FCC RF Test Report

APPLICANT	:	HTC Corporation
EQUIPMENT	:	Windows Phone
MODEL NAME	:	PC93100
FCC ID	:	NM8PC93100
STANDARD	:	FCC Part 15 Subpart C §15.247
CLASSIFICATION	:	Digital Transmission System (DTS)

The product was received on Sep. 16, 2010 and completely tested on Sep. 30, 2010. 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:

Anderson Chiu

Anderson Chiu / Deputy Manager

Testing Laboratory 1190

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APPENDIX A. SETUP PHOTOGRAPHS

REVISION HISTORY

REPORT NO.	VERSION	DESCRIPTION	ISSUED DATE
FR091629B	Rev. 01	Initial issue of report	Oct. 18, 2010

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 6.9 dB at 0.262 MHz
3.7	15.247(d)	A8.5	Transmitter Radiated Emission	15.209(a) & 15.247(d)	Pass	Under limit 0.97 dB at 2484.04 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	Windows Phone
Model Name	PC93100
FCC ID	NM8PC93100
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 : 20.27 dBm (0.106 W) 802.11g : 21.92 dBm (0.156 W) 802.11n (BW 20MHz) : 20.22 dBm (0.105 W)
Antenna Type	PIFA Antenna with gain -3.0 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.
4. The EUT has supported 802.11n (BW 20 MHz) function only, and does not support 802.11n (BW 40 MHz) function.

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	03CH05-HY	TW1022/4086B-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 7

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.	GPS Station	T&E	GS-50	N/A	N/A	Unshielded, 1.8 m
3.	WLAN AP	D-Link	DIR-628	KA2DIR628A2	N/A	Unshielded, 1.8 m
4.	Notebook	DELL	Vostro 1510	FCC DoC	N/A	AC I/P: Unshielded, 1.2 m DC O/P: Shielded, 1.8 m
5.	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)			
		At DSSS Data Rate			
		1 Mbps	2 Mbps	5.5 Mbps	11 Mbps
CH 01	2412 MHz	19.81	-	-	-
CH 06	2437 MHz	**20.27**	20.16	20.11	20.06
CH 11	2462 MHz	19.93	-	-	-

Channel	Frequency	2.4GHz 802.11g RF Power (dBm)							
		At OFDM Data Rate							
		6 Mbps	9 Mbps	12 Mbps	18 Mbps	24 Mbps	36 Mbps	48 Mbps	54 Mbps
CH 01	2412 MHz	21.55	-	-	-	-	-	-	-
CH 06	2437 MHz	21.88	-	-	-	-	-	-	-
CH 11	2462 MHz	**21.92**	21.72	21.34	21.2	21.01	21.16	21.47	21.43

Channel	Frequency	2.4GHz 802.11n (BW 20MHz) RF Power (dBm)							
		At OFDM Data Rate							
		m0	m1	m2	m3	m4	m5	m6	m7
CH 01	2412 MHz	20.22	-	-	-	-	-	-	-
CH 06	2437 MHz	20.13	-	-	-	-	-	-	-
CH 11	2462 MHz	**20.17**	19.87	19.74	19.54	19.3	19.02	19.42	19.52

Remark:

1. The data rates of WLAN 802.11b/g/n were set in 1Mbps for 802.11b, 6Mbps for 802.11g, and m0 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).

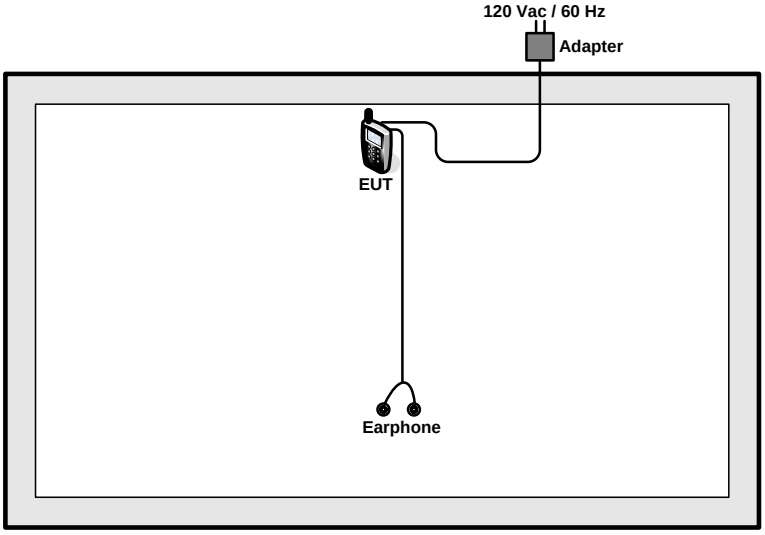
Pre-scanned tests were conducted to determine the final configuration from all possible combinations.

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

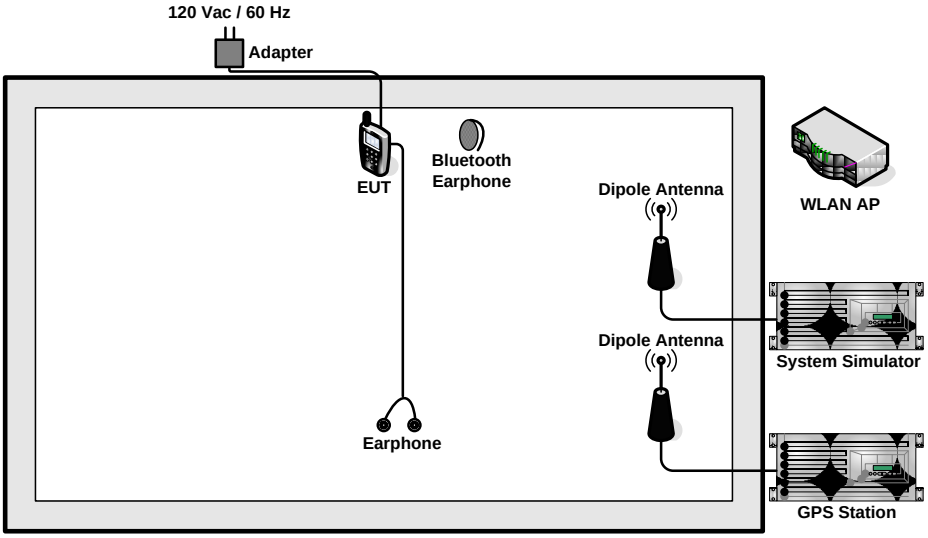
Test Cases		
Test Item	**802.11b (Modulation : DSSS)**	**802.11g/n (Modulation : OFDM)**
Conducted TCs	Mode 1 : 802.11b CH01_2412 MHz Mode 2 : 802.11b CH06_2437 MHz Mode 3 : 802.11b CH11_2462 MHz	Mode 4: 802.11g_CH01_2412 MHz Mode 5: 802.11g_CH06_2437 MHz Mode 6: 802.11g_CH11_2462 MHz Mode 7: 802.11n (BW 20M)_CH01_2412 MHz Mode 8: 802.11n (BW 20M)_CH06_2437 MHz Mode 9: 802.11n (BW 20M)_CH11_2462 MHz
Radiated TCs	Mode 1 : 802.11b CH01_2412 MHz 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 + Earphone 2 + Battery 2 + USB Cable 2 (Charging from Adapter 2)	

2.3 Connection Diagram of Test System

<WLAN Tx Mode>



<EUT with Adapter Mode>



2.4 RF Utility

The programmed RF utility "WLAN_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.

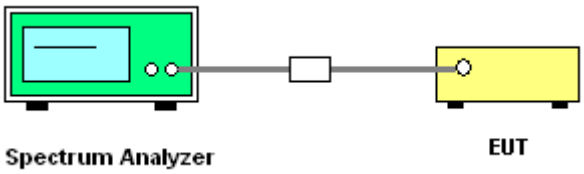
3.1.2 Measuring Instruments

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

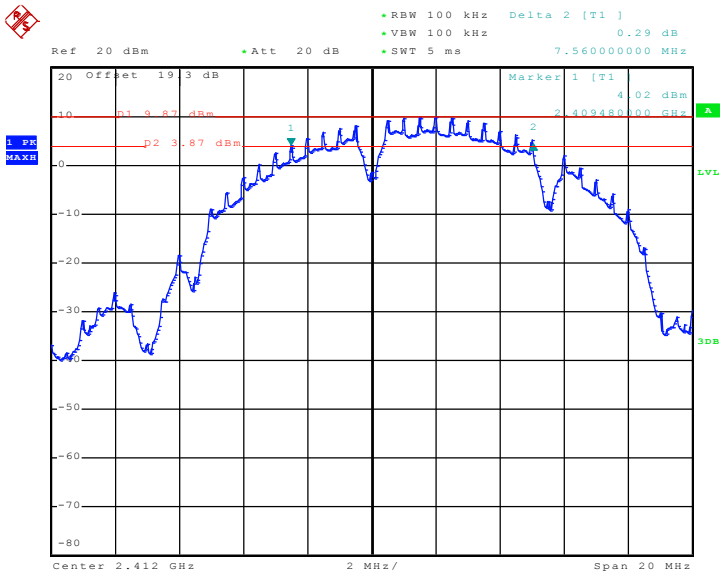


3.1.5 Test Result of 6dB Bandwidth

Test Mode :	Mode 1, 2, 3	**Temperature :**	23~25℃
Test Engineer :	Andy Yeh	**Relative Humidity :**	50~53%

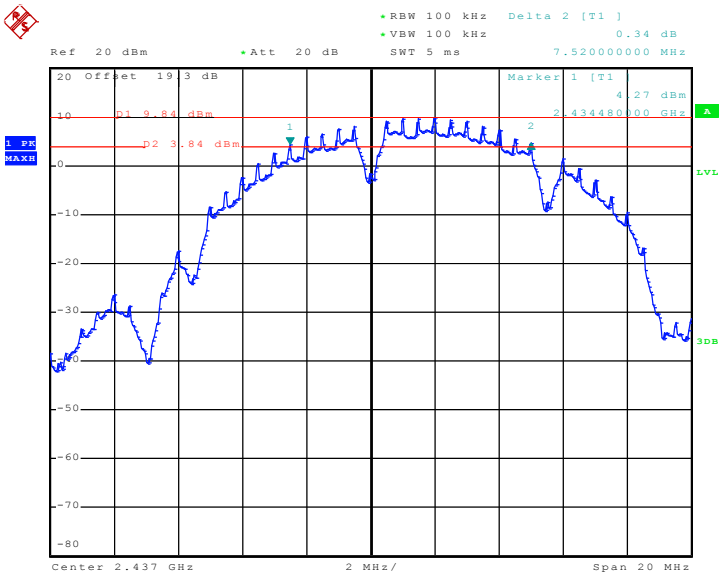
Channel	Frequency (MHz)	802.11b 6dB Bandwidth (MHz)	6dB Bandwidth Min. Limit (MHz)	Pass/Fail
01	2412	7.56	0.5	Pass
06	2437	7.52	0.5	Pass
11	2462	7.56	0.5	Pass

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



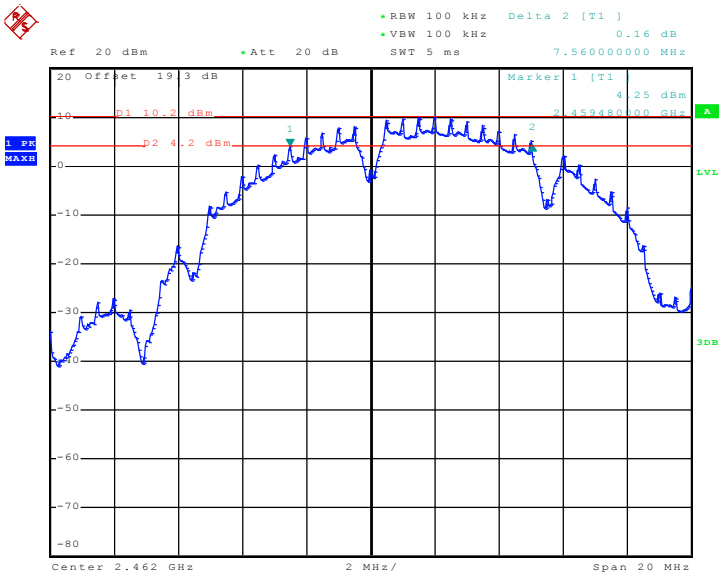
Date: 29.SEP.2010 17:59:53

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



Date: 29.SEP.2010 18:06:12

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

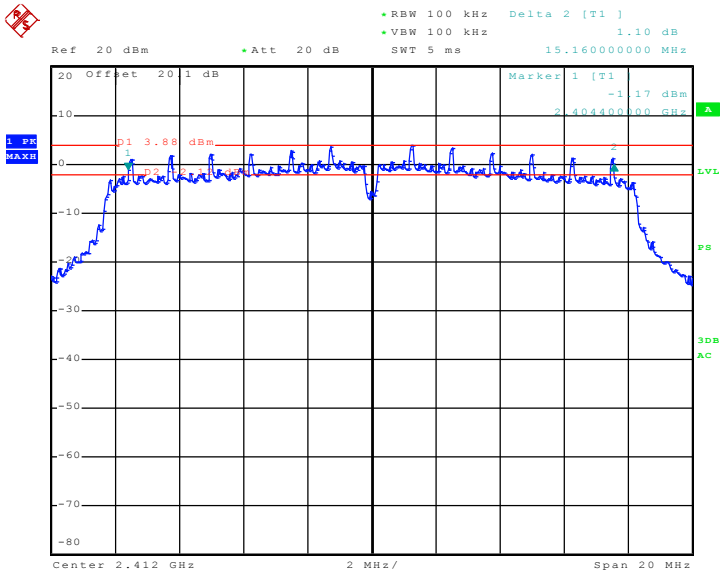


Date: 29.SEP.2010 18:07:42

Test Mode :	Mode 4, 5, 6	**Temperature :**	23~25℃
Test Engineer :	Andy Yeh	**Relative Humidity :**	50~53%

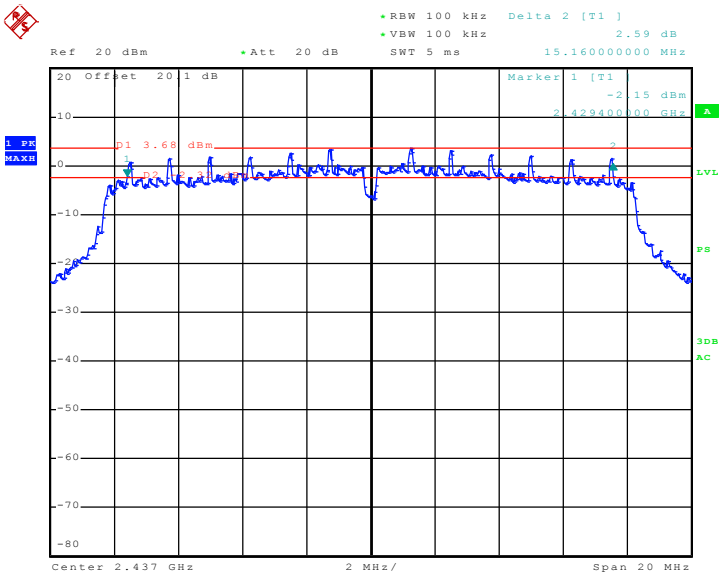
Channel	Frequency (MHz)	802.11g 6dB Bandwidth (MHz)	6dB Bandwidth Min. Limit (MHz)	Pass/Fail
01	2412	15.16	0.5	Pass
06	2437	15.16	0.5	Pass
11	2462	15.16	0.5	Pass

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



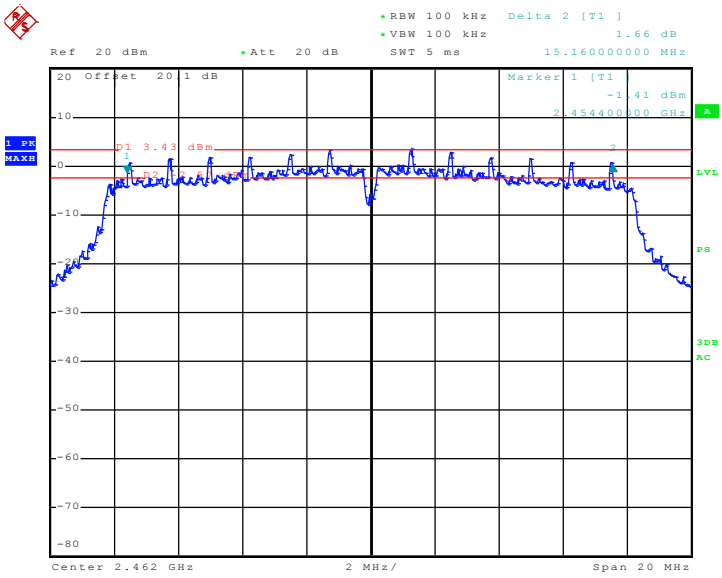
Date: 28.SEP.2010 21:35:46

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



Date: 28.SEP.2010 21:14:30

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

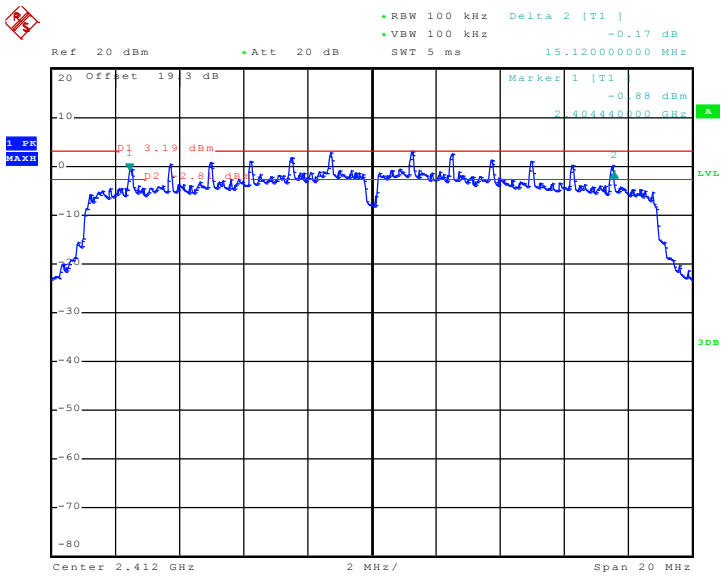


Date: 28.SEP.2010 21:09:52

Test Mode :	Mode 7, 8, 9	**Temperature :**	23~25℃
Test Engineer :	Andy Yeh	**Relative Humidity :**	50~53%

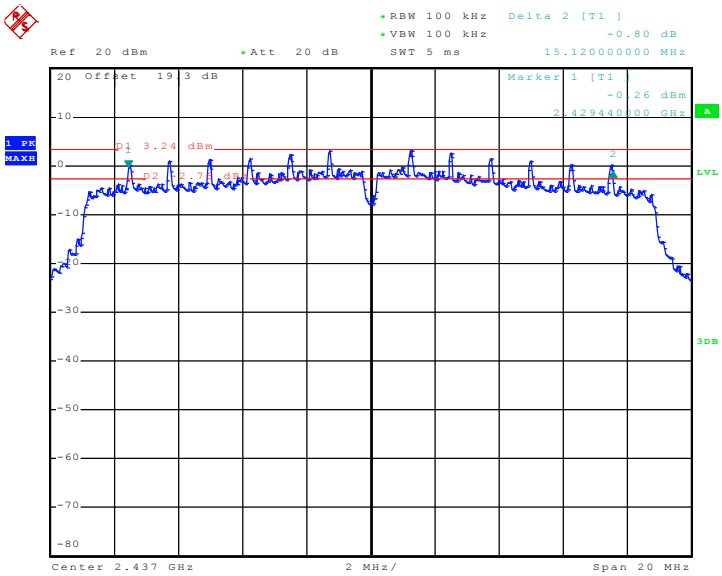
Channel	Frequency (MHz)	802.11n (BW 20MHz) 6dB Bandwidth (MHz)	6dB Bandwidth Min. Limit (MHz)	Pass/Fail
01	2412	15.12	0.5	Pass
06	2437	15.12	0.5	Pass
11	2462	15.16	0.5	Pass

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



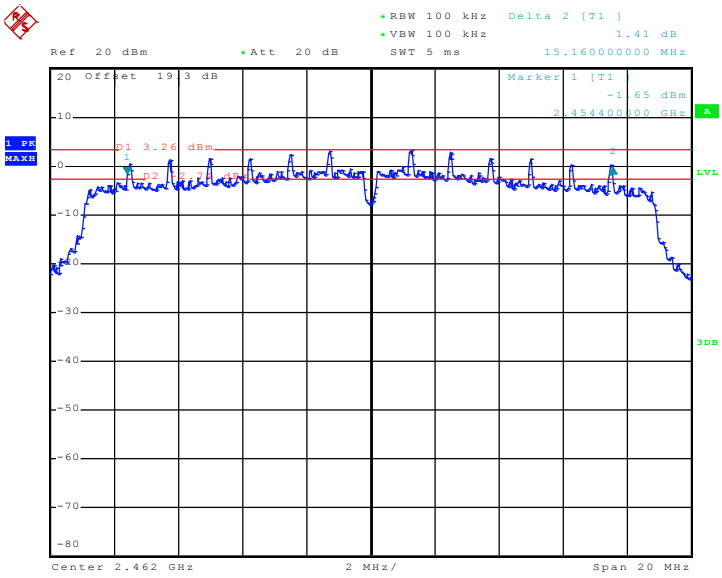
Date: 29.SEP.2010 20:18:12

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



Date: 29.SEP.2010 20:22:51

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



Date: 29.SEP.2010 20:24:11

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.

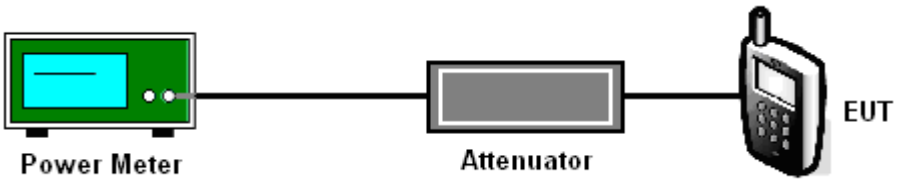
3.2.2 Measuring Instruments

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 :**	23~25℃
Test Engineer :	Andy Yeh	**Relative Humidity :**	50~53%

Channel	Frequency (MHz)	802.11b Measured Output Power (dBm)	Max. Limits (dBm)	Pass/Fail
01	2412	19.81	30	Pass
06	2437	20.27	30	Pass
11	2462	19.93	30	Pass

Test Mode :	Mode 4, 5, 6	**Temperature :**	23~25℃
Test Engineer :	Andy Yeh	**Relative Humidity :**	50~53%

Channel	Frequency (MHz)	802.11g Measured Output Power (dBm)	Max. Limits (dBm)	Pass/Fail
01	2412	21.55	30	Pass
06	2437	21.88	30	Pass
11	2462	21.92	30	Pass

Test Mode :	Mode 7, 8, 9	**Temperature :**	23~25℃
Test Engineer :	Andy Yeh	**Relative Humidity :**	50~53%

Channel	Frequency (MHz)	802.11n (BW 20MHz) Measured Output Power (dBm)	Max. Limits (dBm)	Pass/Fail
01	2412	20.22	30	Pass
06	2437	20.13	30	Pass
11	2462	20.17	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

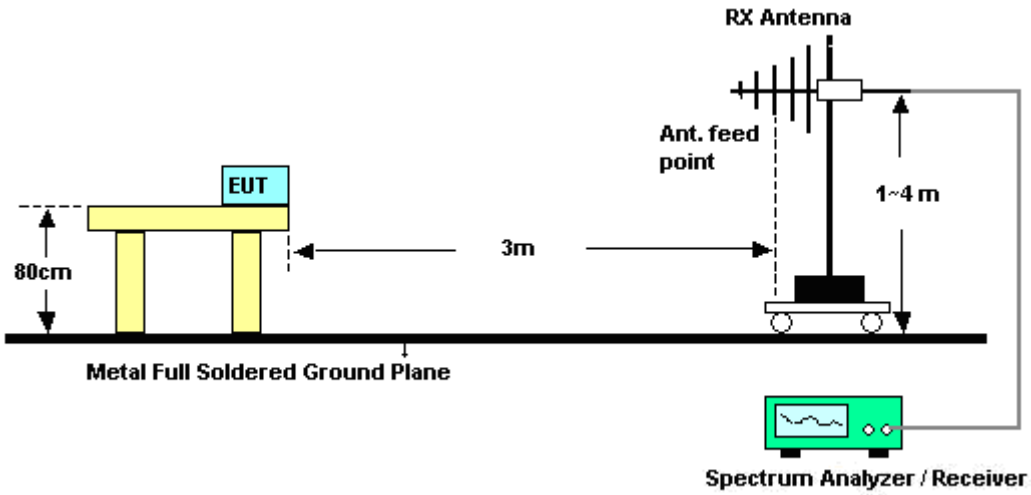
See list of measuring instruments of this test report.

3.3.3 Test Procedures

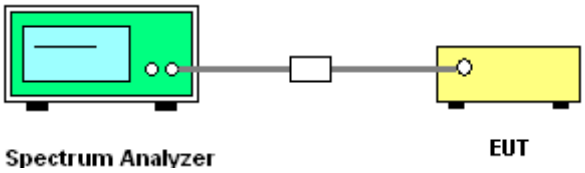
1. The testing follows the guidelines in ANSI C63.4-2003 and FCC KDB Publication No. 558074 (Measurement Guidelines of DTS).
2. Conducted emission test: Set RBW = 100 kHz, Video bandwidth (VBW) ≥ RBW. Band edge emissions must be at least 20 dB down from the highest emission level within the authorized 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 :**	24~25℃
Test Band :	802.11b	**Relative Humidity :**	46~48%
Test Channel :	01	**Test Engineer :**	Wii Chang

ANTENNA POLARITY : HORIZONTAL										
Frequency (MHz)	Level (dBuV/m)	Over Limit (dB)	Limit Line (dBuV/m)	Read Level (dBuV)	Antenna Factor (dB)	Cable Loss (dB)	Preamp Factor (dB)	Ant Pos (cm)	Table Pos (deg)	Remark
2389.61	61.01	-12.99	74	58.92	31.7	4.47	34.08	172	302	Peak
2389.61	49.02	-4.98	54	46.93	31.7	4.47	34.08	172	302	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	55.58	-18.42	74	53.49	31.7	4.47	34.08	157	344	Peak
2388.85	44.05	-9.95	54	41.96	31.7	4.47	34.08	157	344	Average

Test Mode :	Mode 3	**Temperature :**	24~25℃
Test Band :	802.11b	**Relative Humidity :**	46~48%
Test Channel :	11	**Test Engineer :**	Wii Chang

ANTENNA POLARITY : HORIZONTAL										
Frequency (MHz)	Level (dBuV/m)	Over Limit (dB)	Limit Line (dBuV/m)	Read Level (dBuV)	Antenna Factor (dB)	Cable Loss (dB)	Preamp Factor (dB)	Ant Pos (cm)	Table Pos (deg)	Remark
2483.5	57.54	-16.46	74	55.25	31.78	4.59	34.08	115	317	Peak
2483.5	44.68	-9.32	54	42.39	31.78	4.59	34.08	115	317	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	56.7	-17.3	74	54.41	31.78	4.59	34.08	103	157	Peak
2483.5	44.15	-9.85	54	41.86	31.78	4.59	34.08	103	157	Average

Test Mode :	Mode 4	**Temperature :**	24~25℃
Test Band :	802.11g	**Relative Humidity :**	46~48%
Test Channel :	01	**Test Engineer :**	Wii Chang

ANTENNA POLARITY : HORIZONTAL										
Frequency (MHz)	Level (dBuV/m)	Over Limit (dB)	Limit Line (dBuV/m)	Read Level (dBuV)	Antenna Factor (dB)	Cable Loss (dB)	Preamp Factor (dB)	Ant Pos (cm)	Table Pos (deg)	Remark
2389.61	70.72	-3.28	74	68.63	31.7	4.47	34.08	123	320	Peak
2389.61	51.42	-2.58	54	49.33	31.7	4.47	34.08	123	320	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
2389.23	71.11	-2.89	74	69.02	31.7	4.47	34.08	100	133	Peak
2389.23	51.52	-2.48	54	49.43	31.7	4.47	34.08	100	133	Average

Test Mode :	Mode 6	**Temperature :**	24~25℃
Test Band :	802.11g	**Relative Humidity :**	46~48%
Test Channel :	11	**Test Engineer :**	Wii Chang

ANTENNA POLARITY : HORIZONTAL										
Frequency (MHz)	Level (dBuV/m)	Over Limit (dB)	Limit Line (dBuV/m)	Read Level (dBuV)	Antenna Factor (dB)	Cable Loss (dB)	Preamp Factor (dB)	Ant Pos (cm)	Table Pos (deg)	Remark
2484.04	73.02	-0.98	74	70.73	31.78	4.59	34.08	137	301	Peak
2484.04	53.03	-0.97	54	50.74	31.78	4.59	34.08	137	301	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	69.62	-4.38	74	67.33	31.78	4.59	34.08	101	157	Peak
2483.85	48.8	-5.2	54	46.51	31.78	4.59	34.08	101	157	Average

Test Mode :	Mode 7	**Temperature :**	24~25℃
Test Band :	802.11n (BW 20MHz)	**Relative Humidity :**	46~48%
Test Channel :	01	**Test Engineer :**	Wii Chang

ANTENNA POLARITY : HORIZONTAL										
Frequency (MHz)	Level (dBuV/m)	Over Limit (dB)	Limit Line (dBuV/m)	Read Level (dBuV)	Antenna Factor (dB)	Cable Loss (dB)	Preamp Factor (dB)	Ant Pos (cm)	Table Pos (deg)	Remark
2388.66	67.68	-6.32	74	65.59	31.7	4.47	34.08	167	320	Peak
2388.66	47.69	-6.31	54	45.6	31.7	4.47	34.08	167	320	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
2389.23	67.23	-6.77	74	65.14	31.7	4.47	34.08	100	127	Peak
2389.23	46.09	-7.91	54	44	31.7	4.47	34.08	100	127	Average

Test Mode :	Mode 9	**Temperature :**	24~25℃
Test Band :	802.11n (BW 20MHz)	**Relative Humidity :**	46~48%
Test Channel :	11	**Test Engineer :**	Wii Chang

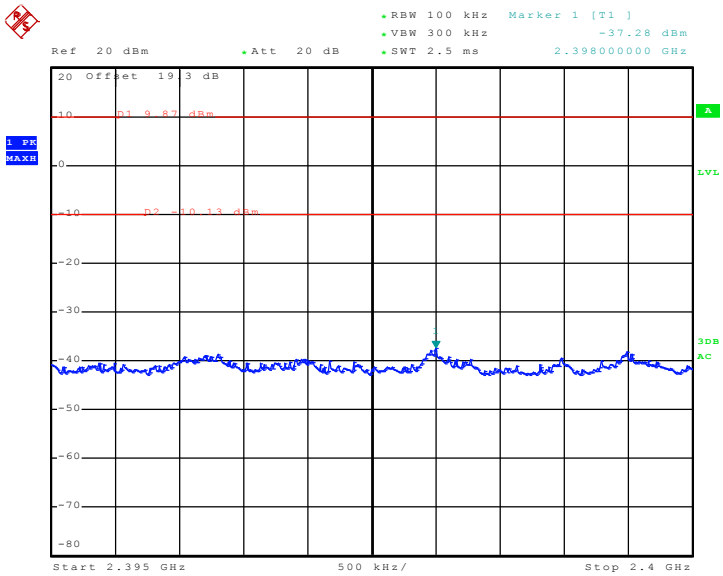
ANTENNA POLARITY : HORIZONTAL										
Frequency (MHz)	Level (dBuV/m)	Over Limit (dB)	Limit Line (dBuV/m)	Read Level (dBuV)	Antenna Factor (dB)	Cable Loss (dB)	Preamp Factor (dB)	Ant Pos (cm)	Table Pos (deg)	Remark
2484.04	65.66	-8.34	74	63.37	31.78	4.59	34.08	115	320	Peak
2484.04	46.79	-7.21	54	44.5	31.78	4.59	34.08	115	320	Average

ANTENNA POLARITY : VERTICAL										
Frequency (MHz)	Level (dBuV/m)	Over Limit (dB)	Limit Line (dBuV/m)	Read Level (dBuV)	Antenna Factor (dB)	Cable Loss (dB)	Preamp Factor (dB)	Ant Pos (cm)	Table Pos (deg)	Remark
2484.23	62.68	-11.32	74	60.39	31.78	4.59	34.08	100	196	Peak
2484.23	43.31	-10.69	54	41.02	31.78	4.59	34.08	100	196	Average

3.3.6 Test Plots of Conducted Band Edges

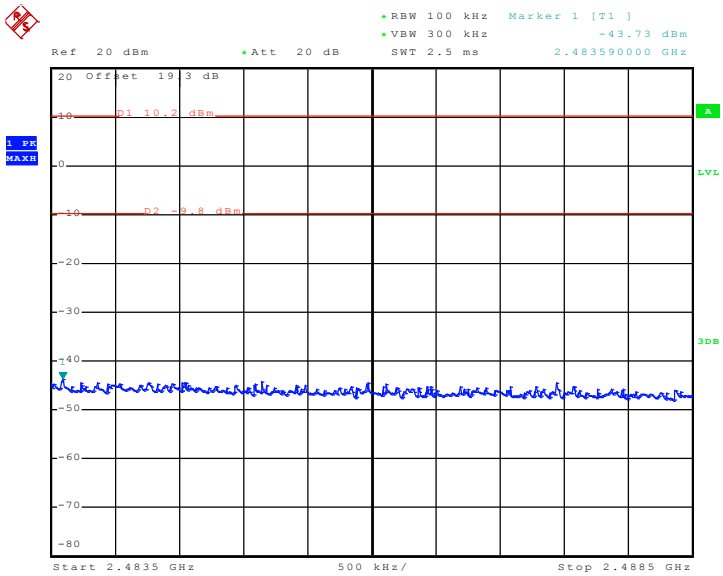
Test Mode :	Mode 1 and 3	**Temperature :**	23~25℃
Test Band :	802.11b	**Relative Humidity :**	50~53%
Test Channel :	01 and 11	**Test Engineer :**	Andy Yeh

Low Band Edge Plot on 802.11b Channel 01



Date: 30.SEP.2010 10:41:49

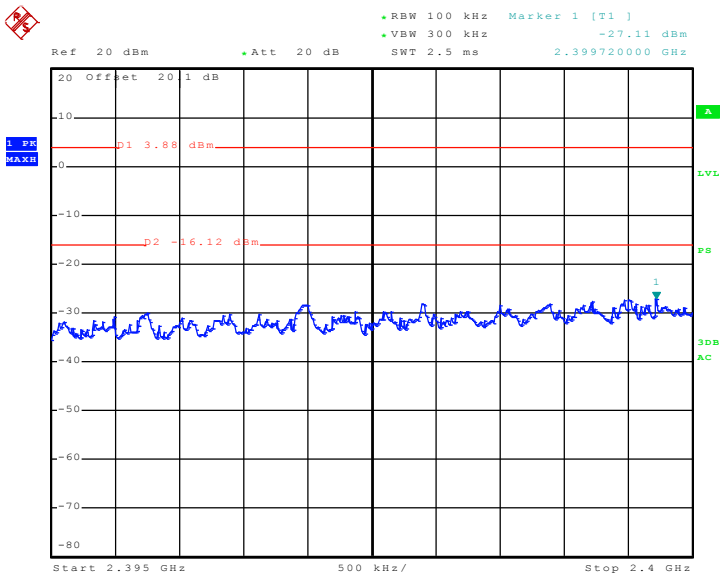
High Band Edge Plot on 802.11b Channel 11



Date: 29.SEP.2010 18:08:58

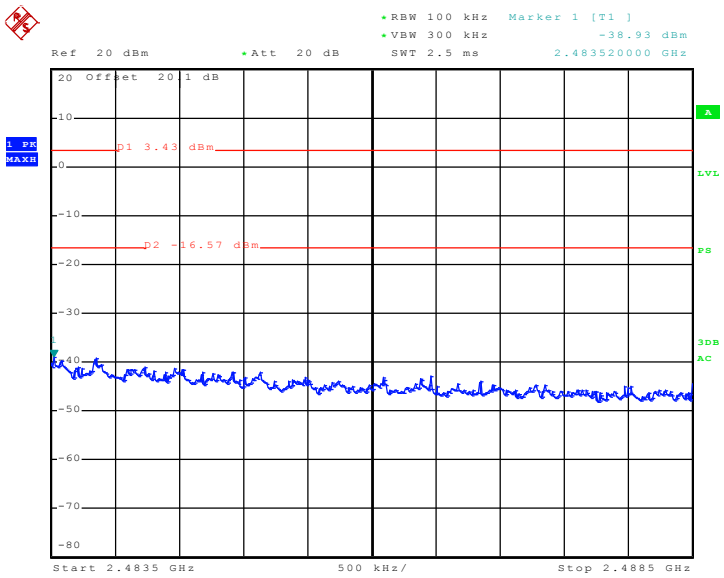
Test Mode :	Mode 4 and 6	**Temperature :**	23~25℃
Test Band :	802.11g	**Relative Humidity :**	50~53%
Test Channel :	01 and 11	**Test Engineer :**	Andy Yeh

Low Band Edge Plot on 802.11g Channel 01



Date: 28.SEP.2010 21:36:51

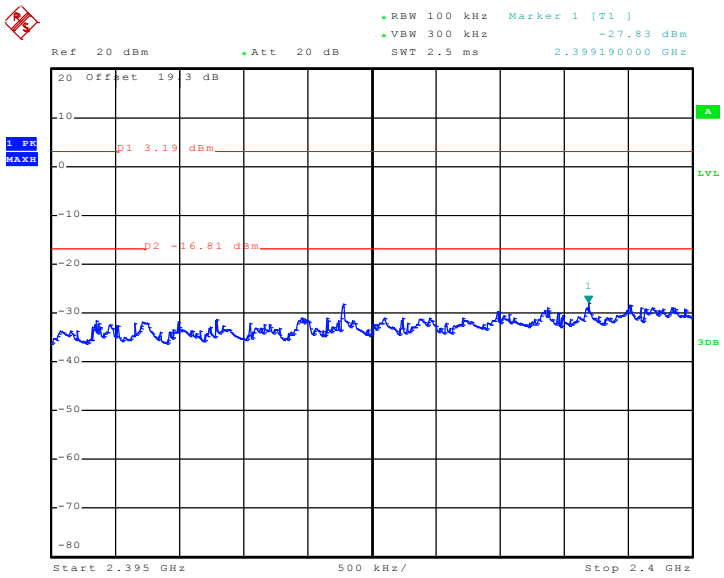
High Band Edge Plot on 802.11g Channel 11



Date: 28.SEP.2010 21:10:44

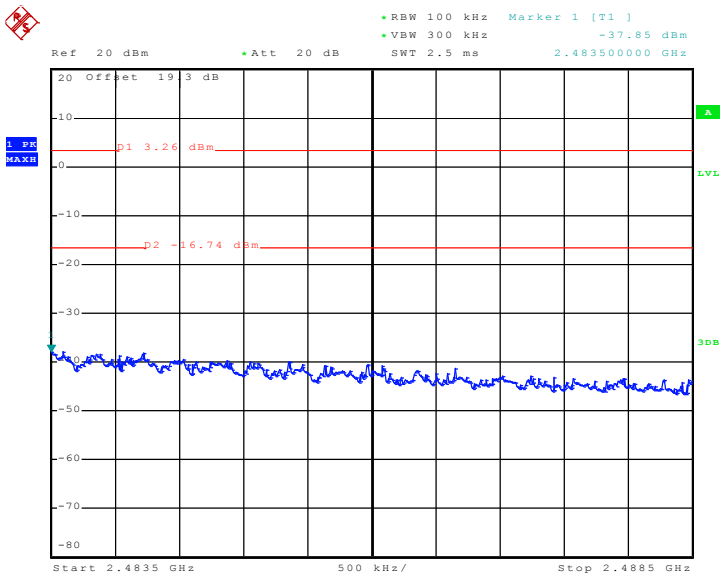
Test Mode :	Mode 7 and 9	**Temperature :**	23~25℃
Test Band :	802.11n (BW 20MHz)	**Relative Humidity :**	50~53%
Test Channel :	01 and 11	**Test Engineer :**	Andy Yeh

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



Date: 29.SEP.2010 20:19:34

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



Date: 29.SEP.2010 20:25:14

3.4 Spurious Emission Measurement

3.4.1 Limit of Spurious Emission Measurement

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

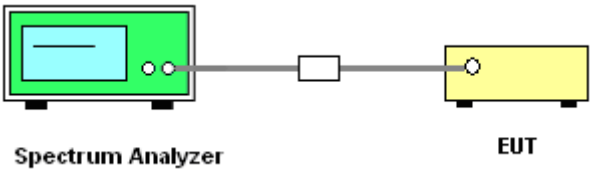
3.4.2 Measuring Instruments

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.

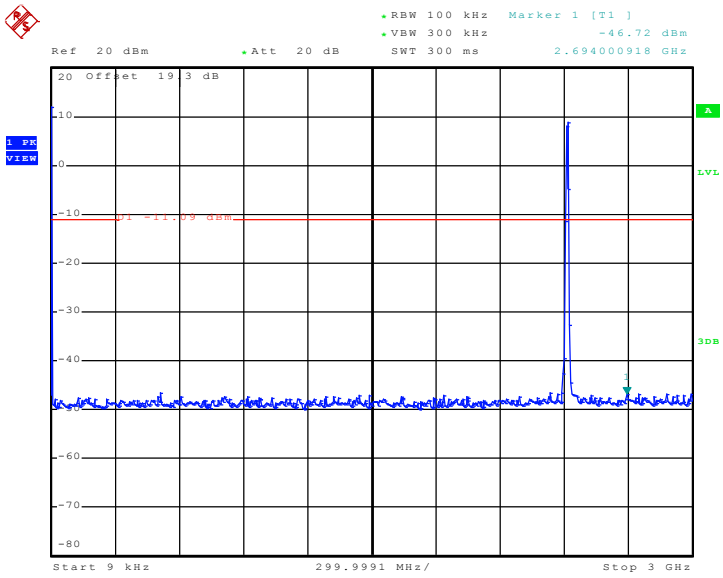
3.4.4 Test Setup



3.4.5 Test Plots of Spurious Emission

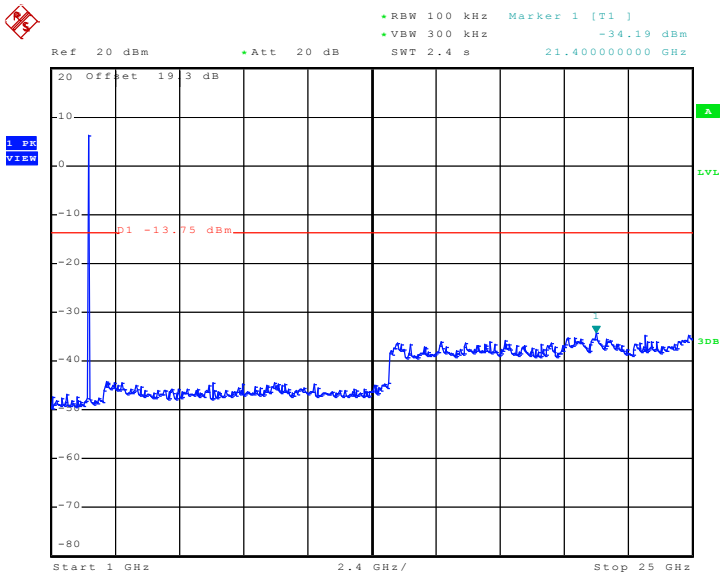
Test Mode :	Mode 1	**Temperature :**	23~25℃
Test Band :	802.11b	**Relative Humidity :**	50~53%
Test Channel :	01	**Test Engineer :**	Andy Yeh

Conducted Spurious Emission Plot between 9 kHz ~ 3 GHz



Date: 29.SEP.2010 21:12:03

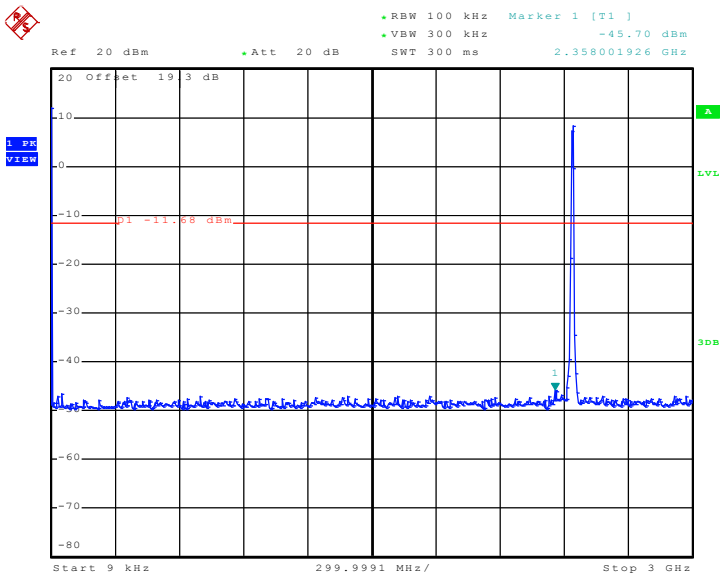
Conducted Spurious Emission Plot between 1 GHz ~ 25 GHz



Date: 29.SEP.2010 21:16:58

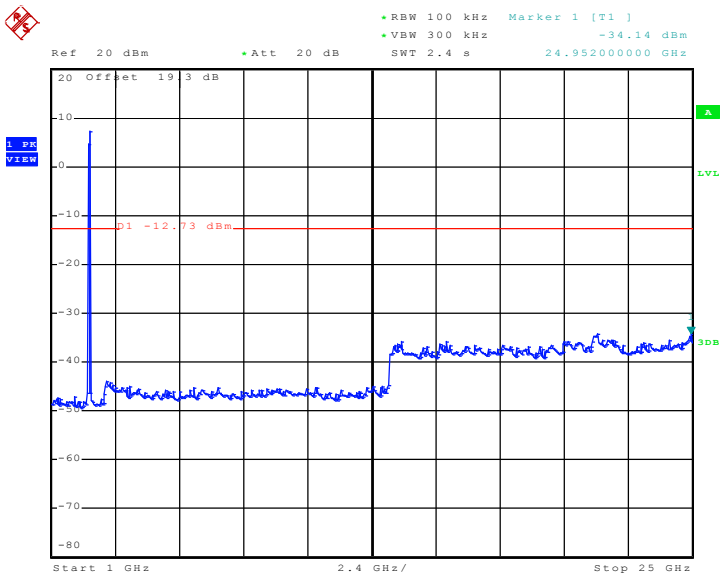
Test Mode :	Mode 2	**Temperature :**	23~25℃
Test Band :	802.11b	**Relative Humidity :**	50~53%
Test Channel :	06	**Test Engineer :**	Andy Yeh

Conducted Spurious Emission Plot between 9 kHz ~ 3 GHz



Date: 29.SEP.2010 21:13:01

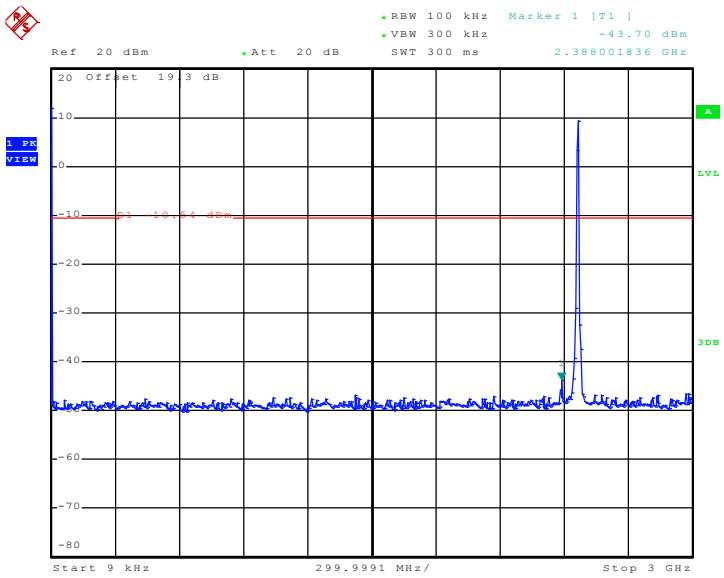
Conducted Spurious Emission Plot between 1 GHz ~ 25 GHz



Date: 29.SEP.2010 21:16:11

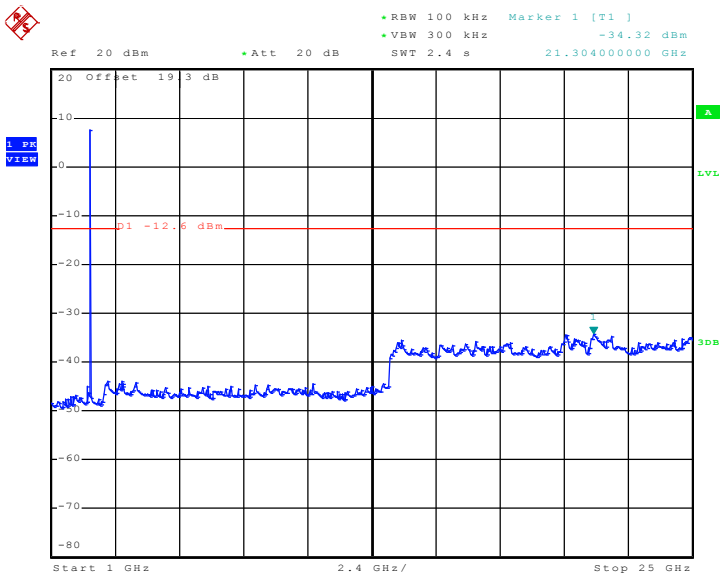
Test Mode :	Mode 3	**Temperature :**	23~25℃
Test Band :	802.11b	**Relative Humidity :**	50~53%
Test Channel :	11	**Test Engineer :**	Andy Yeh

Conducted Spurious Emission Plot between 9 kHz ~ 3 GHz



Date: 29.SEP.2010 21:13:52

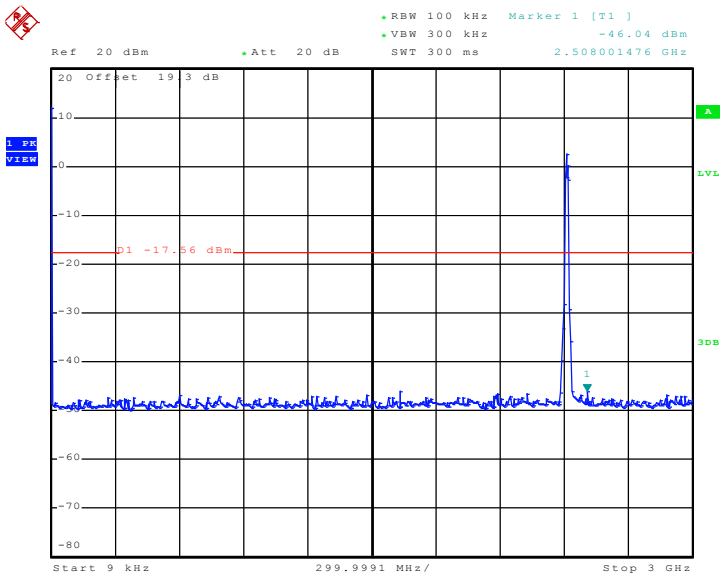
Conducted Spurious Emission Plot between 1 GHz ~ 25 GHz



Date: 29.SEP.2010 21:15:13

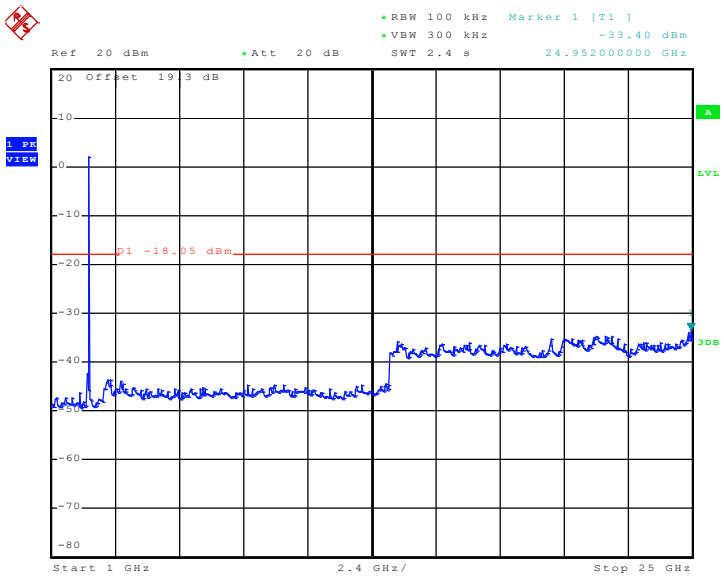
Test Mode :	Mode 4	**Temperature :**	23~25℃
Test Band :	802.11g	**Relative Humidity :**	50~53%
Test Channel :	01	**Test Engineer :**	Andy Yeh

Conducted Spurious Emission Plot between 9 kHz ~ 3 GHz



Date: 29.SEP.2010 21:11:04

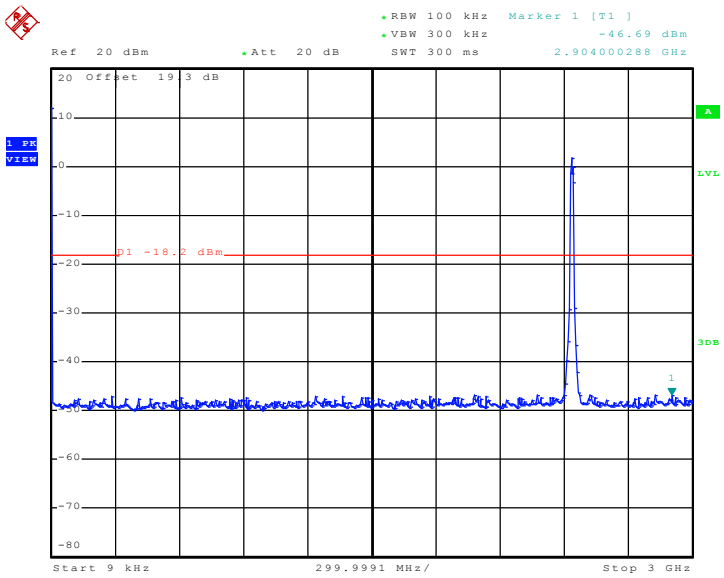
Conducted Spurious Emission Plot between 1 GHz ~ 25 GHz



Date: 29.SEP.2010 21:17:57

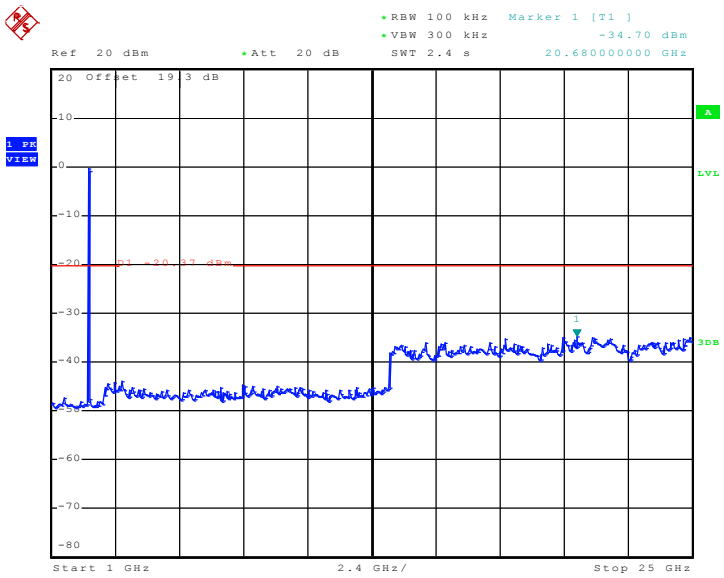
Test Mode :	Mode 5	**Temperature :**	23~25
Test Band :	802.11g	**Relative Humidity :**	50~53
Test Channel :	06	**Test Engineer :**	Andy Yeh

Conducted Spurious Emission Plot between 9 kHz ~ 3 GHz



Date: 29.SEP.2010 21:10:10

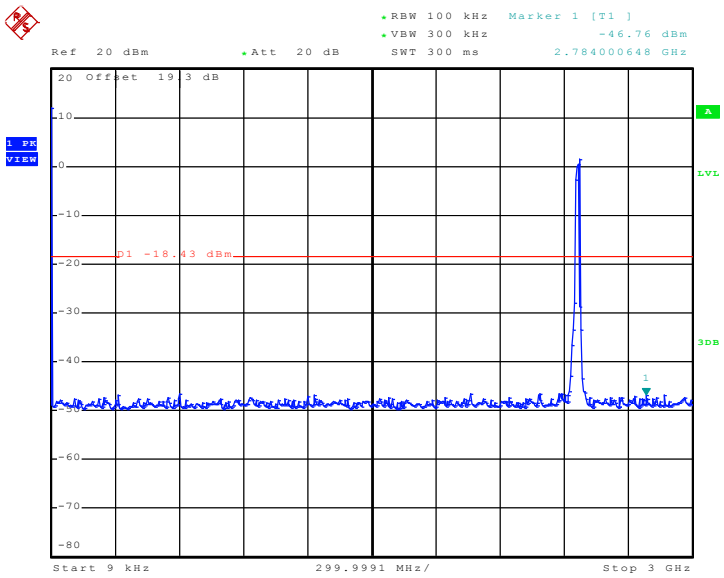
Conducted Spurious Emission Plot between 1 GHz ~ 25 GHz



Date: 29.SEP.2010 21:18:41

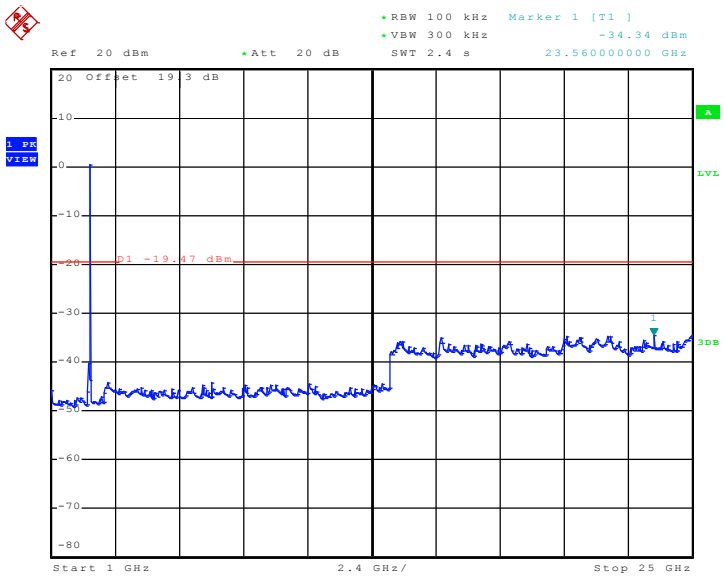
Test Mode :	Mode 6	**Temperature :**	23~25℃
Test Band :	802.11g	**Relative Humidity :**	50~53%
Test Channel :	11	**Test Engineer :**	Andy Yeh

Conducted Spurious Emission Plot between 9 kHz ~ 3 GHz



Date: 29.SEP.2010 21:09:09

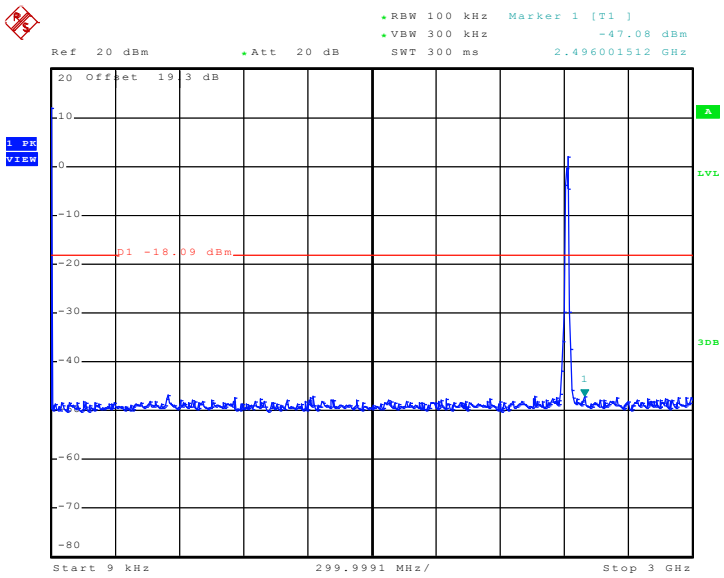
Conducted Spurious Emission Plot between 1 GHz ~ 25 GHz



Date: 29.SEP.2010 21:19:44

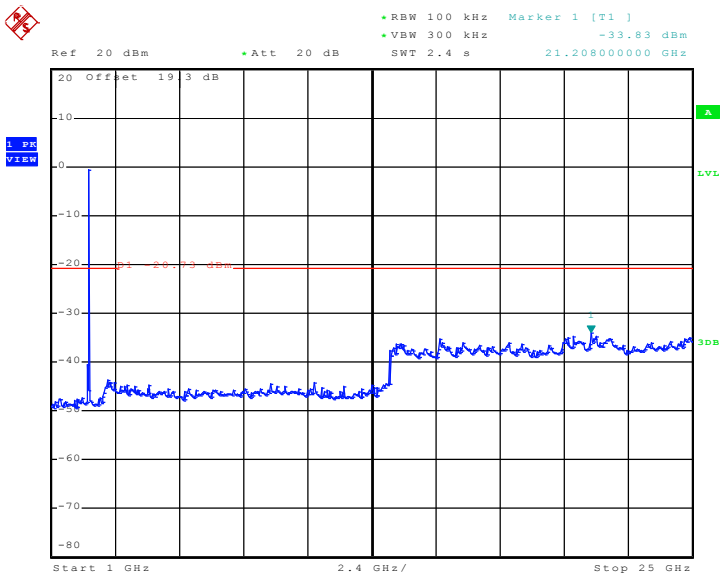
Test Mode :	Mode 7	**Temperature :**	23~25℃
Test Band :	802.11n (BW 20MHz)	**Relative Humidity :**	50~53%
Test Channel :	01	**Test Engineer :**	Andy Yeh

Conducted Spurious Emission Plot between 9 kHz ~ 3 GHz



Date: 29.SEP.2010 21:06:06

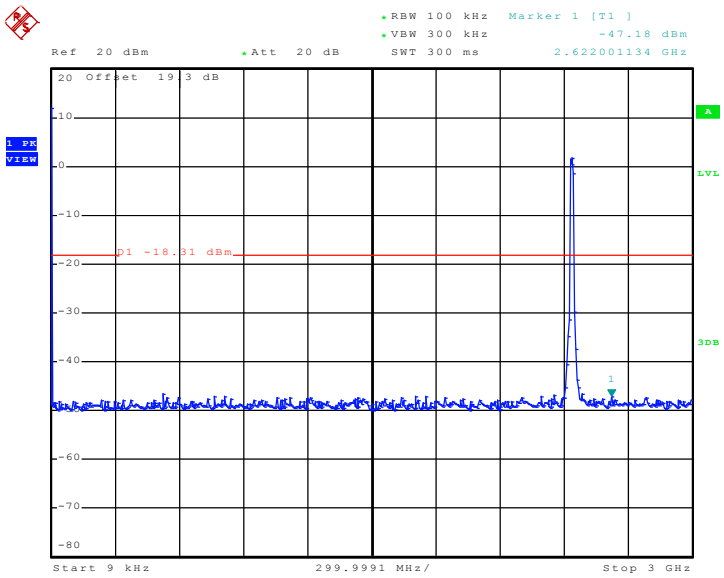
Conducted Spurious Emission Plot between 1 GHz ~ 25 GHz



Date: 29.SEP.2010 21:23:08

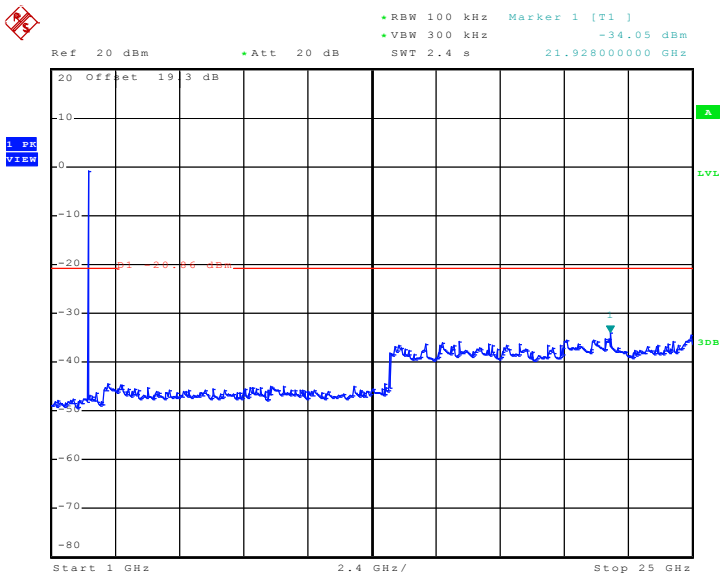
Test Mode :	Mode 8	**Temperature :**	23~25℃
Test Band :	802.11n (BW 20MHz)	**Relative Humidity :**	50~53%
Test Channel :	06	**Test Engineer :**	Andy Yeh

Conducted Spurious Emission Plot between 9 kHz ~ 3 GHz



Date: 29.SEP.2010 21:06:56

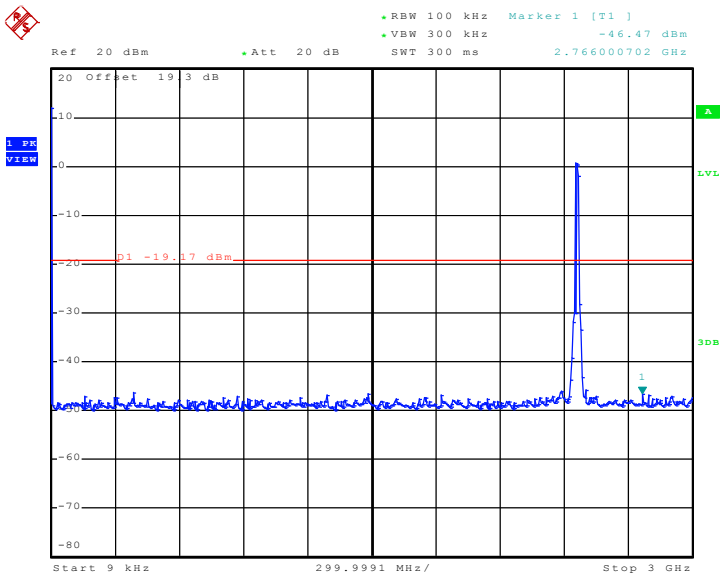
Conducted Spurious Emission Plot between 1 GHz ~ 25 GHz



Date: 14.OCT.2010 11:08:35

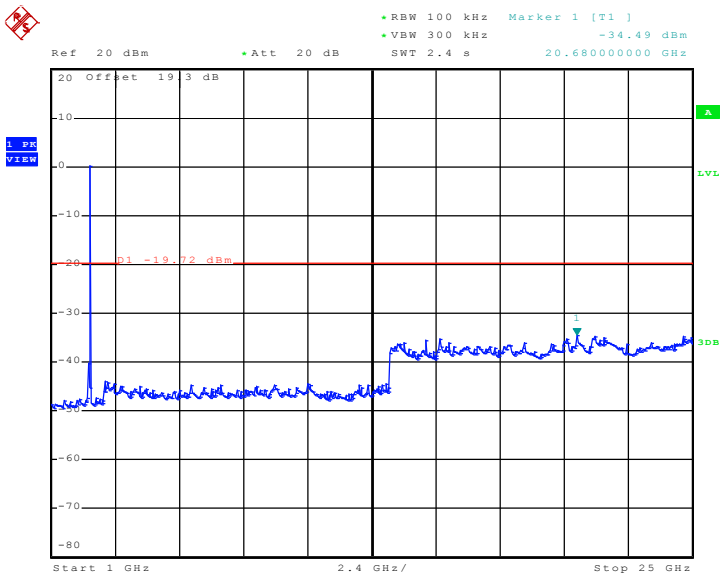
Test Mode :	Mode 9	**Temperature :**	23~25℃
Test Band :	802.11n (BW 20MHz)	**Relative Humidity :**	50~53%
Test Channel :	11	**Test Engineer :**	Andy Yeh

Conducted Spurious Emission Plot between 9 kHz ~ 3 GHz



Date: 29.SEP.2010 21:07:57

Conducted Spurious Emission Plot between 1 GHz ~ 25 GHz



Date: 29.SEP.2010 21:20:53

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.

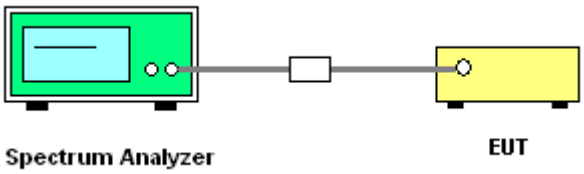
3.5.2 Measuring Instruments

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

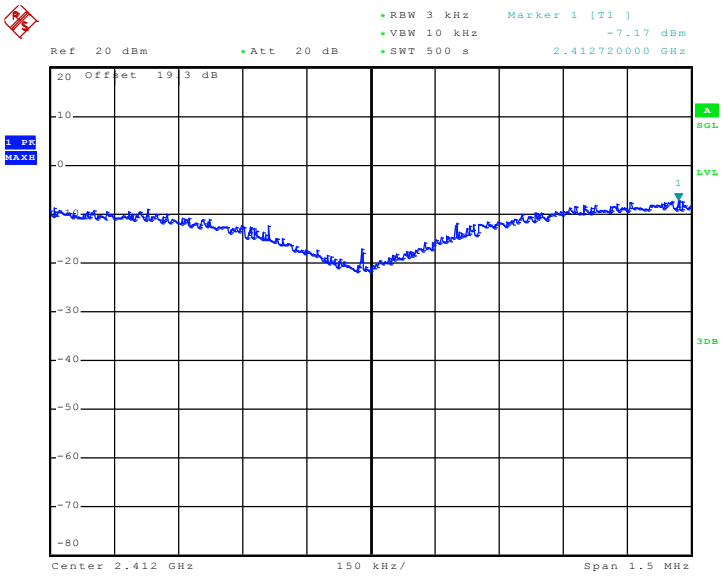


3.5.5 Test Result of Power Spectral Density

Test Mode :	Mode 1, 2, 3	**Temperature :**	23~25℃
Test Engineer :	Andy Yeh	**Relative Humidity :**	50~53%

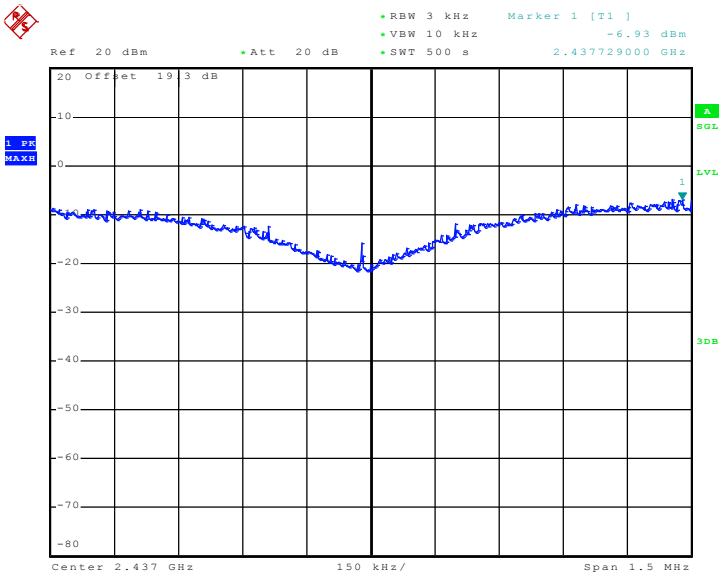
Channel	Frequency (MHz)	802.11b Measured PSD (dBm)	Max. Limits (dBm)	Pass/Fail
01	2412	-7.17	8	Pass
06	2437	-6.93	8	Pass
11	2462	-6.82	8	Pass

Mode 1 : PSD Plot on 802.11b Channel 01



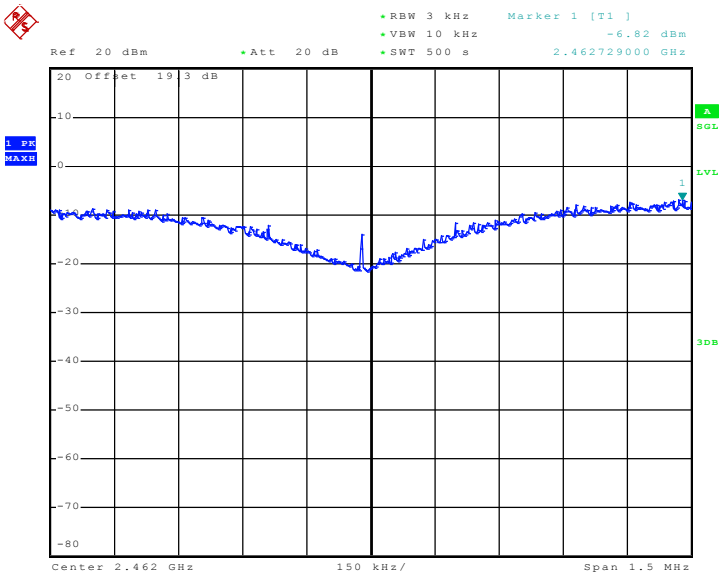
Date: 29.SEP.2010 18:51:24

Mode 2 : PSD Plot on 802.11b Channel 06



Date: 29.SEP.2010 19:00:57

Mode 3 : PSD Plot on 802.11b Channel 11

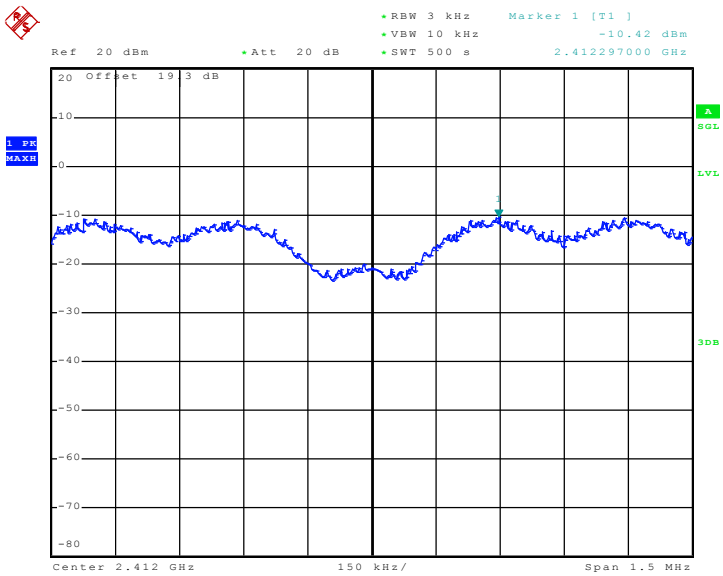


Date: 29.SEP.2010 19:09:55

Test Mode :	Mode 4, 5, 6	**Temperature :**	23~25℃
Test Engineer :	Andy Yeh	**Relative Humidity :**	50~53%

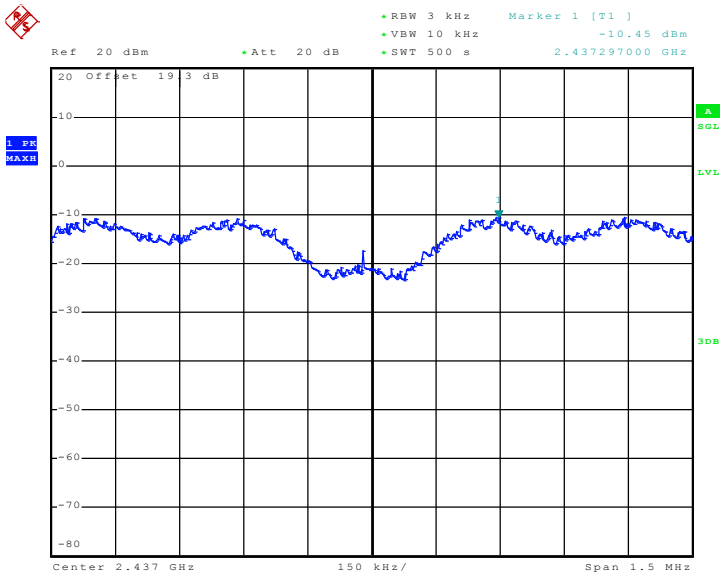
Channel	Frequency (MHz)	802.11g Measured PSD (dBm)	Max. Limits (dBm)	Pass/Fail
01	2412	-10.42	8	Pass
06	2437	-10.45	8	Pass
11	2462	-10.30	8	Pass

Mode 4 : PSD Plot on 802.11g Channel 01



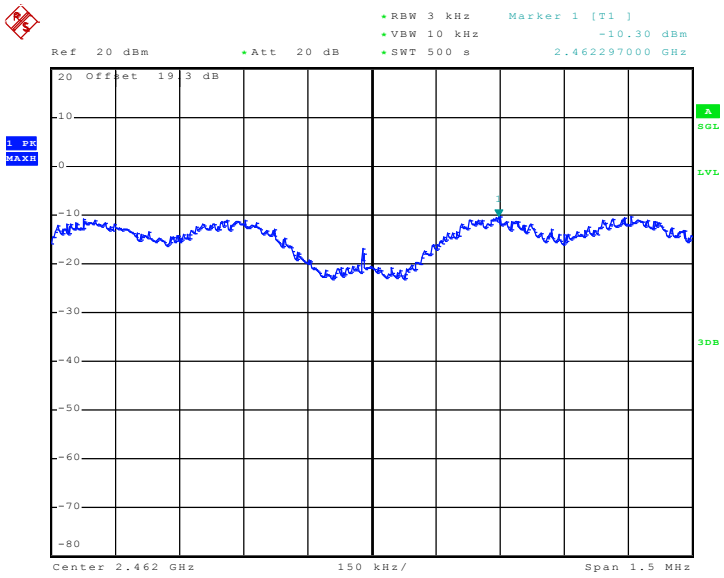
Date: 29.SEP.2010 19:42:04

Mode 5 : PSD Plot on 802.11g Channel 06



Date: 29.SEP.2010 19:31:15

Mode 6 : PSD Plot on 802.11g Channel 11

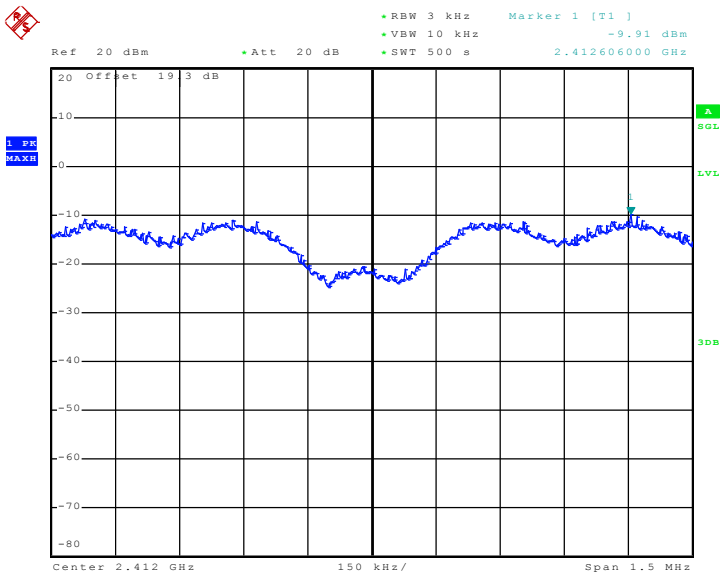


Date: 29.SEP.2010 19:21:01

Test Mode :	Mode 7, 8, 9	**Temperature :**	23~25℃
Test Engineer :	Andy Yeh	**Relative Humidity :**	50~53%

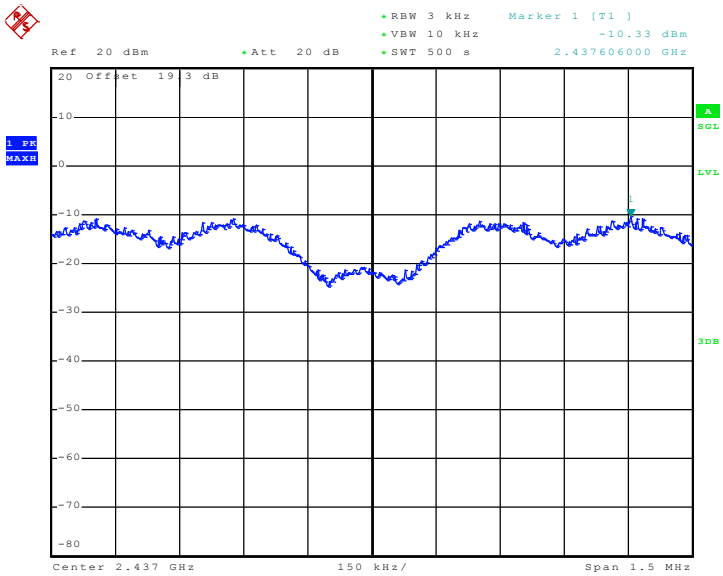
Channel	Frequency (MHz)	802.11n (BW 20MHz) Measured PSD (dBm)	Max. Limits (dBm)	Pass/Fail
01	2412	-9.91	8	Pass
06	2437	-10.33	8	Pass
11	2462	-10.02	8	Pass

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



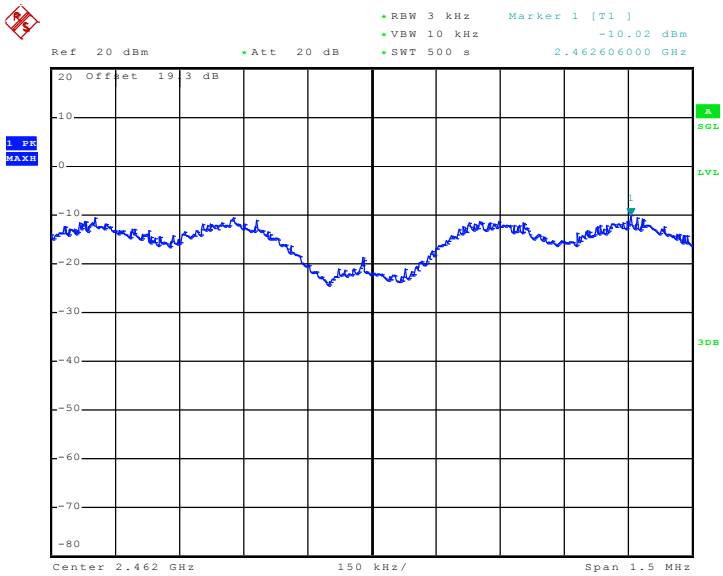
Date: 29.SEP.2010 19:52:04

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



Date: 29.SEP.2010 20:04:10

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



Date: 29.SEP.2010 20:13:03

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.

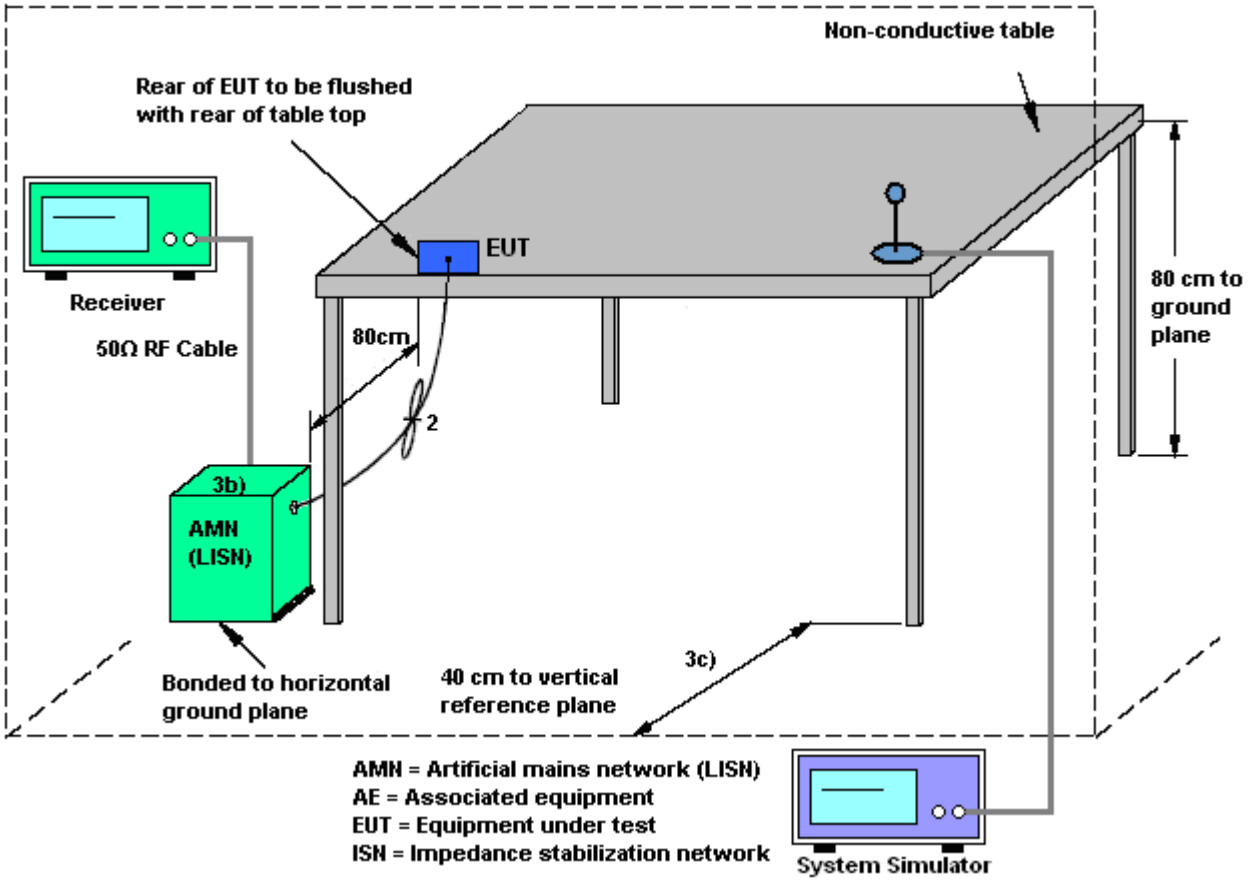
3.6.2 Measuring Instruments

See list of measuring instruments of this test report.

3.6.3 Test Procedures

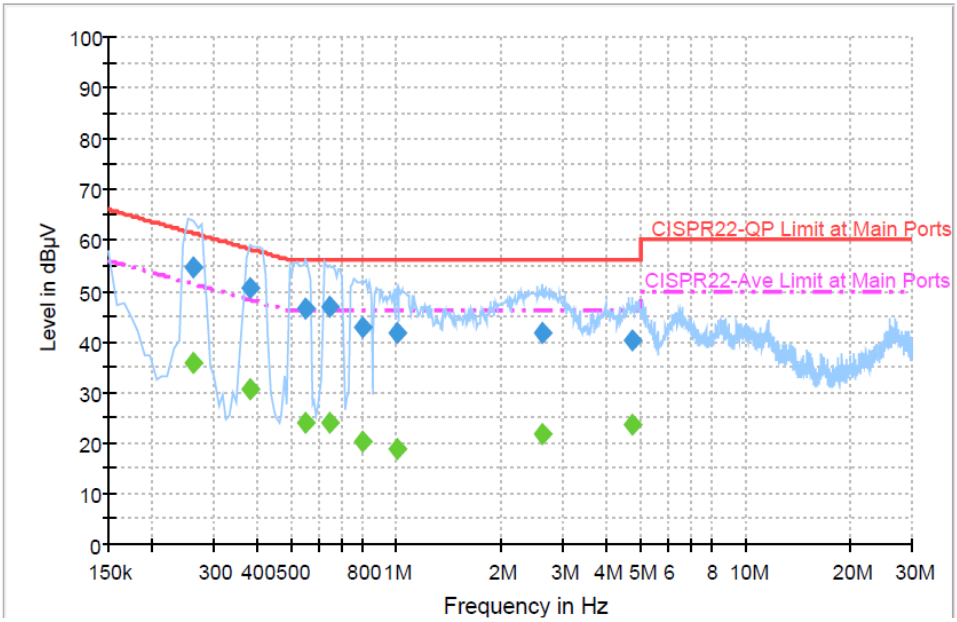
1. The testing follows the guidelines in ANSI C63.4-2003.
2. The EUT was placed 0.4 meter from the conducting wall of the shielding room, and it was kept at least 80 centimeters from any other grounded conducting surface.
3. Connect EUT to the power mains through a line impedance stabilization network (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 1	**Temperature :**	20~22℃
Test Engineer :	Novic Jiang	**Relative Humidity :**	40~42%
Test Voltage :	120Vac / 60Hz	**Phase :**	Line
Function Type :	CDMA2000 BC0 Idle + Bluetooth Link + WLAN Link + GPS Rx + Earphone 2 + Battery 2 + USB Cable 2 (Charging from Adapter 2)		
Remark :	All emissions not reported here are more than 10 dB below the prescribed limit.		



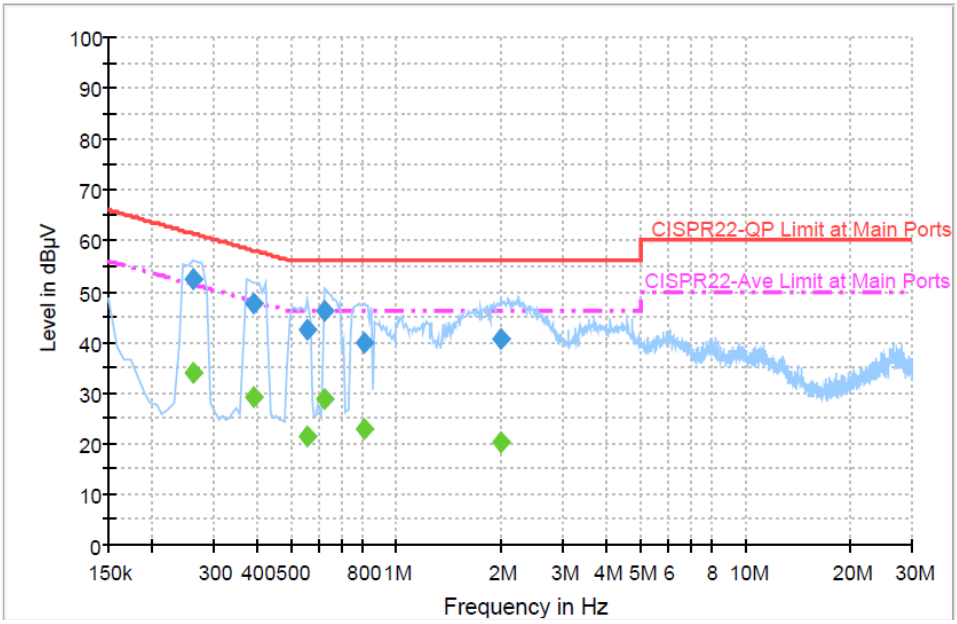
Final Result 1

Frequency (MHz)	QuasiPeak (dBµV)	Filter	Line	Corr. (dB)	Margin (dB)	Limit (dBµV)
0.262000	54.5	Off	L1	19.3	6.9	61.4
0.382000	50.7	Off	L1	19.4	7.5	58.2
0.550000	46.5	Off	L1	19.3	9.5	56.0
0.646000	46.7	Off	L1	19.3	9.3	56.0
0.798000	42.9	Off	L1	19.4	13.1	56.0
1.006000	41.7	Off	L1	19.4	14.3	56.0
2.606000	41.6	Off	L1	19.5	14.4	56.0
4.726000	40.1	Off	L1	19.5	15.9	56.0

Final Result 2

Frequency (MHz)	Average (dBµV)	Filter	Line	Corr. (dB)	Margin (dB)	Limit (dBµV)
0.262000	35.9	Off	L1	19.3	15.5	51.4
0.382000	30.8	Off	L1	19.4	17.4	48.2
0.550000	24.2	Off	L1	19.3	21.8	46.0
0.646000	23.9	Off	L1	19.3	22.1	46.0
0.798000	20.1	Off	L1	19.4	25.9	46.0
1.006000	18.6	Off	L1	19.4	27.4	46.0
2.606000	21.7	Off	L1	19.5	24.3	46.0
4.726000	23.8	Off	L1	19.5	22.2	46.0

Test Mode :	Mode 1	**Temperature :**	20~22℃
Test Engineer :	Novic Jiang	**Relative Humidity :**	40~42%
Test Voltage :	120Vac / 60Hz	**Phase :**	Neutral
Function Type :	CDMA2000 BC0 Idle + Bluetooth Link + WLAN Link + GPS Rx + Earphone 2 + Battery 2 + 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)
0.262000	52.3	Off	N	19.4	9.1	61.4
0.390000	47.5	Off	N	19.4	10.6	58.1
0.558000	42.4	Off	N	19.3	13.6	56.0
0.622000	46.3	Off	N	19.3	9.7	56.0
0.806000	39.7	Off	N	19.4	16.3	56.0
1.990000	40.7	Off	N	19.5	15.3	56.0

Final Result 2

Frequency (MHz)	Average (dBµV)	Filter	Line	Corr. (dB)	Margin (dB)	Limit (dBµV)
0.262000	33.9	Off	N	19.4	17.5	51.4
0.390000	29.0	Off	N	19.4	19.1	48.1
0.558000	21.3	Off	N	19.3	24.7	46.0
0.622000	28.9	Off	N	19.3	17.1	46.0
0.806000	22.7	Off	N	19.4	23.3	46.0
1.990000	20.4	Off	N	19.5	25.6	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

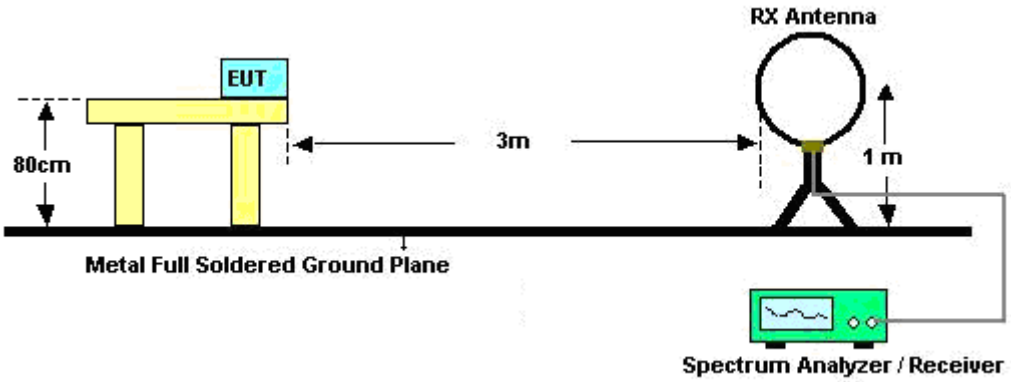
See list of measuring instruments of this test report.

3.7.3 Test Procedures

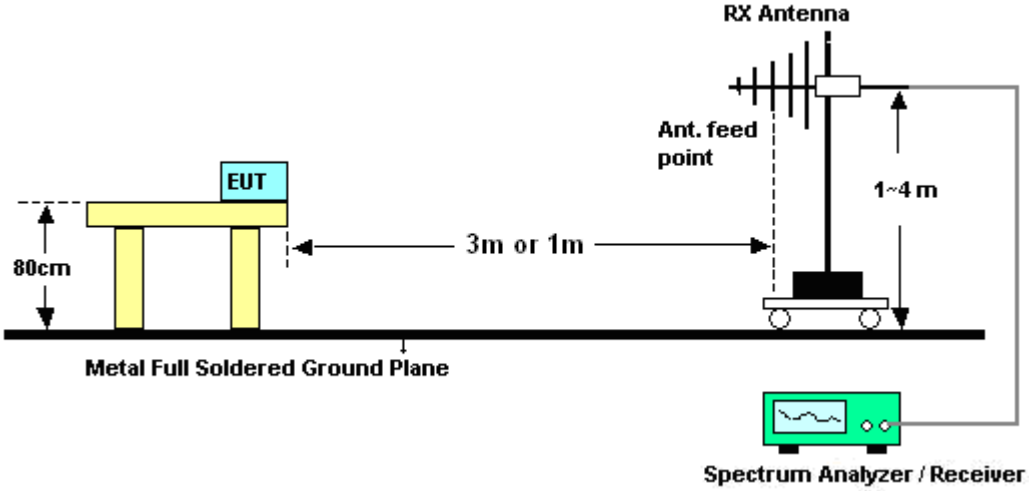
1. The testing follows the guidelines in FCC KDB Publication No. 558074 (Measurement Guidelines of DTS).
2. Use the following spectrum analyzer settings:
   (1) Span = wide enough to fully capture the emission being measured; RBW = 1 MHz for f ≥ 1 GHz, 100 kHz for f < 1 GHz; VBW ≥ RBW; Sweep = auto; 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 above 30MHz



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

Test Engineer :	Wii Chang	**Temperature :**	24~25℃
		Relative Humidity :	46~48%

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 :**	24~25℃
Test Channel :	01	**Relative Humidity :**	46~48%
Test Engineer :	Wii Chang	**Polarization :**	Horizontal
Remark :	2412 MHz is Fundamental Signals which can be ignored.		

Frequency (MHz)	Level (dBuV/m)	Over Limit (dB)	Limit Line (dBuV/m)	Read Level (dBuV)	Antenna Factor (dB)	Cable Loss (dB)	Preamp Factor (dB)	Ant Pos (cm)	Table Pos (deg)	Remark
35.67	29.06	-10.94	40	45.06	14.94	0.58	31.52	100	11	Peak
49.17	26.32	-13.68	40	48.72	8.44	0.73	31.57	-	-	Peak
147.45	30.66	-12.84	43.5	50.33	10.69	1.14	31.5	-	-	Peak
512.1	30.06	-15.94	46	40.66	18.41	2.04	31.05	-	-	Peak
731.2	23.77	-22.23	46	31.5	20.43	2.45	30.61	-	-	Peak
854.4	24.67	-21.33	46	31.66	20.86	2.65	30.5	-	-	Peak
2389.61	49.02	-4.98	54	46.93	31.7	4.47	34.08	172	302	Average
2389.61	61.01	-12.99	74	58.92	31.7	4.47	34.08	172	302	Peak
2412	106.99	-	-	104.86	31.71	4.5	34.08	172	302	Average
2412	111.29	-	-	109.16	31.71	4.5	34.08	172	302	Peak
2496	40.16	-13.84	54	37.82	31.8	4.62	34.08	172	302	Average
2496	48.36	-25.64	74	46.02	31.8	4.62	34.08	172	302	Peak

Test Mode :	Mode 1	**Temperature :**	24~25℃
Test Channel :	01	**Relative Humidity :**	46~48%
Test Engineer :	Wii Chang	**Polarization :**	Vertical
Remark :	2412 MHz is Fundamental Signals which can be ignored.		

Frequency (MHz)	Level (dBuV/m)	Over Limit (dB)	Limit Line (dBuV/m)	Read Level (dBuV)	Antenna Factor (dB)	Cable Loss (dB)	Preamp Factor (dB)	Ant Pos (cm)	Table Pos (deg)	Remark
35.4	36.92	-3.08	40	52.92	14.94	0.58	31.52	100	44	Peak
49.71	31.8	-8.2	40	54.2	8.44	0.73	31.57	-	-	Peak
97.5	36.19	-7.31	43.5	56.11	10.69	0.95	31.56	-	-	Peak
512.1	24.05	-21.95	46	34.65	18.41	2.04	31.05	-	-	Peak
744.5	22.97	-23.03	46	30.39	20.63	2.51	30.56	-	-	Peak
855.1	24.69	-21.31	46	31.68	20.86	2.65	30.5	-	-	Peak
2388.85	44.05	-9.95	54	41.96	31.7	4.47	34.08	157	344	Average
2388.85	55.58	-18.42	74	53.49	31.7	4.47	34.08	157	344	Peak
2412	103.8	-	-	101.67	31.71	4.5	34.08	157	344	Average
2412	108.02	-	-	105.89	31.71	4.5	34.08	157	344	Peak
2490	37.49	-16.51	54	35.15	31.8	4.62	34.08	157	344	Average
2490	44.76	-29.24	74	42.42	31.8	4.62	34.08	157	344	Peak

Test Mode :	Mode 2	**Temperature :**	24~25℃
Test Channel :	06	**Relative Humidity :**	46~48%
Test Engineer :	Wii Chang	**Polarization :**	Horizontal
Remark :	2437 MHz is Fundamental Signals which can be ignored.		

Frequency (MHz)	Level (dBuV/m)	Over Limit (dB)	Limit Line (dBuV/m)	Read Level (dBuV)	Antenna Factor (dB)	Cable Loss (dB)	Preamp Factor (dB)	Ant Pos (cm)	Table Pos (deg)	Remark
35.94	26.33	-13.67	40	42.33	14.94	0.58	31.52	-	-	Peak
148.26	29.81	-13.69	43.5	49.48	10.69	1.14	31.5	-	-	Peak
165.27	29.71	-13.79	43.5	50.22	9.87	1.14	31.52	-	-	Peak
512.1	32.38	-13.62	46	42.98	18.41	2.04	31.05	100	78	Peak
709.5	23.47	-22.53	46	31.64	20.11	2.4	30.68	-	-	Peak
944	24.54	-21.46	46	30.8	21.3	2.85	30.41	-	-	Peak
2360	48.16	-5.84	54	46.14	31.66	4.44	34.08	117	316	Average
2360	54.72	-19.28	74	52.7	31.66	4.44	34.08	117	316	Peak
2437	105.82	-	-	103.62	31.75	4.53	34.08	117	316	Average
2437	110.46	-	-	108.26	31.75	4.53	34.08	117	316	Peak
2496	39.23	-14.77	54	36.89	31.8	4.62	34.08	117	316	Average
2496	48.83	-25.17	74	46.49	31.8	4.62	34.08	117	316	Peak

Test Mode :	Mode 2	**Temperature :**	24~25℃
Test Channel :	06	**Relative Humidity :**	46~48%
Test Engineer :	Wii Chang	**Polarization :**	Vertical
Remark :	2437 MHz is Fundamental Signals which can be ignored.		

Frequency (MHz)	Level (dBuV/m)	Over Limit (dB)	Limit Line (dBuV/m)	Read Level (dBuV)	Antenna Factor (dB)	Cable Loss (dB)	Preamp Factor (dB)	Ant Pos (cm)	Table Pos (deg)	Remark
35.4	35.84	-4.16	40	51.84	14.94	0.58	31.52	100	22	Peak
49.17	31.9	-8.1	40	54.3	8.44	0.73	31.57	-	-	Peak
168.51	31.23	-12.27	43.5	51.77	9.78	1.23	31.55	-	-	Peak
512.1	23.46	-22.54	46	34.06	18.41	2.04	31.05	-	-	Peak
654.9	22.73	-23.27	46	31.54	19.66	2.3	30.77	-	-	Peak
887.3	24.63	-21.37	46	31.46	20.98	2.68	30.49	-	-	Peak
2360	46.36	-7.64	54	44.34	31.66	4.44	34.08	100	155	Average
2360	54.05	-19.95	74	52.03	31.66	4.44	34.08	100	155	Peak
2437	103.55	-	-	101.35	31.75	4.53	34.08	100	155	Average
2437	108.08	-	-	105.88	31.75	4.53	34.08	100	155	Peak
2486	37.16	-16.84	54	34.87	31.78	4.59	34.08	100	155	Average
2486	48.98	-25.02	74	46.69	31.78	4.59	34.08	100	155	Peak

Test Mode :	Mode 3	**Temperature :**	24~25℃
Test Channel :	11	**Relative Humidity :**	46~48%
Test Engineer :	Wii Chang	**Polarization :**	Horizontal
Remark :	2462 MHz is Fundamental Signals which can be ignored.		

Frequency (MHz)	Level (dBuV/m)	Over Limit (dB)	Limit Line (dBuV/m)	Read Level (dBuV)	Antenna Factor (dB)	Cable Loss (dB)	Preamp Factor (dB)	Ant Pos (cm)	Table Pos (deg)	Remark
40.26	26.03	-13.97	40	44.8	12.17	0.58	31.52	-	-	Peak
143.13	36.15	-7.35	43.5	55.36	11.16	1.14	31.51	100	95	Peak
147.72	30.59	-12.91	43.5	50.26	10.69	1.14	31.5	-	-	Peak
485.5	20.25	-25.75	46	31.4	17.97	1.98	31.1	-	-	Peak
680.1	22.88	-23.12	46	31.44	19.83	2.35	30.74	-	-	Peak
943.3	24.62	-21.38	46	30.89	21.29	2.85	30.41	-	-	Peak
2386	48.51	-5.49	54	46.42	31.7	4.47	34.08	115	317	Average
2386	55.59	-18.41	74	53.5	31.7	4.47	34.08	115	317	Peak
2462	103.85	-	-	101.6	31.77	4.56	34.08	115	317	Average
2462	108.31	-	-	106.06	31.77	4.56	34.08	115	317	Peak
2483.5	44.68	-9.32	54	42.39	31.78	4.59	34.08	115	317	Average
2483.5	57.54	-16.46	74	55.25	31.78	4.59	34.08	115	317	Peak

Test Mode :	Mode 3	**Temperature :**	24~25℃
Test Channel :	11	**Relative Humidity :**	46~48%
Test Engineer :	Wii Chang	**Polarization :**	Vertical
Remark :	2462 MHz is Fundamental Signals which can be ignored.		

Frequency (MHz)	Level (dBuV/m)	Over Limit (dB)	Limit Line (dBuV/m)	Read Level (dBuV)	Antenna Factor (dB)	Cable Loss (dB)	Preamp Factor (dB)	Ant Pos (cm)	Table Pos (deg)	Remark
35.67	35.73	-4.27	40	51.73	14.94	0.58	31.52	100	32	Peak
50.79	32.17	-7.83	40	54.98	8.03	0.73	31.57	-	-	Peak
166.89	30.58	-12.92	43.5	51.16	9.81	1.14	31.53	-	-	Peak
505.1	20.53	-25.47	46	31.34	18.22	2.04	31.07	-	-	Peak
652.8	22.82	-23.18	46	31.64	19.65	2.3	30.77	-	-	Peak
894.3	24.39	-21.61	46	31.16	21.01	2.7	30.48	-	-	Peak
2386	47.73	-6.27	54	45.64	31.7	4.47	34.08	103	157	Average
2386	55.15	-18.85	74	53.06	31.7	4.47	34.08	103	157	Peak
2462	103.07	-	-	100.82	31.77	4.56	34.08	103	157	Average
2462	107.5	-	-	105.25	31.77	4.56	34.08	103	157	Peak
2483.5	44.15	-9.85	54	41.86	31.78	4.59	34.08	103	157	Average
2483.5	56.7	-17.3	74	54.41	31.78	4.59	34.08	103	157	Peak

Test Mode :	Mode 4	**Temperature :**	24~25℃
Test Channel :	01	**Relative Humidity :**	46~48%
Test Engineer :	Wii Chang	**Polarization :**	Horizontal
Remark :	2412 MHz is Fundamental Signals which can be ignored.		

Frequency (MHz)	Level (dBuV/m)	Over Limit (dB)	Limit Line (dBuV/m)	Read Level (dBuV)	Antenna Factor (dB)	Cable Loss (dB)	Preamp Factor (dB)	Ant Pos (cm)	Table Pos (deg)	Remark
45.66	25.11	-14.89	40	45.84	10.1	0.73	31.56	-	-	Peak
146.91	28.98	-14.52	43.5	48.56	10.78	1.14	31.5	-	-	Peak
164.73	29.24	-14.26	43.5	49.73	9.89	1.14	31.52	100	31	Peak
503.7	21.46	-24.54	46	32.3	18.19	2.04	31.07	-	-	Peak
668.2	22.72	-23.28	46	31.37	19.75	2.35	30.75	-	-	Peak
892.2	24.55	-21.45	46	31.33	21	2.7	30.48	-	-	Peak
2389.61	51.42	-2.58	54	49.33	31.7	4.47	34.08	123	320	Average
2389.61	70.72	-3.28	74	68.63	31.7	4.47	34.08	123	320	Peak
2412	94.6	-	-	92.47	31.71	4.5	34.08	123	320	Average
2412	108.03	-	-	105.9	31.71	4.5	34.08	123	320	Peak
2498	35.68	-18.32	54	33.34	31.8	4.62	34.08	123	320	Average
2498	47.26	-26.74	74	44.92	31.8	4.62	34.08	123	320	Peak

Test Mode :	Mode 4	**Temperature :**	24~25℃
Test Channel :	01	**Relative Humidity :**	46~48%
Test Engineer :	Wii Chang	**Polarization :**	Vertical
Remark :	2412 MHz is Fundamental Signals which can be ignored.		

Frequency (MHz)	Level (dBuV/m)	Over Limit (dB)	Limit Line (dBuV/m)	Read Level (dBuV)	Antenna Factor (dB)	Cable Loss (dB)	Preamp Factor (dB)	Ant Pos (cm)	Table Pos (deg)	Remark
35.94	37.06	-2.94	40	53.06	14.94	0.58	31.52	100	35	Peak
50.79	35.2	-4.8	40	58.01	8.03	0.73	31.57	-	-	Peak
167.7	32.19	-11.31	43.5	52.69	9.81	1.23	31.54	-	-	Peak
430.9	22.81	-23.19	46	34.99	17.11	1.87	31.16	-	-	Peak
641.6	22.91	-23.09	46	31.88	19.57	2.25	30.79	-	-	Peak
864.2	24.92	-21.08	46	31.86	20.9	2.65	30.49	-	-	Peak
2389.23	51.52	-2.48	54	49.43	31.7	4.47	34.08	100	133	Average
2389.23	71.11	-2.89	74	69.02	31.7	4.47	34.08	100	133	Peak
2412	92.85	-	-	90.72	31.71	4.5	34.08	100	133	Average
2412	106.33	-	-	104.2	31.71	4.5	34.08	100	133	Peak
2492	33.42	-20.58	54	31.08	31.8	4.62	34.08	100	133	Average
2492	45.67	-28.33	74	43.33	31.8	4.62	34.08	100	133	Peak

Test Mode :	Mode 5	**Temperature :**	24~25℃
Test Channel :	06	**Relative Humidity :**	46~48%
Test Engineer :	Wii Chang	**Polarization :**	Horizontal
Remark :	2437 MHz is Fundamental Signals which can be ignored.		

Frequency (MHz)	Level (dBuV/m)	Over Limit (dB)	Limit Line (dBuV/m)	Read Level (dBuV)	Antenna Factor (dB)	Cable Loss (dB)	Preamp Factor (dB)	Ant Pos (cm)	Table Pos (deg)	Remark
51.33	24.98	-15.02	40	47.95	7.86	0.73	31.56	-	-	Peak
147.18	30.87	-12.63	43.5	50.45	10.78	1.14	31.5	100	75	Peak
165	29.66	-13.84	43.5	50.17	9.87	1.14	31.52	-	-	Peak
407.8	20.87	-25.13	46	33.43	16.8	1.82	31.18	-	-	Peak
657	22.83	-23.17	46	31.61	19.68	2.3	30.76	-	-	Peak
953.8	25.74	-20.26	46	31.98	21.29	2.85	30.38	-	-	Peak
2390	42.78	-11.22	54	40.66	31.7	4.5	34.08	170	296	Average
2390	56.48	-17.52	74	54.36	31.7	4.5	34.08	170	296	Peak
2437	96.28	-	-	94.08	31.75	4.53	34.08	170	296	Average
2437	108.58	-	-	106.38	31.75	4.53	34.08	170	296	Peak
2484	39.27	-14.73	54	36.98	31.78	4.59	34.08	170	296	Average
2484	53.41	-20.59	74	51.12	31.78	4.59	34.08	170	296	Peak

Test Mode :	Mode 5	**Temperature :**	24~25℃
Test Channel :	06	**Relative Humidity :**	46~48%
Test Engineer :	Wii Chang	**Polarization :**	Vertical
Remark :	2437 MHz is Fundamental Signals which can be ignored.		

Frequency (MHz)	Level (dBuV/m)	Over Limit (dB)	Limit Line (dBuV/m)	Read Level (dBuV)	Antenna Factor (dB)	Cable Loss (dB)	Preamp Factor (dB)	Ant Pos (cm)	Table Pos (deg)	Remark
35.4	35.96	-4.04	40	51.96	14.94	0.58	31.52	100	78	Peak
49.71	31.19	-8.81	40	53.59	8.44	0.73	31.57	-	-	Peak
167.43	31.59	-11.91	43.5	52.09	9.81	1.23	31.54	-	-	Peak
518.4	20.98	-25.02	46	31.36	18.55	2.1	31.03	-	-	Peak
748	23.14	-22.86	46	30.49	20.69	2.51	30.55	-	-	Peak
929.3	24.42	-21.58	46	30.87	21.2	2.78	30.43	-	-	Peak
2356	41.87	-12.13	54	39.86	31.66	4.44	34.09	100	156	Average
2356	51.51	-22.49	74	49.5	31.66	4.44	34.09	100	156	Peak
2437	92.25	-	-	90.05	31.75	4.53	34.08	100	156	Average
2437	104.55	-	-	102.35	31.75	4.53	34.08	100	156	Peak
2486	37.98	-16.02	54	35.69	31.78	4.59	34.08	100	156	Average
2486	49.87	-24.13	74	47.58	31.78	4.59	34.08	100	156	Peak

Test Mode :	Mode 6	**Temperature :**	24~25℃
Test Channel :	11	**Relative Humidity :**	46~48%
Test Engineer :	Wii Chang	**Polarization :**	Horizontal
Remark :	2462 MHz is Fundamental Signals which can be ignored.		

Frequency (MHz)	Level (dBuV/m)	Over Limit (dB)	Limit Line (dBuV/m)	Read Level (dBuV)	Antenna Factor (dB)	Cable Loss (dB)	Preamp Factor (dB)	Ant Pos (cm)	Table Pos (deg)	Remark
49.71	24.51	-15.49	40	46.91	8.44	0.73	31.57	-	-	Peak
147.45	30.24	-13.26	43.5	49.91	10.69	1.14	31.5	100	87	Peak
163.65	29.31	-14.19	43.5	49.77	9.92	1.14	31.52	-	-	Peak
554.8	21.95	-24.05	46	31.44	19.3	2.15	30.94	-	-	Peak
706	23.71	-22.29	46	31.96	20.05	2.4	30.7	-	-	Peak
950.3	25.41	-20.59	46	31.63	21.33	2.85	30.4	-	-	Peak
2384	45.53	-8.47	54	43.46	31.68	4.47	34.08	137	301	Average
2384	56.98	-17.02	74	54.91	31.68	4.47	34.08	137	301	Peak
2462	94.41	-	-	92.16	31.77	4.56	34.08	137	301	Average
2462	107.33	-	-	105.08	31.77	4.56	34.08	137	301	Peak
2484.04	53.03	-0.97	54	50.74	31.78	4.59	34.08	137	301	Average
2484.04	73.02	-0.98	74	70.73	31.78	4.59	34.08	137	301	Peak

Test Mode :	Mode 6	**Temperature :**	24~25℃
Test Channel :	11	**Relative Humidity :**	46~48%
Test Engineer :	Wii Chang	**Polarization :**	Vertical
Remark :	2462 MHz is Fundamental Signals which can be ignored.		

Frequency (MHz)	Level (dBuV/m)	Over Limit (dB)	Limit Line (dBuV/m)	Read Level (dBuV)	Antenna Factor (dB)	Cable Loss (dB)	Preamp Factor (dB)	Ant Pos (cm)	Table Pos (deg)	Remark
35.67	35.37	-4.63	40	51.37	14.94	0.58	31.52	100	45	Peak
50.79	32.18	-7.82	40	54.99	8.03	0.73	31.57	-	-	Peak
167.97	31.17	-12.33	43.5	51.7	9.78	1.23	31.54	-	-	Peak
645.8	23.33	-22.67	46	32.21	19.6	2.3	30.78	-	-	Peak
793.5	24.56	-21.44	46	31.78	20.75	2.57	30.54	-	-	Peak
943.3	24.8	-21.2	46	31.07	21.29	2.85	30.41	-	-	Peak
2382	43.32	-10.68	54	41.25	31.68	4.47	34.08	101	157	Average
2382	55.94	-18.06	74	53.87	31.68	4.47	34.08	101	157	Peak
2462	91.07	-	-	88.82	31.77	4.56	34.08	101	157	Average
2462	103.1	-	-	100.85	31.77	4.56	34.08	101	157	Peak
2483.85	48.8	-5.2	54	46.51	31.78	4.59	34.08	101	157	Average
2483.85	69.62	-4.38	74	67.33	31.78	4.59	34.08	101	157	Peak

Test Mode :	Mode 7	**Temperature :**	24~25℃
Test Channel :	01	**Relative Humidity :**	46~48%
Test Engineer :	Wii Chang	**Polarization :**	Horizontal
Remark :	2412 MHz is Fundamental Signals which can be ignored.		

Frequency (MHz)	Level (dBuV/m)	Over Limit (dB)	Limit Line (dBuV/m)	Read Level (dBuV)	Antenna Factor (dB)	Cable Loss (dB)	Preamp Factor (dB)	Ant Pos (cm)	Table Pos (deg)	Remark
53.49	31.38	-8.62	40	54.66	7.53	0.73	31.54	100	84	Peak
147.45	28.26	-15.24	43.5	47.93	10.69	1.14	31.5	-	-	Peak
165.81	29.01	-14.49	43.5	49.53	9.87	1.14	31.53	-	-	Peak
353.9	21.62	-24.38	46	36.13	15.08	1.71	31.3	-	-	Peak
757.1	24.09	-21.91	46	31.4	20.72	2.51	30.54	-	-	Peak
808.9	24.43	-21.57	46	31.62	20.77	2.57	30.53	-	-	Peak
2388.66	47.69	-6.31	54	45.6	31.7	4.47	34.08	167	320	Average
2388.66	67.68	-6.32	74	65.59	31.7	4.47	34.08	167	320	Peak
2412	90.98	-	-	88.85	31.71	4.5	34.08	167	320	Average
2412	103.38	-	-	101.25	31.71	4.5	34.08	167	320	Peak
2496	33.74	-20.26	54	31.4	31.8	4.62	34.08	167	320	Average
2496	45.32	-28.68	74	42.98	31.8	4.62	34.08	167	320	Peak

Test Mode :	Mode 7	**Temperature :**	24~25℃
Test Channel :	01	**Relative Humidity :**	46~48%
Test Engineer :	Wii Chang	**Polarization :**	Vertical
Remark :	2412 MHz is Fundamental Signals which can be ignored.		

Frequency (MHz)	Level (dBuV/m)	Over Limit (dB)	Limit Line (dBuV/m)	Read Level (dBuV)	Antenna Factor (dB)	Cable Loss (dB)	Preamp Factor (dB)	Ant Pos (cm)	Table Pos (deg)	Remark
35.13	36.19	-3.81	40	51.6	15.53	0.58	31.52	100	15	Peak
50.52	34.53	-5.47	40	57.34	8.03	0.73	31.57	-	-	Peak
166.62	31.84	-11.66	43.5	52.39	9.84	1.14	31.53	-	-	Peak
572.3	22.11	-23.89	46	31.54	19.3	2.18	30.91	-	-	Peak
794.9	23.97	-22.03	46	31.19	20.75	2.57	30.54	-	-	Peak
831.3	24.49	-21.51	46	31.58	20.81	2.61	30.51	-	-	Peak
2389.23	46.09	-7.91	54	44	31.7	4.47	34.08	100	127	Average
2389.23	67.23	-6.77	74	65.14	31.7	4.47	34.08	100	127	Peak
2412	88.83	-	-	86.7	31.71	4.5	34.08	100	127	Average
2412	101.36	-	-	99.23	31.71	4.5	34.08	100	127	Peak
2494	33.62	-20.38	54	31.28	31.8	4.62	34.08	100	127	Average
2494	45.36	-28.64	74	43.02	31.8	4.62	34.08	100	127	Peak

Test Mode :	Mode 8	**Temperature :**	24~25℃
Test Channel :	06	**Relative Humidity :**	46~48%
Test Engineer :	Wii Chang	**Polarization :**	Horizontal
Remark :	2437 MHz is Fundamental Signals which can be ignored.		

Frequency (MHz)	Level (dBuV/m)	Over Limit (dB)	Limit Line (dBuV/m)	Read Level (dBuV)	Antenna Factor (dB)	Cable Loss (dB)	Preamp Factor (dB)	Ant Pos (cm)	Table Pos (deg)	Remark
49.17	24.61	-15.39	40	47.01	8.44	0.73	31.57	-	-	Peak
97.5	26.52	-16.98	43.5	46.44	10.69	0.95	31.56	-	-	Peak
147.45	30.96	-12.54	43.5	50.63	10.69	1.14	31.5	100	65	Peak
515.6	21.04	-24.96	46	31.56	18.48	2.04	31.04	-	-	Peak
752.9	23.64	-22.36	46	30.95	20.72	2.51	30.54	-	-	Peak
952.4	24.85	-21.15	46	31.08	21.31	2.85	30.39	-	-	Peak
2356	40.63	-13.37	54	38.62	31.66	4.44	34.09	118	319	Average
2356	52.03	-21.97	74	50.02	31.66	4.44	34.09	118	319	Peak
2437	90.68	-	-	88.48	31.75	4.53	34.08	118	319	Average
2437	103.06	-	-	100.86	31.75	4.53	34.08	118	319	Peak
2486	34.18	-19.82	54	31.89	31.78	4.59	34.08	118	319	Average
2486	46.22	-27.78	74	43.93	31.78	4.59	34.08	118	319	Peak

Test Mode :	Mode 8	**Temperature :**	24~25℃
Test Channel :	06	**Relative Humidity :**	46~48%
Test Engineer :	Wii Chang	**Polarization :**	Vertical
Remark :	2437 MHz is Fundamental Signals which can be ignored.		

Frequency (MHz)	Level (dBuV/m)	Over Limit (dB)	Limit Line (dBuV/m)	Read Level (dBuV)	Antenna Factor (dB)	Cable Loss (dB)	Preamp Factor (dB)	Ant Pos (cm)	Table Pos (deg)	Remark
35.4	34.91	-5.09	40	50.91	14.94	0.58	31.52	100	95	Peak
57	34	-6	40	57.96	6.85	0.73	31.54	-	-	Peak
167.16	31.58	-11.92	43.5	52.16	9.81	1.14	31.53	-	-	Peak
484.8	21.35	-24.65	46	32.5	17.97	1.98	31.1	-	-	Peak
572.3	22.54	-23.46	46	31.97	19.3	2.18	30.91	-	-	Peak
794.9	24.68	-21.32	46	31.9	20.75	2.57	30.54	-	-	Peak
2356	37.8	-16.2	54	35.79	31.66	4.44	34.09	100	111	Average
2356	49.1	-24.9	74	47.09	31.66	4.44	34.09	100	111	Peak
2437	85.95	-	-	83.75	31.75	4.53	34.08	100	111	Average
2437	98.55	-	-	96.35	31.75	4.53	34.08	100	111	Peak
2484	33.13	-20.87	54	30.84	31.78	4.59	34.08	100	111	Average
2484	44.38	-29.62	74	42.09	31.78	4.59	34.08	100	111	Peak

Test Mode :	Mode 9	**Temperature :**	24~25℃
Test Channel :	11	**Relative Humidity :**	46~48%
Test Engineer :	Wii Chang	**Polarization :**	Horizontal
Remark :	2462 MHz is Fundamental Signals which can be ignored.		

Frequency (MHz)	Level (dBuV/m)	Over Limit (dB)	Limit Line (dBuV/m)	Read Level (dBuV)	Antenna Factor (dB)	Cable Loss (dB)	Preamp Factor (dB)	Ant Pos (cm)	Table Pos (deg)	Remark
51.33	24.03	-15.97	40	47	7.86	0.73	31.56	-	-	Peak
103.98	31.41	-12.09	43.5	50.34	11.68	0.95	31.56	100	88	Peak
148.8	29.58	-13.92	43.5	49.34	10.6	1.14	31.5	-	-	Peak
559.7	21.87	-24.13	46	31.35	19.3	2.15	30.93	-	-	Peak
717.2	23.16	-22.84	46	31.15	20.22	2.45	30.66	-	-	Peak
916.7	24.45	-21.55	46	30.99	21.13	2.78	30.45	-	-	Peak
2390	42.43	-11.57	54	40.31	31.7	4.5	34.08	115	320	Average
2390	53.26	-20.74	74	51.14	31.7	4.5	34.08	115	320	Peak
2462	89.65	-	-	87.4	31.77	4.56	34.08	115	320	Average
2462	102.38	-	-	100.13	31.77	4.56	34.08	115	320	Peak
2484.04	46.79	-7.21	54	44.5	31.78	4.59	34.08	115	320	Average
2484.04	65.66	-8.34	74	63.37	31.78	4.59	34.08	115	320	Peak

Test Mode :	Mode 9	**Temperature :**	24~25℃
Test Channel :	11	**Relative Humidity :**	46~48%
Test Engineer :	Wii Chang	**Polarization :**	Vertical
Remark :	2462 MHz is Fundamental Signals which can be ignored.		

Frequency (MHz)	Level (dBuV/m)	Over Limit (dB)	Limit Line (dBuV/m)	Read Level (dBuV)	Antenna Factor (dB)	Cable Loss (dB)	Preamp Factor (dB)	Ant Pos (cm)	Table Pos (deg)	Remark
35.13	35.05	-4.95	40	50.46	15.53	0.58	31.52	100	58	Peak
51.06	31.87	-8.13	40	54.84	7.86	0.73	31.56	-	-	Peak
169.05	30.74	-12.76	43.5	51.3	9.76	1.23	31.55	-	-	Peak
538.7	21.38	-24.62	46	31.22	19.04	2.1	30.98	-	-	Peak
598.9	25.06	-20.94	46	34.43	19.3	2.2	30.87	-	-	Peak
897.1	25.2	-20.8	46	31.96	21.02	2.7	30.48	-	-	Peak
2376	37.77	-16.23	54	35.7	31.68	4.47	34.08	100	196	Average
2376	49.54	-24.46	74	47.47	31.68	4.47	34.08	100	196	Peak
2462	86.13	-	-	83.88	31.77	4.56	34.08	100	196	Average
2462	98.17	-	-	95.92	31.77	4.56	34.08	100	196	Peak
2484.23	43.31	-10.69	54	41.02	31.78	4.59	34.08	100	196	Average
2484.23	62.68	-11.32	74	60.39	31.78	4.59	34.08	100	196	Peak

3.8 Antenna Requirements

3.8.1 Standard Applicable

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

3.8.2 Antenna Connected Construction

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

3.8.3 Antenna Gain

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

4 List of Measuring Equipment

Instrument	Manufacturer	Model No.	Serial No.	Characteristics	Calibration Date	Due Date	Remark
Spectrum Analyzer	R&S	FSP30	101329	9kHz~30GHz	Apr. 26, 2010	Apr. 25, 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)
Spectrum Analyzer	R&S	FSP40	100057	9KHz-40GHz	Oct. 20, 2009	Oct. 19, 2010	Radiation (03CH05-HY)
Amplifier	COM-POWER	PA-103	161069	1KHz - 1GHz	Mar. 29, 2010	Mar. 28, 2011	Radiation (03CH05-HY)
Bilog Antenna	SCHAFFNER	CBL6111C	2726	30MHz ~ 1GHz	Oct. 31, 2009	Oct. 30, 2010	Radiation (03CH05-HY)
SHF-EHF Horn Antenna	SCHWARZBECK	BBHA 9170	BBHA9170251	15GHz- 40GHz	Oct. 14, 2009	Oct. 13, 2010	Radiation (03CH05-HY)
Pre Amplifier	Agilent	8449B	3008A01917	1GHz- 26.5GHz	Nov. 11, 2009	Nov. 10, 2010	Radiation (03CH05-HY)
Turn Table	HD	Deis HD 2000	420/611	0 - 360 degree	N/A	N/A	Radiation (03CH05-HY)
Antenna Mast	HD	MA 240	240/666	1 m - 4 m	N/A	N/A	Radiation (03CH05-HY)
Horn Antenna	ESCO	3117	00066584	1GHz ~ 18GHz	Aug. 05, 2010	Aug. 04, 2011	Radiation (03CH05-HY)
Horn Antenna	Training Research	AH-0801	95119	8GHz~18GHz	Nov. 02, 2009	Nov. 01, 2010	Radiation (03CH05-HY)
Loop Antenna	R&S	HFH2-Z2	860004/001	9 kHz~30 MHz	Jul. 29, 2010	Jul. 28, 2011	Radiation (03CH05-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**				