital Transmission System**

The product was received on Apr. 11, 2014 and testing was completed on Jul. 11, 2014. 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 Hsiang, Tao Yuan Hsien, Taiwan, R.O.C.

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REVISION HISTORY

REPORT NO.	VERSION	DESCRIPTION	ISSUED DATE
FR441109	Rev. 01	Initial issue of report	Oct. 09, 2014

SUMMARY OF TEST RESULT

Report Section	FCC Rule	IC Rule	Description	Limit	Result	Remark
3.1	15.247(a)(2)	RSS-210 A8.2(a)	6dB Bandwidth	≥ 0.5MHz	Pass	-
3.1	-	RSS-Gen 4.6.1	99% Bandwidth	-	Pass	-
3.2	15.247(b)	RSS-210 A8.4	Power Output Measurement	≤ 30dBm	Pass	-
3.3	15.247(e)	RSS-210 A8.2(b)	Power Spectral Density	≤ 8dBm/3kHz	Pass	-
3.4	15.247(d)	RSS-210 A8.5	Conducted Band Edges	≤ 20dBc	Pass	-
			Conducted Spurious Emission		Pass	-
3.5	15.247(d)	RSS-210 A8.5	Radiated Band Edges and Radiated Spurious Emission	15.209(a) & 15.247(d)	Pass	Under limit 0.02 dB at 2389.740 MHz
3.6	15.207	RSS-Gen 7.2.4	AC Conducted Emission	15.207(a)	Pass	Under limit 11.90 dB at 0.438 MHz
3.7	15.203 & 15.247(b)	RSS-210 A8.4	Antenna Requirement	N/A	Pass	-

1 General Description

1.1 Applicant

NetComm Wireless Limited
Level 2, 18-20 Orion Road Lane Cove NSW Australia

1.2 Manufacturer

NetComm Wireless Limited
Level 2, 18-20 Orion Road Lane Cove NSW Australia

1.3 Product Feature of Equipment Under Test

Product Feature	
Equipment	4G WiFi M2M Router
Brand Name	NetComm Wireless
Model Name	NTC-140W-01
Marketing Name	4G WiFi M2M Router
FCC ID	XIA-NTC140W
IC	8847A-NTC140W
EUT supports Radios application	CDMA/EV-DO/GSM/EGPRS/WCDMA/HSPA/LTE WLAN 11b/g/n HT20/HT40
HW Version	v1.0
SW Version	v2.0.5.0
EUT Stage	Identical Prototype

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

1.4 Product Specification subjective to this standard

<table>
<tr><th colspan="2">Product Specification subjective to this standard</th></tr>
<tr><td>Tx/Rx Channel Frequency Range</td><td>2412 MHz ~ 2462 MHz</td></tr>
<tr><td>Maximum (Peak) Output Power to antenna</td><td><Ant. 1>
802.11b : 17.38 dBm (0.0547 W)
802.11g : 21.55 dBm (0.1429 W)
<Ant. 2>
802.11b : 18.02 dBm (0.0634 W)
802.11g : 23.31 dBm (0.2143 W)
MIMO <Ant. 1 + 2>
802.11b : 16.00 dBm (0.0398 W)
802.11g : 26.13 dBm (0.4102 W)
802.11n HT20 : 26.36 dBm (0.4325 W)
802.11n HT40 : 26.04 dBm (0.4018 W)</td></tr>
<tr><td>99% Occupied Bandwidth</td><td><Ant. 1>
802.11b : 15.20MHz
802.11g : 17.30MHz
<Ant. 2>
802.11b : 15.20MHz
802.11g : 17.45MHz
MIMO <Ant. 1 + 2>
802.11b : 15.20MHz
802.11g : 17.45MHz
802.11n HT20 : 18.15MHz
802.11n HT40 : 36.30MHz</td></tr>
<tr><td>Antenna Type</td><td>Dipole Antenna with gain 2.00 dBi</td></tr>
<tr><td>Type of Modulation</td><td>802.11b : DSSS (DBPSK / DQPSK / CCK)
802.11a/g/n : OFDM (BPSK / QPSK / 16QAM / 64QAM)</td></tr>
<tr><td>Antenna Function for Transmitter</td><td>
<table>
<tr><th></th><th>Ant. 1</th><th>Ant. 2</th></tr>
<tr><td>802.11 b SISO</td><td>V</td><td>V</td></tr>
<tr><td>802.11 g SISO</td><td>V</td><td>V</td></tr>
<tr><td>802.11 b MIMO</td><td>V</td><td>V</td></tr>
<tr><td>802.11 g MIMO</td><td>V</td><td>V</td></tr>
<tr><td>802.11 n MIMO</td><td>V</td><td>V</td></tr>
</table>
</td></tr>
</table>

1.5 Modification of EUT

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

1.6 Testing Location

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

Test Site	SPORTON INTERNATIONAL INC.			
Test Site Location	No. 52, Hwa Ya 1st Rd., Hwa Ya Technology Park, Kwei-Shan Hsiang, Tao Yuan Hsien, Taiwan, R.O.C. TEL: +886-3-3273456 / FAX: +886-3-3284978			
Test Site No.	Sporton Site No.			IC Registration No.
	TH02-HY	CO05-HY	03CH07-HY	4086B-1

1.7 Applicable Standards

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

- FCC Part 15 Subpart C §15.247
- FCC KDB Publication No. 558074 D01 DTS Meas. Guidance v03r02
- FCC KDB 662911 D01 Multiple Transmitter Output v02r01.
- ANSI C63.4-2003
- IC RSS-210 Issue 8
- IC RSS-Gen Issue 3
- NOTICE 2012-DRS0126

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.
3. Per the section 2.2.3 of Notice of 2012-DRS0126, " Receivers Excluded from Industry Canada Requirements", only radiocommunication receivers operating in stand-alone mode within the band 30-960 MHz and scanner receivers are subject to Industry Canada requirements

2 Test Configuration of Equipment Under Test

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

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

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

2.1 Carrier Frequency and Channel

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

2.2 Pre-Scanned RF Power

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

<Ant. 1>

802.11b				
Data Rate (MHz)	1M bps	2M bps	5.5M bps	11M bps
Peak Power (dBm)	17.38	17.35	17.33	17.36

802.11g								
Data Rate (MHz)	6M bps	9M bps	12M bps	18M bps	24M bps	36M bps	48M bps	54M bps
Peak Power (dBm)	21.55	21.53	21.47	21.52	21.38	21.11	21.53	21.39

<Ant. 2>

802.11b				
Data Rate (MHz)	1M bps	2M bps	5.5M bps	11M bps
Peak Power (dBm)	18.02	17.96	17.98	17.97

802.11g								
Data Rate (MHz)	6M bps	9M bps	12M bps	18M bps	24M bps	36M bps	48M bps	54M bps
Peak Power (dBm)	23.31	23.28	23.25	22.94	23.22	23.27	23.29	23.26

MIMO <Ant. 1+2>

802.11b				
Data Rate (MHz)	1M bps	2M bps	5.5M bps	11M bps
Peak Power (dBm)	16.00	15.88	15.79	15.91

802.11g								
Data Rate (MHz)	6M bps	9M bps	12M bps	18M bps	24M bps	36M bps	48M bps	54M bps
Peak Power (dBm)	26.13	26.00	25.94	25.71	26.03	26.09	25.97	26.07

2.4GHz 802.11n HT20								
Data Rate (MHz)	MCS 0	MCS 1	MCS2	MCS 3	MCS 4	MCS 5	MCS 6	MCS 7
Peak Power (dBm)	26.36	26.12	26.35	26.08	26.15	26.35	26.09	26.00

2.4GHz 802.11n HT40								
Data Rate (MHz)	MCS 0	MCS 1	MCS2	MCS 3	MCS 4	MCS 5	MCS 6	MCS 7
Peak Power (dBm)	26.04	25.81	25.94	25.89	25.92	25.99	25.81	25.76

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

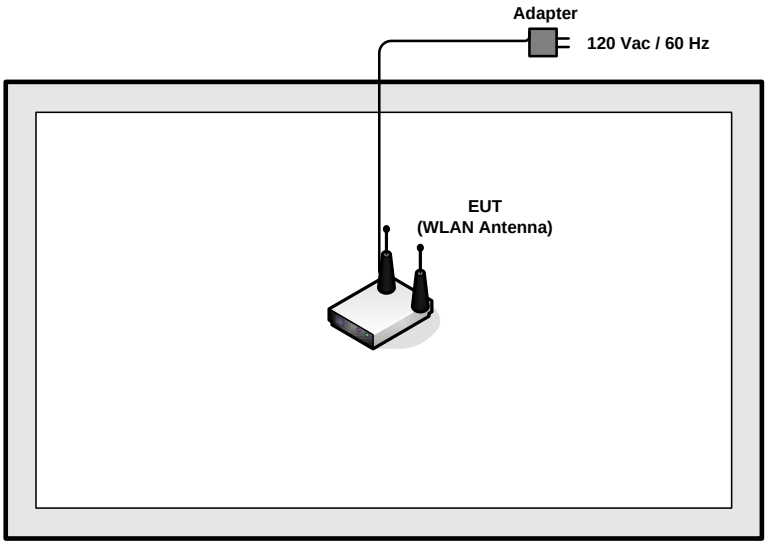
2.3 Test Mode

Final results of test modes, data rates and test channels are shown as following table.

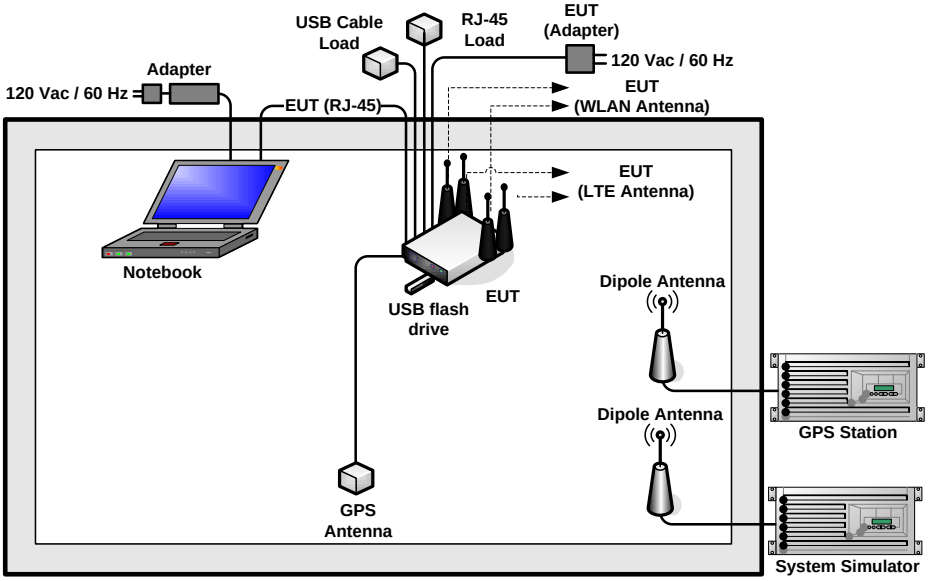
Test Cases				
	Test Items	**Mode**	**Data Rate**	**Test Channel**
Conducted TCs	**6dB and 99% BW Power Spectral Density**	**802.11b**	**1 Mbps**	**1/6/11**
		802.11g	**6 Mbps**	**1/6/11**
		802.11n HT20	**MCS0**	**1/6/11**
		802.11n HT40	**MCS0**	**3/6/9**
	Output Power	**802.11b**	**1 Mbps**	**1/6/11**
		802.11g	**6 Mbps**	**1/6/11**
		802.11n HT20	**MCS0**	**1/6/11**
		802.11n HT40	**MCS0**	**3/6/9**
	Conducted Band Edge	**802.11b**	**1 Mbps**	**1/11**
		802.11g	**6 Mbps**	**1/11**
		802.11n HT20	**MCS0**	**1/11**
		802.11n HT40	**MCS0**	**3/9**
	Conducted Spurious Emission	**802.11b**	**1 Mbps**	**1/6/11**
		802.11g	**6 Mbps**	**1/6/11**
		802.11n HT20	**MCS0**	**1/6/11**
		802.11n HT40	**MCS0**	**3/6/9**
Radiated TCs	**Radiated Band Edge**	**802.11b**	**1 Mbps**	**1/11**
		802.11g	**6 Mbps**	**1/11**
		802.11n HT20	**MCS0**	**1/11**
		802.11n HT40	**MCS0**	**3/9**
	Radiated Spurious Emission	**802.11b**	**1 Mbps**	**1/6/11**
		802.11g	**6 Mbps**	**1/6/11**
		802.11n HT20	**MCS0**	**1/6/11**
		802.11n HT40	**MCS0**	**3/6/9**
AC Conducted Emission	Mode 1 : GSM850 (GPRS Class 8) Idle + WLAN Link + USB flash drive + GPS Rx + LAN Link + Adapter			

2.4 Connection Diagram of Test System

<WLAN Tx Mode>



<AC Conducted Emission Mode>



2.5 Support Unit used in test configuration and system

Item	Equipment	Trade Name	Model Name	FCC ID	Data Cable	Power Cord
1.	System Simulator	R&S	CMU 200	N/A	N/A	Unshielded, 1.8 m
2.	GPS Station	Pendulum	GSG-54	N/A	N/A	Unshielded, 1.8 m
3.	Notebook	DELL	Latitude E6320	FCC DoC/ Contains FCC ID: QDS-BRCM1054	N/A	AC I/P: Unshielded, 1.2 m DC O/P: Shielded, 1.8 m
4.	USB Gongle	Transcend	TS8GJF300	FCC DoC	N/A	N/A
5.	SD Card	SanDisk	MicroSD HC	FCC DoC	N/A	N/A

2.6 EUT Operation Test Setup

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

2.7 Measurement Results Explanation Example

For all conducted test items:

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

Example:

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

Offset = RF cable loss + attenuator factor.

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

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

= 4.2 + 10 = 14.2 (dB)

3 Test Result

3.1 6dB and 99% Bandwidth Measurement

3.1.1 Limit of 6dB and 99% Bandwidth

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

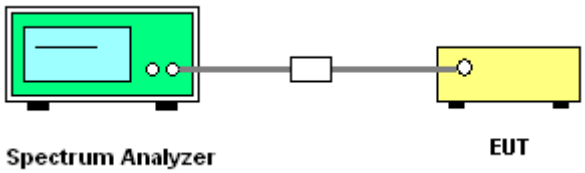
3.1.2 Measuring Instruments

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 v03r02.
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.

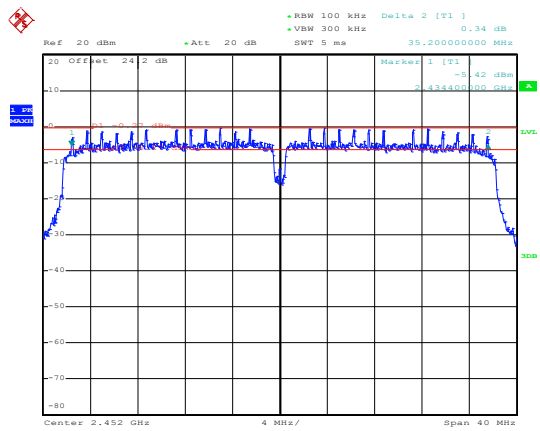
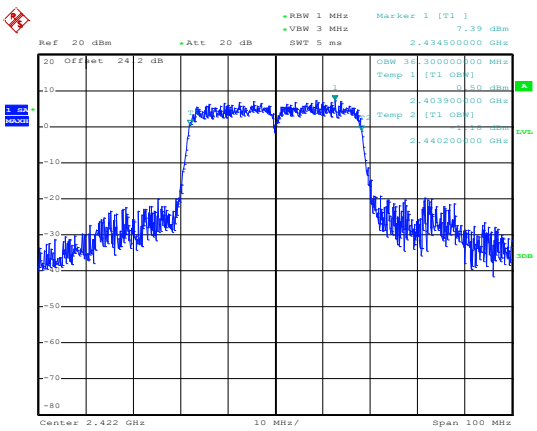
3.1.4 Test Setup



3.1.5 Test Result of 6dB and 99% Occupied Bandwidth

Test Band :	2.4GHz	Temperature :	21~26℃
Test Engineer :	Osolemio Chang	Relative Humidity :	45~54%

Mod.	Data Rate	N_{TX}	Channel	Freq. (MHz)	99% Bandwidth (MHz)		6dB Bandwidth (MHz)		6dB Bandwidth Min. Limit (MHz)	Pass/Fail
					Ant. 1	Ant. 2	Ant. 1	Ant. 2		
11b	1Mbps	1	1	2412	15.15	15.20	12.04	12.08	0.5	Pass
11b	1Mbps	1	6	2437	15.15	15.20	12.04	12.08	0.5	Pass
11b	1Mbps	1	11	2462	15.15	15.15	12.08	12.08	0.5	Pass
11g	6Mbps	1	1	2412	17.15	17.15	16.04	16.08	0.5	Pass
11g	6Mbps	1	6	2437	17.20	17.20	16.04	16.04	0.5	Pass
11g	6Mbps	1	11	2462	17.15	17.30	16.28	15.84	0.5	Pass
11b	1Mbps	2	1	2412	15.15	15.20	12.04	12.04	0.5	Pass
11b	1Mbps	2	6	2437	15.10	15.15	12.04	12.04	0.5	Pass
11b	1Mbps	2	11	2462	15.20	15.15	12.04	12.06	0.5	Pass
11g	6Mbps	2	1	2412	17.10	17.05	16.04	16.04	0.5	Pass
11g	6Mbps	2	6	2437	17.10	17.20	16.04	15.68	0.5	Pass
11g	6Mbps	2	11	2462	17.45	17.30	15.64	15.66	0.5	Pass
HT20	MCS0	2	1	2412	17.95	18.05	16.28	16.24	0.5	Pass
HT20	MCS0	2	6	2437	18.05	18.05	16.04	16.04	0.5	Pass
HT20	MCS0	2	11	2462	18.15	18.10	15.48	15.32	0.5	Pass
HT40	MCS0	2	3	2422	36.30	36.20	35.12	35.12	0.5	Pass
HT40	MCS0	2	6	2437	36.30	36.30	35.08	35.12	0.5	Pass
HT40	MCS0	2	9	2452	36.20	36.20	35.20	35.12	0.5	Pass

Minimum 6dB Bandwidth	Maximum 99% Occupied Bandwidth
	

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

3.2 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.

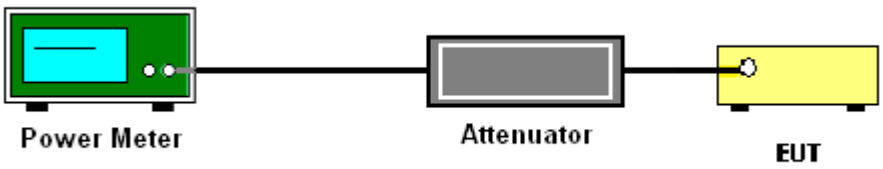
3.2.2 Measuring Instruments

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 v03r02.
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

Test Band :	2.4GHz	Temperature :	21~26℃
Test Engineer :	Osolemio Chang	Relative Humidity :	45~54%

Mod.	Data Rate	N_{TX}	CH.	Freq. (MHz)	Peak Conducted Power (dBm)			Max. Limit (dBm)		DG (dBi)		Pass/Fail
					Ant. 1	Ant. 2	SUM	Ant. 1	Ant. 2	Ant. 1	Ant. 2	
11b	1Mbps	1	1	2412	17.18	17.51	-	30.00	30.00	2.00	2.00	Pass
11b	1Mbps	1	6	2437	17.31	17.69		30.00	30.00	2.00	2.00	Pass
11b	1Mbps	1	11	2462	17.38	18.02		30.00	30.00	2.00	2.00	Pass
11g	6Mbps	1	1	2412	21.41	21.43		30.00	30.00	2.00	2.00	Pass
11g	6Mbps	1	6	2437	21.53	22.74		30.00	30.00	2.00	2.00	Pass
11g	6Mbps	1	11	2462	21.55	23.31		30.00	30.00	2.00	2.00	Pass
11b	1Mbps	2	1	2412	12.56	13.38	16.00	30.00		2.00		Pass
11b	1Mbps	2	6	2437	11.40	12.95	15.25	30.00		2.00		Pass
11b	1Mbps	2	11	2462	10.18	12.02	14.21	30.00		2.00		Pass
11g	6Mbps	2	1	2412	21.05	21.43	24.25	30.00		2.00		Pass
11g	6Mbps	2	6	2437	21.14	23.22	25.31	30.00		2.00		Pass
11g	6Mbps	2	11	2462	21.44	24.33	26.13	30.00		2.00		Pass
HT20	MCS0	2	1	2412	22.05	22.36	25.22	30.00		2.00		Pass
HT20	MCS0	2	6	2437	22.68	23.93	26.36	30.00		2.00		Pass
HT20	MCS0	2	11	2462	22.36	24.11	26.33	30.00		2.00		Pass
HT40	MCS0	2	3	2422	19.42	20.55	23.03	30.00		2.00		Pass
HT40	MCS0	2	6	2437	22.33	23.64	26.04	30.00		2.00		Pass
HT40	MCS0	2	9	2452	22.14	23.70	26.00	30.00		2.00		Pass

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

3.2.6 Test Result of Average output Power (Reporting Only)

Test Band :	2.4GHz	Temperature :	21~26℃
Test Engineer :	Osolemio Chang	Relative Humidity :	45~54%

Mod.	Data Rate	N_{TX}	Channel	Freq. (MHz)	Duty Factor (dB)		Average Conducted Power (dBm)		
					Ant. 1	Ant. 2	Ant. 1	Ant. 2	Sum Power
11b	1Mbps	1	1	2412	0.10	0.10	14.64	14.65	-
11b	1Mbps	1	6	2437	0.10	0.10	14.76	14.66	
11b	1Mbps	1	11	2462	0.10	0.10	14.82	14.95	
11g	6Mbps	1	1	2412	0.58	0.58	12.90	12.93	
11g	6Mbps	1	6	2437	0.58	0.58	12.96	13.04	
11g	6Mbps	1	11	2462	0.58	0.58	13.01	13.42	
11b	1Mbps	2	1	2412	0.10	0.10	9.83	10.33	13.10
11b	1Mbps	2	6	2437	0.10	0.10	9.06	10.52	12.86
11b	1Mbps	2	11	2462	0.10	0.10	6.99	9.72	11.58
11g	6Mbps	2	1	2412	0.58	0.58	12.32	12.51	15.43
11g	6Mbps	2	6	2437	0.58	0.58	12.16	13.00	15.61
11g	6Mbps	2	11	2462	0.58	0.58	12.43	13.93	16.25
HT20	MCS0	2	1	2412	0.62	0.62	12.55	12.24	15.41
HT20	MCS0	2	6	2437	0.62	0.62	12.71	12.85	15.79
HT20	MCS0	2	11	2462	0.62	0.62	12.11	13.05	15.62
HT40	MCS0	2	3	2422	1.17	1.21	9.78	10.57	13.20
HT40	MCS0	2	6	2437	1.17	1.21	12.91	13.05	15.99
HT40	MCS0	2	9	2452	1.17	1.21	12.64	13.21	15.94

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

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 v03r02
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.

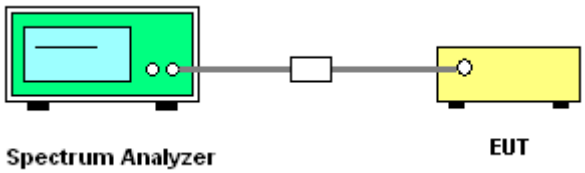
   If measurements performed using method (2) plus 10 log (N) exceeds the emission limit, the test should choose method (1) before declaring that the device fails the emission limit.

   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



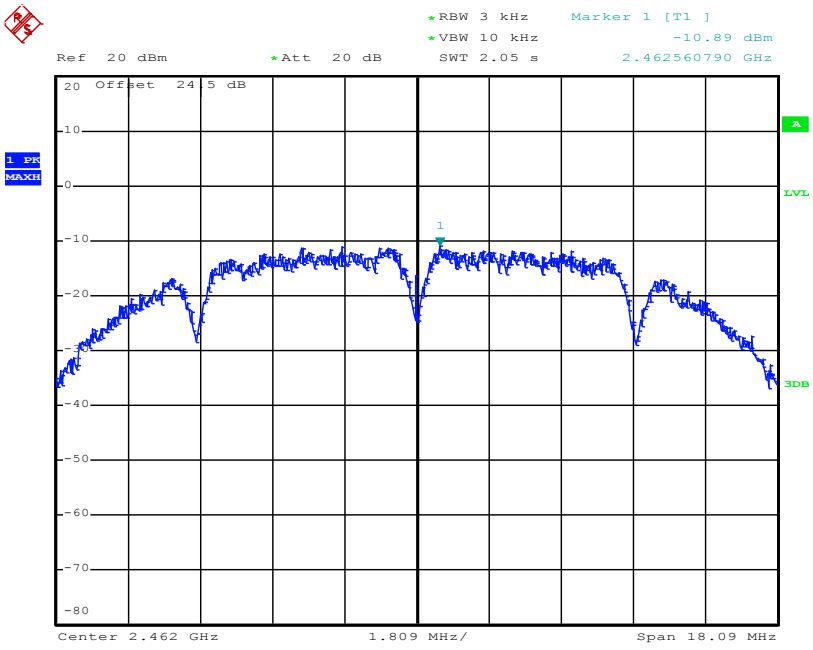
3.3.5 Test Result of Power Spectral Density

Test Band :	2.4GHz	Temperature :	21~26℃
Test Engineer :	Osolemio Chang	Relative Humidity :	45~54%

Mod.	Data Rate	N_{TX}	CH.	Freq. (MHz)	Peak Power Density (dBm/3kHz)			Max. Limit (dBm/3kHz)		DG (dBi)		Pass/Fail
					Ant. 1	Ant. 2	Worst +3.01	Ant. 1	Ant. 2	Ant. 1	Ant. 2	
11b	1Mbps	1	1	2412	-12.37	-11.19	-	2.00	2.00	8.00	8.00	Pass
11b	1Mbps	1	6	2437	-11.70	-11.44		2.00	2.00	8.00	8.00	Pass
11b	1Mbps	1	11	2462	-11.95	-11.70		2.00	2.00	8.00	8.00	Pass
11g	6Mbps	1	1	2412	-14.42	-14.50		2.00	2.00	8.00	8.00	Pass
11g	6Mbps	1	6	2437	-14.51	-14.06		2.00	2.00	8.00	8.00	Pass
11g	6Mbps	1	11	2462	-13.82	-13.72		2.00	2.00	8.00	8.00	Pass
11b	1Mbps	2	1	2412	-12.61	-11.70	-8.69	5.01		8.00		Pass
11b	1Mbps	2	6	2437	-12.68	-11.23	-8.22	5.01		8.00		Pass
11b	1Mbps	2	11	2462	-12.82	-10.89	-7.88	5.01		8.00		Pass
11g	6Mbps	2	1	2412	-14.77	-14.36	-11.35	5.01		8.00		Pass
11g	6Mbps	2	6	2437	-15.34	-12.76	-9.75	5.01		8.00		Pass
11g	6Mbps	2	11	2462	-15.16	-12.78	-9.77	5.01		8.00		Pass
HT20	MCS0	2	1	2412	-13.73	-14.79	-10.72	5.01		8.00		Pass
HT20	MCS0	2	6	2437	-14.54	-13.87	-10.86	5.01		8.00		Pass
HT20	MCS0	2	11	2462	-14.91	-14.00	-10.99	5.01		8.00		Pass
HT40	MCS0	2	3	2422	-16.91	-16.37	-13.36	5.01		8.00		Pass
HT40	MCS0	2	6	2437	-16.74	-16.04	-13.03	5.01		8.00		Pass
HT40	MCS0	2	9	2452	-16.70	-15.88	-12.87	5.01		8.00		Pass

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

Worst Case Power Density (dBm/3kHz)



Date: 12.JUN.2014 21:40:12

3.4 Conducted Band Edges and Spurious Emission Measurement

3.4.1 Limit of Conducted Band Edges and Spurious Emission Measurement

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

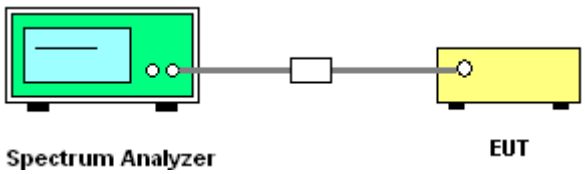
3.4.2 Measuring Instruments

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

3.4.3 Test Procedures

1. The testing follows FCC KDB Publication No. 558074 D01 DTS Meas. Guidance v03r02.
2. The RF output of EUT was connected to the spectrum analyzer by RF cable and attenuator. The path loss was compensated to the results for each measurement.
3. Set to the maximum power setting and enable the EUT transmit continuously.
4. Set RBW = 100 kHz, VBW=300 kHz, Peak Detector. Unwanted Emissions measured in any 100 kHz bandwidth outside of the authorized frequency band shall be attenuated by at least 20 dB relative to the maximum in-band peak PSD level in 100 kHz when maximum peak conducted output power procedure is used. If the transmitter complies with the conducted power limits based on the use of RMS averaging over a time interval, the attenuation required under this paragraph shall be 30 dB instead of 20 dB per 15.247(d).
5. Measure and record the results in the test report.
6. The RF fundamental frequency should be excluded against the limit line in the operating frequency band.

3.4.4 Test Setup



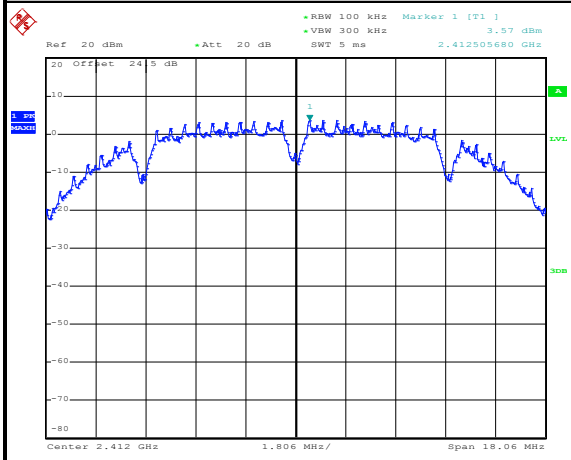
3.4.5 Test Result of Conducted Band Edges and Spurious Emission

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

Number of TX :	2	**Ant. :**	1
Test Mode :	802.11b	**Temperature :**	21~26℃
Test Band :	2.4GHz Low	**Relative Humidity :**	45~54%
Test Channel :	01	**Test Engineer :**	Osolemio Chang

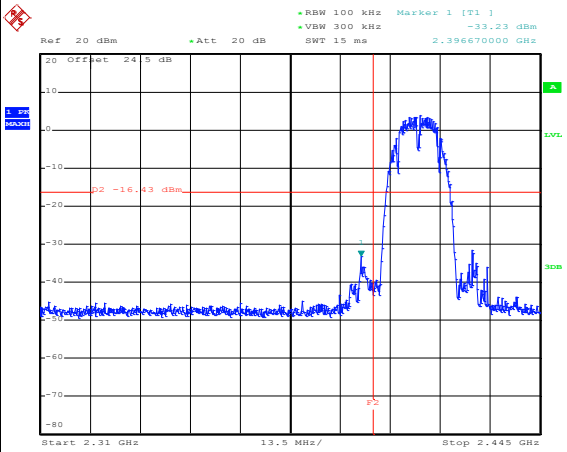
WLAN 802.11b Channel 01

100kHz PSD reference Level



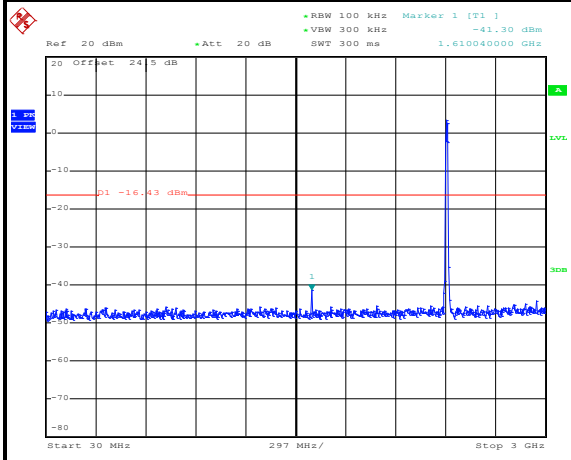
Date: 12.JUN.2014 21:13:07

Low Channel Plot



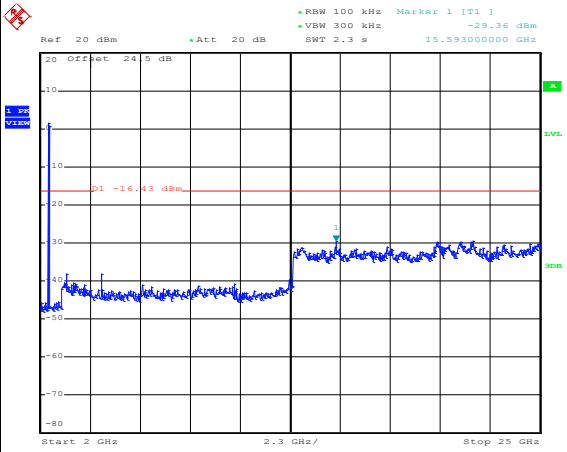
Date: 12.JUN.2014 21:13:21

Spurious Emission 30MHz~3GHz



Date: 12.JUN.2014 21:13:40

Spurious Emission 2GHz~25GHz

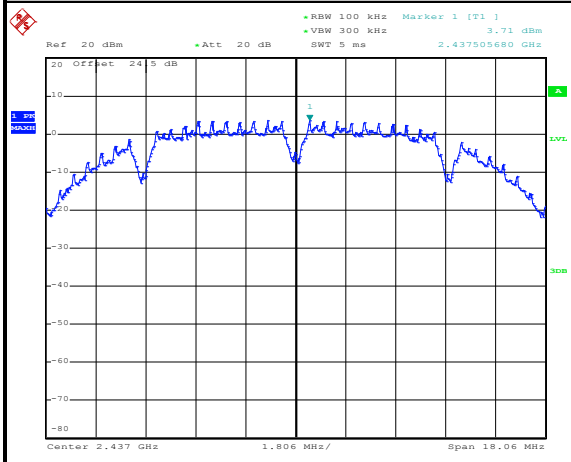


Date: 12.JUN.2014 21:13:59

Number of TX :	2	**Ant. :**	1
Test Mode :	802.11b	**Temperature :**	21~26℃
Test Band :	2.4GHz Mid	**Relative Humidity :**	45~54%
Test Channel :	06	**Test Engineer :**	Osolemio Chang

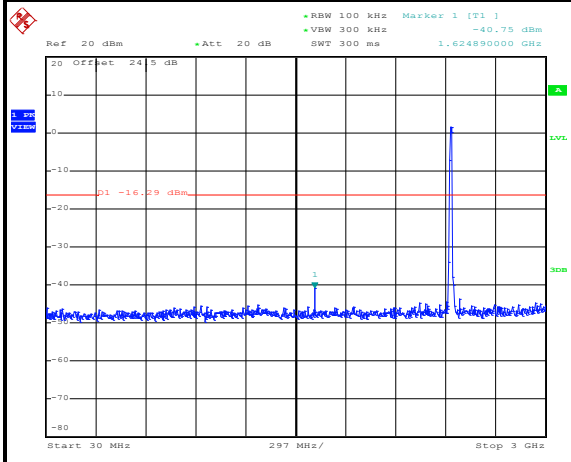
WLAN 802.11b Channel 06

100kHz PSD reference Level



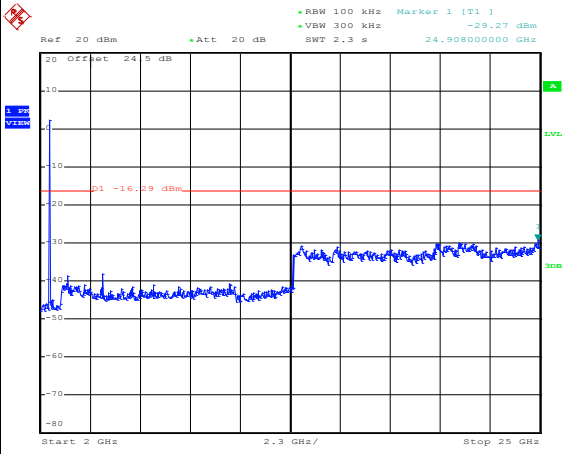
Date: 12.JUN.2014 21:19:55

Spurious Emission 30MHz~3GHz



Date: 12.JUN.2014 21:20:15

Spurious Emission 2GHz~25GHz

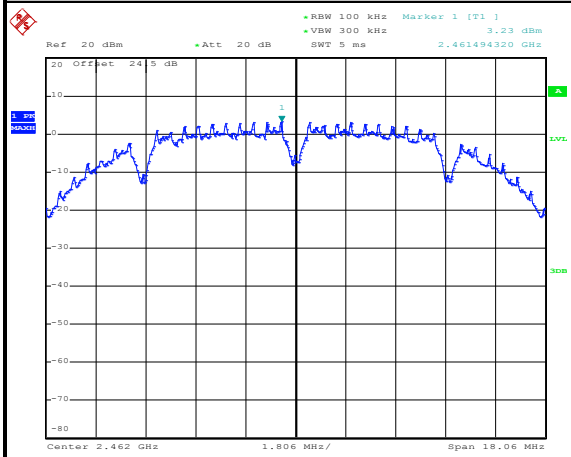


Date: 12.JUN.2014 21:20:34

Number of TX :	2	**Ant. :**	1
Test Mode :	802.11b	**Temperature :**	21~26℃
Test Band :	2.4GHz High	**Relative Humidity :**	45~54%
Test Channel :	11	**Test Engineer :**	Osolemio Chang

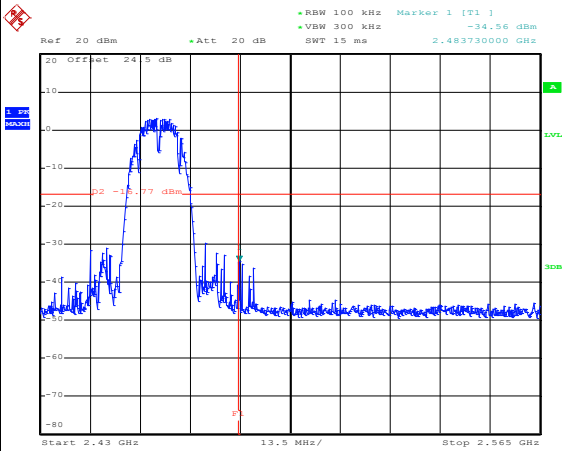
WLAN 802.11b Channel 11

100kHz PSD reference Level



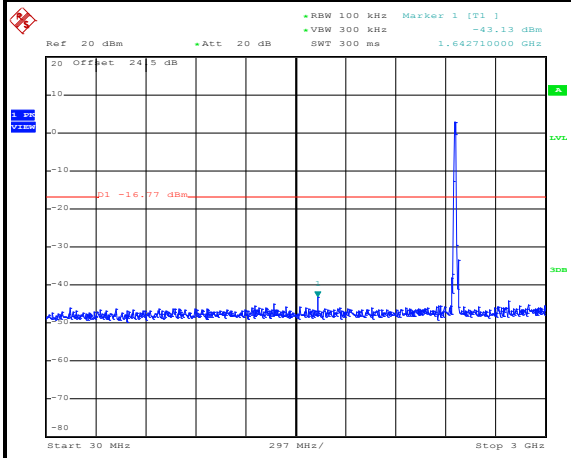
Date: 12.JUN.2014 21:32:33

High Channel Plot



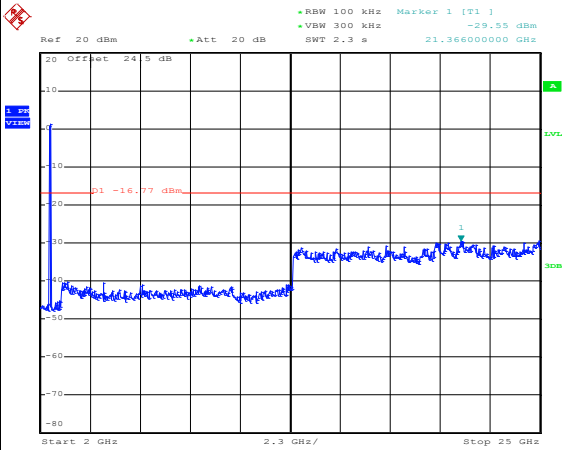
Date: 12.JUN.2014 21:32:47

Spurious Emission 30MHz~3GHz



Date: 12.JUN.2014 21:37:26

Spurious Emission 2GHz~25GHz

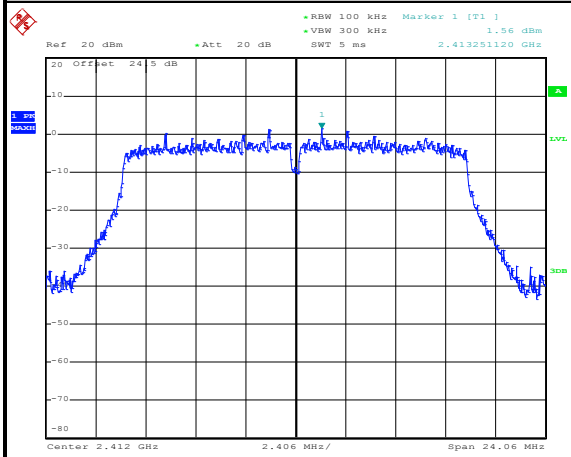


Date: 12.JUN.2014 21:38:08

Number of TX :	2	**Ant. :**	1
Test Mode :	802.11g	**Temperature :**	21~26℃
Test Band :	2.4GHz Low	**Relative Humidity :**	45~54%
Test Channel :	01	**Test Engineer :**	Osolemio Chang

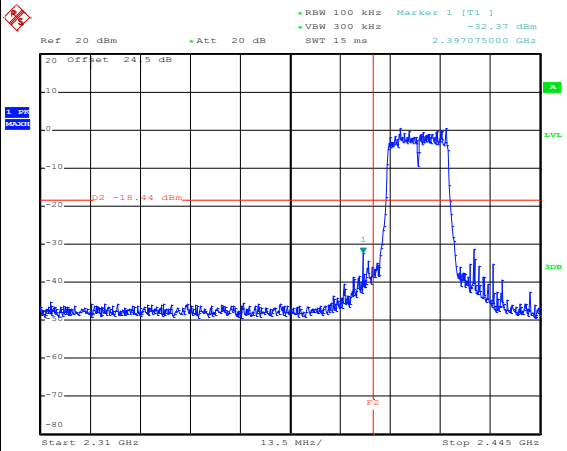
WLAN 802.11g Channel 01

100kHz PSD reference Level



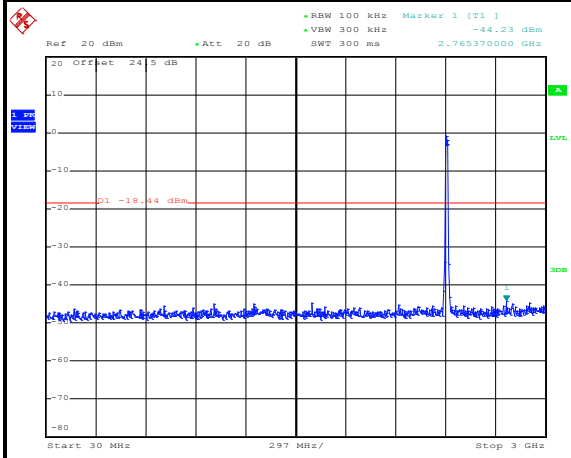
Date: 12.JUN.2014 21:49:29

Low Channel Plot



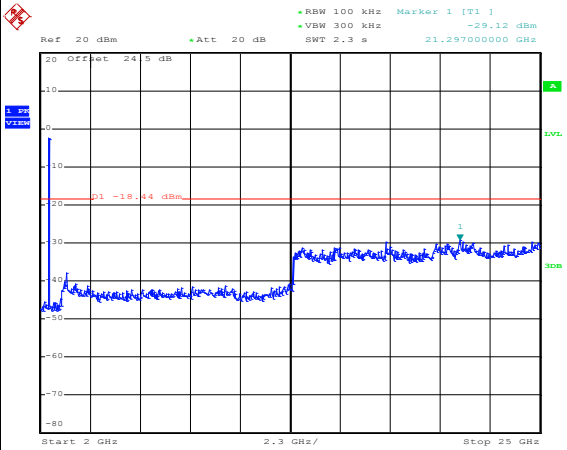
Date: 12.JUN.2014 21:49:43

Spurious Emission 30MHz~3GHz



Date: 12.JUN.2014 21:50:02

Spurious Emission 2GHz~25GHz

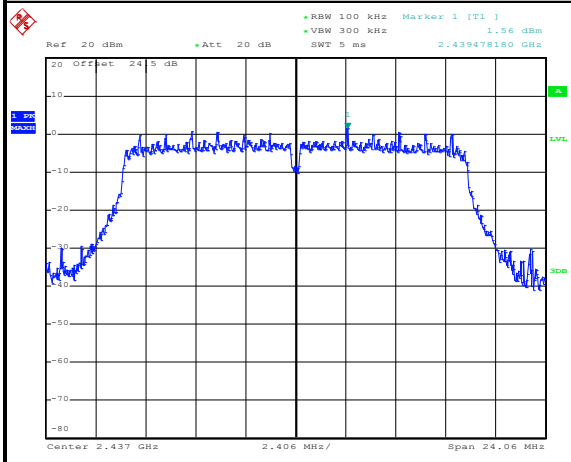


Date: 12.JUN.2014 21:50:21

Number of TX :	2	**Ant. :**	1
Test Mode :	802.11g	**Temperature :**	21~26℃
Test Band :	2.4GHz Mid	**Relative Humidity :**	45~54%
Test Channel :	06	**Test Engineer :**	Osolemio Chang

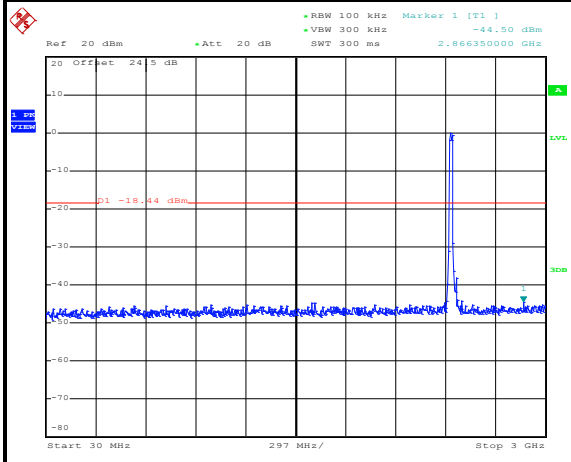
WLAN 802.11g Channel 06

100kHz PSD reference Level



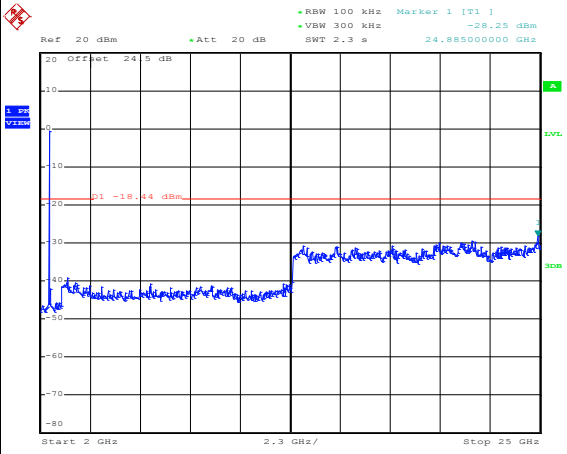
Date: 12.JUN.2014 21:57:43

Spurious Emission 30MHz~3GHz



Date: 12.JUN.2014 22:01:02

Spurious Emission 2GHz~25GHz

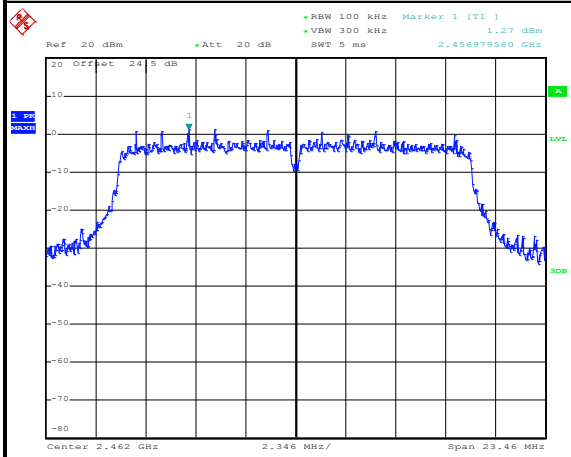


Date: 12.JUN.2014 22:01:48

Number of TX :	2	**Ant. :**	1
Test Mode :	802.11g	**Temperature :**	21~26℃
Test Band :	2.4GHz High	**Relative Humidity :**	45~54%
Test Channel :	11	**Test Engineer :**	Osolemio Chang

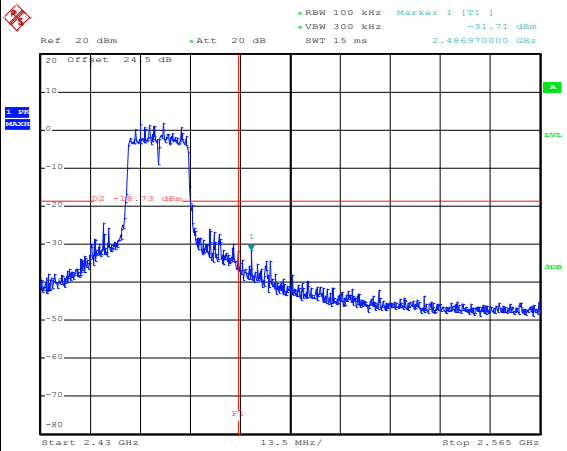
WLAN 802.11g Channel 11

100kHz PSD reference Level



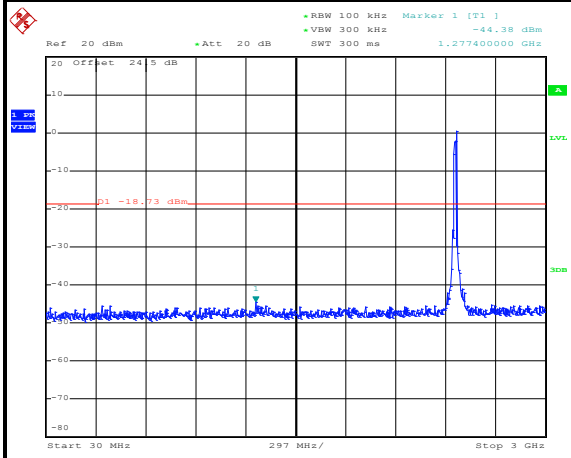
Date: 12.JUN.2014 22:15:06

High Channel Plot



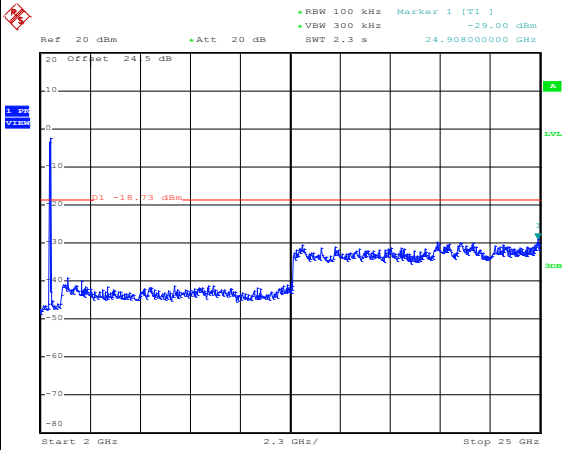
Date: 12.JUN.2014 22:15:20

Spurious Emission 30MHz~3GHz



Date: 12.JUN.2014 22:15:39

Spurious Emission 2GHz~25GHz

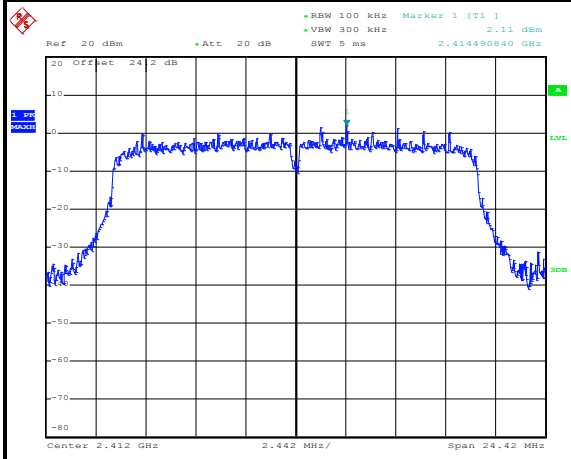


Date: 12.JUN.2014 22:15:58

Number of TX :	2	**Ant. :**	1
Test Mode :	802.11n HT20	**Temperature :**	21~26℃
Test Band :	2.4GHz Low	**Relative Humidity :**	45~54%
Test Channel :	01	**Test Engineer :**	Osolemio Chang

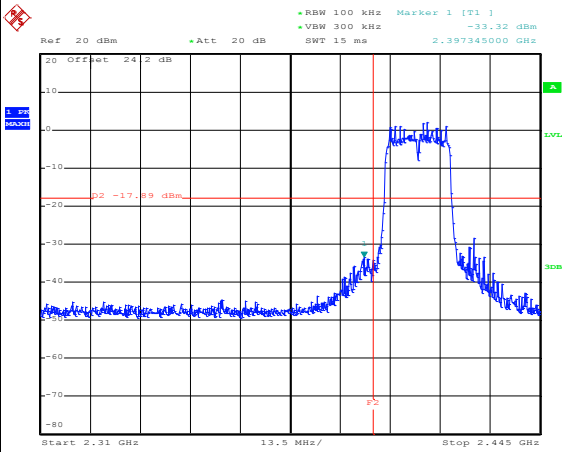
WLAN 802.11n HT20 Channel 01

100kHz PSD reference Level



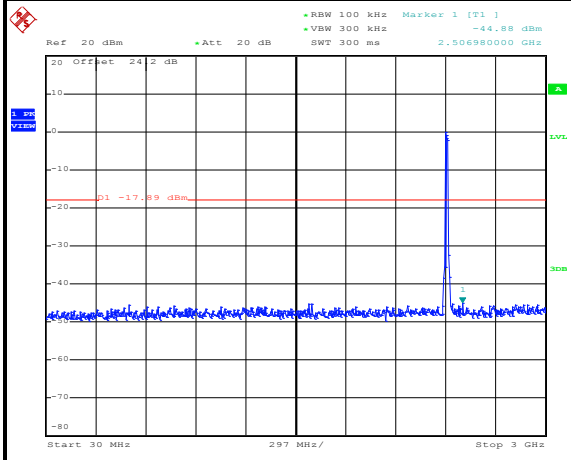
Date: 26.MAY.2014 23:37:58

Low Channel Plot



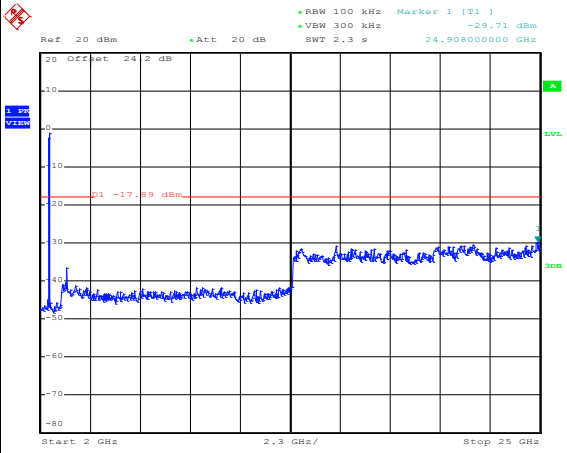
Date: 26.MAY.2014 23:38:12

Spurious Emission 30MHz~3GHz



Date: 26.MAY.2014 23:38:31

Spurious Emission 2GHz~25GHz

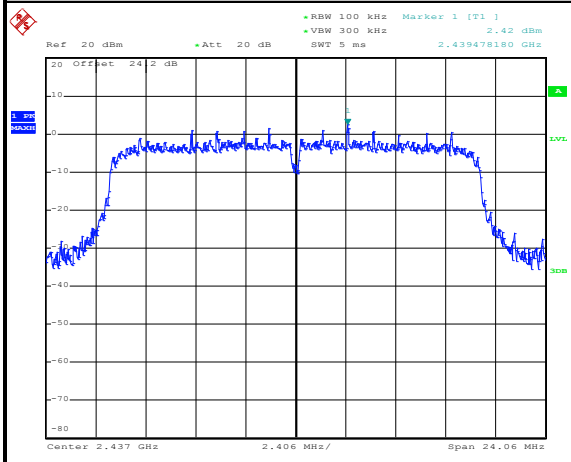


Date: 26.MAY.2014 23:38:49

Number of TX :	2	**Ant. :**	1
Test Mode :	802.11n HT20	**Temperature :**	21~26℃
Test Band :	2.4GHz Mid	**Relative Humidity :**	45~54%
Test Channel :	06	**Test Engineer :**	Osolemio Chang

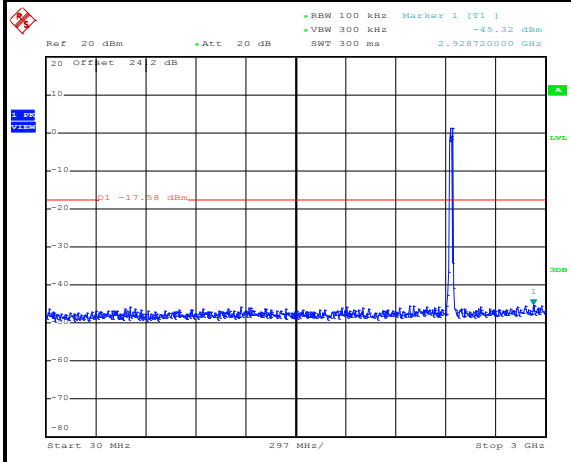
WLAN 802.11n HT20 Channel 06

100kHz PSD reference Level



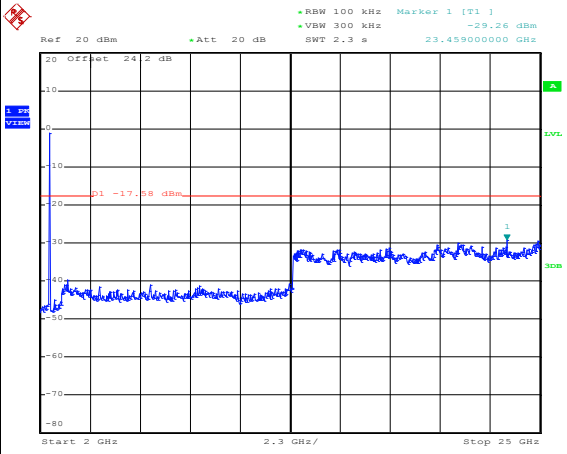
Date: 26.MAY.2014 23:48:37

Spurious Emission 30MHz~3GHz



Date: 27.MAY.2014 02:03:14

Spurious Emission 2GHz~25GHz

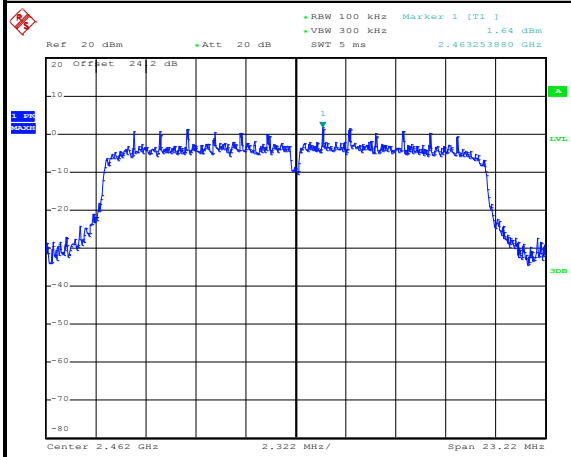


Date: 27.MAY.2014 02:03:32

Number of TX :	2	**Ant. :**	1
Test Mode :	802.11n HT20	**Temperature :**	21~26℃
Test Band :	2.4GHz High	**Relative Humidity :**	45~54%
Test Channel :	11	**Test Engineer :**	Osolemio Chang

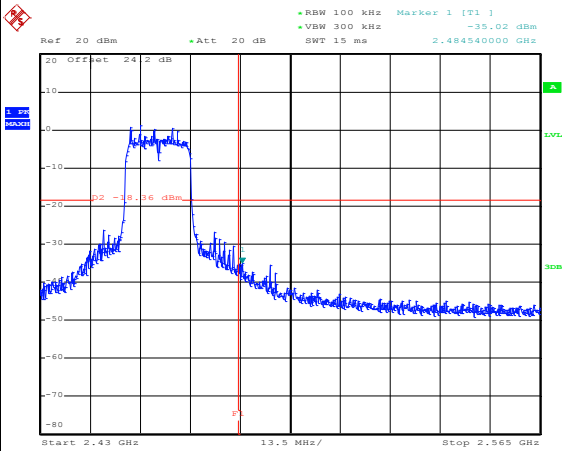
WLAN 802.11n HT20 Channel 11

100kHz PSD reference Level



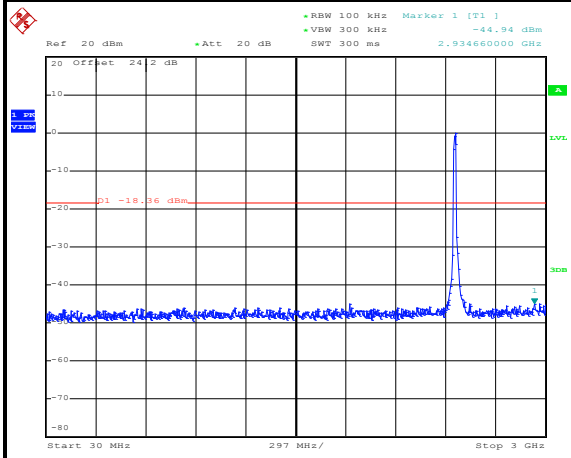
Date: 27.MAY.2014 00:05:00

High Channel Plot



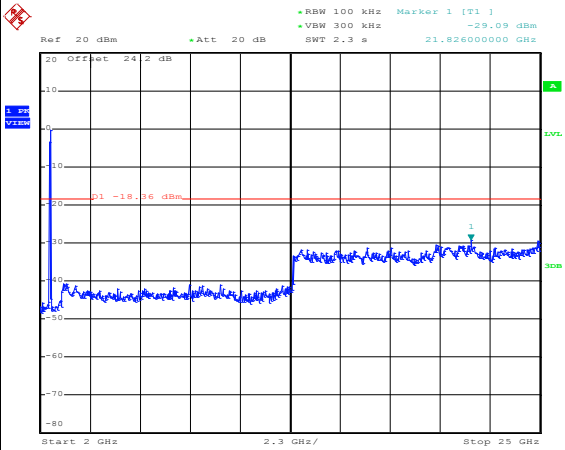
Date: 27.MAY.2014 00:06:56

Spurious Emission 30MHz~3GHz



Date: 27.MAY.2014 00:07:25

Spurious Emission 2GHz~25GHz

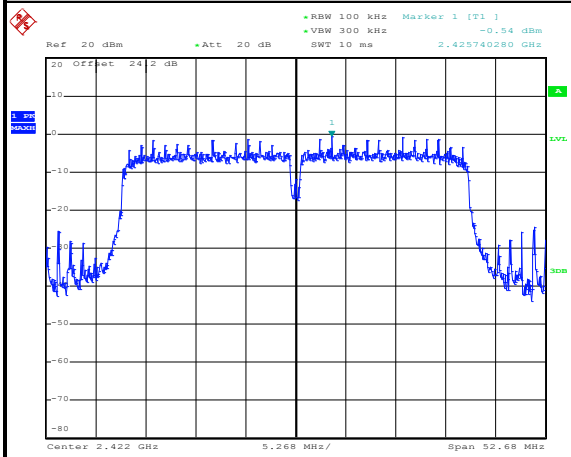


Date: 27.MAY.2014 00:07:44

Number of TX :	2	**Ant. :**	1
Test Mode :	802.11n HT40	**Temperature :**	21~26℃
Test Band :	2.4GHz Low	**Relative Humidity :**	45~54%
Test Channel :	03	**Test Engineer :**	Osolemio Chang

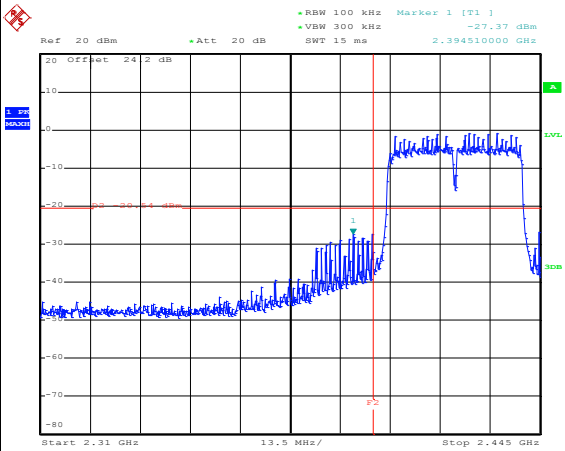
WLAN 802.11n HT40 Channel 03

100kHz PSD reference Level



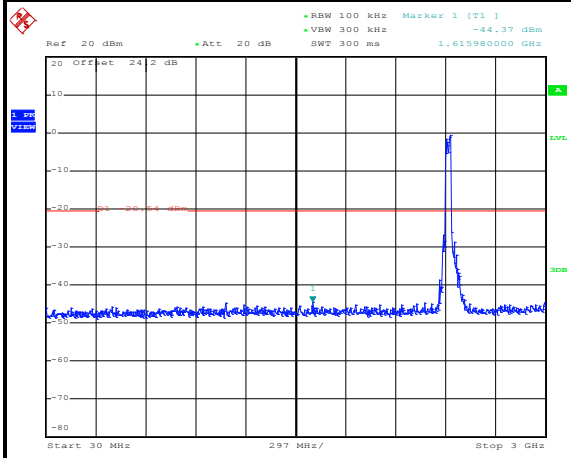
Date: 27.MAY.2014 00:19:11

Low Channel Plot



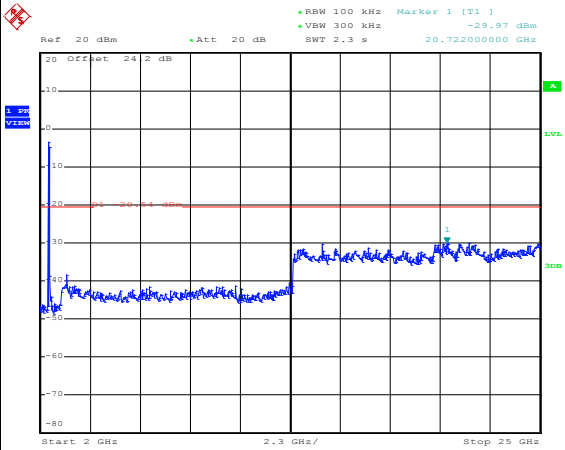
Date: 27.MAY.2014 00:20:45

Spurious Emission 30MHz~3GHz



Date: 27.MAY.2014 00:29:13

Spurious Emission 2GHz~25GHz

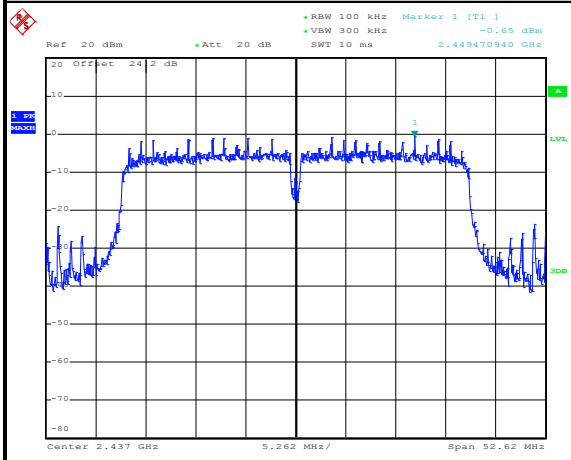


Date: 27.MAY.2014 00:30:04

Number of TX :	2	**Ant. :**	1
Test Mode :	802.11n HT40	**Temperature :**	21~26℃
Test Band :	2.4GHz Mid	**Relative Humidity :**	45~54%
Test Channel :	06	**Test Engineer :**	Osolemio Chang

WLAN 802.11n HT40 Channel 06

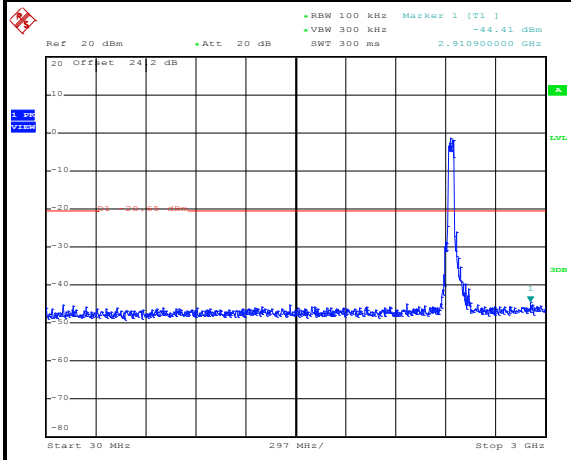
100kHz PSD reference Level



Date: 27.MAY.2014 00:51:36

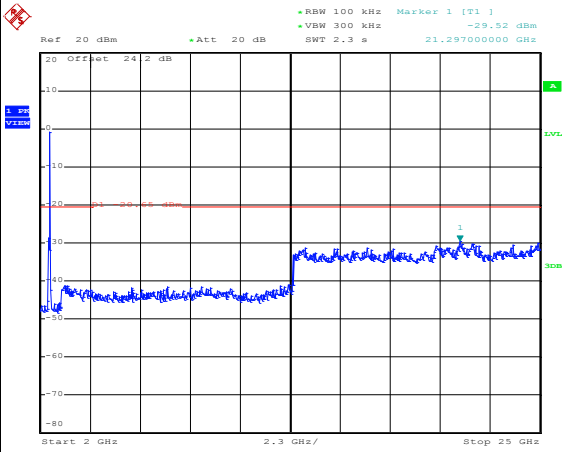
Mid Channel Plot

Spurious Emission 30MHz~3GHz



Date: 27.MAY.2014 00:54:59

Spurious Emission 2GHz~25GHz

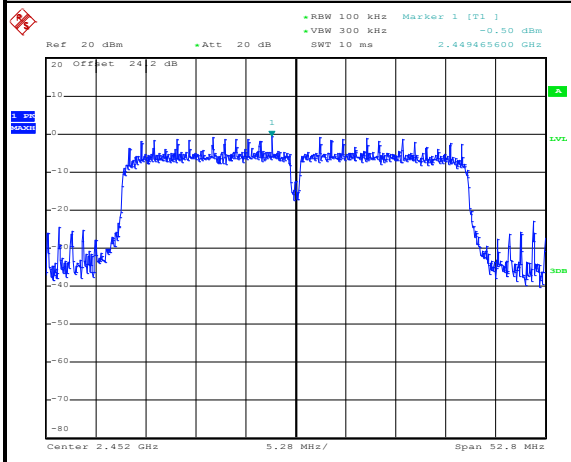


Date: 27.MAY.2014 00:55:39

Number of TX :	2	**Ant. :**	1
Test Mode :	802.11n HT40	**Temperature :**	21~26℃
Test Band :	2.4GHz High	**Relative Humidity :**	45~54%
Test Channel :	09	**Test Engineer :**	Osolemio Chang

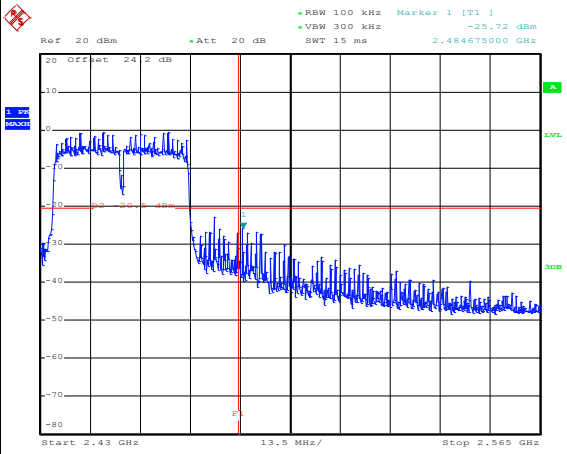
WLAN 802.11n HT40 Channel 09

100kHz PSD reference Level



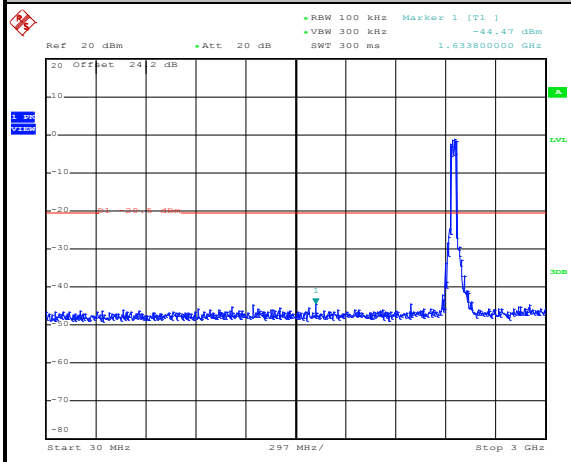
Date: 27.MAY.2014 01:06:40

High Channel Plot



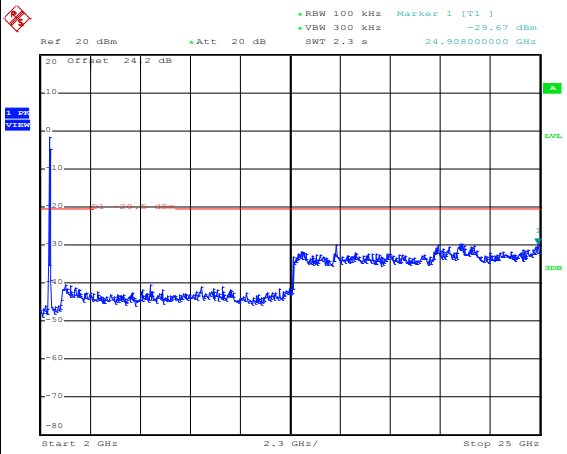
Date: 27.MAY.2014 01:08:11

Spurious Emission 30MHz~3GHz



Date: 27.MAY.2014 01:09:55

Spurious Emission 2GHz~25GHz



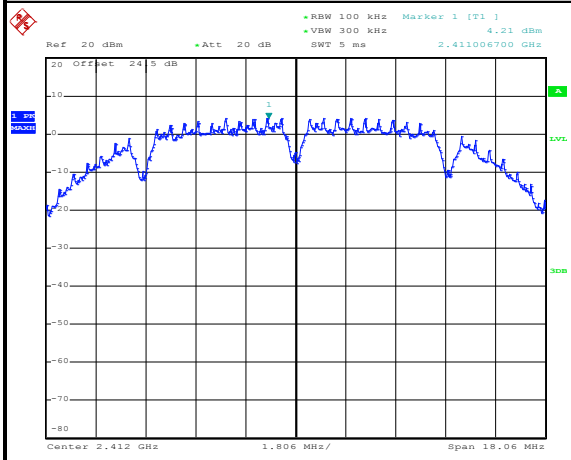
Date: 27.MAY.2014 01:10:34

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

Number of TX :	2	**Ant. :**	2
Test Mode :	802.11b	**Temperature :**	21~26℃
Test Band :	2.4GHz Low	**Relative Humidity :**	45~54%
Test Channel :	01	**Test Engineer :**	Osolemio Chang

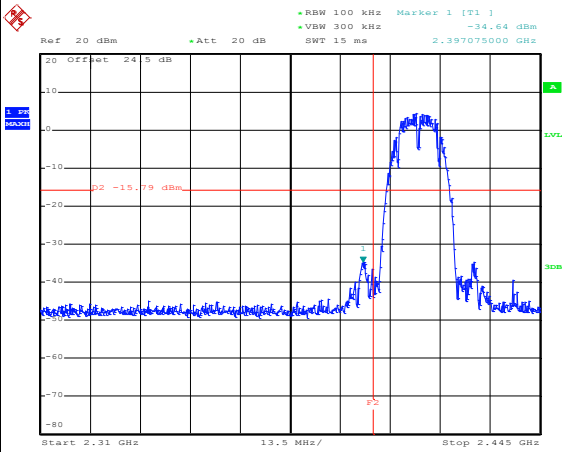
WLAN 802.11b Channel 01

100kHz PSD reference Level



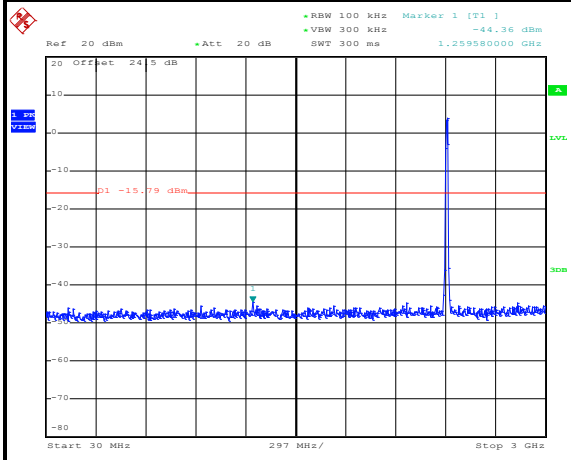
Date: 12.JUN.2014 21:16:11

Low Channel Plot



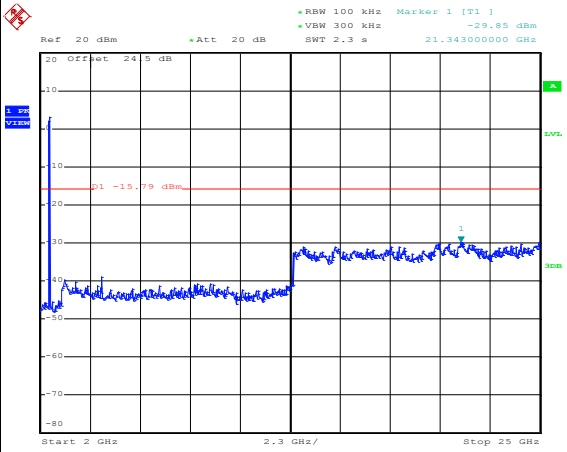
Date: 12.JUN.2014 21:16:25

Spurious Emission 30MHz~3GHz



Date: 12.JUN.2014 21:16:44

Spurious Emission 2GHz~25GHz

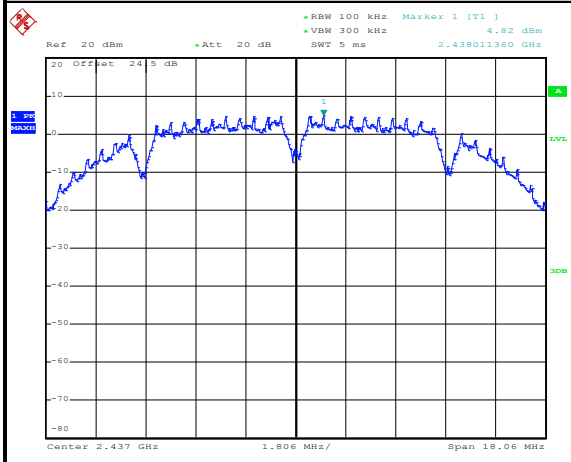


Date: 12.JUN.2014 21:17:03

Number of TX :	2	**Ant. :**	2
Test Mode :	802.11b	**Temperature :**	21~26℃
Test Band :	2.4GHz Mid	**Relative Humidity :**	45~54%
Test Channel :	06	**Test Engineer :**	Osolemio Chang

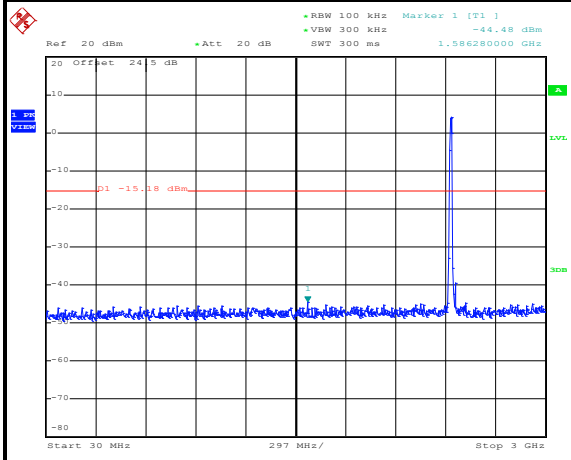
WLAN 802.11b Channel 06

100kHz PSD reference Level



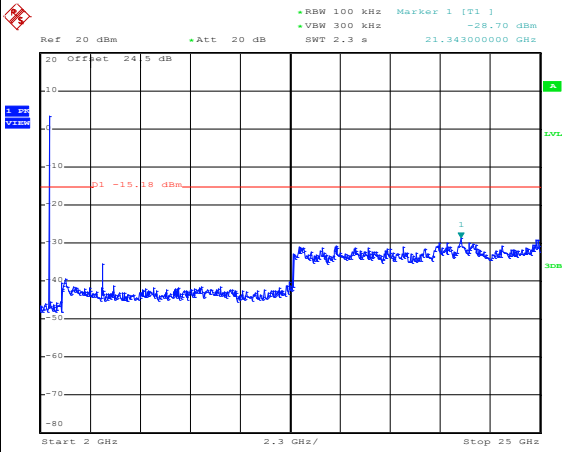
Date: 12.JUN.2014 21:24:30

Spurious Emission 30MHz~3GHz



Date: 12.JUN.2014 21:27:48

Spurious Emission 2GHz~25GHz

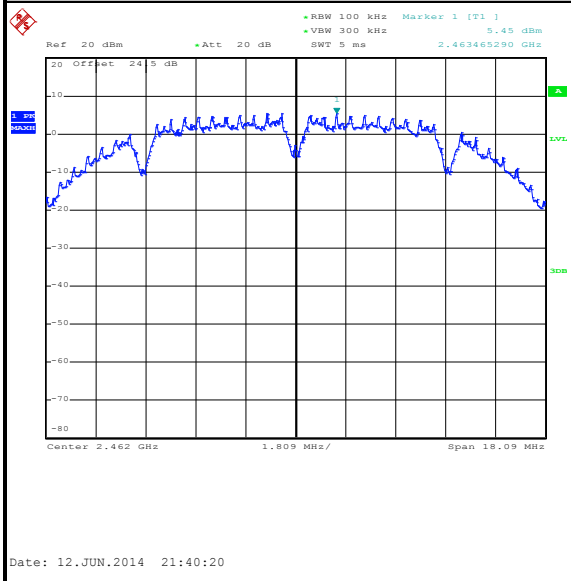


Date: 12.JUN.2014 21:28:28

Number of TX :	2	**Ant. :**	2
Test Mode :	802.11b	**Temperature :**	21~26℃
Test Band :	2.4GHz High	**Relative Humidity :**	45~54%
Test Channel :	11	**Test Engineer :**	Osolemio Chang

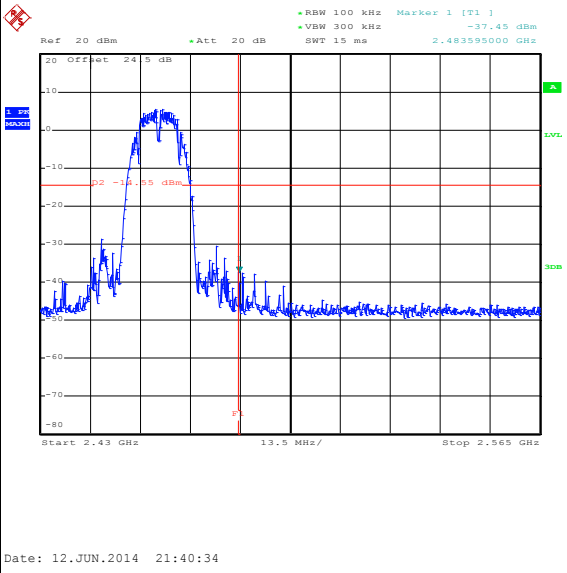
WLAN 802.11b Channel 11

100kHz PSD reference Level



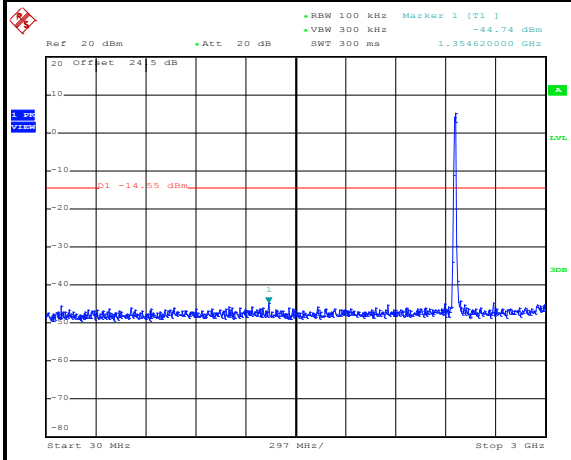
Date: 12.JUN.2014 21:40:20

High Channel Plot



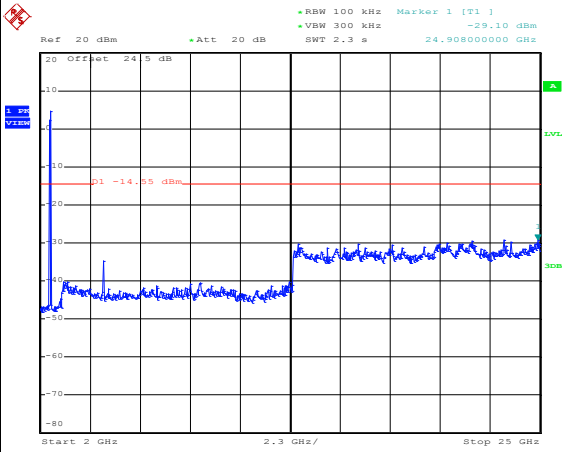
Date: 12.JUN.2014 21:40:34

Spurious Emission 30MHz~3GHz



Date: 12.JUN.2014 21:40:53

Spurious Emission 2GHz~25GHz

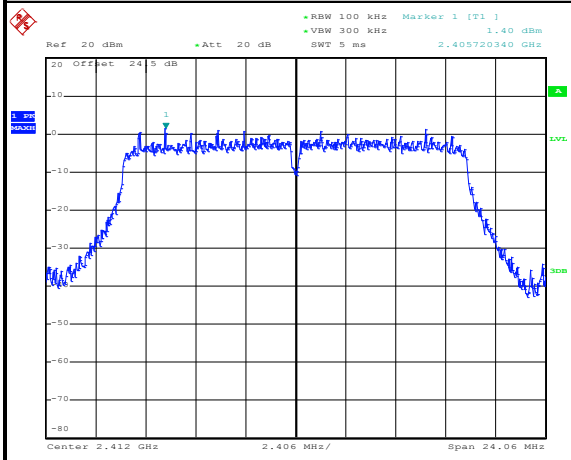


Date: 12.JUN.2014 21:41:12

Number of TX :	2	**Ant. :**	2
Test Mode :	802.11g	**Temperature :**	21~26℃
Test Band :	2.4GHz Low	**Relative Humidity :**	45~54%
Test Channel :	01	**Test Engineer :**	Osolemio Chang

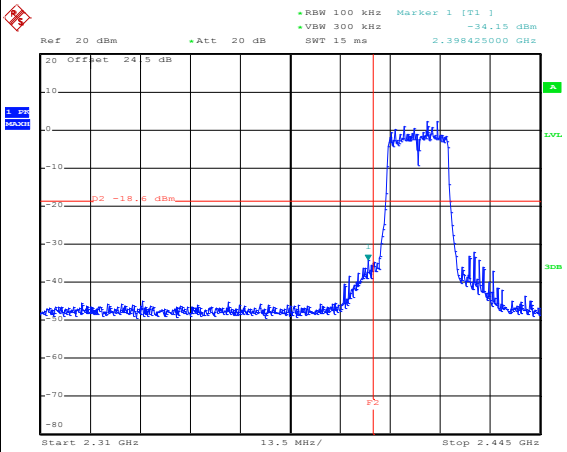
WLAN 802.11g Channel 01

100kHz PSD reference Level



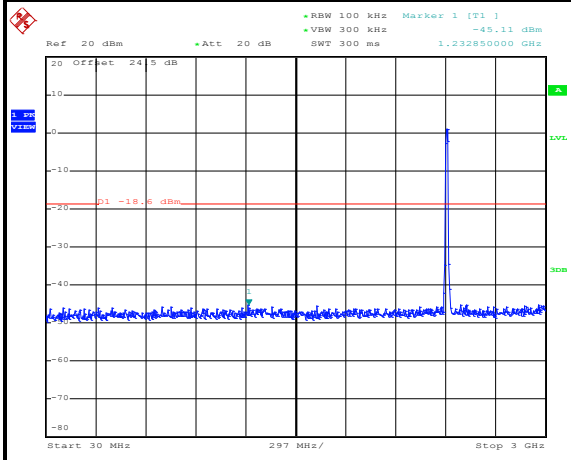
Date: 12.JUN.2014 21:53:21

Low Channel Plot



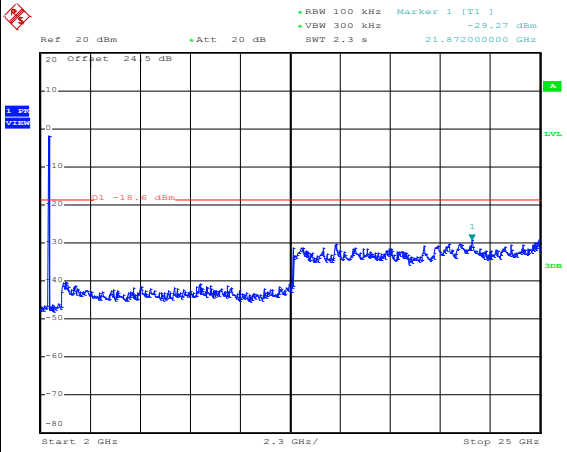
Date: 12.JUN.2014 21:53:35

Spurious Emission 30MHz~3GHz



Date: 12.JUN.2014 21:53:54

Spurious Emission 2GHz~25GHz

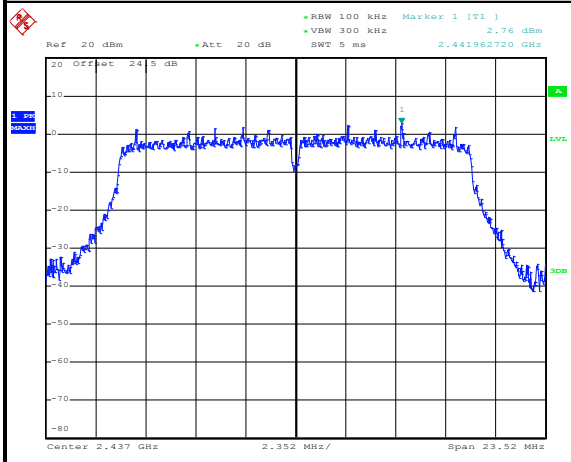


Date: 12.JUN.2014 21:54:13

Number of TX :	2	**Ant. :**	2
Test Mode :	802.11g	**Temperature :**	21~26℃
Test Band :	2.4GHz Mid	**Relative Humidity :**	45~54%
Test Channel :	06	**Test Engineer :**	Osolemio Chang

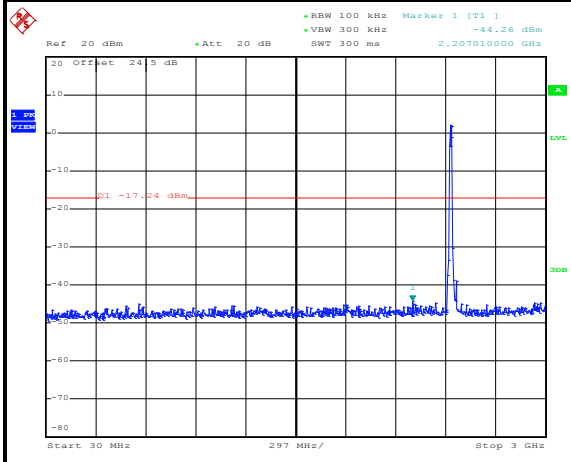
WLAN 802.11g Channel 06

100kHz PSD reference Level



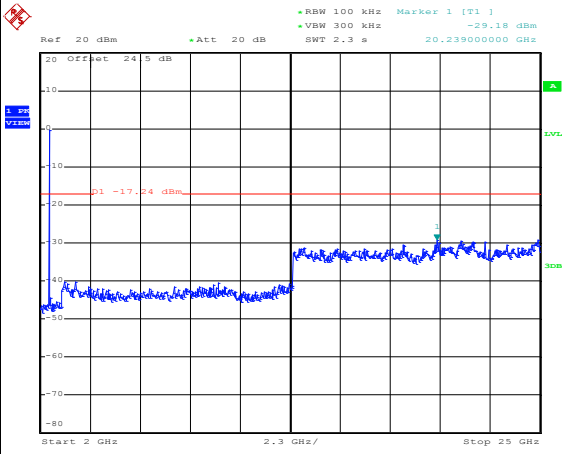
Date: 12.JUN.2014 22:04:53

Spurious Emission 30MHz~3GHz



Date: 12.JUN.2014 22:08:08

Spurious Emission 2GHz~25GHz

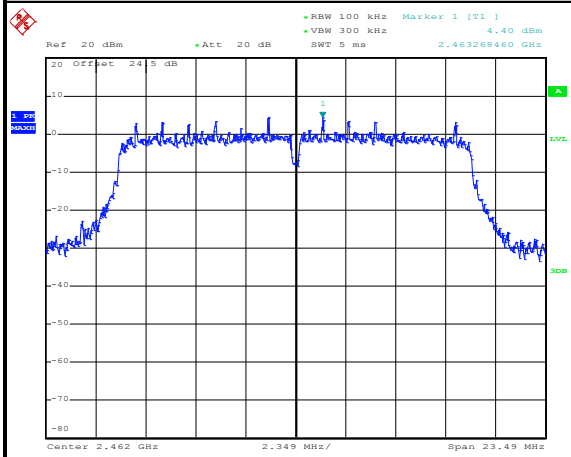


Date: 12.JUN.2014 22:08:49

Number of TX :	2	**Ant. :**	2
Test Mode :	802.11g	**Temperature :**	21~26℃
Test Band :	2.4GHz High	**Relative Humidity :**	45~54%
Test Channel :	11	**Test Engineer :**	Osolemio Chang

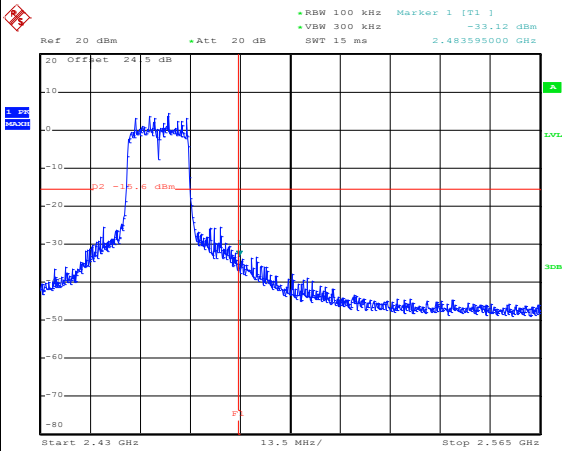
WLAN 802.11g Channel 11

100kHz PSD reference Level



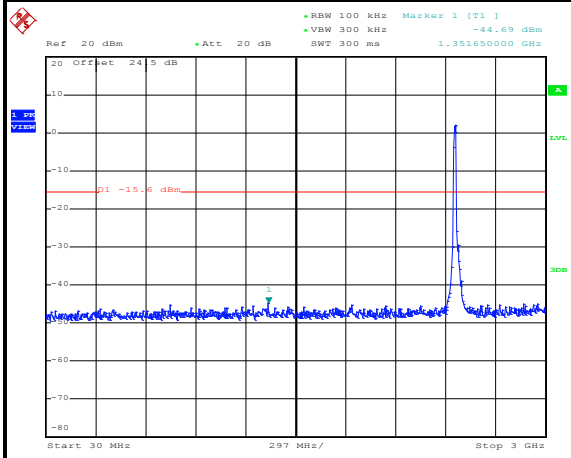
Date: 12.JUN.2014 22:21:18

High Channel Plot



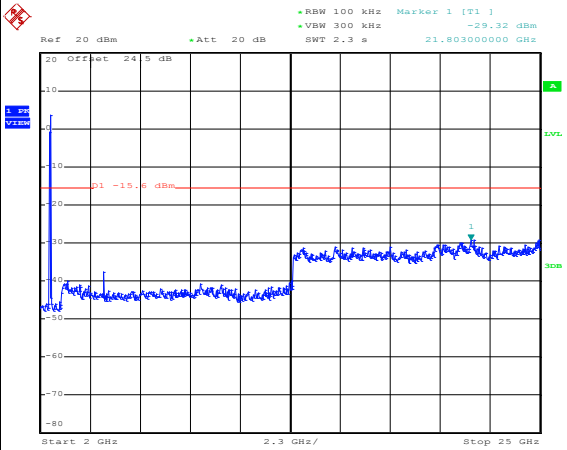
Date: 12.JUN.2014 22:23:29

Spurious Emission 30MHz~3GHz



Date: 12.JUN.2014 22:24:26

Spurious Emission 2GHz~25GHz

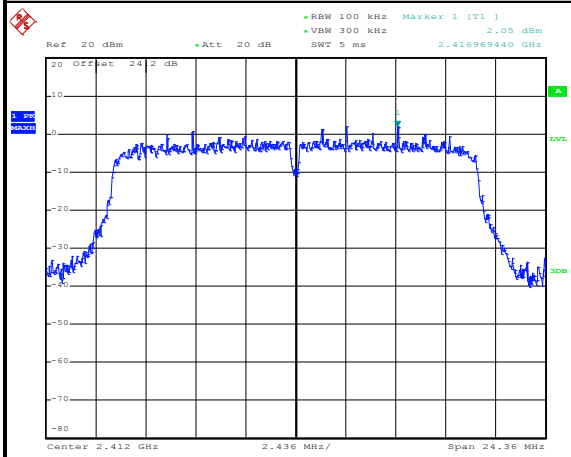


Date: 12.JUN.2014 22:24:45

Number of TX :	2	**Ant. :**	2
Test Mode :	802.11n HT20	**Temperature :**	21~26℃
Test Band :	2.4GHz Low	**Relative Humidity :**	45~54%
Test Channel :	01	**Test Engineer :**	Osolemio Chang

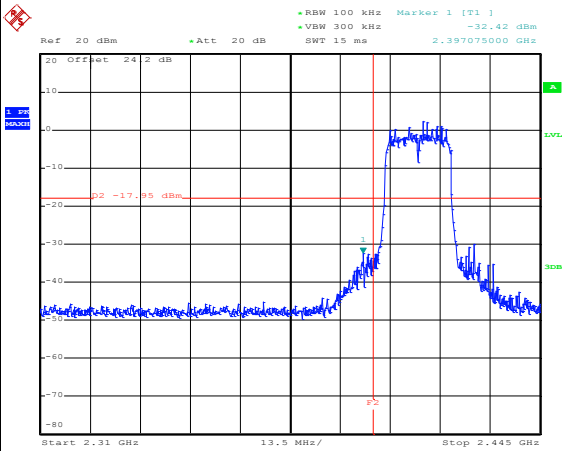
WLAN 802.11n HT20 Channel 01

100kHz PSD reference Level



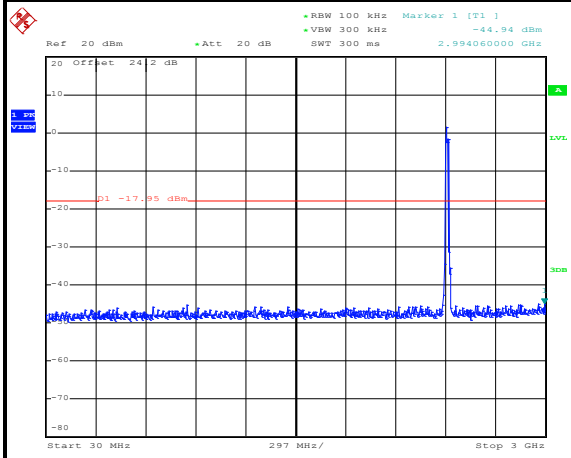
Date: 26.MAY.2014 23:44:02

Low Channel Plot



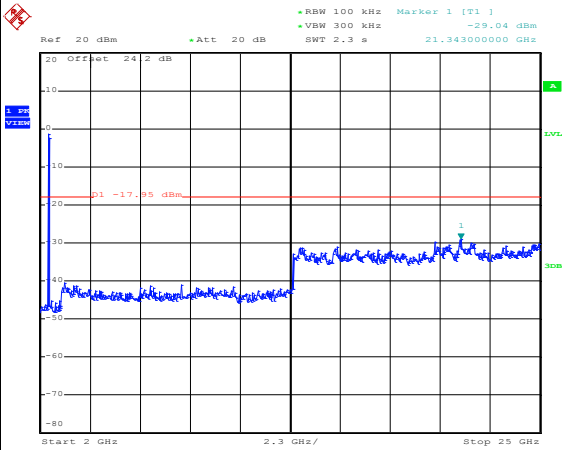
Date: 26.MAY.2014 23:44:16

Spurious Emission 30MHz~3GHz



Date: 26.MAY.2014 23:44:35

Spurious Emission 2GHz~25GHz

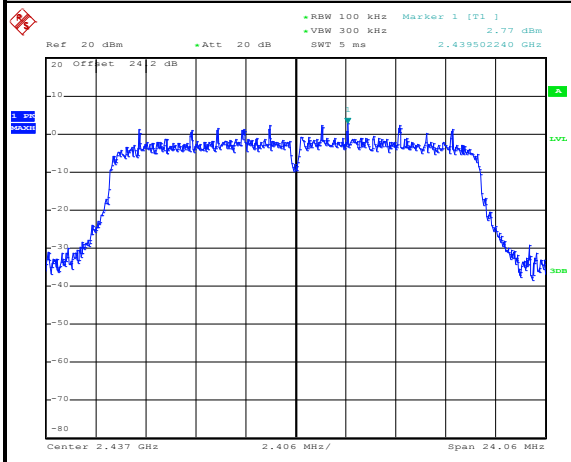


Date: 26.MAY.2014 23:44:54

Number of TX :	2	**Ant. :**	2
Test Mode :	802.11n HT20	**Temperature :**	21~26℃
Test Band :	2.4GHz Mid	**Relative Humidity :**	45~54%
Test Channel :	06	**Test Engineer :**	Osolemio Chang

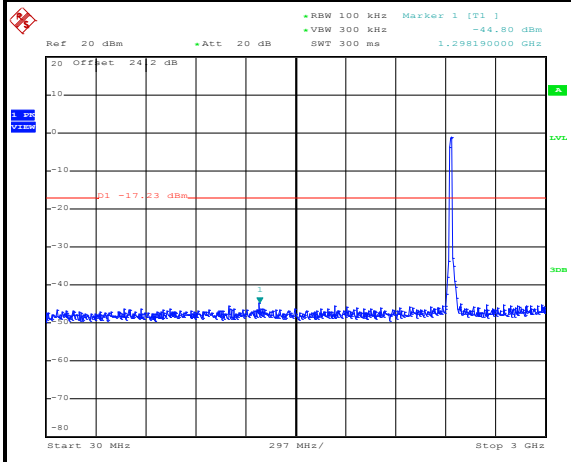
WLAN 802.11n HT20 Channel 06

100kHz PSD reference Level



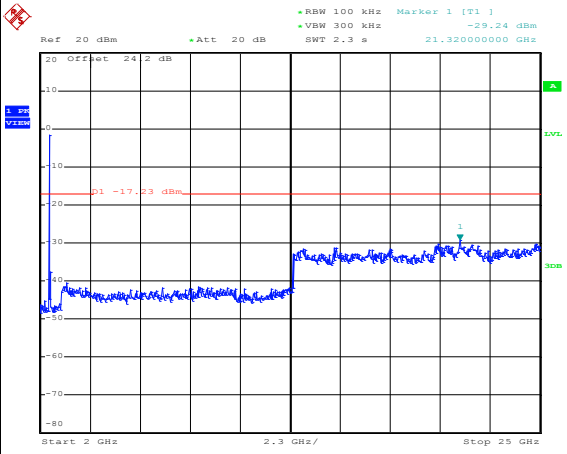
Date: 26.MAY.2014 23:54:57

Spurious Emission 30MHz~3GHz



Date: 26.MAY.2014 23:55:16

Spurious Emission 2GHz~25GHz

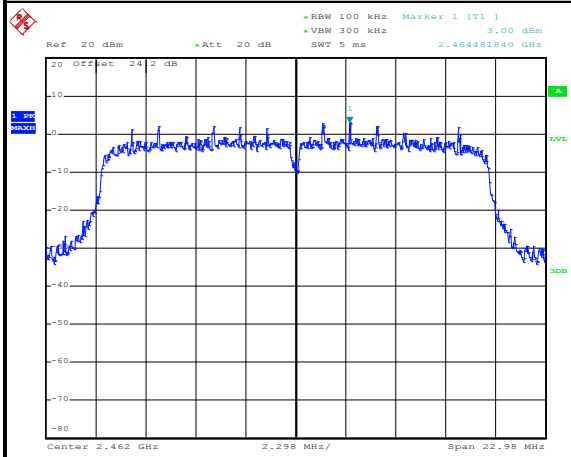


Date: 26.MAY.2014 23:55:35

Number of TX :	2	**Ant. :**	2
Test Mode :	802.11n HT20	**Temperature :**	21~26℃
Test Band :	2.4GHz High	**Relative Humidity :**	45~54%
Test Channel :	11	**Test Engineer :**	Osolemio Chang

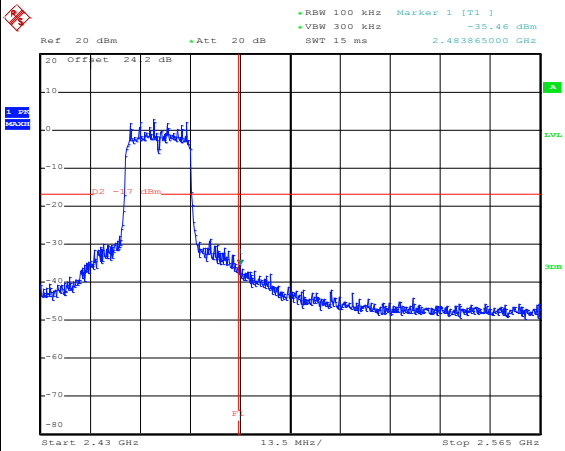
WLAN 802.11n HT20 Channel 11

100kHz PSD reference Level



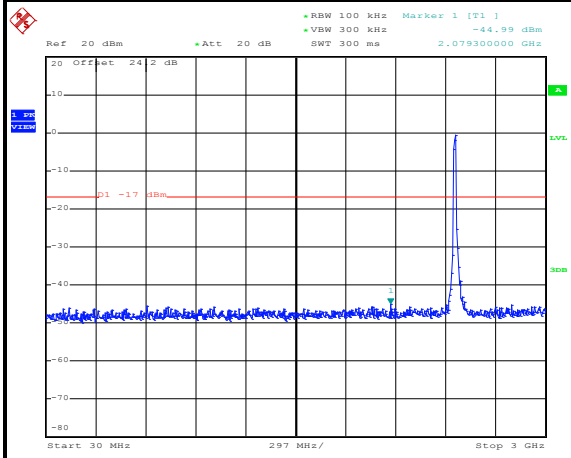
Date: 27.MAY.2014 00:13:11

High Channel Plot



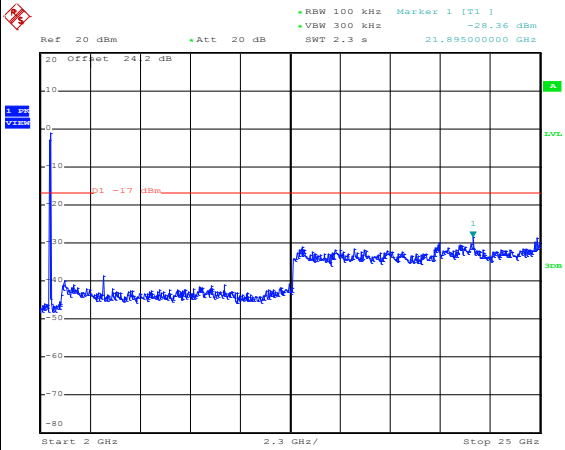
Date: 27.MAY.2014 00:14:58

Spurious Emission 30MHz~3GHz



Date: 27.MAY.2014 00:13:44

Spurious Emission 2GHz~25GHz

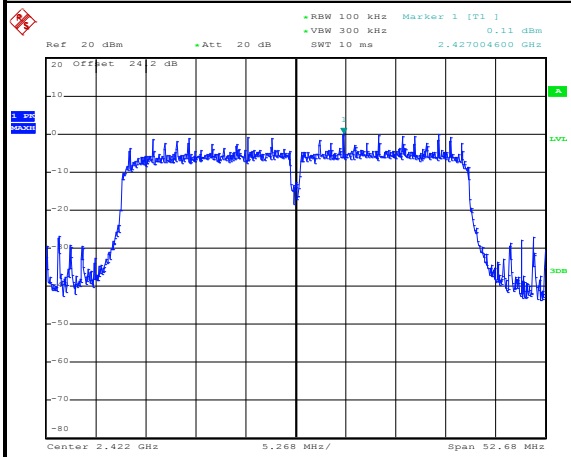


Date: 27.MAY.2014 00:14:03

Number of TX :	2	**Ant. :**	2
Test Mode :	802.11n HT40	**Temperature :**	21~26℃
Test Band :	2.4GHz Low	**Relative Humidity :**	45~54%
Test Channel :	03	**Test Engineer :**	Osolemio Chang

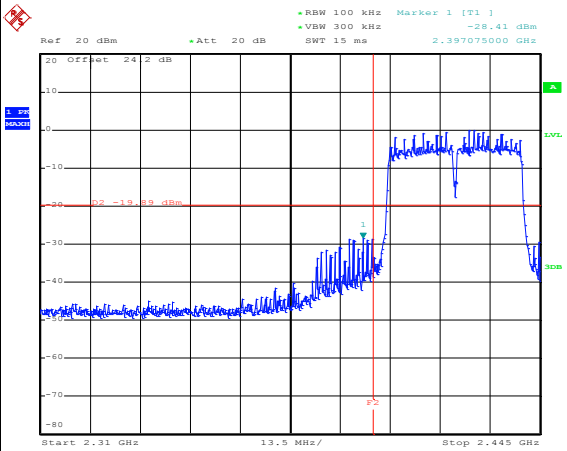
WLAN 802.11n HT40 Channel 03

100kHz PSD reference Level



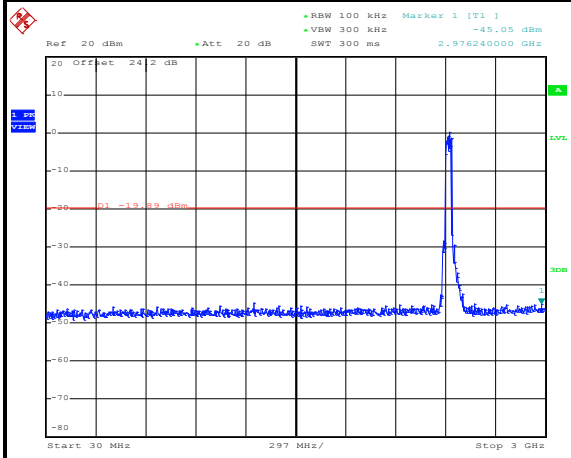
Date: 27.MAY.2014 00:39:59

Low Channel Plot



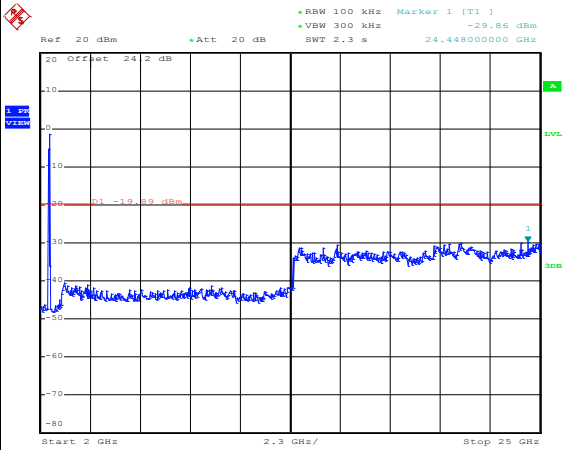
Date: 27.MAY.2014 00:40:13

Spurious Emission 30MHz~3GHz



Date: 27.MAY.2014 00:47:54

Spurious Emission 2GHz~25GHz

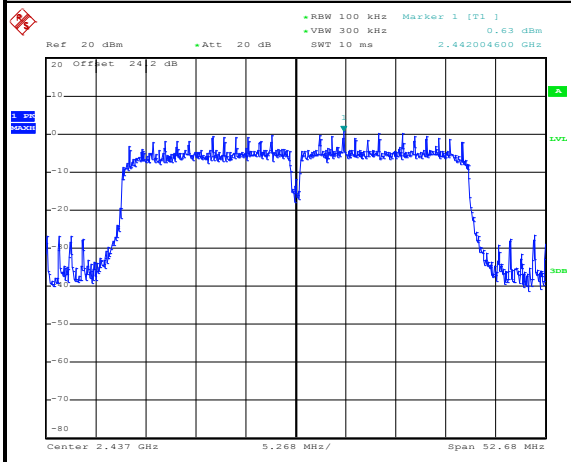


Date: 27.MAY.2014 00:48:34

Number of TX :	2	**Ant. :**	2
Test Mode :	802.11n HT40	**Temperature :**	21~26℃
Test Band :	2.4GHz Mid	**Relative Humidity :**	45~54%
Test Channel :	06	**Test Engineer :**	Osolemio Chang

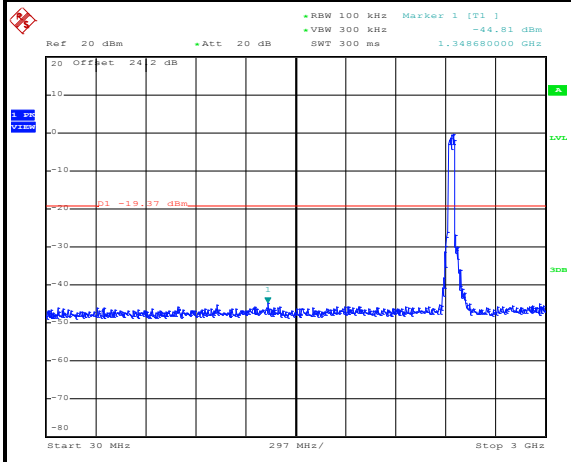
WLAN 802.11n HT40 Channel 06

100kHz PSD reference Level



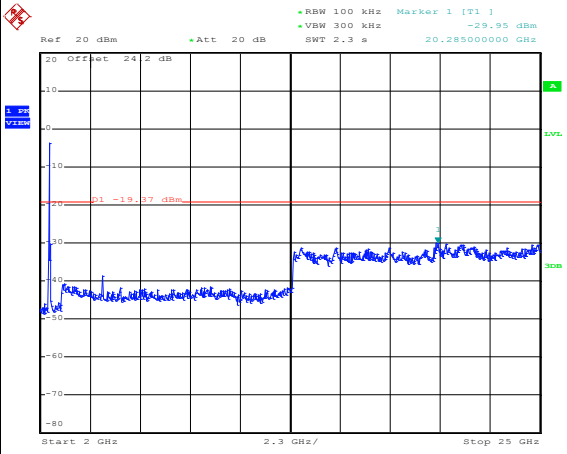
Date: 27.MAY.2014 00:59:06

Spurious Emission 30MHz~3GHz



Date: 27.MAY.2014 01:02:57

Spurious Emission 2GHz~25GHz

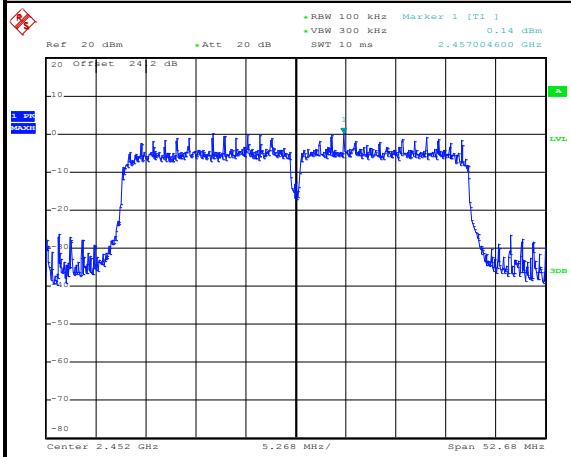


Date: 27.MAY.2014 01:03:39

Number of TX :	2	**Ant. :**	2
Test Mode :	802.11n HT40	**Temperature :**	21~26℃
Test Band :	2.4GHz High	**Relative Humidity :**	45~54%
Test Channel :	09	**Test Engineer :**	Osolemio Chang

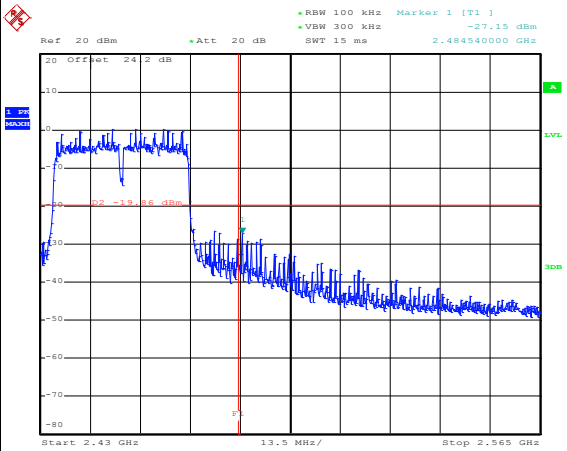
WLAN 802.11n HT40 Channel 09

100kHz PSD reference Level



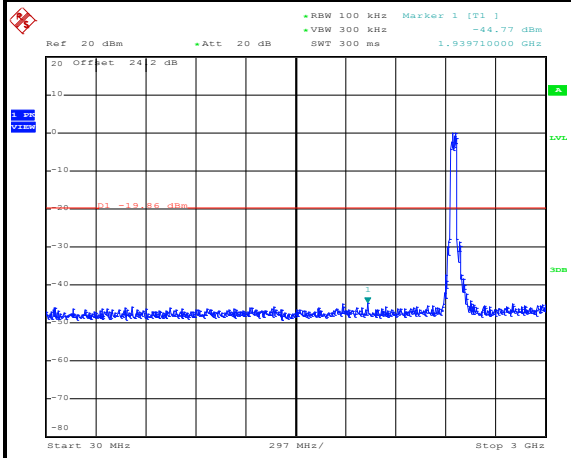
Date: 27.MAY.2014 01:13:00

High Channel Plot



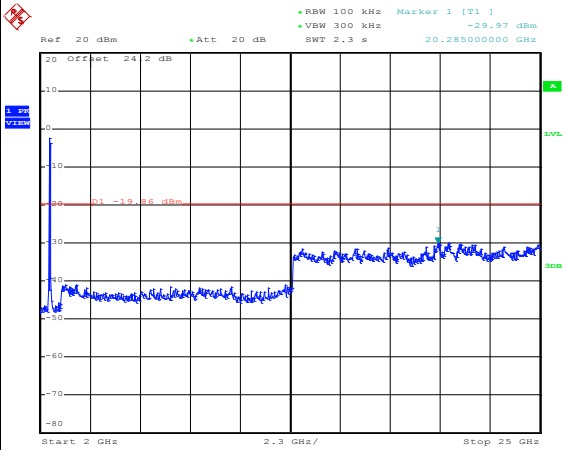
Date: 27.MAY.2014 01:13:13

Spurious Emission 30MHz~3GHz



Date: 27.MAY.2014 01:16:11

Spurious Emission 2GHz~25GHz



Date: 27.MAY.2014 01:16:52

3.5 Radiated Band Edges and Spurious Emission Measurement

3.5.1 Limit of Radiated band edge and Spurious Emission Measurement

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

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

3.5.2 Measuring Instruments

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

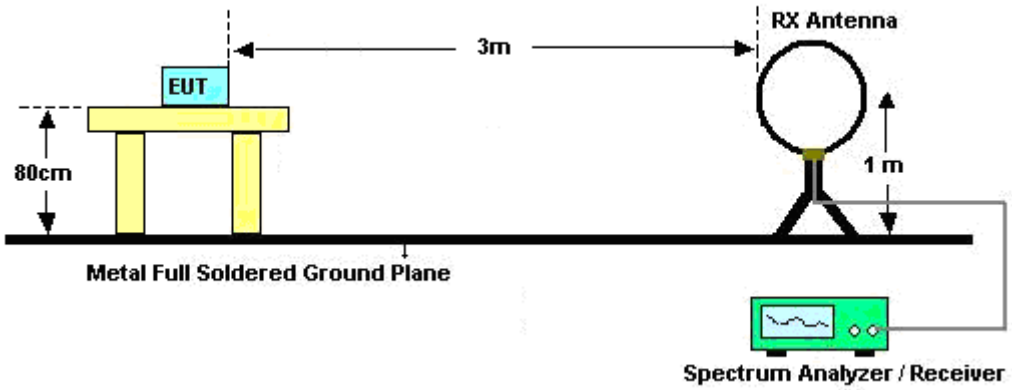
3.5.3 Test Procedure

1. The testing follows FCC KDB Publication No. 558074 D01 DTS Meas. Guidance v03r02.
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 above ground.
4. The EUT was set 3 meters from the interference receiving antenna, which was mounted on the top of a variable height antenna tower.
5. Corrected Reading: Antenna Factor + Cable Loss + Read Level - Preamp Factor = Level
6. For measurement below 1GHz, If the emission level of the EUT measured by the peak detector is 3 dB lower than the applicable limit, the peak emission level will be reported. Otherwise, the emission measurement will be repeated using the quasi-peak detector and reported.
7. Use the following spectrum analyzer settings:
   (1) Span shall wide enough to fully capture the emission being measured;
   (2) Set RBW=100 kHz for f < 1 GHz; VBW ≥ RBW; Sweep = auto; Detector function = peak; Trace = max hold;
   (3) Set RBW = 1 MHz, VBW= 3MHz for f ≥ 1 GHz for peak measurement.
   For average measurement:
   - VBW = 10 Hz, when duty cycle is no less than 98 percent.
   - VBW ≥ 1/T, when duty cycle is less than 98 percent where T is the minimum transmission duration over which the transmitter is on and is transmitting at its maximum power control level for the tested mode of operation.

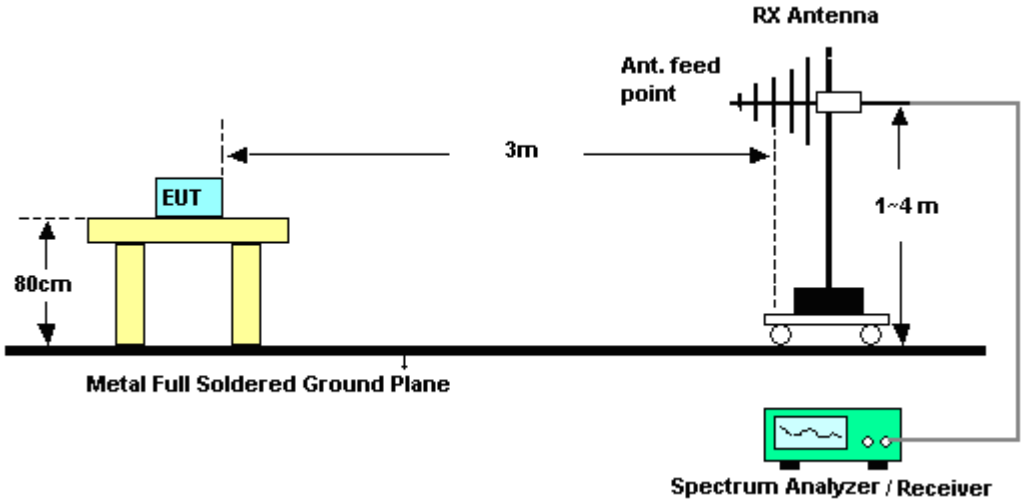
Antenna	Band	Duty Cycle(%)	T(us)	1/T(kHz)	VBW Setting
1	802.11b	97.69	8440	0.12	300Hz
2	802.11b	97.69	8440	0.12	300Hz
1	802.11g	87.5	1400	0.71	1kHz
2	802.11g	87.5	1400	0.71	1kHz
1+2	802.11n HT20 for Ant. 1	86.67	1300	0.77	1kHz
1+2	802.11n HT20 for Ant. 2	86.67	1300	0.77	1kHz
1+2	802.11n HT40 for Ant. 1	76.43	642	1.56	3kHz
1+2	802.11n HT40 for Ant. 2	75.71	636	1.57	3kHz

3.5.4 Test Setup

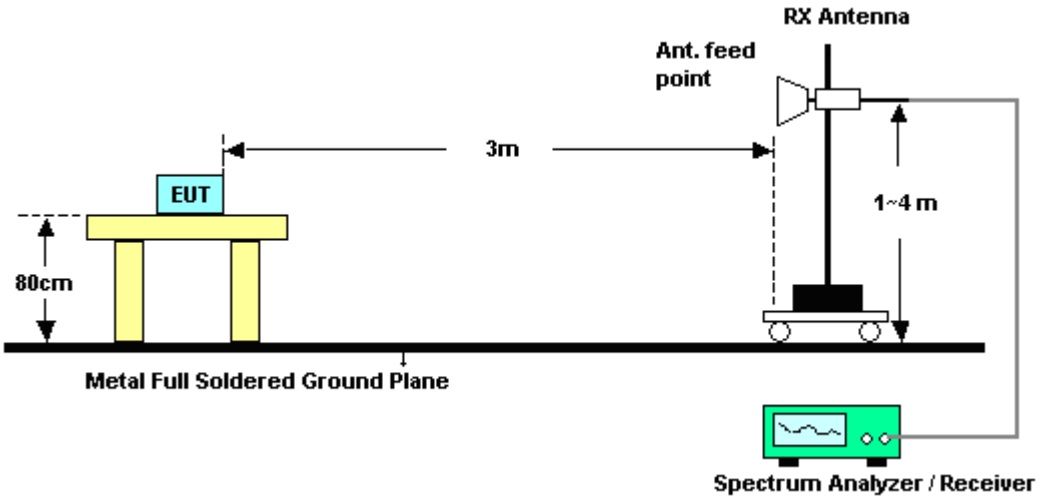
For radiated emissions below 30MHz



For radiated emissions from 30MHz to 1GHz



For radiated emissions above 1GHz



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

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

3.5.6 Test Result of Radiated Spurious at Band Edges

<MIMO Ant. 1+2>

Test Mode :	802.11b	**Temperature :**	22~24°C
Test Band :	Low	**Relative Humidity :**	46~48%
Test Channel :	01	**Test Engineer :**	Abi Lin and Kyle Jhuang

ANTENNA POLARITY : HORIZONTAL										
Frequency (MHz)	**Level (dBµV/m)**	**Over Limit (dB)**	**Limit Line (dBµV/m)**	**Read Level (dBµV)**	**Antenna Factor (dB)**	**Cable Loss (dB)**	**Preamp Factor (dB)**	**Ant Pos (cm)**	**Table Pos (deg)**	**Remark**
2386.77	45.27	-28.73	74	47.03	27.18	4.24	33.18	106	222	Peak
2388.21	37.43	-16.57	54	39.17	27.19	4.24	33.17	106	222	Average

ANTENNA POLARITY : VERTICAL										
Frequency (MHz)	**Level (dBµV/m)**	**Over Limit (dB)**	**Limit Line (dBµV/m)**	**Read Level (dBµV)**	**Antenna Factor (dB)**	**Cable Loss (dB)**	**Preamp Factor (dB)**	**Ant Pos (cm)**	**Table Pos (deg)**	**Remark**
2386.41	51.85	-22.15	74	53.61	27.18	4.24	33.18	149	306	Peak
2388.21	44.84	-9.16	54	46.58	27.19	4.24	33.17	149	306	Average

Test Mode :	802.11b	**Temperature :**	22~24°C
Test Band :	High	**Relative Humidity :**	46~48%
Test Channel :	11	**Test Engineer :**	Abi Lin and Kyle Jhuang

ANTENNA POLARITY : HORIZONTAL										
Frequency (MHz)	**Level (dBµV/m)**	**Over Limit (dB)**	**Limit Line (dBµV/m)**	**Read Level (dBµV)**	**Antenna Factor (dB)**	**Cable Loss (dB)**	**Preamp Factor (dB)**	**Ant Pos (cm)**	**Table Pos (deg)**	**Remark**
2486.65	43.86	-30.14	74	45.25	27.46	4.29	33.14	102	222	Peak
2484.61	34.89	-19.11	54	36.28	27.46	4.29	33.14	102	222	Average

ANTENNA POLARITY : VERTICAL										
Frequency (MHz)	**Level (dBµV/m)**	**Over Limit (dB)**	**Limit Line (dBµV/m)**	**Read Level (dBµV)**	**Antenna Factor (dB)**	**Cable Loss (dB)**	**Preamp Factor (dB)**	**Ant Pos (cm)**	**Table Pos (deg)**	**Remark**
2484.16	48.5	-25.5	74	49.89	27.46	4.29	33.14	122	204	Peak
2484.94	40.2	-13.8	54	41.59	27.46	4.29	33.14	122	204	Average

Test Mode :	802.11g	Temperature :	22~24°C
Test Band :	Low	Relative Humidity :	46~48%
Test Channel :	01	Test Engineer :	Abi Lin and Kyle Jhuang

ANTENNA POLARITY : HORIZONTAL										
Frequency (MHz)	Level (dBµV/m)	Over Limit (dB)	Limit Line (dBµV/m)	Read Level (dBµV)	Antenna Factor (dB)	Cable Loss (dB)	Preamp Factor (dB)	Ant Pos (cm)	Table Pos (deg)	Remark
2387.94	51.3	-22.7	74	53.04	27.19	4.24	33.17	107	246	Peak
2389.74	39.54	-14.46	54	41.28	27.19	4.24	33.17	107	246	Average

ANTENNA POLARITY : VERTICAL										
Frequency (MHz)	Level (dBµV/m)	Over Limit (dB)	Limit Line (dBµV/m)	Read Level (dBµV)	Antenna Factor (dB)	Cable Loss (dB)	Preamp Factor (dB)	Ant Pos (cm)	Table Pos (deg)	Remark
2388.84	61.33	-12.67	74	63.07	27.19	4.24	33.17	100	202	Peak
2389.38	49.26	-4.74	54	51	27.19	4.24	33.17	100	202	Average

Test Mode :	802.11g	Temperature :	22~24°C
Test Band :	High	Relative Humidity :	46~48%
Test Channel :	11	Test Engineer :	Abi Lin and Kyle Jhuang

ANTENNA POLARITY : HORIZONTAL										
Frequency (MHz)	Level (dBµV/m)	Over Limit (dB)	Limit Line (dBµV/m)	Read Level (dBµV)	Antenna Factor (dB)	Cable Loss (dB)	Preamp Factor (dB)	Ant Pos (cm)	Table Pos (deg)	Remark
2387.94	51.3	-22.7	74	53.04	27.19	4.24	33.17	107	246	Peak
2389.74	39.54	-14.46	54	41.28	27.19	4.24	33.17	107	246	Average

ANTENNA POLARITY : VERTICAL										
Frequency (MHz)	Level (dBµV/m)	Over Limit (dB)	Limit Line (dBµV/m)	Read Level (dBµV)	Antenna Factor (dB)	Cable Loss (dB)	Preamp Factor (dB)	Ant Pos (cm)	Table Pos (deg)	Remark
2388.84	61.33	-12.67	74	63.07	27.19	4.24	33.17	100	202	Peak
2389.38	49.26	-4.74	54	51	27.19	4.24	33.17	100	202	Average

Test Mode :	802.11n HT20	Temperature :	22~24°C
Test Band :	Low	Relative Humidity :	46~48%
Test Channel :	01	Test Engineer :	Abi Lin and Kyle Jhuang

ANTENNA POLARITY : HORIZONTAL										
Frequency (MHz)	Level (dBµV/m)	Over Limit (dB)	Limit Line (dBµV/m)	Read Level (dBµV)	Antenna Factor (dB)	Cable Loss (dB)	Preamp Factor (dB)	Ant Pos (cm)	Table Pos (deg)	Remark
2389.74	55.35	-18.65	74	57.09	27.19	4.24	33.17	106	246	Peak
2389.83	42.84	-11.16	54	44.58	27.19	4.24	33.17	106	246	Average

ANTENNA POLARITY : VERTICAL										
Frequency (MHz)	Level (dBµV/m)	Over Limit (dB)	Limit Line (dBµV/m)	Read Level (dBµV)	Antenna Factor (dB)	Cable Loss (dB)	Preamp Factor (dB)	Ant Pos (cm)	Table Pos (deg)	Remark
2389.83	68.81	-5.19	74	70.55	27.19	4.24	33.17	100	325	Peak
2389.83	53.94	-0.06	54	55.68	27.19	4.24	33.17	100	325	Average

Test Mode :	802.11n HT20	Temperature :	22~24°C
Test Band :	High	Relative Humidity :	46~48%
Test Channel :	11	Test Engineer :	Abi Lin and Kyle Jhuang

ANTENNA POLARITY : HORIZONTAL										
Frequency (MHz)	Level (dBµV/m)	Over Limit (dB)	Limit Line (dBµV/m)	Read Level (dBµV)	Antenna Factor (dB)	Cable Loss (dB)	Preamp Factor (dB)	Ant Pos (cm)	Table Pos (deg)	Remark
2483.83	62.49	-11.51	74	63.89	27.45	4.29	33.14	106	138	Peak
2483.59	45.71	-8.29	54	47.11	27.45	4.29	33.14	106	138	Average

ANTENNA POLARITY : VERTICAL										
Frequency (MHz)	Level (dBµV/m)	Over Limit (dB)	Limit Line (dBµV/m)	Read Level (dBµV)	Antenna Factor (dB)	Cable Loss (dB)	Preamp Factor (dB)	Ant Pos (cm)	Table Pos (deg)	Remark
2484.01	67.06	-6.94	74	68.45	27.46	4.29	33.14	100	210	Peak
2483.5	49.48	-4.52	54	50.88	27.45	4.29	33.14	100	210	Average

Test Mode :	802.11n HT40	Temperature :	22~24°C
Test Band :	Low	Relative Humidity :	46~48%
Test Channel :	03	Test Engineer :	Abi Lin and Kyle Jhuang

ANTENNA POLARITY : HORIZONTAL										
Frequency (MHz)	Level (dBµV/m)	Over Limit (dB)	Limit Line (dBµV/m)	Read Level (dBµV)	Antenna Factor (dB)	Cable Loss (dB)	Preamp Factor (dB)	Ant Pos (cm)	Table Pos (deg)	Remark
2386.77	54.97	-19.03	74	56.73	27.18	4.24	33.18	110	246	Peak
2389.74	43.01	-10.99	54	44.75	27.19	4.24	33.17	110	246	Average
2487.82	45.44	-28.56	74	46.81	27.47	4.29	33.13	110	246	Peak
2491.93	33.84	-20.16	54	35.2	27.48	4.29	33.13	110	246	Average

ANTENNA POLARITY : VERTICAL										
Frequency (MHz)	Level (dBµV/m)	Over Limit (dB)	Limit Line (dBµV/m)	Read Level (dBµV)	Antenna Factor (dB)	Cable Loss (dB)	Preamp Factor (dB)	Ant Pos (cm)	Table Pos (deg)	Remark
2387.04	66.03	-7.97	74	67.79	27.18	4.24	33.18	100	187	Peak
2389.74	53.98	-0.02	54	55.72	27.19	4.24	33.17	100	187	Average
2491.06	50.9	-23.1	74	52.27	27.47	4.29	33.13	100	187	Peak
2495.53	37.71	-16.29	54	39.06	27.49	4.29	33.13	100	187	Average

Test Mode :	802.11n HT40	Temperature :	22~24°C
Test Band :	High	Relative Humidity :	46~48%
Test Channel :	09	Test Engineer :	Abi Lin and Kyle Jhuang

ANTENNA POLARITY : HORIZONTAL										
Frequency (MHz)	Level (dBµV/m)	Over Limit (dB)	Limit Line (dBµV/m)	Read Level (dBµV)	Antenna Factor (dB)	Cable Loss (dB)	Preamp Factor (dB)	Ant Pos (cm)	Table Pos (deg)	Remark
2379.75	46.44	-27.56	74	48.23	27.16	4.23	33.18	104	224	Peak
2385.96	34.32	-19.68	54	36.08	27.18	4.24	33.18	104	224	Average
2486.02	60.4	-13.6	74	61.79	27.46	4.29	33.14	104	224	Peak
2484.22	47.09	-6.91	54	48.48	27.46	4.29	33.14	104	224	Average

ANTENNA POLARITY : VERTICAL										
Frequency (MHz)	Level (dBµV/m)	Over Limit (dB)	Limit Line (dBµV/m)	Read Level (dBµV)	Antenna Factor (dB)	Cable Loss (dB)	Preamp Factor (dB)	Ant Pos (cm)	Table Pos (deg)	Remark
2385.96	56.22	-17.78	74	57.98	27.18	4.24	33.18	100	195	Peak
2349.42	44.75	-9.25	54	46.66	27.08	4.2	33.19	100	195	Average
2484.88	64.94	-9.06	74	66.33	27.46	4.29	33.14	100	195	Peak
2485.09	50.59	-3.41	54	51.98	27.46	4.29	33.14	100	195	Average

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

Note: Pre-scanned all test modes and only choose the worst case mode recorded in the test report for radiated spurious emission below 1GHz.

<MIMO Ant. 1+2>

Test Mode :	802.11b	**Temperature :**	22~24°C
Test Channel :	01	**Relative Humidity :**	46~48%
Test Engineer :	Abi Lin and Kyle Jhuang	**Polarization :**	Horizontal
Remark :	1. 2412 MHz is fundamental signal which can be ignored. 2. Average measurement was not performed if peak level went lower than the average limit.		

Frequency (MHz)	Level (dBµV/m)	Over Limit (dB)	Limit Line (dBµV/m)	Read Level (dBµV)	Antenna Factor (dB)	Cable Loss (dB)	Preamp Factor (dB)	Ant Pos (cm)	Table Pos (deg)	Remark
65.64	13.38	-26.62	40	28.02	12.73	0.68	28.05	-	-	Peak
149.07	31.28	-12.22	43.5	44.65	13.77	1	28.14	100	216	Peak
220.35	23.84	-22.16	46	39.79	11.02	1.19	28.16	-	-	Peak
412.7	19.19	-26.81	46	29.03	16.63	1.62	28.09	-	-	Peak
793.5	27.76	-18.24	46	30.36	22.53	2.36	27.49	-	-	Peak
976.2	28.58	-25.42	54	28.14	24.6	2.68	26.84	-	-	Peak
2412	92.21	-	-	93.87	27.25	4.26	33.17	109	222	Average
2412	94.73	-	-	96.39	27.25	4.26	33.17	109	222	Peak
4824	42.57	-31.43	74	37.18	31.59	6.23	32.43	100	0	Peak

Test Mode :	802.11b	Temperature :	22~24°C
Test Channel :	01	Relative Humidity :	46~48%
Test Engineer :	Abi Lin and Kyle Jhuang	Polarization :	Vertical
Remark :	1. 2412 MHz is fundamental signal which can be ignored. 2. Average measurement was not performed if peak level went lower than the average limit.		

Frequency (MHz)	Level (dBµV/m)	Over Limit (dB)	Limit Line (dBµV/m)	Read Level (dBµV)	Antenna Factor (dB)	Cable Loss (dB)	Preamp Factor (dB)	Ant Pos (cm)	Table Pos (deg)	Remark
41.34	24.21	-15.79	40	37.72	13.91	0.58	28	-	-	Peak
150.15	28.23	-15.27	43.5	41.58	13.8	1	28.15	110	314	Peak
263.01	24.34	-21.66	46	38.29	12.92	1.3	28.17	-	-	Peak
428.1	20.31	-25.69	46	29.66	17.03	1.69	28.07	-	-	Peak
717.9	25.84	-20.16	46	29.68	21.59	2.23	27.66	-	-	Peak
981.8	28.97	-25.03	54	28.46	24.63	2.7	26.82	-	-	Peak
2412	99.16	-	-	100.82	27.25	4.26	33.17	148	322	Average
2412	101.55	-	-	103.21	27.25	4.26	33.17	148	322	Peak
4825	53.87	-0.13	54	48.47	31.59	6.23	32.42	104	212	Average

Test Mode :	802.11b	Temperature :	22~24°C
Test Channel :	06	Relative Humidity :	46~48%
Test Engineer :	Abi Lin and Kyle Jhuang	Polarization :	Horizontal
Remark :	1. 2438 MHz is fundamental signal which can be ignored. 2. Average measurement was not performed if peak level went lower than the average limit.		

Frequency (MHz)	Level (dBµV/m)	Over Limit (dB)	Limit Line (dBµV/m)	Read Level (dBµV)	Antenna Factor (dB)	Cable Loss (dB)	Preamp Factor (dB)	Ant Pos (cm)	Table Pos (deg)	Remark
2438	91.72	-	-	93.27	27.33	4.27	33.15	108	222	Average
2438	94.31	-	-	95.86	27.33	4.27	33.15	108	222	Peak
4875	43.89	-30.11	74	38.37	31.65	6.29	32.42	100	0	Peak
7311	49.64	-24.36	74	38.33	36.61	8.42	33.72	100	0	Peak

Test Mode :	802.11b	Temperature :	22~24°C
Test Channel :	06	Relative Humidity :	46~48%
Test Engineer :	Abi Lin and Kyle Jhuang	Polarization :	Vertical
Remark :	1. 2438 MHz is fundamental signal which can be ignored. 2. Average measurement was not performed if peak level went lower than the average limit.		

Frequency (MHz)	Level (dBµV/m)	Over Limit (dB)	Limit Line (dBµV/m)	Read Level (dBµV)	Antenna Factor (dB)	Cable Loss (dB)	Preamp Factor (dB)	Ant Pos (cm)	Table Pos (deg)	Remark
2438	92.03	-	-	93.58	27.33	4.27	33.15	104	220	Average
2438	94.78	-	-	96.33	27.33	4.27	33.15	104	220	Peak
4875	53.74	-0.26	54	48.22	31.65	6.29	32.42	103	206	Average
4875	54.77	-19.23	74	49.25	31.65	6.29	32.42	103	206	Peak
7311	48.25	-25.75	74	36.94	36.61	8.42	33.72	100	0	Peak

Test Mode :	802.11b	Temperature :	22~24°C
Test Channel :	11	Relative Humidity :	46~48%
Test Engineer :	Abi Lin and Kyle Jhuang	Polarization :	Horizontal
Remark :	1. 2464 MHz is fundamental signal which can be ignored. 2. Average measurement was not performed if peak level went lower than the average limit.		

Frequency (MHz)	Level (dBµV/m)	Over Limit (dB)	Limit Line (dBµV/m)	Read Level (dBµV)	Antenna Factor (dB)	Cable Loss (dB)	Preamp Factor (dB)	Ant Pos (cm)	Table Pos (deg)	Remark
2464	89.3	-	-	90.76	27.4	4.28	33.14	102	222	Average
2464	92.17	-	-	93.63	27.4	4.28	33.14	102	222	Peak
4923	42.2	-31.8	74	36.56	31.71	6.34	32.41	100	0	Peak
7386	49.23	-24.77	74	37.89	36.8	8.32	33.78	100	0	Peak

Test Mode :	802.11b	Temperature :	22~24°C
Test Channel :	11	Relative Humidity :	46~48%
Test Engineer :	Abi Lin and Kyle Jhuang	Polarization :	Vertical
Remark :	1. 2464 MHz is fundamental signal which can be ignored. 2. Average measurement was not performed if peak level went lower than the average limit.		

Frequency (MHz)	Level (dBµV/m)	Over Limit (dB)	Limit Line (dBµV/m)	Read Level (dBµV)	Antenna Factor (dB)	Cable Loss (dB)	Preamp Factor (dB)	Ant Pos (cm)	Table Pos (deg)	Remark
2464	96.89	-	-	98.35	27.4	4.28	33.14	122	204	Average
2464	99.55	-	-	101.01	27.4	4.28	33.14	122	204	Peak
4926	52.88	-1.12	54	47.23	31.71	6.34	32.4	102	205	Average
4926	54.01	-19.99	74	48.36	31.71	6.34	32.4	102	205	Peak
7386	48.29	-25.71	74	36.95	36.8	8.32	33.78	100	0	Peak

Test Mode :	802.11g	Temperature :	22~24°C
Test Channel :	01	Relative Humidity :	46~48%
Test Engineer :	Abi Lin and Kyle Jhuang	Polarization :	Horizontal
Remark :	1. 2414 MHz is fundamental signal which can be ignored. 2. Average measurement was not performed if peak level went lower than the average limit.		

Frequency (MHz)	Level (dBµV/m)	Over Limit (dB)	Limit Line (dBµV/m)	Read Level (dBµV)	Antenna Factor (dB)	Cable Loss (dB)	Preamp Factor (dB)	Ant Pos (cm)	Table Pos (deg)	Remark
65.64	31.2	-8.8	40	45.84	12.73	0.68	28.05	121	164	Peak
149.61	33.81	-9.69	43.5	47.16	13.79	1	28.14	-	-	Peak
224.94	28.19	-17.81	46	43.85	11.3	1.2	28.16	-	-	Peak
325.2	22.27	-23.73	46	34.31	14.65	1.47	28.16	-	-	Peak
801.2	32.53	-13.47	46	35.02	22.61	2.38	27.48	-	-	Peak
974.8	30.59	-23.41	54	30.16	24.6	2.68	26.85	-	-	Peak
2414	92.94	-	-	94.58	27.26	4.26	33.16	107	246	Average
2414	97.86	-	-	99.5	27.26	4.26	33.16	107	246	Peak
4826	48.76	-25.24	74	43.36	31.59	6.23	32.42	100	0	Peak

Test Mode :	802.11g	Temperature :	22~24°C
Test Channel :	01	Relative Humidity :	46~48%
Test Engineer :	Abi Lin and Kyle Jhuang	Polarization :	Vertical
Remark :	1. 2414 MHz is fundamental signal which can be ignored. 2. Average measurement was not performed if peak level went lower than the average limit.		

Frequency (MHz)	Level (dBµV/m)	Over Limit (dB)	Limit Line (dBµV/m)	Read Level (dBµV)	Antenna Factor (dB)	Cable Loss (dB)	Preamp Factor (dB)	Ant Pos (cm)	Table Pos (deg)	Remark
78.06	27.46	-12.54	40	44.77	10.05	0.72	28.08	100	312	Peak
150.15	29.85	-13.65	43.5	43.2	13.8	1	28.15	-	-	Peak
282.45	22.78	-23.22	46	35.86	13.75	1.35	28.18	-	-	Peak
388.2	20.52	-25.48	46	31.04	16.04	1.56	28.12	-	-	Peak
804.7	30.08	-15.92	46	32.5	22.66	2.38	27.46	-	-	Peak
939.1	29.02	-16.98	46	29.06	24.35	2.59	26.98	-	-	Peak
2410	100.9	-	-	102.57	27.25	4.25	33.17	100	202	Average
2410	106.26	-	-	107.93	27.25	4.25	33.17	100	202	Peak
4826	45.75	-8.25	54	40.35	31.59	6.23	32.42	100	64	Average

Test Mode :	802.11g	Temperature :	22~24°C
Test Channel :	06	Relative Humidity :	46~48%
Test Engineer :	Abi Lin and Kyle Jhuang	Polarization :	Horizontal
Remark :	1. 2436 MHz is fundamental signal which can be ignored. 2. Average measurement was not performed if peak level went lower than the average limit.		

Frequency (MHz)	Level (dBµV/m)	Over Limit (dB)	Limit Line (dBµV/m)	Read Level (dBµV)	Antenna Factor (dB)	Cable Loss (dB)	Preamp Factor (dB)	Ant Pos (cm)	Table Pos (deg)	Remark
2436	93.03	-	-	94.6	27.32	4.27	33.16	110	132	Average
2436	97.34	-	-	98.91	27.32	4.27	33.16	110	132	Peak
4875	47.27	-26.73	74	41.75	31.65	6.29	32.42	100	0	Peak
7311	49.26	-24.74	74	37.95	36.61	8.42	33.72	100	0	Peak

Test Mode :	802.11g	Temperature :	22~24°C
Test Channel :	06	Relative Humidity :	46~48%
Test Engineer :	Abi Lin and Kyle Jhuang	Polarization :	Vertical
Remark :	1. 2438 MHz is fundamental signal which can be ignored. 2. Average measurement was not performed if peak level went lower than the average limit.		

Frequency (MHz)	Level (dBµV/m)	Over Limit (dB)	Limit Line (dBµV/m)	Read Level (dBµV)	Antenna Factor (dB)	Cable Loss (dB)	Preamp Factor (dB)	Ant Pos (cm)	Table Pos (deg)	Remark
2438	99.74	-	-	101.29	27.33	4.27	33.15	100	156	Average
2438	105.19	-	-	106.74	27.33	4.27	33.15	100	156	Peak
4875	46.6	-7.4	54	41.08	31.65	6.29	32.42	100	78	Average
4875	56.54	-17.46	74	51.02	31.65	6.29	32.42	100	78	Peak
7311	51.06	-22.94	74	39.75	36.61	8.42	33.72	100	0	Peak

Test Mode :	802.11g	Temperature :	22~24°C
Test Channel :	11	Relative Humidity :	46~48%
Test Engineer :	Abi Lin and Kyle Jhuang	Polarization :	Horizontal
Remark :	1. 2464 MHz is fundamental signal which can be ignored. 2. Average measurement was not performed if peak level went lower than the average limit.		

Frequency (MHz)	Level (dBµV/m)	Over Limit (dB)	Limit Line (dBµV/m)	Read Level (dBµV)	Antenna Factor (dB)	Cable Loss (dB)	Preamp Factor (dB)	Ant Pos (cm)	Table Pos (deg)	Remark
2464	93.33	-	-	94.79	27.4	4.28	33.14	165	137	Average
2464	99.65	-	-	101.11	27.4	4.28	33.14	165	137	Peak
4926	47.79	-26.21	74	42.14	31.71	6.34	32.4	100	0	Peak
7386	49.28	-24.72	74	37.94	36.8	8.32	33.78	100	0	Peak

Test Mode :	802.11g	Temperature :	22~24°C
Test Channel :	11	Relative Humidity :	46~48%
Test Engineer :	Abi Lin and Kyle Jhuang	Polarization :	Vertical
Remark :	1. 2460 MHz is fundamental signal which can be ignored. 2. Average measurement was not performed if peak level went lower than the average limit.		

Frequency (MHz)	Level (dBµV/m)	Over Limit (dB)	Limit Line (dBµV/m)	Read Level (dBµV)	Antenna Factor (dB)	Cable Loss (dB)	Preamp Factor (dB)	Ant Pos (cm)	Table Pos (deg)	Remark
2460	100.82	-	-	102.3	27.39	4.28	33.15	121	324	Average
2460	107.05	-	-	108.53	27.39	4.28	33.15	121	324	Peak
4926	47.53	-6.47	54	41.88	31.71	6.34	32.4	100	88	Average
4926	57.72	-16.28	74	52.07	31.71	6.34	32.4	100	88	Peak
7386	52.01	-21.99	74	40.67	36.8	8.32	33.78	100	0	Peak

Test Mode :	802.11n HT20	Temperature :	22~24°C
Test Channel :	01	Relative Humidity :	46~48%
Test Engineer :	Abi Lin and Kyle Jhuang	Polarization :	Horizontal
Remark :	1. 2414 MHz is fundamental signal which can be ignored. 2. Average measurement was not performed if peak level went lower than the average limit.		

Frequency (MHz)	Level (dBµV/m)	Over Limit (dB)	Limit Line (dBµV/m)	Read Level (dBµV)	Antenna Factor (dB)	Cable Loss (dB)	Preamp Factor (dB)	Ant Pos (cm)	Table Pos (deg)	Remark
75.36	34.28	-5.72	40	50.95	10.67	0.73	28.07	100	116	Peak
156.9	34.85	-8.65	43.5	48.28	13.73	0.99	28.15	-	-	Peak
250.05	34.64	-11.36	46	49.15	12.4	1.26	28.17	-	-	Peak
374.9	32.1	-13.9	46	42.93	15.75	1.55	28.13	-	-	Peak
500.2	32.11	-13.89	46	40.17	18.1	1.81	27.97	-	-	Peak
797	33.34	-12.66	46	35.89	22.57	2.37	27.49	-	-	Peak
2414	94.18	-	-	95.82	27.26	4.26	33.16	106	246	Average
2414	98.82	-	-	100.46	27.26	4.26	33.16	106	246	Peak
4824	50.36	-23.64	74	44.97	31.59	6.23	32.43	100	0	Peak

Test Mode :	802.11n HT20	Temperature :	22~24°C
Test Channel :	01	Relative Humidity :	46~48%
Test Engineer :	Abi Lin and Kyle Jhuang	Polarization :	Vertical
Remark :	1. 2414 MHz is fundamental signal which can be ignored. 2. Average measurement was not performed if peak level went lower than the average limit.		

Frequency (MHz)	Level (dBµV/m)	Over Limit (dB)	Limit Line (dBµV/m)	Read Level (dBµV)	Antenna Factor (dB)	Cable Loss (dB)	Preamp Factor (dB)	Ant Pos (cm)	Table Pos (deg)	Remark
62.94	31.71	-8.29	40	45.85	13.24	0.66	28.04	-	-	Peak
125.04	36.32	-7.18	43.5	51.53	12	0.93	28.14	124	275	Peak
250.05	29.24	-16.76	46	43.75	12.4	1.26	28.17	-	-	Peak
374.9	30.74	-15.26	46	41.57	15.75	1.55	28.13	-	-	Peak
500.2	30.74	-15.26	46	38.8	18.1	1.81	27.97	-	-	Peak
798.4	31.43	-14.57	46	33.95	22.58	2.38	27.48	-	-	Peak
2414	100.67	-	-	102.31	27.26	4.26	33.16	100	325	Average
2414	106.68	-	-	108.3	27.28	4.26	33.16	100	325	Peak
4826	48.62	-5.38	54	43.22	31.59	6.23	32.42	100	66	Average

Test Mode :	802.11n HT20	Temperature :	22~24°C
Test Channel :	06	Relative Humidity :	46~48%
Test Engineer :	Abi Lin and Kyle Jhuang	Polarization :	Horizontal
Remark :	1. 2438 MHz is fundamental signal which can be ignored. 2. Average measurement was not performed if peak level went lower than the average limit.		

Frequency (MHz)	Level (dBµV/m)	Over Limit (dB)	Limit Line (dBµV/m)	Read Level (dBµV)	Antenna Factor (dB)	Cable Loss (dB)	Preamp Factor (dB)	Ant Pos (cm)	Table Pos (deg)	Remark
2438	92.19	-	-	93.74	27.33	4.27	33.15	108	254	Average
2438	99.21	-	-	100.76	27.33	4.27	33.15	108	254	Peak
4875	42.97	-31.03	74	37.45	31.65	6.29	32.42	100	0	Peak
7311	49.15	-24.85	74	37.84	36.61	8.42	33.72	100	0	Peak

Test Mode :	802.11n HT20	Temperature :	22~24°C
Test Channel :	06	Relative Humidity :	46~48%
Test Engineer :	Abi Lin and Kyle Jhuang	Polarization :	Vertical
Remark :	1. 2438 MHz is fundamental signal which can be ignored. 2. Average measurement was not performed if peak level went lower than the average limit.		

Frequency (MHz)	Level (dBµV/m)	Over Limit (dB)	Limit Line (dBµV/m)	Read Level (dBµV)	Antenna Factor (dB)	Cable Loss (dB)	Preamp Factor (dB)	Ant Pos (cm)	Table Pos (deg)	Remark
2438	102.26	-	-	103.8	27.34	4.27	33.15	122	148	Average
2438	107.6	-	-	109.15	27.33	4.27	33.15	122	148	Peak
4875	46.24	-27.76	74	40.71	31.65	6.29	32.41	100	0	Peak
7311	50	-24	74	38.69	36.61	8.42	33.72	100	0	Peak

Test Mode :	802.11n HT20	Temperature :	22~24°C
Test Channel :	11	Relative Humidity :	46~48%
Test Engineer :	Abi Lin and Kyle Jhuang	Polarization :	Horizontal
Remark :	1. 2464 MHz is fundamental signal which can be ignored. 2. Average measurement was not performed if peak level went lower than the average limit.		

Frequency (MHz)	Level (dBµV/m)	Over Limit (dB)	Limit Line (dBµV/m)	Read Level (dBµV)	Antenna Factor (dB)	Cable Loss (dB)	Preamp Factor (dB)	Ant Pos (cm)	Table Pos (deg)	Remark
2464	94.9	-	-	96.36	27.4	4.28	33.14	106	138	Average
2464	101.12	-	-	102.58	27.4	4.28	33.14	106	138	Peak
4923	40.96	-33.04	74	35.32	31.71	6.34	32.41	100	0	Peak
7386	49.44	-24.56	74	38.1	36.8	8.32	33.78	100	0	Peak

Test Mode :	802.11n HT20	Temperature :	22~24°C
Test Channel :	11	Relative Humidity :	46~48%
Test Engineer :	Abi Lin and Kyle Jhuang	Polarization :	Vertical
Remark :	1. 2464 MHz is fundamental signal which can be ignored. 2. Average measurement was not performed if peak level went lower than the average limit.		

Frequency (MHz)	Level (dBµV/m)	Over Limit (dB)	Limit Line (dBµV/m)	Read Level (dBµV)	Antenna Factor (dB)	Cable Loss (dB)	Preamp Factor (dB)	Ant Pos (cm)	Table Pos (deg)	Remark
2464	101.4	-	-	102.86	27.4	4.28	33.14	100	210	Average
2464	107.34	-	-	108.8	27.4	4.28	33.14	100	210	Peak
4923	41.73	-32.27	74	36.09	31.71	6.34	32.41	100	0	Peak
7386	48.22	-25.78	74	36.88	36.8	8.32	33.78	100	0	Peak

Test Mode :	802.11n HT40	Temperature :	22~24°C
Test Channel :	03	Relative Humidity :	46~48%
Test Engineer :	Abi Lin and Kyle Jhuang	Polarization :	Horizontal
Remark :	1. 2425 MHz is fundamental signal which can be ignored. 2. Average measurement was not performed if peak level went lower than the average limit.		

Frequency (MHz)	Level (dBµV/m)	Over Limit (dB)	Limit Line (dBµV/m)	Read Level (dBµV)	Antenna Factor (dB)	Cable Loss (dB)	Preamp Factor (dB)	Ant Pos (cm)	Table Pos (deg)	Remark
69.69	26.48	-13.52	40	41.87	11.96	0.71	28.06	-	-	Peak
157.17	32.33	-11.17	43.5	45.76	13.73	0.99	28.15	111	258	Peak
250.05	34.11	-11.89	46	48.62	12.4	1.26	28.17	-	-	Peak
374.9	30.47	-15.53	46	41.3	15.75	1.55	28.13	-	-	Peak
624.8	30.51	-15.49	46	35.82	20.35	2.15	27.81	-	-	Peak
794.9	32.24	-13.76	46	34.81	22.55	2.37	27.49	-	-	Peak
2425	89.02	-	-	90.63	27.29	4.26	33.16	110	246	Average
2425	93.62	-	-	95.19	27.32	4.27	33.16	110	246	Peak
4845	42.39	-31.61	74	36.95	31.61	6.25	32.42	100	0	Peak
7266	49.14	-24.86	74	37.85	36.49	8.48	33.68	100	0	Peak

Test Mode :	802.11n HT40	Temperature :	22~24°C
Test Channel :	03	Relative Humidity :	46~48%
Test Engineer :	Abi Lin and Kyle Jhuang	Polarization :	Vertical
Remark :	1. 2426 MHz is fundamental signal which can be ignored. 2. Average measurement was not performed if peak level went lower than the average limit.		

Frequency (MHz)	Level (dBµV/m)	Over Limit (dB)	Limit Line (dBµV/m)	Read Level (dBµV)	Antenna Factor (dB)	Cable Loss (dB)	Preamp Factor (dB)	Ant Pos (cm)	Table Pos (deg)	Remark
46.74	26.34	-13.66	40	39.48	14.27	0.59	28	-	-	Peak
125.04	36.63	-6.87	43.5	51.84	12	0.93	28.14	100	312	Peak
149.88	29.55	-13.95	43.5	42.89	13.8	1	28.14	-	-	Peak
374.9	31.63	-14.37	46	42.46	15.75	1.55	28.13	-	-	Peak
500.2	29.9	-16.1	46	37.96	18.1	1.81	27.97	-	-	Peak
1000	37.59	-16.41	54	36.88	24.7	2.76	26.75	-	-	Peak
2426	96.65	-	-	98.26	27.29	4.26	33.16	100	187	Average
2426	102.93	-	-	104.53	27.3	4.26	33.16	100	187	Peak
4845	43.21	-30.79	74	37.77	31.61	6.25	32.42	100	0	Peak
7266	48.43	-25.57	74	37.14	36.49	8.48	33.68	100	0	Peak

Test Mode :	802.11n HT40	Temperature :	22~24°C
Test Channel :	06	Relative Humidity :	46~48%
Test Engineer :	Abi Lin and Kyle Jhuang	Polarization :	Horizontal
Remark :	1. 2433 MHz is fundamental signal which can be ignored. 2. Average measurement was not performed if peak level went lower than the average limit.		

Frequency (MHz)	Level (dBµV/m)	Over Limit (dB)	Limit Line (dBµV/m)	Read Level (dBµV)	Antenna Factor (dB)	Cable Loss (dB)	Preamp Factor (dB)	Ant Pos (cm)	Table Pos (deg)	Remark
2433	93.74	-	-	95.33	27.31	4.26	33.16	107	224	Average
2433	98.46	-	-	100.07	27.29	4.26	33.16	107	224	Peak
4875	41.7	-32.3	74	36.18	31.65	6.29	32.42	100	0	Peak
7311	49.49	-24.51	74	38.18	36.61	8.42	33.72	100	0	Peak

Test Mode :	802.11n HT40	Temperature :	22~24°C
Test Channel :	06	Relative Humidity :	46~48%
Test Engineer :	Abi Lin and Kyle Jhuang	Polarization :	Vertical
Remark :	1. 2433 MHz is fundamental signal which can be ignored. 2. Average measurement was not performed if peak level went lower than the average limit.		

Frequency (MHz)	Level (dBµV/m)	Over Limit (dB)	Limit Line (dBµV/m)	Read Level (dBµV)	Antenna Factor (dB)	Cable Loss (dB)	Preamp Factor (dB)	Ant Pos (cm)	Table Pos (deg)	Remark
2433	100.77	-	-	102.37	27.3	4.26	33.16	100	198	Average
2433	106.08	-	-	107.68	27.3	4.26	33.16	100	198	Peak
4875	42.09	-31.91	74	36.57	31.65	6.29	32.42	100	0	Peak
7311	49.31	-24.69	74	38	36.61	8.42	33.72	100	0	Peak

Test Mode :	802.11n HT40	Temperature :	22~24°C
Test Channel :	09	Relative Humidity :	46~48%
Test Engineer :	Abi Lin and Kyle Jhuang	Polarization :	Horizontal
Remark :	1. 2455 MHz is fundamental signal which can be ignored. 2. Average measurement was not performed if peak level went lower than the average limit.		

Frequency (MHz)	Level (dBµV/m)	Over Limit (dB)	Limit Line (dBµV/m)	Read Level (dBµV)	Antenna Factor (dB)	Cable Loss (dB)	Preamp Factor (dB)	Ant Pos (cm)	Table Pos (deg)	Remark
2455	90.58	-	-	92.09	27.37	4.27	33.15	104	224	Average
2455	98.22	-	-	99.68	27.4	4.28	33.14	104	224	Peak
4905	41.72	-32.28	74	36.12	31.69	6.32	32.41	100	0	Peak
7356	49.18	-24.82	74	37.84	36.73	8.36	33.75	100	0	Peak

Test Mode :	802.11n HT40	Temperature :	22~24°C
Test Channel :	09	Relative Humidity :	46~48%
Test Engineer :	Abi Lin and Kyle Jhuang	Polarization :	Vertical
Remark :	1. 2448 MHz is fundamental signal which can be ignored. 2. Average measurement was not performed if peak level went lower than the average limit.		

Frequency (MHz)	Level (dBµV/m)	Over Limit (dB)	Limit Line (dBµV/m)	Read Level (dBµV)	Antenna Factor (dB)	Cable Loss (dB)	Preamp Factor (dB)	Ant Pos (cm)	Table Pos (deg)	Remark
2448	98.23	-	-	99.76	27.35	4.27	33.15	100	195	Average
2448	104.79	-	-	106.32	27.35	4.27	33.15	100	195	Peak
4905	40.8	-33.2	74	35.2	31.69	6.32	32.41	100	0	Peak
7356	48.89	-25.11	74	37.55	36.73	8.36	33.75	100	0	Peak

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.

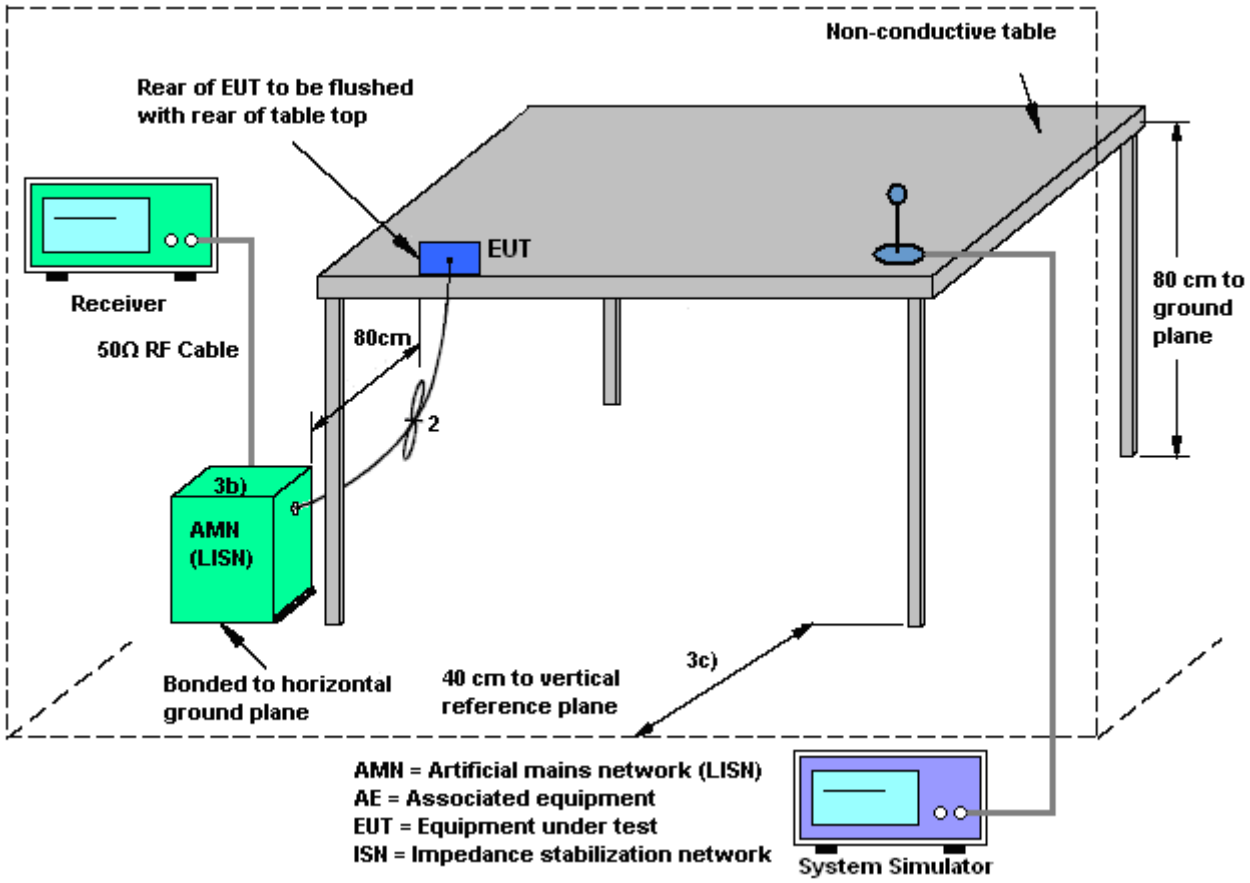
3.6.2 Measuring Instruments

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

3.6.3 Test Procedures

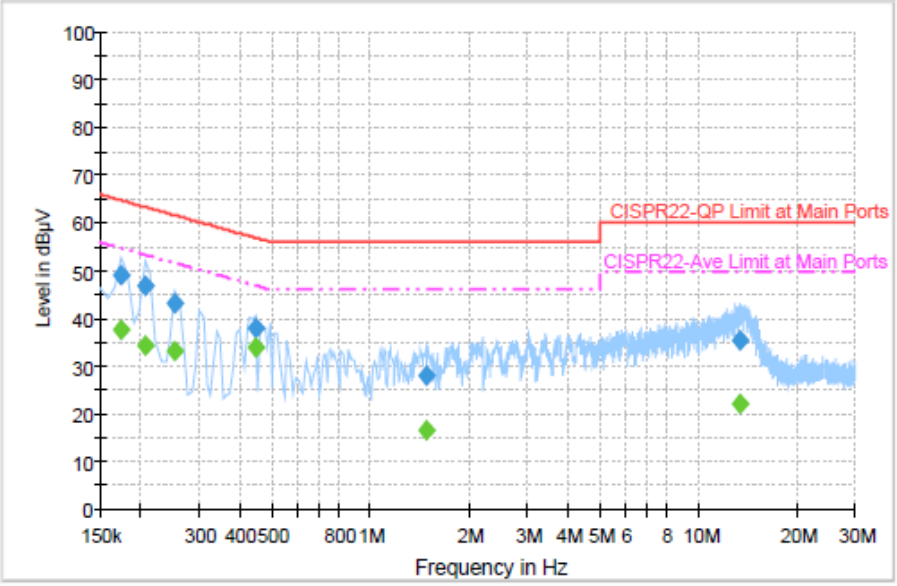
1. The EUT was placed 0.4 meter from the conducting wall of the shielding room, and it was kept at least 80 centimeters from any other grounded conducting surface.
2. Connect EUT to the power mains through a line impedance stabilization network (LISN).
3. All the support units are connecting to the other 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 with Maximum Hold Mode.

3.6.4 Test Setup



3.6.5 Test Result of AC Conducted Emission

Test Mode :	Mode 1	Temperature :	20~22℃
Test Engineer :	Cosmo Xu	Relative Humidity :	45~47%
Test Voltage :	120Vac / 60Hz	Phase :	Line
Function Type :	GSM850 (GPRS Class 8) Idle + WLAN Link + USB flash drive + GPS Rx + LAN Link + Adapter		



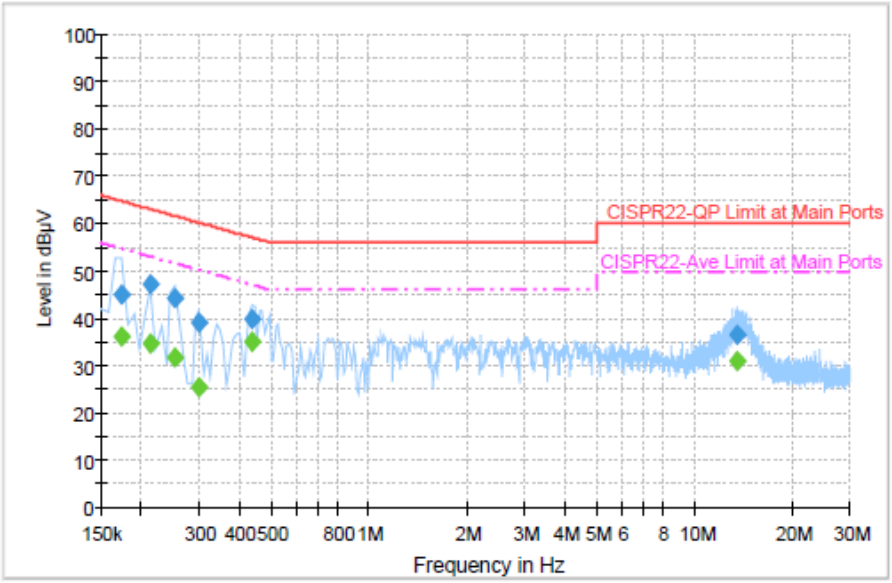
Final Result : QuasiPeak

Frequency (MHz)	QuasiPeak (dBµV)	Filter	Line	Corr. (dB)	Margin (dB)	Limit (dBµV)
0.174000	48.9	Off	L1	19.3	15.9	64.8
0.206000	47.0	Off	L1	19.3	16.4	63.4
0.254000	43.1	Off	L1	19.4	18.5	61.6
0.446000	38.0	Off	L1	19.3	18.9	56.9
1.478000	27.9	Off	L1	19.4	28.1	56.0
13.422000	35.5	Off	L1	19.8	24.5	60.0

Final Result : Average

Frequency (MHz)	Average (dBµV)	Filter	Line	Corr. (dB)	Margin (dB)	Limit (dBµV)
0.174000	37.8	Off	L1	19.3	17.0	54.8
0.206000	34.2	Off	L1	19.3	19.2	53.4
0.254000	33.1	Off	L1	19.4	18.5	51.6
0.446000	34.0	Off	L1	19.3	12.9	46.9
1.478000	16.8	Off	L1	19.4	29.2	46.0
13.422000	22.2	Off	L1	19.8	27.8	50.0

Test Mode :	Mode 1	Temperature :	20~22℃
Test Engineer :	Cosmo Xu	Relative Humidity :	45~47%
Test Voltage :	120Vac / 60Hz	Phase :	Neutral
Function Type :	GSM850 (GPRS Class 8) Idle + WLAN Link + USB flash drive + GPS Rx + LAN Link + Adapter		



Final Result : QuasiPeak

Frequency (MHz)	QuasiPeak (dBµV)	Filter	Line	Corr. (dB)	Margin (dB)	Limit (dBµV)
0.174000	45.0	Off	N	19.3	19.8	64.8
0.214000	47.3	Off	N	19.4	15.7	63.0
0.254000	44.2	Off	N	19.4	17.4	61.6
0.302000	38.9	Off	N	19.4	21.3	60.2
0.438000	40.0	Off	N	19.4	17.1	57.1
13.558000	36.4	Off	N	19.9	23.6	60.0

Final Result : Average

Frequency (MHz)	Average (dBµV)	Filter	Line	Corr. (dB)	Margin (dB)	Limit (dBµV)
0.174000	36.2	Off	N	19.3	18.6	54.8
0.214000	34.7	Off	N	19.4	18.3	53.0
0.254000	31.6	Off	N	19.4	20.0	51.6
0.302000	25.4	Off	N	19.4	24.8	50.2
0.438000	35.2	Off	N	19.4	11.9	47.1
13.558000	31.0	Off	N	19.9	19.0	50.0

3.7 Antenna Requirements

3.7.1 Standard Applicable

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

3.7.2 Antenna Anti-Replacement Construction

An embedded-in antenna design is used.

3.7.3 Antenna Gain

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 $N_{ANT} \leq 4$.

The EUT supports CDD mode.

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

The directional gain “DG” is calculated as following table.

			DG for Power	DG for PSD	Power Limit Reduction	PSD Limit Reduction
	Ant. 1 (dBi)	Ant. 2 (dBi)	(dBi)	(dBi)	(dB)	(dB)
2.4 GHz	2.00	2.00	2.00	5.01	0.00	0.00

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
Spectrum Analyzer	Rohde & Schwarz	FSP40	100055	9kHz~40GHz	Jun. 07, 2013	May 26, 2014~ Jun. 05, 2014	Jun. 06, 2014	Conducted (TH02-HY)
Spectrum Analyzer	Rohde & Schwarz	FSP40	100055	9kHz~40GHz	Jun. 09, 2014	Jun. 09, 2014~ Jun. 12, 2014	Jun. 08, 2015	Conducted (TH02-HY)
Power Meter	Anritsu	ML2495A	1036004	300MHz~40GHz	Aug. 17, 2013	May 26, 2014~ Jun. 12, 2014	Aug. 16, 2014	Conducted (TH02-HY)
Power Sensor	Anritsu	MA2411B	1027253	300MHz~40GHz	Aug. 17, 2013	May 26, 2014~ Jun. 12, 2014	Aug. 16, 2014	Conducted (TH02-HY)
EMI Test Receiver	Rohde & Schwarz	ESCI 7	100724	9 kHz~7 GHz	Sep. 06, 2013	Jul. 07, 2014~ Jul. 11, 2014	Sep. 05, 2014	Radiation (03CH07-HY)
Spectrum Analyzer	Rohde & Schwarz	FSV30	101749	10Hz ~ 30GHz	Feb. 10, 2014	Jul. 07, 2014~ Jul. 11, 2014	Feb. 09, 2015	Radiation (03CH07-HY)
Loop Antenna	TESEQ	HLA 6120	31244	9 kHz~30 MhZ	Dec. 02, 2012	Jul. 07, 2014~ Jul. 11, 2014	Dec. 03, 2014	Radiation (03CH07-HY)
Bilog Antenna	Schaffner	CBL6111C	2726	30 MHz ~ 1 GHz	Oct. 10, 2013	Jul. 07, 2014~ Jul. 11, 2014	Oct. 09, 2014	Radiation (03CH07-HY)
Double Ridge Horn Antenna	ESCO	3117	75962	1 GHz~18 GHz	Aug. 22, 2013	Jul. 07, 2014~ Jul. 11, 2014	Aug. 21, 2014	Radiation (03CH07-HY)
SHF-EHF Horn Antenna	SCHWARZBECK	BBHA 9170	BBHA9170251	15 GHz- 40 GHz	Oct. 03, 2013	Jul. 07, 2014~ Jul. 11, 2014	Oct. 02, 2014	Radiation (03CH07-HY)
Preamplifier	COM-POWER	PA-103A	161241	10 MHz ~ 1000MHz 32dB GAIN	Mar. 17, 2014	Jul. 07, 2014~ Jul. 11, 2014	Mar. 16, 2015	Radiation (03CH07-HY)
Preamplifier	Agilent	8449B	3008A02362	1 GHz~26.5 GHz	Nov. 29, 2013	Jul. 07, 2014~ Jul. 11, 2014	Nov. 28, 2014	Radiation (03CH07-HY)
Preamplifier	MITEQ	AMF-7D-00101800-30-10P	1590075	DC~18 G High Gain	Apr. 21, 2014	Jul. 07, 2014~ Jul. 11, 2014	Apr. 20, 2015	Radiation (03CH07-HY)
Turn Table	ChainTek	ChainTek 3000	N/A	0 ~ 360 degree	N/A	Jul. 07, 2014~ Jul. 11, 2014	N/A	Radiation (03CH07-HY)
Antenna Mast	ChainTek	ChainTek 3000	N/A	N/A	N/A	Jul. 07, 2014~ Jul. 11, 2014	N/A	Radiation (03CH07-HY)
EMI Test Receiver	Rohde & Schwarz	ESCS 30	100356	9kHz ~ 2.75GHz	Nov. 15, 2013	Apr. 26, 2014	Nov. 14, 2014	Conduction (CO05-HY)
LISN (for auxiliary equipment)	Rohde & Schwarz	ENV216	100081	9kHz ~ 30MHz	Dec. 12, 2013	Apr. 26, 2014	Dec. 11, 2014	Conduction (CO05-HY)
LISN	Rohde & Schwarz	ENV216	100080	9kHz ~ 30MHz	Dec. 04, 2013	Apr. 26, 2014	Dec. 03, 2014	Conduction (CO05-HY)
AC Power Source	ChainTek	APC-1000W	N/A	N/A	N/A	Apr. 26, 2014	N/A	Conduction (CO05-HY)

5 Uncertainty of Evaluation

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

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

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

Measuring Uncertainty for a Level of Confidence of 95% (U = 2Uc(y))	**4.50**