FCC RF Test Report

APPLICANT	**:**	**HTC Corporation**
EQUIPMENT	**:**	**Smart Phone**
MODEL NAME	**:**	**CDMA__HTI12**
FCC ID	**:**	**NM8CDMAHTI12**
STANDARD	**:**	**FCC Part 15 Subpart C §15.247**
CLASSIFICATION	**:**	**Digital Transmission System (DTS)**

The product was received on Jun. 15, 2011 and completely tested on Jun. 28, 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.

TABLE OF CONTENTS

REVISION HISTORY

REPORT NO.	VERSION	DESCRIPTION	ISSUED DATE
FR161543B	Rev. 01	Initial issue of report	Jul. 21, 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 6.7 dB at 0.25 MHz
3.7	15.247(d)	A8.5	Transmitter Radiated Emission	15.209(a) & 15.247(d)	Pass	Under limit 5.7 dB at 2389.99 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	CDMA__HTI12
FCC ID	NM8CDMAHTI12
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 : 21.38 dBm (0.14 W) 802.11g : 22.32 dBm (0.17 W) 802.11n (BW 20MHz) : 22.28 dBm (0.17 W)
Antenna Type	PCB Antenna with gain 0 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 (WiMAX)	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 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 01	2412 MHz	21.12	21.24	21.35	**21.38**
CH 06	2437 MHz	21.17	-	-	21.22
CH 11	2462 MHz	20.59	-	-	21.03

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 01	2412 MHz	22.08	-	-	-	-	-	-	-
CH 06	2437 MHz	**22.32**	22.25	21.97	21.73	22.05	22.28	22.01	22.13
CH 11	2462 MHz	22.20	-	-	-	-	-	-	-

Channel	Frequency	2.4GHz 802.11n (BW 20MHz) RF Power (dBm)							
		OFDM Data Rate							
		MCS=0	MCS=1	MCS=2	MCS=3	MCS=4	MCS=5	MCS=6	MCS=7
CH 01	2412 MHz	22.24							
CH 06	2437 MHz	22.28	21.74	21.8	21.93	21.64	21.36	21.3	21.65
CH 11	2462 MHz	22.12							

Remark:

1. The data rates of WLAN 802.11b/g/n were set in 11Mbps for 802.11b, 6Mbps for 802.11g, and MCS=0 for 802.11n (BW 20MHz) for all the test cases due to the highest RF output power.
2. The EUT is programmed to transmit signals continuously for all testing.

2.2 Test Mode

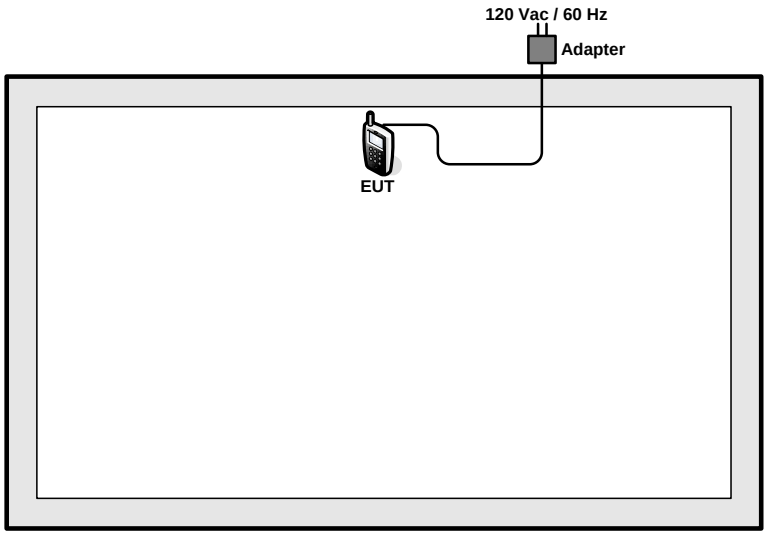
The EUT has been associated with peripherals pursuant to ANSI C63.4-2003 and configuration operated in a manner tended to maximize its emission characteristics in a typical application. Frequency range investigated: conducted emission (150 kHz to 30 MHz), radiated emission (30 MHz to the 10th harmonic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

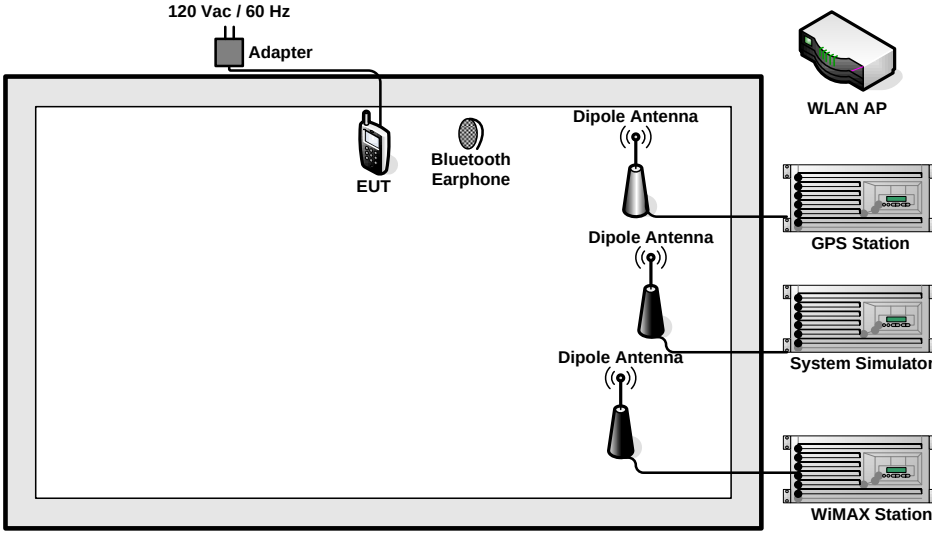
Test Cases		
Test Item	**802.11b (Modulation : DSSS)**	**802.11g/n (Modulation : OFDM)**
Conducted TCs	Mode 1 : 802.11b CH01_2412 MHz Mode 2 : 802.11b CH06_2437 MHz Mode 3 : 802.11b CH11_2462 MHz	Mode 4: 802.11g_CH01_2412 MHz Mode 5: 802.11g_CH06_2437 MHz Mode 6: 802.11g_CH11_2462 MHz Mode 7: 802.11n (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 BC 0 Idle + Bluetooth Link + WLAN Link + GPS Rx + Battery 1 + WiMAX Idle + Earphone + USB Cable (Charging from Adapter) Mode 2 : CDMA2000 BC 0 Idle + Bluetooth Link + WLAN Link + GPS Rx + Battery 2 + WiMAX Idle + Earphone + USB Cable (Charging from Adapter)	
Remark: The worst case of conducted emission is mode 2; only the test data of it was reported.		

2.3 Connection Diagram of Test System

<Bluetooth 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.

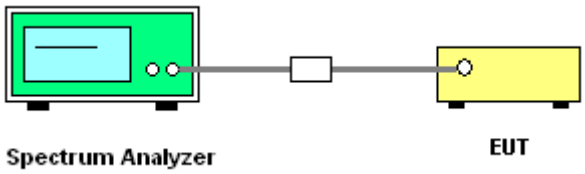
3.1.2 Measuring Instruments

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

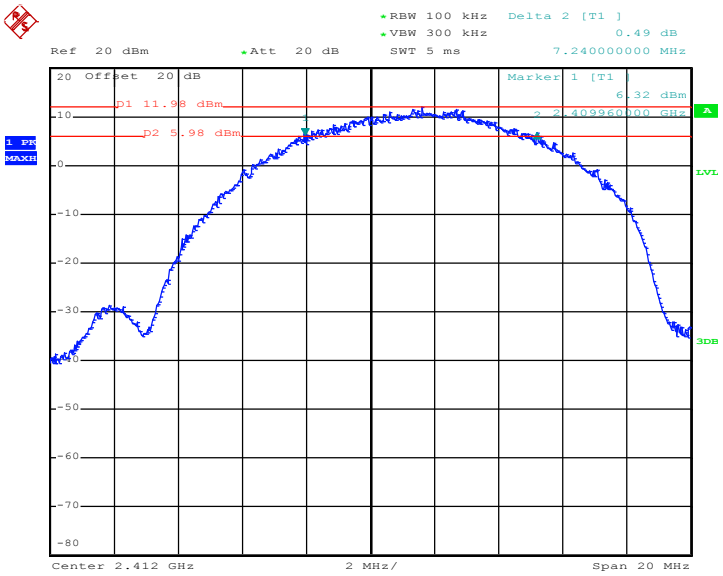


3.1.5 Test Result of 6dB Bandwidth

Test Mode :	Mode 1, 2, 3	Temperature :	25~27℃
Test Engineer :	Hank Yu	Relative Humidity :	49~52%

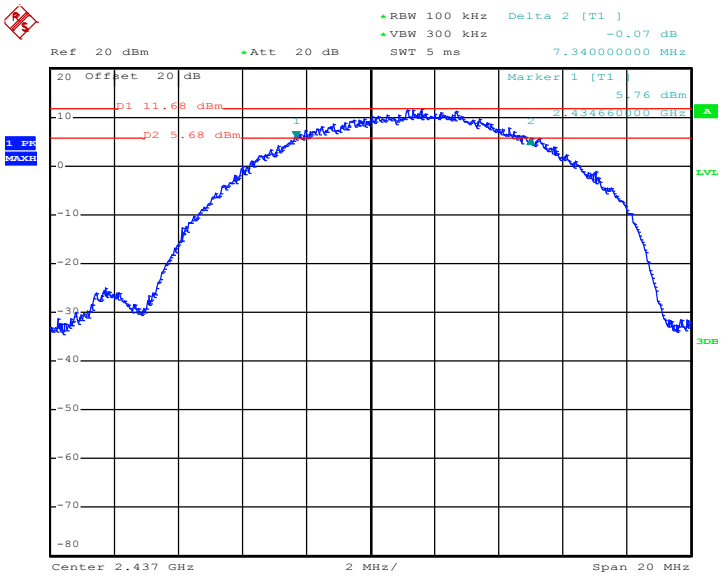
Channel	Frequency (MHz)	802.11b 6dB Bandwidth (MHz)	6dB Bandwidth Min. Limit (MHz)	Pass/Fail
01	2412	7.24	0.5	Pass
06	2437	7.34	0.5	Pass
11	2462	7.50	0.5	Pass

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



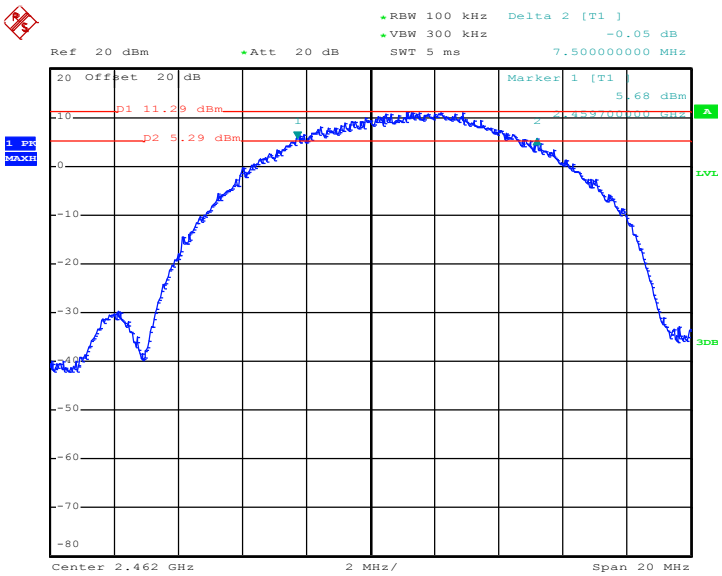
Date: 24.JUN.2011 20:38:57

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



Date: 24.JUN.2011 20:55:23

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

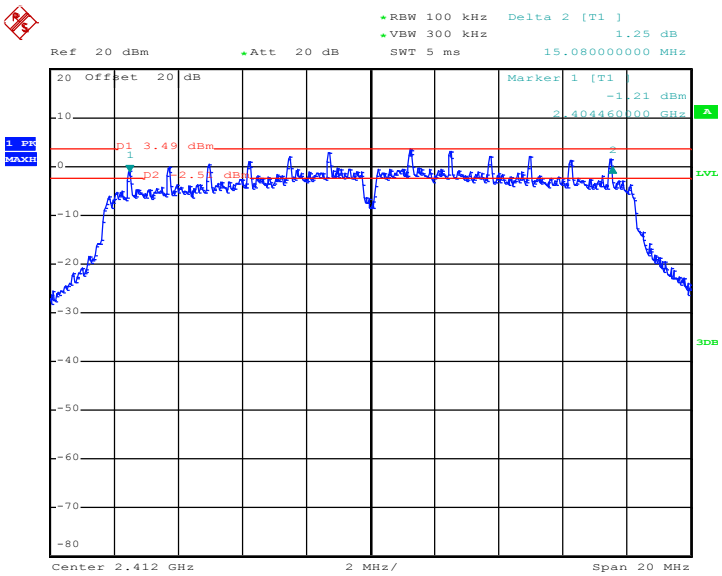


Date: 24.JUN.2011 20:44:31

Test Mode :	Mode 4, 5, 6	Temperature :	25~27℃
Test Engineer :	Hank Yu	Relative Humidity :	49~52%

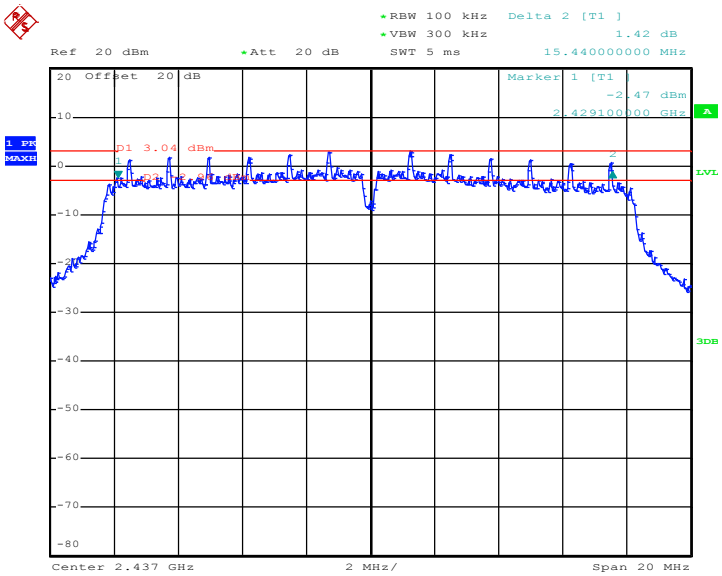
Channel	Frequency (MHz)	802.11g 6dB Bandwidth (MHz)	6dB Bandwidth Min. Limit (MHz)	Pass/Fail
01	2412	15.08	0.5	Pass
06	2437	15.44	0.5	Pass
11	2462	15.12	0.5	Pass

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



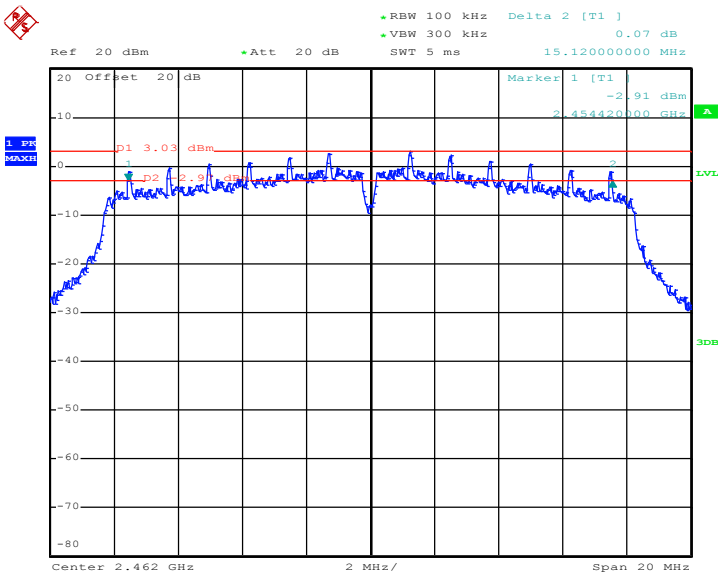
Date: 24.JUN.2011 21:36:19

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



Date: 24.JUN.2011 21:40:37

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

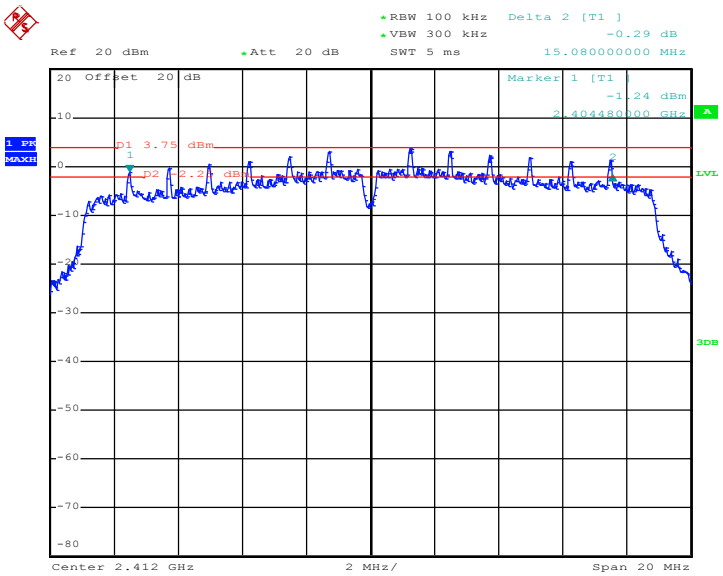


Date: 24.JUN.2011 21:43:32

Test Mode :	Mode 7, 8, 9	Temperature :	25~27℃
Test Engineer :	Hank Yu	Relative Humidity :	49~52%

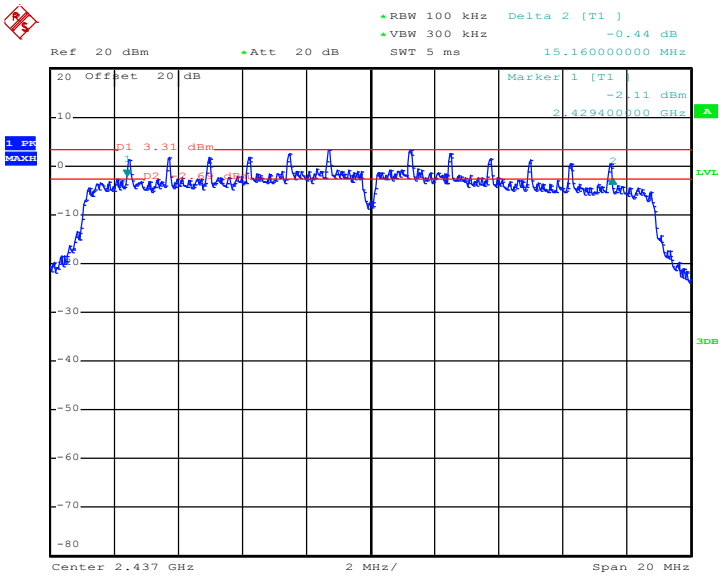
Channel	Frequency (MHz)	802.11n (BW 20MHz) 6dB Bandwidth (MHz)	6dB Bandwidth Min. Limit (MHz)	Pass/Fail
01	2412	15.08	0.5	Pass
06	2437	15.16	0.5	Pass
11	2462	15.08	0.5	Pass

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



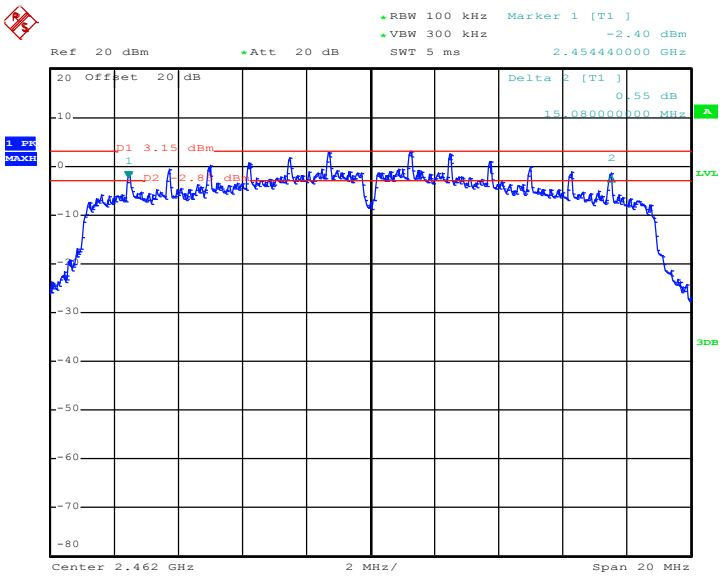
Date: 24.JUN.2011 22:00:57

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



Date: 24.JUN.2011 22:05:34

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



Date: 24.JUN.2011 21:55:41

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.

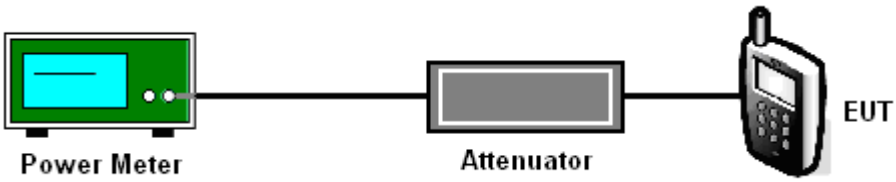
3.2.2 Measuring Instruments

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 :	25~27℃
Test Engineer :	Hank Yu	Relative Humidity :	49~52%

Channel	Frequency (MHz)	802.11b Measured Output Power (dBm)	Max. Limits (dBm)	Pass/Fail
01	2412	21.38	30	Pass
06	2437	21.22	30	Pass
11	2462	21.03	30	Pass

Test Mode :	Mode 4, 5, 6	Temperature :	25~27℃
Test Engineer :	Hank Yu	Relative Humidity :	49~52%

Channel	Frequency (MHz)	802.11g Measured Output Power (dBm)	Max. Limits (dBm)	Pass/Fail
01	2412	22.08	30	Pass
06	2437	22.32	30	Pass
11	2462	22.20	30	Pass

Test Mode :	Mode 7, 8, 9	Temperature :	25~27℃
Test Engineer :	Hank Yu	Relative Humidity :	49~52%

Channel	Frequency (MHz)	802.11n (BW 20MHz) Measured Output Power (dBm)	Max. Limits (dBm)	Pass/Fail
01	2412	22.24	30	Pass
06	2437	22.28	30	Pass
11	2462	22.12	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

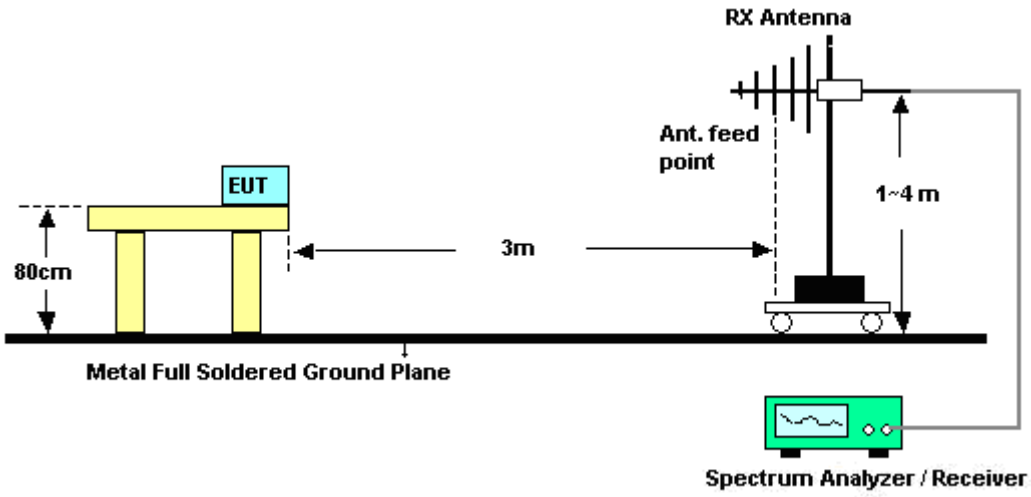
See list of measuring instruments of this test report.

3.3.3 Test Procedures

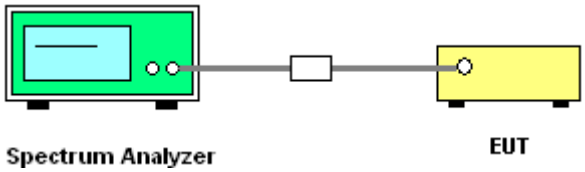
1. The testing follows the guidelines in ANSI C63.4-2003 and FCC KDB Publication No. 558074 (Measurement Guidelines of DTS).
2. Conducted emission test: Set RBW = 100 kHz, Video bandwidth (VBW) ≥ RBW. Band edge emissions must be at least 20 dB down from the highest emission level within the authorized 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 :**	25~26℃
Test Band :	802.11b	**Relative Humidity :**	47~48%
Test Channel :	01	**Test Engineer :**	Kai Wang

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	61.68	-12.32	74	58.77	31.9	5.4	34.39	105	30	Peak
2389.99	47.92	-6.08	54	45.01	31.9	5.4	34.39	105	30	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	55.57	-18.43	74	52.66	31.9	5.4	34.39	103	91	Peak
2389.99	42.82	-11.18	54	39.91	31.9	5.4	34.39	103	91	Average

Test Mode :	Mode 3	**Temperature :**	25~26℃
Test Band :	802.11b	**Relative Humidity :**	47~48%
Test Channel :	11	**Test Engineer :**	Kai Wang

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	60.83	-13.17	74	57.7	31.98	5.52	34.37	102	28	Peak
2483.66	46.37	-7.63	54	43.24	31.98	5.52	34.37	102	28	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	54.14	-19.86	74	51.01	31.98	5.52	34.37	100	86	Peak
2483.66	41.06	-12.94	54	37.93	31.98	5.52	34.37	100	86	Average

Test Mode :	Mode 4	Temperature :	25~26℃
Test Band :	802.11g	Relative Humidity :	47~48%
Test Channel :	01	Test Engineer :	Kai Wang

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	66.48	-7.52	74	63.57	31.9	5.4	34.39	105	28	Peak
2389.61	47.45	-6.55	54	44.54	31.9	5.4	34.39	105	28	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	59.67	-14.33	74	56.76	31.9	5.4	34.39	102	89	Peak
2389.61	41.66	-12.34	54	38.75	31.9	5.4	34.39	102	89	Average

Test Mode :	Mode 6	Temperature :	25~26℃
Test Band :	802.11g	Relative Humidity :	47~48%
Test Channel :	11	Test Engineer :	Kai Wang

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	65.52	-8.48	74	62.39	31.98	5.52	34.37	100	28	Peak
2483.5	47.59	-6.41	54	44.46	31.98	5.52	34.37	100	28	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	59.86	-14.14	74	56.73	31.98	5.52	34.37	100	87	Peak
2483.5	43.02	-10.98	54	39.89	31.98	5.52	34.37	100	87	Average

Test Mode :	Mode 7	Temperature :	25~26℃
Test Band :	802.11n (BW 20MHz)	Relative Humidity :	47~48%
Test Channel :	01	Test Engineer :	Kai Wang

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	68.3	-5.7	74	65.39	31.9	5.4	34.39	104	20	Peak
2389.99	47.63	-6.37	54	44.72	31.9	5.4	34.39	104	20	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
2388.85	61.63	-12.37	74	58.72	31.9	5.4	34.39	100	54	Peak
2388.85	42.97	-11.03	54	40.06	31.9	5.4	34.39	100	54	Average

Test Mode :	Mode 9	Temperature :	25~26℃
Test Band :	802.11n (BW 20MHz)	Relative Humidity :	47~48%
Test Channel :	11	Test Engineer :	Kai Wang

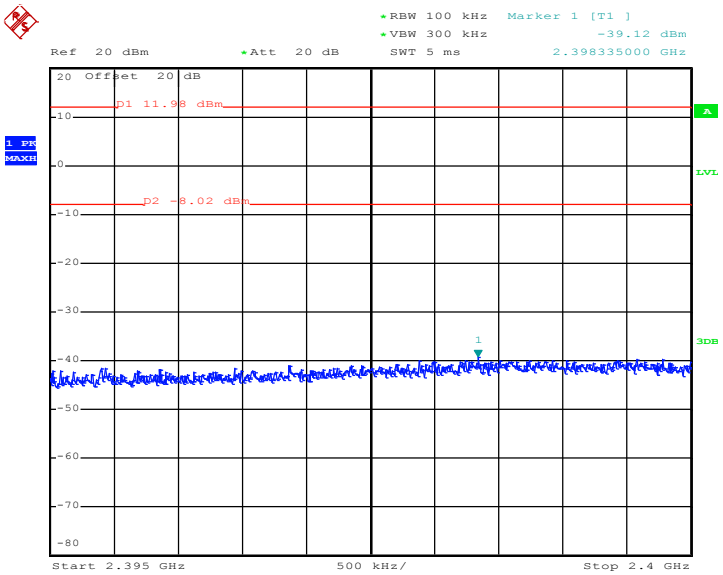
ANTENNA POLARITY : HORIZONTAL										
Frequency (MHz)	Level (dBuV/m)	Over Limit (dB)	Limit Line (dBuV/m)	Read Level (dBuV)	Antenna Factor (dB)	Cable Loss (dB)	Preamp Factor (dB)	Ant Pos (cm)	Table Pos (deg)	Remark
2483.85	66.96	-7.04	74	63.83	31.98	5.52	34.37	103	29	Peak
2483.85	46.61	-7.39	54	43.48	31.98	5.52	34.37	103	29	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
2483.85	60.09	-13.91	74	56.96	31.98	5.52	34.37	100	87	Peak
2483.85	41.96	-12.04	54	38.83	31.98	5.52	34.37	100	87	Average

3.3.6 Test Plots of Conducted Band Edges

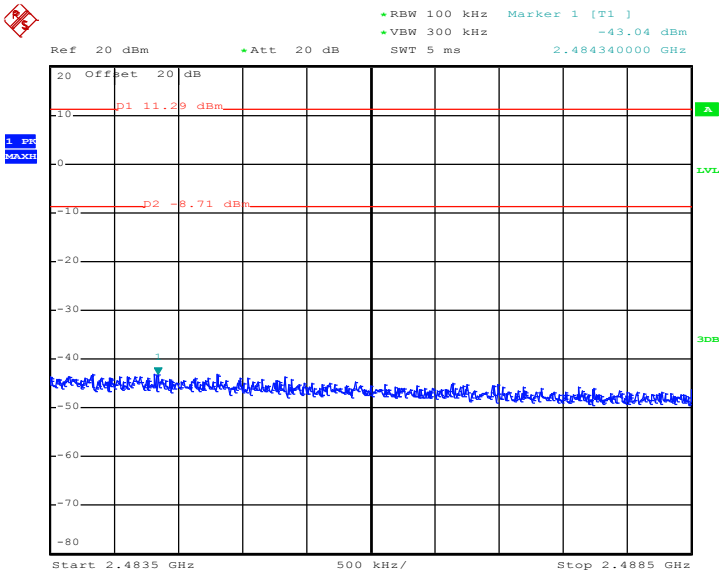
Test Mode :	Mode 1 and 3	Temperature :	25~27℃
Test Band :	802.11b	Relative Humidity :	49~52%
Test Channel :	01 and 11	Test Engineer :	Hank Yu

Low Band Edge Plot on 802.11b Channel 01



Date: 24.JUN.2011 20:40:06

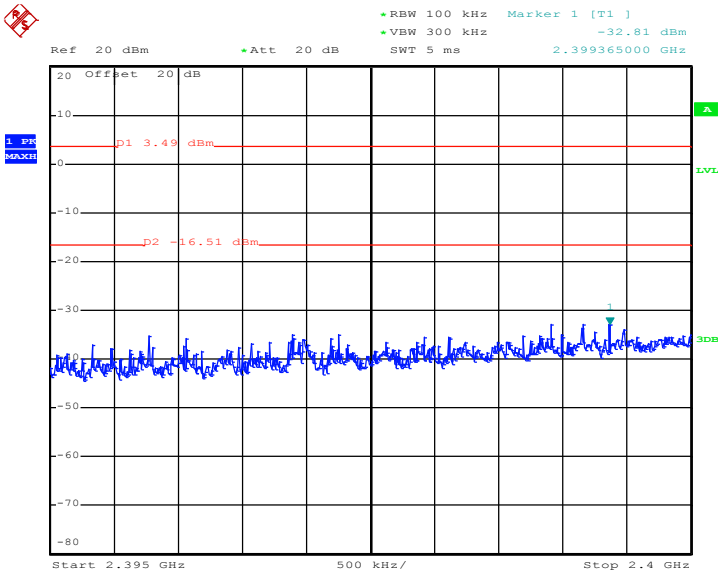
High Band Edge Plot on 802.11b Channel 11



Date: 24.JUN.2011 20:45:18

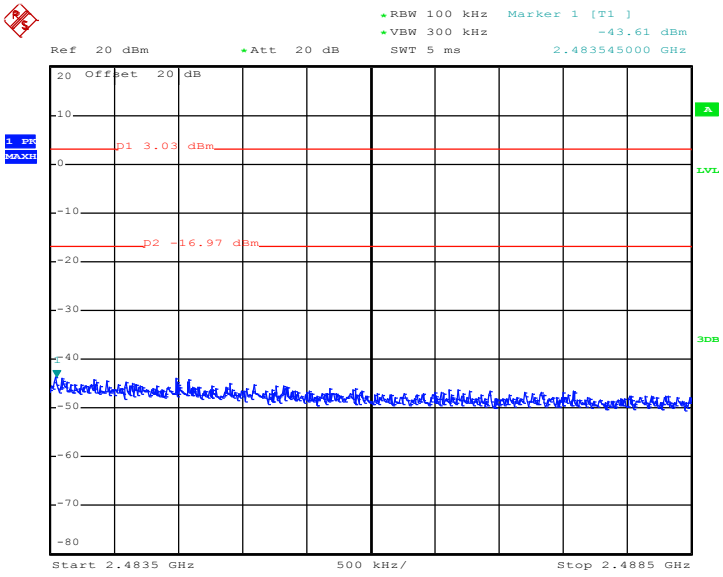
Test Mode :	Mode 4 and 6	Temperature :	25~27℃
Test Band :	802.11g	Relative Humidity :	49~52%
Test Channel :	01 and 11	Test Engineer :	Hank Yu

Low Band Edge Plot on 802.11g Channel 01



Date: 24.JUN.2011 21:37:27

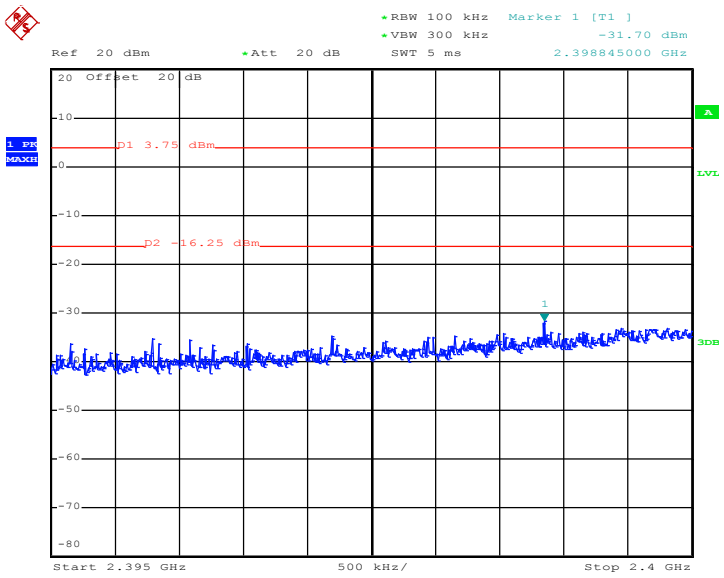
High Band Edge Plot on 802.11g Channel 11



Date: 24.JUN.2011 21:44:18

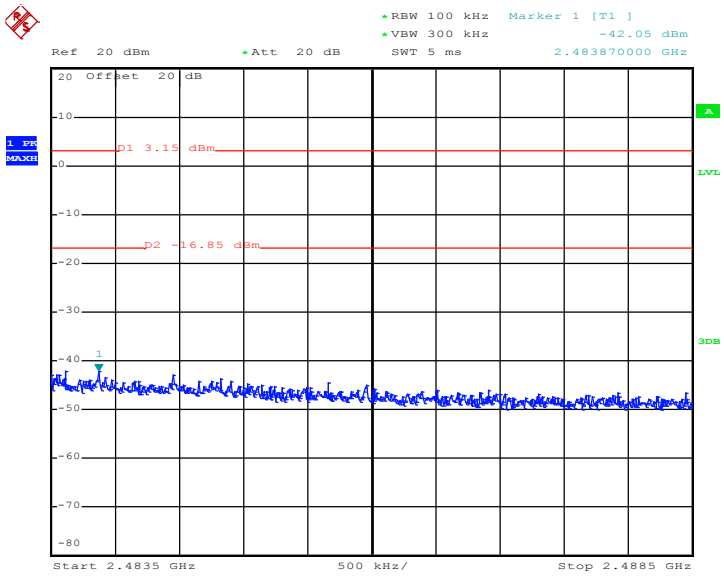
Test Mode :	Mode 7 and 9	Temperature :	25~27℃
Test Band :	802.11n (BW 20MHz)	Relative Humidity :	49~52%
Test Channel :	01 and 11	Test Engineer :	Hank Yu

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



Date: 24.JUN.2011 22:02:06

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



Date: 24.JUN.2011 21:56:28

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.

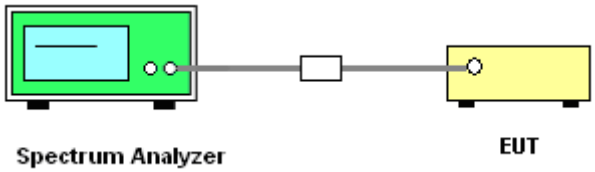
3.4.2 Measuring Instruments

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.

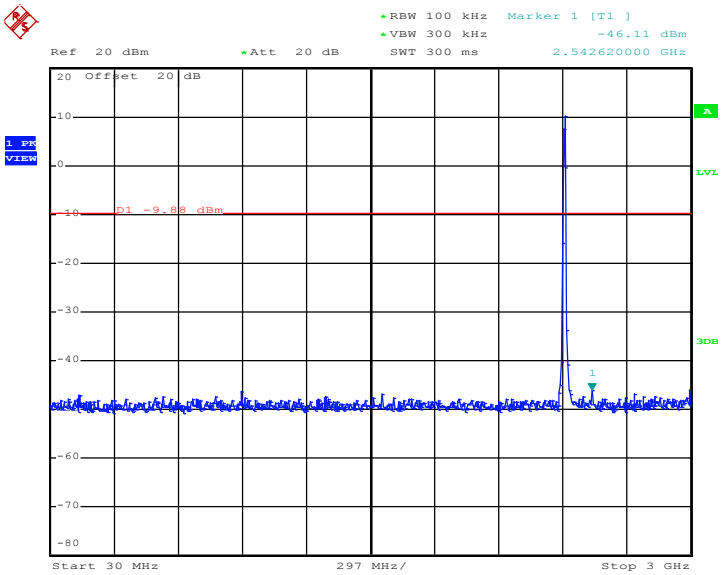
3.4.4 Test Setup



3.4.5 Test Plots of Spurious Emission

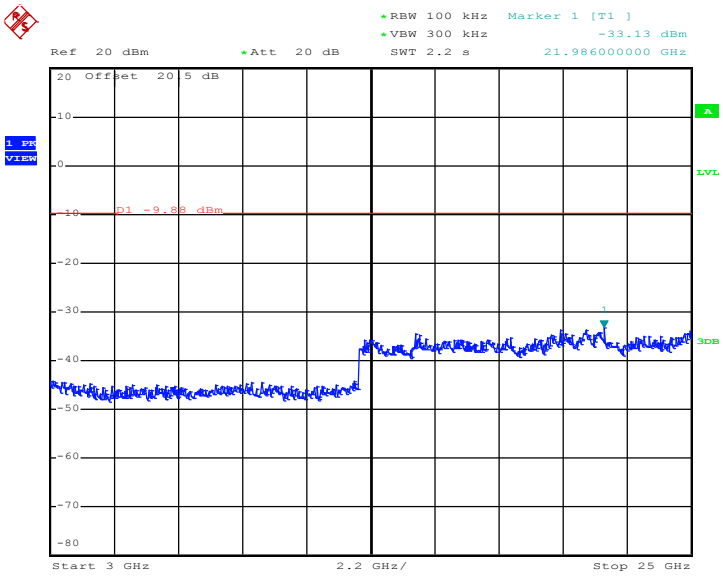
Test Mode :	Mode 1	Temperature :	25~27℃
Test Band :	802.11b	Relative Humidity :	49~52%
Test Channel :	01	Test Engineer :	Hank Yu

Conducted Spurious Emission Plot between 30MHz ~ 3 GHz



Date: 24.JUN.2011 20:40:52

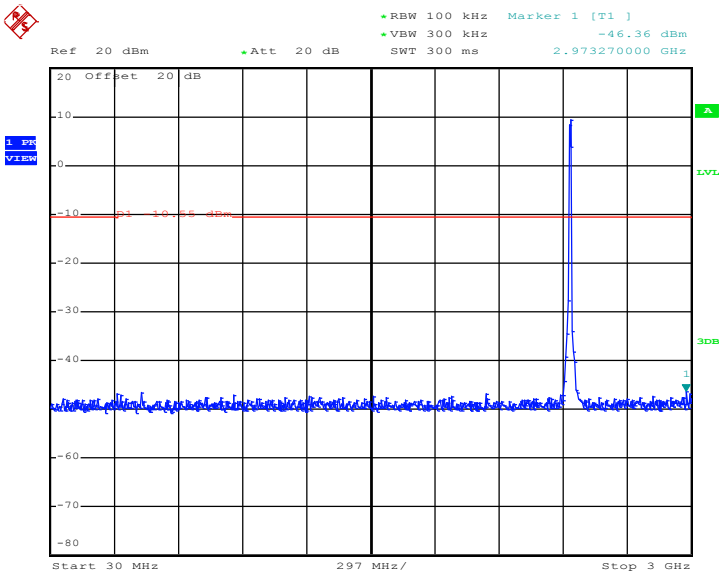
Conducted Spurious Emission Plot between 3 GHz ~ 25 GHz



Date: 24.JUN.2011 20:53:04

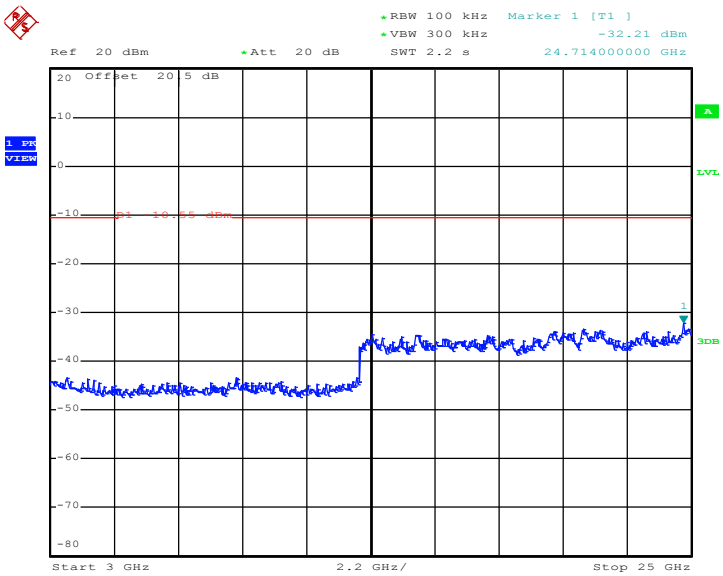
Test Mode :	Mode 2	Temperature :	25~27℃
Test Band :	802.11b	Relative Humidity :	49~52%
Test Channel :	06	Test Engineer :	Hank Yu

Conducted Spurious Emission Plot between 30MHz ~ 3 GHz



Date: 24.JUN.2011 20:56:14

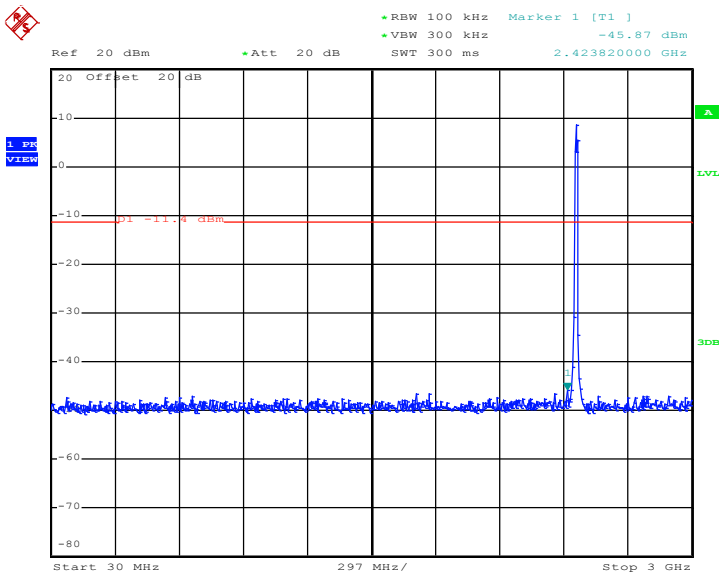
Conducted Spurious Emission Plot between 3 GHz ~ 25 GHz



Date: 24.JUN.2011 20:57:23

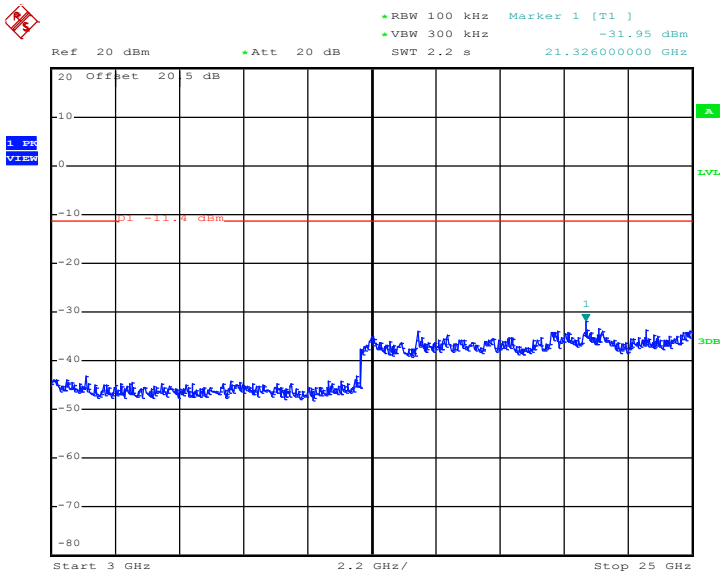
Test Mode :	Mode 3	Temperature :	25~27℃
Test Band :	802.11b	Relative Humidity :	49~52%
Test Channel :	11	Test Engineer :	Hank Yu

Conducted Spurious Emission Plot between 30MHz ~ 3 GHz



Date: 24.JUN.2011 21:07:08

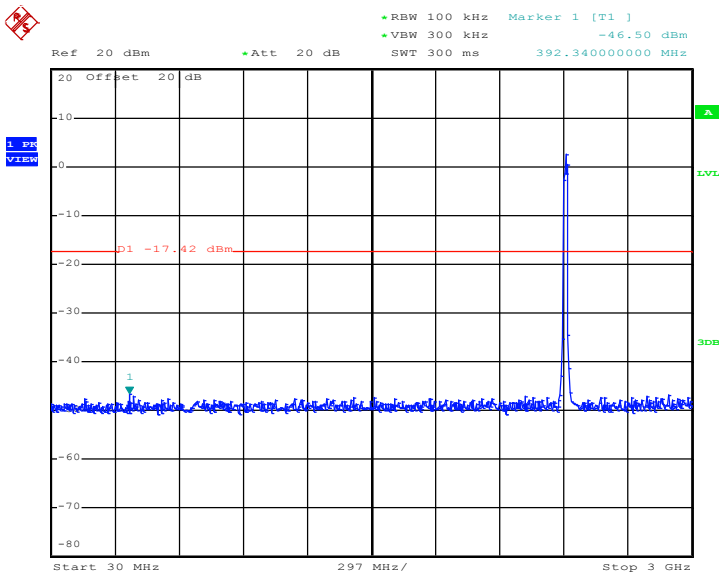
Conducted Spurious Emission Plot between 3 GHz ~ 25 GHz



Date: 24.JUN.2011 21:08:53

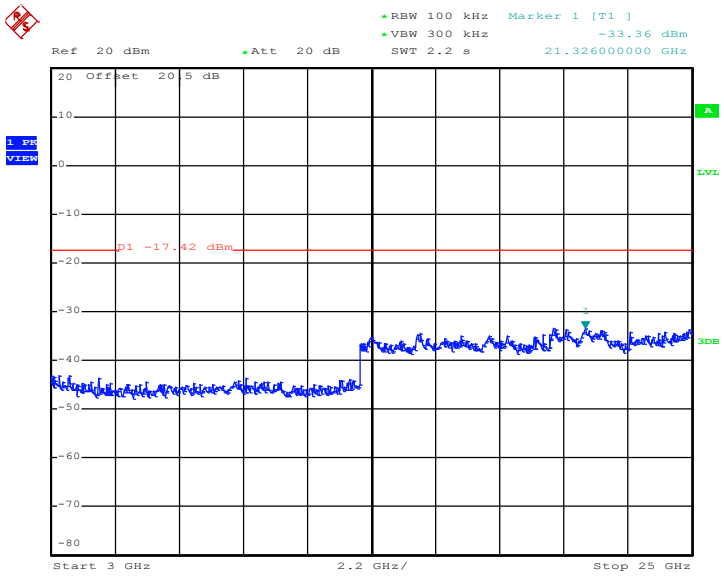
Test Mode :	Mode 4	Temperature :	25~27℃
Test Band :	802.11g	Relative Humidity :	49~52%
Test Channel :	01	Test Engineer :	Hank Yu

Conducted Spurious Emission Plot between 30MHz ~ 3 GHz



Date: 24.JUN.2011 21:38:14

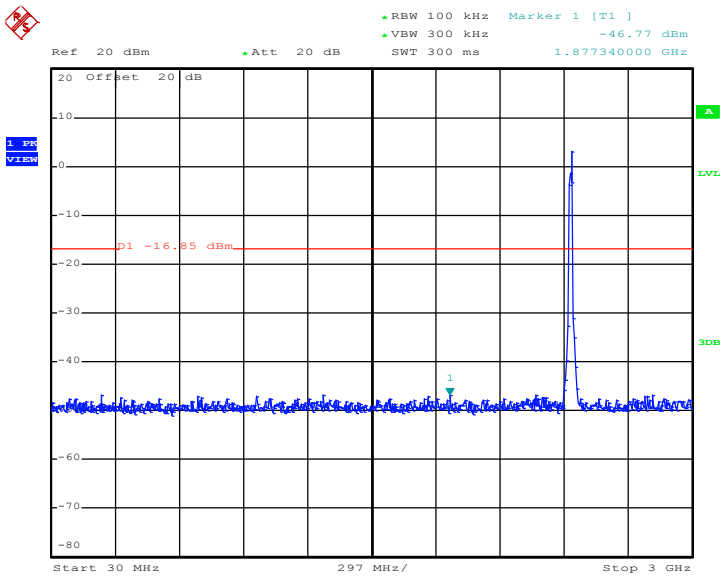
Conducted Spurious Emission Plot between 3 GHz ~ 25 GHz



Date: 24.JUN.2011 21:39:07

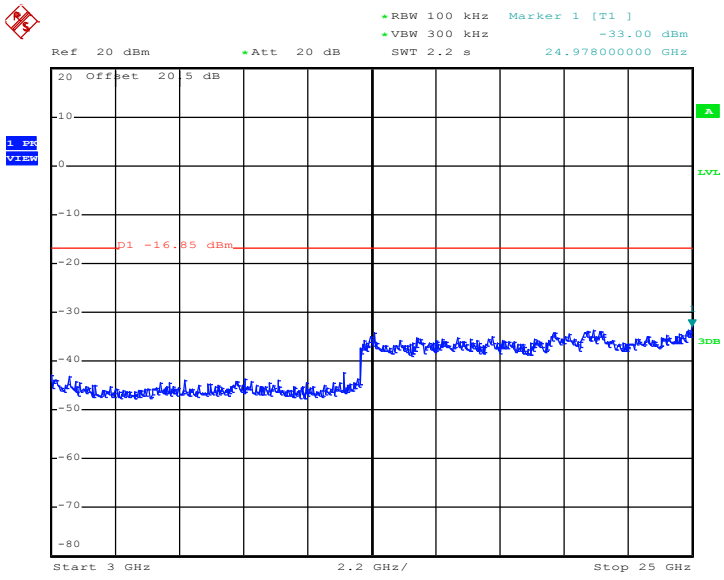
Test Mode :	Mode 5	Temperature :	25~27
Test Band :	802.11g	Relative Humidity :	49~52
Test Channel :	06	Test Engineer :	Hank Yu

Conducted Spurious Emission Plot between 30MHz ~ 3 GHz



Date: 24.JUN.2011 21:41:27

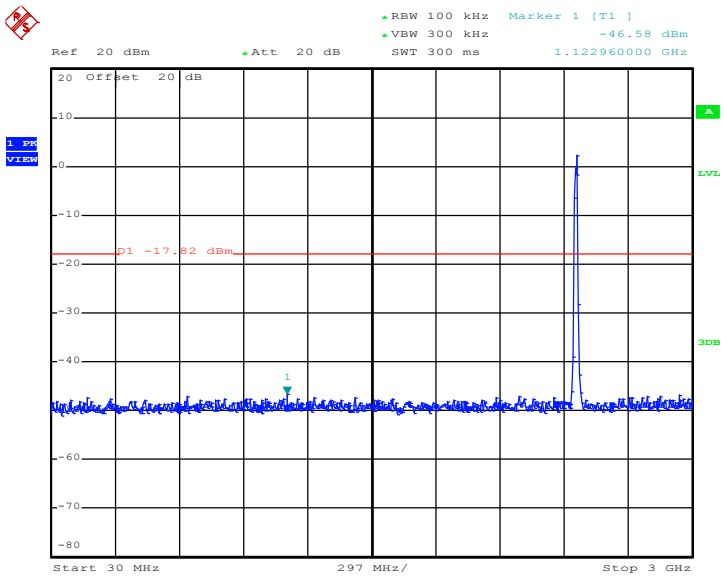
Conducted Spurious Emission Plot between 3 GHz ~ 25 GHz



Date: 24.JUN.2011 21:42:09

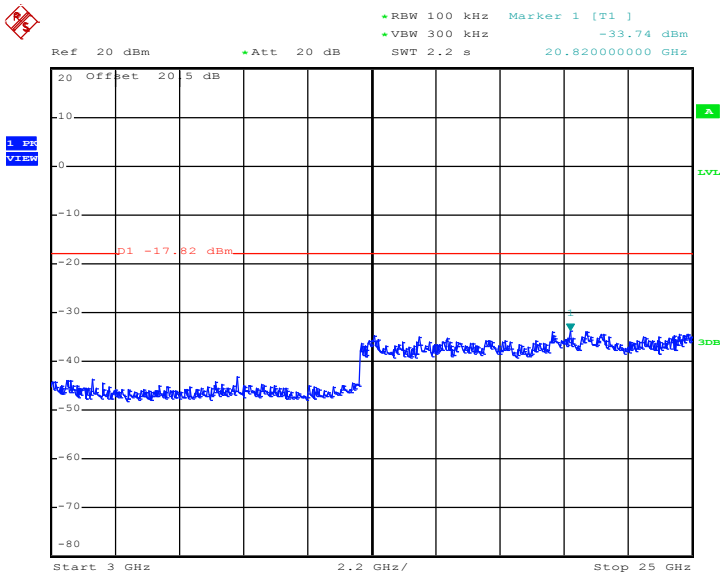
Test Mode :	Mode 6	Temperature :	25~27℃
Test Band :	802.11g	Relative Humidity :	49~52%
Test Channel :	11	Test Engineer :	Hank Yu

Conducted Spurious Emission Plot between 30MHz ~ 3 GHz



Date: 24.JUN.2011 21:45:05

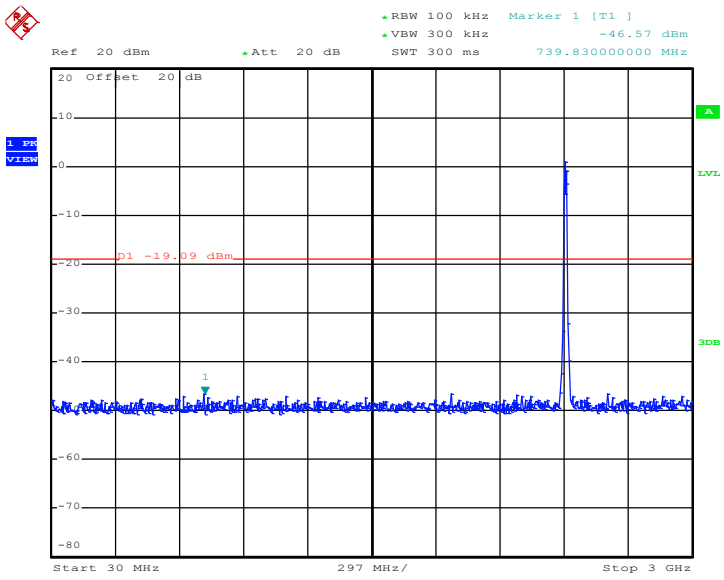
Conducted Spurious Emission Plot between 3 GHz ~ 25 GHz



Date: 24.JUN.2011 21:45:51

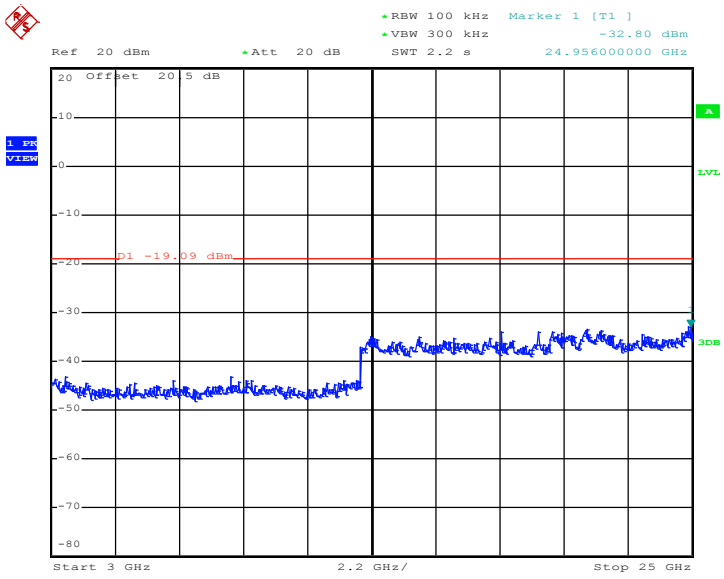
Test Mode :	Mode 7	Temperature :	25~27℃
Test Band :	802.11n (BW 20MHz)	Relative Humidity :	49~52%
Test Channel :	01	Test Engineer :	Hank Yu

Conducted Spurious Emission Plot between 30MHz ~ 3 GHz



Date: 24.JUN.2011 22:03:19

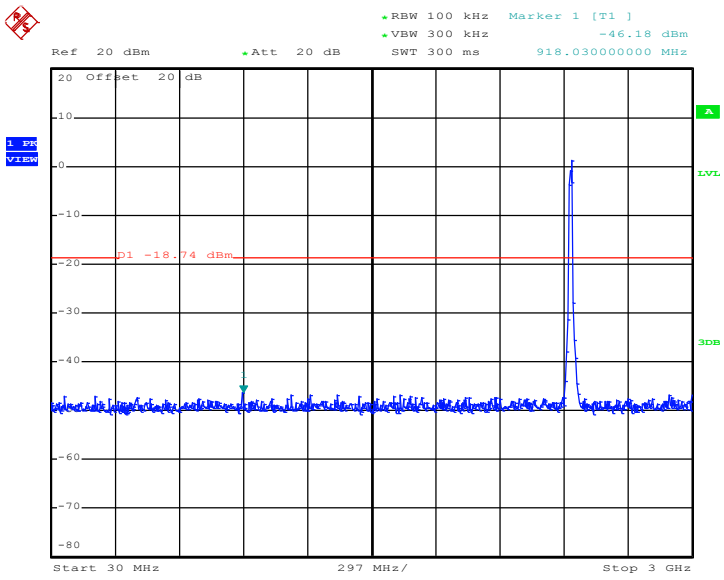
Conducted Spurious Emission Plot between 3 GHz ~ 25 GHz



Date: 24.JUN.2011 22:04:17

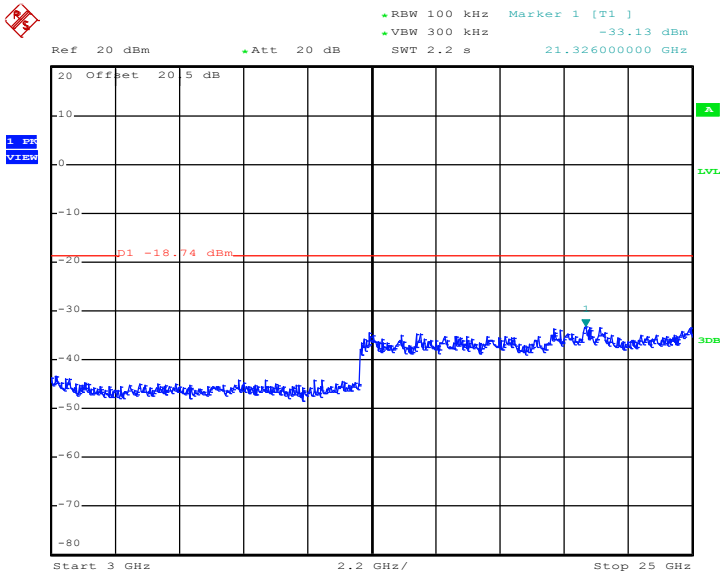
Test Mode :	Mode 8	Temperature :	25~27℃
Test Band :	802.11n (BW 20MHz)	Relative Humidity :	49~52%
Test Channel :	06	Test Engineer :	Hank Yu

Conducted Spurious Emission Plot between 30MHz ~ 3 GHz



Date: 24.JUN.2011 22:07:34

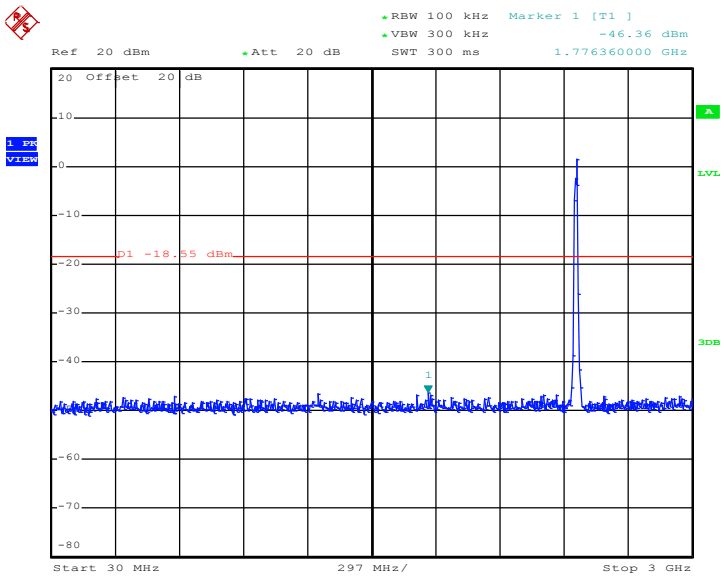
Conducted Spurious Emission Plot between 3 GHz ~ 25 GHz



Date: 24.JUN.2011 22:08:11

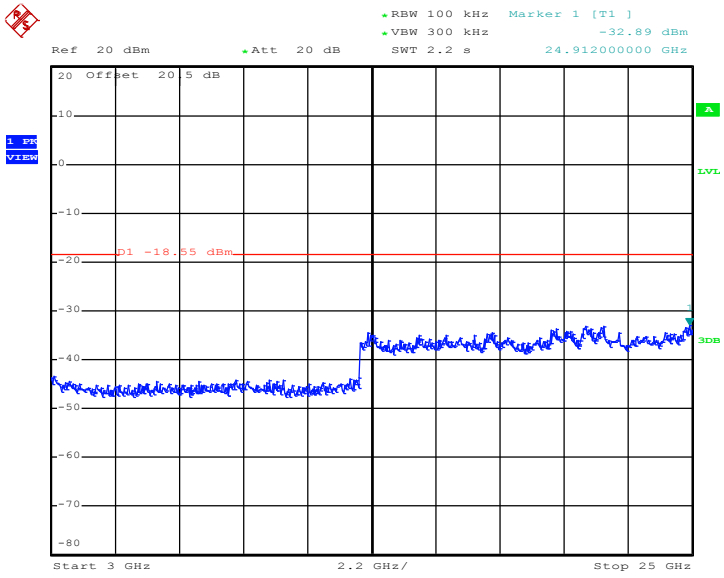
Test Mode :	Mode 9	Temperature :	25~27℃
Test Band :	802.11n (BW 20MHz)	Relative Humidity :	49~52%
Test Channel :	11	Test Engineer :	Hank Yu

Conducted Spurious Emission Plot between 30MHz ~ 3 GHz



Date: 24.JUN.2011 21:57:15

Conducted Spurious Emission Plot between 3 GHz ~ 25 GHz



Date: 24.JUN.2011 21:59:03

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.

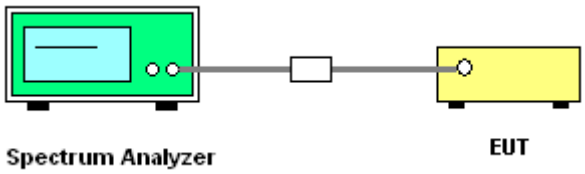
3.5.2 Measuring Instruments

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

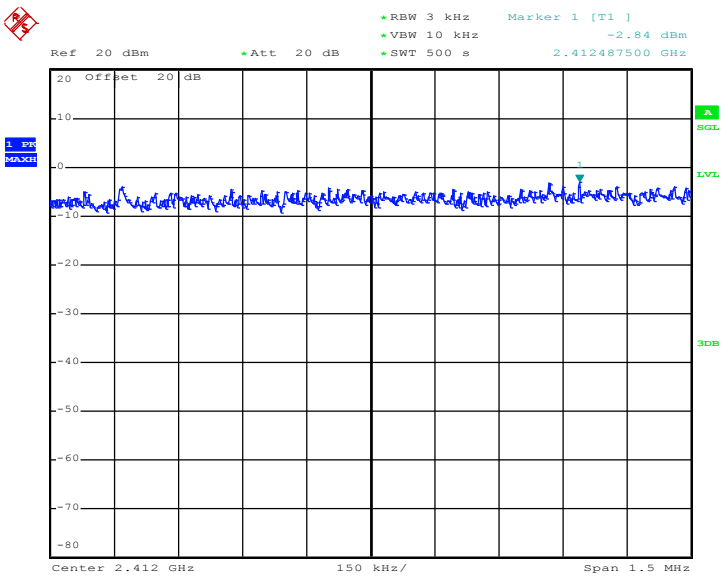


3.5.5 Test Result of Power Spectral Density

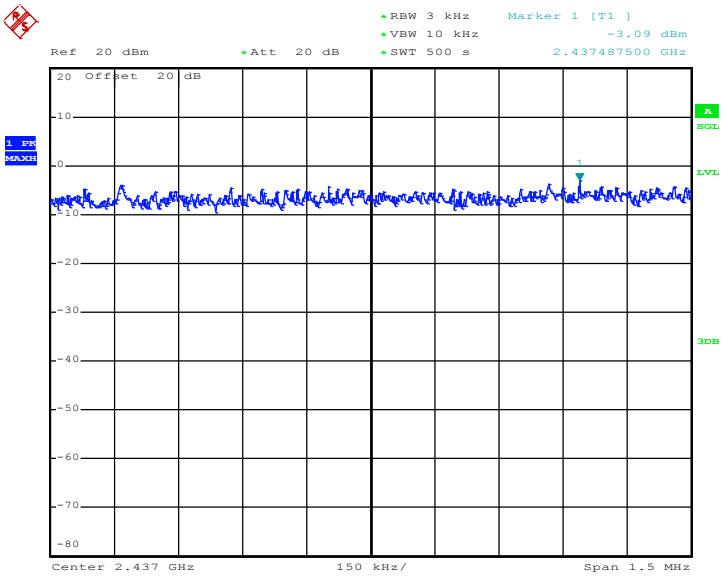
Test Mode :	Mode 1, 2, 3	Temperature :	25~27℃
Test Engineer :	Hank Yu	Relative Humidity :	49~52%

Channel	Frequency (MHz)	802.11b Measured PSD (dBm)	Max. Limits (dBm)	Pass/Fail
01	2412	-2.84	8	Pass
06	2437	-3.09	8	Pass
11	2462	-3.32	8	Pass

Mode 1 : PSD Plot on 802.11b Channel 01

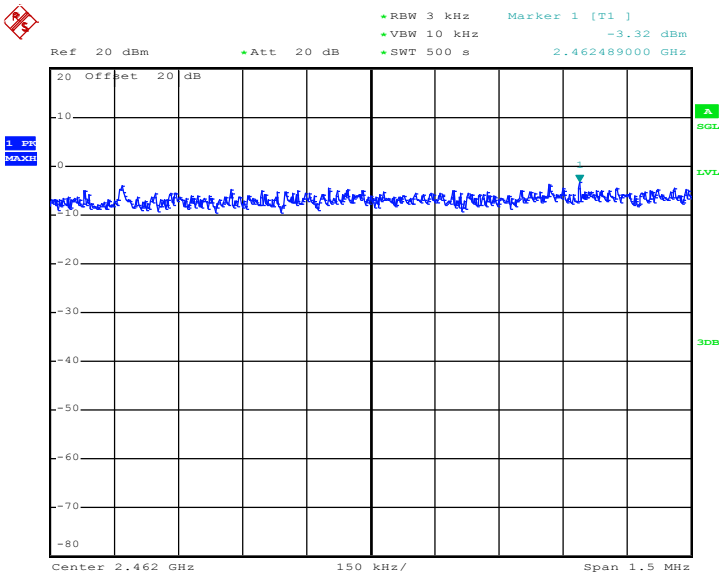


Mode 2 : PSD Plot on 802.11b Channel 06



Date: 24.JUN.2011 21:06:23

Mode 3 : PSD Plot on 802.11b Channel 11

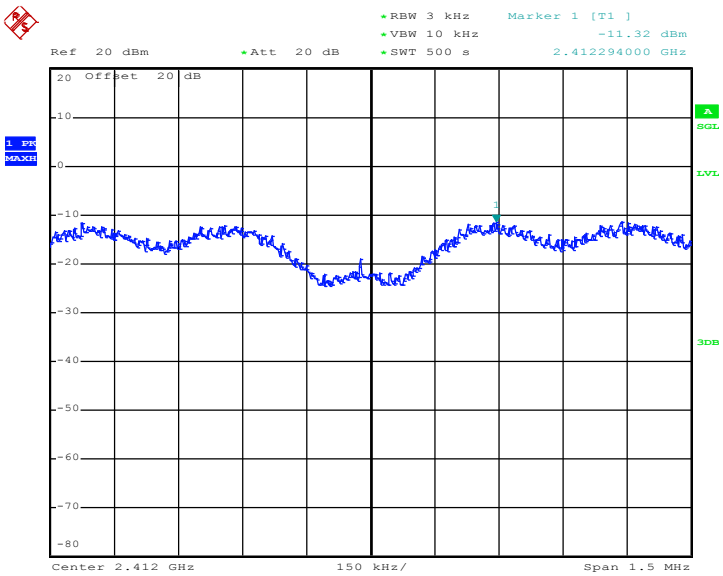


Date: 24.JUN.2011 21:17:46

Test Mode :	Mode 4, 5, 6	Temperature :	25~27℃
Test Engineer :	Hank Yu	Relative Humidity :	49~52%

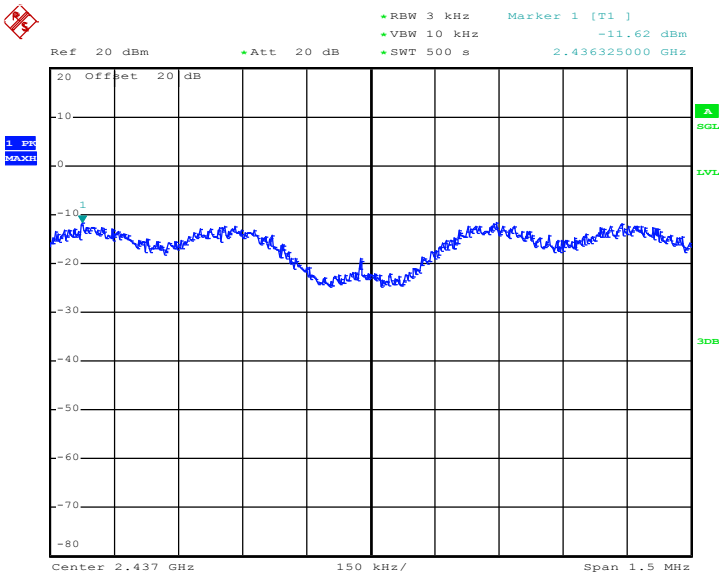
Channel	Frequency (MHz)	802.11g Measured PSD (dBm)	Max. Limits (dBm)	Pass/Fail
01	2412	-11.32	8	Pass
06	2437	-11.62	8	Pass
11	2462	-11.45	8	Pass

Mode 4 : PSD Plot on 802.11g Channel 01



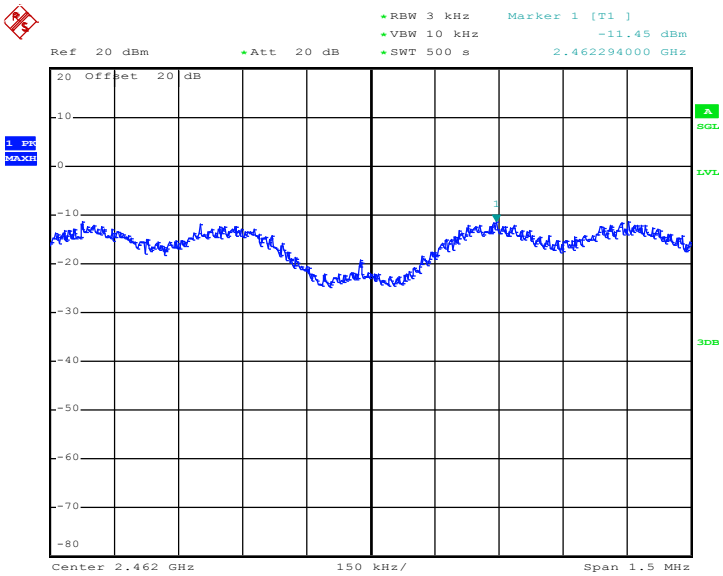
Date: 24.JUN.2011 22:43:10

Mode 5 : PSD Plot on 802.11g Channel 06



Date: 24.JUN.2011 22:52:02

Mode 6 : PSD Plot on 802.11g Channel 11

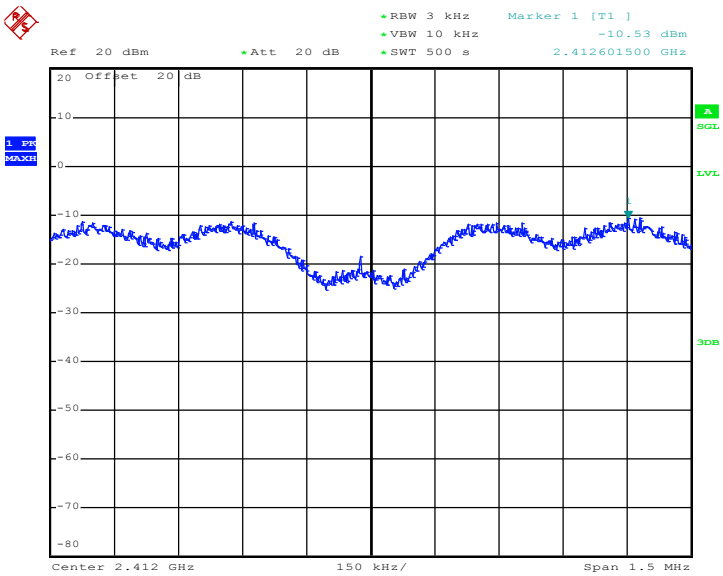


Date: 24.JUN.2011 21:54:38

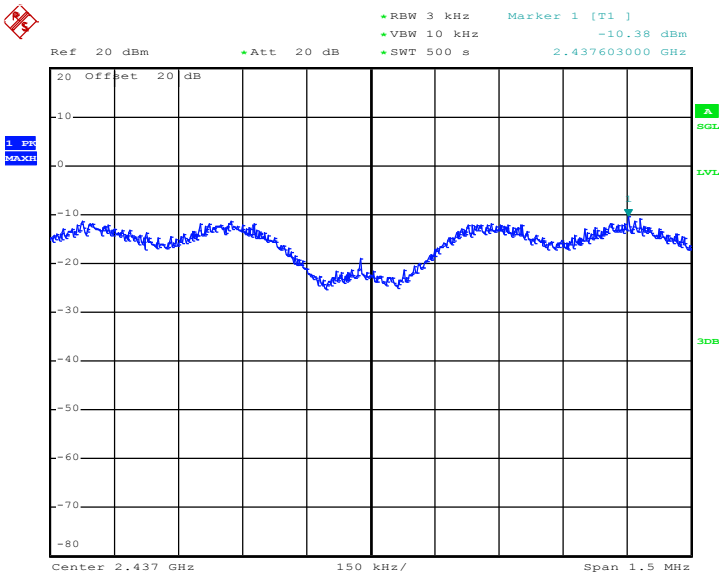
Test Mode :	Mode 7, 8, 9	Temperature :	25~27℃
Test Engineer :	Hank Yu	Relative Humidity :	49~52%

Channel	Frequency (MHz)	802.11n (BW 20MHz) Measured PSD (dBm)	Max. Limits (dBm)	Pass/Fail
01	2412	-10.53	8	Pass
06	2437	-10.38	8	Pass
11	2462	-10.50	8	Pass

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

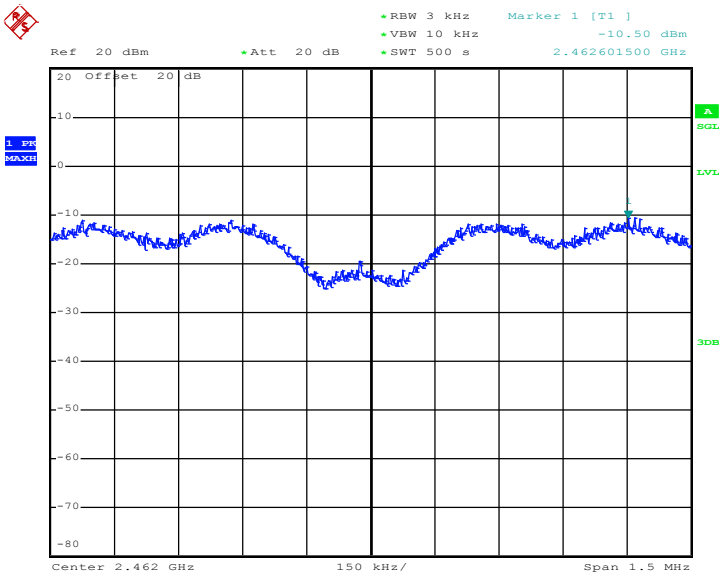


Mode 8 : PSD Plot on802.11n (BW 20MHz) Channel 06



Date: 24.JUN.2011 22:16:48

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



Date: 24.JUN.2011 22:25:36

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.

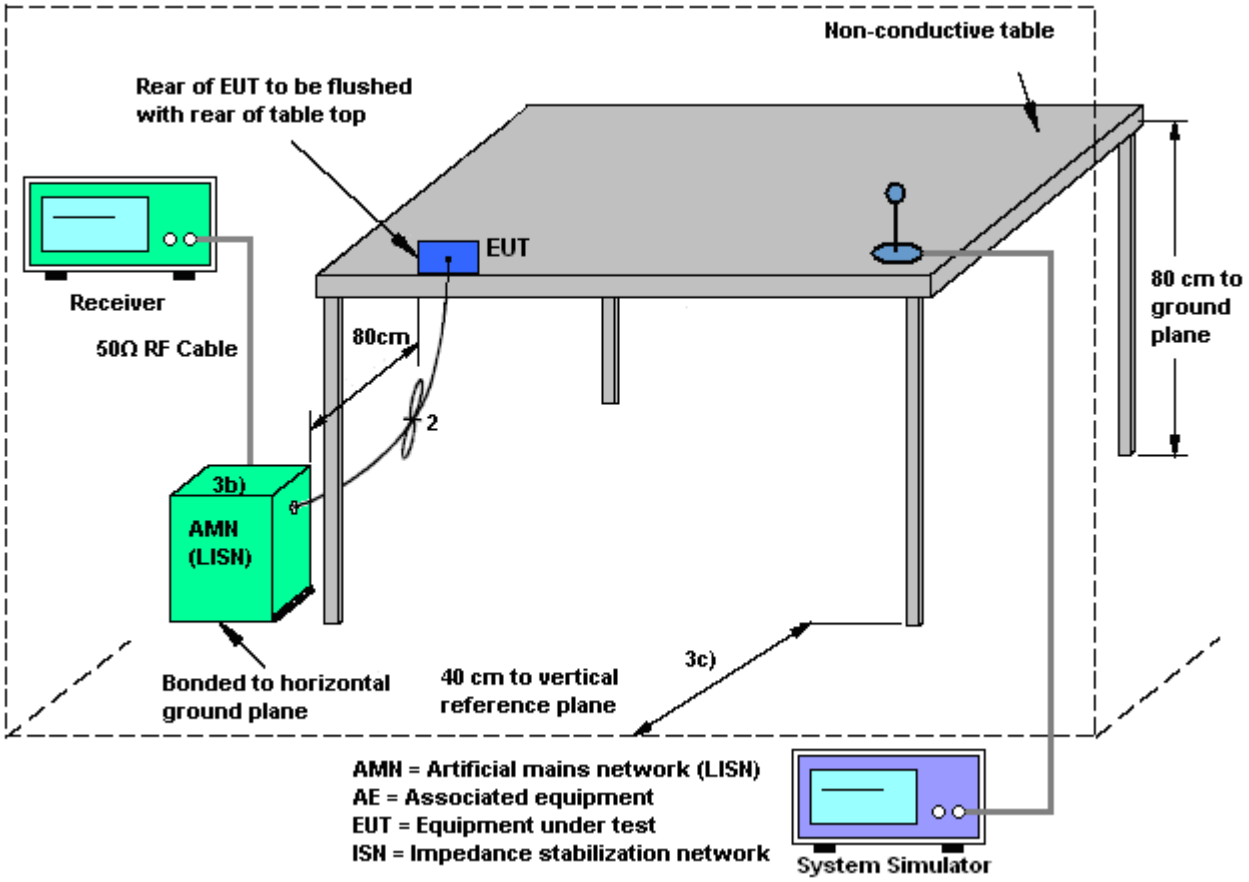
3.6.2 Measuring Instruments

See list of measuring instruments of this test report.

3.6.3 Test Procedures

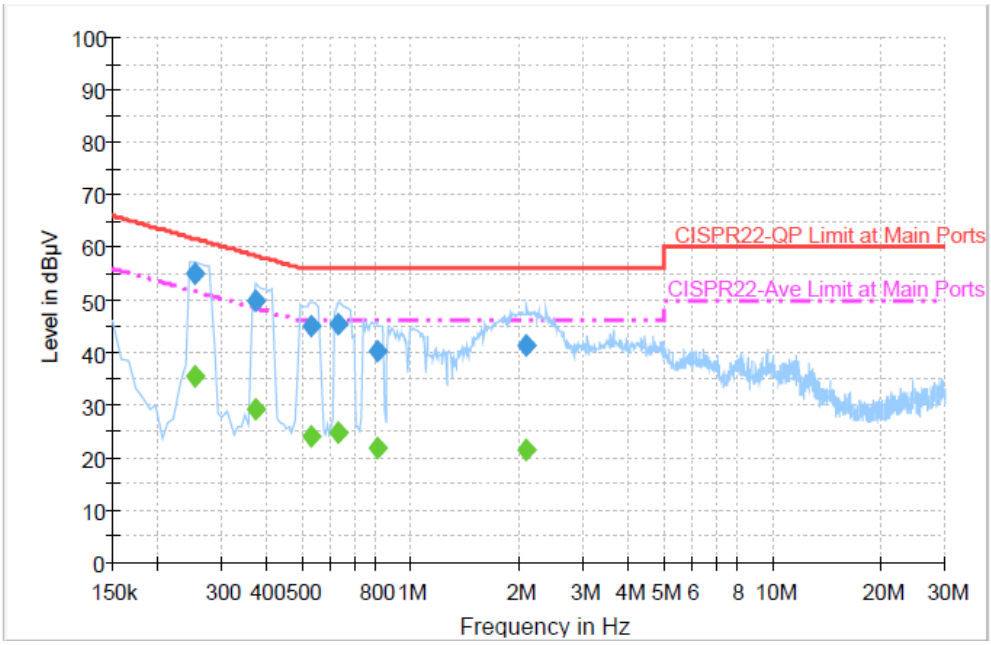
1. The testing follows the guidelines in ANSI C63.4-2003.
2. The EUT was placed 0.4 meter from the conducting wall of the shielding room, and it was kept at least 80 centimeters from any other grounded conducting surface.
3. Connect EUT to the power mains through a line impedance stabilization network (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 :**	22~24℃
Test Engineer :	Novic Chiang	**Relative Humidity :**	42~44%
Test Voltage :	120Vac / 60Hz	**Phase :**	Line
Function Type :	CDMA2000 BC 0 Idle + Bluetooth Link + WLAN Link + GPS Rx + Battery 2 + WiMAX Idle + Earphone + USB Cable (Charging from Adapter)		
Remark :	All emissions not reported here are more than 10 dB below the prescribed limit.		



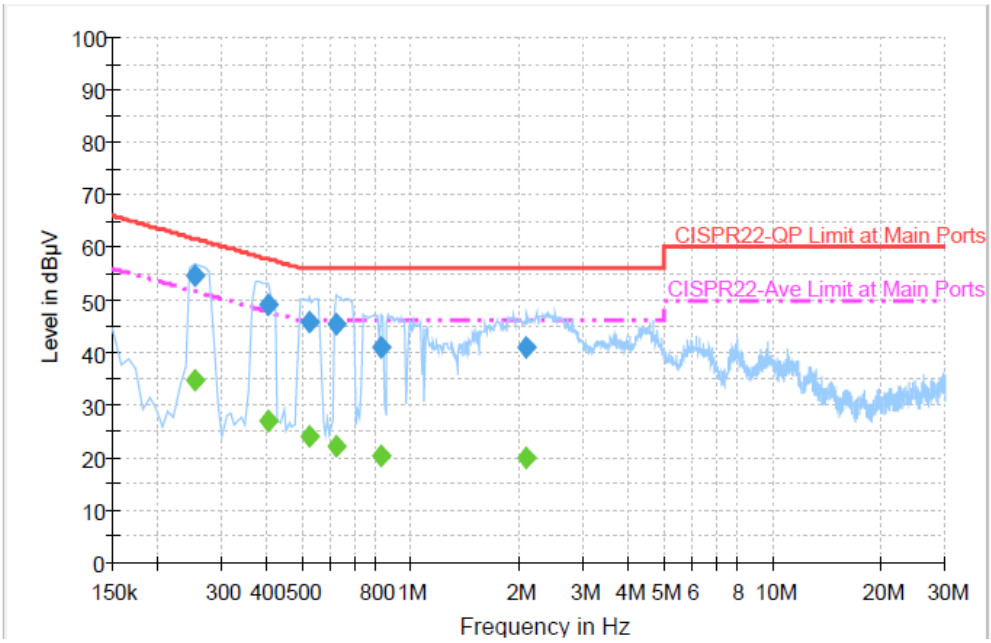
Final Result 1

Frequency (MHz)	QuasiPeak (dBµV)	Filter	Line	Corr. (dB)	Margin (dB)	Limit (dBµV)
0.254000	54.9	Off	L1	19.3	6.7	61.6
0.374000	49.9	Off	L1	19.4	8.5	58.4
0.534000	44.9	Off	L1	19.3	11.1	56.0
0.630000	45.5	Off	L1	19.4	10.5	56.0
0.806000	40.3	Off	L1	19.4	15.7	56.0
2.094000	41.4	Off	L1	19.4	14.6	56.0

Final Result 2

Frequency (MHz)	Average (dBµV)	Filter	Line	Corr. (dB)	Margin (dB)	Limit (dBµV)
0.254000	35.4	Off	L1	19.3	16.2	51.6
0.374000	29.3	Off	L1	19.4	19.1	48.4
0.534000	24.1	Off	L1	19.3	21.9	46.0
0.630000	24.8	Off	L1	19.4	21.2	46.0
0.806000	21.9	Off	L1	19.4	24.1	46.0
2.094000	21.5	Off	L1	19.4	24.5	46.0

Test Mode :	Mode 2	Temperature :	22~24℃
Test Engineer :	Novic Chiang	Relative Humidity :	42~44%
Test Voltage :	120Vac / 60Hz	Phase :	Neutral
Function Type :	CDMA2000 BC 0 Idle + Bluetooth Link + WLAN Link + GPS Rx + Battery 2 + WiMAX Idle + Earphone + USB Cable (Charging from Adapter)		
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)
0.254000	54.5	Off	N	19.4	7.1	61.6
0.406000	49.1	Off	N	19.4	8.6	57.7
0.526000	45.7	Off	N	19.3	10.3	56.0
0.622000	45.6	Off	N	19.3	10.4	56.0
0.830000	41.0	Off	N	19.4	15.0	56.0
2.094000	41.1	Off	N	19.5	14.9	56.0

Final Result 2

Frequency (MHz)	Average (dBµV)	Filter	Line	Corr. (dB)	Margin (dB)	Limit (dBµV)
0.254000	34.6	Off	N	19.4	17.0	51.6
0.406000	26.9	Off	N	19.4	20.8	47.7
0.526000	24.0	Off	N	19.3	22.0	46.0
0.622000	22.1	Off	N	19.3	23.9	46.0
0.830000	20.2	Off	N	19.4	25.8	46.0
2.094000	20.1	Off	N	19.5	25.9	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

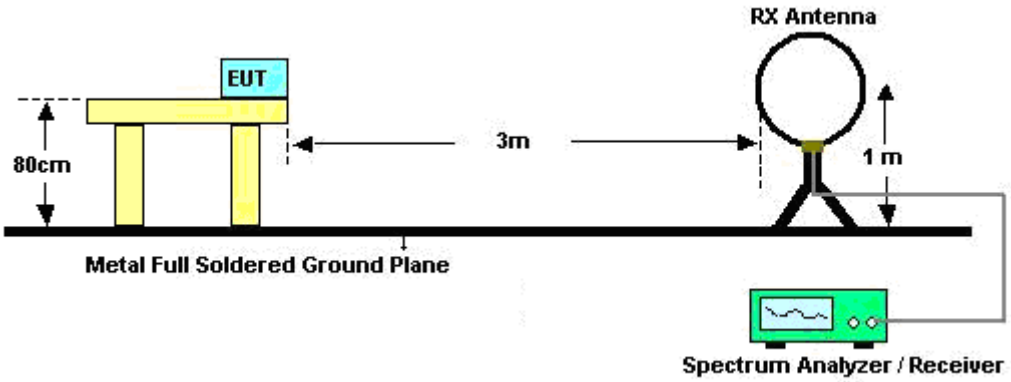
See list of measuring instruments of this test report.

3.7.3 Test Procedures

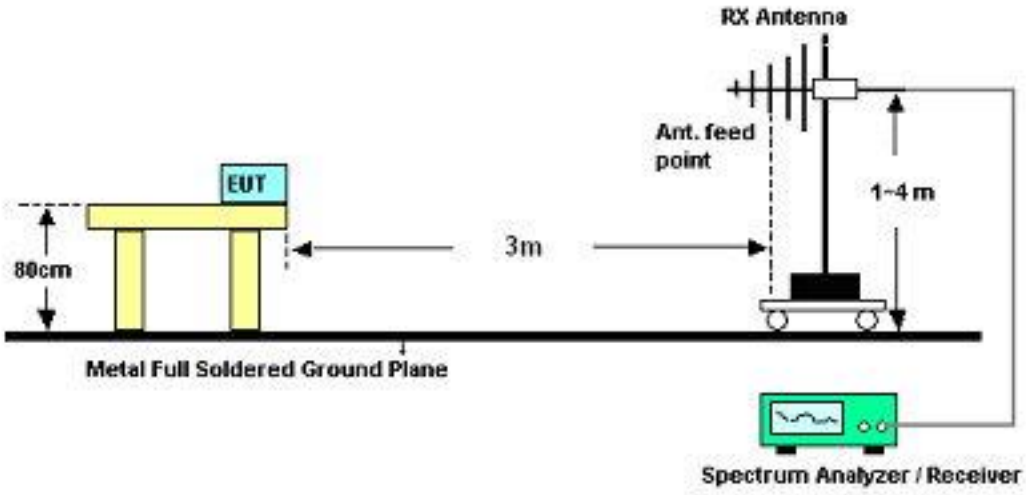
1. The testing follows the guidelines in FCC KDB Publication No. 558074 (Measurement Guidelines of DTS).
2. Use the following spectrum analyzer settings:
   (1) Span = wide enough to fully capture the emission being measured; RBW = 1 MHz for f ≥ 1 GHz, 100 kHz for f < 1 GHz; VBW ≥ RBW; Sweep = auto; 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

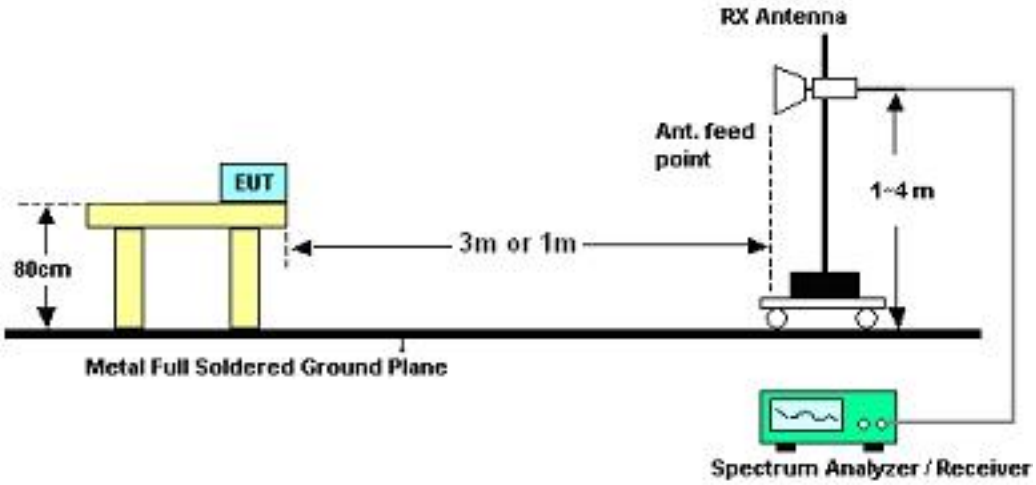
For radiated emissions below 30MHz



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 :	Kai Wang	Temperature :	25~26℃
		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 :	25~26℃
Test Channel :	01	Relative Humidity :	47~48%
Test Engineer :	Kai Wang	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
44.58	24.86	-15.14	40	45.58	10.17	0.81	31.7	-	-	Peak
150.69	22.8	-20.7	43.5	42.33	10.7	1.46	31.69	-	-	Peak
187.14	29.85	-13.65	43.5	50.52	9.41	1.59	31.67	112	187	Peak
615.7	20.86	-25.14	46	30.78	19.2	2.96	32.08	-	-	Peak
811	22.2	-23.8	46	29.9	20.86	3.4	31.96	-	-	Peak
867.7	23.42	-22.58	46	30.25	21.35	3.62	31.8	-	-	Peak
2389.99	61.68	-12.32	74	58.77	31.9	5.4	34.39	105	30	Peak
2389.99	47.92	-6.08	54	45.01	31.9	5.4	34.39	105	30	Average
2412	112.9	-	-	109.95	31.91	5.43	34.39	105	30	Peak
2412	102.59	-	-	99.64	31.91	5.43	34.39	105	30	Average
2484	51.87	-22.13	74	48.74	31.98	5.52	34.37	105	30	Peak
2484	40.77	-13.23	54	37.64	31.98	5.52	34.37	105	30	Average
4824	52.25	-21.75	74	66.32	34.4	7.98	56.45	100	6	Peak
4824	40.44	-13.56	54	54.51	34.4	7.98	56.45	100	6	Average
7236	52.34	-40.56	92.9	62.67	35.66	11.02	57.01	100	15	Peak

Test Mode :	Mode 1	Temperature :	25~26℃
Test Channel :	01	Relative Humidity :	47~48%
Test Engineer :	Kai Wang	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
41.61	30.66	-9.34	40	49.77	11.78	0.81	31.7	100	214	Peak
146.37	26.96	-16.54	43.5	46.26	10.95	1.45	31.7	-	-	Peak
198.21	26.8	-16.7	43.5	47.44	9.36	1.65	31.65	-	-	Peak
732.6	20.49	-25.51	46	29.42	19.83	3.32	32.08	-	-	Peak
806.1	22.33	-23.67	46	30.09	20.82	3.38	31.96	-	-	Peak
911.8	23.48	-22.52	46	29.51	21.68	3.77	31.48	-	-	Peak
2389.99	55.57	-18.43	74	52.66	31.9	5.4	34.39	103	91	Peak
2389.99	42.82	-11.18	54	39.91	31.9	5.4	34.39	103	91	Average
2412	108.41	-	-	105.46	31.91	5.43	34.39	103	91	Peak
2412	96.57	-	-	93.62	31.91	5.43	34.39	103	91	Average
2486	48.13	-25.87	74	45	31.98	5.52	34.37	103	91	Peak
2486	36.49	-17.51	54	33.36	31.98	5.52	34.37	103	91	Average
4824	47.4	-26.6	74	61.49	34.4	7.96	56.45	100	0	Peak
7236	51.84	-36.57	88.41	62.17	35.66	11.02	57.01	100	0	Peak

Test Mode :	Mode 2	Temperature :	25~26℃
Test Channel :	06	Relative Humidity :	47~48%
Test Engineer :	Kai Wang	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
42.69	25.57	-14.43	40	45.21	11.25	0.81	31.7	-	-	Peak
151.5	22.72	-20.78	43.5	42.31	10.64	1.46	31.69	-	-	Peak
187.41	29.62	-13.88	43.5	50.29	9.41	1.59	31.67	111	120	Peak
674.5	20.53	-25.47	46	30.03	19.33	3.16	31.99	-	-	Peak
875.4	23.26	-22.74	46	29.94	21.42	3.65	31.75	-	-	Peak
942.6	23.76	-22.24	46	29.33	21.83	3.79	31.19	-	-	Peak
2390	48.06	-25.94	74	45.15	31.9	5.4	34.39	104	30	Peak
2390	37.33	-16.67	54	34.42	31.9	5.4	34.39	104	30	Average
2437	114.51	-	-	111.48	31.95	5.46	34.38	104	30	Peak
2437	103.41	-	-	100.38	31.95	5.46	34.38	104	30	Average
2484	51.56	-22.44	74	48.43	31.98	5.52	34.37	104	30	Peak
2484	40.38	-13.62	54	37.25	31.98	5.52	34.37	104	30	Average
4874	46.88	-27.12	74	60.99	34.37	8.01	56.49	100	0	Peak

Test Mode :	Mode 2	Temperature :	25~26℃
Test Channel :	06	Relative Humidity :	47~48%
Test Engineer :	Kai Wang	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
42.69	21.04	-18.96	40	40.68	11.25	0.81	31.7	100	282	Peak
92.37	23.41	-20.09	43.5	44.57	9.4	1.15	31.71	-	-	Peak
98.85	23.86	-19.64	43.5	43.8	10.53	1.21	31.68	-	-	Peak
733.3	20.5	-25.5	46	29.41	19.85	3.32	32.08	-	-	Peak
825	22.71	-23.29	46	30.21	20.99	3.45	31.94	-	-	Peak
892.2	23.51	-22.49	46	29.87	21.56	3.73	31.65	-	-	Peak
2390	46.81	-27.19	74	43.9	31.9	5.4	34.39	100	84	Peak
2390	34.33	-19.67	54	31.42	31.9	5.4	34.39	100	84	Average
2437	97.99	-	-	94.96	31.95	5.46	34.38	100	84	Average
2437	110.08	-	-	107.05	31.95	5.46	34.38	100	84	Peak
2484	48.5	-25.5	74	45.37	31.98	5.52	34.37	100	84	Peak
2484	36.33	-17.67	54	33.2	31.98	5.52	34.37	100	84	Average
4874	45.81	-28.19	74	59.93	34.37	8	56.49	100	0	Peak

Test Mode :	Mode 3	Temperature :	25~26℃
Test Channel :	11	Relative Humidity :	47~48%
Test Engineer :	Kai Wang	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
42.42	25.65	-14.35	40	45.29	11.25	0.81	31.7	116	279	Peak
145.29	21.59	-21.91	43.5	40.82	11.02	1.45	31.7	-	-	Peak
184.98	27.93	-15.57	43.5	48.6	9.42	1.58	31.67	-	-	Peak
500.2	19.26	-26.74	46	30.54	17.83	2.67	31.78	-	-	Peak
729.8	20.95	-25.05	46	29.91	19.79	3.32	32.07	-	-	Peak
777.4	21.49	-24.51	46	29.7	20.46	3.36	32.03	-	-	Peak
2382	49.27	-24.73	74	46.38	31.88	5.4	34.39	102	28	Peak
2382	39.48	-14.52	54	36.59	31.88	5.4	34.39	102	28	Average
2462	112.73	-	-	109.65	31.97	5.49	34.38	102	28	Peak
2462	100.64	-	-	97.56	31.97	5.49	34.38	102	28	Average
2483.66	60.83	-13.17	74	57.7	31.98	5.52	34.37	102	28	Peak
2483.66	46.37	-7.63	54	43.24	31.98	5.52	34.37	102	28	Average
4924	48.29	-25.71	74	62.43	34.34	8.04	56.52	100	0	Peak

Test Mode :	Mode 3	Temperature :	25~26℃
Test Channel :	11	Relative Humidity :	47~48%
Test Engineer :	Kai Wang	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
42.42	26.22	-13.78	40	45.86	11.25	0.81	31.7	100	149	Peak
71.58	27.6	-12.4	40	51.82	6.42	1.06	31.7	-	-	Peak
98.85	25.11	-18.39	43.5	45.05	10.53	1.21	31.68	-	-	Peak
346.9	18.97	-27.03	46	33.77	14.55	2.22	31.57	-	-	Peak
805.4	21.62	-24.38	46	29.39	20.81	3.38	31.96	-	-	Peak
926.5	22.69	-23.31	46	28.5	21.75	3.78	31.34	-	-	Peak
2382	48.47	-25.53	74	45.58	31.88	5.4	34.39	100	86	Peak
2382	36.85	-17.15	54	33.96	31.88	5.4	34.39	100	86	Average
2462	105.92	-	-	102.84	31.97	5.49	34.38	100	86	Peak
2462	94.83	-	-	91.75	31.97	5.49	34.38	100	86	Average
2483.66	54.14	-19.86	74	51.01	31.98	5.52	34.37	100	86	Peak
2483.66	41.06	-12.94	54	37.93	31.98	5.52	34.37	100	86	Average
4924	47.22	-26.78	74	61.36	34.34	8.04	56.52	100	0	Peak

Test Mode :	Mode 4	Temperature :	25~26℃
Test Channel :	01	Relative Humidity :	47~48%
Test Engineer :	Kai Wang	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
43.5	32.06	-7.94	40	52.24	10.71	0.81	31.7	100	289	Peak
146.1	22.56	-20.94	43.5	41.86	10.95	1.45	31.7	-	-	Peak
184.17	29.76	-13.74	43.5	50.44	9.42	1.58	31.68	-	-	Peak
442.1	19.71	-26.29	46	32.42	16.64	2.49	31.84	-	-	Peak
623.4	20.41	-25.59	46	30.26	19.22	2.98	32.05	-	-	Peak
920.2	23.3	-22.7	46	29.22	21.72	3.77	31.41	-	-	Peak
2389.61	66.48	-7.52	74	63.57	31.9	5.4	34.39	105	28	Peak
2389.61	47.45	-6.55	54	44.54	31.9	5.4	34.39	105	28	Average
2412	103.9	-	-	100.95	31.91	5.43	34.39	105	28	Peak
2412	92.64	-	-	89.69	31.91	5.43	34.39	105	28	Average
2484	48.63	-25.37	74	45.5	31.98	5.52	34.37	105	28	Peak
2484	38.68	-15.32	54	35.55	31.98	5.52	34.37	105	28	Average

Test Mode :	Mode 4	Temperature :	25~26℃
Test Channel :	01	Relative Humidity :	47~48%
Test Engineer :	Kai Wang	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
42.42	30.01	-9.99	40	49.65	11.25	0.81	31.7	119	278	Peak
72.93	25.66	-14.34	40	49.8	6.49	1.06	31.69	-	-	Peak
200.1	27.56	-15.94	43.5	48.2	9.35	1.66	31.65	-	-	Peak
673.8	20.37	-25.63	46	29.87	19.33	3.16	31.99	-	-	Peak
822.2	22.73	-23.27	46	30.27	20.96	3.44	31.94	-	-	Peak
873.3	23.43	-22.57	46	30.15	21.4	3.64	31.76	-	-	Peak
2389.61	59.67	-14.33	74	56.76	31.9	5.4	34.39	102	89	Peak
2389.61	41.66	-12.34	54	38.75	31.9	5.4	34.39	102	89	Average
2412	100.85	-	-	97.9	31.91	5.43	34.39	102	89	Peak
2412	88.93	-	-	85.98	31.91	5.43	34.39	102	89	Average
2484	47.03	-26.97	74	43.9	31.98	5.52	34.37	102	89	Peak
2484	35.54	-18.46	54	32.41	31.98	5.52	34.37	102	89	Average

Test Mode :	Mode 5	Temperature :	25~26℃
Test Channel :	06	Relative Humidity :	47~48%
Test Engineer :	Kai Wang	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
40.26	26.14	-13.86	40	44.71	12.32	0.81	31.7	100	0	Peak
51.06	23.98	-16.02	40	46.89	7.92	0.87	31.7	-	-	Peak
185.25	27.36	-16.14	43.5	48.03	9.42	1.58	31.67	-	-	Peak
640.9	19.85	-26.15	46	29.56	19.26	3.03	32	-	-	Peak
825.7	22.43	-23.57	46	29.93	20.99	3.45	31.94	-	-	Peak
923.7	24.18	-21.82	46	30.04	21.74	3.77	31.37	-	-	Peak
2348	46.31	-27.69	74	43.54	31.84	5.34	34.41	103	25	Peak
2348	34.3	-19.7	54	31.53	31.84	5.34	34.41	103	25	Average
2437	105.8	-	-	102.77	31.95	5.46	34.38	100	25	Peak
2437	93.65	-	-	90.62	31.95	5.46	34.38	103	25	Average
2486	47.49	-26.51	74	44.36	31.98	5.52	34.37	100	25	Peak
2486	35.84	-18.16	54	32.71	31.98	5.52	34.37	103	25	Average

Test Mode :	Mode 5	Temperature :	25~26℃
Test Channel :	06	Relative Humidity :	47~48%
Test Engineer :	Kai Wang	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
42.42	23.46	-16.54	40	43.1	11.25	0.81	31.7	115	207	Peak
101.82	24.09	-19.41	43.5	43.71	10.84	1.23	31.69	-	-	Peak
197.94	21.44	-22.06	43.5	42.08	9.36	1.65	31.65	-	-	Peak
733.3	20.24	-25.76	46	29.15	19.85	3.32	32.08	-	-	Peak
811	22.42	-23.58	46	30.12	20.86	3.4	31.96	-	-	Peak
881	23.35	-22.65	46	29.93	21.46	3.68	31.72	-	-	Peak
2350	46.08	-27.92	74	43.31	31.84	5.34	34.41	100	85	Peak
2350	33.16	-20.84	54	30.39	31.84	5.34	34.41	100	85	Average
2437	101.32	-	-	98.31	31.93	5.46	34.38	100	85	Peak
2437	89.84	-	-	86.83	31.93	5.46	34.38	100	85	Average
2492	46.64	-27.36	74	43.49	32	5.52	34.37	100	85	Peak
2492	33.97	-20.03	54	30.82	32	5.52	34.37	100	85	Average

Test Mode :	Mode 6	Temperature :	25~26℃
Test Channel :	11	Relative Humidity :	47~48%
Test Engineer :	Kai Wang	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
42.69	26.58	-13.42	40	46.22	11.25	0.81	31.7	100	298	Peak
146.1	21.64	-21.86	43.5	40.94	10.95	1.45	31.7	-	-	Peak
186.06	28.04	-15.46	43.5	48.72	9.41	1.58	31.67	-	-	Peak
442.1	19.45	-26.55	46	32.16	16.64	2.49	31.84	-	-	Peak
777.4	21.54	-24.46	46	29.75	20.46	3.36	32.03	-	-	Peak
867	23.94	-22.06	46	30.77	21.35	3.62	31.8	-	-	Peak
2382	47.03	-26.97	74	44.14	31.88	5.4	34.39	100	28	Peak
2382	36.77	-17.23	54	33.88	31.88	5.4	34.39	100	28	Average
2462	106.96	-	-	103.88	31.97	5.49	34.38	100	28	Peak
2462	94.72	-	-	91.64	31.97	5.49	34.38	100	28	Average
2483.5	65.52	-8.48	74	62.39	31.98	5.52	34.37	100	28	Peak
2483.5	47.59	-6.41	54	44.46	31.98	5.52	34.37	100	28	Average

Test Mode :	Mode 6	Temperature :	25~26℃
Test Channel :	11	Relative Humidity :	47~48%
Test Engineer :	Kai Wang	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
42.69	29.56	-10.44	40	49.2	11.25	0.81	31.7	112	153	Peak
184.17	24.75	-18.75	43.5	45.43	9.42	1.58	31.68	-	-	Peak
198.21	25.9	-17.6	43.5	46.54	9.36	1.65	31.65	-	-	Peak
671.7	20.49	-25.51	46	30	19.33	3.15	31.99	-	-	Peak
775.3	21.98	-24.02	46	30.24	20.42	3.36	32.04	-	-	Peak
900.6	23.32	-22.68	46	29.52	21.63	3.76	31.59	-	-	Peak
2382	46.37	-27.63	74	43.48	31.88	5.4	34.39	100	87	Peak
2382	35.16	-18.84	54	32.27	31.88	5.4	34.39	100	87	Average
2462	101.48	-	-	98.4	31.97	5.49	34.38	100	87	Peak
2462	89.48	-	-	86.4	31.97	5.49	34.38	100	87	Average
2483.5	59.86	-14.14	74	56.73	31.98	5.52	34.37	100	87	Peak
2483.5	43.02	-10.98	54	39.89	31.98	5.52	34.37	100	87	Average

Test Mode :	Mode 7	Temperature :	25~26℃
Test Channel :	01	Relative Humidity :	47~48%
Test Engineer :	Kai Wang	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
44.58	23.11	-16.89	40	43.83	10.17	0.81	31.7	117	145	Peak
146.1	22.69	-20.81	43.5	41.99	10.95	1.45	31.7	-	-	Peak
185.25	26.04	-17.46	43.5	46.71	9.42	1.58	31.67	-	-	Peak
519.8	19.95	-26.05	46	30.94	18.09	2.74	31.82	-	-	Peak
816.6	22.4	-23.6	46	30.02	20.91	3.42	31.95	-	-	Peak
917.4	23.64	-22.36	46	29.59	21.71	3.77	31.43	-	-	Peak
2389.99	68.3	-5.7	74	65.39	31.9	5.4	34.39	104	20	Peak
2389.99	47.63	-6.37	54	44.72	31.9	5.4	34.39	104	20	Average
2412	103.67	-	-	100.72	31.91	5.43	34.39	104	20	Peak
2412	93.28	-	-	90.33	31.91	5.43	34.39	104	20	Average
2484	50.37	-23.63	74	47.24	31.98	5.52	34.37	104	20	Peak
2484	37.36	-16.64	54	34.23	31.98	5.52	34.37	104	20	Average

Test Mode :	Mode 7	Temperature :	25~26℃
Test Channel :	01	Relative Humidity :	47~48%
Test Engineer :	Kai Wang	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
42.42	30.3	-9.7	40	49.94	11.25	0.81	31.7	100	215	Peak
147.18	26.99	-16.51	43.5	46.35	10.89	1.45	31.7	-	-	Peak
200.37	27.84	-15.66	43.5	48.42	9.41	1.66	31.65	-	-	Peak
382.6	20.04	-25.96	46	34.07	15.38	2.35	31.76	-	-	Peak
643	20.42	-25.58	46	30.12	19.26	3.03	31.99	-	-	Peak
794.2	21.98	-24.02	46	29.92	20.69	3.36	31.99	-	-	Peak
2388.85	61.63	-12.37	74	58.72	31.9	5.4	34.39	100	54	Peak
2388.85	42.97	-11.03	54	40.06	31.9	5.4	34.39	100	54	Average
2412	100.6	-	-	97.65	31.91	5.43	34.39	100	54	Peak
2412	88.35	-	-	85.4	31.91	5.43	34.39	100	54	Average
2484	46.26	-27.74	74	43.13	31.98	5.52	34.37	100	54	Peak
2484	33.82	-20.18	54	30.69	31.98	5.52	34.37	100	54	Average

Test Mode :	Mode 8	Temperature :	25~26℃
Test Channel :	06	Relative Humidity :	47~48%
Test Engineer :	Kai Wang	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
42.42	18.59	-21.41	40	38.23	11.25	0.81	31.7	100	111	Peak
146.1	15.73	-27.77	43.5	35.03	10.95	1.45	31.7	-	-	Peak
184.98	21.04	-22.46	43.5	41.71	9.42	1.58	31.67	-	-	Peak
758.5	20.77	-25.23	46	29.32	20.19	3.35	32.09	-	-	Peak
822.2	21.73	-24.27	46	29.27	20.96	3.44	31.94	-	-	Peak
906.9	23.13	-22.87	46	29.24	21.66	3.76	31.53	-	-	Peak
2364	46.12	-27.88	74	43.29	31.86	5.37	34.4	103	26	Peak
2364	34.28	-19.72	54	31.45	31.86	5.37	34.4	103	26	Average
2437	105.92	-	-	102.91	31.93	5.46	34.38	103	26	Peak
2437	94.88	-	-	91.87	31.93	5.46	34.38	103	26	Average
2484	48.05	-25.95	74	44.92	31.98	5.52	34.37	103	26	Peak
2484	35.92	-18.08	54	32.79	31.98	5.52	34.37	103	26	Average

Test Mode :	Mode 8	Temperature :	25~26℃
Test Channel :	06	Relative Humidity :	47~48%
Test Engineer :	Kai Wang	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
42.69	19.84	-20.16	40	39.48	11.25	0.81	31.7	115	184	Peak
75.9	16.57	-23.43	40	40.5	6.69	1.07	31.69	-	-	Peak
184.17	17.24	-26.26	43.5	37.92	9.42	1.58	31.68	-	-	Peak
677.3	19.92	-26.08	46	29.4	19.34	3.17	31.99	-	-	Peak
848.1	22.02	-23.98	46	29.22	21.18	3.53	31.91	-	-	Peak
903.4	23.45	-22.55	46	29.61	21.64	3.76	31.56	-	-	Peak
2348	46	-28	74	43.23	31.84	5.34	34.41	100	83	Peak
2348	33.16	-20.84	54	30.39	31.84	5.34	34.41	100	83	Average
2437	101.03	-	-	98.02	31.93	5.46	34.38	100	83	Peak
2437	89.32	-	-	86.31	31.93	5.46	34.38	100	83	Average
2484	45.82	-28.18	74	42.69	31.98	5.52	34.37	100	83	Peak
2484	33.69	-20.31	54	30.56	31.98	5.52	34.37	100	83	Average

Test Mode :	Mode 9	Temperature :	25~26℃
Test Channel :	11	Relative Humidity :	47~48%
Test Engineer :	Kai Wang	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
43.5	20.19	-19.81	40	40.37	10.71	0.81	31.7	112	158	Peak
145.29	18.53	-24.97	43.5	37.76	11.02	1.45	31.7	-	-	Peak
185.25	20.82	-22.68	43.5	41.49	9.42	1.58	31.67	-	-	Peak
525.4	19.35	-26.65	46	30.25	18.17	2.76	31.83	-	-	Peak
732.6	20.57	-25.43	46	29.5	19.83	3.32	32.08	-	-	Peak
903.4	23.2	-22.8	46	29.36	21.64	3.76	31.56	-	-	Peak
2382	46.08	-27.92	74	43.19	31.88	5.4	34.39	103	29	Peak
2382	36.41	-17.59	54	33.52	31.88	5.4	34.39	103	29	Average
2462	103.9	-	-	100.82	31.97	5.49	34.38	103	29	Peak
2462	92.84	-	-	89.76	31.97	5.49	34.38	103	29	Average
2483.85	66.96	-7.04	74	63.83	31.98	5.52	34.37	103	29	Peak
2483.85	46.61	-7.39	54	43.48	31.98	5.52	34.37	103	29	Average

Test Mode :	Mode 9	Temperature :	25~26℃
Test Channel :	11	Relative Humidity :	47~48%
Test Engineer :	Kai Wang	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
42.69	21.57	-18.43	40	41.21	11.25	0.81	31.7	100	197	Peak
147.18	19.15	-24.35	43.5	38.51	10.89	1.45	31.7	-	-	Peak
254.37	17.57	-28.43	46	34.65	12.73	1.87	31.68	-	-	Peak
657.7	20.28	-25.72	46	29.88	19.3	3.08	31.98	-	-	Peak
735.4	21.15	-24.85	46	30.03	19.87	3.33	32.08	-	-	Peak
901.3	23.28	-22.72	46	29.47	21.63	3.76	31.58	-	-	Peak
2382	45.93	-28.07	74	43.04	31.88	5.4	34.39	100	87	Peak
2382	34.65	-19.35	54	31.76	31.88	5.4	34.39	100	87	Average
2462	99.89	-	-	96.81	31.97	5.49	34.38	100	87	Peak
2462	87.82	-	-	84.74	31.97	5.49	34.38	100	87	Average
2483.85	60.09	-13.91	74	56.96	31.98	5.52	34.37	100	87	Peak
2483.85	41.96	-12.04	54	38.83	31.98	5.52	34.37	100	87	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 PCB 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
Spectrum Analyzer	R&S	FSP30	101329	9kHz~30GHz	May. 03, 2011	May. 02, 2012	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)
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)
System Simulator	R&S	CMU200	114256	N/A	Feb. 15, 2011	Feb. 14, 2012	Conduction (CO05-HY)
GPS Station	T&E	GS-50	N/A	N/A	N/A	N/A	Conduction (CO05-HY)
WiMAX Base Station (System Simulator)	Agilent	E6651A	N/A	N/A	N/A	N/A	Conduction (CO05-HY)
Spectrum Analyzer	R&S	FSP40	100057	9KHz-40GHz	Oct. 25, 2010	Oct. 24, 2011	Radiation (03CH06-HY)
EMI TEST RECEIVER	R&S	ESCI 7	100724	9kHz~7GHz	Aug.19, 2010	Aug.19, 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)

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**				