FCC RF Test Report

APPLICANT	:	HTC Corporation
EQUIPMENT	:	Smart Phone
MODEL NAME	:	PH44100
FCC ID	:	NM8PH44100
STANDARD	:	FCC Part 15 Subpart C §15.247
CLASSIFICATION	:	Digital Transmission System (DTS)

The product was received on Mar. 29, 2011 and completely tested on Apr. 22, 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:

Jones Tsai

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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REVISION HISTORY

REPORT NO.	VERSION	DESCRIPTION	ISSUED DATE
FR132949B	Rev. 01	Initial issue of report	May 20, 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	≥ 0.5MHz	Pass	-
3.2	15.247(b)	A8.4	Power Output	≤ 30dBm	Pass	-
3.3	15.247(d)	A8.5	Frequency Band Edges	≤ 20dBc	Pass	-
3.4	15.247(d)	A8.5	Spurious Emission	< 20 dBc	Pass	-
3.5	15.247(e)	A8.2(b)	Power Spectral Density	≤ 8dBm	Pass	-
3.6	15.207	Gen 7.2.2	AC Conducted Emission	15.207(a)	Pass	Under limit 7.7 dB at 0.79 MHz
3.7	15.247(d)	A8.5	Transmitter Radiated Emission	15.209(a) & 15.247(d)	Pass	Under limit 3.78 dB at 4924 MHz
3.8	15.203 & 15.247(b)	A8.4	Antenna Requirement	N/A	Pass	-

1 General Description

1.1 Applicant

HTC Corporation
1F., No. 6-3, Baoqiang Rd., Xindian City, Taipei, Taiwan

1.2 Manufacturer

HTC Corporation
1F., No. 6-3, Baoqiang Rd., Xindian City, Taipei, Taiwan

1.3 Feature of Equipment Under Test

Product Feature & Specification	
Equipment	Smart Phone
Model Name	PH44100
FCC ID	NM8PH44100
Tx/Rx Frequency Range	2400 MHz ~ 2483.5 MHz
Number of Channels	11
Carrier Frequency of Each Channel	2412+(n-1)*5 MHz; n=1~11
Channel Spacing	5 MHz
Maximum Output Power to Antenna	802.11b : 21.15 dBm (0.13 W) 802.11g : 23.24 dBm (0.21 W) 802.11n (BW 20MHz) : 22.57 dBm (0.18 W)
Antenna Type	PIFA Antenna with gain -3 dBi
Type of Modulation	802.11b : DSSS (BPSK / QPSK / CCK) 802.11g/n : OFDM (BPSK / QPSK / 16QAM / 64QAM)
EUT Stage	Production Unit

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 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.
	CO05-HY	03CH06-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.	System Simulator	R&S	CMU 200	N/A	N/A	Unshielded, 1.8 m
2.	System Simulator	Agilent	E6651A	N/A	N/A	Unshielded, 1.8 m
3.	GPS Station	T&E	GS-50	N/A	N/A	Unshielded, 1.8 m
4.	WLAN AP	D-Link	DIR-628	KA2DIR628A2	N/A	Unshielded, 1.8 m
5.	Notebook	DELL	Vostro 1510	FCC DoC	N/A	AC I/P: Unshielded, 1.2 m DC O/P: Shielded, 1.8 m
6.	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 Power (dBm)			
		DSSS Data Rate			
		1 Mbps	2 Mbps	5.5 Mbps	11 Mbps
CH 06	2437 MHz	20.86	21.11	21.1	**21.15**

Channel	Frequency	2.4GHz 802.11g RF Power (dBm)							
		OFDM Data Rate							
		6 Mbps	9 Mbps	12 Mbps	18 Mbps	24 Mbps	36 Mbps	48 Mbps	54 Mbps
CH 06	2437 MHz	**23.24**	23.09	22.65	22.74	22.96	22.77	22.87	22.90

Channel	Frequency	2.4GHz 802.11n (BW 20MHz) RF Power (dBm)							
		OFDM Data Rate							
		MCS0	MCS1	MCS2	MCS3	MCS4	MCS5	MCS6	MCS7
CH 06	2437 MHz	**22.57**	22.2	22.32	22.17	21.97	22.09	21.79	21.67

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

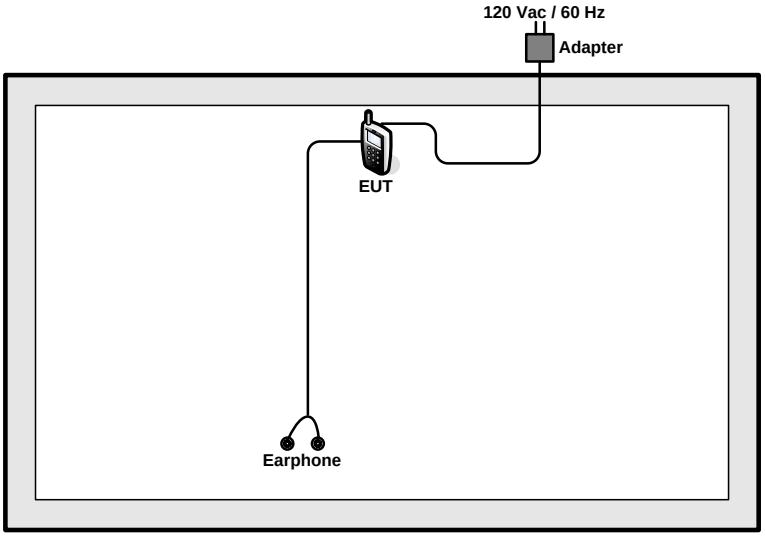
The EUT has been associated with peripherals pursuant to ANSI C63.4-2003 and configuration operated in a manner tended to maximize its emission characteristics in a typical application. Frequency range investigated: conducted emission (150 kHz to 30 MHz), radiated emission (30 MHz to the 10th harmonic of the highest fundamental frequency or to 40 GHz, whichever is lower).

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

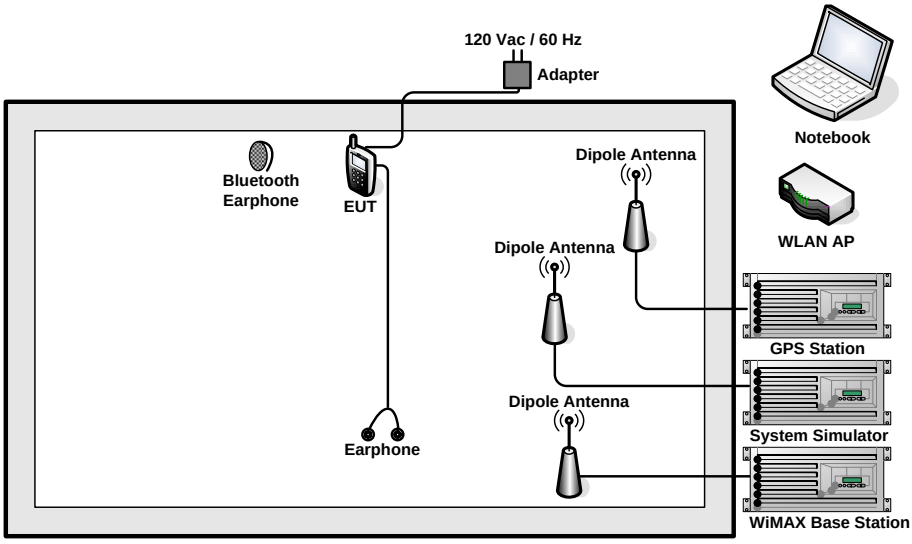
Test Cases		
Test Item	**802.11b (Modulation : DSSS)**	**802.11g/n (Modulation : OFDM)**
Conducted TCs	Mode 1 : 802.11b CH01_2412 MHz Mode 2 : 802.11b CH06_2437 MHz Mode 3 : 802.11b CH11_2462 MHz	Mode 4: 802.11g_CH01_2412 MHz Mode 5: 802.11g_CH06_2437 MHz Mode 6: 802.11g_CH11_2462 MHz Mode 7: 802.11n (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 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
AC Conducted Emission	Mode 1 : CDMA2000 BC0 Idle + Bluetooth Link + WLAN Link + GPS Rx + WiMAX Idle + Battery 1 + Earphone + USB Cable 1 (Charging from Adapter 1) Mode 2 : CDMA2000 BC1 Idle + Bluetooth Link + WLAN Link + GPS Rx + WiMAX Idle + Battery 2 + Earphone + USB Cable 2 (Charging from Adapter 2)	
Remark: **1.** The Radiation test was performed with Battery 1, USB Cable 3, Earphone, and Adapter 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 “WiFi Router” 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 Bandwidth Measurement

3.1.1 Limit of 6dB Bandwidth

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

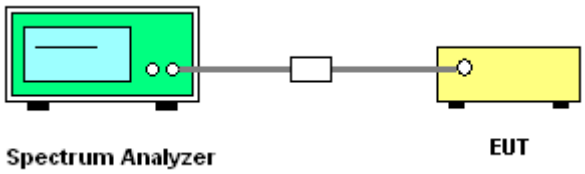
3.1.2 Measuring Instruments

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

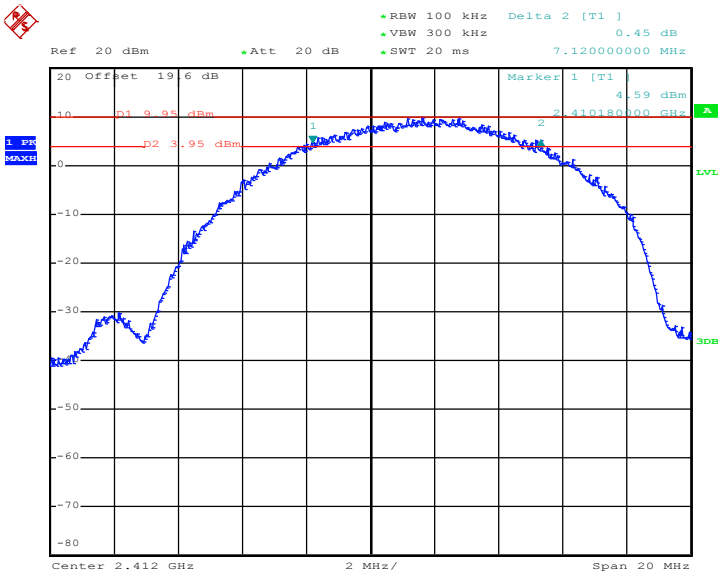


3.1.5 Test Result of 6dB Bandwidth

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

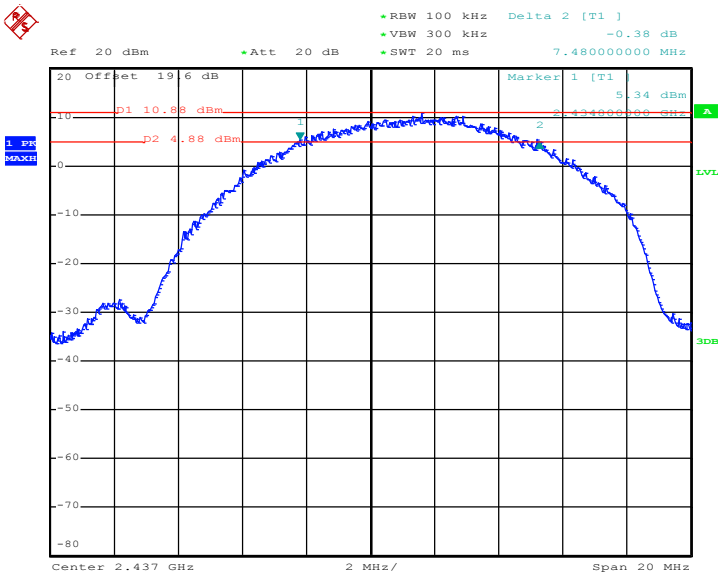
Channel	Frequency (MHz)	802.11b 6dB Bandwidth (MHz)	6dB Bandwidth Min. Limit (MHz)	Pass/Fail
01	2412	7.12	0.5	Pass
06	2437	7.48	0.5	Pass
11	2462	6.80	0.5	Pass

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



Date: 6.APR.2011 11:53:02

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



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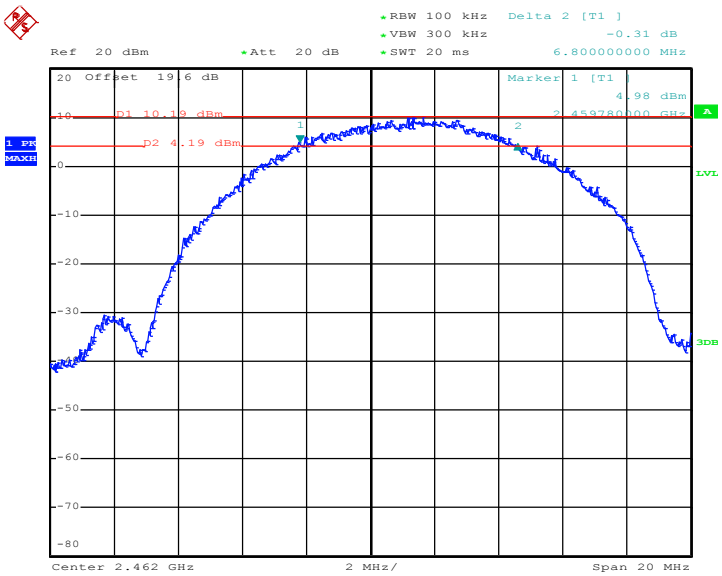
Mode 3 : 6 dB Bandwidth Plot on 802.11b Channel 11



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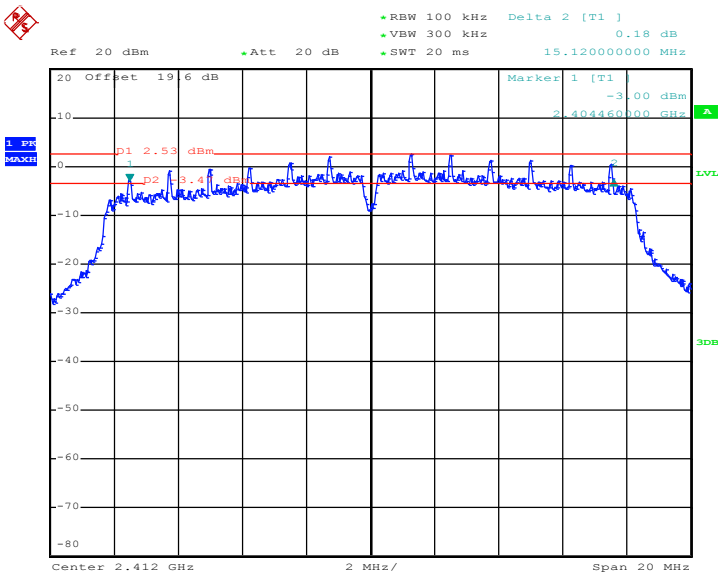
Test Mode :	Mode 4, 5, 6	Temperature :	24~26℃
Test Engineer :	Pinkston Tu	Relative Humidity :	50~53%

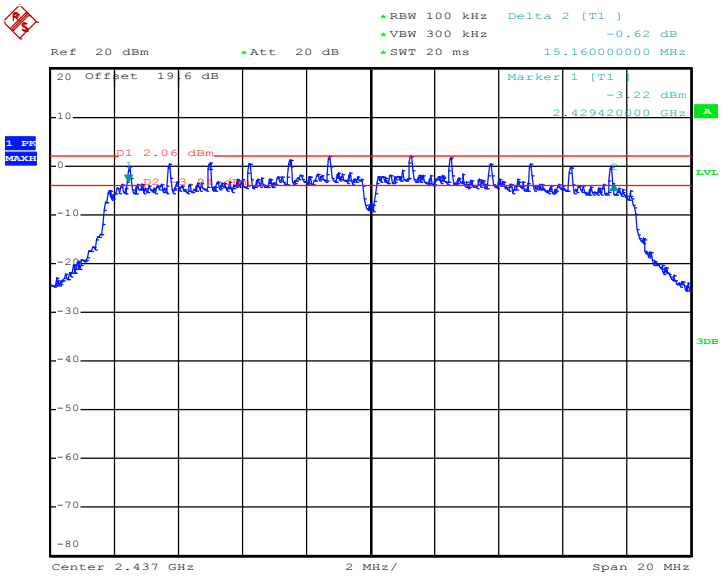
Channel	Frequency (MHz)	802.11g 6dB Bandwidth (MHz)	6dB Bandwidth Min. Limit (MHz)	Pass/Fail
01	2412	15.12	0.5	Pass
06	2437	15.16	0.5	Pass
11	2462	15.08	0.5	Pass

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



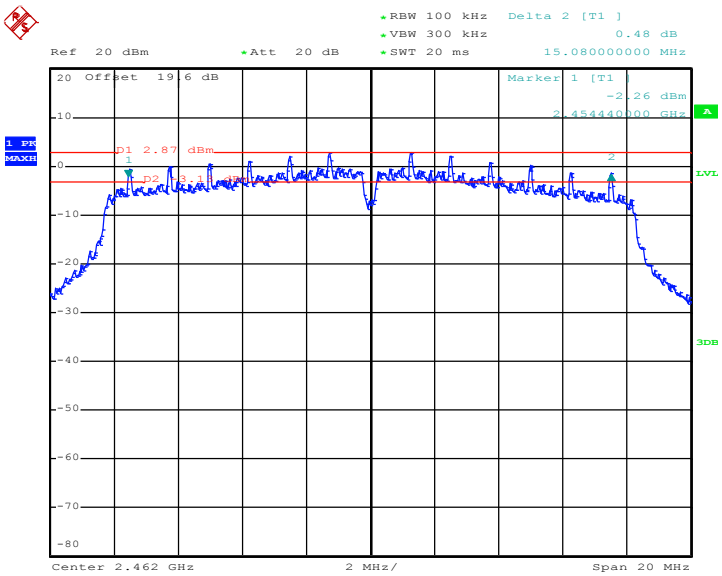
Date: 6.APR.2011 10:12:42

Mode 5 : 6 dB Bandwidth Plot on 802.11g Channel 06



Date: 6.APR.2011 10:26:30

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

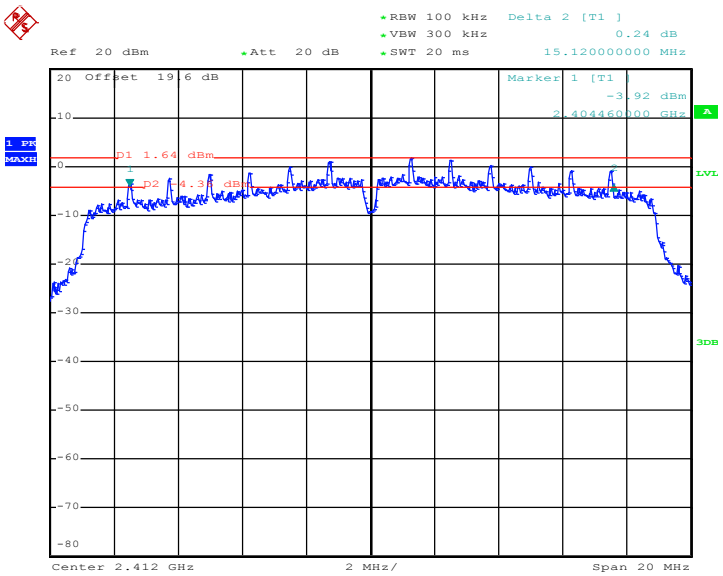


Date: 6.APR.2011 10:43:07

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

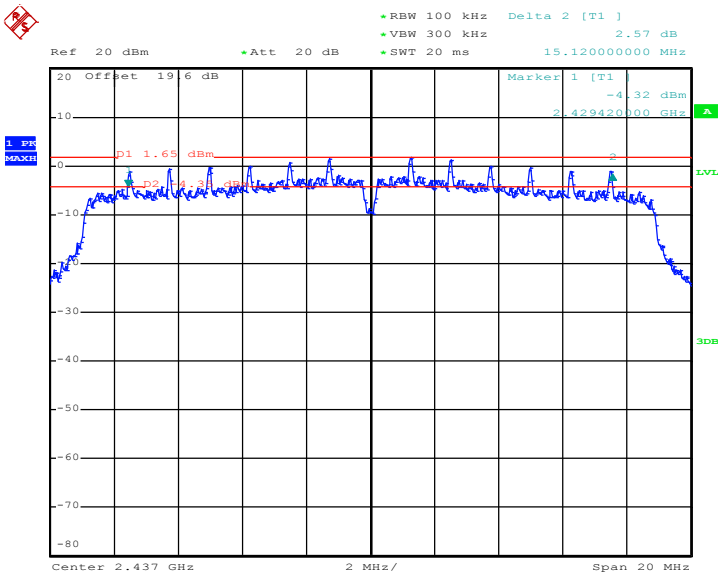
Channel	Frequency (MHz)	802.11n (BW 20MHz) 6dB Bandwidth (MHz)	6dB Bandwidth Min. Limit (MHz)	Pass/Fail
01	2412	15.12	0.5	Pass
06	2437	15.12	0.5	Pass
11	2462	15.08	0.5	Pass

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



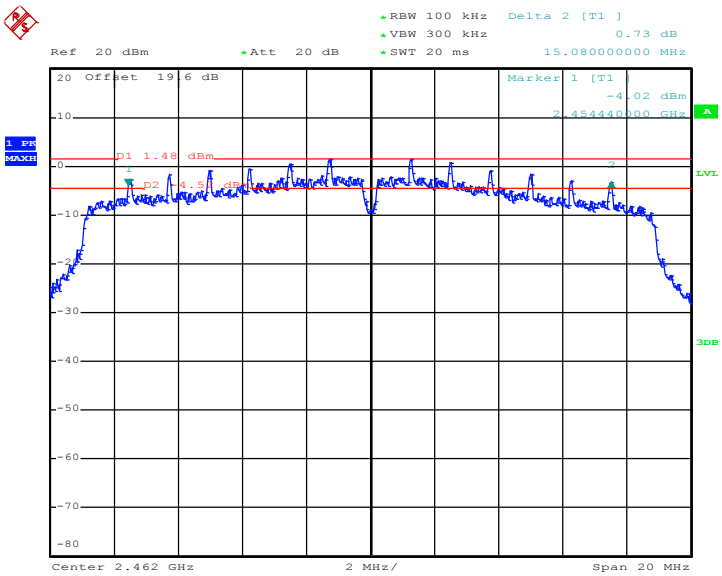
Date: 6.APR.2011 11:24:09

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



Date: 6.APR.2011 11:10:13

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



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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.

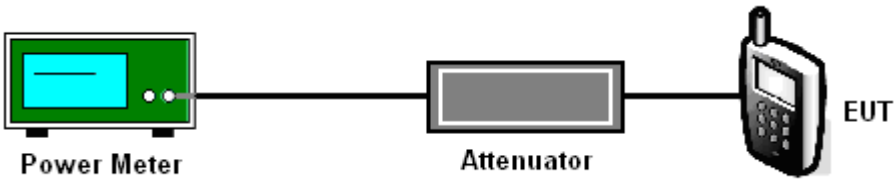
3.2.2 Measuring Instruments

See list of measuring instruments of this test report.

3.2.3 Test Procedures

1. The testing follows 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 :	Pinkston Tu	Relative Humidity :	50~53%

Channel	Frequency (MHz)	802.11b Measured Output Power (dBm)	Max. Limits (dBm)	Pass/Fail
01	2412	20.85	30	Pass
06	2437	21.15	30	Pass
11	2462	21.00	30	Pass

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

Channel	Frequency (MHz)	802.11g Measured Output Power (dBm)	Max. Limits (dBm)	Pass/Fail
01	2412	22.81	30	Pass
06	2437	23.24	30	Pass
11	2462	22.99	30	Pass

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

Channel	Frequency (MHz)	802.11n (BW 20MHz) Measured Output Power (dBm)	Max. Limits (dBm)	Pass/Fail
01	2412	22.48	30	Pass
06	2437	22.57	30	Pass
11	2462	22.30	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

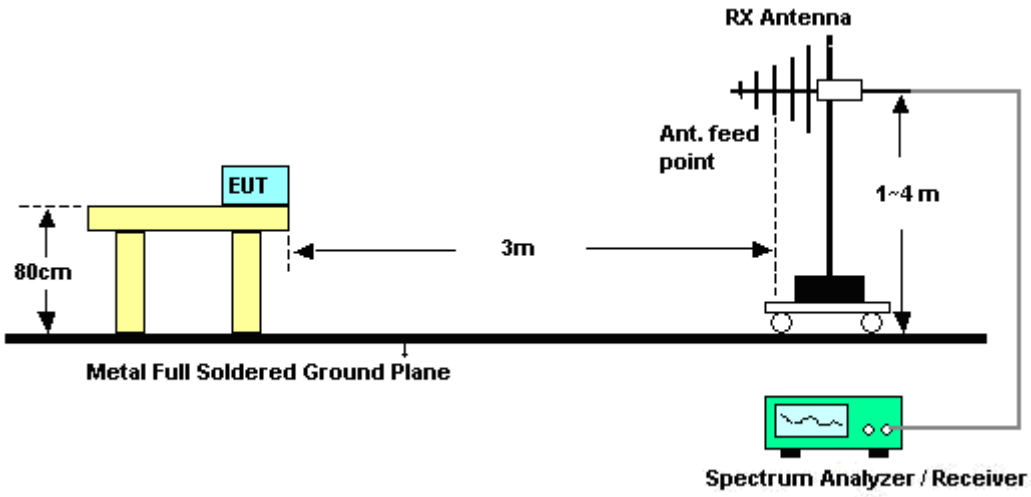
See list of measuring instruments of this test report.

3.3.3 Test Procedures

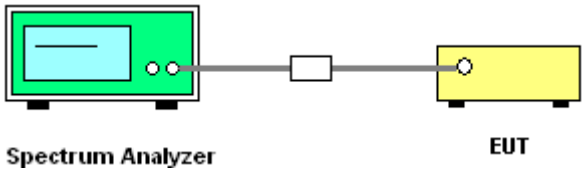
1. The testing follows the guidelines in ANSI C63.4-2003 and FCC KDB Publication No. 558074 (Measurement Guidelines of DTS).
2. Conducted emission test: Set RBW = 100 kHz, Video bandwidth (VBW) ≥ RBW. Band edge emissions must be at least 20 dB down from the highest emission level within the authorized 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 :**	21~22℃
Test Band :	802.11b	**Relative Humidity :**	47~48%
Test Channel :	01	**Test Engineer :**	Kay Wu

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	50.83	-23.17	74	47.92	31.9	5.4	34.39	100	337	Peak
2389.99	38.83	-15.17	54	35.92	31.9	5.4	34.39	100	337	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	48.43	-25.57	74	45.52	31.9	5.4	34.39	105	233	Peak
2389.61	35.88	-18.12	54	32.97	31.9	5.4	34.39	105	233	Average

Test Mode :	Mode 3	**Temperature :**	21~22℃
Test Band :	802.11b	**Relative Humidity :**	47~48%
Test Channel :	11	**Test Engineer :**	Kay Wu

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	52.75	-21.25	74	49.62	31.98	5.52	34.37	100	328	Peak
2483.85	40.14	-13.86	54	37.01	31.98	5.52	34.37	100	328	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	51.77	-22.23	74	48.64	31.98	5.52	34.37	103	0	Peak
2483.5	39.22	-14.78	54	36.09	31.98	5.52	34.37	103	0	Average

Test Mode :	Mode 4	Temperature :	21~22℃
Test Band :	802.11g	Relative Humidity :	47~48%
Test Channel :	01	Test Engineer :	Kay Wu

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	53.8	-20.2	74	50.89	31.9	5.4	34.39	104	323	Peak
2389.61	37.05	-16.95	54	34.14	31.9	5.4	34.39	104	323	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	55.26	-18.74	74	52.35	31.9	5.4	34.39	108	18	Peak
2389.99	37.74	-16.26	54	34.83	31.9	5.4	34.39	108	18	Average

Test Mode :	Mode 6	Temperature :	21~22℃
Test Band :	802.11g	Relative Humidity :	47~48%
Test Channel :	11	Test Engineer :	Kay Wu

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	66.29	-7.71	74	63.16	31.98	5.52	34.37	101	313	Peak
2483.5	45.54	-8.46	54	42.41	31.98	5.52	34.37	101	313	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	68.42	-5.58	74	65.29	31.98	5.52	34.37	105	17	Peak
2483.5	47.82	-6.18	54	44.69	31.98	5.52	34.37	105	17	Average

Test Mode :	Mode 7	Temperature :	21~22℃
Test Band :	802.11n (BW 20MHz)	Relative Humidity :	47~48%
Test Channel :	01	Test Engineer :	Kay Wu

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	50.84	-23.16	74	47.93	31.9	5.4	34.39	103	308	Peak
2389.61	35.67	-18.33	54	32.76	31.9	5.4	34.39	103	308	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
2389.42	53.51	-20.49	74	50.6	31.9	5.4	34.39	130	19	Peak
2389.42	37.94	-16.06	54	35.03	31.9	5.4	34.39	130	19	Average

Test Mode :	Mode 9	Temperature :	21~22℃
Test Band :	802.11n (BW 20MHz)	Relative Humidity :	47~48%
Test Channel :	11	Test Engineer :	Kay Wu

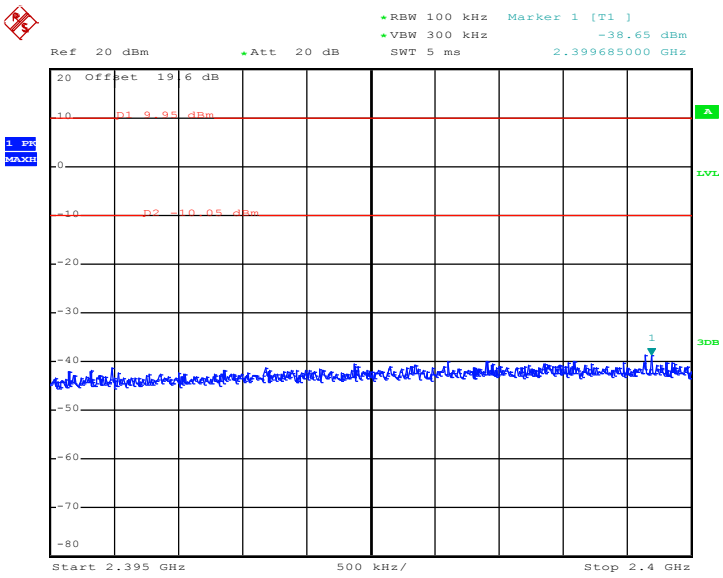
ANTENNA POLARITY : HORIZONTAL										
Frequency (MHz)	Level (dBuV/m)	Over Limit (dB)	Limit Line (dBuV/m)	Read Level (dBuV)	Antenna Factor (dB)	Cable Loss (dB)	Preamp Factor (dB)	Ant Pos (cm)	Table Pos (deg)	Remark
2483.5	64.58	-9.42	74	61.45	31.98	5.52	34.37	101	313	Peak
2483.5	44.6	-9.4	54	41.47	31.98	5.52	34.37	101	313	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	64.59	-9.41	74	61.46	31.98	5.52	34.37	105	18	Peak
2483.5	45.88	-8.12	54	42.75	31.98	5.52	34.37	105	18	Average

3.3.6 Test Plots of Conducted Band Edges

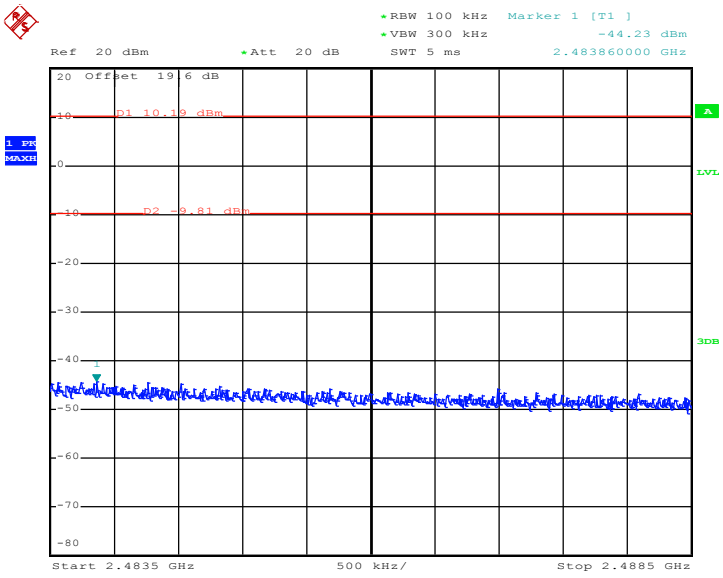
Test Mode :	Mode 1 and 3	Temperature :	24~26℃
Test Band :	802.11b	Relative Humidity :	50~53%
Test Channel :	01 and 11	Test Engineer :	Pinkston Tu

Low Band Edge Plot on 802.11b Channel 01



Date: 6.APR.2011 11:54:10

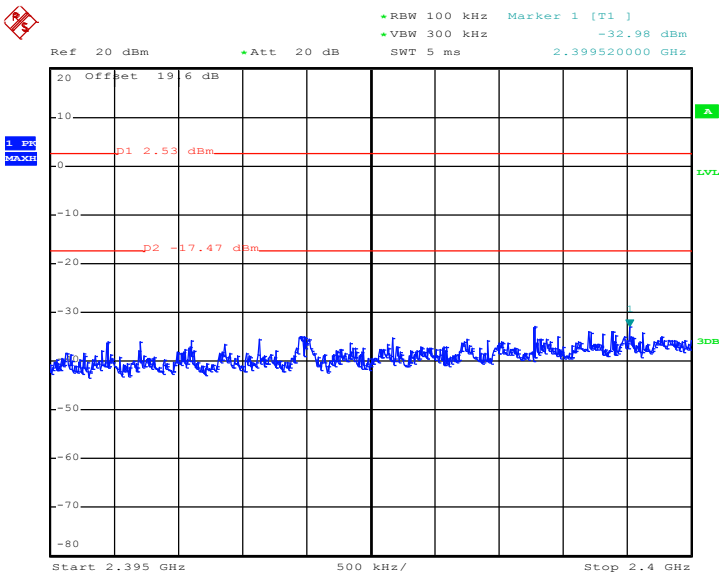
High Band Edge Plot on 802.11b Channel 11



Date: 6.APR.2011 12:00:04

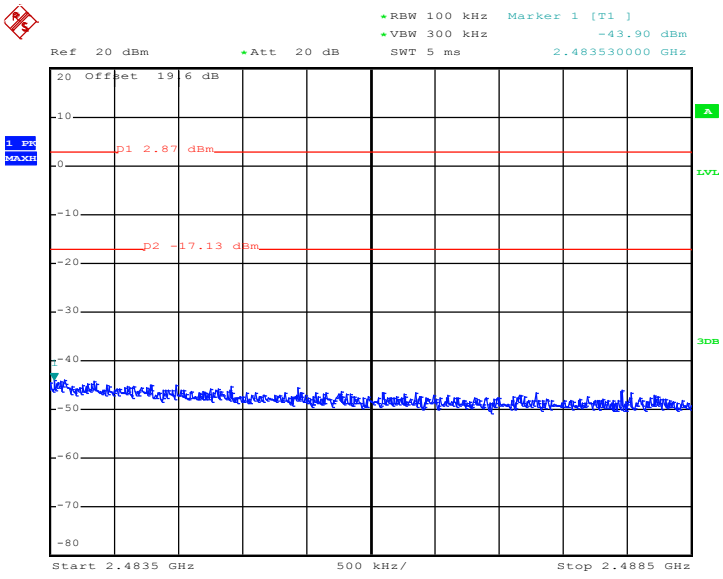
Test Mode :	Mode 4 and 6	Temperature :	24~26℃
Test Band :	802.11g	Relative Humidity :	50~53%
Test Channel :	01 and 11	Test Engineer :	Pinkston Tu

Low Band Edge Plot on 802.11g Channel 01



Date: 6.APR.2011 10:13:51

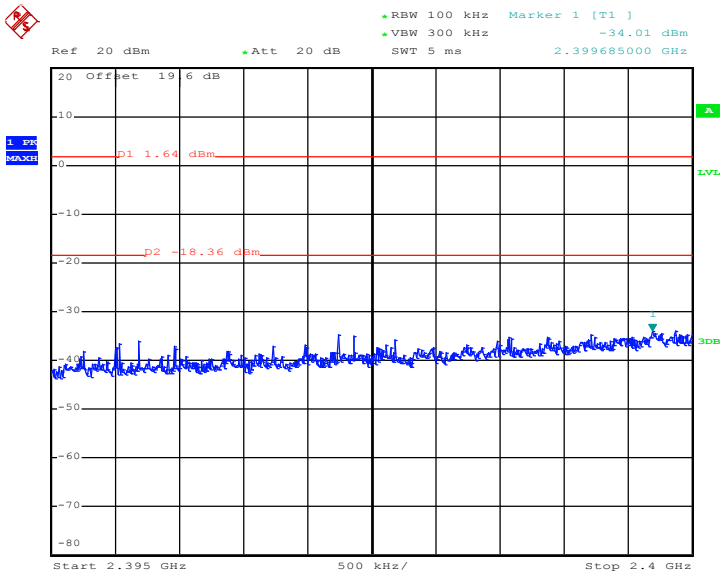
High Band Edge Plot on 802.11g Channel 11



Date: 6.APR.2011 10:43:53

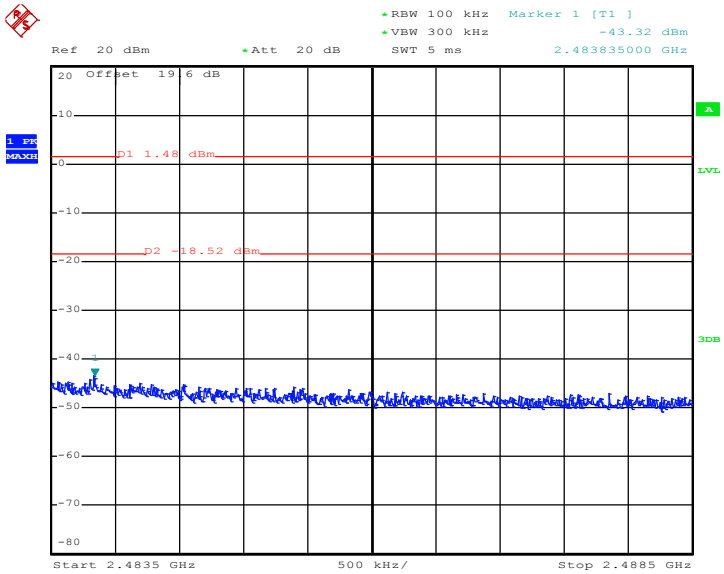
Test Mode :	Mode 7 and 9	Temperature :	24~26℃
Test Band :	802.11n (BW 20MHz)	Relative Humidity :	50~53%
Test Channel :	01 and 11	Test Engineer :	Pinkston Tu

Low Band Edge Plot on 802.11n (BW 20MHz) Channel 01



Date: 6.APR.2011 11:25:17

High Band Edge Plot on 802.11n (BW 20MHz) Channel 11



Date: 6.APR.2011 10:57:35

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.

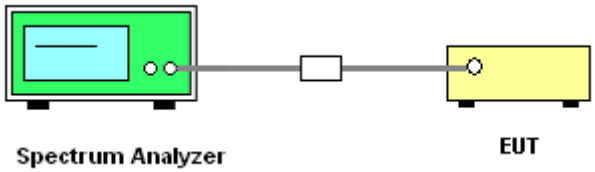
3.4.2 Measuring Instruments

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) ≥ 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.

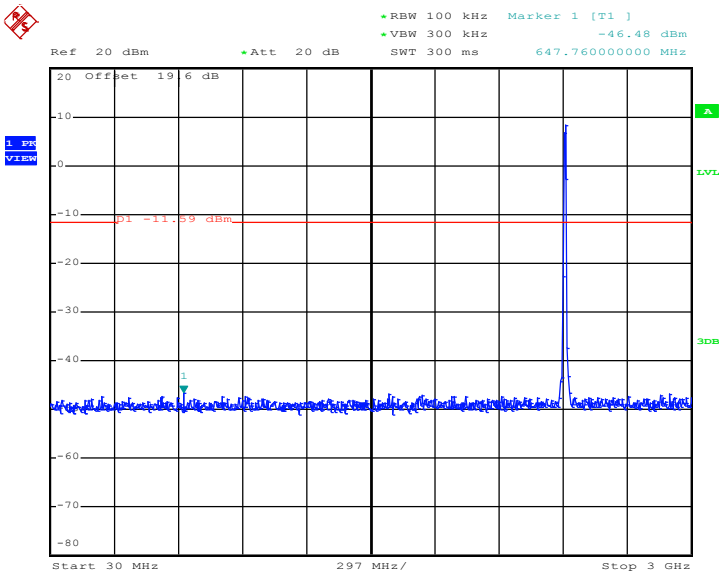
3.4.4 Test Setup



3.4.5 Test Plots of Spurious Emission

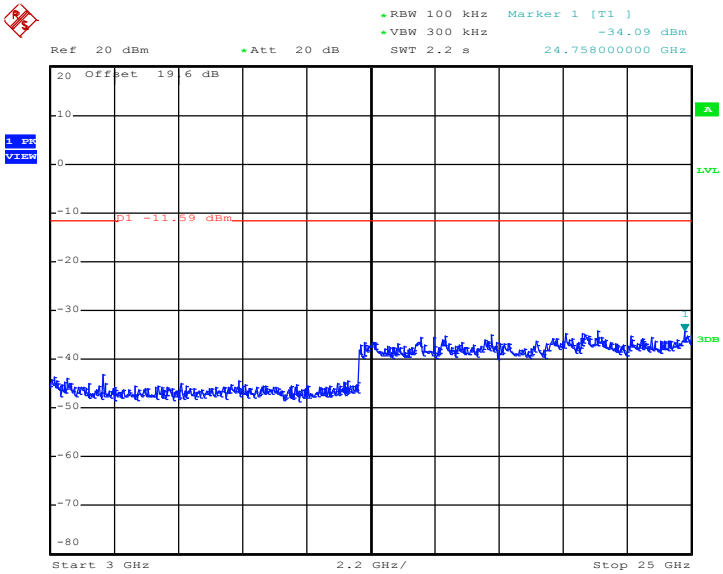
Test Mode :	Mode 1	Temperature :	24~26℃
Test Band :	802.11b	Relative Humidity :	50~53%
Test Channel :	01	Test Engineer :	Pinkston Tu

Conducted Spurious Emission Plot between 30MHz ~ 3 GHz



Date: 6.APR.2011 09:40:06

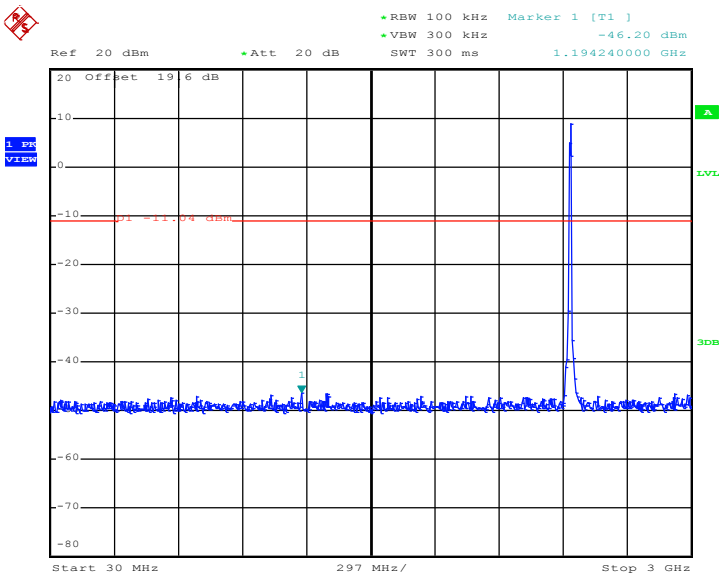
Conducted Spurious Emission Plot between 3 GHz ~ 25 GHz



Date: 6.APR.2011 09:40:23

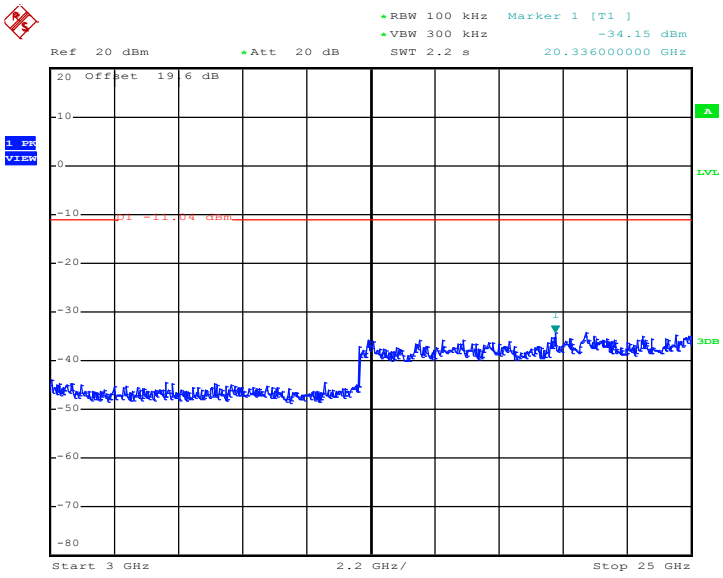
Test Mode :	Mode 2	Temperature :	24~26℃
Test Band :	802.11b	Relative Humidity :	50~53%
Test Channel :	06	Test Engineer :	Pinkston Tu

Conducted Spurious Emission Plot between 30MHz ~ 3 GHz



Date: 6.APR.2011 09:52:36

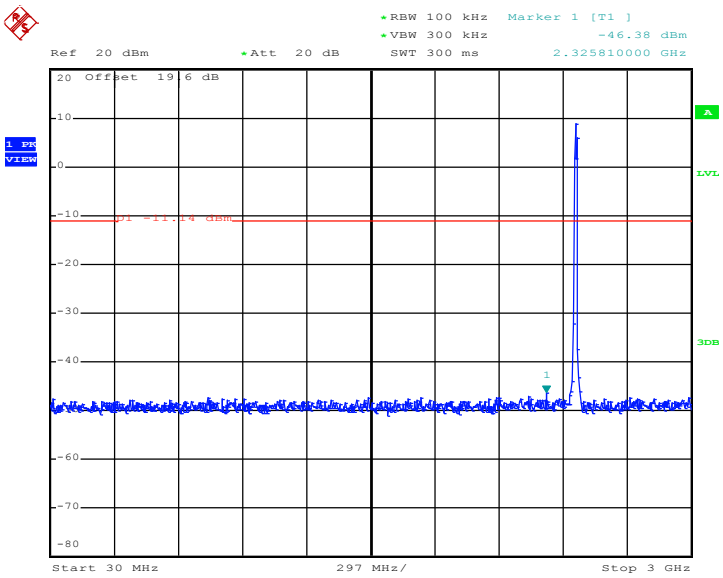
Conducted Spurious Emission Plot between 3 GHz ~ 25 GHz



Date: 6.APR.2011 09:52:53

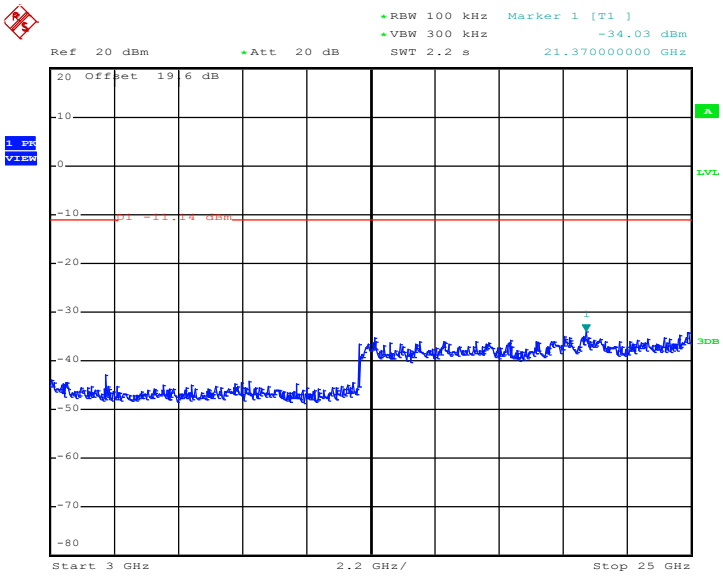
Test Mode :	Mode 3	Temperature :	24~26℃
Test Band :	802.11b	Relative Humidity :	50~53%
Test Channel :	11	Test Engineer :	Pinkston Tu

Conducted Spurious Emission Plot between 30MHz ~ 3 GHz



Date: 6.APR.2011 10:05:40

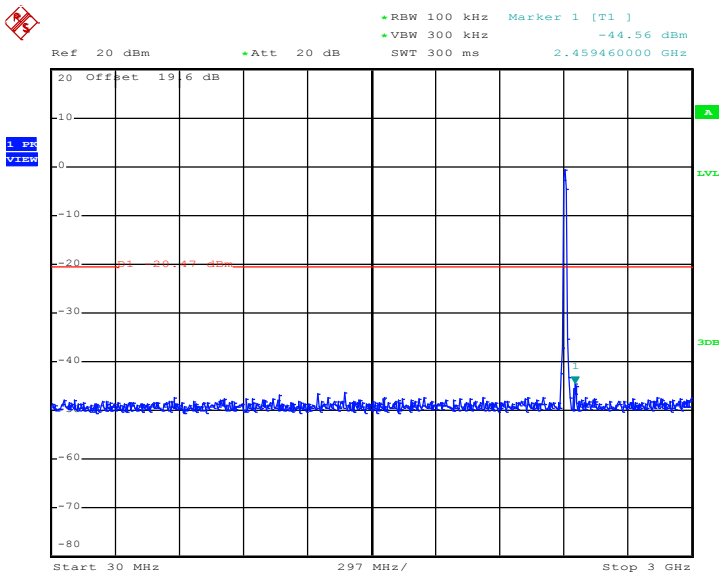
Conducted Spurious Emission Plot between 3 GHz ~ 25 GHz



Date: 6.APR.2011 10:05:57

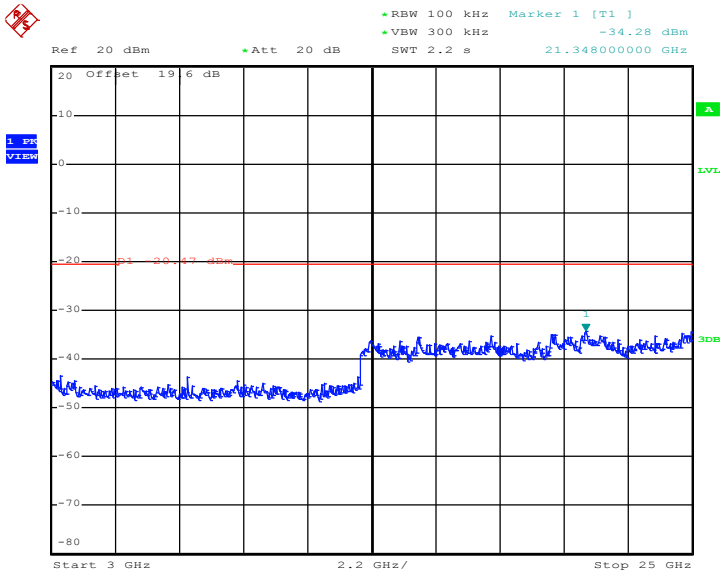
Test Mode :	Mode 4	Temperature :	24~26℃
Test Band :	802.11g	Relative Humidity :	50~53%
Test Channel :	01	Test Engineer :	Pinkston Tu

Conducted Spurious Emission Plot between 30MHz ~ 3 GHz



Date: 6.APR.2011 10:23:11

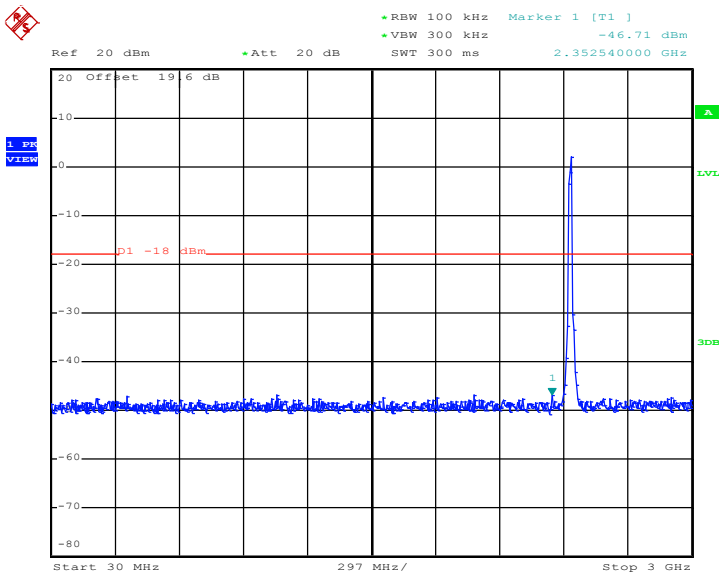
Conducted Spurious Emission Plot between 3 GHz ~ 25 GHz



Date: 6.APR.2011 10:23:28

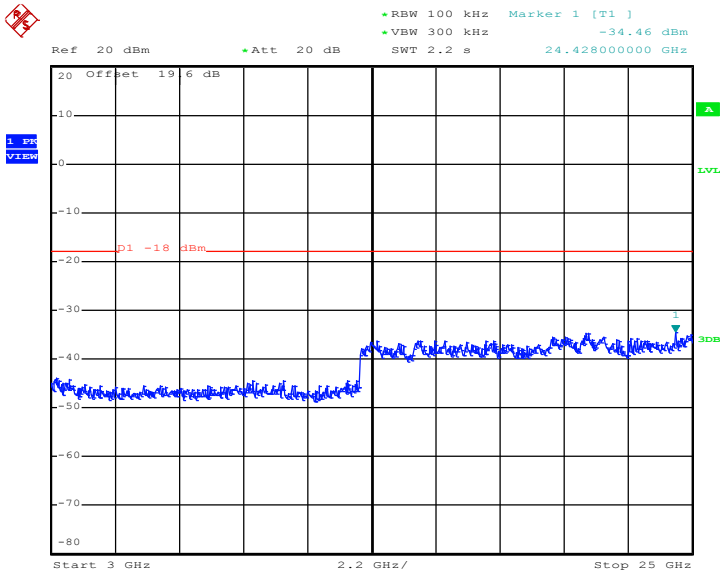
Test Mode :	Mode 5	Temperature :	24~26
Test Band :	802.11g	Relative Humidity :	50~53
Test Channel :	06	Test Engineer :	Pinkston Tu

Conducted Spurious Emission Plot between 30MHz ~ 3 GHz



Date: 6.APR.2011 10:37:34

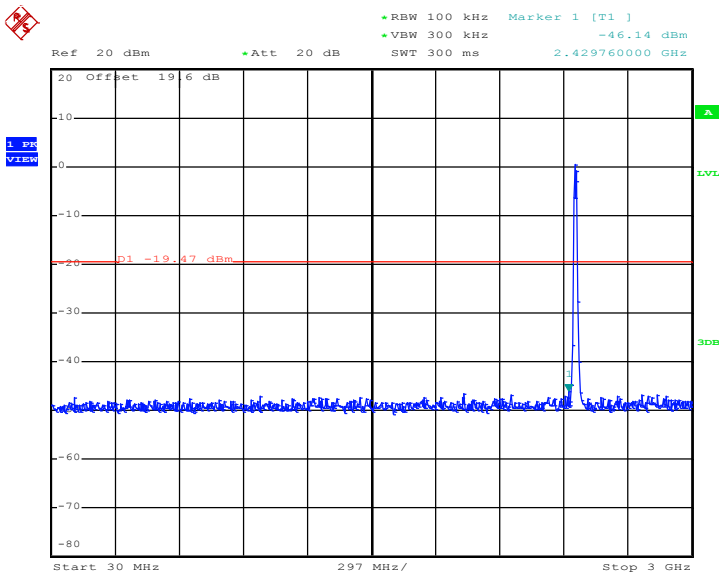
Conducted Spurious Emission Plot between 3 GHz ~ 25 GHz



Date: 6.APR.2011 10:37:51

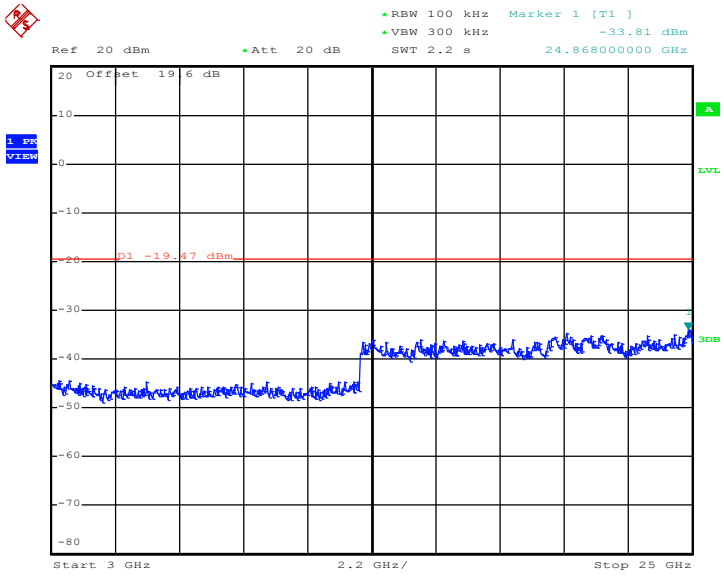
Test Mode :	Mode 6	Temperature :	24~26℃
Test Band :	802.11g	Relative Humidity :	50~53%
Test Channel :	11	Test Engineer :	Pinkston Tu

Conducted Spurious Emission Plot between 30MHz ~ 3 GHz



Date: 6.APR.2011 10:53:33

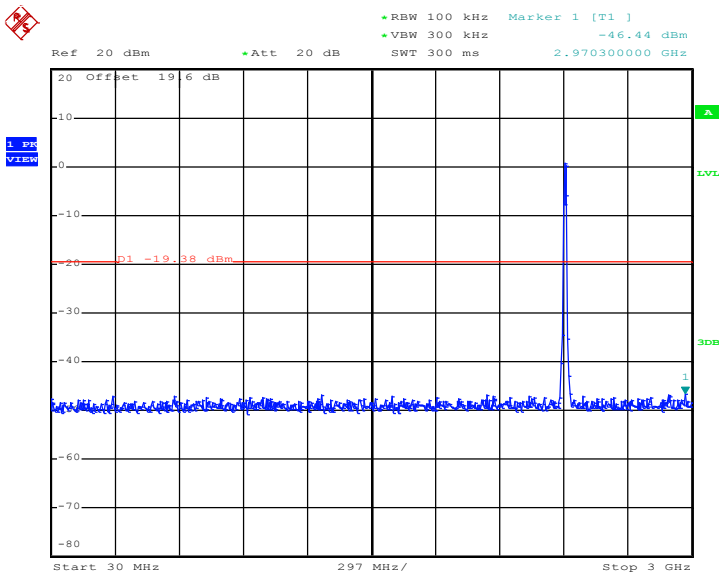
Conducted Spurious Emission Plot between 3 GHz ~ 25 GHz



Date: 6.APR.2011 10:53:50

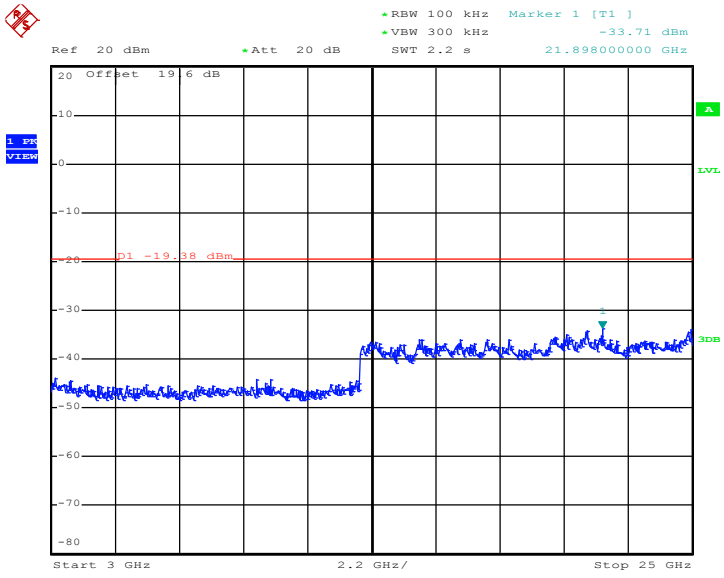
Test Mode :	Mode 7	Temperature :	24~26℃
Test Band :	802.11n (BW 20MHz)	Relative Humidity :	50~53%
Test Channel :	01	Test Engineer :	Pinkston Tu

Conducted Spurious Emission Plot between 30MHz ~ 3 GHz



Date: 6.APR.2011 11:34:37

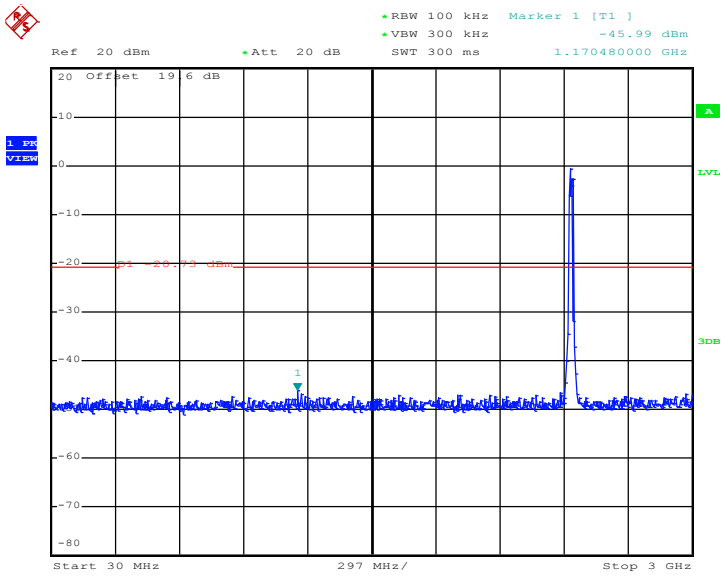
Conducted Spurious Emission Plot between 3 GHz ~ 25 GHz



Date: 6.APR.2011 11:34:54

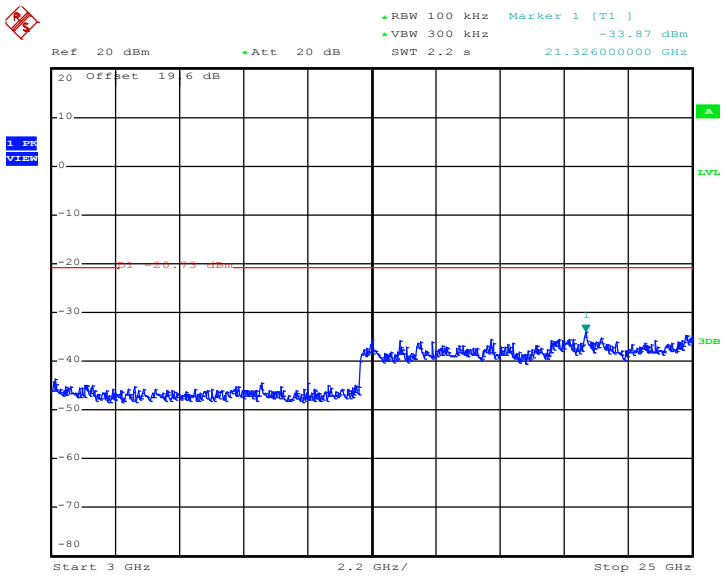
Test Mode :	Mode 8	Temperature :	24~26℃
Test Band :	802.11n (BW 20MHz)	Relative Humidity :	50~53%
Test Channel :	06	Test Engineer :	Pinkston Tu

Conducted Spurious Emission Plot between 30MHz ~ 3 GHz



Date: 6.APR.2011 11:19:36

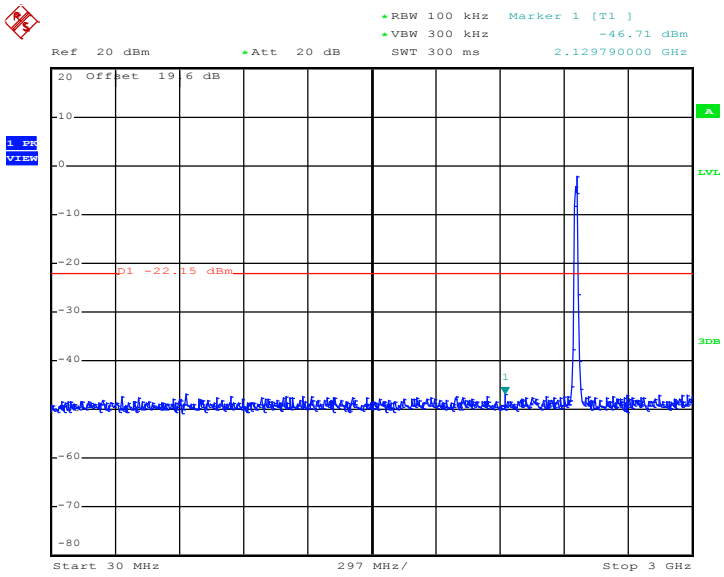
Conducted Spurious Emission Plot between 3 GHz ~ 25 GHz



Date: 6.APR.2011 11:19:53

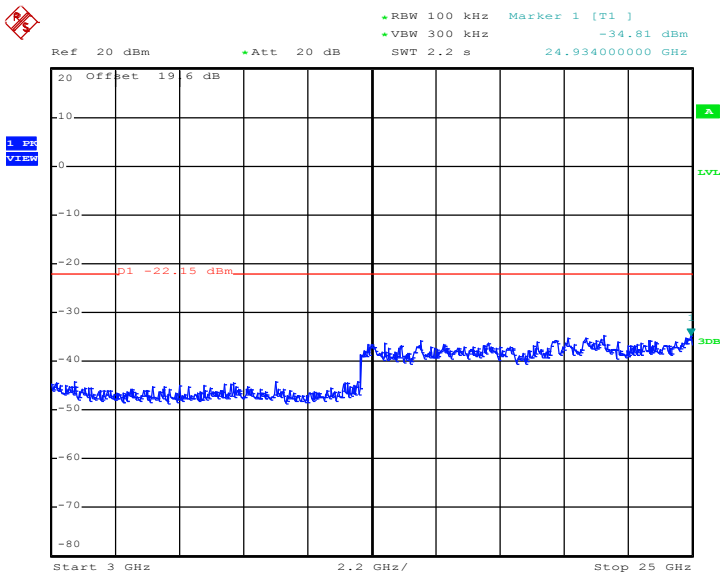
Test Mode :	Mode 9	Temperature :	24~26℃
Test Band :	802.11n (BW 20MHz)	Relative Humidity :	50~53%
Test Channel :	11	Test Engineer :	Pinkston Tu

Conducted Spurious Emission Plot between 30MHz ~ 3 GHz



Date: 6.APR.2011 11:06:57

Conducted Spurious Emission Plot between 3 GHz ~ 25 GHz



Date: 6.APR.2011 11:07:14

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.

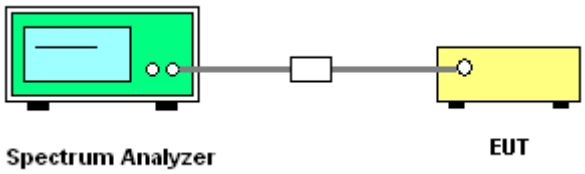
3.5.2 Measuring Instruments

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

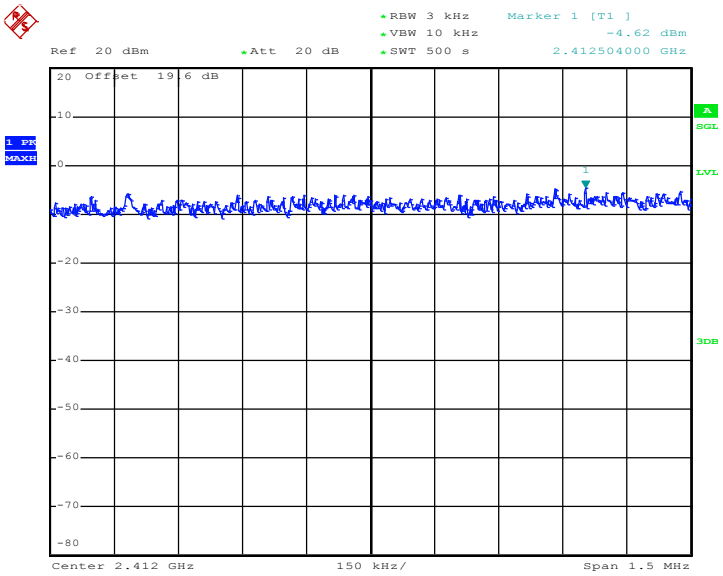


3.5.5 Test Result of Power Spectral Density

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

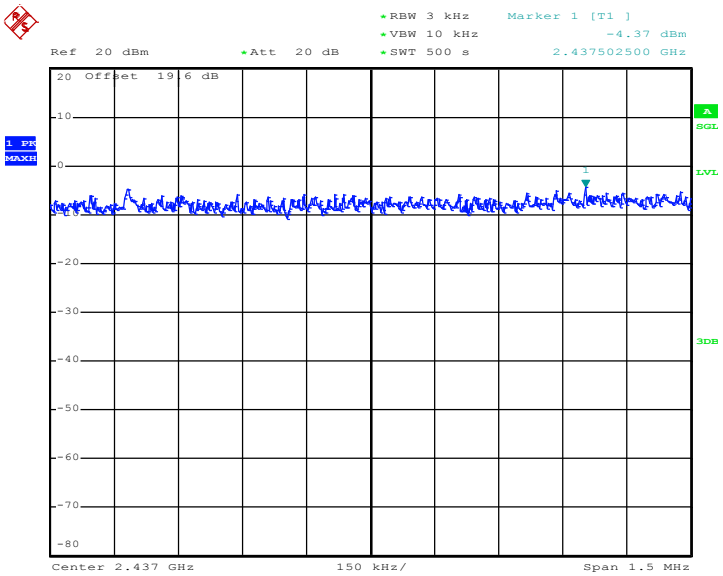
Channel	Frequency (MHz)	802.11b Measured PSD (dBm)	Max. Limits (dBm)	Pass/Fail
01	2412	-4.62	8	Pass
06	2437	-4.37	8	Pass
11	2462	-4.29	8	Pass

Mode 1 : PSD Plot on 802.11b Channel 01



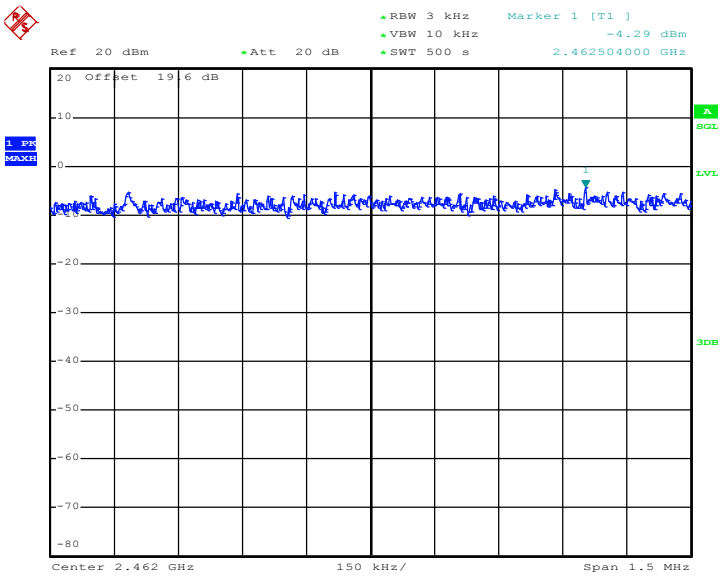
Date: 6.APR.2011 12:39:45

Mode 2 : PSD Plot on 802.11b Channel 06



Date: 6.APR.2011 12:29:50

Mode 3 : PSD Plot on 802.11b Channel 11

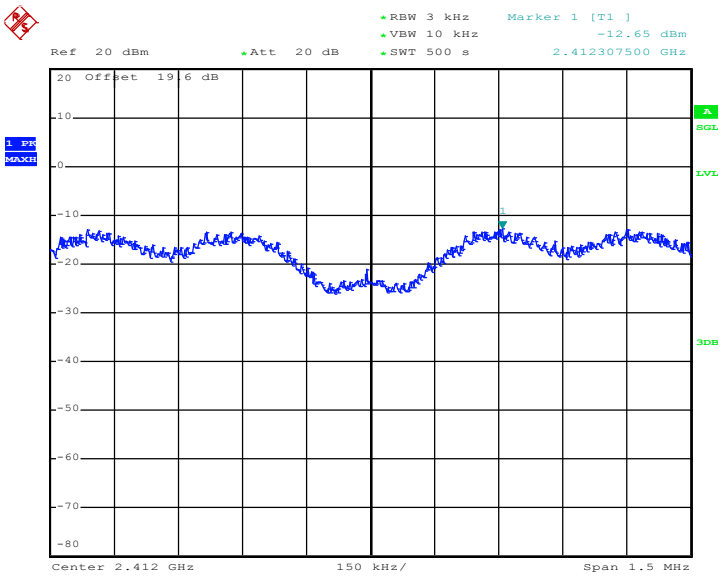


Date: 6.APR.2011 12:20:03

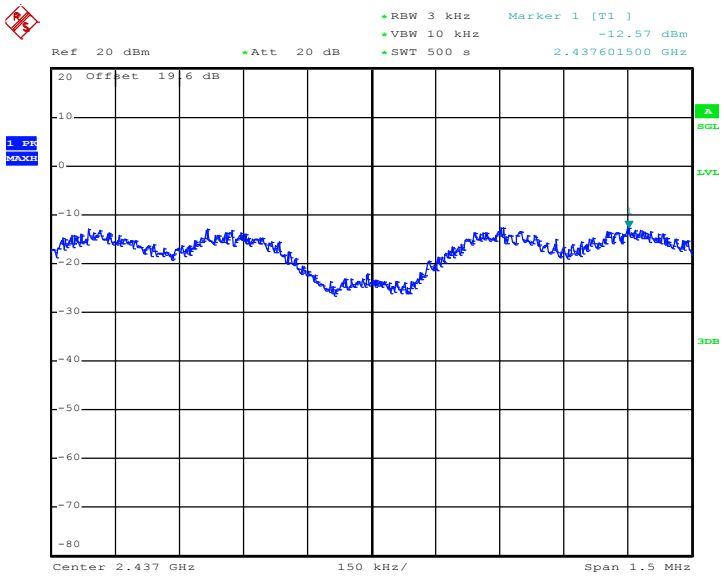
Test Mode :	Mode 4, 5, 6	Temperature :	24~26℃
Test Engineer :	Pinkston Tu	Relative Humidity :	50~53%

Channel	Frequency (MHz)	802.11g Measured PSD (dBm)	Max. Limits (dBm)	Pass/Fail
01	2412	-12.65	8	Pass
06	2437	-12.57	8	Pass
11	2462	-11.42	8	Pass

Mode 4 : PSD Plot on 802.11g Channel 01

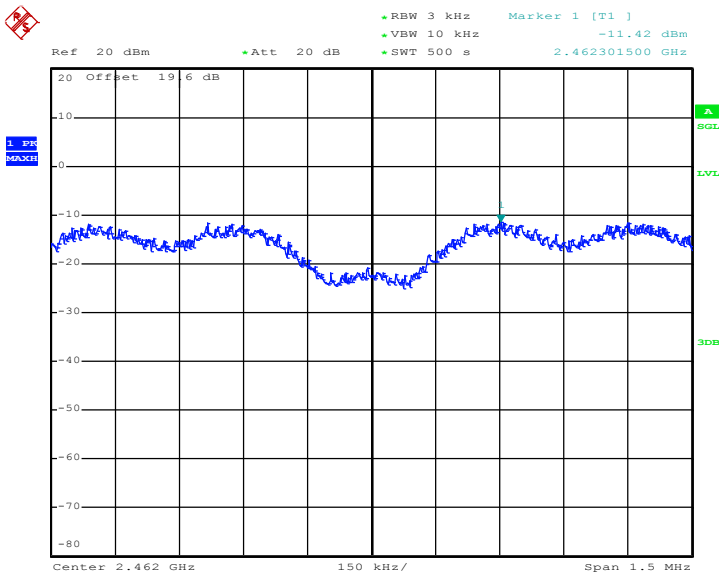


Mode 5 : PSD Plot on 802.11g Channel 06



Date: 6.APR.2011 10:37:13

Mode 6 : PSD Plot on 802.11g Channel 11

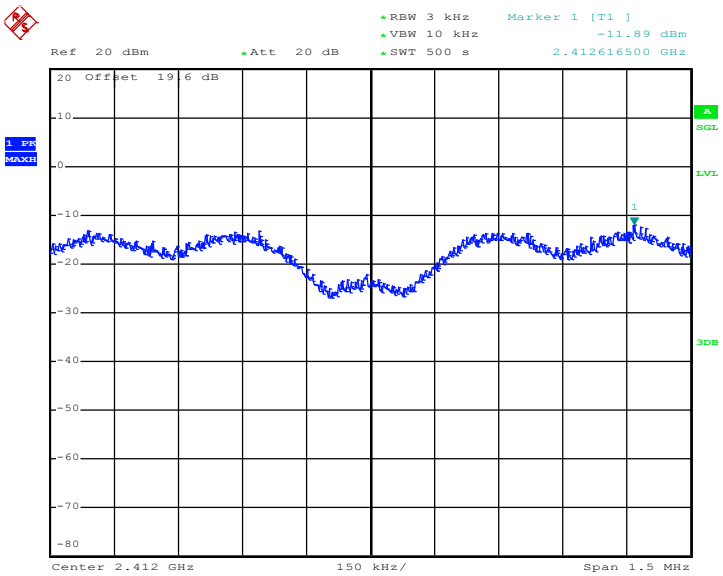


Date: 6.APR.2011 10:53:12

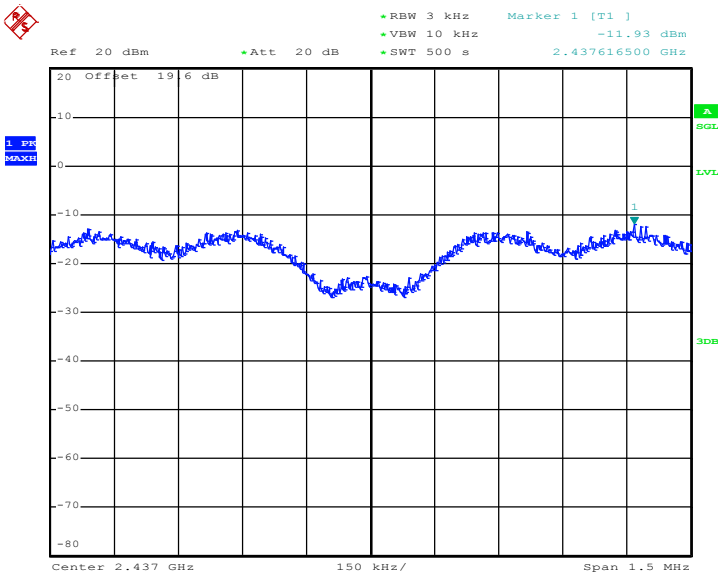
Test Mode :	Mode 7, 8, 9	Temperature :	24~26℃
Test Engineer :	Pinkston Tu	Relative Humidity :	50~53%

Channel	Frequency (MHz)	802.11n (BW 20MHz) Measured PSD (dBm)	Max. Limits (dBm)	Pass/Fail
01	2412	-11.89	8	Pass
06	2437	-11.93	8	Pass
11	2462	-11.77	8	Pass

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

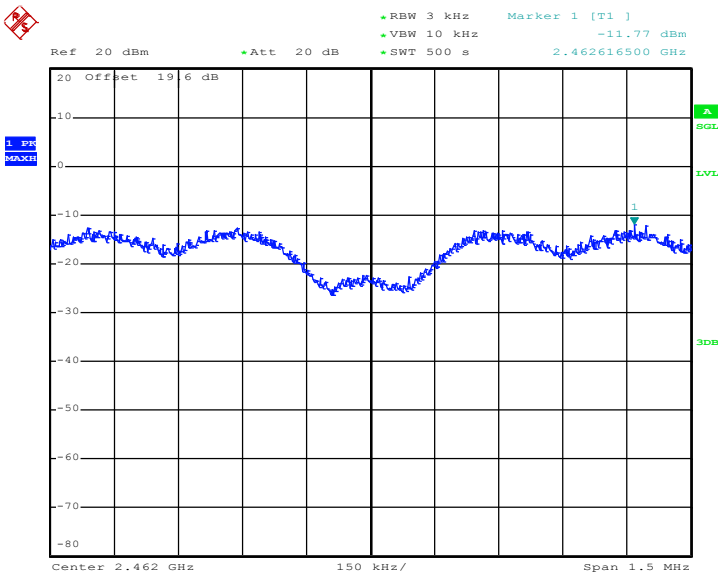


Mode 8 : PSD Plot on802.11n (BW 20MHz) Channel 06



Date: 6.APR.2011 11:19:15

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



Date: 6.APR.2011 11:06:36

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.

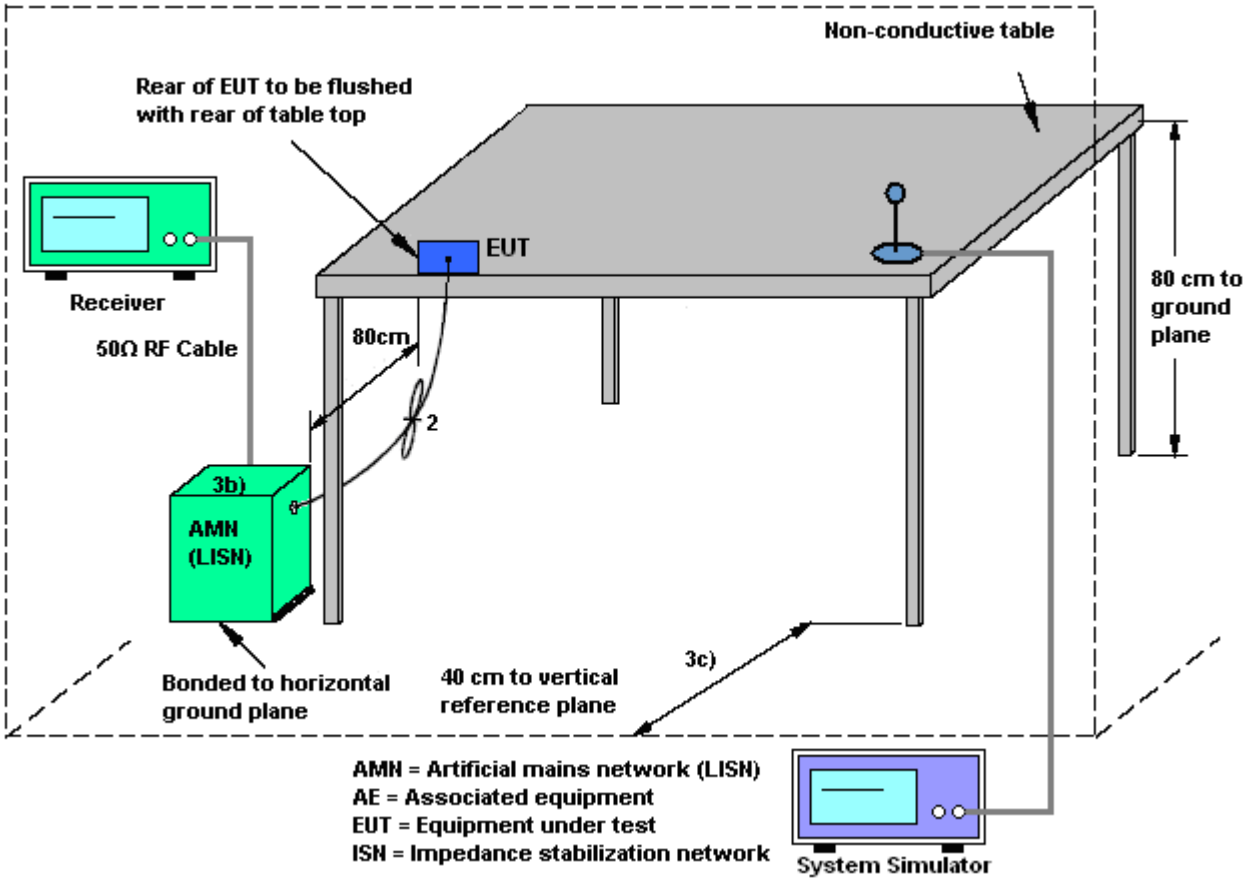
3.6.2 Measuring Instruments

See list of measuring instruments of this test report.

3.6.3 Test Procedures

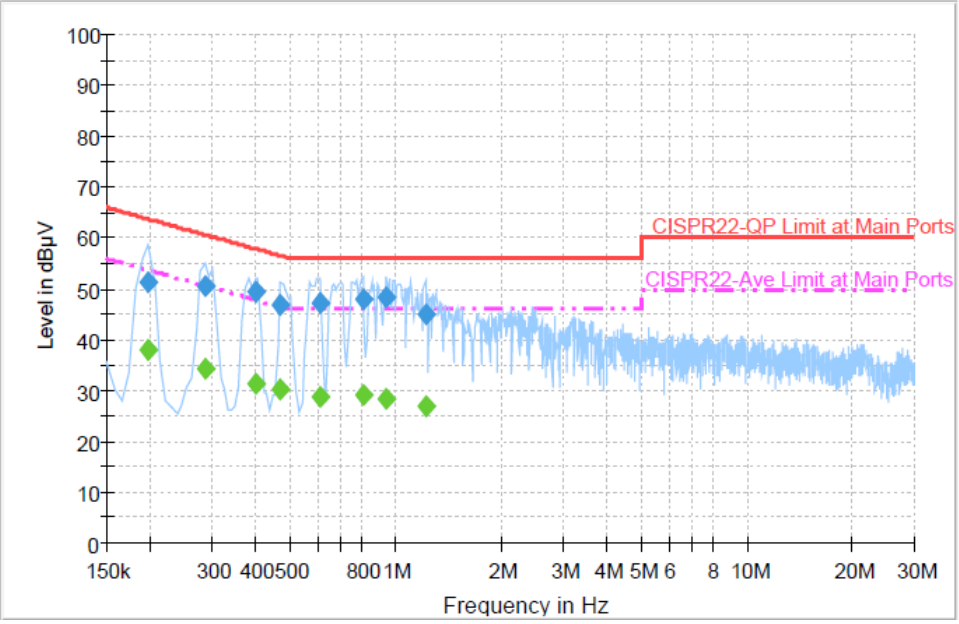
1. The testing follows the guidelines in ANSI C63.4-2003.
2. The EUT was placed 0.4 meter from the conducting wall of the shielding room, and it was kept at least 80 centimeters from any other grounded conducting surface.
3. Connect EUT to the power mains through a line impedance stabilization network (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℃
Test Engineer :	Novic Chiang	Relative Humidity :	40~42%
Test Voltage :	120Vac / 60Hz	Phase :	Line
Function Type :	CDMA2000 BC1 Idle + Bluetooth Link + WLAN Link + GPS Rx + WiMAX Idle + Battery 2 + Earphone + USB Cable 2 (Charging from Adapter 2)		
Remark :	All emissions not reported here are more than 10 dB below the prescribed limit.		



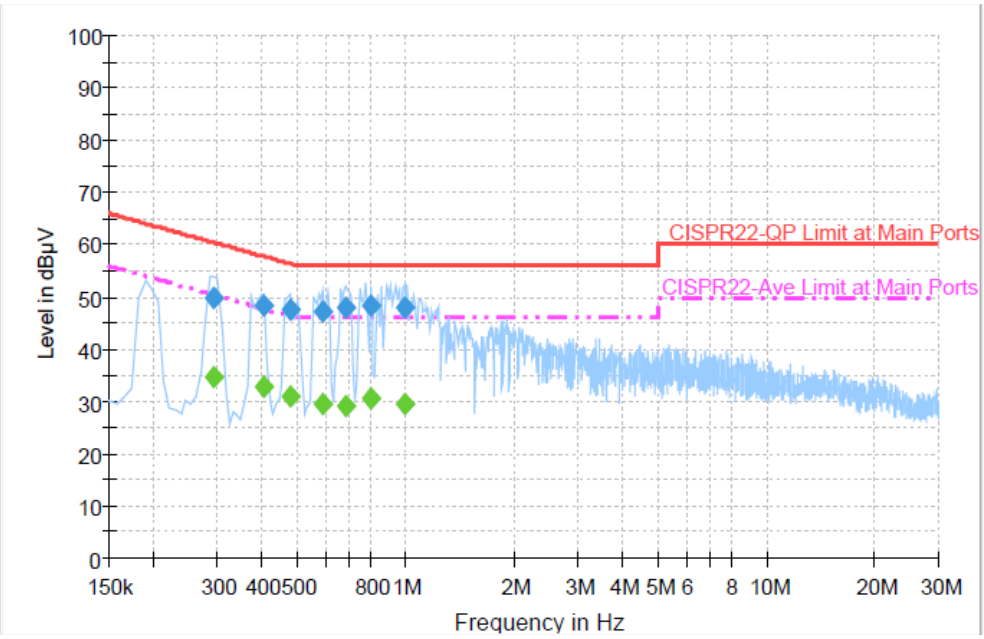
Final Result 1

Frequency (MHz)	QuasiPeak (dBµV)	Filter	Line	Corr. (dB)	Margin (dB)	Limit (dBµV)
0.198000	51.2	Off	L1	19.4	12.5	63.7
0.286000	50.5	Off	L1	19.4	10.1	60.6
0.398000	49.6	Off	L1	19.4	8.3	57.9
0.470000	46.9	Off	L1	19.4	9.6	56.5
0.606000	47.2	Off	L1	19.4	8.8	56.0
0.806000	48.0	Off	L1	19.4	8.0	56.0
0.942000	48.2	Off	L1	19.4	7.8	56.0
1.214000	45.1	Off	L1	19.4	10.9	56.0

Final Result 2

Frequency (MHz)	Average (dBµV)	Filter	Line	Corr. (dB)	Margin (dB)	Limit (dBµV)
0.198000	37.9	Off	L1	19.4	15.8	53.7
0.286000	34.3	Off	L1	19.4	16.3	50.6
0.398000	31.3	Off	L1	19.4	16.6	47.9
0.470000	30.4	Off	L1	19.4	16.1	46.5
0.606000	28.8	Off	L1	19.4	17.2	46.0
0.806000	29.3	Off	L1	19.4	16.7	46.0
0.942000	28.5	Off	L1	19.4	17.5	46.0
1.214000	26.8	Off	L1	19.4	19.2	46.0

Test Mode :	Mode 2	Temperature :	20~22℃
Test Engineer :	Novic Chiang	Relative Humidity :	40~42%
Test Voltage :	120Vac / 60Hz	Phase :	Neutral
Function Type :	CDMA2000 BC1 Idle + Bluetooth Link + WLAN Link + GPS Rx + WiMAX Idle + Battery 2 + Earphone + USB Cable 2 (Charging from Adapter 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)
0.294000	49.7	Off	N	19.4	10.7	60.4
0.406000	48.3	Off	N	19.5	9.4	57.7
0.478000	47.5	Off	N	19.4	8.9	56.4
0.590000	47.3	Off	N	19.4	8.7	56.0
0.686000	47.8	Off	N	19.5	8.2	56.0
0.798000	48.3	Off	N	19.4	7.7	56.0
0.990000	48.1	Off	N	19.5	7.9	56.0

Final Result 2

Frequency (MHz)	Average (dBµV)	Filter	Line	Corr. (dB)	Margin (dB)	Limit (dBµV)
0.294000	34.8	Off	N	19.4	15.6	50.4
0.406000	32.9	Off	N	19.5	14.8	47.7
0.478000	31.0	Off	N	19.4	15.4	46.4
0.590000	29.7	Off	N	19.4	16.3	46.0
0.686000	29.0	Off	N	19.5	17.0	46.0
0.798000	30.7	Off	N	19.4	15.3	46.0
0.990000	29.4	Off	N	19.5	16.6	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

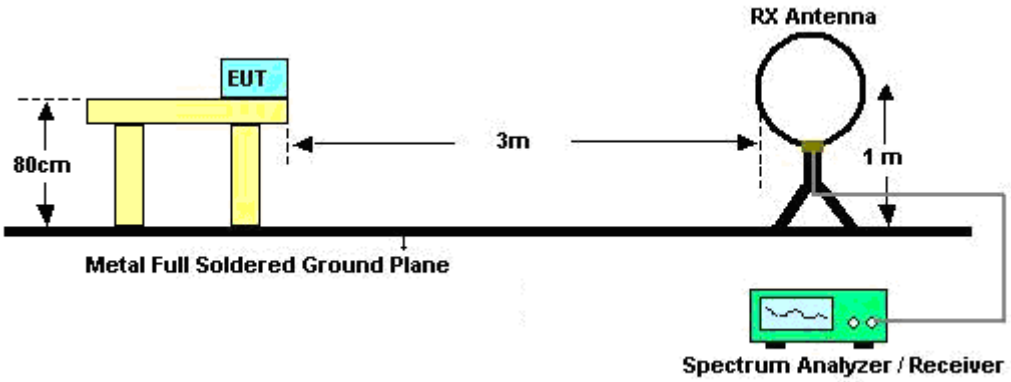
See list of measuring instruments of this test report.

3.7.3 Test Procedures

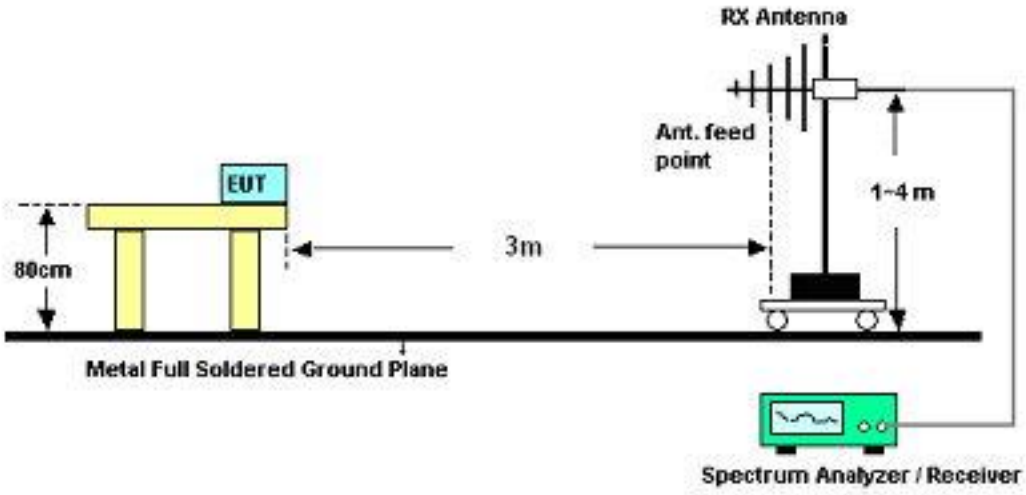
1. The testing follows the guidelines in FCC KDB Publication No. 558074 (Measurement Guidelines of DTS).
2. Use the following spectrum analyzer settings:
   (1) Span = wide enough to fully capture the emission being measured; RBW = 1 MHz for f ≥ 1 GHz, 100 kHz for f < 1 GHz; VBW ≥ RBW; Sweep = auto; Detector function = peak; Trace = max hold.
   (2) 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 (specific distance [3m] / test distance [1m]) (dB)
3. 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

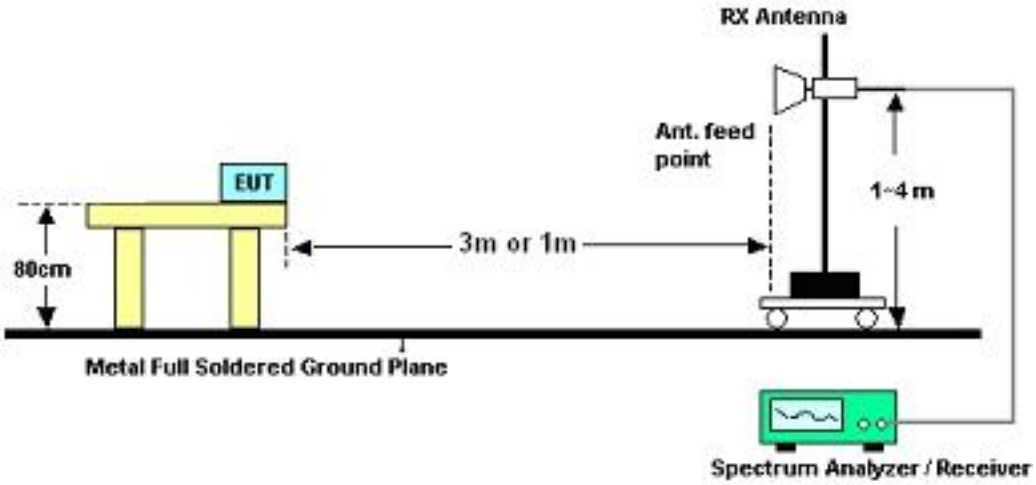
For radiated emissions below 30MHz



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 :	Kay Wu	Temperature :	21~22℃
		Relative Humidity :	47~48%

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 (specific distance / 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 :	21~22℃
Test Channel :	01	Relative Humidity :	47~48%
Test Engineer :	Kay Wu	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
30	16.9	-23.1	40	29.99	17.91	0.72	31.72	-	-	Peak
51.06	23.44	-16.56	40	46.35	7.92	0.87	31.7	110	217	Peak
219.54	17.94	-28.06	46	37.26	10.63	1.73	31.68	-	-	Peak
764.8	22.78	-23.22	46	31.21	20.29	3.35	32.07	-	-	Peak
805.4	24.06	-21.94	46	31.83	20.81	3.38	31.96	-	-	Peak
861.4	24.91	-21.09	46	31.86	21.3	3.59	31.84	-	-	Peak
2389.99	50.83	-23.17	74	47.92	31.9	5.4	34.39	100	337	Peak
2389.99	38.83	-15.17	54	35.92	31.9	5.4	34.39	100	337	Average
2412	106.18	-	-	103.23	31.91	5.43	34.39	100	337	Peak
2412	93.51	-	-	90.56	31.91	5.43	34.39	100	337	Average
2500	45.69	-28.31	74	42.54	32	5.52	34.37	100	337	Peak
2500	33.61	-20.39	54	30.46	32	5.52	34.37	100	337	Average
4824	54.82	-19.18	74	68.91	34.4	7.96	56.45	100	47	Peak
4824	40.14	-13.86	54	54.23	34.4	7.96	56.45	100	47	Average

Test Mode :	Mode 1	Temperature :	21~22℃
Test Channel :	01	Relative Humidity :	47~48%
Test Engineer :	Kay Wu	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
48.09	29.38	-10.62	40	51.47	8.78	0.84	31.71	-	-	Peak
53.22	34.44	-5.56	40	57.65	7.6	0.88	31.69	101	156	Peak
57.54	34.1	-5.9	40	57.91	6.95	0.92	31.68	-	-	Peak
742.4	22.52	-23.48	46	31.3	19.97	3.34	32.09	-	-	Peak
784.4	24.33	-21.67	46	32.42	20.56	3.36	32.01	-	-	Peak
859.3	24.67	-21.33	46	31.66	21.28	3.58	31.85	-	-	Peak
2389.61	48.43	-25.57	74	45.52	31.9	5.4	34.39	105	233	Peak
2389.61	35.88	-18.12	54	32.97	31.9	5.4	34.39	105	233	Average
2412	104.83	-	-	101.88	31.91	5.43	34.39	105	233	Peak
2412	90.86	-	-	87.91	31.91	5.43	34.39	105	233	Average
2484	46.5	-27.5	74	43.37	31.98	5.52	34.37	105	233	Peak
2484	32.68	-21.32	54	29.55	31.98	5.52	34.37	105	233	Average
4824	55.72	-18.28	74	69.81	34.4	7.96	56.45	100	41	Peak
4824	43.82	-10.18	54	57.91	34.4	7.96	56.45	100	41	Average

Test Mode :	Mode 2	Temperature :	21~22℃
Test Channel :	06	Relative Humidity :	47~48%
Test Engineer :	Kay Wu	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
50.79	24.04	-15.96	40	46.81	8.08	0.86	31.71	100	291	Peak
92.64	16.47	-27.03	43.5	37.46	9.56	1.16	31.71	-	-	Peak
153.39	17.71	-25.79	43.5	37.41	10.51	1.47	31.68	-	-	Peak
533.8	21	-25	46	31.79	18.27	2.79	31.85	-	-	Peak
805.4	24.06	-21.94	46	31.83	20.81	3.38	31.96	-	-	Peak
946.8	25.31	-20.69	46	30.84	21.84	3.79	31.16	-	-	Peak
2390	46.28	-27.72	74	43.37	31.9	5.4	34.39	100	343	Peak
2390	34.12	-19.88	54	31.21	31.9	5.4	34.39	100	343	Average
2437	103.87	-	-	100.84	31.95	5.46	34.38	100	343	Peak
2437	91.41	-	-	88.38	31.95	5.46	34.38	100	343	Average
2484	47.33	-26.67	74	44.2	31.98	5.52	34.37	100	343	Peak
2484	33.24	-20.76	54	30.11	31.98	5.52	34.37	100	343	Average
4874	50.39	-23.61	74	64.5	34.37	8.01	56.49	100	220	Peak
4874	38.38	-15.62	54	52.49	34.37	8.01	56.49	100	220	Average

Test Mode :	Mode 2	Temperature :	21~22℃
Test Channel :	06	Relative Humidity :	47~48%
Test Engineer :	Kay Wu	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
48.09	29.38	-10.62	40	51.47	8.78	0.84	31.71	-	-	Peak
52.68	35.29	-4.71	40	58.34	7.76	0.88	31.69	100	58	Peak
92.64	27.65	-15.85	43.5	48.64	9.56	1.16	31.71	-	-	Peak
612.9	22.36	-23.64	46	32.3	19.2	2.95	32.09	-	-	Peak
784.4	24.33	-21.67	46	32.42	20.56	3.36	32.01	-	-	Peak
899.9	25.65	-20.35	46	31.86	21.63	3.76	31.6	-	-	Peak
2364	46.25	-27.75	74	43.42	31.86	5.37	34.4	100	229	Peak
2364	33.37	-20.63	54	30.54	31.86	5.37	34.4	100	229	Average
2437	102.33	-	-	99.3	31.95	5.46	34.38	100	229	Peak
2437	88.21	-	-	85.18	31.95	5.46	34.38	100	229	Average
2484	46.97	-27.03	74	43.84	31.98	5.52	34.37	100	229	Peak
2484	33.38	-20.62	54	30.25	31.98	5.52	34.37	100	229	Average
4874	50.36	-23.64	74	64.47	34.37	8.01	56.49	100	44	Peak
4874	38.96	-15.04	54	53.07	34.37	8.01	56.49	100	44	Average

Test Mode :	Mode 3	Temperature :	21~22℃
Test Channel :	11	Relative Humidity :	47~48%
Test Engineer :	Kay Wu	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
49.98	24.35	-15.65	40	47.12	8.08	0.86	31.71	100	39	Peak
153.93	18.1	-25.4	43.5	37.86	10.45	1.47	31.68	-	-	Peak
222.24	18.7	-27.3	46	37.8	10.82	1.74	31.66	-	-	Peak
512.8	20.04	-25.96	46	31.13	18	2.72	31.81	-	-	Peak
768.3	23.45	-22.55	46	31.83	20.33	3.35	32.06	-	-	Peak
906.9	25.08	-20.92	46	31.19	21.66	3.76	31.53	-	-	Peak
2364	46.12	-27.88	74	43.29	31.86	5.37	34.4	100	328	Peak
2364	39.75	-14.25	54	36.92	31.86	5.37	34.4	100	328	Average
2462	105.8	-	-	102.72	31.97	5.49	34.38	100	328	Peak
2462	92.88	-	-	89.8	31.97	5.49	34.38	100	328	Average
2483.85	52.75	-21.25	74	49.62	31.98	5.52	34.37	100	328	Peak
2483.85	40.14	-13.86	54	37.01	31.98	5.52	34.37	100	328	Average
4924	62.81	-11.19	74	76.95	34.34	8.04	56.52	102	14	Peak
4924	49.09	-4.91	54	63.23	34.34	8.04	56.52	102	14	Average

Test Mode :	Mode 3	Temperature :	21~22℃
Test Channel :	11	Relative Humidity :	47~48%
Test Engineer :	Kay Wu	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
48.63	30.26	-9.74	40	52.35	8.78	0.84	31.71	-	-	Peak
52.68	34.53	-5.47	40	57.58	7.76	0.88	31.69	100	289	Peak
91.29	26.99	-16.51	43.5	48.32	9.24	1.15	31.72	-	-	Peak
386.8	18.74	-27.26	46	32.67	15.47	2.36	31.76	-	-	Peak
715.8	22.3	-23.7	46	31.44	19.6	3.3	32.04	-	-	Peak
868.4	25.33	-20.67	46	32.15	21.35	3.62	31.79	-	-	Peak
2340	45.96	-28.04	74	43.19	31.84	5.34	34.41	103	0	Peak
2340	35.62	-18.38	54	32.85	31.84	5.34	34.41	103	0	Average
2462	102.1	-	-	99.02	31.97	5.49	34.38	103	0	Peak
2462	91.4	-	-	88.32	31.97	5.49	34.38	103	0	Average
2483.5	51.77	-22.23	74	48.64	31.98	5.52	34.37	103	0	Peak
2483.5	39.22	-14.78	54	36.09	31.98	5.52	34.37	103	0	Average
4924	62.79	-11.21	74	76.93	34.34	8.04	56.52	100	53	Peak
4924	50.22	-3.78	54	64.36	34.34	8.04	56.52	100	53	Average

Test Mode :	Mode 4	Temperature :	21~22℃
Test Channel :	01	Relative Humidity :	47~48%
Test Engineer :	Kay Wu	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
49.98	24.26	-15.74	40	47.03	8.08	0.86	31.71	100	189	Peak
153.39	18.27	-25.23	43.5	37.97	10.51	1.47	31.68	-	-	Peak
222.24	18.41	-27.59	46	37.51	10.82	1.74	31.66	-	-	Peak
497.4	19.93	-26.07	46	31.28	17.77	2.66	31.78	-	-	Peak
691.3	22.27	-23.73	46	31.67	19.37	3.23	32	-	-	Peak
880.3	25.24	-20.76	46	31.82	21.46	3.68	31.72	-	-	Peak
2389.61	53.8	-20.2	74	50.89	31.9	5.4	34.39	104	323	Peak
2389.61	37.05	-16.95	54	34.14	31.9	5.4	34.39	104	323	Average
2412	100.2	-	-	97.25	31.91	5.43	34.39	104	323	Peak
2412	87.9	-	-	84.95	31.91	5.43	34.39	104	323	Average
2484	45.31	-28.69	74	42.18	31.98	5.52	34.37	104	323	Peak
2484	33.08	-20.92	54	29.95	31.98	5.52	34.37	104	323	Average

Test Mode :	Mode 4	Temperature :	21~22℃
Test Channel :	01	Relative Humidity :	47~48%
Test Engineer :	Kay Wu	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
48.63	29.06	-10.94	40	51.15	8.78	0.84	31.71	-	-	Peak
52.68	35.11	-4.89	40	58.16	7.76	0.88	31.69	100	352	Peak
92.64	27.58	-15.92	43.5	48.57	9.56	1.16	31.71	-	-	Peak
504.4	20.31	-25.69	46	31.54	17.88	2.68	31.79	-	-	Peak
754.3	23.3	-22.7	46	31.91	20.14	3.35	32.1	-	-	Peak
932.8	25.17	-20.83	46	30.9	21.78	3.78	31.29	-	-	Peak
2389.99	55.26	-18.74	74	52.35	31.9	5.4	34.39	108	18	Peak
2389.99	37.74	-16.26	54	34.83	31.9	5.4	34.39	108	18	Average
2412	101.56	-	-	98.61	31.91	5.43	34.39	108	18	Peak
2412	89.21	-	-	86.26	31.91	5.43	34.39	108	18	Average
2484	45.87	-28.13	74	42.74	31.98	5.52	34.37	108	18	Peak
2484	33.3	-20.7	54	30.17	31.98	5.52	34.37	108	18	Average

Test Mode :	Mode 5	Temperature :	21~22℃
Test Channel :	06	Relative Humidity :	47~48%
Test Engineer :	Kay Wu	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
50.79	23.13	-16.87	40	45.9	8.08	0.86	31.71	100	49	Peak
175.53	18.24	-25.26	43.5	38.81	9.55	1.56	31.68	-	-	Peak
222.24	18.37	-27.63	46	37.47	10.82	1.74	31.66	-	-	Peak
496.7	19.51	-26.49	46	30.88	17.75	2.66	31.78	-	-	Peak
668.9	22.24	-23.76	46	31.77	19.32	3.13	31.98	-	-	Peak
873.3	25.14	-20.86	46	31.86	21.4	3.64	31.76	-	-	Peak
2390	45.48	-28.52	74	42.57	31.9	5.4	34.39	100	318	Peak
2390	33.67	-20.33	54	30.76	31.9	5.4	34.39	100	318	Average
2437	100.06	-	-	97.03	31.95	5.46	34.38	100	318	Peak
2437	87.81	-	-	84.78	31.95	5.46	34.38	100	318	Average
2484	45.61	-28.39	74	42.48	31.98	5.52	34.37	100	318	Peak
2484	33.33	-20.67	54	30.2	31.98	5.52	34.37	100	318	Average

Test Mode :	Mode 5	Temperature :	21~22℃
Test Channel :	06	Relative Humidity :	47~48%
Test Engineer :	Kay Wu	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
30.54	27.42	-12.58	40	41.11	17.31	0.72	31.72	-	-	Peak
52.68	34.25	-5.75	40	57.3	7.76	0.88	31.69	100	129	Peak
91.29	26.62	-16.88	43.5	47.95	9.24	1.15	31.72	-	-	Peak
567.4	21.19	-24.81	46	31.56	18.73	2.87	31.97	-	-	Peak
712.3	22.16	-23.84	46	31.35	19.55	3.29	32.03	-	-	Peak
906.9	25.64	-20.36	46	31.75	21.66	3.76	31.53	-	-	Peak
2390	45.83	-28.17	74	42.92	31.9	5.4	34.39	130	15	Peak
2390	33.67	-20.33	54	30.76	31.9	5.4	34.39	130	15	Average
2437	101.76	-	-	98.73	31.95	5.46	34.38	130	15	Peak
2437	89.34	-	-	86.31	31.95	5.46	34.38	130	15	Average
2484	46.08	-27.92	74	42.95	31.98	5.52	34.37	130	15	Peak
2484	33.85	-20.15	54	30.72	31.98	5.52	34.37	130	15	Average

Test Mode :	Mode 6	Temperature :	21~22℃
Test Channel :	11	Relative Humidity :	47~48%
Test Engineer :	Kay Wu	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
49.98	24.23	-15.77	40	47	8.08	0.86	31.71	100	108	Peak
154.74	17.83	-25.67	43.5	37.64	10.39	1.47	31.67	-	-	Peak
224.94	18.62	-27.38	46	37.5	11.01	1.75	31.64	-	-	Peak
525.4	21.35	-24.65	46	32.25	18.17	2.76	31.83	-	-	Peak
761.3	23.75	-22.25	46	32.25	20.23	3.35	32.08	-	-	Peak
920.9	26.43	-19.57	46	32.34	21.72	3.77	31.4	-	-	Peak
2388	48.04	-25.96	74	45.13	31.9	5.4	34.39	101	313	Peak
2388	34.97	-19.03	54	32.06	31.9	5.4	34.39	101	313	Average
2462	101.1	-	-	98.02	31.97	5.49	34.38	101	313	Peak
2462	89.09	-	-	86.01	31.97	5.49	34.38	101	313	Average
2483.5	66.29	-7.71	74	63.16	31.98	5.52	34.37	101	313	Peak
2483.5	45.54	-8.46	54	42.41	31.98	5.52	34.37	101	313	Average
4924	52.93	-21.07	74	67.06	34.35	8.03	56.51	102	6	Peak
4924	40.85	-13.15	54	54.99	34.34	8.04	56.52	102	6	Average

Test Mode :	Mode 6	Temperature :	21~22℃
Test Channel :	11	Relative Humidity :	47~48%
Test Engineer :	Kay Wu	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
30	21.66	-18.34	40	34.75	17.91	0.72	31.72	-	-	Peak
52.68	34.98	-5.02	40	58.03	7.76	0.88	31.69	100	138	Peak
91.29	26.15	-17.35	43.5	47.48	9.24	1.15	31.72	-	-	Peak
463.8	19.47	-26.53	46	31.68	17.07	2.55	31.83	-	-	Peak
638.8	21.75	-24.25	46	31.47	19.26	3.02	32	-	-	Peak
875.4	25.66	-20.34	46	32.34	21.42	3.65	31.75	-	-	Peak
2388	50.71	-23.29	74	47.8	31.9	5.4	34.39	105	17	Peak
2388	37.83	-16.17	54	34.92	31.9	5.4	34.39	105	17	Average
2462	103.31	-	-	100.23	31.97	5.49	34.38	105	17	Peak
2462	90.54	-	-	87.46	31.97	5.49	34.38	105	17	Average
2483.5	68.42	-5.58	74	65.29	31.98	5.52	34.37	105	17	Peak
2483.5	47.82	-6.18	54	44.69	31.98	5.52	34.37	105	17	Average
4924	56.15	-17.85	74	70.29	34.34	8.04	56.52	100	44	Peak
4924	41.52	-12.48	54	55.66	34.34	8.04	56.52	100	44	Average

Test Mode :	Mode 7	Temperature :	21~22℃
Test Channel :	01	Relative Humidity :	47~48%
Test Engineer :	Kay Wu	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
49.98	24.97	-15.03	40	47.74	8.08	0.86	31.71	100	119	Peak
152.58	18.46	-25.04	43.5	38.11	10.58	1.46	31.69	-	-	Peak
223.59	18.36	-27.64	46	37.3	10.95	1.75	31.64	-	-	Peak
607.3	21.26	-24.74	46	31.25	19.18	2.94	32.11	-	-	Peak
782.3	23.62	-22.38	46	31.75	20.53	3.36	32.02	-	-	Peak
911.8	25.29	-20.71	46	31.32	21.68	3.77	31.48	-	-	Peak
2389.61	50.84	-23.16	74	47.93	31.9	5.4	34.39	103	308	Peak
2389.61	35.67	-18.33	54	32.76	31.9	5.4	34.39	103	308	Average
2412	99.32	-	-	96.37	31.91	5.43	34.39	103	308	Peak
2412	86.79	-	-	83.84	31.91	5.43	34.39	103	308	Average
2492	45.83	-28.17	74	42.68	32	5.52	34.37	103	308	Peak
2492	33.11	-20.89	54	29.96	32	5.52	34.37	103	308	Average

Test Mode :	Mode 7	Temperature :	21~22℃
Test Channel :	01	Relative Humidity :	47~48%
Test Engineer :	Kay Wu	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
47.28	31.02	-8.98	40	52.76	9.12	0.84	31.7	-	-	Peak
52.68	35.3	-4.7	40	58.35	7.76	0.88	31.69	100	39	Peak
91.29	24.8	-18.7	43.5	46.13	9.24	1.15	31.72	-	-	Peak
498.8	19.87	-26.13	46	31.2	17.79	2.66	31.78	-	-	Peak
661.9	22.3	-23.7	46	31.88	19.3	3.1	31.98	-	-	Peak
896.4	25.79	-20.21	46	32.07	21.6	3.74	31.62	-	-	Peak
2389.42	53.51	-20.49	74	50.6	31.9	5.4	34.39	130	19	Peak
2389.42	37.94	-16.06	54	35.03	31.9	5.4	34.39	130	19	Average
2412	100.71	-	-	97.76	31.91	5.43	34.39	130	19	Peak
2412	88.32	-	-	85.37	31.91	5.43	34.39	130	19	Average
2486	46.81	-27.19	74	43.68	31.98	5.52	34.37	130	19	Peak
2486	33.51	-20.49	54	30.38	31.98	5.52	34.37	130	19	Average

Test Mode :	Mode 8	Temperature :	21~22℃
Test Channel :	06	Relative Humidity :	47~48%
Test Engineer :	Kay Wu	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
49.44	25.76	-14.24	40	48.19	8.43	0.85	31.71	100	176	Peak
152.04	19.67	-23.83	43.5	39.32	10.58	1.46	31.69	-	-	Peak
222.78	18.89	-27.11	46	37.91	10.88	1.75	31.65	-	-	Peak
567.4	22.05	-23.95	46	32.42	18.73	2.87	31.97	-	-	Peak
771.8	23.16	-22.84	46	31.48	20.38	3.35	32.05	-	-	Peak
943.3	25.71	-20.29	46	31.27	21.83	3.79	31.18	-	-	Peak
2326	46.08	-27.92	74	43.35	31.83	5.31	34.41	100	316	Peak
2326	33.2	-20.8	54	30.47	31.83	5.31	34.41	100	316	Average
2437	97.05	-	-	94.02	31.95	5.46	34.38	100	316	Peak
2437	84.49	-	-	81.46	31.95	5.46	34.38	100	316	Average
2500	45.79	-28.21	74	42.64	32	5.52	34.37	100	316	Peak
2500	33.12	-20.88	54	29.97	32	5.52	34.37	100	316	Average
4874	48.36	-25.64	74	62.48	34.37	8	56.49	100	0	Peak

Test Mode :	Mode 8	Temperature :	21~22℃
Test Channel :	06	Relative Humidity :	47~48%
Test Engineer :	Kay Wu	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
52.68	35.77	-4.23	40	58.82	7.76	0.88	31.69	100	182	Peak
90.48	25.73	-17.77	43.5	47.24	9.08	1.14	31.73	-	-	Peak
152.58	23.36	-20.14	43.5	43.01	10.58	1.46	31.69	-	-	Peak
502.3	20.44	-25.56	46	31.69	17.86	2.68	31.79	-	-	Peak
656.3	22.6	-23.4	46	32.2	19.29	3.08	31.97	-	-	Peak
913.9	25.7	-20.3	46	31.7	21.69	3.77	31.46	-	-	Peak
2334	45.89	-28.11	74	43.13	31.83	5.34	34.41	131	17	Peak
2334	33.36	-20.64	54	30.6	31.83	5.34	34.41	131	17	Average
2437	87.3	-	-	84.27	31.95	5.46	34.38	131	17	Average
2437	99.4	-	-	96.37	31.95	5.46	34.38	131	17	Peak
2484	46.85	-27.15	74	43.72	31.98	5.52	34.37	131	17	Peak
2484	33.44	-20.56	54	30.31	31.98	5.52	34.37	131	17	Average

Test Mode :	Mode 9	Temperature :	21~22℃
Test Channel :	11	Relative Humidity :	47~48%
Test Engineer :	Kay Wu	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
49.98	26.87	-13.13	40	49.64	8.08	0.86	31.71	100	126	Peak
150.69	18.87	-24.63	43.5	38.4	10.7	1.46	31.69	-	-	Peak
223.59	20.39	-25.61	46	39.33	10.95	1.75	31.64	-	-	Peak
518.4	20.32	-25.68	46	31.32	18.08	2.74	31.82	-	-	Peak
766.9	23.17	-22.83	46	31.57	20.31	3.35	32.06	-	-	Peak
943.3	26.35	-19.65	46	31.91	21.83	3.79	31.18	-	-	Peak
2388	47.34	-26.66	74	44.43	31.9	5.4	34.39	101	313	Peak
2388	34.58	-19.42	54	31.67	31.9	5.4	34.39	101	313	Average
2462	98.77	-	-	95.69	31.97	5.49	34.38	101	313	Peak
2462	86.68	-	-	83.6	31.97	5.49	34.38	101	313	Average
2483.5	64.58	-9.42	74	61.45	31.98	5.52	34.37	101	313	Peak
2483.5	44.6	-9.4	54	41.47	31.98	5.52	34.37	101	313	Average
4924	52.86	-21.14	74	66.99	34.35	8.03	56.51	100	19	Peak
4924	39.61	-14.39	54	53.75	34.34	8.04	56.52	100	19	Average

Test Mode :	Mode 9	Temperature :	21~22℃
Test Channel :	11	Relative Humidity :	47~48%
Test Engineer :	Kay Wu	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
53.49	35.48	-4.52	40	58.69	7.6	0.88	31.69	100	256	Peak
92.64	24.71	-18.79	43.5	45.7	9.56	1.16	31.71	-	-	Peak
151.23	22.86	-20.64	43.5	42.45	10.64	1.46	31.69	-	-	Peak
528.9	20.32	-25.68	46	31.18	18.21	2.77	31.84	-	-	Peak
747.3	23.17	-22.83	46	31.89	20.03	3.35	32.1	-	-	Peak
952.4	25.29	-20.71	46	30.74	21.87	3.79	31.11	-	-	Peak
2388	46.99	-27.01	74	44.08	31.9	5.4	34.39	105	18	Peak
2388	35.45	-18.55	54	32.54	31.9	5.4	34.39	105	18	Average
2462	100.28	-	-	97.2	31.97	5.49	34.38	105	18	Peak
2462	87.58	-	-	84.5	31.97	5.49	34.38	105	18	Average
2483.5	64.59	-9.41	74	61.46	31.98	5.52	34.37	105	18	Peak
2483.5	45.88	-8.12	54	42.75	31.98	5.52	34.37	105	18	Average
4924	53.74	-20.26	74	67.88	34.34	8.04	56.52	100	43	Peak
4924	43.56	-10.44	54	57.7	34.34	8.04	56.52	100	43	Average

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)
System Simulator	R&S	CMU200	117591	N/A	Oct. 18, 2010	Oct. 17, 2011	Conduction (CO05-HY)
WiMAX Base Station (System Simulator)	Agilent	E6651A	N/A	N/A	N/A	N/A	Conduction (CO05-HY)
AC Power Source	APC	APC-1000W	N/A	N/A	N/A	N/A	Radiation (03CH06-HY)
Spectrum Analyzer	R&S	FSP40	100057	9KHz-40GHz	Oct. 25, 2010	Oct. 24, 2011	Radiation (03CH06-HY)
EMI Test Receiver	R&S	ESVS10	834468/003	20MHz-1000MHz	Apr. 28, 2010	Apr. 27, 2011	Radiation (03CH06-HY)
Bilog Antenna	SCHAFFNER	CBL6112B	2885	30MHz -2GHz	Oct. 31, 2010	Oct. 31, 2011	Radiation (03CH06-HY)
Double Ridge Horn Antenna	EMCO	3117	00066583	1GHz~18GHz	Aug. 02, 2010	Aug. 01, 2011	Radiation (03CH06-HY)
Double Ridge Horn Antenna	Training Research	AH-0801	95119	8GHz~18GHz	Oct. 20, 2010	Oct. 19, 2011	Radiation (03CH06-HY)
SHF-EHF Horn Antenna	SCHWARZBECK	BBHA 9170	BBHA9170251	15GHz- 40GHz	Oct. 18, 2010	Oct. 17, 2011	Radiation (03CH06-HY)
Pre Amplifier	Agilent	8449B	3008A01917	1GHz- 26.5GHz	Apr. 14, 2011	Apr. 13, 2012	Radiation (03CH06-HY)
Amplifier	Agilent	310N	186713	9KHz~1GHz	Apr. 14, 2011	Apr. 13, 2012	Radiation (03CH06-HY)
Loop Antenna	R&S	HFH2-Z2	860004/001	9 kHz~30 MHz	Jul. 29, 2010	Jul. 28, 2011	Radiation (03CH06-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 Uc(y)	**1.13**		
Measuring Uncertainty for a Level of Confidence of 95% (U = 2Uc(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 Uc(y)	**1.27**		
Measuring Uncertainty for a Level of Confidence of 95% (U = 2Uc(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 Γ1 = 0.197 Antenna VSWR Γ2 = 0.194 Uncertainty = 20Log(1-Γ1*Γ2)	+0.34 / -0.35	U-Shape	0.244	1	0.244
Combined Standard Uncertainty Uc(y)	**2.36**				
Measuring Uncertainty for a Level of Confidence of 95% (U = 2Uc(y))	**4.72**				