

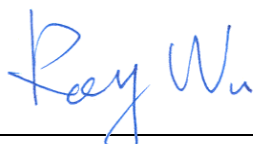
FCC RF Test Report

APPLICANT : HTC Corporation
EQUIPMENT : Tablet
MODEL NAME : PG41400
FCC ID : NM8PG41400
STANDARD : FCC Part 15 Subpart C §15.247
CLASSIFICATION : Digital Transmission System (DTS)

The product was received on Mar. 30, 2011 and completely tested on Apr. 14, 2011. We, SPORTON INTERNATIONAL INC., would like to declare that the tested sample has been evaluated in accordance with the procedures given in ANSI C63.4-2003 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:



Roy Wu / 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
FR133012-01B	Rev. 01	Initial issue of report	Apr. 22, 2011

SUMMARY OF TEST RESULT

Report Section	FCC Rule	IC Rule	Description	Limit	Result	Remark
3.1	15.247(a)(2)	A8.2(a)	6dB Bandwidth	$\geq 0.5\text{MHz}$	Pass	-
3.1	-	Gen 4.4.1	99% Bandwidth	-	Pass	-
3.2	15.247(b)	A8.4	Power Output	$\leq 30\text{dBm}$	Pass	-
3.3	15.247(d)	A8.5	Frequency Band Edges	$\leq 20\text{dBc}$	Pass	-
3.4	15.247(d)	A8.5	Spurious Emission	$< 20\text{ dBc}$	Pass	-
3.5	15.247(e)	A8.2(b)	Power Spectral Density	$\leq 8\text{dBm}$	Pass	-
3.6	15.207	Gen 7.2.2	AC Conducted Emission	15.207(a)	Pass	Under limit 16.6 dB at 0.19 MHz
3.7	15.247(d)	A8.5	Transmitter Radiated Emission	15.209(a) & 15.247(d)	Pass	Under limit 3.11 dB at 2483.5 MHz
3.8	15.203 & 15.247(b)	A8.4	Antenna Requirement	N/A	Pass	-

1 General Description

1.1 Applicant

HTC Corporation

No. 23, Xinghua Road, Taoyuan City, Taoyuan County 330, Taiwan

1.2 Manufacturer

HTC Corporation

No. 23, Xinghua Road, Taoyuan City, Taoyuan County 330, Taiwan

1.3 Feature of Equipment Under Test

Product Feature & Specification	
Equipment	Tablet
Model Name	PG41400
FCC ID	NM8PG41400
Sample 1	EUT with 16G Memory
Sample 2	EUT with 32G Memory
Tx/Rx Frequency Range	2400 MHz ~ 2483.5 MHz
Number of Channels	11
Carrier Frequency of Each Channel	$2412+(n-1)*5$ MHz; $n=1\sim11$
Channel Spacing	5 MHz
Maximum Output Power to Antenna	802.11b : 21.91 dBm (0.16 W) 802.11g : 23.03 dBm (0.20 W) 802.11n (BW 20MHz) : 22.59 dBm (0.18 W)
Antenna Type	PIFA Antenna with gain 0.43 dBi
Type of Modulation	802.11b : DSSS (BPSK / QPSK / CCK) 802.11g/n : OFDM (BPSK / QPSK / 16QAM / 64QAM)
EUT Stage	Identical Prototype

Remark:

1. For other wireless features of this EUT, test report will be issued separately.
2. This test report recorded only product characteristics and test results of Digital Transmission System (DTS).
3. The above EUT's information was declared by manufacturer. Please refer to the specifications or user's manual for more detailed description.

1.4 Testing Site

Test Site	SPORTON INTERNATIONAL INC.		
Test Site Location	No. 52, Hwa Ya 1 st 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.
	CO05-HY	03CH07-HY	722060/4086B-1

1.5 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 (Measurement Guidelines of DTS)
- ♦ ANSI C63.4-2003
- ♦ IC RSS-210 Issue 8

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 (DoC), recorded in a separate test report.

1.6 Ancillary Equipment List

Item	Equipment	Trade Name	Model Name	FCC ID	Data Cable	Power Cord
1.	GPS Station	T&E	GS-50	N/A	N/A	Unshielded, 1.8 m
2.	WLAN AP	D-Link	DIR-628	KA2DIR628A2	N/A	Unshielded, 1.8 m
3.	Notebook	DELL	Vostro 1510	FCC DoC	N/A	AC I/P: Unshielded, 1.2 m DC O/P: Shielded, 1.8 m
4.	Bluetooth Earphone	Nokia	BH-102	PYAHS-107W	N/A	N/A

2 Test Configuration of Equipment Under Test

2.1 RF Power

Preliminary tests were performed in different data rate and recorded the RF peak power output in the following table:

Channel	Frequency	2.4GHz 802.11b RF Peak Power (dBm)			
		DSSS Data Rate			
		1 Mbps	2 Mbps	5.5 Mbps	11 Mbps
CH 11	2462 MHz	21.70	21.83	21.88	21.91

Channel	Frequency	2.4GHz 802.11g RF Peak Power (dBm)							
		OFDM Data Rate							
		6 Mbps	9 Mbps	12 Mbps	18 Mbps	24 Mbps	36 Mbps	48 Mbps	54 Mbps
CH 11	2462 MHz	23.03	22.85	22.84	22.62	22.58	22.40	22.51	22.74

Channel	Frequency	2.4GHz 802.11n (BW 20MHz) RF Peak Power (dBm)							
		OFDM Data Rate							
		MCS0	MCS1	MCS2	MCS3	MCS4	MCS5	MCS6	MCS7
CH 11	2462 MHz	22.59	22.12	22.06	22.22	22.03	22.00	22.16	22.08

Remark:

1. The data rates of WLAN 802.11b/g/n were set in 11Mbps for 802.11b, 6Mbps for 802.11g, and MCS0 for 802.11n (BW 20MHz) for all the test cases due to the highest RF peak output power.
2. The EUT is programmed to transmit signals continuously for all testing.
3. Pre-scan has been conducted to determine the worst-case mode from all possible combinations between available modulations, data rates and antenna ports.

2.2 Test Mode

The EUT has been associated with peripherals pursuant to ANSI C63.4-2003 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), radiated emission (30 MHz to the 10th harmonic of the highest fundamental frequency or to 40 GHz, whichever is lower).

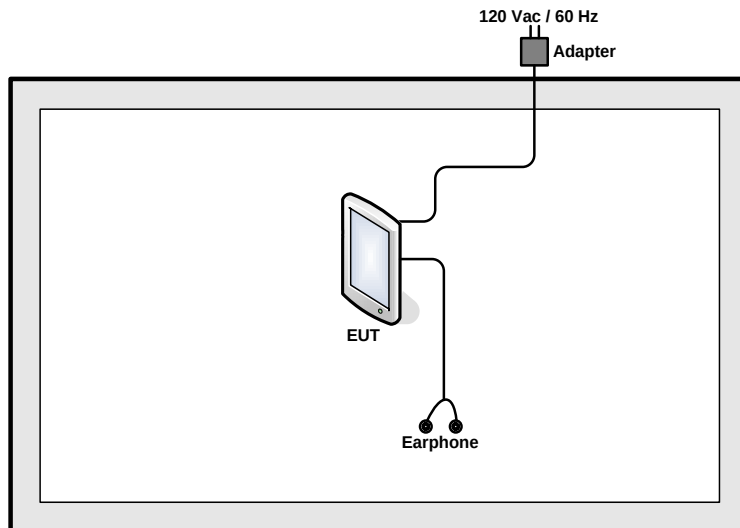
Pre-scanned tests were conducted to determine the final configuration from all possible combinations.

The following tables are showing the test modes as the worst cases and recorded in this report.

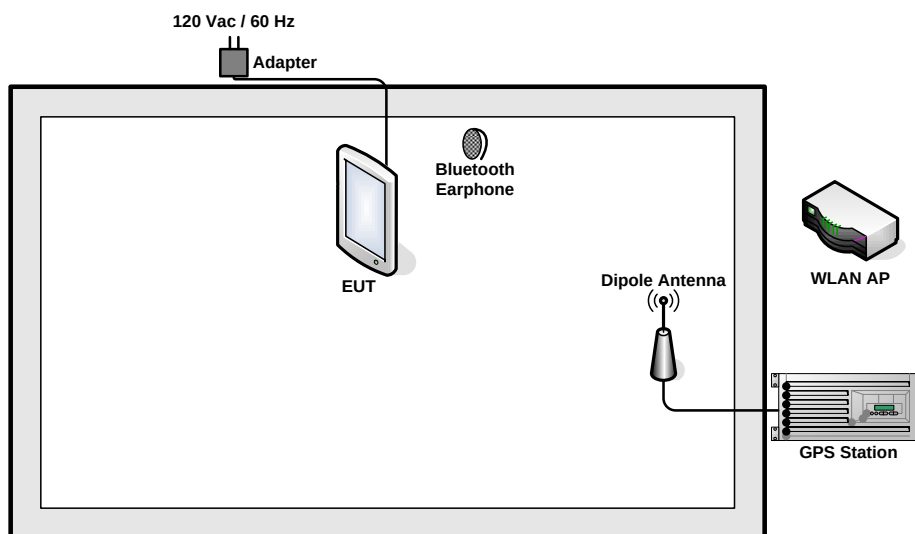
Test Cases	
Test Item	802.11b (Modulation : DSSS) 802.11g/n (Modulation : OFDM)
Conducted TCs	Mode 1 : 802.11b CH01_2412 MHz Mode 2 : 802.11b CH06_2437 MHz Mode 3 : 802.11b CH11_2462 MHz Mode 4: 802.11g_CH01_2412 MHz Mode 5: 802.11g_CH06_2437 MHz Mode 6: 802.11g_CH11_2462 MHz Mode 7: 802.11n (BW 20M)_CH01_2412 MHz Mode 8: 802.11n (BW 20M)_CH06_2437 MHz Mode 9: 802.11n (BW 20M)_CH11_2462 MHz
Radiated TCs	Mode 1 : 802.11b CH01_2412 MHz + TC for Sample 1 Mode 2 : 802.11b CH06_2437 MHz + TC for Sample 1 Mode 3 : 802.11b CH11_2462 MHz + TC for Sample 1 Mode 4: 802.11g_CH01_2412 MHz + TC for Sample 1 Mode 5: 802.11g_CH06_2437 MHz + TC for Sample 1 Mode 6: 802.11g_CH11_2462 MHz + TC for Sample 1 Mode 7: 802.11n (BW 20M)_CH01_2412 MHz + TC for Sample 1 Mode 8: 802.11n (BW 20M)_CH06_2437 MHz + TC for Sample 1 Mode 9: 802.11n (BW 20M)_CH11_2462 MHz + TC for Sample 1 Mode 10: 802.11g_CH11_2462 MHz + TC for Sample 2
AC Conducted Emission	Mode 1 :Bluetooth Link + WLAN Link + GPS Rx + MP3 + Battery 1 + Adapter for Sample 1 Mode 2 :Bluetooth Link + WLAN Link + GPS Rx + MP3 + Battery 1 + Adapter for Sample 2
Remark: 1. TC stands for Test Configuration, and consists of Earphone1, Battery 1, Adapter and USB Cable 1. 2. The worst case of conducted emission is mode 2; only the test data of it was reported.	

2.3 Connection Diagram of Test System

<WLAN Tx Mode>



<AC Conducted Emission Mode>





2.4 RF Utility

The programmed RF utility "Remote 432X controller" is installed in EUT to provide channel selection, power level, data rate and the application type. RF Utility can send transmitting signal for all testing. The RF output power selection is for the setting of RF output power expected by the customer and is going to be fixed on the firmware of the final end product.

3 Test Result

3.1 6dB and 99% Bandwidth Measurement

3.1.1 Limit of 6dB Bandwidth

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

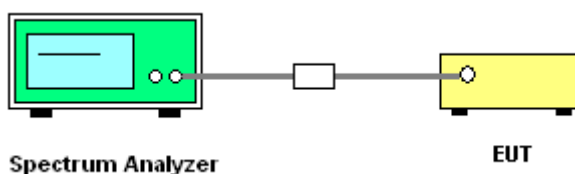
3.1.2 Measuring Instruments

See list of measuring instruments of this test report.

3.1.3 Test Procedures

1. The testing follows FCC KDB Publication No. 558074 (Measurement Guidelines of DTS).
2. The RF output of EUT was connected to the spectrum analyzer by a low loss cable.
3. Make the measurement with the spectrum analyzer's resolution bandwidth (RBW) = 100 kHz.
In order to make an accurate measurement, set the span greater than RBW. The 6 dB bandwidth must be greater than 500 kHz.
4. The marker-delta reading at this point is the 6 dB bandwidth of the emission.

3.1.4 Test Setup

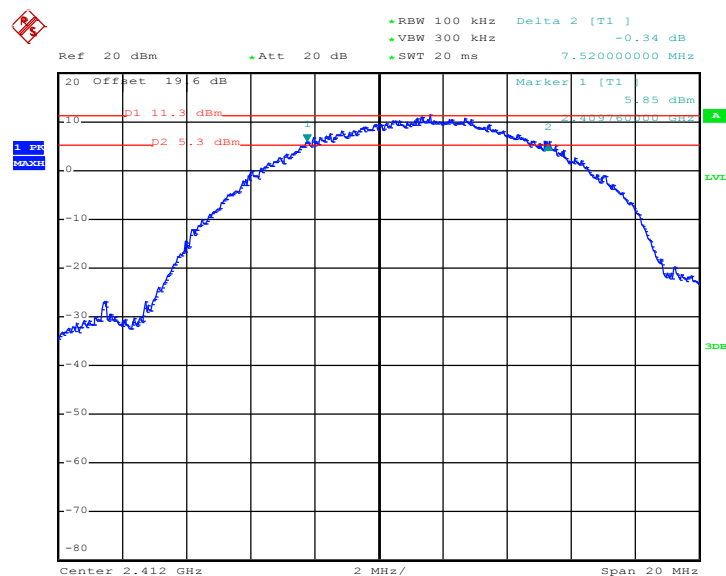


3.1.5 Test Result of 6dB Bandwidth

Test Mode :	Mode 1, 2, 3	Temperature :	24~26℃
Test Engineer :	Alan Liu	Relative Humidity :	50~53%

Channel	Frequency (MHz)	802.11b 6dB Bandwidth (MHz)	6dB Bandwidth Min. Limit (MHz)	Pass/Fail
01	2412	7.52	0.5	Pass
06	2437	7.48	0.5	Pass
11	2462	7.56	0.5	Pass

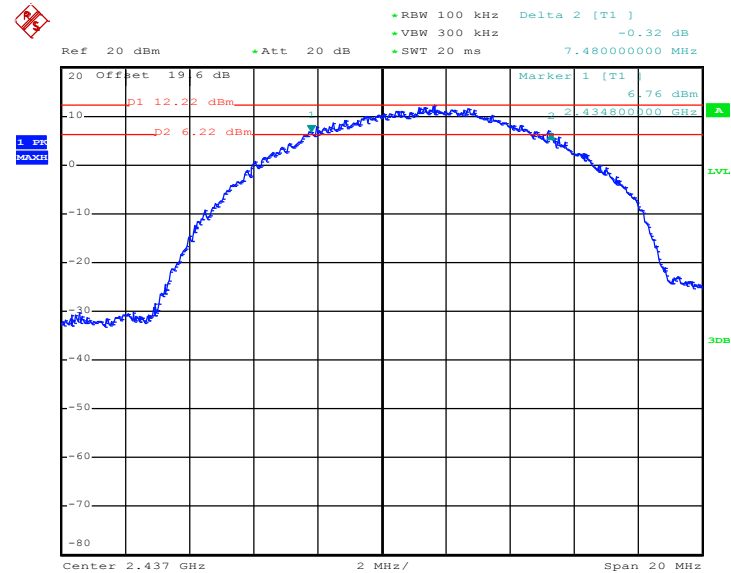
Mode 1 : 6 dB Bandwidth Plot on 802.11b Channel 01



Date: 2.APR.2011 15:31:09

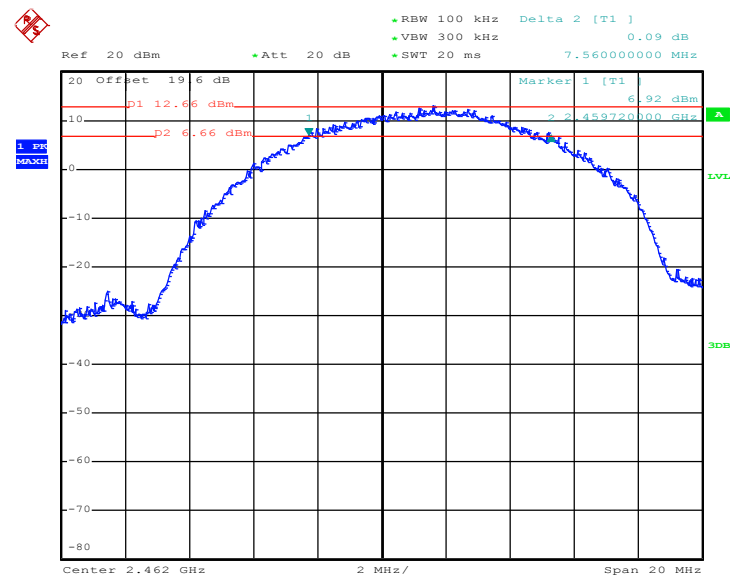


Mode 2 : 6 dB Bandwidth Plot on 802.11b Channel 06



Date: 2.APR.2011 15:57:40

Mode 3 : 6 dB Bandwidth Plot on 802.11b Channel 11



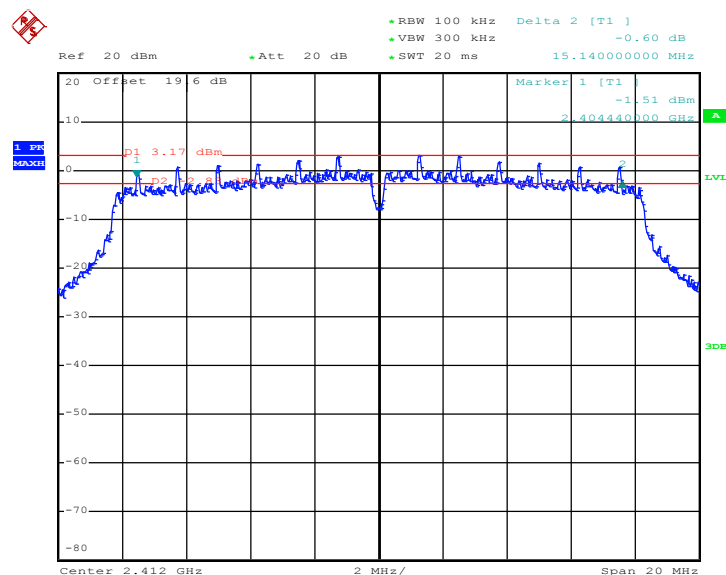
Date: 2.APR.2011 16:10:02



Test Mode :	Mode 4, 5, 6	Temperature :	24~26°C
Test Engineer :	Alan Liu	Relative Humidity :	50~53%

Channel	Frequency (MHz)	802.11g 6dB Bandwidth (MHz)	6dB Bandwidth Min. Limit (MHz)	Pass/Fail
01	2412	15.14	0.5	Pass
06	2437	15.34	0.5	Pass
11	2462	15.12	0.5	Pass

Mode 4 : 6 dB Bandwidth Plot on 802.11g Channel 01



Date: 2.APR.2011 16:48:06



Mode 6 : 6 dB Bandwidth Plot on 802.11g Channel 11

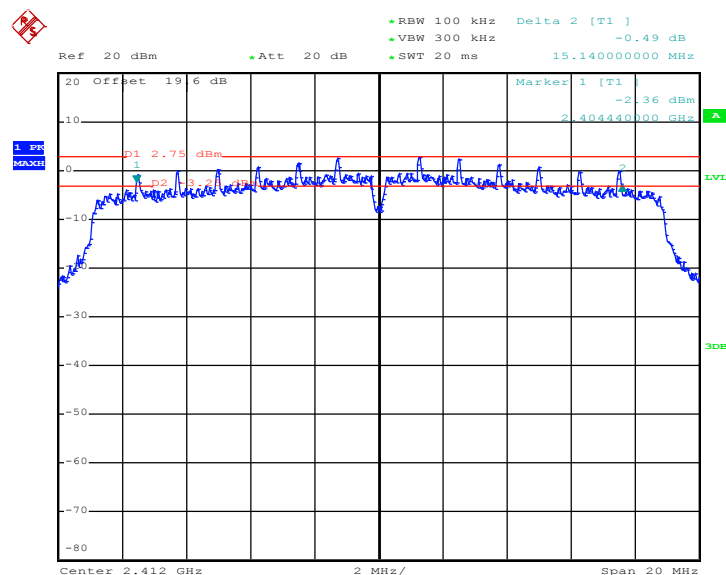




Test Mode :	Mode 7, 8, 9	Temperature :	24~26°C
Test Engineer :	Alan Liu	Relative Humidity :	50~53%

Channel	Frequency (MHz)	802.11n (BW 20MHz) 6dB Bandwidth (MHz)	6dB Bandwidth Min. Limit (MHz)	Pass/Fail
01	2412	15.14	0.5	Pass
06	2437	15.12	0.5	Pass
11	2462	15.14	0.5	Pass

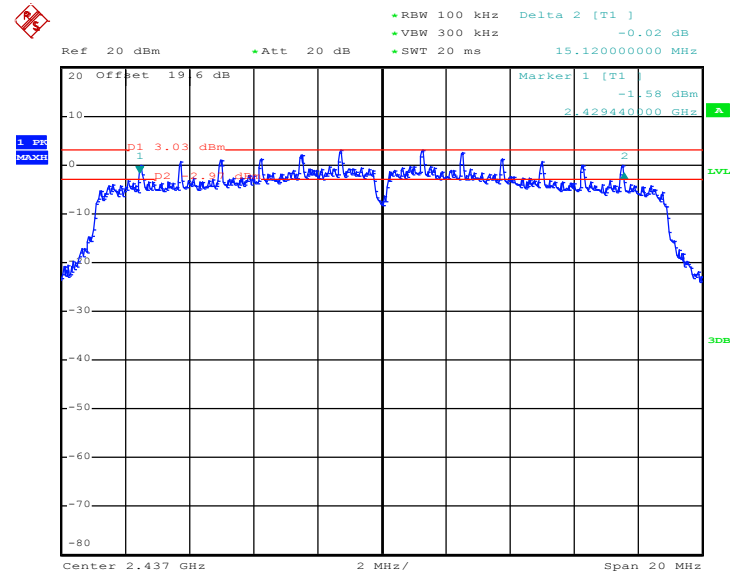
Mode 7 : 6 dB Bandwidth Plot on 802.11n(BW 20MHz) Channel 01



Date: 2.APR.2011 17:04:34

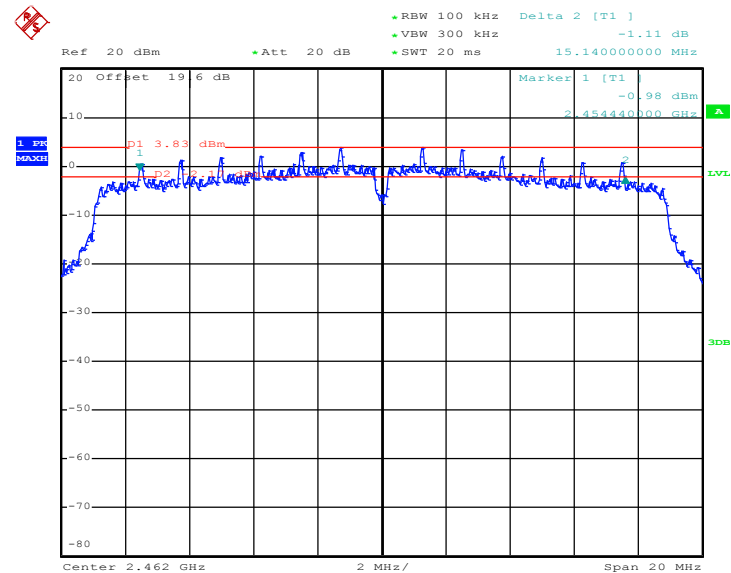


Mode 8 : 6 dB Bandwidth Plot on 802.11n(BW 20MHz) Channel 06



Date: 2.APR.2011 17:21:12

Mode 9 : 6 dB Bandwidth Plot on 802.11n(BW 20MHz) Channel 11



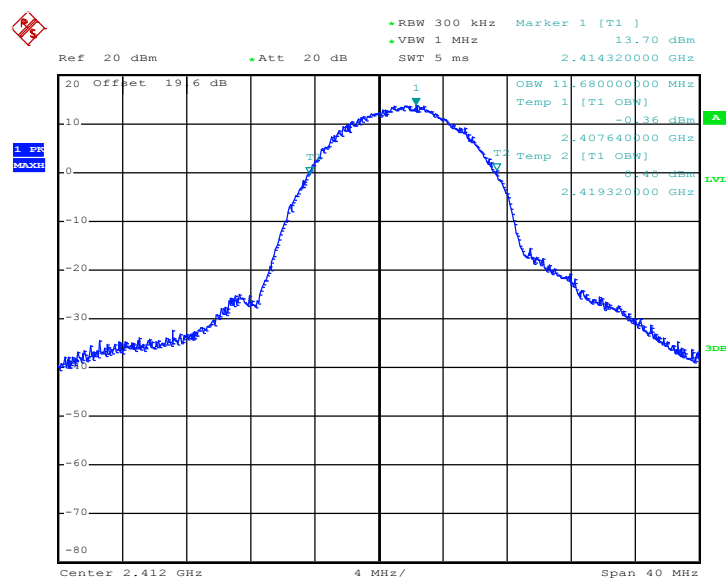
Date: 2.APR.2011 17:32:56

3.1.6 Test Result of 99% Occupied Bandwidth

Test Mode :	Mode 1, 2, 3	Temperature :	24~26℃
Test Engineer :	Alan Liu	Relative Humidity :	50~53%

Channel	Frequency (MHz)	802.11b 99% Occupied Bandwidth (MHz)	Pass/Fail
01	2412	11.68	Pass
06	2437	11.44	Pass
11	2462	11.56	Pass

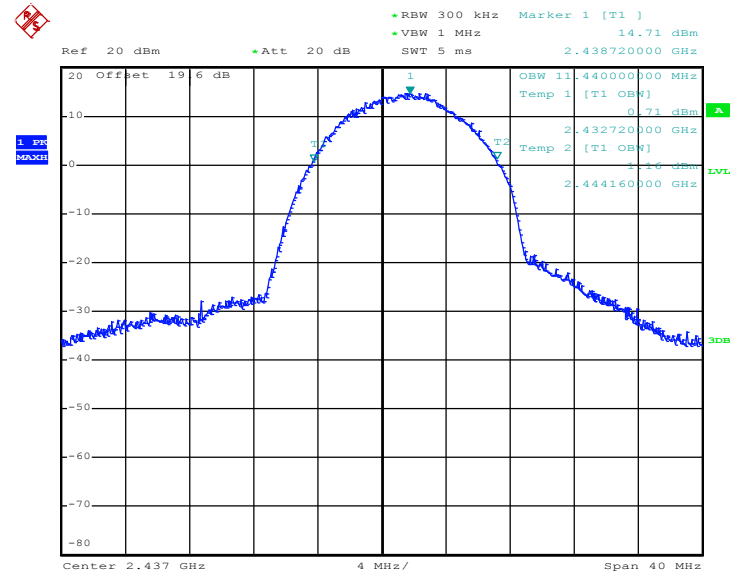
Mode 1 : 99% Occupied Bandwidth Plot on 802.11b Channel 01



Date: 2.APR.2011 15:33:10

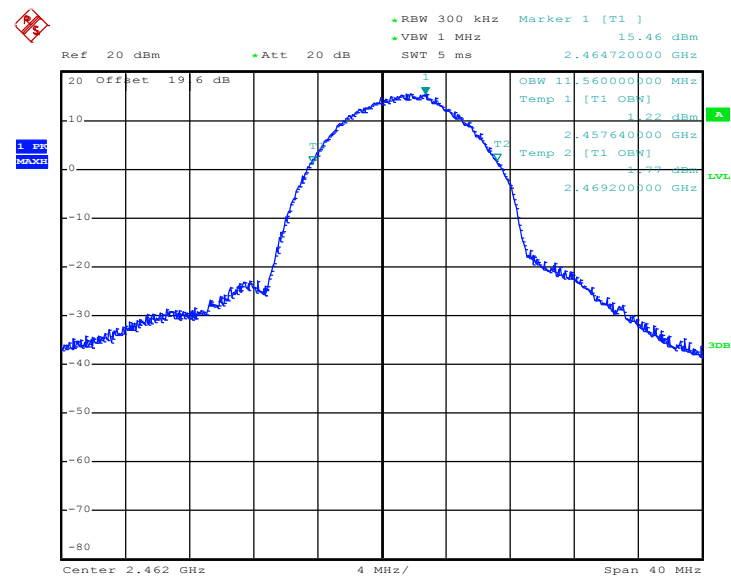


Mode 2 : 99% Occupied Bandwidth Plot on 802.11b Channel 06



Date: 2.APR.2011 15:58:15

Mode 3 : 99% Occupied Bandwidth Plot on 802.11b Channel 11



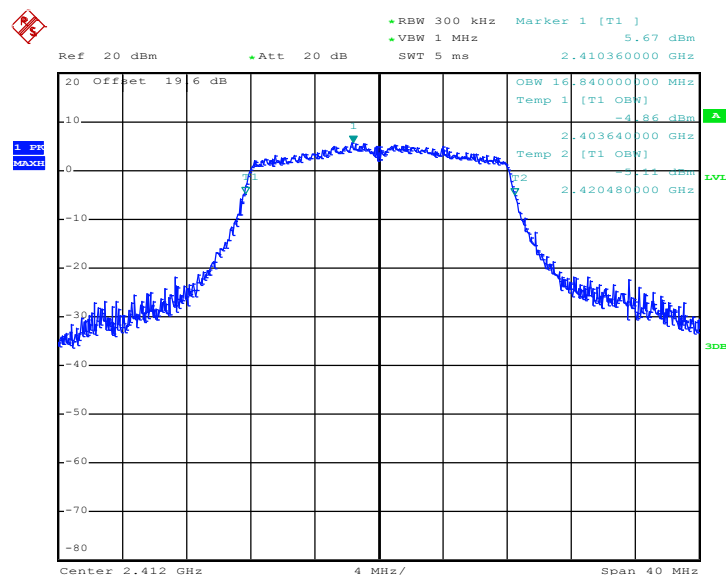
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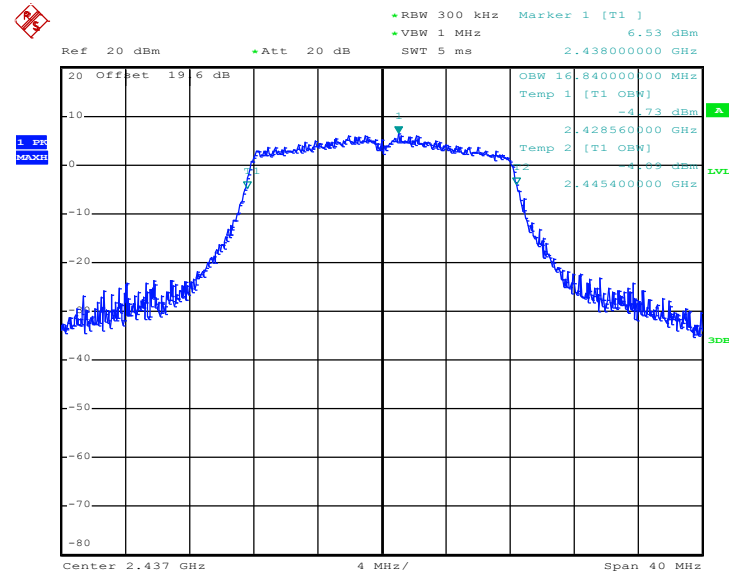
Test Mode :	Mode 4, 5, 6	Temperature :	24~26°C
Test Engineer :	Alan Liu	Relative Humidity :	50~53%

Channel	Frequency (MHz)	802.11g 99% Occupied Bandwidth (MHz)	Pass/Fail
01	2412	16.84	Pass
06	2437	16.84	Pass
11	2462	16.84	Pass

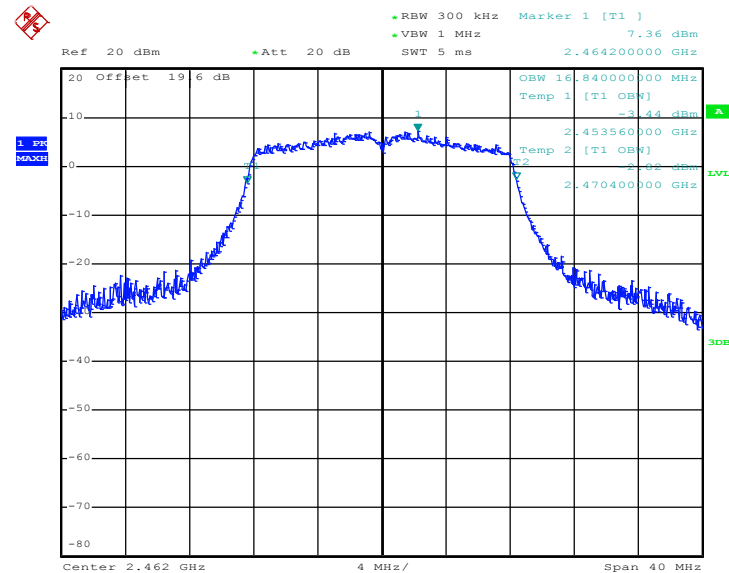
Mode 4 : 99% Occupied Bandwidth Plot on 802.11g Channel 01



Date: 2.APR.2011 16:50:22

Mode 5 : 99% Occupied Bandwidth Plot on 802.11g Channel 06


Date: 2.APR.2011 16:36:52

Mode 6 : 99% Occupied Bandwidth Plot on 802.11g Channel 11


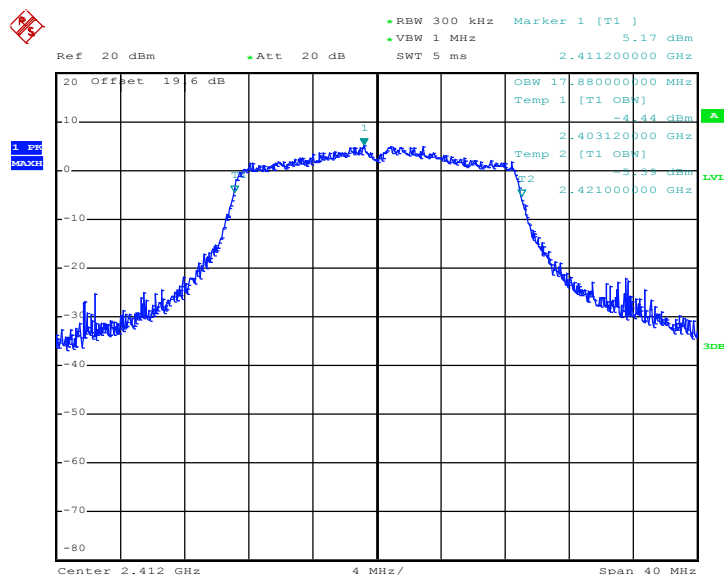
Date: 2.APR.2011 16:24:35



Test Mode :	Mode 7, 8, 9	Temperature :	24~26°C
Test Engineer :	Alan Liu	Relative Humidity :	50~53%

Channel	Frequency (MHz)	802.11n (BW 20MHz) 99% Occupied Bandwidth (MHz)	Pass/Fail
01	2412	17.88	Pass
06	2437	17.92	Pass
11	2462	17.92	Pass

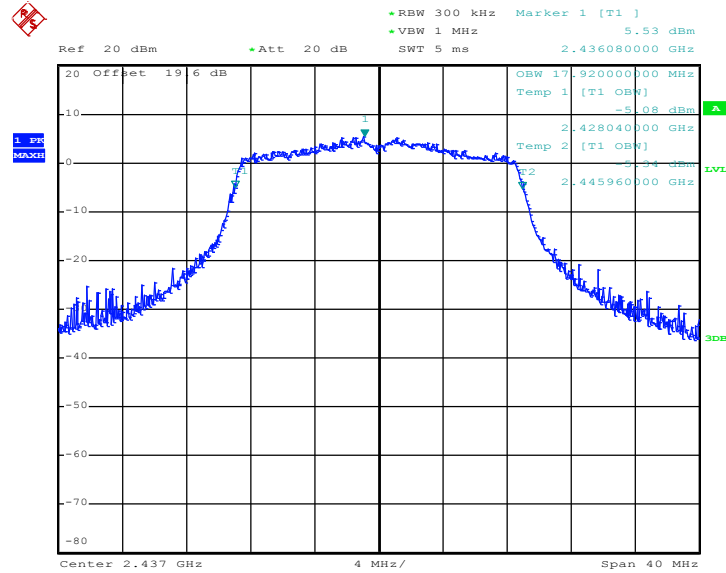
Mode 7 : 99% Occupied Bandwidth Plot on 802.11n(BW 20MHz) Channel 01



Date: 2.APR.2011 17:06:51

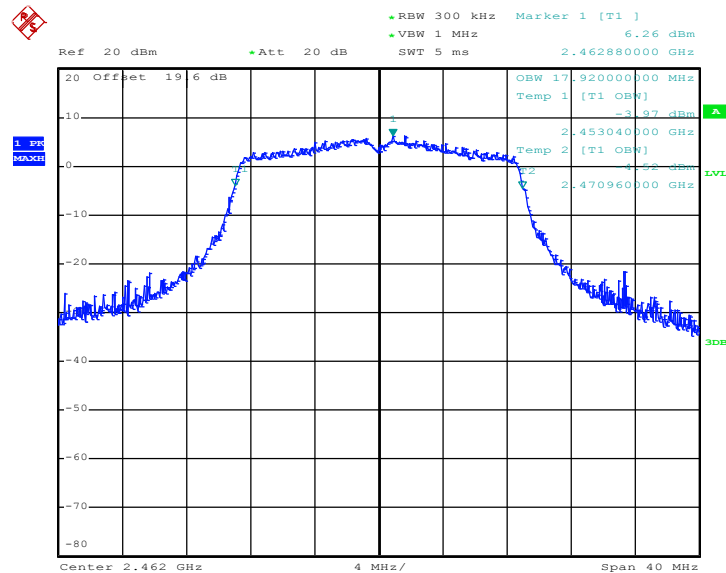


Mode 8 : 99% Occupied Bandwidth Plot on 802.11n(BW 20MHz) Channel 06



Date: 2.APR.2011 17:21:51

Mode 9 : 99% Occupied Bandwidth Plot on 802.11n(BW 20MHz) Channel 11



Date: 2.APR.2011 17:35:18

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.

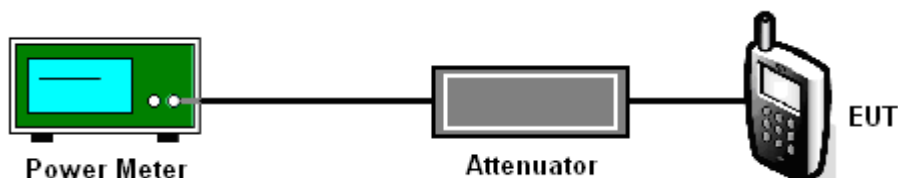
3.2.2 Measuring Instruments

See list of measuring instruments of this test report.

3.2.3 Test Procedures

1. The testing follows FCC KDB Publication No. 558074 (Measurement Guidelines of DTS).
2. The RF output of EUT was connected to the power meter by a low loss cable.
3. Measure the power by power meter.

3.2.4 Test Setup



3.2.5 Test Result of Output Power

Test Mode :	Mode 1, 2, 3	Temperature :	24~26℃
Test Engineer :	Alan Liu	Relative Humidity :	50~53%

Channel	Frequency (MHz)	802.11b Measured Output Power (dBm)	Max. Limits (dBm)	Pass/Fail
01	2412	20.53	30	Pass
06	2437	21.37	30	Pass
11	2462	21.91	30	Pass

Test Mode :	Mode 4, 5, 6	Temperature :	24~26℃
Test Engineer :	Alan Liu	Relative Humidity :	50~53%

Channel	Frequency (MHz)	802.11g Measured Output Power (dBm)	Max. Limits (dBm)	Pass/Fail
01	2412	21.62	30	Pass
06	2437	22.25	30	Pass
11	2462	23.03	30	Pass

Test Mode :	Mode 7, 8, 9	Temperature :	24~26℃
Test Engineer :	Alan Liu	Relative Humidity :	50~53%

Channel	Frequency (MHz)	802.11n (BW 20MHz) Measured Output Power (dBm)	Max. Limits (dBm)	Pass/Fail
01	2412	21.31	30	Pass
06	2437	22.04	30	Pass
11	2462	22.59	30	Pass

3.3 Band Edges Measurement

3.3.1 Limit of Band Edges

In any 100 kHz bandwidth outside the intentional radiation frequency band, the radio frequency power shall be at least 20 dB below the highest level of the radiated power. 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.

3.3.2 Measuring Instruments

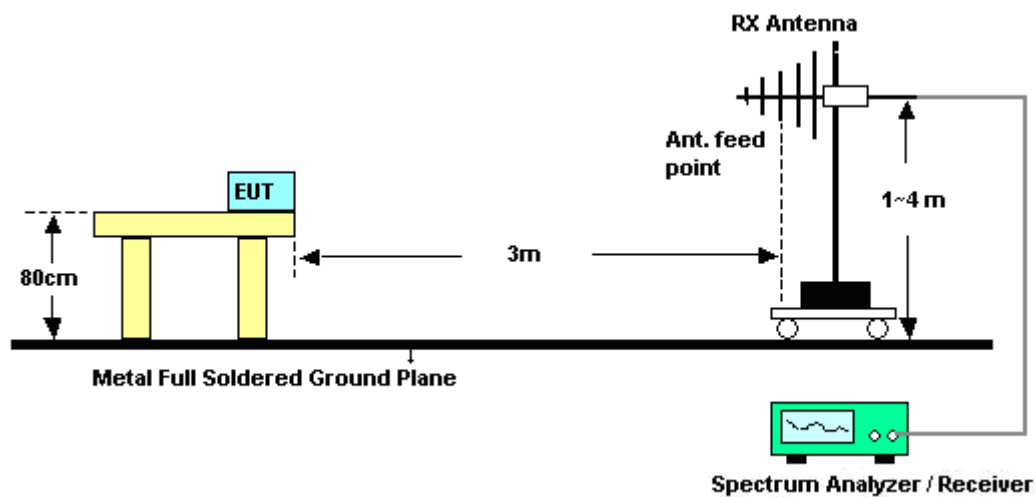
See list of measuring instruments of this test report.

3.3.3 Test Procedures

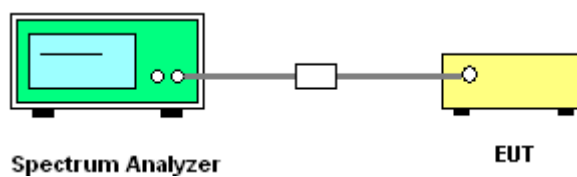
1. The testing follows the guidelines in ANSI C63.4-2003 and FCC KDB Publication No. 558074 (Measurement Guidelines of DTS).
2. Conducted emission test: Set RBW = 100 kHz, Video bandwidth (VBW) $\geq$ RBW. Band edge emissions must be at least 20 dB down from the highest emission level within the authorized band as measured with a 100 kHz RBW. Note: If the device complies with the use of power option 2 the attenuation under this paragraph shall be 30 dB instead of 20 dB.
3. Radiated emission test: Apply to band edge emissions that fall in the restricted bands listed in FCC Section 15.205. The maximum permitted average field strength is listed in FCC Section 15.209. A pre-amp is necessary for this measurement. For measurements above 1 GHz, set RBW = 1MHz, VBW = 10 Hz, Sweep=Auto. If the emission is pulsed, modify the unit for continuous operation; use the settings shown above, then correct the reading by subtracting the peak-average correction factor, derived from the appropriate duty cycle calculation as in FCC Section 15.35(b) and (c).

3.3.4 Test Setup

<Radiated Band Edges>



<Conducted Band Edges>



3.3.5 Test Result of Radiated Band Edges

Test Mode :	Mode 1	Temperature :	22~26℃
Test Band :	802.11b	Relative Humidity :	56~62%
Test Channel :	01	Test Engineer :	Wii Chang

ANTENNA POLARITY : HORIZONTAL										
Frequency (MHz)	Level (dBuV/m)	Over Limit (dB)	Limit Line (dBuV/m)	Read Level (dBuV)	Antenna Factor (dB)	Cable Loss (dB)	Preamp Factor (dB)	Ant Pos (cm)	Table Pos (deg)	Remark
2389.61	58.18	-15.82	74	53.82	32.18	6.03	33.85	100	137	Peak
2389.61	44.86	-9.14	54	40.5	32.18	6.03	33.85	100	137	Average

ANTENNA POLARITY : VERTICAL										
Frequency (MHz)	Level (dBuV/m)	Over Limit (dB)	Limit Line (dBuV/m)	Read Level (dBuV)	Antenna Factor (dB)	Cable Loss (dB)	Preamp Factor (dB)	Ant Pos (cm)	Table Pos (deg)	Remark
2389.61	56.24	-17.76	74	51.88	32.18	6.03	33.85	102	74	Peak
2389.61	42.84	-11.16	54	38.48	32.18	6.03	33.85	102	74	Average

Test Mode :	Mode 3	Temperature :	22~26℃
Test Band :	802.11b	Relative Humidity :	56~62%
Test Channel :	11	Test Engineer :	Wii Chang

ANTENNA POLARITY : HORIZONTAL										
Frequency (MHz)	Level (dBuV/m)	Over Limit (dB)	Limit Line (dBuV/m)	Read Level (dBuV)	Antenna Factor (dB)	Cable Loss (dB)	Preamp Factor (dB)	Ant Pos (cm)	Table Pos (deg)	Remark
2483.66	57.77	-16.23	74	53.21	32.28	6.18	33.9	100	211	Peak
2483.66	44.54	-9.46	54	39.98	32.28	6.18	33.9	100	211	Average

ANTENNA POLARITY : VERTICAL										
Frequency (MHz)	Level (dBuV/m)	Over Limit (dB)	Limit Line (dBuV/m)	Read Level (dBuV)	Antenna Factor (dB)	Cable Loss (dB)	Preamp Factor (dB)	Ant Pos (cm)	Table Pos (deg)	Remark
2486.13	52.29	-21.71	74	47.73	32.28	6.18	33.9	189	65	Peak
2486.13	39.43	-14.57	54	34.87	32.28	6.18	33.9	189	65	Average

Test Mode :	Mode 4	Temperature :	22~26℃
Test Band :	802.11g	Relative Humidity :	56~62%
Test Channel :	01	Test Engineer :	Wii Chang

ANTENNA POLARITY : HORIZONTAL										
Frequency (MHz)	Level (dBuV/m)	Over Limit (dB)	Limit Line (dBuV/m)	Read Level (dBuV)	Antenna Factor (dB)	Cable Loss (dB)	Preamp Factor (dB)	Ant Pos (cm)	Table Pos (deg)	Remark
2389.99	68.43	-5.57	74	64.07	32.18	6.03	33.85	100	134	Peak
2389.99	48.5	-5.5	54	44.14	32.18	6.03	33.85	100	134	Average

ANTENNA POLARITY : VERTICAL										
Frequency (MHz)	Level (dBuV/m)	Over Limit (dB)	Limit Line (dBuV/m)	Read Level (dBuV)	Antenna Factor (dB)	Cable Loss (dB)	Preamp Factor (dB)	Ant Pos (cm)	Table Pos (deg)	Remark
2389.99	67.46	-6.54	74	63.1	32.18	6.03	33.85	179	32	Peak
2389.99	48.56	-5.44	54	44.2	32.18	6.03	33.85	179	32	Average

Test Mode :	Mode 6	Temperature :	22~26℃
Test Band :	802.11g	Relative Humidity :	56~62%
Test Channel :	11	Test Engineer :	Wii Chang

ANTENNA POLARITY : HORIZONTAL										
Frequency (MHz)	Level (dBuV/m)	Over Limit (dB)	Limit Line (dBuV/m)	Read Level (dBuV)	Antenna Factor (dB)	Cable Loss (dB)	Preamp Factor (dB)	Ant Pos (cm)	Table Pos (deg)	Remark
2483.5	70.82	-3.18	74	66.26	32.28	6.18	33.9	129	132	Peak
2483.5	50.34	-3.66	54	45.78	32.28	6.18	33.9	129	132	Average

ANTENNA POLARITY : VERTICAL										
Frequency (MHz)	Level (dBuV/m)	Over Limit (dB)	Limit Line (dBuV/m)	Read Level (dBuV)	Antenna Factor (dB)	Cable Loss (dB)	Preamp Factor (dB)	Ant Pos (cm)	Table Pos (deg)	Remark
2483.5	70.76	-3.24	74	66.2	32.28	6.18	33.9	112	21	Peak
2483.5	50.89	-3.11	54	46.33	32.28	6.18	33.9	112	21	Average



Test Mode :	Mode 7	Temperature :	22~26℃
Test Band :	802.11n (BW 20MHz)	Relative Humidity :	56~62%
Test Channel :	01	Test Engineer :	Wii Chang

ANTENNA POLARITY : HORIZONTAL										
Frequency (MHz)	Level (dBuV/m)	Over Limit (dB)	Limit Line (dBuV/m)	Read Level (dBuV)	Antenna Factor (dB)	Cable Loss (dB)	Preamp Factor (dB)	Ant Pos (cm)	Table Pos (deg)	Remark
2390	68.77	-5.23	74	64.41	32.18	6.03	33.85	163	130	Peak
2390	48.32	-5.68	54	43.96	32.18	6.03	33.85	163	130	Average

ANTENNA POLARITY : VERTICAL										
Frequency (MHz)	Level (dBuV/m)	Over Limit (dB)	Limit Line (dBuV/m)	Read Level (dBuV)	Antenna Factor (dB)	Cable Loss (dB)	Preamp Factor (dB)	Ant Pos (cm)	Table Pos (deg)	Remark
2389.61	66.09	-7.91	74	61.73	32.18	6.03	33.85	188	57	Peak
2389.61	46.38	-7.62	54	42.02	32.18	6.03	33.85	188	57	Average

Test Mode :	Mode 9	Temperature :	22~26℃
Test Band :	802.11n (BW 20MHz)	Relative Humidity :	56~62%
Test Channel :	11	Test Engineer :	Wii Chang

ANTENNA POLARITY : HORIZONTAL										
Frequency (MHz)	Level (dBuV/m)	Over Limit (dB)	Limit Line (dBuV/m)	Read Level (dBuV)	Antenna Factor (dB)	Cable Loss (dB)	Preamp Factor (dB)	Ant Pos (cm)	Table Pos (deg)	Remark
2483.66	70.16	-3.84	74	65.6	32.28	6.18	33.9	129	134	Peak
2483.66	49.14	-4.86	54	44.58	32.28	6.18	33.9	129	134	Average

ANTENNA POLARITY : VERTICAL										
Frequency (MHz)	Level (dBuV/m)	Over Limit (dB)	Limit Line (dBuV/m)	Read Level (dBuV)	Antenna Factor (dB)	Cable Loss (dB)	Preamp Factor (dB)	Ant Pos (cm)	Table Pos (deg)	Remark
2484.42	70.23	-3.77	74	65.67	32.28	6.18	33.9	112	21	Peak
2484.42	49.78	-4.22	54	45.22	32.28	6.18	33.9	112	21	Average



Test Mode :	Mode 10	Temperature :	22~26°C
Test Band :	802.11g	Relative Humidity :	56~62%
Test Channel :	11	Test Engineer :	Wii Chang

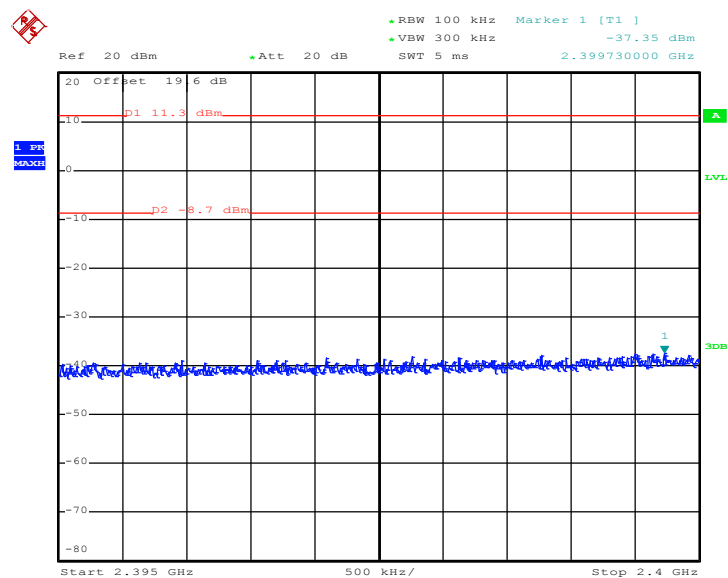
ANTENNA POLARITY : HORIZONTAL										
Frequency (MHz)	Level (dBuV/m)	Over Limit (dB)	Limit Line (dBuV/m)	Read Level (dBuV)	Antenna Factor (dB)	Cable Loss (dB)	Preamp Factor (dB)	Ant Pos (cm)	Table Pos (deg)	Remark
2483.85	69.21	-4.79	74	64.65	32.28	6.18	33.9	100	220	Peak
2483.85	50.68	-3.32	54	46.12	32.28	6.18	33.9	100	220	Average

ANTENNA POLARITY : VERTICAL										
Frequency (MHz)	Level (dBuV/m)	Over Limit (dB)	Limit Line (dBuV/m)	Read Level (dBuV)	Antenna Factor (dB)	Cable Loss (dB)	Preamp Factor (dB)	Ant Pos (cm)	Table Pos (deg)	Remark
2483.66	69	-5	74	64.44	32.28	6.18	33.9	202	132	Peak
2483.66	48.84	-5.16	54	44.28	32.28	6.18	33.9	202	132	Average

3.3.6 Test Plots of Conducted Band Edges

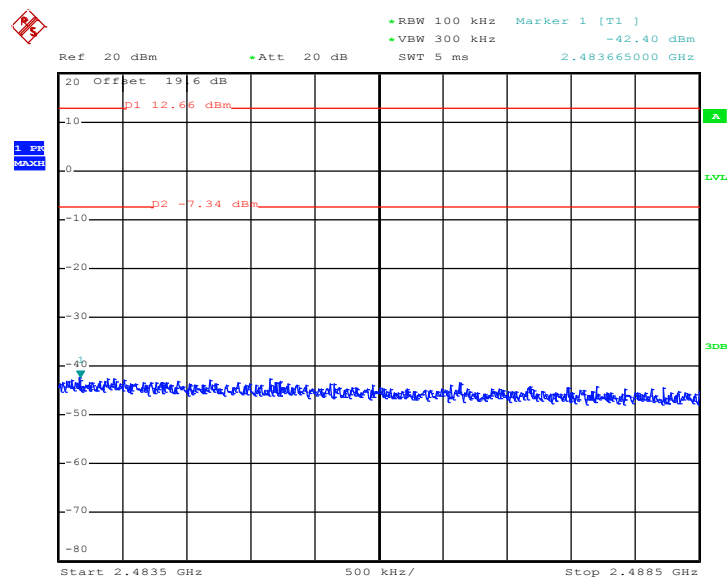
Test Mode :	Mode 1 and 3	Temperature :	24~26°C
Test Band :	802.11b	Relative Humidity :	50~53%
Test Channel :	01 and 11	Test Engineer :	Alan Liu

Low Band Edge Plot on 802.11b Channel 01



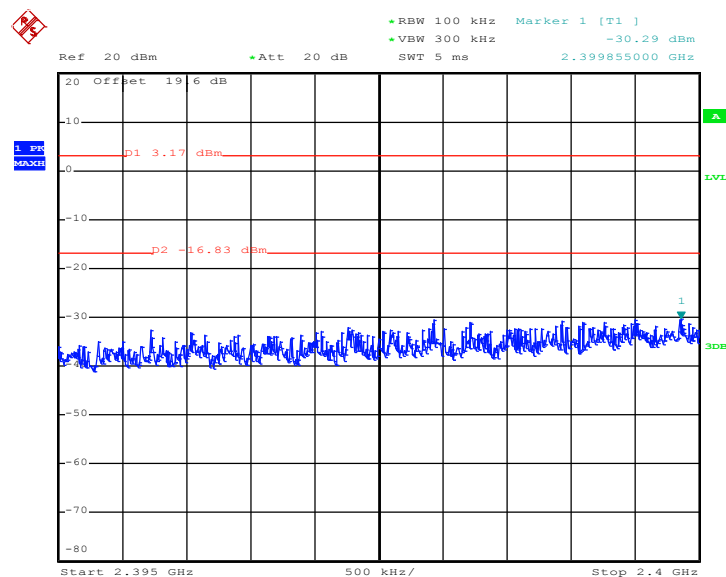
Date: 2.APR.2011 15:32:45

High Band Edge Plot on 802.11b Channel 11

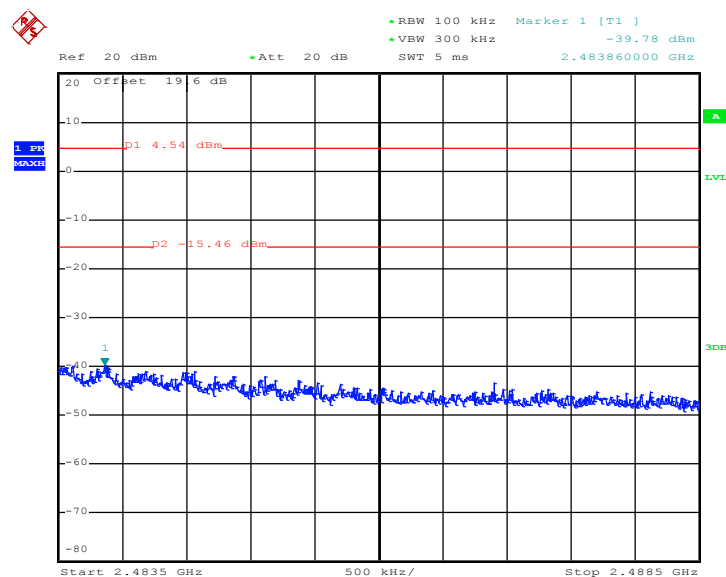


Date: 2.APR.2011 16:11:04

Test Mode :	Mode 4 and 6	Temperature :	24~26°C
Test Band :	802.11g	Relative Humidity :	50~53%
Test Channel :	01 and 11	Test Engineer :	Alan Liu

Low Band Edge Plot on 802.11g Channel 01


Date: 2.APR.2011 16:49:34

High Band Edge Plot on 802.11g Channel 11


Date: 2.APR.2011 16:23:58



Test Mode :	Mode 7 and 9	Temperature :	24~26℃
Test Band :	802.11n (BW 20MHz)	Relative Humidity :	50~53%
Test Channel :	01 and 11	Test Engineer :	Alan Liu

[illegible]

Date: 2.APR.2011 17:06:23

• RBW 100 kHz Marker 1 [T1] -39.45 dBm
 • VBW 300 kHz
 Ref 20 dBm • Att 20 dB SWT 5 ms 2.484230000 GHz

20 OffSet 19.6 dB
 10
 0
 -10
 -20
 -30
 -40
 -50
 -60
 -70
 -80

1.75 MHz
 p1 3.83 dBm
 p2 -16.17 dBm
 1
 Start 2.4835 GHz 500 kHz/ Stop 2.4885 GHz

Date: 2.APR.2011 17:34:06

3.4 Spurious Emission Measurement

3.4.1 Limit of Spurious Emission Measurement

All harmonics/spurious must be at least 20 dB down from the highest emission level within the authorized band.

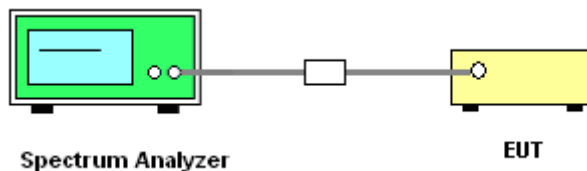
3.4.2 Measuring Instruments

See list of measuring instruments of this test report.

3.4.3 Test Procedure

1. The transmitter output was connected to the spectrum analyzer via a low lose cable.
2. Set RBW = 100 kHz, Video bandwidth (VBW) $\geq$ RBW, scan up through 10th harmonic. All harmonics/spurs must be at least 20 dB down from the highest emission level within the authorized band as measured with a 100 kHz RBW.

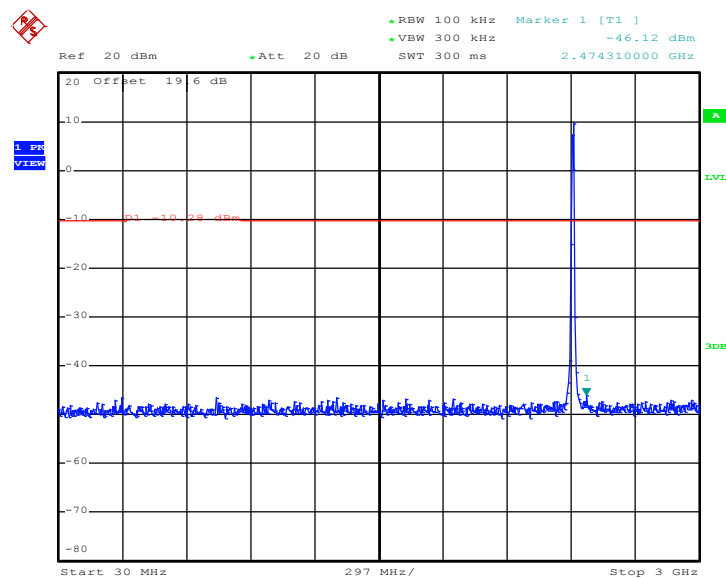
3.4.4 Test Setup



3.4.5 Test Plots of Spurious Emission

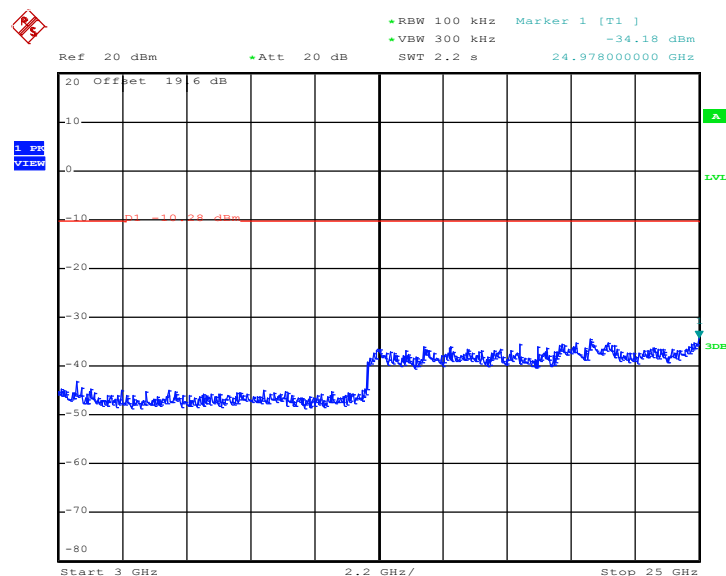
Test Mode :	Mode 1	Temperature :	24~26°C
Test Band :	802.11b	Relative Humidity :	50~53%
Test Channel :	01	Test Engineer :	Alan Liu

Conducted Spurious Emission Plot between 30MHz ~ 3 GHz



Date: 2.APR.2011 15:34:26

Conducted Spurious Emission Plot between 3 GHz ~ 25 GHz

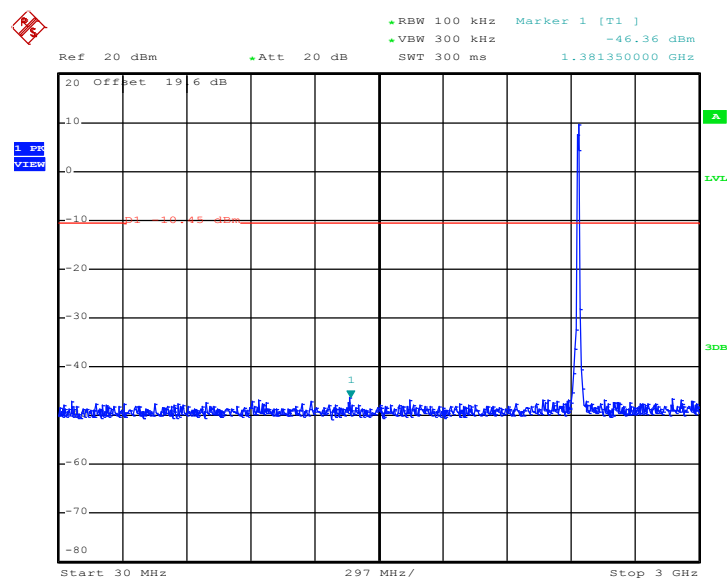


Date: 2.APR.2011 15:34:43



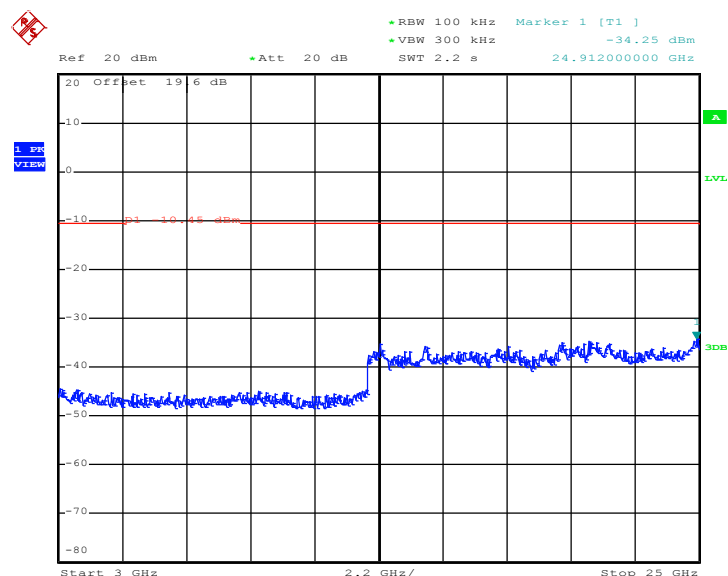
Test Mode :	Mode 2	Temperature :	24~26°C
Test Band :	802.11b	Relative Humidity :	50~53%
Test Channel :	06	Test Engineer :	Alan Liu

Conducted Spurious Emission Plot between 30MHz ~ 3 GHz



Date: 2.APR.2011 15:58:38

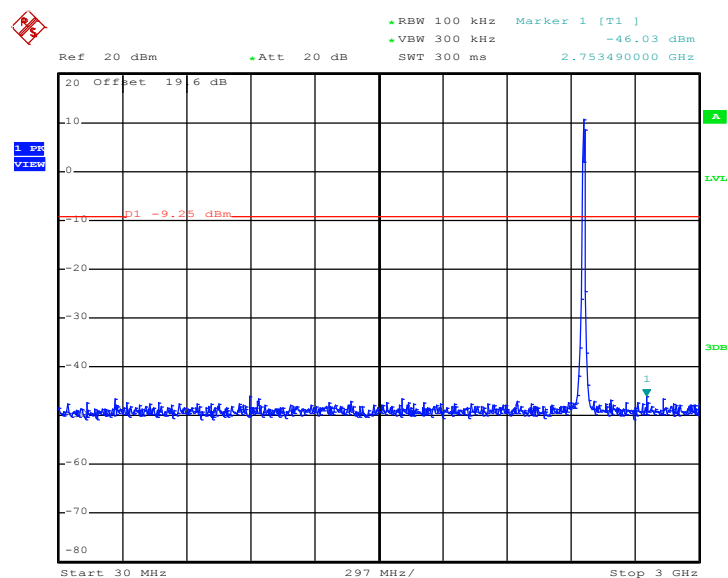
Conducted Spurious Emission Plot between 3 GHz ~ 25 GHz



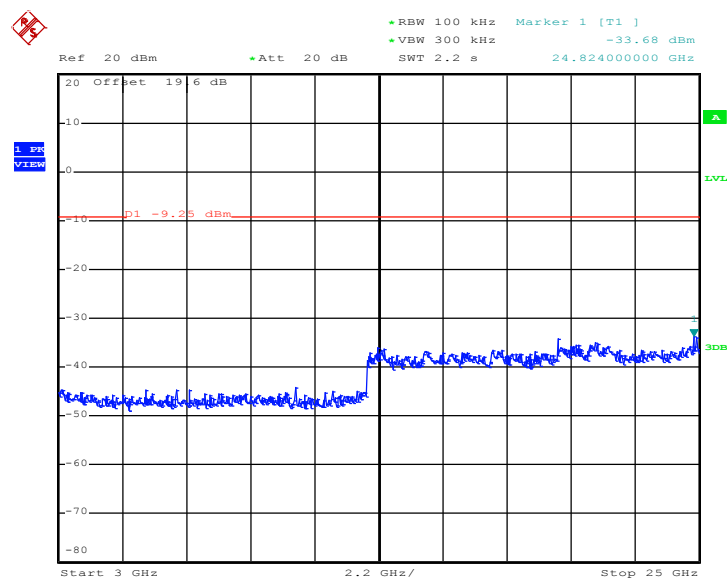
Date: 2.APR.2011 15:58:55



Test Mode :	Mode 3	Temperature :	24~26°C
Test Band :	802.11b	Relative Humidity :	50~53%
Test Channel :	11	Test Engineer :	Alan Liu

Conducted Spurious Emission Plot between 30MHz ~ 3 GHz

Date: 2.APR.2011 16:11:46

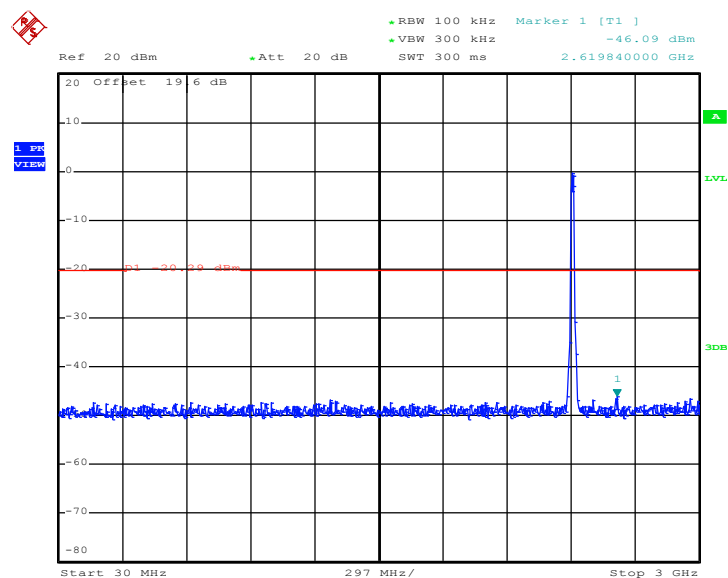
Conducted Spurious Emission Plot between 3 GHz ~ 25 GHz

Date: 2.APR.2011 16:12:03



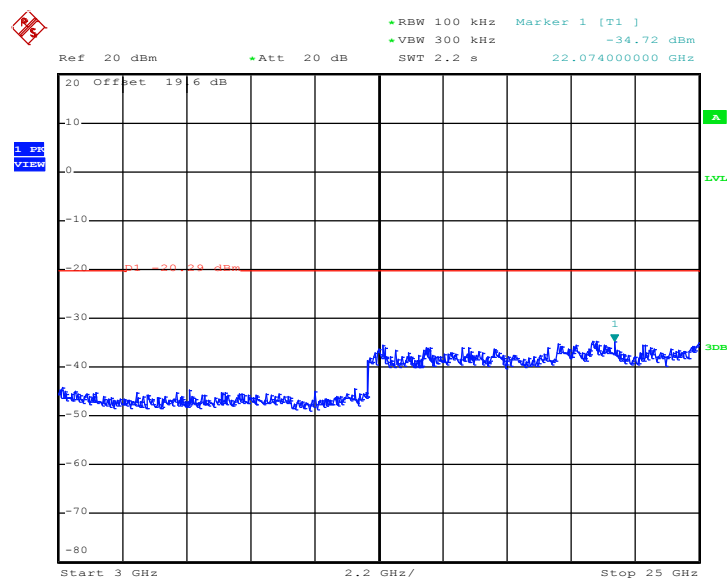
Test Mode :	Mode 4	Temperature :	24~26°C
Test Band :	802.11g	Relative Humidity :	50~53%
Test Channel :	01	Test Engineer :	Alan Liu

Conducted Spurious Emission Plot between 30MHz ~ 3 GHz



Date: 2.APR.2011 16:52:08

Conducted Spurious Emission Plot between 3 GHz ~ 25 GHz

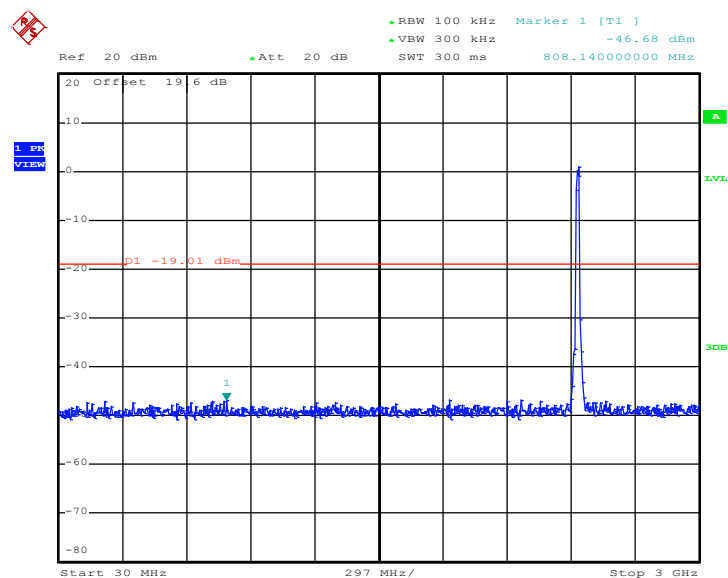


Date: 2.APR.2011 16:52:24



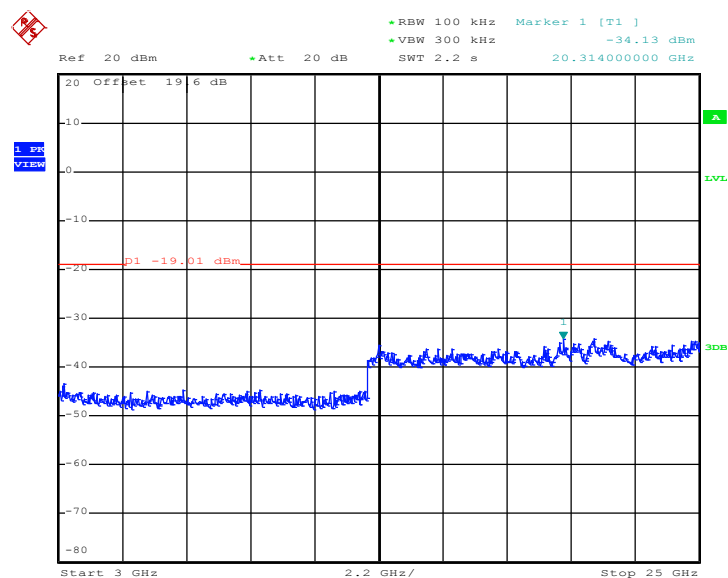
Test Mode :	Mode 5	Temperature :	24~26
Test Band :	802.11g	Relative Humidity :	50~53
Test Channel :	06	Test Engineer :	Alan Liu

Conducted Spurious Emission Plot between 30MHz ~ 3 GHz



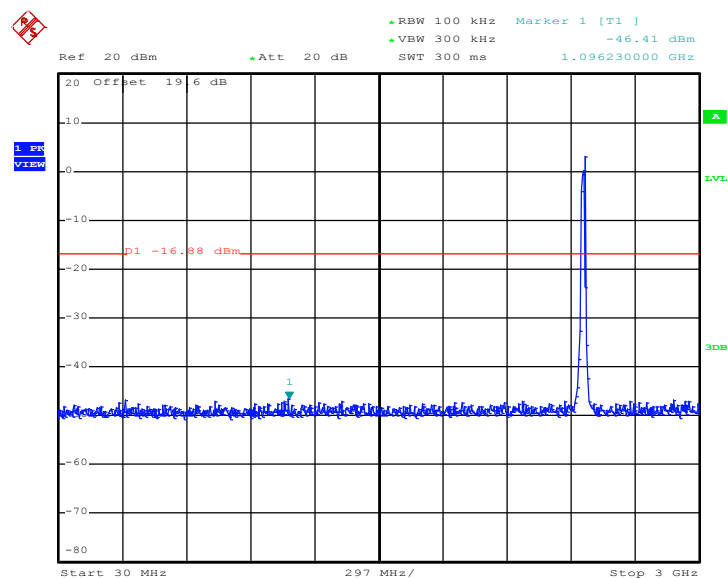
Date: 2.APR.2011 16:37:11

Conducted Spurious Emission Plot between 3 GHz ~ 25 GHz

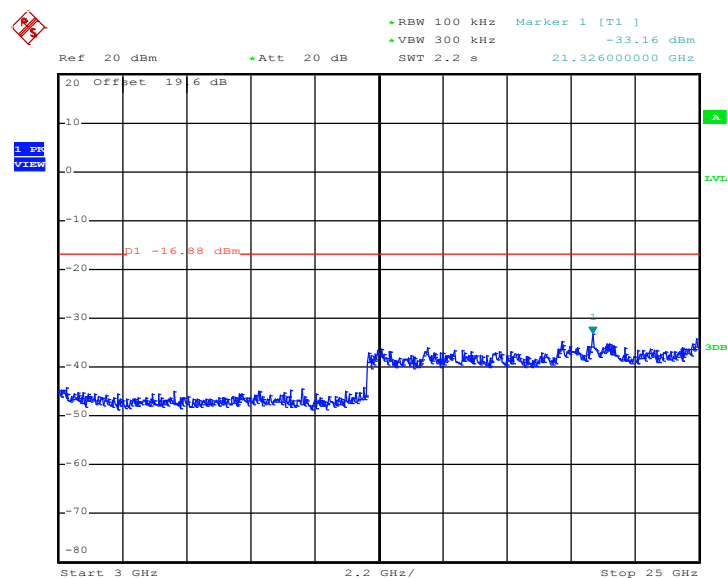


Date: 2.APR.2011 16:37:28

Test Mode :	Mode 6	Temperature :	24~26°C
Test Band :	802.11g	Relative Humidity :	50~53%
Test Channel :	11	Test Engineer :	Alan Liu

Conducted Spurious Emission Plot between 30MHz ~ 3 GHz


Date: 2.APR.2011 16:24:55

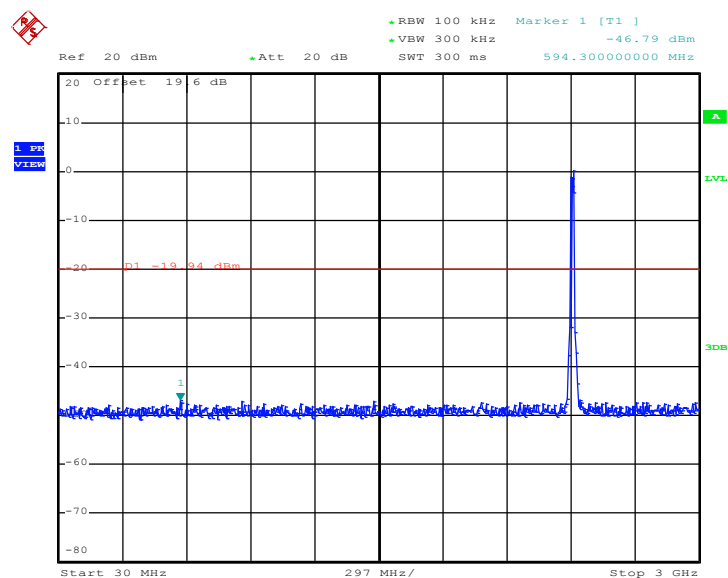
Conducted Spurious Emission Plot between 3 GHz ~ 25 GHz


Date: 2.APR.2011 16:25:12



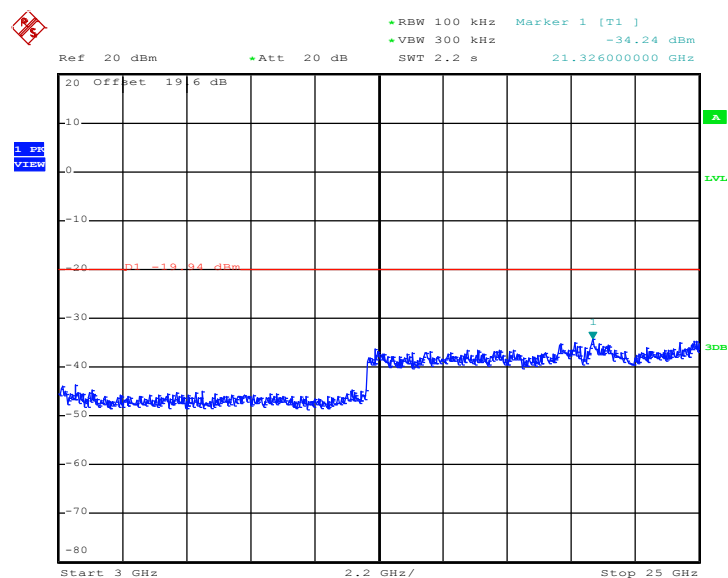
Test Mode :	Mode 7	Temperature :	24~26°C
Test Band :	802.11n (BW 20MHz)	Relative Humidity :	50~53%
Test Channel :	01	Test Engineer :	Alan Liu

Conducted Spurious Emission Plot between 30MHz ~ 3 GHz



Date: 2.APR.2011 17:07:28

Conducted Spurious Emission Plot between 3 GHz ~ 25 GHz

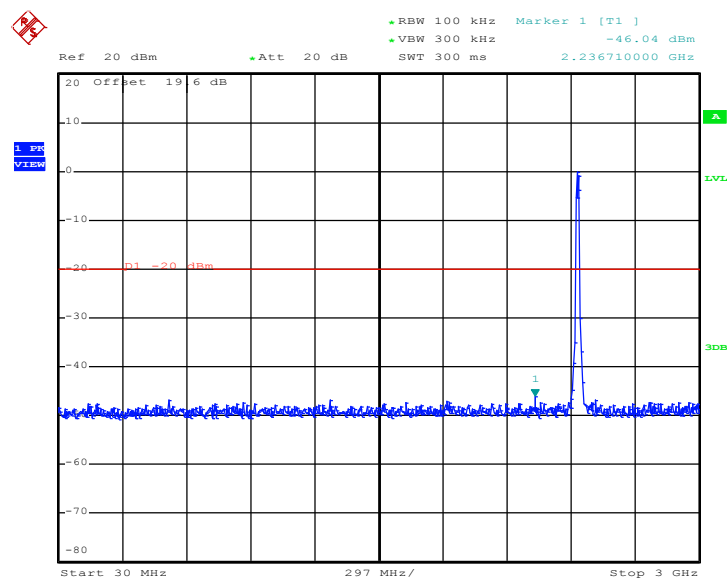


Date: 2.APR.2011 17:07:45



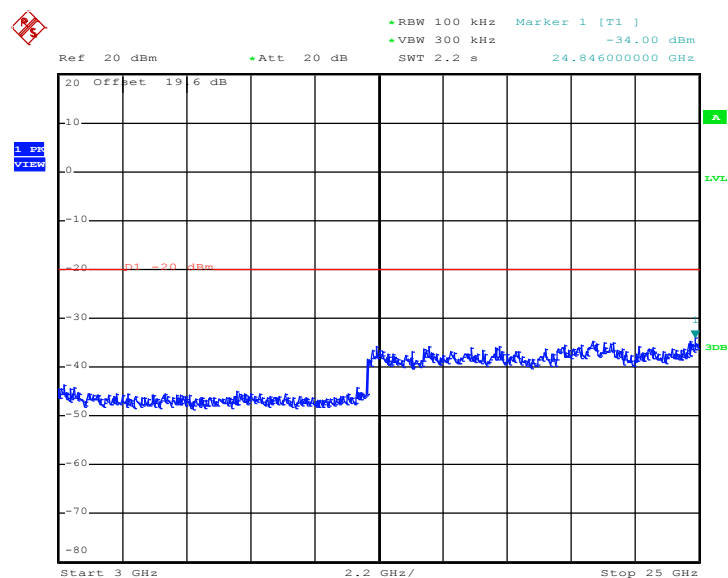
Test Mode :	Mode 8	Temperature :	24~26°C
Test Band :	802.11n (BW 20MHz)	Relative Humidity :	50~53%
Test Channel :	06	Test Engineer :	Alan Liu

Conducted Spurious Emission Plot between 30MHz ~ 3 GHz



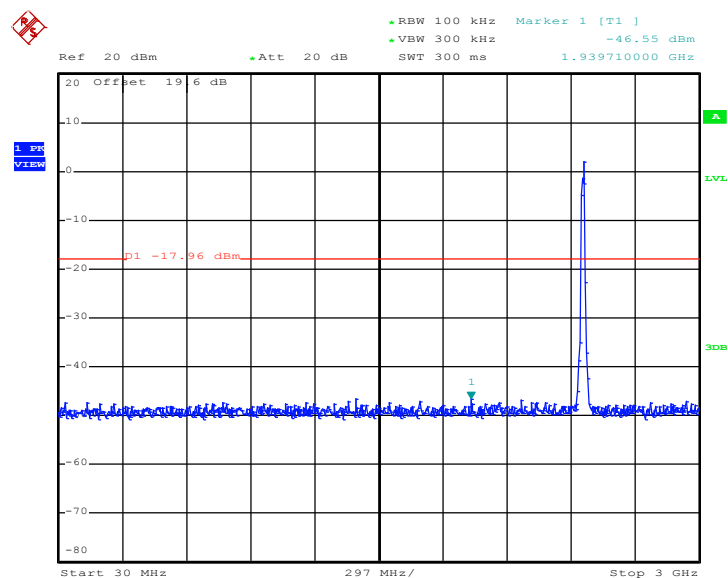
Date: 2.APR.2011 17:22:11

Conducted Spurious Emission Plot between 3 GHz ~ 25 GHz

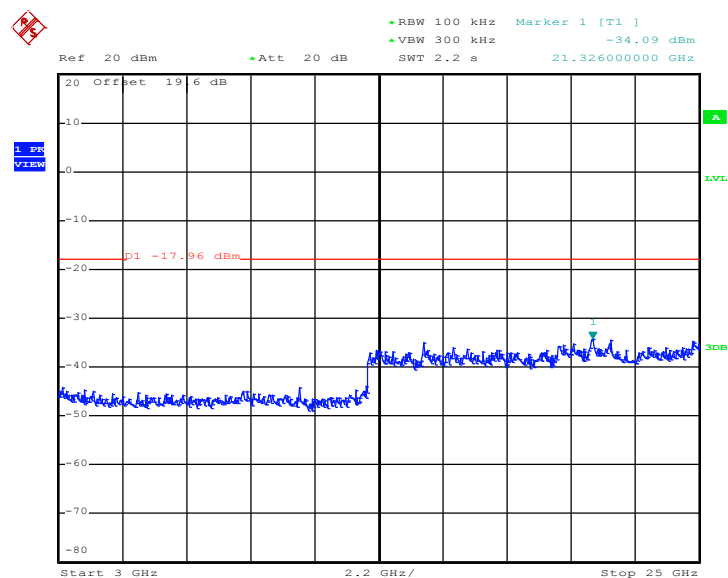


Date: 2.APR.2011 17:22:28

Test Mode :	Mode 9	Temperature :	24~26°C
Test Band :	802.11n (BW 20MHz)	Relative Humidity :	50~53%
Test Channel :	11	Test Engineer :	Alan Liu

Conducted Spurious Emission Plot between 30MHz ~ 3 GHz


Date: 2.APR.2011 17:34:27

Conducted Spurious Emission Plot between 3 GHz ~ 25 GHz


Date: 2.APR.2011 17:34:45

3.5 Power Spectral Density Measurement

3.5.1 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.

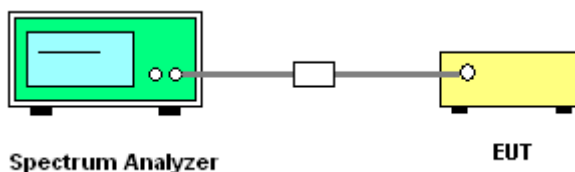
3.5.2 Measuring Instruments

See list of measuring instruments of this test report.

3.5.3 Test Procedures

1. The test follows FCC KDB Publication No. 558074 (Measurement Guidelines of DTS).
2. The RF output of EUT was connected to the spectrum analyzer by a low loss cable.
3. Take the measured data from spectrum analyzer.

3.5.4 Test Setup

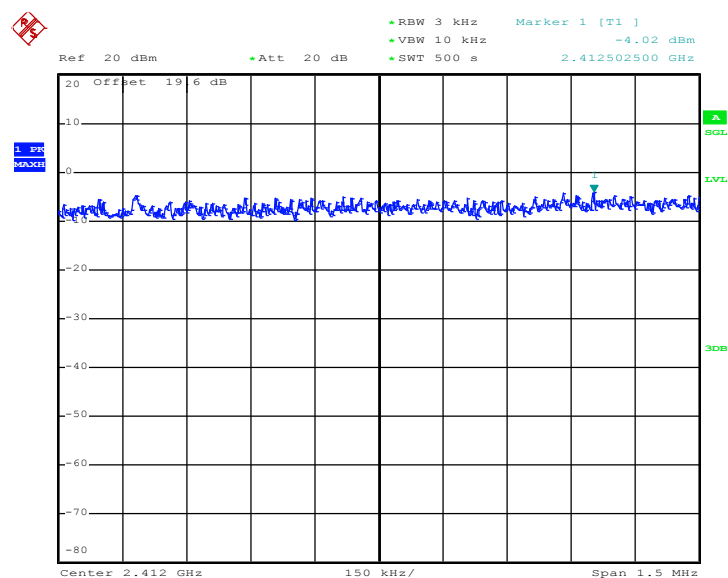


3.5.5 Test Result of Power Spectral Density

Test Mode :	Mode 1, 2, 3	Temperature :	24~26℃
Test Engineer :	Alan Liu	Relative Humidity :	50~53%

Channel	Frequency (MHz)	802.11b Measured PSD (dBm)	Max. Limits (dBm)	Pass/Fail
01	2412	-4.02	8	Pass
06	2437	-3.01	8	Pass
11	2462	-2.44	8	Pass

Mode 1 : PSD Plot on 802.11b Channel 01



Date: 2.APR.2011 15:54:36



The screenshot shows a Spectrum Analyzer interface with the following details:

- Top Bar:**
 - Left: A red square icon with a white 'X' and a blue square icon with the text "1.56 MHz".
 - Center: "Ref 20 dBm", "Att 20 dB".
 - Right: "RBW 3 kHz", "VBW 10 kHz", "SWT 500 s", "Marker 1 [T1]", "-3.01 dBm", "2.437501000 GHz".
- Plot Area:**
 - Y-axis: Power level in dBm, ranging from -80 to 20.
 - X-axis: Frequency in GHz, ranging from 2.436 to 2.438.
 - Trace: A blue line representing the signal spectrum, showing a noisy baseline around -10 dBm.
 - Marker: A green arrow labeled "1" points to a specific frequency on the trace.
- Bottom Bar:**
 - Left: "Center 2.437 GHz".
 - Center: "150 kHz/".
 - Right: "Span 1.5 MHz".

Date: 2.APR.2011 16:07:59

Ref 20 dBm Att 20 dB RBW 3 kHz VBW 10 kHz SWT 500 s Marker 1 [T1] -2.44 dBm 2.462501000 GHz

20 Offset 19.6 dB

1.5% MAG

A SGL

2.462 GHz 150 kHz/ Span 1.5 MHz

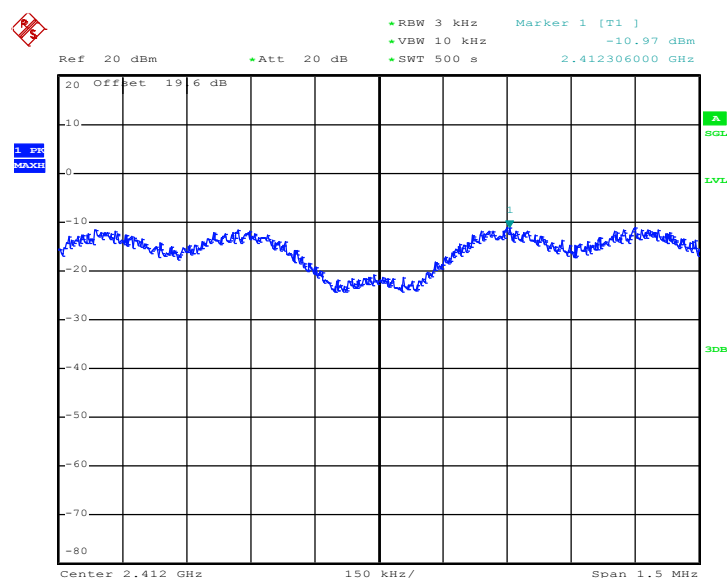
Date: 2.APR.2011 16:20:42



Test Mode :	Mode 4, 5, 6	Temperature :	24~26°C
Test Engineer :	Alan Liu	Relative Humidity :	50~53%

Channel	Frequency (MHz)	802.11g Measured PSD (dBm)	Max. Limits (dBm)	Pass/Fail
01	2412	-10.97	8	Pass
06	2437	-10.56	8	Pass
11	2462	-9.66	8	Pass

Mode 4 : PSD Plot on 802.11g Channel 01



Date: 2.APR.2011 17:02:52

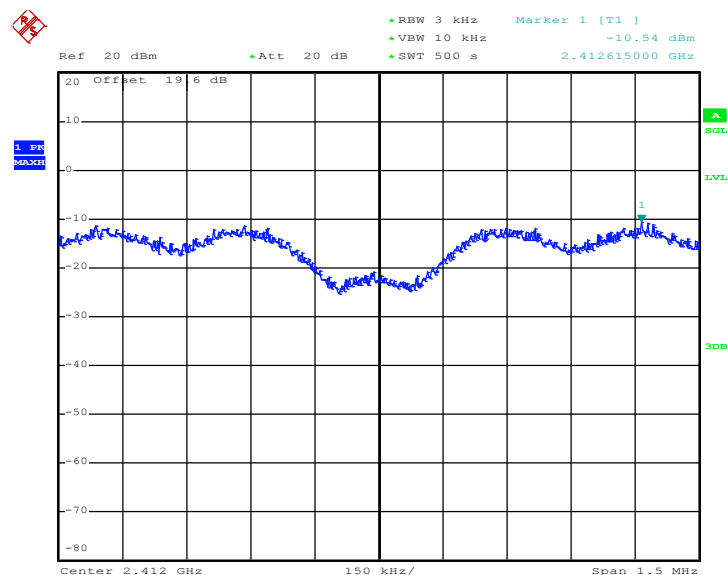


Mode 6 : PSD Plot on 802.11g Channel 11

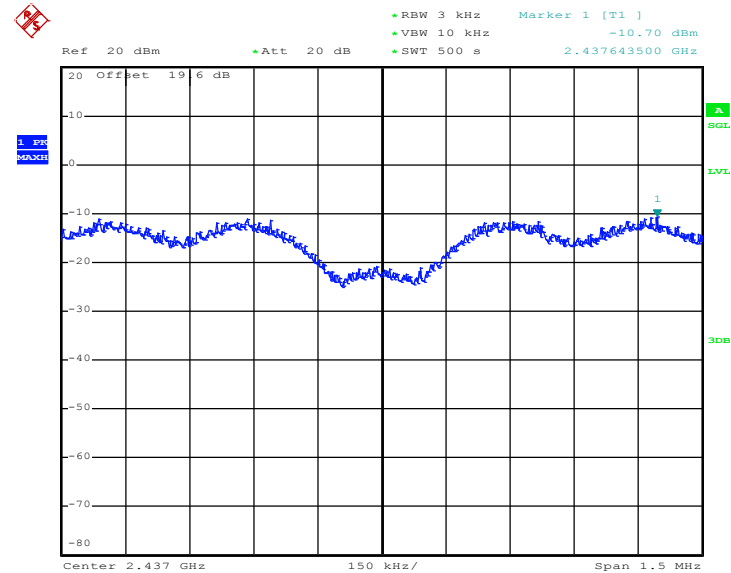


Test Mode :	Mode 7, 8, 9	Temperature :	24~26°C
Test Engineer :	Alan Liu	Relative Humidity :	50~53%

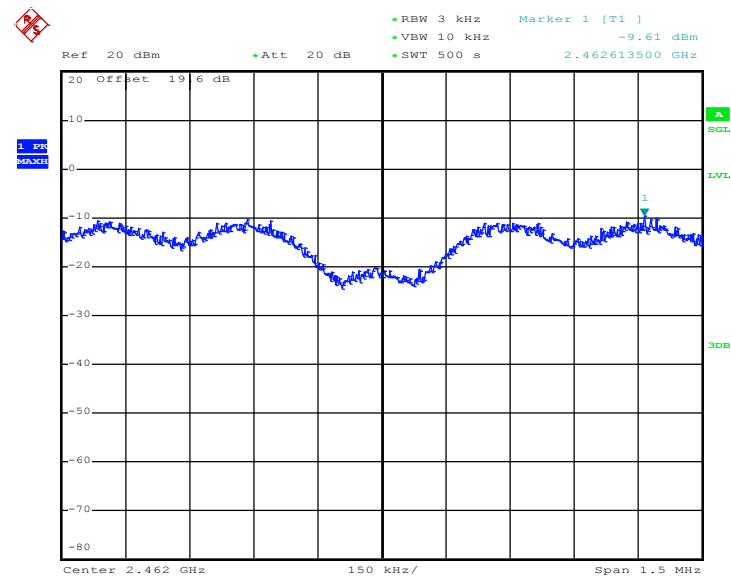
Channel	Frequency (MHz)	802.11n (BW 20MHz) Measured PSD (dBm)	Max. Limits (dBm)	Pass/Fail
01	2412	-10.54	8	Pass
06	2437	-10.70	8	Pass
11	2462	-9.61	8	Pass

Mode 7 : PSD Plot on 802.11n (BW 20MHz) Channel 01


Date: 2.APR.2011 17:20:06

Mode 8 : PSD Plot on 802.11n (BW 20MHz) Channel 06


Date: 2.APR.2011 17:31:38

Mode 9 : PSD Plot on 802.11n (BW 20MHz) Channel 11


Date: 2.APR.2011 17:44:04

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 (dBuV)	
	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.

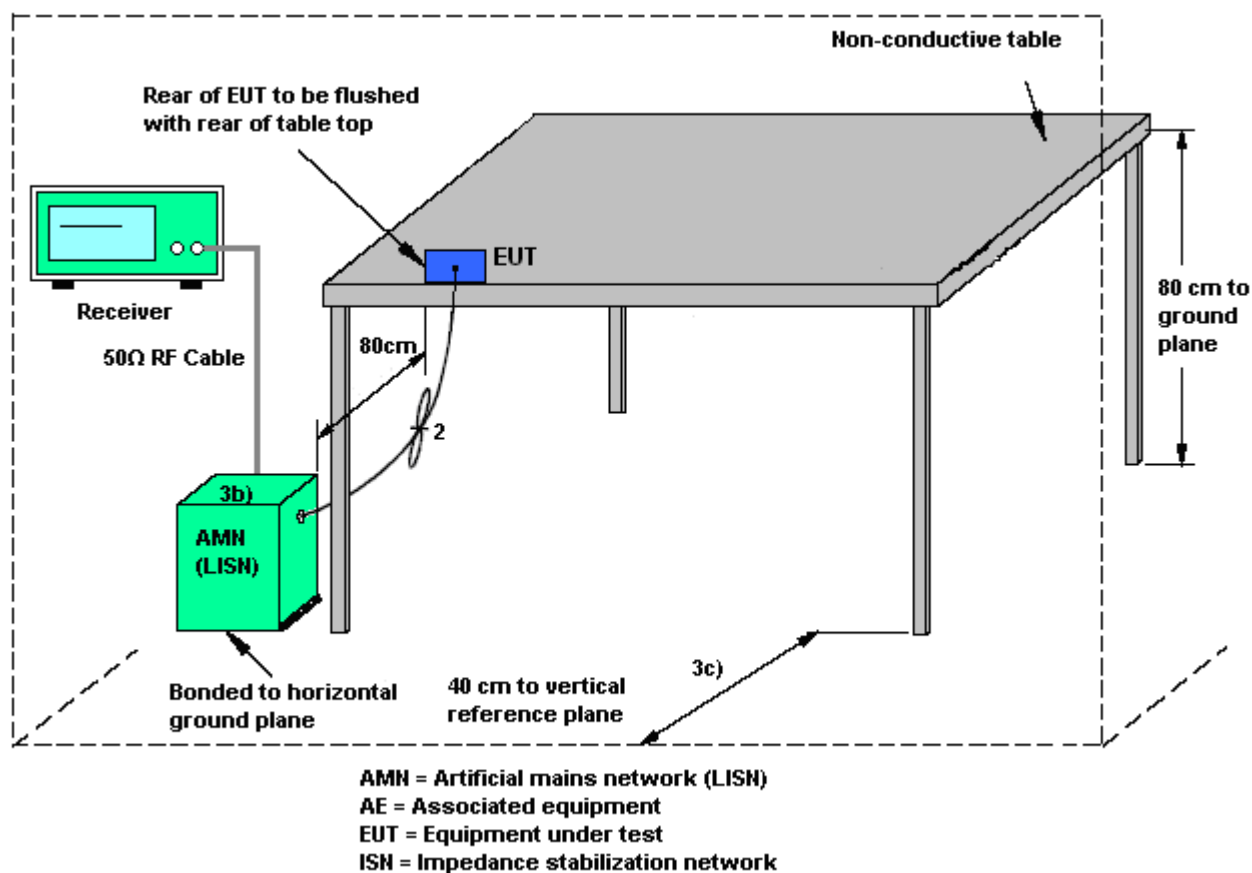
3.6.2 Measuring Instruments

See list of measuring instruments of this test report.

3.6.3 Test Procedures

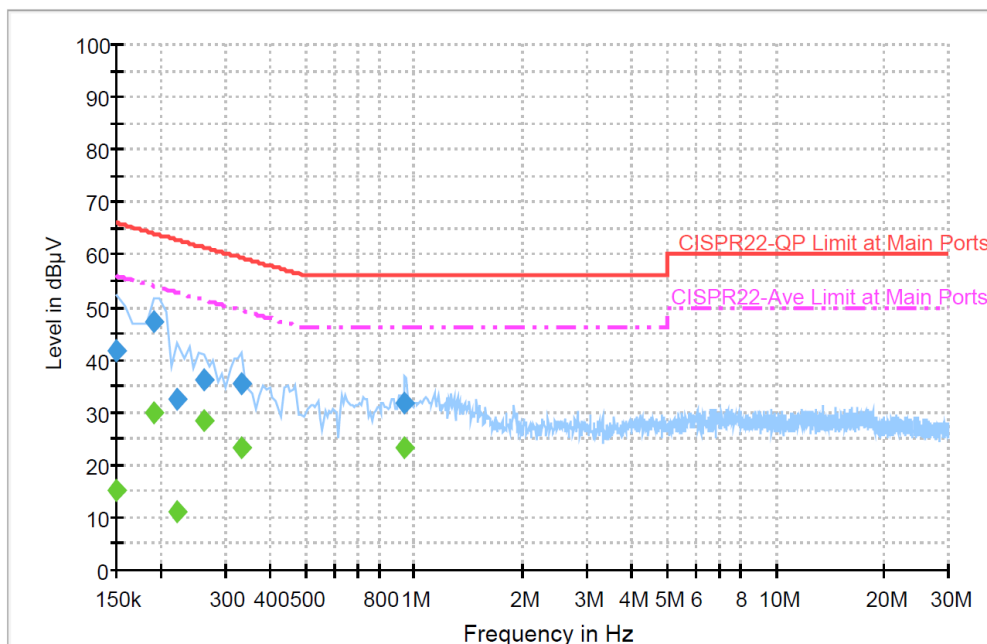
1. The testing follows the guidelines in ANSI C63.4-2003.
2. The EUT was placed 0.4 meter from the conducting wall of the shielding room, and it was kept at least 80 centimeters from any other grounded conducting surface.
3. Connect EUT to the power mains through a line impedance stabilization network (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 2	Temperature :	20~22°C
Test Engineer :	Hayden Wu	Relative Humidity :	40~42%
Test Voltage :	120Vac / 60Hz	Phase :	Line
Function Type :	Bluetooth Link + WLAN Link + GPS Rx + MP3 + Battery 1 + Adapter for Sample 2		
Remark :	All emissions not reported here are more than 10 dB below the prescribed limit.		



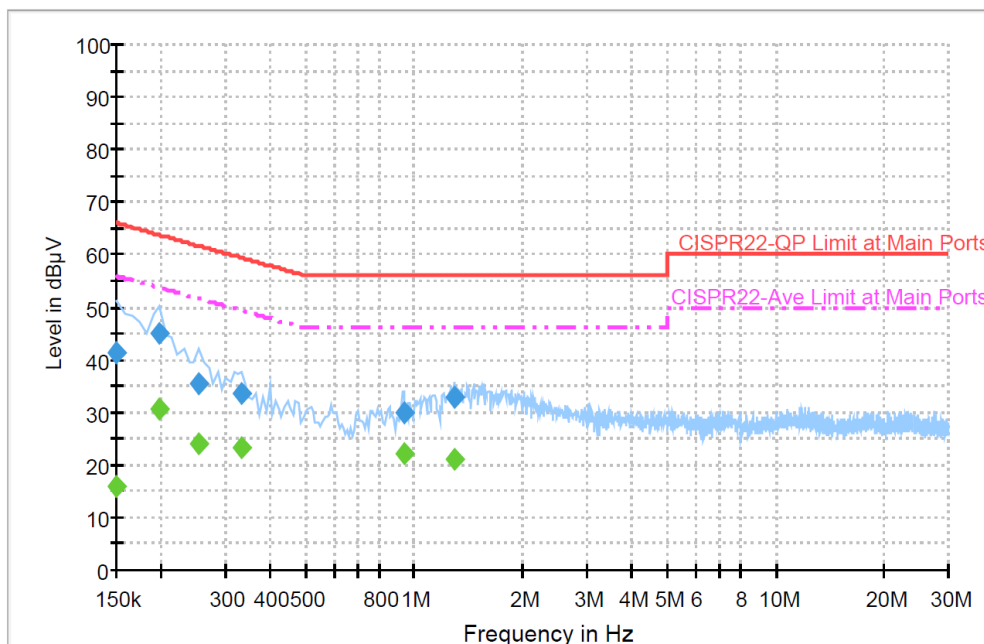
Final Result 1

Frequency (MHz)	QuasiPeak (dBμV)	Filter	Line	Corr. (dB)	Margin (dB)	Limit (dBμV)
0.150000	41.8	Off	L1	19.4	24.2	66.0
0.190000	47.4	Off	L1	19.4	16.6	64.0
0.222000	32.6	Off	L1	19.4	30.1	62.7
0.262000	36.2	Off	L1	19.4	25.2	61.4
0.334000	35.4	Off	L1	19.4	24.0	59.4
0.942000	31.8	Off	L1	19.4	24.2	56.0

Final Result 2

Frequency (MHz)	Average (dBμV)	Filter	Line	Corr. (dB)	Margin (dB)	Limit (dBμV)
0.150000	15.2	Off	L1	19.4	40.8	56.0
0.190000	29.8	Off	L1	19.4	24.2	54.0
0.222000	11.0	Off	L1	19.4	41.7	52.7
0.262000	28.5	Off	L1	19.4	22.9	51.4
0.334000	23.1	Off	L1	19.4	26.3	49.4
0.942000	23.4	Off	L1	19.4	22.6	46.0

Test Mode :	Mode 2	Temperature :	20~22°C
Test Engineer :	Hayden Wu	Relative Humidity :	40~42%
Test Voltage :	120Vac / 60Hz	Phase :	Neutral
Function Type :	Bluetooth Link + WLAN Link + GPS Rx + MP3 + Battery 1 + Adapter for Sample 2		
Remark :	All emissions not reported here are more than 10 dB below the prescribed limit.		


Final Result 1

Frequency (MHz)	QuasiPeak (dBμV)	Filter	Line	Corr. (dB)	Margin (dB)	Limit (dBμV)
0.150000	41.2	Off	N	19.4	24.8	66.0
0.198000	45.2	Off	N	19.4	18.5	63.7
0.254000	35.5	Off	N	19.4	26.1	61.6
0.334000	33.6	Off	N	19.4	25.8	59.4
0.934000	30.0	Off	N	19.4	31.7	56.0
1.286000	32.7	Off	N	19.5	23.3	56.0

Final Result 2

Frequency (MHz)	Average (dBμV)	Filter	Line	Corr. (dB)	Margin (dB)	Limit (dBμV)
0.150000	16.0	Off	N	19.4	40.0	56.0
0.198000	30.7	Off	N	19.4	23.0	53.7
0.254000	24.0	Off	N	19.4	27.6	51.6
0.334000	23.2	Off	N	19.4	26.2	49.4
0.934000	22.0	Off	N	19.4	32.0	46.0
1.286000	21.0	Off	N	19.5	25.0	46.0

3.7 Radiated Emission Measurement

3.7.1 Limit of Radiated Emission

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

3.7.2 Measuring Instruments

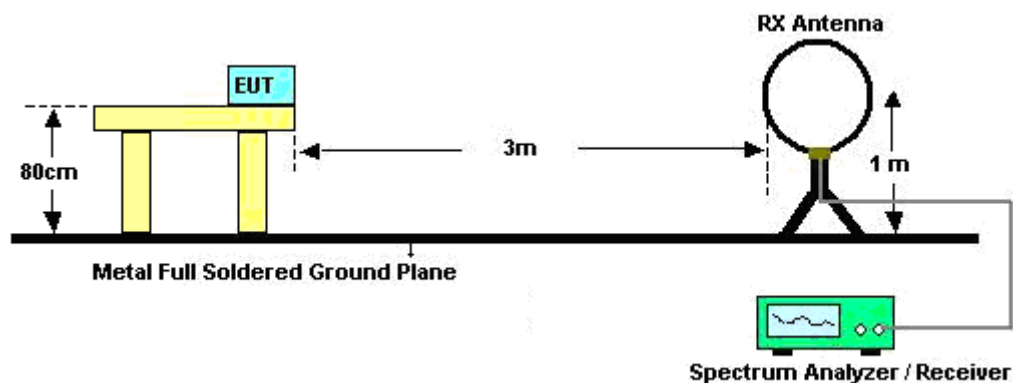
See list of measuring instruments of this test report.

3.7.3 Test Procedures

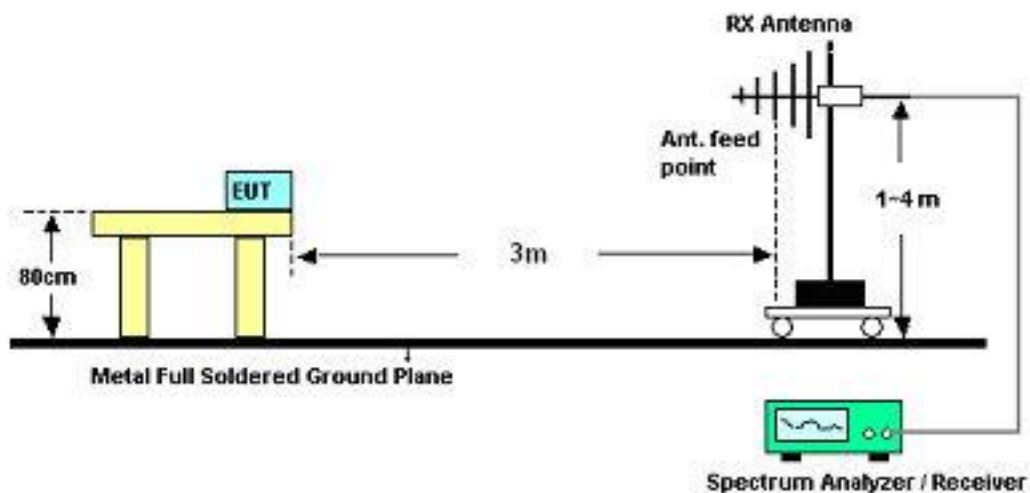
- The testing follows the guidelines in FCC KDB Publication No. 558074 (Measurement Guidelines of DTS).
- Use the following spectrum analyzer settings:
 - Span = wide enough to fully capture the emission being measured; RBW = 1 MHz for $f \geq 1$ GHz, 100 kHz for $f < 1$ GHz; VBW $\geq$ RBW; Sweep = auto; Detector function = peak; Trace = max hold.
 - Above 18 GHz shall be extrapolated to the specified distance using an extrapolation factor of 20 dB/decade from 3m to 1m.
Distance extrapolation factor = $20 \log (\text{specific distance [3m]} / \text{test distance [1m]})$ (dB)
- Follow the guidelines in ANSI C63.4-2003 with respect to maximizing the emission by rotating the EUT, measuring the emission for three EUT orthogonal planes, and adjusting the measurement antenna height and polarization. A pre-amp and a high pass filter are used for this test in order to get the good signal level.

3.7.4 Test Setup

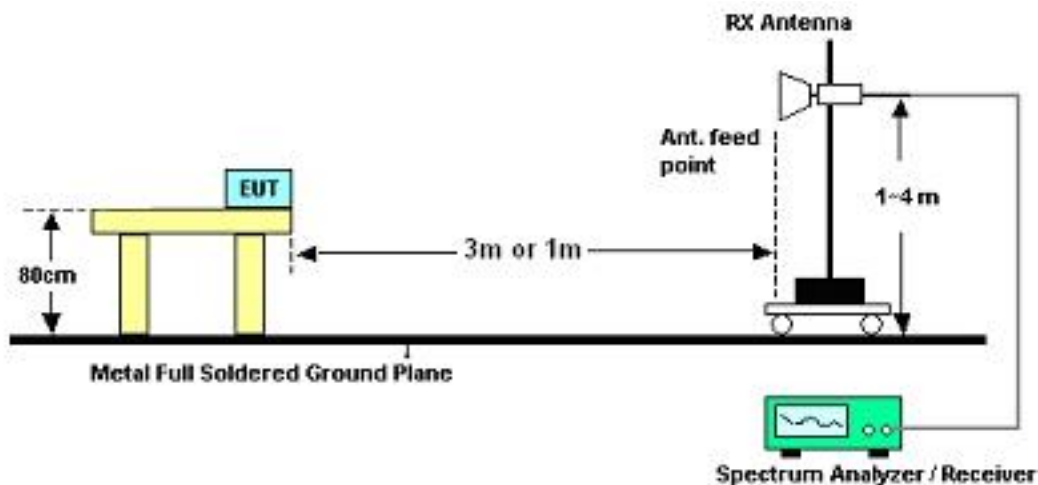
For radiated emissions below 30MHz



For radiated emissions from 30MHz to 1GHz



For radiated emissions above 1GHz



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

Test Engineer :	Wii Chang	Temperature :	22~26℃	
		Relative Humidity :	56~62%	

Frequency (MHz)	Level (dBuV)	Over Limit (dB)	Limit Line (dBuV)	Remark
-	-	-	-	See Note

Note:

The amplitude of spurious emissions that are attenuated by more than 20dB below the permissible value has no need to be reported.

Distance extrapolation factor = $40 \log (\text{specific distance} / \text{test distance})$ (dB);

Limit line = specific limits (dBuV) + distance extrapolation factor.

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

Test Mode :	Mode 1	Temperature :	22~26℃
Test Channel :	01	Relative Humidity :	56~62%
Test Engineer :	Wii Chang	Polarization :	Horizontal
Remark :	2412 MHz is Fundamental Signals which can be ignored.		

Frequency (MHz)	Level (dBuV/m)	Over Limit (dB)	Limit Line (dBuV/m)	Read Level (dBuV)	Antenna Factor (dB)	Cable Loss (dB)	Preamp Factor (dB)	Ant Pos (cm)	Table Pos (deg)	Remark
82.65	21.07	-18.93	40	44.2	7.51	0.89	31.53	-	-	Peak
218.46	30.13	-15.87	46	49.78	10.4	1.41	31.46	-	-	Peak
256.26	31.53	-14.47	46	48.62	12.76	1.57	31.42	100	157	Peak
335.7	24.63	-21.37	46	39.49	14.57	1.87	31.3	-	-	Peak
374.9	22.08	-23.92	46	35.43	15.81	2.09	31.25	-	-	Peak
480.6	24.71	-21.29	46	35.48	17.91	2.38	31.06	-	-	Peak
2389.61	58.18	-15.82	74	53.82	32.18	6.03	33.85	100	137	Peak
2389.61	44.86	-9.14	54	40.5	32.18	6.03	33.85	100	137	Average
2412	113.88	-	-	109.48	32.2	6.07	33.87	100	137	Peak
2412	101.3	-	-	96.9	32.2	6.07	33.87	100	137	Average
2484	36.95	-17.05	54	32.39	32.28	6.18	33.9	100	137	Average
2484	48.71	-25.29	74	44.15	32.28	6.18	33.9	100	137	Peak



Test Mode :	Mode 1	Temperature :	22~26℃
Test Channel :	01	Relative Humidity :	56~62%
Test Engineer :	Wii Chang	Polarization :	Vertical
Remark :	2412 MHz is Fundamental Signals which can be ignored.		

Frequency (MHz)	Level (dBuV/m)	Over Limit (dB)	Limit Line (dBuV/m)	Read Level (dBuV)	Antenna Factor (dB)	Cable Loss (dB)	Preamp Factor (dB)	Ant Pos (cm)	Table Pos (deg)	Remark
45.93	29.9	-10.1	40	50.47	10.27	0.66	31.5	126	54	Peak
189.3	29.77	-13.73	43.5	50.93	9.07	1.28	31.51	-	-	Peak
227.1	34.29	-11.71	46	53.26	11.02	1.46	31.45	-	-	Peak
335.7	20.76	-25.24	46	35.62	14.57	1.87	31.3	-	-	Peak
480.6	25.51	-20.49	46	36.28	17.91	2.38	31.06	-	-	Peak
576.5	25.67	-20.33	46	34.6	19.4	2.62	30.95	-	-	Peak
2389.61	56.24	-17.76	74	51.88	32.18	6.03	33.85	102	74	Peak
2389.61	42.84	-11.16	54	38.48	32.18	6.03	33.85	102	74	Average
2412	111.8	-	-	107.4	32.2	6.07	33.87	102	74	Peak
2412	99.37	-	-	94.97	32.2	6.07	33.87	102	74	Average
2484	36.74	-17.26	54	32.18	32.28	6.18	33.9	102	74	Average
2484	48.75	-25.25	74	44.19	32.28	6.18	33.9	102	74	Peak
4824	43.88	-30.12	74	59.8	34.07	9.12	59.11	100	0	Peak
7236	46.08	-27.92	74	58.65	35.51	10.03	58.11	100	0	Peak

Test Mode :	Mode 2	Temperature :	22~26℃
Test Channel :	06	Relative Humidity :	56~62%
Test Engineer :	Wii Chang	Polarization :	Horizontal
Remark :	2437 MHz is Fundamental Signals which can be ignored.		

Frequency (MHz)	Level (dBuV/m)	Over Limit (dB)	Limit Line (dBuV/m)	Read Level (dBuV)	Antenna Factor (dB)	Cable Loss (dB)	Preamp Factor (dB)	Ant Pos (cm)	Table Pos (deg)	Remark
83.46	21.78	-18.22	40	44.76	7.66	0.9	31.54	-	-	Peak
220.62	31.55	-14.45	46	50.97	10.61	1.43	31.46	-	-	Peak
254.1	32.41	-13.59	46	49.54	12.73	1.55	31.41	151	115	Peak
335.7	24.63	-21.37	46	39.49	14.57	1.87	31.3	-	-	Peak
383.3	22.7	-23.3	46	35.77	16.05	2.11	31.23	-	-	Peak
480.6	23.53	-22.47	46	34.3	17.91	2.38	31.06	-	-	Peak
2390	48.47	-25.53	74	44.11	32.18	6.03	33.85	159	128	Peak
2390	35.71	-18.29	54	31.35	32.18	6.03	33.85	159	128	Average
2437	114.76	-	-	110.29	32.24	6.11	33.88	159	128	Peak
2437	102.19	-	-	97.72	32.24	6.11	33.88	159	128	Average
2486	50.94	-23.06	74	46.38	32.28	6.18	33.9	159	128	Peak
2486	38.68	-15.32	54	34.12	32.28	6.18	33.9	159	128	Average



Test Mode :	Mode 2	Temperature :	22~26℃
Test Channel :	06	Relative Humidity :	56~62%
Test Engineer :	Wii Chang	Polarization :	Vertical
Remark :	2437 MHz is Fundamental Signals which can be ignored.		

Frequency (MHz)	Level (dBuV/m)	Over Limit (dB)	Limit Line (dBuV/m)	Read Level (dBuV)	Antenna Factor (dB)	Cable Loss (dB)	Preamp Factor (dB)	Ant Pos (cm)	Table Pos (deg)	Remark
48.9	27.3	-12.7	40	49.07	9.08	0.68	31.53	157	88	Peak
94.53	19.83	-23.67	43.5	41.14	9.24	0.98	31.53	-	-	Peak
231.69	28.12	-17.88	46	46.7	11.37	1.49	31.44	-	-	Peak
335.7	21.31	-24.69	46	36.17	14.57	1.87	31.3	-	-	Peak
480.6	24.23	-21.77	46	35	17.91	2.38	31.06	-	-	Peak
576.5	26.48	-19.52	46	35.41	19.4	2.62	30.95	-	-	Peak
2390	48.52	-25.48	74	44.16	32.18	6.03	33.85	156	78	Peak
2390	35.7	-18.3	54	31.34	32.18	6.03	33.85	156	78	Average
2437	112.37	-	-	107.9	32.24	6.11	33.88	156	78	Peak
2437	99.84	-	-	95.37	32.24	6.11	33.88	156	78	Average
2484	47.89	-26.11	74	43.33	32.28	6.18	33.9	156	78	Peak
2484	35.73	-18.27	54	31.17	32.28	6.18	33.9	156	78	Average
7311	49.29	-24.71	74	61.91	35.45	10.06	58.13	100	0	Peak



Test Mode :	Mode 3	Temperature :	22~26℃
Test Channel :	11	Relative Humidity :	56~62%
Test Engineer :	Wii Chang	Polarization :	Horizontal
Remark :	2462 MHz is Fundamental Signals which can be ignored.		

Frequency (MHz)	Level (dBuV/m)	Over Limit (dB)	Limit Line (dBuV/m)	Read Level (dBuV)	Antenna Factor (dB)	Cable Loss (dB)	Preamp Factor (dB)	Ant Pos (cm)	Table Pos (deg)	Remark
83.46	21.41	-18.59	40	44.39	7.66	0.9	31.54	-	-	Peak
223.05	32.19	-13.81	46	51.45	10.75	1.44	31.45	-	-	Peak
254.37	32.84	-13.16	46	49.97	12.73	1.55	31.41	121	158	Peak
335.7	24.5	-21.5	46	39.36	14.57	1.87	31.3	-	-	Peak
388.2	22.37	-23.63	46	35.26	16.2	2.12	31.21	-	-	Peak
480.6	24.17	-21.83	46	34.94	17.91	2.38	31.06	-	-	Peak
2340	50.04	-23.96	74	45.81	32.11	5.95	33.83	100	211	Peak
2340	32.18	-21.82	54	27.95	32.11	5.95	33.83	100	211	Average
2462	116.1	-	-	111.59	32.26	6.14	33.89	100	211	Peak
2462	102.85	-	-	98.34	32.26	6.14	33.89	100	211	Average
2483.66	57.77	-16.23	74	53.21	32.28	6.18	33.9	100	211	Peak
2483.66	44.54	-9.46	54	39.98	32.28	6.18	33.9	100	211	Average
7386	43.35	-30.65	74	56.04	35.38	10.1	58.17	100	0	Peak



Test Mode :	Mode 3	Temperature :	22~26℃
Test Channel :	11	Relative Humidity :	56~62%
Test Engineer :	Wii Chang	Polarization :	Vertical
Remark :	2462 MHz is Fundamental Signals which can be ignored.		

Frequency (MHz)	Level (dBuV/m)	Over Limit (dB)	Limit Line (dBuV/m)	Read Level (dBuV)	Antenna Factor (dB)	Cable Loss (dB)	Preamp Factor (dB)	Ant Pos (cm)	Table Pos (deg)	Remark
45.93	29.88	-10.12	40	50.45	10.27	0.66	31.5	147	157	Peak
186.33	30.93	-12.57	43.5	52.12	9.06	1.27	31.52	-	-	Peak
229.53	33.96	-12.04	46	52.69	11.23	1.48	31.44	-	-	Peak
335.7	20.87	-25.13	46	35.73	14.57	1.87	31.3	-	-	Peak
480.6	24.44	-21.56	46	35.21	17.91	2.38	31.06	-	-	Peak
576.5	25.42	-20.58	46	34.35	19.4	2.62	30.95	-	-	Peak
2374	48.83	-25.17	74	44.52	32.16	5.99	33.84	189	65	Peak
2374	36.27	-17.73	54	31.96	32.16	5.99	33.84	189	65	Average
2462	112.51	-	-	108	32.26	6.14	33.89	189	65	Peak
2462	100.26	-	-	95.75	32.26	6.14	33.89	189	65	Average
2486.13	52.29	-21.71	74	47.73	32.28	6.18	33.9	189	65	Peak
2486.13	39.43	-14.57	54	34.87	32.28	6.18	33.9	189	65	Average
7386	48.63	-25.37	74	61.32	35.38	10.1	58.17	100	0	Peak

Test Mode :	Mode 4	Temperature :	22~26°C
Test Channel :	01	Relative Humidity :	56~62%
Test Engineer :	Wii Chang	Polarization :	Horizontal
Remark :	2412 MHz is Fundamental Signals which can be ignored.		

Frequency (MHz)	Level (dBuV/m)	Over Limit (dB)	Limit Line (dBuV/m)	Read Level (dBuV)	Antenna Factor (dB)	Cable Loss (dB)	Preamp Factor (dB)	Ant Pos (cm)	Table Pos (deg)	Remark
83.73	22.21	-17.79	40	45.19	7.66	0.9	31.54	-	-	Peak
169.86	20.93	-22.57	43.5	41.45	9.77	1.23	31.52	-	-	Peak
251.94	32.96	-13.04	46	50.13	12.7	1.54	31.41	121	115	Peak
335.7	24.49	-21.51	46	39.35	14.57	1.87	31.3	-	-	Peak
388.2	22.22	-23.78	46	35.11	16.2	2.12	31.21	-	-	Peak
480.6	23.86	-22.14	46	34.63	17.91	2.38	31.06	-	-	Peak
2389.99	48.5	-5.5	54	44.14	32.18	6.03	33.85	100	134	Average
2389.99	68.43	-5.57	74	64.07	32.18	6.03	33.85	100	134	Peak
2412	107.41	-	-	103.01	32.2	6.07	33.87	100	134	Peak
2412	95.14	-	-	90.74	32.2	6.07	33.87	100	134	Average
2484	34.58	-19.42	54	30.02	32.28	6.18	33.9	100	134	Average
2484	46.78	-27.22	74	42.22	32.28	6.18	33.9	100	134	Peak



Test Mode :	Mode 4	Temperature :	22~26℃
Test Channel :	01	Relative Humidity :	56~62%
Test Engineer :	Wii Chang	Polarization :	Vertical
Remark :	2412 MHz is Fundamental Signals which can be ignored.		

Frequency (MHz)	Level (dBuV/m)	Over Limit (dB)	Limit Line (dBuV/m)	Read Level (dBuV)	Antenna Factor (dB)	Cable Loss (dB)	Preamp Factor (dB)	Ant Pos (cm)	Table Pos (deg)	Remark
47.01	30	-10	40	51.37	9.48	0.67	31.52	100	215	Peak
187.14	30.49	-13.01	43.5	51.68	9.06	1.27	31.52	-	-	Peak
223.05	34.84	-11.16	46	54.1	10.75	1.44	31.45	-	-	Peak
335.7	21.47	-24.53	46	36.33	14.57	1.87	31.3	-	-	Peak
433	22.35	-23.65	46	34.12	17.11	2.25	31.13	-	-	Peak
480.6	24.39	-21.61	46	35.16	17.91	2.38	31.06	-	-	Peak
2389.99	48.56	-5.44	54	44.2	32.18	6.03	33.85	179	32	Average
2389.99	67.46	-6.54	74	63.1	32.18	6.03	33.85	179	32	Peak
2412	108.77	-	-	104.37	32.2	6.07	33.87	179	32	Peak
2412	95.56	-	-	91.16	32.2	6.07	33.87	179	32	Average
2484	34.56	-19.44	54	30	32.28	6.18	33.9	179	32	Average
2484	46.19	-27.81	74	41.63	32.28	6.18	33.9	179	32	Peak

Test Mode :	Mode 5	Temperature :	22~26℃
Test Channel :	06	Relative Humidity :	56~62%
Test Engineer :	Wii Chang	Polarization :	Horizontal
Remark :	2437 MHz is Fundamental Signals which can be ignored.		

Frequency (MHz)	Level (dBuV/m)	Over Limit (dB)	Limit Line (dBuV/m)	Read Level (dBuV)	Antenna Factor (dB)	Cable Loss (dB)	Preamp Factor (dB)	Ant Pos (cm)	Table Pos (deg)	Remark
83.73	19.95	-20.05	40	42.93	7.66	0.9	31.54	-	-	Peak
163.38	21.3	-22.2	43.5	41.46	10.14	1.22	31.52	-	-	Peak
253.02	32.91	-13.09	46	50.05	12.72	1.55	31.41	100	321	Peak
335.7	24.3	-21.7	46	39.16	14.57	1.87	31.3	-	-	Peak
383.3	22.61	-23.39	46	35.68	16.05	2.11	31.23	-	-	Peak
480.6	24.52	-21.48	46	35.29	17.91	2.38	31.06	-	-	Peak
2390	49.68	-24.32	74	45.32	32.18	6.03	33.85	200	148	Peak
2390	34.57	-19.43	54	30.21	32.18	6.03	33.85	200	148	Average
2437	94.17	-	-	89.7	32.24	6.11	33.88	200	148	Average
2437	106.89	-	-	102.44	32.22	6.11	33.88	200	148	Peak
2486	49.36	-24.64	74	44.8	32.28	6.18	33.9	200	148	Peak
2486	36.11	-17.89	54	31.55	32.28	6.18	33.9	200	148	Average



Test Mode :	Mode 5	Temperature :	22~26℃
Test Channel :	06	Relative Humidity :	56~62%
Test Engineer :	Wii Chang	Polarization :	Vertical
Remark :	2437 MHz is Fundamental Signals which can be ignored.		

Frequency (MHz)	Level (dBuV/m)	Over Limit (dB)	Limit Line (dBuV/m)	Read Level (dBuV)	Antenna Factor (dB)	Cable Loss (dB)	Preamp Factor (dB)	Ant Pos (cm)	Table Pos (deg)	Remark
47.01	29.95	-10.05	40	51.32	9.48	0.67	31.52	100	215	Peak
83.73	22.93	-17.07	40	45.91	7.66	0.9	31.54	-	-	Peak
220.89	34.88	-11.12	46	54.3	10.61	1.43	31.46	-	-	Peak
335.7	21.52	-24.48	46	36.38	14.57	1.87	31.3	-	-	Peak
480.6	23.88	-22.12	46	34.65	17.91	2.38	31.06	-	-	Peak
576.5	25.95	-20.05	46	34.88	19.4	2.62	30.95	-	-	Peak
2390	50.96	-23.04	74	46.6	32.18	6.03	33.85	145	22	Peak
2390	36.8	-17.2	54	32.44	32.18	6.03	33.85	145	22	Average
2437	107.45	-	-	103	32.22	6.11	33.88	145	22	Peak
2437	95.31	-	-	90.84	32.24	6.11	33.88	145	22	Average
2484	50.45	-23.55	74	45.89	32.28	6.18	33.9	145	22	Peak
2484	37.09	-16.91	54	32.53	32.28	6.18	33.9	145	22	Average



Test Mode :	Mode 6	Temperature :	22~26°C
Test Channel :	11	Relative Humidity :	56~62%
Test Engineer :	Wii Chang	Polarization :	Horizontal
Remark :	2462 MHz is Fundamental Signals which can be ignored.		

Frequency (MHz)	Level (dBuV/m)	Over Limit (dB)	Limit Line (dBuV/m)	Read Level (dBuV)	Antenna Factor (dB)	Cable Loss (dB)	Preamp Factor (dB)	Ant Pos (cm)	Table Pos (deg)	Remark
32.7	18.79	-21.21	40	33.9	15.8	0.56	31.47	-	-	Peak
83.46	21.74	-18.26	40	44.72	7.66	0.9	31.54	-	-	Peak
250.86	32.87	-13.13	46	50.05	12.69	1.54	31.41	100	215	Peak
335.7	24.83	-21.17	46	39.69	14.57	1.87	31.3	-	-	Peak
385.4	23.79	-22.21	46	36.79	16.11	2.11	31.22	-	-	Peak
480.6	23.74	-22.26	46	34.51	17.91	2.38	31.06	-	-	Peak
2390	47.3	-26.7	74	42.94	32.18	6.03	33.85	129	132	Peak
2390	34.98	-19.02	54	30.62	32.18	6.03	33.85	129	132	Average
2462	109.69	-	-	105.18	32.26	6.14	33.89	129	132	Peak
2462	96.84	-	-	92.33	32.26	6.14	33.89	129	132	Average
2483.5	70.82	-3.18	74	66.26	32.28	6.18	33.9	129	132	Peak
2483.5	50.34	-3.66	54	45.78	32.28	6.18	33.9	129	132	Average

Test Mode :	Mode 6	Temperature :	22~26℃
Test Channel :	11	Relative Humidity :	56~62%
Test Engineer :	Wii Chang	Polarization :	Vertical
Remark :	2462 MHz is Fundamental Signals which can be ignored.		

Frequency (MHz)	Level (dBuV/m)	Over Limit (dB)	Limit Line (dBuV/m)	Read Level (dBuV)	Antenna Factor (dB)	Cable Loss (dB)	Preamp Factor (dB)	Ant Pos (cm)	Table Pos (deg)	Remark
39.18	27.49	-12.51	40	44.96	13.43	0.61	31.51	-	-	Peak
45.93	29.63	-10.37	40	50.2	10.27	0.66	31.5	121	151	Peak
226.29	34.75	-11.25	46	53.79	10.95	1.46	31.45	-	-	Peak
335.7	21.56	-24.44	46	36.42	14.57	1.87	31.3	-	-	Peak
480.6	24.75	-21.25	46	35.52	17.91	2.38	31.06	-	-	Peak
576.5	25.64	-20.36	46	34.57	19.4	2.62	30.95	-	-	Peak
2390	45.4	-28.6	74	41.04	32.18	6.03	33.85	112	21	Peak
2390	34.42	-19.58	54	30.06	32.18	6.03	33.85	112	21	Average
2462	106.9	-	-	102.39	32.26	6.14	33.89	112	21	Peak
2462	94.48	-	-	89.97	32.26	6.14	33.89	112	21	Average
2483.5	70.76	-3.24	74	66.2	32.28	6.18	33.9	112	21	Peak
2483.5	50.89	-3.11	54	46.33	32.28	6.18	33.9	112	21	Average



Test Mode :	Mode 7	Temperature :	22~26℃
Test Channel :	01	Relative Humidity :	56~62%
Test Engineer :	Wii Chang	Polarization :	Horizontal
Remark :	2412 MHz is Fundamental Signals which can be ignored.		

Frequency (MHz)	Level (dBuV/m)	Over Limit (dB)	Limit Line (dBuV/m)	Read Level (dBuV)	Antenna Factor (dB)	Cable Loss (dB)	Preamp Factor (dB)	Ant Pos (cm)	Table Pos (deg)	Remark
33.78	18.16	-21.84	40	33.49	15.57	0.57	31.47	-	-	Peak
91.02	16.97	-26.53	43.5	38.75	8.79	0.95	31.52	-	-	Peak
240.33	17.75	-28.25	46	35.66	11.98	1.53	31.42	-	-	Peak
335.7	24.83	-21.17	46	39.69	14.57	1.87	31.3	-	-	Peak
480.6	24.17	-21.83	46	34.94	17.91	2.38	31.06	-	-	Peak
825.7	25.26	-20.74	46	30	22.76	3.21	30.71	100	114	Peak
2390	68.77	-5.23	74	64.41	32.18	6.03	33.85	163	130	Peak
2390	48.32	-5.68	54	43.96	32.18	6.03	33.85	163	130	Average
2412	108.11	-	-	103.71	32.2	6.07	33.87	163	130	Peak
2412	95.27	-	-	90.87	32.2	6.07	33.87	163	130	Average
2492	34.4	-19.6	54	29.82	32.3	6.18	33.9	163	130	Average
2492	47.49	-26.51	74	42.91	32.3	6.18	33.9	163	130	Peak



Test Mode :	Mode 7	Temperature :	22~26℃
Test Channel :	01	Relative Humidity :	56~62%
Test Engineer :	Wii Chang	Polarization :	Vertical
Remark :	2412 MHz is Fundamental Signals which can be ignored.		

Frequency (MHz)	Level (dBuV/m)	Over Limit (dB)	Limit Line (dBuV/m)	Read Level (dBuV)	Antenna Factor (dB)	Cable Loss (dB)	Preamp Factor (dB)	Ant Pos (cm)	Table Pos (deg)	Remark
47.01	27.31	-12.69	40	48.68	9.48	0.67	31.52	104	214	Peak
91.02	20.47	-23.03	43.5	42.25	8.79	0.95	31.52	-	-	Peak
287.58	23.81	-22.19	46	40.19	13.27	1.68	31.33	-	-	Peak
576.5	26.22	-19.78	46	35.15	19.4	2.62	30.95	-	-	Peak
673.8	25.73	-20.27	46	33.09	20.6	2.89	30.85	-	-	Peak
890.1	25.63	-20.37	46	29.49	23.52	3.33	30.71	-	-	Peak
2389.61	66.09	-7.91	74	61.73	32.18	6.03	33.85	188	57	Peak
2389.61	46.38	-7.62	54	42.02	32.18	6.03	33.85	188	57	Average
2412	105.61	-	-	101.21	32.2	6.07	33.87	188	57	Peak
2412	92.93	-	-	88.53	32.2	6.07	33.87	188	57	Average
2486	34.09	-19.91	54	29.53	32.28	6.18	33.9	188	57	Average
2486	46.64	-27.36	74	42.08	32.28	6.18	33.9	188	57	Peak

Test Mode :	Mode 8	Temperature :	22~26°C
Test Channel :	06	Relative Humidity :	56~62%
Test Engineer :	Wii Chang	Polarization :	Horizontal
Remark :	2437 MHz is Fundamental Signals which can be ignored.		

Frequency (MHz)	Level (dBuV/m)	Over Limit (dB)	Limit Line (dBuV/m)	Read Level (dBuV)	Antenna Factor (dB)	Cable Loss (dB)	Preamp Factor (dB)	Ant Pos (cm)	Table Pos (deg)	Remark
31.62	18.18	-21.82	40	33.05	16.04	0.55	31.46	-	-	Peak
91.02	18.08	-25.42	43.5	39.86	8.79	0.95	31.52	-	-	Peak
288.66	16.86	-29.14	46	33.21	13.29	1.69	31.33	-	-	Peak
335.7	25.05	-20.95	46	39.91	14.57	1.87	31.3	100	77	Peak
480.6	23.94	-22.06	46	34.71	17.91	2.38	31.06	-	-	Peak
988.1	26.49	-27.51	54	28.83	24.74	3.5	30.58	-	-	Peak
2390	47.56	-26.44	74	43.2	32.18	6.03	33.85	100	231	Peak
2390	33.3	-20.7	54	28.94	32.18	6.03	33.85	100	231	Average
2437	105.64	-	-	101.17	32.24	6.11	33.88	100	231	Peak
2437	92.99	-	-	88.52	32.24	6.11	33.88	100	231	Average
2484	52.38	-21.62	74	47.82	32.28	6.18	33.9	100	231	Peak
2484	37.21	-16.79	54	32.65	32.28	6.18	33.9	100	231	Average

Test Mode :	Mode 8	Temperature :	22~26℃
Test Channel :	06	Relative Humidity :	56~62%
Test Engineer :	Wii Chang	Polarization :	Vertical
Remark :	2437 MHz is Fundamental Signals which can be ignored.		

Frequency (MHz)	Level (dBuV/m)	Over Limit (dB)	Limit Line (dBuV/m)	Read Level (dBuV)	Antenna Factor (dB)	Cable Loss (dB)	Preamp Factor (dB)	Ant Pos (cm)	Table Pos (deg)	Remark
38.1	24.31	-15.69	40	41.29	13.91	0.6	31.49	-	-	Peak
46.74	27.59	-12.41	40	48.56	9.87	0.67	31.51	120	227	Peak
89.13	18.83	-24.67	43.5	40.89	8.53	0.93	31.52	-	-	Peak
576.5	26.58	-19.42	46	35.51	19.4	2.62	30.95	-	-	Peak
673.8	24.92	-21.08	46	32.28	20.6	2.89	30.85	-	-	Peak
769	24.81	-21.19	46	30.43	21.98	3.09	30.69	-	-	Peak
2390	49.77	-24.23	74	45.41	32.18	6.03	33.85	156	76	Peak
2390	34.06	-19.94	54	29.7	32.18	6.03	33.85	156	76	Average
2437	103.18	-	-	98.71	32.24	6.11	33.88	156	76	Peak
2437	91.25	-	-	86.78	32.24	6.11	33.88	156	76	Average
2484	46.6	-27.4	74	42.04	32.28	6.18	33.9	156	76	Peak
2484	33.63	-20.37	54	29.07	32.28	6.18	33.9	156	76	Average

Test Mode :	Mode 9	Temperature :	22~26℃
Test Channel :	11	Relative Humidity :	56~62%
Test Engineer :	Wii Chang	Polarization :	Horizontal
Remark :	2462 MHz is Fundamental Signals which can be ignored.		

Frequency (MHz)	Level (dBuV/m)	Over Limit (dB)	Limit Line (dBuV/m)	Read Level (dBuV)	Antenna Factor (dB)	Cable Loss (dB)	Preamp Factor (dB)	Ant Pos (cm)	Table Pos (deg)	Remark
32.97	18.08	-21.92	40	33.19	15.8	0.56	31.47	-	-	Peak
52.14	14.86	-25.14	40	37.93	7.76	0.71	31.54	-	-	Peak
240.33	17.71	-28.29	46	35.62	11.98	1.53	31.42	-	-	Peak
335.7	24.49	-21.51	46	39.35	14.57	1.87	31.3	-	-	Peak
480.6	24.2	-21.8	46	34.97	17.91	2.38	31.06	-	-	Peak
769	24.89	-21.11	46	30.51	21.98	3.09	30.69	100	120	Peak
2390	45.9	-28.1	74	41.54	32.18	6.03	33.85	129	134	Peak
2390	34.16	-19.84	54	29.8	32.18	6.03	33.85	129	134	Average
2462	108.39	-	-	103.88	32.26	6.14	33.89	129	134	Peak
2462	95.15	-	-	90.64	32.26	6.14	33.89	129	134	Average
2483.66	70.16	-3.84	74	65.6	32.28	6.18	33.9	129	134	Peak
2483.66	49.14	-4.86	54	44.58	32.28	6.18	33.9	129	134	Average

Test Mode :	Mode 9	Temperature :	22~26℃
Test Channel :	11	Relative Humidity :	56~62%
Test Engineer :	Wii Chang	Polarization :	Vertical
Remark :	2462 MHz is Fundamental Signals which can be ignored.		

Frequency (MHz)	Level (dBuV/m)	Over Limit (dB)	Limit Line (dBuV/m)	Read Level (dBuV)	Antenna Factor (dB)	Cable Loss (dB)	Preamp Factor (dB)	Ant Pos (cm)	Table Pos (deg)	Remark
31.62	22.69	-17.31	40	37.56	16.04	0.55	31.46	-	-	Peak
47.01	26.51	-13.49	40	47.88	9.48	0.67	31.52	100	213	Peak
91.02	18.47	-25.03	43.5	40.25	8.79	0.95	31.52	-	-	Peak
480.6	24.44	-21.56	46	35.21	17.91	2.38	31.06	-	-	Peak
576.5	25.62	-20.38	46	34.55	19.4	2.62	30.95	-	-	Peak
673.8	25.3	-20.7	46	32.66	20.6	2.89	30.85	-	-	Peak
2390	45.19	-28.81	74	40.83	32.18	6.03	33.85	112	21	Peak
2390	33.44	-20.56	54	29.08	32.18	6.03	33.85	112	21	Average
2462	105.28	-	-	100.77	32.26	6.14	33.89	112	21	Peak
2462	93.21	-	-	88.7	32.26	6.14	33.89	112	21	Average
2484.42	49.78	-4.22	54	45.22	32.28	6.18	33.9	112	21	Average
2484.42	70.23	-3.77	74	65.67	32.28	6.18	33.9	112	21	Peak



Test Mode :	Mode 10	Temperature :	22~26°C
Test Channel :	11	Relative Humidity :	56~62%
Test Engineer :	Wii Chang	Polarization :	Horizontal
Remark :	2462 MHz is Fundamental Signals which can be ignored.		

Frequency (MHz)	Level (dBuV/m)	Over Limit (dB)	Limit Line (dBuV/m)	Read Level (dBuV)	Antenna Factor (dB)	Cable Loss (dB)	Preamp Factor (dB)	Ant Pos (cm)	Table Pos (deg)	Remark
33.78	18.28	-21.72	40	33.61	15.57	0.57	31.47	-	-	Peak
91.02	15.48	-28.02	43.5	37.26	8.79	0.95	31.52	-	-	Peak
240.33	16.82	-29.18	46	34.73	11.98	1.53	31.42	-	-	Peak
335.7	24.75	-21.25	46	39.61	14.57	1.87	31.3	132	115	Peak
433	21.28	-24.72	46	33.05	17.11	2.25	31.13	-	-	Peak
480.6	24.01	-21.99	46	34.78	17.91	2.38	31.06	-	-	Peak
2390	48.26	-25.74	74	43.9	32.18	6.03	33.85	100	220	Peak
2390	36.74	-17.26	54	32.38	32.18	6.03	33.85	100	220	Average
2462	109.15	-	-	104.64	32.26	6.14	33.89	100	220	Peak
2462	96.65	-	-	92.14	32.26	6.14	33.89	100	220	Average
2483.85	50.68	-3.32	54	46.12	32.28	6.18	33.9	100	220	Average
2483.85	69.21	-4.79	74	64.65	32.28	6.18	33.9	100	220	Peak

Test Mode :	Mode 10	Temperature :	22~26°C
Test Channel :	11	Relative Humidity :	56~62%
Test Engineer :	Wii Chang	Polarization :	Vertical
Remark :	2462 MHz is Fundamental Signals which can be ignored.		

Frequency (MHz)	Level (dBuV/m)	Over Limit (dB)	Limit Line (dBuV/m)	Read Level (dBuV)	Antenna Factor (dB)	Cable Loss (dB)	Preamp Factor (dB)	Ant Pos (cm)	Table Pos (deg)	Remark
47.01	27.52	-12.48	40	48.89	9.48	0.67	31.52	100	150	Peak
91.02	17.97	-25.53	43.5	39.75	8.79	0.95	31.52	-	-	Peak
181.47	14.76	-28.74	43.5	36	9.04	1.25	31.53	-	-	Peak
335.7	21.66	-24.34	46	36.52	14.57	1.87	31.3	-	-	Peak
480.6	24.71	-21.29	46	35.48	17.91	2.38	31.06	-	-	Peak
576.5	25.6	-20.4	46	34.53	19.4	2.62	30.95	-	-	Peak
2390	46.7	-27.3	74	42.34	32.18	6.03	33.85	202	132	Peak
2390	35.4	-18.6	54	31.04	32.18	6.03	33.85	202	132	Average
2462	105.91	-	-	101.4	32.26	6.14	33.89	202	132	Peak
2462	93.39	-	-	88.88	32.26	6.14	33.89	202	132	Average
2483.66	48.84	-5.16	54	44.28	32.28	6.18	33.9	202	132	Average
2483.66	69	-5	74	64.44	32.28	6.18	33.9	202	132	Peak

3.8 Antenna Requirements

3.8.1 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.

3.8.2 Antenna Connected Construction

The antennas type used in this product is PIFA Antenna without connector and it is considered to meet antenna requirement.

3.8.3 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	Due Date	Remark
System Simulator	R&S	CMU200	117995	N/A	Jun. 08, 2009	Jun. 07, 2011	Conducted (TH02-HY)
Spectrum Analyzer	R&S	FSP40	100055	9kHz~40GHz	Jun. 11, 2010	Jun. 10, 2011	Conducted (TH02-HY)
Power Meter	Anritsu	ML2495A	0932001	N/A	Sep. 13, 2010	Sep. 12, 2011	Conducted (TH02-HY)
Power Sensor	Anritsu	MA2411B	0846202	N/A	Sep. 14, 2010	Sep. 13, 2011	Conducted (TH02-HY)
Thermal Chamber	Ten Billion	TTH-D35P	TBN-930701	N/A	Jul. 30, 2010	Jul. 29, 2011	Conducted (TH02-HY)
EMI Test Receive	R&S	ESCS 30	100356	9KHz – 2.75GHz	Aug. 16, 2010	Aug. 15, 2011	Conduction (CO05-HY)
Two-LISN	R&S	ENV216	11-100081	9KHz – 30MHz	Dec. 03, 2010	Dec. 02, 2011	Conduction (CO05-HY)
Two-LISN	R&S	ENV216	11-100080	9KHz – 30MHz	Dec. 01, 2010	Nov. 30, 2011	Conduction (CO05-HY)
AC Power Source	APC	APC-1000 W	N/A	N/A	N/A	N/A	Conduction (CO05-HY)
GPS Station	T&E	GS-50	N/A	N/A	N/A	N/A	Conduction (CO05-HY)
Bilog Antenna	SCHAFFNER	CBL6111C	2726	30MHz ~ 1GHz	Oct. 31, 2010	Oct. 30, 2011	Radiation (03CH07-HY)
Spectrum Analyzer	R&S	FSP	101067	9KHz ~ 30GHz	Dec. 03, 2010	Dec. 02, 2011	Radiation (03CH07-HY)
Double Ridge Horn Antenna	ESCO	3117	00075962	1GHz ~ 18GHz	Aug. 19, 2010	Aug. 18, 2011	Radiation (03CH07-HY)
SHF-EHF Horn Antenna	SCHWARZBECK	BBHA 9170	BBHA9170251	15GHz- 40GHz	Oct. 18, 2010	Oct. 17, 2011	Radiation (03CH07-HY)
Pre Amplifier	Agilent	8449B	3008A02362	1GHz~ 26.5GHz	Dec. 06, 2010	Dec. 05, 2011	Radiation (03CH07-HY)
Pre Amplifier	COM-POWER	PA-103A	161241	10-1000MHz.32 dB.GAIN	Mar. 29, 2011	Mar. 28, 2012	Radiation (03CH07-HY)
Loop Antenna	R&S	HFH2-Z2	860004/001	9 kHz~30 MHz	Jul. 29, 2010	Jul. 28, 2011	Radiation (03CH07-HY)

5 Uncertainty of Evaluation

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

Contribution	Uncertainty of X_i		$u(X_i)$
	dB	Probability Distribution	
Receiver Reading	0.10	Normal (k=2)	0.05
Cable Loss	0.10	Normal (k=2)	0.05
AMN Insertion Loss	2.50	Rectangular	0.63
Receiver Specification	1.50	Rectangular	0.43
Site Imperfection	1.39	Rectangular	0.80
Mismatch	+0.34 / -0.35	U-Shape	0.24
Combined Standard Uncertainty $U_c(y)$	1.13		
Measuring Uncertainty for a Level of Confidence of 95% ($U = 2U_c(y)$)	2.26		

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

Contribution	Uncertainty of X_i		$u(X_i)$
	dB	Probability Distribution	
Receiver Reading	0.41	Normal (k=2)	0.21
Antenna Factor Calibration	0.83	Normal (k=2)	0.42
Cable Loss Calibration	0.25	Normal (k=2)	0.13
Pre-Amplifier Gain Calibration	0.27	Normal (k=2)	0.14
RCV/SPA Specification	2.50	Rectangular	0.72
Antenna Factor Interpolation for Frequency	1.00	Rectangular	0.29
Site Imperfection	1.43	Rectangular	0.83
Mismatch	+0.39 / -0.41	U-Shape	0.28
Combined Standard Uncertainty $U_c(y)$	1.27		
Measuring Uncertainty for a Level of Confidence of 95% ($U = 2U_c(y)$)	2.54		

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

Contribution	Uncertainty of X_i		$u(X_i)$	C_i	$C_i * u(X_i)$
	dB	Probability Distribution			
Receiver Reading	± 0.10	Normal (k=2)	0.10	1	0.10
Antenna Factor Calibration	± 1.70	Normal (k=2)	0.85	1	0.85
Cable Loss Calibration	± 0.50	Normal (k=2)	0.25	1	0.25
Receiver Correction	± 2.00	Rectangular	1.15	1	1.15
Antenna Factor Directional	± 1.50	Rectangular	0.87	1	0.87
Site Imperfection	± 2.80	Triangular	1.14	1	1.14
Mismatch Receiver VSWR $\Gamma_1 = 0.197$ Antenna VSWR $\Gamma_2 = 0.194$ Uncertainty = $20\text{Log}(1-\Gamma_1*\Gamma_2)$	+0.34 / -0.35	U-Shape	0.244	1	0.244
Combined Standard Uncertainty $U_c(y)$	2.36				
Measuring Uncertainty for a Level of Confidence of 95% ($U = 2U_c(y)$)	4.72				