FCC RF Test Report

APPLICANT	:	**AAEON Technology Inc.**
EQUIPMENT	:	**7" Rugged Tablet Computer**
BRAND NAME	:	**AAEON**
MODEL NAME	:	**xxxRTC-700T-WBGH-xxxx**
		1. xxx=TF-(TF: Toxic Free) or blank
		2. xxxx=SW revision, ex: 1110=rev1, x:0~9
FCC ID	:	**OHBRTC700TWBGB**
STANDARD	:	**FCC Part 15 Subpart C §15.247**
CLASSIFICATION	:	**(DTS) Digital Transmission System**

The product was received on Apr. 02, 2013 and completely tested on Jun. 04, 2013. We, SPORTON INTERNATIONAL INC., would like to declare that the tested sample has been evaluated in accordance with the procedures and shown the compliance with the applicable technical standards.

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

Reviewed by: Joseph Lin / Supervisor

Approved by: Jones Tsai / Manager

Testing Laboratory
1190

SPORTON INTERNATIONAL INC.
No. 52, Hwa Ya 1st Rd., Hwa Ya Technology Park, Kwei-Shan Hsiang, Tao Yuan Hsien, Taiwan, R.O.C.

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APPENDIX A. PHOTOGRAPHS OF EUT

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REVISION HISTORY

REPORT NO.	VERSION	DESCRIPTION	ISSUED DATE
FR340236B	Rev. 01	Initial issue of report	Jun. 14, 2013
FR340236B	Rev. 02	Update report for revising model name	Jun. 26, 2013

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	-
3.2	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 1.10 dB at 2483.500 MHz
3.6	15.207	RSS-Gen 7.2.4	AC Conducted Emission	15.207(a)	Pass	Under limit 9.90 dB at 0.550 MHz
3.7	15.203 & 15.247(b)	RSS-210 A8.4	Antenna Requirement	N/A	Pass	-

1 General Description

1.1 Applicant

AAEON Technology Inc.
5F, No. 135, Lane 235, Pao Chiao Rd., Hsin-Tien Dist., New Taipei City, Taiwan, R.O.C

1.2 Manufacturer

AAEON Technology Inc.
5F, No. 135, Lane 235, Pao Chiao Rd., Hsin-Tien Dist., New Taipei City, Taiwan, R.O.C

1.3 Feature of Equipment Under Test

Product Feature	
Equipment	7” Rugged Tablet Computer
Brand Name	AAEON
Model Name	xxxRTC-700T-WBGH-xxxx 1. xxx=TF-(TF: Toxic Free) or blank 2. xxxx=SW revision, ex: 1110=rev1, x:0~9
FCC ID	OHBRTC700TWBGB
EUT supports Radios application	WCDMA/HSPA/ WLAN 11bgn / Bluetooth 2.1
HW Version	A1.2
SW Version	1.3
EUT Stage	Identical Prototype

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

1.4 Product Specification of Equipment Under Test

Product Specification subjective to this standard	
Tx/Rx Channel Frequency Range	2412 MHz ~ 2462 MHz
Maximum Output Power to Antenna	802.11b : 21.75 dBm (0.1496 W) 802.11g : 25.68 dBm (0.3698 W) 802.11n HT20 : 25.53 dBm (0.3573 W) 802.11n HT40 : 25.50 dBm (0.3548 W)
Antenna Type	PCB Antenna type with gain 2.72 dBi
Type of Modulation	802.11b : DSSS (DBPSK / DQPSK / CCK) 802.11g/n : OFDM (BPSK / QPSK / 16QAM / 64QAM)

1.5 Modification of EUT

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

1.6 Testing Site

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.**			**FCC/IC Registration No.**
	TH02-HY	CO05-HY	03CH06-HY	722060/4086B-1

Note: The test site complies with ANSI C63.4 2003 requirement.

1.7 Applied 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 v03r01
- ANSI C63.10-2009

Remark:

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

2 Test Configuration of Equipment Under Test

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

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

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

2.1 Carrier Frequency Channel

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

2.2 Pre-Scanned RF Power

Preliminary tests were performed in different data rate and antenna configurations as following table and the highest power data rates were chosen for full test in the following tables.

2.4GHz 802.11b mode				
Data Rate (MHz)	1M bps	2M bps	5.5M bps	11M bps
Peak Power (dBm)	21.75	21.70	21.64	21.64

2.4GHz 802.11g mode								
Data Rate (MHz)	6M bps	9M bps	12M bps	18M bps	24M bps	36M bps	48M bps	54M bps
Peak Power (dBm)	25.68	25.66	25.62	25.59	25.63	25.66	25.65	25.57

2.4GHz 802.11n HT20 mode									
Data Rate (MHz)		MCS0	MCS1	MCS2	MCS3	MCS4	MCS5	MCS6	MCS7
Peak Power (dBm)	400GI	25.50	25.45	25.49	25.41	25.46	25.43	25.49	25.30
	800GI	25.53	25.52	25.49	25.51	25.46	25.44	25.49	25.44

2.4GHz 802.11n HT40 mode									
Data Rate (MHz)		MCS0	MCS1	MCS2	MCS3	MCS4	MCS5	MCS6	MCS7
Peak Power (dBm)	400GI	24.67	24.57	24.34	24.60	24.51	24.53	24.48	24.40
	800GI	24.70	24.57	24.32	24.64	24.55	24.52	24.44	24.38

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 BW Power Spectral Density	802.11b	1 Mbps	1/6/11
		802.11g	6 Mbps	1/6/11
		802.11n HT20	6.5 Mbps	1/6/11
		802.11n HT40	13.5 Mbps	3/6/9
	Output Power	802.11b	1 Mbps	1/6/11
		802.11g	6 Mbps	1/6/11
		802.11n HT20	6.5 Mbps	1/6/11
		802.11n HT40	13.5 Mbps	3/6/9
	Conducted Band Edge	802.11b	1 Mbps	1/11
		802.11g	6 Mbps	1/11
		802.11n HT20	6.5 Mbps	1/11
		802.11n HT40	13.5 Mbps	3/9
	Conducted Spurious Emission	802.11b	1 Mbps	1/6/11
		802.11g	6 Mbps	1/6/11
		802.11n HT20	6.5 Mbps	1/6/11
		802.11n HT40	13.5 Mbps	3/6/9
Radiated TCs	Radiated Band Edge	802.11b	1 Mbps	1/11
		802.11g	6 Mbps	1/11
		802.11n HT20	6.5 Mbps	1/11
		802.11n HT40	13.5 Mbps	3/9
	Radiated Spurious Emission	802.11b	1 Mbps	1/6/11
		802.11g	6 Mbps	1/6/11
		802.11n HT20	6.5 Mbps	1/6/11
		802.11n HT40	13.5 Mbps	3/6/9

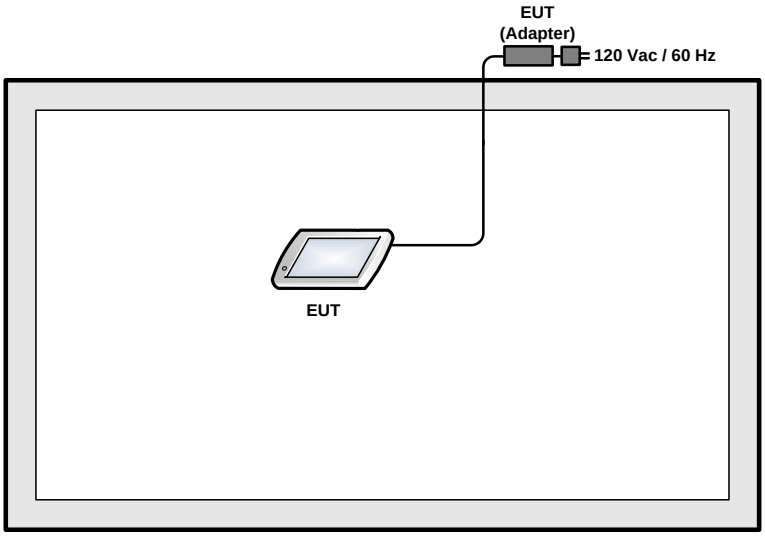
Test Cases	
AC Conducted Emission	Mode 1 : WCDMA Band V Link + TF + TC

Remark:

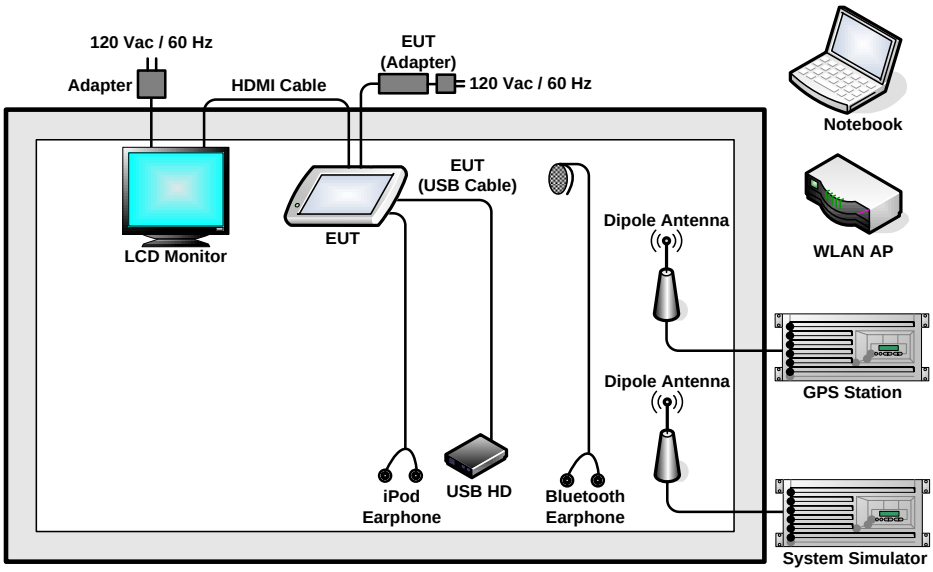
1. TF stands for Test Function, and consists of WLAN Link, Bluetooth Link, GPS Rx, Camera, H-Patten, and MPEG4.
2. TC stands for Test Configuration, and consists of HDMI Cable, iPod Earphone, USB Cable (Data Link with USB HD), Adapter, and SD Card.
3. HDMI Cable means media application transferred between EUT and external display.

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	T&E	GS-50	N/A	N/A	Unshielded, 1.8 m
3.	WLAN AP	D-Link	DIR-628	KA2DIR628A2	N/A	Unshielded, 1.8 m
4.	Bluetooth Earphone	Sony Ericsson	MW600	PY7DDA-2029	N/A	N/A
5.	iPod Earphone	Apple	N/A	FCC DoC	Unshielded, 1.0 m	N/A
6.	LCD Monitor	DELL	U2410	FCC DoC	Shielded, 1.6 m	Unshielded, 1.8 m
7.	USB3.0 HD	WD	WDBAAR5000ABK-PESN	FCC DoC	Unshielded, 0.5 m	N/A
8.	SD Card	SanDisk	MicroSD HC	FCC DoC	N/A	N/A
9.	Notebook	DELL	Latitude E6320	FCC DoC	N/A	AC I/P: Unshielded, 1.2 m DC O/P: Shielded, 1.8 m

2.6 Description of RF Function Operation Test Setup

For WLAN function, programmed RF utility, "Realtek Realtek 11n Single Chip" installed in the EUT, and set "Start testing" to make the EUT provides 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.

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.

Example :

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

= 4.2 + 10 = 14.2 (dB)

3 Test Result

3.1 6dB Bandwidth Measurement

3.1.1 Limit of 6dB Bandwidth

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

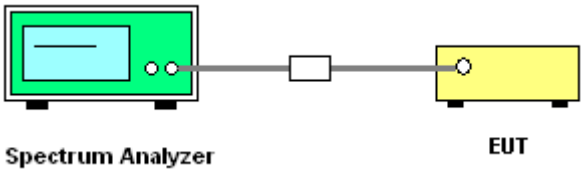
3.1.2 Measuring Instruments

See list of measuring instruments of this test report.

3.1.3 Test Procedures

1. The testing follows FCC KDB Publication No. 558074 DTS D01 Meas. Guidance v03r01.
2. The RF output of EUT was connected to the spectrum analyzer by RF cable and attenuator. The path loss was compensated to the results for each measurement.
3. Set to the maximum power setting and enable the EUT transmit continuously.
4. Make the measurement with the spectrum analyzer's resolution bandwidth (RBW) = 100 kHz. Set the Video bandwidth (VBW) = 300 kHz. In order to make an accurate measurement. The 6 dB bandwidth must be greater than 500 KHz.
5. Measure and record the results in the test report.

3.1.4 Test Setup

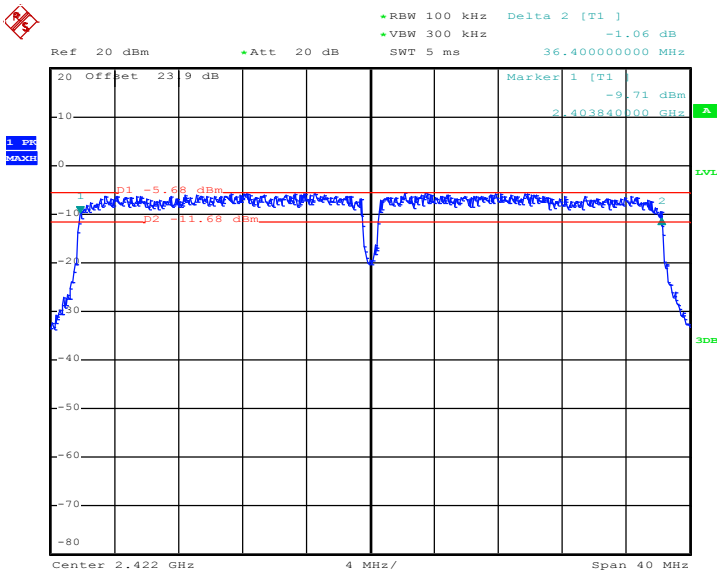


3.1.5 Test Result of 6dB Bandwidth

Test Band :	2.4GHz	**Temperature :**	24~26℃
Test Engineer :	Reece Li	**Relative Humidity :**	50~53%

Mod.	Data Rate	N_{TX}	Channel	Freq. (MHz)	6dB Bandwidth (MHz)	6dB Bandwidth Min. Limit (MHz)	Pass/Fail
11b	1Mbps	1	1	2412	10.04	0.5	Pass
11b	1Mbps	1	6	2437	10.08	0.5	Pass
11b	1Mbps	1	11	2462	10.04	0.5	Pass
11g	6Mbps	1	1	2412	16.52	0.5	Pass
11g	6Mbps	1	6	2437	16.56	0.5	Pass
11g	6Mbps	1	11	2462	16.52	0.5	Pass
HT20	MCS0	1	1	2412	17.68	0.5	Pass
HT20	MCS0	1	6	2437	17.76	0.5	Pass
HT20	MCS0	1	11	2462	17.72	0.5	Pass
HT40	MCS0	1	3	2412	36.40	0.5	Pass
HT40	MCS0	1	6	2437	36.32	0.5	Pass
HT40	MCS0	1	9	2462	36.32	0.5	Pass

Worst Case 6dB Bandwidth



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3.2 Output Power Measurement

3.2.1 Limit of Output Power

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

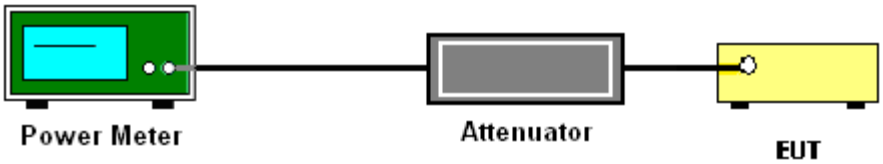
3.2.2 Measuring Instruments

See list of measuring instruments 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 v03r01.
2. The RF output of EUT was connected to the power meter by RF cable and attenuator. The path loss was compensated to the results for each measurement.
3. Set to the maximum power setting and enable the EUT transmit continuously.
4. Measure the conducted output power and record the results in the test report.

3.2.4 Test Setup



3.2.5 Test Result of Peak Output Power

Test Mode :	2.4GHz	Temperature :	24~26℃
Test Engineer :	Reece Li	Relative Humidity :	50~53%

Mod.	Data Rate	N_{TX}	Channel	Freq. (MHz)	RF Output Power (dBm)	Power Limit (dBm)	DG (dBi)	Pass/Fail
11b	1Mbps	1	1	2412	19.74	30	2.72	Pass
11b	1Mbps	1	6	2437	21.75	30	2.72	Pass
11b	1Mbps	1	11	2462	19.63	30	2.72	Pass
11g	6Mbps	1	1	2412	24.06	30	2.72	Pass
11g	6Mbps	1	6	2437	25.68	30	2.72	Pass
11g	6Mbps	1	11	2462	24.05	30	2.72	Pass
HT20	MCS0	1	1	2412	23.40	30	2.72	Pass
HT20	MCS0	1	6	2437	25.53	30	2.72	Pass
HT20	MCS0	1	11	2462	23.02	30	2.72	Pass
HT40	MCS0	1	3	2412	22.82	30	2.72	Pass
HT40	MCS0	1	6	2437	24.70	30	2.72	Pass
HT40	MCS0	1	9	2462	22.67	30	2.72	Pass

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

3.2.6 Test Result of Average output Power (Reporting Only)

Test Mode :	2.4GHz	**Temperature :**	24~26℃
Test Engineer :	Reece Li	**Relative Humidity :**	50~53%

Mod.	Data Rate	N_{TX}	Channel	Freq. (MHz)	Duty Factor (dB)	Average Output Power (dBm)	Power Limit (dBm)	DG (dBi)	Pass/Fail
11b	1Mbps	1	1	2412	0	17.50	30	2.72	Pass
11b	1Mbps	1	6	2437	0	19.65	30	2.72	Pass
11b	1Mbps	1	11	2462	0	17.37	30	2.72	Pass
11g	6Mbps	1	1	2412	0	15.69	30	2.72	Pass
11g	6Mbps	1	6	2437	0	18.61	30	2.72	Pass
11g	6Mbps	1	11	2462	0	15.61	30	2.72	Pass
HT20	MCS0	1	1	2412	0	15.00	30	2.72	Pass
HT20	MCS0	1	6	2437	0	18.67	30	2.72	Pass
HT20	MCS0	1	11	2462	0	14.46	30	2.72	Pass
HT40	MCS0	1	3	2412	0	14.06	30	2.72	Pass
HT40	MCS0	1	6	2437	0	17.44	30	2.72	Pass
HT40	MCS0	1	9	2462	0	13.71	30	2.72	Pass

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.

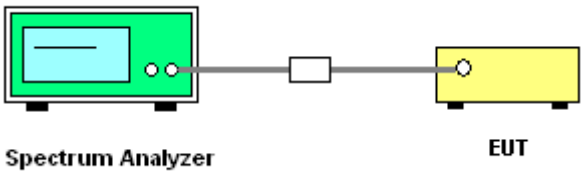
3.3.2 Measuring Instruments

See list of measuring instruments 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 v03r01
2. The RF output of EUT was connected to the spectrum analyzer by RF cable and attenuator. The path loss was compensated to the results for each measurement.
3. Set to the maximum power setting and enable the EUT transmit continuously.
4. Make the measurement with the spectrum analyzer's resolution bandwidth (RBW) = 3 kHz. Video bandwidth VBW = 10 kHz In order to make an accurate measurement, set the span to 1.5 times DTS Channel Bandwidth. (6dB BW)
5. Detector = peak, Sweep time = auto couple, Trace mode = max hold, Allow trace to fully stabilize. Use the peak marker function to determine the maximum power level.
6. Measure and record the results in the test report.

3.3.4 Test Setup



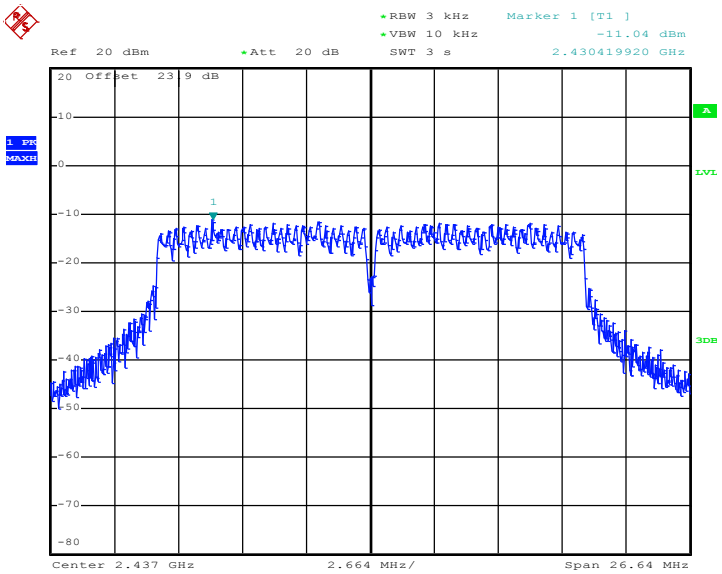
3.3.5 Test Result of Power Spectral Density

Test Mode :	2.4GHz	Temperature :	24~26℃
Test Engineer :	Reece Li	Relative Humidity :	50~53%

Mod.	Data Rate	N_{TX}	Channel	Freq. (MHz)	Peak Power Density (dBm/3kHz)	Max. Limits (dBm/3kHz)	DG (dBi)	Pass/Fail
11b	1Mbps	1	1	2412	-14.57	8	2.72	Pass
11b	1Mbps	1	6	2437	-11.53	8	2.72	Pass
11b	1Mbps	1	11	2462	-15.30	8	2.72	Pass
11g	6Mbps	1	1	2412	-15.00	8	2.72	Pass
11g	6Mbps	1	6	2437	-11.85	8	2.72	Pass
11g	6Mbps	1	11	2462	-15.29	8	2.72	Pass
HT20	MCS0	1	1	2412	-14.02	8	2.72	Pass
HT20	MCS0	1	6	2437	-11.04	8	2.72	Pass
HT20	MCS0	1	11	2462	-16.25	8	2.72	Pass
HT40	MCS0	1	3	2412	-16.94	8	2.72	Pass
HT40	MCS0	1	6	2437	-12.49	8	2.72	Pass
HT40	MCS0	1	9	2462	-18.31	8	2.72	Pass

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

Worst Case Power Density (dBm/3kHz)



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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).

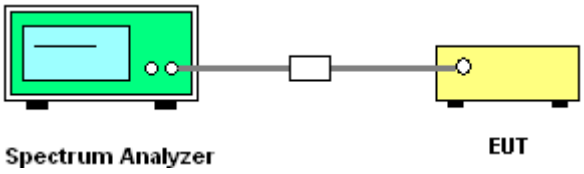
3.4.2 Measuring Instruments

See list of measuring instruments of this test report.

3.4.3 Test Procedures

1. The testing follows FCC KDB Publication No. 558074 D01 DTS Meas. Guidance v03r01.
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

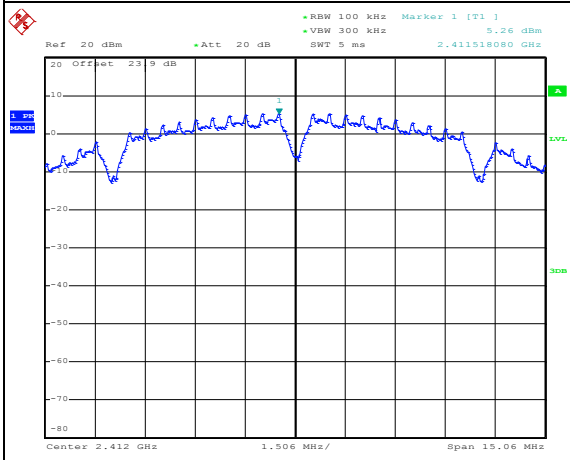


2.4.5 Test Result of Conducted Band Edges and Spurious Emission

Test Mode :	802.11b	**Temperature :**	24~26℃
Test Band :	2.4GHz Low	**Relative Humidity :**	50~53%
Test Channel :	01	**Test Engineer :**	Reece Li

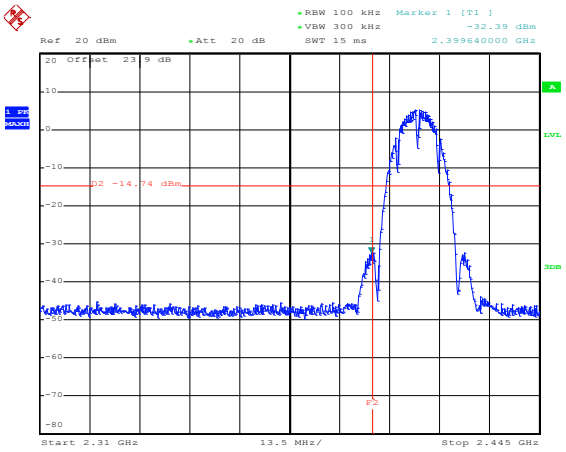
WLAN 802.11b Channel 01

100kHz PSD reference Level



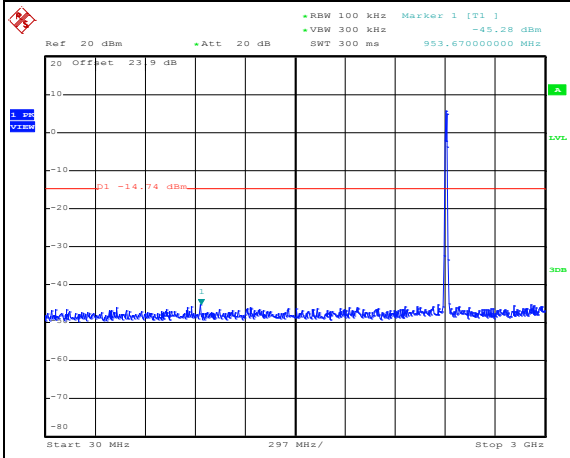
Date: 4.JUN.2013 16:43:07

Low Channel Plot



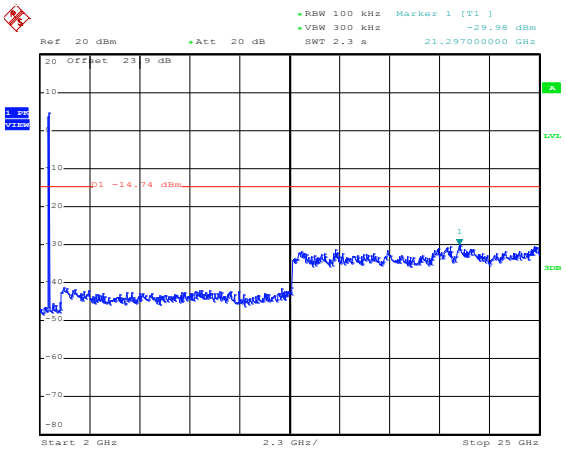
Date: 4.JUN.2013 16:43:27

Spurious Emission 30MHz~3GHz



Date: 4.JUN.2013 18:13:38

Spurious Emission 2GHz~25GHz

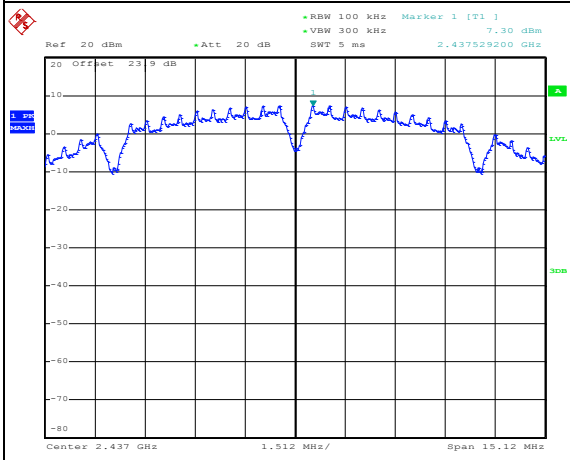


Date: 4.JUN.2013 16:47:48

Test Mode :	802.11b	**Temperature :**	24~26℃
Test Band :	2.4GHz Mid	**Relative Humidity :**	50~53%
Test Channel :	06	**Test Engineer :**	Reece Li

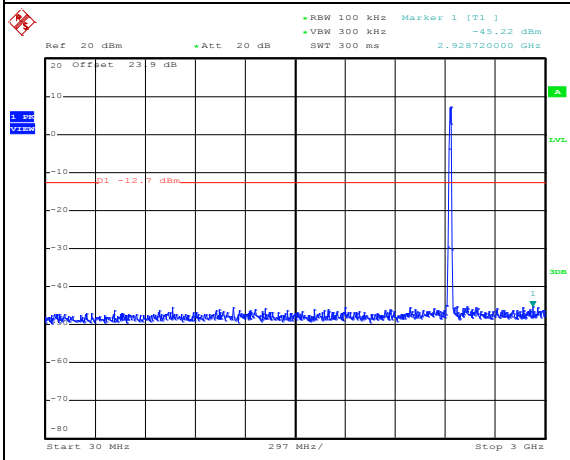
WLAN 802.11b Channel 06

100kHz PSD reference Level



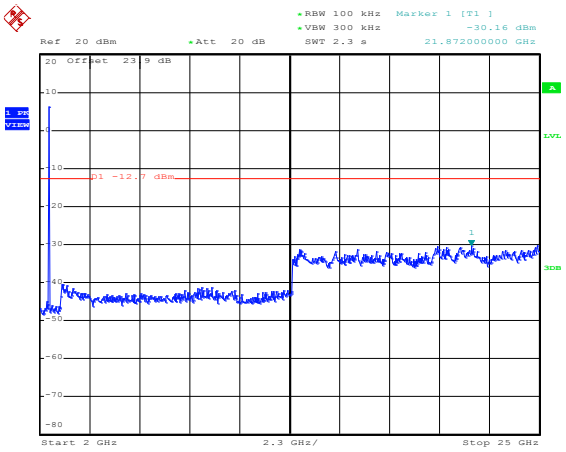
Date: 4.JUN.2013 16:53:06

Spurious Emission 30MHz~3GHz



Date: 4.JUN.2013 18:15:56

Spurious Emission 2GHz~25GHz

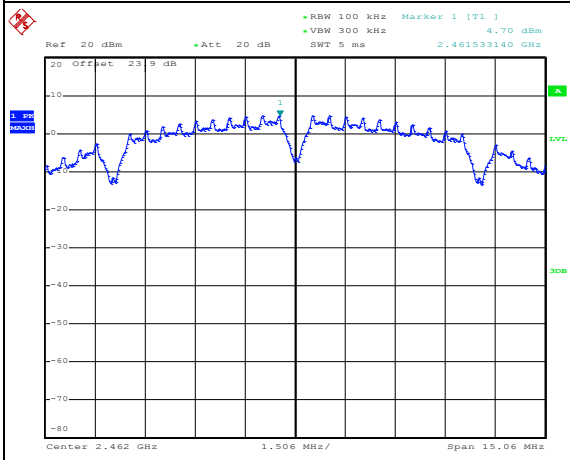


Date: 4.JUN.2013 16:53:46

Test Mode :	802.11b	**Temperature :**	24~26℃
Test Band :	2.4GHz High	**Relative Humidity :**	50~53%
Test Channel :	11	**Test Engineer :**	Reece Li

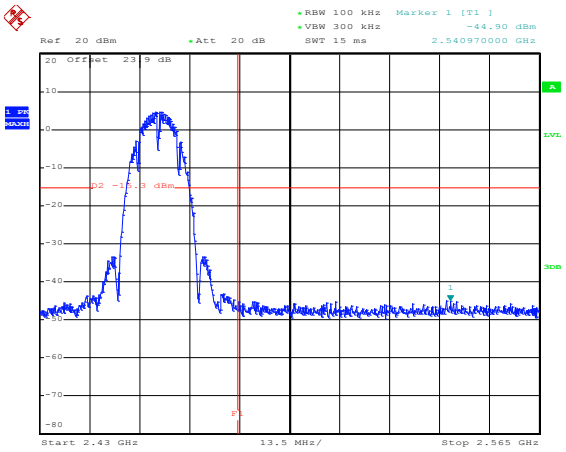
WLAN 802.11b Channel 11

100kHz PSD reference Level



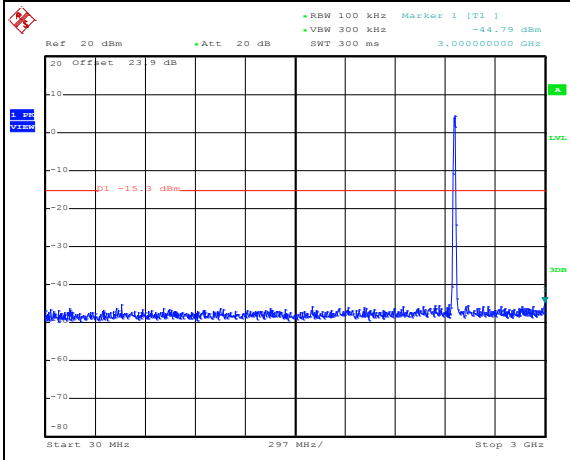
Date: 4.JUN.2013 16:55:42

High Channel Plot



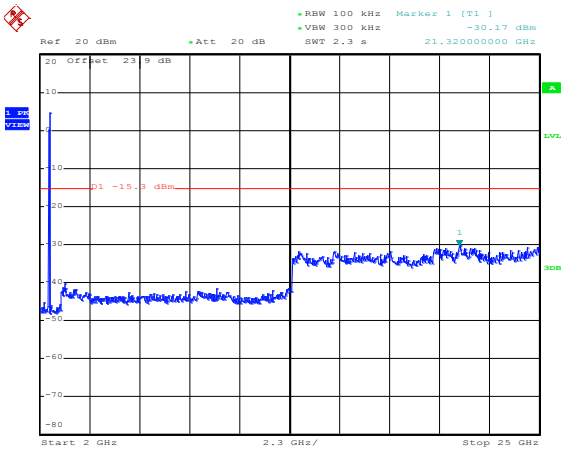
Date: 4.JUN.2013 16:56:00

Spurious Emission 30MHz~3GHz



Date: 4.JUN.2013 18:17:38

Spurious Emission 2GHz~25GHz

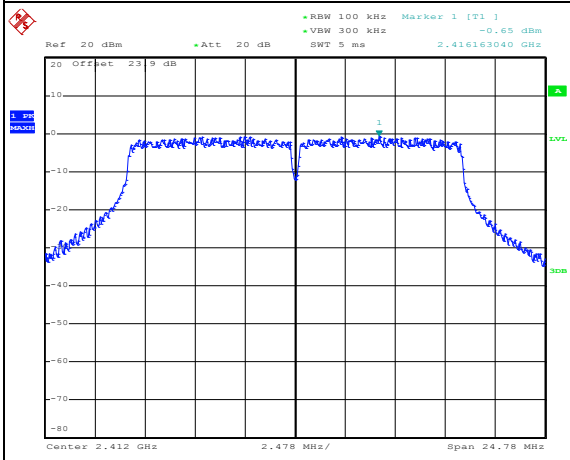


Date: 4.JUN.2013 16:57:09

Test Mode :	802.11g	**Temperature :**	24~26℃
Test Band :	2.4GHz Low	**Relative Humidity :**	50~53%
Test Channel :	01	**Test Engineer :**	Reece Li

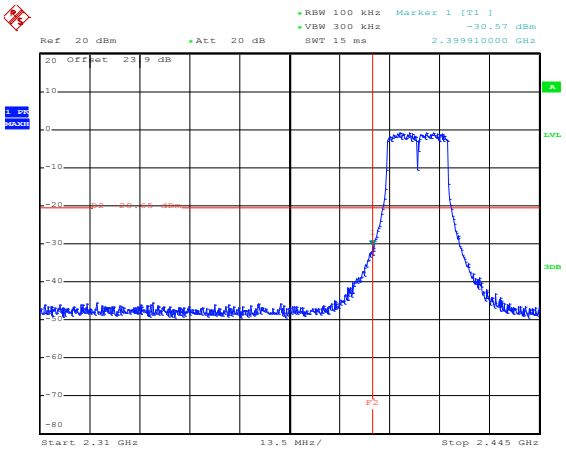
WLAN 802.11g Channel 01

100kHz PSD reference Level



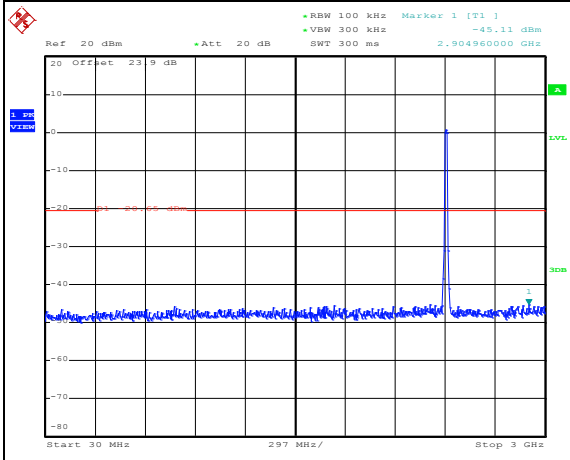
Date: 4.JUN.2013 17:02:25

Low Channel Plot



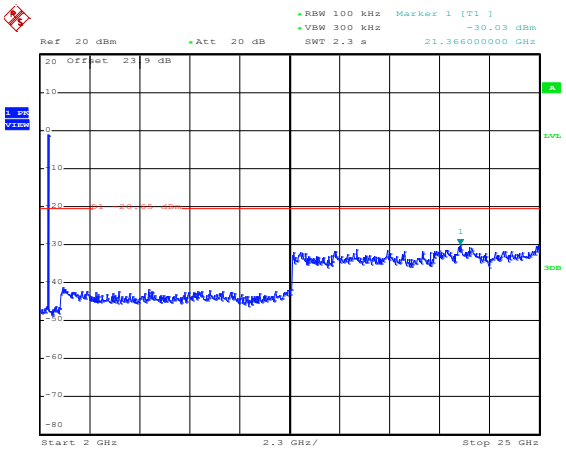
Date: 4.JUN.2013 17:02:50

Spurious Emission 30MHz~3GHz



Date: 4.JUN.2013 18:20:09

Spurious Emission 2GHz~25GHz

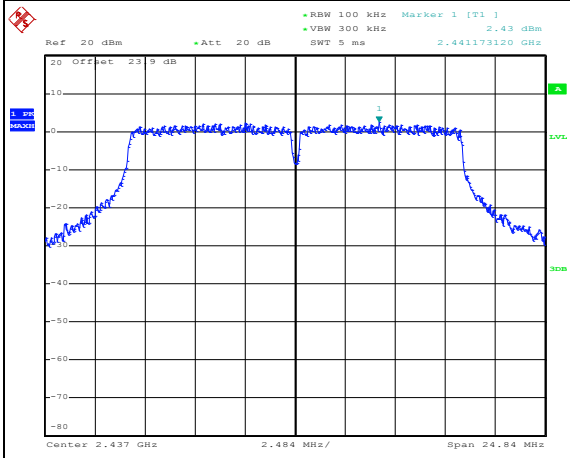


Date: 4.JUN.2013 17:03:37

Test Mode :	802.11g	**Temperature :**	24~26℃
Test Band :	2.4GHz Mid	**Relative Humidity :**	50~53%
Test Channel :	06	**Test Engineer :**	Reece Li

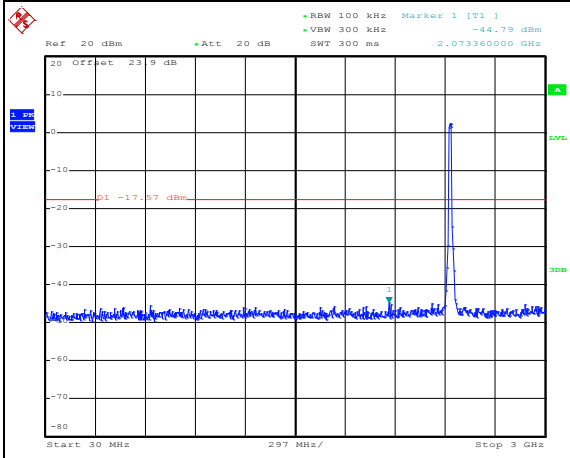
WLAN 802.11g Channel 06

100kHz PSD reference Level



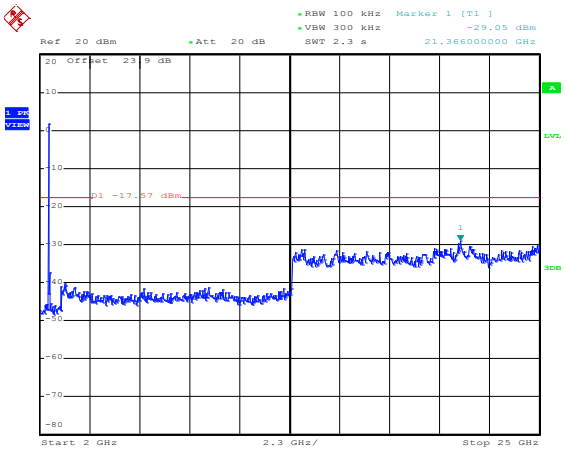
Date: 4.JUN.2013 17:05:33

Spurious Emission 30MHz~3GHz



Date: 4.JUN.2013 18:22:51

Spurious Emission 2GHz~25GHz

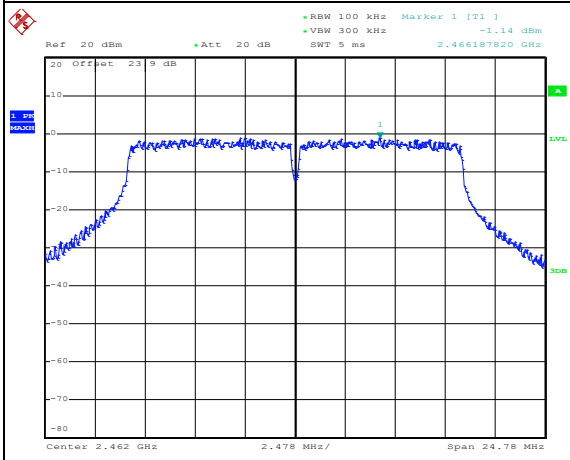


Date: 4.JUN.2013 17:06:33

Test Mode :	802.11g	**Temperature :**	24~26℃
Test Band :	2.4GHz High	**Relative Humidity :**	50~53%
Test Channel :	11	**Test Engineer :**	Reece Li

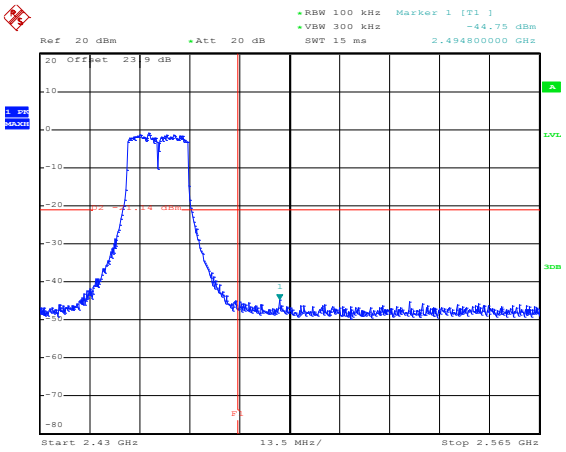
WLAN 802.11g Channel 11

100kHz PSD reference Level



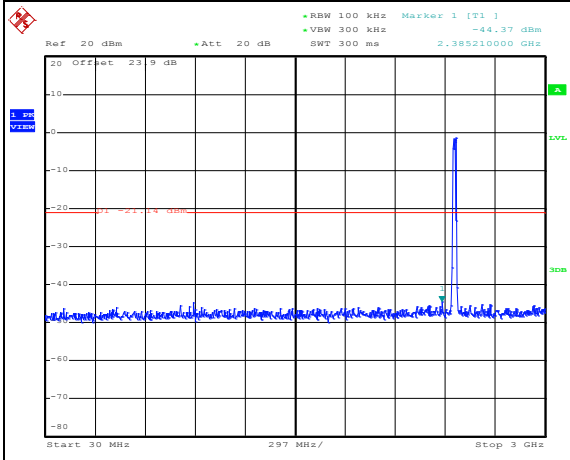
Date: 4.JUN.2013 16:59:37

High Channel Plot



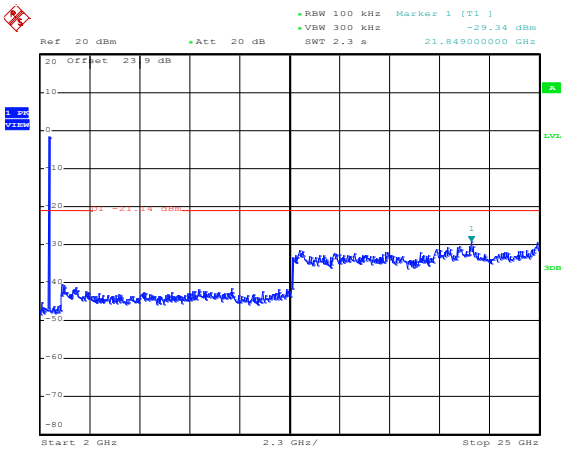
Date: 4.JUN.2013 16:59:55

Spurious Emission 30MHz~3GHz



Date: 4.JUN.2013 18:24:13

Spurious Emission 2GHz~25GHz

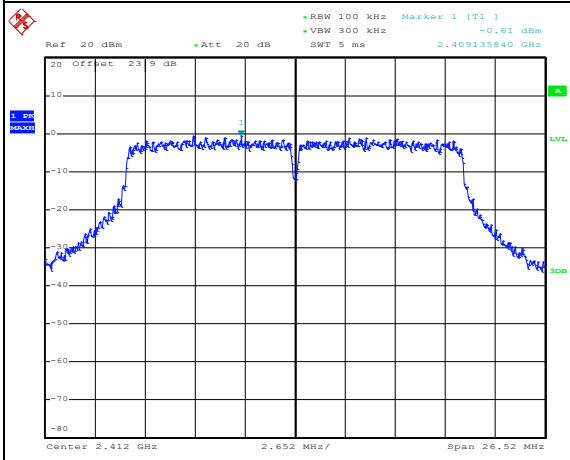


Date: 4.JUN.2013 17:00:46

Test Mode :	802.11n HT20	**Temperature :**	24~26℃
Test Band :	2.4GHz Low	**Relative Humidity :**	50~53%
Test Channel :	01	**Test Engineer :**	Reece Li

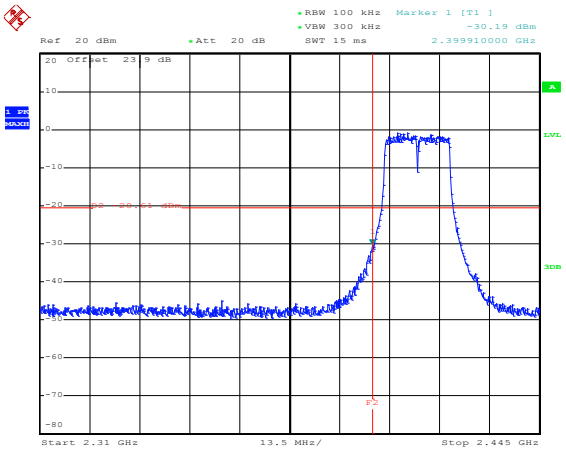
WLAN 802.11n HT20 Channel 01

100kHz PSD reference Level



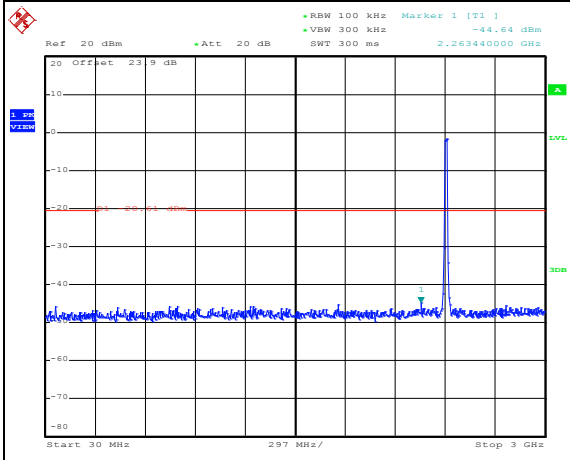
Date: 4.JUN.2013 17:34:08

Low Channel Plot



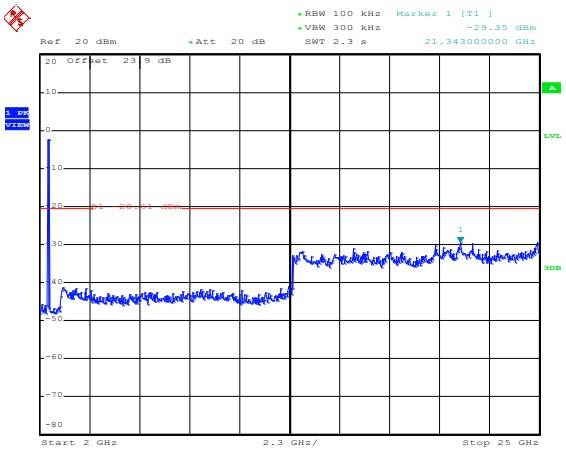
Date: 4.JUN.2013 17:36:30

Spurious Emission 30MHz~3GHz



Date: 4.JUN.2013 18:07:08

Spurious Emission 2GHz~25GHz

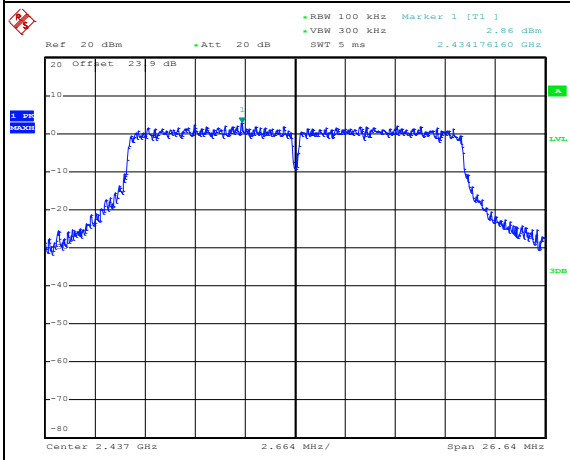


Date: 4.JUN.2013 17:37:16

Test Mode :	802.11n HT20	**Temperature :**	24~26℃
Test Band :	2.4GHz Mid	**Relative Humidity :**	50~53%
Test Channel :	06	**Test Engineer :**	Reece Li

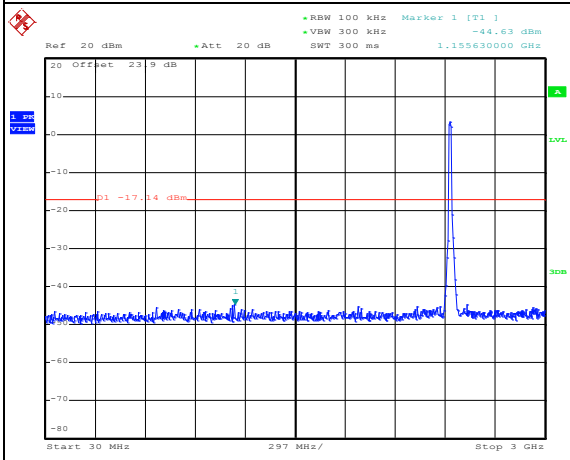
WLAN 802.11n HT20 Channel 06

100kHz PSD reference Level



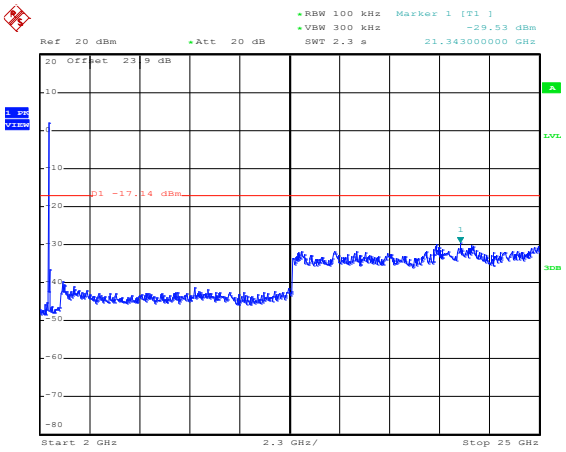
Date: 4.JUN.2013 17:39:27

Spurious Emission 30MHz~3GHz



Date: 4.JUN.2013 18:08:55

Spurious Emission 2GHz~25GHz

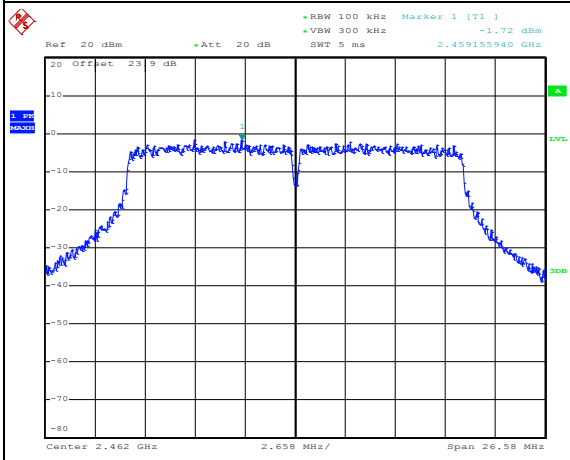


Date: 4.JUN.2013 17:40:10

Test Mode :	802.11n HT20	**Temperature :**	24~26℃
Test Band :	2.4GHz High	**Relative Humidity :**	50~53%
Test Channel :	11	**Test Engineer :**	Reece Li

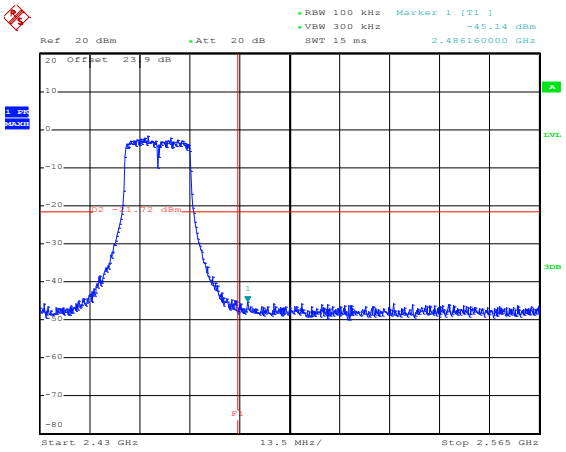
WLAN 802.11n HT20 Channel 11

100kHz PSD reference Level



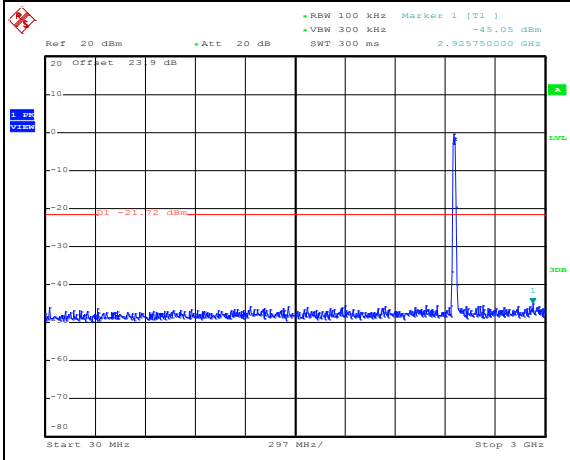
Date: 4.JUN.2013 17:45:15

High Channel Plot



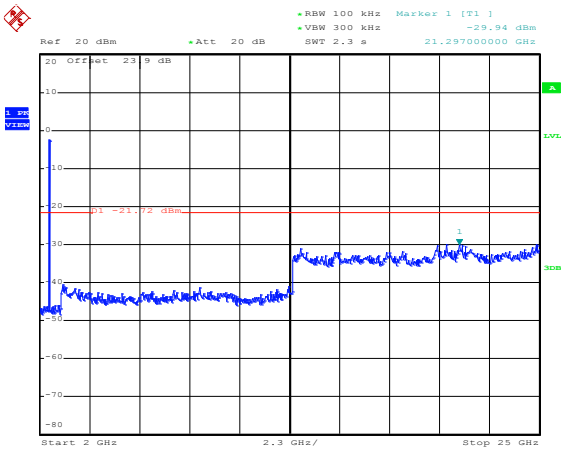
Date: 4.JUN.2013 17:45:47

Spurious Emission 30MHz~3GHz



Date: 4.JUN.2013 18:10:38

Spurious Emission 2GHz~25GHz

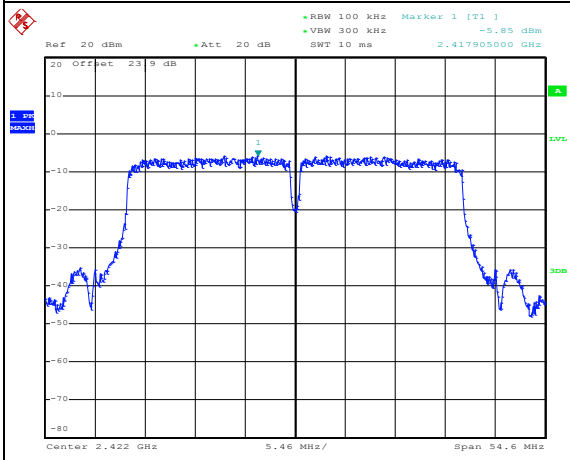


Date: 4.JUN.2013 17:48:08

Test Mode :	802.11n HT40	**Temperature :**	24~26℃
Test Band :	2.4GHz Low	**Relative Humidity :**	50~53%
Test Channel :	03	**Test Engineer :**	Reece Li

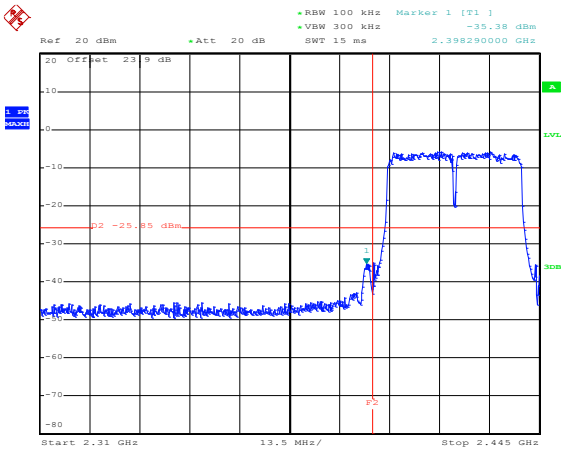
WLAN 802.11n HT40 Channel 03

100kHz PSD reference Level



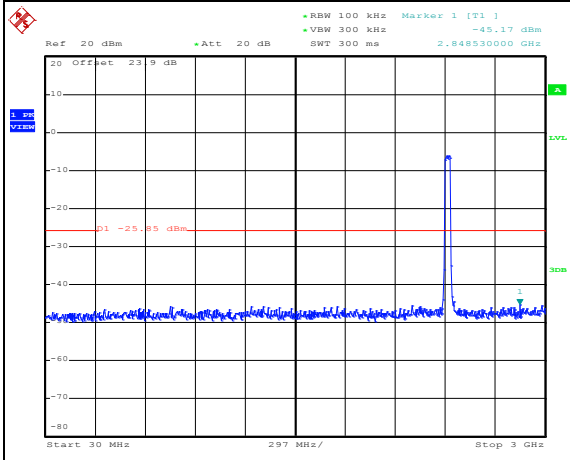
Date: 4.JUN.2013 17:51:20

Low Channel Plot



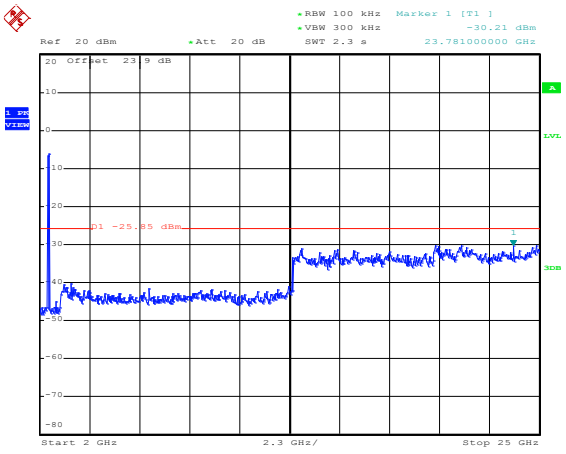
Date: 4.JUN.2013 17:51:37

Spurious Emission 30MHz~3GHz



Date: 4.JUN.2013 17:55:39

Spurious Emission 2GHz~25GHz

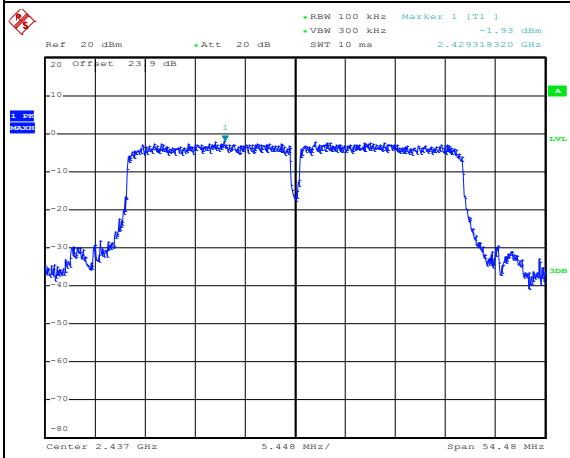


Date: 4.JUN.2013 17:54:51

Test Mode :	802.11n HT40	**Temperature :**	24~26℃
Test Band :	2.4GHz Mid	**Relative Humidity :**	50~53%
Test Channel :	06	**Test Engineer :**	Reece Li

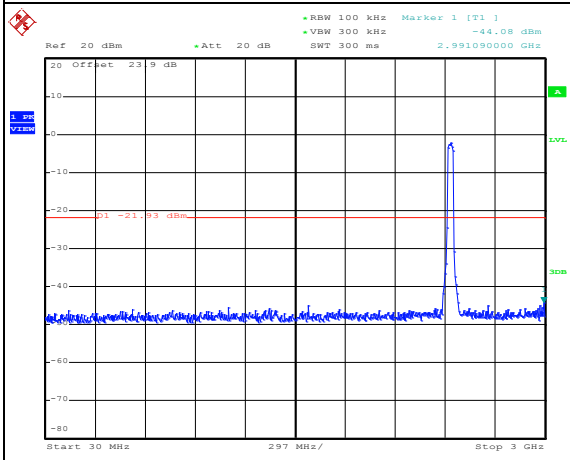
WLAN 802.11n HT40 Channel 06

100kHz PSD reference Level



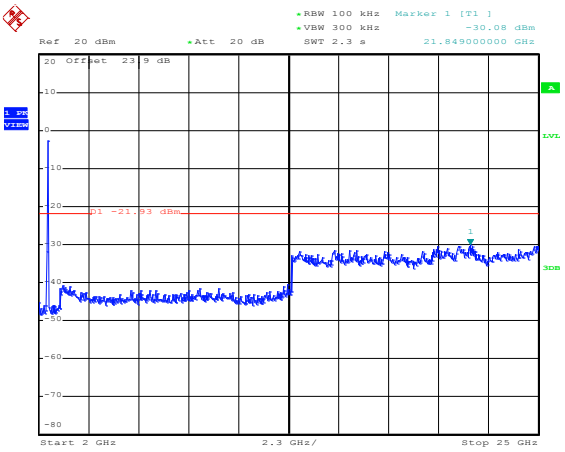
Date: 4.JUN.2013 17:59:19

Spurious Emission 30MHz~3GHz



Date: 4.JUN.2013 17:59:41

Spurious Emission 2GHz~25GHz

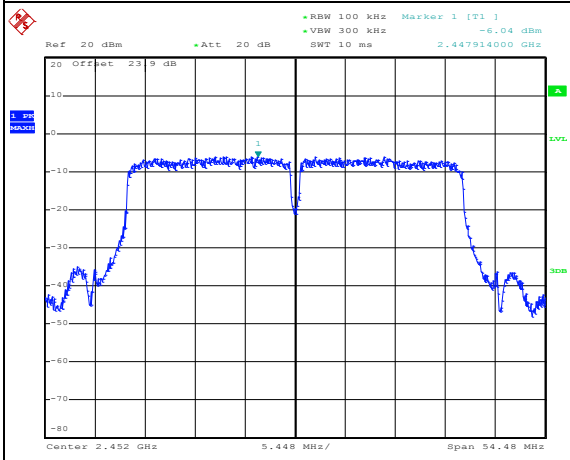


Date: 4.JUN.2013 18:00:10

Test Mode :	802.11n HT40	**Temperature :**	24~26℃
Test Band :	2.4GHz High	**Relative Humidity :**	50~53%
Test Channel :	09	**Test Engineer :**	Reece Li

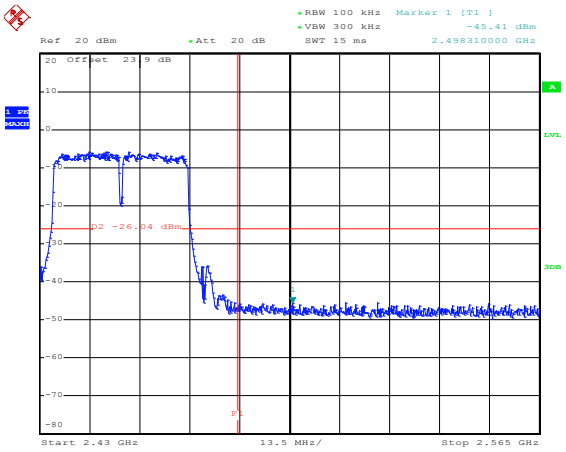
WLAN 802.11n HT40 Channel 09

100kHz PSD reference Level



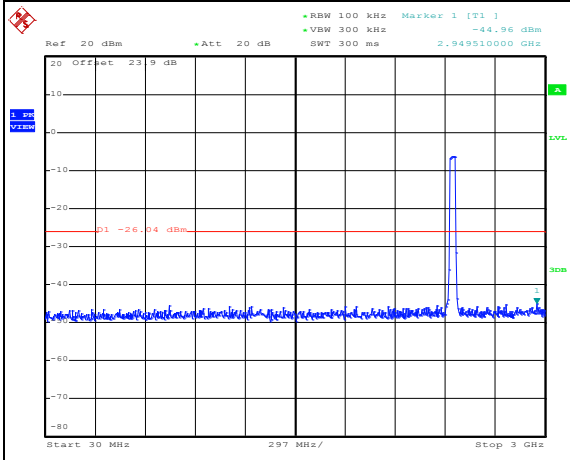
Date: 4.JUN.2013 18:02:54

High Channel Plot



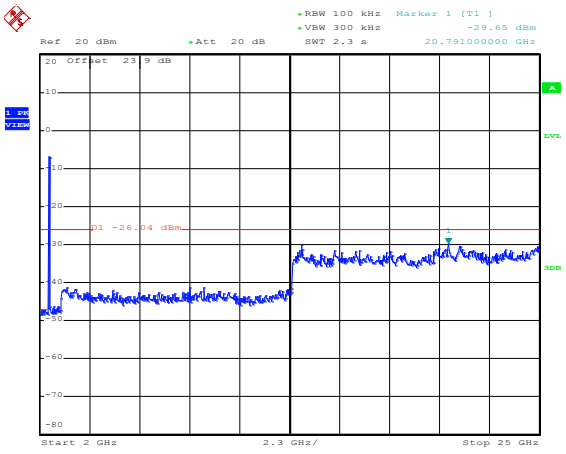
Date: 4.JUN.2013 18:03:14

Spurious Emission 30MHz~3GHz



Date: 4.JUN.2013 18:03:36

Spurious Emission 2GHz~25GHz



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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

See list of measuring instruments of this test report.

3.5.3 Test Procedures

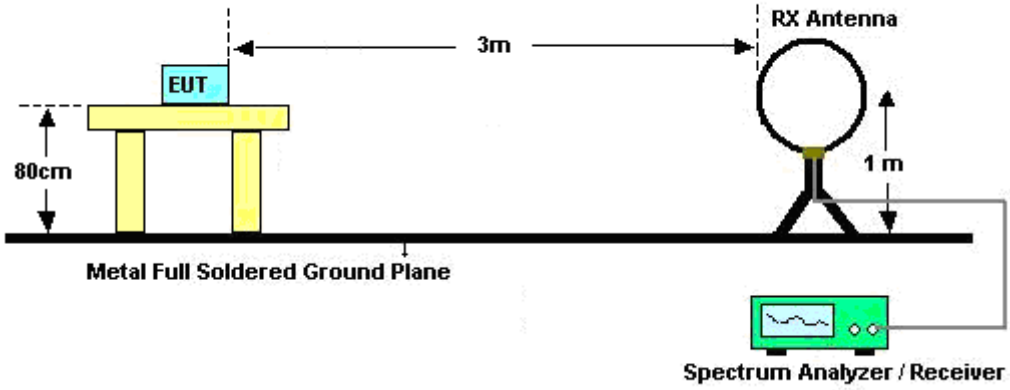
1. The testing follows the guidelines in ANSI C63.10-2009.
2. The EUT was arranged to its worst case and then tune the antenna tower (from 1 m to 4 m) and turntable (from 0 degree to 360 degrees) to find the maximum reading. A pre-amp and a high pass filter are used for the test in order to get better 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.

Band	Duty Cycle(%)	T(μs)	1/T(kHz)	VBW Setting
802.11b	100.00	-	-	10Hz
802.11g	100.00	-	-	10Hz
802.11n HT20	100.00	-	-	10Hz
802.11n HT40	100.00	-	-	10Hz

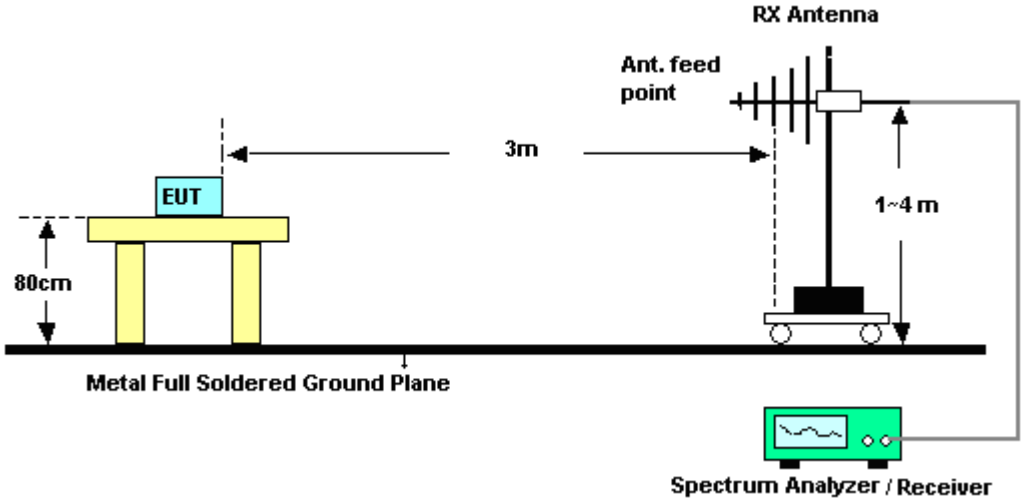
Note: For average measurement with duty cycle < 98%, use reduced VBW measurement method 4.2.3.2.3 in ANSI C63.10.

3.5.4 Test Setup

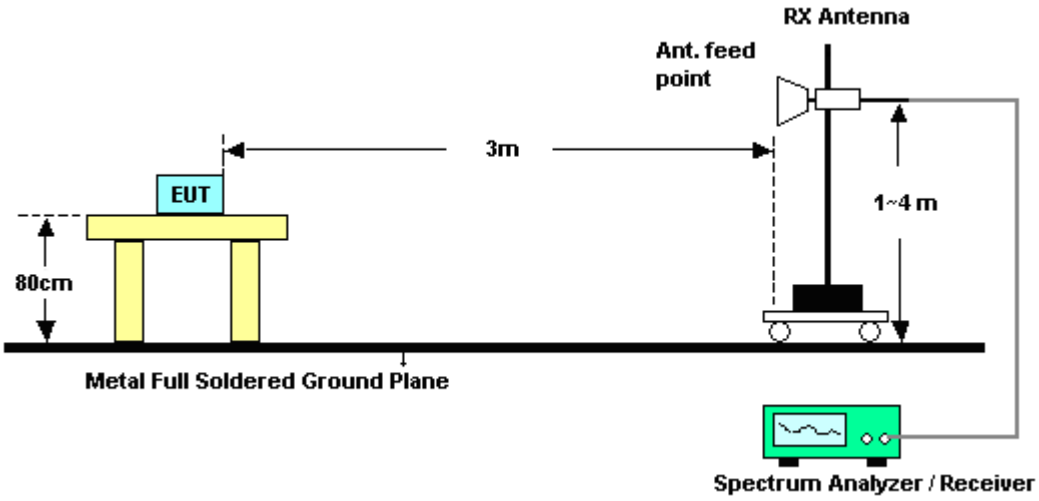
For radiated emissions below 30MHz



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 Band Edges

Test Mode :	802.11b	**Temperature :**	24~25°C
Test Band :	Low	**Relative Humidity :**	52~54%
Test Channel :	01	**Test Engineer :**	Hayden Wu, Marlboro Hsu, and David Yang

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
2318.37	55.36	-18.64	74	51.1	32.26	6.35	34.35	100	225	Peak
2386.23	45.81	-8.19	54	41.33	32.36	6.45	34.33	100	225	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
2386.5	53.03	-20.97	74	48.55	32.36	6.45	34.33	198	4	Peak
2386.23	42.48	-11.52	54	38	32.36	6.45	34.33	198	4	Average

Test Mode :	802.11b	**Temperature :**	24~25°C
Test Band :	High	**Relative Humidity :**	52~54%
Test Channel :	11	**Test Engineer :**	Hayden Wu, Marlboro Hsu, and David Yang

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
2489.44	58.94	-15.06	74	54.15	32.5	6.59	34.3	119	224	Peak
2488.21	47.99	-6.01	54	43.2	32.5	6.59	34.3	119	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
2489.32	54.07	-19.93	74	49.28	32.5	6.59	34.3	190	255	Peak
2488.15	42.62	-11.38	54	37.83	32.5	6.59	34.3	190	255	Average

Test Mode :	802.11g	**Temperature :**	24~25°C
Test Band :	Low	**Relative Humidity :**	52~54%
Test Channel :	01	**Test Engineer :**	Hayden Wu, Marlboro Hsu, and David Yang

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
2390	62.98	-11.02	74	58.5	32.36	6.45	34.33	100	224	Peak
2390	45.72	-8.28	54	41.24	32.36	6.45	34.33	100	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
2390	57.86	-16.14	74	53.38	32.36	6.45	34.33	198	358	Peak
2390	42.16	-11.84	54	37.68	32.36	6.45	34.33	198	358	Average

Test Mode :	802.11g	**Temperature :**	24~25°C
Test Band :	High	**Relative Humidity :**	52~54%
Test Channel :	11	**Test Engineer :**	Hayden Wu, Marlboro Hsu, and David Yang

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
2483.53	71.71	-2.29	74	66.94	32.48	6.59	34.3	100	222	Peak
2483.5	52.31	-1.69	54	47.54	32.48	6.59	34.3	100	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
2483.59	66.92	-7.08	74	62.15	32.48	6.59	34.3	102	252	Peak
2483.5	47.67	-6.33	54	42.9	32.48	6.59	34.3	102	252	Average

Test Mode :	802.11n HT20	**Temperature :**	24~25°C
Test Band :	Low	**Relative Humidity :**	52~54%
Test Channel :	01	**Test Engineer :**	Hayden Wu, Marlboro Hsu, and David Yang

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
2389.83	64.39	-9.61	74	59.91	32.36	6.45	34.33	100	221	Peak
2390	45.44	-8.56	54	40.96	32.36	6.45	34.33	100	221	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
2390	60.02	-13.98	74	55.54	32.36	6.45	34.33	198	1	Peak
2390	41.83	-12.17	54	37.35	32.36	6.45	34.33	198	1	Average

Test Mode :	802.11n HT20	**Temperature :**	24~25°C
Test Band :	High	**Relative Humidity :**	52~54%
Test Channel :	11	**Test Engineer :**	Hayden Wu, Marlboro Hsu, and David Yang

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
2483.98	72.38	-1.62	74	67.61	32.48	6.59	34.3	100	223	Peak
2483.5	50	-4	54	45.23	32.48	6.59	34.3	100	223	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
2484.07	65.8	-8.2	74	61.03	32.48	6.59	34.3	102	273	Peak
2483.5	44.47	-9.53	54	39.7	32.48	6.59	34.3	102	273	Average

Test Mode :	802.11n HT40	**Temperature :**	24~25°C
Test Band :	Low	**Relative Humidity :**	52~54%
Test Channel :	03	**Test Engineer :**	Hayden Wu, Marlboro Hsu, and David Yang

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
2388.93	62.22	-11.78	74	57.74	32.36	6.45	34.33	121	222	Peak
2390	46.23	-7.77	54	41.75	32.36	6.45	34.33	121	222	Average
2485.06	57.76	-16.24	74	52.99	32.48	6.59	34.3	121	222	Peak
2485.03	43.63	-10.37	54	38.86	32.48	6.59	34.3	121	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
2388.03	58.89	-15.11	74	54.41	32.36	6.45	34.33	198	4	Peak
2390	43.27	-10.73	54	38.79	32.36	6.45	34.33	198	4	Average
2488.87	50.44	-23.56	74	45.65	32.5	6.59	34.3	198	4	Peak
2495.59	38.26	-15.74	54	33.46	32.5	6.59	34.29	198	4	Average

Test Mode :	802.11n HT40	**Temperature :**	24~25°C
Test Band :	High	**Relative Humidity :**	52~54%
Test Channel :	09	**Test Engineer :**	Hayden Wu, Marlboro Hsu, and David Yang

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
2351.04	52.41	-21.59	74	48.09	32.28	6.38	34.34	100	222	Peak
2389.47	39.84	-14.16	54	35.36	32.36	6.45	34.33	100	222	Average
2484.85	67.21	-6.79	74	62.44	32.48	6.59	34.3	100	222	Peak
2484.49	49.13	-4.87	54	44.36	32.48	6.59	34.3	100	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
2384.79	49.96	-24.04	74	45.51	32.33	6.45	34.33	196	258	Peak
2384.88	38.25	-15.75	54	33.8	32.33	6.45	34.33	196	258	Average
2487.76	60.02	-13.98	74	55.23	32.5	6.59	34.3	196	258	Peak
2496.34	44.26	-9.74	54	39.46	32.5	6.59	34.29	196	258	Average

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

Test Mode :	802.11b	**Temperature :**	24~25°C
Test Channel :	01	**Relative Humidity :**	52~54%
Test Engineer :	Hayden Wu, Marlboro Hsu, and David Yang	**Polarization :**	Horizontal
Remark :	1. 2411 MHz is fundamental signal which can be ignored. 2. 7236 MHz is not within a restricted band, and its limit line is 20dB below the highest emission level. For example, 107.6 dBμV/m - 20dB = 87.6 dBμV/m. 3. 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
2411	102.68	-	-	98.14	32.38	6.49	34.33	100	225	Average
2411	107.6	-	-	103.06	32.38	6.49	34.33	100	225	Peak
4824	48.97	-25.03	74	59.52	34.87	10.17	55.59	100	0	Peak
7236	50.83	-36.77	87.6	60.14	36.15	10.96	56.42	100	0	Peak

Test Mode :	802.11b	**Temperature :**	24~25°C
Test Channel :	01	**Relative Humidity :**	52~54%
Test Engineer :	Hayden Wu, Marlboro Hsu, and David Yang	**Polarization :**	Vertical
Remark :	1. 2413 MHz is fundamental signal which can be ignored. 2. 7236 MHz is not within a restricted band, and its limit line is 20dB below the highest emission level. 3. 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
2413	97.38	-	-	92.84	32.38	6.49	34.33	198	4	Average
2413	102.09	-	-	97.55	32.38	6.49	34.33	198	4	Peak
4824	48.17	-25.83	74	58.72	34.87	10.17	55.59	100	0	Peak
7236	49.43	-32.66	82.09	58.74	36.15	10.96	56.42	100	0	Peak

Test Mode :	802.11b	**Temperature :**	24~25°C
Test Channel :	06	**Relative Humidity :**	52~54%
Test Engineer :	Hayden Wu, Marlboro Hsu, and David Yang	**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	105.87	-	-	101.24	32.43	6.52	34.32	100	223	Average
2438	110.7	-	-	106.07	32.43	6.52	34.32	100	223	Peak
4875	51	-23	74	61.65	34.85	10.18	55.68	100	0	Peak
7311	50.28	-23.72	74	59.48	36.14	10.94	56.28	100	0	Peak

Test Mode :	802.11b	**Temperature :**	24~25°C
Test Channel :	06	**Relative Humidity :**	52~54%
Test Engineer :	Hayden Wu, Marlboro Hsu, and David Yang	**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	99.86	-	-	95.23	32.43	6.52	34.32	193	8	Average
2438	104.34	-	-	99.71	32.43	6.52	34.32	193	8	Peak
4875	50.33	-23.67	74	60.98	34.85	10.18	55.68	100	0	Peak
7311	50.03	-23.97	74	59.23	36.14	10.94	56.28	100	0	Peak

Test Mode :	802.11b	**Temperature :**	24~25°C
Test Channel :	11	**Relative Humidity :**	52~54%
Test Engineer :	Hayden Wu, Marlboro Hsu, and David Yang	**Polarization :**	Horizontal
Remark :	1. 2463 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
2463	105.35	-	-	100.65	32.45	6.56	34.31	119	224	Average
2463	110.07	-	-	105.37	32.45	6.56	34.31	119	224	Peak
4923	48.68	-25.32	74	59.43	34.83	10.2	55.78	100	0	Peak
7386	49.38	-24.62	74	58.45	36.12	10.92	56.11	100	0	Peak

Test Mode :	802.11b	**Temperature :**	24~25°C
Test Channel :	11	**Relative Humidity :**	52~54%
Test Engineer :	Hayden Wu, Marlboro Hsu, and David Yang	**Polarization :**	Vertical
Remark :	1. 2463 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
2463	98.99	-	-	94.29	32.45	6.56	34.31	190	255	Average
2463	103.75	-	-	99.05	32.45	6.56	34.31	190	255	Peak
4923	48.86	-25.14	74	59.61	34.83	10.2	55.78	100	0	Peak
7386	49.66	-24.34	74	58.73	36.12	10.92	56.11	100	0	Peak

Test Mode :	802.11g	**Temperature :**	24~25°C
Test Channel :	01	**Relative Humidity :**	52~54%
Test Engineer :	Hayden Wu, Marlboro Hsu, and David Yang	**Polarization :**	Horizontal
Remark :	1. 2414 MHz is fundamental signal which can be ignored. 2. 7236 MHz is not within a restricted band, and its limit line is 20dB below the highest emission level. 3. 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
2414	96.85	-	-	92.3	32.38	6.49	34.32	100	224	Average
2414	107.39	-	-	102.84	32.38	6.49	34.32	100	224	Peak
4824	48.98	-25.02	74	59.53	34.87	10.17	55.59	100	0	Peak
7236	49.48	-37.91	87.39	58.79	36.15	10.96	56.42	100	0	Peak

Test Mode :	802.11g	**Temperature :**	24~25°C
Test Channel :	01	**Relative Humidity :**	52~54%
Test Engineer :	Hayden Wu, Marlboro Hsu, and David Yang	**Polarization :**	Vertical
Remark :	1. 2414 MHz is fundamental signal which can be ignored. 2. 7236 MHz is not within a restricted band, and its limit line is 20dB below the highest emission level. 3. 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
2414	91.67	-	-	87.13	32.38	6.49	34.33	198	358	Average
2414	102.47	-	-	97.93	32.38	6.49	34.33	198	358	Peak
4824	48.6	-25.4	74	59.15	34.87	10.17	55.59	100	0	Peak
7236	49.5	-32.97	82.47	58.81	36.15	10.96	56.42	100	0	Peak

Test Mode :	802.11g	**Temperature :**	24~25°C
Test Channel :	06	**Relative Humidity :**	52~54%
Test Engineer :	Hayden Wu, Marlboro Hsu, and David Yang	**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	101.69	-	-	97.05	32.43	6.52	34.31	100	223	Average
2438	112.27	-	-	107.63	32.43	6.52	34.31	100	223	Peak
4875	48.09	-25.91	74	58.74	34.85	10.18	55.68	100	0	Peak
7311	49.67	-24.33	74	58.87	36.14	10.94	56.28	100	0	Peak

Test Mode :	802.11g	**Temperature :**	24~25°C
Test Channel :	06	**Relative Humidity :**	52~54%
Test Engineer :	Hayden Wu, Marlboro Hsu, and David Yang	**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	94.44	-	-	89.81	32.43	6.52	34.32	193	255	Average
2438	105.3	-	-	100.67	32.43	6.52	34.32	193	255	Peak
4875	48.1	-25.9	74	58.75	34.85	10.18	55.68	100	0	Peak
7311	49.95	-24.05	74	59.15	36.14	10.94	56.28	100	0	Peak

Test Mode :	802.11g	**Temperature :**	24~25°C
Test Channel :	11	**Relative Humidity :**	52~54%
Test Engineer :	Hayden Wu, Marlboro Hsu, and David Yang	**Polarization :**	Horizontal
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	100.26	-	-	95.55	32.45	6.56	34.3	100	222	Average
2460	110.94	-	-	106.23	32.45	6.56	34.3	100	222	Peak
4923	48.56	-25.44	74	59.31	34.83	10.2	55.78	100	0	Peak
7386	50.14	-23.86	74	59.21	36.12	10.92	56.11	100	0	Peak

Test Mode :	802.11g	**Temperature :**	24~25°C
Test Channel :	11	**Relative Humidity :**	52~54%
Test Engineer :	Hayden Wu, Marlboro Hsu, and David Yang	**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	95.46	-	-	90.76	32.45	6.56	34.31	102	252	Average
2464	106.01	-	-	101.31	32.45	6.56	34.31	102	252	Peak
4923	48.61	-25.39	74	59.36	34.83	10.2	55.78	100	0	Peak
7386	48.93	-25.07	74	58	36.12	10.92	56.11	100	0	Peak

Test Mode :	2.4GHz 802.11n HT20	**Temperature :**	24~25°C
Test Channel :	01	**Relative Humidity :**	52~54%
Test Engineer :	Hayden Wu, Marlboro Hsu, and David Yang	**Polarization :**	Horizontal
Remark :	1. 2410 MHz is fundamental signal which can be ignored. 2. 7236 MHz is not within a restricted band, and its limit line is 20dB below the highest emission level. 3. 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
2410	96.26	-	-	91.71	32.38	6.49	34.32	100	221	Average
2410	107.16	-	-	102.61	32.38	6.49	34.32	100	221	Peak
4824	47.8	-26.2	74	58.35	34.87	10.17	55.59	100	0	Peak
7236	50.19	-36.97	87.16	59.5	36.15	10.96	56.42	100	0	Peak

Test Mode :	2.4GHz 802.11n HT20	**Temperature :**	24~25°C
Test Channel :	01	**Relative Humidity :**	52~54%
Test Engineer :	Hayden Wu, Marlboro Hsu, and David Yang	**Polarization :**	Vertical
Remark :	1. 2414 MHz is fundamental signal which can be ignored. 2. 7236 MHz is not within a restricted band, and its limit line is 20dB below the highest emission level. 3. 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
2414	90.26	-	-	85.71	32.38	6.49	34.32	198	1	Average
2414	101.2	-	-	96.65	32.38	6.49	34.32	198	1	Peak
4824	47.62	-26.38	74	58.17	34.87	10.17	55.59	100	0	Peak
7236	49.35	-31.85	81.2	58.66	36.15	10.96	56.42	100	0	Peak

Test Mode :	2.4GHz 802.11n HT20	**Temperature :**	24~25°C
Test Channel :	06	**Relative Humidity :**	52~54%
Test Engineer :	Hayden Wu, Marlboro Hsu, and David Yang	**Polarization :**	Horizontal
Remark :	1. 2439 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
2439	101.07	-	-	96.43	32.43	6.52	34.31	100	225	Average
2439	111.86	-	-	107.22	32.43	6.52	34.31	100	225	Peak
4875	48.29	-25.71	74	58.94	34.85	10.18	55.68	100	0	Peak
7311	49.74	-24.26	74	58.94	36.14	10.94	56.28	100	0	Peak

Test Mode :	2.4GHz 802.11n HT20	**Temperature :**	24~25°C
Test Channel :	06	**Relative Humidity :**	52~54%
Test Engineer :	Hayden Wu, Marlboro Hsu, and David Yang	**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	94.45	-	-	89.82	32.43	6.52	34.32	194	256	Average
2438	105.39	-	-	100.76	32.43	6.52	34.32	194	256	Peak
4875	48.72	-25.28	74	59.37	34.85	10.18	55.68	100	0	Peak
7311	49.96	-24.04	74	59.16	36.14	10.94	56.28	100	0	Peak

Test Mode :	2.4GHz 802.11n HT20	**Temperature :**	24~25°C
Test Channel :	11	**Relative Humidity :**	52~54%
Test Engineer :	Hayden Wu, Marlboro Hsu, and David Yang	**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	110.04	-	-	105.33	32.45	6.56	34.3	100	223	Peak
2464	99.18	-	-	94.47	32.45	6.56	34.3	100	223	Average
4923	48.18	-25.82	74	58.93	34.83	10.2	55.78	100	0	Peak
7386	49.21	-24.79	74	58.28	36.12	10.92	56.11	100	0	Peak

Test Mode :	2.4GHz 802.11n HT20	**Temperature :**	24~25°C
Test Channel :	11	**Relative Humidity :**	52~54%
Test Engineer :	Hayden Wu, Marlboro Hsu, and David Yang	**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	93.17	-	-	88.46	32.45	6.56	34.3	102	273	Average
2464	104.01	-	-	99.3	32.45	6.56	34.3	102	273	Peak
4923	47.72	-26.28	74	58.47	34.83	10.2	55.78	100	0	Peak
7386	48.98	-25.02	74	58.05	36.12	10.92	56.11	100	0	Peak

Test Mode :	2.4GHz 802.11n HT40	**Temperature :**	24~25°C
Test Channel :	03	**Relative Humidity :**	52~54%
Test Engineer :	Hayden Wu, Marlboro Hsu, and David Yang	**Polarization :**	Horizontal
Remark :	1. 2420 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
2420	92.45	-	-	87.85	32.4	6.52	34.32	121	222	Average
2420	103.07	-	-	98.47	32.4	6.52	34.32	121	222	Peak
4845	48.14	-25.86	74	58.73	34.86	10.17	55.62	100	0	Peak
7266	50.25	-23.75	74	59.51	36.14	10.95	56.35	100	0	Peak

Test Mode :	2.4GHz 802.11n HT40	**Temperature :**	24~25°C
Test Channel :	03	**Relative Humidity :**	52~54%
Test Engineer :	Hayden Wu, Marlboro Hsu, and David Yang	**Polarization :**	Vertical
Remark :	1. 2420 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
2420	86.74	-	-	82.2	32.38	6.49	34.33	198	4	Average
2420	97.57	-	-	93.03	32.38	6.49	34.33	198	4	Peak
4845	48.56	-25.44	74	59.15	34.86	10.17	55.62	100	0	Peak
7266	49.37	-24.63	74	58.63	36.14	10.95	56.35	100	0	Peak

Test Mode :	2.4GHz 802.11n HT40	**Temperature :**	24~25°C
Test Channel :	06	**Relative Humidity :**	52~54%
Test Engineer :	Hayden Wu, Marlboro Hsu, and David Yang	**Polarization :**	Horizontal
Remark :	1. 2439 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
113.16	28.01	-15.49	43.5	46.25	12.33	1.18	31.75	-	-	Peak
154.2	18.12	-25.38	43.5	38.28	10.2	1.39	31.75	-	-	Peak
206.85	34.95	-8.55	43.5	55.97	9.17	1.56	31.75	100	139	Peak
452.6	32.47	-13.53	46	45.17	16.86	2.32	31.88	-	-	Peak
800.5	32.14	-13.86	46	41.23	19.8	3.06	31.95	-	-	Peak
900.6	35.79	-10.21	46	43.34	20.6	3.37	31.52	-	-	Peak
2439	98.39	-	-	93.76	32.43	6.52	34.32	100	221	Average
2439	108.73	-	-	104.1	32.43	6.52	34.32	100	221	Peak
4875	47.91	-26.09	74	58.56	34.85	10.18	55.68	100	0	Peak
7311	50.31	-23.69	74	59.51	36.14	10.94	56.28	100	0	Peak

Test Mode :	2.4GHz 802.11n HT40	**Temperature :**	24~25°C
Test Channel :	06	**Relative Humidity :**	52~54%
Test Engineer :	Hayden Wu, Marlboro Hsu, and David Yang	**Polarization :**	Vertical
Remark :	1. 2439 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
108.3	24.17	-19.33	43.5	42.84	11.94	1.14	31.75	-	-	Peak
144.75	25.13	-18.37	43.5	44.99	10.57	1.32	31.75	-	-	Peak
207.66	29.55	-13.95	43.5	50.59	9.15	1.56	31.75	-	-	Peak
699	28.12	-17.88	46	38.35	18.9	2.89	32.02	-	-	Peak
800.5	30.5	-15.5	46	39.59	19.8	3.06	31.95	-	-	Peak
954.5	39.71	-6.29	46	46.44	20.95	3.35	31.03	100	196	Peak
2439	90.54	-	-	85.91	32.43	6.52	34.32	195	3	Average
2439	101.47	-	-	96.84	32.43	6.52	34.32	195	3	Peak
4875	47.73	-26.27	74	58.38	34.85	10.18	55.68	100	0	Peak
7311	49.6	-24.4	74	58.8	36.14	10.94	56.28	100	0	Peak

Test Mode :	2.4GHz 802.11n HT40	**Temperature :**	24~25°C
Test Channel :	09	**Relative Humidity :**	52~54%
Test Engineer :	Hayden Wu, Marlboro Hsu, and David Yang	**Polarization :**	Horizontal
Remark :	1. 2454 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
2454	95.19	-	-	90.49	32.45	6.56	34.31	100	222	Average
2454	105.5	-	-	100.8	32.45	6.56	34.31	100	222	Peak
4905	47.65	-26.35	74	58.36	34.83	10.2	55.74	100	0	Peak
7356	49.5	-24.5	74	58.63	36.13	10.92	56.18	100	0	Peak

Test Mode :	2.4GHz 802.11n HT40	**Temperature :**	24~25°C
Test Channel :	09	**Relative Humidity :**	52~54%
Test Engineer :	Hayden Wu, Marlboro Hsu, and David Yang	**Polarization :**	Vertical
Remark :	1. 2454 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
2454	87.41	-	-	82.71	32.45	6.56	34.31	196	258	Average
2454	98.04	-	-	93.34	32.45	6.56	34.31	196	258	Peak
4905	48.51	-25.49	74	59.22	34.83	10.2	55.74	100	0	Peak
7356	49.09	-24.91	74	58.22	36.13	10.92	56.18	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.

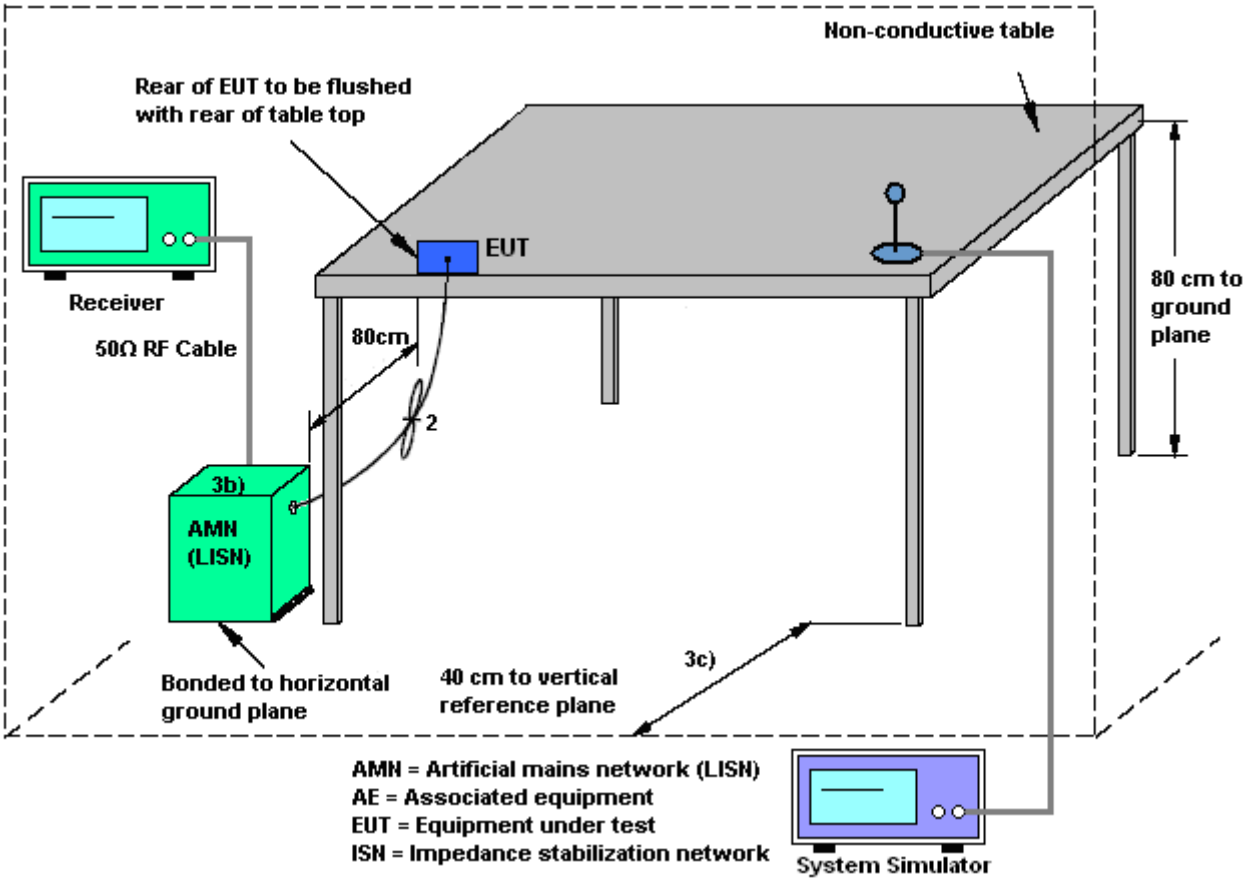
3.6.2 Measuring Instruments

See list of measuring instruments of this test report.

3.6.3 Test Procedures

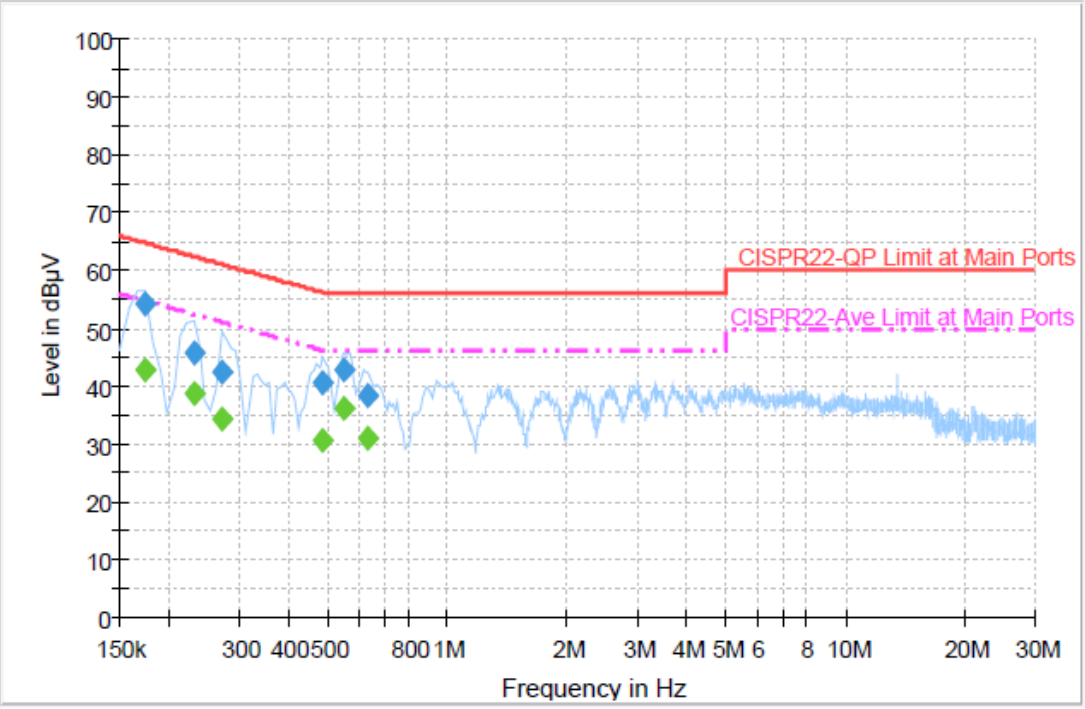
1. The testing follows the guidelines in ANSI C63.10-2009.
2. The EUT was placed 0.4 meter from the conducting wall of the shielding room, and it was kept at least 80 centimeters from any other grounded conducting surface.
3. Connect EUT to the power mains through a line impedance stabilization network (LISN).
4. All the support units are connecting to the other LISN.
5. The LISN provides 50 ohm coupling impedance for the measuring instrument.
6. The FCC states that a 50 ohm, 50 microhenry LISN should be used.
7. Both sides of AC line were checked for maximum conducted interference.
8. The frequency range from 150 KHz to 30 MHz was searched.
9. 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 :	Slash Huang	**Relative Humidity :**	45~47%
Test Voltage :	120Vac / 60Hz	**Phase :**	Line
Function Type :	WCDMA Band V Link + TF + TC		
Remark :	All emissions not reported here are more than 10 dB below the prescribed limit.		



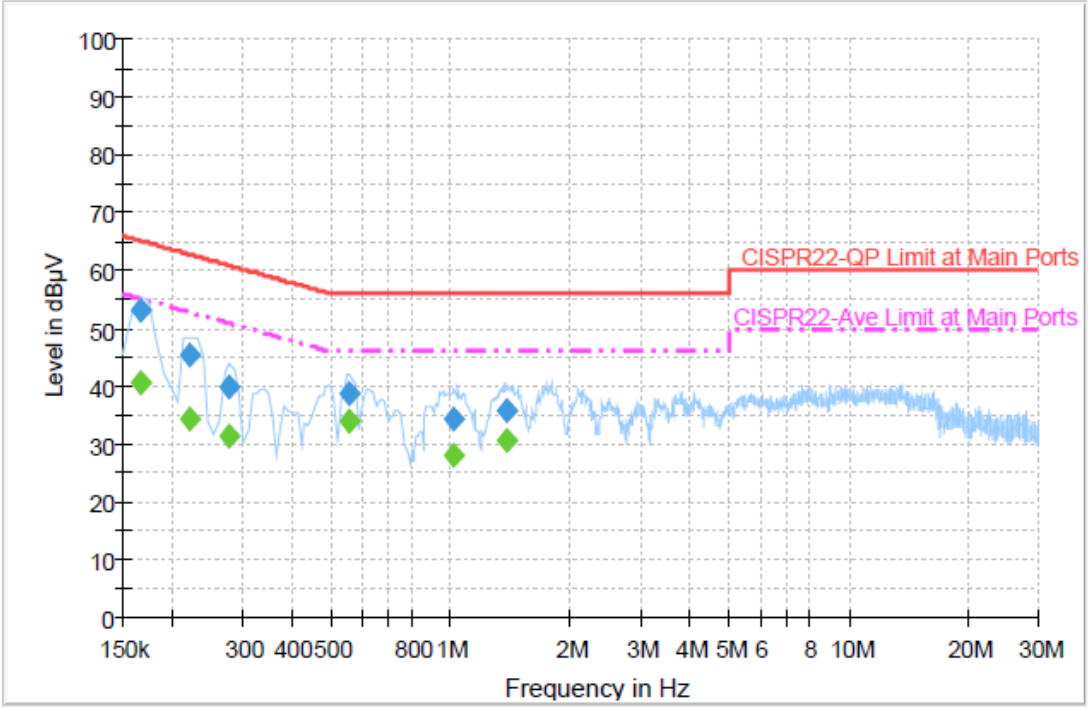
Final Result : Quasi-Peak

Frequency (MHz)	Quasi-Peak (dBµV)	Filter	Line	Corr. (dB)	Margin (dB)	Limit (dBµV)
0.174000	54.2	Off	L1	19.4	10.6	64.8
0.230000	45.9	Off	L1	19.4	16.5	62.4
0.270000	42.6	Off	L1	19.3	18.5	61.1
0.486000	40.4	Off	L1	19.4	15.8	56.2
0.550000	42.8	Off	L1	19.4	13.2	56.0
0.630000	38.5	Off	L1	19.4	17.5	56.0

Final Result : Average

Frequency (MHz)	Average (dBµV)	Filter	Line	Corr. (dB)	Margin (dB)	Limit (dBµV)
0.174000	42.9	Off	L1	19.4	11.9	54.8
0.230000	38.8	Off	L1	19.4	13.6	52.4
0.270000	34.2	Off	L1	19.3	16.9	51.1
0.486000	30.6	Off	L1	19.4	15.6	46.2
0.550000	36.1	Off	L1	19.4	9.9	46.0
0.630000	31.1	Off	L1	19.4	14.9	46.0

Test Mode :	Mode 1	**Temperature :**	20~22℃
Test Engineer :	Slash Huang	**Relative Humidity :**	45~47%
Test Voltage :	120Vac / 60Hz	**Phase :**	Neutral
Function Type :	WCDMA Band V Link + TF + TC		
Remark :	All emissions not reported here are more than 10 dB below the prescribed limit.		



Final Result : Quasi-Peak

Frequency (MHz)	Quasi-Peak (dBµV)	Filter	Line	Corr. (dB)	Margin (dB)	Limit (dBµV)
0.166000	53.2	Off	N	19.4	12.0	65.2
0.222000	45.3	Off	N	19.4	17.4	62.7
0.278000	39.7	Off	N	19.4	21.2	60.9
0.558000	38.7	Off	N	19.4	17.3	56.0
1.022000	34.3	Off	N	19.4	21.7	56.0
1.390000	35.8	Off	N	19.5	20.2	56.0

Final Result : Average

Frequency (MHz)	Average (dBµV)	Filter	Line	Corr. (dB)	Margin (dB)	Limit (dBµV)
0.166000	40.5	Off	N	19.4	14.7	55.2
0.222000	34.2	Off	N	19.4	18.5	52.7
0.278000	31.5	Off	N	19.4	19.4	50.9
0.558000	33.8	Off	N	19.4	12.2	46.0
1.022000	28.0	Off	N	19.4	18.0	46.0
1.390000	30.5	Off	N	19.5	15.5	46.0

3.7 Antenna Requirements

3.7.1 Standard Applicable

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

3.7.2 Antenna Connected Construction

Non-standard connector used.

3.7.3 Antenna Gain

The antenna peak gain of EUT is less than 6 dBi. Therefore, it is not necessary to reduce maximum peak output power limit.

4 List of Measuring Equipment

Instrument	Manufacturer	Model No.	Serial No.	Characteristics	Calibration Date	Test Date	Due Date	Remark
Spectrum Analyzer	R&S	FSP40	100055	9kHz~40GHz	Jun. 06, 2012	Apr. 10, 2013 ~ Jun. 04, 2013	Jun. 05, 2013	Conducted (TH02-HY)
Power Meter	Anritsu	ML2495A	1036004	300MHz~40GHz	Sep. 08, 2012	Apr. 10, 2013 ~ Jun. 04, 2013	Sep. 07, 2013	Conducted (TH02-HY)
Power Sensor	Anritsu	MA2411B	1027253	300MHz~40GHz	Sep. 08, 2012	Apr. 10, 2013 ~ Jun. 04, 2013	Sep. 07, 2013	Conducted (TH02-HY)
EMI Test Receiver	Rohde & Schwarz	ESCS 30	100356	9KHz – 2.75GHz	Nov. 13, 2012	Apr. 19, 2013	Nov. 12, 2013	Conduction (CO05-HY)
Two-LISN (for auxiliary equipment)	Rohde & Schwarz	ENV216	100081	9KHz ~ 30MHz	Dec. 12, 2012	Apr. 19, 2013	Dec. 11, 2013	Conduction (CO05-HY)
Two-LISN	Rohde & Schwarz	ENV216	100080	9KHz ~ 30MHz	Dec. 06, 2012	Apr. 19, 2013	Dec. 05, 2013	Conduction (CO05-HY)
AC Power Source	APC	APC-1000W	N/A	N/A	N/A	Apr. 19, 2013	N/A	Conduction (CO05-HY)
Spectrum Analyzer	R&S	FSP30	101352	9KHz~30GHz	Nov. 07, 2012	Jun. 04, 2013	Nov. 06, 2013	Radiation (03CH06-HY)
Spectrum Analyzer	Agilent	E4408B	MY44211030	9KHz ~ 26.5GHz	Nov. 26, 2012	Jun. 04, 2013	Nov. 25, 2013	Radiation (03CH06-HY)
EMI Test Receiver	R&S	ESVS10	834468/0003	20MHz ~ 1000MHz	May 06, 2013	Jun. 04, 2013	May 05, 2014	Radiation (03CH06-HY)
Bilog Antenna	SCHAFFNER	CBL6112B	2885	30MHz ~ 2GHz	Oct. 06, 2012	Jun. 04, 2013	Oct. 05, 2013	Radiation (03CH06-HY)
Double Ridge Horn Antenna	EMCO	3117	00066583	1GHz ~ 18GHz	Aug. 01, 2012	Jun. 04, 2013	Jul. 31, 2013	Radiation (03CH06-HY)
Double Ridge Horn Antenna	COM-POWER	AH-118	071025	1GHz~18GHz	Aug. 09, 2012	Jun. 04, 2013	Aug. 08, 2013	Radiation (03CH06-HY)
SHF-EHF Horn Antenna	SCHWARZBECK	BBHA 9170	BBHA9170251	15GHz ~ 40GHz	Sep. 28, 2012	Jun. 04, 2013	Sep. 27, 2013	Radiation (03CH06-HY)
Preamplifier	Agilent	8449B	3008A01917	1GHz ~ 26.5GHz	Apr. 12, 2013	Jun. 04, 2013	Apr. 11, 2014	Radiation (03CH06-HY)
Amplifier	Agilent	310N	186713	9KHz ~ 1GHz	Apr. 12, 2013	Jun. 04, 2013	Apr. 11, 2014	Radiation (03CH06-HY)
Pre Amplifier	EMCI	EMC051845	SN980048	1GHz ~ 18GHz	Jul. 21, 2012	Jun. 04, 2013	Jul. 20, 2013	Radiation (03CH06-HY)
Preamplifier	MITEQ	AMF-7D-00101800-30-10P	159087	1GHz~18GHz	Feb. 26, 2013	Jun. 04, 2013	Feb. 25, 2014	Radiation (03CH06-HY)
Loop Antenna	R&S	HFH2-Z2	860004/001	9KHz ~ 30MHz	Jul. 03, 2012	Jun. 04, 2013	Jul. 02, 2013	Radiation (03CH06-HY)
Turn Table	INN-CO	DS2000	420/650/00	0 - 360 degree	N/A	Jun. 04, 2013	N/A	Radiation (03CH06-HY)
Antenna Mast	MF	MF-7802	MF780208212	1 m ~ 4 m	N/A	Jun. 04, 2013	N/A	Radiation (03CH06-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 (30MHz ~ 1000MHz)

Measuring Uncertainty for a Level of Confidence of 95% (U = 2Uc(y))	2.54

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

Measuring Uncertainty for a Level of Confidence of 95% (U = 2Uc(y))	4.72

Appendix A. Photographs of EUT

Please refer to Sporton report number EP340236 as below.