

**FCC PART 15 SUBPART C MEASUREMENT AND TEST REPORT**

**For**

**CDM Miami Inc**

**1825 NW 112 AVE Unit 158, Miami, FL 33172, USA**

**E.U.T.: GSM Phone**

**Model Name: S600L, S600LW, S700, S800, FRIEND PLUS,  
CUORE, POP, FRIEND**

**Trade name: OLA, FUN, ALLO**

**FCC ID: ZZRTM003**

**Report Number: WB1108010F**

**Test Date(s): August 23 2011 to September 19 2011**

**Report Date(s): September 19, 2011**

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**Note: This test report is for the customer shown above and their specific product only. It may not be duplicated or used in part without prior written consent from Dongguan NTC Co., Ltd.  
The test results referenced from this report are relevant only to the sample tested.**

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## 1. GENERAL INFORMATION

### 1.1 Product Description for Equipment under Test

The CDM Miami Inc's product, model name : POP (referred to as the EUT in this report) is a GSM mobil phone. It's power by internal 3.7V rechargeable Li-lithium battery, and also can be charged by external adapter.

A major descriptions of EUT is described as following:

Frequency:	: Cellular Band: 824-849MHz PCB Band: 1850-1910MHz Bluetooth: 2402-2480MHz
Modulation	: GFSK (Bluetooth), GMSK (GSM/PCS)
Number of Channel	: 79 (Bluetooth)
Channel space	: 1MHz (Bluetooth)
Max RF Output Power	: 33dBm (Cellular Band) 30dBm (PCS Band) 2dBm (Bluetooth)
Antenna Type	: Internal antenna
Antenna Gain	: 0dBi
Power Supply	: Li-lithium Battery 3.7V : Input : AC 110-240V 50/60Hz (Adapter) : Output :DC 5V 500mA $\pm$ 50mA : Model: SM-800A :
Model name	: S600L, S600LW, S700, S800, FRIEND PLUS, CUORE, POP, FRIEND
Remark	: All models are the same except appearance, trade name and model name, we prepare POP for EMC test.

**Note:** This measurement and test report only pertains to the Bluetooth portion of the EUT. For measurement and test results to the GSM850/PCS1900MHz function please refer to report WB1108020F.

### 1.2 Related Submittal(s) / Grant (s)

This submittal(s) (test report) is intended for FCC ID: ZZRTM003 filing to comply with Section 15.247 of the FCC Part 15, Subpart C Rules, and FCC Part 22H & 24E submission with FCC ID: ZZRTM003

**1.3 Test Methodology**

Both AC mains line-conducted and radiated emission measurements were performed according to the procedures in ANSI C63.4 (2003) and DA 00-705. Radiated emission measurement was performed in semi-anechoic chamber and conducted emission measurement was performed in shield room. For radiated emission measurement, preliminary scans were performed in the semi-anechoic chamber only to determine the worst case modes. All radiated tests were performed at an antenna to EUT distance of 3 meters.

**1.4 Special Accessories**

Not available for this EUT intended for grant.

**1.5 Equipment Modifications**

Not available for this EUT intended for grant.

**1.6 Test Facility**

Accredited by FCC, August 02, 2011  
The Certificate Registration Number is 665078.

Accredited by Industry Canada, July 01, 2011  
The Certificate Registration Number is 46405-9743.

**1.7 Summary of Test Results**

<b>FCC Rules</b>	<b>Description Of Test</b>	<b>Result</b>
§15.247(a)(1)	Channel Separation test	Compliant
§15.247(a)(1)	20dB Bandwidth	Compliant
§15.247(a)(1)(iii)	Quantity of Hopping Channel	Compliant
§15.247(a)(1)(iii)	Time of Occupancy (Dwell Time)	Compliant
§15.247(b)	Max Peak output Power test	Compliant
§15.247(d)	Band edge test	Compliant
§15.207 (a)	AC Power Conducted Emission	Compliant
§15.247(d), §15.209, §15.205	Radiated Emission	Compliant
§15.203	Antenna Requirement	Compliant
§2.1093, §15.247(i)	RF Exposure	Compliant

## 2. System Test Configuration

### 2.1 EUT Configuration

The EUT configuration for testing is installed on RF field strength measurement to meet the Commissions requirement and operating in a manner which intends to maximize its emission characteristics in a continuous normal application.

### 2.2 Test Procedure

#### 2.2.1 Conducted Emissions

The EUT is placed on a turn table which is 0.8 m above ground plane. According to the requirements in Section 13.1.4.1 of ANSI C63.4-2003, conducted emissions from the EUT are measured in the frequency range between 0.15 MHz and 30 MHz using CISPR Quasi-Peak and average detector mode.

#### 2.2.2 Radiated Emissions

The EUT is placed on a turn table which is 0.8 m above ground plane. The turn table shall rotate 360 degrees to determine the position of maximum emission level. EUT is set 3m away from the receiving antenna which varied from 1m to 4m to find out the highest emission. And also, each emission was to be maximized by changing the polarization of receiving antenna both horizontal and vertical. In order to find out the max. emission, the relative positions of this hand-held transmitter(EUT) was rotated through three orthogonal axes according to the requirements in Section 13.1.4.1 of ANSI C63.4-2003.

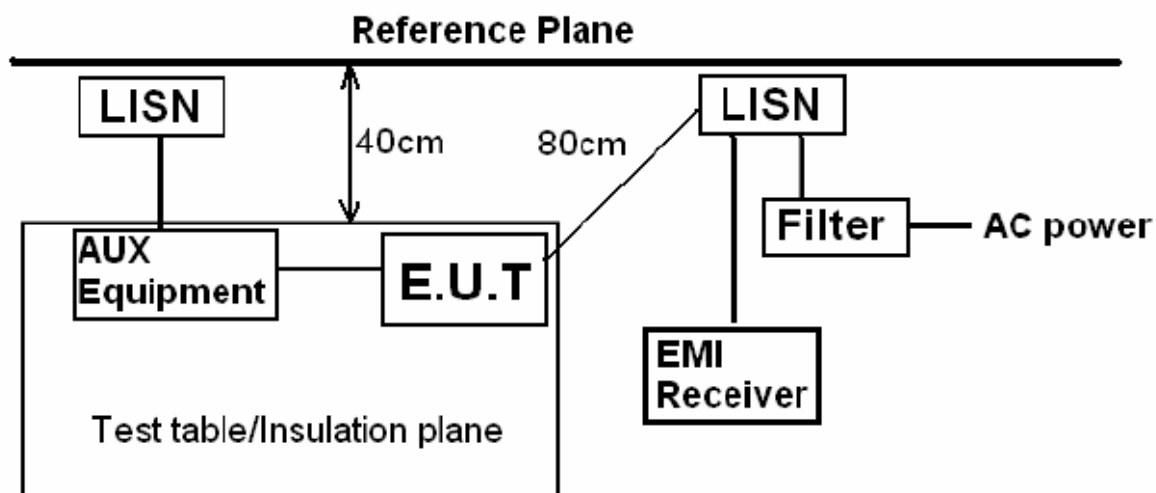
## 3. Description of test modes

The EUT (GSM Phone) has been tested under normal operating and 3 channels that the lowest, middle and highest test.

Channel	Frequency(MHz)
Lowest	2402
Middle	2441
Highest	2480

## 4. Conducted Emissions Test

### 4.1 Test SET-UP (Block Diagram of Configuration)



### 4.2 Test Condition

Test Requirement: FCC Part 15.207

Frequency Range: 150KHz ~ 30MHz

Detector: RBW 9KHz, VBW 30KHz

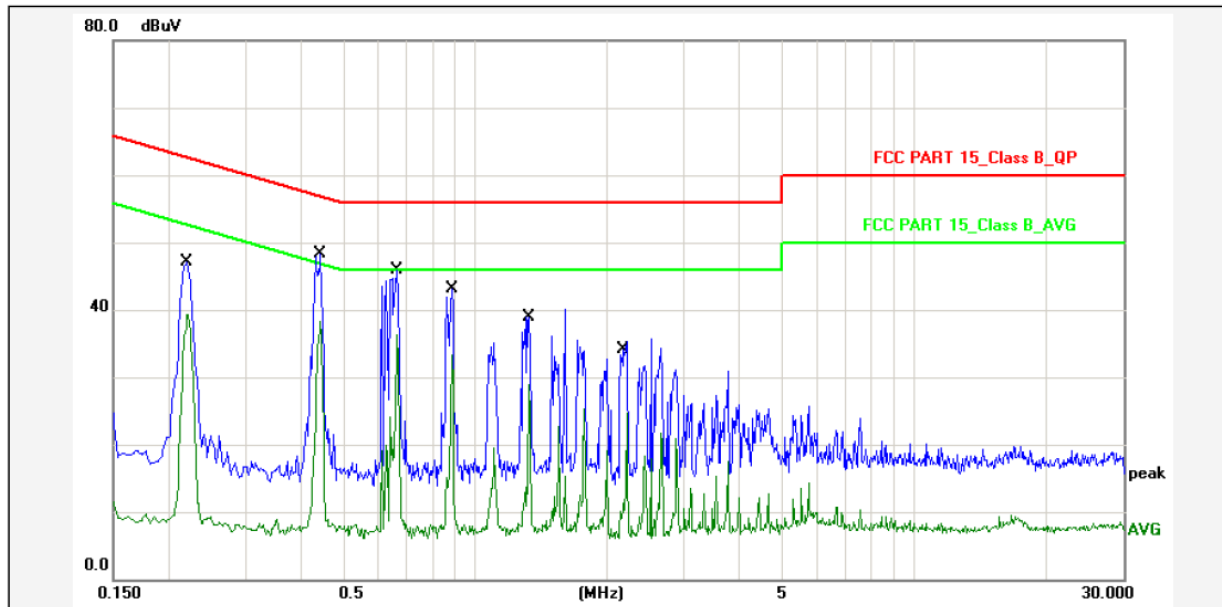
Operation Mode: Charging, Bluetooth

### 4.3 Measurement Results

**Pass**

Please refer to following scan wave(the worst case).





Report No.: POP

Test Standard: FCC PART 15\_Class B\_QP

Test item: Conducted Emission

Phase: L1

Applicant: CDM Miami Inc

Temp.( )/Hum.(%): 24(C) / 52 %

Product: GSM Phone

Power Rating: AC 120V/60Hz

Model No.: POP

Test Engineer: Ifen

Test Mode: Bluetooth

Remark:

No.	Frequency (MHz)	Factor (dBuV)	Reading (dBuV)	Level (dBuV)	Limit (dBuV)	Margin (dB)	Detector	P/F	Remark
1	0.2220	12.00	35.11	47.11	62.74	-15.63	QP	P	
2	0.2220	12.00	27.28	39.28	52.74	-13.46	AVG	P	
3	0.4460	12.00	36.27	48.27	56.95	-8.68	QP	P	
4	0.4460	12.00	26.21	38.21	46.95	-8.74	AVG	P	
5	0.6620	12.00	33.98	45.98	56.00	-10.02	QP	P	
6	0.6620	12.00	24.40	36.40	46.00	-9.60	AVG	P	
7	0.8860	12.00	31.03	43.03	56.00	-12.97	QP	P	
8	0.8860	12.00	21.39	33.39	46.00	-12.61	AVG	P	
9	1.3300	12.00	26.83	38.83	56.00	-17.17	QP	P	
10	1.3300	12.00	16.90	28.90	46.00	-17.10	AVG	P	
11	2.1860	12.00	22.09	34.09	56.00	-21.91	QP	P	
12	2.1860	12.00	12.67	24.67	46.00	-21.33	AVG	P	

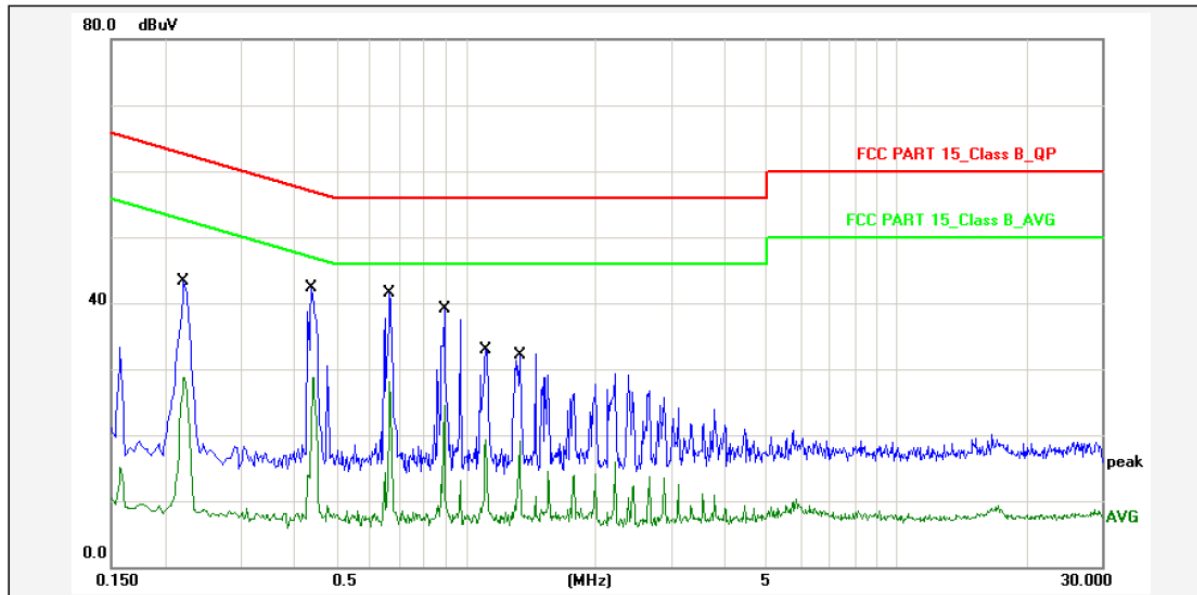
Note: Level=Reading+Factor.

Margin=Limit-Level.

File:POP\#7

Page: 1

Test Time: 2011-9-19 10:06:13



Report No.: POP

Test Standard: FCC PART 15\_Class B\_QP

Test item: Conducted Emission

Phase: N

Applicant: CDM Miami Inc

Temp.( )/Hum.(%): 24(C) / 52 %

Product: GSM Phone

Power Rating: AC 120V/60Hz

Model No.: POP

Test Engineer: Ifen

Test Mode: Bluetooth

Remark:

No.	Frequency (MHz)	Factor (dBuV)	Reading (dBuV)	Level (dBuV)	Limit (dBuV)	Margin (dB)	Detector	P/F	Remark
1	0.2180	12.00	26.60	38.60	62.89	-24.29	QP	P	
2	0.2180	12.00	16.69	28.69	52.89	-24.20	AVG	P	
3	0.4420	12.00	30.35	42.35	57.02	-14.67	QP	P	
4	0.4420	12.00	16.75	28.75	47.02	-18.27	AVG	P	
5	0.6660	12.00	29.43	41.43	56.00	-14.57	QP	P	
6	0.6660	12.00	16.16	28.16	46.00	-17.84	AVG	P	
7	0.8900	12.00	27.02	39.02	56.00	-16.98	QP	P	
8	0.8900	12.00	12.52	24.52	46.00	-21.48	AVG	P	
9	1.1140	12.00	20.99	32.99	56.00	-23.01	QP	P	
10	1.1140	12.00	7.21	19.21	46.00	-26.79	AVG	P	
11	1.3340	12.00	20.09	32.09	56.00	-23.91	QP	P	
12	1.3340	12.00	7.06	19.06	46.00	-26.94	AVG	P	

Note: Level=Reading+Factor.

Margin=Limit-Level.

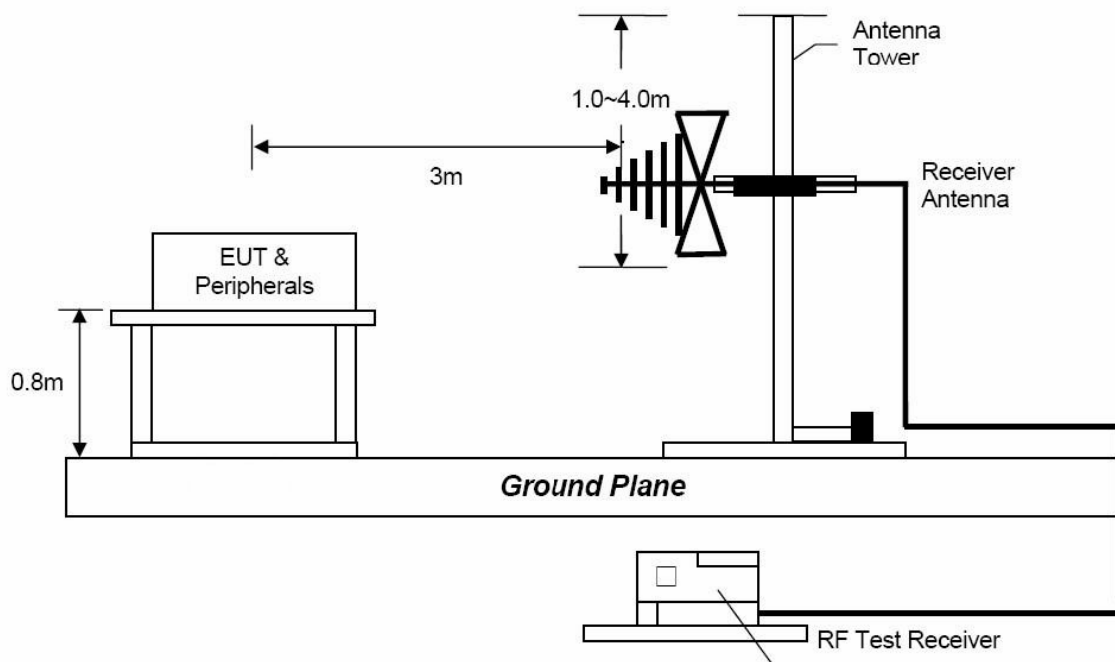
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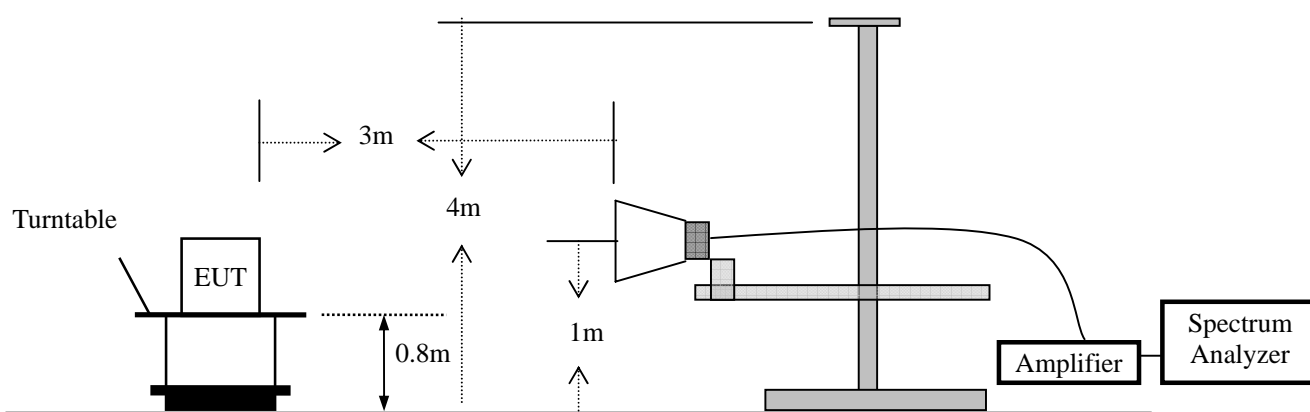
## 5. Radiated Emission Test

### 5.1 Test SET-UP (Block Diagram of Configuration)

Radiated Emission Test Set-Up, Frequency Below 1GHz



Radiated Emission Test Set-Up, Frequency above 1GHz



## 5.2 Measurement Result

Operation Mode: TX+RX Mode      Test Date : September 19, 2011  
Frequency Range: 30~1000MHz      Temperature : 24 °C  
Test Result: PASS      Humidity : 52 %  
Measured Distance: 3m      Test By: Ifen

Freq. (MHz)	Ant.Pol. H/V	Emission Level (dBuV)	Limit 3m (dBuV/m)	Margin (dB)	Note
37.76	V	34.68	40.00	-5.32	PK
47.46	V	34.91	40.00	-5.09	PK
181.32	V	22.97	43.50	-20.53	PK
230.79	V	21.61	46.00	-24.39	PK
385.02	V	24.74	46.00	-21.26	PK
90.14	H	23.17	43.50	-20.33	PK
181.32	H	26.86	43.50	-16.61	PK
230.79	H	28.92	46.00	-17.08	PK
385.02	H	33.53	46.00	-12.47	PK
650.8	H	25.43	46.00	-20.57	PK

**Note:** (1) All Readings are Peak Value.  
(2) Emission Level= Reading Level+Probe Factor +Cable Loss  
(3) The average measurement was not performed when the peak measured data under the limit of average detection.

Operation Mode:	TX Mode (Low)	Test Date :	September 19, 2011
Frequency Range:	Above 1GHz	Temperature :	24 °C
Test Result:	PASS	Humidity :	52 %
Measured Distance:	3m	Test By:	Ifen

Freq. (MHz)	Ant.Pol. H/V	Emission Level(dBuV)		Limit 3m(dBuV/m)		Margin(dB)	
		PK	AV	PK	AV	PK	AV
4804	V	52.49	42.67	74.00	54.00	-21.51	-11.33
7206	V	48.65	39.91	74.00	54.00	-25.35	-14.09
9608	V	47.13	38.95	74.00	54.00	-26.87	-15.05
12010	V	50.07	40.14	74.00	54.00	-23.93	-13.86
4804	H	51.66	42.06	74.00	54.00	-22.34	-11.94
7206	H	49.02	40.33	74.00	54.00	-24.98	-13.67
9608	H	47.51	38.78	74.00	54.00	-26.49	-15.22
12010	H	49.81	39.12	74.00	54.00	-24.19	-14.88

**Other harmonics emissions are lower than 20dB below the allowable limit.**

**Note:**

- (1) All Readings are Peak Value and AV.
- (2) Emission Level= Reading Level+Probe Factor +Cable Loss
- (3) The average measurement was not performed when the peak measured data under the limit of average detection.

Operation Mode:	TX Mode (Mid)	Test Date :	September 19, 2011
Frequency Range:	Above 1GHz	Temperature :	24 °C
Test Result:	PASS	Humidity :	52 %
Measured Distance:	3m	Test By:	Ifen

Freq. (MHz)	Ant.Pol. H/V	Emission Level(dBuV)		Limit 3m(dBuV/m)		Margin(dB)	
		PK	AV	PK	AV	PK	AV
4882	V	53.09	43.09	74.00	54.00	-20.91	-10.91
7323	V	47.63	38.25	74.00	54.00	-26.37	-15.75
9764	V	47.21	38.17	74.00	54.00	-26.79	-15.83
12205	V	51.02	40.31	74.00	54.00	-22.98	-13.69
4882	H	52.43	42.69	74.00	54.00	-21.57	-11.31
7323	H	48.65	39.08	74.00	54.00	-25.35	-14.92
9764	H	47.74	38.53	74.00	54.00	-26.26	-15.47
12205	H	50.11	39.90	74.00	54.00	-23.89	-14.10

**Other harmonics emissions are lower than 20dB below the allowable limit.**

**Note:**

- (1) All Readings are Peak Value and AV.
- (2) Emission Level= Reading Level+Probe Factor +Cable Loss
- (3) The average measurement was not performed when the peak measured data under the limit of average detection.

Operation Mode:	TX Mode (High)	Test Date :	September 19, 2011
Frequency Range:	Above 1GHz	Temperature :	24 °C
Test Result:	PASS	Humidity :	52 %
Measured Distance:	3m	Test By:	Ifen

Freq. (MHz)	Ant.Pol. H/V	Emission Level(dBuV)		Limit 3m(dBuV/m)		Margin(dB)	
		PK	AV	PK	AV	PK	AV
4960	V	53.41	42.84	74.00	54.00	-20.59	-11.16
7440	V	48.58	39.26	74.00	54.00	-25.42	-14.74
9920	V	47.81	38.53	74.00	54.00	-26.19	-15.47
12400	V	50.67	40.01	74.00	54.00	-23.33	-13.99
4960	H	52.24	42.35	74.00	54.00	-21.76	-11.65
7440	H	48.34	38.97	74.00	54.00	-25.66	-15.03
9920	H	47.91	38.22	74.00	54.00	-26.09	-15.78
12400	H	49.95	39.98	74.00	54.00	-24.05	-14.02

**Other harmonics emissions are lower than 20dB below the allowable limit.**

**Note:**

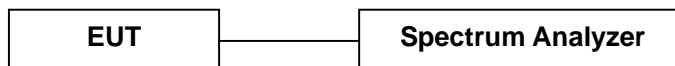
- (1) All Readings are Peak Value and AV.
- (2) Emission Level= Reading Level+Probe Factor +Cable Loss
- (3) The average measurement was not performed when the peak measured data under the limit of average detection.

## 6. Channel Separation test

### 6.1 Measurement Procedure

The EUT was operating in hopping mode or could be controlled its channel. Printed out the test result from the spectrum by hard copy function.

### 6.2 Test SET-UP (Block Diagram of Configuration)



### 6.3 Measurement Results:

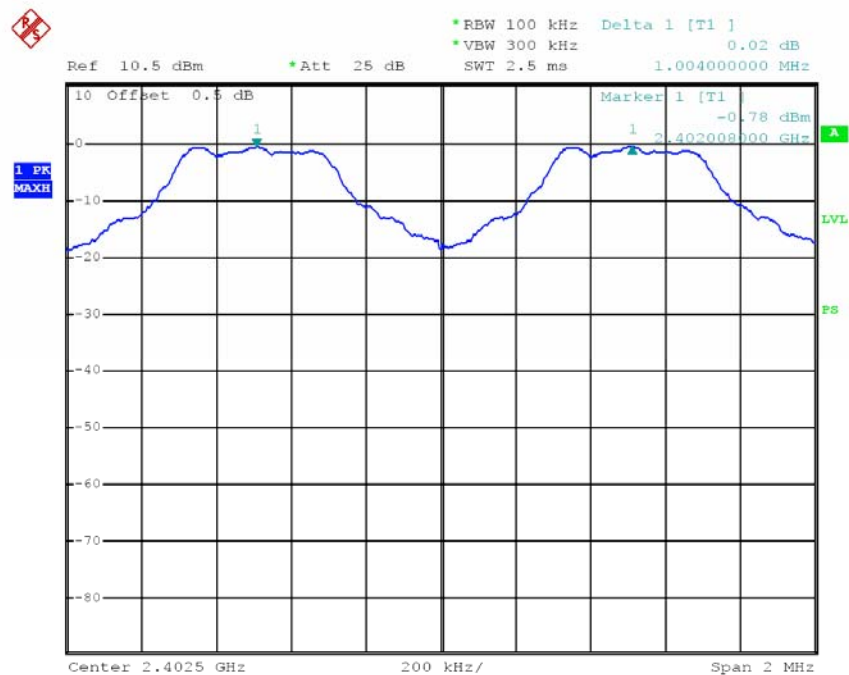
Refer to attached data chart.

Modulation	GFSK	VBW:	300KHz
RBW:	100KHz	Test Date :	September 17, 2011
Spectrum Detector:	PK	Temperature :	26 °C
Test By:	Ifen	Humidity :	54 %
Test Result:	PASS		

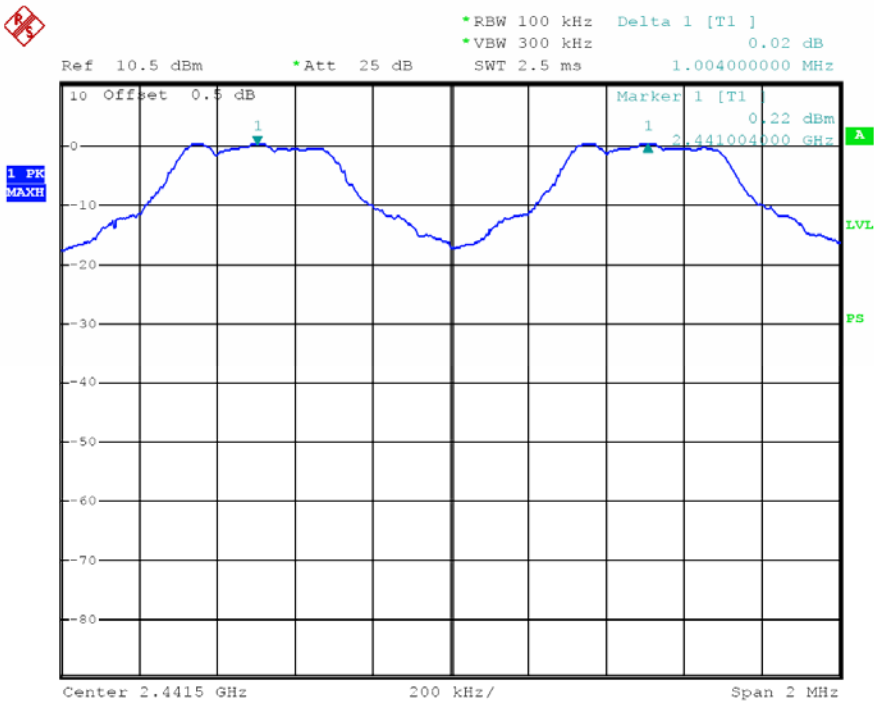
Channel number	Channel frequency (MHz)	Separation Read Value (KHz)	Separation Limit (KHz)
Lowest	2402	1004	>568
Middle	2441	1004	>568
Highest	2480	1004	>570.67



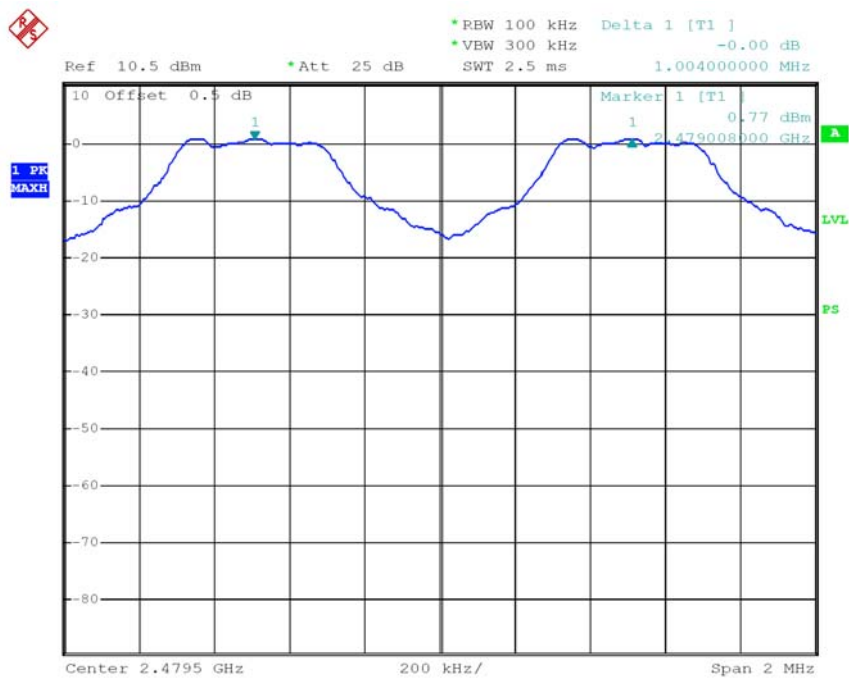
Lowest Channel



Middle Channel



Highest Channel



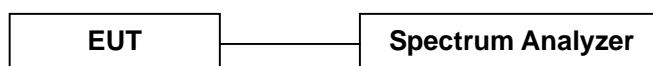
## 7. 20dB Bandwidth

### 7.1 Measurement Procedure

Maximum 20dB RF Bandwidth, FCC Rule 15.247(a)(1):

The antenna port of the EUT was connected to the input of a spectrum analyzer. Analyzer RBW was chosen so that the display was a result of the hopping channel modulation. For each RF output channel investigated, the spectrum analyzer center frequency was set to the channel carrier. Use the spectrum 20dB down delta function to measure the bandwidth.

### 7.2 Test SET-UP (Block Diagram of Configuration)



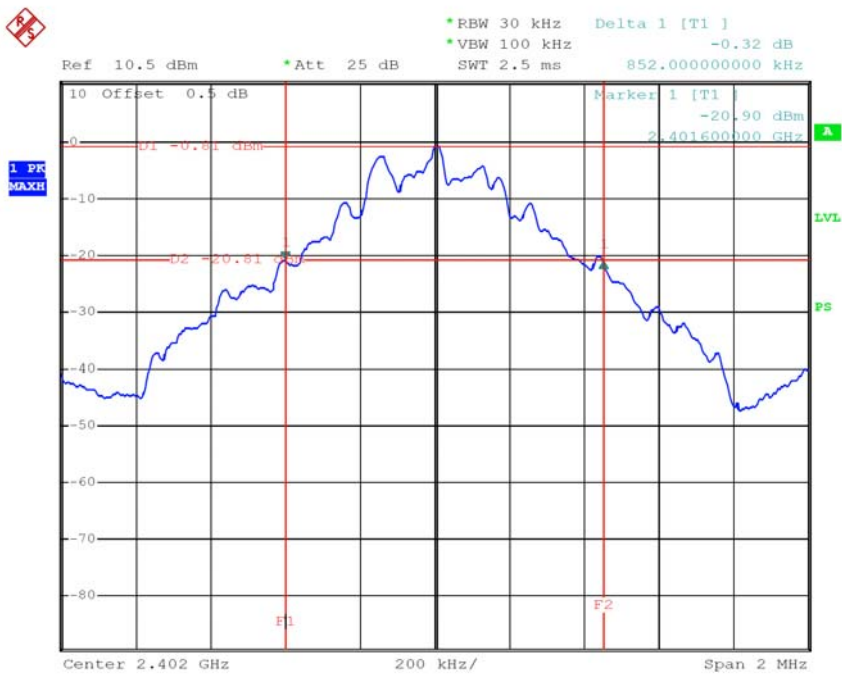
### 7.3 Measurement Results:

Refer to attached data chart.

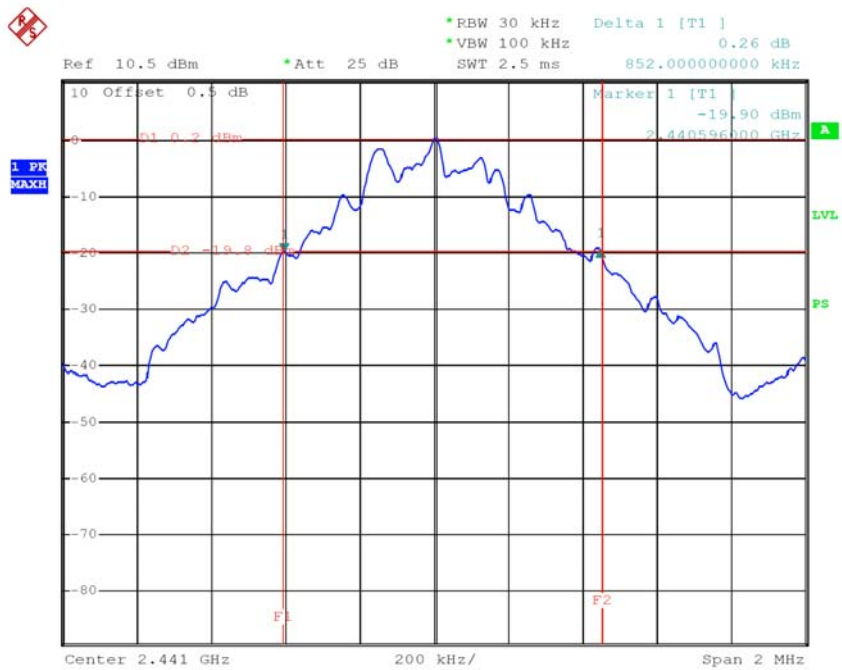
Modulation	GFSK	Packet	DH 5
RBW	30KHz	VBW	100KHz
Spectrum Detector:	PK	Test Date :	September 17, 2011
Test By:	Ifen	Temperature :	26 °C
Test Result:	PASS	Humidity :	54 %

Channel frequency (MHz)	20dB Down BW(kHz)
2402	852
2441	852
2480	856

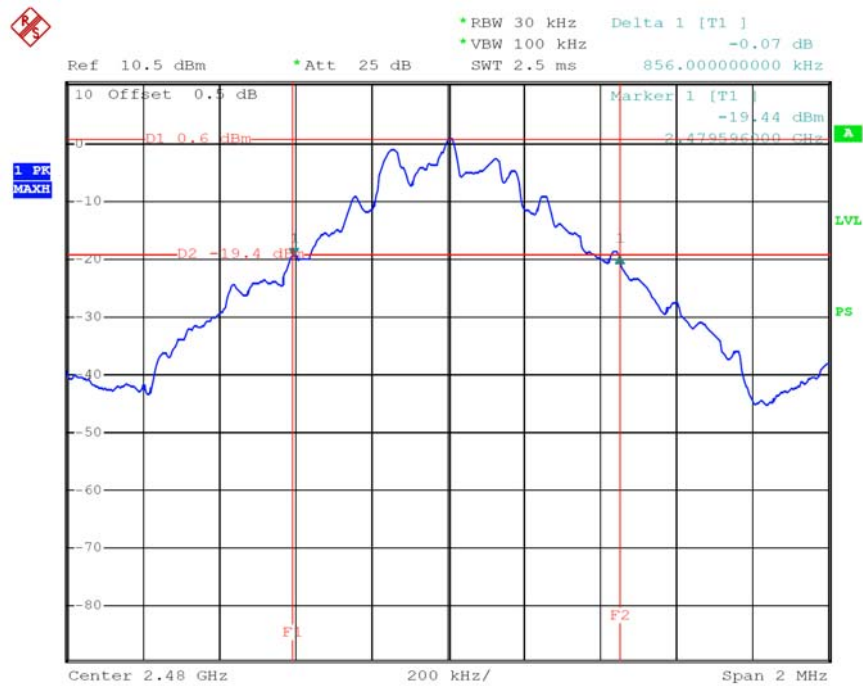
Lowest Channel



Middle Channel



Highest Channel



## 8. Hopping Channel Number

### 8.1 Measurement Procedure

Minimum Number of Hopping Frequencies, FCC Rule 15.247(a)(1)(iii):

Remove the antenna from the EUT and then connect a low RF cable from the antenna port to the spectrum, and the spectrum analyzer set to MAX HOLD readings were taken for 3-5 minutes. The channel peaks so recorded were added together, and the total number compared to the minimum number of channels required in the regulation.

### 8.2 Test SET-UP (Block Diagram of Configuration)

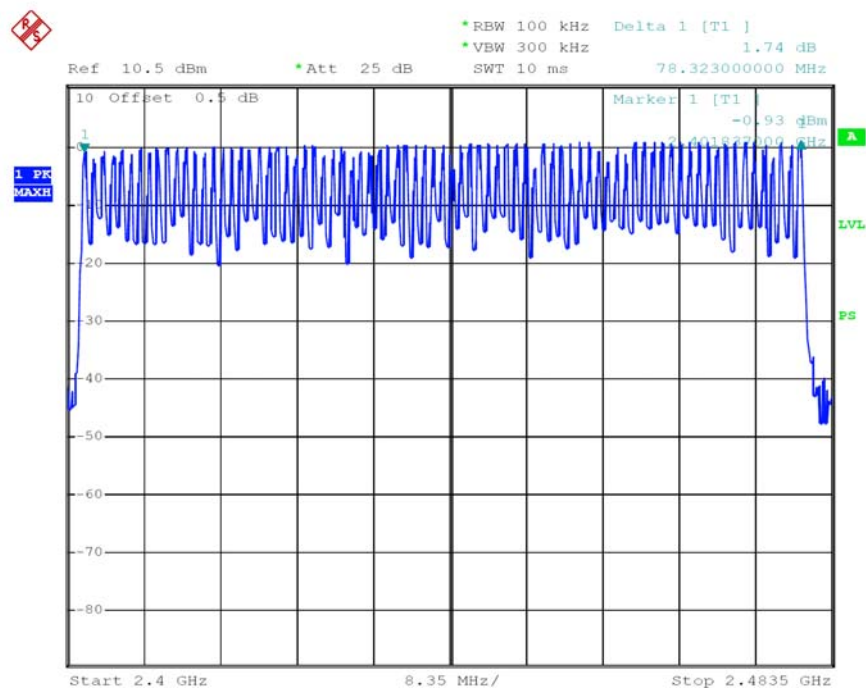


### 8.3 Measurement Results:

Refer to attached data chart.

Modulation	GFSK	VBW	300KHz
RBW	100KHz	Test Date :	September 17, 2011
Spectrum Detector:	PK	Temperature :	26 °C
Test By:	Ifen	Humidity :	54 %
Test Result:	PASS		

Hopping Channel Frequency Range	Number of Hopping Channels	Limit
2402-2480	79	>15



## 9. Time of Occupancy (Dwell Time)

### 9.1 Measurement Procedure

Average Channel Occupancy Time, FCC Ref:15.247(a)(1)(iii):

Connect EUT antenna terminal to the spectrum analyzer with a low loss cable.

The spectrum analyzer center frequency was set to one of the known hopping channels. The Sweep was set to 10ms, the SPAN was set to Zero SPAN. The time duration of the transmissions so captured was measured with the Marker Delta function

### 9.2 Measurement Results:

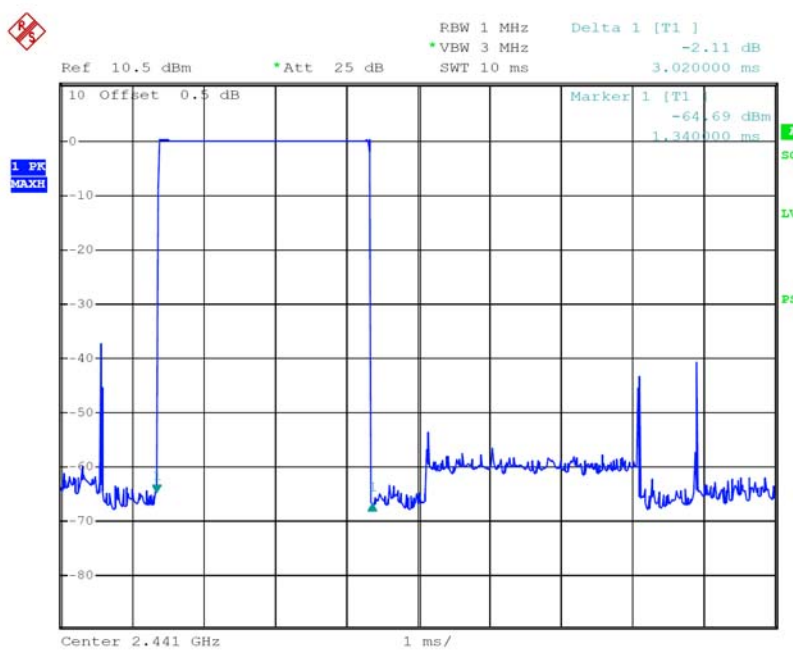
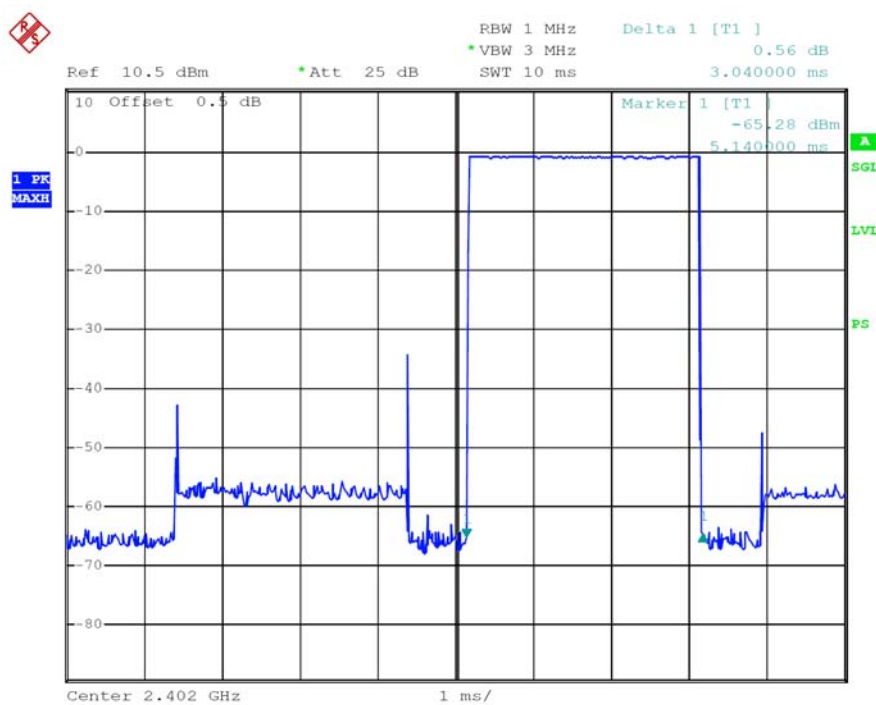
The maximum number of hopping channels in 31.6s (0.4s/Channel x 79 Channel)

Refer to attached data chart.(worst data DH 5)

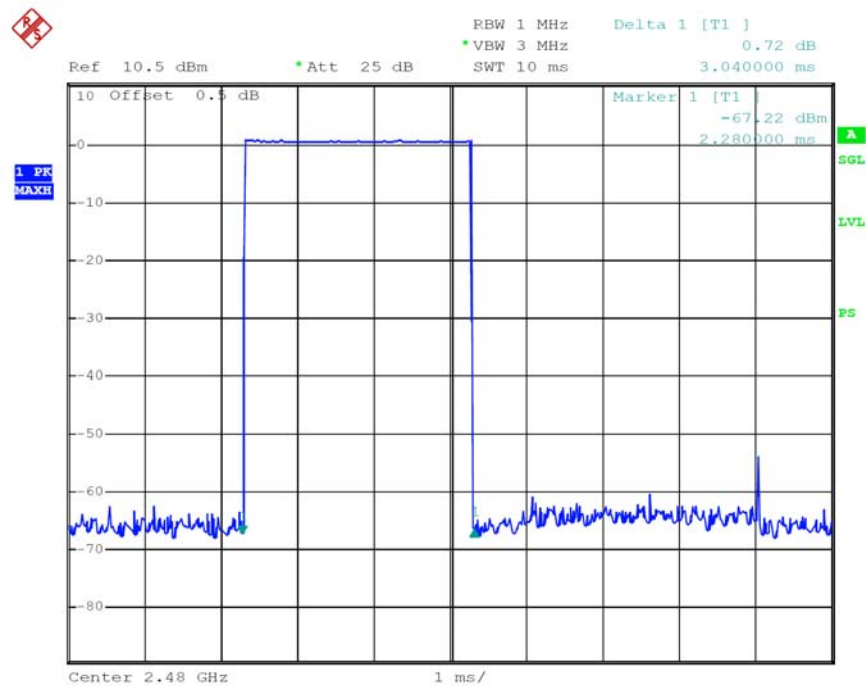
Modulation :	GFSK	Packet :	DH 1, DH 3, DH 5
RBW :	1MHz	VBW :	3MHz
Spectrum Detector:	PK	Test Date :	September 17, 2011
Test By:	Ifen	Temperature :	26 °C
Test Result:	PASS	Humidity :	54 %

Packet	Frequency (MHz)	Result (msec)	Limit (msec)
DH5	2402	$3.04(\text{ms}) * (1600 / (6 * 79)) * 31.6 = 324.3$	400
DH5	2441	$3.02(\text{ms}) * (1600 / (6 * 79)) * 31.6 = 322.1$	400
DH5	2480	$3.04(\text{ms}) * (1600 / (6 * 79)) * 31.6 = 324.3$	400





Highest Channel



## 10. MAXIMUM PEAK OUTPUT POWER

### 10.1 Measurement Procedure

Maximum Conducted Output Power at Antenna Terminals, FCC Rules 15.247(b)(1): Remove the antenna from the EUT and then connect a low RF cable from the antenna port to the spectrum. The analyzer was set for RBW > 20dB bandwidth and power was read directly in dBm. Cable loss was considered during this measurement.

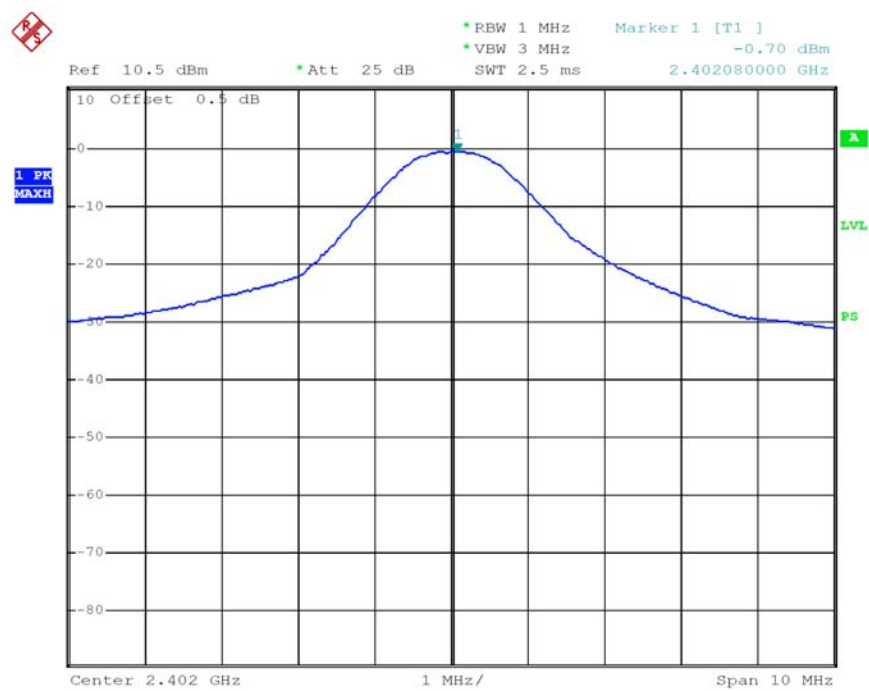
### 10.2 Measurement Results:

Refer to attached data chart.

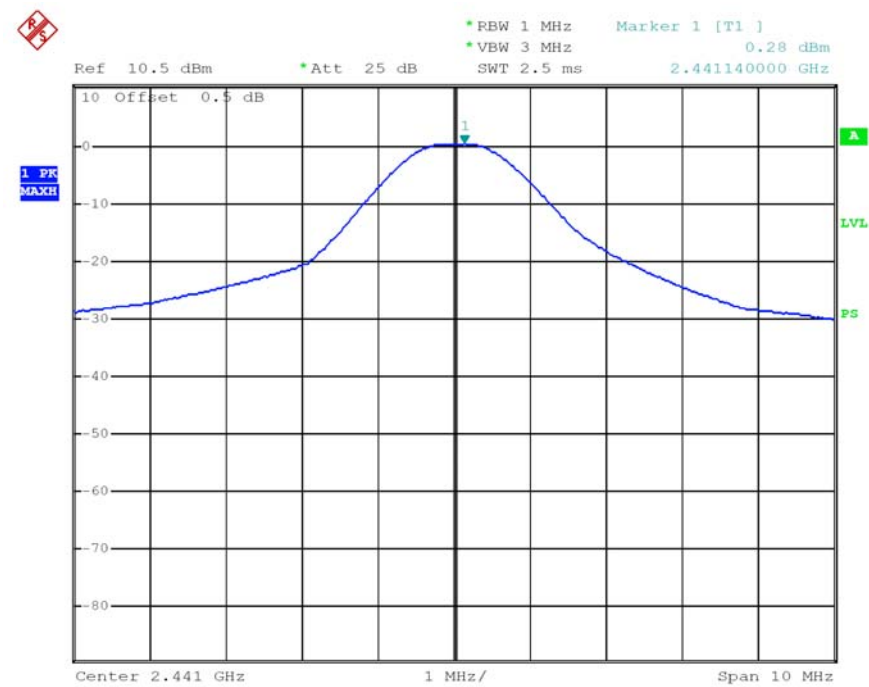
Modulation :	GFSK	Packet :	DH 5
RBW :	1MHz	VBW :	3MHz
Spectrum Detector:	PK	Test Date :	Spectrum Detector:
Test By:	Ifen	Temperature :	Test By:
Test Result:	PASS	Humidity :	Test Result:

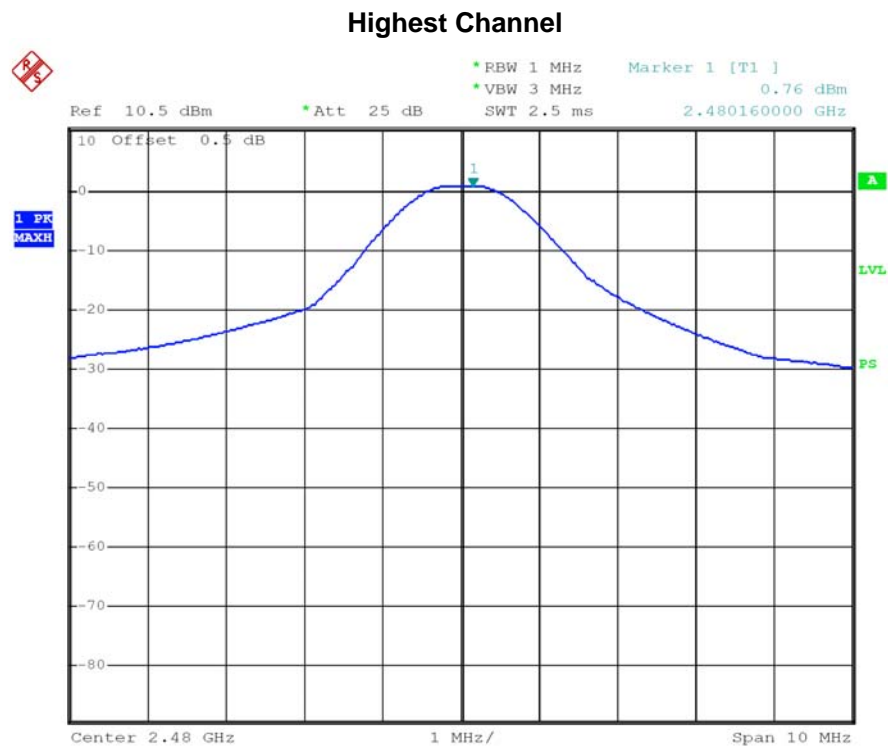
Channel Frequency (MHz)	Cable Loss dB	Peak Power output(mW)	Peak Power output(dBm)	Peak Power Limit(mW)	Pass/Fail
2402.00	1.5	0.851	-0.70	125	PASS
2441.00	1.5	1.067	0.28	125	PASS
2480.00	1.5	1.191	0.76	125	PASS

Lowest Channel



Middle Channel





## **11. Band Edge**

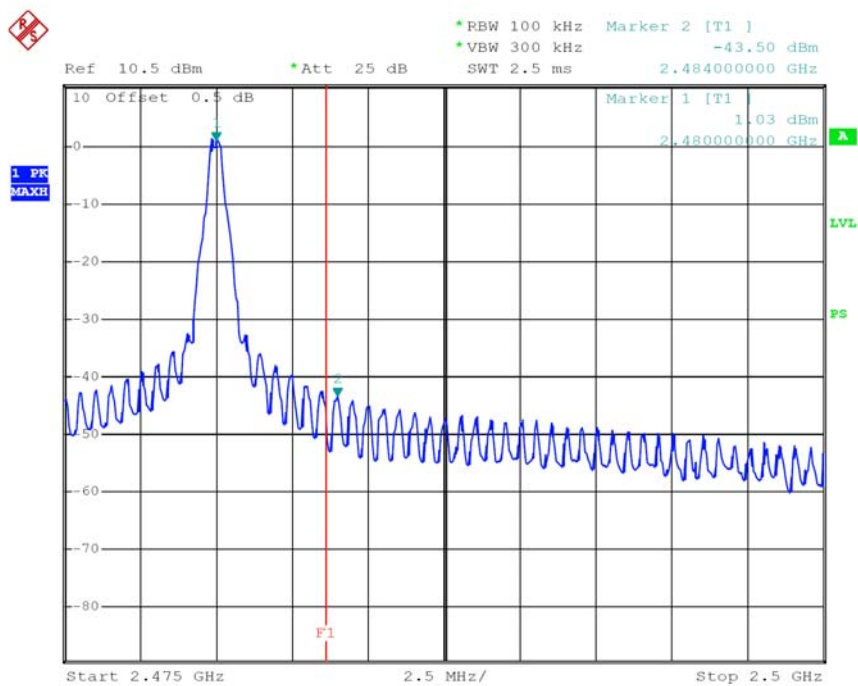
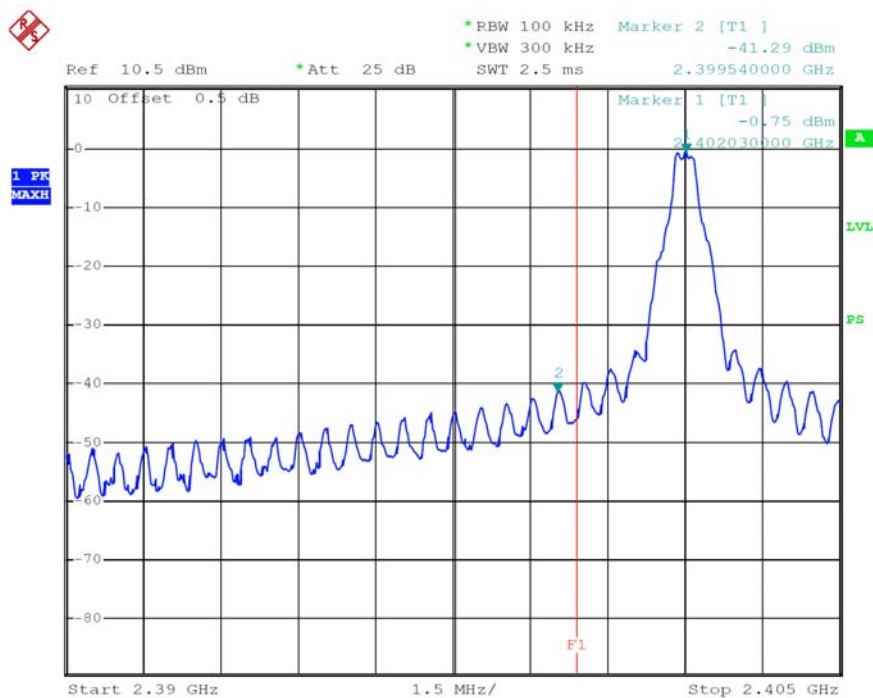
### **11.1 Measurement Procedure**

Out of Band Conducted Emissions, FCC Rule 15.247(d):

The transmitter output is connected to spectrum analyzer. The resolution bandwidth is set to 100KHz, and the video bandwidth set to 300KHz.

### **11.2 Limit**

15.247(d) In any 100KHz bandwidth outside the frequency band in which the spread spectrum or digitally modulated intentional radiator is operating, the radio frequency power that is produced by the intentional radiator shall be at least 20dB below that in the 100KHz bandwidth within the band that contains the highest level of the desired power, based on either an RF conducted or a radiated measurement.



## **12. Antenna Application**

### **12.1 Antenna requirement**

According to of FCC part 15C section 15.203 and 15.240:

An intentional radiator shall be designed to ensure that no antenna other than that furnished by the responsible party shall be used with the device. The use of a permanently attached antenna or of an antenna that uses a unique coupling to the intentional radiator, the manufacturer may design the unit so that a broken antenna can be replaced by the user, but the use of a standard antenna jack or electrical connector is prohibited.

Systems operating in the 2400-2483.5MHz band that are used exclusively for fixed, point-to-point operations may employ transmitting antennas with directional gain greater than 6dBi provided the maximum peak output power of the intentional radiator is reduced by 1dB for every 3dB that the directional gain of the antenna exceeds 6dBi.

### **12.2. Result**

The EUT has two antennas, one is for Bluetooth, and other for GSM. Both of the antenna are internal and no consideration of replacement. The best case gain of the antennas are 0dBi. So, the antennas are considered meet the requirement.



### 13. RF Exposure

According to §15.247(i), §2.1093 and 1.1307(b)(1), systems operating under the provisions of this section shall be operated in manner that ensures that the public is not exposed to radio frequency energy level in excess of the Commission's guidelines.

Table 2 – Summary of SAR Evaluation Requirements for a Cell Phone with Multiple Transmitters

	Individual Transmitter	Simultaneous Transmission
<b>Licensed Transmitters</b>	<u>Routine evaluation required</u>	<u>SAR not required:</u> <u>Unlicensed only</u> <ul style="list-style-type: none"> <li>when stand-alone 1-g SAR is not required and antenna is <math>\geq 5</math> cm from other antennas</li> </ul> <u>Licensed &amp; Unlicensed</u> <ul style="list-style-type: none"> <li>when the sum of the 1-g SAR is <math>&lt; 1.6</math> W/kg for all simultaneous transmitting antennas</li> <li>when SAR to peak location separation ratio of simultaneous transmitting antenna pair is <math>&lt; 0.3</math></li> </ul> <u>SAR required:</u> <u>Licensed &amp; Unlicensed</u> antenna pairs with SAR to peak location separation ratio $\geq 0.3$ ; test is only required for the configuration that results in the highest SAR in stand-alone configuration for each wireless mode and exposure condition <u>Note: simultaneous transmission exposure conditions for head and body can be different for different style phones; therefore, different test requirements may apply</u>
<b>Unlicensed Transmitters</b>	<p><u>When there is no simultaneous transmission –</u></p> <ul style="list-style-type: none"> <li>output <math>\leq 60</math> f: SAR not required</li> <li>output <math>&gt; 60</math> f: stand-alone SAR required</li> </ul> <p><u>When there is simultaneous transmission –</u></p> <p><u>Stand-alone SAR not required when</u></p> <ul style="list-style-type: none"> <li>output <math>\leq 2 \cdot P_{Ref}</math> and antenna is <math>\geq 5.0</math> cm from other antennas</li> <li>output <math>\leq P_{Ref}</math> and antenna is <math>\geq 2.5</math> cm from other antennas</li> <li>output <math>\leq P_{Ref}</math> and antenna is <math>&lt; 2.5</math> cm from other antennas, each with either output power <math>\leq P_{Ref}</math> or 1-g SAR <math>&lt; 1.2</math> W/kg</li> </ul> <p><u>Otherwise stand-alone SAR is required</u></p> <p><u>When stand-alone SAR is required</u></p> <ul style="list-style-type: none"> <li>test SAR on highest output channel for each wireless mode and exposure condition</li> <li>if SAR for highest output channel is <math>&gt; 50\%</math> of SAR limit, evaluate all channels according to normal procedures</li> </ul>	
<b>Jaw, Mouth and Nose</b>	<p><u>Flat phantom SAR required</u></p> <ul style="list-style-type: none"> <li>when measurement is required in tight regions of SAM and it is not feasible or the results can be questionable due to probe tilt, calibration, positioning and orientation issues</li> <li>position rectangular and clam-shell phones according to flat phantom procedures and conduct SAR measurements for these specific locations</li> </ul>	When simultaneous transmission SAR testing is required, contact the FCC Laboratory for interim guidance.

#### Result:

The EUT has two antennas are available, one is GSM/PCS antenna, other is Bluetooth antenna, and the distance between GSM and Bluetooth antenna are less than 2.5cm. According to document FCC KDB 648474 D01 SAR Handsets Multi Xmitter and Ant, v01r05, the Max peak output power of Bluetooth is 1.191mw less than Pref (12mW), so, the Bluetooth antenna is considered to comply SAR requirement without stand-alone SAR testing.

## 14. Test Equipment List

Description	Manfucaturer	Model Number	Serial Number	Calibration Date	Calibration Due Date
Receiver	Rohde & Schwarz	ESCI7	100837	Mar.14 2011	Mar.14 2012
Receiver	Rohde & Schwarz	ESCI	101152	Mar. 09, 2011	Mar.09 2012
L.I.S.N	Rohde & Schwarz	ENV-216	101317	Mar. 07, 2011	Mar. 07, 2012
RF Switching Unit	Compliance Direction Systems Inc.	RSU-M2	38311	Mar. 07, 2011	Mar. 07, 2012
Spectrum Analyzer	Agilent	8564E	3943A10314	Mar. 19, 2011	Mar. 19, 2012
Universal Radio Communication Tester	Rohde & Schwarz	CMU200	108462	Aug. 15, 2011	Aug. 15, 2012
Pre-Amplifier	HP	8447D	2944A07999	Mar. 19, 2011	Mar. 19, 2012
Broadband Antenna	Schwarzbeck	VULB9162	9162-010	Apr. 18, 2011	Apr. 18, 2012
Horn Antenna	Schwarzbeck	BBHA9120D	D262	Mar. 26, 2011	Mar. 26, 2012
Horn Antenna	ETS	3116	00101347	Apr. 24, 2011	Apr. 24, 2012
Pre-Amplifier	Agilent	8449B	3008A02964	Mar. 19, 2011	Mar. 19, 2012
Cable	UBER+SUHNER	CBL2-NN-1M	22320001	Mar. 19, 2011	Mar. 19, 2012
Cable	Schwarzbeck	CIL02	N/A	Mar. 19, 2011	Mar. 19, 2012