FCC RF Test Report

APPLICANT	:	**CT Asia**
EQUIPMENT	:	**GSM850/1900/GPRS/EDGE/UMTS850/HSDPA/HSUPA mobile**
BRAND NAME	:	**BLU**
MODEL NAME	:	**Studio 5.3**
FCC ID	:	**YHLBLUSTUDIO**
STANDARD	:	**FCC Part 15 Subpart C §15.247**
CLASSIFICATION	:	**Digital Transmission System (DTS)**

The product was received on Dec. 08, 2011 and completely tested on Jan. 04, 2012. We, SPORTON INTERNATIONAL (KUNSHAN) 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 (KUNSHAN) INC., the test report shall not be reproduced except in full.

Reviewed by:

Jones Tsai

Jones Tsai / Manager

Testing Laboratory 1190

SPORTON INTERNATIONAL (KUNSHAN) INC.
No. 3-2, PingXiang Road, Kunshan, Jiangsu Province, P.R.C.

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REVISION HISTORY

REPORT NO.	VERSION	DESCRIPTION	ISSUED DATE
FR1D0806B	Rev. 01	Initial issue of report	Jan.06, 2012

SUMMARY OF TEST RESULT

Report Section	FCC Rule	Description	Limit	Result	Remark
3.1	15.247(a)(2)	6dB Bandwidth	≥ 0.5MHz	Pass	-
3.2	15.247(b)	Power Output	≤ 30dBm	Pass	-
3.3	15.247(d)	Frequency Band Edges	≤ 20dBc	Pass	-
3.4	15.247(d)	Spurious Emission	< 20 dBc	Pass	-
3.5	15.247(e)	Power Spectral Density	≤ 8dBm	Pass	-
3.6	15.207	AC Conducted Emission	15.207(a)	Pass	Under limit 19.47 dB at 0.53 MHz
3.7	15.247(d)	Transmitter Radiated Emission	15.209(a) & 15.247(d)	Pass	Under limit 0.45 dB at 105.87 MHz
3.8	15.203 & 15.247(b)	Antenna Requirement	N/A	Pass	-

1 General Description

1.1 Applicant

CT Asia
RMA2011, 20/F, GOLDEN CENTRAL TOWER, NO.3037# JINTIAN ROAD, FUTIAN DISTRICT

1.2 Manufacturer

UMEOX Mobile Ltd.
18/F, Science & Technology Development Institute of China, High-Tech South Road 1, South Section, High-Tech Science and Technology Park, Nanshan District, Shenzhen, China

1.3 Feature of Equipment Under Test

Product Feature & Specification	
Equipment	GSM850/1900/GPRS/EDGE/UMTS850/HSDPA/HSUPA mobile
Brand Name	BLU
Model Name	Studio 5.3
FCC ID	YHLBLUSTUDIO
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 : 18.85 dBm (0.077 W) 802.11g : 23.25 dBm (0.211 W)
Antenna Type	PIFA Antenna with gain 2.00 dBi
HW Version	W851_MB_V2.0
SW Version	X1 20111119-142419
Type of Modulation	802.11b : DSSS (BPSK / QPSK / CCK) 802.11g : OFDM (BPSK / QPSK / 16QAM / 64QAM)
EUT Stage	Identical Prototype

Remark:

1. For other wireless features of this EUT, test report will be issued separately.
2. This test report recorded only product characteristics and test results of Digital Transmission System (DTS).
3. The above EUT's information was declared by manufacturer. Please refer to the specifications or user's manual for more detailed description.
4. There are two SIM cards for EUT. They are SIM1 card and SIM2 card. After pre-scan two SIM cards, we found test result with SIM1 card was the worst, so we choose SIM1 card to perform all test.

1.4 Testing Site

Test Site	SPORTON INTERNATIONAL (KUNSHAN) INC.		
Test Site Location	No. 3-2, PingXiang Road, Kunshan, Jiangsu Province, P.R.C. TEL: +86-0512-5790-0158 FAX: +86-0512-5790-0958		
Test Site No.	Sporton Site No.		
	TH01-KS	CO01-KS	03CH01-KS

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

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 (Certification), 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.	DC Power Supply	GW	GPS-3030D	N/A	N/A	Unshielded, 1.8 m
3.	Bluetooth Earphone	Nokia	BH-102	PYAHS-107W	N/A	N/A
4.	Notebook	Acer	Trave Imate 2413 Lci	QDS-BRCM1016	N/A	AC I/P: Unshielded, 1.8 m DC O/P: Shielded, 1.8 m
5.	Router	D-Link	DIR-855	KA2DIR855A2	N/A	Unshielded, 1.8 m

2 Test Configuration of Equipment Under Test

2.1 RF Power

Preliminary tests were performed in different data rate and recorded the RF power output in the following table:

Channel	Frequency	2.4GHz 802.11b RF Power (dBm)			
		DSSS Data Rate			
		1 Mbps	2 Mbps	5.5 Mbps	11 Mbps
CH 01	2412 MHz	**18.85**	18.75	17.81	17.86
CH 06	2437 MHz	18.73	18.47	17.66	17.67
CH 11	2462 MHz	18.46	18.16	17.32	17.48

Channel	Frequency	2.4GHz 802.11g RF Power (dBm)							
		OFDM Data Rate							
		6 Mbps	9 Mbps	12 Mbps	18 Mbps	24 Mbps	36 Mbps	48 Mbps	54 Mbps
CH 01	2412 MHz	23.05	23.03	23.01	23.06	23.08	23.17	23.19	**23.25**
CH 06	2437 MHz	23.01	23.03	23.04	23.08	23.05	23.08	23.11	23.23
CH 11	2462 MHz	22.96	22.98	22.93	22.95	23.01	23.05	23.02	23.11

Remark:

1. The data rates of WLAN 802.11b/g were set in 1Mbps for 802.11b and 54Mbps for 802.11g, for all the test cases due to the highest RF output power.
2. The EUT is programmed to transmit signals continuously for all testing.

2.2 Test Mode

The EUT has been associated with peripherals pursuant to ANSI C63.4-2003 and configuration operated in a manner tended to maximize its emission characteristics in a typical application. Frequency range investigated: conducted emission (150 kHz to 30 MHz), radiated emission (30 MHz to the 10th harmonic of the highest fundamental frequency or to 40 GHz, whichever is lower).

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

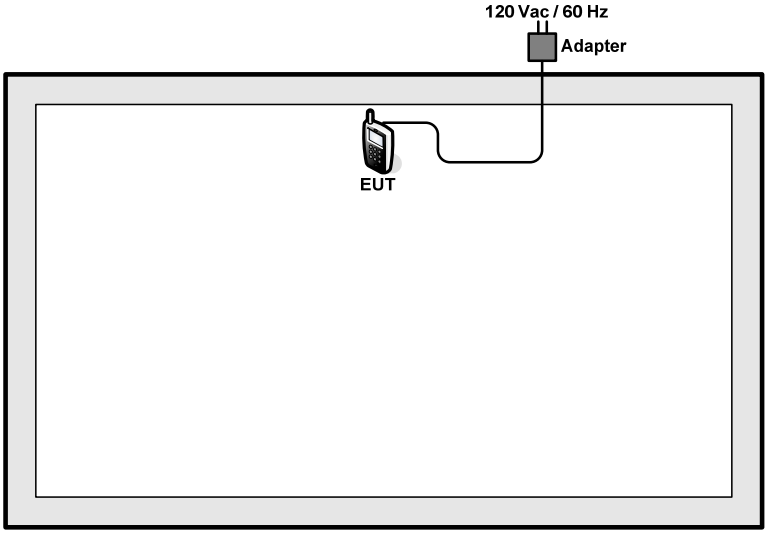
The following tables are showing the test modes as the worst cases (E2 plane) and recorded in this report.

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

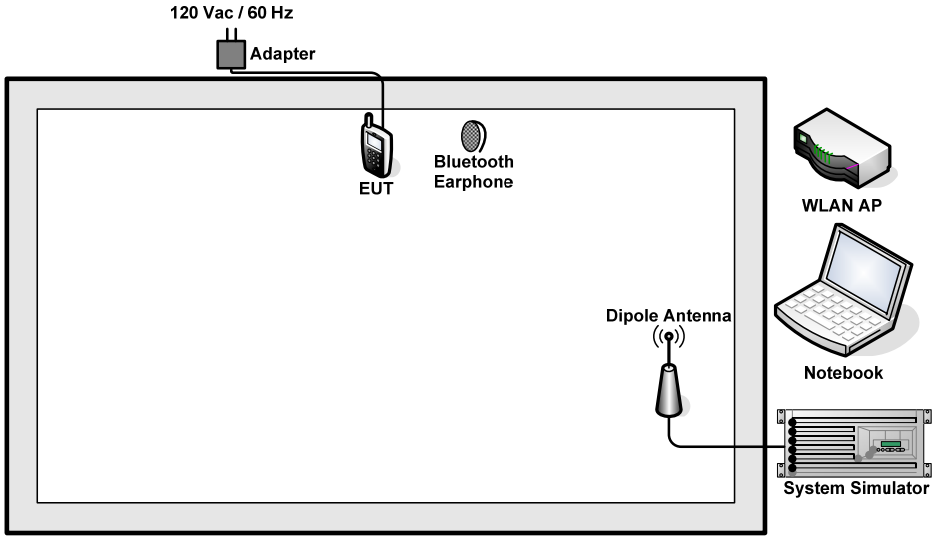
Test Cases		
Test Item	**802.11b**	**802.11g**
Conducted TCs	Mode 1 : 802.11b CH01_2412 MHz Mode 2 : 802.11b CH06_2437 MHz Mode 3 : 802.11b CH11_2462 MHz	Mode 4 : 802.11g CH01_2412 MHz Mode 5 : 802.11g CH06_2437 MHz Mode 6 : 802.11g CH11_2462 MHz
Radiated TCs	Mode 1 : 802.11b CH01_2412 MHz Mode 2 : 802.11b 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
AC Conducted Emission	Mode 1 :GSM 850 Idle + Bluetooth Link + WIFI Link(2.4GHz) + Adapter + Camera	
Remark: The worst case of conducted emission is mode 1; only the test data of it was reported.		

2.3 Connection Diagram of Test System

<WLAN Tx Mode>



<AC Conducted Emission Mode>



2.4 RF Utility

The programmed RF utility, "*#*#3646633#*#*" 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.

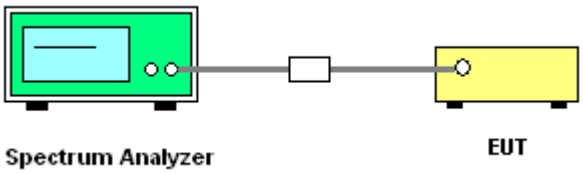
3.1.2 Measuring Instruments

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

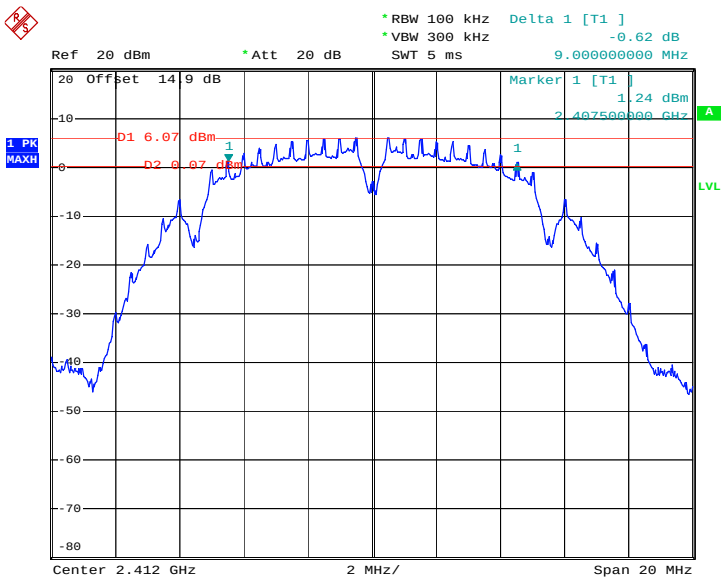


3.1.5 Test Result of 6dB Bandwidth

Test Mode :	Mode 1, 2, 3	Temperature :	25~26℃
Test Engineer :	Fly Chen	Relative Humidity :	46~47%

Channel	Frequency (MHz)	802.11b 6dB Bandwidth (MHz)	6dB Bandwidth Min. Limit (MHz)	Pass/Fail
01	2412	9.00	0.5	Pass
06	2437	9.04	0.5	Pass
11	2462	9.04	0.5	Pass

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



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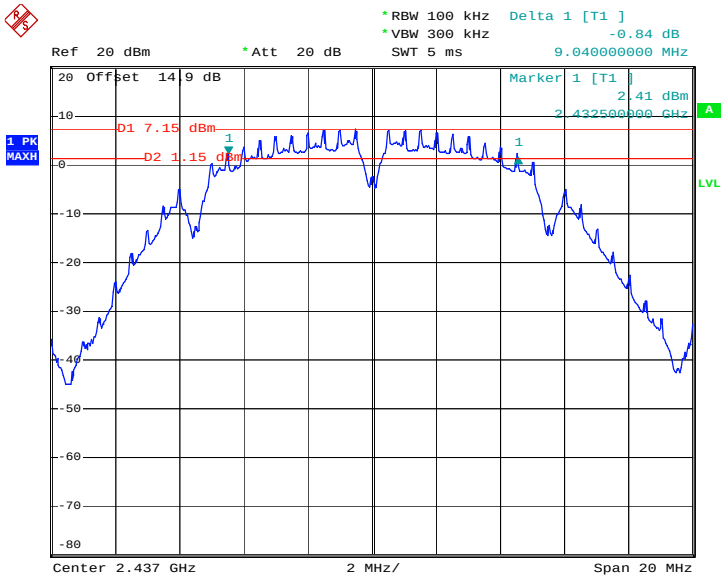
Mode 2 : 6 dB Bandwidth Plot on 802.11b Channel 06



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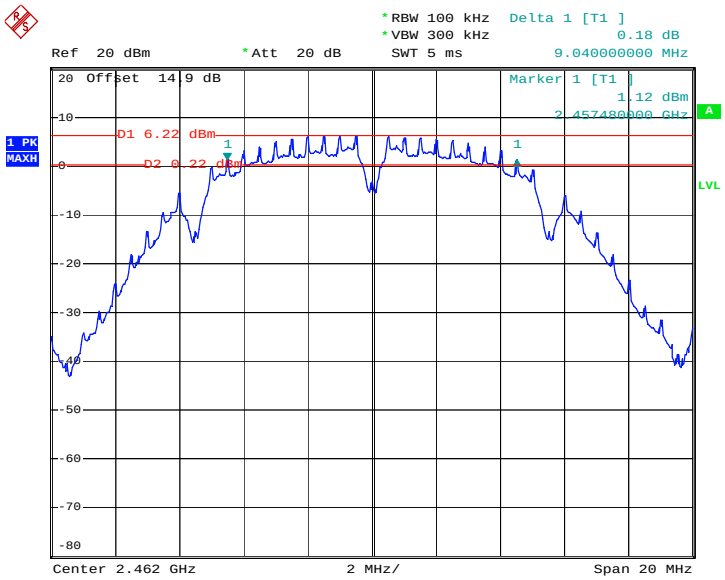
Mode 3 : 6 dB Bandwidth Plot on 802.11b Channel 11



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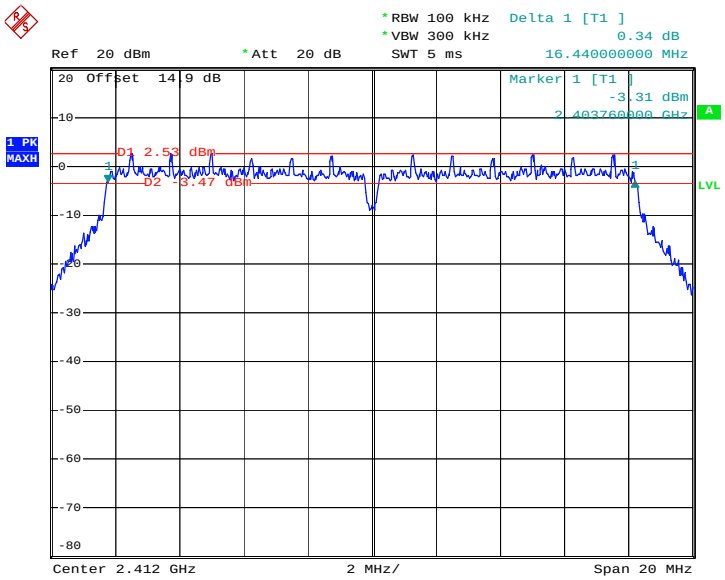
Test Mode :	Mode 4, 5, 6	Temperature :	25~26℃
Test Engineer :	Fly Chen	Relative Humidity :	46~47%

Channel	Frequency (MHz)	802.11g 6dB Bandwidth (MHz)	6dB Bandwidth Min. Limit (MHz)	Pass/Fail
01	2412	16.44	0.5	Pass
06	2437	16.52	0.5	Pass
11	2462	16.56	0.5	Pass

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



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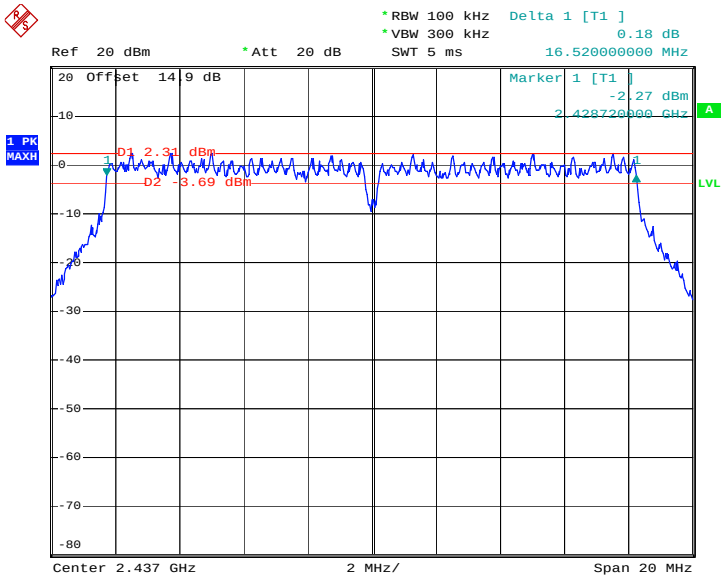
Mode 5 : 6 dB Bandwidth Plot on 802.11g Channel 06



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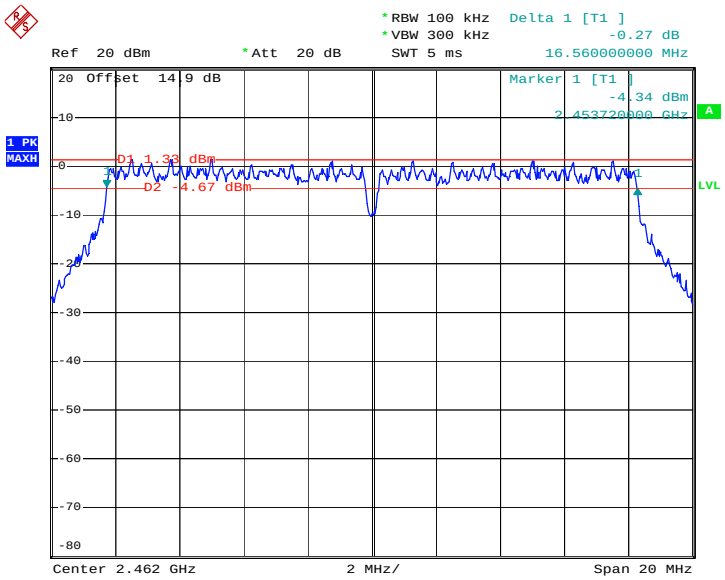
Mode 6 : 6 dB Bandwidth Plot on 802.11g Channel 11



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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.

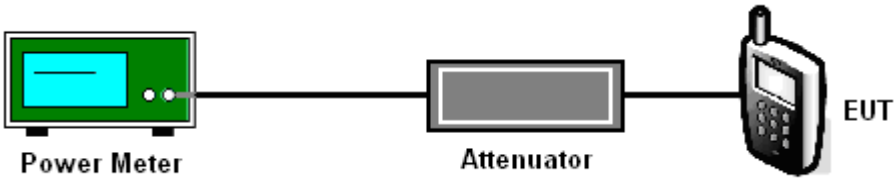
3.2.2 Measuring Instruments

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 :	25~26℃
Test Engineer :	Fly Chen	Relative Humidity :	46~47%

Channel	Frequency (MHz)	802.11b Measured Output Power (dBm)	Max. Limits (dBm)	Pass/Fail
01	2412	18.85	30	Pass
06	2437	18.73	30	Pass
11	2462	18.46	30	Pass

Test Mode :	Mode 4, 5, 6	Temperature :	25~26℃
Test Engineer :	Fly Chen	Relative Humidity :	46~47%

Channel	Frequency (MHz)	802.11g Measured Output Power (dBm)	Max. Limits (dBm)	Pass/Fail
01	2412	23.25	30	Pass
06	2437	23.23	30	Pass
11	2462	23.11	30	Pass

3.3 Band Edges Measurement

3.3.1 Limit of Band Edges

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

3.3.2 Measuring Instruments

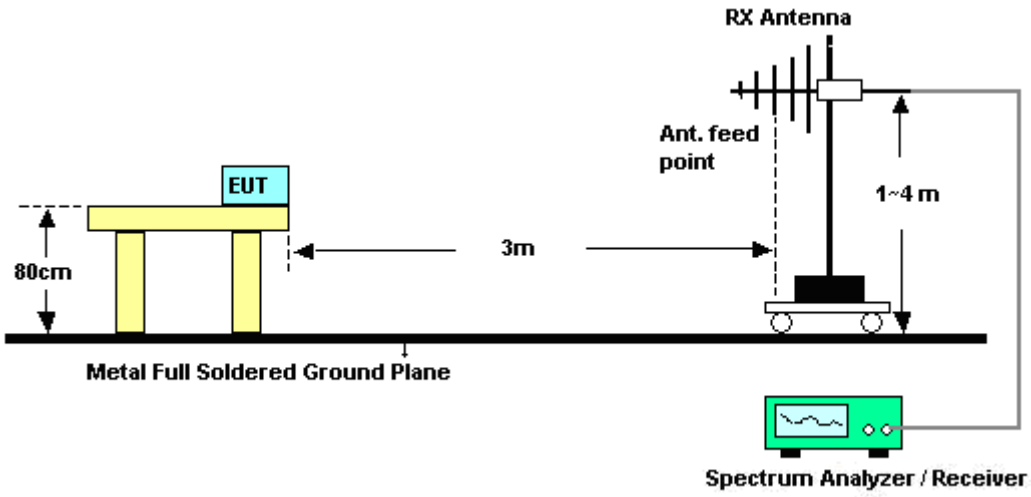
See list of measuring instruments of this test report.

3.3.3 Test Procedures

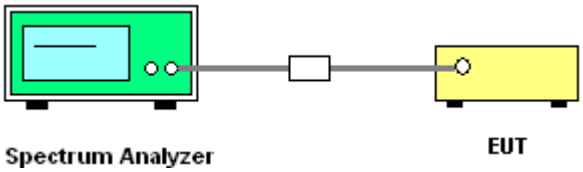
1. The testing follows the guidelines in ANSI C63.4-2003 and FCC KDB Publication No. 558074 (Measurement Guidelines of DTS).
2. Conducted emission test: Set RBW = 100 kHz, Video bandwidth (VBW) ≥ RBW. Band edge emissions must be at least 20 dB down from the highest emission level within the authorized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

3.3.4 Test Setup

<Radiated Band Edges>



<Conducted Band Edges>



3.3.5 Test Result of Radiated Band Edges

Test Mode :	Mode 1	Temperature :	21~22℃
Test Band :	802.11b	Relative Humidity :	41~42%
Test Channel :	01	Test Engineer :	Cloud Peng

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
2386.19	50.62	-23.38	74	48.34	32.86	3.47	34.05	100	360	Peak
2386.19	39.7	-14.3	54	37.42	32.86	3.47	34.05	100	360	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
2349.14	49.63	-24.37	74	47.46	32.78	3.33	33.94	100	0	Peak
2349.14	37.33	-16.67	54	35.16	32.78	3.33	33.94	100	0	Average

Test Mode :	Mode 3	Temperature :	21~22℃
Test Band :	802.11b	Relative Humidity :	41~42%
Test Channel :	11	Test Engineer :	Cloud Peng

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	50.23	-23.77	74	47.74	33.01	3.68	34.2	100	0	Peak
2483.5	41.32	-12.68	54	38.83	33.01	3.68	34.2	100	0	Average

ANTENNA POLARITY : VERTICAL										
Frequency (MHz)	Level (dBuV/m)	Over Limit (dB)	Limit Line (dBuV/m)	Read Level (dBuV)	Antenna Factor (dB)	Cable Loss (dB)	Preamp Factor (dB)	Ant Pos (cm)	Table Pos (deg)	Remark
2483.5	51.03	-22.97	74	48.54	33.01	3.68	34.2	100	270	Peak
2483.5	43.12	-10.88	54	40.63	33.01	3.68	34.2	100	270	Average

Test Mode :	Mode 4	Temperature :	21~22℃
Test Band :	802.11g	Relative Humidity :	41~42%
Test Channel :	01	Test Engineer :	Cloud Peng

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	62.39	-11.61	74	60.11	32.86	3.47	34.05	200	130	Peak
2390	42.28	-11.72	54	40	32.86	3.47	34.05	200	130	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	63.36	-10.64	74	61.08	32.86	3.47	34.05	126	319	Peak
2390	43.35	-10.65	54	41.07	32.86	3.47	34.05	126	319	Average

Test Mode :	Mode 6	Temperature :	21~22℃
Test Band :	802.11g	Relative Humidity :	41~42%
Test Channel :	11	Test Engineer :	Cloud Peng

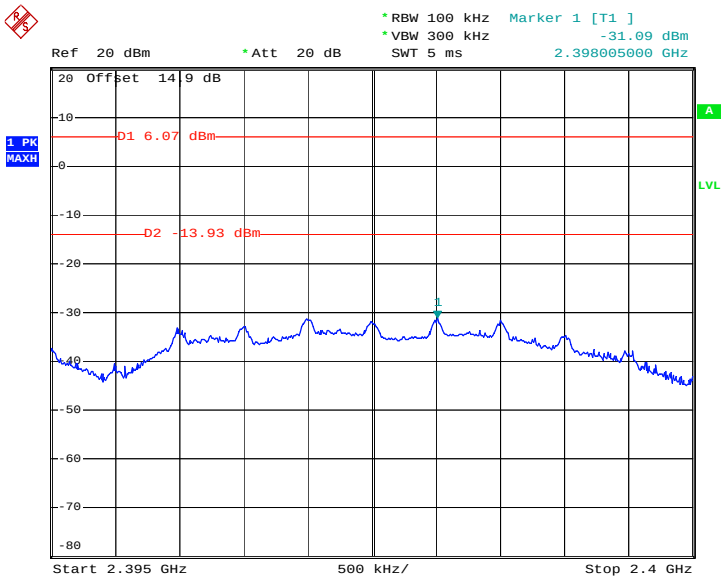
ANTENNA POLARITY : HORIZONTAL										
Frequency (MHz)	Level (dBuV/m)	Over Limit (dB)	Limit Line (dBuV/m)	Read Level (dBuV)	Antenna Factor (dB)	Cable Loss (dB)	Preamp Factor (dB)	Ant Pos (cm)	Table Pos (deg)	Remark
2484.23	64.85	-9.15	74	62.36	33.01	3.68	34.2	200	112	Peak
2484.23	44.79	-9.21	54	42.3	33.01	3.68	34.2	200	112	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	62.03	-11.97	74	59.54	33.01	3.68	34.2	100	226	Peak
2483.66	42.7	-11.3	54	40.21	33.01	3.68	34.2	100	226	Average

3.3.6 Test Plots of Conducted Band Edges

Test Mode :	Mode 1 and 3	Temperature :	25~26℃
Test Band :	802.11b	Relative Humidity :	46~47%
Test Channel :	01 and 11	Test Engineer :	Fly Chen

Low Band Edge Plot on 802.11b Channel 01



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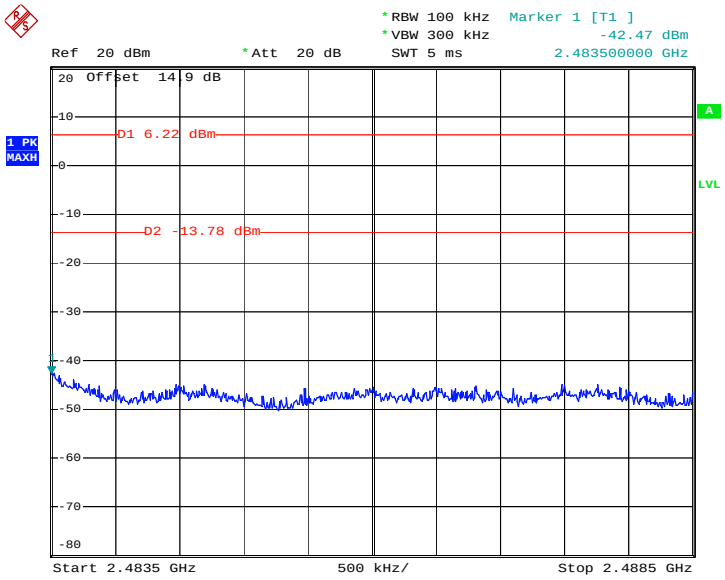
High Band Edge Plot on 802.11b Channel 11



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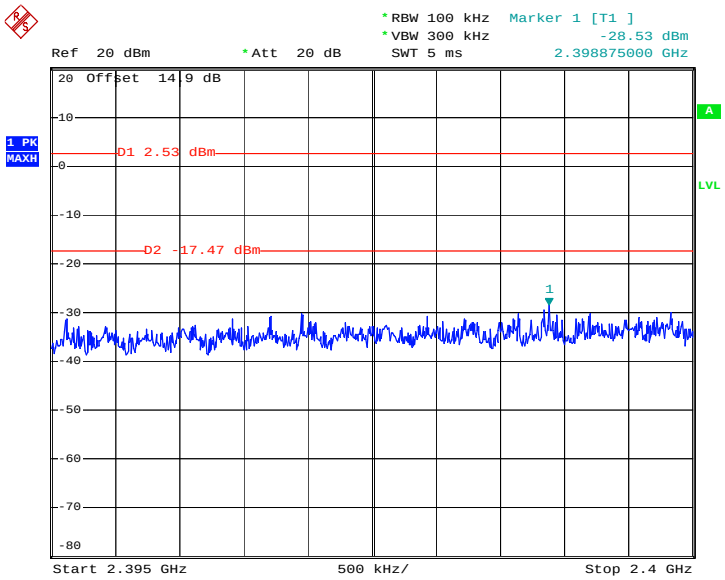
Test Mode :	Mode 4 and 6	Temperature :	25~26℃
Test Band :	802.11g	Relative Humidity :	46~47%
Test Channel :	01 and 11	Test Engineer :	Fly Chen

Low Band Edge Plot on 802.11g Channel 01



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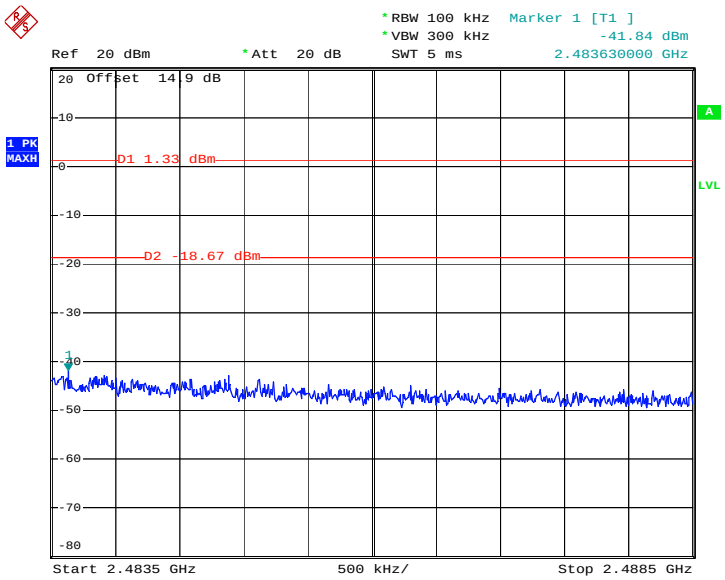
High Band Edge Plot on 802.11g Channel 11



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3.4 Spurious Emission Measurement

3.4.1 Limit of Spurious Emission Measurement

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

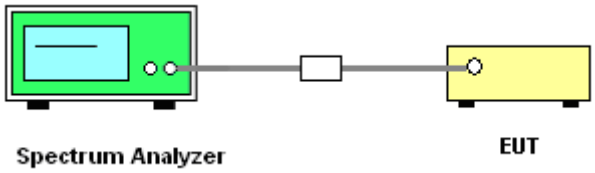
3.4.2 Measuring Instruments

See list of measuring instruments of this test report.

3.4.3 Test Procedure

1. The transmitter output was connected to the spectrum analyzer via a low lose cable.
2. Set RBW = 100 kHz, Video bandwidth (VBW) ≥ RBW, scan up through 10th harmonic. All harmonics/spurs must be at least 20 dB down from the highest emission level within the authorized band as measured with a 100 kHz RBW.

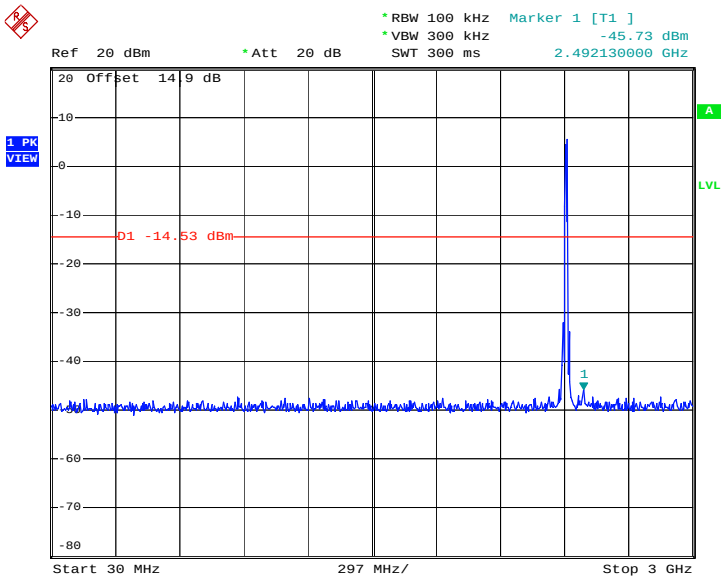
3.4.4 Test Setup



3.4.5 Test Plots of Spurious Emission

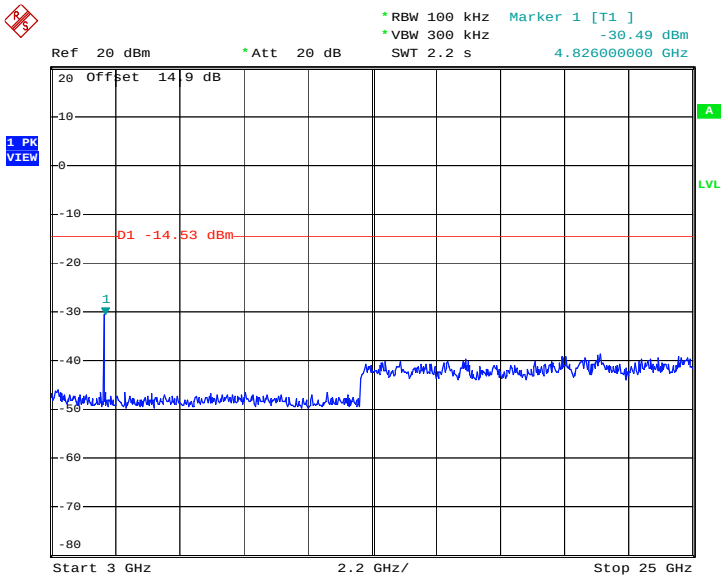
Test Mode :	Mode 1	Temperature :	25~26℃
Test Band :	802.11b	Relative Humidity :	46~47%
Test Channel :	01	Test Engineer :	Fly Chen

Conducted Spurious Emission Plot between 30MHz ~ 3 GHz



Date: 17.DEC.2011 10:48:56

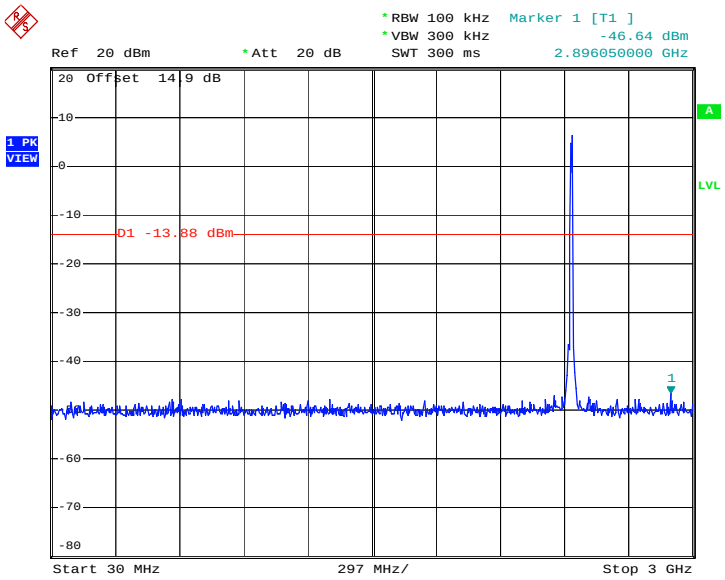
Conducted Spurious Emission Plot between 3 GHz ~ 25 GHz



Date: 17.DEC.2011 10:49:56

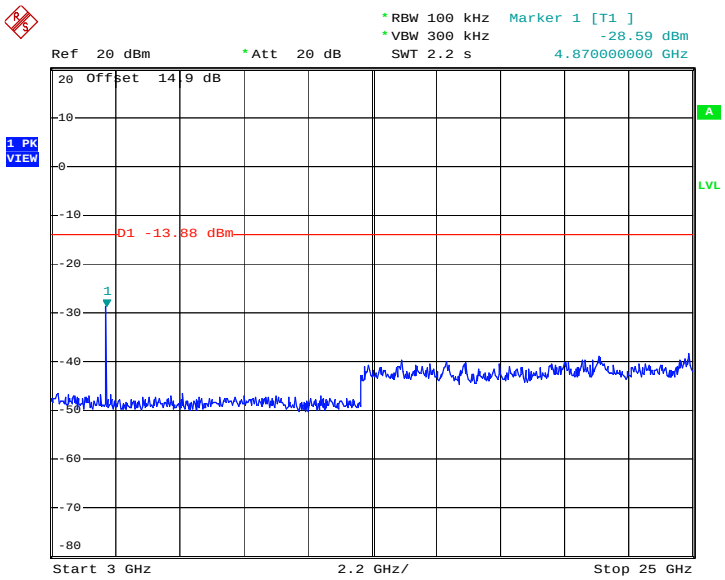
Test Mode :	Mode 2	Temperature :	25~26℃
Test Band :	802.11b	Relative Humidity :	46~47%
Test Channel :	06	Test Engineer :	Fly Chen

Conducted Spurious Emission Plot between 30MHz ~ 3 GHz



Date: 17.DEC.2011 11:14:44

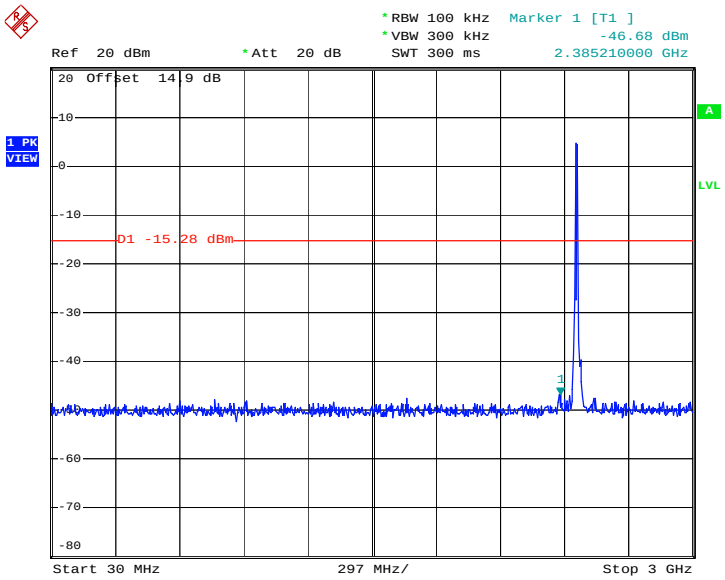
Conducted Spurious Emission Plot between 3 GHz ~ 25 GHz



Date: 17.DEC.2011 11:15:01

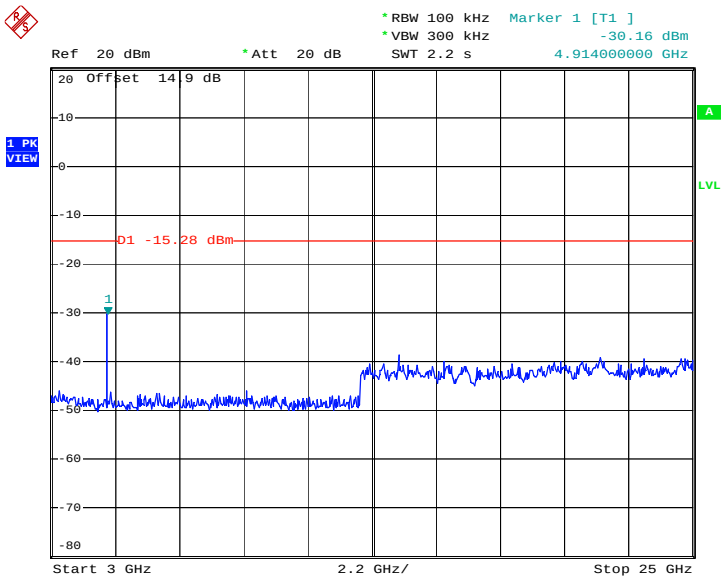
Test Mode :	Mode 3	Temperature :	25~26℃
Test Band :	802.11b	Relative Humidity :	46~47%
Test Channel :	11	Test Engineer :	Fly Chen

Conducted Spurious Emission Plot between 30MHz ~ 3 GHz



Date: 17.DEC.2011 11:22:06

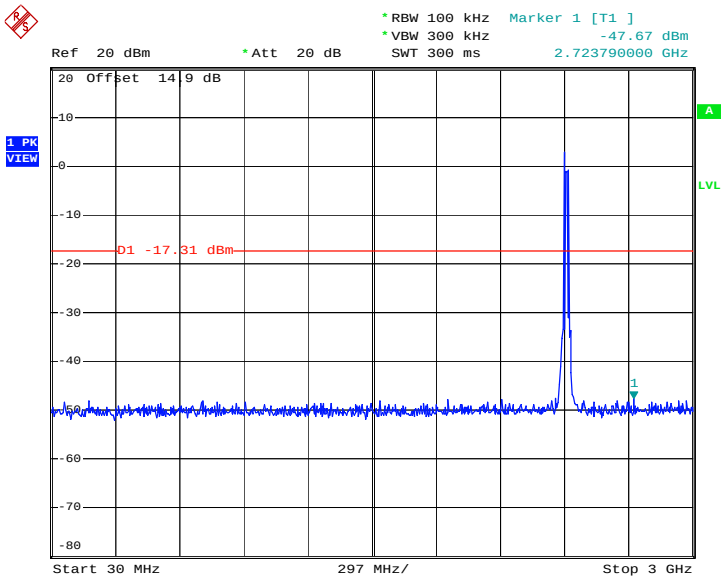
Conducted Spurious Emission Plot between 3 GHz ~ 25 GHz



Date: 17.DEC.2011 11:22:23

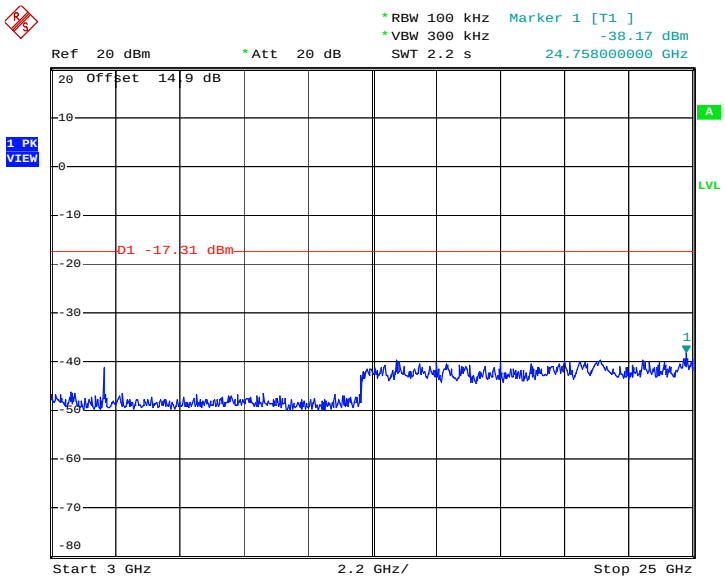
Test Mode :	Mode 4	Temperature :	25~26℃
Test Band :	802.11g	Relative Humidity :	46~47%
Test Channel :	01	Test Engineer :	Fly Chen

Conducted Spurious Emission Plot between 30MHz ~ 3 GHz



Date: 17.DEC.2011 11:39:30

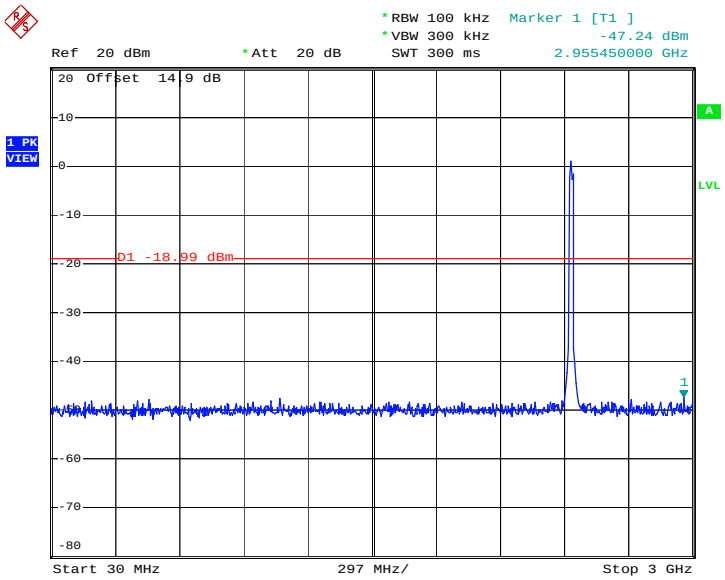
Conducted Spurious Emission Plot between 3 GHz ~ 25 GHz



Date: 17.DEC.2011 11:39:47

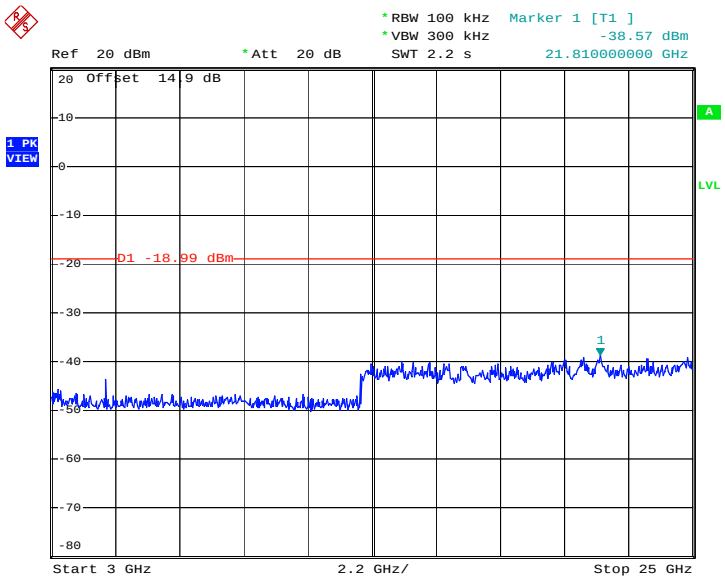
Test Mode :	Mode 5	Temperature :	25~26℃
Test Band :	802.11g	Relative Humidity :	46~47%
Test Channel :	06	Test Engineer :	Fly Chen

Conducted Spurious Emission Plot between 30MHz ~ 3 GHz



Date: 17.DEC.2011 12:08:15

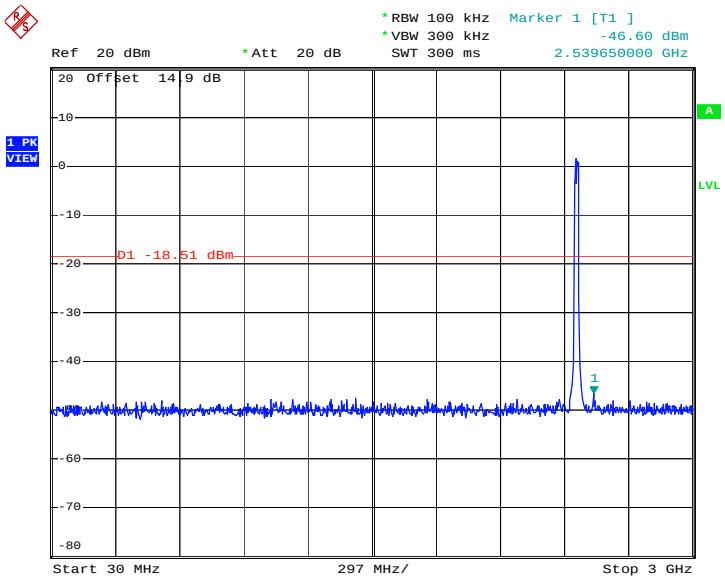
Conducted Spurious Emission Plot between 3 GHz ~ 25 GHz



Date: 17.DEC.2011 12:08:32

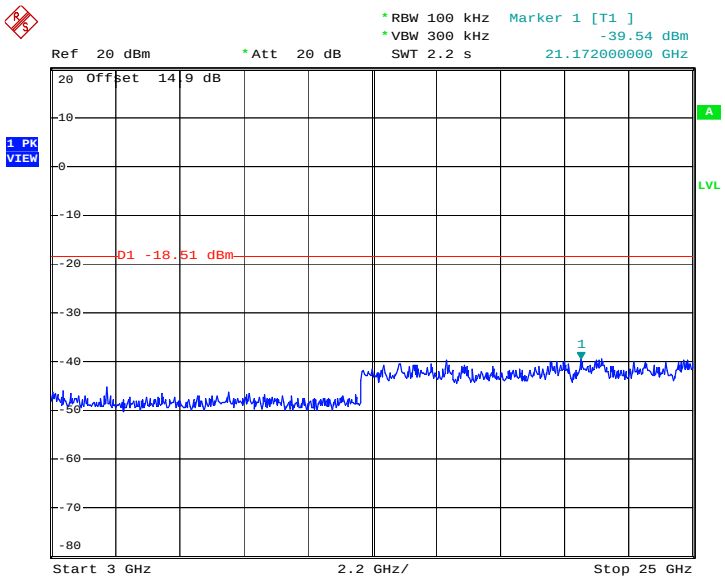
Test Mode :	Mode 6	Temperature :	25~26℃
Test Band :	802.11g	Relative Humidity :	46~47%
Test Channel :	11	Test Engineer :	Fly Chen

Conducted Spurious Emission Plot between 30MHz ~ 3 GHz



Date: 17.DEC.2011 12:16:24

Conducted Spurious Emission Plot between 3 GHz ~ 25 GHz



Date: 17.DEC.2011 12:16:41

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.

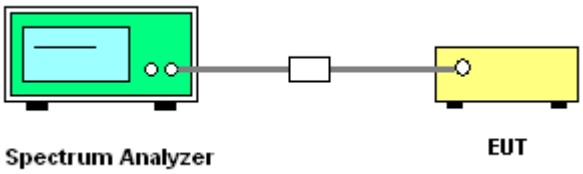
3.5.2 Measuring Instruments

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

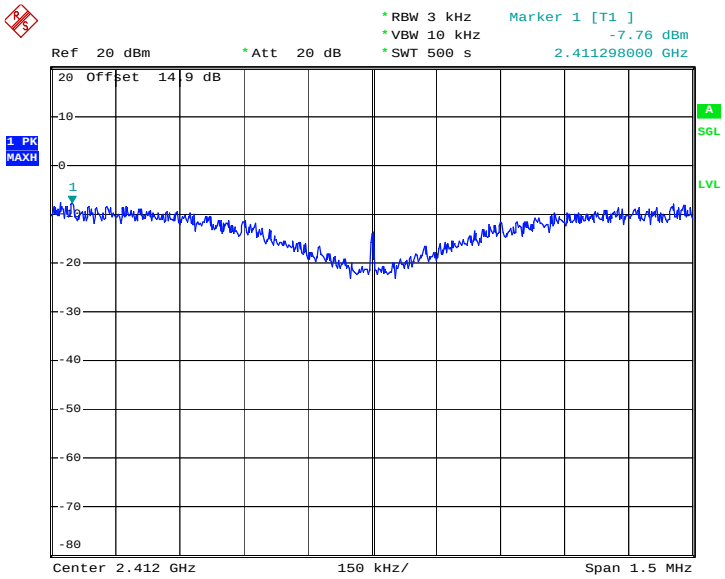


3.5.5 Test Result of Power Spectral Density

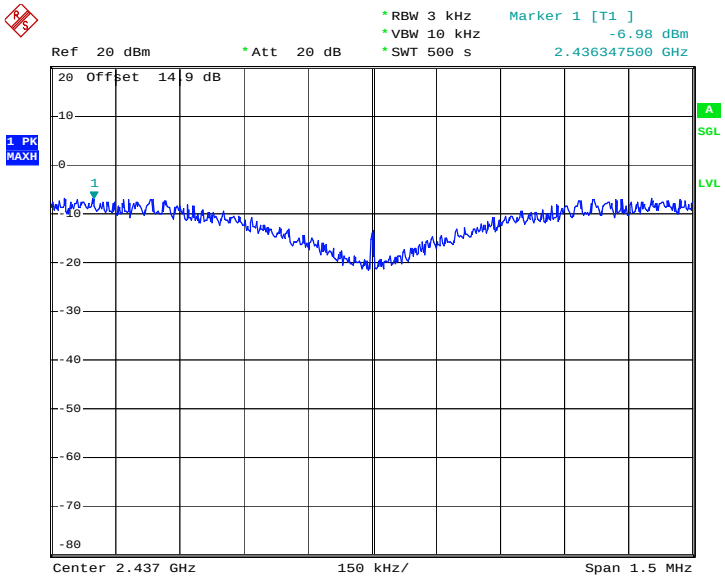
Test Mode :	Mode 1, 2, 3	Temperature :	25~26℃
Test Engineer :	Fly Chen	Relative Humidity :	46~47%

Channel	Frequency (MHz)	802.11b Measured PSD (dBm)	Max. Limits (dBm)	Pass/Fail
01	2412	-7.76	8	Pass
06	2437	-6.98	8	Pass
11	2462	-7.32	8	Pass

Mode 1 : PSD Plot on 802.11b Channel 01

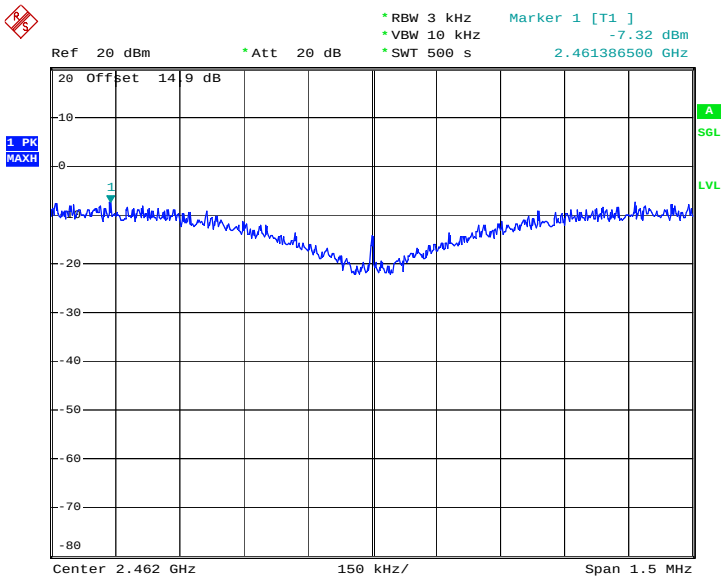


Mode 2 : PSD Plot on 802.11b Channel 06



Date: 17.DEC.2011 11:14:21

Mode 3 : PSD Plot on 802.11b Channel 11

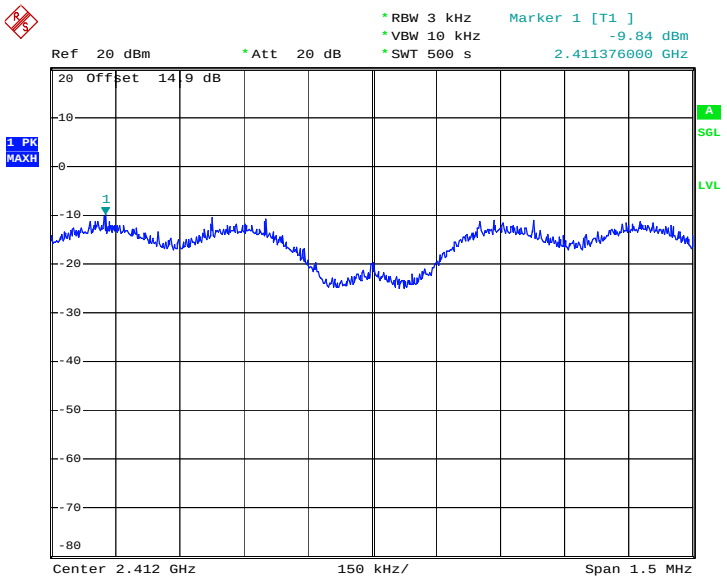


Date: 17.DEC.2011 11:32:14

Test Mode :	Mode 4, 5, 6	Temperature :	25~26℃
Test Engineer :	Fly Chen	Relative Humidity :	46~47%

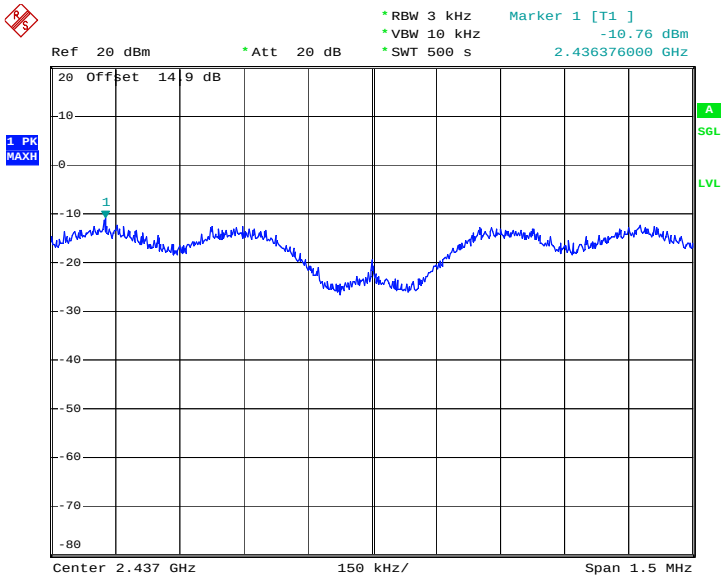
Channel	Frequency (MHz)	802.11g Measured PSD (dBm)	Max. Limits (dBm)	Pass/Fail
01	2412	-9.84	8	Pass
06	2437	-10.76	8	Pass
11	2462	-13.82	8	Pass

Mode 4 : PSD Plot on 802.11g Channel 01



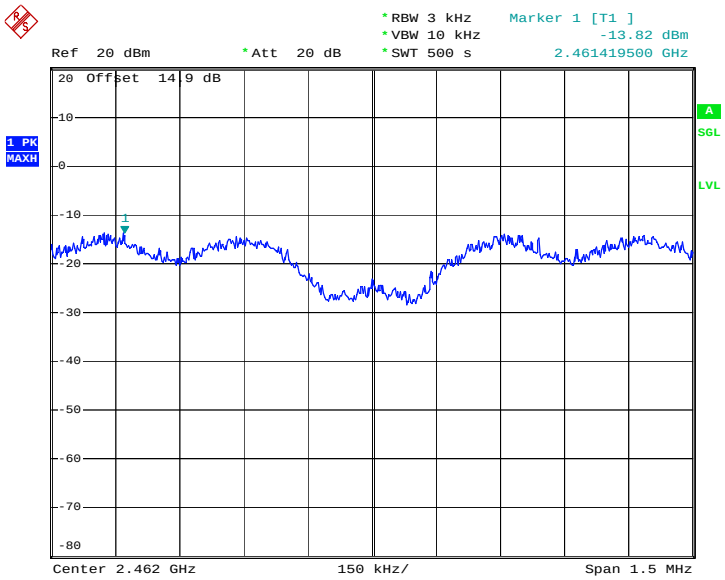
Date: 17.DEC.2011 11:50:07

Mode 5 : PSD Plot on 802.11g Channel 06



Date: 17.DEC.2011 12:07:54

Mode 6 : PSD Plot on 802.11g Channel 11



Date: 17.DEC.2011 12:29:59

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.

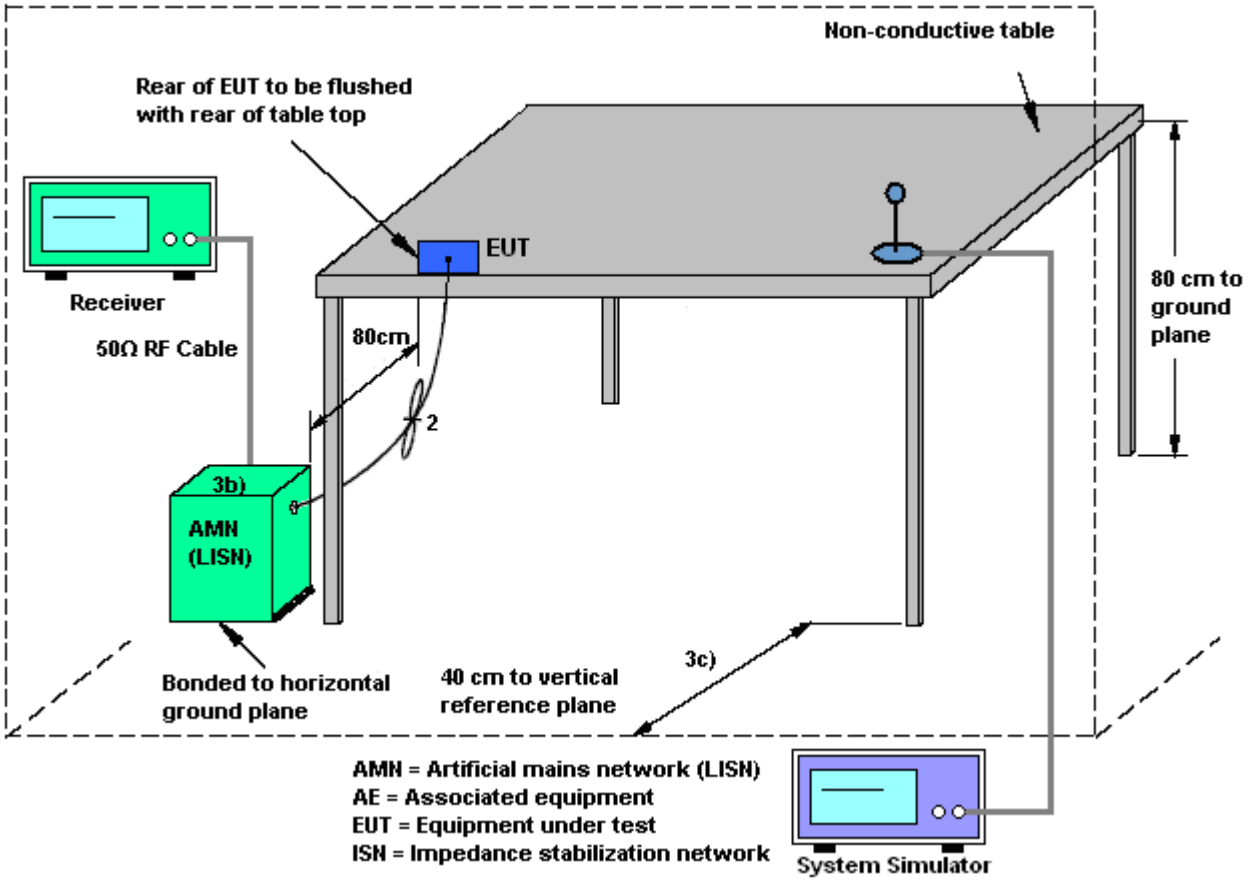
3.6.2 Measuring Instruments

See list of measuring instruments of this test report.

3.6.3 Test Procedures

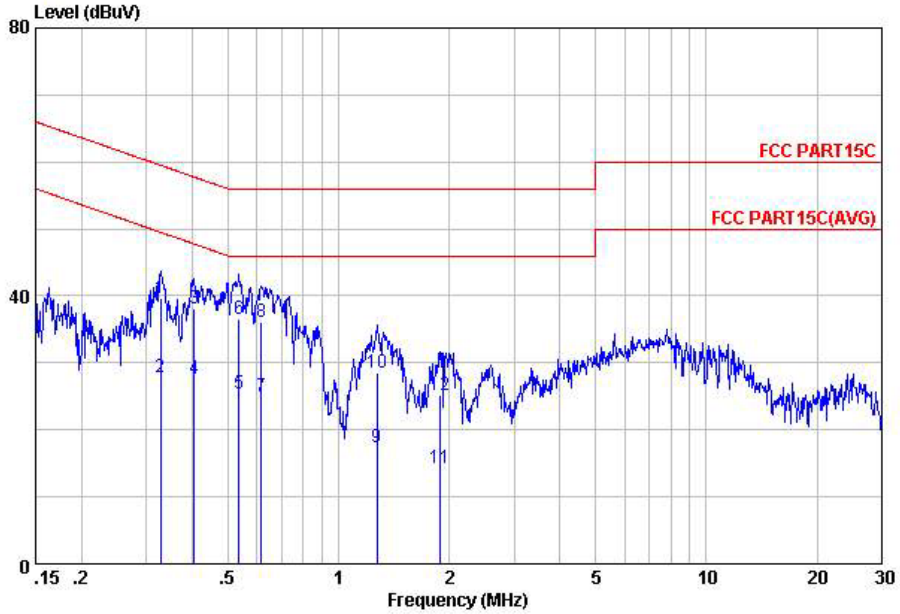
1. The testing follows the guidelines in ANSI C63.4-2003.
2. The EUT was placed 0.4 meter from the conducting wall of the shielding room, and it was kept at least 80 centimeters from any other grounded conducting surface.
3. Connect EUT to the power mains through a line impedance stabilization network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

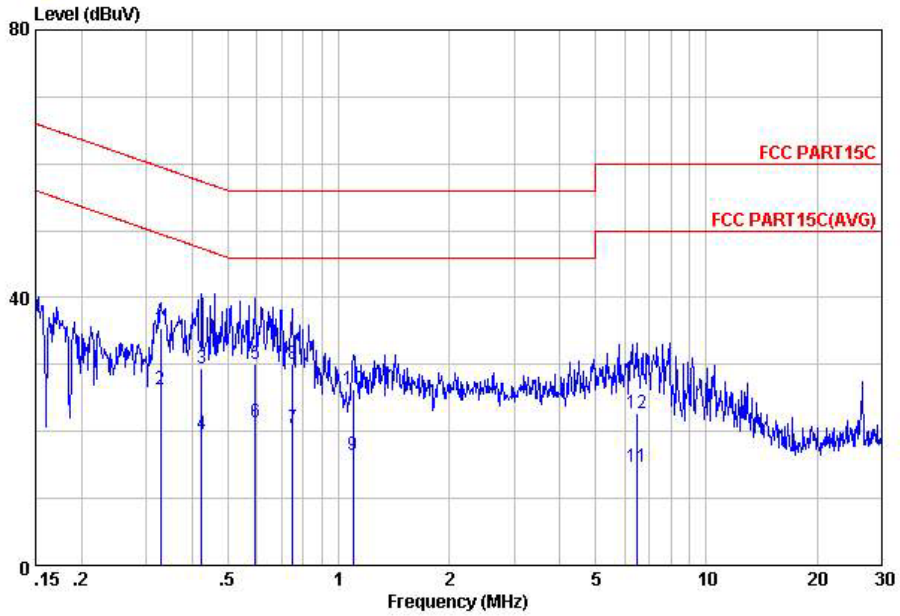
Test Mode :	Mode 1	Temperature :	21~22℃
Test Engineer :	Alva Guo	Relative Humidity :	41~42%
Test Voltage :	120Vac / 60Hz	Phase :	Line
Function Type :	GSM 850 Idle + Bluetooth Link + WIFI Link(2.4GHz) + Adapter + Camera		
Remark :	All emissions not reported here are more than 10 dB below the prescribed limit.		



Site : C001-KS
Condition: FCC PART15C LISN-100807 LINE
Project : (FR) 1D0806
mode : Mode 1

	Freq	Level	Over Limit	Limit Line	Read Level	LISN Factor	Cable Loss	Remark
	MHz	dBuV	dB	dBuV	dBuV	dB	dB	
1	0.33	39.70	-19.79	59.49	29.60	-0.08	10.18	QP
2	0.33	27.90	-21.59	49.49	17.80	-0.08	10.18	Average
3	0.40	38.11	-19.66	57.77	28.00	-0.08	10.19	QP
4	0.40	27.61	-20.16	47.77	17.50	-0.08	10.19	Average
5	0.53	25.43	-20.57	46.00	15.30	-0.08	10.21	Average
6	0.53	36.53	-19.47	56.00	26.40	-0.08	10.21	QP
7	0.62	25.04	-20.96	46.00	14.91	-0.09	10.22	Average
8	0.62	36.04	-19.96	56.00	25.91	-0.09	10.22	QP
9	1.27	17.28	-28.72	46.00	7.10	-0.10	10.28	Average
10	1.27	28.58	-27.42	56.00	18.40	-0.10	10.28	QP
11	1.89	14.21	-31.79	46.00	4.00	-0.11	10.32	Average
12	1.89	25.11	-30.89	56.00	14.90	-0.11	10.32	QP

Test Mode :	Mode 1	Temperature :	21~22℃
Test Engineer :	Alva Guo	Relative Humidity :	41~42%
Test Voltage :	120Vac / 60Hz	Phase :	Neutral
Function Type :	GSM 850 Idle + Bluetooth Link + WIFI Link(2.4GHz) + Adapter + Camera		
Remark :	All emissions not reported here are more than 10 dB below the prescribed limit.		



Site : C001-KS
Condition: FCC PART15C LISN-100807 NEUTRAL
Project : (FR) 1D0806
mode : Mode 1

	Freq	Level	Over Limit	Limit Line	Read Level	LISN Factor	Cable Loss	Remark
	MHz	dBuV	dB	dBuV	dBuV	dB	dB	
1	0.33	35.40	-24.09	59.49	25.30	-0.08	10.18	QP
2	0.33	26.40	-23.09	49.49	16.30	-0.08	10.18	Average
3	0.42	29.42	-27.95	57.37	19.30	-0.08	10.20	QP
4	0.42	19.62	-27.75	47.37	9.50	-0.08	10.20	Average
5	0.59	30.14	-25.86	56.00	20.00	-0.08	10.22	QP
6	0.59	21.44	-24.56	46.00	11.30	-0.08	10.22	Average
7	0.75	20.46	-25.54	46.00	10.30	-0.08	10.24	Average
8	0.75	30.06	-25.94	56.00	19.90	-0.08	10.24	QP
9	1.09	16.48	-29.52	46.00	6.30	-0.09	10.27	Average
10	1.09	26.38	-29.62	56.00	16.20	-0.09	10.27	QP
11	6.45	14.78	-35.22	50.00	4.50	-0.13	10.41	Average
12	6.45	22.78	-37.22	60.00	12.50	-0.13	10.41	QP

3.7 Radiated Emission Measurement

3.7.1 Limit of Radiated Emission

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

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

3.7.2 Measuring Instruments

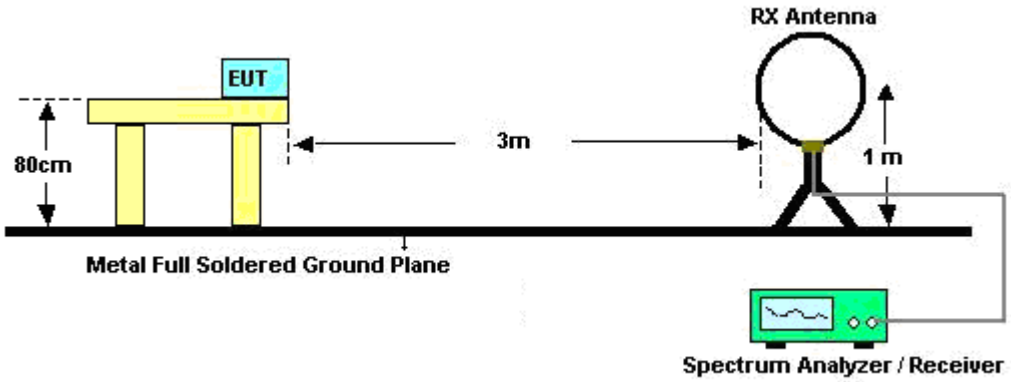
See list of measuring instruments of this test report.

3.7.3 Test Procedures

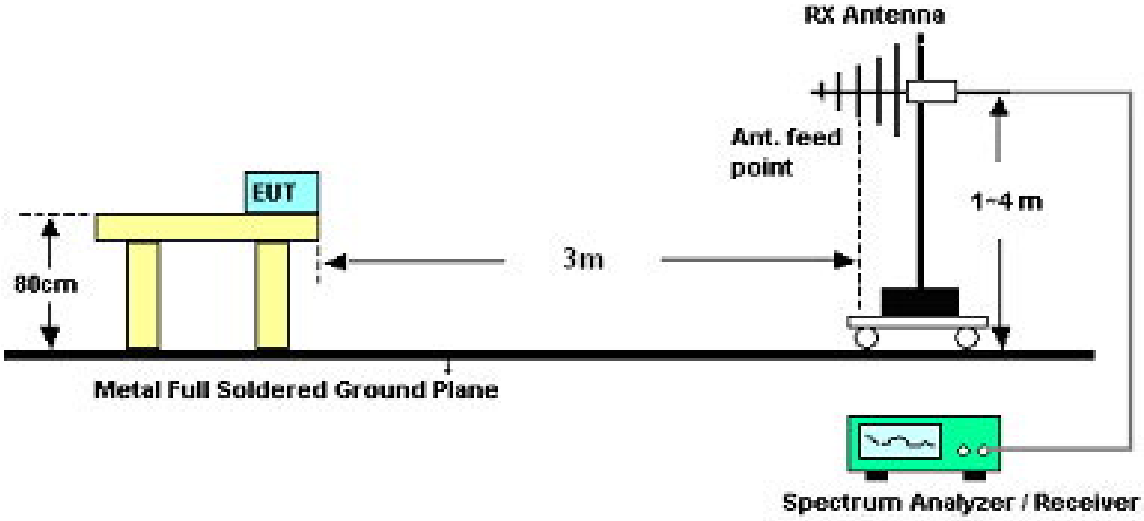
1. The testing follows the guidelines in FCC KDB Publication No. 558074 (Measurement Guidelines of DTS).
2. Use the following spectrum analyzer settings:
   (1) Span = wide enough to fully capture the emission being measured; RBW = 1 MHz for f ≥ 1 GHz, 100 kHz for f < 1 GHz; VBW ≥ RBW; Sweep = auto; Detector function = peak; Trace = max hold.
   (2) Above 18 GHz shall be extrapolated to the specified distance using an extrapolation factor of 20 dB/decade from 3m to 1m.
   Distance extrapolation factor = 20 log (specific distance [3m] / test distance [1m]) (dB)
3. Follow the guidelines in ANSI C63.4-2003 with respect to maximizing the emission by rotating the EUT, measuring the emission for three EUT orthogonal planes, and adjusting the measurement antenna height and polarization. A pre-amp and a high pass filter are used for this test in order to get the good signal level.

3.7.4 Test Setup

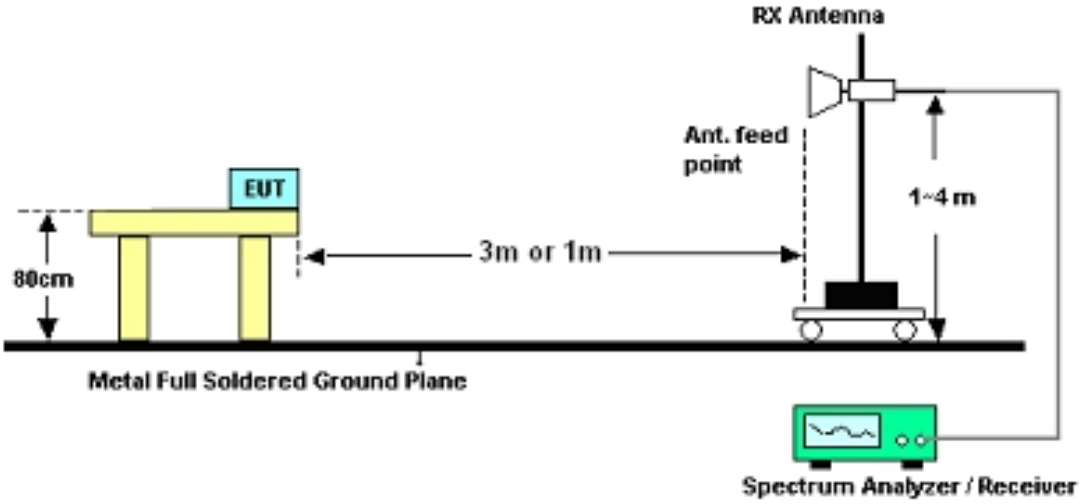
For radiated emissions below 30MHz



For radiated emissions from 30MHz to 1GHz



For radiated emissions above 1GHz



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

Test Engineer :	Cloud Peng	Temperature :	21~22℃
		Relative Humidity :	41~42%

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 :	21~22℃
Test Channel :	01	Relative Humidity :	41~42%
Test Engineer :	Cloud Peng	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
79.41	33.54	-6.46	40	56.76	6.47	0.35	30.04	-	-	Peak
101.82	35.4	-8.1	43.5	54.21	10.74	0.41	29.96	200	360	QP
105.87	43.05	-0.45	43.5	61.3	11.29	0.42	29.96	200	360	QP
344.1	28.32	-17.68	46	43.08	14.37	0.81	29.94	-	-	Peak
397.3	27.9	-18.1	46	40.93	15.96	0.84	29.83	-	-	Peak
836.2	25.77	-20.23	46	33.78	20.36	1.27	29.64	-	-	Peak
2386.19	50.62	-23.38	74	48.34	32.86	3.47	34.05	100	360	Peak
2386.19	39.7	-14.3	54	37.42	32.86	3.47	34.05	100	360	Average
2412	99.41	-	-	97.08	32.89	3.52	34.08	101	299	Peak
2412	95.58	-	-	93.25	32.89	3.52	34.08	101	299	Average
2494.3	50.37	-23.63	74	47.83	33.05	3.72	34.23	142	352	Peak
2494.3	39.03	-14.97	54	36.49	33.05	3.72	34.23	142	352	Average

Test Mode :	Mode 1	Temperature :	21~22℃
Test Channel :	01	Relative Humidity :	41~42%
Test Engineer :	Cloud Peng	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
79.41	38.08	-1.92	40	61.3	6.47	0.35	30.04	100	0	QP
101.82	31.3	-12.2	43.5	50.11	10.74	0.41	29.96	100	360	QP
106.14	38.35	-5.15	43.5	56.6	11.29	0.42	29.96	100	200	QP
344.1	31.68	-14.32	46	46.44	14.37	0.81	29.94	-	-	Peak
370.7	25.87	-20.13	46	39.89	15.05	0.83	29.9	-	-	Peak
662.6	28.84	-17.16	46	38.43	18.98	1.1	29.67	-	-	Peak
2349.14	49.63	-24.37	74	47.46	32.78	3.33	33.94	100	0	Peak
2349.14	37.33	-16.67	54	35.16	32.78	3.33	33.94	100	0	Average
2412	96.44	-	-	94.11	32.89	3.52	34.08	100	26	Peak
2412	91.98	-	-	89.65	32.89	3.52	34.08	100	26	Average
2495.44	50	-24	74	47.46	33.05	3.72	34.23	105	122	Peak
2495.44	37.88	-16.12	54	35.34	33.05	3.72	34.23	105	122	Average

Test Mode :	Mode 2	Temperature :	21~22℃
Test Channel :	06	Relative Humidity :	41~42%
Test Engineer :	Cloud Peng	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
101.82	31.41	-12.09	43.5	50.22	10.74	0.41	29.96	200	0	QP
106.14	38.87	-4.63	43.5	57.12	11.29	0.42	29.96	200	120	QP
110.19	35.31	-8.19	43.5	53.05	11.8	0.43	29.97	-	-	Peak
344.1	27.2	-18.8	46	41.96	14.37	0.81	29.94	-	-	Peak
397.3	23.27	-22.73	46	36.3	15.96	0.84	29.83	-	-	Peak
951	29	-25	54	36.48	20.73	1.33	29.54	-	-	Peak
2359.59	53.61	-20.39	74	51.4	32.81	3.38	33.98	200	110	Peak
2359.59	42.39	-11.61	54	40.18	32.81	3.38	33.98	200	110	Average
2437	103.19	-	-	100.79	32.95	3.6	34.15	200	360	Peak
2437	98.03	-	-	95.63	32.95	3.6	34.15	200	360	Average
2485.18	50.27	-23.73	74	47.78	33.01	3.68	34.2	200	220	Peak
2485.18	37.51	-16.49	54	35.02	33.01	3.68	34.2	200	220	Average

Test Mode :	Mode 2	Temperature :	21~22℃
Test Channel :	06	Relative Humidity :	41~42%
Test Engineer :	Cloud Peng	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
79.41	37.96	-2.04	40	61.18	6.47	0.35	30.04	100	0	QP
101.82	39.84	-3.66	43.5	58.65	10.74	0.41	29.96	-	-	Peak
105.87	40.35	-3.15	43.5	58.6	11.29	0.42	29.96	-	-	Peak
344.1	27.96	-18.04	46	42.72	14.37	0.81	29.94	-	-	Peak
662.6	27.44	-18.56	46	37.03	18.98	1.1	29.67	-	-	Peak
831.3	31.54	-14.46	46	39.62	20.29	1.27	29.64	-	-	Peak
2357.5	50.73	-23.27	74	48.52	32.81	3.38	33.98	100	227	Peak
2357.5	41	-13	54	38.79	32.81	3.38	33.98	100	227	Average
2437	99.76	-	-	97.36	32.95	3.6	34.15	100	282	Peak
2437	95.65	-	-	93.25	32.95	3.6	34.15	100	282	Average
2492.02	49.37	-24.63	74	46.83	33.05	3.72	34.23	100	296	Peak
2492.02	37.18	-16.82	54	34.64	33.05	3.72	34.23	100	296	Average

Test Mode :	Mode 3	Temperature :	21~22℃
Test Channel :	11	Relative Humidity :	41~42%
Test Engineer :	Cloud Peng	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
96.42	38.51	-4.99	43.5	58.17	9.91	0.4	29.97	200	0	Peak
101.82	35.1	-8.4	43.5	53.91	10.74	0.41	29.96	200	0	QP
106.14	38.4	-5.1	43.5	56.65	11.29	0.42	29.96	200	100	QP
344.1	27.67	-18.33	46	42.43	14.37	0.81	29.94	-	-	Peak
551.3	22.72	-23.28	46	32.9	18.5	1	29.68	-	-	Peak
831.3	33.95	-12.05	46	42.03	20.29	1.27	29.64	-	-	Peak
2383.53	51.44	-22.56	74	49.2	32.83	3.42	34.01	100	0	Peak
2383.53	42.09	-11.91	54	39.85	32.83	3.42	34.01	100	0	Average
2462	92.58	-	-	90.13	32.98	3.64	34.17	200	16	Average
2462	101.84	-	-	99.39	32.98	3.64	34.17	200	16	Peak
2483.5	50.23	-23.77	74	47.74	33.01	3.68	34.2	100	0	Peak
2483.5	41.32	-12.68	54	38.83	33.01	3.68	34.2	100	0	Average

Test Mode :	Mode 3	Temperature :	21~22℃
Test Channel :	11	Relative Humidity :	41~42%
Test Engineer :	Cloud Peng	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
57.54	34.23	-5.77	40	58.32	5.75	0.3	30.14	-	-	Peak
79.41	34.93	-5.07	40	58.15	6.47	0.35	30.04	200	100	QP
106.14	39.67	-3.83	43.5	57.92	11.29	0.42	29.96	200	100	Peak
344.1	30.11	-15.89	46	44.87	14.37	0.81	29.94	-	-	Peak
662.6	24.07	-21.93	46	33.66	18.98	1.1	29.67	-	-	Peak
902.7	30.75	-15.25	46	38.47	20.46	1.3	29.48	-	-	Peak
2379.54	52.77	-21.23	74	50.53	32.83	3.42	34.01	119	178	Peak
2379.54	43.4	-10.6	54	41.16	32.83	3.42	34.01	119	178	Average
2462	95.25	-	-	92.8	32.98	3.64	34.17	100	90	Average
2462	102.23	-	-	99.78	32.98	3.64	34.17	100	90	Peak
2483.5	51.03	-22.97	74	48.54	33.01	3.68	34.2	100	270	Peak
2483.5	43.12	-10.88	54	40.63	33.01	3.68	34.2	100	270	Average

Test Mode :	Mode 4	Temperature :	21~22℃
Test Channel :	01	Relative Humidity :	41~42%
Test Engineer :	Cloud Peng	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
101.82	36.98	-6.52	43.5	55.79	10.74	0.41	29.96	200	0	QP
106.14	39	-4.5	43.5	57.25	11.29	0.42	29.96	200	0	QP
110.19	35.5	-8	43.5	53.24	11.8	0.43	29.97	-	-	Peak
344.1	27.6	-18.4	46	42.36	14.37	0.81	29.94	-	-	Peak
830.6	31.34	-14.66	46	39.43	20.27	1.27	29.63	-	-	Peak
951	28.58	-25.42	54	36.06	20.73	1.33	29.54	-	-	Peak
2390	62.39	-11.61	74	60.11	32.86	3.47	34.05	200	130	Peak
2390	42.28	-11.72	54	40	32.86	3.47	34.05	200	130	Average
2412	71.96	-	-	69.63	32.89	3.52	34.08	106	360	Average
2412	102.27	-	-	99.94	32.89	3.52	34.08	106	360	Peak
2483.5	48.06	-25.94	74	45.57	33.01	3.68	34.2	100	0	Peak
2483.5	37.7	-16.3	54	35.21	33.01	3.68	34.2	100	0	Average

Test Mode :	Mode 4	Temperature :	21~22℃
Test Channel :	01	Relative Humidity :	41~42%
Test Engineer :	Cloud Peng	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
79.41	36.63	-3.37	40	59.85	6.47	0.35	30.04	100	0	QP
101.82	38.89	-4.61	43.5	57.7	10.74	0.41	29.96	-	-	Peak
105.87	40.28	-3.22	43.5	58.53	11.29	0.42	29.96	-	-	Peak
344.1	32.44	-13.56	46	47.2	14.37	0.81	29.94	-	-	Peak
662.6	24.75	-21.25	46	34.34	18.98	1.1	29.67	-	-	Peak
913.2	32.67	-13.33	46	40.34	20.51	1.31	29.49	-	-	Peak
2390	63.36	-10.64	74	61.08	32.86	3.47	34.05	126	319	Peak
2390	43.35	-10.65	54	41.07	32.86	3.47	34.05	126	319	Average
2412	68.11	-	-	65.78	32.89	3.52	34.08	134	26	Average
2412	101.46	-	-	99.13	32.89	3.52	34.08	134	26	Peak
2483.5	49.08	-24.92	74	46.59	33.01	3.68	34.2	100	0	Peak
2483.5	40.64	-13.36	54	38.15	33.01	3.68	34.2	100	0	Average

Test Mode :	Mode 5	Temperature :	21~22℃
Test Channel :	06	Relative Humidity :	41~42%
Test Engineer :	Cloud Peng	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
101.82	37.6	-5.9	43.5	56.41	10.74	0.41	29.96	200	0	QP
106.14	38.95	-4.55	43.5	57.2	11.29	0.42	29.96	200	100	QP
110.46	33.02	-10.48	43.5	50.76	11.8	0.43	29.97	-	-	Peak
344.1	27.32	-18.68	46	42.08	14.37	0.81	29.94	-	-	Peak
830.6	34.52	-11.48	46	42.61	20.27	1.27	29.63	-	-	Peak
951	27.47	-26.53	54	34.95	20.73	1.33	29.54	-	-	Peak
2360.35	54.57	-19.43	74	52.36	32.81	3.38	33.98	200	226	Peak
2360.35	40.38	-13.62	54	38.17	32.81	3.38	33.98	200	226	Average
2437	104.43	-	-	102.03	32.95	3.6	34.15	200	248	Peak
2437	72.46	-	-	70.06	32.95	3.6	34.15	200	248	Average
2483.66	51.28	-22.72	74	48.79	33.01	3.68	34.2	200	115	Peak
2483.66	38.11	-15.89	54	35.62	33.01	3.68	34.2	200	115	Average

Test Mode :	Mode 5	Temperature :	21~22℃
Test Channel :	06	Relative Humidity :	41~42%
Test Engineer :	Cloud Peng	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
79.41	33.93	-6.07	40	57.15	6.47	0.35	30.04	100	0	QP
101.82	38.9	-4.6	43.5	57.71	10.74	0.41	29.96	-	-	Peak
105.87	39.2	-4.3	43.5	57.45	11.29	0.42	29.96	-	-	Peak
344.1	32.39	-13.61	46	47.15	14.37	0.81	29.94	-	-	Peak
830.6	26.04	-19.96	46	34.13	20.27	1.27	29.63	-	-	Peak
951	27.57	-26.43	54	35.05	20.73	1.33	29.54	-	-	Peak
2361.68	52.73	-21.27	74	50.52	32.81	3.38	33.98	100	298	Peak
2361.68	38.61	-15.39	54	36.4	32.81	3.38	33.98	100	298	Average
2437	103.46	-	-	101.06	32.95	3.6	34.15	100	302	Peak
2437	70.39	-	-	67.99	32.95	3.6	34.15	100	302	Average
2484.42	50.83	-23.17	74	48.34	33.01	3.68	34.2	100	220	Peak
2484.42	37.32	-16.68	54	34.83	33.01	3.68	34.2	100	220	Average

Test Mode :	Mode 6	Temperature :	21~22℃
Test Channel :	11	Relative Humidity :	41~42%
Test Engineer :	Cloud Peng	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
96.42	37.18	-6.32	43.5	56.84	9.91	0.4	29.97	-	-	Peak
101.82	37.4	-6.1	43.5	56.21	10.74	0.41	29.96	200	0	QP
105.87	38.95	-4.55	43.5	57.2	11.29	0.42	29.96	200	0	QP
344.1	26.18	-19.82	46	40.94	14.37	0.81	29.94	-	-	Peak
831.3	27.44	-18.56	46	35.52	20.29	1.27	29.64	-	-	Peak
951	29.21	-24.79	54	36.69	20.73	1.33	29.54	-	-	Peak
2389.61	54.91	-19.09	74	52.63	32.86	3.47	34.05	200	110	Peak
2389.61	39.91	-14.09	54	37.63	32.86	3.47	34.05	200	110	Average
2462	104.33	-	-	101.88	32.98	3.64	34.17	200	360	Peak
2462	72.77	-	-	70.32	32.98	3.64	34.17	200	360	Average
2484.23	64.85	-9.15	74	62.36	33.01	3.68	34.2	200	112	Peak
2484.23	44.79	-9.21	54	42.3	33.01	3.68	34.2	200	112	Average

Test Mode :	Mode 6	Temperature :	21~22℃
Test Channel :	11	Relative Humidity :	41~42%
Test Engineer :	Cloud Peng	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
79.41	33.78	-6.22	40	57	6.47	0.35	30.04	200	0	QP
101.82	38.05	-5.45	43.5	56.86	10.74	0.41	29.96	-	-	Peak
106.14	38.78	-4.72	43.5	57.03	11.29	0.42	29.96	200	0	Peak
344.1	32.27	-13.73	46	47.03	14.37	0.81	29.94	-	-	Peak
831.3	27.23	-18.77	46	35.31	20.29	1.27	29.64	-	-	Peak
951	27.41	-26.59	54	34.89	20.73	1.33	29.54	-	-	Peak
2374.79	53.44	-20.56	74	51.2	32.83	3.42	34.01	100	221	Peak
2374.79	40.02	-13.98	54	37.78	32.83	3.42	34.01	100	221	Average
2462	101.34	-	-	98.89	32.98	3.64	34.17	100	281	Peak
2462	71.27	-	-	68.82	32.98	3.64	34.17	100	281	Average
2483.66	62.03	-11.97	74	59.54	33.01	3.68	34.2	100	226	Peak
2483.66	42.7	-11.3	54	40.21	33.01	3.68	34.2	100	226	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	Test Date	Due Date	Remark
Spectrum Analyzer	R&S	FSP40	100319	9kHz~40GHz	Jan. 07, 2011	Dec. 17, 2011	Jan. 06, 2012	Conducted (TH01-KS)
System Simulator	R&S	CMU200	837587/066	2G Full-Band	Jan. 07, 2011	Dec. 17, 2011	Jan. 06, 2012	Conducted (TH01-KS)
DC Power Supply	TOPWARD	GPS-3030D	E1884515	N/A	Aug. 23, 2011	Dec. 17, 2011	Aug. 22, 2012	Conducted (TH01-KS)
Thermal Chamber	Ten Billion	TTC-B3S	TBN-960502	N/A	Jan. 17, 2011	Dec. 17, 2011	Jan. 16, 2012	Conducted (TH01-KS)
EMI Receiver	R&S	ESCI7	100768	9kHz~7GHz	Dec. 30, 2011	Jan. 04, 2012	Dec. 29, 2012	Conduction (CO01-KS)
LISN	MessTec	AN3016	60103	9kHz~30MHz	Dec. 30, 2011	Jan. 04, 2012	Dec. 29, 2012	Conduction (CO01-KS)
LISN	MessTec	AN3016	60105	9kHz~30MHz	Jan. 07, 2011	Jan. 04, 2012	Jan. 06, 2012	Conduction (CO01-KS)
AC Power Source	Chroma	61602	ABP000000811	N/A	Nov. 16, 2011	Jan. 04, 2012	Nov. 15, 2012	Conduction (CO01-KS)
System Simulator	R&S	CMU200	837587/066	2G Full-Band	Jan. 07, 2011	Jan. 04, 2012	Jan. 06, 2012	Conduction (CO01-KS)
EMI Test Receiver	R&S	ESCI	100534	9kHz~3GHz	Nov. 09, 2011	Jan. 04, 2012	Nov. 08, 2012	Radiation (03CH01-KS)
Spectrum Analyzer	R&S	FSP40	100319	9kHz~40GHz	Jan. 07, 2011	Jan. 04, 2012	Jan. 06, 2012	Radiation (03CH01-KS)
Bilog Antenna	SCHAFFNER	CBL6112D	23182	25MHz~2GHz	Dec. 08, 2011	Jan. 04, 2012	Dec. 07, 2012	Radiation (03CH01-KS)
Loop Antenna	R&S	HFH2-Z2	860004/00	9 kHz~30 MHz	Jul. 28, 2011	Jan. 04, 2012	Jul. 27, 2012	Radiation (03CH01-KS)
Double Ridge Horn Antenna	EMCO	3117	00075959	1GHz~18GHz	Jan. 07, 2011	Jan. 04, 2012	Jan. 06, 2012	Radiation (03CH01-KS)
Amplifier	Wireless	FPA-6592G	060004	30MHz~2GHz	Dec. 30, 2011	Jan. 04, 2012	Dec. 29, 2012	Radiation (03CH01-KS)
Amplifier	Agilent	8449B	3008A02370	1GHz~26.5GHz	Dec. 30, 2011	Jan. 04, 2012	Dec. 29, 2012	Radiation (03CH01-KS)
Active Horn Antenna	com-power	AHA-118	701023	1GHz~18GHz	Nov. 07, 2011	Jan. 04, 2012	Nov. 06, 2012	Radiation (03CH01-KS)
SHF-EHF Horn	Schwarzbeck	BBHA 9170	BBHA170249	15GHz~40GHz	Oct. 11, 2011	Jan. 04, 2012	Oct.10, 2012	Radiation (03CH01-KS)

5 Uncertainty of Evaluation

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

Contribution	Uncertainty of X_i		$u(X_i)$
	dB	Probability Distribution	
Receiver Reading	0.10	Normal (k=2)	0.05
Cable Loss	0.10	Normal (k=2)	0.05
AMN Insertion Loss	2.50	Rectangular	0.63
Receiver Specification	1.50	Rectangular	0.43
Site Imperfection	1.39	Rectangular	0.80
Mismatch	+0.34 / -0.35	U-Shape	0.24
Combined Standard Uncertainty Uc(y)	**1.13**		
Measuring Uncertainty for a Level of Confidence of 95% (U = 2Uc(y))	**2.26**		

Uncertainty of Radiated Emission Measurement (30 MHz ~ 1000 MHz)

Contribution	Uncertainty of X_i		$u(X_i)$
	dB	Probability Distribution	
Receiver Reading	0.41	Normal (k=2)	0.21
Antenna Factor Calibration	0.83	Normal (k=2)	0.42
Cable Loss Calibration	0.25	Normal (k=2)	0.13
Pre-Amplifier Gain Calibration	0.27	Normal (k=2)	0.14
RCV/SPA Specification	2.50	Rectangular	0.72
Antenna Factor Interpolation for Frequency	1.00	Rectangular	0.29
Site Imperfection	1.43	Rectangular	0.83
Mismatch	+0.39 / -0.41	U-Shape	0.28
Combined Standard Uncertainty Uc(y)	**1.27**		
Measuring Uncertainty for a Level of Confidence of 95% (U = 2Uc(y))	**2.54**		

Uncertainty of Radiated Emission Measurement (1 GHz ~ 40 GHz)

Contribution	Uncertainty of X_i		$u(X_i)$	C_i	$C_i * u(X_i)$
	dB	Probability Distribution			
Receiver Reading	±0.10	Normal (k=2)	0.10	1	0.10
Antenna Factor Calibration	±1.70	Normal (k=2)	0.85	1	0.85
Cable Loss Calibration	±0.50	Normal (k=2)	0.25	1	0.25
Receiver Correction	±2.00	Rectangular	1.15	1	1.15
Antenna Factor Directional	±1.50	Rectangular	0.87	1	0.87
Site Imperfection	±2.80	Triangular	1.14	1	1.14
Mismatch Receiver VSWR Γ1 = 0.197 Antenna VSWR Γ2 = 0.194 Uncertainty = 20Log(1-Γ1*Γ2)	+0.34 / -0.35	U-Shape	0.244	1	0.244
Combined Standard Uncertainty Uc(y)	**2.36**				
Measuring Uncertainty for a Level of Confidence of 95% (U = 2Uc(y))	**4.72**				

Appendix A. Photographs of EUT

Please refer to Sporton report number EP1D0806 as below.