

FCC RF Test Report

APPLICANT : Intel Corp.
EQUIPMENT : Android Smart Phone
BRAND NAME : Intel
MODEL NAME : AZ210
MARKETING NAME : AZ210
FCC ID : O2Z-AZ210
STANDARD : FCC Part 15 Subpart C §15.247
CLASSIFICATION : (DTS) Digital Transmission System

The product was received on Mar. 23, 2012 and completely tested on May 16, 2012. We, SPORTON INTERNATIONAL INC., would like to declare that the tested sample has been evaluated in accordance with the procedures given in ANSI C63.4-2003 and shown the compliance with the applicable technical standards.

The test results in this report apply exclusively to the tested model / sample. Without written approval of SPORTON INTERNATIONAL INC., the test report shall not be reproduced except in full.

Reviewed by:



Jones Tsai / Manager



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
FR232306B	Rev. 01	Initial issue of report	Jun. 11, 2012
FR232306B	Rev. 02	Update report by adding FCC ID	Sep. 03, 2012

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	$\geq 0.5\text{MHz}$	Pass	-
3.2	15.247(b)	A8.4	Power Output	$\leq 30\text{dBm}$	Pass	-
3.3	15.247(d)	A8.5	Frequency Band Edges	$\leq 20\text{dBc}$	Pass	-
3.4	15.247(d)	A8.5	Spurious Emission	$< 20\text{ dBc}$	Pass	-
3.5	15.247(e)	A8.2(b)	Power Spectral Density	$\leq 8\text{dBm}$	Pass	-
3.6	15.207	Gen 7.2.4	AC Conducted Emission	15.207(a)	Pass	Under limit 6.90 dB at 0.678 MHz
3.7	15.247(d)	A8.5	Transmitter Radiated Emission	15.209(a) & 15.247(d)	Pass	Under limit 1.48 dB at 2389.230 MHz
3.8	15.203 & 15.247(b)	A8.4	Antenna Requirement	N/A	Pass	-

1 General Description

1.1 Applicant

Intel Corp.

RNB-5-112, 2200 Mission College Blvd, Santa Clara, CA 95054, USA

1.2 Manufacturer

Chi Mei Communication Systems, Inc.

No. 4, Mingsheng Street, Tucheng City, New Taipei City 23678, Taiwan

1.3 Feature of Equipment Under Test

Product Feature & Specification	
Equipment	Android Smart Phone
Brand Name	Intel
Model Name / Marketing Name	AZ210
Marketing Name	AZ210
FCC ID	O2Z-AZ210
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 : 18.76 dBm (0.0752 W) 802.11g : 24.21 dBm (0.2636 W) 802.11g/n (BW 20MHz) : 21.78 dBm (0.1507 W)
Duty Cycle	802.11b : 89.41% 802.11g : 57.68% 802.11g/n (BW 20MHz) : 56.01%
Antenna Type	PIFA Antenna with gain 0.36 dBi
HW Version	DV2.0
SW Version	20120409
Type of Modulation	802.11b : DSSS (BPSK / QPSK / CCK) 802.11g/n : OFDM (BPSK / QPSK / 16QAM / 64QAM)
EUT Stage	Production Unit

Remark: 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 1 st Rd., Hwa Ya Technology Park, Kwei-Shan Hsiang, Tao Yuan Hsien, Taiwan, R.O.C. TEL: +886-3-3273456 / FAX: +886-3-3284978		
Test Site No.	Sporton Site No.		FCC/IC Registration No.
	CO05-HY	03CH05-HY	722060/4086B-1

1.5 Applied Standards

According to the specifications of the manufacturer, the EUT must comply with the requirements of the following standards:

- ♦ FCC Part 15 Subpart C §15.247
- ♦ FCC KDB Publication No. 558074 D01 DTS Meas. Guidance DR01
- ♦ ANSI C63.4-2003
- ♦ IC RSS-210 Issue 8
- ♦ IC RSS-Gen Issue 3

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, 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.	Notebook	DELL	P20G	FCC DoC	N/A	AC I/P: Unshielded, 1.2 m DC O/P: Shielded, 1.8 m
4.	LCD TV	SONY	KDL-22S5700	N/A	N/A	Unshielded, 2.0 m
5.	Bluetooth Earphone	Sony Ericsson	MW600	PY70DA2029	N/A	N/A

2 Test Configuration of Equipment Under Test

2.1 Pre-Scanned RF Power

Preliminary tests were performed in different data rate as below table and the highest power data rates (11b, 11g, 11g/n (BW 20MHz) modes) were chosen for full test in the following sections to demonstrate compliance to the FCC limit line.

2.4GHz 802.11b mode				
Data Rate (MHz)	1M bps	2M bps	5.5M bps	11M bps
Peak Power (dBm)	18.76	18.30	18.00	17.96

2.4GHz 802.11g mode								
Data Rate (MHz)	6M bps	9M bps	12M bps	18M bps	24M bps	36M bps	48M bps	54M bps
Peak Power (dBm)	24.21	24.20	24.19	24.15	23.98	23.83	23.02	23.07

2.4GHz 802.11g/n (BW 20MHz) mode								
Data Rate (MHz)	MCS0	MCS1	MCS2	MCS3	MCS4	MCS5	MCS6	MCS7
Peak Power (dBm)	21.78	21.12	21.16	21.00	21.19	21.60	21.00	21.10

2.2 Maximum Peak Conducted Output Power:

Band	2.4GHz 802.11b RF Power (dBm)			2.4GHz 802.11g RF Power (dBm)		
Channel	1	6	11	1	6	11
Frequency (MHz)	2412	2437	2462	2412	2437	2462
Peak Power	18.24	18.56	18.76	24.14	24.13	24.21

Band	2.4GHz 802.11g/n (BW 20MHz) RF Power (dBm)		
Channel	1	6	11
Frequency (MHz)	2412	2437	2462
Peak Power	21.19	21.78	21.65

Remark:

The data rates of WLAN 802.11b/g/n were set in 1Mbps for 802.11b, 6Mbps for 802.11g, and 6.5Mbps for 802.11g/n (BW 20MHz) for all the test cases due to the highest RF output power.

2.3 Maximum Average Conducted Output Power:

Band	2.4GHz 802.11b RF Power (dBm)			2.4GHz 802.11g RF Power (dBm)		
Channel	1	6	11	1	6	11
Frequency (MHz)	2412	2437	2462	2412	2437	2462
Average Power	16.22	16.61	16.88	16.62	16.51	16.71

Band	2.4GHz 802.11g/n (BW 20MHz) RF Power (dBm)		
Channel	1	6	11
Frequency (MHz)	2412	2437	2462
Average Power	10.70	11.44	11.32

Remark:

1. The average power, which is used by the test method, AVG2, in DTS Meas. Guidance DR01, is reporting only.
2. The EUT is programmed to transmit signals continuously.

2.4 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).

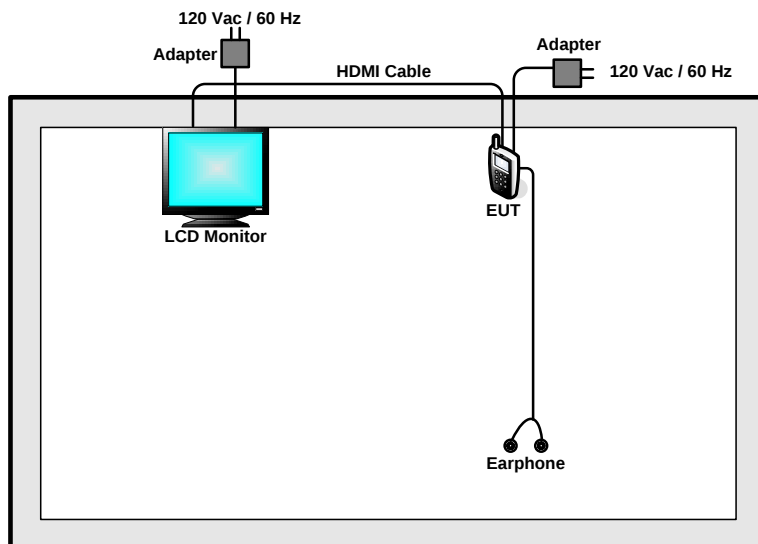
Pre-scanned tests, X, Y, Z in three orthogonal panels, were conducted to determine the final configuration from all possible combinations.

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

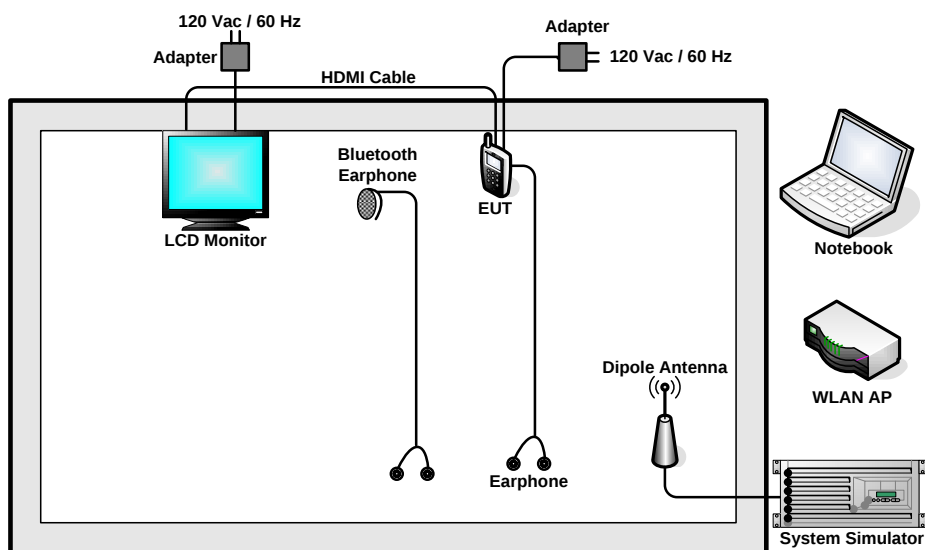
Test Cases		
Test Item	802.11b (Modulation : DSSS)	802.11g/n (Modulation : OFDM)
Conducted TCs	Mode 1 : 802.11b CH01_2412 MHz Mode 2 : 802.11b CH06_2437 MHz Mode 3 : 802.11b CH11_2462 MHz	Mode 4: 802.11g_CH01_2412 MHz Mode 5: 802.11g_CH06_2437 MHz Mode 6: 802.11g_CH11_2462 MHz Mode 7: 802.11g/n (BW 20M)_CH01_2412 MHz Mode 8: 802.11g/n (BW 20M)_CH06_2437 MHz Mode 9: 802.11g/n (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: 802.11g/n (BW 20M)_CH01_2412 MHz Mode 8: 802.11g/n (BW 20M)_CH06_2437 MHz Mode 9: 802.11g/n (BW 20M)_CH11_2462 MHz
AC Conducted Emission	Mode 1 : GSM850 Idle + Bluetooth Link + WLAN (2.4G) Link + Camera + Earphone + Battery + USB Cable (Charging from Adapter) + HDMI Cable	

2.5 Connection Diagram of Test System

<WLAN Tx Mode>



<AC Conducted Emission Mode>



2.6 RF Utility

The programmed RF utility "Intel-BB2WiFiBTTestMode" 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.

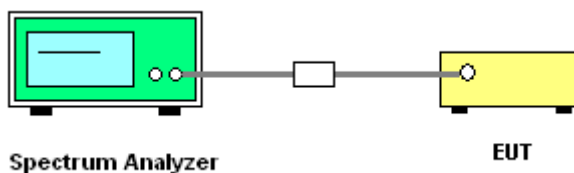
3.1.2 Measuring Instruments

See list of measuring instruments of this test report.

3.1.3 Test Procedures

1. The testing follows FCC KDB Publication No. 558074 D01 DTS Meas. Guidance DR01.
2. The RF output of EUT was connected to the spectrum analyzer by a low loss cable. The path loss was compensated to the results for each measurement.
3. Make the measurement with the spectrum analyzer's resolution bandwidth (RBW) = 1-5% of the emission bandwidth (EBW). Set the Video bandwidth (VBW) $\geq 3 * \text{RBW}$. In order to make an accurate measurement. 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

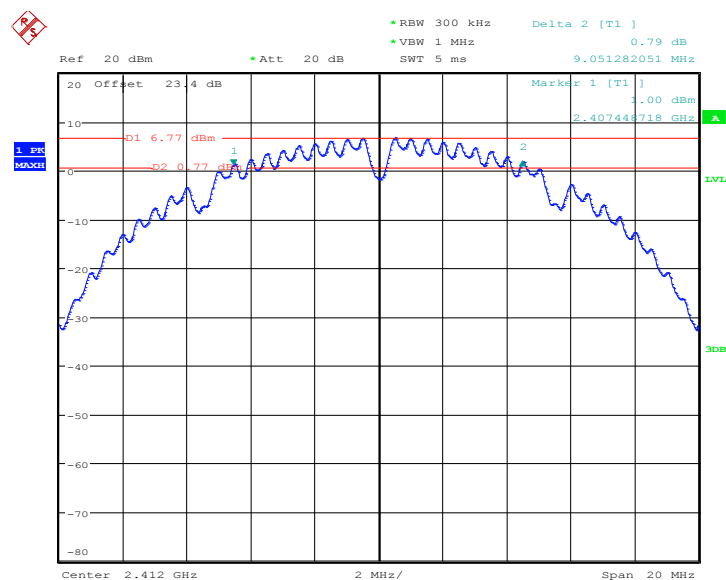


3.1.5 Test Result of 6dB Bandwidth

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

Channel	Frequency (MHz)	802.11b 6dB Bandwidth (MHz)	6dB Bandwidth Min. Limit (MHz)	Pass/Fail
01	2412	9.05	0.5	Pass
06	2437	9.17	0.5	Pass
11	2462	9.19	0.5	Pass

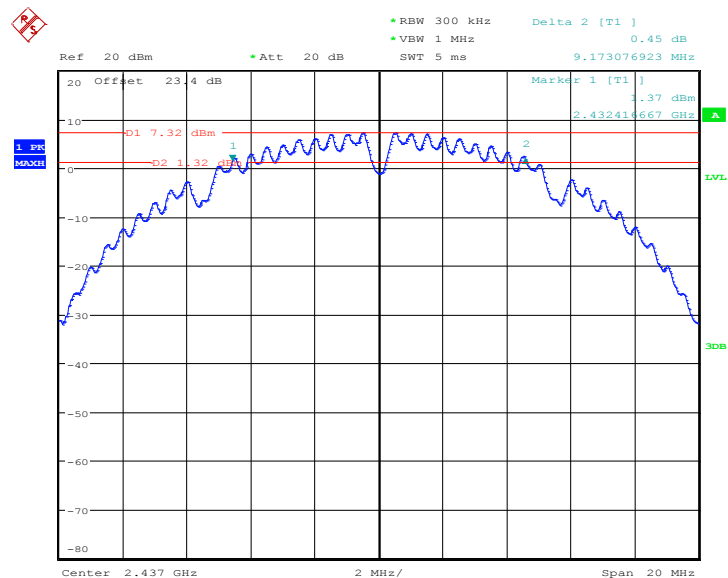
Mode 1 : 6 dB Bandwidth Plot on 802.11b Channel 01



Date: 10.MAY.2012 20:18:13

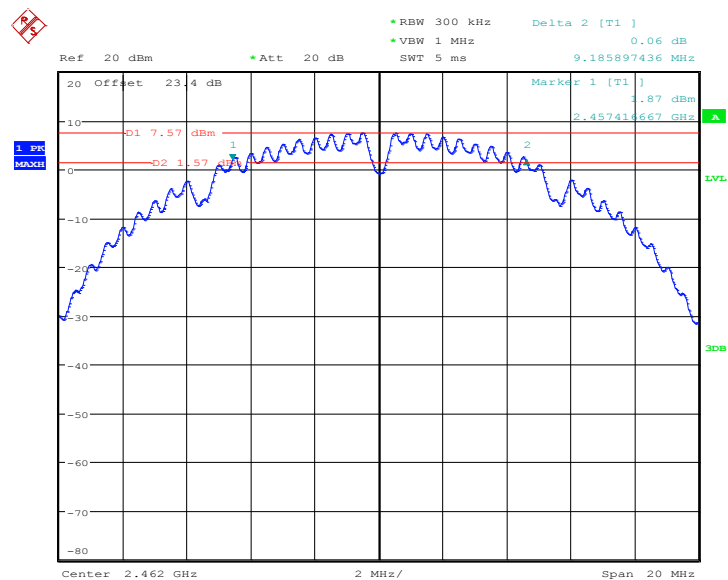


Mode 2 : 6 dB Bandwidth Plot on 802.11b Channel 06



Date: 10.MAY.2012 20:24:31

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



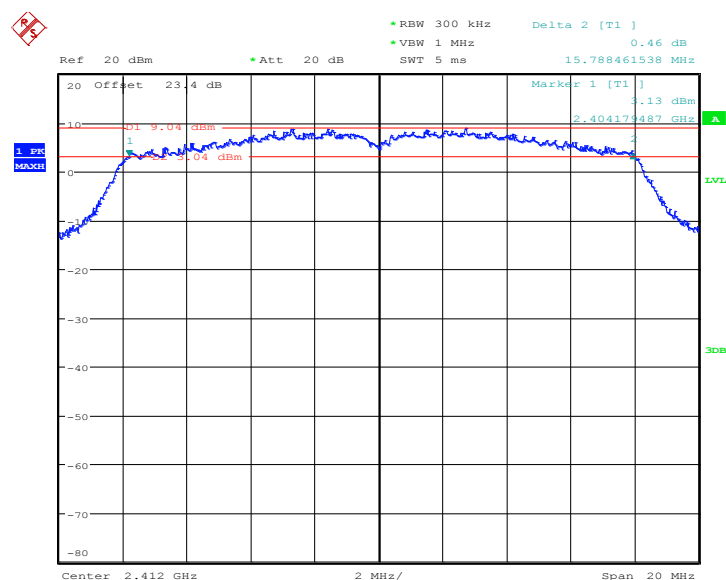
Date: 10.MAY.2012 20:28:28



Test Mode :	Mode 4, 5, 6	Temperature :	24~26°C
Test Engineer :	Bill Kuo	Relative Humidity :	50~53%

Channel	Frequency (MHz)	802.11g 6dB Bandwidth (MHz)	6dB Bandwidth Min. Limit (MHz)	Pass/Fail
01	2412	15.79	0.5	Pass
06	2437	15.95	0.5	Pass
11	2462	15.92	0.5	Pass

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



Date: 10.MAY.2012 20:41:01



Ref 20 dBm Att 20 dB RBW 300 kHz VBW 1 MHz SWT 5 ms Delta 2 [T1] 0.29 dB

20 Offset 23.4 dB

Marker 1 [T1] 2.63 dBm 2.42905282 GHz

D1 8.58 dBm

38 dBm

1.98 MHz

Center 2.437 GHz Span 20 MHz

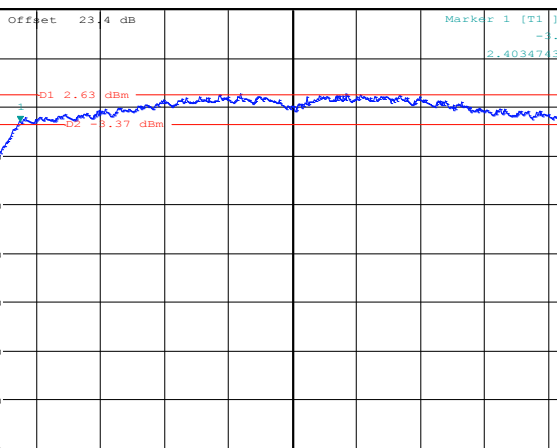
Date: 10.MAY.2012 20:37:49

[illegible]

Date: 10.MAY.2012 20:34:21



Channel	Frequency (MHz)	802.11g/n (BW 20MHz) 6dB Bandwidth (MHz)	6dB Bandwidth Min. Limit (MHz)	Pass/Fail
01	2412	17.21	0.5	Pass
06	2437	17.21	0.5	Pass
11	2462	17.17	0.5	Pass



Ref 20 dBm • Att 20 dB • RBW 300 kHz Delta 2 [T1] 0.08 dB

• VBW 1 MHz SWT 5 ms 17.211538462 MHz

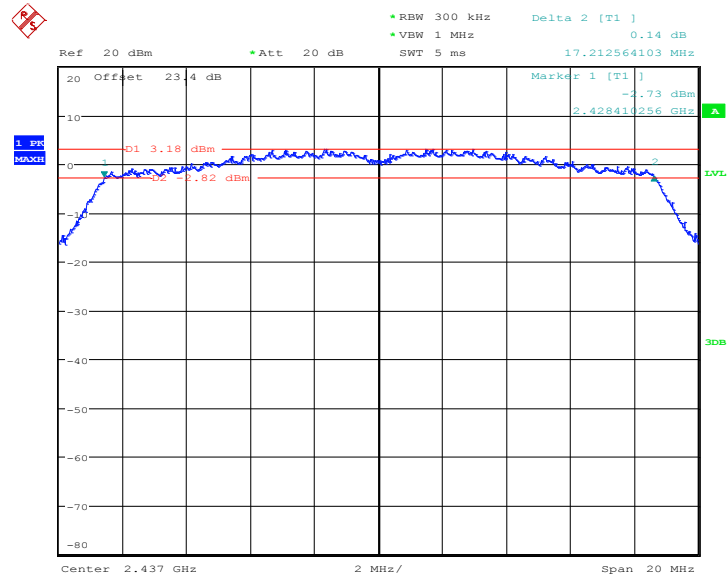
20 Offset 23.4 dB

Marker 1 [T1] -1.31 dBm 2.40347359 GHz

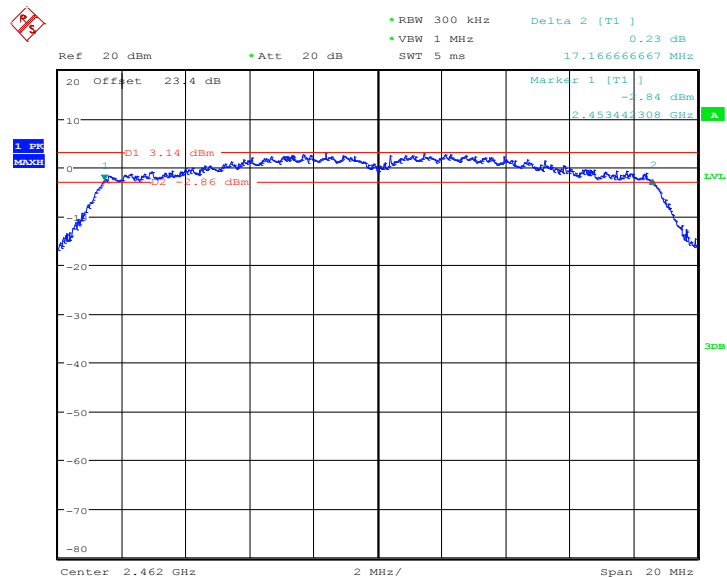
1. PK 01 2.63 dBm 02 5.37 dBm

Center 2.412 GHz 2 MHz/ Span 20 MHz

Date: 10.MAY.2012 20:47:01

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


Date: 10.MAY.2012 20:51:50

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


Date: 10.MAY.2012 20:54:44

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.

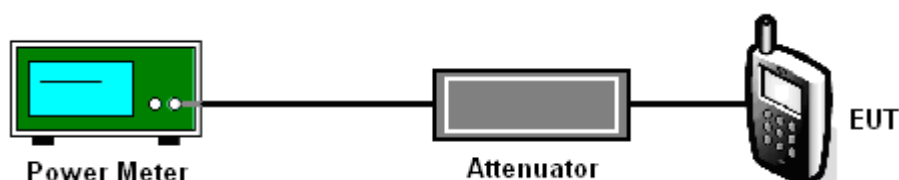
3.2.2 Measuring Instruments

See list of measuring instruments of this test report.

3.2.3 Test Procedures

1. The testing follows the Measurement Procedure PK2 of FCC KDB No. 558074 DTS Meas. Guidance DR01.
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 :	Bill Kuo	Relative Humidity :	50~53%

Channel	Frequency (MHz)	802.11b Peak Output Power (dBm)	Max. Limits (dBm)	Pass/Fail
01	2412	18.24	30	Pass
06	2437	18.56	30	Pass
11	2462	18.76	30	Pass

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

Channel	Frequency (MHz)	802.11g Peak Output Power (dBm)	Max. Limits (dBm)	Pass/Fail
01	2412	24.14	30	Pass
06	2437	24.13	30	Pass
11	2462	24.21	30	Pass

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

Channel	Frequency (MHz)	802.11g/n (BW 20MHz) Peak Output Power (dBm)	Max. Limits (dBm)	Pass/Fail
01	2412	21.19	30	Pass
06	2437	21.78	30	Pass
11	2462	21.65	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

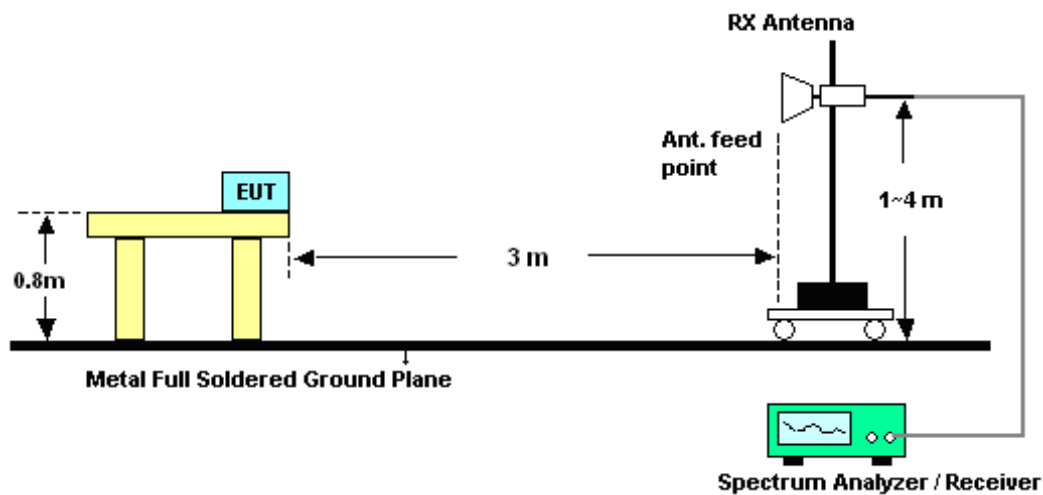
See list of measuring instruments of this test report.

3.3.3 Test Procedures

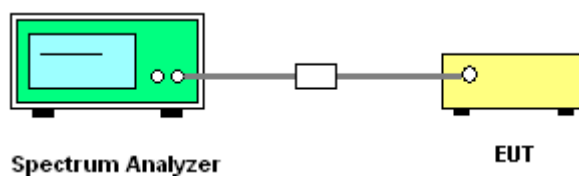
1. The testing follows the guidelines in ANSI C63.4-2003 and the Measurement Procedure of FCC KDB Publication No. 558074 D01 DTS Meas. Guidance DR01.
2. Conducted emission test: Set RBW = 100 KHz, Video bandwidth (VBW) $\geq$ RBW. Out of the authorized frequency band emissions must be at least 20 dB lower than the highest emission level within the authorized band as measured with a 100 KHz RBW. If the transmitter complies with the conducted power limits based on the use of RMS averaging over a time interval, the attenuation required under this paragraph shall be 30 dB instead of 20 dB per 15.247(d).
3. Radiated emission test: Apply to band edge emissions that falling on 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 measurement above 1 GHz, set RBW = 1MHz, VBW = 10 Hz, Sweep=Auto. If the emission is pulsed, then modify the unit for continuous operation. Use the settings in this paragraph to correct the reading level by subtracting the peak-average correction factor, derived from the appropriate duty cycle calculation per 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 :	20~22℃
Test Band :	802.11b	Relative Humidity :	40~42%
Test Channel :	01	Test Engineer :	David Ke

ANTENNA POLARITY : HORIZONTAL										
Frequency (MHz)	Level (dBμV/m)	Over Limit (dB)	Limit Line (dBμV/m)	Read Level (dBμV)	Antenna Factor (dB)	Cable Loss (dB)	Preamp Factor (dB)	Ant Pos (cm)	Table Pos (deg)	Remark
2386	58.42	-15.58	74	57.7	32.02	4.58	35.88	100	265	Peak
2386	49.86	-4.14	54	49.14	32.02	4.58	35.88	100	265	Average

ANTENNA POLARITY : VERTICAL										
Frequency (MHz)	Level (dBμV/m)	Over Limit (dB)	Limit Line (dBμV/m)	Read Level (dBμV)	Antenna Factor (dB)	Cable Loss (dB)	Preamp Factor (dB)	Ant Pos (cm)	Table Pos (deg)	Remark
2386	52.93	-21.07	74	52.21	32.02	4.58	35.88	100	279	Peak
2386	43.67	-10.33	54	42.95	32.02	4.58	35.88	100	279	Average

Test Mode :	Mode 3	Temperature :	20~22℃
Test Band :	802.11b	Relative Humidity :	40~42%
Test Channel :	11	Test Engineer :	David Ke

ANTENNA POLARITY : HORIZONTAL										
Frequency (MHz)	Level (dBμV/m)	Over Limit (dB)	Limit Line (dBμV/m)	Read Level (dBμV)	Antenna Factor (dB)	Cable Loss (dB)	Preamp Factor (dB)	Ant Pos (cm)	Table Pos (deg)	Remark
2487.65	57.5	-16.5	74	56.57	32.1	4.64	35.81	100	252	Peak
2487.65	48.31	-5.69	54	47.38	32.1	4.64	35.81	100	252	Average

ANTENNA POLARITY : VERTICAL										
Frequency (MHz)	Level (dBμV/m)	Over Limit (dB)	Limit Line (dBμV/m)	Read Level (dBμV)	Antenna Factor (dB)	Cable Loss (dB)	Preamp Factor (dB)	Ant Pos (cm)	Table Pos (deg)	Remark
2488.03	52.84	-21.16	74	51.91	32.1	4.64	35.81	100	270	Peak
2488.03	43.38	-10.62	54	42.45	32.1	4.64	35.81	100	270	Average



Test Mode :	Mode 4	Temperature :	20~22℃
Test Band :	802.11g	Relative Humidity :	40~42%
Test Channel :	01	Test Engineer :	David Ke

ANTENNA POLARITY : HORIZONTAL										
Frequency (MHz)	Level (dBμV/m)	Over Limit (dB)	Limit Line (dBμV/m)	Read Level (dBμV)	Antenna Factor (dB)	Cable Loss (dB)	Preamp Factor (dB)	Ant Pos (cm)	Table Pos (deg)	Remark
2389.23	72.52	-1.48	74	71.8	32.02	4.58	35.88	100	266	Peak
2389.23	43.89	-10.11	54	43.17	32.02	4.58	35.88	100	266	Average

ANTENNA POLARITY : VERTICAL										
Frequency (MHz)	Level (dBμV/m)	Over Limit (dB)	Limit Line (dBμV/m)	Read Level (dBμV)	Antenna Factor (dB)	Cable Loss (dB)	Preamp Factor (dB)	Ant Pos (cm)	Table Pos (deg)	Remark
2388.47	69.76	-4.24	74	69.04	32.02	4.58	35.88	101	302	Peak
2388.47	43.17	-10.83	54	42.45	32.02	4.58	35.88	101	302	Average

Test Mode :	Mode 6	Temperature :	20~22℃
Test Band :	802.11g	Relative Humidity :	40~42%
Test Channel :	11	Test Engineer :	David Ke

ANTENNA POLARITY : HORIZONTAL										
Frequency (MHz)	Level (dBμV/m)	Over Limit (dB)	Limit Line (dBμV/m)	Read Level (dBμV)	Antenna Factor (dB)	Cable Loss (dB)	Preamp Factor (dB)	Ant Pos (cm)	Table Pos (deg)	Remark
2483.66	70.92	-3.08	74	70	32.09	4.64	35.81	100	255	Peak
2483.66	43.7	-10.3	54	42.78	32.09	4.64	35.81	100	255	Average

ANTENNA POLARITY : VERTICAL										
Frequency (MHz)	Level (dBμV/m)	Over Limit (dB)	Limit Line (dBμV/m)	Read Level (dBμV)	Antenna Factor (dB)	Cable Loss (dB)	Preamp Factor (dB)	Ant Pos (cm)	Table Pos (deg)	Remark
2483.5	64.74	-9.26	74	63.82	32.09	4.64	35.81	131	315	Peak
2483.5	41.58	-12.42	54	40.66	32.09	4.64	35.81	131	315	Average

Test Mode :	Mode 7	Temperature :	20~22℃
Test Band :	802.11g/n (BW 20MHz)	Relative Humidity :	40~42%
Test Channel :	01	Test Engineer :	David Ke

ANTENNA POLARITY : HORIZONTAL										
Frequency (MHz)	Level (dBμV/m)	Over Limit (dB)	Limit Line (dBμV/m)	Read Level (dBμV)	Antenna Factor (dB)	Cable Loss (dB)	Preamp Factor (dB)	Ant Pos (cm)	Table Pos (deg)	Remark
2389.8	62.81	-11.19	74	62.07	32.02	4.58	35.86	100	265	Peak
2389.8	40.1	-13.9	54	39.36	32.02	4.58	35.86	100	265	Average

ANTENNA POLARITY : VERTICAL										
Frequency (MHz)	Level (dBμV/m)	Over Limit (dB)	Limit Line (dBμV/m)	Read Level (dBμV)	Antenna Factor (dB)	Cable Loss (dB)	Preamp Factor (dB)	Ant Pos (cm)	Table Pos (deg)	Remark
2389.99	60.76	-13.24	74	60.02	32.02	4.58	35.86	101	308	Peak
2389.99	39.24	-14.76	54	38.5	32.02	4.58	35.86	101	308	Average

Test Mode :	Mode 9	Temperature :	20~22℃
Test Band :	802.11g/n (BW 20MHz)	Relative Humidity :	40~42%
Test Channel :	11	Test Engineer :	David Ke

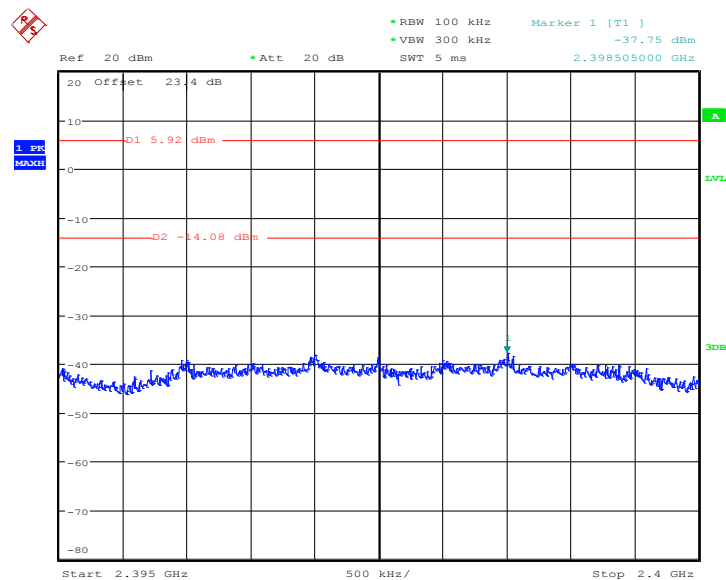
ANTENNA POLARITY : HORIZONTAL										
Frequency (MHz)	Level (dBμV/m)	Over Limit (dB)	Limit Line (dBμV/m)	Read Level (dBμV)	Antenna Factor (dB)	Cable Loss (dB)	Preamp Factor (dB)	Ant Pos (cm)	Table Pos (deg)	Remark
2483.5	60.99	-13.01	74	60.07	32.09	4.64	35.81	129	255	Peak
2483.5	39.66	-14.34	54	38.74	32.09	4.64	35.81	129	255	Average

ANTENNA POLARITY : VERTICAL										
Frequency (MHz)	Level (dBμV/m)	Over Limit (dB)	Limit Line (dBμV/m)	Read Level (dBμV)	Antenna Factor (dB)	Cable Loss (dB)	Preamp Factor (dB)	Ant Pos (cm)	Table Pos (deg)	Remark
2483.66	60.04	-13.96	74	59.12	32.09	4.64	35.81	100	301	Peak
2483.66	39.45	-14.55	54	38.53	32.09	4.64	35.81	100	301	Average

3.3.6 Test Plots of Conducted Band Edges

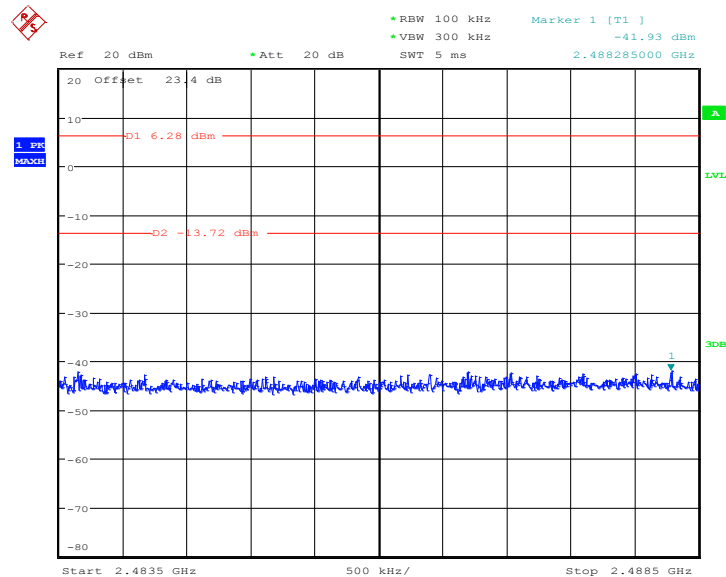
Test Mode :	Mode 1 and 3	Temperature :	24~26°C
Test Band :	802.11b	Relative Humidity :	50~53%
Test Channel :	01 and 11	Test Engineer :	Bill Kuo

Low Band Edge Plot on 802.11b Channel 01



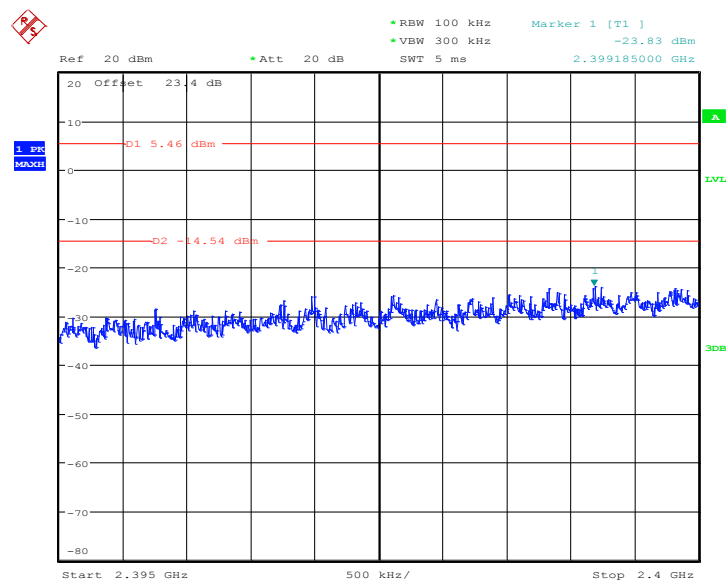
Date: 10.MAY.2012 20:19:18

High Band Edge Plot on 802.11b Channel 11

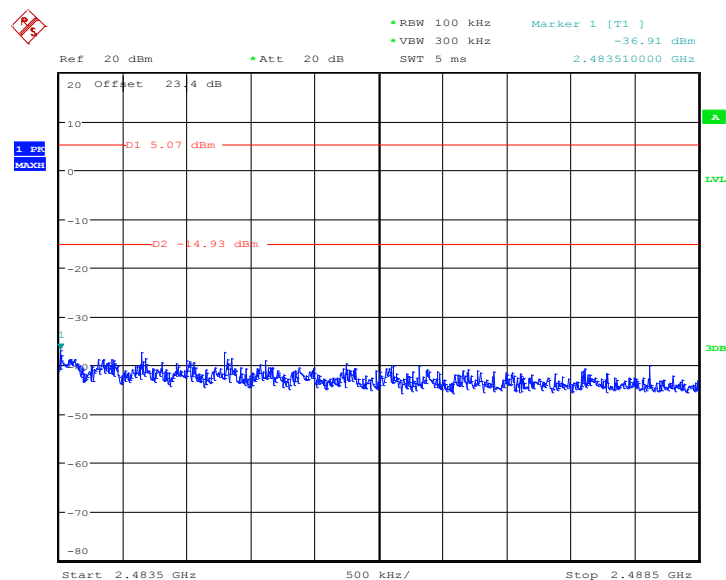


Date: 10.MAY.2012 20:29:17

Test Mode :	Mode 4 and 6	Temperature :	24~26°C
Test Band :	802.11g	Relative Humidity :	50~53%
Test Channel :	01 and 11	Test Engineer :	Bill Kuo

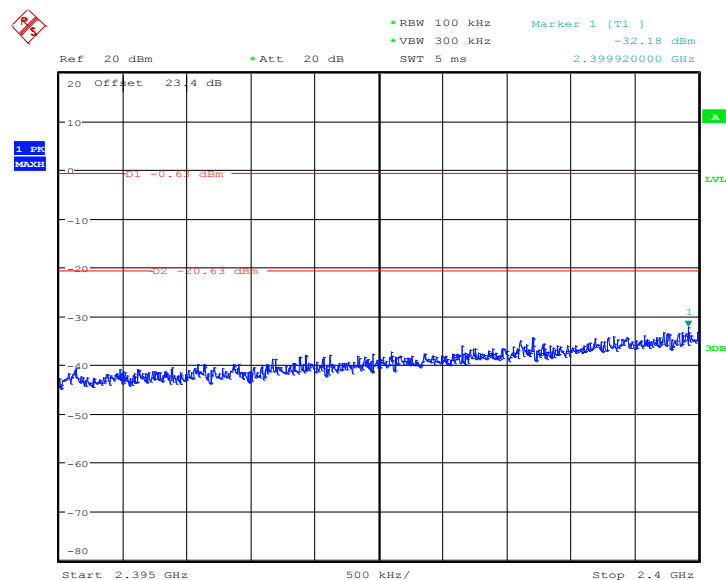
Low Band Edge Plot on 802.11g Channel 01


Date: 10.MAY.2012 20:42:03

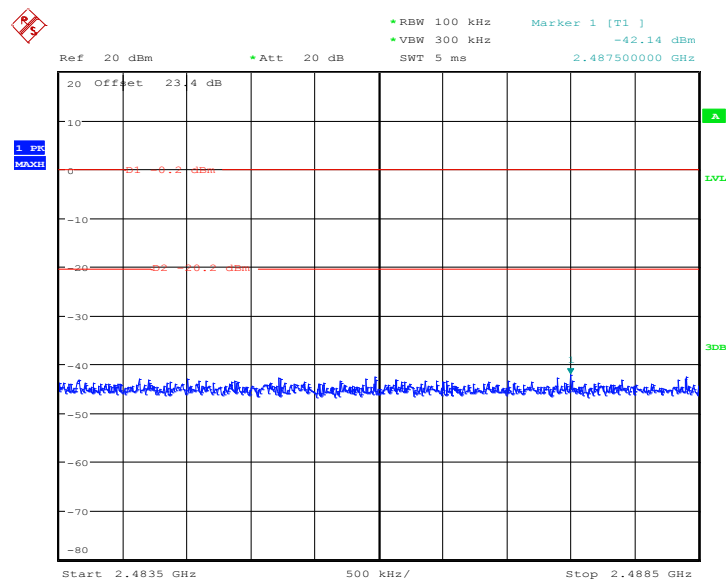
High Band Edge Plot on 802.11g Channel 11


Date: 10.MAY.2012 20:35:10

Test Mode :	Mode 7 and 9	Temperature :	24~26°C
Test Band :	802.11g/n (BW 20MHz)	Relative Humidity :	50~53%
Test Channel :	01 and 11	Test Engineer :	Bill Kuo

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


Date: 10.MAY.2012 20:48:08

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


Date: 10.MAY.2012 20:55:54

3.4 Spurious Emission Measurement

3.4.1 Limit of Spurious Emission Measurement

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

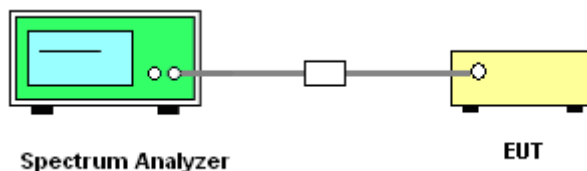
3.4.2 Measuring Instruments

See list of measuring instruments of this test report.

3.4.3 Test Procedure

1. The transmitter output was connected to the spectrum analyzer via a low lose cable. The path loss was compensated to the results for each measurement.
2. Set RBW = 100 KHz, Video bandwidth (VBW) $\geq$ 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.

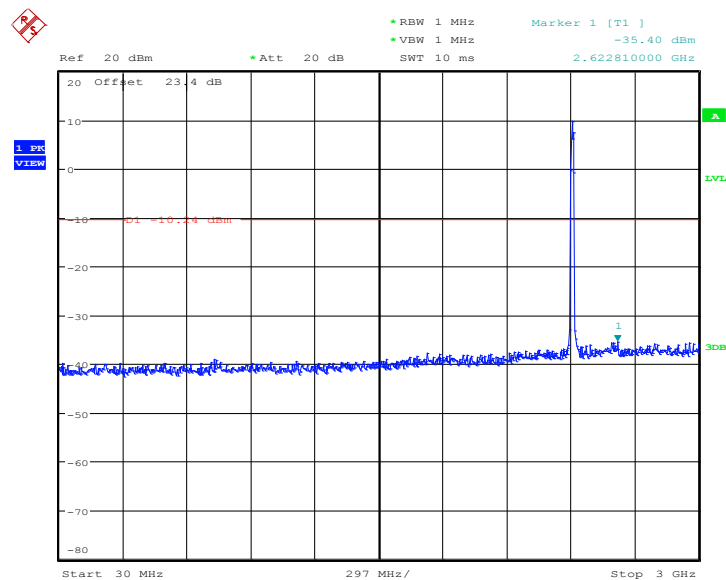
3.4.4 Test Setup



3.4.5 Test Plots of Spurious Emission

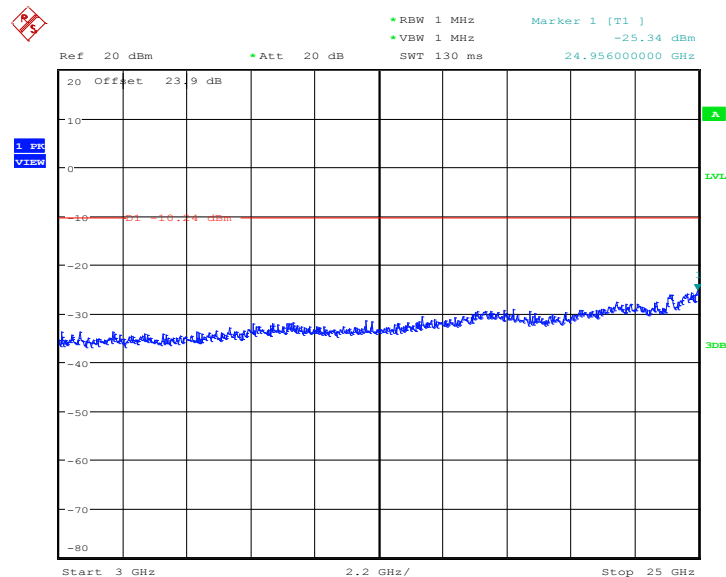
Test Mode :	Mode 1	Temperature :	24~26°C
Test Band :	802.11b	Relative Humidity :	50~53%
Test Channel :	01	Test Engineer :	Bill Kuo

Conducted Spurious Emission Plot between 30MHz ~ 3 GHz



Date: 10.MAY.2012 20:20:37

Conducted Spurious Emission Plot between 3 GHz ~ 25 GHz

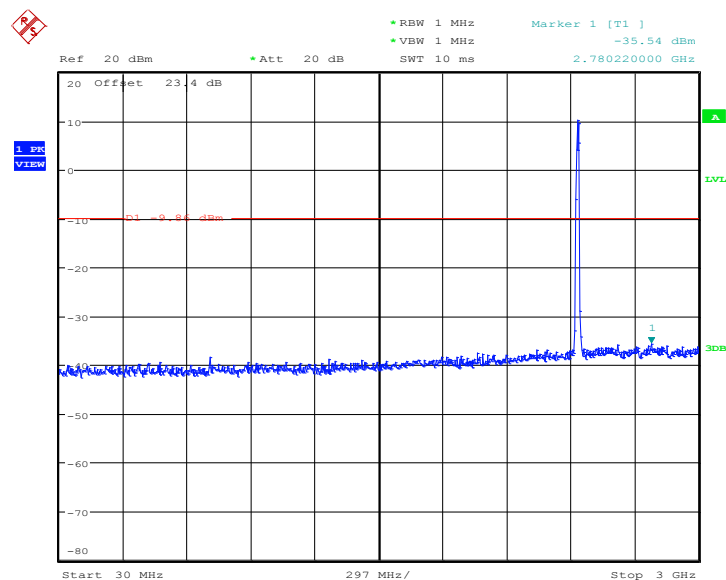


Date: 10.MAY.2012 20:20:54



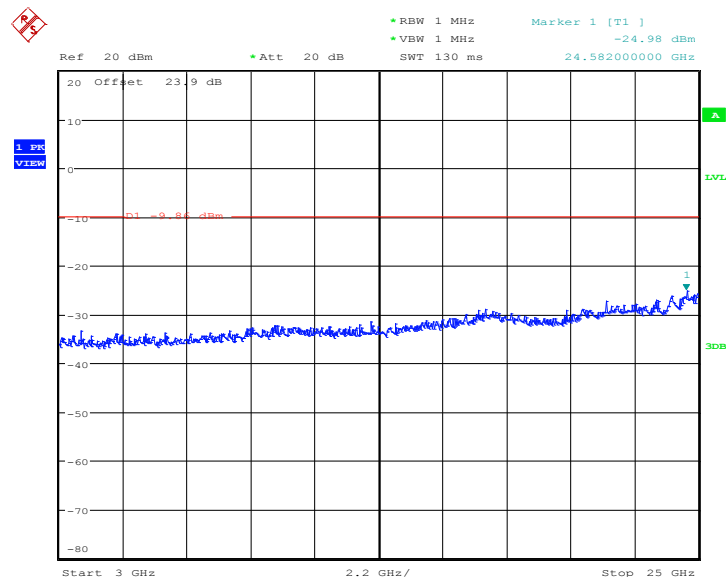
Test Mode :	Mode 2	Temperature :	24~26°C
Test Band :	802.11b	Relative Humidity :	50~53%
Test Channel :	06	Test Engineer :	Bill Kuo

Conducted Spurious Emission Plot between 30MHz ~ 3 GHz



Date: 10.MAY.2012 20:25:27

Conducted Spurious Emission Plot between 3 GHz ~ 25 GHz



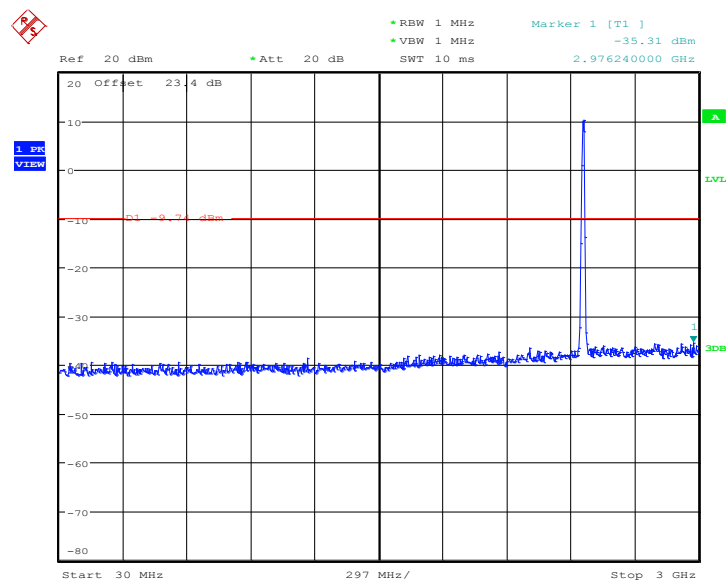
Date: 10.MAY.2012 20:25:43



Report No. : FR232306B

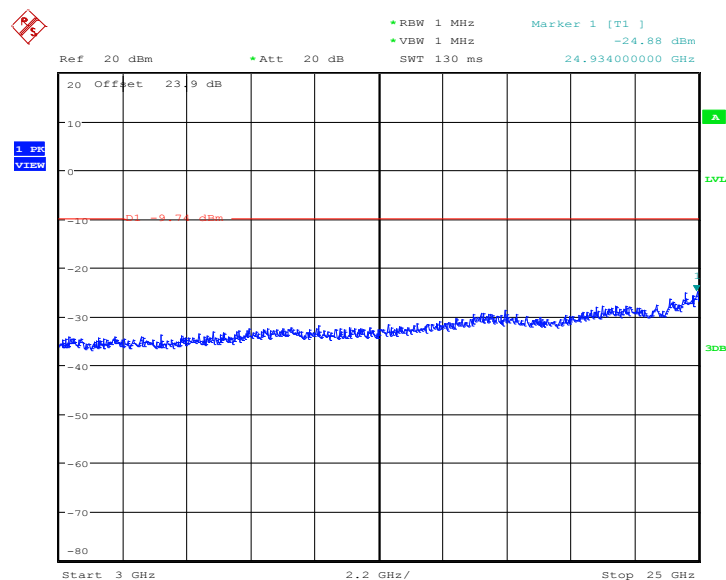
Test Mode :	Mode 3	Temperature :	24~26℃
Test Band :	802.11b	Relative Humidity :	50~53%
Test Channel :	11	Test Engineer :	Bill Kuo

Conducted Spurious Emission Plot between 30MHz ~ 3 GHz



Date: 10.MAY.2012 20:29:47

Conducted Spurious Emission Plot between 3 GHz ~ 25 GHz

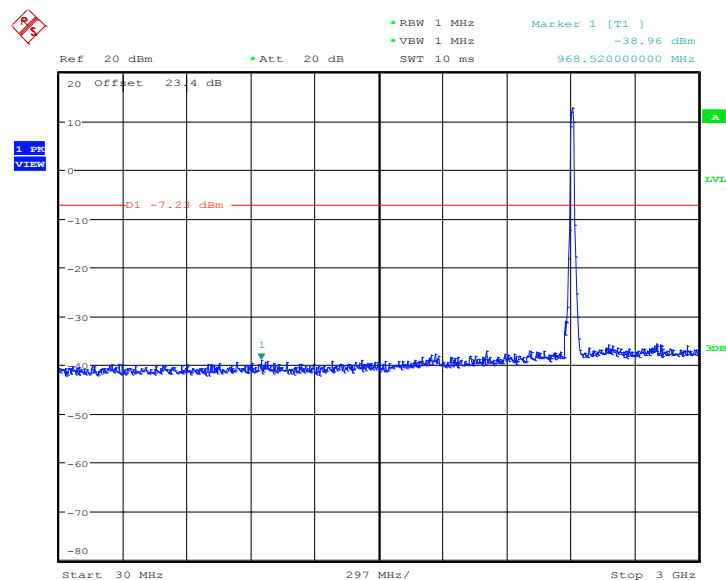


Date: 10.MAY.2012 20:30:03



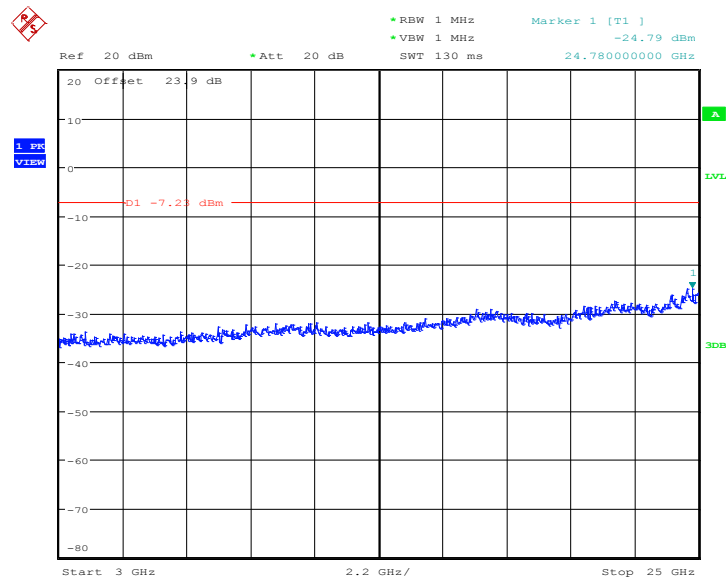
Test Mode :	Mode 4	Temperature :	24~26°C
Test Band :	802.11g	Relative Humidity :	50~53%
Test Channel :	01	Test Engineer :	Bill Kuo

Conducted Spurious Emission Plot between 30MHz ~ 3 GHz



Date: 10.MAY.2012 20:42:23

Conducted Spurious Emission Plot between 3 GHz ~ 25 GHz

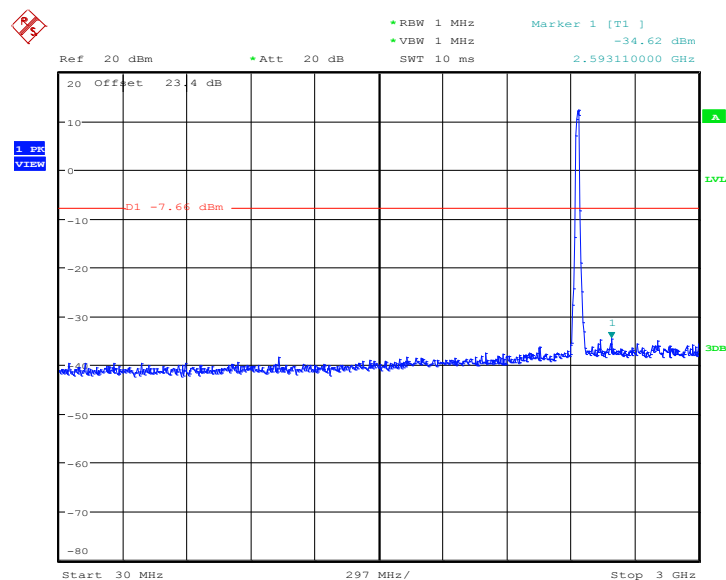


Date: 10.MAY.2012 20:42:39



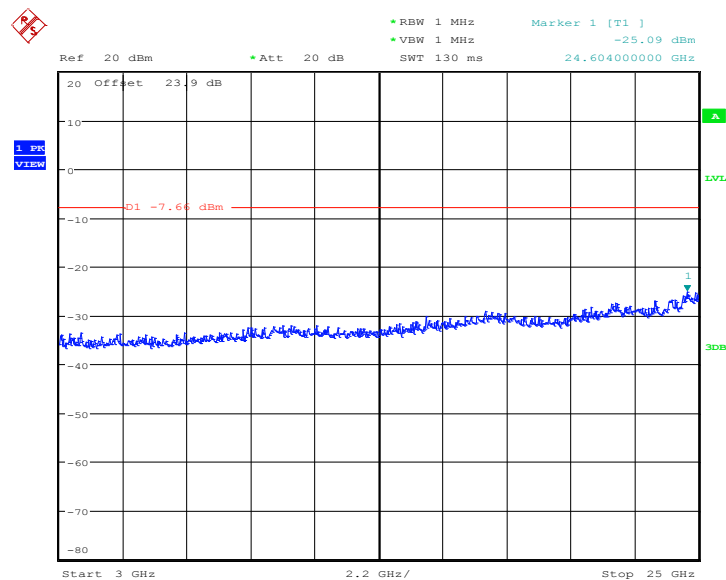
Test Mode :	Mode 5	Temperature :	24~26
Test Band :	802.11g	Relative Humidity :	50~53
Test Channel :	06	Test Engineer :	Bill Kuo

Conducted Spurious Emission Plot between 30MHz ~ 3 GHz



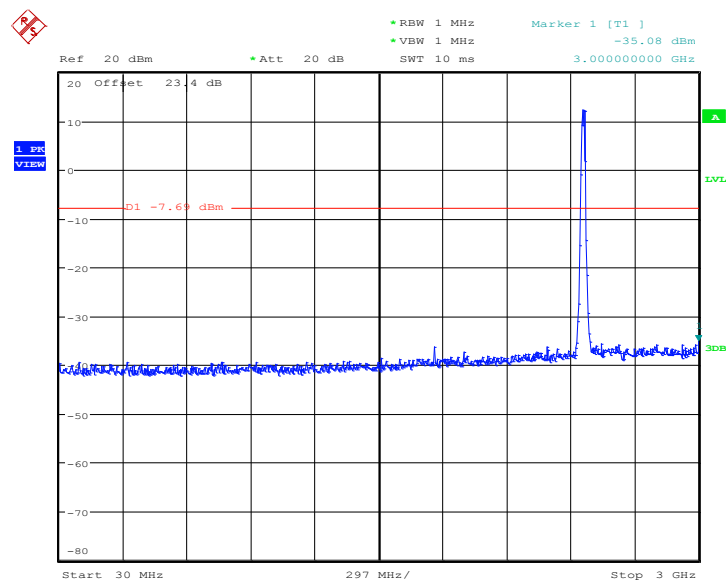
Date: 10.MAY.2012 20:38:36

Conducted Spurious Emission Plot between 3 GHz ~ 25 GHz

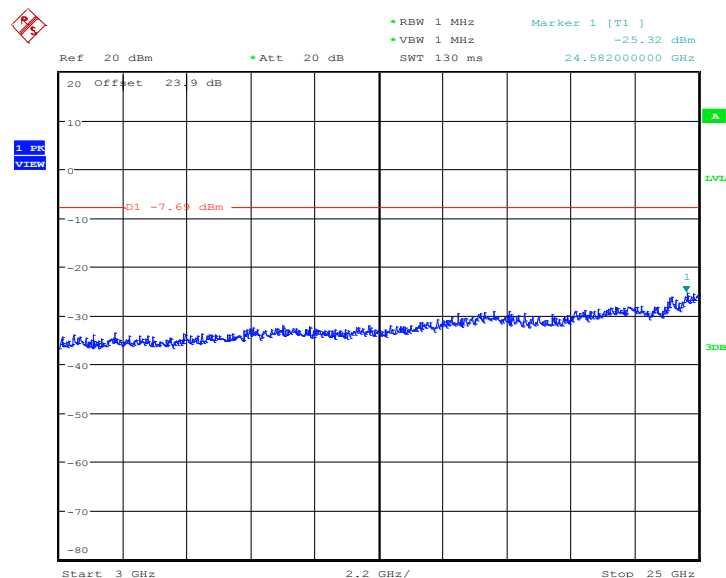


Date: 10.MAY.2012 20:38:53

Test Mode :	Mode 6	Temperature :	24~26°C
Test Band :	802.11g	Relative Humidity :	50~53%
Test Channel :	11	Test Engineer :	Bill Kuo

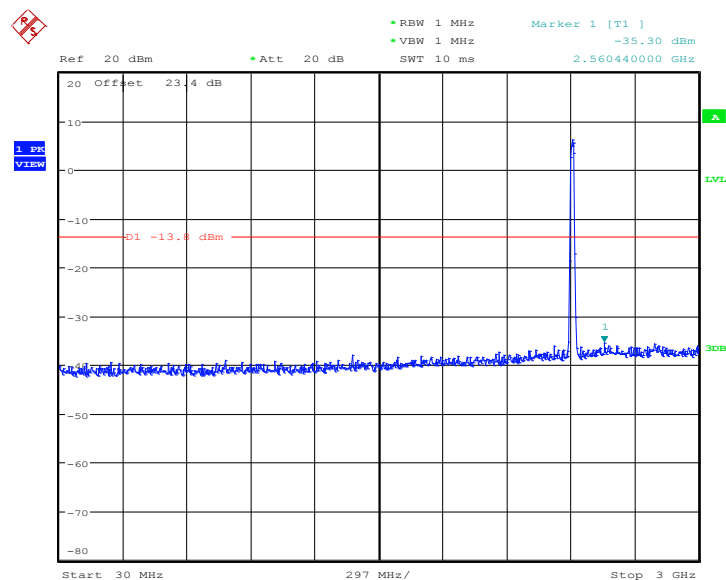
Conducted Spurious Emission Plot between 30MHz ~ 3 GHz


Date: 10.MAY.2012 20:35:28

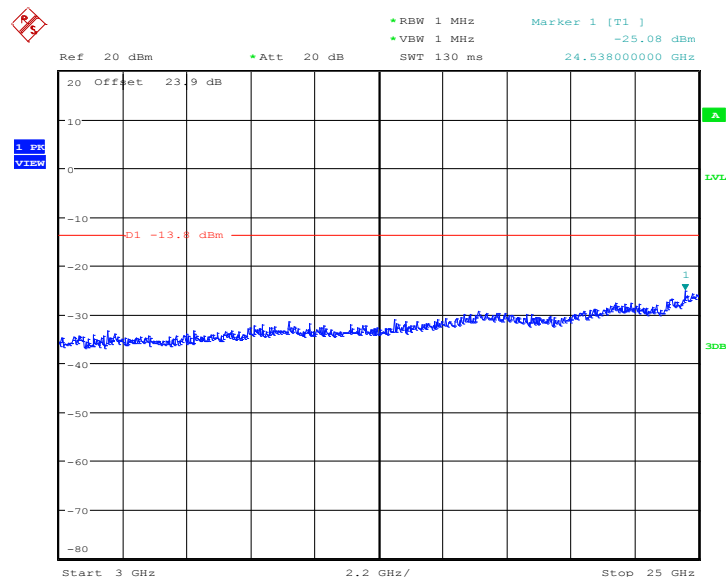
Conducted Spurious Emission Plot between 3 GHz ~ 25 GHz


Date: 10.MAY.2012 20:35:45

Test Mode :	Mode 7	Temperature :	24~26°C
Test Band :	802.11g/n (BW 20MHz)	Relative Humidity :	50~53%
Test Channel :	01	Test Engineer :	Bill Kuo

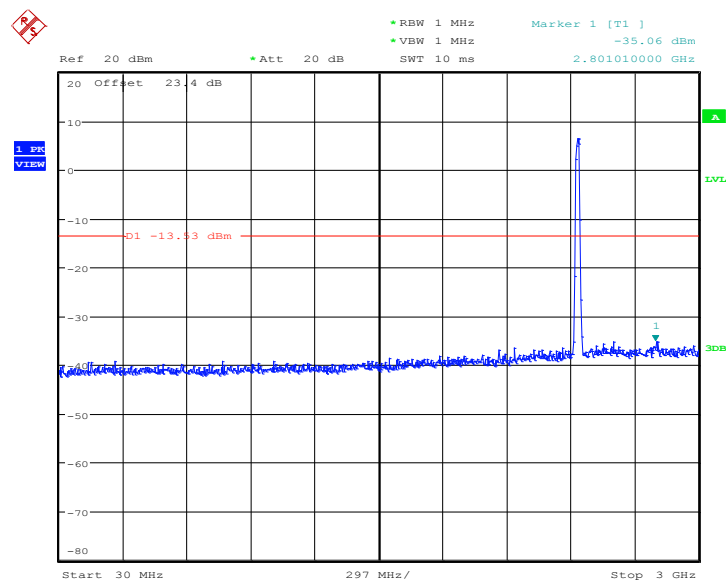
Conducted Spurious Emission Plot between 30MHz ~ 3 GHz


Date: 10.MAY.2012 20:48:30

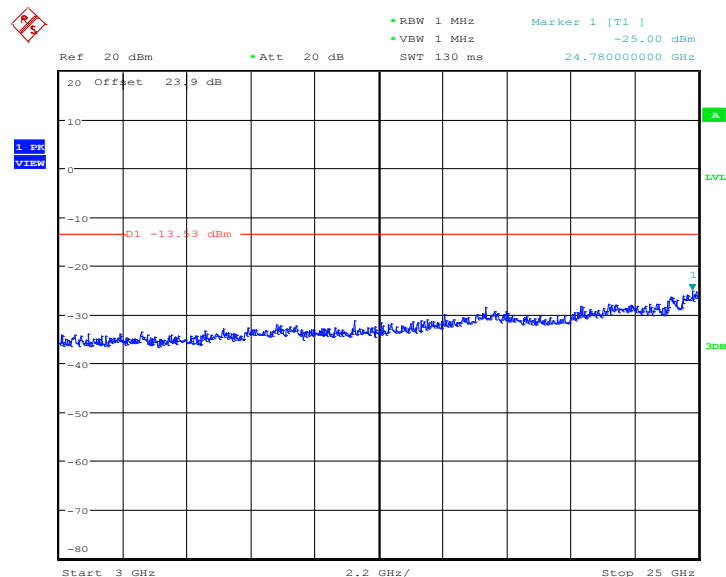
Conducted Spurious Emission Plot between 3 GHz ~ 25 GHz


Date: 10.MAY.2012 20:48:47

Test Mode :	Mode 8	Temperature :	24~26°C
Test Band :	802.11g/n (BW 20MHz)	Relative Humidity :	50~53%
Test Channel :	06	Test Engineer :	Bill Kuo

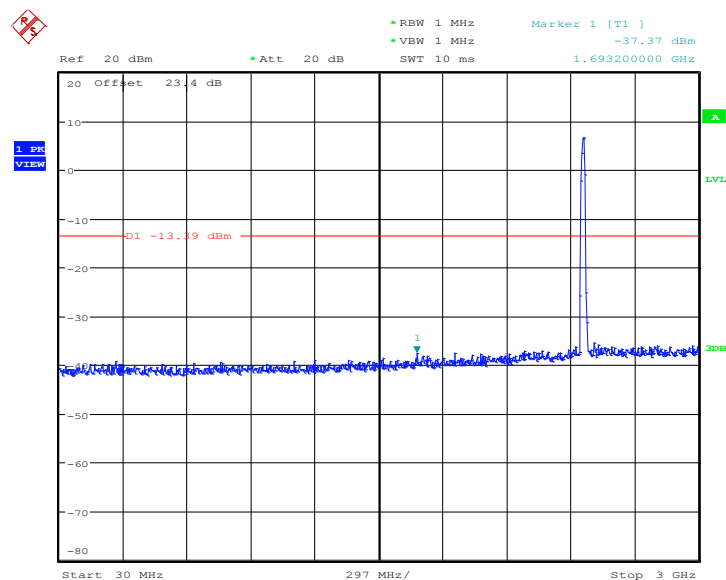
Conducted Spurious Emission Plot between 30MHz ~ 3 GHz


Date: 10.MAY.2012 20:52:46

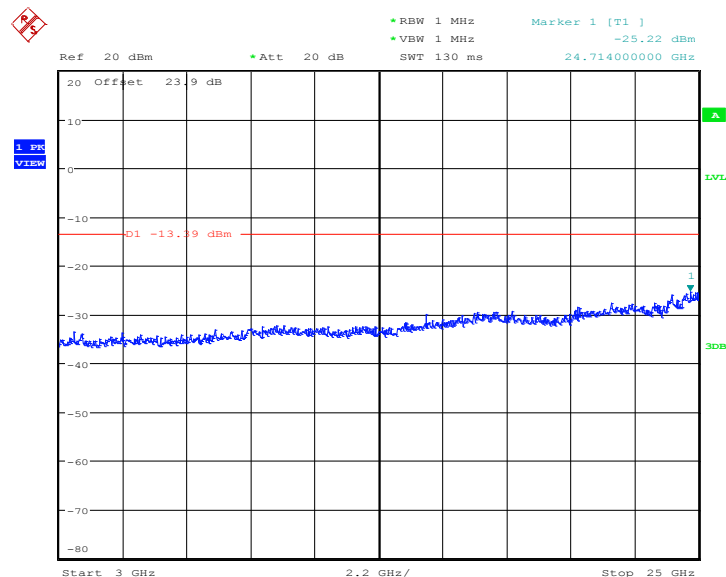
Conducted Spurious Emission Plot between 3 GHz ~ 25 GHz


Date: 10.MAY.2012 20:53:03

Test Mode :	Mode 9	Temperature :	24~26°C
Test Band :	802.11g/n (BW 20MHz)	Relative Humidity :	50~53%
Test Channel :	11	Test Engineer :	Bill Kuo

Conducted Spurious Emission Plot between 30MHz ~ 3 GHz


Date: 10.MAY.2012 20:56:12

Conducted Spurious Emission Plot between 3 GHz ~ 25 GHz


Date: 10.MAY.2012 20:56:29

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.

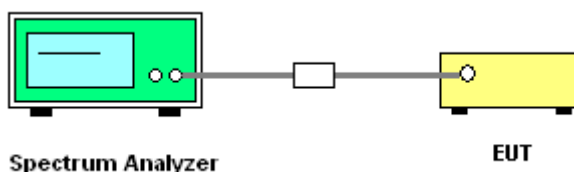
3.5.2 Measuring Instruments

See list of measuring instruments of this test report.

3.5.3 Test Procedures

1. The testing follows Measurement Procedure PKPSD of FCC KDB Publication No. 558074 D01 DTS Meas. Guidance DR01.
2. The RF output of EUT was connected to the spectrum analyzer by a low loss cable. The path loss was compensated to the results for each measurement.
3. Record the measurement data derived from spectrum analyzer.
4. Make the measurement with the spectrum analyzer's resolution bandwidth (RBW) = 100 KHz. Video bandwidth (VBW) $\geq$ 300 KHz In order to make an accurate measurement, set the span to 5-30% greater than Emission Bandwidth (EBW)
5. Detector = peak, Sweep time = auto couple, Trace mode = max hold, Allow trace to fully stabilize. Use the peak marker function to determine the maximum power level in any 100 kHz band segment within the fundamental EBW.
6. Scale the observed power level to an equivalent value in 3 kHz by adjusting (reducing) the measured power by a bandwidth correction factor (BWCF) where $BWCF = 10\log(3\text{ kHz}/100\text{ kHz} = -15.2\text{ dB})$.

3.5.4 Test Setup



3.5.5 Test Result of Power Spectral Density

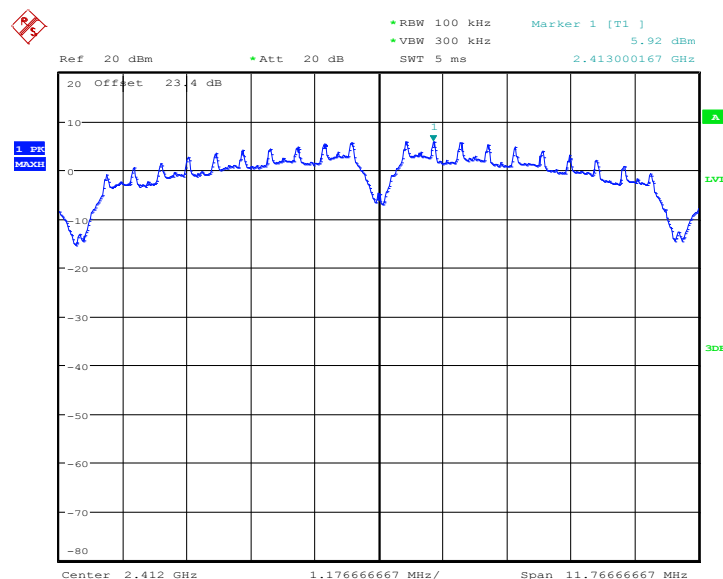
Test Mode :	Mode 1, 2, 3	Temperature :	24~26℃
Test Engineer :	Bill Kuo	Relative Humidity :	50~53%

Channel	Frequency (MHz)	802.11b Power Density		Max. Limits (dBm)	Pass/Fail
		Measured PSD/100KHz (dBm)	PSD/3KHz (dBm)		
01	2412	5.92	-9.28	8	Pass
06	2437	6.18	-9.02	8	Pass
11	2462	6.28	-8.92	8	Pass

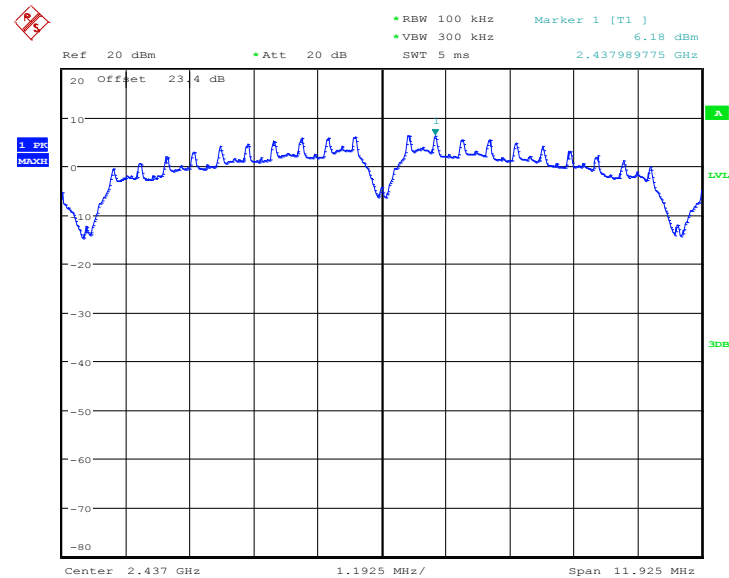
Note:

1. Measured power density (dBm) has offset with cable loss.
2. $BWCF (dB) = 10 \log (3k/100k) = -15.2 \text{ dB}$
3. $\text{Power Density/ 3kHz (dBm)} = \text{Measured power density/ 100KHz (dBm)} + BWCF (dB)$

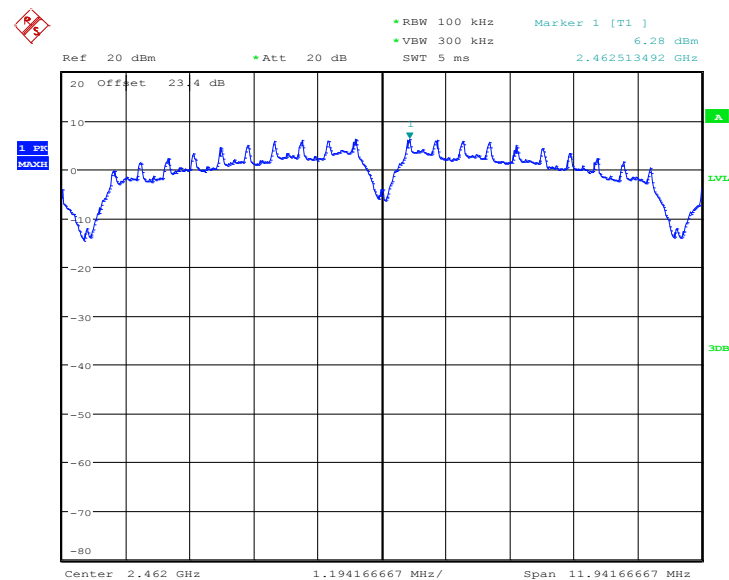
Mode 1 : PSD Plot on 802.11b Channel 01



Date: 10.MAY.2012 20:18:43

Mode 2 : PSD Plot on 802.11b Channel 06


Date: 10.MAY.2012 20:25:09

Mode 3 : PSD Plot on 802.11b Channel 11


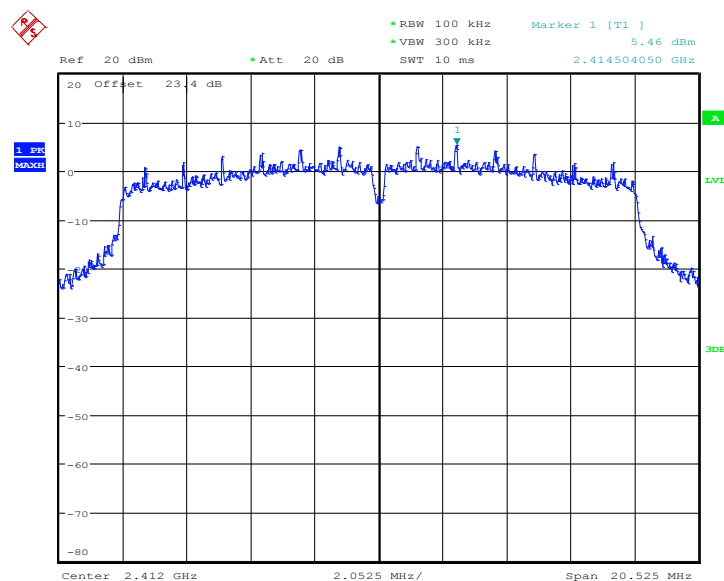
Date: 10.MAY.2012 20:28:53

Test Mode :	Mode 4, 5, 6	Temperature :	24~26°C
Test Engineer :	Bill Kuo	Relative Humidity :	50~53%

Channel	Frequency (MHz)	802.11g Power Density		Max. Limits (dBm)	Pass/Fail
		Measured PSD/100KHz (dBm)	PSD/3KHz (dBm)		
01	2412	5.46	-9.74	8	Pass
06	2437	4.90	-10.30	8	Pass
11	2462	5.07	-10.13	8	Pass

Note:

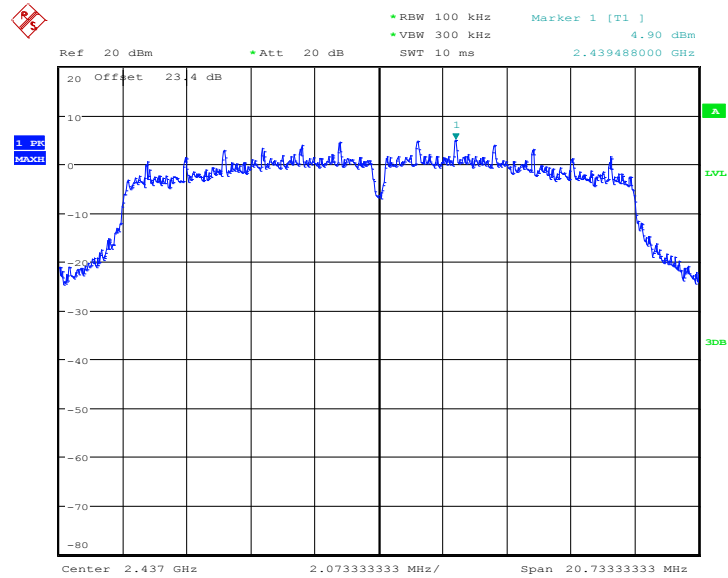
1. Measured power density (dBm) has offset with cable loss.
2. $BWCF (dB) = 10 \log (3k/100k) = -15.2 \text{ dB}$
3. $\text{Power Density/ 3KHz (dBm)} = \text{Measured power density/ 100KHz (dBm)} + BWCF (dB)$

Mode 4 : PSD Plot on 802.11g Channel 01


Date: 10.MAY.2012 20:41:27

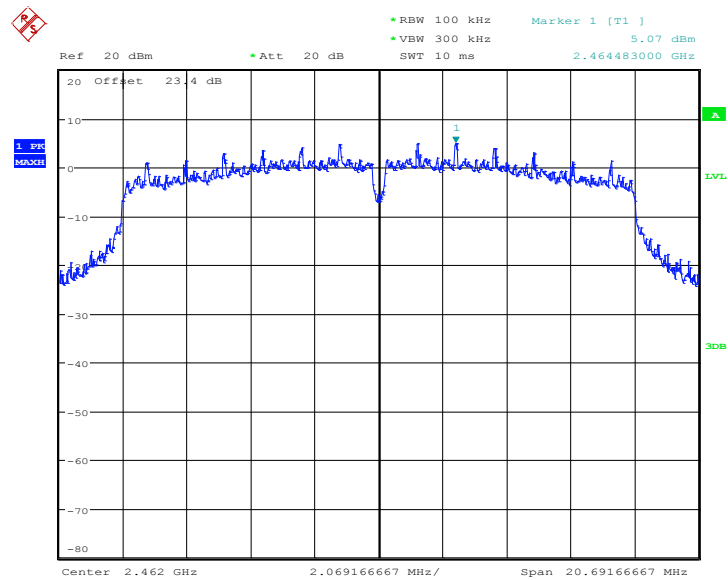


Mode 5 : PSD Plot on 802.11g Channel 06



Date: 10.MAY.2012 20:38:17

Mode 6 : PSD Plot on 802.11g Channel 11



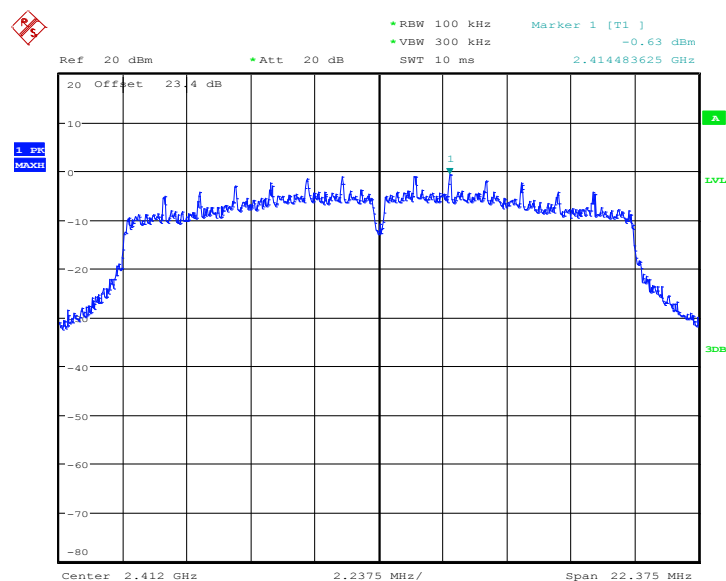
Date: 10.MAY.2012 20:34:47

Test Mode :	Mode 7, 8, 9	Temperature :	24~26°C
Test Engineer :	Bill Kuo	Relative Humidity :	50~53%

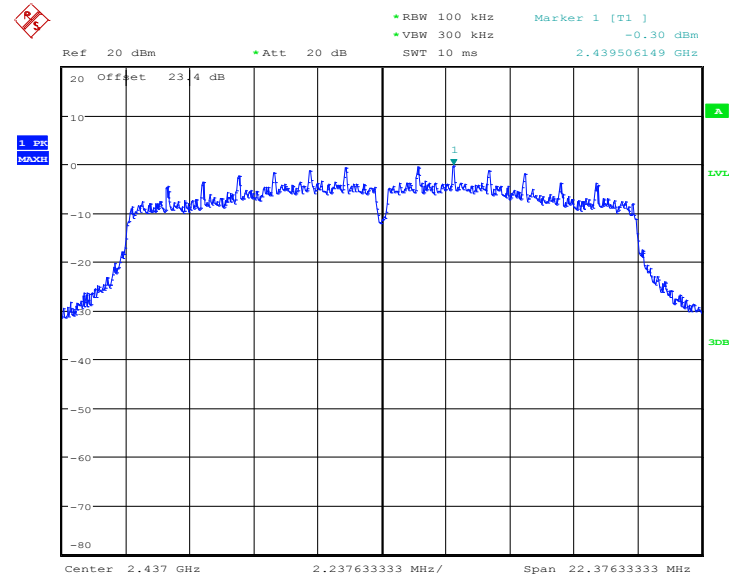
Channel	Frequency (MHz)	802.11g/n (BW 20MHz) Power Density		Max. Limits (dBm)	Pass/Fail
		Measured PSD/100KHz (dBm)	PSD/3KHz (dBm)		
01	2412	-0.63	-15.83	8	Pass
06	2437	-0.30	-15.50	8	Pass
11	2462	-0.20	-15.40	8	Pass

Note:

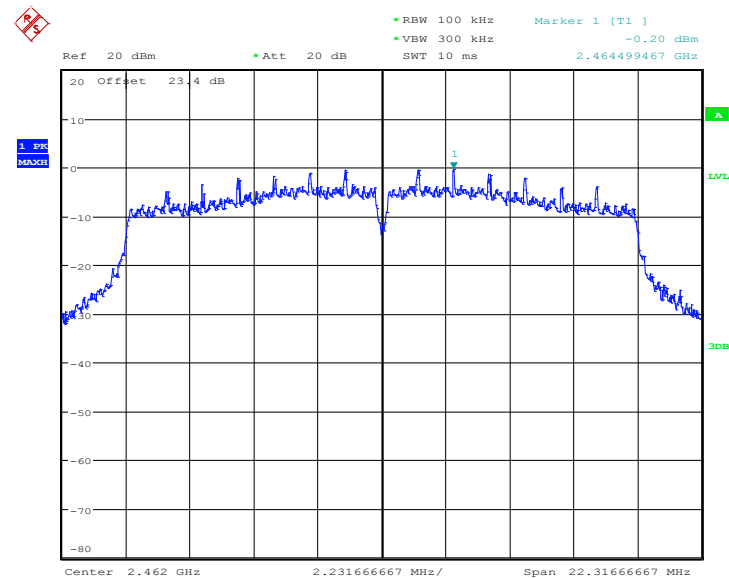
1. Measured power density (dBm) has offset with cable loss.
2. $BWCF (dB) = 10 \log (3k/100k) = -15.2 \text{ dB}$
3. $\text{Power Density/ 3KHz (dBm)} = \text{Measured power density/ 100KHz (dBm)} + BWCF (dB)$

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


Date: 10.MAY.2012 20:47:27

Mode 8 : PSD Plot on 802.11g/n (BW 20MHz) Channel 06


Date: 10.MAY.2012 20:52:28

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


Date: 10.MAY.2012 20:55:30

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.

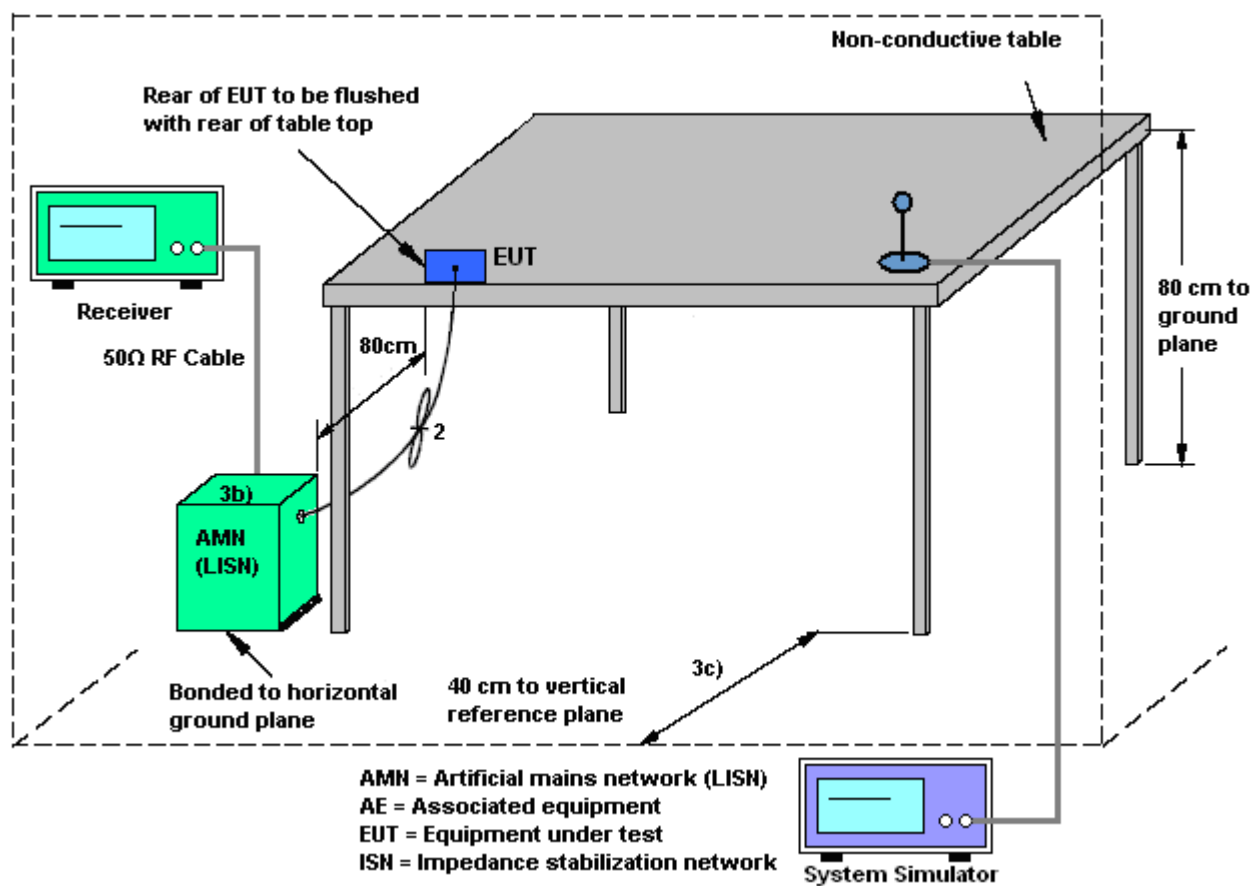
3.6.2 Measuring Instruments

See list of measuring instruments of this test report.

3.6.3 Test Procedures

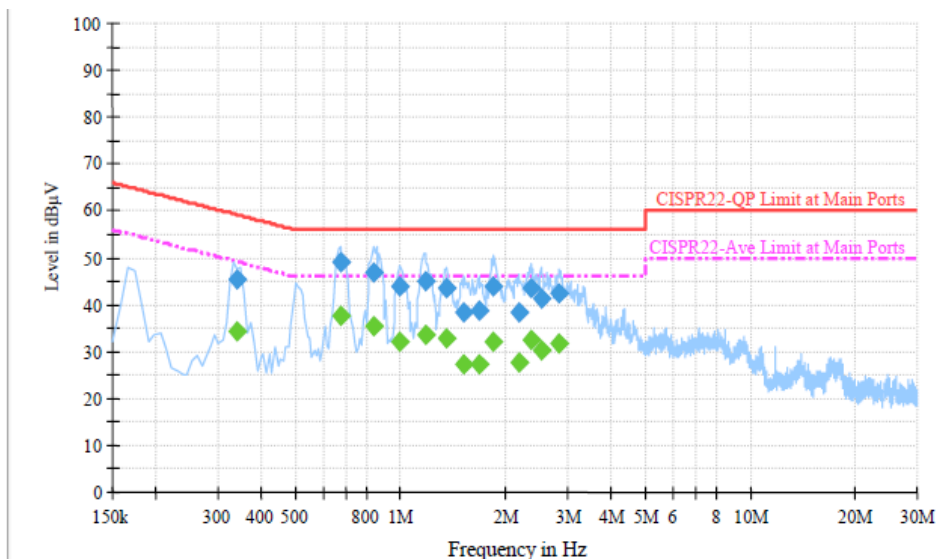
1. The testing follows the guidelines in ANSI C63.4-2003.
2. The EUT was placed 0.4 meter from the conducting wall of the shielding room, and it was kept at least 80 centimeters from any other grounded conducting surface.
3. Connect EUT to the power mains through a line impedance stabilization network (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

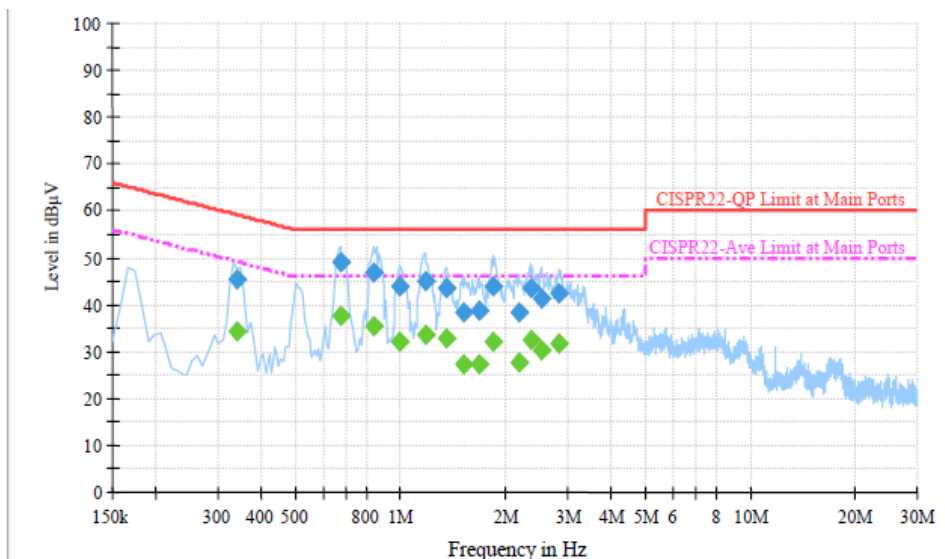
Test Mode :	Mode 1	Temperature :	20~22°C
Test Engineer :	Kai-Chun Chu	Relative Humidity :	45~47%
Test Voltage :	120Vac / 60Hz	Phase :	Line
Function Type :	GSM850 Idle + Bluetooth Link + WLAN (2.4G) Link + Camera + Earphone + Battery + USB Cable (Charging from Adapter) + HDMI Cable		
Remark :	All emissions not reported here are more than 10 dB below the prescribed limit.		



Final Result : QuasiPeak

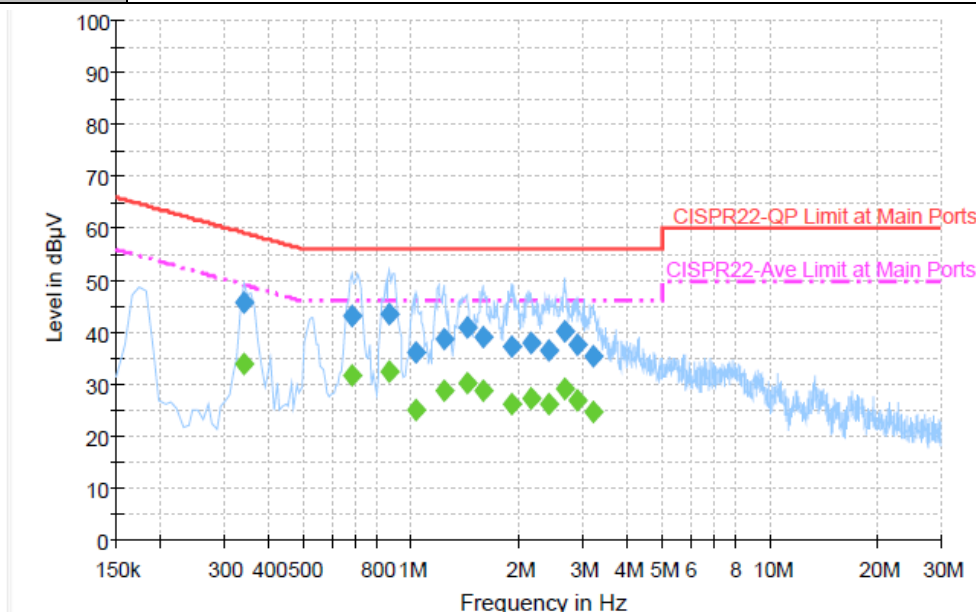
Frequency (MHz)	QuasiPeak (dBμV)	Filter	Line	Corr. (dB)	Margin (dB)	Limit (dBμV)
0.342000	45.4	Off	L1	19.4	13.8	59.2
0.678000	49.1	Off	L1	19.4	6.9	56.0
0.838000	46.9	Off	L1	19.5	9.1	56.0
0.998000	44.0	Off	L1	19.4	12.0	56.0
1.174000	45.0	Off	L1	19.4	11.0	56.0
1.358000	43.4	Off	L1	19.4	12.6	56.0
1.518000	38.3	Off	L1	19.4	17.7	56.0
1.678000	38.9	Off	L1	19.4	17.1	56.0
1.846000	43.9	Off	L1	19.4	12.1	56.0
2.182000	38.5	Off	L1	19.5	17.5	56.0
2.374000	43.4	Off	L1	19.5	12.6	56.0
2.518000	41.4	Off	L1	19.4	14.6	56.0
2.838000	42.5	Off	L1	19.4	13.5	56.0

Test Mode :	Mode 1	Temperature :	20~22°C
Test Engineer :	Kai-Chun Chu	Relative Humidity :	45~47%
Test Voltage :	120Vac / 60Hz	Phase :	Line
Function Type :	GSM850 Idle + Bluetooth Link + WLAN (2.4G) Link + Camera + Earphone + Battery + USB Cable (Charging from Adapter) + HDMI Cable		
Remark :	All emissions not reported here are more than 10 dB below the prescribed limit.		


Final Result : Average

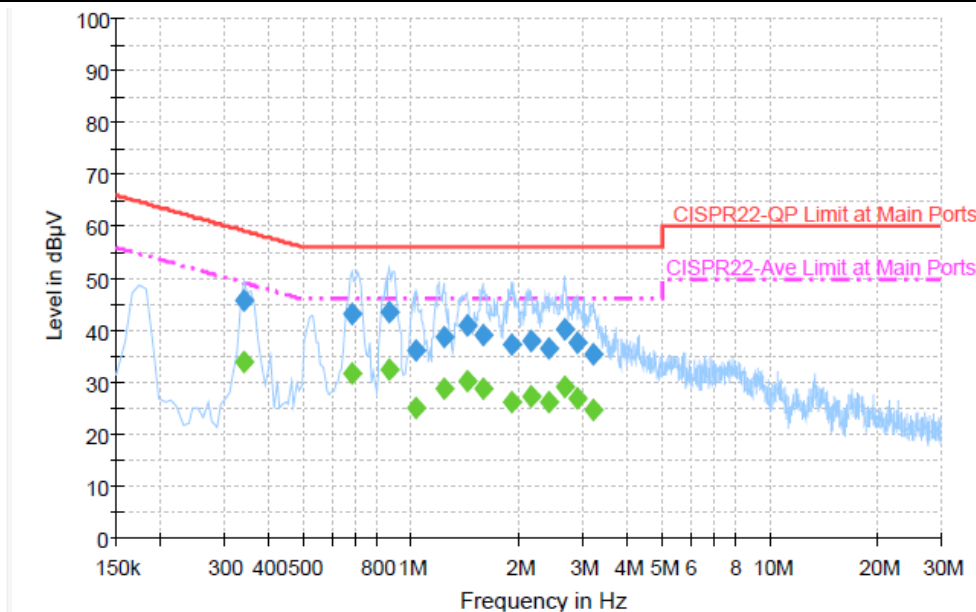
Frequency (MHz)	Average (dBµV)	Filter	Line	Corr. (dB)	Margin (dB)	Limit (dBµV)
0.342000	34.4	Off	L1	19.4	14.8	49.2
0.678000	37.6	Off	L1	19.4	8.4	46.0
0.838000	35.5	Off	L1	19.5	10.5	46.0
0.998000	32.2	Off	L1	19.4	13.8	46.0
1.174000	33.5	Off	L1	19.4	12.5	46.0
1.358000	32.7	Off	L1	19.4	13.3	46.0
1.518000	27.3	Off	L1	19.4	18.7	46.0
1.678000	27.4	Off	L1	19.4	18.6	46.0
1.846000	32.2	Off	L1	19.4	13.8	46.0
2.182000	27.7	Off	L1	19.5	18.3	46.0
2.374000	32.3	Off	L1	19.5	13.7	46.0
2.518000	30.4	Off	L1	19.4	15.6	46.0
2.838000	31.6	Off	L1	19.4	14.4	46.0

Test Mode :	Mode 1	Temperature :	20~22°C
Test Engineer :	Kai-Chun Chu	Relative Humidity :	45~47%
Test Voltage :	120Vac / 60Hz	Phase :	Neutral
Function Type :	GSM850 Idle + Bluetooth Link + WLAN (2.4G) Link + Camera + Earphone + Battery + USB Cable (Charging from Adapter) + HDMI Cable		
Remark :	All emissions not reported here are more than 10 dB below the prescribed limit.		


Final Result : QuasiPeak

Frequency (MHz)	QuasiPeak (dBμV)	Filter	Line	Corr. (dB)	Margin (dB)	Limit (dBμV)
0.342000	45.7	Off	N	19.4	13.5	59.2
0.686000	43.2	Off	N	19.5	12.8	56.0
0.870000	43.6	Off	N	19.5	12.4	56.0
1.030000	36.2	Off	N	19.5	19.8	56.0
1.230000	38.6	Off	N	19.5	17.4	56.0
1.430000	41.0	Off	N	19.5	15.0	56.0
1.582000	39.1	Off	N	19.5	16.9	56.0
1.894000	37.5	Off	N	19.5	18.5	56.0
2.150000	38.0	Off	N	19.5	18.0	56.0
2.414000	36.6	Off	N	19.5	19.4	56.0
2.670000	40.1	Off	N	19.5	15.9	56.0
2.918000	37.6	Off	N	19.5	18.4	56.0
3.214000	35.3	Off	N	19.5	20.7	56.0

Test Mode :	Mode 1	Temperature :	20~22°C
Test Engineer :	Kai-Chun Chu	Relative Humidity :	45~47%
Test Voltage :	120Vac / 60Hz	Phase :	Neutral
Function Type :	GSM850 Idle + Bluetooth Link + WLAN (2.4G) Link + Camera + Earphone + Battery + USB Cable (Charging from Adapter) + HDMI Cable		
Remark :	All emissions not reported here are more than 10 dB below the prescribed limit.		


Final Result : Average

Frequency (MHz)	Average (dBμV)	Filter	Line	Corr. (dB)	Margin (dB)	Limit (dBμV)
0.342000	33.8	Off	N	19.4	15.4	49.2
0.686000	31.7	Off	N	19.5	14.3	46.0
0.870000	32.3	Off	N	19.5	13.7	46.0
1.030000	25.1	Off	N	19.5	20.9	46.0
1.230000	28.7	Off	N	19.5	17.3	46.0
1.430000	30.1	Off	N	19.5	15.9	46.0
1.582000	28.8	Off	N	19.5	17.2	46.0
1.894000	26.3	Off	N	19.5	19.7	46.0
2.150000	27.3	Off	N	19.5	18.7	46.0
2.414000	26.0	Off	N	19.5	20.0	46.0
2.670000	29.1	Off	N	19.5	16.9	46.0
2.918000	27.1	Off	N	19.5	18.9	46.0
3.214000	24.7	Off	N	19.5	21.3	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

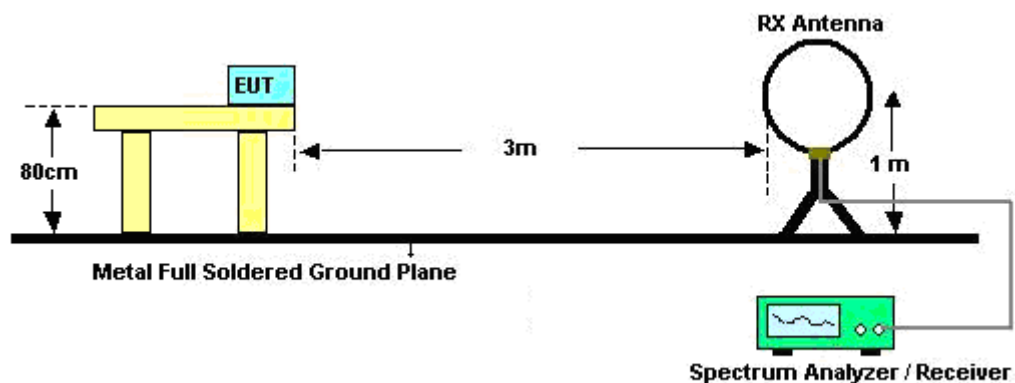
See list of measuring instruments of this test report.

3.7.3 Test Procedures

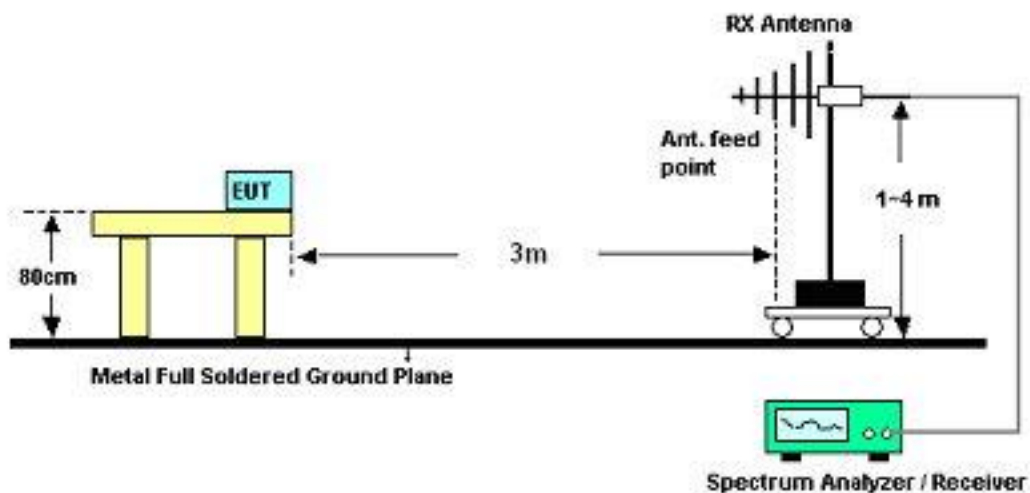
- Use the following spectrum analyzer settings:
 - Span shall wide enough to fully capture the emission being measured;
 - Set RBW = 1 MHz for $f \geq 1$ GHz, 100 KHz for $f < 1$ GHz; VBW $\geq$ RBW; Sweep = auto; Detector function = peak; Trace = max hold;
 - Measurement above 18 GHz shall be extrapolated to the specified distance using an extrapolation factor of 20 dB per decade from 3m to 1m.
Distance extrapolation factor = $20 \log (\text{specific distance [3m]} / \text{test distance [1m]})$ (dB)
- Maximize the emission by rotating the EUT for three orthogonal planes, and adjusting the measurement antenna height and polarization. A pre-amp and a high pass filter are used for the test in order to get better signal level to comply with the guidelines in ANSI C63.4-2003.

3.7.4 Test Setup

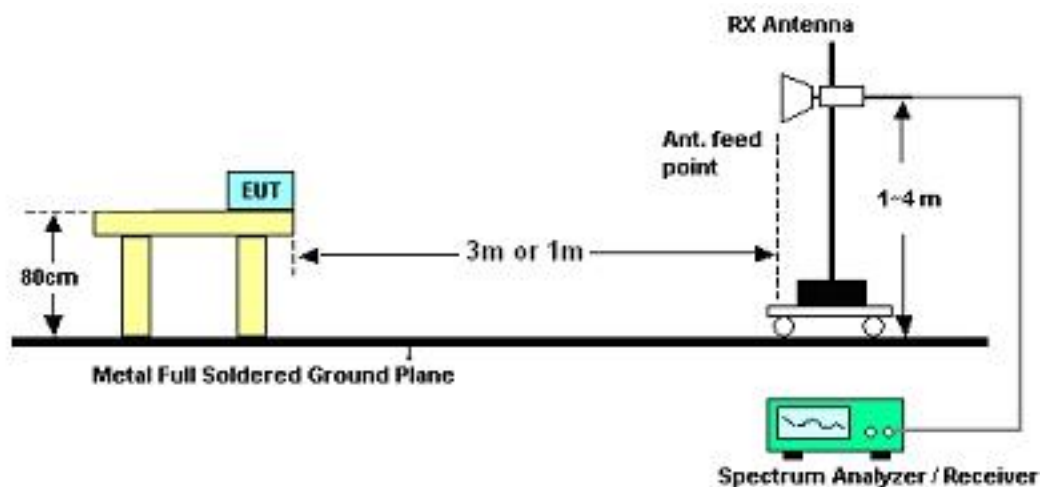
For radiated emissions below 30MHz



For radiated emissions from 30MHz to 1GHz



For radiated emissions above 1GHz



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

The low frequency, which started from 9 KHz to 30MHz, was pre-scanned and the result which was 20dB lower than the limit line per 15.31(o) was not reported.

3.7.6 Test Result of Radiated Emission (30 MHz ~ 10th Harmonic)

Test Mode :	Mode 1	Temperature :	20~22℃
Test Channel :	01	Relative Humidity :	40~42%
Test Engineer :	David Ke	Polarization :	Horizontal
Remark :	2412 MHz is fundamental signal which can be ignored.		

Frequency (MHz)	Level (dBμV/m)	Over Limit (dB)	Limit Line (dBμV/m)	Read Level (dBμV)	Antenna Factor (dB)	Cable Loss (dB)	Preamp Factor (dB)	Ant Pos (cm)	Table Pos (deg)	Remark
2386	49.86	-4.14	54	49.14	32.02	4.58	35.88	100	265	Average
2386	58.42	-15.58	74	57.7	32.02	4.58	35.88	100	265	Peak
2412	99.67	-	-	98.91	32.03	4.59	35.86	100	265	Average
2412	111.41	-	-	110.65	32.03	4.59	35.86	100	265	Peak
2496	38.09	-15.91	54	37.15	32.1	4.64	35.8	100	265	Average
2496	50.24	-23.76	74	49.3	32.1	4.64	35.8	100	265	Peak

Test Mode :	Mode 1	Temperature :	20~22℃
Test Channel :	01	Relative Humidity :	40~42%
Test Engineer :	David Ke	Polarization :	Vertical
Remark :	2412 MHz is fundamental signal which can be ignored.		

Frequency (MHz)	Level (dBμV/m)	Over Limit (dB)	Limit Line (dBμV/m)	Read Level (dBμV)	Antenna Factor (dB)	Cable Loss (dB)	Preamp Factor (dB)	Ant Pos (cm)	Table Pos (deg)	Remark
2386	43.67	-10.33	54	42.95	32.02	4.58	35.88	100	279	Average
2386	52.93	-21.07	74	52.21	32.02	4.58	35.88	100	279	Peak
2412	95.07	-	-	94.31	32.03	4.59	35.86	100	279	Average
2412	106.18	-	-	105.42	32.03	4.59	35.86	100	279	Peak
2490	36.03	-17.97	54	35.1	32.1	4.64	35.81	100	279	Average
2490	47.43	-26.57	74	46.5	32.1	4.64	35.81	100	279	Peak

Test Mode :	Mode 2	Temperature :	20~22℃
Test Channel :	06	Relative Humidity :	40~42%
Test Engineer :	David Ke	Polarization :	Horizontal
Remark :	2437 MHz is fundamental signal which can be ignored.		

Frequency (MHz)	Level (dBμV/m)	Over Limit (dB)	Limit Line (dBμV/m)	Read Level (dBμV)	Antenna Factor (dB)	Cable Loss (dB)	Preamp Factor (dB)	Ant Pos (cm)	Table Pos (deg)	Remark
2370	36.8	-17.2	54	36.11	32	4.57	35.88	100	267	Average
2370	48.05	-25.95	74	47.36	32	4.57	35.88	100	267	Peak
2437	98.93	-	-	98.1	32.06	4.61	35.84	100	267	Average
2437	109.9	-	-	109.07	32.06	4.61	35.84	100	267	Peak
2484	37.22	-16.78	54	36.3	32.09	4.64	35.81	100	267	Average
2484	48.98	-25.02	74	48.06	32.09	4.64	35.81	100	267	Peak

Test Mode :	Mode 2	Temperature :	20~22℃
Test Channel :	06	Relative Humidity :	40~42%
Test Engineer :	David Ke	Polarization :	Vertical
Remark :	2437 MHz is fundamental signal which can be ignored.		

Frequency (MHz)	Level (dBμV/m)	Over Limit (dB)	Limit Line (dBμV/m)	Read Level (dBμV)	Antenna Factor (dB)	Cable Loss (dB)	Preamp Factor (dB)	Ant Pos (cm)	Table Pos (deg)	Remark
2384	35.07	-18.93	54	34.37	32	4.58	35.88	100	313	Average
2384	46.14	-27.86	74	45.44	32	4.58	35.88	100	313	Peak
2437	93.49	-	-	92.66	32.06	4.61	35.84	100	313	Average
2437	104.05	-	-	103.22	32.06	4.61	35.84	100	313	Peak
2484	35.43	-18.57	54	34.51	32.09	4.64	35.81	100	313	Average
2484	46.16	-27.84	74	45.24	32.09	4.64	35.81	100	313	Peak

Test Mode :	Mode 3	Temperature :	20~22℃
Test Channel :	11	Relative Humidity :	40~42%
Test Engineer :	David Ke	Polarization :	Horizontal
Remark :	2462 MHz is fundamental signal which can be ignored.		

Frequency (MHz)	Level (dBμV/m)	Over Limit (dB)	Limit Line (dBμV/m)	Read Level (dBμV)	Antenna Factor (dB)	Cable Loss (dB)	Preamp Factor (dB)	Ant Pos (cm)	Table Pos (deg)	Remark
2386	36.05	-17.95	54	35.33	32.02	4.58	35.88	100	252	Average
2386	47.25	-26.75	74	46.53	32.02	4.58	35.88	100	252	Peak
2462	98.27	-	-	97.41	32.07	4.62	35.83	100	252	Average
2462	109.68	-	-	108.82	32.07	4.62	35.83	100	252	Peak
2487.65	48.31	-5.69	54	47.38	32.1	4.64	35.81	100	252	Average
2487.65	57.5	-16.5	74	56.57	32.1	4.64	35.81	100	252	Peak

Test Mode :	Mode 3	Temperature :	20~22℃
Test Channel :	11	Relative Humidity :	40~42%
Test Engineer :	David Ke	Polarization :	Vertical
Remark :	2462 MHz is fundamental signal which can be ignored.		

Frequency (MHz)	Level (dBμV/m)	Over Limit (dB)	Limit Line (dBμV/m)	Read Level (dBμV)	Antenna Factor (dB)	Cable Loss (dB)	Preamp Factor (dB)	Ant Pos (cm)	Table Pos (deg)	Remark
2358	34.91	-19.09	54	34.24	31.99	4.57	35.89	100	270	Average
2358	46.22	-27.78	74	45.55	31.99	4.57	35.89	100	270	Peak
2462	93.43	-	-	92.57	32.07	4.62	35.83	100	270	Average
2462	104.73	-	-	103.87	32.07	4.62	35.83	100	270	Peak
2488.03	43.38	-10.62	54	42.45	32.1	4.64	35.81	100	270	Average
2488.03	52.84	-21.16	74	51.91	32.1	4.64	35.81	100	270	Peak

Test Mode :	Mode 4	Temperature :	20~22℃
Test Channel :	01	Relative Humidity :	40~42%
Test Engineer :	David Ke	Polarization :	Horizontal
Remark :	2412 MHz is fundamental signal which can be ignored.		

Frequency (MHz)	Level (dBμV/m)	Over Limit (dB)	Limit Line (dBμV/m)	Read Level (dBμV)	Antenna Factor (dB)	Cable Loss (dB)	Preamp Factor (dB)	Ant Pos (cm)	Table Pos (deg)	Remark
30	22.71	-17.29	40	33.85	19.8	0.7	31.64	-	-	Peak
140.97	26.29	-17.21	43.5	45.02	11.27	1.27	31.27	-	-	Peak
206.31	28.62	-14.88	43.5	49.13	9.16	1.49	31.16	100	41	Peak
323.1	29.41	-16.59	46	44.92	13.59	1.84	30.94	-	-	Peak
383.3	26.76	-19.24	46	40.53	15.29	1.97	31.03	-	-	Peak
755.7	24.84	-21.16	46	29.88	22.35	2.76	30.15	-	-	Peak
2389.23	43.89	-10.11	54	43.17	32.02	4.58	35.88	100	266	Average
2389.23	72.52	-1.48	74	71.8	32.02	4.58	35.88	100	266	Peak
2412	75.08	-	-	74.32	32.03	4.59	35.86	100	266	Average
2412	113.09	-	-	112.33	32.03	4.59	35.86	100	266	Peak
2496	36.71	-17.29	54	35.77	32.1	4.64	35.8	100	266	Average
2496	50.03	-23.97	74	49.09	32.1	4.64	35.8	100	266	Peak

Test Mode :	Mode 4	Temperature :	20~22℃
Test Channel :	01	Relative Humidity :	40~42%
Test Engineer :	David Ke	Polarization :	Vertical
Remark :	2412 MHz is fundamental signal which can be ignored.		

Frequency (MHz)	Level (dBμV/m)	Over Limit (dB)	Limit Line (dBμV/m)	Read Level (dBμV)	Antenna Factor (dB)	Cable Loss (dB)	Preamp Factor (dB)	Ant Pos (cm)	Table Pos (deg)	Remark
32.97	33.5	-6.5	40	46.65	17.76	0.72	31.63	100	69	Peak
53.49	23.26	-16.74	40	46.87	7.06	0.82	31.49	-	-	Peak
209.55	28.66	-14.84	43.5	49.15	9.19	1.5	31.18	-	-	Peak
314	24.25	-21.75	46	39.97	13.38	1.81	30.91	-	-	Peak
605.9	23.21	-22.79	46	31.06	20.08	2.44	30.37	-	-	Peak
631.8	25.08	-20.92	46	32.17	20.6	2.53	30.22	-	-	Peak
2388.47	43.17	-10.83	54	42.45	32.02	4.58	35.88	101	302	Average
2388.47	69.76	-4.24	74	69.04	32.02	4.58	35.88	101	302	Peak
2412	73.6	-	-	72.84	32.03	4.59	35.86	101	302	Average
2412	110.86	-	-	110.1	32.03	4.59	35.86	101	302	Peak
2484	36.23	-17.77	54	35.31	32.09	4.64	35.81	101	302	Average
2484	48.94	-25.06	74	48.02	32.09	4.64	35.81	101	302	Peak

Test Mode :	Mode 5	Temperature :	20~22℃
Test Channel :	06	Relative Humidity :	40~42%
Test Engineer :	David Ke	Polarization :	Horizontal
Remark :	2437 MHz is fundamental signal which can be ignored.		

Frequency (MHz)	Level (dBμV/m)	Over Limit (dB)	Limit Line (dBμV/m)	Read Level (dBμV)	Antenna Factor (dB)	Cable Loss (dB)	Preamp Factor (dB)	Ant Pos (cm)	Table Pos (deg)	Remark
2390	36.7	-17.3	54	35.96	32.02	4.58	35.86	125	267	Average
2390	50.14	-23.86	74	49.4	32.02	4.58	35.86	125	267	Peak
2437	74.54	-	-	73.71	32.06	4.61	35.84	125	267	Average
2437	111.69	-	-	110.86	32.06	4.61	35.84	125	267	Peak
2484	38.23	-15.77	54	37.31	32.09	4.64	35.81	125	267	Average
2484	52.75	-21.25	74	51.83	32.09	4.64	35.81	125	267	Peak

Test Mode :	Mode 5	Temperature :	20~22℃
Test Channel :	06	Relative Humidity :	40~42%
Test Engineer :	David Ke	Polarization :	Vertical
Remark :	2437 MHz is fundamental signal which can be ignored.		

Frequency (MHz)	Level (dBμV/m)	Over Limit (dB)	Limit Line (dBμV/m)	Read Level (dBμV)	Antenna Factor (dB)	Cable Loss (dB)	Preamp Factor (dB)	Ant Pos (cm)	Table Pos (deg)	Remark
2386	35.73	-18.27	54	35.01	32.02	4.58	35.88	100	310	Average
2386	48.78	-25.22	74	48.06	32.02	4.58	35.88	100	310	Peak
2437	72.87	-	-	72.04	32.06	4.61	35.84	100	310	Average
2437	108.97	-	-	108.14	32.06	4.61	35.84	100	310	Peak
2484	37.26	-16.74	54	36.34	32.09	4.64	35.81	100	310	Average
2484	51.38	-22.62	74	50.46	32.09	4.64	35.81	100	310	Peak

Test Mode :	Mode 6	Temperature :	20~22℃
Test Channel :	11	Relative Humidity :	40~42%
Test Engineer :	David Ke	Polarization :	Horizontal
Remark :	2462 MHz is fundamental signal which can be ignored.		

Frequency (MHz)	Level (dBμV/m)	Over Limit (dB)	Limit Line (dBμV/m)	Read Level (dBμV)	Antenna Factor (dB)	Cable Loss (dB)	Preamp Factor (dB)	Ant Pos (cm)	Table Pos (deg)	Remark
2390	35.87	-18.13	54	35.13	32.02	4.58	35.86	100	255	Average
2390	49.23	-24.77	74	48.49	32.02	4.58	35.86	100	255	Peak
2462	74.09	-	-	73.23	32.07	4.62	35.83	100	255	Average
2462	111.09	-	-	110.23	32.07	4.62	35.83	100	255	Peak
2483.66	43.7	-10.3	54	42.78	32.09	4.64	35.81	100	255	Average
2483.66	70.92	-3.08	74	70	32.09	4.64	35.81	100	255	Peak

Test Mode :	Mode 6	Temperature :	20~22℃
Test Channel :	11	Relative Humidity :	40~42%
Test Engineer :	David Ke	Polarization :	Vertical
Remark :	2462 MHz is fundamental signal which can be ignored.		

Frequency (MHz)	Level (dBμV/m)	Over Limit (dB)	Limit Line (dBμV/m)	Read Level (dBμV)	Antenna Factor (dB)	Cable Loss (dB)	Preamp Factor (dB)	Ant Pos (cm)	Table Pos (deg)	Remark
2390	35.28	-18.72	54	34.54	32.02	4.58	35.86	131	315	Average
2390	46.65	-27.35	74	45.91	32.02	4.58	35.86	131	315	Peak
2462	71.55	-	-	70.69	32.07	4.62	35.83	131	315	Average
2462	108.37	-	-	107.51	32.07	4.62	35.83	131	315	Peak
2483.5	41.58	-12.42	54	40.66	32.09	4.64	35.81	131	315	Average
2483.5	64.74	-9.26	74	63.82	32.09	4.64	35.81	131	315	Peak

Test Mode :	Mode 7	Temperature :	20~22℃
Test Channel :	01	Relative Humidity :	40~42%
Test Engineer :	David Ke	Polarization :	Horizontal
Remark :	2412 MHz is fundamental signal which can be ignored.		

Frequency (MHz)	Level (dBμV/m)	Over Limit (dB)	Limit Line (dBμV/m)	Read Level (dBμV)	Antenna Factor (dB)	Cable Loss (dB)	Preamp Factor (dB)	Ant Pos (cm)	Table Pos (deg)	Remark
2389.8	40.1	-13.9	54	39.36	32.02	4.58	35.86	100	265	Average
2389.8	62.81	-11.19	74	62.07	32.02	4.58	35.86	100	265	Peak
2412	70.22	-	-	69.46	32.03	4.59	35.86	100	265	Average
2412	105.93	-	-	105.17	32.03	4.59	35.86	100	265	Peak
2486	35.46	-18.54	54	34.54	32.09	4.64	35.81	100	265	Average
2486	46.79	-27.21	74	45.87	32.09	4.64	35.81	100	265	Peak

Test Mode :	Mode 7	Temperature :	20~22℃
Test Channel :	01	Relative Humidity :	40~42%
Test Engineer :	David Ke	Polarization :	Vertical
Remark :	2412 MHz is fundamental signal which can be ignored.		

Frequency (MHz)	Level (dBμV/m)	Over Limit (dB)	Limit Line (dBμV/m)	Read Level (dBμV)	Antenna Factor (dB)	Cable Loss (dB)	Preamp Factor (dB)	Ant Pos (cm)	Table Pos (deg)	Remark
2389.99	39.24	-14.76	54	38.5	32.02	4.58	35.86	101	308	Average
2389.99	60.76	-13.24	74	60.02	32.02	4.58	35.86	101	308	Peak
2412	68.95	-	-	68.19	32.03	4.59	35.86	101	308	Average
2412	103.92	-	-	103.16	32.03	4.59	35.86	101	308	Peak
2500	35.41	-18.59	54	34.47	32.1	4.64	35.8	101	308	Average
2500	47.32	-26.68	74	46.38	32.1	4.64	35.8	101	308	Peak

Test Mode :	Mode 8	Temperature :	20~22℃
Test Channel :	06	Relative Humidity :	40~42%
Test Engineer :	David Ke	Polarization :	Horizontal
Remark :	2437 MHz is fundamental signal which can be ignored.		

Frequency (MHz)	Level (dBμV/m)	Over Limit (dB)	Limit Line (dBμV/m)	Read Level (dBμV)	Antenna Factor (dB)	Cable Loss (dB)	Preamp Factor (dB)	Ant Pos (cm)	Table Pos (deg)	Remark
2390	35.83	-18.17	54	35.09	32.02	4.58	35.86	100	266	Average
2390	46.9	-27.1	74	46.16	32.02	4.58	35.86	100	266	Peak
2437	71.08	-	-	70.25	32.06	4.61	35.84	100	266	Average
2437	107.32	-	-	106.49	32.06	4.61	35.84	100	266	Peak
2488	36.38	-17.62	54	35.45	32.1	4.64	35.81	100	266	Average
2488	49.3	-24.7	74	48.37	32.1	4.64	35.81	100	266	Peak

Test Mode :	Mode 8	Temperature :	20~22℃
Test Channel :	06	Relative Humidity :	40~42%
Test Engineer :	David Ke	Polarization :	Vertical
Remark :	2437 MHz is fundamental signal which can be ignored.		

Frequency (MHz)	Level (dBμV/m)	Over Limit (dB)	Limit Line (dBμV/m)	Read Level (dBμV)	Antenna Factor (dB)	Cable Loss (dB)	Preamp Factor (dB)	Ant Pos (cm)	Table Pos (deg)	Remark
2332	34.88	-19.12	54	34.27	31.96	4.55	35.9	100	311	Average
2332	47.37	-26.63	74	46.76	31.96	4.55	35.9	100	311	Peak
2437	68.27	-	-	67.44	32.06	4.61	35.84	100	311	Average
2437	103.03	-	-	102.2	32.06	4.61	35.84	100	311	Peak
2494	35.43	-18.57	54	34.49	32.1	4.64	35.8	100	311	Average
2494	46.73	-27.27	74	45.79	32.1	4.64	35.8	100	311	Peak

Test Mode :	Mode 9	Temperature :	20~22℃
Test Channel :	11	Relative Humidity :	40~42%
Test Engineer :	David Ke	Polarization :	Horizontal
Remark :	2462 MHz is fundamental signal which can be ignored.		

Frequency (MHz)	Level (dBμV/m)	Over Limit (dB)	Limit Line (dBμV/m)	Read Level (dBμV)	Antenna Factor (dB)	Cable Loss (dB)	Preamp Factor (dB)	Ant Pos (cm)	Table Pos (deg)	Remark
2378	35.03	-18.97	54	34.34	32	4.57	35.88	129	255	Average
2378	46.52	-27.48	74	45.83	32	4.57	35.88	129	255	Peak
2462	69.27	-	-	68.41	32.07	4.62	35.83	129	255	Average
2462	104.26	-	-	103.4	32.07	4.62	35.83	129	255	Peak
2483.5	39.66	-14.34	54	38.74	32.09	4.64	35.81	129	255	Average
2483.5	60.99	-13.01	74	60.07	32.09	4.64	35.81	129	255	Peak

Test Mode :	Mode 9	Temperature :	20~22℃
Test Channel :	11	Relative Humidity :	40~42%
Test Engineer :	David Ke	Polarization :	Vertical
Remark :	2462 MHz is fundamental signal which can be ignored.		

Frequency (MHz)	Level (dBμV/m)	Over Limit (dB)	Limit Line (dBμV/m)	Read Level (dBμV)	Antenna Factor (dB)	Cable Loss (dB)	Preamp Factor (dB)	Ant Pos (cm)	Table Pos (deg)	Remark
2390	35.03	-18.97	54	34.29	32.02	4.58	35.86	100	301	Average
2390	46.46	-27.54	74	45.72	32.02	4.58	35.86	100	301	Peak
2462	68.36	-	-	67.5	32.07	4.62	35.83	100	301	Average
2462	102.65	-	-	101.79	32.07	4.62	35.83	100	301	Peak
2483.66	39.45	-14.55	54	38.53	32.09	4.64	35.81	100	301	Average
2483.66	60.04	-13.96	74	59.12	32.09	4.64	35.81	100	301	Peak

3.8 Antenna Requirements

3.8.1 Standard Applicable

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

3.8.2 Antenna Connected Construction

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

3.8.3 Antenna Gain

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

4 List of Measuring Equipment

Instrument	Manufacturer	Model No.	Serial No.	Characteristics	Calibration Date	Test Date	Due Date	Remark
Spectrum Analyzer	R&S	FSP40	100055	9kHz~40GHz	Jun. 13, 2011	May 09, 2012 ~ May 10, 2012	Jun. 12, 2012	Conducted (TH02-HY)
Power Meter	Anritsu	ML2495A	0932001	N/A	Sep. 18, 2011	May 09, 2012 ~ May 10, 2012	Sep. 17, 2012	Conducted (TH02-HY)
Power Sensor	Anritsu	MA2411B	0846202	N/A	Sep. 18, 2011	May 09, 2012 ~ May 10, 2012	Sep. 17, 2012	Conducted (TH02-HY)
EMI Test Receive	R&S	ESCS 30	100356	9KHz ~ 2.75GHz	Oct. 27, 2011	May 04, 2012	Oct. 26, 2012	Conduction (CO05-HY)
Two-LISN	R&S	ENV216	11-100081	9KHz ~ 30MHz	Dec. 09, 2011	May 04, 2012	Dec. 08, 2012	Conduction (CO05-HY)
Two-LISN	R&S	ENV216	11-100080	9KHz ~ 30MHz	Dec. 06, 2011	May 04, 2012	Dec. 05, 2012	Conduction (CO05-HY)
AC Power Source	APC	APC-1000 W	N/A	N/A	N/A	May 04, 2012	N/A	Conduction (CO05-HY)
System Simulator	R&S	CMU200	116457	N/A	Jun. 24, 2011	May 04, 2012	Jun. 23, 2013	Conduction (CO05-HY)
Spectrum Analyzer	R&S	ESU26	100390	20Hz ~ 26.5GHz	Dec. 22, 2011	May 14, 2012 ~ May 15, 2012	Dec. 21, 2012	Radiation (03CH05-HY)
Bilog Antenna	SCHAFFNER	CBL6111C	2725	30MHz ~ 2GHz	Oct. 22, 2011	May 14, 2012 ~ May 15, 2012	Oct. 21, 2012	Radiation (03CH05-HY)
Turn Table	HD	Deis HD 2000	420/611	0 ~ 360 degree	N/A	May 14, 2012 ~ May 15, 2012	N/A	Radiation (03CH05-HY)
Antenna Mast	HD	MA 240	240/666	1 m ~ 4 m	N/A	May 14, 2012 ~ May 15, 2012	N/A	Radiation (03CH05-HY)
Horn Antenna	ESCO	3117	66584	1GHz ~ 18GHz	Aug. 04, 2011	May 14, 2012 ~ May 15, 2012	Aug. 03, 2012	Radiation (03CH05-HY)
Pre Amplifier	COM-POWER	PA-103A	161075	10Hz ~ 1000MHz Gain:32dB	Feb. 27, 2012	May 14, 2012 ~ May 15, 2012	Feb. 26, 2013	Radiation (03CH05-HY)
Pre Amplifier	MITEQ	AMF-7D-00 101800-30-10P	159087	1GHz~18GHz	Feb. 27, 2012	May 14, 2012 ~ May 15, 2012	Feb. 26, 2013	Radiation (03CH05-HY)
Pre Amplifier	Agilent	8449B	3008A01917	1GHz~26.5GHz	Aug. 30, 2011	May 14, 2012 ~ May 15, 2012	Aug. 29, 2012	Radiation (03CH05-HY)
Loop Antenna	R&S	HFH2-Z2	860004/001	9 kHz~30 MHz	Jul. 29, 2010	May 14, 2012 ~ May 15, 2012	Jul. 28, 2012	Radiation (03CH05-HY)

5 Uncertainty of Evaluation

Uncertainty of Conducted Emission Measurement (150 KHz ~ 30 MHz)

Contribution	Uncertainty of X_i		$u(X_i)$
	dB	Probability Distribution	
Receiver Reading	0.10	Normal (k=2)	0.05
Cable Loss	0.10	Normal (k=2)	0.05
AMN Insertion Loss	2.50	Rectangular	0.63
Receiver Specification	1.50	Rectangular	0.43
Site Imperfection	1.39	Rectangular	0.80
Mismatch	+0.34 / -0.35	U-Shape	0.24
Combined Standard Uncertainty $U_c(y)$	1.13		
Measuring Uncertainty for a Level of Confidence of 95% ($U = 2U_c(y)$)	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 $U_c(y)$	1.27		
Measuring Uncertainty for a Level of Confidence of 95% ($U = 2U_c(y)$)	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 $\Gamma_1 = 0.197$ Antenna VSWR $\Gamma_2 = 0.194$ Uncertainty = $20\text{Log}(1-\Gamma_1*\Gamma_2)$	+0.34 / -0.35	U-Shape	0.244	1	0.244
Combined Standard Uncertainty $U_c(y)$	2.36				
Measuring Uncertainty for a Level of Confidence of 95% ($U = 2U_c(y)$)	4.72				



Appendix A. Photographs of EUT

Please refer to Sporton report number EP232306 as below.