

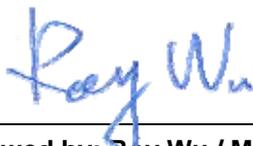
FCC Test Report

EQUIPMENT : HSDPA Mobile Phone
BRAND NAME : ZTE
MODEL NAME : F159
FCC ID : Q78-ZTEF159
STANDARD : FCC Part 15 Subpart C §15.247
CLASSIFICATION : Digital Spread Spectrum (DSS)
APPLICANT : ZTE CORPORATION

ZTE Plaza, Keji Road South, Hi-Tech Industrial Park,
Nanshan District, Shenzhen, Guangdong, 518057, P.R.China

The product sample received on Oct. 13, 2008 and completely tested on Oct. 18, 2008. We, SPORTON, would like to declare that the tested sample has been evaluated in accordance with the procedures given in ANSI C63.4-2003 and shown 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: Roy Wu / Manager



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



TABLE OF CONTENTS

SUMMARY OF TEST RESULT 3

REVISION HISTORY..... 4

1 GENERAL DESCRIPTION..... 5

 1.1 Applicant 5

 1.2 Manufacturer..... 5

 1.3 Feature of Equipment Under Test 5

 1.4 Testing Site..... 6

 1.5 Applied Standards 7

 1.6 Ancillary Equipment List 7

2 TEST CONFIGURATION OF EQUIPMENT UNDER TEST..... 8

 2.1 Test Mode..... 8

 2.2 Connection Diagram of Test System..... 8

 2.3 RF Utility 9

3 TEST RESULT 10

 3.1 Number of Channel Measurement 10

 3.2 20dB Bandwidth Measurement 12

 3.3 Hopping Channel Separation Measurement 15

 3.4 Dwell Time Measurement..... 18

 3.5 Peak Output Power Measurement 20

 3.6 Band Edges Measurement..... 23

 3.7 AC Conducted Emission Measurement..... 27

 3.8 Radiated Emission Measurement..... 31

 3.9 Antenna Requirements..... 45

4 LIST OF MEASURING EQUIPMENTS 46

5 UNCERTAINTY OF EVALUATION..... 47

6 CERTIFICATION OF TAF ACCREDITATION 49

APPENDIX A. PHOTOGRAPHS OF EUT

APPENDIX B. SETUP PHOTOGRAPHS

SUMMARY OF TEST RESULT

Report Section	FCC Rule	IC Rule	Description	Limit	Result	Remark
3.1	15.247(b)(1)	A8.4(2)	Number of Channels	≥ 15Chs	Pass	
3.2	15.247(a)(1)	A8.1(a)	20dB Bandwidth	NA	Pass	-
3.3	15.247(a)(1)	A8.1(b)	Channel Separation	≥ 2/3 of 20dB BW	Pass	-
3.4	15.247(a)(1)	A8.1(d)	Dwell Time of Each Channel	≤ 0.4sec in 31.6sec period	Pass	-
3.5	15.247(a)(1)	A8.1(b)	Peak Output Power	≤ 0.125W	Pass	-
3.6	15.247(d)	A8.5	Frequency Band Edges	≤ 20dBc	Pass	-
3.7	15.207	Gen 7.2.2	AC Conducted Emission	15.207(a)	Pass	Under limit 16.69 dB at 1.90 MHz
3.8	15.247(d)	A8.5	Transmitter Radiated Emission	15.209(a) & 15.247(d)	Pass	Under limit 12.21 dB at 93.45 MHz
3.9	15.203 & 15.247(b)	A8.4	Antenna Requirement	N/A	Pass	-

1 General Description

1.1 Applicant

ZTE CORPORATION

ZTE Plaza, Keji Road South, Hi-Tech Industrial Park,
Nanshan District, Shenzhen, Guangdong, 518057, P.R.China

1.2 Manufacturer

ZTE CORPORATION

ZTE Plaza, Keji Road South, Hi-Tech Industrial Park,
Nanshan District, Shenzhen, Guangdong, 518057, P.R.China

1.3 Feature of Equipment Under Test

Product Feature & Specification	
Equipment	HSDPA Mobile Phone
Brand Name	ZTE
Model Name	F159
Tx/Rx Frequency Range	2400 MHz ~ 2483.5 MHz
Number of Channels	79
Carrier Frequency of Each Channel	2402+n*1 MHz; n=0~78
Channel Spacing	1 MHz
Maximum Output Power to Antenna	Bluetooth : -5.59 dBm
Antenna Type	PIFA Antenna with gain -2 dBi
Antenna Connector Type	N/A
HW Version	wg9B
SW Version	TEL_PE_P622A1V1.0.0B01
Type of Modulation	Bluetooth : GFSK
EUT Stage	Production Unit

Accessories List:

Accessories Specification		
AC Adapter	Brand Name	ZTE
	Model Name	STC-A22O50U8-C
	Power Rating	I/P: 100-240Vac, 50-60Hz, 200mA; O/P: 5Vdc, 700mA
	AC Power Cord Type	1.2 meter non-shielded cable without ferrite core
Battery	Brand Name	ZTE
	Model Name	Li3717T42P3h5637116
	Power Rating	3.7Vdc, 1700mAh
	Type	Li-ion
Earphone	Brand Name	ZTE
	Model Name	HMZ1-U8
	Signal Line Type	1.4 meter non-shielded cable without ferrite core
USB Cable	Brand Name	ZTE
	Model Name	052621600266
	Signal Line Type	1.2 meter shielded cable with ferrite core
LCD Panel	Brand Name	Shenzhen Lead Communications Ltd.
	Model Name	T20FGS07

Remark:

1. The above EUT's information was declared by manufacturer. Please refer to the specifications or user's manual for more detailed description.
2. This test report recorded only product characteristics and test results of Digital Spread Spectrum (DSS).
3. For accessories equipped with this EUT, please refer to the appendix of the external photo.
4. For other wireless features of this EUT, test report will be issued separately.

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.		-
	CO05-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 Public Notice DA 00-705
- ANSI C63.4-2003
- IC RSS-210 Issue 7

Remark:

1. All test items were verified and recorded according to the standards and without any deviation during the test.
2. This EUT has also been tested and complied with the requirements of FCC Part 15, Subpart B (DoC) which recorded in a separate test report.

1.6 Ancillary Equipment List

Item	Equipment	Trade Name	Model Name	FCC ID	Data Cable	Power Cord
1.	GSM Base Station	R&S	CMU 200	N/A	N/A	Unshielded, 1.8m
2.	BT Base Station	Anritsu	8852B	N/A	N/A	Unshielded, 1.8m
3.	PC	DELL	MT320	FCC DoC	N/A	Unshielded, 1.8m
4.	Monitor	Hangs-G	Hangs-G	FCC DoC	Shielded, 1.2m	Unshielded, 1.8m
5.	(USB)Mouse	DELL	MO56UC	FCC DoC	Shielded, 1.8m	N/A
6.	(USB)Keyboard	DELL	L100	FCC DoC	Shielded, 1.8m with core	N/A
7.	Print	HP	Laser Jet 1018	FCC DoC	Shielded, 1.8m	Unshielded, 1.8m
8.	iPod	Apple	A1199	FCC DoC	Shielded, 1.2m	N/A

2 Test Configuration of Equipment Under Test

2.1 Test Mode

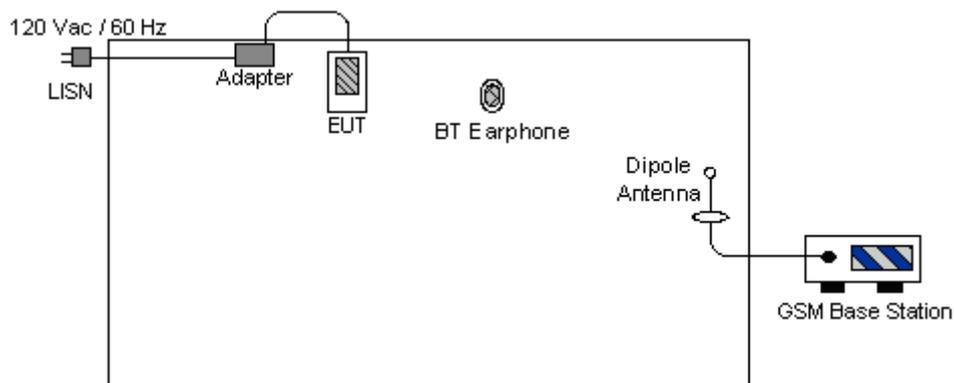
The EUT has been associated with peripherals pursuant to ANSI C63.4-2003 and configuration operated in a manner tended to maximize its emission characteristics in a typical application. Frequency range investigated: conduction (150 kHz to 30 MHz), radiation (9 kHz to the 10th harmonic of the highest fundamental frequency or to 40 GHz, whichever is lower). Pre-scanned tests were conducted to determine the final configuration from all possible combinations. The following tables are showing the test modes as the worst cases and recorded in this report.

Test Cases	
Test Item	Modulation
	GFSK
Conducted TCs	<ul style="list-style-type: none"> ■ Mode 1: CH00_2402 MHz ■ Mode 2: CH39_2441 MHz ■ Mode 3: CH78_2480 MHz
Radiated TCs	<ul style="list-style-type: none"> ■ Mode 1: CH00_2402 MHz ■ Mode 2: CH39_2441 MHz ■ Mode 3: CH78_2480 MHz
AC Conducted Emission	Mode 1 : GSM850 Idle + BT Link + Adapter

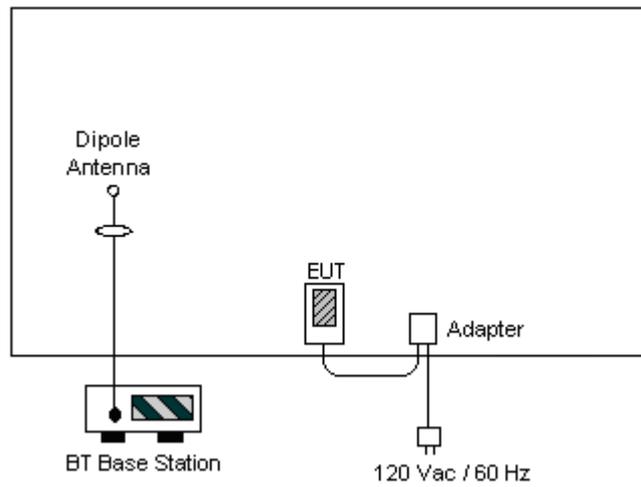
2.2 Connection Diagram of Test System

<Conducted Emission>

EUT with Adapter Mode



<Radiated Emission>



2.3 RF Utility

Test mode of EUT can link with Bluetooth base station via key-in "*983*7278#" at EUT.

3 Test Result

3.1 Number of Channel Measurement

3.1.1 Limits of Number of Hopping Frequency

Frequency hopping systems in the 2400-2483.5 MHz band shall use at least 15 channels.

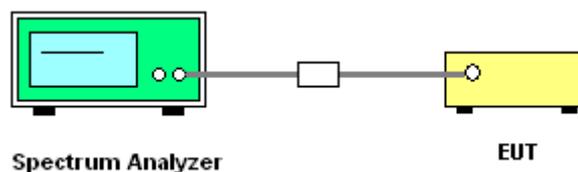
3.1.2 Measuring Instruments

See list of measuring instruments of this test report.

3.1.3 Test Procedure

1. The testing follows FCC Public Notice DA 00-705 Measurement Guidelines.
2. The RF output of EUT was connected to the spectrum analyzer by a low loss cable.
3. The modulation types of EUT are irrelevant to number of hopping channels deviation.
4. The EUT must have its hopping function enabled. Use the following spectrum analyzer settings:
Span = the frequency band of operation; RBW \geq 1% of the span; VBW \geq RBW; Sweep = auto;
Detector function = peak; Trace = max hold.
5. The number of hopping frequency used is defined as the device has the numbers of total channel.

3.1.4 Test Setup

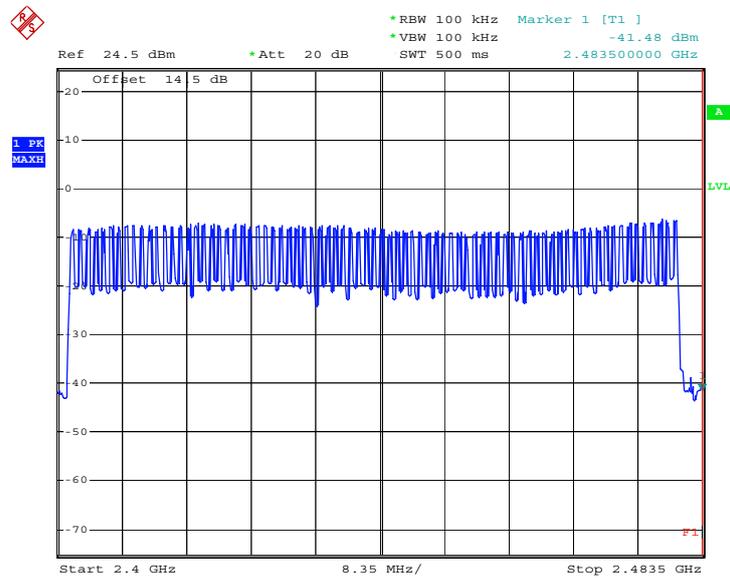




3.1.5 Test Result of Number of Hopping Frequency

Test Mode :	Mode 1~3	Temperature :	25~27
Test Engineer :	Tommy Lee	Relative Humidity :	43~44%
Number of Hopping Channels (Channel)		Limits (Channel)	
79		> 15	
		Pass/Fail	
		Pass	

Number of Hopping Channel Plot on Channel 00 - 78



Date: 16.OCT.2008 22:00:34

3.2 20dB Bandwidth Measurement

3.2.1 Limit of 20dB Bandwidth

N/A

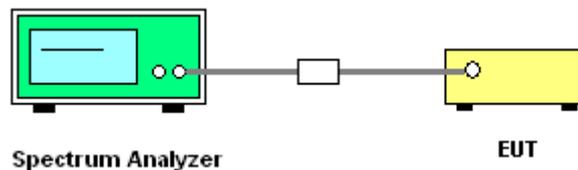
3.2.2 Measuring Instruments

See list of measuring instruments of this test report.

3.2.3 Test Procedures

1. The testing follows FCC Public Notice DA 00-705 Measurement Guidelines.
2. The RF output of EUT was connected to the spectrum analyzer by a low loss cable.
3. The EUT should be transmitting at its maximum data rate as the worst cases.
4. Use the following spectrum analyzer settings:
Span = approximately 2 to 3 times the 20 dB bandwidth, centered on a hopping channel;
RBW \geq 1% of the 20 dB bandwidth; VBW \geq RBW; Sweep = auto; Detector function = peak;
Trace = max hold.
5. The marker-delta reading at this point is the 20 dB bandwidth of the emission.

3.2.4 Test Setup



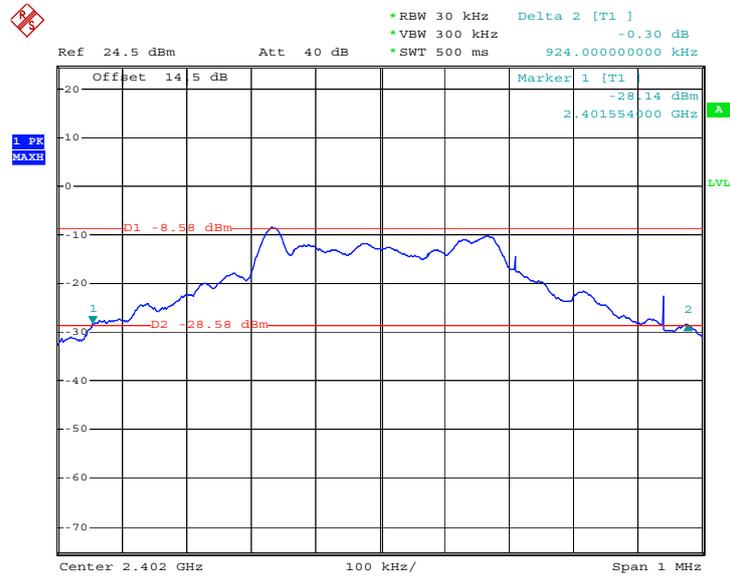


3.2.5 Test Result of 20dB Bandwidth

Test Mode :	Mode 1, 2, 3	Temperature :	25~27
Test Engineer :	Tommy Lee	Relative Humidity :	43~44%

Channel	Frequency (MHz)	20dB Bandwidth (MHz)
00	2402	0.924
39	2441	0.922
78	2480	0.918

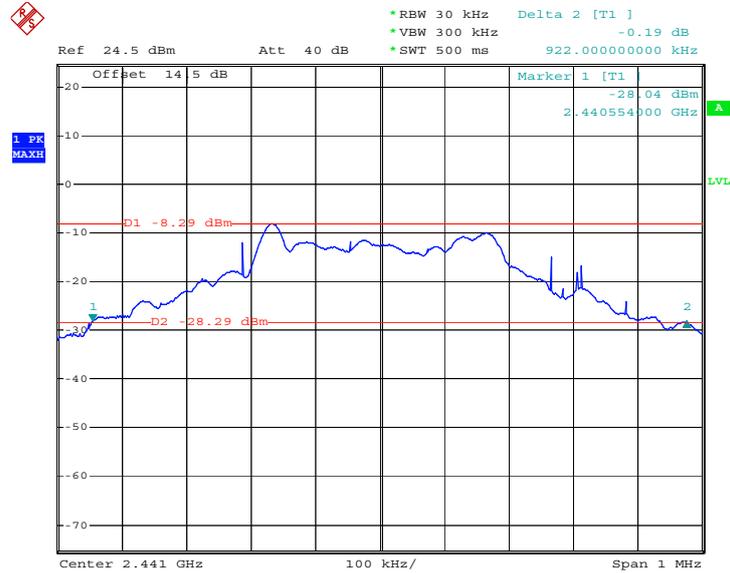
20 dB Bandwidth Plot on Channel 00



Date: 16.OCT.2008 21:50:24

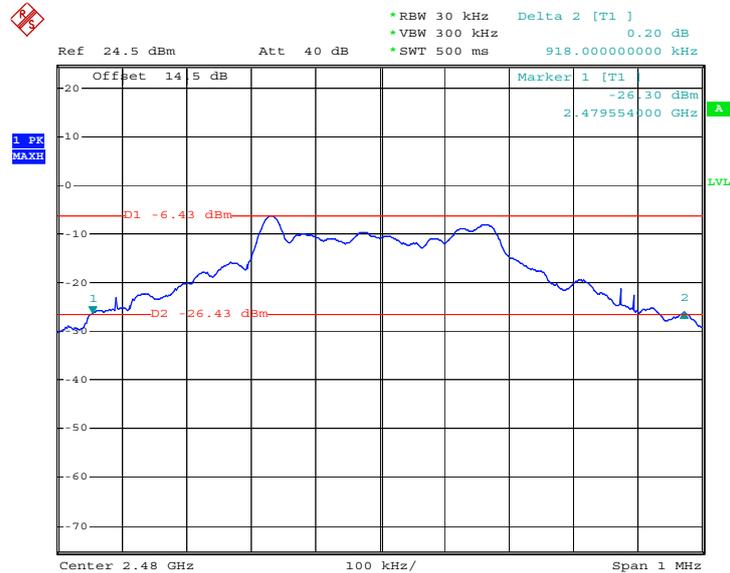


20 dB Bandwidth Plot on Channel 39



Date: 16.OCT.2008 21:45:31

20 dB Bandwidth Plot on Channel 78



Date: 16.OCT.2008 21:48:44

3.3 Hopping Channel Separation Measurement

3.3.1 Limit of Hopping Channel Separation

Frequency hopping systems operating in the 2400-2483.5 MHz band may have hopping channel carrier frequencies that are separated by 25 kHz or two-thirds of the 20 dB bandwidth of the hopping channel, whichever is greater, provided the systems operate with an output power no greater than 125 mW.

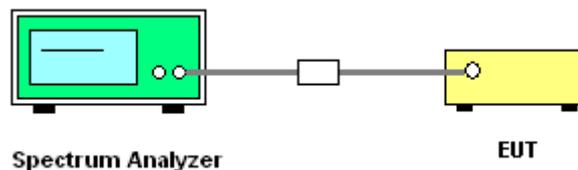
3.3.2 Measuring Instruments

See list of measuring instruments of this test report.

3.3.3 Test Procedures

1. Please refer FCC Public Notice DA 00-705 Measurement Guidelines.
2. The RF output of EUT was connected to the spectrum analyzer by a low loss cable.
3. The EUT should be transmitting at its maximum data rate as the worst cases.
4. Use the following spectrum analyzer settings:
Span = wide enough to capture the peaks of two adjacent channels; $RBW \geq 1\%$ of the span;
 $VBW \geq RBW$; Sweep = auto; Detector function = peak; Trace = max hold.
5. Use the marker-delta function to determine the separation between the peaks of the adjacent channels.

3.3.4 Test Setup



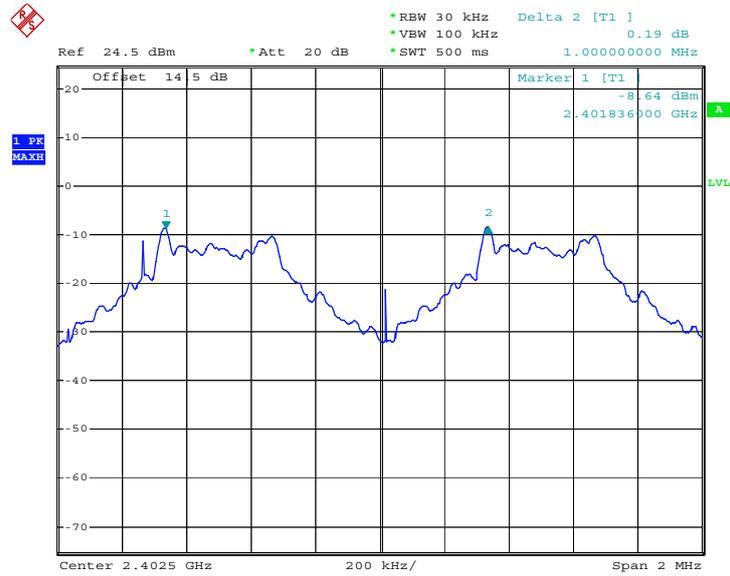


3.3.5 Test Result of Hopping Channel Separation

Test Mode :	Mode 1, 2, 3	Temperature :	25~27
Test Engineer :	Tommy Lee	Relative Humidity :	43~44%

Channel	Frequency (MHz)	Frequency Separation (MHz)	(2/3 of 20dB BW) Limits (MHz)	Pass/Fail
00	2402	1.000	0.616	Pass
39	2441	1.000	0.615	Pass
78	2480	1.000	0.612	Pass

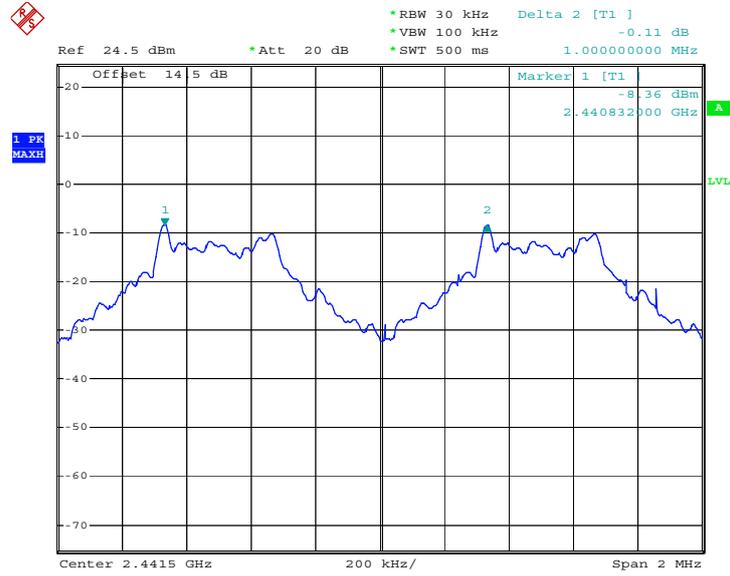
Channel Separation Plot on Channel 00 - 01



Date: 16.OCT.2008 22:07:29

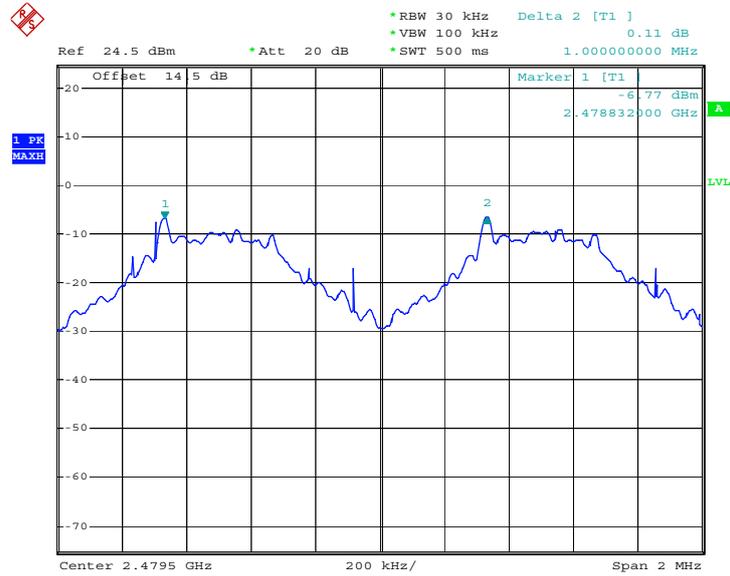


Channel Separation Plot on Channel 39 - 40



Date: 16.OCT.2008 22:08:52

Channel Separation Plot on Channel 77 - 78



Date: 17.OCT.2008 15:51:41

3.4 Dwell Time Measurement

3.4.1 Limit of Dwell Time

The average time of occupancy on any channel shall not be greater than 0.4 seconds within a period of 0.4 seconds multiplied by the number of hopping channels employed.

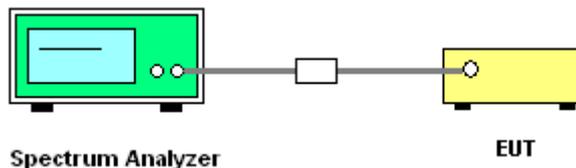
3.4.2 Measuring Instruments

See list of measuring instruments of this test report.

3.4.3 Test Procedures

1. The testing follows FCC Public Notice DA 00-705 Measurement Guidelines.
2. The RF output of EUT was connected to the spectrum analyzer by a low loss cable.
3. The EUT should be transmitting at its maximum data rate as the worst cases.
4. The EUT must have its hopping function enabled. Use the following spectrum analyzer settings:
Span = zero span, centered on a hopping channel; RBW = 1 MHz; VBW ≥ RBW; Sweep = as necessary to capture the entire dwell time per hopping channel; Detector function = peak; Trace = max hold.
5. Use the marker-delta function to calculate the dwell time.

3.4.4 Test Setup



3.4.5 Test Result of Dwell Time

Test Mode :	Mode 2	Temperature :	25~27
Test Engineer :	Tommy Lee	Relative Humidity :	43~44%

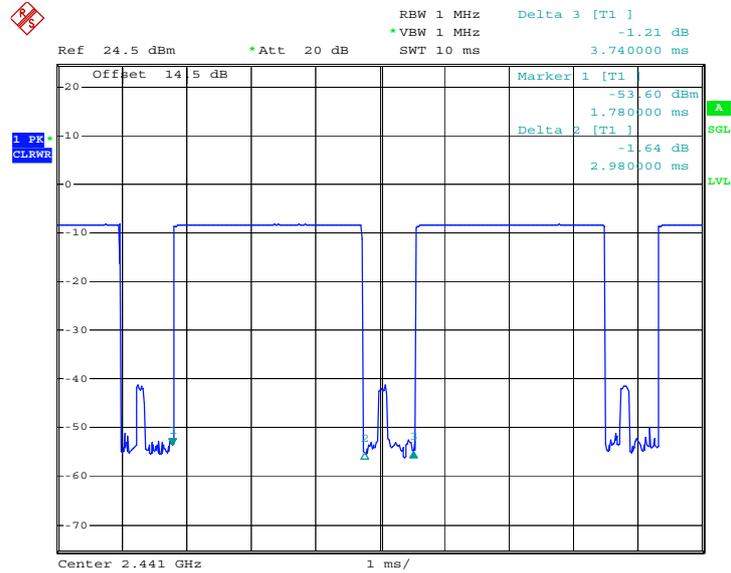
Package Mode	Average Hopping Channel	Package Transfer Time (usec)	Dwell Time (sec)	Limits (sec)	Pass/Fail
DH5	2.90	2980.00	0.273	0.4	Pass

Remark:

1. Dwell Time=79(channels) x 0.4(s) x average hopping channel x package transfer time
2. 79 channels come from the Hopping Channel number.
3. Average Hopping Channel = hops/sweep time
4. t: Package Transfer Time(us)

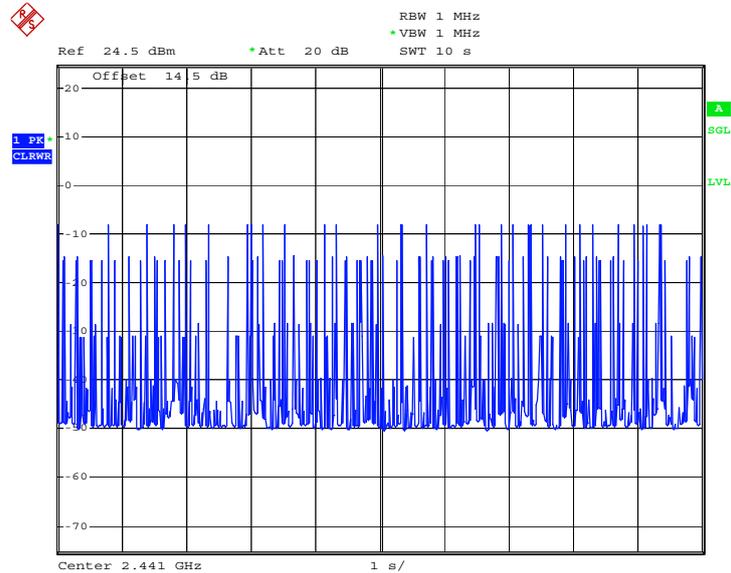


DH5 Dwell Time (One Pulse) Plot on Channel 39



Date: 16.OCT.2008 22:22:24

DH5 Dwell Time (Count Pulses) Plot on Channel 39



Date: 16.OCT.2008 22:18:27

3.5 Peak Output Power Measurement

3.5.1 Limit of Peak Output Power

Frequency hopping systems operating in the 2400-2483.5 MHz band may have hopping channel carrier frequencies that are separated by 25 kHz or two-thirds of the 20 dB bandwidth of the hopping channel, whichever is greater, provided the systems operate with an output power no greater than 1W (30dBm).

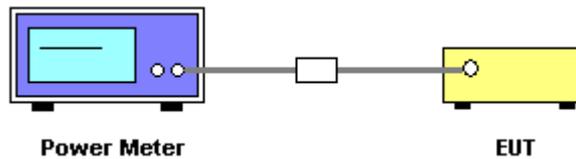
3.5.2 Measuring Instruments

See list of measuring instruments of this test report.

3.5.3 Test Procedures

1. The testing follows FCC Public Notice DA 00-705 Measurement Guidelines.
2. The RF output of EUT was connected to the peak power meter by a low loss cable.

3.5.4 Test Setup



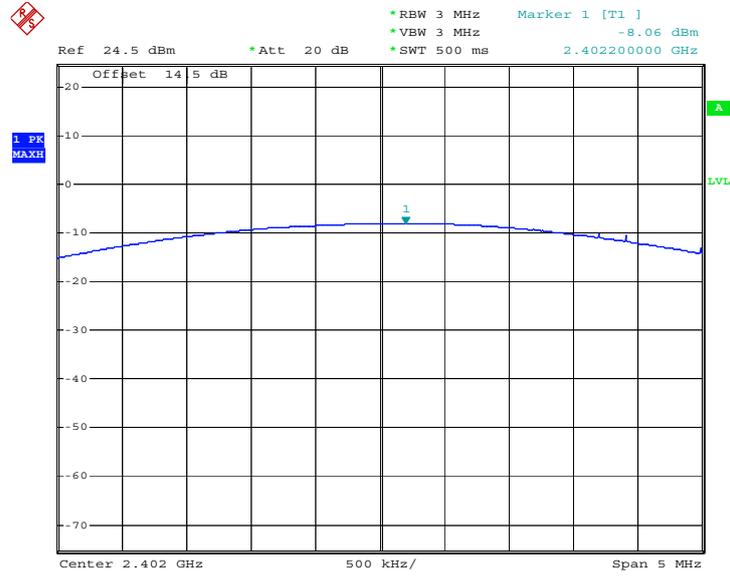
3.5.5 Test Result of Peak Output Power

Test Mode :	Mode1, 2, 3	Temperature :	25~27
Test Engineer :	Tommy Lee	Relative Humidity :	43~44%

Channel	Frequency (MHz)	RF Power (dBm)		
		GFSK	Max. Limits (dBm)	Pass/Fail
		1 Mbps		
00	2402	-8.06	30	Pass
39	2441	-7.86	30	Pass
78	2480	-5.59	30	Pass

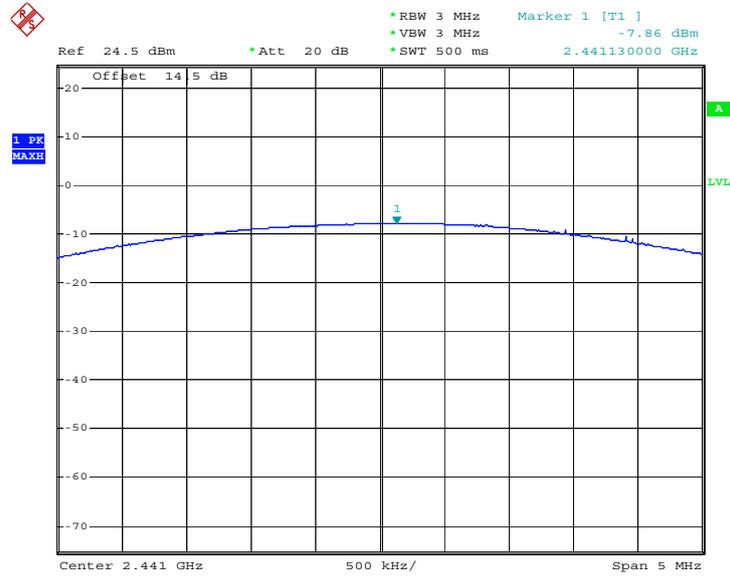


Peak Output Power Plot on Channel 00



Date: 16.OCT.2008 22:24:26

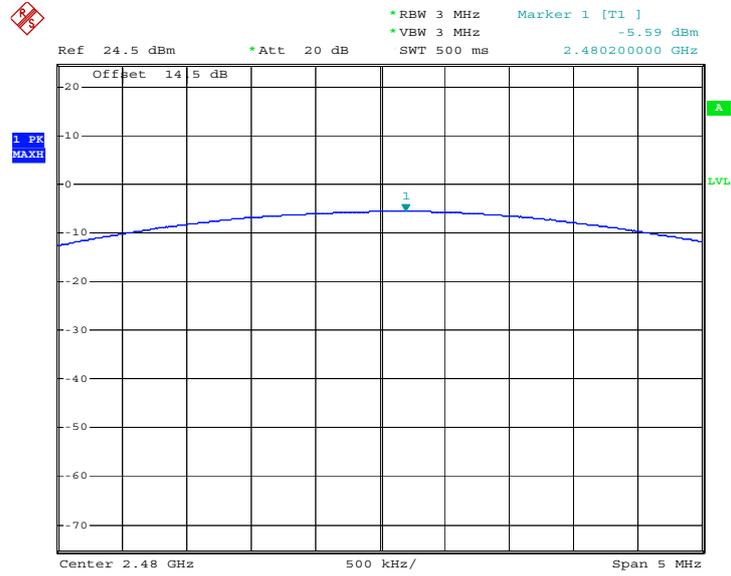
Peak Output Power Plot on Channel 39



Date: 16.OCT.2008 22:28:35



Peak Output Power Plot on Channel 78



Date: 17.OCT.2008 10:22:32

3.6 Band Edges Measurement

3.6.1 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. In addition, radiated emissions which fall in the restricted bands must also comply with the radiated emission limits.

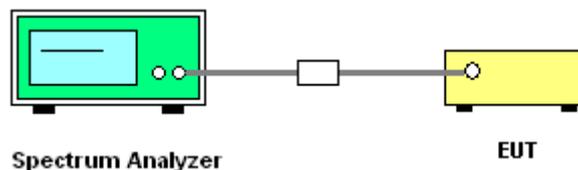
3.6.2 Measuring Instruments

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 and FCC Public Notice DA 00-705 Measurement Guidelines.
2. RF antenna conducted test: Set RBW = 100 kHz, Video bandwidth (VBW) > RBW, scan up through 10th harmonic. Bandedge 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: Applies to bandedge 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. See FCC Section 15.35(b) and (c).

3.6.4 Test Setup





3.6.5 Test Result of Radiated Band Edges

Test Mode :	Mode 1	Temperature :	26~27°C
Test Channel :	00	Relative Humidity :	40~41%
Test Engineer :	Peter Chou		

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
2390.00	43.26	-30.74	74.00	43.26	31.93	3.25	35.18	100	0	Peak
2390.00	31.11	-22.89	54.00	31.11	31.93	3.25	35.18	174	14	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
2390.00	43.58	-30.42	74.00	43.58	31.93	3.25	35.18	100	0	Peak
2390.00	31.66	-22.34	54.00	31.66	31.93	3.25	35.18	128	181	Average

Test Mode :	Mode 3	Temperature :	26~27°C
Test Channel :	78	Relative Humidity :	40~41%
Test Engineer :	Peter Chou		

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
2483.50	59.14	-14.86	74.00	58.81	32.24	3.29	35.20	100	0	Peak
2483.50	38.40	-15.60	54.00	38.07	32.24	3.29	35.20	100	113	Average

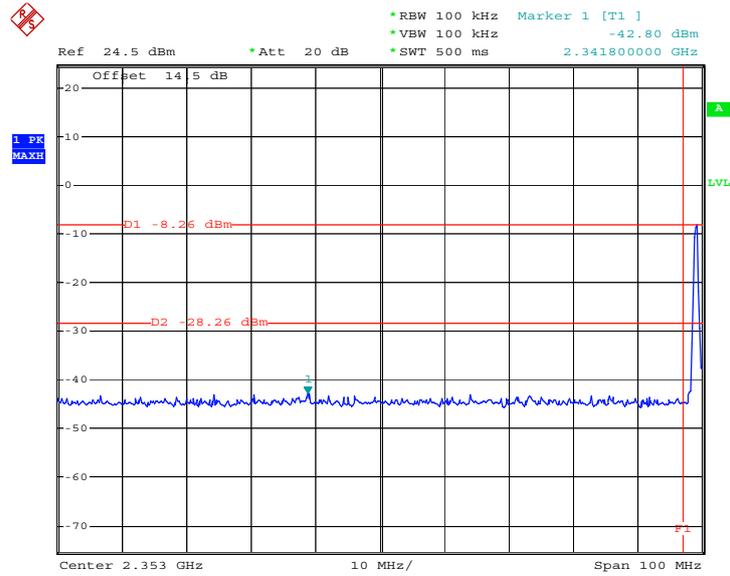
ANTENNA POLARITY : VERTICAL										
Frequency (MHz)	Level (dBuV/m)	Over Limit (dB)	Limit Line (dBuV/m)	Read Level (dBuV)	Antenna Factor (dB)	Cable Loss (dB)	Preamp Factor (dB)	Ant Pos (cm)	Table Pos (deg)	Remark
2483.50	56.36	-17.64	74.00	56.03	32.24	3.29	35.20	100	0	Peak
2483.50	37.49	-16.51	54.00	37.16	32.24	3.29	35.20	100	159	Average



3.6.6 Test Result of Conducted Band Edges

Test Mode :	Mode 1	Temperature :	25~27
Test Channel :	00	Relative Humidity :	43~44%
Test Engineer :	Tommy Lee		

Low Band Edge Plot on Channel 00

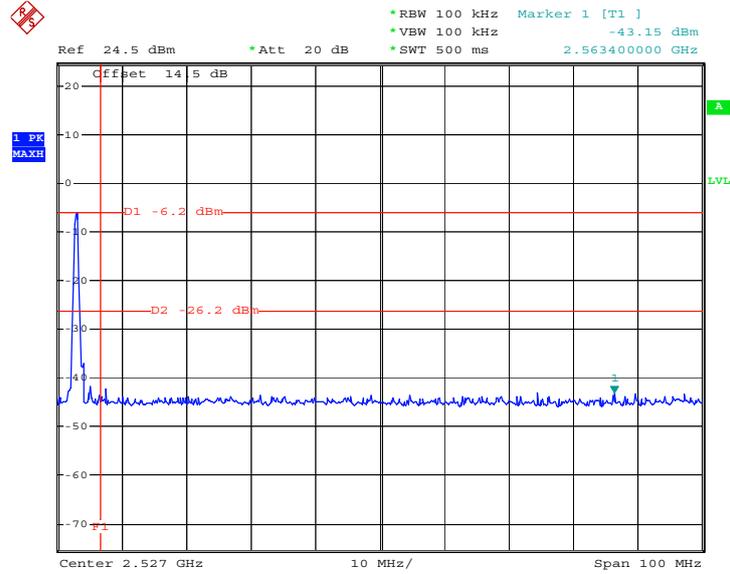


Date: 16.OCT.2008 22:03:34



Test Mode :	Mode 3	Temperature :	25~27
Test Channel :	78	Relative Humidity :	43~44%
Test Engineer :	Tommy Lee		

High Band Edge Plot on Channel 78



Date: 16.OCT.2008 22:04:48

3.7 AC Conducted Emission Measurement

3.7.1 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.

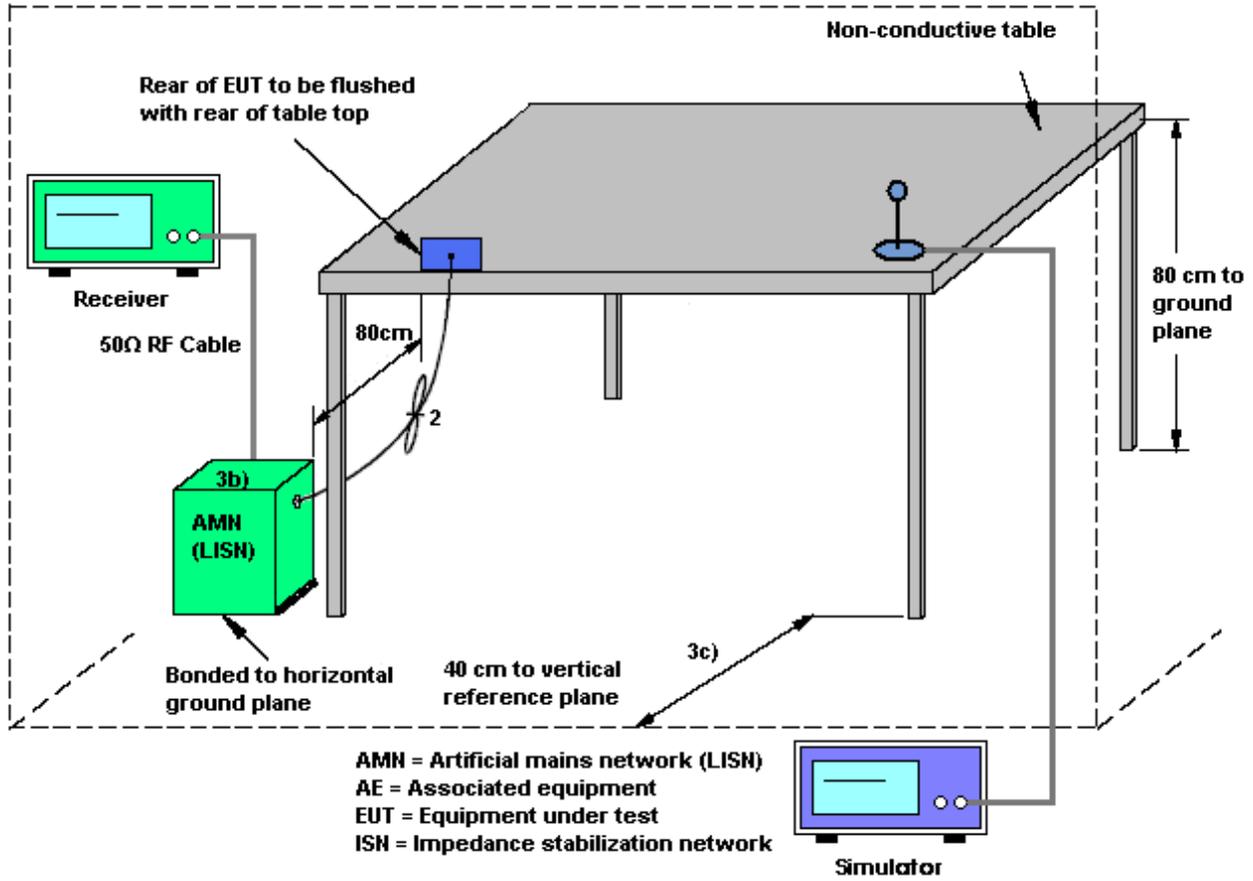
3.7.2 Measuring Instruments

See list of measuring instruments of this test report.

3.7.3 Test Procedures

1. Please follow the guidelines in ANSI C63.4-2003.
2. The EUT was placed 0.4 meter from the conducting wall of the shielding room 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.

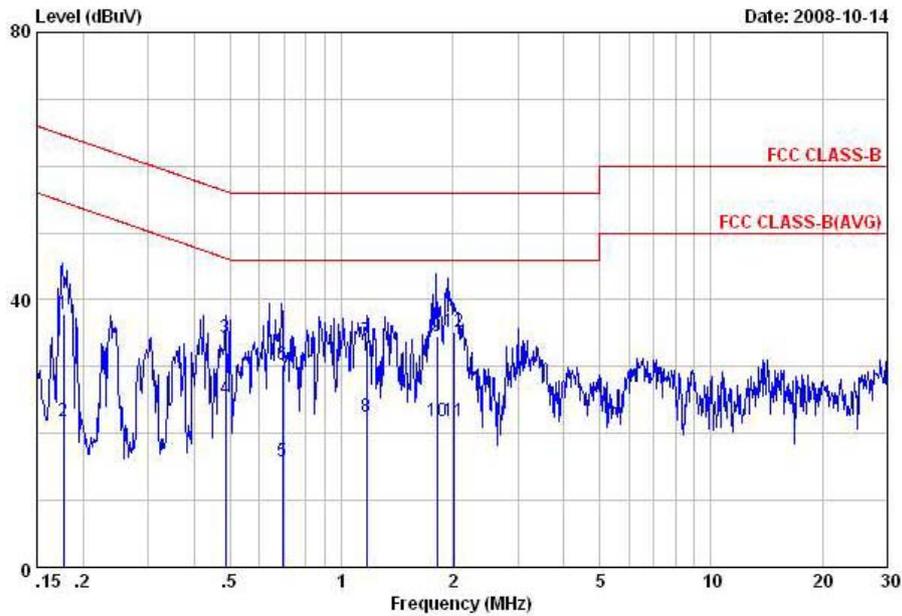
3.7.4 Test Setup





3.7.5 Test Result of AC Conducted Emission

Test Mode :	Mode 1	Temperature :	25~27
Test Engineer :	Tommy Lee	Relative Humidity :	43~44%
		Phase :	Line
Function Type :	GSM850 Idle + BT Link + Adapter		
Remark :	All emissions not reported here are more than 10 dB below the prescribed limit.		

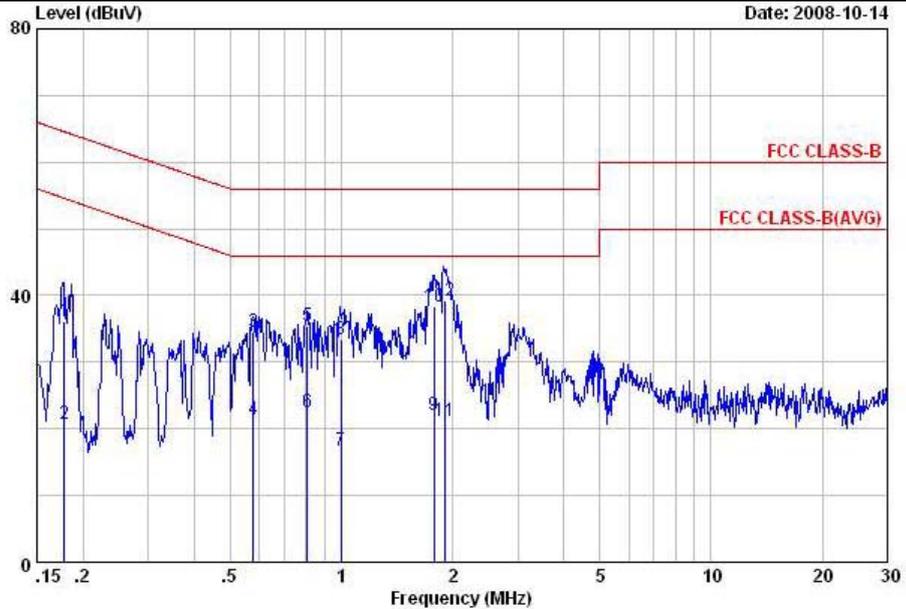


Site : C001-KS
 Condition: FCC CLASS-B LISN-071001 LINE
 Model : FR-800702
 Memo : Mode 1

	Freq	Level	Over	Limit	Read	LISN	Cable	Remark
	MHz	dBuV	dB	dBuV	dBuV	dB	dB	
1	0.18	37.88	-26.75	64.63	27.80	-0.07	10.15	QP
2	0.18	21.78	-32.85	54.63	11.70	-0.07	10.15	Average
3	0.49	34.43	-21.80	56.23	24.30	-0.08	10.21	QP
4	0.49	25.13	-21.10	46.23	15.00	-0.08	10.21	Average
5	0.69	15.74	-30.26	46.00	5.60	-0.09	10.23	Average
6	0.69	30.24	-25.76	56.00	20.10	-0.09	10.23	QP
7	1.17	33.97	-22.03	56.00	23.79	-0.10	10.28	QP
8	1.17	22.57	-23.43	46.00	12.39	-0.10	10.28	Average
9	1.81	34.61	-21.39	56.00	24.40	-0.11	10.32	QP
10	1.81	21.91	-24.09	46.00	11.70	-0.11	10.32	Average
11	2.01	21.92	-24.08	46.00	11.70	-0.11	10.33	Average
12	2.01	35.22	-20.78	56.00	25.00	-0.11	10.33	QP



Test Mode :	Mode 1	Temperature :	25~27
Test Engineer :	Tommy Lee	Relative Humidity :	43~44%
		Phase :	Neutral
Function Type :	GSM850 Idle + BT Link + Adapter		
Remark :	All emissions not reported here are more than 10 dB below the prescribed limit.		



Site : C001-KS
 Condition: FCC CLASS-B LISN-071001 NEUTRAL
 Model : FR-800702
 Memo : Mode 1

	Freq	Level	Over	Limit	Read	LISN	Cable	Remark
	MHz	dBuV	Limit	Line	Level	Factor	Loss	
			dB	dBuV	dBuV	dB	dB	
1	0.18	36.17	-28.41	64.58	26.10	-0.08	10.15	QP
2	0.18	20.77	-33.81	54.58	10.70	-0.08	10.15	Average
3	0.58	34.44	-21.56	56.00	24.30	-0.08	10.22	QP
4	0.58	21.34	-24.66	46.00	11.20	-0.08	10.22	Average
5	0.81	35.46	-20.54	56.00	25.29	-0.08	10.25	QP
6	0.81	22.46	-23.54	46.00	12.29	-0.08	10.25	Average
7	1.00	16.77	-29.23	46.00	6.60	-0.09	10.26	Average
8	1.00	33.37	-22.63	56.00	23.20	-0.09	10.26	QP
9	1.78	22.11	-23.89	46.00	11.90	-0.11	10.32	Average
10	1.78	38.41	-17.59	56.00	28.20	-0.11	10.32	QP
11	1.90	21.11	-24.89	46.00	10.90	-0.11	10.32	Average
12	1.90	39.31	-16.69	56.00	29.10	-0.11	10.32	QP

3.8 Radiated Emission Measurement

3.8.1 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. 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

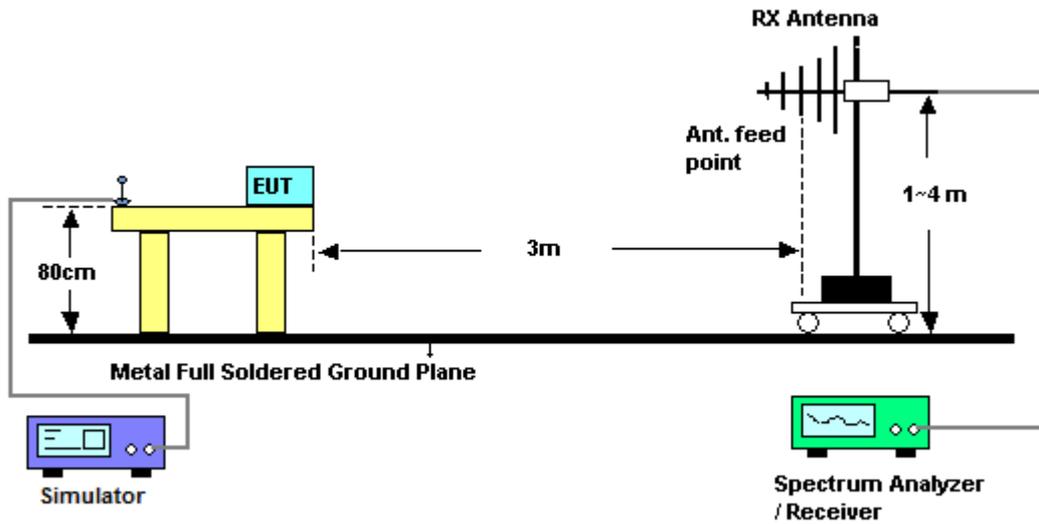
3.8.2 Measuring Instruments

See list of measuring instruments of this test report.

3.8.3 Test Procedures

1. The testing follows the guidelines in FCC Public Notice DA 00-705 Measurement Guidelines.
2. Use the following spectrum analyzer settings:
Span = wide enough to fully capture the emission being measured; 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.
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.

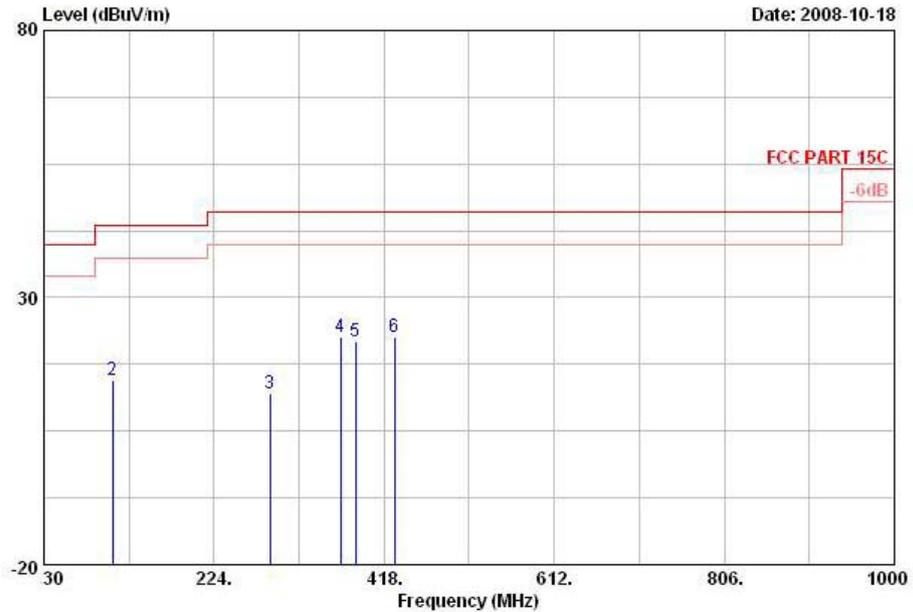
3.8.4 Test Setup





3.8.5 Test Result of Radiated Emission < 1GHz

Test Mode :	Mode 1	Temperature :	26~27°C
Test Channel :	00	Relative Humidity :	40~41%
Test Engineer :	Peter Chou	Polarization :	Horizontal
Remark :			

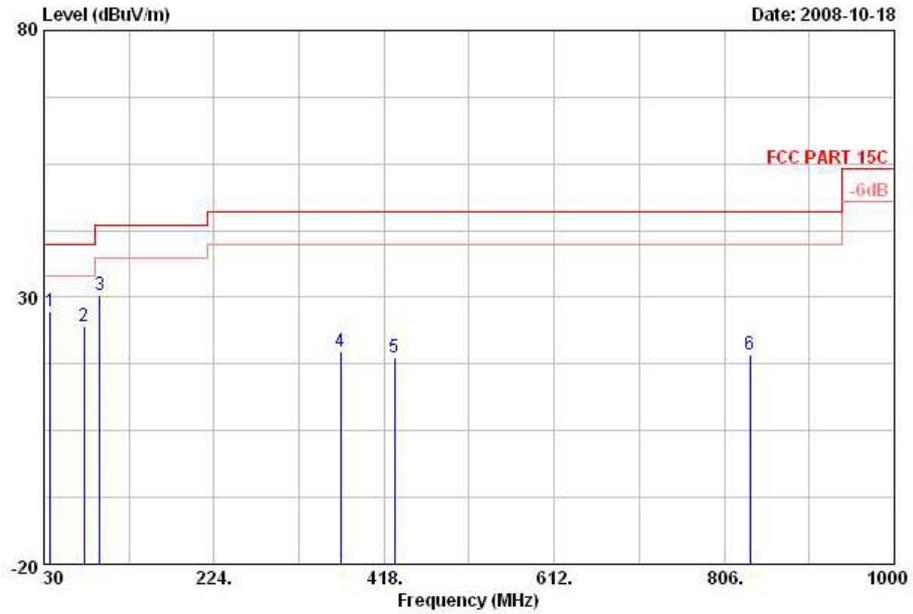


Site : 03CH01-KS
 Condition: FCC PART 15C 3m LF ANT-070906 HORIZONTAL
 Model : FR 800702
 Memo : Mode 1
 Plane : E2

	Freq	Level	Over	Limit	ReadAntenna	Cable	Preamp	Ant	Table	Remark	
	MHz	dBuV/m	dB	dBuV/m	dBuV	dB/m	dB	dB	cm	deg	
1	30.27	14.60	-25.40	40.00	24.39	18.00	0.22	28.01	---	---	Peak
2	108.03	14.43	-29.07	43.50	30.32	11.62	0.50	28.01	---	---	Peak
3	288.12	12.08	-33.92	46.00	26.96	12.65	0.80	28.33	---	---	Peak
4	368.60	22.48	-23.52	46.00	35.15	14.83	0.89	28.39	---	---	Peak
5	385.40	21.69	-24.31	46.00	33.98	15.20	0.91	28.40	200	130	Peak
6	430.20	22.73	-23.27	46.00	33.76	16.40	0.97	28.40	---	---	Peak



Test Mode :	Mode 1	Temperature :	26~27°C
Test Channel :	00	Relative Humidity :	40~41%
Test Engineer :	Peter Chou	Polarization :	Vertical
Remark :			

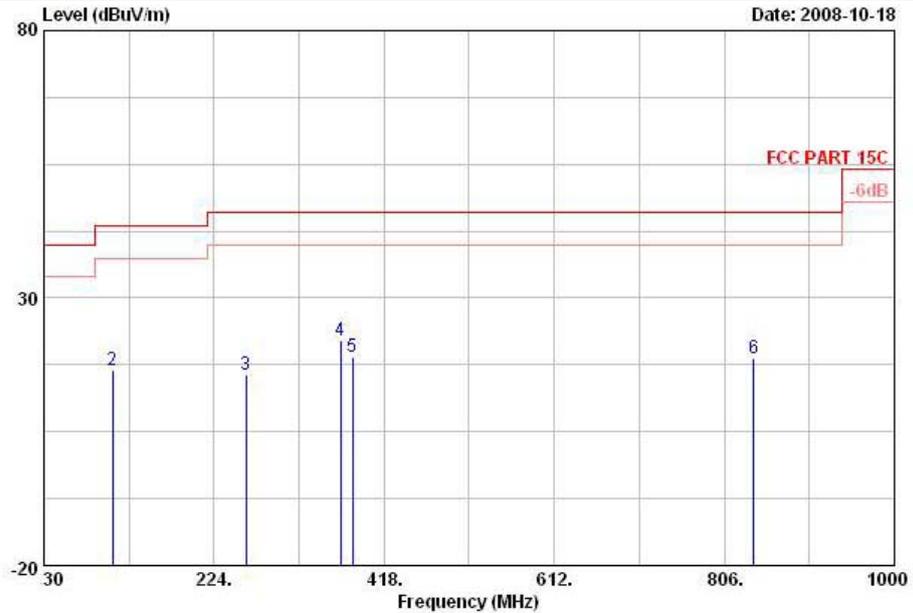


Site : 03CH01-KS
 Condition: FCC PART 15C 3m LF ANT-070906 VERTICAL
 Model : FR 800702
 Memo : Mode 1
 Plane : E2

	Freq	Level	Over	Limit	ReadAntenna	Cable	Preamp	Ant	Table	Remark
	MHz	dBuV/m	dB	dBuV/m	dBuV	Loss	Factor	Pos	Pos	
						dB	dB	cm	deg	
1	37.29	27.24	-12.76	40.00	41.58	13.40	0.28	28.02	100	70 Peak
2	76.17	24.65	-15.35	40.00	46.29	5.90	0.43	27.97	---	Peak
3	93.45	30.44	-13.06	43.50	48.26	9.70	0.47	27.99	---	Peak
4	368.60	19.75	-26.25	46.00	32.42	14.83	0.89	28.39	---	Peak
5	430.20	18.73	-27.27	46.00	29.76	16.40	0.97	28.40	---	Peak
6	835.50	19.33	-26.67	46.00	24.48	20.47	1.39	27.01	---	Peak



Test Mode :	Mode 2	Temperature :	26~27°C
Test Channel :	39	Relative Humidity :	40~41%
Test Engineer :	Peter Chou	Polarization :	Horizontal
Remark :			

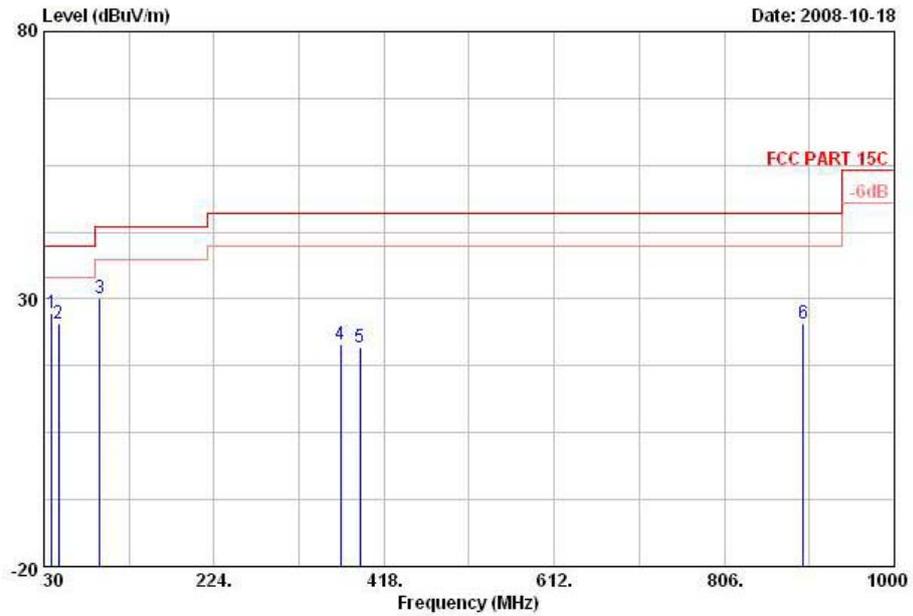


Site : 03CH01-KS
 Condition: FCC PART 15C 3m LF ANT-070906 HORIZONTAL
 Model : FR 800702
 Memo : Mode 2
 Plane : E2

	Freq	Level	Over Limit	Limit Line	ReadAntenna	Cable	Preamp	Ant	Table	Remark
	MHz	dBuV/m	dB	dBuV/m	dBuV	dB	dB	cm	deg	
1	30.00	19.55	-20.45	40.00	29.34	18.00	0.22	28.01	170	0 Peak
2	108.03	16.61	-26.89	43.50	32.50	11.62	0.50	28.01	---	Peak
3	260.85	15.64	-30.36	46.00	30.30	12.85	0.75	28.26	---	Peak
4	368.60	21.98	-24.02	46.00	34.65	14.83	0.89	28.39	---	Peak
5	381.90	18.90	-27.10	46.00	31.25	15.15	0.90	28.40	---	Peak
6	839.70	18.79	-27.21	46.00	23.88	20.50	1.39	26.98	---	Peak



Test Mode :	Mode 2	Temperature :	26~27°C
Test Channel :	39	Relative Humidity :	40~41%
Test Engineer :	Peter Chou	Polarization :	Vertical
Remark :			

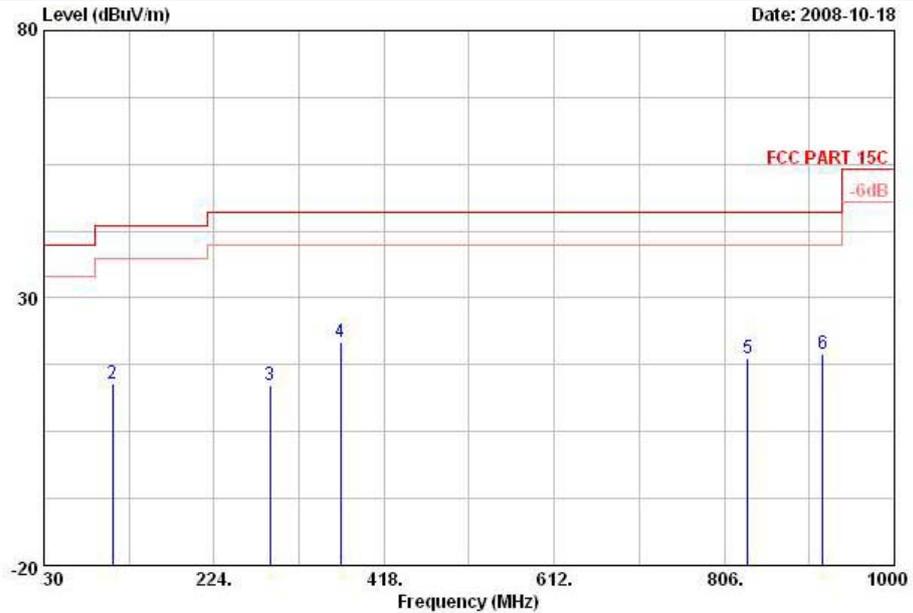


Site : 03CH01-KS
 Condition: FCC PART 15C 3m LF ANT-070906 VERTICAL
 Model : FR 800702
 Memo : Mode 2
 Plane : E2

	Freq	Level	Over	Limit	ReadAntenna	Cable	Preamp	Ant	Table	Remark
	MHz	dBuV/m	dB	dBuV/m	dBuV	dB/m	dB	dB	cm	deg
1	38.91	27.29	-12.71	40.00	42.74	12.30	0.28	28.03	100	76 Peak
2	46.47	25.36	-14.64	40.00	43.93	9.10	0.32	27.99	---	---
3	93.45	30.21	-13.29	43.50	48.03	9.70	0.47	27.99	---	---
4	368.60	21.50	-24.50	46.00	34.17	14.83	0.89	28.39	---	---
5	390.30	21.05	-24.95	46.00	33.24	15.30	0.92	28.41	---	---
6	895.70	25.44	-20.56	46.00	30.39	20.28	1.48	26.71	---	---



Test Mode :	Mode 3	Temperature :	26~27°C
Test Channel :	78	Relative Humidity :	40~41%
Test Engineer :	Peter Chou	Polarization :	Horizontal
Remark :			

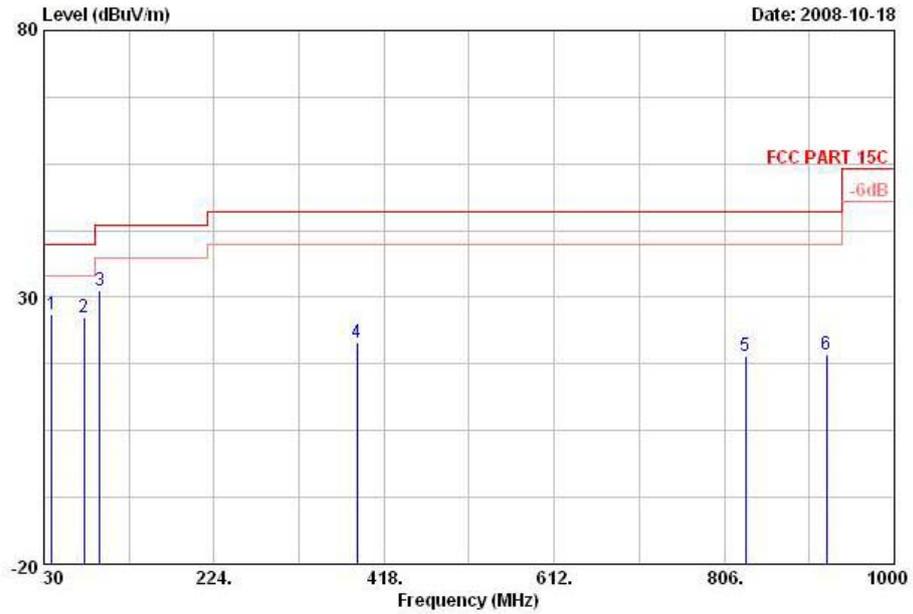


Site : 03CH01-KS
 Condition: FCC PART 15C 3m LF ANT-070906 HORIZONTAL
 Model : FR 800702
 Memo : Mode 3
 Plane : E2

	Freq	Level	Over Limit	Limit Line	ReadAntenna	Cable	Preamp	Ant	Table	Remark	
	MHz	dBuV/m	dB	dBuV/m	dBuV	dB/m	dB	dB	cm	deg	
1	30.00	14.99	-25.01	40.00	24.78	18.00	0.22	28.01	---	---	Peak
2	108.03	14.09	-29.41	43.50	29.98	11.62	0.50	28.01	---	---	Peak
3	288.12	13.84	-32.16	46.00	28.72	12.65	0.80	28.33	---	---	Peak
4	368.60	21.78	-24.22	46.00	34.45	14.83	0.89	28.39	230	60	Peak
5	832.70	18.80	-27.20	46.00	24.01	20.42	1.39	27.02	---	---	Peak
6	918.10	19.47	-26.53	46.00	24.23	20.48	1.49	26.73	---	---	Peak



Test Mode :	Mode 3	Temperature :	26~27°C
Test Channel :	78	Relative Humidity :	40~41%
Test Engineer :	Peter Chou	Polarization :	Vertical
Remark :			



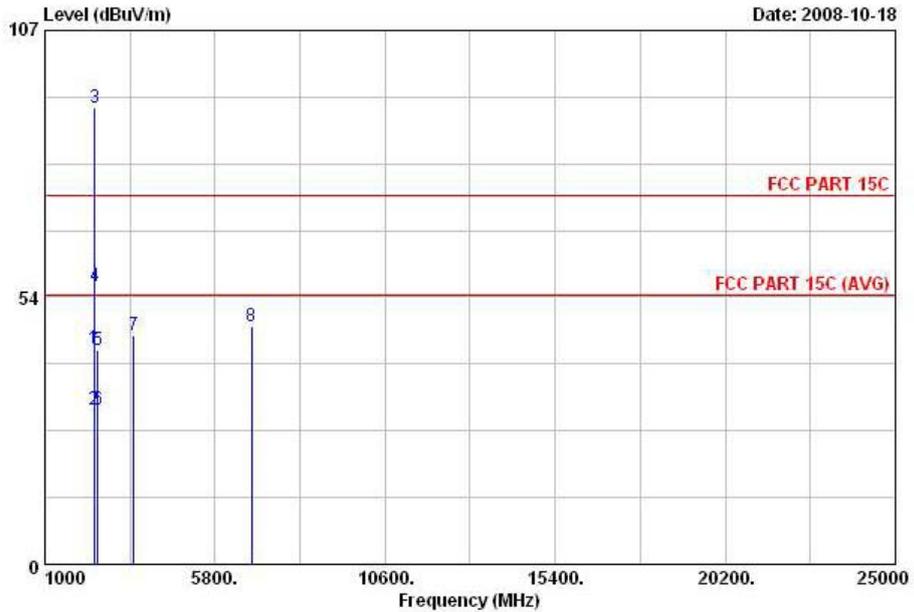
Site : 03CH01-KS
 Condition: FCC PART 15C 3m LF ANT-070906 VERTICAL
 Model : FR 800702
 Memo : Mode 3
 Plane : E2

	Freq	Level	Over	Limit	ReadAntenna	Cable	Preamp	Ant	Table	Remark
	MHz	dBuV/m	dB	dBuV/m	dBuV	dB	dB	cm	deg	
1	38.91	26.69	-13.31	40.00	42.14	12.30	0.28	28.03	---	Peak
2	75.36	26.23	-13.77	40.00	47.87	5.90	0.43	27.97	---	Peak
3	93.45	31.29	-12.21	43.50	49.11	9.70	0.47	27.99	120	0 Peak
4	387.50	21.44	-24.56	46.00	33.70	15.23	0.91	28.40	---	Peak
5	830.60	19.03	-26.97	46.00	24.27	20.40	1.39	27.03	---	Peak
6	922.30	19.39	-26.61	46.00	24.15	20.49	1.49	26.74	---	Peak



3.8.6 Test Result of Radiated Emission ≥ 1 GHz

Test Mode :	Mode 1	Temperature :	26~27°C
Test Channel :	00	Relative Humidity :	40~41%
Test Engineer :	Peter Chou	Polarization :	Horizontal
Remark :	#3 and #4 are Fundamental Signals		

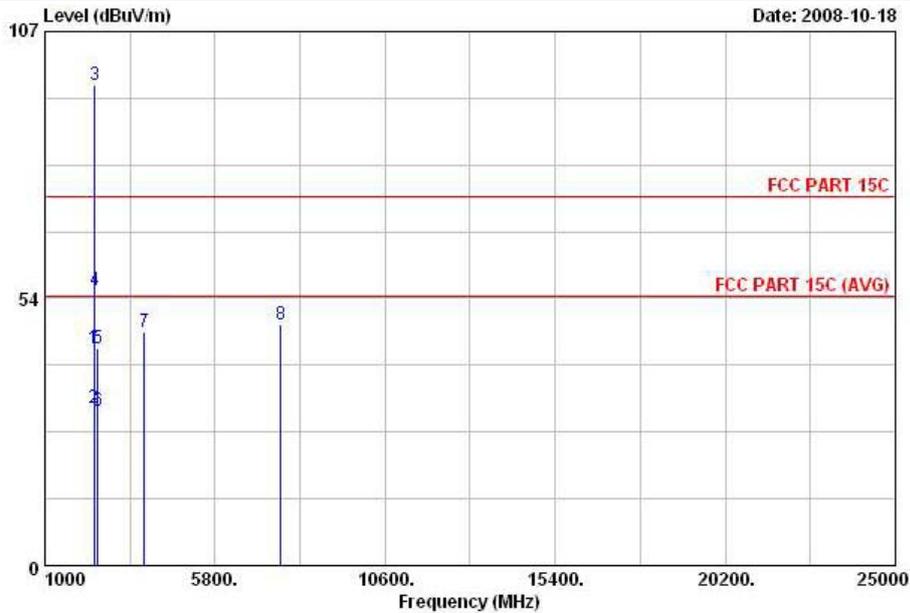


Site : 03CH01-KS
 Condition: FCC PART 15C 3m HF ANT-070911 HORIZONTAL
 Model : FR 800702
 Memo : Mode 1
 Plane : E2

	Freq	Level	Over	Limit	ReadAntenna	Cable	Preamp	Ant	Table	Remark
	MHz	dBuV/m	Limit	Line	Level	Loss	Factor	Pos	Pos	
			dB	dBuV/m	dBuV	dB	dB	cm	deg	
1	2390.00	43.26	-30.74	74.00	43.26	31.93	3.25	35.18	100	0 Peak
2	2390.00	31.11	-22.89	54.00	31.11	31.93	3.25	35.18	174	14 Average
3 X	2402.00	91.55			91.55	31.93	3.25	35.18	100	0 Peak
4 X	2402.00	55.64			55.64	31.93	3.25	35.18	174	14 Average
5	2492.00	42.93	-31.07	74.00	42.53	32.30	3.30	35.20	100	0 Peak
6	2492.00	30.93	-23.07	54.00	30.53	32.30	3.30	35.20	174	14 Average
7	3518.00	45.96	-28.04	74.00	43.88	33.41	3.96	35.29	---	---
8	6833.00	47.64	-26.36	74.00	41.57	35.61	5.60	35.14	---	---



Test Mode :	Mode 1	Temperature :	26~27°C
Test Channel :	00	Relative Humidity :	40~41%
Test Engineer :	Peter Chou	Polarization :	Vertical
Remark :	#3 and #4 are Fundamental Signals		

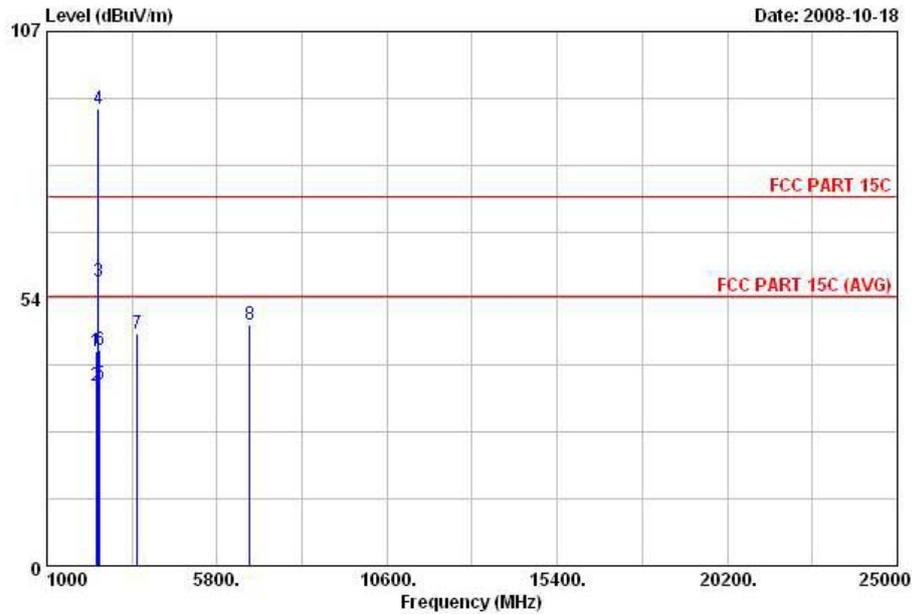


Site : 03CH01-KS
 Condition: FCC PART 15C 3m HF ANT-070911 VERTICAL
 Model : FR 800702
 Memo : Mode 1
 Plane : E2

	Freq	Level	Over	Limit	ReadAntenna	Cable	Preamp	Ant	Table	Remark
	MHz	dBuV/m	Limit	Line	Level	Loss	Factor	Pos	Pos	
			dB	dBuV/m	dBuV	dB	dB	cm	deg	
1	2390.00	43.58	-30.42	74.00	43.58	31.93	3.25	35.18	100	0 Peak
2	2390.00	31.66	-22.34	54.00	31.66	31.93	3.25	35.18	128	181 Average
3 X	2402.00	96.17			96.17	31.93	3.25	35.18	100	0 Peak
4 X	2402.00	55.00			55.00	31.93	3.25	35.18	128	181 Average
5	2490.00	43.52	-30.48	74.00	43.12	32.30	3.30	35.20	100	0 Peak
6	2490.00	30.96	-23.04	54.00	30.56	32.30	3.30	35.20	128	181 Average
7	3814.00	46.66	-27.34	74.00	44.06	33.60	4.18	35.18	---	--- Peak
8	7655.00	48.37	-25.63	74.00	41.80	35.78	6.25	35.46	---	--- Peak



Test Mode :	Mode 2	Temperature :	26~27°C
Test Channel :	39	Relative Humidity :	40~41%
Test Engineer :	Peter Chou	Polarization :	Horizontal
Remark :	#3 and #4 are Fundamental Signals		

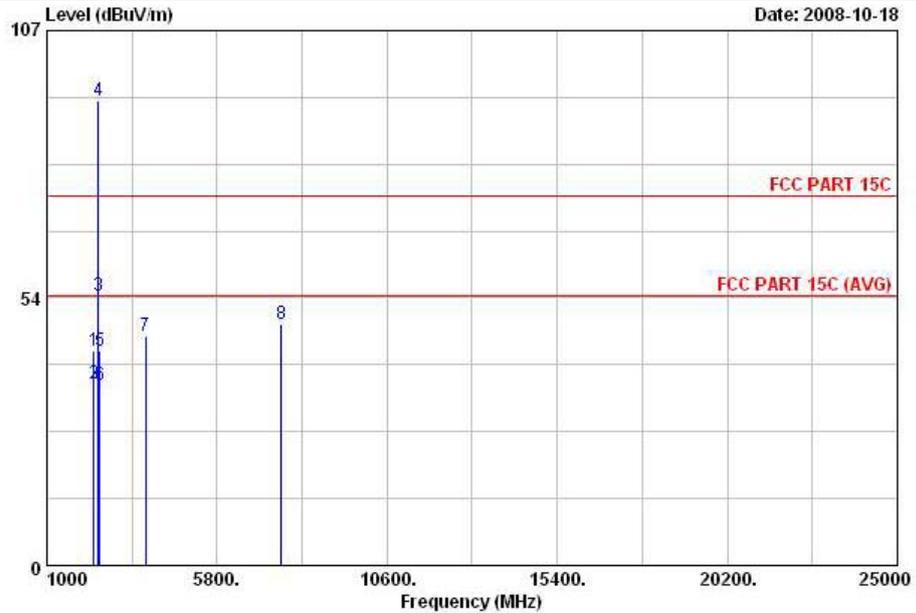


Site : 03CH01-KS
 Condition: FCC PART 15C 3m HF ANT-070911 HORIZONTAL
 Model : FR 800702
 Memo : Mode 2
 Plane : E2

	Freq	Level	Over	Limit	ReadAntenna	Cable	Preamp	Ant	Table	Remark
	MHz	dBuV/m	Limit	Line	Level	Loss	Factor	Pos	Pos	
			dB	dBuV/m	dBuV	dB	dB	cm	deg	
1	2380.00	42.99	-31.01	74.00	43.07	31.87	3.23	35.18	100	0 Peak
2	2380.00	36.02	-17.98	54.00	36.10	31.87	3.23	35.18	110	343 Average
3 X	2441.00	56.97			56.76	32.13	3.27	35.19	110	343 Average
4 X	2441.00	91.55			91.34	32.13	3.27	35.19	100	0 Peak
5	2490.00	36.24	-17.76	54.00	35.84	32.30	3.30	35.20	110	343 Average
6	2490.00	43.29	-30.71	74.00	42.89	32.30	3.30	35.20	100	0 Peak
7	3544.00	46.53	-27.47	74.00	44.41	33.42	3.98	35.28	---	--- Peak
8	6725.00	48.30	-25.70	74.00	42.33	35.54	5.52	35.09	---	--- Peak



Test Mode :	Mode 2	Temperature :	26~27°C
Test Channel :	39	Relative Humidity :	40~41%
Test Engineer :	Peter Chou	Polarization :	Vertical
Remark :	#3 and #4 are Fundamental Signals		

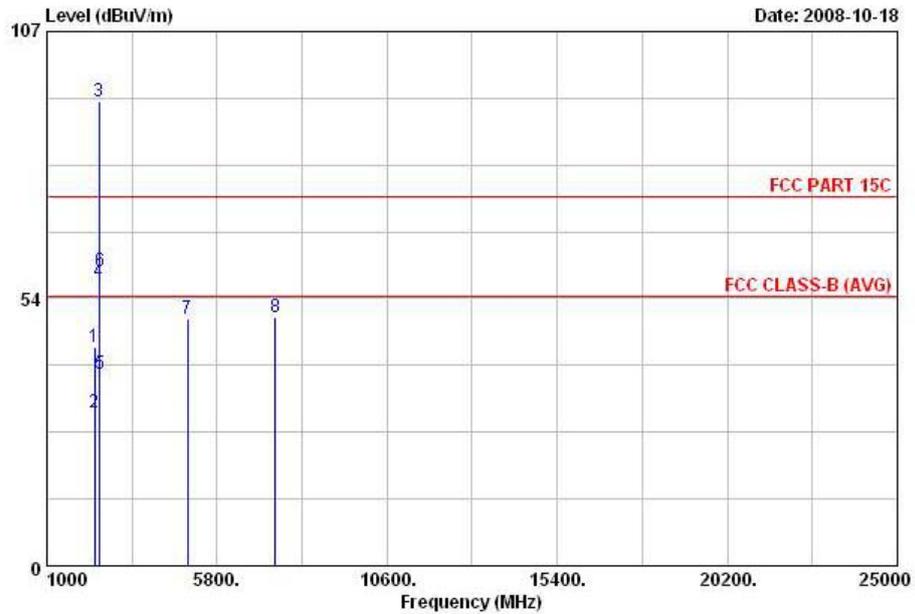


Site : 03CH01-KS
 Condition: FCC PART 15C 3m HF ANT-070911 VERTICAL
 Model : FR 800702
 Memo : Mode 2
 Plane : E2

	Freq	Level	Over Limit	Limit Line	ReadAntenna Level	Cable Factor	Preamp Loss	Ant Pos	Table Pos	Remark
	MHz	dBuV/m	dB	dBuV/m	dBuV	dB/m	dB	cm	deg	
1	2326.00	43.02	-30.98	74.00	43.35	31.64	3.20	35.17	100	0 Peak
2	2326.00	36.40	-17.60	54.00	36.73	31.64	3.20	35.17	176	167 Average
3	2441.00	53.98			53.77	32.13	3.27	35.19	176	167 Average
4 X	2441.00	93.12			92.91	32.13	3.27	35.19	100	0 Peak
5	2496.00	42.99	-31.01	74.00	42.59	32.30	3.30	35.20	100	0 Peak
6	2496.00	36.21	-17.79	54.00	35.81	32.30	3.30	35.20	176	167 Average
7	3784.00	45.91	-28.09	74.00	43.37	33.58	4.15	35.19	---	--- Peak
8	7613.00	48.23	-25.77	74.00	41.68	35.76	6.23	35.44	---	--- Peak



Test Mode :	Mode 3	Temperature :	26~27°C
Test Channel :	78	Relative Humidity :	40~41%
Test Engineer :	Peter Chou	Polarization :	Horizontal
Remark :	#3 and #4 are Fundamental Signals		

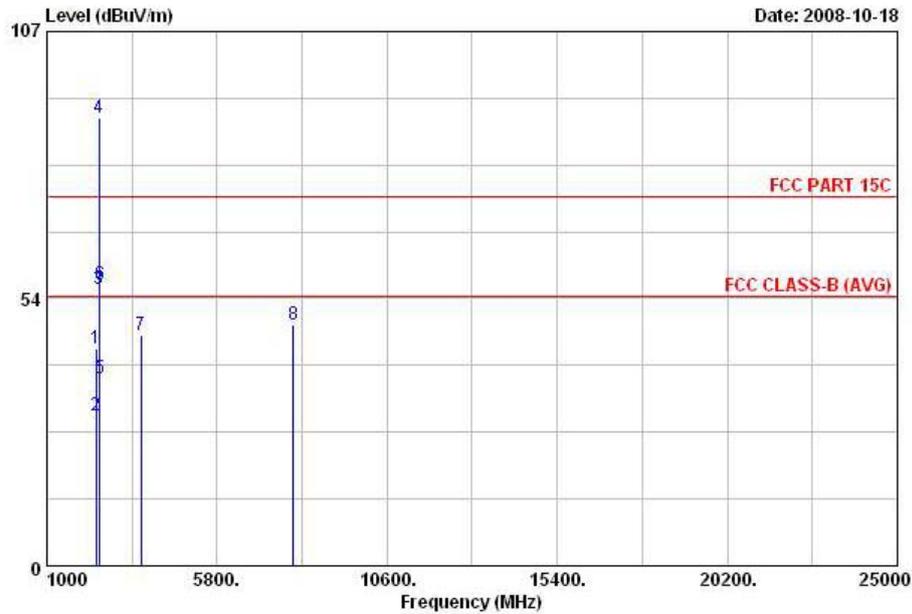


Site : 03CH01-KS
 Condition: FCC PART 15C 3m HF ANT-070911 HORIZONTAL
 Model : FR 800702
 Memo : Mode 3
 Plane : E2

	Freq	Level	Over	Limit	ReadAntenna	Cable	Preamp	Ant	Table	Remark
	MHz	dBuV/m	dB	dBuV/m	dBuV	dB	dB	cm	deg	
1	2336.00	43.96	-30.04	74.00	44.20	31.72	3.21	35.17	100	0 Peak
2	2336.00	30.59	-23.41	54.00	30.83	31.72	3.21	35.17	100	113 Average
3 X	2480.00	92.90			92.57	32.24	3.29	35.20	100	0 Peak
4 X	2480.00	57.02			56.69	32.24	3.29	35.20	100	113 Average
5	2483.50	38.40	-15.60	54.00	38.07	32.24	3.29	35.20	100	113 Average
6	2483.50	59.14	-14.86	74.00	58.81	32.24	3.29	35.20	100	0 Peak
7	4962.00	49.49	-24.51	74.00	45.76	34.08	4.66	35.01	---	--- Peak
8	7442.00	49.80	-24.20	74.00	43.38	35.70	6.10	35.38	---	--- Peak



Test Mode :	Mode 3	Temperature :	26~27°C
Test Channel :	78	Relative Humidity :	40~41%
Test Engineer :	Peter Chou	Polarization :	Vertical
Remark :	#3 and #4 are Fundamental Signals		



Site : 03CH01-KS
 Condition: FCC PART 15C 3m HF ANT-070911 VERTICAL
 Model : FR 800702
 Memo : Mode 3
 Plane : E2

	Freq	Level	Over	Limit	ReadAntenna	Cable	Preamp	Ant	Table	Remark
	MHz	dBuV/m	Limit	Line	Level	Loss	Factor	Pos	Pos	
			dB	dBuV/m	dBuV	dB	dB	cm	deg	
1	2380.00	43.47	-30.53	74.00	43.55	31.87	3.23	35.18	100	0 Peak
2	2380.00	30.24	-23.76	54.00	30.32	31.87	3.23	35.18	100	159 Average
3 X	2480.00	55.52			55.19	32.24	3.29	35.20	100	159 Average
4 X	2480.00	89.60			89.27	32.24	3.29	35.20	100	0 Peak
5	2483.50	37.49	-16.51	54.00	37.16	32.24	3.29	35.20	100	159 Average
6	2483.50	56.36	-17.64	74.00	56.03	32.24	3.29	35.20	100	0 Peak
7	3652.00	46.32	-27.68	74.00	44.04	33.48	4.04	35.24	---	--- Peak
8	7943.00	48.42	-25.58	74.00	41.50	35.97	6.52	35.57	---	--- Peak



3.9 Antenna Requirements

3.9.1 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.

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.

3.9.2 Antenna Connected Construction

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

3.9.3 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 Equipments

Instrument	Manufacturer	Model No.	Serial No.	Characteristics	Calibration Date	Due Date	Remark
EMI Test Receiver	R&S	ESCI	100534	9KHz~2.75GHz	Mar. 15, 2007	Mar. 14, 2009	Conduction (CO01-KS)
LISN	MessTec	AN3016	060103	9kHz~30MHz	Jun. 30, 2007	Jun. 29, 2009	Conduction (CO01-KS)
LISN	MessTec	AN3016	060105	9kHz~30MHz	Jun. 30, 2007	Jun. 29, 2009	Conduction (CO01-KS)
AC Power Source	APC	AFC-11005G	N/A	N/A	N/A	N/A	Conduction (CO01-KS)
Transient Limiter	Com-Power	LIT-153	531037	150K~30MHz	N/A	N/A	Conduction (CO01-KS)
Spectrum Analyzer	R&S	FSP40	100319	9K~40GHz	Mar. 13, 2008	Mar. 12, 2009	Radiation (03CH01-KS)
EMI Test Receiver	R&S	ESCI	100724	9KHz~2.75GHz	Feb. 06, 2008	Feb. 05, 2009	Radiation (03CH01-KS)
Bilog Antenna	Schaffner	CBL6112D	23182	25MHz~2000MHz	May 21, 2008	May 20, 2009	Radiation (03CH01-KS)
Controller	MF	MF7802	N/A	N/A	N/A	N/A	Radiation (03CH01-KS)
AC Power Source	APC	AFC-11001G	N/A	N/A	N/A	N/A	Radiation (03CH01-KS)
Preamplifier	Agilent	8449B	3008A02370	1G~26.5GHz	Jun. 03, 2008	Jun. 02, 2009	Radiation (03CH01-KS)
Preamplifier	Wireless	FPA6592G	60006	30M~2000MHz	Jul. 23, 2008	Jul. 22, 2009	Radiation (03CH01-KS)
DRG Horn(Medium)	EMCO	3117	75959	1GHz ~ 18GHz	Apr. 17, 2007	Apr. 16, 2009	Radiation (03CH01-KS)

5 Uncertainty of Evaluation

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

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 Spec	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 (30MHz ~ 1000MHz)

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-shaped	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 (1GHz ~ 40GHz)

Contribution	Uncertainty of x_i		$u(x_i)$	C_i	$C_i * u(x_i)$
	dB	Probability Distribution			
Receiver reading	±0.10	Normal(k=1)	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 = $20 \log(1 - \Gamma_1 * \Gamma_2)$	+0.34/-0.35	U-shaped	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				

6 Certification of TAF Accreditation



Certificate No. : L1180-070110

財團法人全國認證基金會
Taiwan Accreditation Foundation

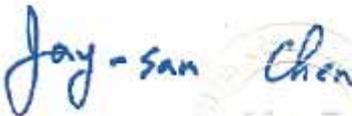
Certificate of Accreditation

This is to certify that

Sporton International Inc.
EMC & Wireless Communications Laboratory
No.52, Hwa Ya 1st Rd., Hwa Ya Technology Park, Kwei-Shan Hsiang, Tao Yuan Hsien,
Taiwan, R.O.C.

is accredited in respect of laboratory

Accreditation Criteria	: ISO/IEC 17025:2005
Accreditation Number	: 1190
Originally Accredited	: December 15, 2003
Effective Period	: January 10, 2007 to January 09, 2010
Accredited Scope	: Testing Field, see described in the Appendix Accreditation Program for Designated Testing Laboratory
Specific Accreditation Program	: for Commodities Inspection Accreditation Program for Telecommunication Equipment Testing Laboratory


Jay-San Chen
President, Taiwan Accreditation Foundation
Date : January 10, 2007

PI, total 9 pages

The Appendix forms an integral part of this Certificate, which shall be invalid when used without the Appendix.