FCC RF Test Report

APPLICANT	:	HTC Corporation
EQUIPMENT	:	Windows Phone
MODEL NAME	:	PD26100
FCC ID	:	NM8PD26100
STANDARD	:	FCC Part 15 Subpart C §15.247
CLASSIFICATION	:	Digital Transmission System (DTS)

The product was received on Jun. 23, 2010 and completely tested on Jul. 19, 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
FR062328A	Rev. 01	Initial issue of report	Aug. 02, 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 7.7 dB at 0.246 MHz
3.7	15.247(d)	A8.5	Transmitter Radiated Emission	15.209(a) & 15.247(d)	Pass	Under limit 4.06 dB at 4824.00 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	PD26100
FCC ID	NM8PD26100
EUT Configuration	Phone 1 : EUT with LCM-Main source Phone 2 : EUT with LCM-2nd source
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 : 19.93 dBm (0.098 W) 802.11g : 22.10 dBm (0.162 W) 802.11n (BW 20MHz) : 21.84 dBm (0.153 W)
Antenna Type	PIFA Antenna with gain -0.5 dBi
Type of Antenna Connector	N/A
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.	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
6.	Earphone	Merry	RC E160	N/A	N/A	Unshielded, 1.3m

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	19.60	19.79	19.77	**19.93**
CH 06	2437 MHz	19.64	19.72	19.73	19.81
CH 11	2462 MHz	19.67	19.68	19.56	19.66

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	21.94	21.6	21.74	21.15	21.15	21.49	21.28	21.32
CH 06	2437 MHz	21.61	21.52	21.45	21.45	20.67	21.65	21.5	21.72
CH 11	2462 MHz	**22.10**	21.88	21.57	21.29	21.33	21.86	21.07	21.11

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	**21.84**	21.26	21.37	21.32	21.39	20.84	20.75	21.34
CH 06	2437 MHz	21.52	21.49	21.01	20.99	20.59	20.54	20.51	21.08
CH 11	2462 MHz	21.55	21.21	20.96	21.11	20.85	21.00	20.59	21.13

Remark:

1. The data rates of WLAN 802.11b/g/n were set in 11Mbps 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.
3. The EUT have support 802.11n (BW 20 MHz) function only, not support 802.11n (BW 40 MHz) function.

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).

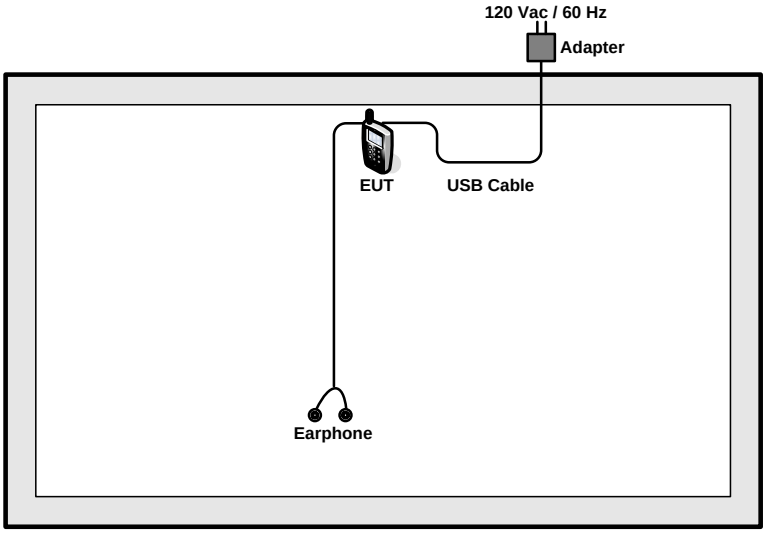
Pre-scanned tests, X, Y, Z in three orthogonal panels, were conducted to determine the final configuration from all possible combinations, laptop / tablet modes.

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

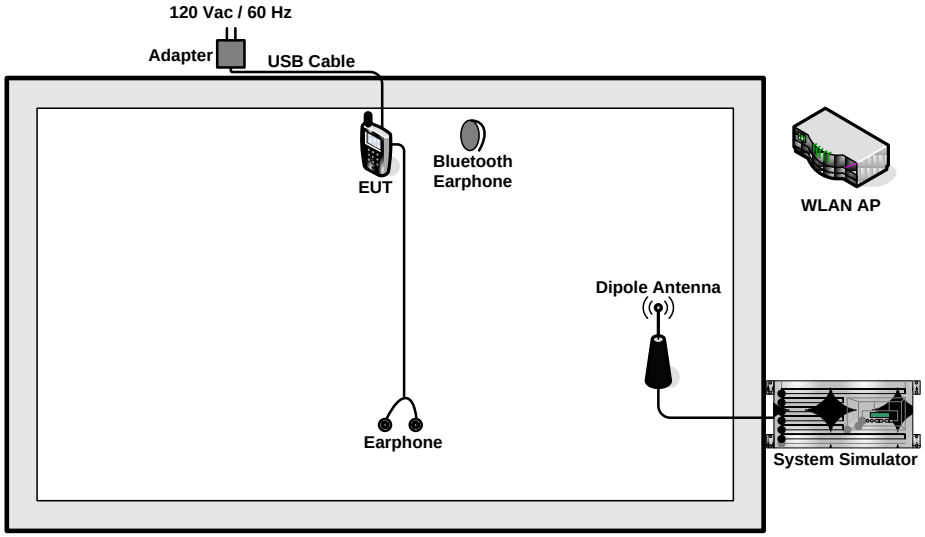
Test Cases		
Test Item	**802.11b (Modulation : DSSS)**	**802.11g/n (Modulation : OFDM)**
Conducted TCs	Mode 1 : 802.11b CH01_2412 MHz Mode 2 : 802.11b CH06_2437 MHz Mode 3 : 802.11b CH11_2462 MHz	Mode 4: 802.11g_CH01_2412 MHz Mode 5: 802.11g_CH06_2437 MHz Mode 6: 802.11g_CH11_2462 MHz Mode 7: 802.11n (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 for Phone 1 Mode 2 : 802.11b CH06_2437 MHz for Phone 1 Mode 3 : 802.11b CH11_2462 MHz for Phone 1 Mode 10 : 802.11b CH01_2412 MHz for Phone 2	Mode 4: 802.11g_CH01_2412 MHz for Phone 1 Mode 5: 802.11g_CH06_2437 MHz for Phone 1 Mode 6: 802.11g_CH11_2462 MHz for Phone 1 Mode 7: 802.11n (BW 20M)_CH01_2412 MHz for Phone 1 Mode 8: 802.11n (BW 20M)_CH06_2437 MHz for Phone 1 Mode 9: 802.11n (BW 20M)_CH11_2462 MHz for Phone 1
AC Conducted Emission	Mode 1 : Phone 1 for GSM850 Idle + Bluetooth Link + WLAN Link + GPS Rx + Earphone + Battery 1 + USB Cable 2 (Charging from Adapter 1) Mode 2 : Phone 1 for WCDMA Band II Idle + Bluetooth Link + WLAN Link + Camera + Earphone + Battery 2 + USB Cable 2 (Charging from Adapter 2) Mode 3 Phone 2 for WCDMA Band II Idle + Bluetooth Link + WLAN Link + Camera + Earphone + Battery 2 + USB Cable 2 (Charging from Adapter 2)	
Remark: **1.** The worst case of conducted emission is mode 2; only the test data of it was reported. **2.** Adapter 2, USB Cable 3 and Battery 2 were the configuration for the radiation test.		

2.3 Connection Diagram of Test System

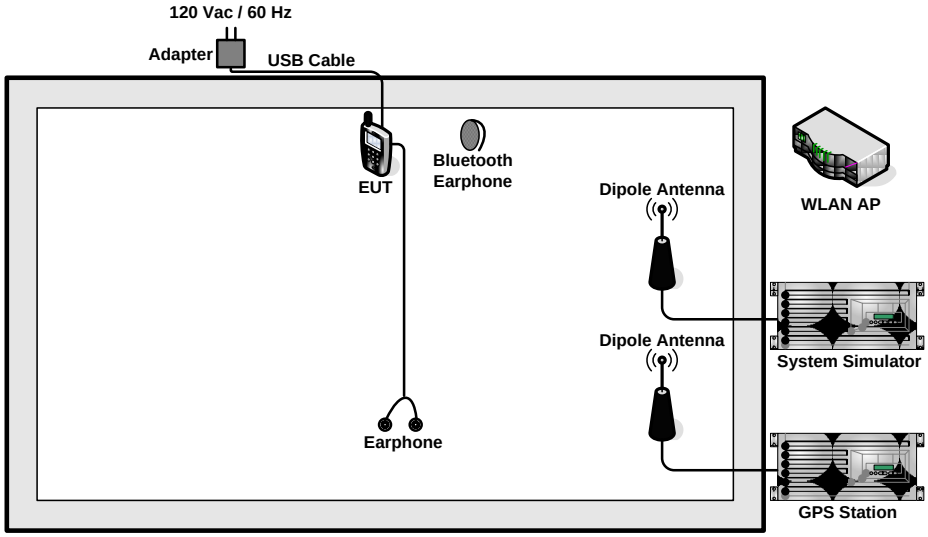
<WLAN Tx Mode>



<EUT with Adapter Mode>



<EUT with Adapter Mode (with GPS Station)>



2.4 RF Utility

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

3 Test Result

3.1 6dB Bandwidth Measurement

3.1.1 Limit of 6dB Bandwidth

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

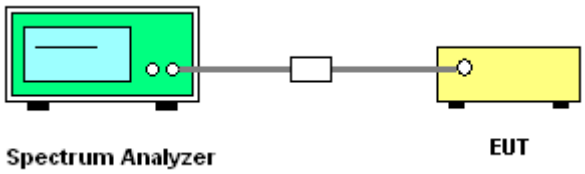
3.1.2 Measuring Instruments

See list of measuring instruments of this test report.

3.1.3 Test Procedures

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

3.1.4 Test Setup

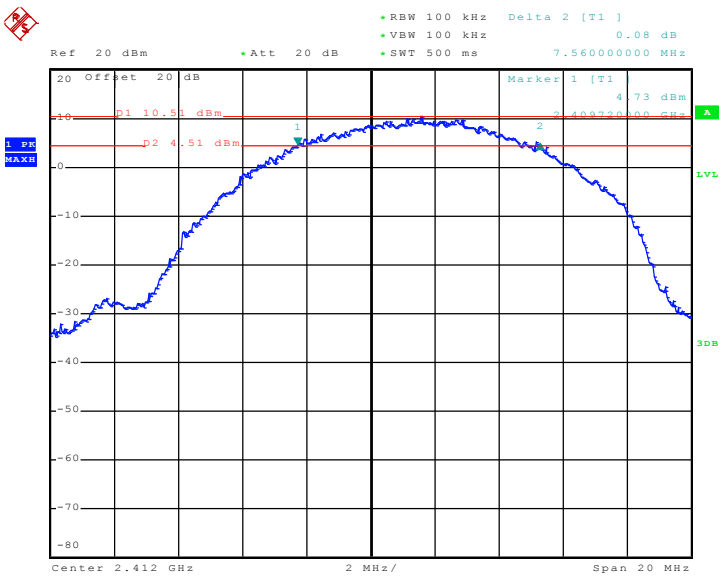


3.1.5 Test Result of 6dB Bandwidth

Test Mode :	Mode 1, 2, 3	Temperature :	25~27℃
Test Engineer :	Lancelot Chen	Relative Humidity :	45~48%

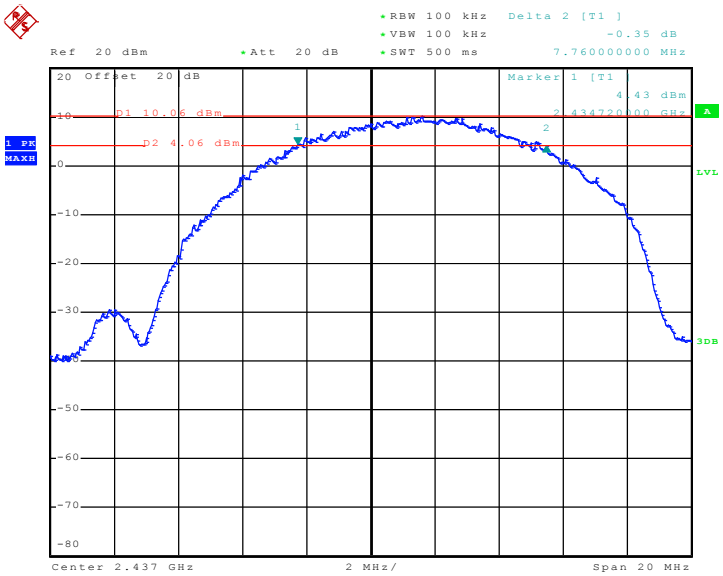
Channel	Frequency (MHz)	802.11b 6dB Bandwidth (MHz)	6dB Bandwidth Min. Limit (MHz)	Pass/Fail
01	2412	7.56	0.5	Pass
06	2437	7.76	0.5	Pass
11	2462	7.56	0.5	Pass

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



Date: 8.JUL.2010 19:33:20

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



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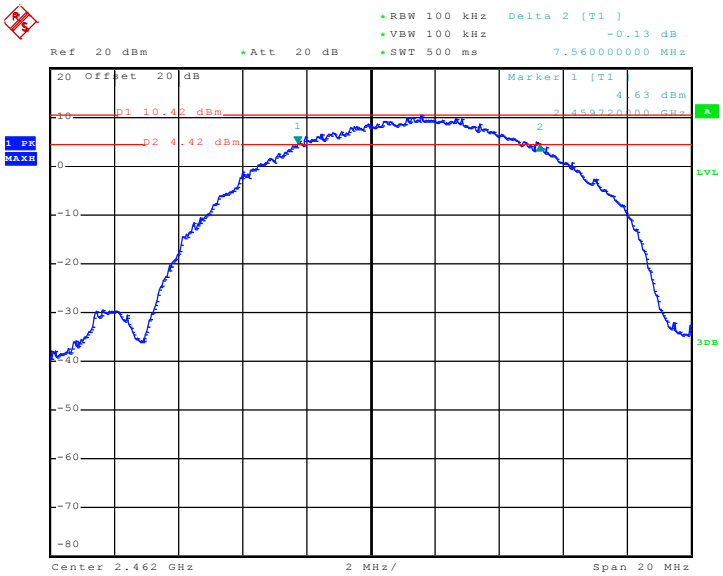
Mode 3 : 6 dB Bandwidth Plot on 802.11b Channel 11



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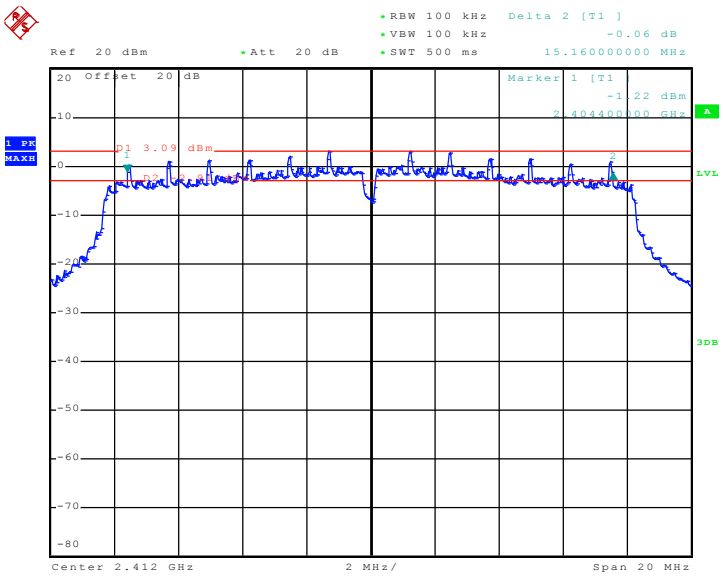
Test Mode :	Mode 4, 5, 6	Temperature :	25~27℃
Test Engineer :	Lancelot Chen	Relative Humidity :	45~48%

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



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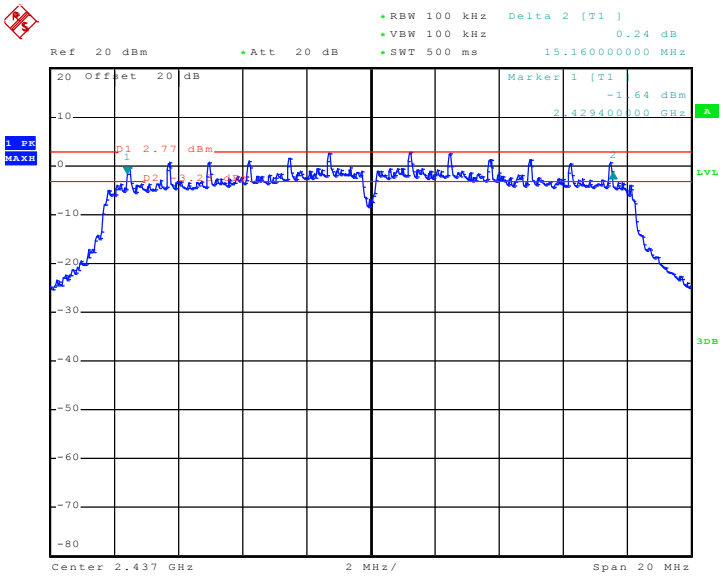
Mode 5 : 6 dB Bandwidth Plot on 802.11g Channel 06



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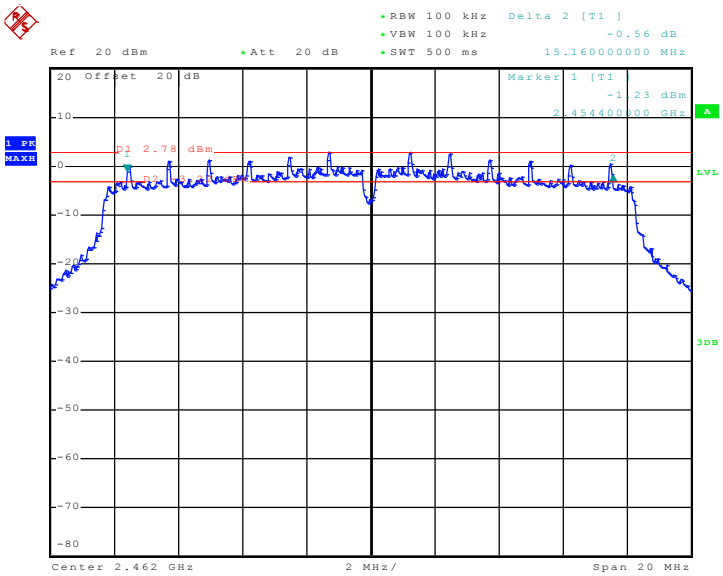
Mode 6 : 6 dB Bandwidth Plot on 802.11g Channel 11

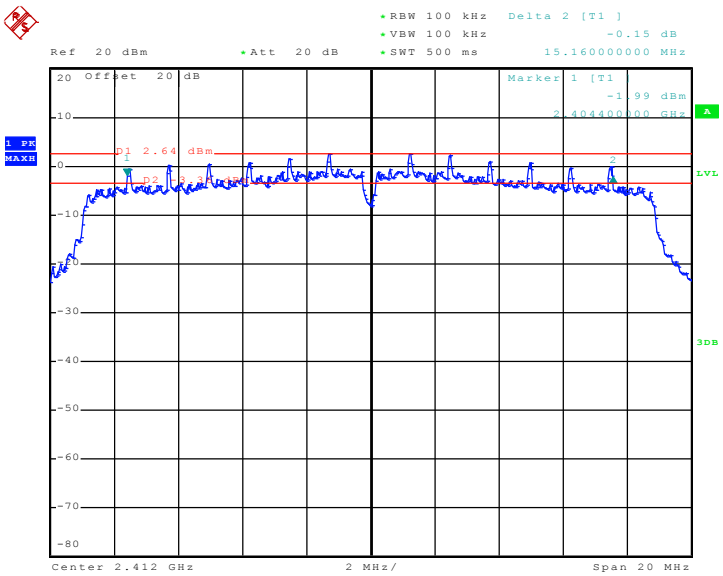


Date: 8.JUL.2010 20:31:44

Test Mode :	Mode 7, 8, 9	Temperature :	25~27℃
Test Engineer :	Lancelot Chen	Relative Humidity :	45~48%

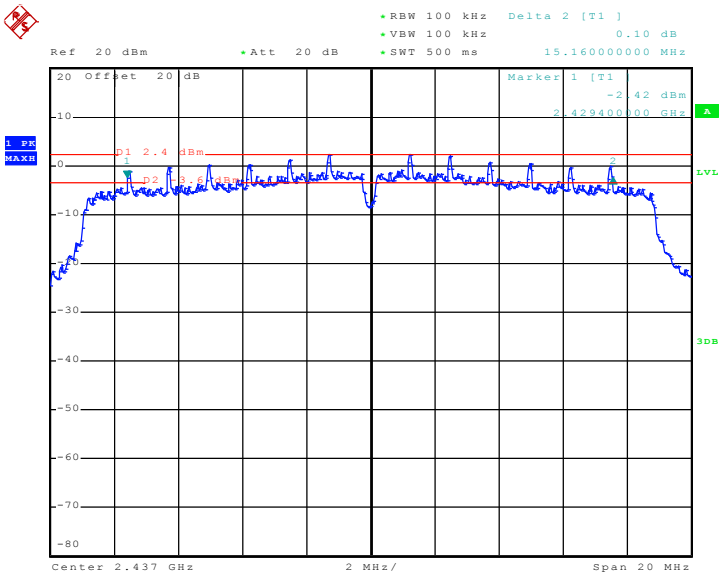
Channel	Frequency (MHz)	802.11n (BW 20MHz) 6dB Bandwidth (MHz)	6dB Bandwidth Min. Limit (MHz)	Pass/Fail
01	2412	15.16	0.5	Pass
06	2437	15.16	0.5	Pass
11	2462	15.16	0.5	Pass

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



Date: 8.JUL.2010 21:57:45

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



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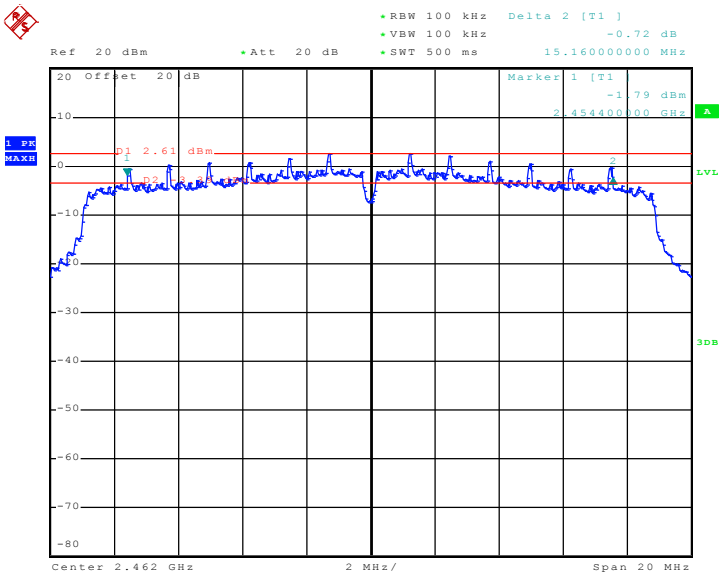
Mode 9 : 6 dB Bandwidth Plot on 802.11n(BW 20MHz) Channel 11



Date: 8.JUL.2010 21:50:28

3.2 Output Power Measurement

3.2.1 Limit of Output Power

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

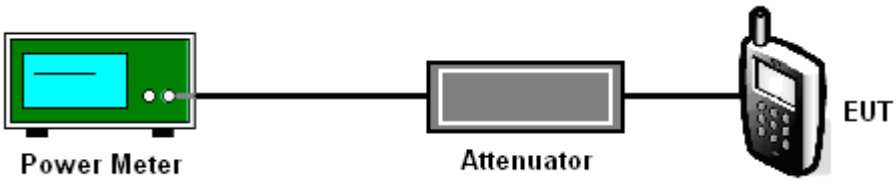
3.2.2 Measuring Instruments

See list of measuring instruments of this test report.

3.2.3 Test Procedures

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

3.2.4 Test Setup



3.2.5 Test Result of Output Power

Test Mode :	Mode 1, 2, 3	Temperature :	25~27℃
Test Engineer :	Lancelot Chen	Relative Humidity :	45~48%

Channel	Frequency (MHz)	802.11b Measured Output Power (dBm)	Max. Limits (dBm)	Pass/Fail
01	2412	19.93	30	Pass
06	2437	19.81	30	Pass
11	2462	19.66	30	Pass

Test Mode :	Mode 4, 5, 6	Temperature :	25~27℃
Test Engineer :	Lancelot Chen	Relative Humidity :	45~48%

Channel	Frequency (MHz)	802.11g Measured Output Power (dBm)	Max. Limits (dBm)	Pass/Fail
01	2412	21.94	30	Pass
06	2437	21.61	30	Pass
11	2462	22.10	30	Pass

Test Mode :	Mode 7, 8, 9	Temperature :	25~27℃
Test Engineer :	Lancelot Chen	Relative Humidity :	45~48%

Channel	Frequency (MHz)	802.11n (BW 20MHz) Measured Output Power (dBm)	Max. Limits (dBm)	Pass/Fail
01	2412	21.84	30	Pass
06	2437	21.52	30	Pass
11	2462	21.55	30	Pass

3.3 Band Edges Measurement

3.3.1 Limit of Band Edges

In any 100 kHz bandwidth outside the intentional radiation frequency band, the radio frequency power shall be at least 20 dB below the highest level of the radiated power. If the output power of this device was measured by spectrum analyzer, the attenuation under this paragraph shall be 30 dB instead of 20 dB.

3.3.2 Measuring Instruments

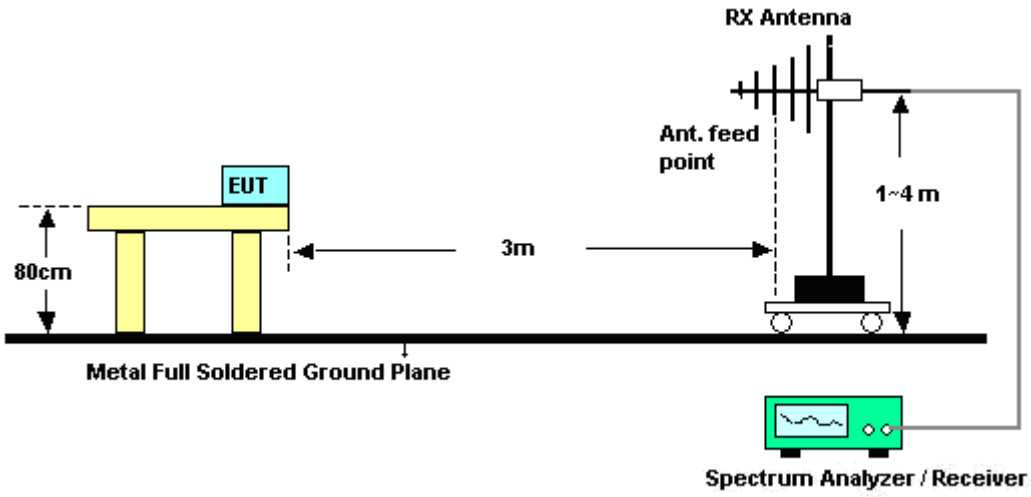
See list of measuring instruments of this test report.

3.3.3 Test Procedures

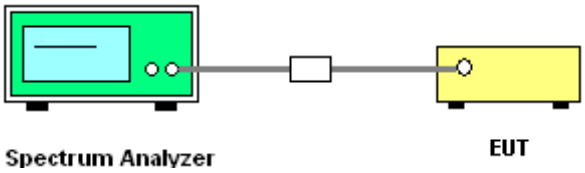
1. The testing follows the guidelines in ANSI C63.4-2003 and FCC KDB Publication No. 558074 (Measurement Guidelines of DTS).
2. Conducted emission test: Set RBW = 100 kHz, Video bandwidth (VBW) ≥ RBW. Band edge emissions must be at least 20 dB down from the highest emission level within the authorized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

3.3.4 Test Setup

<Radiated Band Edges>



<Conducted Band Edges>



3.3.5 Test Result of Radiated Band Edges

Test Mode :	Mode 1	Temperature :	25~26℃
Test Band :	802.11b	Relative Humidity :	48~51%
Test Channel :	01	Test Engineer :	Cona Huang

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	56.01	-17.99	74.00	51.67	32.13	5.46	33.25	127	341	Peak
2389.61	42.92	-11.08	54.00	38.58	32.13	5.46	33.25	127	341	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	54.71	-19.29	74.00	50.37	32.13	5.46	33.25	140	46	Peak
2389.42	41.75	-12.25	54.00	37.41	32.13	5.46	33.25	140	46	Average

Test Mode :	Mode 3	Temperature :	25~26℃
Test Band :	802.11b	Relative Humidity :	48~51%
Test Channel :	11	Test Engineer :	Cona Huang

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	55.16	-18.84	74.00	50.72	32.27	5.38	33.21	103	338	Peak
2483.5	42.36	-11.64	54.00	37.92	32.27	5.38	33.21	103	338	Average

ANTENNA POLARITY : VERTICAL										
Frequency (MHz)	Level (dBuV/m)	Over Limit (dB)	Limit Line (dBuV/m)	Read Level (dBuV)	Antenna Factor (dB)	Cable Loss (dB)	Preamp Factor (dB)	Ant Pos (cm)	Table Pos (deg)	Remark
2483.66	54.61	-19.39	74.00	50.17	32.27	5.38	33.21	106	13	Peak
2483.66	41.28	-12.72	54.00	36.84	32.27	5.38	33.21	106	13	Average

Test Mode :	Mode 4	Temperature :	25~26℃
Test Band :	802.11g	Relative Humidity :	48~51%
Test Channel :	01	Test Engineer :	Cona Huang

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	64.87	-9.13	74.00	60.53	32.13	5.46	33.25	129	326	Peak
2389.61	45.45	-8.55	54.00	41.11	32.13	5.46	33.25	129	326	Average

ANTENNA POLARITY : VERTICAL										
Frequency (MHz)	Level (dBuV/m)	Over Limit (dB)	Limit Line (dBuV/m)	Read Level (dBuV)	Antenna Factor (dB)	Cable Loss (dB)	Preamp Factor (dB)	Ant Pos (cm)	Table Pos (deg)	Remark
2389.99	58.49	-15.51	74.00	54.15	32.13	5.46	33.25	122	48	Peak
2389.99	40.21	-13.79	54.00	35.87	32.13	5.46	33.25	122	48	Average

Test Mode :	Mode 6	Temperature :	25~26℃
Test Band :	802.11g	Relative Humidity :	48~51%
Test Channel :	11	Test Engineer :	Cona Huang

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	63.06	-10.94	74.00	58.62	32.27	5.38	33.21	102	338	Peak
2483.5	42.89	-11.11	54.00	38.45	32.27	5.38	33.21	102	338	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	62.16	-11.84	74.00	57.72	32.27	5.38	33.21	108	12	Peak
2483.66	42.33	-11.67	54.00	37.89	32.27	5.38	33.21	108	12	Average

Test Mode :	Mode 7	Temperature :	25~26℃
Test Band :	802.11n (BW 20MHz)	Relative Humidity :	48~51%
Test Channel :	01	Test Engineer :	Cona Huang

ANTENNA POLARITY : HORIZONTAL										
Frequency (MHz)	Level (dBuV/m)	Over Limit (dB)	Limit Line (dBuV/m)	Read Level (dBuV)	Antenna Factor (dB)	Cable Loss (dB)	Preamp Factor (dB)	Ant Pos (cm)	Table Pos (deg)	Remark
2389.99	61.69	-12.31	74.00	57.35	32.13	5.46	33.25	127	341	Peak
2389.99	43.02	-10.98	54.00	38.68	32.13	5.46	33.25	127	341	Average

ANTENNA POLARITY : VERTICAL										
Frequency (MHz)	Level (dBuV/m)	Over Limit (dB)	Limit Line (dBuV/m)	Read Level (dBuV)	Antenna Factor (dB)	Cable Loss (dB)	Preamp Factor (dB)	Ant Pos (cm)	Table Pos (deg)	Remark
2389.99	58.43	-15.57	74.00	54.09	32.13	5.46	33.25	115	63	Peak
2389.99	39.99	-14.01	54.00	35.65	32.13	5.46	33.25	115	63	Average

Test Mode :	Mode 9	Temperature :	25~26℃
Test Band :	802.11n (BW 20MHz)	Relative Humidity :	48~51%
Test Channel :	11	Test Engineer :	Cona Huang

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	58.19	-15.81	74.00	53.75	32.27	5.38	33.21	100	330	Peak
2483.66	40.63	-13.37	54.00	36.19	32.27	5.38	33.21	100	330	Average

ANTENNA POLARITY : VERTICAL										
Frequency (MHz)	Level (dBuV/m)	Over Limit (dB)	Limit Line (dBuV/m)	Read Level (dBuV)	Antenna Factor (dB)	Cable Loss (dB)	Preamp Factor (dB)	Ant Pos (cm)	Table Pos (deg)	Remark
2483.5	59.44	-14.56	74.00	55	32.27	5.38	33.21	107	11	Peak
2483.5	42.04	-11.96	54.00	37.6	32.27	5.38	33.21	107	11	Average

Test Mode :	Mode 10	**Temperature :**	25~26℃
Test Band :	802.11b	**Relative Humidity :**	48~51%
Test Channel :	01	**Test Engineer :**	Cona Huang

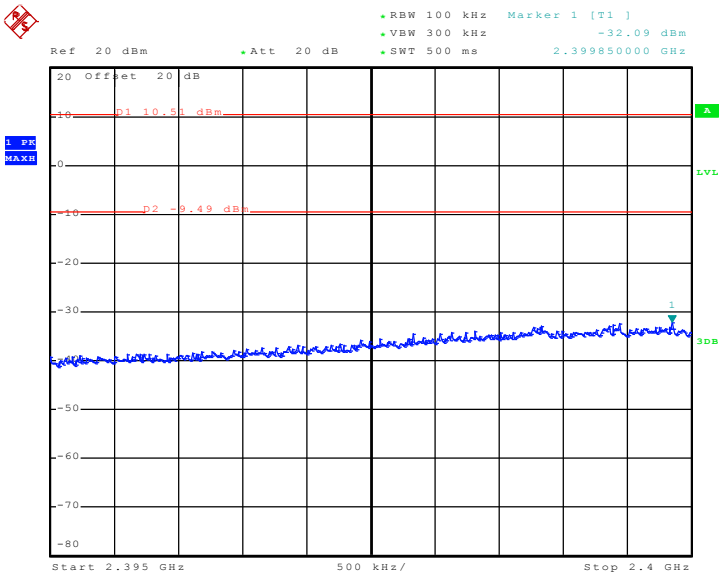
ANTENNA POLARITY : HORIZONTAL										
Frequency (MHz)	**Level (dBuV/m)**	**Over Limit (dB)**	**Limit Line (dBuV/m)**	**Read Level (dBuV)**	**Antenna Factor (dB)**	**Cable Loss (dB)**	**Preamp Factor (dB)**	**Ant Pos (cm)**	**Table Pos (deg)**	**Remark**
2390	62.42	-11.58	74	58.08	32.13	5.46	33.25	103	335	Peak
2390	49.19	-4.81	54	44.85	32.13	5.46	33.25	103	335	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**
2390	59.68	-14.32	74	55.34	32.13	5.46	33.25	134	320	Peak
2390	47.04	-6.96	54	42.7	32.13	5.46	33.25	134	320	Average

3.3.6 Test Plots of Conducted Band Edges

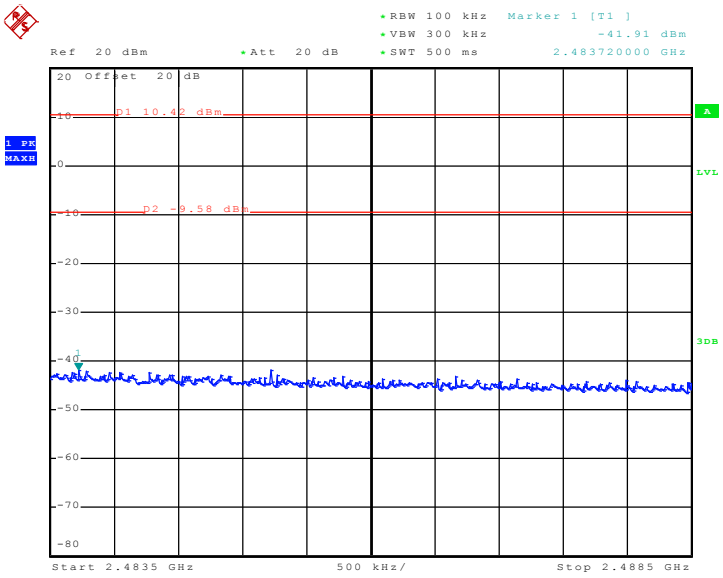
Test Mode :	Mode 1 and 3	Temperature :	25~27℃
Test Band :	802.11b	Relative Humidity :	45~48%
Test Channel :	01 and 11	Test Engineer :	Lancelot Chen

Low Band Edge Plot on 802.11b Channel 01



Date: 8.JUL.2010 19:36:04

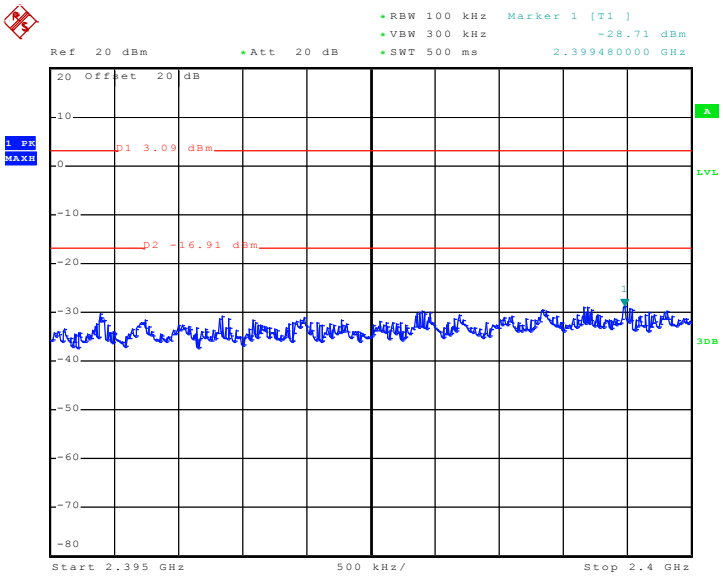
High Band Edge Plot on 802.11b Channel 11



Date: 8.JUL.2010 19:42:04

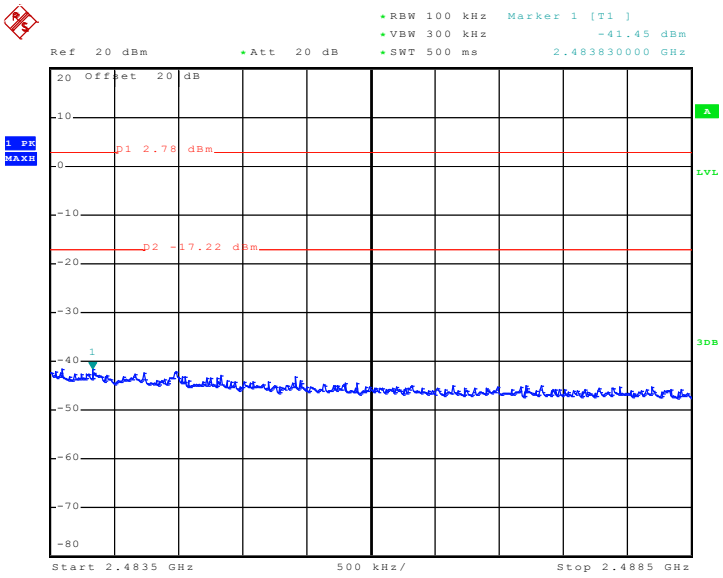
Test Mode :	Mode 4 and 6	Temperature :	25~27℃
Test Band :	802.11g	Relative Humidity :	45~48%
Test Channel :	01 and 11	Test Engineer :	Lancelot Chen

Low Band Edge Plot on 802.11g Channel 01



Date: 8.JUL.2010 20:26:35

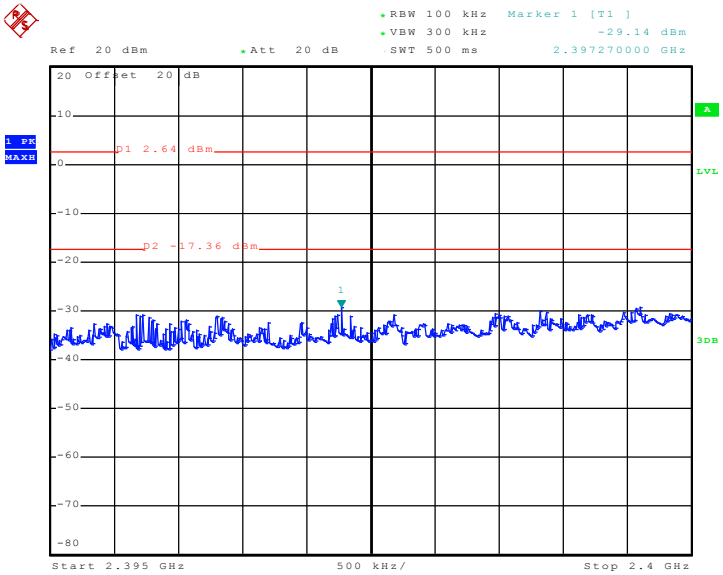
High Band Edge Plot on 802.11g Channel 11



Date: 8.JUL.2010 20:32:34

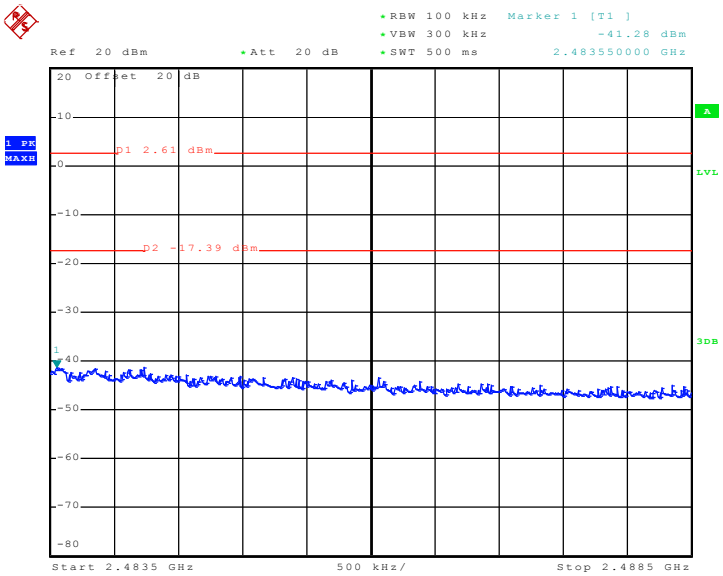
Test Mode :	Mode 7 and 9	Temperature :	25~27℃
Test Band :	802.11n (BW 20MHz)	Relative Humidity :	45~48%
Test Channel :	01 and 11	Test Engineer :	Lancelot Chen

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



Date: 12.JUL.2010 18:24:46

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



Date: 8.JUL.2010 21:51:19

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.

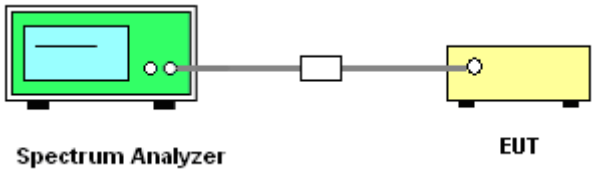
3.4.2 Measuring Instruments

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.

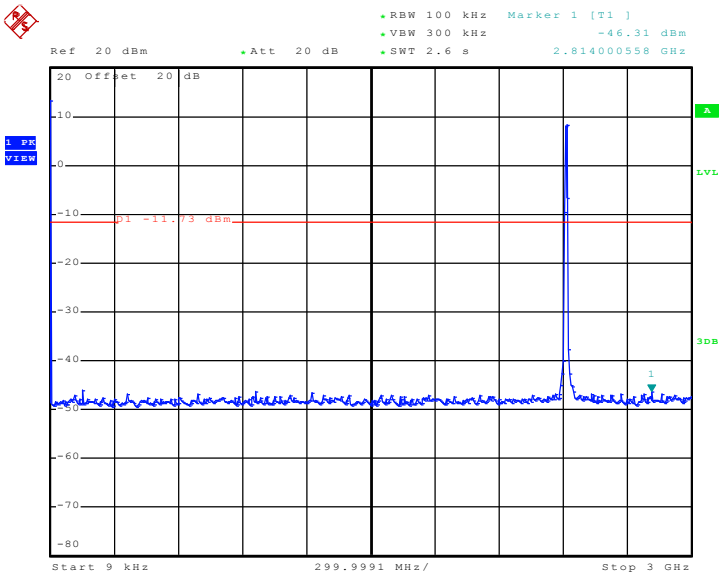
3.4.4 Test Setup



3.4.5 Test Plots of Spurious Emission

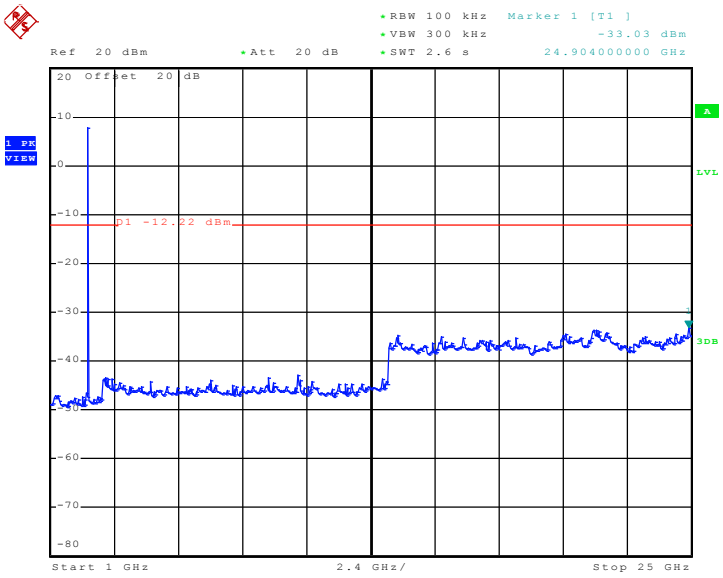
Test Mode :	Mode 1	Temperature :	25~27℃
Test Band :	802.11b	Relative Humidity :	45~48%
Test Channel :	01	Test Engineer :	Lancelot Chen

Conducted Spurious Emission Plot between 9 kHz ~ 3 GHz



Date: 8.JUL.2010 22:38:38

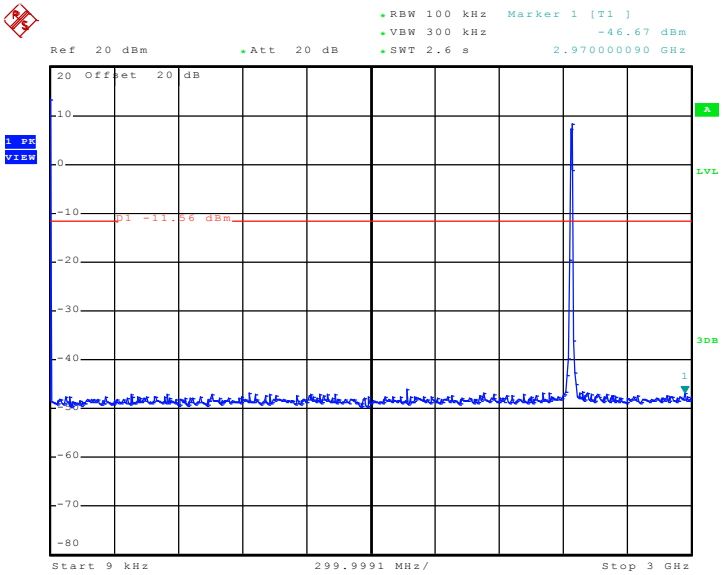
Conducted Spurious Emission Plot between 1 GHz ~ 25 GHz



Date: 8.JUL.2010 22:39:07

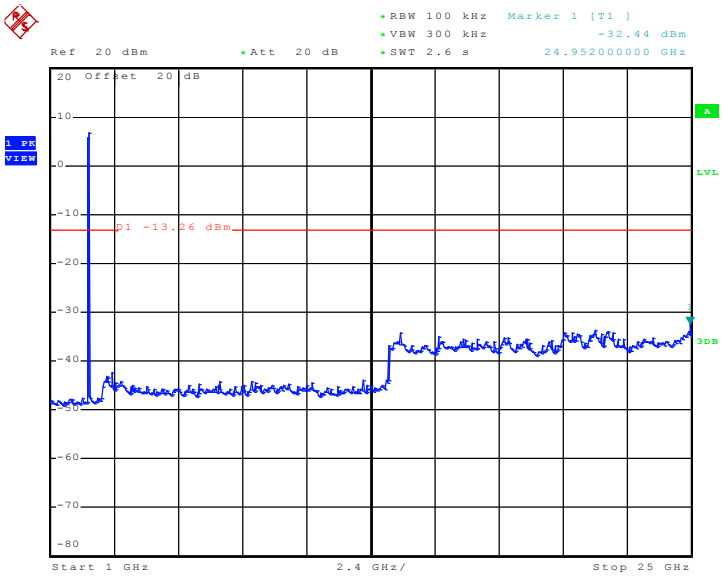
Test Mode :	Mode 2	Temperature :	25~27℃
Test Band :	802.11b	Relative Humidity :	45~48%
Test Channel :	06	Test Engineer :	Lancelot Chen

Conducted Spurious Emission Plot between 9 kHz ~ 3 GHz



Date: 8.JUL.2010 22:39:44

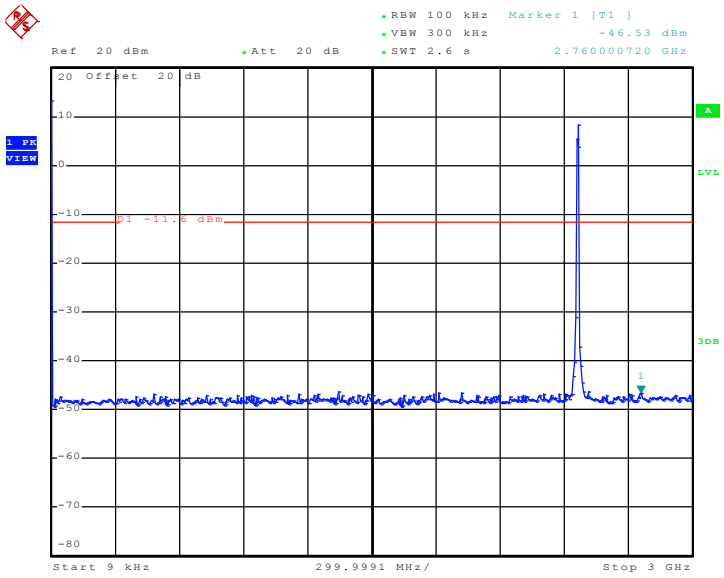
Conducted Spurious Emission Plot between 1 GHz ~ 25 GHz



Date: 8.JUL.2010 22:40:14

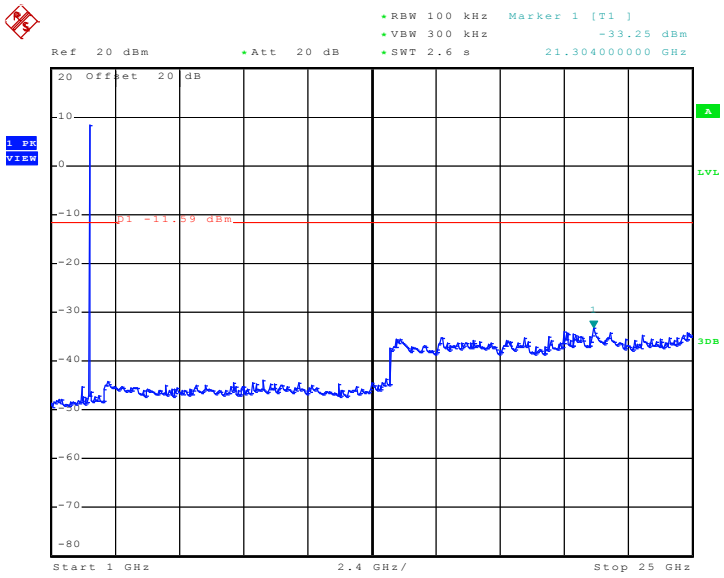
Test Mode :	Mode 3	Temperature :	25~27℃
Test Band :	802.11b	Relative Humidity :	45~48%
Test Channel :	11	Test Engineer :	Lancelot Chen

Conducted Spurious Emission Plot between 9 kHz ~ 3 GHz



Date: 8.JUL.2010 22:41:08

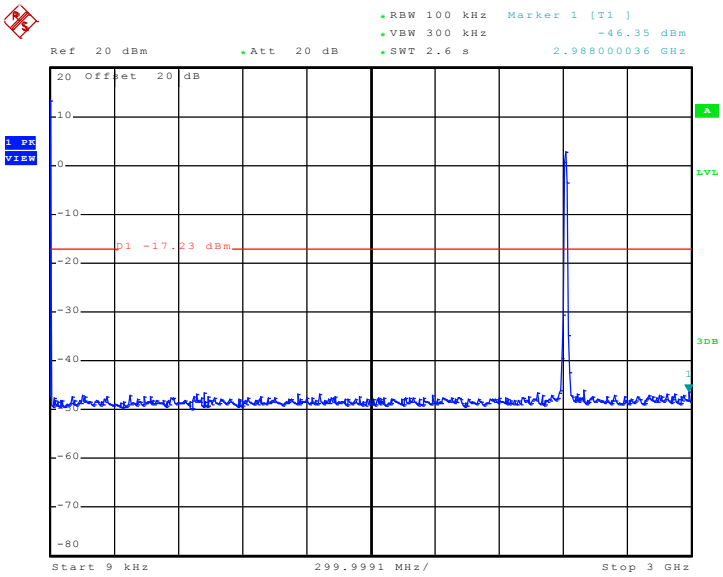
Conducted Spurious Emission Plot between 1 GHz ~ 25 GHz



Date: 8.JUL.2010 22:41:37

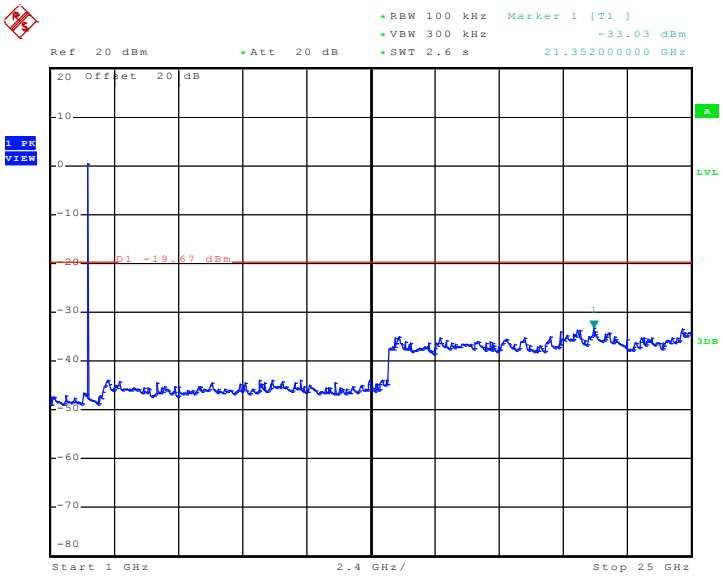
Test Mode :	Mode 4	Temperature :	25~27℃
Test Band :	802.11g	Relative Humidity :	45~48%
Test Channel :	01	Test Engineer :	Lancelot Chen

Conducted Spurious Emission Plot between 9 kHz ~ 3 GHz



Date: 8.JUL.2010 22:42:38

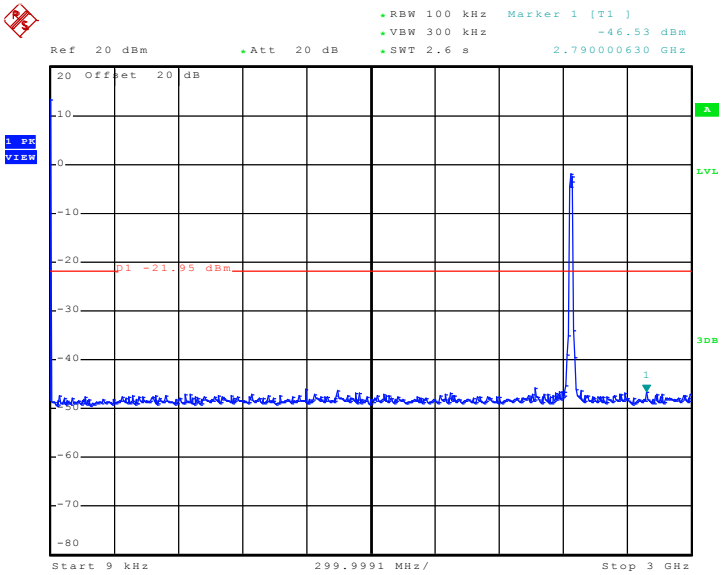
Conducted Spurious Emission Plot between 1 GHz ~ 25 GHz



Date: 8.JUL.2010 22:43:15

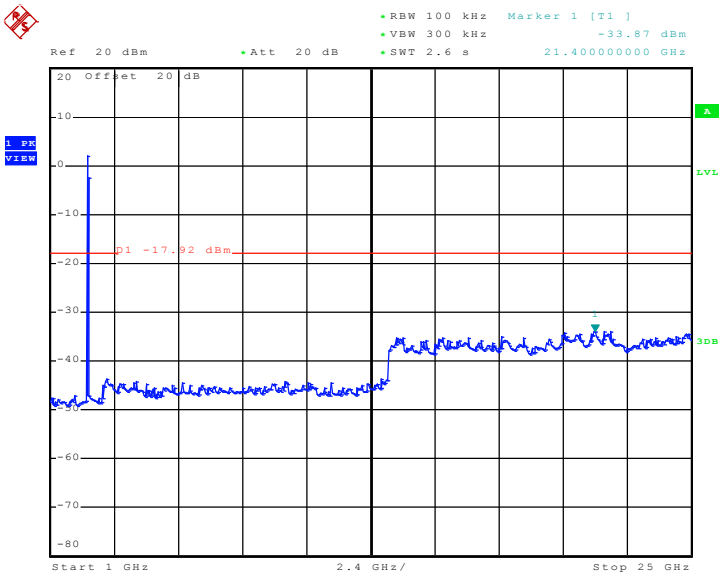
Test Mode :	Mode 5	Temperature :	25~27
Test Band :	802.11g	Relative Humidity :	45~48
Test Channel :	06	Test Engineer :	Lancelot Chen

Conducted Spurious Emission Plot between 9 kHz ~ 3 GHz



Date: 8.JUL.2010 22:44:03

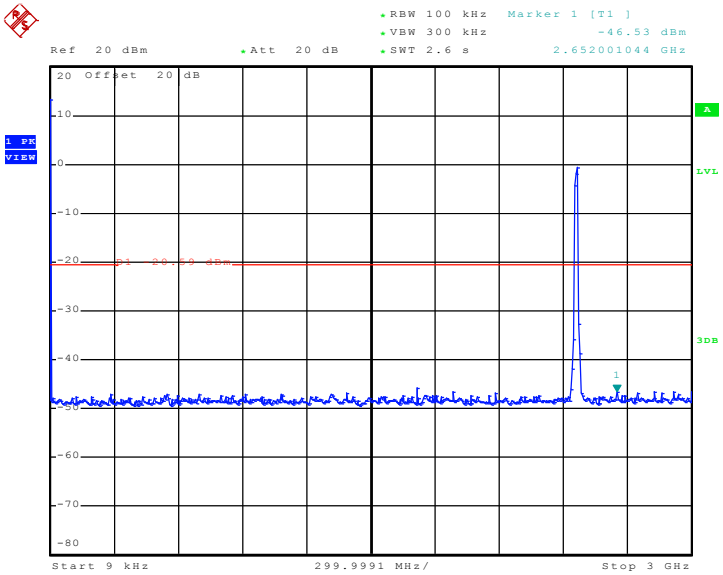
Conducted Spurious Emission Plot between 1 GHz ~ 25 GHz



Date: 8.JUL.2010 22:44:37

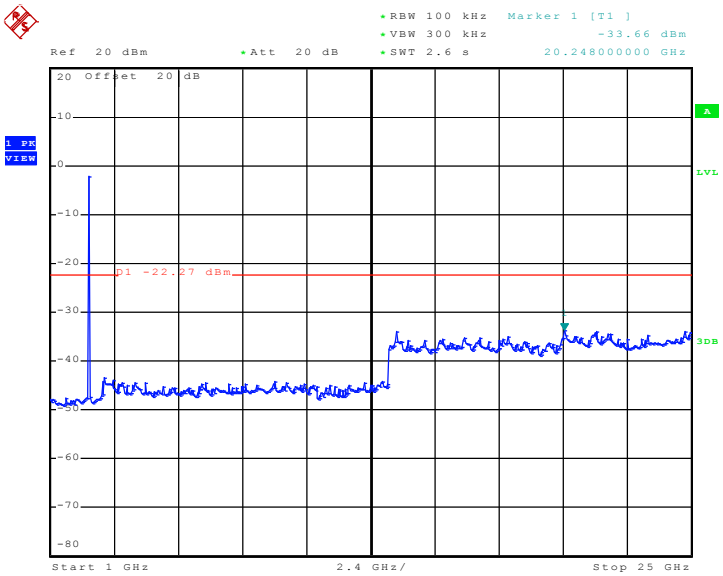
Test Mode :	Mode 6	Temperature :	25~27℃
Test Band :	802.11g	Relative Humidity :	45~48%
Test Channel :	11	Test Engineer :	Lancelot Chen

Conducted Spurious Emission Plot between 9 kHz ~ 3 GHz



Date: 8.JUL.2010 22:45:10

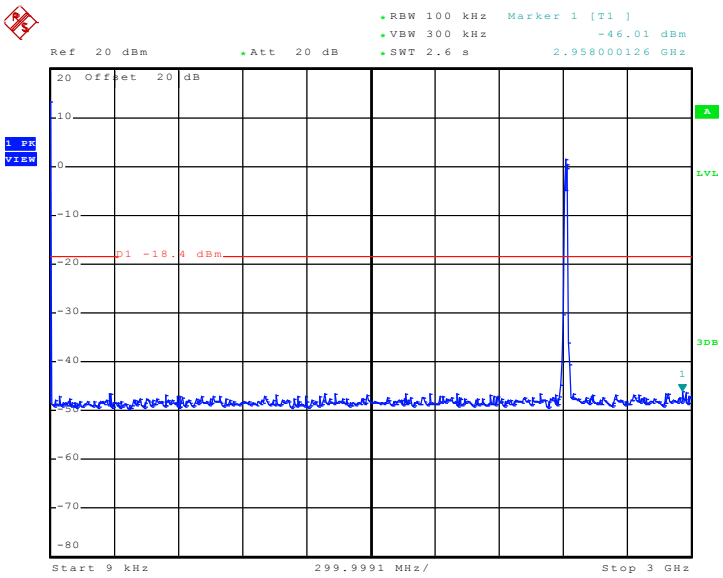
Conducted Spurious Emission Plot between 1 GHz ~ 25 GHz



Date: 8.JUL.2010 22:45:38

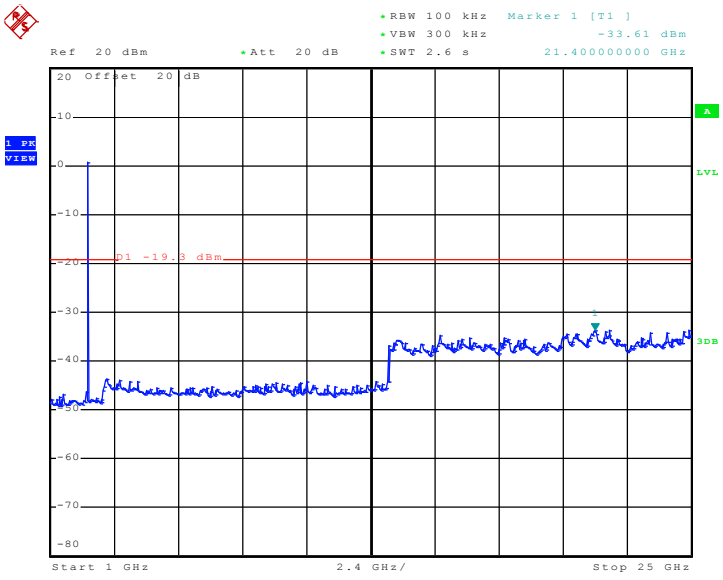
Test Mode :	Mode 7	Temperature :	25~27℃
Test Band :	802.11n (BW 20MHz)	Relative Humidity :	45~48%
Test Channel :	01	Test Engineer :	Lancelot Chen

Conducted Spurious Emission Plot between 9 kHz ~ 3 GHz



Date: 8.JUL.2010 22:50:15

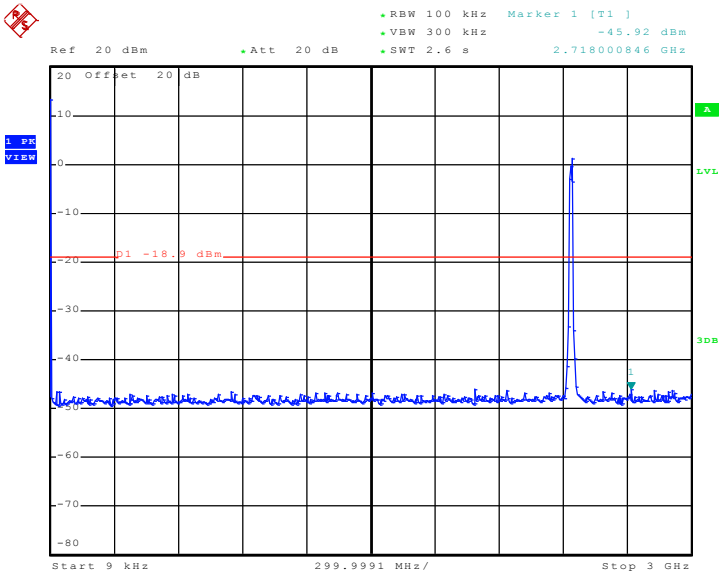
Conducted Spurious Emission Plot between 1 GHz ~ 25 GHz



Date: 8.JUL.2010 22:50:38

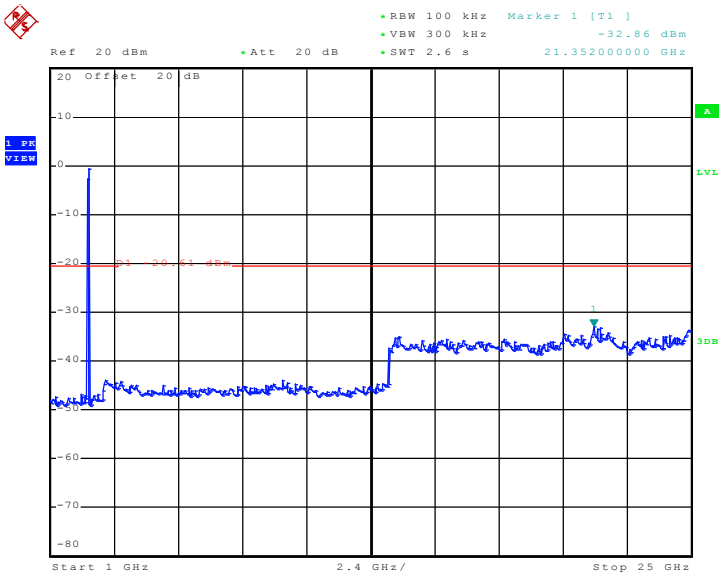
Test Mode :	Mode 8	Temperature :	25~27℃
Test Band :	802.11n (BW 20MHz)	Relative Humidity :	45~48%
Test Channel :	06	Test Engineer :	Lancelot Chen

Conducted Spurious Emission Plot between 9 kHz ~ 3 GHz



Date: 8.JUL.2010 22:51:23

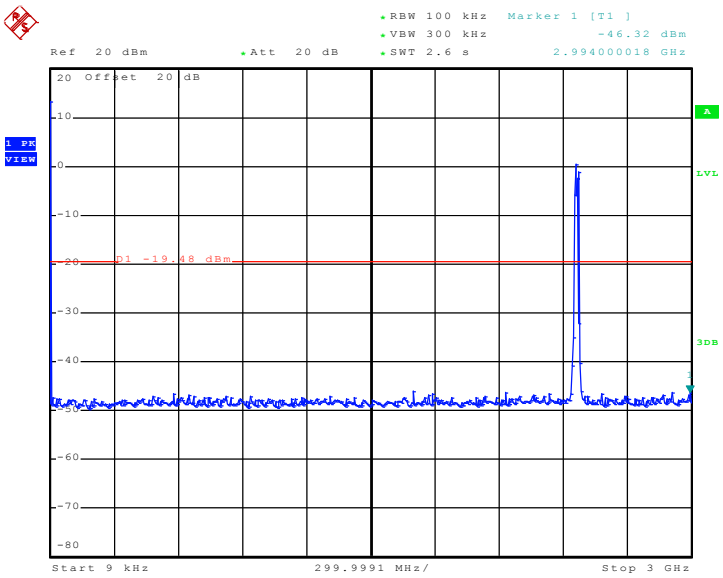
Conducted Spurious Emission Plot between 1 GHz ~ 25 GHz



Date: 8.JUL.2010 22:51:50

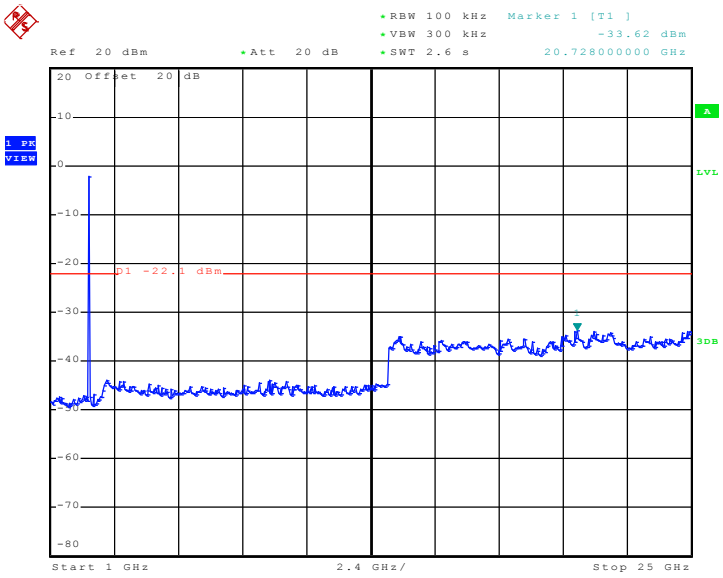
Test Mode :	Mode 9	Temperature :	25~27℃
Test Band :	802.11n (BW 20MHz)	Relative Humidity :	45~48%
Test Channel :	11	Test Engineer :	Lancelot Chen

Conducted Spurious Emission Plot between 9 kHz ~ 3 GHz



Date: 8.JUL.2010 22:52:26

Conducted Spurious Emission Plot between 1 GHz ~ 25 GHz



Date: 8.JUL.2010 22:52:54

3.5 Power Spectral Density Measurement

3.5.1 Limit of Power Spectral Density

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

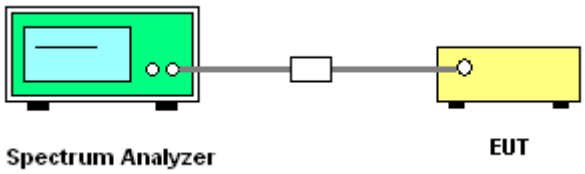
3.5.2 Measuring Instruments

See list of measuring instruments of this test report.

3.5.3 Test Procedures

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

3.5.4 Test Setup

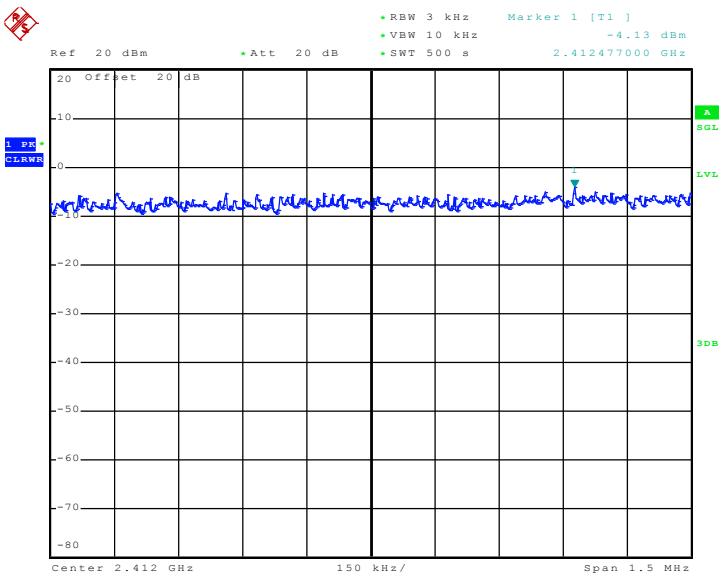


3.5.5 Test Result of Power Spectral Density

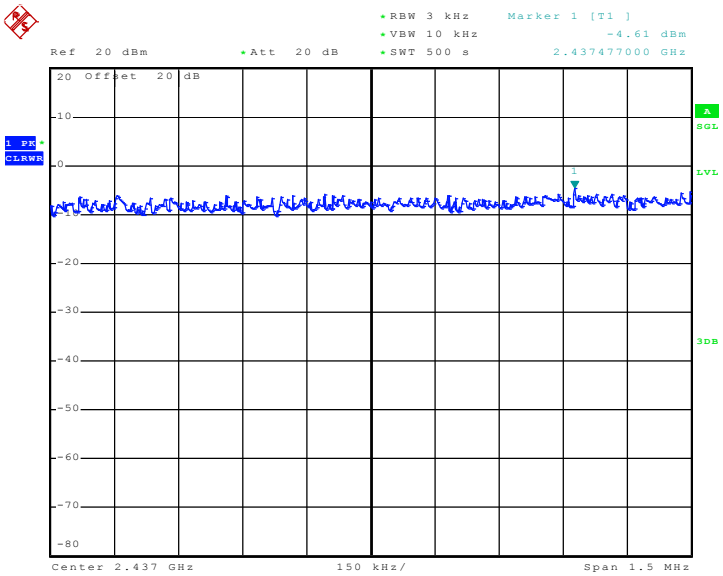
Test Mode :	Mode 1, 2, 3	Temperature :	25~27℃
Test Engineer :	Lancelot Chen	Relative Humidity :	45~48%

Channel	Frequency (MHz)	802.11b Measured PSD (dBm)	Max. Limits (dBm)	Pass/Fail
01	2412	-4.13	8	Pass
06	2437	-4.61	8	Pass
11	2462	-4.69	8	Pass

Mode 1 : PSD Plot on 802.11b Channel 01

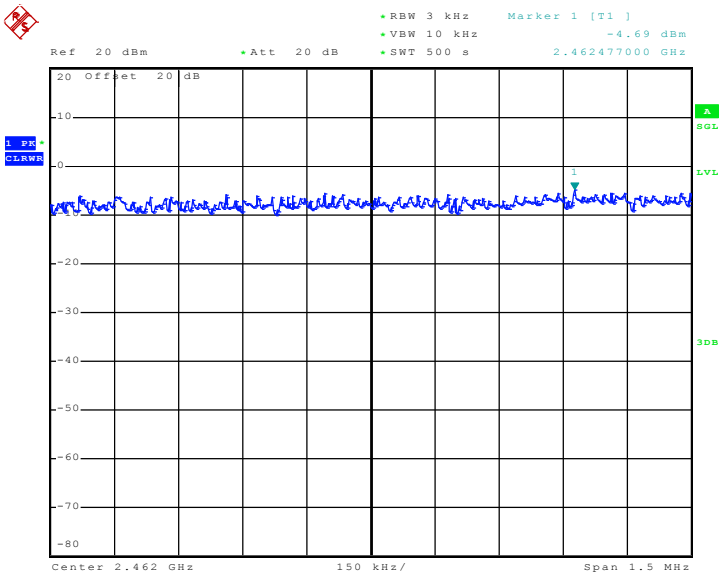


Mode 2 : PSD Plot on 802.11b Channel 06



Date: 8.JUL.2010 20:01:38

Mode 3 : PSD Plot on 802.11b Channel 11

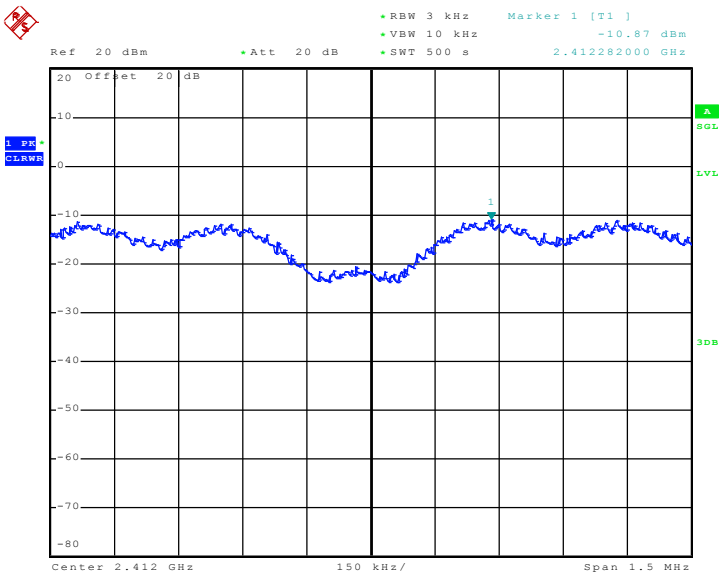


Date: 8.JUL.2010 19:52:48

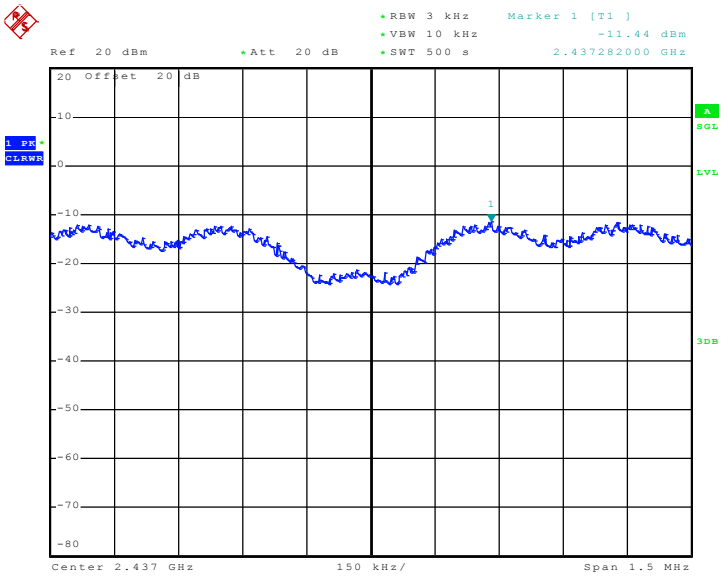
Test Mode :	Mode 4, 5, 6	Temperature :	25~27℃
Test Engineer :	Lancelot Chen	Relative Humidity :	45~48%

Channel	Frequency (MHz)	802.11g Measured PSD (dBm)	Max. Limits (dBm)	Pass/Fail
01	2412	-10.87	8	Pass
06	2437	-11.44	8	Pass
11	2462	-11.15	8	Pass

Mode 4 : PSD Plot on 802.11g Channel 01

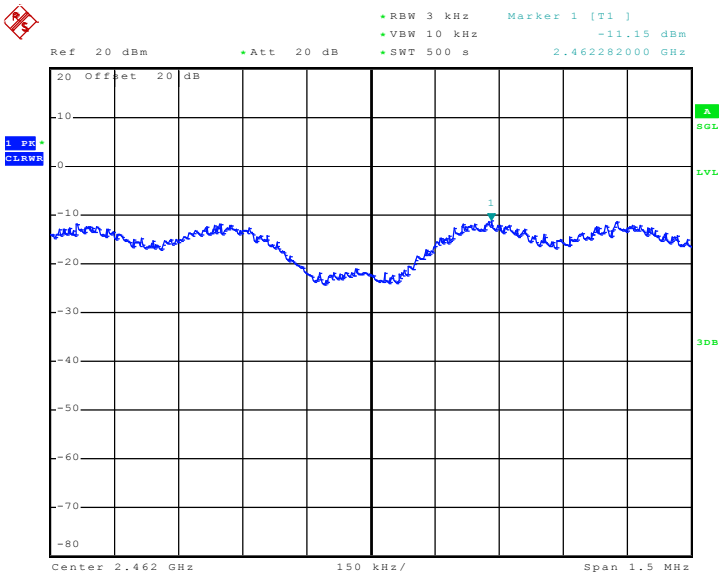


Mode 5 : PSD Plot on 802.11g Channel 06



Date: 8.JUL.2010 20:52:33

Mode 6 : PSD Plot on 802.11g Channel 11

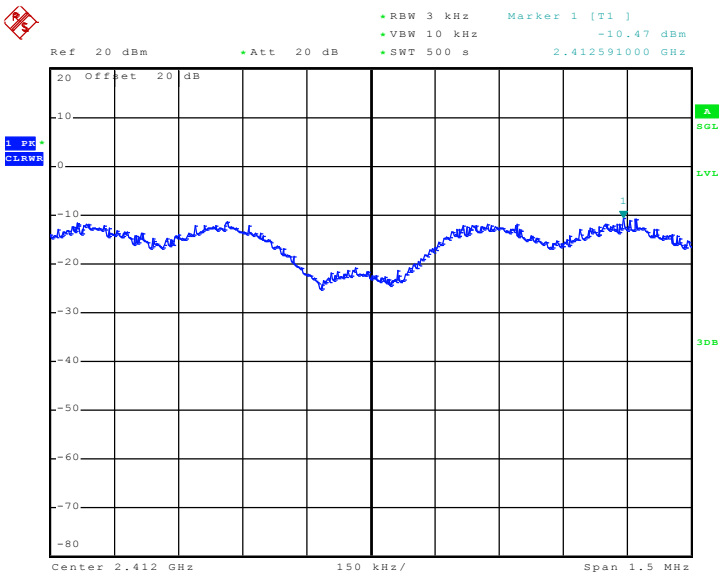


Date: 8.JUL.2010 20:43:02

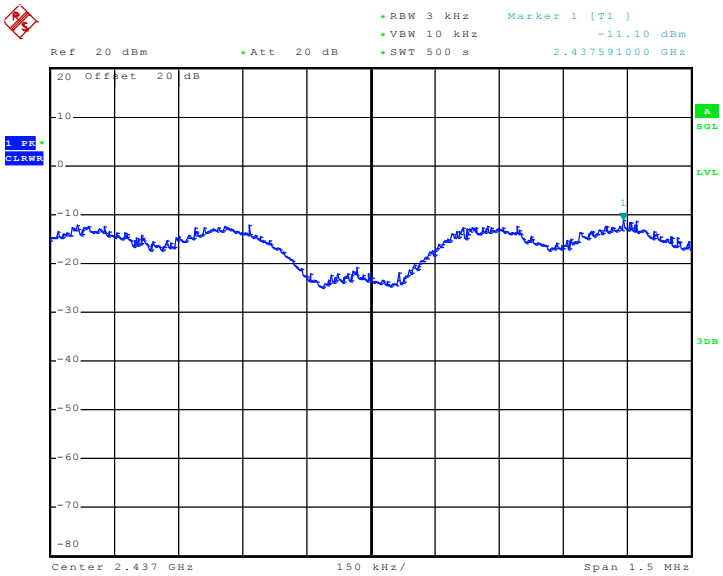
Test Mode :	Mode 7, 8, 9	Temperature :	25~27℃
Test Engineer :	Lancelot Chen	Relative Humidity :	45~48%

Channel	Frequency (MHz)	802.11n (BW 20MHz) Measured PSD (dBm)	Max. Limits (dBm)	Pass/Fail
01	2412	-10.47	8	Pass
06	2437	-11.10	8	Pass
11	2462	-10.82	8	Pass

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

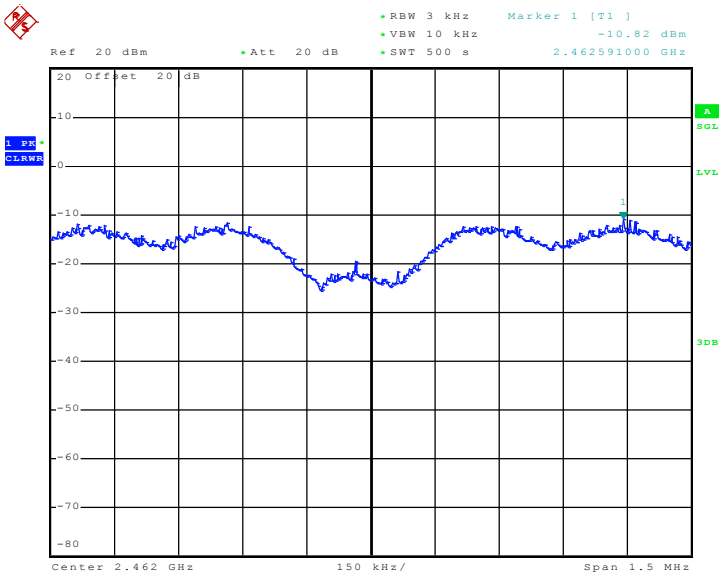


Mode 8 : PSD Plot on802.11n (BW 20MHz) Channel 06



Date: 8.JUL.2010 21:21:14

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



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3.6 AC Conducted Emission Measurement

3.6.1 Limit of AC Conducted Emission

For equipment that is designed to be connected to the public utility (AC) power line, the radio frequency voltage that is conducted back onto the AC power line on any frequency or frequencies within the band 150 kHz to 30 MHz shall not exceed the limits in the following table.

Frequency of Emission (MHz)	Conducted Limit (dBuV)	
	Quasi-Peak	Average
0.15-0.5	66 to 56*	56 to 46*
0.5-5	56	46
5-30	60	50

*Decreases with the logarithm of the frequency.

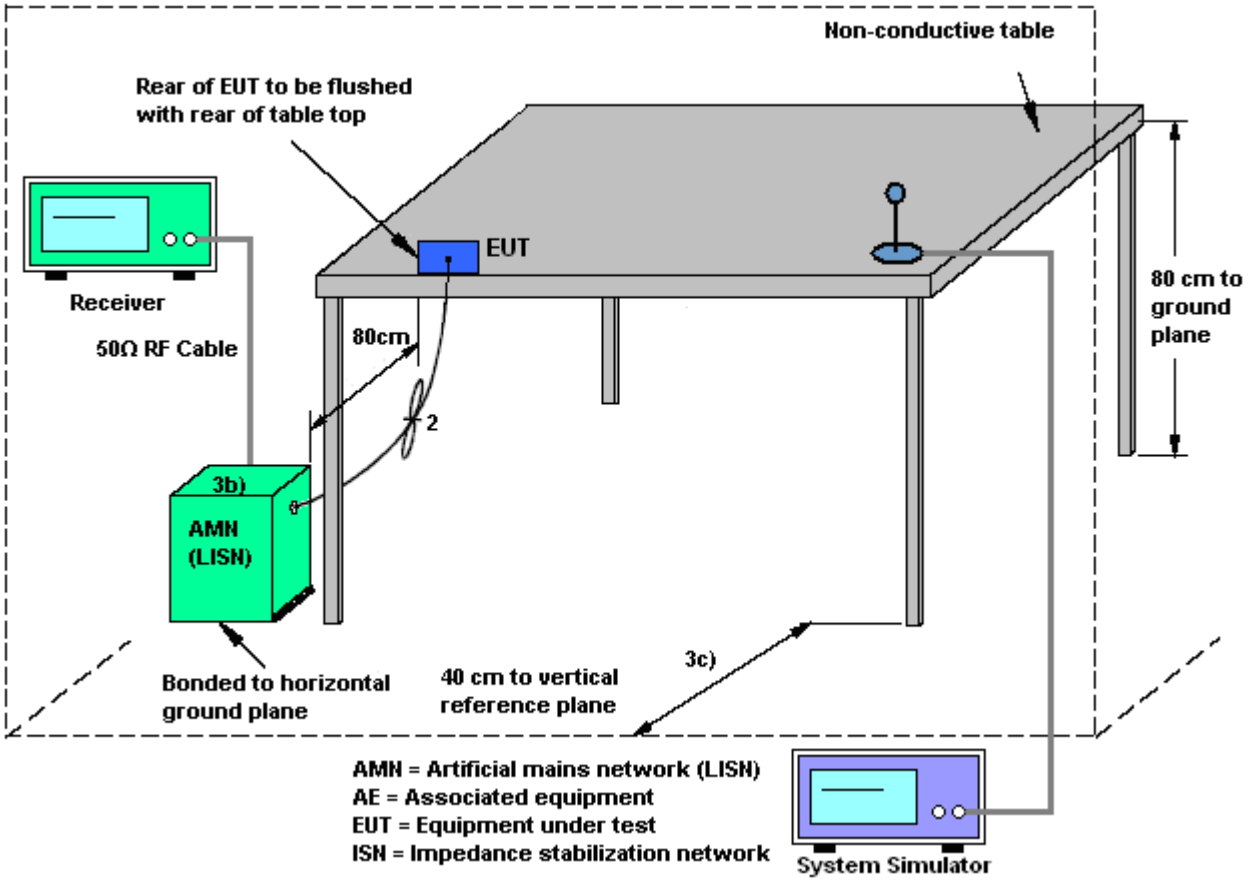
3.6.2 Measuring Instruments

See list of measuring instruments of this test report.

3.6.3 Test Procedures

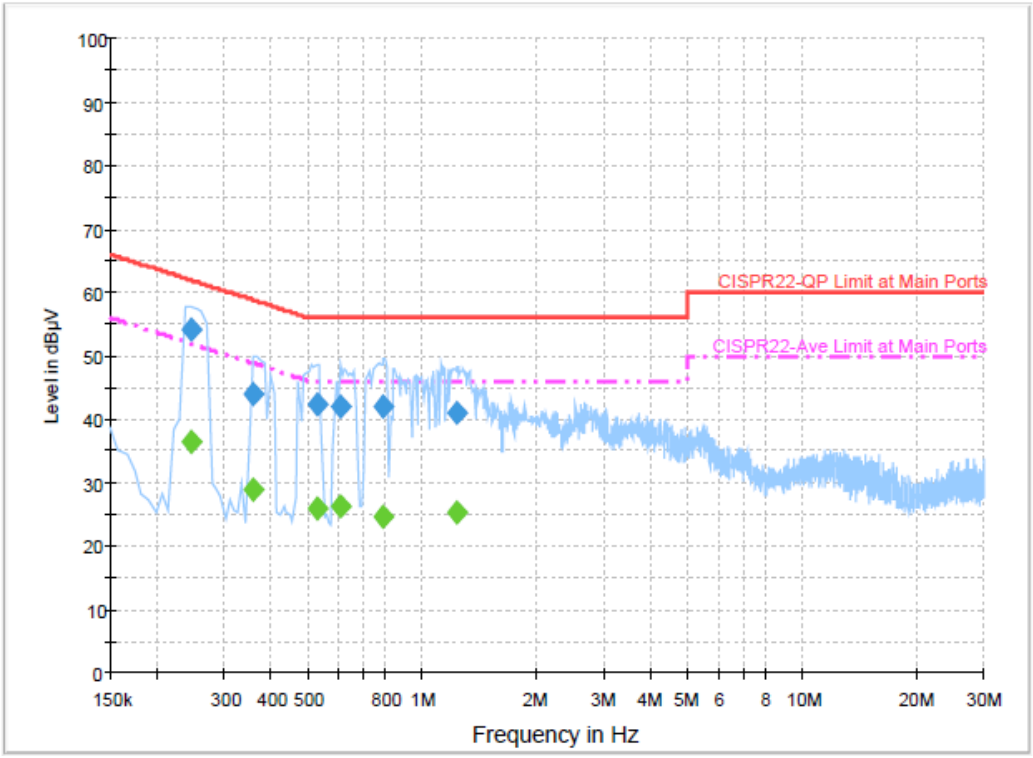
1. The testing follows the guidelines in ANSI C63.4-2003.
2. The EUT was placed 0.4 meter from the conducting wall of the shielding room, and it was kept at least 80 centimeters from any other grounded conducting surface.
3. Connect EUT to the power mains through a line impedance stabilization network (LISN).
4. All the support units are connecting to the other LISN.
5. The LISN provides 50 ohm coupling impedance for the measuring instrument.
6. The FCC states that a 50 ohm, 50 microhenry LISN should be used.
7. Both sides of AC line were checked for maximum conducted interference.
8. The frequency range from 150 kHz to 30 MHz was searched.
9. Set the test-receiver system to Peak Detect Function and specified bandwidth with Maximum Hold Mode.

3.6.4 Test Setup



3.6.5 Test Result of AC Conducted Emission

Test Mode :	Mode 2	**Temperature :**	20~22℃
Test Engineer :	Novic Jiang	**Relative Humidity :**	40~42%
Test Voltage :	120Vac / 60Hz	**Phase :**	Line
Function Type :	Phone 1 for WCDMA Band II Idle + Bluetooth Link + WLAN Link + Camera + Earphone + Battery 2 + USB Cable 2 (Charging from Adapter 2)		
Remark :	All emissions not reported here are more than 10 dB below the prescribed limit.		



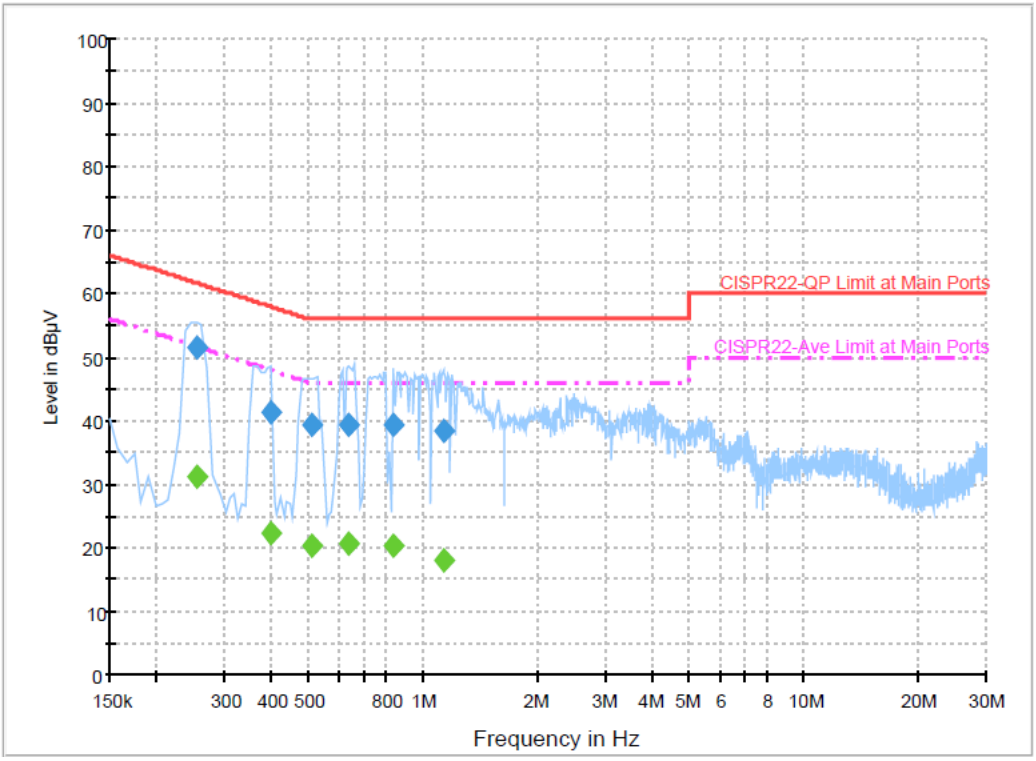
Final Result 1

Frequency (MHz)	QuasiPeak (dBµV)	Filter	Line	Corr. (dB)	Margin (dB)	Limit (dBµV)
0.246000	54.2	Off	L1	19.4	7.7	61.9
0.358000	43.8	Off	L1	19.3	15.0	58.8
0.526000	42.4	Off	L1	19.3	13.6	56.0
0.606000	41.9	Off	L1	19.4	14.1	56.0
0.790000	42.0	Off	L1	19.4	14.0	56.0
1.230000	41.0	Off	L1	19.4	15.0	56.0

Final Result 2

Frequency (MHz)	Average (dBµV)	Filter	Line	Corr. (dB)	Margin (dB)	Limit (dBµV)
0.246000	36.3	Off	L1	19.4	15.6	51.9
0.358000	28.9	Off	L1	19.3	19.9	48.8
0.526000	26.0	Off	L1	19.3	20.0	46.0
0.606000	26.2	Off	L1	19.4	19.8	46.0
0.790000	24.6	Off	L1	19.4	21.4	46.0
1.230000	25.4	Off	L1	19.4	20.6	46.0

Test Mode :	Mode 2	Temperature :	20~22℃
Test Engineer :	Novic Jiang	Relative Humidity :	40~42%
Test Voltage :	120Vac / 60Hz	Phase :	Neutral
Function Type :	Phone 1 for WCDMA Band II Idle + Bluetooth Link + WLAN Link + Camera + Earphone + 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)
0.254000	51.5	Off	N	19.4	10.1	61.6
0.398000	41.2	Off	N	19.4	16.7	57.9
0.510000	39.3	Off	N	19.3	16.7	56.0
0.638000	39.4	Off	N	19.4	16.6	56.0
0.830000	39.2	Off	N	19.4	16.8	56.0
1.126000	38.5	Off	N	19.4	17.5	56.0

Final Result 2

Frequency (MHz)	Average (dBµV)	Filter	Line	Corr. (dB)	Margin (dB)	Limit (dBµV)
0.254000	31.3	Off	N	19.4	20.3	51.6
0.398000	22.2	Off	N	19.4	25.7	47.9
0.510000	20.4	Off	N	19.3	25.6	46.0
0.638000	20.6	Off	N	19.4	25.4	46.0
0.830000	20.2	Off	N	19.4	25.8	46.0
1.126000	18.0	Off	N	19.4	28.0	46.0

3.7 Radiated Emission Measurement

3.7.1 Limit of Radiated Emission

In any 100 kHz bandwidth outside the intentional radiator frequency band, all harmonics/spurious must be at least 20 dB below the highest emission level within the authorized band. If the output power of this device was measured by spectrum analyzer, the attenuation under this paragraph shall be 30 dB instead of 20 dB. In addition, radiated emissions which fall in the restricted bands must also comply with the FCC section 15.209 limits as below.

Frequency (MHz)	Field Strength (microvolts/meter)	Measurement Distance (meters)
0.009 – 0.490	2400/F(kHz)	300
0.490 – 1.705	24000/F(kHz)	30
1.705 – 30.0	30	30
30 – 88	100	3
88 – 216	150	3
216 - 960	200	3
Above 960	500	3

3.7.2 Measuring Instruments

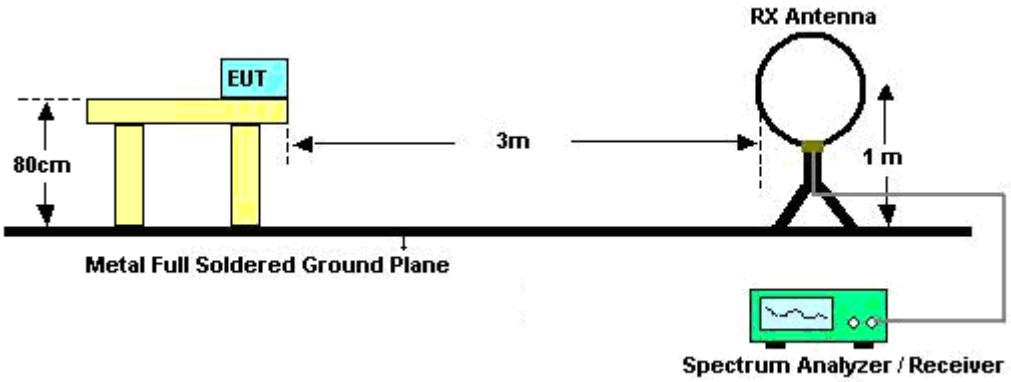
See list of measuring instruments of this test report.

3.7.3 Test Procedures

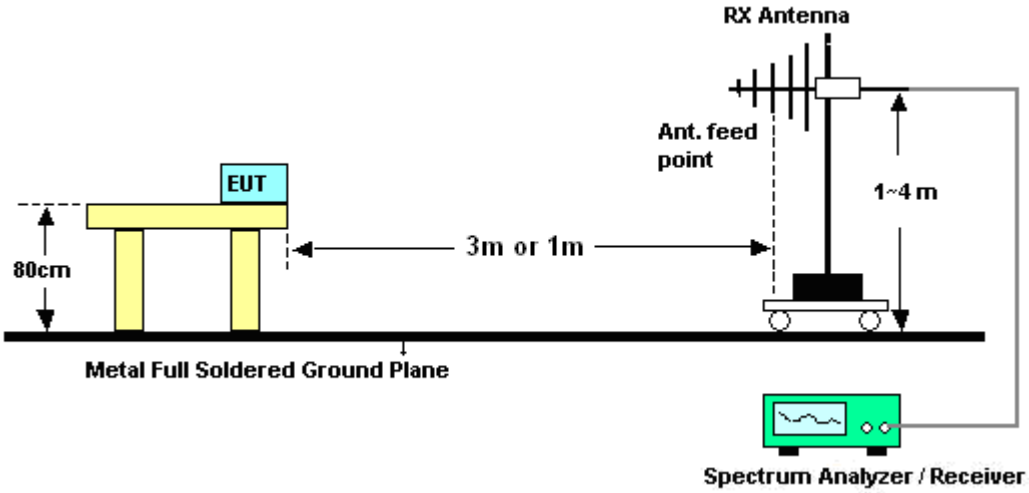
1. The testing follows the guidelines in FCC KDB Publication No. 558074 (Measurement Guidelines of DTS).
2. Use the following spectrum analyzer settings:
   (1) Span = wide enough to fully capture the emission being measured; RBW = 1 MHz for f ≥ 1 GHz, 100 kHz for f < 1 GHz; VBW ≥ RBW; Sweep = auto; 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 :	Cona Huang	Temperature :	25~26℃
		Relative Humidity :	48~51%

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 :	25~26℃
Test Channel :	01	Relative Humidity :	48~51%
Test Engineer :	Cona Huang	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
31.62	22.92	-17.08	40	35.43	18.4	0.55	31.46	100	314	Peak
92.37	21.74	-21.76	43.5	43.13	9.17	0.96	31.52	-	-	Peak
241.14	28.16	-17.84	46	46.33	11.72	1.53	31.42	-	-	Peak
358.1	27.59	-18.41	46	41.82	15	2.04	31.27	-	-	Peak
618.5	23.41	-22.59	46	31.35	20.21	2.75	30.9	-	-	Peak
802.6	24.45	-21.55	46	29.74	22.24	3.15	30.68	-	-	Peak
2389.61	56.01	-17.99	74	51.67	32.13	5.46	33.25	127	341	Peak
2389.61	42.92	-11.08	54	38.58	32.13	5.46	33.25	127	341	Average
2412	110.04	-	-	105.68	32.16	5.44	33.24	127	341	Peak
2412	97.78	-	-	93.42	32.16	5.44	33.24	127	341	Average
2492	36.16	-17.84	54	31.69	32.3	5.37	33.2	127	341	Average
2492	48.82	-25.18	74	44.35	32.3	5.37	33.2	127	341	Peak
4824	61.07	-12.93	74	52.7	34.2	7.81	33.64	127	308	Peak
4824	49.94	-4.06	54	41.57	34.2	7.81	33.64	127	308	Average
8205	54.66	-19.34	74	42.02	36	9.98	33.34	100	318	Peak
8205	40.38	-13.62	54	27.74	36	9.98	33.34	100	318	Average

Test Mode :	Mode 1	Temperature :	25~26℃
Test Channel :	01	Relative Humidity :	48~51%
Test Engineer :	Cona Huang	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
31.62	32.27	-7.73	40	44.78	18.4	0.55	31.46	100	116	Peak
86.97	22.76	-17.24	40	44.88	8.49	0.92	31.53	-	-	Peak
256.26	30.5	-15.5	46	47.5	12.85	1.57	31.42	-	-	Peak
301.4	22.41	-23.59	46	38.46	13.51	1.77	31.33	-	-	Peak
360.2	21.2	-24.8	46	35.35	15.06	2.06	31.27	-	-	Peak
766.9	27.62	-18.38	46	33.46	21.76	3.09	30.69	-	-	Peak
2389.42	54.71	-19.29	74	50.37	32.13	5.46	33.25	140	46	Peak
2389.42	41.75	-12.25	54	37.41	32.13	5.46	33.25	140	46	Average
2412	107.97	-	-	103.61	32.16	5.44	33.24	140	46	Peak
2412	95.58	-	-	91.22	32.16	5.44	33.24	140	46	Average
2484	36.16	-17.84	54	31.72	32.27	5.38	33.21	140	46	Average
2484	48.12	-25.88	74	43.68	32.27	5.38	33.21	140	46	Peak
4824	58.6	-15.4	74	49.52	34.2	8.52	33.64	113	124	Peak
4824	47.87	-6.13	54	38.79	34.2	8.52	33.64	113	124	Average
8163	55.04	-18.96	74	40.85	36	11.5	33.31	100	177	Peak
8163	39.99	-14.01	54	25.8	36	11.5	33.31	100	177	Average

Test Mode :	Mode 2	Temperature :	25~26℃
Test Channel :	06	Relative Humidity :	48~51%
Test Engineer :	Cona Huang	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
30.81	22.33	-17.67	40	34.3	18.95	0.54	31.46	-	-	Peak
150.69	20.91	-22.59	43.5	40.06	11.2	1.21	31.56	-	-	Peak
244.65	27.81	-18.19	46	45.63	12.07	1.53	31.42	-	-	Peak
360.2	27.43	-18.57	46	41.58	15.06	2.06	31.27	-	-	Peak
511.4	22.88	-23.12	46	33.08	18.38	2.47	31.05	-	-	Peak
766.9	29.68	-16.32	46	35.52	21.76	3.09	30.69	100	268	Peak
2374	47.05	-26.95	74	42.73	32.11	5.47	33.26	127	343	Peak
2374	35	-19	54	30.68	32.11	5.47	33.26	127	343	Average
2437	107.08	-	-	102.67	32.22	5.41	33.22	127	343	Peak
2437	94.95	-	-	90.54	32.22	5.41	33.22	127	343	Average
2486	47.56	-26.44	74	43.12	32.27	5.38	33.21	127	343	Peak
2486	35.47	-18.53	54	31.03	32.27	5.38	33.21	127	343	Average
4874	58.56	-15.44	74	50.13	34.2	7.85	33.62	112	45	Peak
4874	48.73	-5.27	54	40.3	34.2	7.85	33.62	112	45	Average
8223	54.56	-19.44	74	41.92	36	9.99	33.35	100	193	Peak
8223	40.82	-13.18	54	28.18	36	9.99	33.35	100	193	Average

Test Mode :	Mode 2	Temperature :	25~26℃
Test Channel :	06	Relative Humidity :	48~51%
Test Engineer :	Cona Huang	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
31.62	31.51	-8.49	40	44.02	18.4	0.55	31.46	100	168	Peak
92.37	23.09	-20.41	43.5	44.48	9.17	0.96	31.52	-	-	Peak
240.06	29.12	-16.88	46	47.41	11.6	1.53	31.42	-	-	Peak
304.9	21.47	-24.53	46	37.43	13.59	1.78	31.33	-	-	Peak
358.1	20.75	-25.25	46	34.98	15	2.04	31.27	-	-	Peak
640.2	23.66	-22.34	46	31.35	20.38	2.81	30.88	-	-	Peak
2334	46.77	-27.23	74	42.52	32.02	5.51	33.28	107	0	Peak
2334	34.58	-19.42	54	30.33	32.02	5.51	33.28	107	0	Average
2437	105.13	-	-	100.72	32.22	5.41	33.22	107	0	Peak
2437	92.76	-	-	88.35	32.22	5.41	33.22	107	0	Average
2484	47.41	-26.59	74	42.97	32.27	5.38	33.21	107	0	Peak
2484	35.05	-18.95	54	30.61	32.27	5.38	33.21	107	0	Average
4874	58.22	-15.78	74	49.14	34.2	8.5	33.62	100	269	Peak
4874	47.69	-6.31	54	38.6	34.2	8.51	33.62	100	269	Average
8175	53.62	-20.38	74	39.42	36	11.52	33.32	100	255	Peak
8175	41.21	-12.79	54	27.01	36	11.52	33.32	100	255	Average

Test Mode :	Mode 3	Temperature :	25~26℃
Test Channel :	11	Relative Humidity :	48~51%
Test Engineer :	Cona Huang	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
30.81	22.54	-17.46	40	34.51	18.95	0.54	31.46	-	-	Peak
144.21	15.69	-27.81	43.5	34.57	11.47	1.2	31.55	-	-	Peak
256.26	31.44	-14.56	46	48.44	12.85	1.57	31.42	112	216	Peak
358.1	27.61	-18.39	46	41.84	15	2.04	31.27	-	-	Peak
621.3	22.64	-23.36	46	30.56	20.23	2.75	30.9	-	-	Peak
792.1	24.51	-21.49	46	29.95	22.11	3.13	30.68	-	-	Peak
2334	46.33	-27.67	74	42.08	32.02	5.51	33.28	103	338	Peak
2334	34.95	-19.05	54	30.7	32.02	5.51	33.28	103	338	Average
2462	107.45	-	-	103.03	32.24	5.4	33.22	103	338	Peak
2462	94.86	-	-	90.44	32.24	5.4	33.22	103	338	Average
2483.5	55.16	-18.84	74	50.72	32.27	5.38	33.21	103	338	Peak
2483.5	42.36	-11.64	54	37.92	32.27	5.38	33.21	103	338	Average
4924	56.83	-17.17	74	48.35	34.2	7.89	33.61	112	261	Peak
4924	45.78	-8.22	54	37.3	34.2	7.89	33.61	112	261	Average
8211	54.54	-19.46	74	41.9	36	9.98	33.34	100	141	Peak
8211	40.61	-13.39	54	27.97	36	9.98	33.34	100	141	Average

Test Mode :	Mode 3	Temperature :	25~26℃
Test Channel :	11	Relative Humidity :	48~51%
Test Engineer :	Cona Huang	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	24.93	-15.07	40	36.35	19.51	0.53	31.46	103	152	Peak
90.21	17.04	-26.46	43.5	38.74	8.88	0.94	31.52	-	-	Peak
238.98	22.67	-23.33	46	41.2	11.37	1.52	31.42	-	-	Peak
360.2	22.56	-23.44	46	36.71	15.06	2.06	31.27	-	-	Peak
640.2	23.96	-22.04	46	31.65	20.38	2.81	30.88	-	-	Peak
867.7	25.53	-20.47	46	30.08	22.87	3.3	30.72	-	-	Peak
2374	46.2	-27.8	74	41.88	32.11	5.47	33.26	106	13	Peak
2374	34.57	-19.43	54	30.25	32.11	5.47	33.26	106	13	Average
2462	106.11	-	-	101.69	32.24	5.4	33.22	106	13	Peak
2462	94.03	-	-	89.61	32.24	5.4	33.22	106	13	Average
2483.66	54.61	-19.39	74	50.17	32.27	5.38	33.21	106	13	Peak
2483.66	41.28	-12.72	54	36.84	32.27	5.38	33.21	106	13	Average
4924	55.34	-18.66	74	46.27	34.2	8.48	33.61	100	164	Peak
4924	45.16	-8.84	54	36.09	34.2	8.48	33.61	100	164	Average
8118	54.16	-19.84	74	39.97	36	11.48	33.29	100	91	Peak
8118	40.52	-13.48	54	26.33	36	11.48	33.29	100	91	Average

Test Mode :	Mode 4	Temperature :	25~26℃
Test Channel :	01	Relative Humidity :	48~51%
Test Engineer :	Cona Huang	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
32.7	21.15	-18.85	40	34.22	17.84	0.56	31.47	-	-	Peak
144.21	18.14	-25.36	43.5	37.02	11.47	1.2	31.55	-	-	Peak
256.26	34.24	-11.76	46	51.24	12.85	1.57	31.42	100	254	Peak
360.2	28	-18	46	42.15	15.06	2.06	31.27	-	-	Peak
511.4	27.19	-18.81	46	37.39	18.38	2.47	31.05	-	-	Peak
763.4	24.07	-21.93	46	29.97	21.71	3.08	30.69	-	-	Peak
2389.61	64.87	-9.13	74	60.53	32.13	5.46	33.25	129	326	Peak
2389.61	45.45	-8.55	54	41.11	32.13	5.46	33.25	129	326	Average
2412	103.47	-	-	99.11	32.16	5.44	33.24	129	326	Peak
2412	90.83	-	-	86.47	32.16	5.44	33.24	129	326	Average
2484	35.24	-18.76	54	30.8	32.27	5.38	33.21	129	326	Average
2484	46.5	-27.5	74	42.06	32.27	5.38	33.21	129	326	Peak
4824	54.68	-19.32	74	46.31	34.2	7.81	33.64	127	310	Peak
4824	43.4	-10.6	54	35.03	34.2	7.81	33.64	127	310	Average
8208	54.47	-19.53	74	41.83	36	9.98	33.34	110	33	Peak
8208	40.78	-13.22	54	28.14	36	9.98	33.34	110	33	Average

Test Mode :	Mode 4	Temperature :	25~26℃
Test Channel :	01	Relative Humidity :	48~51%
Test Engineer :	Cona Huang	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
31.62	33.12	-6.88	40	45.63	18.4	0.55	31.46	100	188	Peak
168.78	24.04	-19.46	43.5	44.59	9.74	1.23	31.52	-	-	Peak
240.06	30.19	-15.81	46	48.48	11.6	1.53	31.42	-	-	Peak
300	22.89	-23.11	46	38.99	13.46	1.77	31.33	-	-	Peak
511.4	30.06	-15.94	46	40.26	18.38	2.47	31.05	-	-	Peak
766.9	30.28	-15.72	46	36.12	21.76	3.09	30.69	-	-	Peak
2389.99	58.49	-15.51	74	54.15	32.13	5.46	33.25	122	48	Peak
2389.99	40.21	-13.79	54	35.87	32.13	5.46	33.25	122	48	Average
2412	100.61	-	-	96.25	32.16	5.44	33.24	122	48	Peak
2412	87.03	-	-	82.67	32.16	5.44	33.24	122	48	Average
2494	34.62	-19.38	54	30.15	32.3	5.37	33.2	122	48	Average
2494	46.29	-27.71	74	41.82	32.3	5.37	33.2	122	48	Peak
4824	53.83	-20.17	74	44.75	34.2	8.52	33.64	100	193	Peak
4824	40.64	-13.36	54	31.56	34.2	8.52	33.64	100	193	Average
8187	54.7	-19.3	74	40.51	36	11.52	33.33	100	247	Peak
8187	41.03	-12.97	54	26.84	36	11.52	33.33	100	247	Average

Test Mode :	Mode 5	Temperature :	25~26℃
Test Channel :	06	Relative Humidity :	48~51%
Test Engineer :	Cona Huang	Polarization :	Horizontal
Remark :	2437 MHz is Fundamental Signals which can be ignored.		

Frequency (MHz)	Level (dBuV/m)	Over Limit (dB)	Limit Line (dBuV/m)	Read Level (dBuV)	Antenna Factor (dB)	Cable Loss (dB)	Preamp Factor (dB)	Ant Pos (cm)	Table Pos (deg)	Remark
31.62	23.66	-16.34	40	36.17	18.4	0.55	31.46	-	-	Peak
130.98	23.28	-20.22	43.5	41.93	11.77	1.15	31.57	-	-	Peak
256.26	37.04	-8.96	46	54.04	12.85	1.57	31.42	100	57	Peak
359.5	27.86	-18.14	46	42.01	15.06	2.06	31.27	-	-	Peak
509.3	22.71	-23.29	46	32.94	18.35	2.47	31.05	-	-	Peak
783	23.88	-22.12	46	29.48	21.98	3.11	30.69	-	-	Peak
2374	47.16	-26.84	74	42.84	32.11	5.47	33.26	129	331	Peak
2374	34.92	-19.08	54	30.6	32.11	5.47	33.26	129	331	Average
2437	101.58	-	-	97.19	32.19	5.43	33.23	129	331	Peak
2437	89.34	-	-	84.93	32.22	5.41	33.22	129	331	Average
2484	47.68	-26.32	74	43.24	32.27	5.38	33.21	129	331	Peak
2484	34.88	-19.12	54	30.44	32.27	5.38	33.21	129	331	Average
4874	53.14	-20.86	74	44.71	34.2	7.85	33.62	100	152	Peak
4874	41.62	-12.38	54	33.19	34.2	7.85	33.62	100	152	Average
8184	54.5	-19.5	74	41.86	36	9.97	33.33	110	226	Peak
8184	40.56	-13.44	54	27.92	36	9.97	33.33	110	226	Average

Test Mode :	Mode 5	Temperature :	25~26℃
Test Channel :	06	Relative Humidity :	48~51%
Test Engineer :	Cona Huang	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
31.62	32.72	-7.28	40	45.23	18.4	0.55	31.46	110	142	Peak
92.37	23.14	-20.36	43.5	44.53	9.17	0.96	31.52	-	-	Peak
236.82	29.2	-16.8	46	47.98	11.14	1.51	31.43	-	-	Peak
302.1	23.17	-22.83	46	39.18	13.54	1.78	31.33	-	-	Peak
511.4	26.55	-19.45	46	36.75	18.38	2.47	31.05	-	-	Peak
598.9	24.6	-21.4	46	32.81	20.03	2.68	30.92	-	-	Peak
2358	46.32	-27.68	74	42.01	32.08	5.49	33.26	154	0	Peak
2358	34.33	-19.67	54	30.02	32.08	5.49	33.26	154	0	Average
2437	98.81	-	-	94.4	32.22	5.41	33.22	154	0	Peak
2437	86.39	-	-	81.98	32.22	5.41	33.22	154	0	Average
2484	47.3	-26.7	74	42.86	32.27	5.38	33.21	154	0	Peak
2484	34.57	-19.43	54	30.13	32.27	5.38	33.21	154	0	Average
8142	53.58	-20.42	74	39.38	36	11.5	33.3	103	66	Peak
8142	40.67	-13.33	54	26.47	36	11.5	33.3	103	66	Average

Test Mode :	Mode 6	Temperature :	25~26℃
Test Channel :	11	Relative Humidity :	48~51%
Test Engineer :	Cona Huang	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
30.54	23.29	-16.71	40	35.26	18.95	0.54	31.46	128	166	Peak
128.01	23.01	-20.49	43.5	41.65	11.79	1.14	31.57	-	-	Peak
253.29	28.23	-17.77	46	45.28	12.81	1.55	31.41	-	-	Peak
358.1	27.43	-18.57	46	41.66	15	2.04	31.27	-	-	Peak
511.4	27.66	-18.34	46	37.86	18.38	2.47	31.05	-	-	Peak
774.6	23.97	-22.03	46	29.69	21.87	3.1	30.69	-	-	Peak
2364	46.12	-27.88	74	41.81	32.08	5.49	33.26	102	338	Peak
2364	34.71	-19.29	54	30.4	32.08	5.49	33.26	102	338	Average
2462	101.94	-	-	97.52	32.24	5.4	33.22	102	338	Peak
2462	89.14	-	-	84.72	32.24	5.4	33.22	102	338	Average
2483.5	63.06	-10.94	74	58.62	32.27	5.38	33.21	102	338	Peak
2483.5	42.89	-11.11	54	38.45	32.27	5.38	33.21	102	338	Average
8214	54.72	-19.28	74	42.08	36	9.98	33.34	100	155	Peak
8214	41.22	-12.78	54	28.58	36	9.98	33.34	100	155	Average

Test Mode :	Mode 6	Temperature :	25~26℃
Test Channel :	11	Relative Humidity :	48~51%
Test Engineer :	Cona Huang	Polarization :	Vertical
Remark :	2462 MHz is Fundamental Signals which can be ignored.		

Frequency (MHz)	Level (dBuV/m)	Over Limit (dB)	Limit Line (dBuV/m)	Read Level (dBuV)	Antenna Factor (dB)	Cable Loss (dB)	Preamp Factor (dB)	Ant Pos (cm)	Table Pos (deg)	Remark
31.89	32.91	-7.09	40	45.42	18.4	0.55	31.46	100	142	Peak
169.86	23.75	-19.75	43.5	44.37	9.67	1.23	31.52	-	-	Peak
237.09	29.27	-16.73	46	48.05	11.14	1.51	31.43	-	-	Peak
301.4	22.37	-23.63	46	38.42	13.51	1.77	31.33	-	-	Peak
358.1	20.95	-25.05	46	35.18	15	2.04	31.27	-	-	Peak
598.9	23.9	-22.1	46	32.11	20.03	2.68	30.92	-	-	Peak
2356	46.23	-27.77	74	41.92	32.08	5.49	33.26	108	12	Peak
2356	34.53	-19.47	54	30.22	32.08	5.49	33.26	108	12	Average
2462	101.07	-	-	96.65	32.24	5.4	33.22	108	12	Peak
2462	88.81	-	-	84.39	32.24	5.4	33.22	108	12	Average
2483.66	62.16	-11.84	74	57.72	32.27	5.38	33.21	108	12	Peak
2483.66	42.33	-11.67	54	37.89	32.27	5.38	33.21	108	12	Average
8145	55.74	-18.26	74	41.54	36	11.5	33.3	100	69	Peak
8145	40.33	-13.67	54	26.13	36	11.5	33.3	100	69	Average

Test Mode :	Mode 7	Temperature :	25~26℃
Test Channel :	01	Relative Humidity :	48~51%
Test Engineer :	Cona Huang	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
30.81	23.39	-16.61	40	35.36	18.95	0.54	31.46	110	261	Peak
129.9	23.87	-19.63	43.5	42.52	11.77	1.15	31.57	-	-	Peak
249.78	28.47	-17.53	46	45.58	12.77	1.53	31.41	-	-	Peak
360.2	27.51	-18.49	46	41.66	15.06	2.06	31.27	-	-	Peak
511.4	26.71	-19.29	46	36.91	18.38	2.47	31.05	-	-	Peak
775.3	23.62	-22.38	46	29.34	21.87	3.1	30.69	-	-	Peak
2389.99	61.69	-12.31	74	57.35	32.13	5.46	33.25	127	341	Peak
2389.99	43.02	-10.98	54	38.68	32.13	5.46	33.25	127	341	Average
2412	101.28	-	-	96.92	32.16	5.44	33.24	127	341	Peak
2412	88.79	-	-	84.43	32.16	5.44	33.24	127	341	Average
2486	34.99	-19.01	54	30.55	32.27	5.38	33.21	127	341	Average
2486	46.25	-27.75	74	41.81	32.27	5.38	33.21	127	341	Peak
8334	56.77	-17.23	74	44.11	36	10.06	33.4	100	47	Peak
8334	44.76	-9.24	54	32.1	36	10.06	33.4	100	47	Average

Test Mode :	Mode 7	Temperature :	25~26℃
Test Channel :	01	Relative Humidity :	48~51%
Test Engineer :	Cona Huang	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
31.62	32.29	-7.71	40	44.8	18.4	0.55	31.46	100	319	Peak
92.37	23.14	-20.36	43.5	44.53	9.17	0.96	31.52	-	-	Peak
237.09	28.18	-17.82	46	46.96	11.14	1.51	31.43	-	-	Peak
307	22.48	-23.52	46	38.35	13.67	1.79	31.33	-	-	Peak
511.4	26.39	-19.61	46	36.59	18.38	2.47	31.05	-	-	Peak
766.9	33.69	-12.31	46	39.53	21.76	3.09	30.69	-	-	Peak
2389.99	58.43	-15.57	74	54.09	32.13	5.46	33.25	115	63	Peak
2389.99	39.99	-14.01	54	35.65	32.13	5.46	33.25	115	63	Average
2412	96.03	-	-	91.67	32.16	5.44	33.24	115	63	Peak
2412	84.18	-	-	79.82	32.16	5.44	33.24	115	63	Average
2486	34.62	-19.38	54	30.18	32.27	5.38	33.21	115	63	Average
2486	46.65	-27.35	74	42.21	32.27	5.38	33.21	115	63	Peak
8349	58.33	-15.67	74	44.07	36	11.67	33.41	100	254	Peak
8349	46.13	-7.87	54	31.87	36	11.67	33.41	100	254	Average

Test Mode :	Mode 8	Temperature :	25~26℃
Test Channel :	06	Relative Humidity :	48~51%
Test Engineer :	Cona Huang	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	21.59	-18.41	40	33.01	19.51	0.53	31.46	-	-	Peak
144.21	15.48	-28.02	43.5	34.36	11.47	1.2	31.55	-	-	Peak
249.78	22.48	-23.52	46	39.59	12.77	1.53	31.41	-	-	Peak
360.2	27.64	-18.36	46	41.79	15.06	2.06	31.27	100	155	Peak
506.5	21.68	-24.32	46	31.99	18.29	2.46	31.06	-	-	Peak
811.7	25.1	-20.9	46	30.29	22.33	3.17	30.69	-	-	Peak
2348	46.63	-27.37	74	42.35	32.05	5.5	33.27	100	346	Peak
2348	34.51	-19.49	54	30.23	32.05	5.5	33.27	100	346	Average
2437	99.12	-	-	94.71	32.22	5.41	33.22	100	346	Peak
2437	86.93	-	-	82.52	32.22	5.41	33.22	100	346	Average
2484	46.81	-27.19	74	42.37	32.27	5.38	33.21	100	346	Peak
2484	34.83	-19.17	54	30.39	32.27	5.38	33.21	100	346	Average
8385	56.79	-17.21	74	44.12	36	10.1	33.43	100	258	Peak
8385	44.66	-9.34	54	31.99	36	10.1	33.43	100	258	Average

Test Mode :	Mode 8	Temperature :	25~26℃
Test Channel :	06	Relative Humidity :	48~51%
Test Engineer :	Cona Huang	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
31.89	24.31	-15.69	40	36.82	18.4	0.55	31.46	100	276	Peak
88.86	16.68	-26.82	43.5	38.52	8.75	0.93	31.52	-	-	Peak
240.06	24.2	-21.8	46	42.49	11.6	1.53	31.42	-	-	Peak
358.1	20.71	-25.29	46	34.94	15	2.04	31.27	-	-	Peak
598.9	22.91	-23.09	46	31.12	20.03	2.68	30.92	-	-	Peak
766.9	24.75	-21.25	46	30.59	21.76	3.09	30.69	-	-	Peak
2332	46.09	-27.91	74	41.84	32.02	5.51	33.28	111	11	Peak
2332	34.38	-19.62	54	30.13	32.02	5.51	33.28	111	11	Average
2437	95.78	-	-	91.37	32.22	5.41	33.22	111	11	Peak
2437	83.92	-	-	79.51	32.22	5.41	33.22	111	11	Average
2500	45.85	-28.15	74	41.38	32.3	5.37	33.2	111	11	Peak
2500	34.11	-19.89	54	29.64	32.3	5.37	33.2	111	11	Average
8325	58.13	-15.87	74	43.88	36	11.65	33.4	100	302	Peak
8325	45.27	-8.73	54	31.02	36	11.65	33.4	100	302	Average

Test Mode :	Mode 9	Temperature :	25~26℃
Test Channel :	11	Relative Humidity :	48~51%
Test Engineer :	Cona Huang	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
31.62	21.56	-18.44	40	34.07	18.4	0.55	31.46	-	-	Peak
163.38	18.44	-25.06	43.5	38.64	10.1	1.22	31.52	-	-	Peak
240.06	27.43	-18.57	46	45.72	11.6	1.53	31.42	-	-	Peak
358.1	28.12	-17.88	46	42.35	15	2.04	31.27	-	-	Peak
511.4	31.13	-14.87	46	41.33	18.38	2.47	31.05	100	114	Peak
766.9	30.34	-15.66	46	36.18	21.76	3.09	30.69	-	-	Peak
2390	46.18	-27.82	74	41.84	32.13	5.46	33.25	100	330	Peak
2390	34.51	-19.49	54	30.17	32.13	5.46	33.25	100	330	Average
2462	99.57	-	-	95.15	32.24	5.4	33.22	100	330	Peak
2462	87.21	-	-	82.79	32.24	5.4	33.22	100	330	Average
2483.66	58.19	-15.81	74	53.75	32.27	5.38	33.21	100	330	Peak
2483.66	40.63	-13.37	54	36.19	32.27	5.38	33.21	100	330	Average
8334	56.86	-17.14	74	44.2	36	10.06	33.4	100	259	Peak
8334	44.25	-9.75	54	31.59	36	10.06	33.4	100	259	Average

Test Mode :	Mode 9	Temperature :	25~26℃
Test Channel :	11	Relative Humidity :	48~51%
Test Engineer :	Cona Huang	Polarization :	Vertical
Remark :	2462 MHz is Fundamental Signals which can be ignored.		

Frequency (MHz)	Level (dBuV/m)	Over Limit (dB)	Limit Line (dBuV/m)	Read Level (dBuV)	Antenna Factor (dB)	Cable Loss (dB)	Preamp Factor (dB)	Ant Pos (cm)	Table Pos (deg)	Remark
31.62	32.87	-7.13	40	45.38	18.4	0.55	31.46	100	36	Peak
148.26	23.42	-20.08	43.5	42.48	11.29	1.21	31.56	-	-	Peak
240.06	29.89	-16.11	46	48.18	11.6	1.53	31.42	-	-	Peak
300	23.42	-22.58	46	39.52	13.46	1.77	31.33	-	-	Peak
640.2	25.11	-20.89	46	32.8	20.38	2.81	30.88	-	-	Peak
833.4	25.2	-20.8	46	30.14	22.54	3.23	30.71	-	-	Peak
2318	45.69	-28.31	74	41.44	32.02	5.51	33.28	107	11	Peak
2318	34.29	-19.71	54	30.04	32.02	5.51	33.28	107	11	Average
2462	99.45	-	-	95.03	32.24	5.4	33.22	107	11	Peak
2462	87.44	-	-	83.02	32.24	5.4	33.22	107	11	Average
2483.5	59.44	-14.56	74	55	32.27	5.38	33.21	107	11	Peak
2483.5	42.04	-11.96	54	37.6	32.27	5.38	33.21	107	11	Average
8214	56.12	-17.88	74	41.9	36	11.56	33.34	100	331	Peak
8214	40.23	-13.77	54	26.01	36	11.56	33.34	100	331	Average

Test Mode :	Mode 10	Temperature :	25~26℃
Test Channel :	01	Relative Humidity :	48~51%
Test Engineer :	Cona Huang	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
32.7	21.26	-18.74	40	34.33	17.84	0.56	31.47	-	-	Peak
163.38	19.44	-24.06	43.5	39.64	10.1	1.22	31.52	-	-	Peak
247.62	28.14	-17.86	46	45.6	12.42	1.53	31.41	100	83	Peak
381.2	19.61	-26.39	46	33.13	15.62	2.1	31.24	-	-	Peak
644.4	22.16	-23.84	46	29.81	20.41	2.82	30.88	-	-	Peak
780.9	24.09	-21.91	46	29.72	21.95	3.11	30.69	-	-	Peak
2390	49.19	-4.81	54	44.85	32.13	5.46	33.25	103	335	Average
2390	62.42	-11.58	74	58.08	32.13	5.46	33.25	103	335	Peak
2412	114.87	-	-	110.51	32.16	5.44	33.24	103	335	Peak
2412	102.5	-	-	98.14	32.16	5.44	33.24	103	335	Average
2486	51.46	-22.54	74	47.02	32.27	5.38	33.21	103	335	Peak
2486	38.98	-15.02	54	34.54	32.27	5.38	33.21	103	335	Average
4824	59.58	-14.42	74	51.21	34.2	7.81	33.64	113	46	Peak
4824	49.49	-4.51	54	41.12	34.2	7.81	33.64	113	46	Average
8196	54.28	-19.72	74	41.64	36	9.97	33.33	100	268	Peak
8196	41.33	-12.67	54	28.69	36	9.97	33.33	100	268	Average

Test Mode :	Mode 10	Temperature :	25~26℃
Test Channel :	01	Relative Humidity :	48~51%
Test Engineer :	Cona Huang	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
31.08	33.73	-6.27	40	45.7	18.95	0.54	31.46	112	228	Peak
168.78	24.78	-18.72	43.5	45.33	9.74	1.23	31.52	-	-	Peak
247.62	29.82	-16.18	46	47.28	12.42	1.53	31.41	-	-	Peak
304.2	23.65	-22.35	46	39.61	13.59	1.78	31.33	-	-	Peak
359.5	22.79	-23.21	46	36.94	15.06	2.06	31.27	-	-	Peak
639.5	25.04	-20.96	46	32.74	20.37	2.81	30.88	-	-	Peak
2390	47.04	-6.96	54	42.7	32.13	5.46	33.25	134	320	Average
2390	59.68	-14.32	74	55.34	32.13	5.46	33.25	134	320	Peak
2412	99.5	-	-	95.14	32.16	5.44	33.24	134	320	Average
2412	111.81	-	-	107.45	32.16	5.44	33.24	134	320	Peak
2484	49.13	-24.87	74	44.69	32.27	5.38	33.21	134	320	Peak
2484	36.53	-17.47	54	32.09	32.27	5.38	33.21	134	320	Average
4824	58.39	-15.61	74	49.32	34.2	8.51	33.64	100	163	Peak
4824	47.11	-6.89	54	38.03	34.2	8.52	33.64	100	163	Average
8124	54.52	-19.48	74	40.33	36	11.48	33.29	100	77	Peak
8124	41.24	-12.76	54	27.05	36	11.48	33.29	100	77	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	FSP30	101329	9kHz~30GHz	Apr. 26, 2010	Apr. 25, 2011	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)
Power Meter	Agilent	E4416A	GB41292344	N/A	Feb. 25, 2010	Feb. 24, 2011	Conducted (TH02-HY)
Power Sensor	Agilent	E9327A	US40441548	N/A	Feb. 25, 2010	Feb. 24, 2011	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	Radiation (03CH07-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)
System Simulator	R&S	CMU200	117995	N/A	Mar. 19, 2009	Mar. 18, 2011	-
GPS Station	T&E	GS-50	N/A	N/A	N/A	N/A	-

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**				