FCC RF Test Report

APPLICANT	:	HTC Corporation
EQUIPMENT	:	Smart Phone
MODEL NAME	:	PB99400
FCC ID	:	NM8PB99400
STANDARD	:	FCC Part 15 Subpart C §15.247
CLASSIFICATION	:	Digital Transmission System (DTS)

The product was received on Mar. 05, 2010 and completely tested on Apr. 08, 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:

Roy Wu / Manager

Testing Laboratory
1190

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

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REVISION HISTORY

REPORT NO.	VERSION	DESCRIPTION	ISSUED DATE
FR030511A	Rev. 01	Initial issue of report	Apr. 12, 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 9.9 dB at 0.414 MHz
3.7	15.247(d)	A8.5	Transmitter Radiated Emission	15.209(a) & 15.247(d)	Pass	Under limit 6.38 dB at 224.13 MHz
3.8	15.203 & 15.247(b)	A8.4	Antenna Requirement	N/A	Pass	-

1 General Description

1.1 Applicant

HTC Corporation
No. 23, Xinghua Rd., Taoyuan City, Taiwan

1.2 Manufacturer

HTC Corporation
No. 23, Xinghua Rd., Taoyuan City, Taiwan

1.3 Feature of Equipment Under Test

Product Feature & Specification	
Equipment	Smart Phone
Model Name	PB99400
FCC ID	NM8PB99400
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 : 18.21 dBm (66.22 mW) 802.11g : 16.13 dBm (41.02 mW) 802.11n (BW 20MHz) : 15.29 dBm (33.81 mW)
Antenna Type	PIFA Antenna with gain -1 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	03CH07-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.	WLAN AP	D-Link	DIR-628	KA2DIR628A2	N/A	Unshielded, 1.8 m
3.	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	18.12	17.99	18.00	18.04
CH 06	2437 MHz	17.89	17.62	17.69	17.80
CH 11	2462 MHz	**18.21**	18.00	18.03	18.16

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	**16.13**	16.11	15.49	15.16	14.89	15.17	15.01	15.16
CH 06	2437 MHz	15.80	15.92	15.01	15.20	15.18	15.18	15.15	15.14
CH 11	2462 MHz	15.85	15.97	15.25	15.06	15.59	14.18	14.38	14.63

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	**15.29**	15.09	15.08	15.24	15.19	15.04	15.05	15.07
CH 06	2437 MHz	15.17	14.91	14.79	14.76	14.56	14.67	14.72	14.76
CH 11	2462 MHz	15.11	15.04	15.03	15.00	15.21	15.13	15.05	15.10

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.

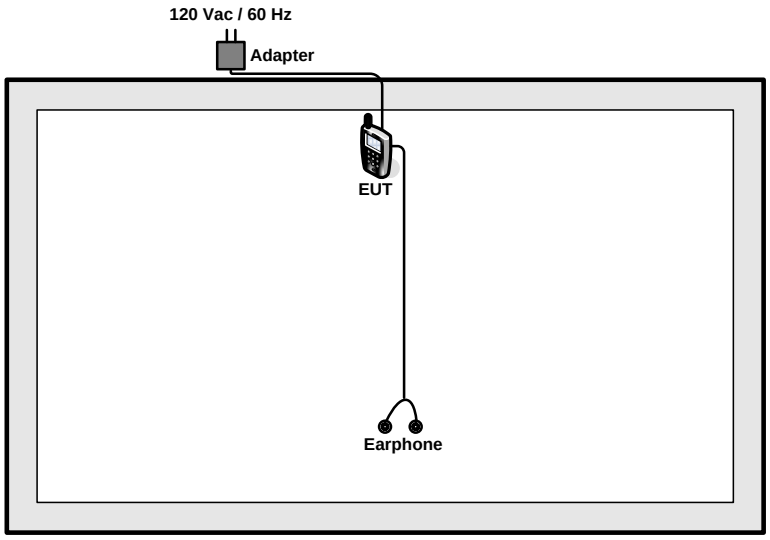
2.2 Test Mode

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.

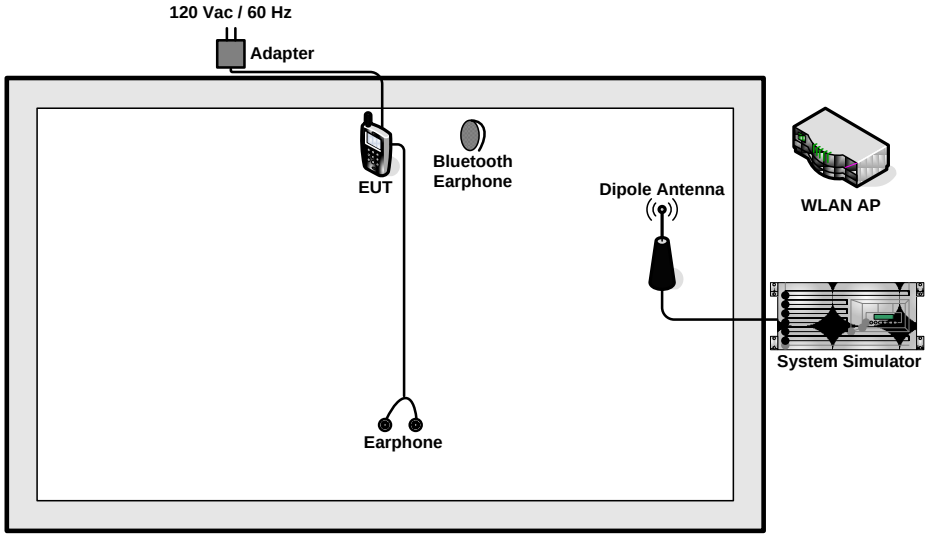
Test Cases		
Test Item	**802.11b (Modulation : DSSS)**	**802.11g/n (Modulation : OFDM)**
Conducted TCs	Mode 1 : 802.11b CH01_2412 MHz Mode 2 : 802.11b CH06_2437 MHz Mode 3 : 802.11b CH11_2462 MHz	Mode 4 : 802.11g CH01_2412 MHz Mode 5 : 802.11g CH06_2437 MHz Mode 6 : 802.11g CH11_2462 MHz Mode 7: 802.11n (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 + WLAN Link + Bluetooth Link + Camera + MP3 + Earphone 1 + USB Cable 1 + Adapter 1 + Battery 1	

2.3 Connection Diagram of Test System

<WLAN Tx Mode>



<EUT with Adapter Mode>



2.4 RF Utility

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

3 Test Result

3.1 6dB Bandwidth Measurement

3.1.1 Limit of 6dB Bandwidth

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

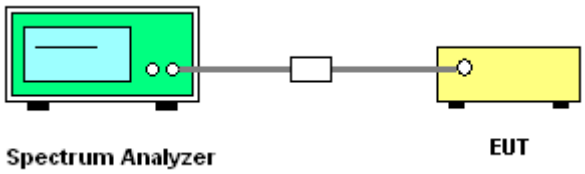
3.1.2 Measuring Instruments

See list of measuring instruments of this test report.

3.1.3 Test Procedures

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

3.1.4 Test Setup

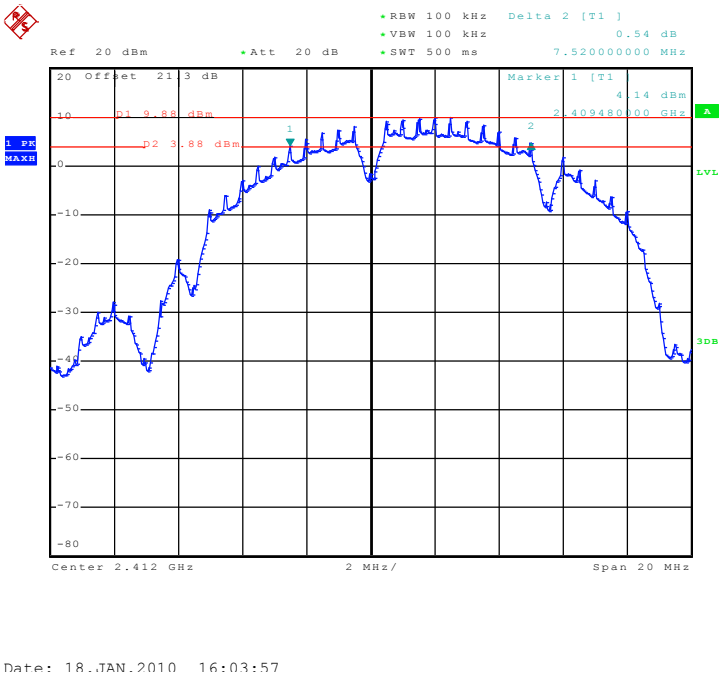


3.1.5 Test Result of 6dB Bandwidth

Test Mode :	Mode 1, 2, 3	Temperature :	24~26℃
Test Engineer :	Andy Yeh and Lancelot Chen	Relative Humidity :	47~50%

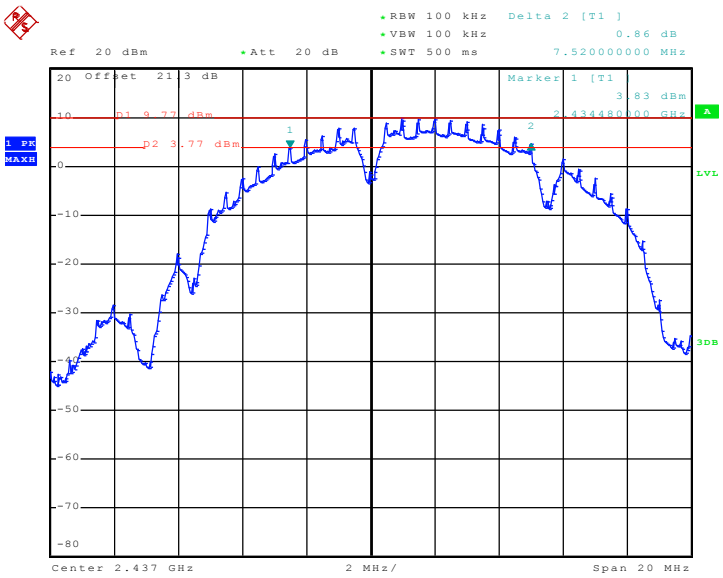
Channel	Frequency (MHz)	802.11b 6dB Bandwidth (MHz)	6dB Bandwidth Min. Limit (MHz)	Pass/Fail
01	2412	7.52	0.5	Pass
06	2437	7.52	0.5	Pass
11	2462	7.04	0.5	Pass

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



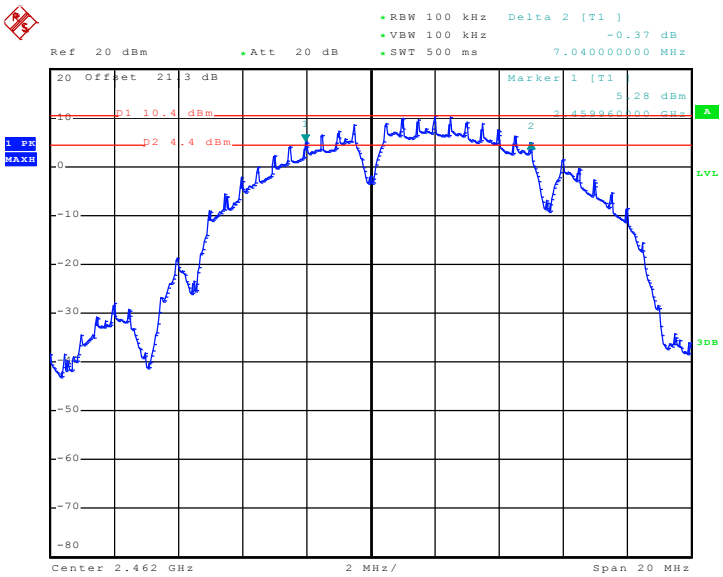
Date: 18.JAN.2010 16:03:57

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



Date: 18.JAN.2010 16:04:54

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

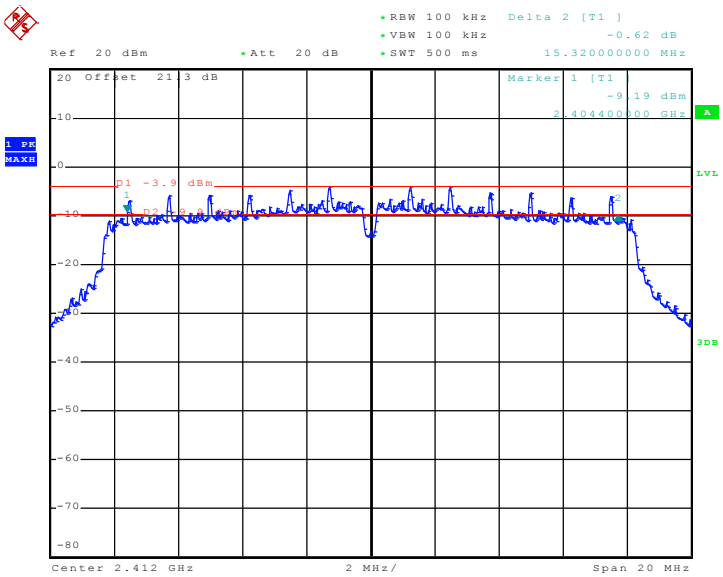


Date: 18.JAN.2010 16:05:42

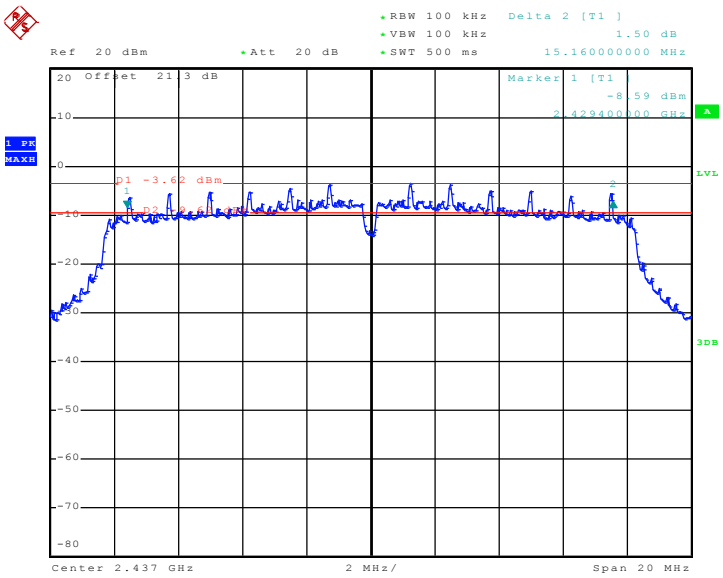
Test Mode :	Mode 4, 5, 6	Temperature :	24~26℃
Test Engineer :	Andy Yeh and Lancelot Chen	Relative Humidity :	47~50%

Channel	Frequency (MHz)	802.11g 6dB Bandwidth (MHz)	6dB Bandwidth Min. Limit (MHz)	Pass/Fail
01	2412	15.32	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



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



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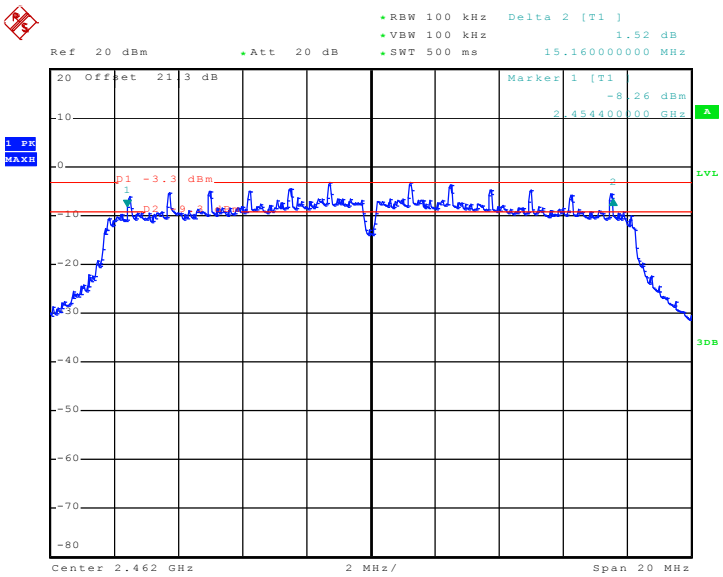
Mode 6 : 6 dB Bandwidth Plot on 802.11g Channel 11

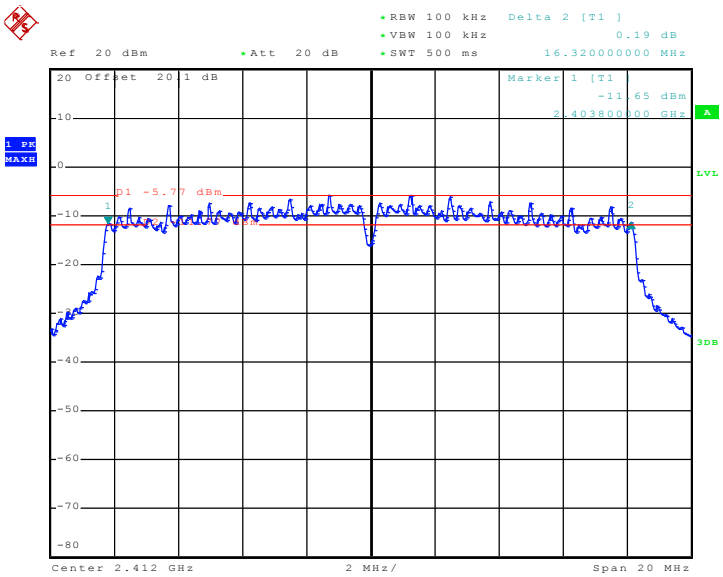


Date: 18.JAN.2010 17:05:16

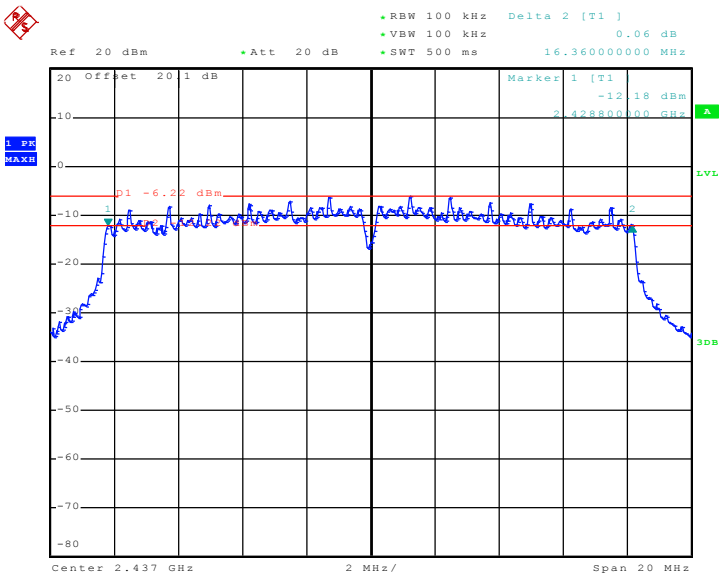
Test Mode :	Mode 7, 8, 9	Temperature :	24~26℃
Test Engineer :	Andy Yeh and Lancelot Chen	Relative Humidity :	47~50%

Channel	Frequency (MHz)	802.11n (BW 20MHz) 6dB Bandwidth (MHz)	6dB Bandwidth Min. Limit (MHz)	Pass/Fail
01	2412	16.32	0.5	Pass
06	2437	16.36	0.5	Pass
11	2462	16.32	0.5	Pass

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

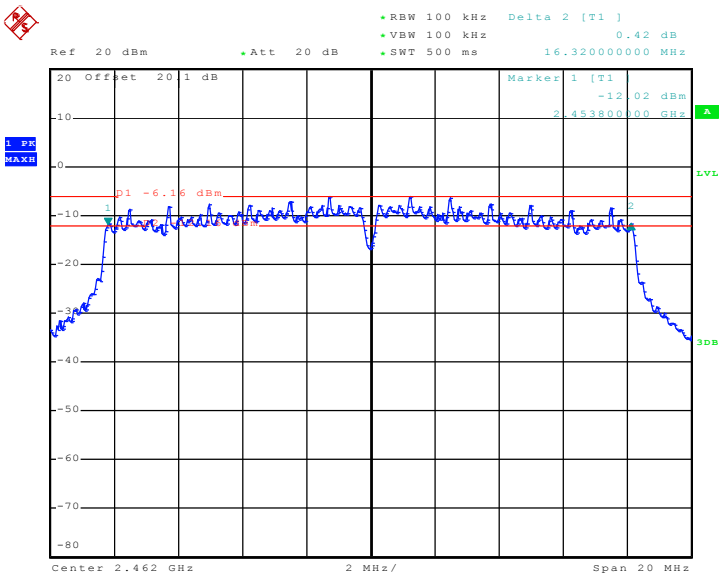


Mode 8 : 6 dB Bandwidth Plot on 802.11n(BW 20MHz) Channel 06



Date: 7.APR.2010 11:55:45

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



Date: 7.APR.2010 11:57:15

3.2 Output Power Measurement

3.2.1 Limit of Output Power

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

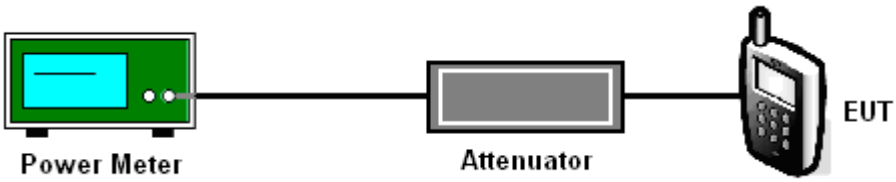
3.2.2 Measuring Instruments

See list of measuring instruments of this test report.

3.2.3 Test Procedures

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

3.2.4 Test Setup



3.2.5 Test Result of Output Power

Test Mode :	Mode 1, 2, 3	Temperature :	24~26℃
Test Engineer :	Andy Yeh and Lancelot Chen	Relative Humidity :	47~50%

Channel	Frequency (MHz)	802.11b Measured Output Power (dBm)	Max. Limits (dBm)	Pass/Fail
01	2412	18.12	30	Pass
06	2437	17.89	30	Pass
11	2462	18.21	30	Pass

Test Mode :	Mode 4, 5, 6	Temperature :	24~26℃
Test Engineer :	Andy Yeh and Lancelot Chen	Relative Humidity :	47~50%

Channel	Frequency (MHz)	802.11g Measured Output Power (dBm)	Max. Limits (dBm)	Pass/Fail
01	2412	16.13	30	Pass
06	2437	15.80	30	Pass
11	2462	15.85	30	Pass

Test Mode :	Mode 7, 8, 9	Temperature :	24~26℃
Test Engineer :	Andy Yeh and Lancelot Chen	Relative Humidity :	47~50%

Channel	Frequency (MHz)	802.11n (BW 20MHz) Measured Output Power (dBm)	Max. Limits (dBm)	Pass/Fail
01	2412	15.29	30	Pass
06	2437	15.17	30	Pass
11	2462	15.11	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

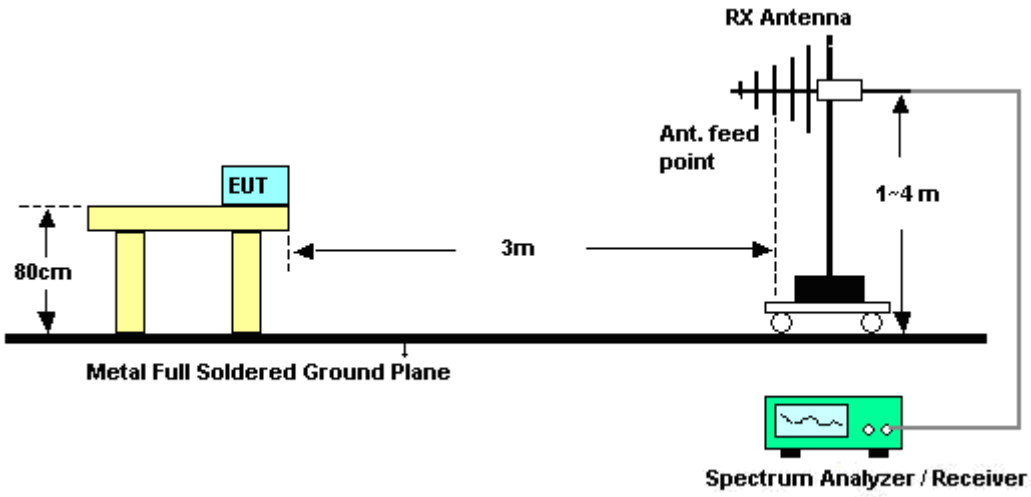
See list of measuring instruments of this test report.

3.3.3 Test Procedures

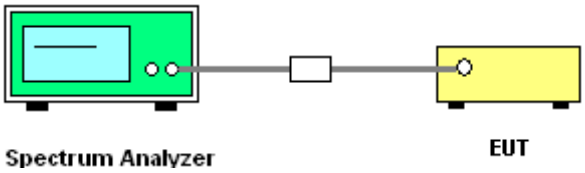
1. The testing follows the guidelines in ANSI C63.4-2003 and FCC KDB Publication No. 558074 (Measurement Guidelines of DTS).
2. Conducted emission test: Set RBW = 100 kHz, Video bandwidth (VBW) ≥ RBW. Band edge emissions must be at least 20 dB down from the highest emission level within the authorized 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 :	22~24℃
Test Band :	802.11b	Relative Humidity :	49~51%
Test Channel :	01	Test Engineer :	Ivan Jiang

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	47.63	-26.37	74	44.2	32.13	5.46	34.16	101	8	Peak
2389.99	36.06	-17.94	54	32.63	32.13	5.46	34.16	101	8	Average

ANTENNA POLARITY : VERTICAL										
Frequency (MHz)	Level (dBuV/m)	Over Limit (dB)	Limit Line (dBuV/m)	Read Level (dBuV)	Antenna Factor (dB)	Cable Loss (dB)	Preamp Factor (dB)	Ant Pos (cm)	Table Pos (deg)	Remark
2389.42	45.94	-28.06	74	42.5	32.13	5.46	34.15	100	63	Peak
2389.42	33.99	-20.01	54	30.55	32.13	5.46	34.15	100	63	Average

Test Mode :	Mode 3	Temperature :	22~24℃
Test Band :	802.11b	Relative Humidity :	49~51%
Test Channel :	11	Test Engineer :	Ivan Jiang

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
2484.61	53.03	-20.97	74	49.57	32.27	5.38	34.19	100	27	Peak
2484.61	39.9	-14.1	54	36.44	32.27	5.38	34.19	100	27	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	50.84	-23.16	74	47.38	32.27	5.38	34.19	133	123	Peak
2483.85	38.66	-15.34	54	35.2	32.27	5.38	34.19	133	123	Average

Test Mode :	Mode 4	Temperature :	22~24℃
Test Band :	802.11g	Relative Humidity :	49~51%
Test Channel :	01	Test Engineer :	Ivan Jiang

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
2389.42	48.78	-25.22	74	45.34	32.13	5.46	34.15	125	16	Peak
2389.42	33.34	-20.66	54	29.9	32.13	5.46	34.15	125	16	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
2359.78	45.63	-28.37	74	42.2	32.08	5.49	34.14	100	320	Peak
2359.78	31.81	-22.19	54	28.38	32.08	5.49	34.14	100	320	Average

Test Mode :	Mode 6	Temperature :	22~24℃
Test Band :	802.11g	Relative Humidity :	49~51%
Test Channel :	11	Test Engineer :	Ivan Jiang

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	53.01	-20.99	74	49.55	32.27	5.38	34.19	100	27	Peak
2483.66	33.75	-20.25	54	30.29	32.27	5.38	34.19	100	27	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	53.32	-20.68	74	49.86	32.27	5.38	34.19	100	317	Peak
2483.66	34.62	-19.38	54	31.16	32.27	5.38	34.19	100	317	Average

Test Mode :	Mode 7	Temperature :	22~24℃
Test Band :	802.11n	Relative Humidity :	49~51%
Test Channel :	01	Test Engineer :	Ivan Jiang

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
2338.65	45.75	-28.25	74	42.33	32.05	5.5	34.13	100	17	Peak
2338.65	33.47	-20.53	54	30.05	32.05	5.5	34.13	100	17	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
2334.7	45.94	-28.06	74	42.52	32.05	5.5	34.13	100	56	Peak
2334.7	33.48	-20.52	54	30.06	32.05	5.5	34.13	100	56	Average

Test Mode :	Mode 9	Temperature :	22~24℃
Test Band :	802.11n	Relative Humidity :	49~51%
Test Channel :	11	Test Engineer :	Ivan Jiang

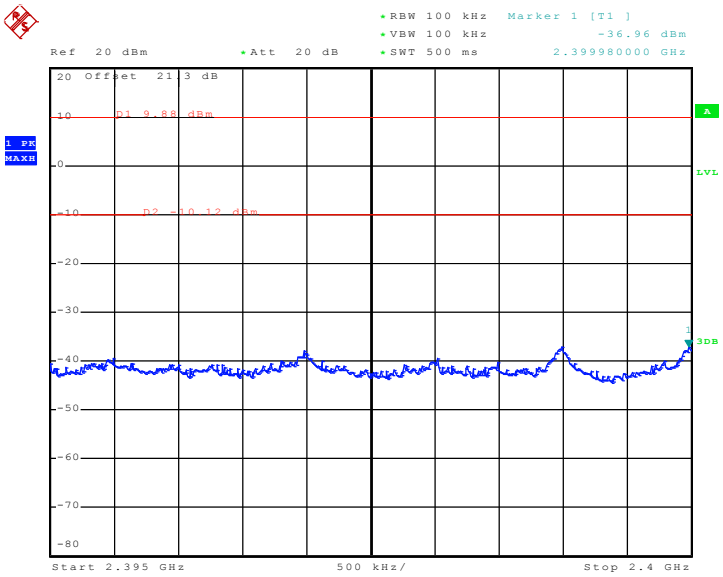
ANTENNA POLARITY : HORIZONTAL										
Frequency (MHz)	Level (dBuV/m)	Over Limit (dB)	Limit Line (dBuV/m)	Read Level (dBuV)	Antenna Factor (dB)	Cable Loss (dB)	Preamp Factor (dB)	Ant Pos (cm)	Table Pos (deg)	Remark
2483.5	54.47	-19.53	74	51.01	32.27	5.38	34.19	100	29	Peak
2483.5	36.12	-17.88	54	32.66	32.27	5.38	34.19	100	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
2483.5	51.71	-22.29	74	48.25	32.27	5.38	34.19	100	189	Peak
2483.5	34.67	-19.33	54	31.21	32.27	5.38	34.19	100	189	Average

3.3.6 Test Plots of Conducted Band Edges

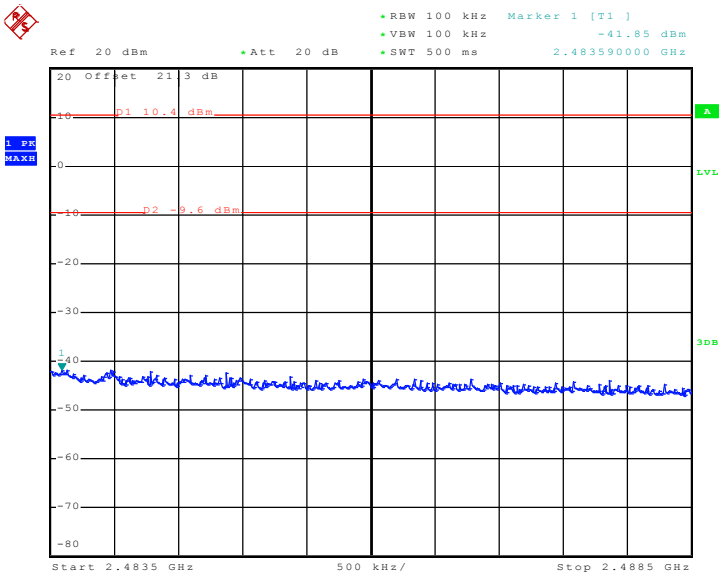
Test Mode :	Mode 1 and 3	**Temperature :**	24~26℃
Test Band :	802.11b	**Relative Humidity :**	47~50%
Test Channel :	01 and 11	**Test Engineer :**	Andy Yeh and Lancelot Chen

Low Band Edge Plot on 802.11b Channel 01



Date: 18.JAN.2010 16:41:25

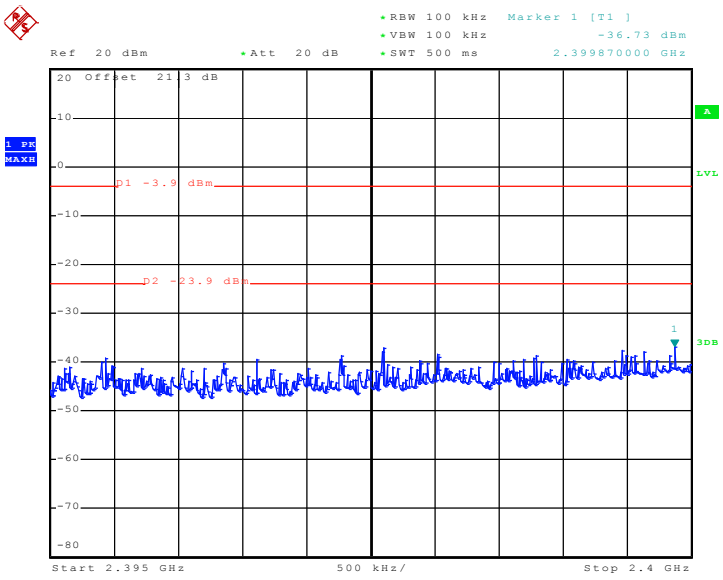
High Band Edge Plot on 802.11b Channel 11



Date: 18.JAN.2010 16:23:40

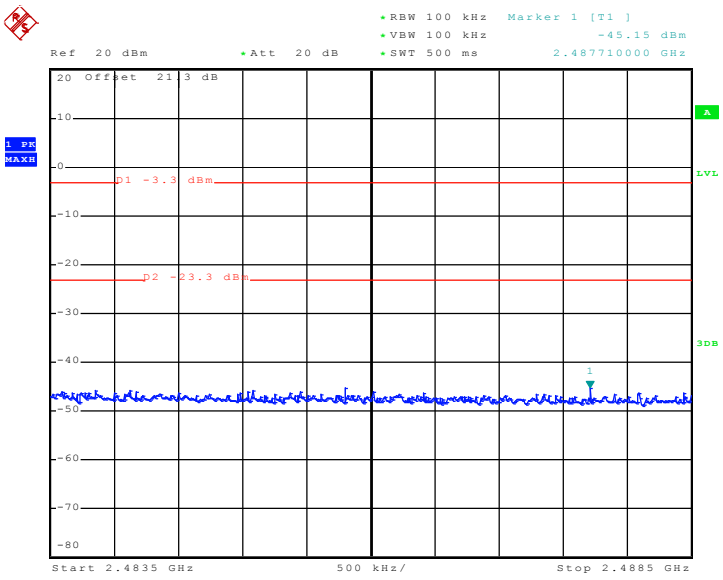
Test Mode :	Mode 4 and 6	Temperature :	24~26℃
Test Band :	802.11g	Relative Humidity :	47~50%
Test Channel :	01 and 11	Test Engineer :	Andy Yeh and Lancelot Chen

Low Band Edge Plot on 802.11g Channel 01



Date: 18.JAN.2010 16:57:43

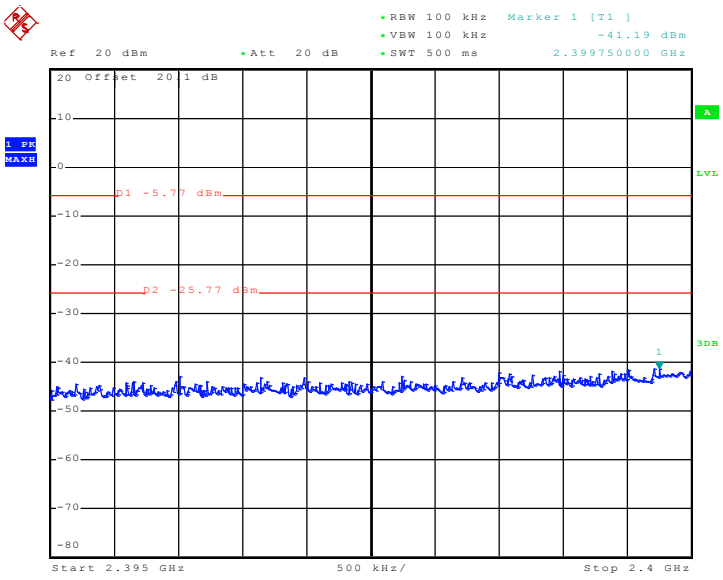
High Band Edge Plot on 802.11g Channel 11



Date: 18.JAN.2010 17:06:30

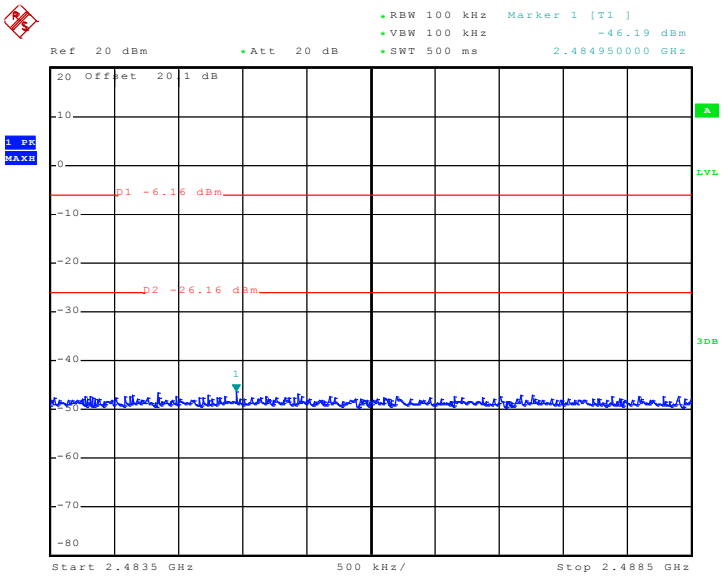
Test Mode :	Mode 7 and 9	Temperature :	24~26℃
Test Band :	802.11n (BW 20MHz)	Relative Humidity :	47~50%
Test Channel :	01 and 11	Test Engineer :	Andy Yeh and Lancelot Chen

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



Date: 7.APR.2010 12:01:51

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



Date: 7.APR.2010 12:03:30

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.

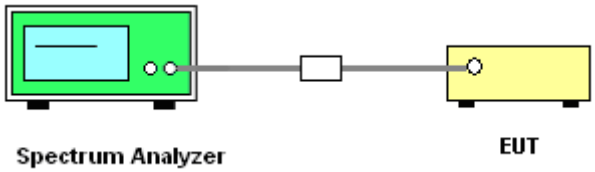
3.4.2 Measuring Instruments

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.

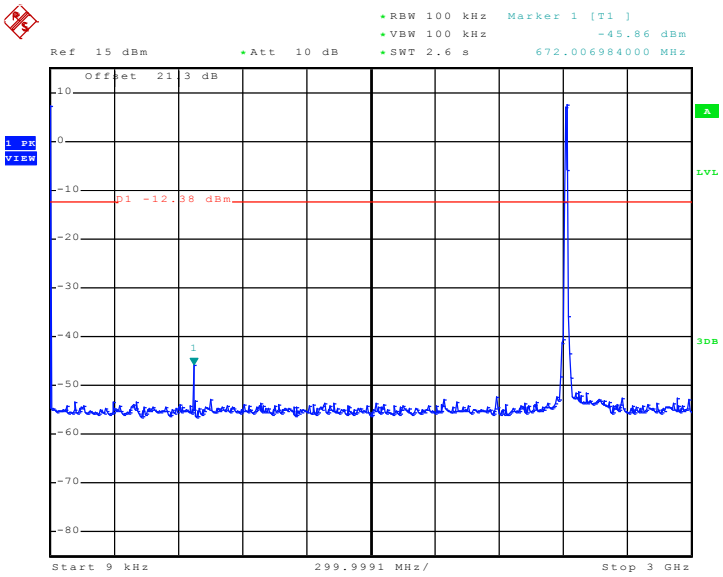
3.4.4 Test Setup



3.4.5 Test Plots of Spurious Emission

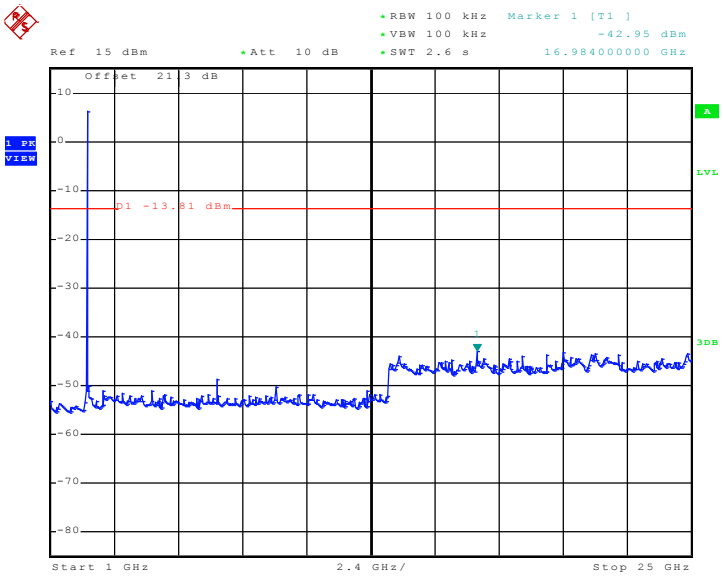
Test Mode :	Mode 1	Temperature :	24~26℃
Test Band :	802.11b	Relative Humidity :	47~50%
Test Channel :	01	Test Engineer :	Andy Yeh and Lancelot Chen

Conducted Spurious Emission Plot between 9 kHz ~ 3 GHz



Date: 18.JAN.2010 19:10:49

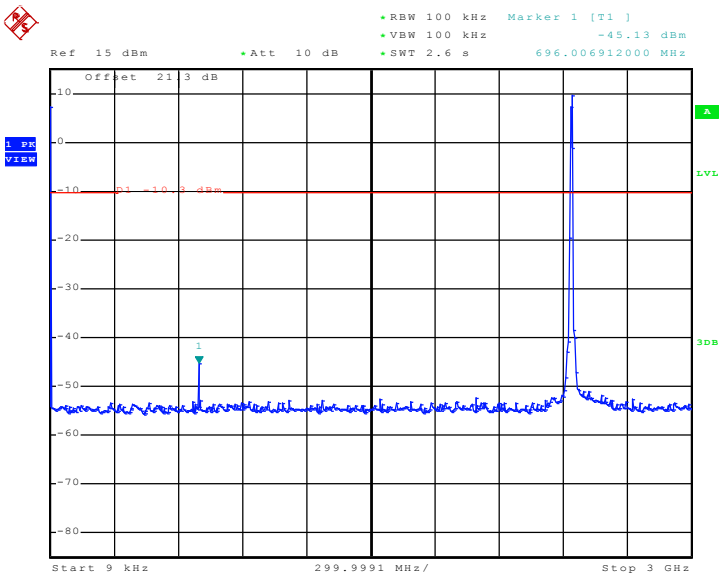
Conducted Spurious Emission Plot between 1 GHz ~ 25 GHz



Date: 18.JAN.2010 19:00:32

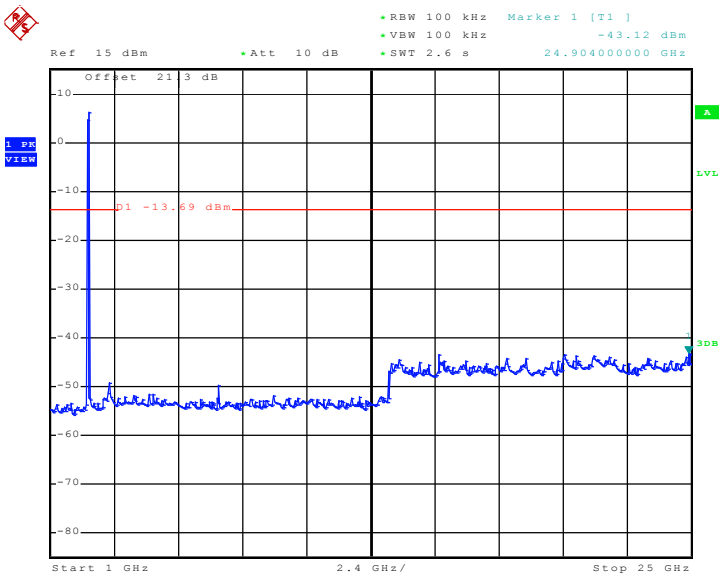
Test Mode :	Mode 2	Temperature :	24~26℃
Test Band :	802.11b	Relative Humidity :	47~50%
Test Channel :	06	Test Engineer :	Andy Yeh and Lancelot Chen

Conducted Spurious Emission Plot between 9 kHz ~ 3 GHz



Date: 18.JAN.2010 19:12:20

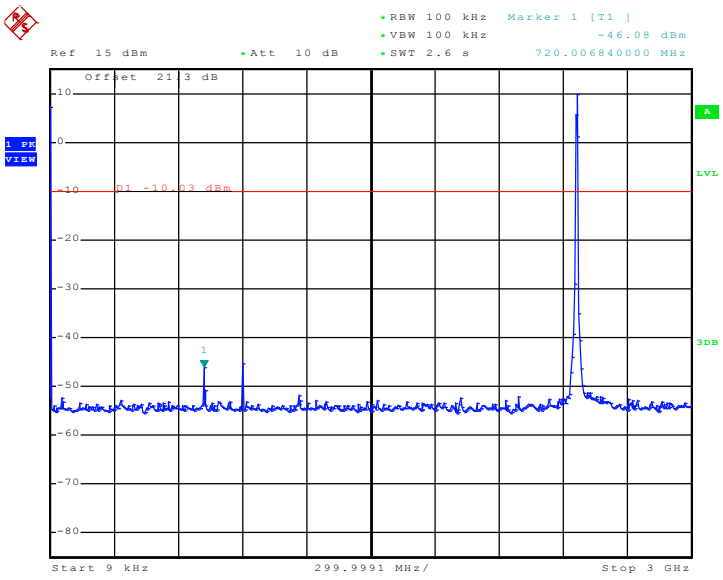
Conducted Spurious Emission Plot between 1 GHz ~ 25 GHz



Date: 18.JAN.2010 19:01:45

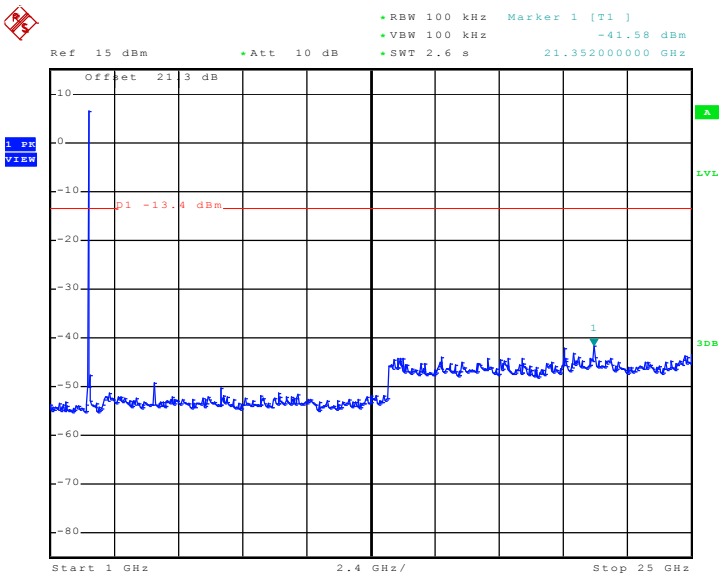
Test Mode :	Mode 3	Temperature :	24~26℃
Test Band :	802.11b	Relative Humidity :	47~50%
Test Channel :	11	Test Engineer :	Andy Yeh and Lancelot Chen

Conducted Spurious Emission Plot between 9 kHz ~ 3 GHz



Date: 18.JAN.2010 19:13:57

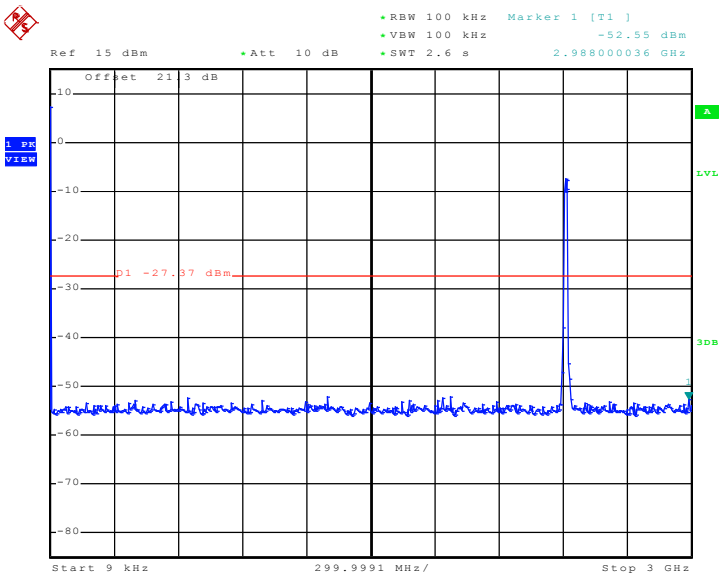
Conducted Spurious Emission Plot between 1 GHz ~ 25 GHz



Date: 18.JAN.2010 19:02:45

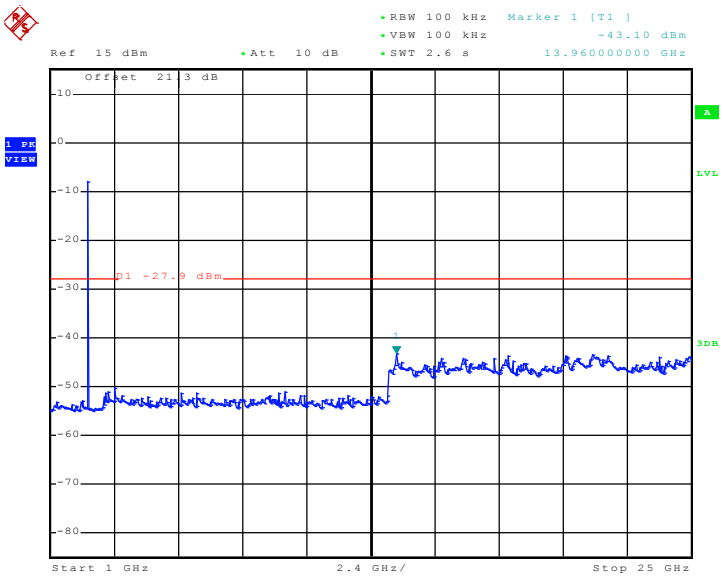
Test Mode :	Mode 4	Temperature :	24~26℃
Test Band :	802.11g	Relative Humidity :	47~50%
Test Channel :	01	Test Engineer :	Andy Yeh and Lancelot Chen

Conducted Spurious Emission Plot between 9 kHz ~ 3 GHz



Date: 18.JAN.2010 19:03:21

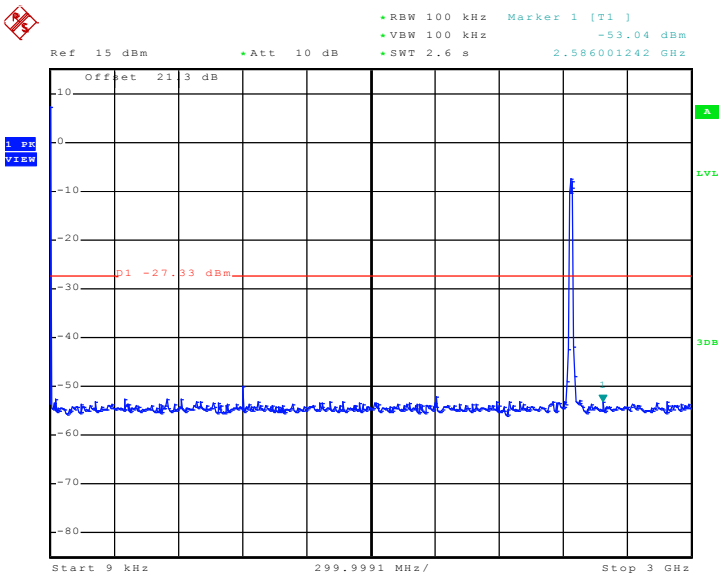
Conducted Spurious Emission Plot between 1 GHz ~ 25 GHz



Date: 18.JAN.2010 19:03:43

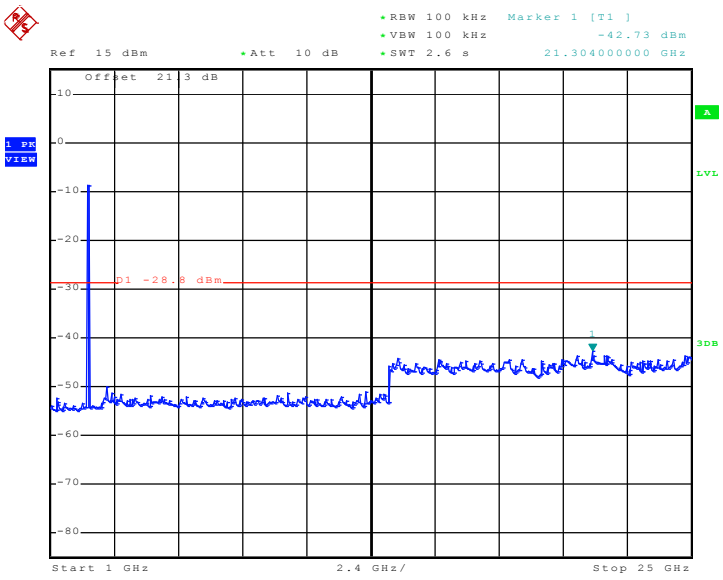
Test Mode :	Mode 5	Temperature :	24~26℃
Test Band :	802.11g	Relative Humidity :	47~50%
Test Channel :	06	Test Engineer :	Andy Yeh and Lancelot Chen

Conducted Spurious Emission Plot between 9 kHz ~ 3 GHz



Date: 18.JAN.2010 19:04:19

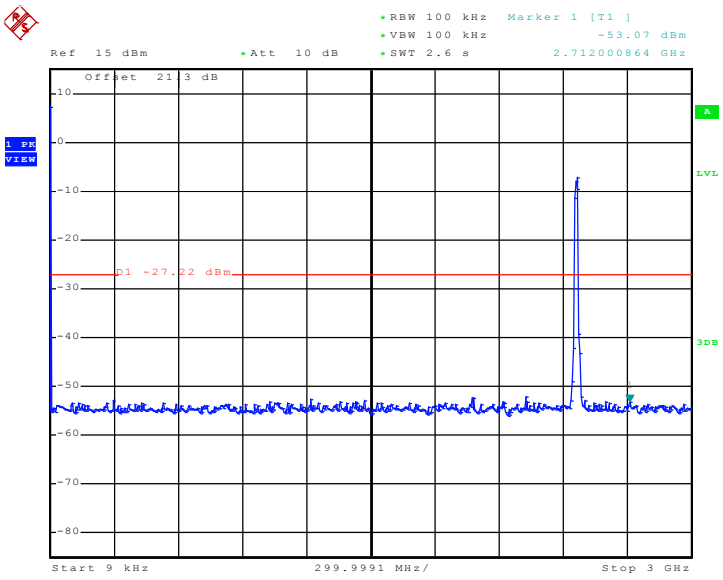
Conducted Spurious Emission Plot between 1 GHz ~ 25 GHz



Date: 18.JAN.2010 19:04:46

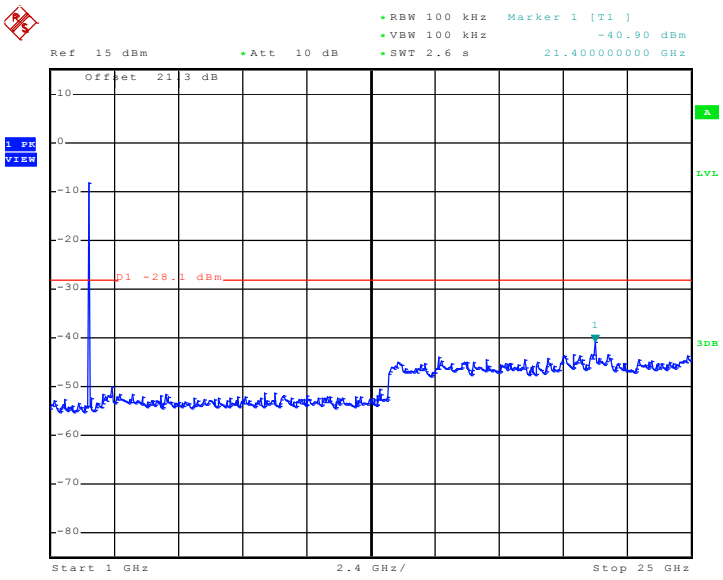
Test Mode :	Mode 6	Temperature :	24~26℃
Test Band :	802.11g	Relative Humidity :	47~50%
Test Channel :	11	Test Engineer :	Andy Yeh and Lancelot Chen

Conducted Spurious Emission Plot between 9 kHz ~ 3 GHz



Date: 18.JAN.2010 19:05:19

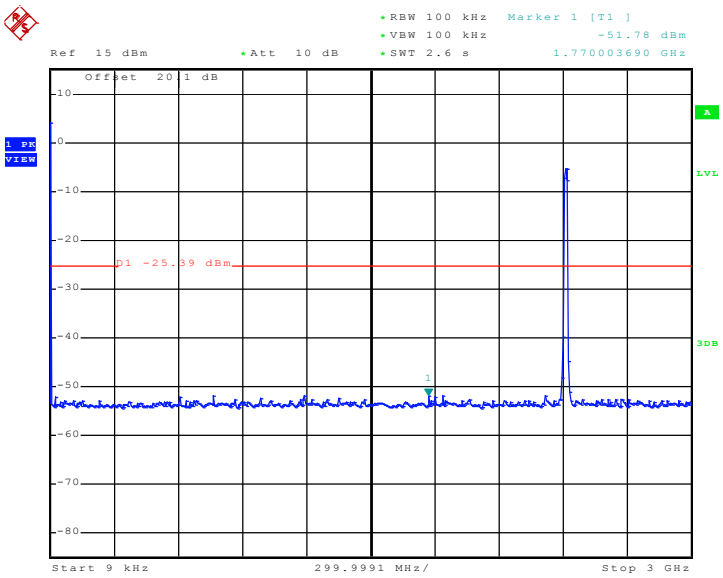
Conducted Spurious Emission Plot between 1 GHz ~ 25 GHz



Date: 18.JAN.2010 19:05:52

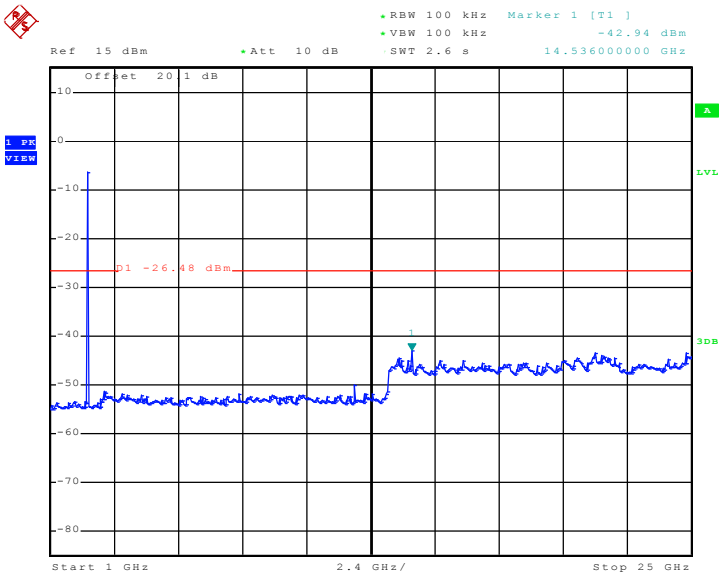
Test Mode :	Mode 7	Temperature :	24~26℃
Test Band :	802.11n (BW 20MHz)	Relative Humidity :	47~50%
Test Channel :	01	Test Engineer :	Andy Yeh and Lancelot Chen

Conducted Spurious Emission Plot between 9 kHz ~ 3 GHz



Date: 7.APR.2010 14:55:21

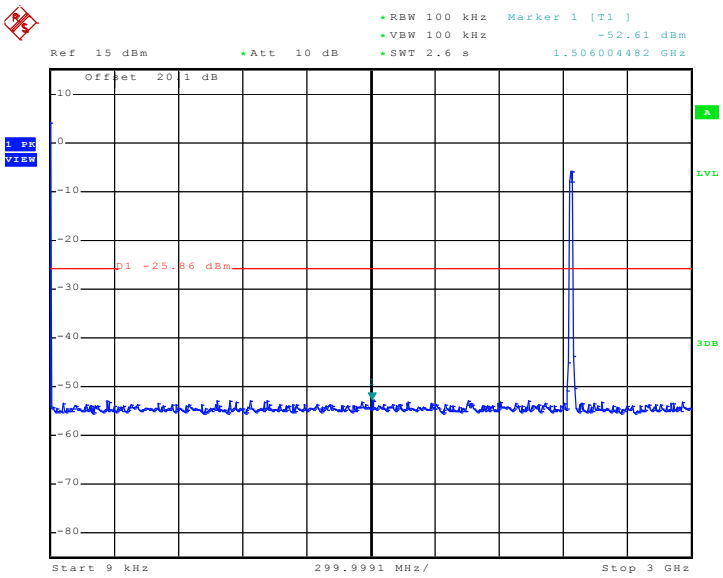
Conducted Spurious Emission Plot between 1 GHz ~ 25 GHz



Date: 7.APR.2010 14:49:41

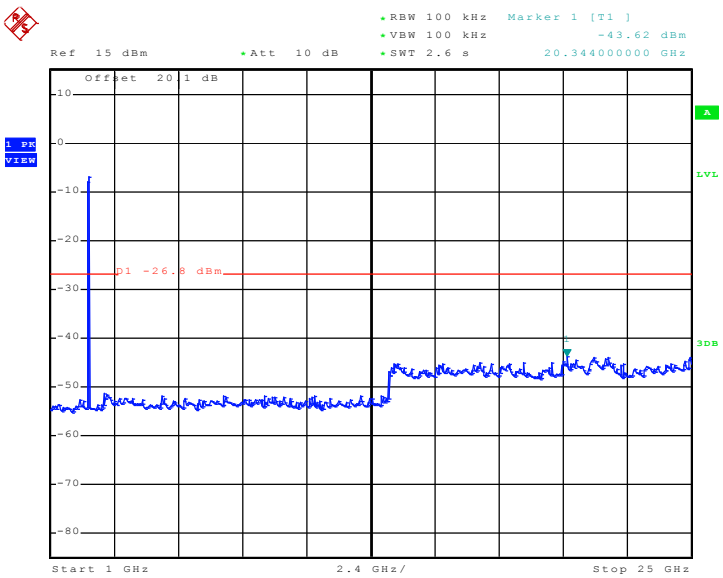
Test Mode :	Mode 8	Temperature :	24~26℃
Test Band :	802.11n (BW 20MHz)	Relative Humidity :	47~50%
Test Channel :	06	Test Engineer :	Andy Yeh and Lancelot Chen

Conducted Spurious Emission Plot between 9 kHz ~ 3 GHz



Date: 7.APR.2010 14:56:31

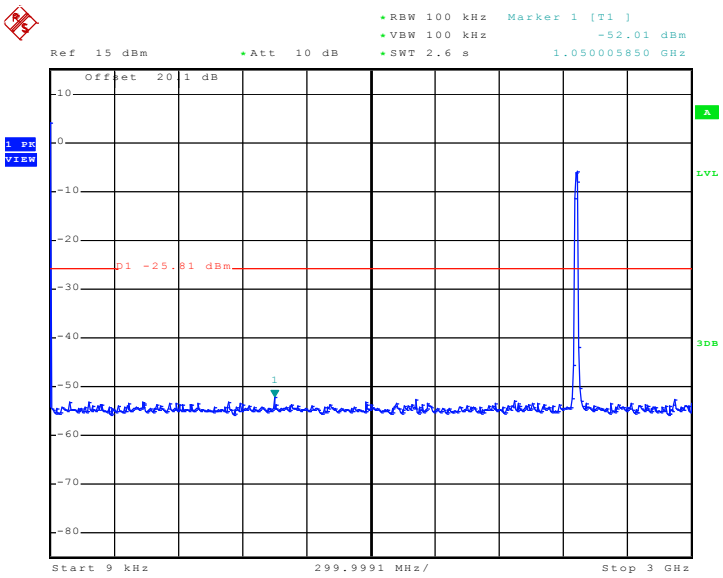
Conducted Spurious Emission Plot between 1 GHz ~ 25 GHz



Date: 7.APR.2010 14:58:03

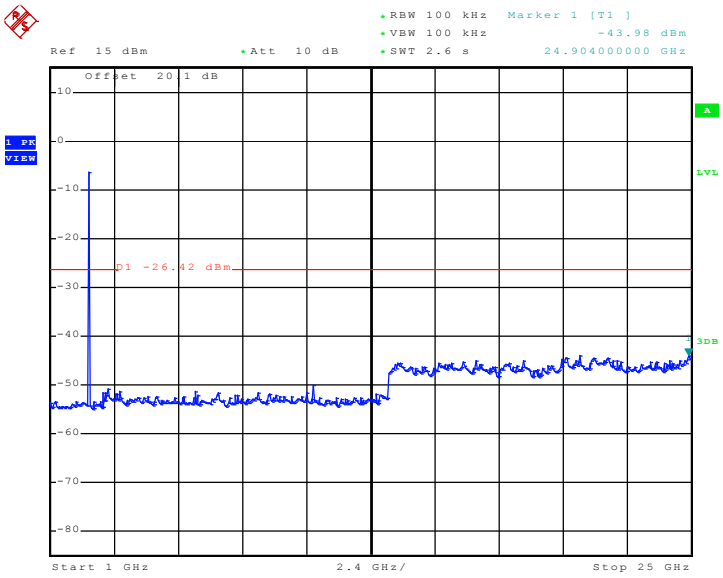
Test Mode :	Mode 9	Temperature :	24~26℃
Test Band :	802.11n (BW 20MHz)	Relative Humidity :	47~50%
Test Channel :	11	Test Engineer :	Andy Yeh and Lancelot Chen

Conducted Spurious Emission Plot between 9 kHz ~ 3 GHz



Date: 7.APR.2010 15:00:08

Conducted Spurious Emission Plot between 1 GHz ~ 25 GHz



Date: 7.APR.2010 14:59:07

3.5 Power Spectral Density Measurement

3.5.1 Limit of Power Spectral Density

The peak power spectral density shall not be greater than 8dBm in any 3kHz band at any time interval of continuous transmission.

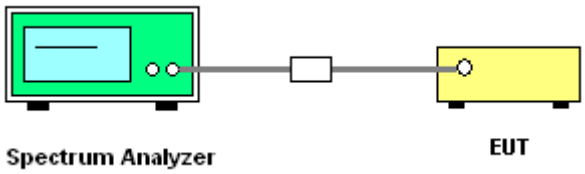
3.5.2 Measuring Instruments

See list of measuring instruments of this test report.

3.5.3 Test Procedures

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

3.5.4 Test Setup

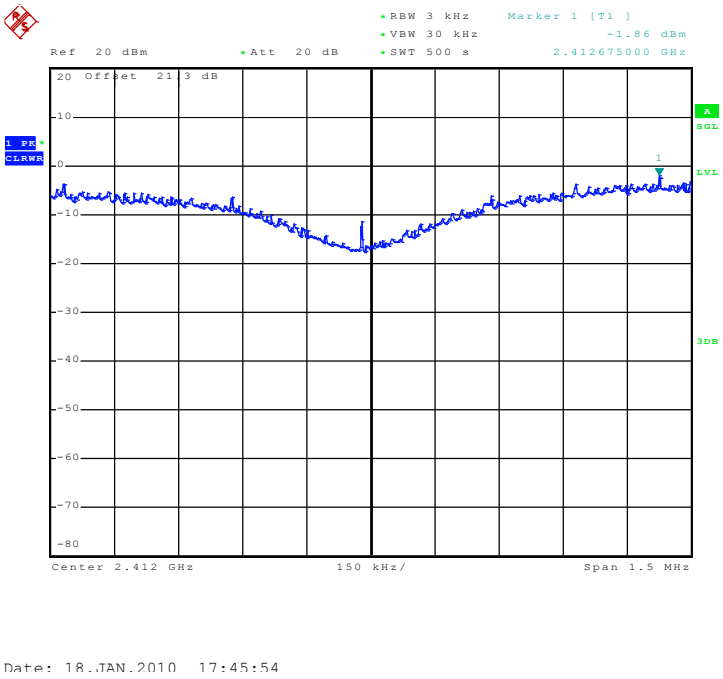


3.5.5 Test Result of Power Spectral Density

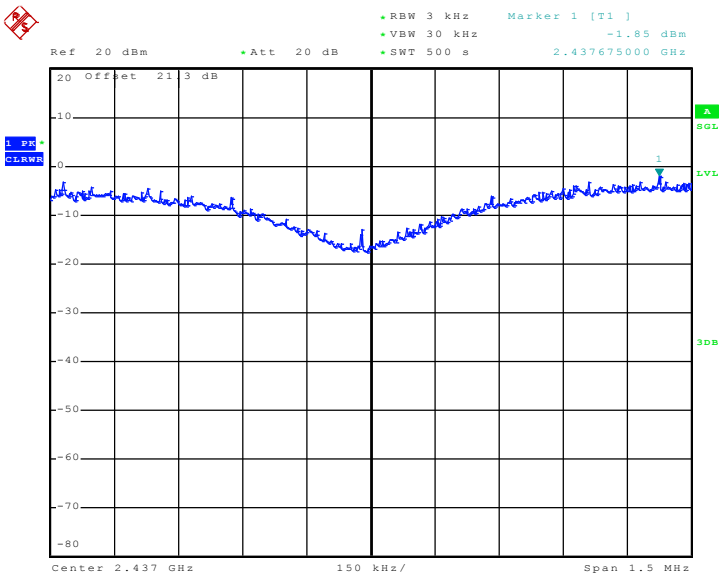
Test Mode :	Mode 1, 2, 3	Temperature :	24~26℃
Test Engineer :	Andy Yeh and Lancelot Chen	Relative Humidity :	47~50%

Channel	Frequency (MHz)	802.11b Measured PSD (dBm)	Max. Limits (dBm)	Pass/Fail
01	2412	-1.86	8	Pass
06	2437	-1.85	8	Pass
11	2462	-1.86	8	Pass

Mode 1 : PSD Plot on 802.11b Channel 01

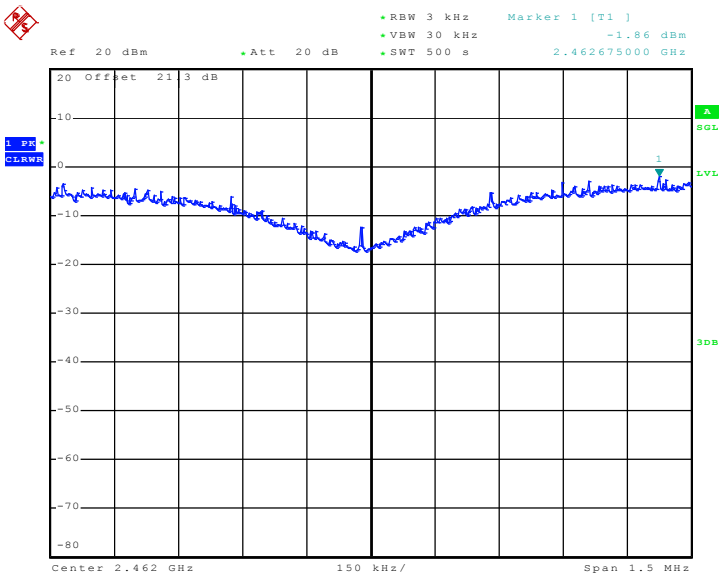


Mode 2 : PSD Plot on 802.11b Channel 06



Date: 18.JAN.2010 17:54:50

Mode 3 : PSD Plot on 802.11b Channel 11

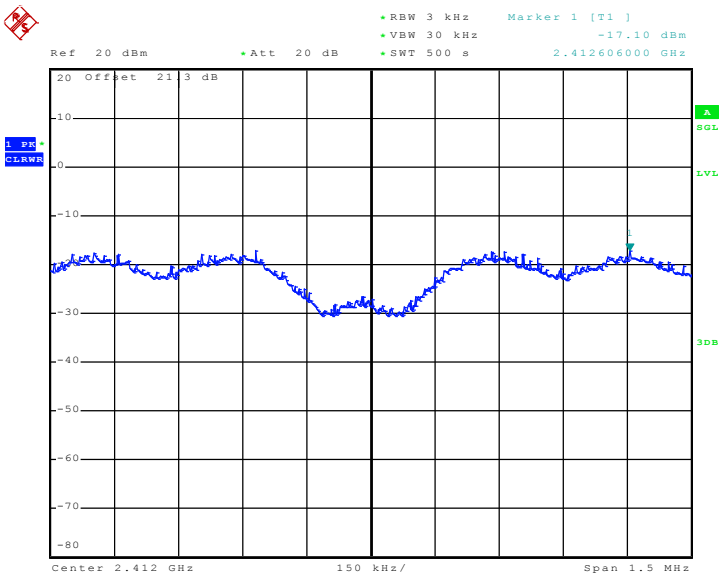


Date: 18.JAN.2010 18:03:59

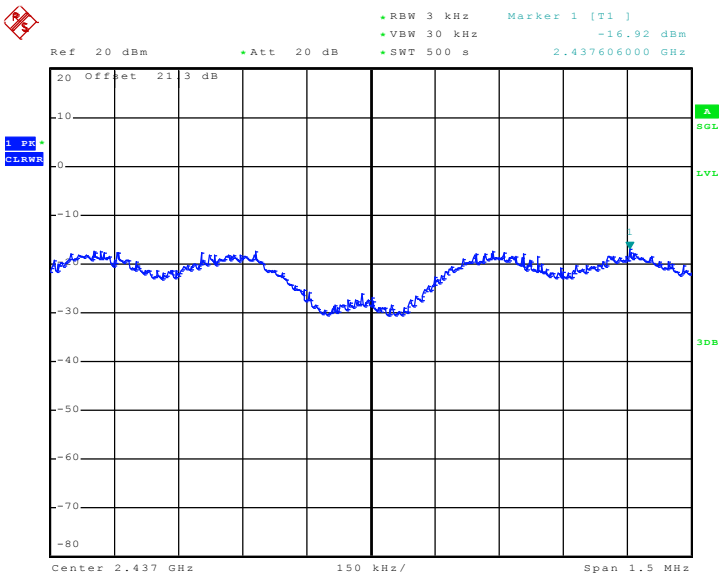
Test Mode :	Mode 4, 5, 6	Temperature :	24~26℃
Test Engineer :	Andy Yeh and Lancelot Chen	Relative Humidity :	47~50%

Channel	Frequency (MHz)	802.11g Measured PSD (dBm)	Max. Limits (dBm)	Pass/Fail
01	2412	-17.10	8	Pass
06	2437	-16.92	8	Pass
11	2462	-16.81	8	Pass

Mode 4 : PSD Plot on 802.11g Channel 01

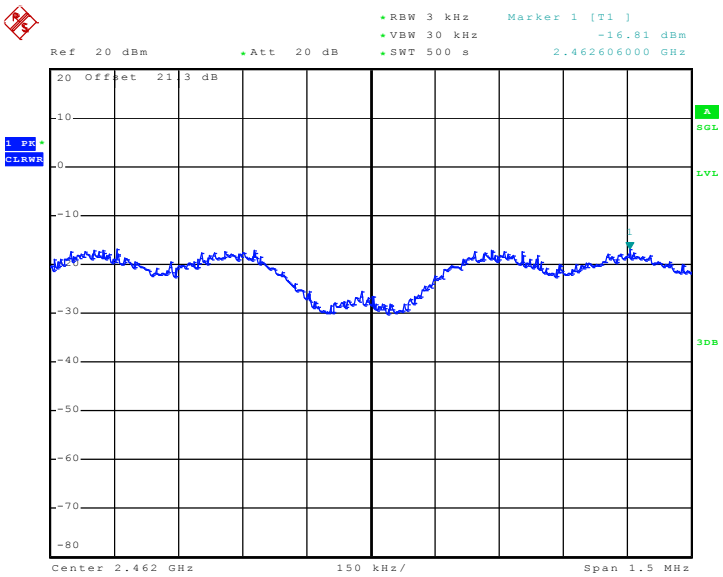


Mode 5 : PSD Plot on 802.11g Channel 06



Date: 18.JAN.2010 17:26:06

Mode 6 : PSD Plot on 802.11g Channel 11

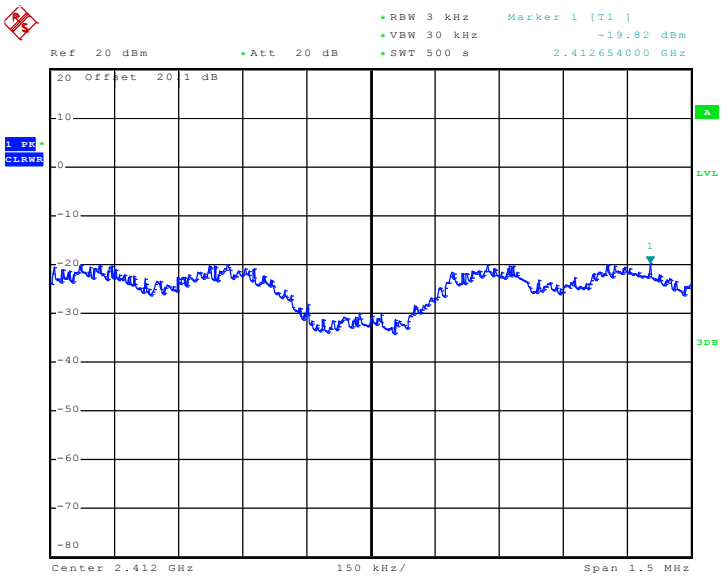


Date: 18.JAN.2010 17:15:56

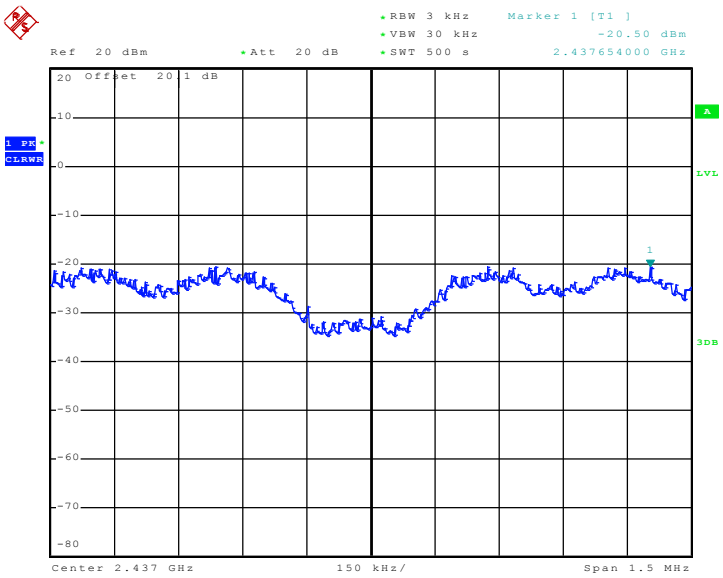
Test Mode :	Mode 7, 8, 9	Temperature :	24~26℃
Test Engineer :	Andy Yeh and Lancelot Chen	Relative Humidity :	47~50%

Channel	Frequency (MHz)	802.11n (BW 20MHz) Measured PSD (dBm)	Max. Limits (dBm)	Pass/Fail
01	2412	-19.82	8	Pass
06	2437	-20.50	8	Pass
11	2462	-20.50	8	Pass

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

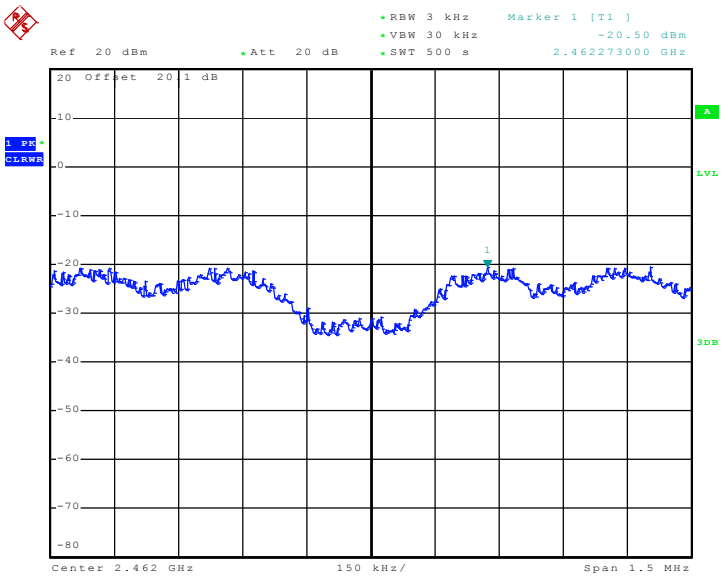


Mode 8 : PSD Plot on802.11n (BW 20MHz) Channel 06



Date: 7.APR.2010 13:26:46

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



Date: 7.APR.2010 13:41:20

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.

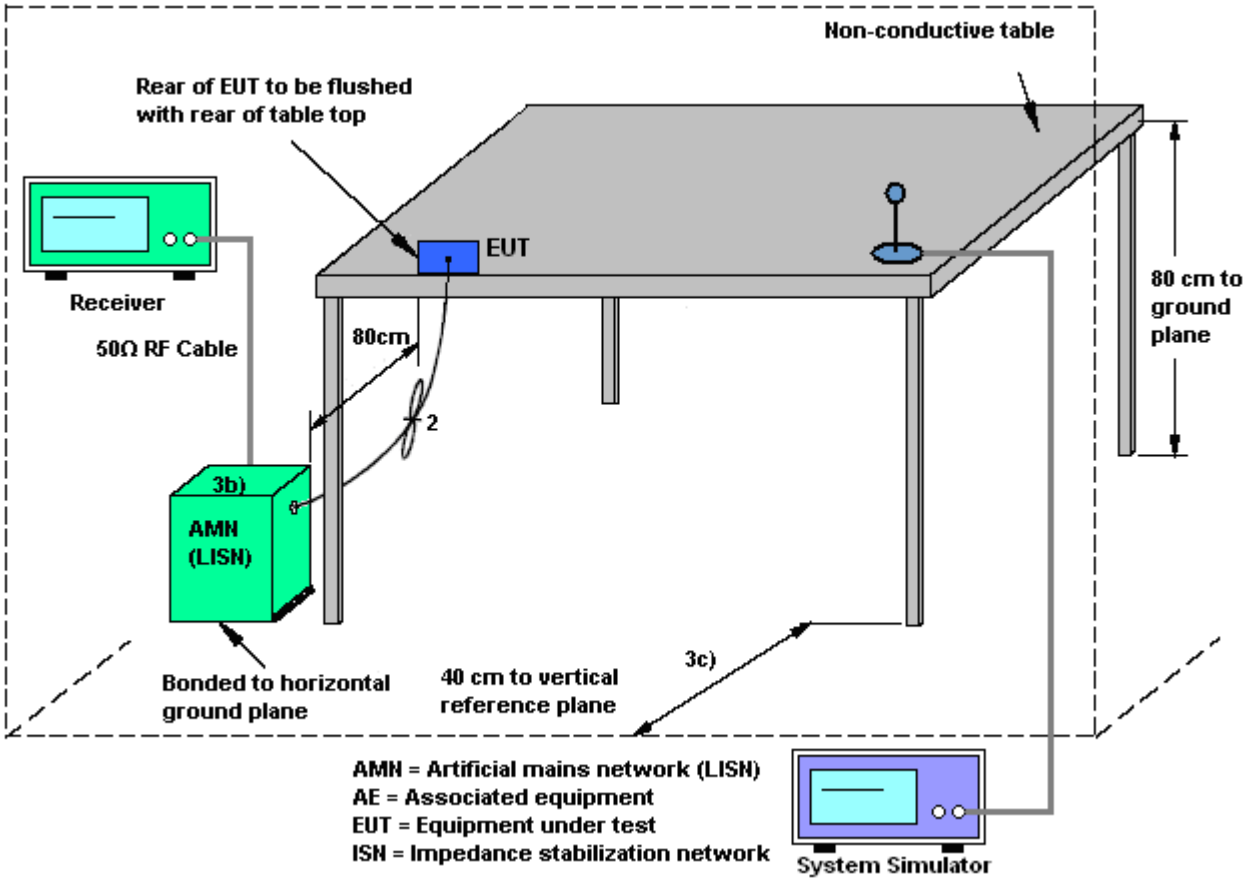
3.6.2 Measuring Instruments

See list of measuring instruments of this test report.

3.6.3 Test Procedures

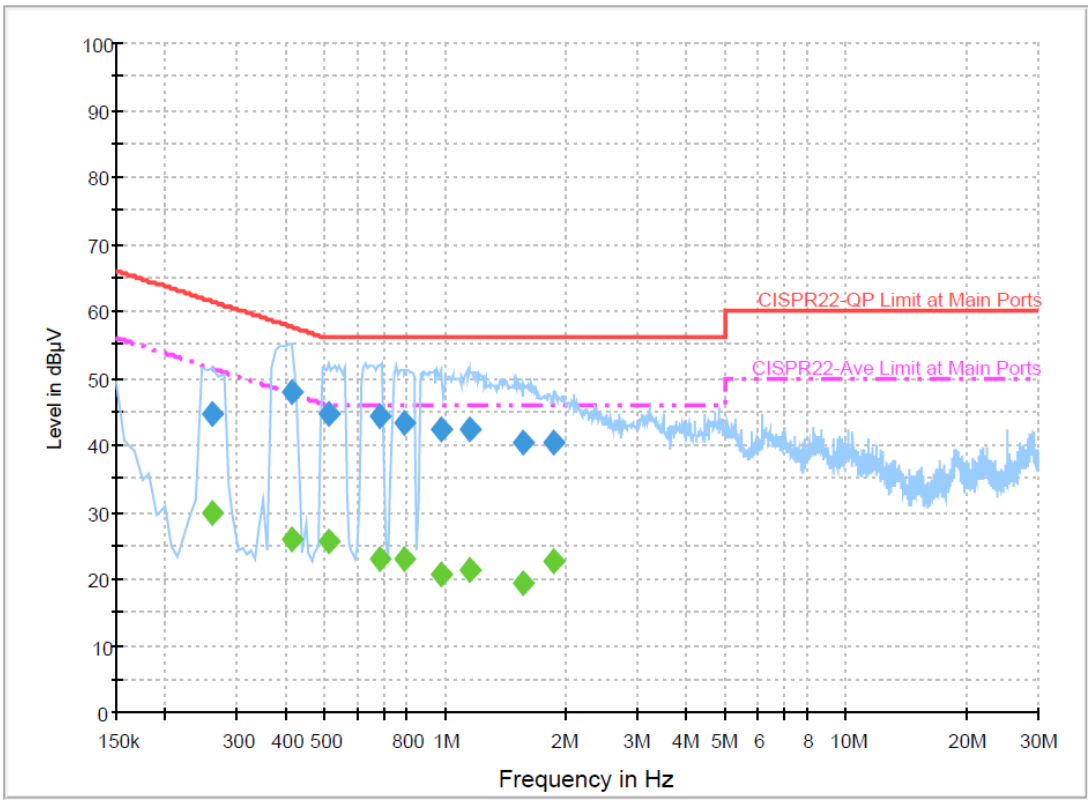
1. The testing follows the guidelines in ANSI C63.4-2003.
2. The EUT was placed 0.4 meter from the conducting wall of the shielding room, and it was kept at least 80 centimeters from any other grounded conducting surface.
3. Connect EUT to the power mains through a line impedance stabilization network (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 :**	51~54%
Test Voltage :	120Vac / 60Hz	**Phase :**	Line
Function Type :	CDMA2000 BC0 Idle + WLAN Link + Bluetooth Link + Camera + MP3 + Earphone 1 + USB Cable 1 + Adapter 1 + Battery 1		
Remark :	All emissions not reported here are more than 10 dB below the prescribed limit.		



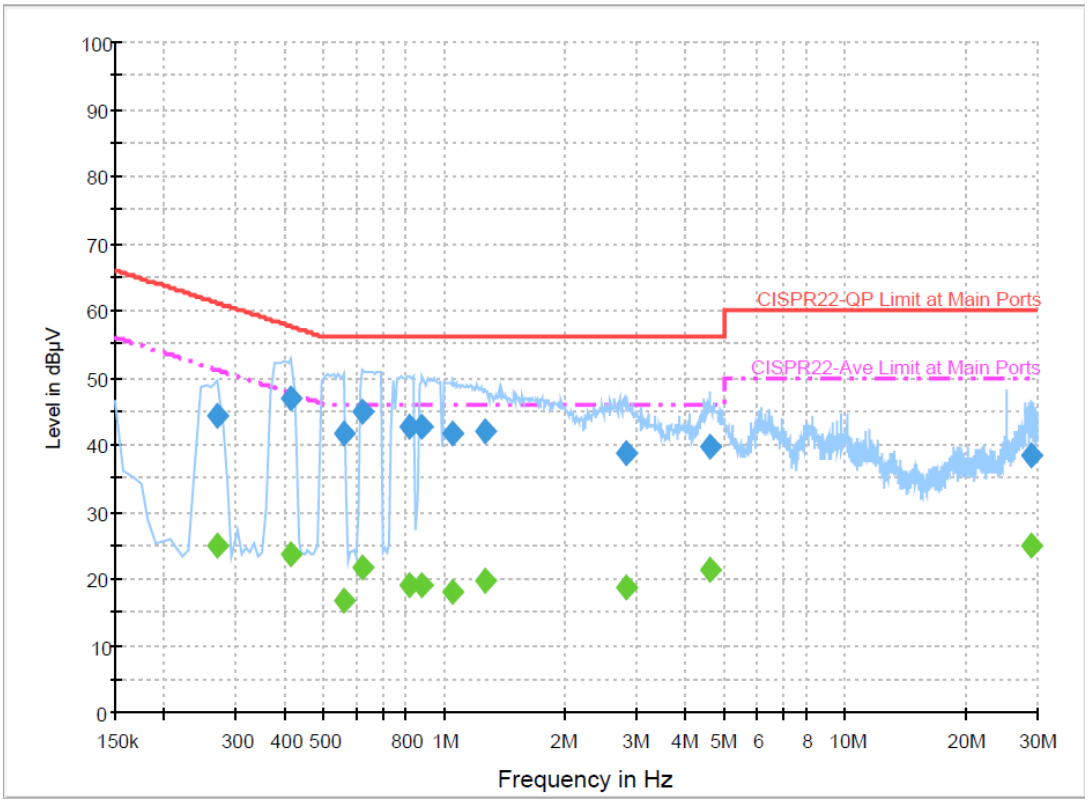
Final Result 1

Frequency (MHz)	QuasiPeak (dBµV)	Filter	Line	Corr. (dB)	Margin (dB)	Limit (dBµV)
0.262000	44.6	Off	L1	19.4	16.8	61.4
0.414000	47.7	Off	L1	19.4	9.9	57.6
0.510000	44.6	Off	L1	19.4	11.4	56.0
0.686000	44.3	Off	L1	19.5	11.7	56.0
0.782000	43.4	Off	L1	19.5	12.6	56.0
0.966000	42.4	Off	L1	19.4	13.6	56.0
1.142000	42.4	Off	L1	19.5	13.6	56.0
1.558000	40.3	Off	L1	19.5	15.7	56.0
1.862000	40.2	Off	L1	19.5	15.8	56.0

Final Result 2

Frequency (MHz)	Average (dBµV)	Filter	Line	Corr. (dB)	Margin (dB)	Limit (dBµV)
0.262000	29.8	Off	L1	19.4	21.6	51.4
0.414000	25.8	Off	L1	19.4	21.8	47.6
0.510000	25.7	Off	L1	19.4	20.3	46.0
0.686000	23.0	Off	L1	19.5	23.0	46.0
0.782000	22.9	Off	L1	19.5	23.1	46.0
0.966000	20.6	Off	L1	19.4	25.4	46.0
1.142000	21.4	Off	L1	19.5	24.6	46.0
1.558000	19.3	Off	L1	19.5	26.7	46.0
1.862000	22.7	Off	L1	19.5	23.3	46.0

Test Mode :	Mode 1	Temperature :	20~22℃
Test Engineer :	Novic Jiang	Relative Humidity :	51~54%
Test Voltage :	120Vac / 60Hz	Phase :	Neutral
Function Type :	CDMA2000 BC0 Idle + WLAN Link + Bluetooth Link + Camera + MP3 + Earphone 1 + USB Cable 1 + Adapter 1 + Battery 1		
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)
0.270000	44.2	Off	N	19.4	16.9	61.1
0.414000	47.0	Off	N	19.4	10.6	57.6
0.558000	41.6	Off	N	19.5	14.4	56.0
0.622000	44.9	Off	N	19.5	11.1	56.0
0.814000	42.6	Off	N	19.4	13.4	56.0
0.878000	42.7	Off	N	19.4	13.3	56.0
1.046000	41.7	Off	N	19.4	14.3	56.0
1.254000	41.9	Off	N	19.5	14.1	56.0
2.838000	38.8	Off	N	19.5	17.2	56.0
4.566000	39.7	Off	N	19.6	16.3	56.0
28.798000	38.4	Off	N	20.0	21.6	60.0

Final Result 2

Frequency (MHz)	Average (dBµV)	Filter	Line	Corr. (dB)	Margin (dB)	Limit (dBµV)
0.270000	24.9	Off	N	19.4	26.2	51.1
0.414000	23.6	Off	N	19.4	24.0	47.6
0.558000	16.9	Off	N	19.5	29.1	46.0
0.622000	21.7	Off	N	19.5	24.3	46.0
0.814000	19.1	Off	N	19.4	26.9	46.0
0.878000	19.0	Off	N	19.4	27.0	46.0
1.046000	18.0	Off	N	19.4	28.0	46.0
1.254000	19.6	Off	N	19.5	26.4	46.0
2.838000	18.7	Off	N	19.5	27.3	46.0
4.566000	21.4	Off	N	19.6	24.6	46.0
28.798000	24.8	Off	N	20.0	25.2	50.0

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

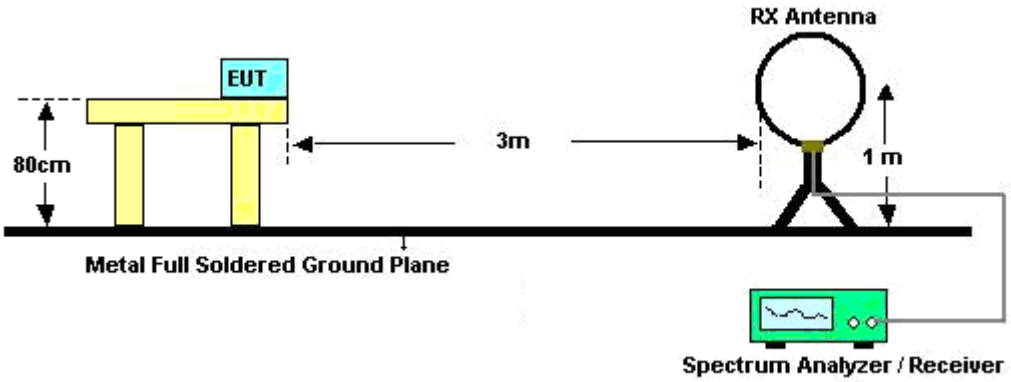
See list of measuring instruments of this test report.

3.7.3 Test Procedures

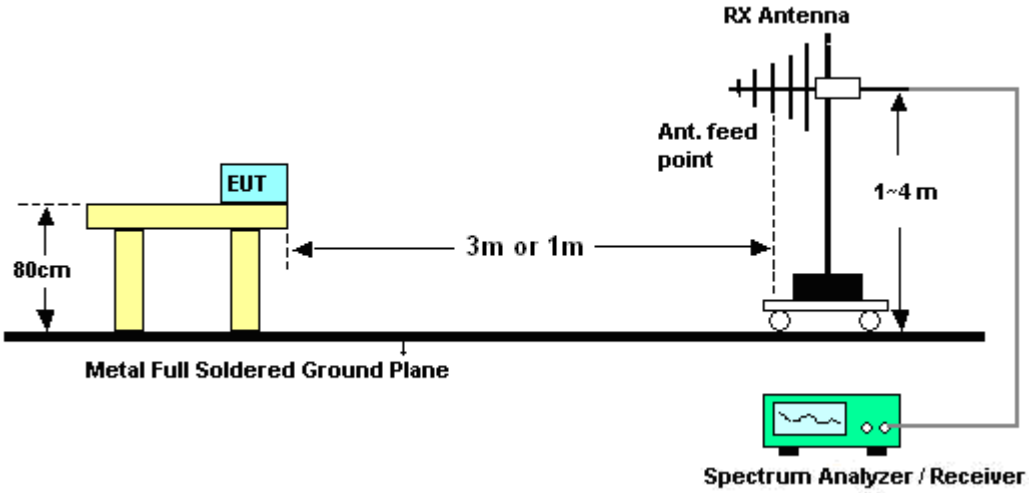
1. The testing follows the guidelines in FCC KDB Publication No. 558074 (Measurement Guidelines of DTS).
2. Use the following spectrum analyzer settings:
   (1) Span = wide enough to fully capture the emission being measured; RBW = 1 MHz for f ≥ 1 GHz, 100 kHz for f < 1 GHz; VBW ≥ RBW; Sweep = auto; 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 :	Ivan Jiang	Temperature :	22~24℃
		Relative Humidity :	49~51%

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 :	22~24℃
Test Channel :	01	Relative Humidity :	49~51%
Test Engineer :	Ivan Jiang	Polarization :	Horizontal
Remark :	1. 2412 MHz is Fundamental Signals which can be ignored.		

Frequency (MHz)	Level (dBuV/m)	Over Limit (dB)	Limit Line (dBuV/m)	Read Level (dBuV)	Antenna Factor (dB)	Cable Loss (dB)	Preamp Factor (dB)	Ant Pos (cm)	Table Pos (deg)	Remark
30.81	21.35	-18.65	40	33.45	18.95	0.65	31.7	-	-	Peak
224.13	34.1	-11.9	46	54.21	9.62	1.82	31.55	141	78	Peak
247.89	25.69	-20.31	46	42.74	12.54	1.91	31.5	-	-	Peak
318.2	22.24	-23.76	46	37.44	13.95	2.21	31.36	-	-	Peak
701.8	22.11	-23.89	46	28.58	20.87	3.56	30.9	-	-	Peak
848.1	32.22	-13.78	46	36.28	22.68	3.96	30.7	-	-	Peak
2389.99	47.63	-26.37	74	44.2	32.13	5.46	34.16	101	8	Peak
2389.99	36.06	-17.94	54	32.63	32.13	5.46	34.16	101	8	Average
2412	97.93	-	-	94.49	32.16	5.44	34.16	101	8	Peak
2412	94.45	-	-	91.01	32.16	5.44	34.16	101	8	Average
2486	32.11	-21.89	54	28.65	32.27	5.38	34.19	101	8	Average
2486	45.19	-28.81	74	41.73	32.27	5.38	34.19	101	8	Peak
4824	52.92	-21.08	74	45.28	34.33	7.81	34.5	100	162	Peak
4824	42.42	-11.58	54	34.78	34.33	7.81	34.5	100	162	Average
8370	53.2	-20.8	74	42.2	36	10.1	35.1	100	58	Peak
8370	42.84	-11.16	54	31.84	36	10.1	35.1	100	58	Average

Test Mode :	Mode 1	Temperature :	22~24℃
Test Channel :	01	Relative Humidity :	49~51%
Test Engineer :	Ivan Jiang	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
34.86	29.14	-10.86	40	43.43	16.73	0.68	31.7	-	-	Peak
88.05	24.63	-18.87	43.5	46.62	8.62	1.09	31.7	-	-	Peak
224.13	35.37	-10.63	46	55.48	9.62	1.82	31.55	100	220	Peak
388.2	21.25	-24.75	46	34.16	15.8	2.51	31.22	-	-	Peak
848.1	29.51	-16.49	46	33.57	22.68	3.96	30.7	-	-	Peak
928.6	26.69	-19.31	46	29.53	23.61	4.22	30.67	-	-	Peak
2389.42	45.94	-28.06	74	42.5	32.13	5.46	34.15	100	63	Peak
2389.42	33.99	-20.01	54	30.55	32.13	5.46	34.15	100	63	Average
2412	93.98	-	-	90.54	32.16	5.44	34.16	100	63	Peak
2412	89.48	-	-	86.04	32.16	5.44	34.16	100	63	Average
2492	31.76	-22.24	54	28.29	32.3	5.37	34.2	100	63	Average
2492	45.17	-28.83	74	41.7	32.3	5.37	34.2	100	63	Peak
8310	53.48	-20.52	74	42.53	36	10.05	35.1	164	100	Peak
8310	43.28	-10.72	54	32.33	36	10.05	35.1	164	100	Average

Test Mode :	Mode 2	Temperature :	22~24℃
Test Channel :	06	Relative Humidity :	49~51%
Test Engineer :	Ivan Jiang	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
47.01	20.03	-19.97	40	41.51	9.45	0.77	31.7	-	-	Peak
224.13	30.02	-15.98	46	50.13	9.62	1.82	31.55	100	39	Peak
247.62	27.08	-18.92	46	44.25	12.42	1.91	31.5	-	-	Peak
365.8	23.95	-22.05	46	37.59	15.21	2.42	31.27	-	-	Peak
553.4	22.62	-23.38	46	31.38	19.19	3.1	31.05	-	-	Peak
825	28.09	-17.91	46	32.42	22.46	3.91	30.7	-	-	Peak
2358	44.89	-29.11	74	41.46	32.08	5.49	34.14	100	9	Peak
2358	31.82	-22.18	54	28.39	32.08	5.49	34.14	100	9	Average
2437	98.55	-	-	95.09	32.22	5.41	34.17	100	9	Peak
2437	94.97	-	-	91.51	32.22	5.41	34.17	100	9	Average
2484	45.35	-28.65	74	41.89	32.27	5.38	34.19	100	9	Peak
2484	32.42	-21.58	54	28.96	32.27	5.38	34.19	100	9	Average
8442	54.02	-19.98	74	42.98	36	10.14	35.1	100	98	Peak
8442	44.14	-9.86	54	33.1	36	10.14	35.1	100	98	Average

Test Mode :	Mode 2	Temperature :	22~24℃
Test Channel :	06	Relative Humidity :	49~51%
Test Engineer :	Ivan Jiang	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
34.86	29.24	-10.76	40	43.53	16.73	0.68	31.7	-	-	Peak
224.13	38.14	-7.86	46	58.25	9.62	1.82	31.55	124	100	Peak
271.38	28.52	-17.48	46	44.92	13.07	1.99	31.46	-	-	Peak
388.2	24.7	-21.3	46	37.61	15.8	2.51	31.22	-	-	Peak
808.2	26.45	-19.55	46	30.99	22.29	3.87	30.7	-	-	Peak
951	26.38	-19.62	46	28.83	23.94	4.26	30.65	-	-	Peak
2388	45	-29	74	41.56	32.13	5.46	34.15	100	57	Peak
2388	32.57	-21.43	54	29.13	32.13	5.46	34.15	100	57	Average
2437	95.65	-	-	92.19	32.22	5.41	34.17	100	57	Peak
2437	89.37	-	-	85.91	32.22	5.41	34.17	100	57	Average
2500	44.4	-29.6	74	40.93	32.3	5.37	34.2	100	57	Peak
2500	31.72	-22.28	54	28.25	32.3	5.37	34.2	100	57	Average
8070	53.05	-20.95	74	42.26	36	9.89	35.1	100	71	Peak
8070	42.6	-11.4	54	31.81	36	9.89	35.1	100	71	Average

Test Mode :	Mode 3	Temperature :	22~24℃
Test Channel :	11	Relative Humidity :	49~51%
Test Engineer :	Ivan Jiang	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
30	20.85	-19.15	40	32.4	19.51	0.64	31.7	-	-	Peak
224.13	25.66	-20.34	46	45.77	9.62	1.82	31.55	-	-	Peak
271.38	27.85	-18.15	46	44.25	13.07	1.99	31.46	-	-	Peak
365.8	22.27	-23.73	46	35.91	15.21	2.42	31.27	-	-	Peak
825	30.43	-15.57	46	34.76	22.46	3.91	30.7	100	227	Peak
903.4	26.06	-19.94	46	29.37	23.22	4.17	30.7	-	-	Peak
2388	45.39	-28.61	74	41.95	32.13	5.46	34.15	100	27	Peak
2388	33.47	-20.53	54	30.03	32.13	5.46	34.15	100	27	Average
2462	104.09	-	-	100.63	32.24	5.4	34.18	100	27	Peak
2462	100.44	-	-	96.98	32.24	5.4	34.18	100	27	Average
2484.61	53.03	-20.97	74	49.57	32.27	5.38	34.19	100	27	Peak
2484.61	39.9	-14.1	54	36.44	32.27	5.38	34.19	100	27	Average
8085	53.32	-20.68	74	42.52	36	9.9	35.1	112	109	Peak
8085	43.22	-10.78	54	32.42	36	9.9	35.1	112	109	Average

Test Mode :	Mode 3	Temperature :	22~24℃
Test Channel :	11	Relative Humidity :	49~51%
Test Engineer :	Ivan Jiang	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
34.86	29.32	-10.68	40	43.61	16.73	0.68	31.7	-	-	Peak
224.13	35.65	-10.35	46	55.76	9.62	1.82	31.55	116	93	Peak
277.05	26.72	-19.28	46	43	13.15	2.01	31.44	-	-	Peak
568.1	21.79	-24.21	46	30.21	19.46	3.15	31.03	-	-	Peak
788.6	24.58	-21.42	46	29.42	22.06	3.82	30.72	-	-	Peak
939.8	25.46	-20.54	46	28.1	23.78	4.24	30.66	-	-	Peak
2388	45.18	-28.82	74	41.74	32.13	5.46	34.15	133	123	Peak
2388	32.72	-21.28	54	29.28	32.13	5.46	34.15	133	123	Average
2462	98.06	-	-	94.6	32.24	5.4	34.18	133	123	Peak
2462	96.73	-	-	93.27	32.24	5.4	34.18	133	123	Average
2483.85	50.84	-23.16	74	47.38	32.27	5.38	34.19	133	123	Peak
2483.85	38.66	-15.34	54	35.2	32.27	5.38	34.19	133	123	Average
8397	53.75	-20.25	74	42.74	36	10.11	35.1	124	66	Peak
8397	42.45	-11.55	54	31.44	36	10.11	35.1	124	66	Average

Test Mode :	Mode 4	Temperature :	22~24℃
Test Channel :	01	Relative Humidity :	49~51%
Test Engineer :	Ivan Jiang	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
224.13	27.24	-18.76	46	47.35	9.62	1.82	31.55	-	-	Peak
247.89	26.59	-19.41	46	43.64	12.54	1.91	31.5	-	-	Peak
271.38	23.82	-22.18	46	40.22	13.07	1.99	31.46	-	-	Peak
388.2	20.79	-25.21	46	33.7	15.8	2.51	31.22	-	-	Peak
747.3	24.29	-21.71	46	29.93	21.48	3.69	30.81	-	-	Peak
825	27.83	-18.17	46	32.16	22.46	3.91	30.7	100	67	Peak
2389.42	48.78	-25.22	74	45.34	32.13	5.46	34.15	125	16	Peak
2389.42	33.34	-20.66	54	29.9	32.13	5.46	34.15	125	16	Average
2412	90.05	-	-	86.61	32.16	5.44	34.16	125	16	Peak
2412	79.52	-	-	76.08	32.16	5.44	34.16	125	16	Average
2500	31.76	-22.24	54	28.29	32.3	5.37	34.2	125	16	Average
2500	44.1	-29.9	74	40.63	32.3	5.37	34.2	125	16	Peak
8145	53.27	-20.73	74	42.44	36	9.93	35.1	102	127	Peak
8145	42.02	-11.98	54	31.19	36	9.93	35.1	102	127	Average

Test Mode :	Mode 4	Temperature :	22~24℃
Test Channel :	01	Relative Humidity :	49~51%
Test Engineer :	Ivan Jiang	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
34.86	29.2	-10.8	40	43.49	16.73	0.68	31.7	117	240	Peak
224.4	34.88	-11.12	46	54.99	9.62	1.82	31.55	-	-	Peak
247.89	31.25	-14.75	46	48.3	12.54	1.91	31.5	-	-	Peak
365.8	25.89	-20.11	46	39.53	15.21	2.42	31.27	-	-	Peak
388.2	26.04	-19.96	46	38.95	15.8	2.51	31.22	-	-	Peak
825	26.39	-19.61	46	30.72	22.46	3.91	30.7	-	-	Peak
2359.78	45.63	-28.37	74	42.2	32.08	5.49	34.14	100	320	Peak
2359.78	31.81	-22.19	54	28.38	32.08	5.49	34.14	100	320	Average
2412	85.69	-	-	82.25	32.16	5.44	34.16	100	320	Peak
2412	73.23	-	-	69.79	32.16	5.44	34.16	100	320	Average
2484	31.75	-22.25	54	28.29	32.27	5.38	34.19	100	320	Average
2484	44.09	-29.91	74	40.63	32.27	5.38	34.19	100	320	Peak
7353	53.79	-20.21	74	43.07	35.9	9.76	34.94	140	131	Peak
7353	43.95	-10.05	54	33.23	35.9	9.76	34.94	140	131	Average

Test Mode :	Mode 5	Temperature :	22~24℃
Test Channel :	06	Relative Humidity :	49~51%
Test Engineer :	Ivan Jiang	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
224.13	33.26	-12.74	46	53.37	9.62	1.82	31.55	110	37	Peak
247.89	26.02	-19.98	46	43.07	12.54	1.91	31.5	-	-	Peak
295.14	25.58	-20.42	46	41.5	13.39	2.1	31.41	-	-	Peak
388.2	22.27	-23.73	46	35.18	15.8	2.51	31.22	-	-	Peak
777.4	24.5	-21.5	46	29.55	21.91	3.78	30.74	-	-	Peak
914.6	30.49	-15.51	46	33.59	23.4	4.19	30.69	-	-	Peak
2390	44.84	-29.16	74	41.41	32.13	5.46	34.16	155	340	Peak
2390	32.46	-21.54	54	29.03	32.13	5.46	34.16	155	340	Average
2437	87.38	-	-	83.92	32.22	5.41	34.17	155	340	Peak
2437	77.12	-	-	73.66	32.22	5.41	34.17	155	340	Average
2484	44.37	-29.63	74	40.91	32.27	5.38	34.19	155	340	Peak
2484	31.75	-22.25	54	28.29	32.27	5.38	34.19	155	340	Average
8298	53.52	-20.48	74	42.58	36	10.04	35.1	100	178	Peak
8298	42.71	-11.29	54	31.77	36	10.04	35.1	100	178	Average

Test Mode :	Mode 5	Temperature :	22~24℃
Test Channel :	06	Relative Humidity :	49~51%
Test Engineer :	Ivan Jiang	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
35.13	28.32	-11.68	40	42.61	16.73	0.68	31.7	-	-	Peak
200.37	31.14	-12.36	43.5	52.22	8.82	1.7	31.6	-	-	Peak
224.13	39.62	-6.38	46	59.73	9.62	1.82	31.55	148	78	Peak
545.7	21.37	-24.63	46	30.3	19.04	3.08	31.05	-	-	Peak
806.1	26.39	-19.61	46	30.95	22.28	3.86	30.7	-	-	Peak
897.8	26.46	-19.54	46	29.85	23.16	4.15	30.7	-	-	Peak
2382	44.99	-29.01	74	41.56	32.11	5.47	34.15	176	188	Peak
2382	31.96	-22.04	54	28.53	32.11	5.47	34.15	176	188	Average
2437	84.07	-	-	80.61	32.22	5.41	34.17	176	188	Peak
2437	73.86	-	-	70.4	32.22	5.41	34.17	176	188	Average
2486	44.63	-29.37	74	41.17	32.27	5.38	34.19	176	188	Peak
2486	31.77	-22.23	54	28.31	32.27	5.38	34.19	176	188	Average
8361	54.2	-19.8	74	43.21	36	10.09	35.1	100	169	Peak
8361	44.16	-9.84	54	33.17	36	10.09	35.1	100	169	Average

Test Mode :	Mode 6	Temperature :	22~24℃
Test Channel :	11	Relative Humidity :	49~51%
Test Engineer :	Ivan Jiang	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
224.13	32.92	-13.08	46	53.03	9.62	1.82	31.55	100	119	Peak
247.62	24.94	-21.06	46	42.11	12.42	1.91	31.5	-	-	Peak
295.14	24.64	-21.36	46	40.56	13.39	2.1	31.41	-	-	Peak
593.3	21.13	-24.87	46	28.97	19.94	3.23	31.01	-	-	Peak
699.7	23.04	-22.96	46	29.56	20.83	3.55	30.9	-	-	Peak
903.4	26	-20	46	29.31	23.22	4.17	30.7	-	-	Peak
2388	44.94	-29.06	74	41.5	32.13	5.46	34.15	100	27	Peak
2388	32.48	-21.52	54	29.04	32.13	5.46	34.15	100	27	Average
2462	94.27	-	-	90.81	32.24	5.4	34.18	100	27	Peak
2462	82.34	-	-	78.88	32.24	5.4	34.18	100	27	Average
2483.66	53.01	-20.99	74	49.55	32.27	5.38	34.19	100	27	Peak
2483.66	33.75	-20.25	54	30.29	32.27	5.38	34.19	100	27	Average
8394	53.76	-20.24	74	42.75	36	10.11	35.1	128	117	Peak
8394	43.1	-10.9	54	32.09	36	10.11	35.1	128	117	Average

Test Mode :	Mode 6	Temperature :	22~24℃
Test Channel :	11	Relative Humidity :	49~51%
Test Engineer :	Ivan Jiang	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
34.86	28.86	-11.14	40	43.15	16.73	0.68	31.7	-	-	Peak
224.13	37.17	-8.83	46	57.28	9.62	1.82	31.55	100	56	Peak
247.89	32.33	-13.67	46	49.38	12.54	1.91	31.5	-	-	Peak
332.2	19.47	-26.53	46	34.2	14.33	2.27	31.33	-	-	Peak
671	23	-23	46	29.84	20.62	3.47	30.93	-	-	Peak
928.6	25.9	-20.1	46	28.74	23.61	4.22	30.67	-	-	Peak
2390	45.33	-28.67	74	41.9	32.13	5.46	34.16	100	317	Peak
2390	32.5	-21.5	54	29.07	32.13	5.46	34.16	100	317	Average
2462	91.42	-	-	87.96	32.24	5.4	34.18	100	317	Peak
2462	79.75	-	-	76.29	32.24	5.4	34.18	100	317	Average
2483.66	53.32	-20.68	74	49.86	32.27	5.38	34.19	100	317	Peak
2483.66	34.62	-19.38	54	31.16	32.27	5.38	34.19	100	317	Average
8274	52.98	-21.02	74	42.05	36	10.03	35.1	100	108	Peak
8274	42.09	-11.91	54	31.16	36	10.03	35.1	100	108	Average

Test Mode :	Mode 7	Temperature :	22~24℃
Test Channel :	01	Relative Humidity :	49~51%
Test Engineer :	Ivan Jiang	Polarization :	Horizontal
Remark :	2412 MHz is Fundamental Signals which can be ignored.		

Frequency (MHz)	Level (dBuV/m)	Over Limit (dB)	Limit Line (dBuV/m)	Read Level (dBuV)	Antenna Factor (dB)	Cable Loss (dB)	Preamp Factor (dB)	Ant Pos (cm)	Table Pos (deg)	Remark
30	21.87	-18.13	40	33.14	19.51	0.68	31.46	100	145	Peak
93.45	24.31	-19.19	43.5	45.26	9.32	1.26	31.53	-	-	Peak
260.85	27.86	-18.14	46	44.15	12.92	2.21	31.42	-	-	Peak
330.1	23.31	-22.69	46	37.84	14.26	2.52	31.31	-	-	Peak
559.7	21.57	-24.43	46	29.9	19.3	3.34	30.97	-	-	Peak
850.9	26.02	-19.98	46	29.83	22.7	4.22	30.73	-	-	Peak
2338.65	33.47	-20.53	54	30.05	32.05	5.5	34.13	100	17	Average
2338.65	45.75	-28.25	74	42.33	32.05	5.5	34.13	100	17	Peak
2412	65.06	-	-	61.62	32.16	5.44	34.16	100	17	Average
2412	88.51	-	-	85.07	32.16	5.44	34.16	100	17	Peak
2484	45.06	-28.94	74	41.6	32.27	5.38	34.19	100	17	Peak
2484	32.77	-21.23	54	29.31	32.27	5.38	34.19	100	17	Average
8322	55.21	-18.79	74	44.25	36	10.06	35.1	100	96	Peak
8322	40.74	-13.26	54	29.78	36	10.06	35.1	100	96	Average

Test Mode :	Mode 7	Temperature :	22~24℃
Test Channel :	01	Relative Humidity :	49~51%
Test Engineer :	Ivan Jiang	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
30.54	28.01	-11.99	40	39.83	18.95	0.69	31.46	100	226	Peak
93.18	26.78	-16.72	43.5	47.73	9.32	1.26	31.53	-	-	Peak
274.62	29.46	-16.54	46	45.45	13.11	2.26	31.36	-	-	Peak
300	23.88	-22.12	46	39.35	13.46	2.4	31.33	-	-	Peak
635.3	23.57	-22.43	46	30.51	20.34	3.6	30.88	-	-	Peak
797.7	26.9	-19.1	46	31.31	22.18	4.09	30.68	-	-	Peak
2334.7	33.48	-20.52	54	30.06	32.05	5.5	34.13	100	56	Average
2334.7	45.94	-28.06	74	42.52	32.05	5.5	34.13	100	56	Peak
2412	62.8	-	-	59.36	32.16	5.44	34.16	100	56	Average
2412	85.62	-	-	82.18	32.16	5.44	34.16	100	56	Peak
2486	44.74	-29.26	74	41.28	32.27	5.38	34.19	100	56	Peak
2486	32.74	-21.26	54	29.28	32.27	5.38	34.19	100	56	Average
8310	54.88	-19.12	74	43.93	36	10.05	35.1	100	78	Peak
8310	40.74	-13.26	54	29.79	36	10.05	35.1	100	78	Average

Test Mode :	Mode 8	Temperature :	22~24℃
Test Channel :	06	Relative Humidity :	49~51%
Test Engineer :	Ivan Jiang	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
30	23.35	-16.65	40	34.62	19.51	0.68	31.46	100	83	Peak
92.37	26.66	-16.84	43.5	47.76	9.17	1.25	31.52	-	-	Peak
258.42	26.56	-19.44	46	42.9	12.88	2.2	31.42	-	-	Peak
324.5	22.42	-23.58	46	37.11	14.13	2.5	31.32	-	-	Peak
665.4	24.53	-21.47	46	31.12	20.57	3.69	30.85	-	-	Peak
872.6	27.22	-18.78	46	30.72	22.92	4.3	30.72	-	-	Peak
2334	45.25	-28.75	74	41.85	32.02	5.51	34.13	155	12	Peak
2334	33.43	-20.57	54	30.03	32.02	5.51	34.13	155	12	Average
2437	90.71	-	-	87.25	32.22	5.41	34.17	155	12	Peak
2437	66.9	-	-	63.44	32.22	5.41	34.17	155	12	Average
2494	32.81	-21.19	54	29.34	32.3	5.37	34.2	155	12	Average
2494	44.48	-29.52	74	41.01	32.3	5.37	34.2	155	12	Peak
8313	55.07	-18.93	74	44.12	36	10.05	35.1	100	264	Peak
8313	40.86	-13.14	54	29.91	36	10.05	35.1	100	264	Average

Test Mode :	Mode 8	Temperature :	22~24℃
Test Channel :	06	Relative Humidity :	49~51%
Test Engineer :	Ivan Jiang	Polarization :	Vertical
Remark :	2437 MHz is Fundamental Signals which can be ignored.		

Frequency (MHz)	Level (dBuV/m)	Over Limit (dB)	Limit Line (dBuV/m)	Read Level (dBuV)	Antenna Factor (dB)	Cable Loss (dB)	Preamp Factor (dB)	Ant Pos (cm)	Table Pos (deg)	Remark
30	26.64	-13.36	40	37.91	19.51	0.68	31.46	100	184	Peak
93.18	25.8	-17.7	43.5	46.75	9.32	1.26	31.53	-	-	Peak
274.62	28.29	-17.71	46	44.28	13.11	2.26	31.36	-	-	Peak
326.6	22.25	-23.75	46	36.87	14.18	2.51	31.31	-	-	Peak
551.3	22.59	-23.41	46	31.11	19.13	3.33	30.98	-	-	Peak
800.5	26.34	-19.66	46	30.7	22.22	4.1	30.68	-	-	Peak
2350	44.58	-29.42	74	41.17	32.05	5.5	34.14	100	142	Peak
2350	33.46	-20.54	54	30.05	32.05	5.5	34.14	100	142	Average
2437	86.08	-	-	82.62	32.22	5.41	34.17	100	142	Peak
2437	63.87	-	-	60.41	32.22	5.41	34.17	100	142	Average
2494	32.77	-21.23	54	29.3	32.3	5.37	34.2	100	142	Average
2494	45.09	-28.91	74	41.62	32.3	5.37	34.2	100	142	Peak
8250	40.79	-13.21	54	29.89	36	10	35.1	100	87	Average
8250	54.59	-19.41	74	43.69	36	10	35.1	100	87	Peak

Test Mode :	Mode 9	Temperature :	22~24℃
Test Channel :	11	Relative Humidity :	49~51%
Test Engineer :	Ivan Jiang	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
30	23.08	-16.92	40	34.35	19.51	0.68	31.46	-	-	Peak
94.53	26.94	-16.56	43.5	47.59	9.61	1.27	31.53	100	167	Peak
258.42	27.04	-18.96	46	43.38	12.88	2.2	31.42	-	-	Peak
332.2	22.53	-23.47	46	36.98	14.33	2.53	31.31	-	-	Peak
587.7	23.29	-22.71	46	30.94	19.83	3.45	30.93	-	-	Peak
780.9	26.41	-19.59	46	31.13	21.95	4.02	30.69	-	-	Peak
2342	46	-28	74	42.59	32.05	5.5	34.14	100	29	Peak
2342	33.39	-20.61	54	29.98	32.05	5.5	34.14	100	29	Average
2462	95.44	-	-	91.98	32.24	5.4	34.18	100	29	Peak
2462	71.12	-	-	67.66	32.24	5.4	34.18	100	29	Average
2483.5	36.12	-17.88	54	32.66	32.27	5.38	34.19	100	29	Average
2483.5	54.47	-19.53	74	51.01	32.27	5.38	34.19	100	29	Peak
8394	55.08	-18.92	74	44.07	36	10.11	35.1	100	164	Peak
8394	40.57	-13.43	54	29.56	36	10.11	35.1	100	164	Average

Test Mode :	Mode 9	Temperature :	22~24℃
Test Channel :	11	Relative Humidity :	49~51%
Test Engineer :	Ivan Jiang	Polarization :	Vertical
Remark :	2462 MHz is Fundamental Signals which can be ignored.		

Frequency (MHz)	Level (dBuV/m)	Over Limit (dB)	Limit Line (dBuV/m)	Read Level (dBuV)	Antenna Factor (dB)	Cable Loss (dB)	Preamp Factor (dB)	Ant Pos (cm)	Table Pos (deg)	Remark
30	27	-13	40	38.27	19.51	0.68	31.46	100	34	Peak
93.18	25.14	-18.36	43.5	46.09	9.32	1.26	31.53	-	-	Peak
274.62	28.15	-17.85	46	44.14	13.11	2.26	31.36	-	-	Peak
335.7	22.54	-23.46	46	36.88	14.41	2.55	31.3	-	-	Peak
517	25.72	-20.28	46	35.06	18.49	3.21	31.04	-	-	Peak
799.8	30.93	-15.07	46	35.29	22.22	4.1	30.68	-	-	Peak
2350	45.72	-28.28	74	42.31	32.05	5.5	34.14	100	189	Peak
2350	33.43	-20.57	54	30.02	32.05	5.5	34.14	100	189	Average
2462	90.47	-	-	87.01	32.24	5.4	34.18	100	189	Peak
2462	68.03	-	-	64.57	32.24	5.4	34.18	100	189	Average
2483.5	34.67	-19.33	54	31.21	32.27	5.38	34.19	100	189	Average
2483.5	51.71	-22.29	74	48.25	32.27	5.38	34.19	100	189	Peak
8445	54.84	-19.16	74	43.8	36	10.14	35.1	100	174	Peak
8445	40.92	-13.08	54	29.88	36	10.14	35.1	100	174	Average

3.8 Antenna Requirements

3.8.1 Standard Applicable

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

3.8.2 Antenna Connected Construction

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

3.8.3 Antenna Gain

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

4 List of Measuring Equipment

Instrument	Manufacturer	Model No.	Serial No.	Characteristics	Calibration Date	Due Date	Remark
Spectrum Analyzer	R&S	FSP40	100055	9kHz~40GHz	Jun. 23, 2009	Jun. 22, 2010	Conducted (TH02-HY)
Power Meter	Anritsu	ML2495A	0932001	N/A	Sep. 17, 2009	Sep. 16, 2010	Conducted (TH02-HY)
Power Sensor	Anritsu	MA2411B	0846202	N/A	Sep. 10, 2009	Sep. 09, 2010	Conducted (TH02-HY)
EMI Test Receive	R&S	ESCS 30	100356	9KHz – 2.75GHz	Aug. 05, 2009	Aug. 04, 2010	Conduction (CO05-HY)
Two-LISN	R&S	ENV216	11-100081	9kHz~30MHz	Nov. 30, 2009	Nov. 29, 2010	Conduction (CO05-HY)
Two-LISN	R&S	ENV216	11-100080	9kHz~30MHz	Nov. 23, 2009	Nov. 22, 2010	Conduction (CO05-HY)
AC Power Source	APC	APC-1000W	N/A	N/A	N/A	N/A	Conduction (CO05-HY)
Bilog Antenna	SCHAFFNER	CBL6111C	2726	30MHz ~ 1GHz	Oct. 31, 2009	Oct. 30, 2010	Conduction (CO05-HY)
Spectrum Analyzer	R&S	FSP	101067	9KHz ~ 30GHz	Dec. 04, 2009	Dec. 03, 2010	Radiation (03CH07-HY)
Double Ridge Horn Antenna	ESCO	3117	00075962	1GHz ~ 18GHz	Aug. 20, 2009	Aug. 19, 2010	Radiation (03CH07-HY)
SHF-EHF Horn Antenna	SCHWARZBECK	BBHA 9170	BBHA9170251	15GHz- 40GHz	Oct. 14, 2009	Oct. 13, 2010	Radiation (03CH07-HY)
Pre Amplifier	Agilent	8449B	3008A02362	1GHz~ 26.5GHz	Dec.09,2009	Dec. 08, 2010	Radiation (03CH07-HY)
Pre Amplifier	COM-POWER	PA-103A	161241	10-1000MHz.32 dB.GAIN	Mar. 27, 2010	Mar. 26, 2011	Radiation (03CH07-HY)
Loop Antenna	R&S	HFH2-Z2	860004/001	9 KHz~30 MHz	May 22, 2008	May 21, 2010	Radiation (03CH07-HY)
System Simulator	R&S	CMU200	105934	N/A	Nov. 11, 2008	Nov. 10, 2010	-

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**				

Appendix A. Photographs of EUT

Please refer to Sporton report number EP030511 as below.