



Shenzhen Certification Technology Service Co., Ltd.  
2F, Building B, East Area of Nanchang Second Industrial  
Zone, Gushu 2<sup>nd</sup> Road, Bao'an District, Shenzhen  
518126, P.R. China

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## TEST REPORT

### FCC ID: 2AA7A-MTT

Applicant : ADAR Generale Telecom Services  
Address : 15, Allee Jean Jaures, 31000 TOULOUSE- FRANCE

#### Equipment Under Test (EUT):

Name : 2G Mobile Phone  
Model : M.T.T. Protection 2G

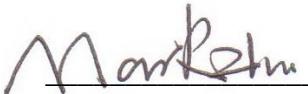
In Accordance with: FCC PART 15.247:2012

Report No : STI130914168  
Date of Test : September 20-October 8, 2013  
Date of Issue : October 9, 2013

#### Test Result: PASS

In the configuration tested, the EUT complied with the standards specified above

Authorized Signature

  
(Mark Zhu)  
General Manager

The manufacturer should ensure that all the products in series production are in conformity with the product sample detailed in this report. If the product in this report is used in any configuration other than that detailed in the report, the manufacturer must ensure the new system complies with all relevant standards. Any mention of Shenzhen Certification Technology Service Co., Ltd. Or test done by Shenzhen Certification Technology Service Co., Ltd. Approvals in connection with, distribution or use of the product described in this report must be approved by Shenzhen Certification Technology Service Co., Ltd. Approvals in writing.

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## 1. General Information

### 1.1. Description of Device (EUT)

Trade Name : M.T.T.  
EUT : 2G Mobile Phone  
Model No. : M.T.T. Protection 2G  
  
Type of Antenna : PIFA Antenna For GSM  
Antenna Specification : Dipole Antenna for Bluetooth  
Antenna Specification : 1dBi For GSM  
Antenna Specification : 1dBi for Bluetooth  
Operation Frequency : 824.2MHz—848.8MHz and 1850.2MHz—1909.8MHz For GSM  
Operation Frequency : 2402-2480 for Bluetooth 2.1+EDR  
  
Note: This report only test for Bluetooth, for other radio test see other test report.  
  
Modulation type : GFSK,  $\pi/4$  DQPSK, 8- DPSK for BT  
Modulation type : GMSK for GSM  
  
Power Supply : DC 5V from adapter with AC 120V/60Hz or  
Power Supply : DC 3.7V from battery  
  
Adapter : Model No.:TY00-H-1105  
Adapter : Manufacturer: ADAR Generale Telecom Services  
  
Applicant : ADAR Generale Telecom Services  
Address : 15, Allee Jean Jaures, 31000 TOULOUSE- FRANCE  
Manufacturer : ADAR Generale Telecom Services  
Address : 15, Allee Jean Jaures, 31000 TOULOUSE- FRANCE

### 1.2. Accessories of device (EUT)

Accessories 1 : Adapter  
M/N : TY00-H-1105

### 1.3. Test Lab information

Shenzhen Certification Technology Service Co., Ltd.  
2F, Building B, East Area of Nanchang Second Industrial Zone,  
Gushu 2<sup>nd</sup> Road, Bao'an District, Shenzhen 518126, P.R. China  
FCC Registered No.:197647

## 2. Summary of test

### 2.1. Summary of test result

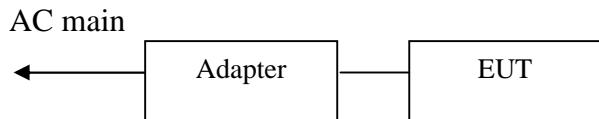
Description of Test Item	Standard	Results
Maximum Peak Output Power	FCC Part 15: 15.247(b)(1) ANSI C63.10 :2009	PASS
20dB Bandwidth	FCC Part 15: 15.215 ANSI C63.10 :2009	PASS
Carrier Frequency Separation	FCC Part 15: 15.247(a)(1) ANSI C63.10 :2009	PASS
Number Of Hopping Channel	FCC Part 15: 15.247(a)(1)(iii) ANSI C63.10 :2009	PASS
Dwell Time	FCC Part 15: 15.247(a)(1)(iii) ANSI C63.10 :2009	PASS
Radiated Emission	FCC Part 15: 15.209 FCC Part 15: 15.247(d) ANSI C63.10 :2009	PASS
Band Edge Compliance	FCC Part 15: 15.247(d) ANSI C63.10 :2009	PASS
Power Line Conducted Emissions	FCC Part 15: 15.207 ANSI C63.10 :2009	PASS
Antenna requirement	FCC Part 15: 15.203	PASS

### 2.2. Assistant equipment used for test

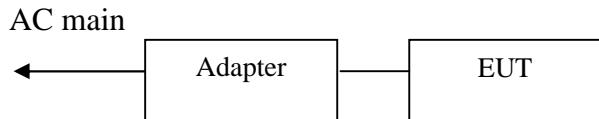
Description	:	Adapter
Manufacturer	:	ADAR Generale Telecom Services
Model No.	:	TY00-H-1105

### 2.3. Block Diagram

1, For radiated emissions test: EUT was placed on a turn table, which is 0.8 meter high above ground. EUT was set into BT test mode by Bluesuite software before test.



2, For Power Line Conducted Emissions Test: EUT was connected to power adapter by 1m USB line



### 2.4. Test mode

The test software “Bluesuite” was used to control EUT work in Continuous TX mode, and select test channel, wireless mode

Tested mode, channel, and data rate information		
Mode	Channel	Frequency (MHz)
BDR:GFSK	Low :CH1	2402
	Middle: CH40	2441
	High: CH79	2480
EDR: $\pi/4$ QPSK	Low :CH1	2402
	Middle: CH40	2441
	High: CH79	2480
EDR:8-DPSK	Low :CH1	2402
	Middle: CH40	2441
	High: CH79	2480

Note: For  $\pi/4$  QPSK its same modulation type with 8-DPSK, and based exploratory test, there is no significant difference of that two types test result, except output power, the 8-DPSK and  $\pi/4$  QPSK worse case is 8-DPSK, so other items final test were only performed with 8-DPSK.

### 2.5. Test Conditions

Temperature range	21-25°C
Humidity range	40-75%
Pressure range	86-106kPa

## 2.6. Measurement Uncertainty (95% confidence levels, k=2)

Item	MU	Remark
Uncertainty for Power point Conducted Emissions Test	2.50dB	
Uncertainty for Radiation Emission test in 3m chamber (30MHz to 1GHz)	3.04dB	Polarize: V
	3.02dB	Polarize: H
Uncertainty for Radiation Emission test in 3m chamber (1GHz to 25GHz)	3.84dB	Polarize: H
	3.56dB	Polarize: V
Uncertainty for radio frequency	$1 \times 10^{-9}$	
Uncertainty for conducted RF Power	0.65dB	
Uncertainty for temperature	0.6°C	
Uncertainty for humidity	3%	
Uncertainty for DC and low frequency voltages	0.06%	

## 2.7. Test Equipment

<b>Equipment</b>	<b>Manufacture</b>	<b>Model No.</b>	<b>Serial No.</b>	<b>Last cal.</b>	<b>Cal Interval</b>
3m Semi-Anechoic	ETS-LINDGREN	N/A	SEL0017	Nov. 16, 12	1 Year
Spectrum analyzer	Agilent	E4407B	MY49510055	Oct. 31, 12	1 Year
Receiver	R&S	ESCI	101165	Oct. 31, 12	1 Year
Receiver	R&S	ESCI	101202	Oct. 31, 12	1 Year
Bilog Antenna	SCHWARZBECK	VULB 9168	9168-438	Mar.16, 13	1 Year
Horn Antenna	SCHWARZBECK	BBHA 9120 D	BBHA 9120 D(1201)	Mar.16, 13	1 Year
Horn Antenna	SCHWARZBECK	BBHA 9170	BBHA 9170 D(1432)	Oct. 31, 12	1 Year
Active Loop Antenna	Beijing Daze	ZN30900A	SEL0097	Mar.16, 13	1 Year
L.I.S.N.	SCHWARZBECK	NSLK8126	8126466	Oct. 31, 12	1 Year
Cable	Resenberger	N/A	No.1	Oct. 31, 12	1 Year
Cable	SCHWARZBECK	N/A	No.2	Oct. 31, 12	1 Year
Cable	SCHWARZBECK	N/A	No.3	Oct. 31, 12	1 Year
Power Meter	Anritsu	ML2487A	6K00001491	Oct. 31, 12	1 Year
Pre-amplifier	SCHWARZBECK	BBV9743	9743-019	Oct. 31, 12	1 Year
Pre-amplifier	Quietek	AP-180C	CHM-060201 2	Oct. 31, 12	1 Year

### 3. Maximum Peak Output power

#### 3.1. Test limit

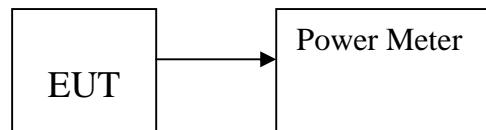
Please refer section 15.247.

For frequency hopping systems operating in the 2400-2483.5 MHz band employing at least 75 non-overlapping hopping channels, and all frequency hopping systems in the 5725-5850 MHz band: 1 watt. For all other frequency hopping systems in the 2400-2483.5 MHz band: 0.125 watts, the e.i.r.p shall not exceed 4W

#### 3.2. Test Procedure

The transmitter output is connected to the RF Power Meter. The RF Power Meter is set to the peak power detection.

#### 3.3. Test Setup



#### 3.4. Test Results

EUT: 2G Mobile Phone		M/N: M.T.T. Protection 2G				
Test date: 2013-09-22		Test site: RF site		Tested by: Simple		
Mode	Freq (MHz)	Reading Power (dBm)	Factor (dB)	Result (dBm)	Limit (dBm)	Margin (dB)
GFSK	2402	2.84	1.0	3.84	30	26.16
	2441	1.77	1.0	2.77	30	27.23
	2480	1.96	1.0	2.96	30	27.04
$\pi/4$ QPSK	2402	2.15	1.0	3.15	21	17.85
	2441	1.24	1.0	2.24	21	18.76
	2480	1.37	1.0	2.37	21	18.63
8-DPSK	2402	2.42	1.0	3.42	21	17.58
	2441	1.48	1.0	2.48	21	18.52
	2480	1.57	1.0	2.57	21	18.43
Conclusion: PASS						

#### 4. 20dB bandwidth

##### 4.1. Limit

Intentional radiators operating under the alternative provisions to the general emission limits, as contained in §§ 15.217 through 15.257 and in Subpart E of this part, must be designed to ensure that the 20 dB bandwidth of the emission, or whatever bandwidth may otherwise be specified in the specific rule section under which the equipment operates, is contained within the frequency band designated in the rule section under which the equipment is operated.

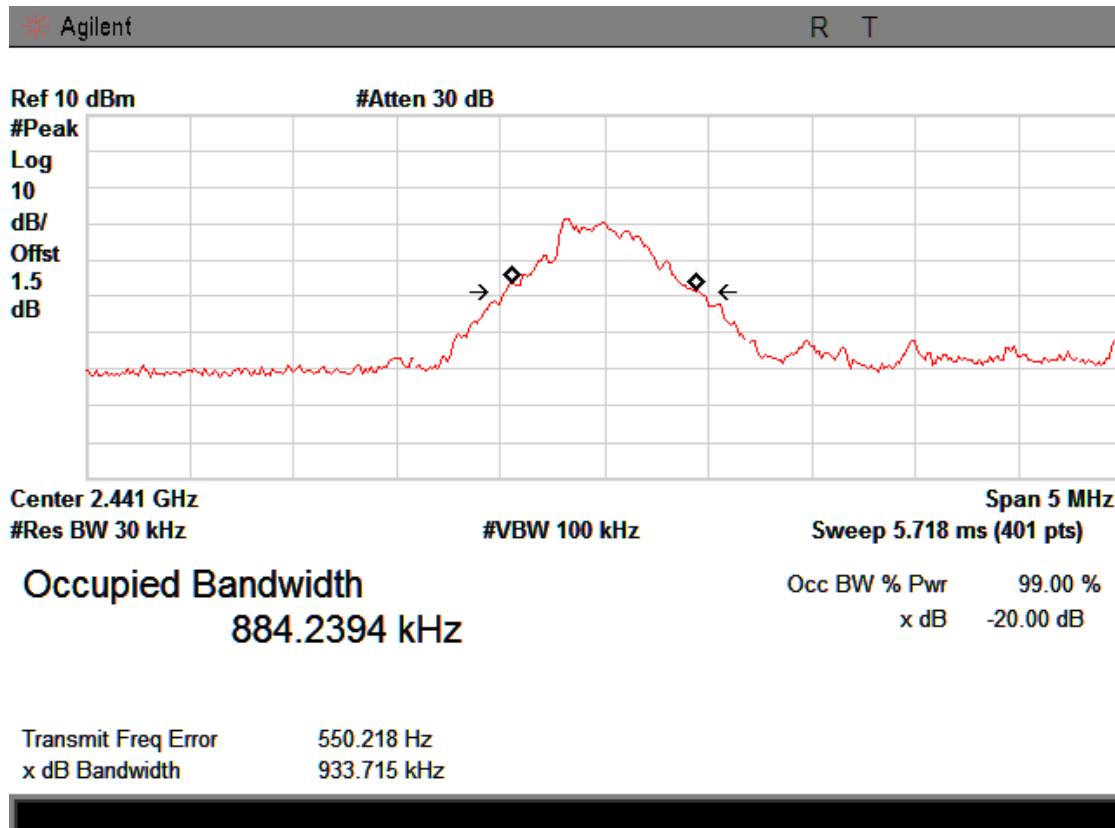
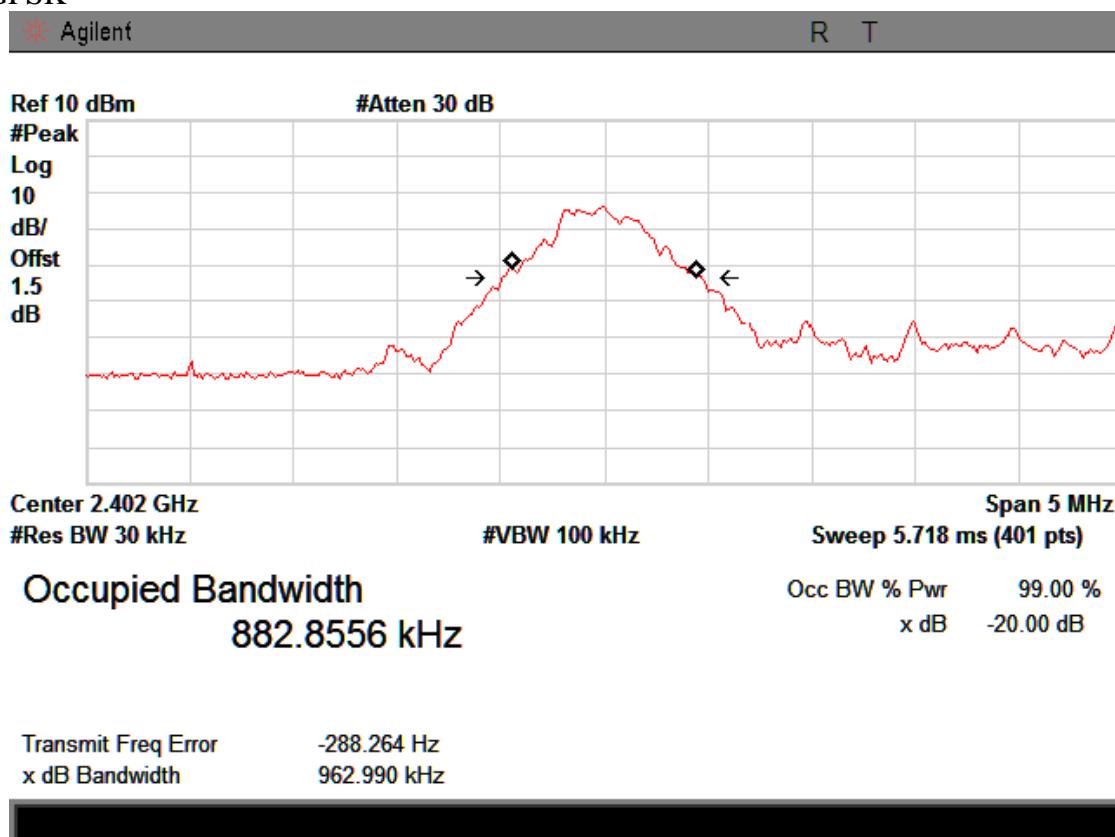
##### 4.2. Test Procedure

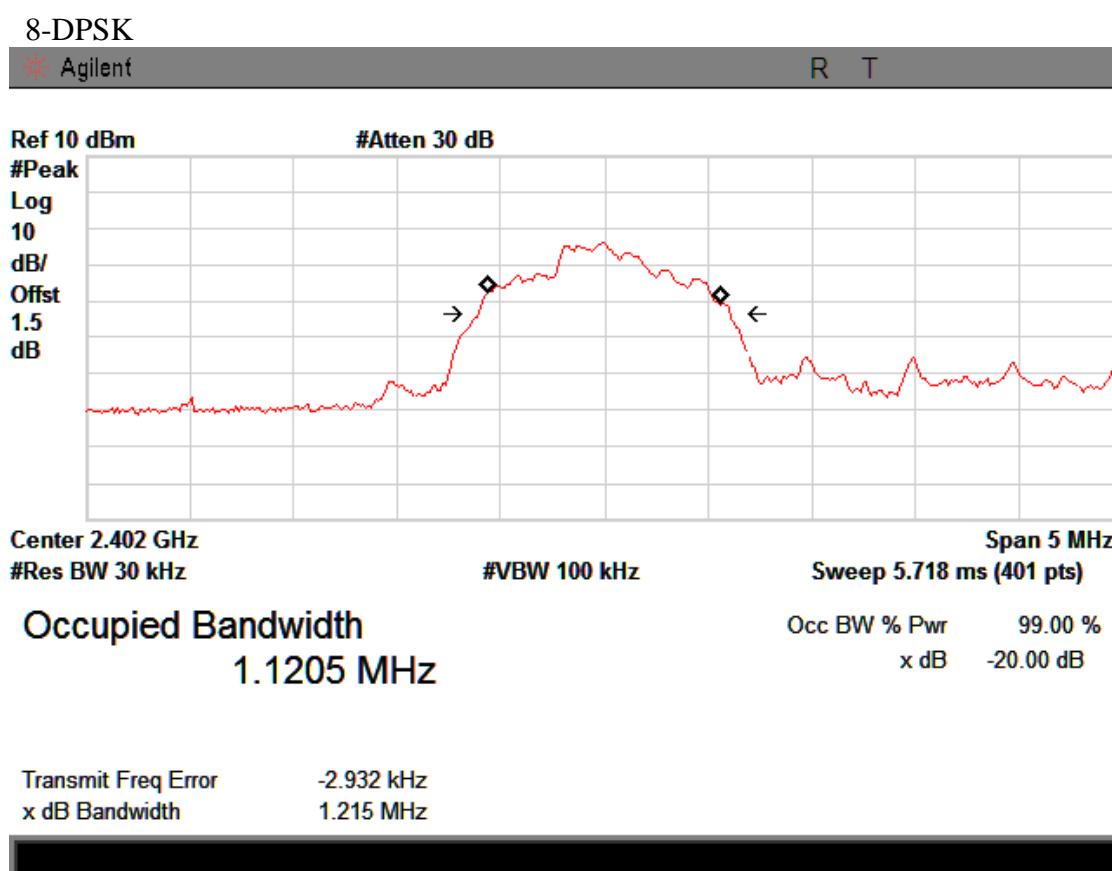
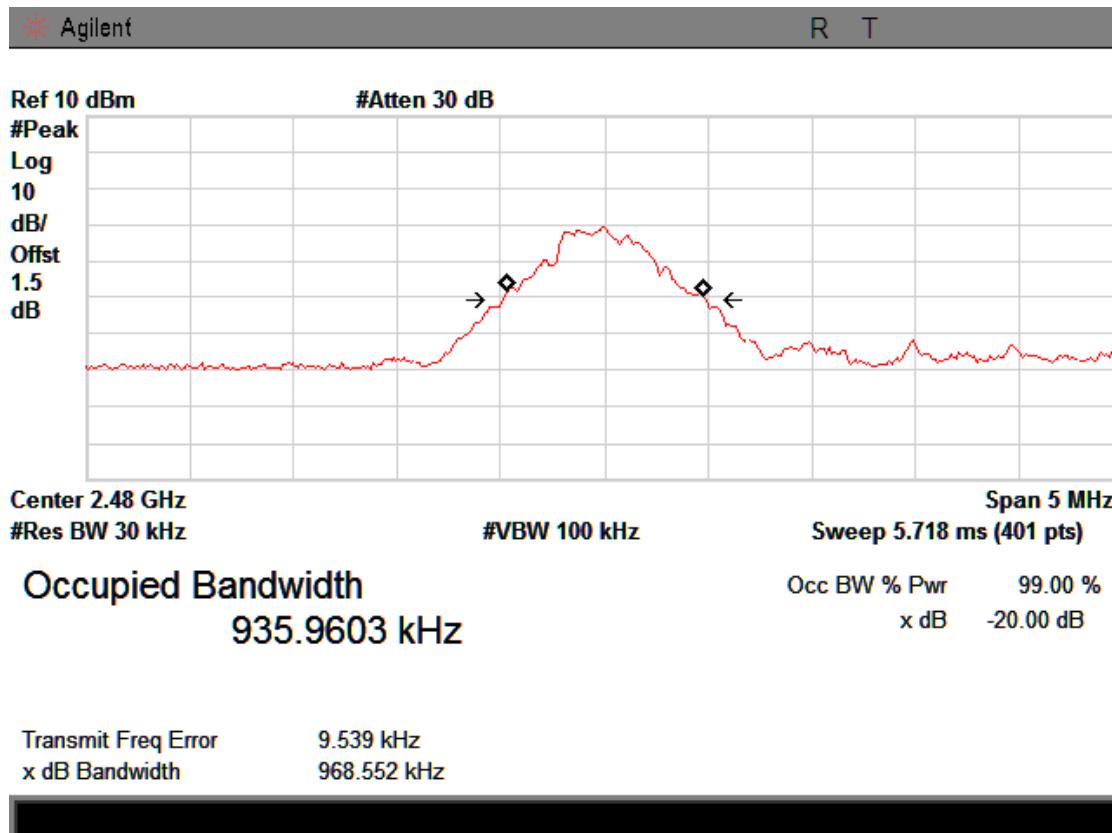
The transmitter output was coupled to a spectrum analyzer via a antenna. The bandwidth of the fundamental frequency was measured by spectrum analyzer with 100kHz RBW and 300kHz VBW. The 20dB bandwidth is defined as the total spectrum the power of which is higher than peak power minus 20dB.

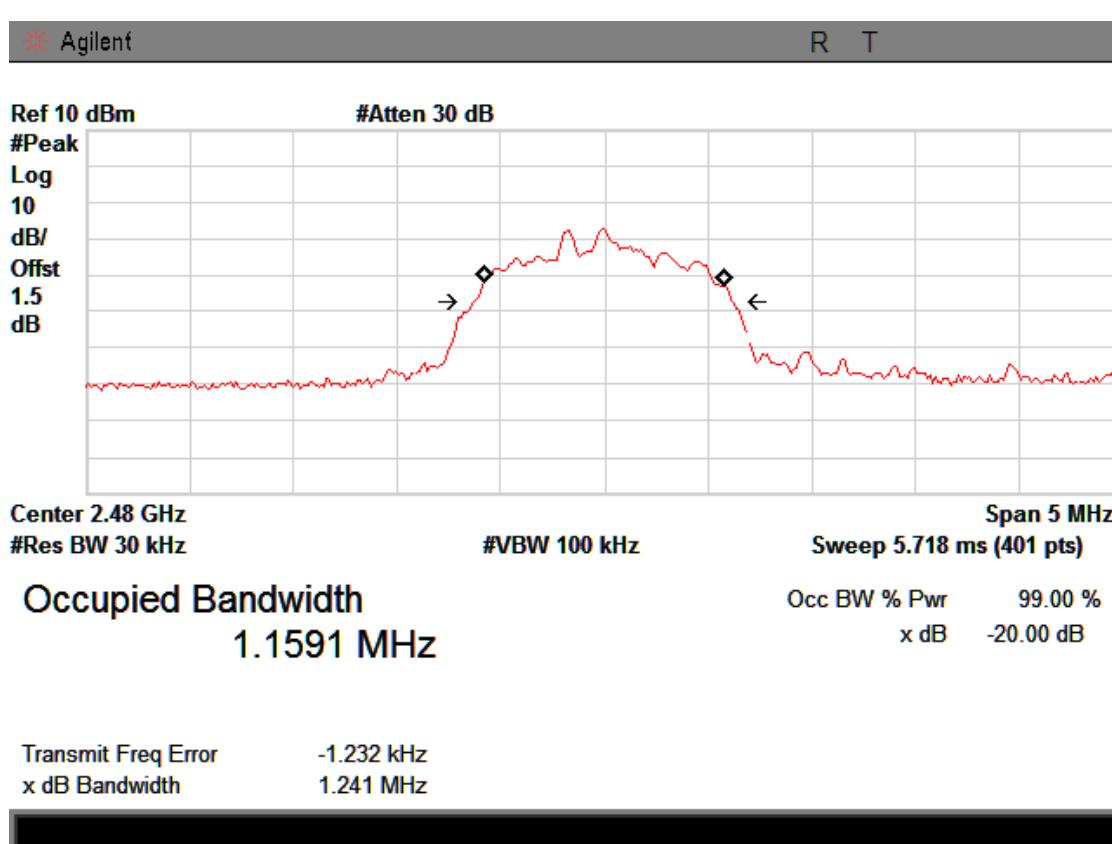
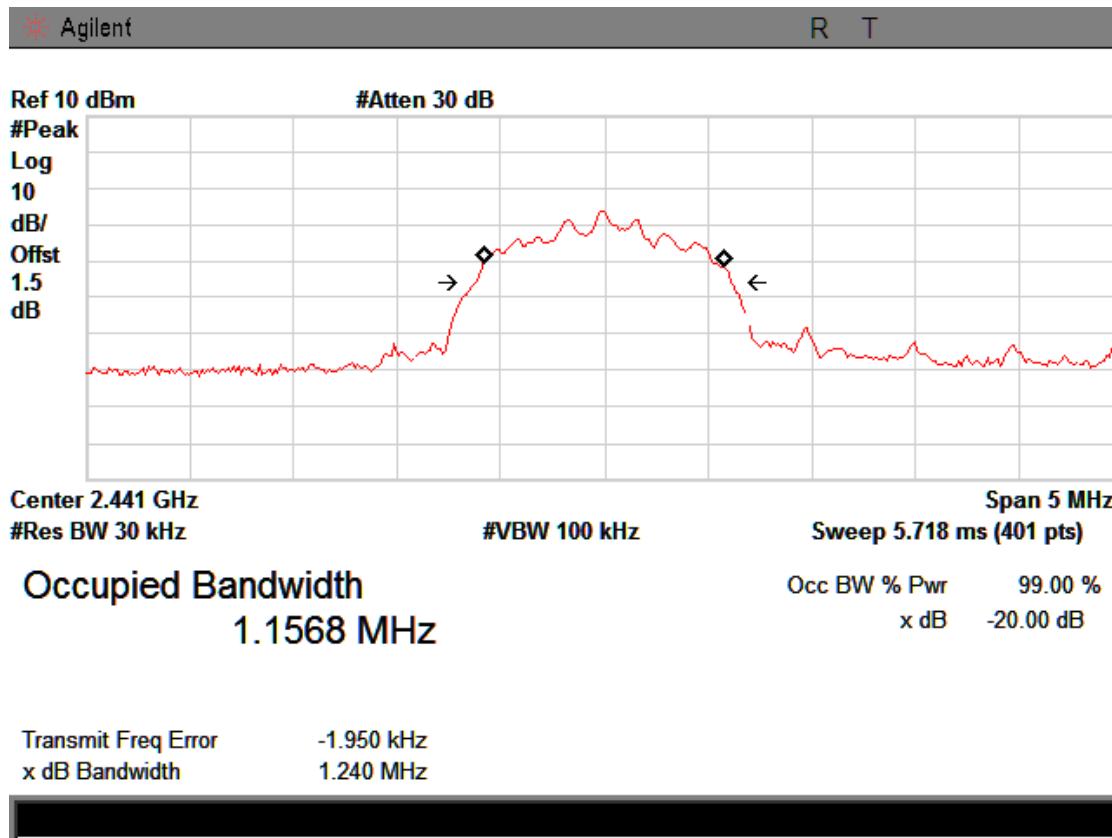
##### 4.3. Test Result

EUT: 2G Mobile Phone		M/N:M.T.T. Protection 2G		
Test date: 2013-09-23		Test site: RF site	Tested by: Simple	
Mode	Freq (MHz)	20dB Bandwidth (MHz)	Limit (kHz)	Conclusion
GFSK	2402	0.963	/	PASS
	2441	0.934	/	PASS
	2480	0.969	/	PASS
8-DPSK	2402	1.215	/	PASS
	2441	1.240	/	PASS
	2480	1.241	/	PASS

Orginal Test data For 20dB bandwidth  
GFSK







## 5. Carrier Frequency Separation

### 5.1. Limit

Frequency hopping systems shall have hopping channel carrier frequencies separated by a minimum of 25 kHz or the 20 dB bandwidth of the hopping channel, whichever is greater. Alternatively, 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

### 5.2. Test Procedure

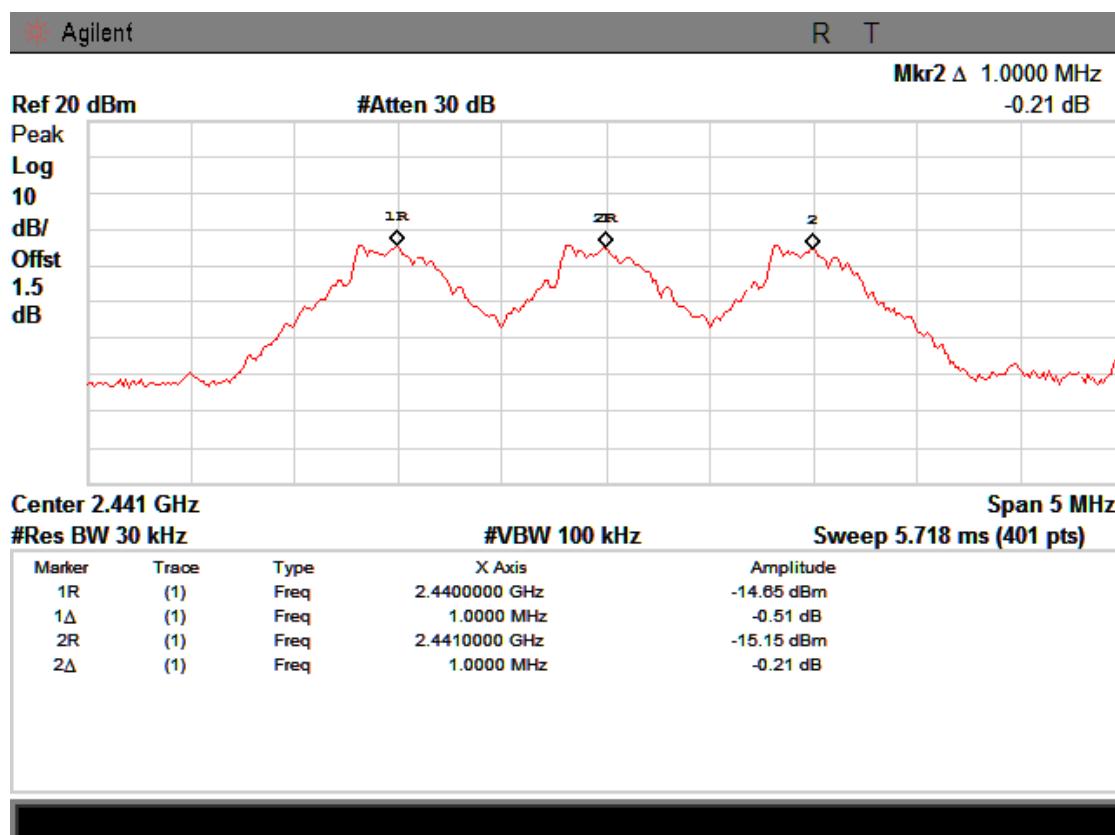
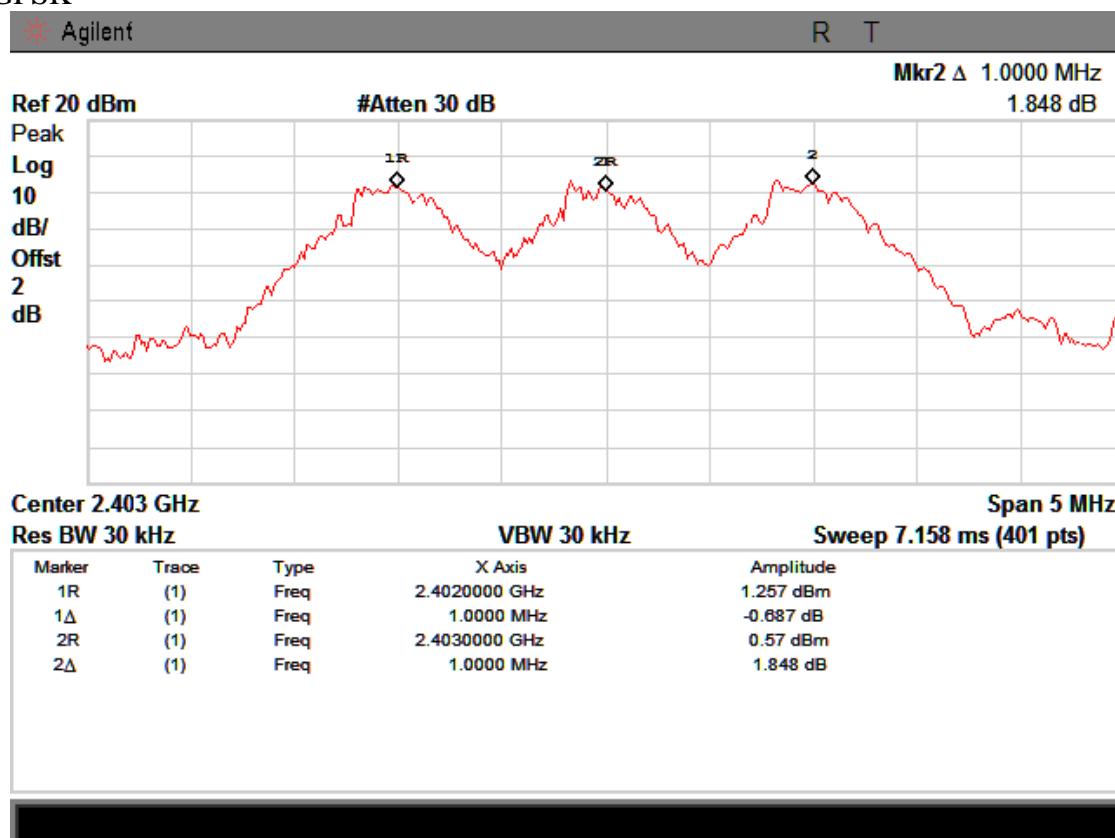
The transmitter output was coupled to a spectrum analyzer via a antenna. The carrier frequency was measured by spectrum analyzer with 30kHz RBW and 30kHz VBW.

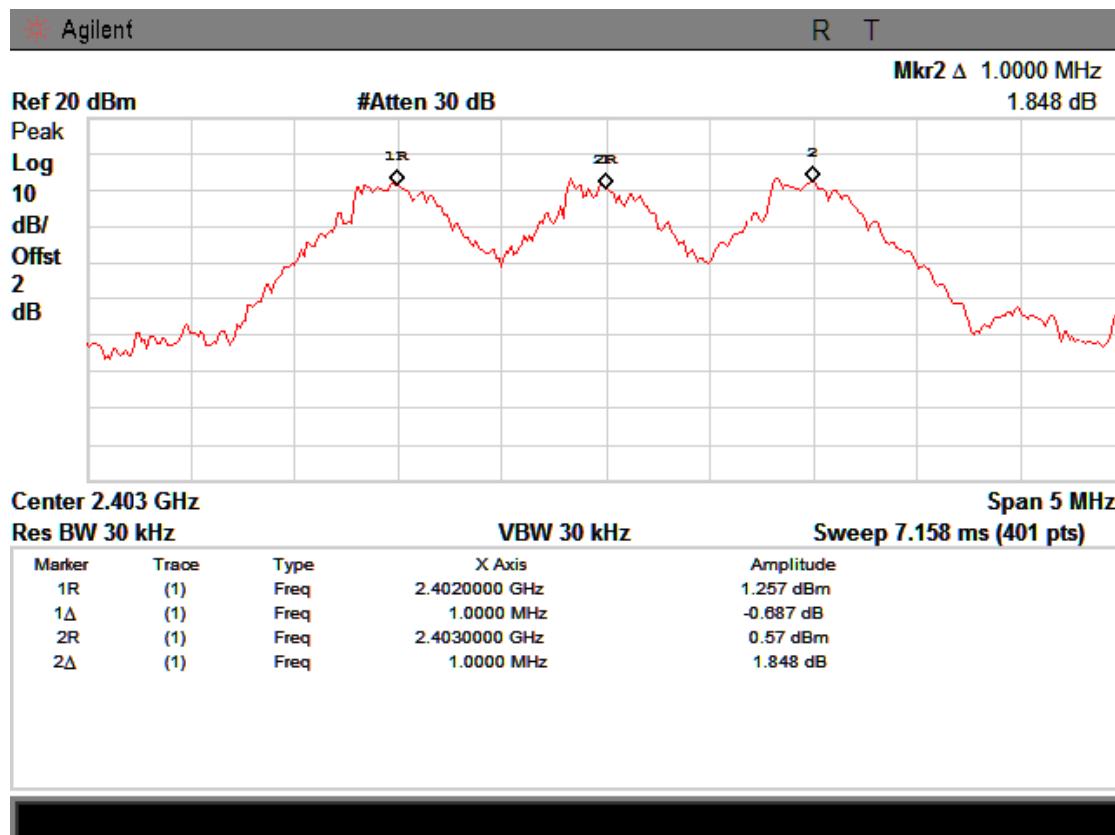
### 5.3. Test Result

EUT: 2G Mobile Phone M/N: M.T.T. Protection 2G			
Test date: 2013-09-24		Test site: RF site	Tested by: Simple
Mode	Channel separation (MHz)	Limit (MHz) 20dB Bandwidth (MHz)	Conclusion
GFSK	1.0	0.969	PASS

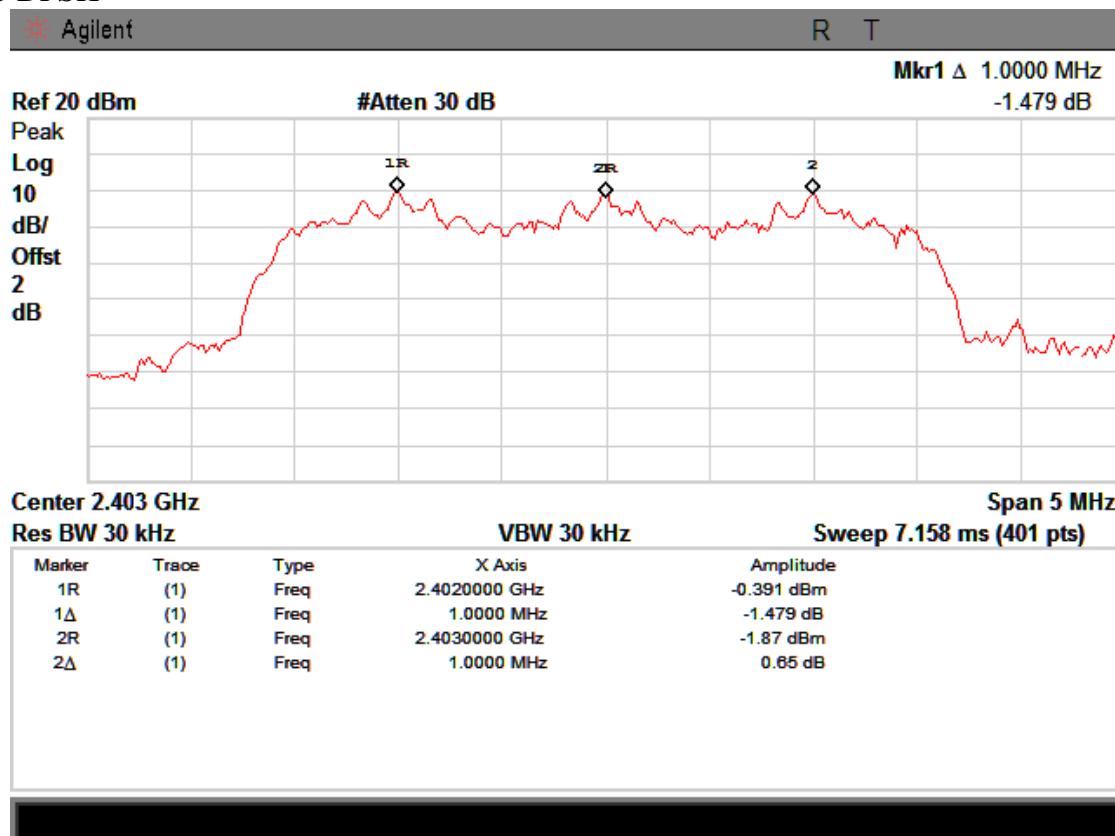
EUT: 2G Mobile Phone M/N: M.T.T. Protection 2G				
Test date: 2013-09-24		Test site: RF site	Tested by: Simple	
Mode	Channel separation (MHz)	20dB Bandwidth (MHz)	Limit (MHz) 2/3 20dB bandwidth	Conclusion
8-DPSK	1.0	1.241	0.827	PASS

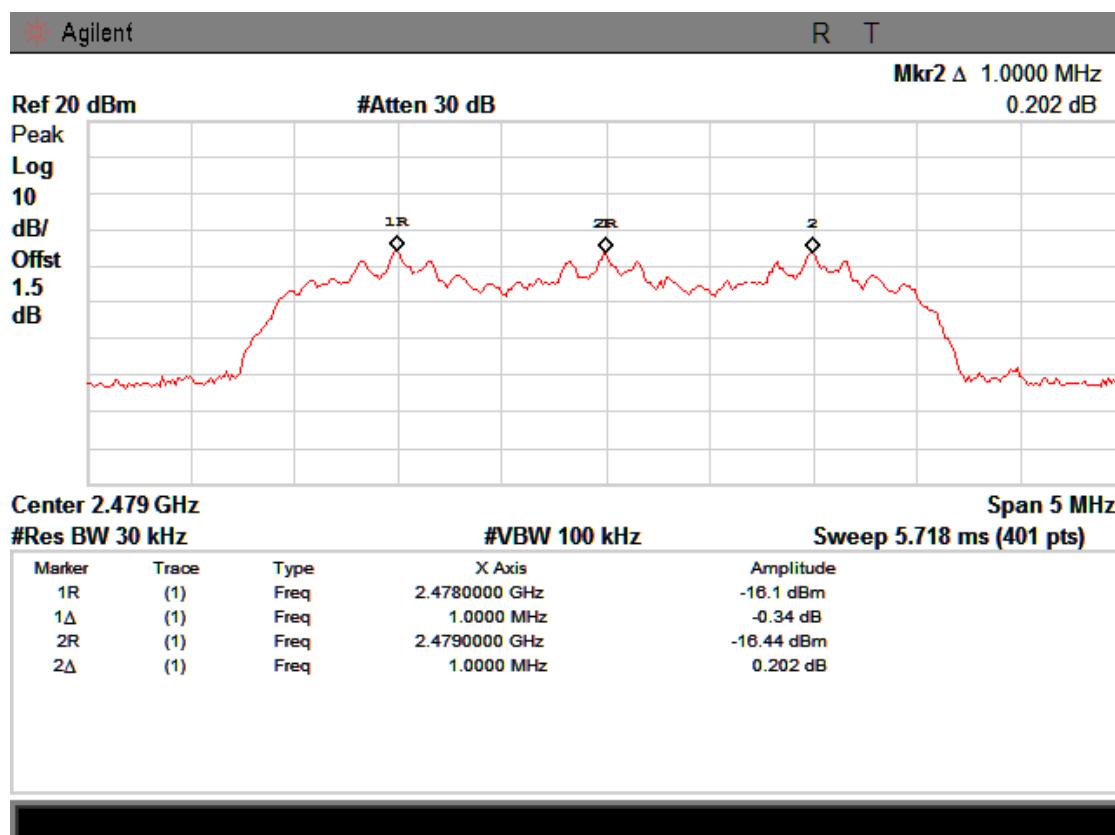
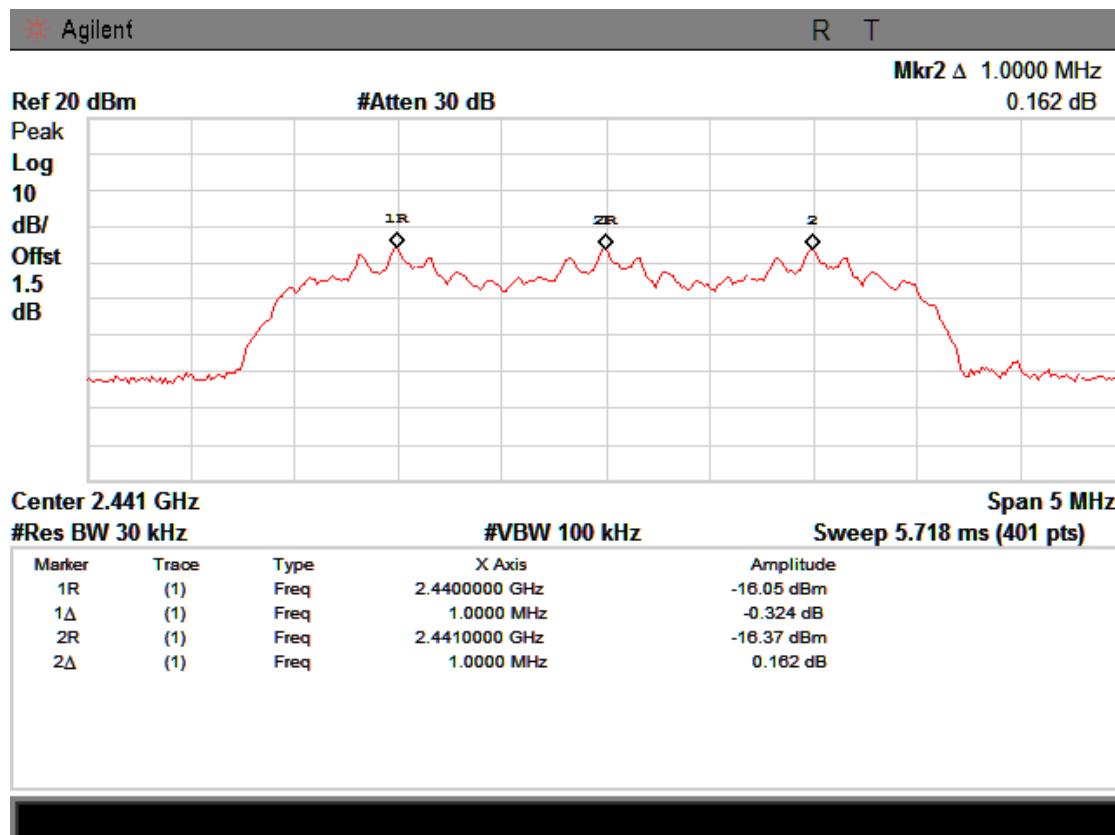
Orginal test data for channel separation  
GFSK





## 8-DPSK





## 6. Number Of Hopping Channel

### 6.1. Limit

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

### 6.2. Test Procedure

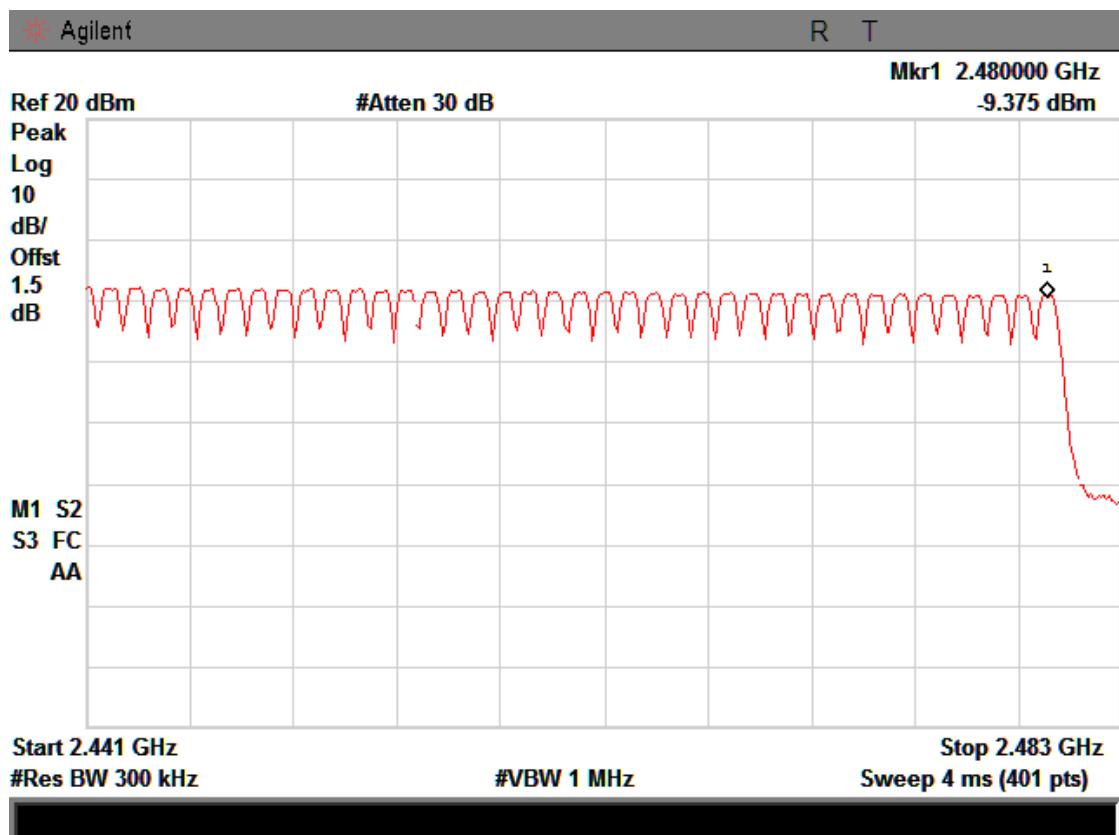
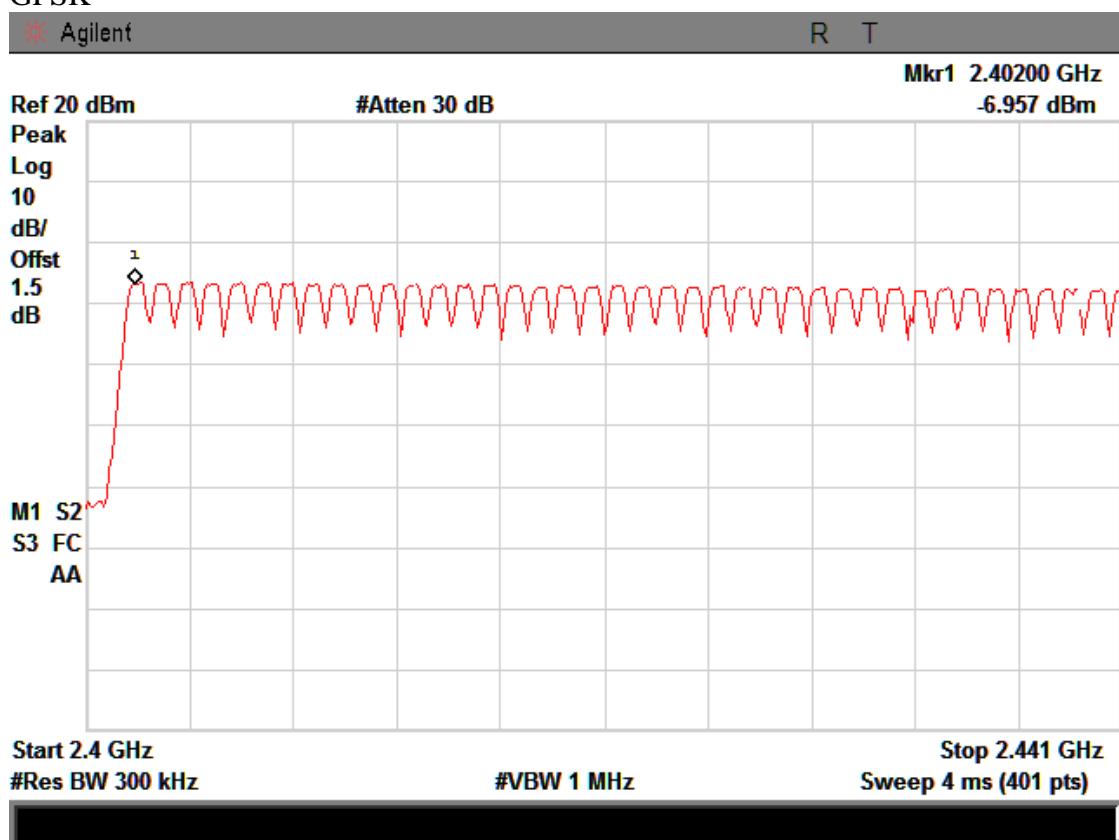
The transmitter output was coupled to a spectrum analyzer via a antenna. The number of hopping channel was measured by spectrum analyzer with 300kHz RBW and 1MHz VBW.

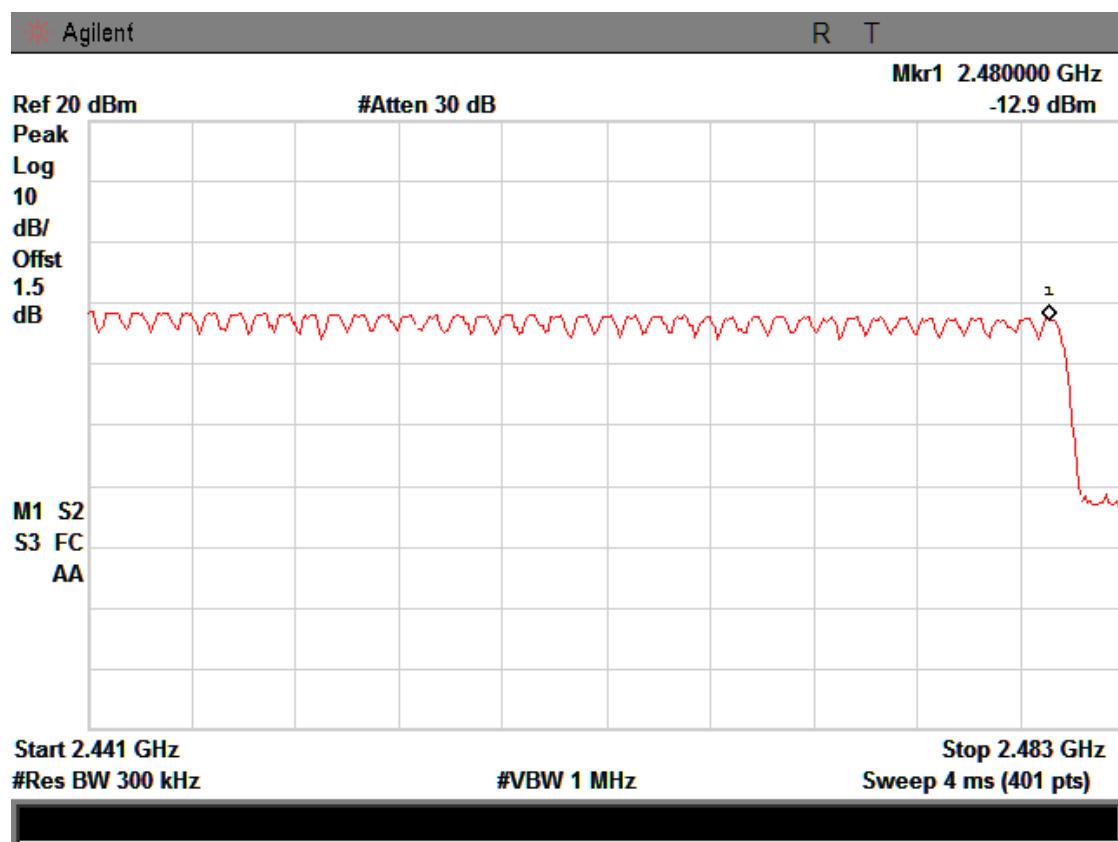
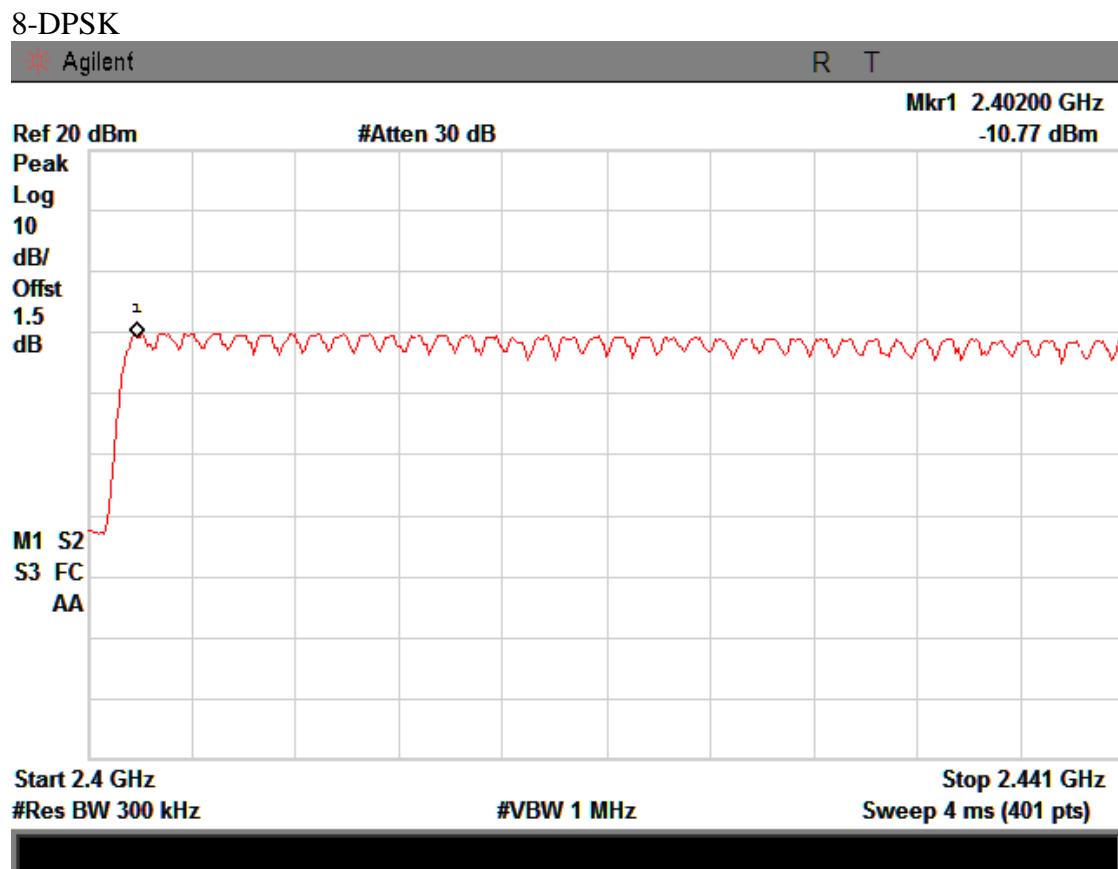
### 6.3. Test Result

EUT: 2G Mobile Phone		M/N: M.T.T. Protection 2G	
Test date: 2013-09-24		Test site: RF site	Tested by: Simple
Mode	Number of hopping channel	Limit	Conclusion
GFSK	79	>15	PASS
8-DPSK	79	>15	PASS

Original test data for hopping channel number

GFSK





## 7. Dwell Time

### 7.1. Test limit

Please refer section 15.247

According to §15.247(a)(1)(iii), Frequency hopping systems operating in the 2400MHz-2483.5 MHz. The average time of occupancy on any frequency shall not greater than 0.4 s within period of 0.4 sec- onds multiplied by the number of hopping channel employed.

### 7.2. Test Procedure

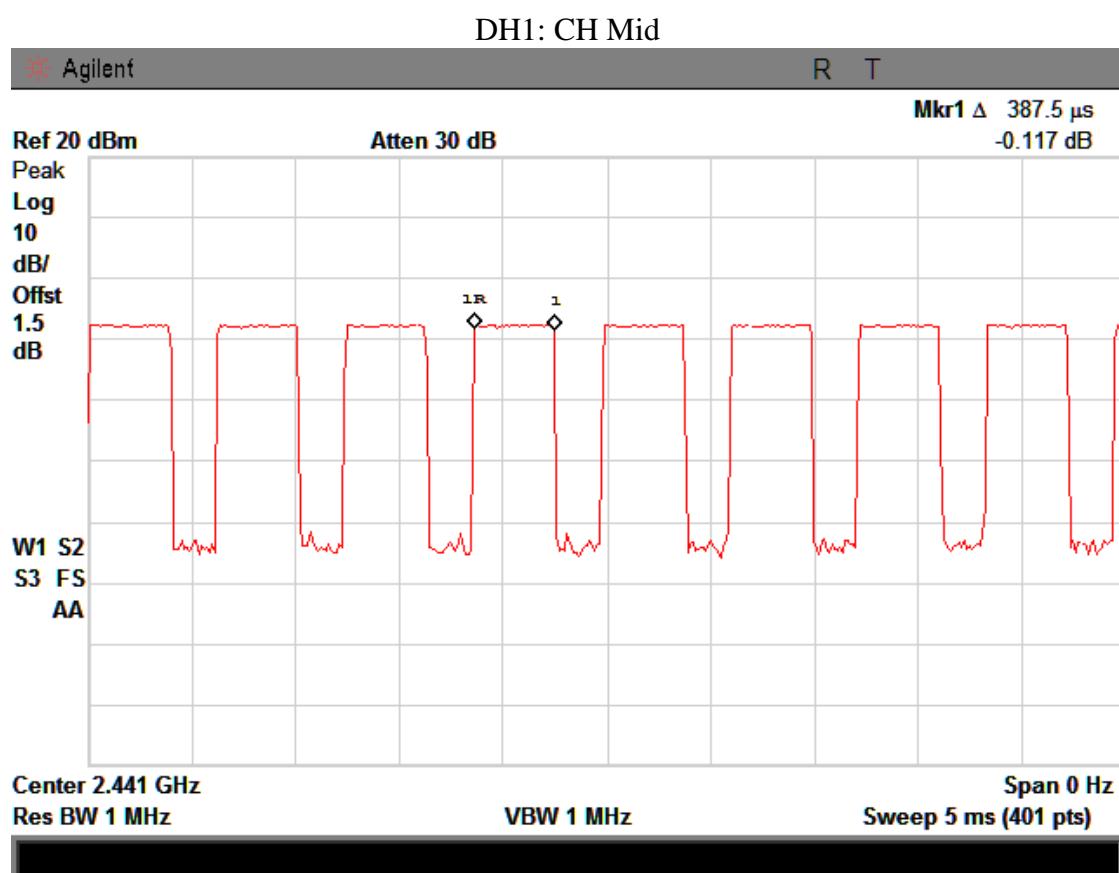
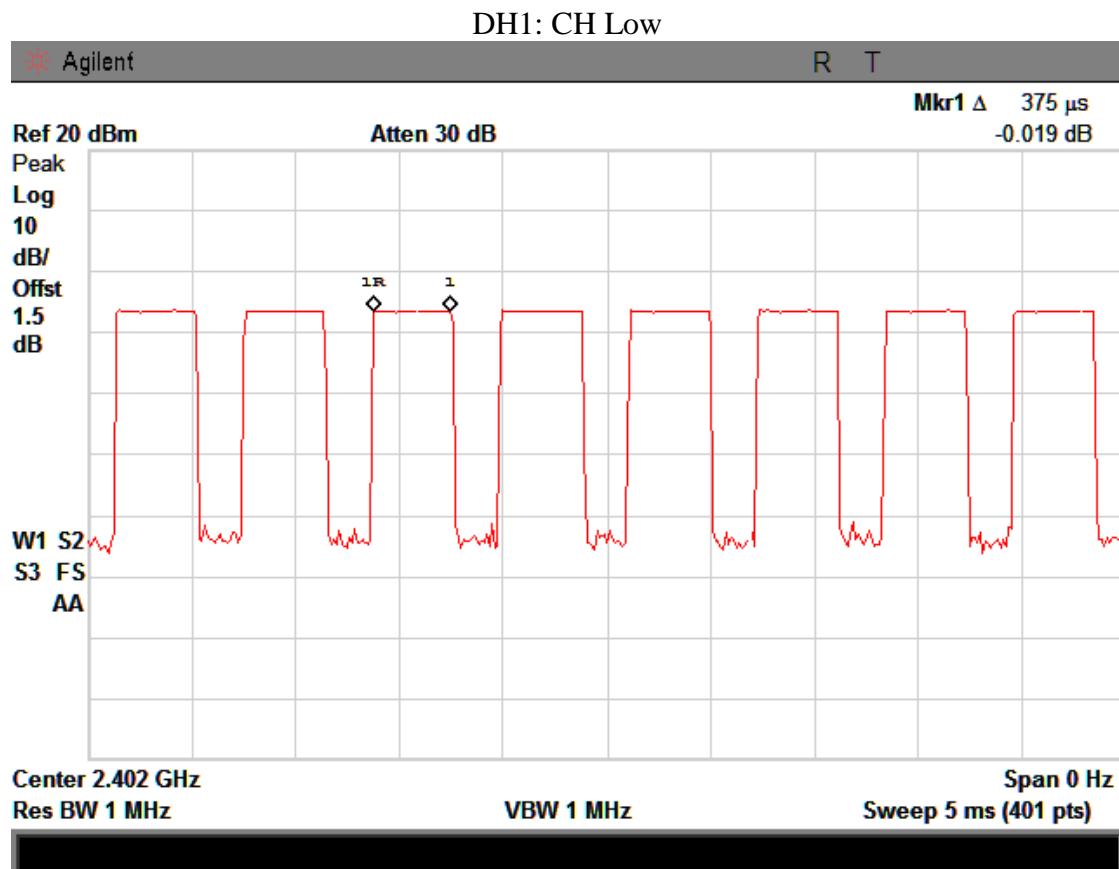
- 7.2.1. Place the EUT on the table and set it in transmitting mode.
- 7.2.2. Remove the antenna from the EUT and then connect a low loss RF cable from the antenna port to the spectrum analyzer.
- 7.2.3. Set center frequency of spectrum analyzer = operating frequency.
- 7.2.4. Set the spectrum analyzer as RBW, VBW=1MHz, Span = 0Hz, Sweep = auto.
- 7.2.5. Repeat above procedures until all frequency measured were complete.

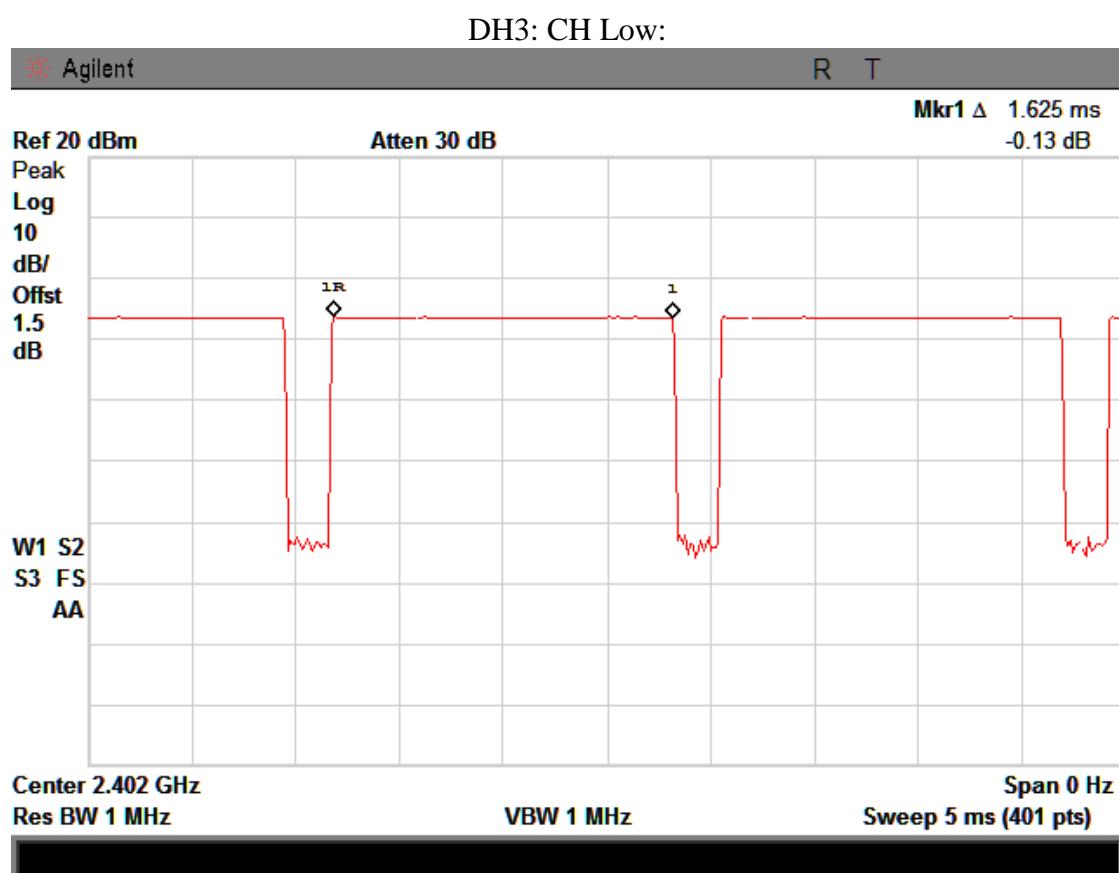
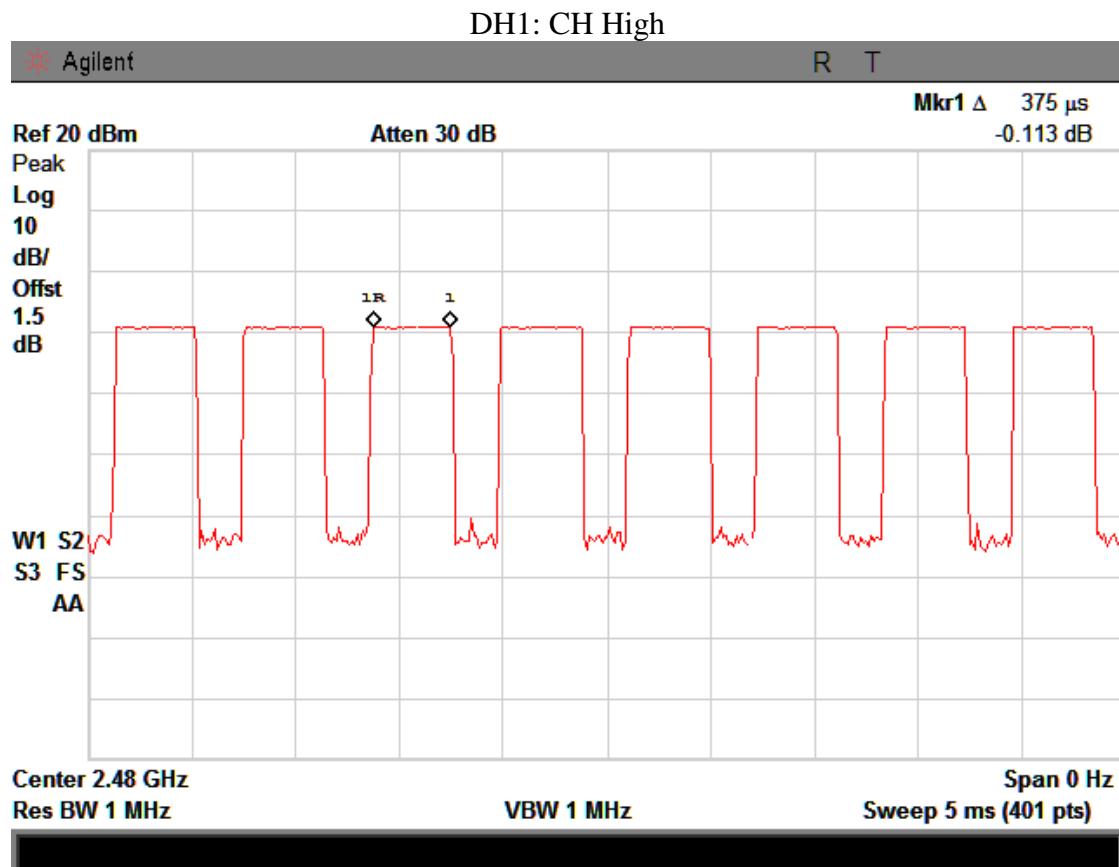
### 7.3. Test Results

PASS.

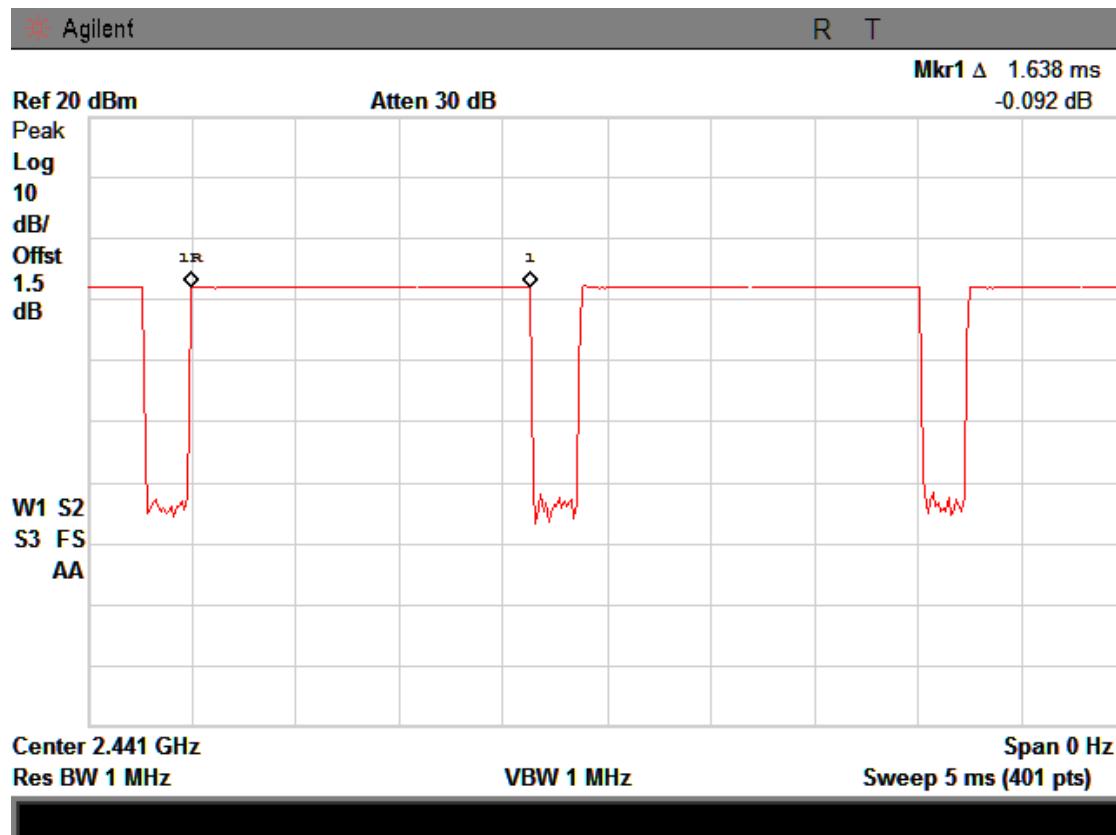
Detailed information please see the following page.

EUT: Bluetooth Speaker		M/N: BTCAN				
Test date: 2013-09-17		Test site: RF site		Tested by: Anna Fan		
Mode	Data Packet	Frequency (MHz)	Pulse Duration (ms)	Dwell Time (s)	Limit (s)	Conclusion
GFSK	DH1	2402	0.375	0.240	<0.4	PASS
		2441	0.3875	0.248	<0.4	PASS
		2480	0.375	0.240	<0.4	PASS
	DH3	2402	1.625	0.347	<0.4	PASS
		2441	1.638	0.349	<0.4	PASS
		2480	1.625	0.347	<0.4	PASS
	DH5	2402	2.875	0.368	<0.4	PASS
		2441	2.875	0.368	<0.4	PASS
		2480	2.888	0.370	<0.4	PASS
8-DPSK	3-DH1	2402	0.3875	0.248	<0.4	PASS
		2441	0.3875	0.248	<0.4	PASS
		2480	0.3875	0.248	<0.4	PASS
	3-DH3	2402	1.638	0.349	<0.4	PASS
		2441	1.650	0.352	<0.4	PASS
		2480	1.638	0.349	<0.4	PASS
	3-DH5	2402	2.888	0.370	<0.4	PASS
		2441	2.887	0.370	<0.4	PASS
		2480	2.888	0.370	<0.4	PASS
Note: 1 A period time = 0.4 (s) * 79 = 31.6(s) 2 DH1 time slot = Pulse Duration * (1600/(1*79)) * A period time DH3 time slot = Pulse Duration * (1600/(3*79)) * A period time DH5 time slot = Pulse Duration * (1600/(5*79)) * A period time						

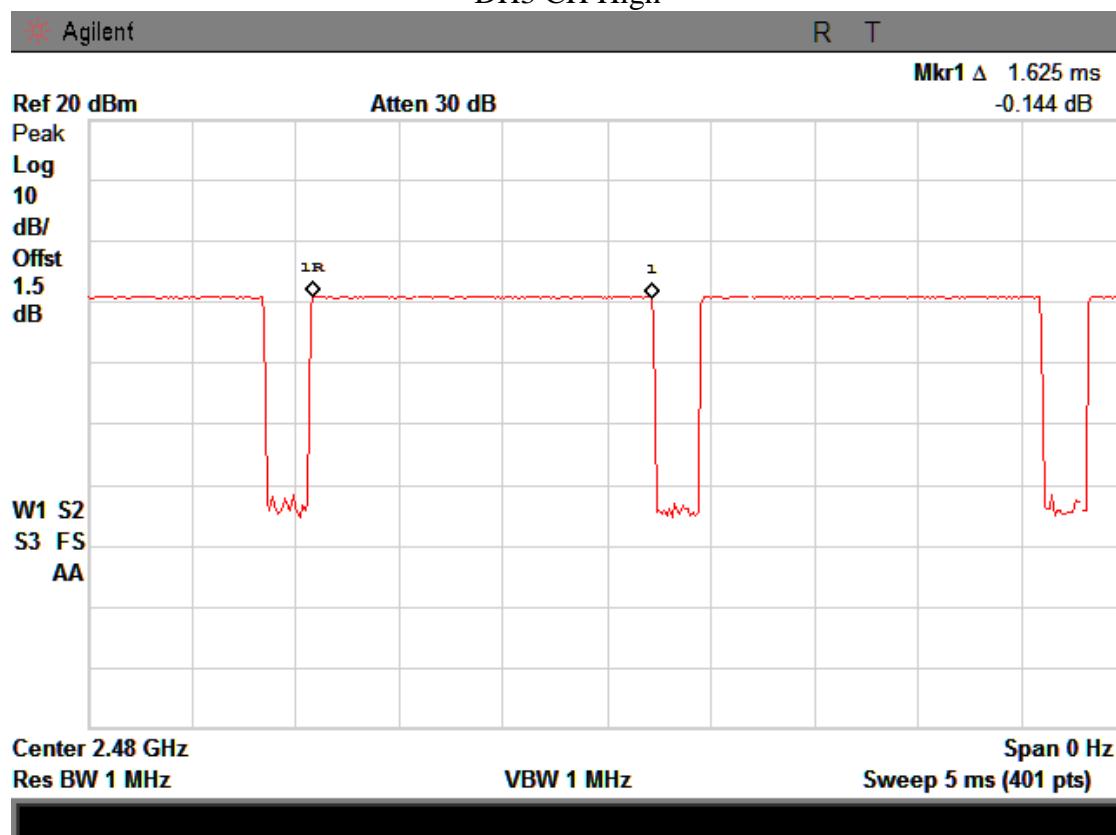


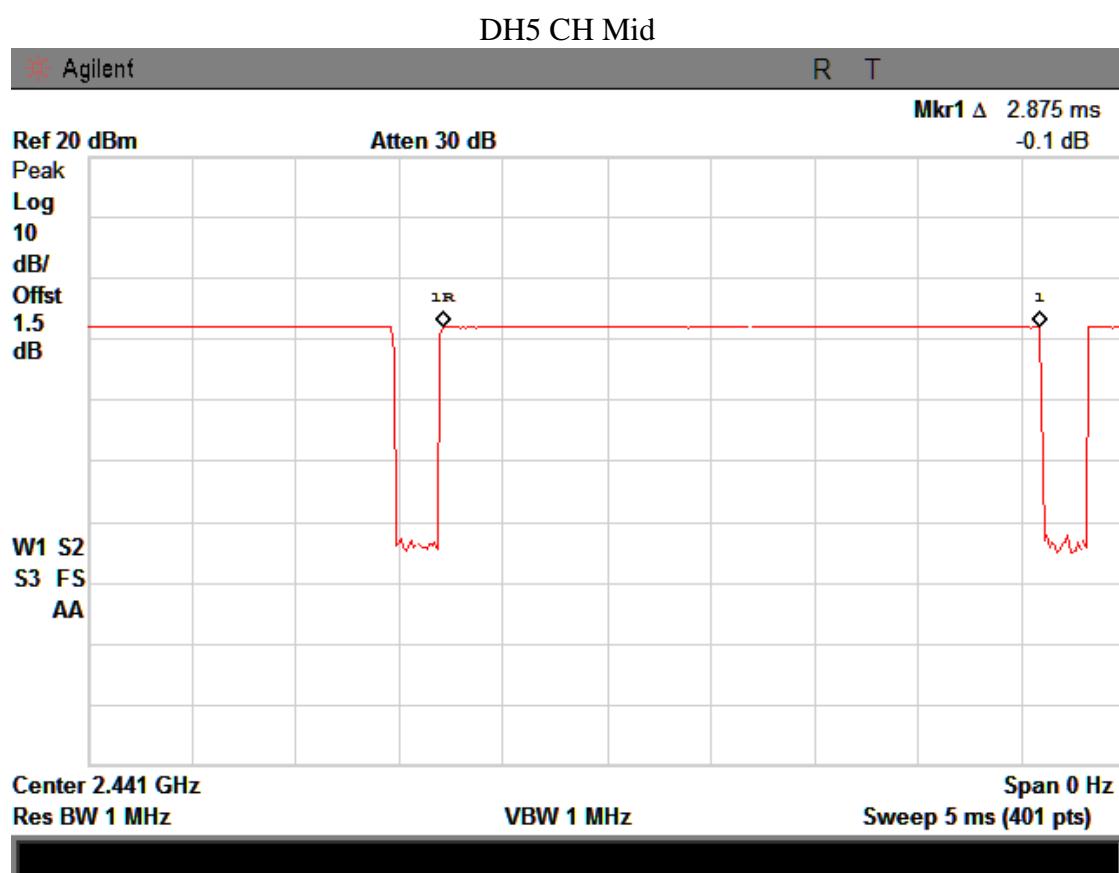
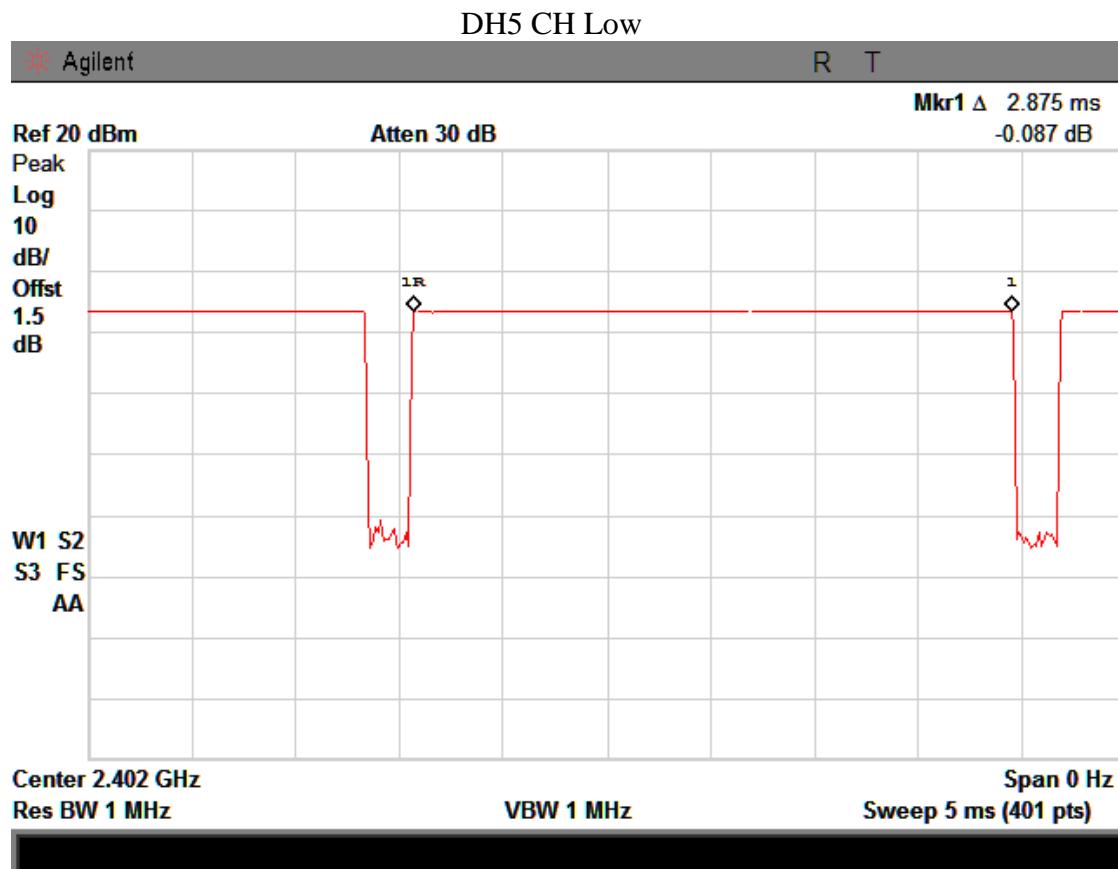


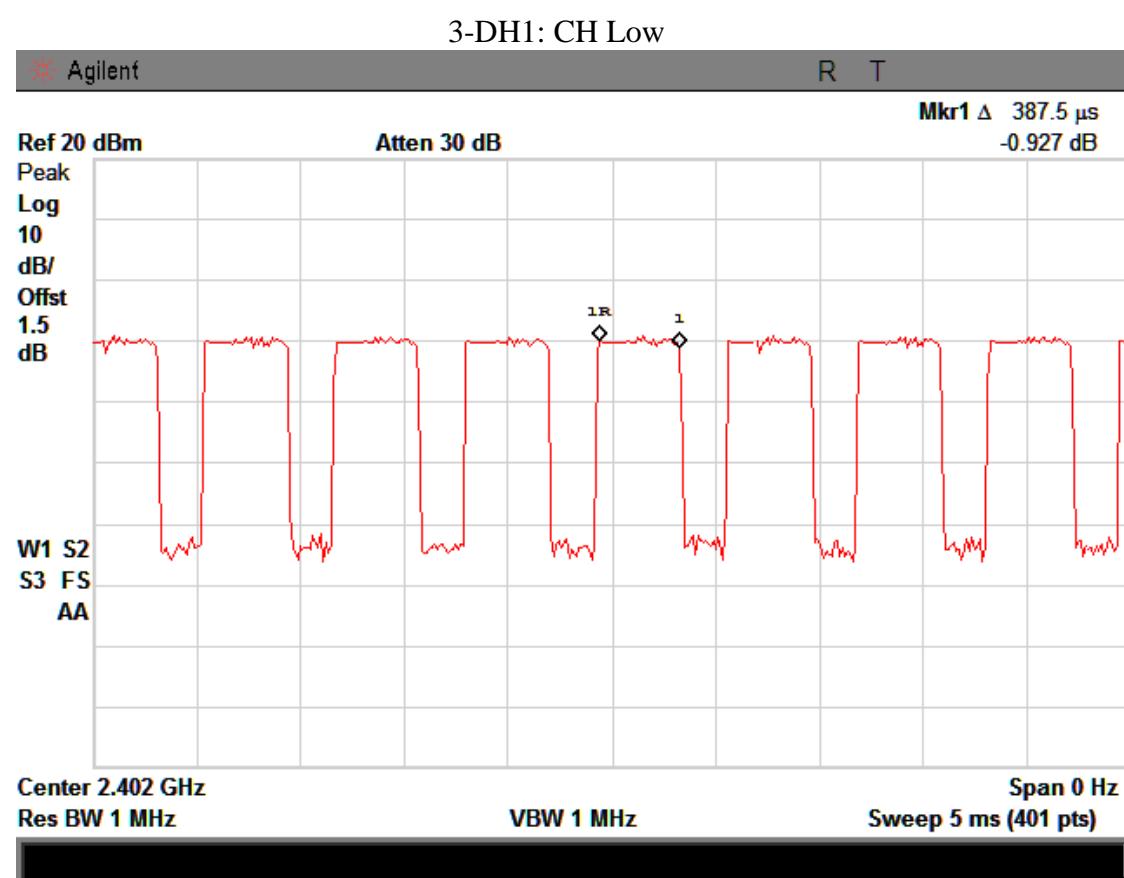
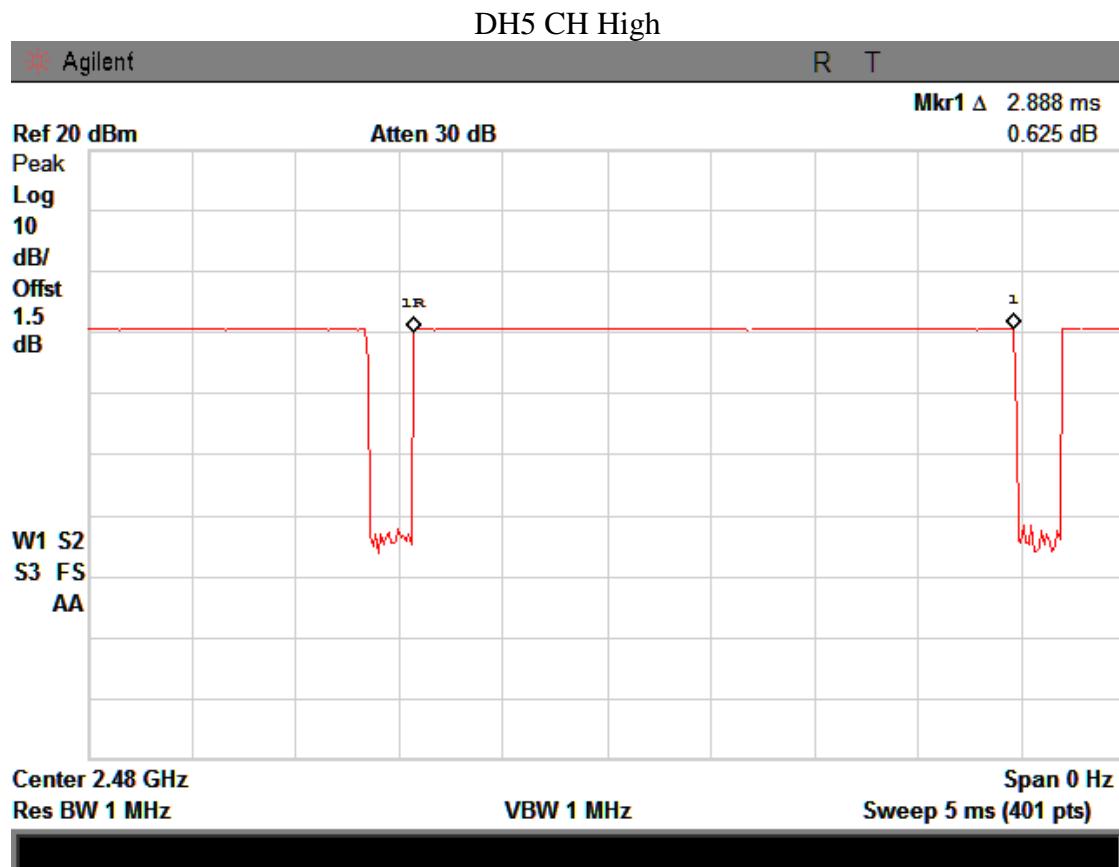
DH3: CH Mid



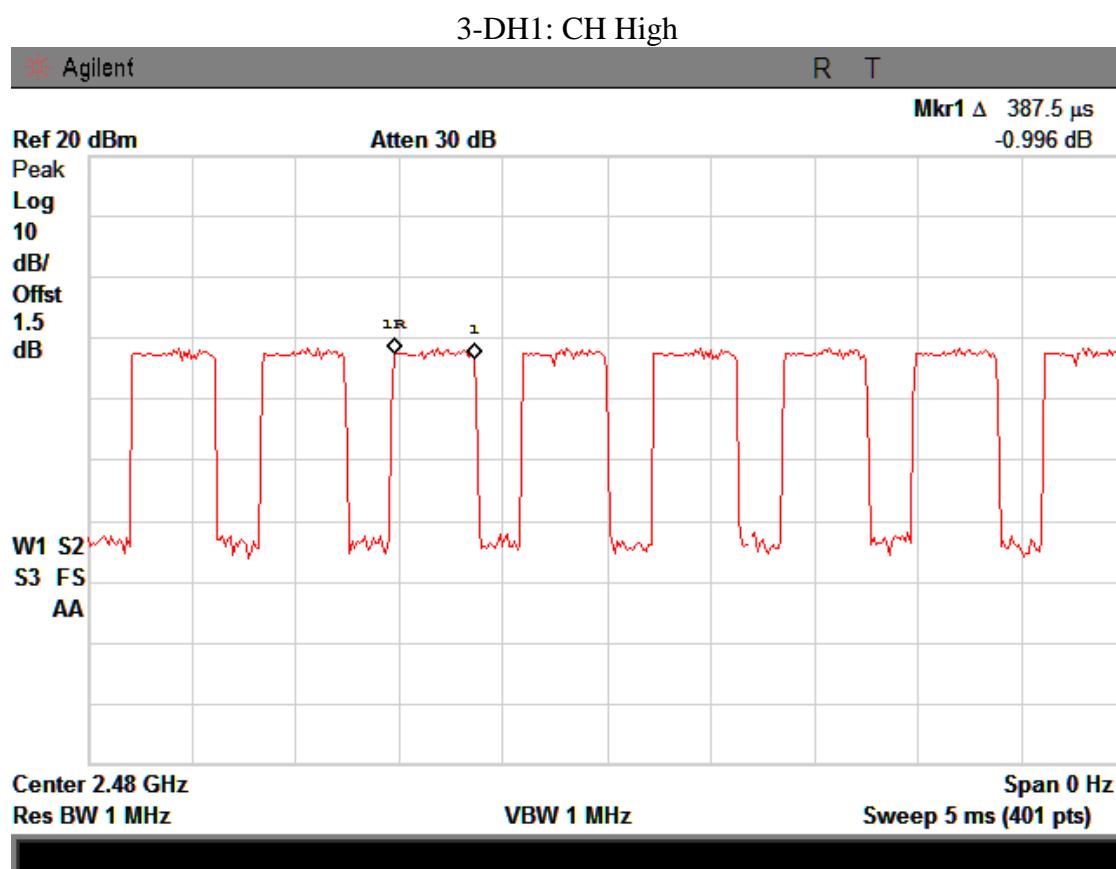
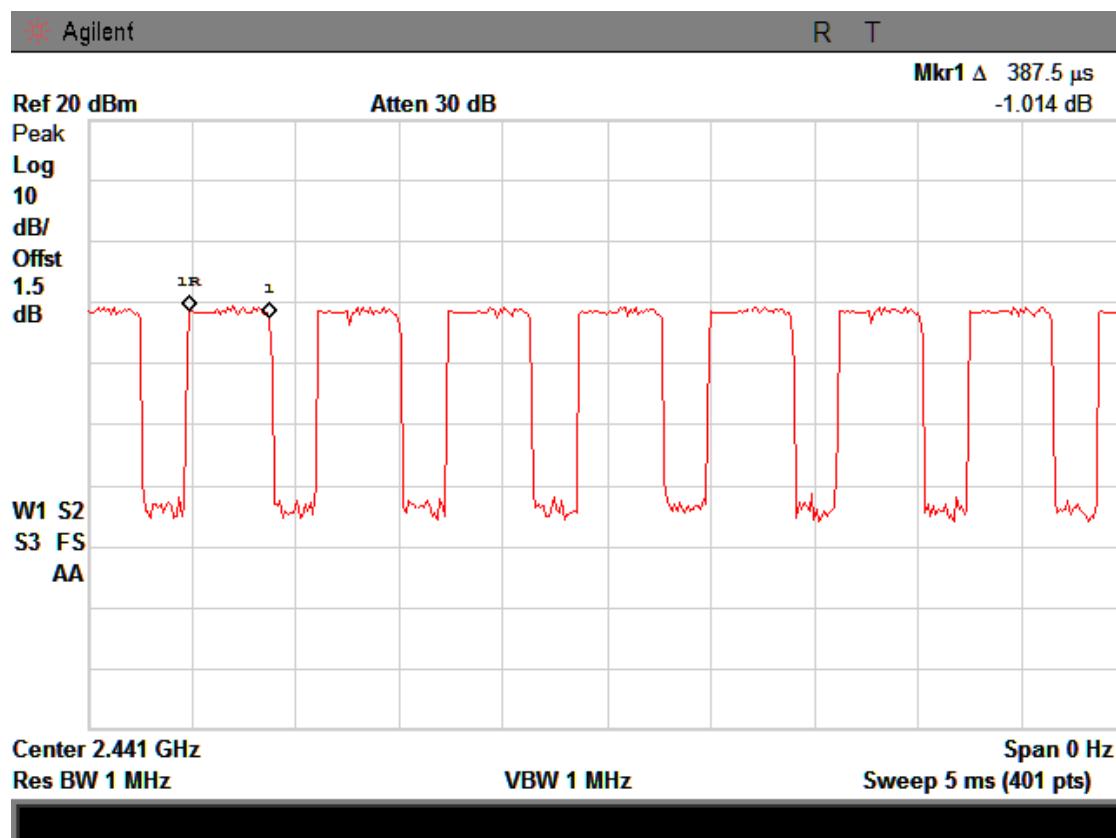
DH3 CH High



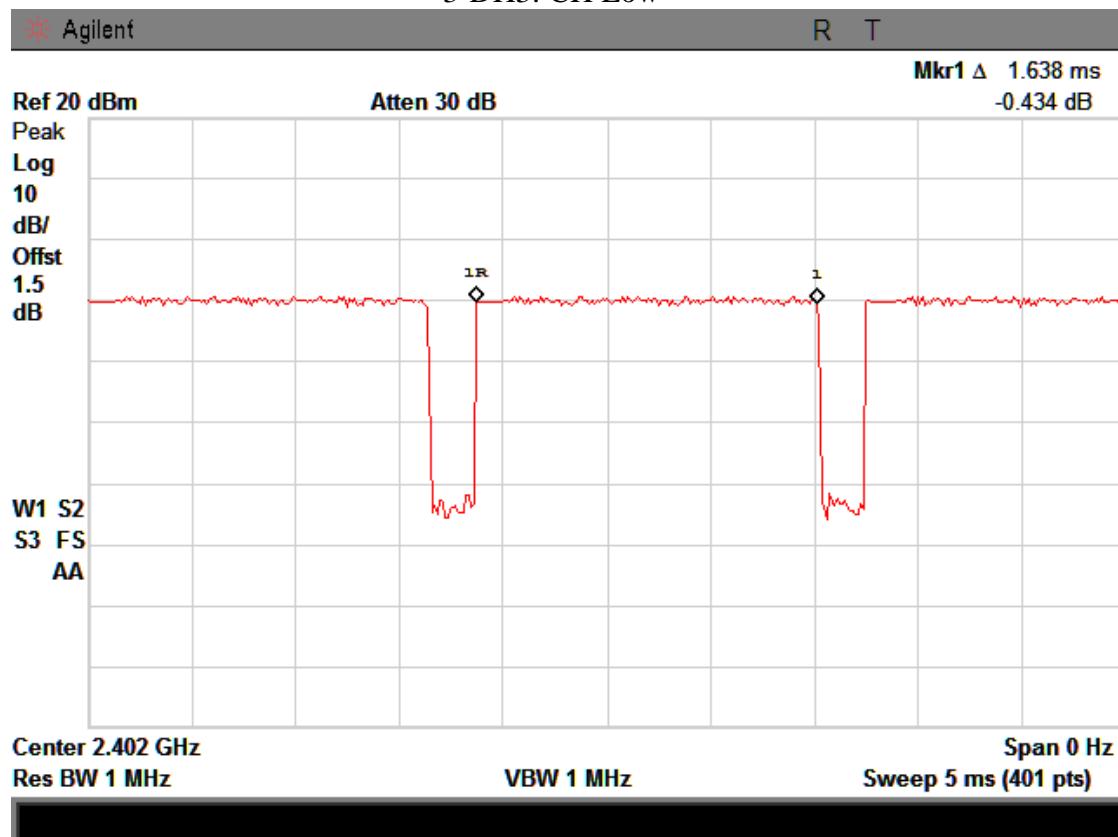




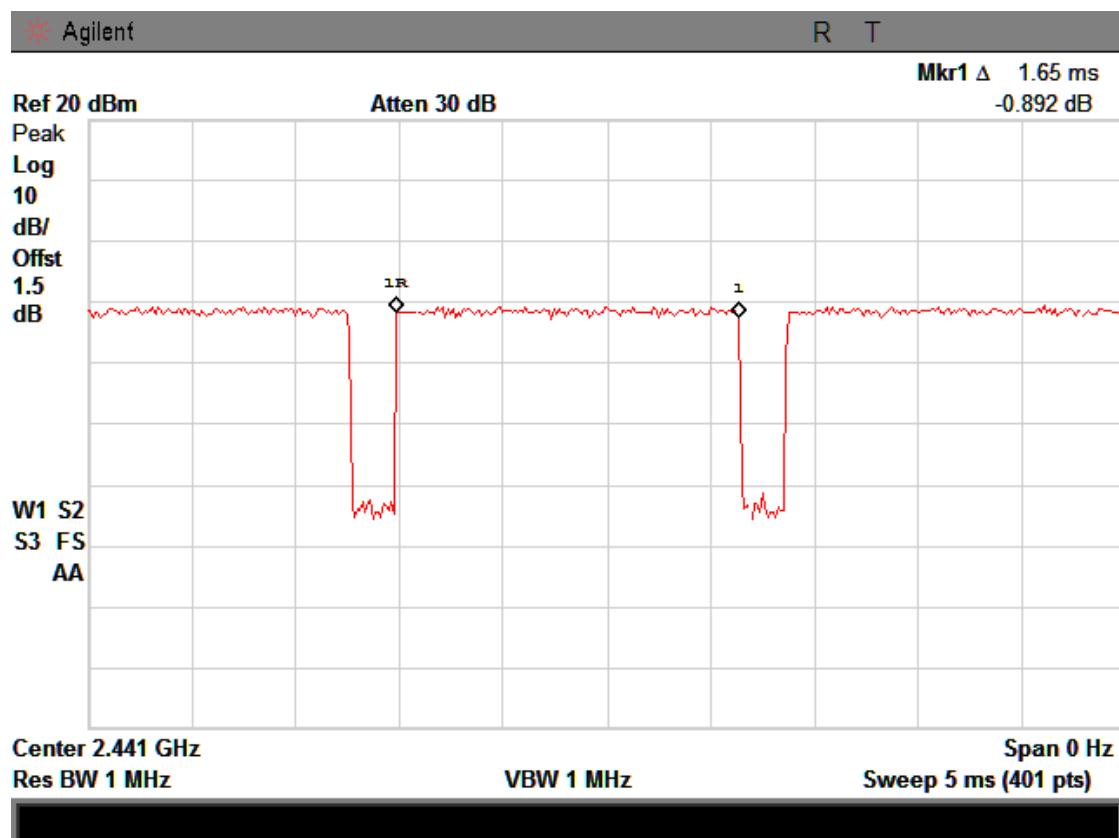
3-DH1: CH Mid

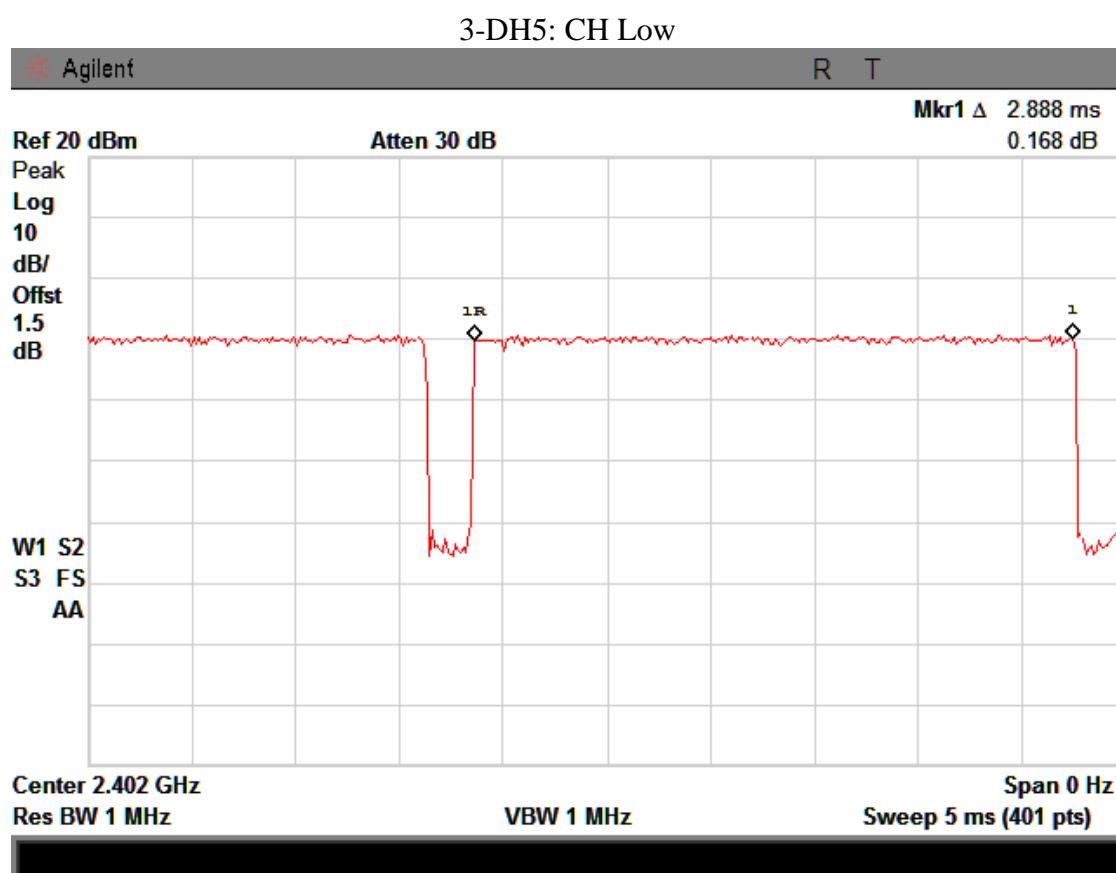
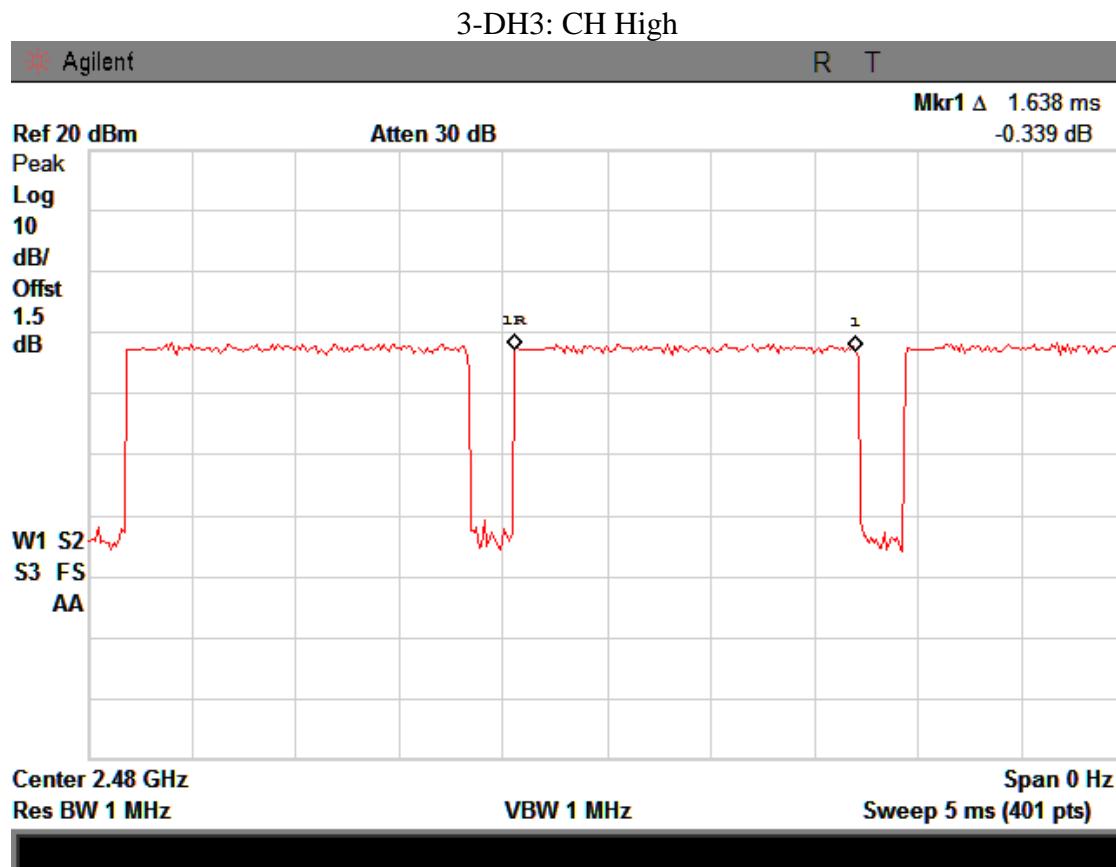


3-DH3: CH Low

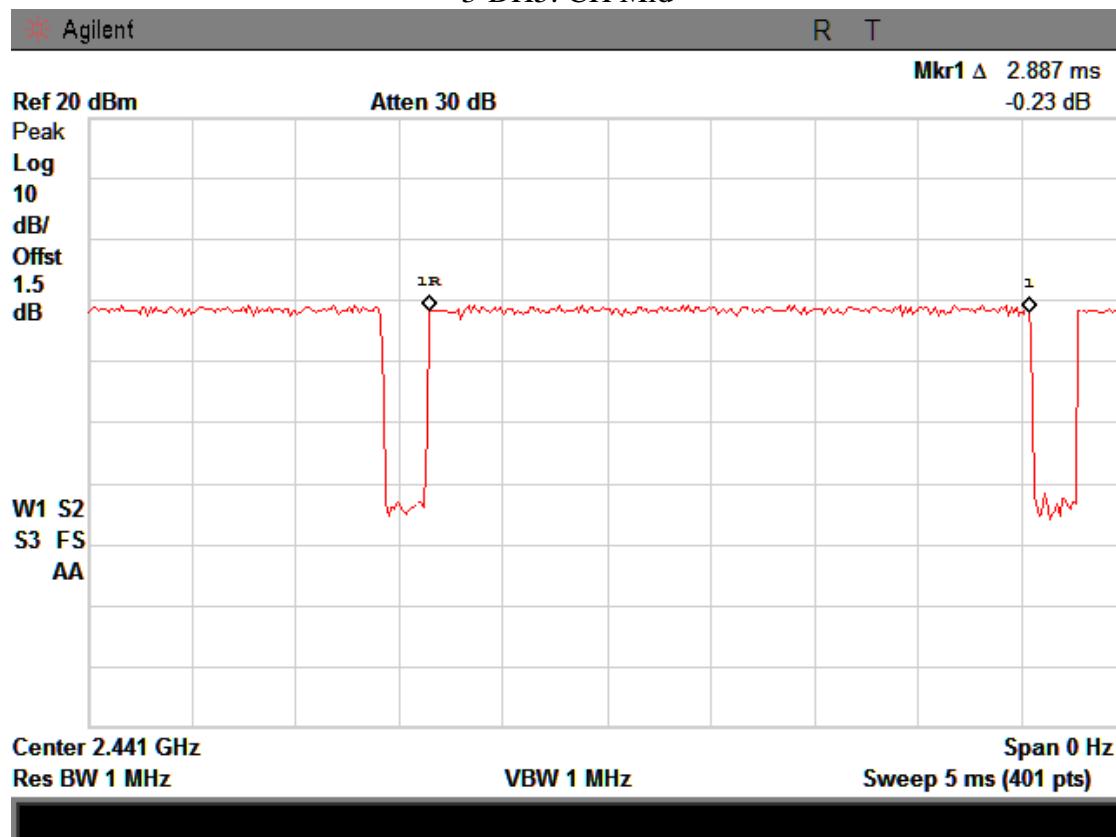


3-DH3: CH Mid

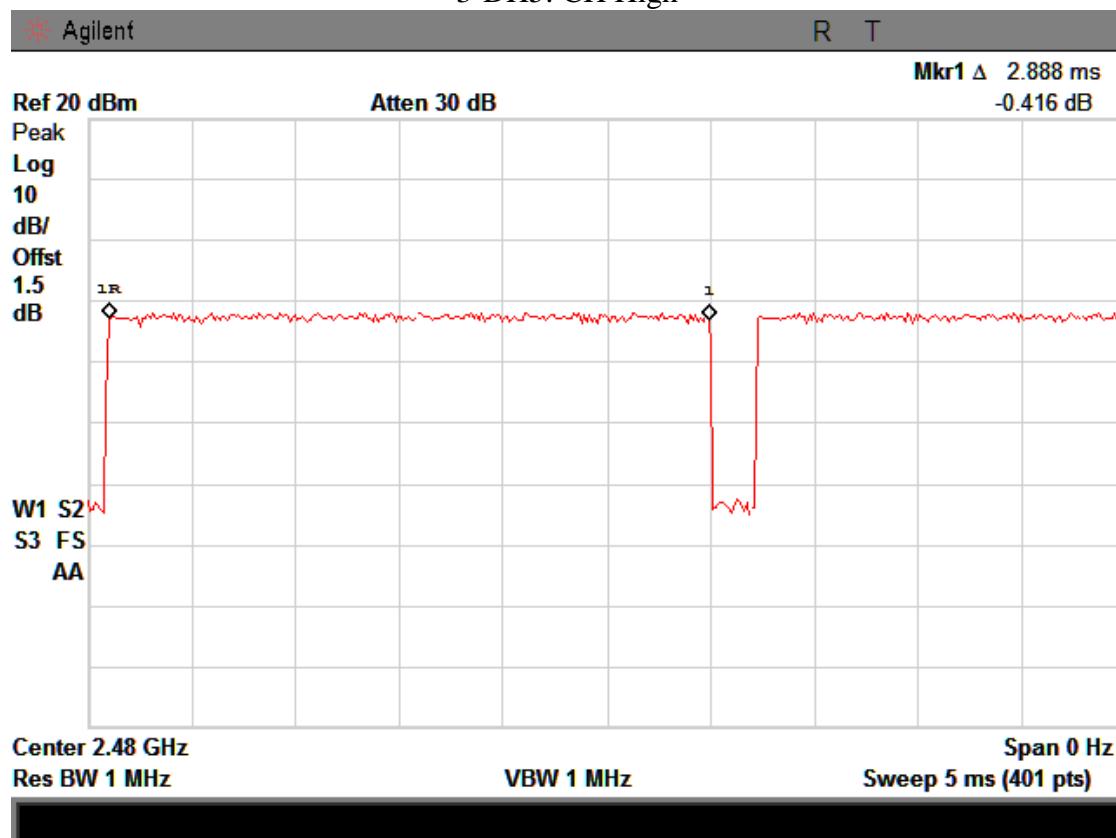




3-DH5: CH Mid



3-DH5: CH High



## 8. Radiated emissions

### 8.1. Limit

All the emissions appearing within 15.205 restricted frequency bands shall not exceed the limits shown in 15.209, all the other emissions shall be at least 20dB below the fundamental emissions, or comply with 15.209 limits.

#### 15.205 Restricted frequency band

MHz	MHz	MHz	GHz
0.090 - 0.110	16.42 - 16.423	399.9 - 410	4.5 - 5.15
<sup>1</sup> 0.495 - 0.505	16.69475 - 16.69525	608 - 614	5.35 - 5.46
2.1735 - 2.1905	16.80425 - 16.80475	960 - 1240	7.25 - 7.75
4.125 - 4.128	25.5 - 25.67	1300 - 1427	8.025 - 8.5
4.17725 - 4.17775	37.5 - 38.25	1435 - 1626.5	9.0 - 9.2
4.20725 - 4.20775	73 - 74.6	1645.5 - 1646.5	9.3 - 9.5
6.215 - 6.218	74.8 - 75.2	1660 - 1710	10.6 - 12.7
6.26775 - 6.26825	108 - 121.94	1718.8 - 1722.2	13.25 - 13.4
6.31175 - 6.31225	123 - 138	2200 - 2300	14.47 - 14.5
8.291 - 8.294	149.9 - 150.05	2310 - 2390	15.35 - 16.2
8.362 - 8.366	156.52475 - 156.52525	2483.5 - 2500	17.7 - 21.4
8.37625 - 8.38675	156.7 - 156.9	2690 - 2900	22.01 - 23.12
8.41425 - 8.41475	162.0125 - 167.17	3260 - 3267	23.6 - 24.0
12.29 - 12.293	167.72 - 173.2	3332 - 3339	31.2 - 31.8
12.51975 - 12.52025	240 - 285	3345.8 - 3358	36.43 - 36.5
12.57675 - 12.57725	322 - 335.4	3600 - 4400	( <sup>2</sup> )

#### 15.209 Limit

Frequencies (MHz)	Field Strength (micorvolts/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

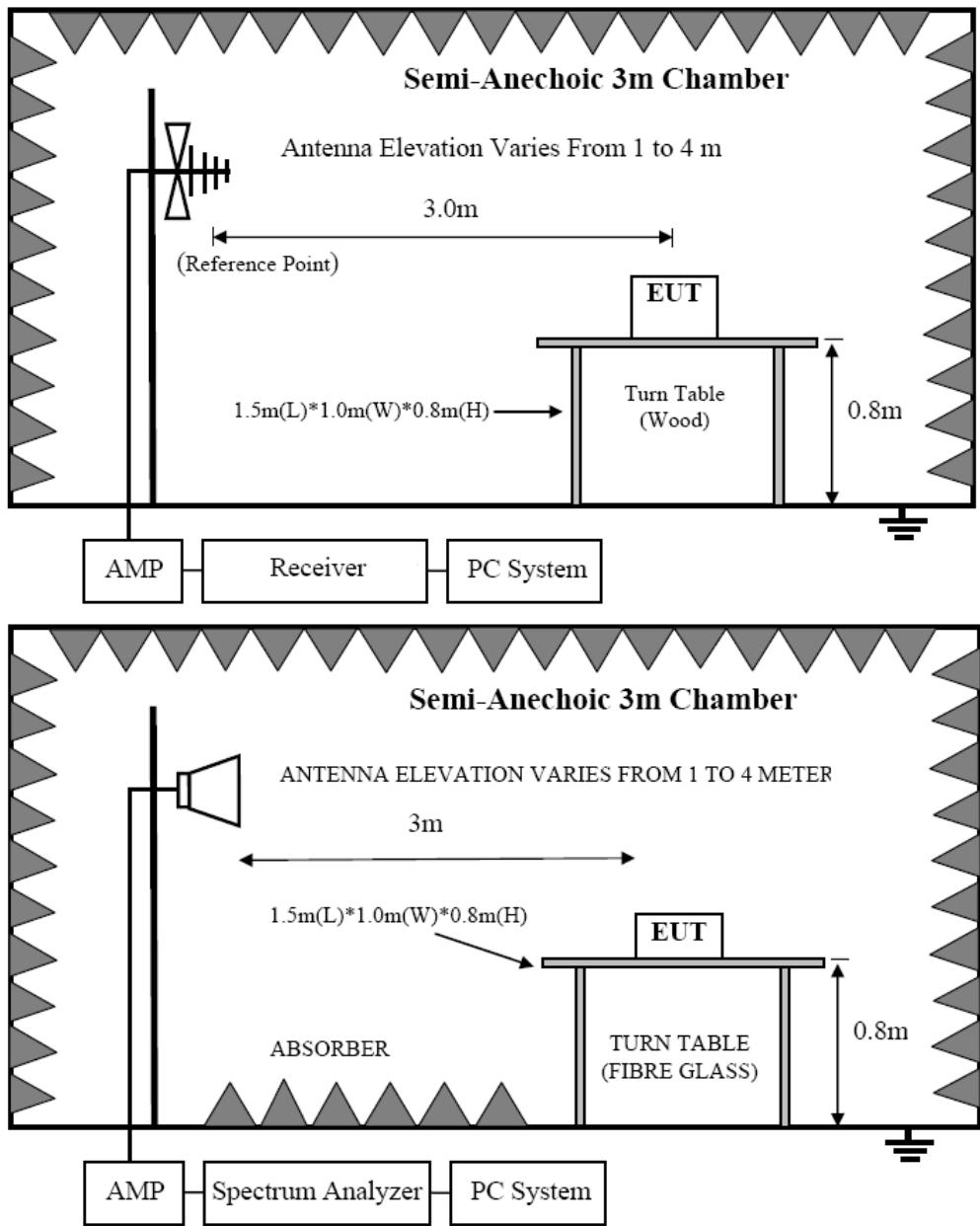
Harmonic emissions limits comply with below 54 dBuV/m at 3m. Other emissions radiated outside of the specified frequency bands, except for harmonics, shall be attenuated by at least 50 dB below the level of the fundamental or comply with the radiated emissions limits specified in section 15.209(a) limit in the table below has to be followed.

#### NOTE:

1. The tighter limit applies at the band edges.
2. Emission Level(dB uV/m)=20log Emission Level(Uv/m)

## 8.2. Block Diagram of Test setup

### 8.2.1. In 3m Anechoic Chamber Test Setup Diagram for below 1GHz



## 8.3. Test Procedure

- (1) EUT was placed on a non-metallic table, 80 cm above the ground plane inside a semi-anechoic chamber.
- (2) Setup EUT and simulator as shown in section 1.4 and 6.1
- (3) Test antenna was located 3m from the EUT on an adjustable mast. Below pre-scan procedure was first performed in order to find prominent radiated emissions.
  - (a) Change work frequency or channel of device if practicable.
  - (b) Change modulation type of device if practicable.
  - (c) Change power supply range from 85% to 115% of the rated supply voltage for AC power supply.
  - (d) Rotated EUT though three orthogonal axes to determine the attitude of EUT

- arrangement produces highest emissions
- (4) Spectrum frequency from 9KHz to 25GHz (tenth harmonic of fundamental frequency) was investigated
  - (5) For final emissions measurements at each frequency of interest, the EUT were rotated and the antenna height was varied between 1m and 4m in order to maximize the emission. Measurements in both horizontal and vertical polarities were made and the data was recorded. In order to find the maximum emission, the relative positions of equipments and all of the interface cables were changed according to ANSI C63.10 2009 on Radiated Emission test.
  - (6) For emissions above 1GHz, both Peak and Average level were measured with Spectrum Analyzer, and the RBW is set at 1MHz, VBW is set at 3MHz for Peak measure; RBW is set at 1MHz, VBW is set at 10Hz for Average measure.

#### 8.4. Test Result

We have scanned the 10th harmonic from 9KHz to the EUT.  
Detailed information please see the following page.

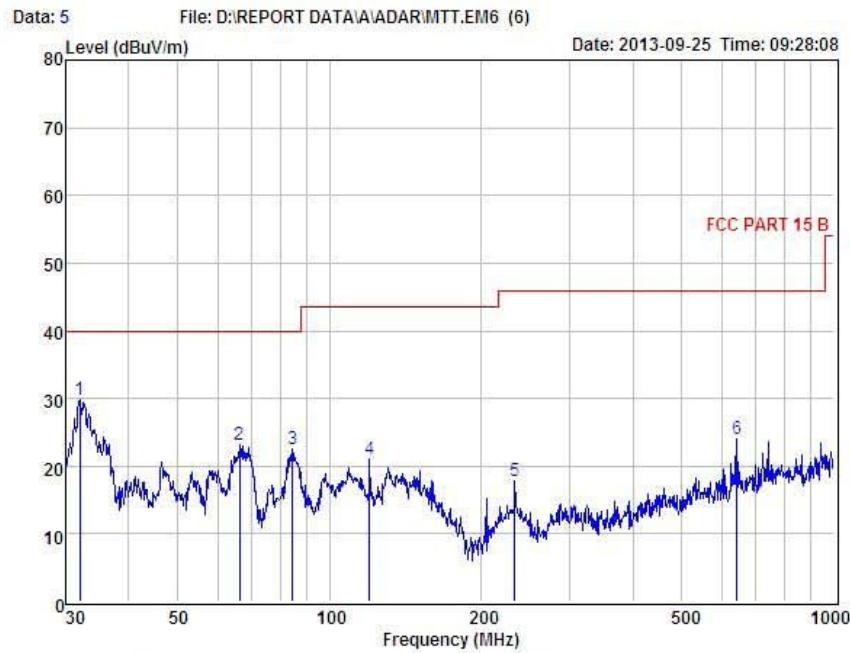
From **9KHz to 30MHz**: Conclusion: **PASS**

Note: The amplitude of spurious emissions which are attenuated by more than 20dB below the permissible value has no need to be reported.

From 30MHz to 1GHz



Shenzhen Certification Technology Service Co., Ltd.  
2F, Building B, East Area of Nanchang Second Industrial Zone,  
Gushu 2nd Road, Bao'an District, Shenzhen 518126, P.R. China  
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Website: <http://www.cessz.com> Email: [Service@cessz.com](mailto:Service@cessz.com)



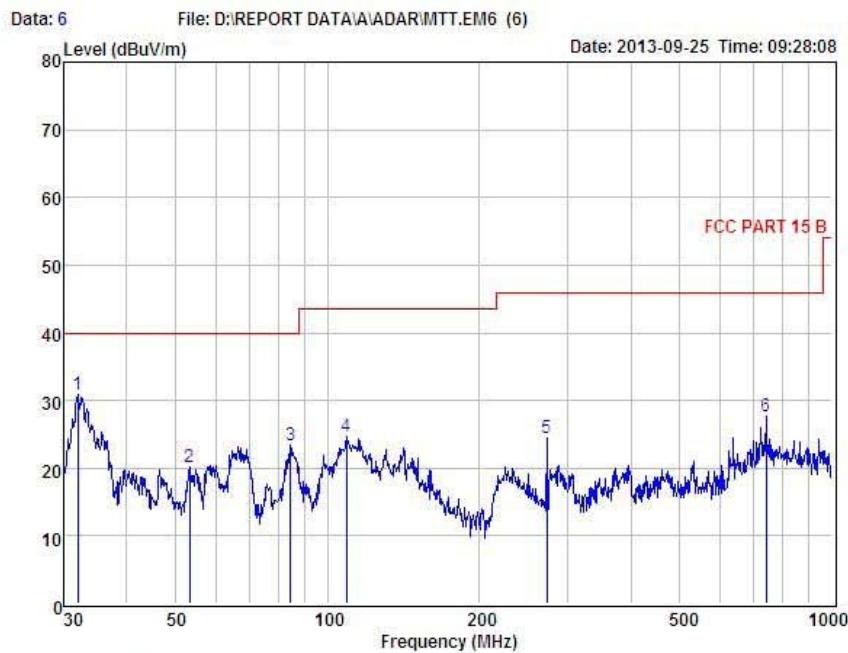
Condition : FCC PART 15 B 3m POL: HORIZONTAL  
 EUT : 2G Mobile Phone  
 Model No : M.T.T. Protection 2G  
 Test Mode : Link mode  
 Power : DC 5V with adapter for AC 120V/60Hz  
 Test Engineer : Simple  
 Remark :  
 Temp : 24.2°C  
 Hum : 54%

Item	Freq	Read Level	Antenna Factor	Preamp Factor	Cable Loss	Level	Limit	Margin	Remark
	MHz	dBuV	dB	dB	dB	dBuV	dBuV	dBuV	
1	31.95	43.92	13.28	27.51	0.11	29.80	40.00	-10.20	QP
2	66.27	38.41	11.59	27.20	0.26	23.06	40.00	-16.94	QP
3	84.41	39.63	9.38	26.81	0.26	22.46	40.00	-17.54	QP
4	120.28	35.28	12.24	26.88	0.36	21.00	43.50	-22.50	QP
5	233.35	33.15	11.31	27.08	0.49	17.87	46.00	-28.13	QP
6	642.86	31.65	19.02	27.81	1.24	24.10	46.00	-21.90	QP

Remark: Level = Read Level + Antenna Factor - Preamp Factor + Cable Loss



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Website: <http://www.cessz.com> Email: [Service@cessz.com](mailto:Service@cessz.com)



Condition : FCC PART 15 B 3m POL: VERTICAL

EUT : 2G Mobile Phone

Model No : M.T.I. Protection 2G

Test Mode : Link mode

Power : DC 5V with adapter for AC 120V/60Hz

Test Engineer : Simple

Remark :

Temp : 24.2°C

Hum : 54%

Item	Freq	Read Level	Antenna Factor	Preamp Factor	Cable Loss	Level	Limit	Margin	Remark
	MHz	dBuV	dB	dB	dB	dBuV	dBuV	dBuV	
1	31.95	44.92	13.28	27.51	0.11	30.80	40.00	-9.20	QP
2	53.32	34.50	13.22	27.84	0.22	20.10	40.00	-19.90	QP
3	64.41	40.63	9.38	26.81	0.26	23.46	40.00	-16.54	QP
4	109.03	39.96	11.13	26.86	0.41	24.64	43.50	-18.86	QP
5	272.28	38.70	12.15	27.14	0.66	24.37	46.00	-21.63	QP
6	739.66	34.26	20.13	27.70	1.00	27.69	46.00	-18.31	QP

Remark: Level = Read Level + Antenna Factor - Preamp Factor + Cable Loss

1GHz—25GHz Radiated emission Test result									
EUT: 2G Mobile Phone	M/N: M.T.T. Protection 2G								
Power: DC 5V From Adapter with AC 120V/60Hz									
Test date: 2013-09-26	Test site: 3m Chamber		Tested by: Simple						
Test mode: GFSK Tx CH1 2402MHz									
Antenna polarity: Vertical									
No	Freq (MHz)	Read Level (dBuV/m)	Antenna Factor (dB/m)	Cable loss(dB)	Amp Factor (dB)	Result (dBuV/m)	Limit (dBuV/m)	Margin (dB)	Remark
1	2402	/	/	/	/	/	/	/	PK
2	4804	45.98	34.31	10.51	35.36	55.44	74.00	-18.56	PK
3	4804	33.42	34.31	10.51	35.36	42.88	54.00	-11.12	AV
4	7206	/							
5	9608	/							
6	12010	/							
Antenna Polarity: Horizontal									
1	2402	/	/	/	/	/	/	/	PK
2	4804	46.74	34.31	10.51	35.36	56.20	74.00	-17.80	PK
3	4804	32.18	34.31	10.51	35.36	41.64	54.00	-12.36	AV
4	7206	/							
5	9608	/							
6	12010	/							
Note:									
1, Measuring frequency from 1GHz to 25GHz									
2, Spectrum Set for PK measure: RBW=1MHz, VBW=1MHz, Sweep time=Auto, Detector: PK									
2, Spectrum Set for AV measure: RBW=1MHz, VBW=10Hz, Sweep time=Auto, Detector: PK									
3, Result = Read level + Antenna factor + cable loss-Amp factor									
4, All the other emissions not reported were too low to read and deemed to comply with FCC limit.									

1GHz—25GHz Radiated emissison Test result																
EUT: 2G Mobile Phone			M/N: M.T.T. Protection 2G													
Power: DC 5V From Adapter with AC 120V/60Hz																
Test date: 2013-09-26			Test site: 3m Chamber Tested by: Simple													
Test mode: GFSK Tx CH40 2441MHz																
Antenna polarity: Vertical																
No	Freq (MHz)	Read Level (dBuV/m)	Antenna Factor (dB/m)	Cable loss(dB)	Amp Factor (dB)	Result (dBuV/m)	Limit (dBuV/m)	Margin (dB)	Remark							
1	2441	/	/	/	/	/	/	/	PK							
2	4882	45.73	34.37	10.57	35.42	55.25	74.00	-18.75	PK							
3	4882	32.58	34.37	10.57	35.42	42.10	54.00	-11.90	AV							
4	7323	/														
5	9764	/														
6	12205	/														
Antenna Polarity: Horizontal																
1	2441	/	/	/	/	/	/	/	PK							
2	4882	47.41	34.37	10.57	35.42	56.93	74.00	-17.07	PK							
3	4882	35.26	34.37	10.57	35.42	44.78	54.00	-9.22	AV							
4	7323	/														
5	9764	/														
6	12205	/														
Note:																
1, Measuring frequency from 1GHz to 25GHz																
2, Spectrum Set for PK measure: RBW=1MHz, VBW=1MHz ,Sweep time=Auto, Detector: PK																
2, Spectrum Set for AV measure: RBW=1MHz, VBW=10Hz ,Sweep time=Auto, Detector: PK																
3, Result = Read level + Antenna factor + cable loss-Amp factor																
4, All the other emissions not reported were too low to read and deemed to comply with FCC limit.																

1GHz—25GHz Radiated emission Test result																
EUT: 2G Mobile Phone			M/N: M.T.T. Protection 2G													
Power: DC 5V From Adapter with AC 120V/60Hz																
Test date: 2013-09-26 Test site: 3m Chamber Tested by: Simple																
Test mode: GFSK Tx CH79 2480MHz																
Antenna polarity: Vertical																
No	Freq (MHz)	Read Level (dBuV/m)	Antenna Factor (dB/m)	Cable loss(d B)	Amp Factor (dB)	Result (dBuV/m)	Limit (dBuV/m)	Margin (dB)	Remark							
1	2480	/	/	/	/	/	/	/	PK							
2	4960	44.89	35.12	10.59	35.44	55.16	74.00	-18.84	PK							
3	4960	33.74	35.12	10.59	35.44	44.01	54.00	-9.99	AV							
4	7440	/														
5	9920	/														
6	12400	/														
Antenna Polarity: Horizontal																
1	2480	/	/	/	/	/	/	/	PK							
2	4960	45.74	35.12	10.59	35.44	56.01	74.00	-17.99	PK							
3	4960	31.85	35.12	10.59	35.44	42.12	54.00	-11.88	AV							
4	7440	/														
5	9920	/														
6	12400	/														
Note:																
1,Measuring frequency from 1GHz to 25GHz																
2,Spectrum Set for PK measure: RBW=1MHz, VBW=1MHz, Sweep time=Auto, Detector: PK																
2,Spectrum Set for AV measure: RBW=1MHz, VBW=10Hz, Sweep time=Auto, Detector: PK																
3,Result = Read level + Antenna factor + cable loss-Amp factor																
4,All the other emissions not reported were too low to read and deemed to comply with FCC limit.																

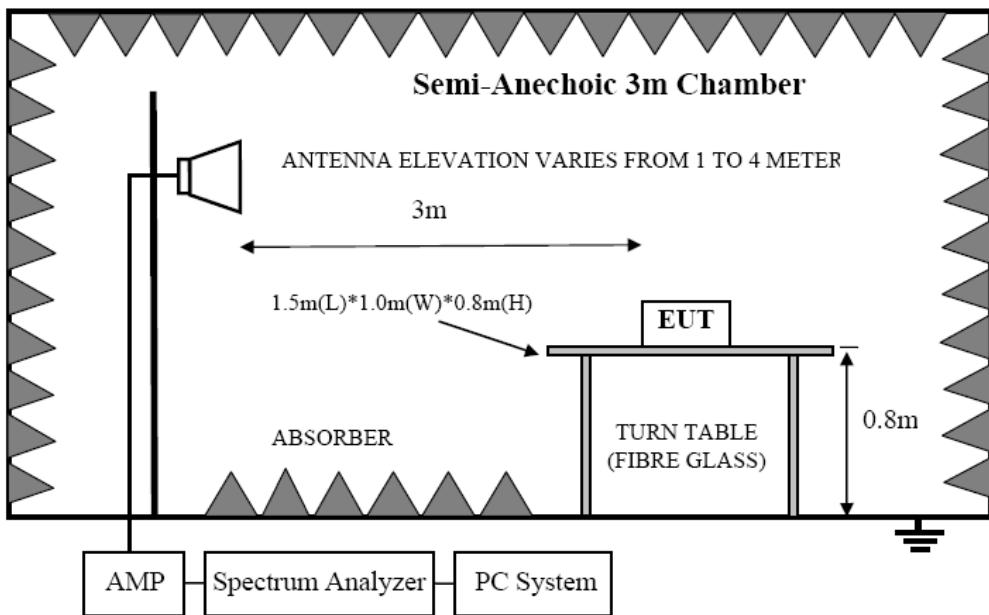
1GHz—25GHz Radiated emission Test result																	
EUT: 2G Mobile Phone		M/N: M.T.T. Protection 2G															
Power: DC 5V From Adapter with AC 120V/60Hz																	
Test date: 2013-09-26		Test site: 3m Chamber					Tested by: Simple										
Test mode: 8-DPSK Tx CH1 2402MHz																	
Antenna polarity: Vertical																	
No	Freq (MHz)	Read Level (dBuV/m)	Antenna Factor (dB/m)	Cable loss(d B)	Amp Factor (dB)	Result (dBuV/m)	Limit (dBuV/ m)	Margin (dB)	Remar k								
1	2402	/	/	/	/	/	/	/	PK								
2	4804	47.39	34.47	10.41	35.26	57.01	74.00	-16.99	PK								
3	4804	32.68	34.47	10.41	35.26	42.30	54.00	-11.70	AV								
4	7206	/															
5	9608	/															
6	12010	/															
Antenna Polarity: Horizontal																	
1	2402	/	/	/	/	/	/	/	PK								
2	4804	47.93	34.47	10.41	35.26	57.55	74.00	-16.45	PK								
3	4804	32.81	34.47	10.41	35.26	42.43	54.00	-11.57	AV								
4	7206	/															
5	9608	/															
6	12010	/															
Note:																	
1,Measuring frequency from 1GHz to 25GHz																	
2,Spectrum Set for PK measure: RBW=1MHz, VBW=1MHz, Sweep time=Auto, Detector: PK																	
2,Spectrum Set for AV measure: RBW=1MHz, VBW=10Hz, Sweep time=Auto, Detector: PK																	
3,Result = Read level + Antenna factor + cable loss-Amp factor																	
4,All the other emissions not reported were too low to read and deemed to comply with FCC limit.																	

1GHz—25GHz Radiated emission Test result																
EUT: 2G Mobile Phone			M/N: M.T.T. Protection 2G													
Power: DC 5V From Adapter with AC 120V/60Hz																
Test date: 2013-09-26			Test site: 3m Chamber			Tested by: Simple										
Test mode: 8-DPSK Tx CH40 2441MHz																
Antenna polarity: Vertical																
No	Freq (MHz)	Read Level (dBuV/m)	Antenna Factor (dB/m)	Cable loss(dB )	Amp Factor (dB)	Result (dBuV/m)	Limit (dBuV/ m)	Margin (dB)	Remark							
1	2441	/	/	/	/	/	/	/	PK							
2	4882	46.74	34.51	10.43	35.30	56.38	74.00	-17.62	PK							
3	4882	33.57	34.51	10.43	35.30	43.21	54.00	-10.79	AV							
4	7323	/														
5	9764	/														
6	12205	/														
Antenna Polarity: Horizontal																
1	2441	/	/	/	/	/	/	/	PK							
2	4882	46.84	34.51	10.43	35.30	56.48	74.00	-17.52	PK							
3	4882	33.95	34.51	10.43	35.30	43.59	54.00	-10.41	AV							
4	7323	/														
5	9764	/														
6	12205	/														
Note:																
1,Measuring frequency from 1GHz to 25GHz																
2,Spectrum Set for PK measure: RBW=1MHz, VBW=1MHz ,Sweep time=Auto, Detector: PK																
2,Spectrum Set for AV measure: RBW=1MHz, VBW=10Hz ,Sweep time=Auto, Detector: PK																
3,Result = Read level + Antenna factor + cable loss-Amp factor																
4,All the other emissions not reported were too low to read and deemed to comply with FCC limit.																

1GHz—25GHz Radiated emission Test result																
EUT: 2G Mobile Phone			M/N: M.T.T. Protection 2G													
Power: DC 5V From Adapter with AC 120V/60Hz																
Test date: 2013-09-26			Test site: 3m Chamber					Tested by: Simple								
Test mode: 8-DPSK Tx CH79 2480MHz																
Antenna polarity: Vertical																
No	Freq (MHz)	Read Level (dBuV/m)	Antenna Factor (dB/m)	Cable loss(dB)	Amp Factor (dB)	Result (dBuV/m)	Limit (dBuV/m)	Margin (dB)	Remark							
1	2480	/	/	/	/	/	/	/	PK							
2	4960	45.18	35.15	10.59	35.33	55.59	74.00	-18.41	PK							
3	4960	32.49	35.15	10.59	35.33	42.90	54.00	-11.10	AV							
4	7440	/														
5	9920	/														
6	12400	/														
Antenna Polarity: Horizontal																
1	2480	/	/	/	/	/	/	/	PK							
2	4960	46.32	35.15	10.59	35.33	56.73	74.00	-17.27	PK							
3	4960	31.75	35.15	10.59	35.33	42.16	54.00	-11.84	AV							
4	7440	/														
5	9920	/														
6	12400	/														
Note:																
1, Measuring frequency from 1GHz to 25GHz																
2, Spectrum Set for PK measure: RBW=1MHz, VBW=1MHz, Sweep time=Auto, Detector: PK																
2, Spectrum Set for AV measure: RBW=1MHz, VBW=10Hz, Sweep time=Auto, Detector: PK																
3, Result = Read level + Antenna factor + cable loss-Amp factor																
4, All the other emissions not reported were too low to read and deemed to comply with FCC limit.																

## 9. Band Edge Compliance

### 9.1. Block Diagram of Test Setup



### 9.2. Limit

All the lower and upper band-edges emissions appearing within 2310MHz to 2390MHz and 2483.5MHz to 2500MHz restricted frequency bands shall not exceed the limits shown in 15.209, all the other emissions outside operation frequency band 2400MHz to 2483.5MHz shall be at least 20dB below the fundamental emissions, or comply with 15.209 limits.

### 9.3. Test Procedure

Same with clause 6.3 except change investigated frequency range from 2310MHz to 2415MHz and 2475MHz to 2500MHz.

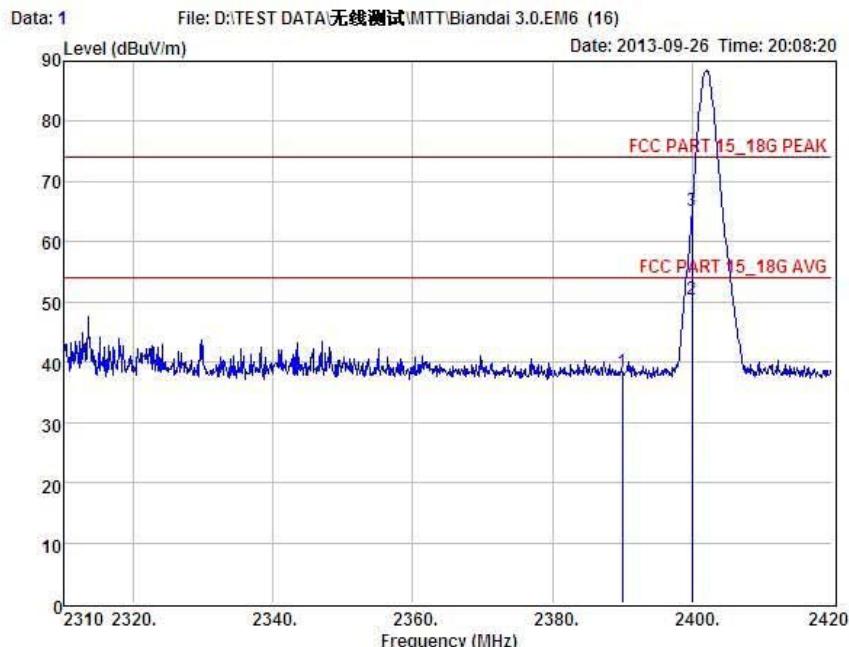
### 9.4. Test Result

**PASS. (See below detailed test data)**

GFSK  
CH LOW :



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Gushu 2nd Road, Bao'an District, Shenzhen 518126, P.R. China  
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Website: <http://www.cessz.com> Email: [Service@cessz.com](mailto:Service@cessz.com)



Condition : FCC PART 15\_18G PEAK 3m POL: HORIZONTAL

EUT : 2G Mobile Phone

Model No : M.T.T. Protection 2G

Test Mode : GFSK TX 2402MHz

Power : DC 5V with adapter for AC 120V/60Hz

Test Engineer : Anna

Remark :

Temp :

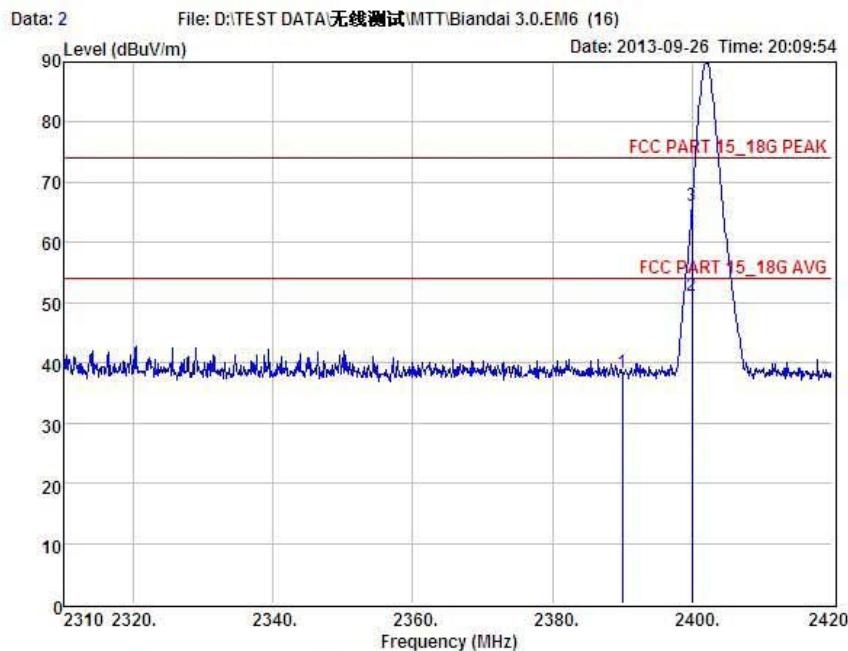
Hum :

Item	Freq	Read	Antenna	Preamp	Cable	Level	Limit	Margin	Remark
		Level	Factor	Factor	Loss	dBuV	dBuV	dBuV	
	MHz	dBuV	dB	dB	dB				
1	2390.00	41.68	27.62	34.97	3.92	38.25	74.00	-35.75	Peak
2	2400.00	53.87	27.62	34.97	3.94	50.46	54.00	-3.54	Average
3	2400.00	68.50	27.62	34.97	3.94	65.09	74.00	-8.91	Peak

Remark: Level = Read Level + Antenna Factor - Preamp Factor + Cable Loss



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Website: <http://www.cessz.com> Email: [Service@cessz.com](mailto:Service@cessz.com)



Condition : FCC PART 15\_18G PEAK 3m POL: VERTICAL  
 EUT : 2G Mobile Phone  
 Model No : M.T.I. Protection 2G  
 Test Mode : GFSK TX 2402MHz  
 Power : DC 5V with adapter for AC 120V/60Hz  
 Test Engineer : Anna  
 Remark :  
 Temp :  
 Hum :  
 Item Freq Read Level Antenna Factor Preamp Factor Cable Loss Level Limit Margin Remark

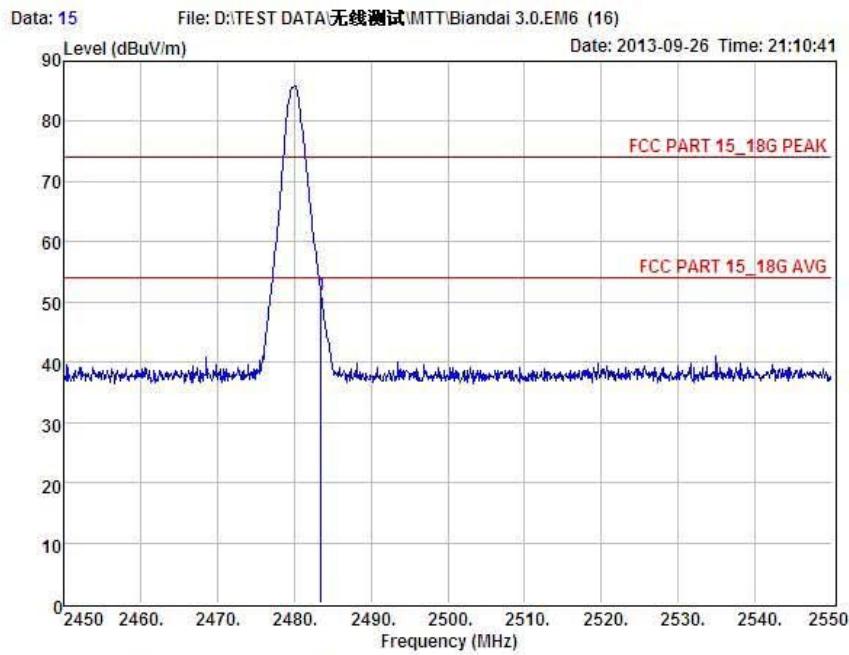
	Freq	Read Level	Antenna Factor	Preamp Factor	Cable Loss	Level	Limit	Margin	Remark
	MHz	dBuV	dB	dB	dB	dBuV	dBuV	dBuV	
1	2390.00	41.90	27.62	34.97	3.92	38.47	74.00	-35.53	Peak
2	2400.00	54.45	27.62	34.97	3.94	51.04	54.00	-2.98	Average
3	2400.00	69.64	27.62	34.97	3.94	66.23	74.00	-7.77	Peak

Remark: Level = Read Level + Antenna Factor - Preamp Factor + Cable Loss

CH High :



Shenzhen Certification Technology Service Co., Ltd  
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Website: <http://www.cessz.com> Email: [Service@cessz.com](mailto:Service@cessz.com)



Condition : FCC PART 15\_18G PEAK 3m POL: VERTICAL

EUT : 2G Mobile Phone

Model No : M.T.T. Protection 2G

Test Mode : GFSK TX 2480MHz

Power : DC 5V with adapter for AC 120V/60Hz

Test Engineer : Anna

Remark :

Temp :

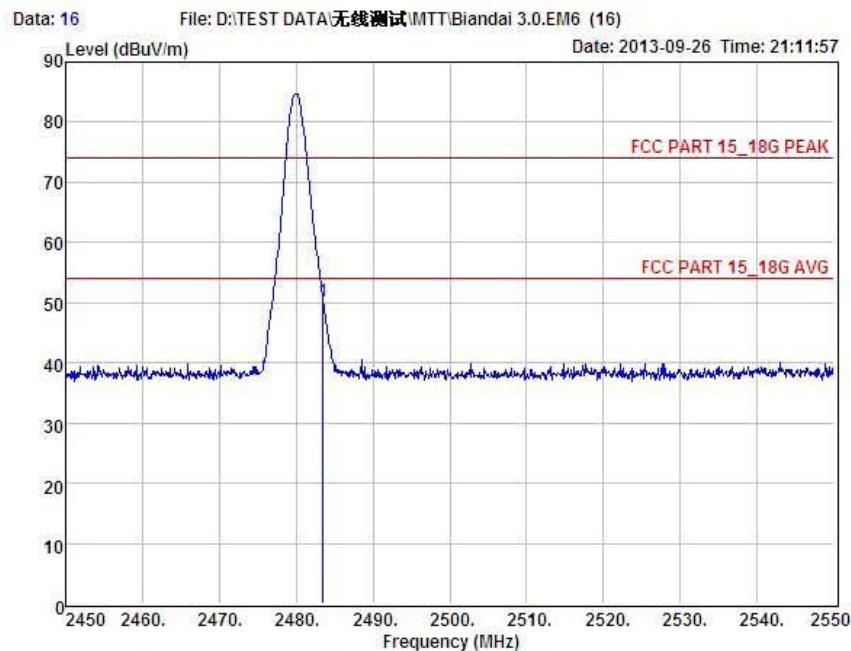
Hum :

Item	Freq	Read Level	Antenna Factor	Preampl Factor	Cable Loss	Level	Limit	Margin	Remark
	MHz	dBuV	dB	dB	dB	dBuV	dBuV	dBuV	
1	2483.50	54.61	27.59	34.97	4.00	51.23	74.00	-22.77	Peak

Remark: Level = Read Level + Antenna Factor - Preampl Factor + Cable Loss



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Condition : FCC PART 15\_18G PEAK 3m POL: HORIZONTAL

EUT : 2G Mobile Phone

Model No : M.T.T. Protection 2G

Test Mode : GFSK TX 2480MHz

Power : DC 5V with adapter for AC 120V/60Hz

Test Engineer : Anna

Remark :

Temp :

Hum :

Item	Freq	Read Level	Antenna Factor	Preamp Factor	Cable Loss	Level	Limit	Margin	Remark
	MHz	dBuV	dB	dB	dB	dBuV	dBuV	dBuV	
1	2483.50	53.65	27.59	34.97	4.00	50.27	74.00	-23.73	Peak

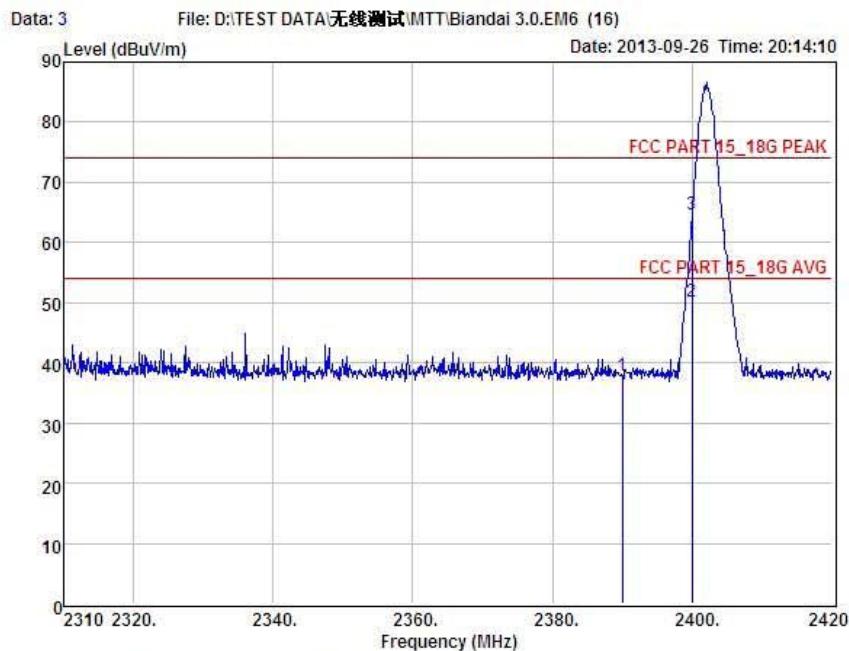
Remark: Level = Read Level + Antenna Factor - Preamp Factor + Cable Loss

## 8-DPSK

### CH LOW :



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 Website: <http://www.cessz.com> Email: [Service@cessz.com](mailto:Service@cessz.com)

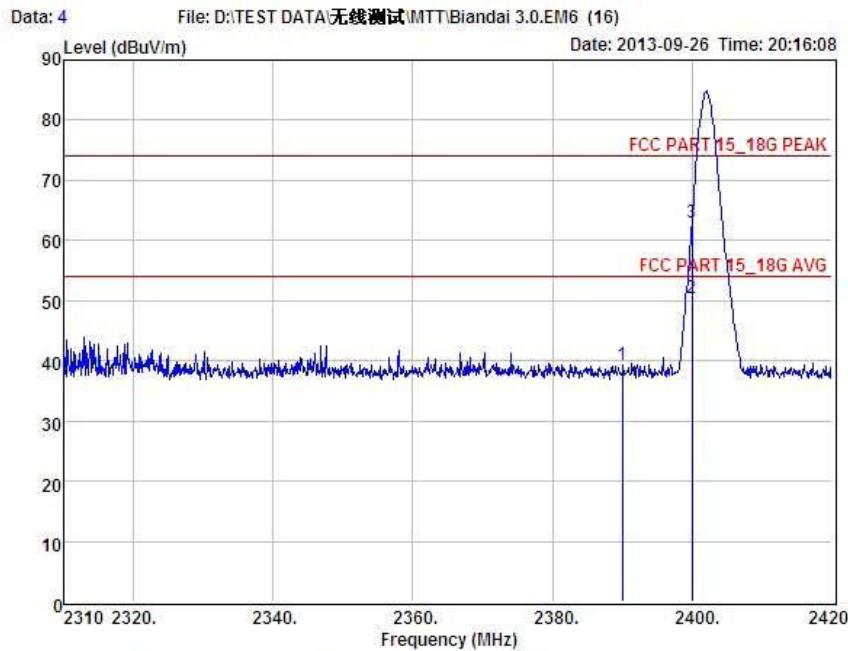


Condition	:	FCC PART 15_18G PEAK 3m	POL:	VERTICAL					
EUI	:	2G Mobile Phone							
Model No	:	M.T.T. Protection 2G							
Test Mode	:	DPSK TX 2402MHz							
Power	:	DC 5V with adapter for AC 120V/60Hz							
Test Engineer	:	Anna							
Remark	:								
Temp	:								
Hum	:								
Item	Freq	Read Level	Antenna Factor	Preamp Factor	Cable Loss	Level	Limit	Margin	Remark
	MHz	dBuV	dB	dB	dB	dBuV	dBuV	dBuV	
1	2390.00	41.28	27.62	34.97	3.92	37.85	74.00	-36.15	Peak
2	2400.00	53.58	27.62	34.97	3.94	50.17	54.00	-3.83	Average
3	2400.00	68.04	27.62	34.97	3.94	64.63	74.00	-9.37	Peak

Remark: Level = Read Level + Antenna Factor - Preamp Factor + Cable Loss



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Condition : FCC PART 15\_18G PEAK 3m POL: HORIZONTAL

EUT : 2G Mobile Phone

Model No : M.T.T. Protection 2G

Test Mode : DPSK TX 2402MHz

Power : DC 5V with adapter for AC 120V/60Hz

Test Engineer : Anna

Remark :

Temp :

Hum :

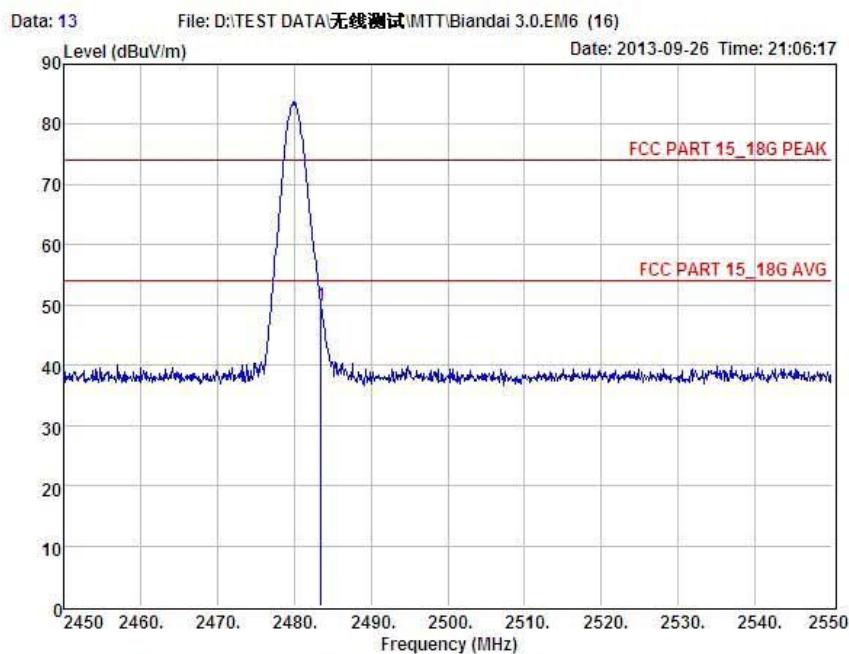
Item	Freq	Read Level	Antenna Factor	Preamp Factor	Cable Loss	Level	Limit	Margin	Remark
	MHz	dBuV	dB	dB	dB	dBuV	dBuV	dBuV	
1	2390.00	42.65	27.62	34.97	3.92	39.22	74.00	-34.78	Peak
2	2400.00	53.73	27.62	34.97	3.94	50.32	54.00	-3.65	Average
3	2400.00	66.36	27.62	34.97	3.94	62.95	74.00	-11.05	Peak

Remark: Level = Read Level + Antenna Factor - Preamp Factor + Cable Loss

CH High :



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Condition : FCC PART 15\_18G PEAK 3m POL: HORIZONTAL

EUT : 2G Mobile Phone

Model No : M.T.T. Protection 2G

Test Mode : DPSK TX 2480MHz

Power : DC 5V with adapter for AC 120V/60Hz

Test Engineer : Anna

Remark :

Temp :

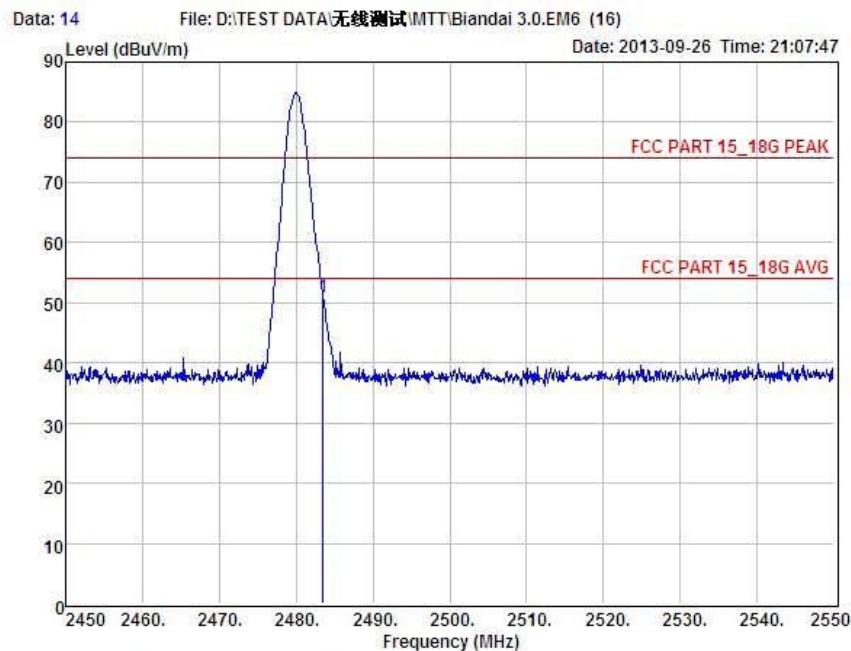
Hum :

Item	Freq	Read Level	Antenna Factor	Preampl Factor	Cable Loss	Level	Limit	Margin	Remark
	MHz	dBuV	dB	dB	dB	dBuV	dBuV	dBuV	
1	2483.50	53.34	27.59	34.97	4.00	49.96	74.00	-24.04	Peak

Remark: Level = Read Level + Antenna Factor - Preampl Factor + Cable Loss



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Condition : FCC PART 15\_18G PEAK 3m POL: VERTICAL

EUT : 2G Mobile Phone

Model No : M.T.T. Protection 2G

Test Mode : DPSK TX 2480MHz

Power : DC 5V with adapter for AC 120V/60Hz

Test Engineer : Anna

Remark :

Temp :

Hum :

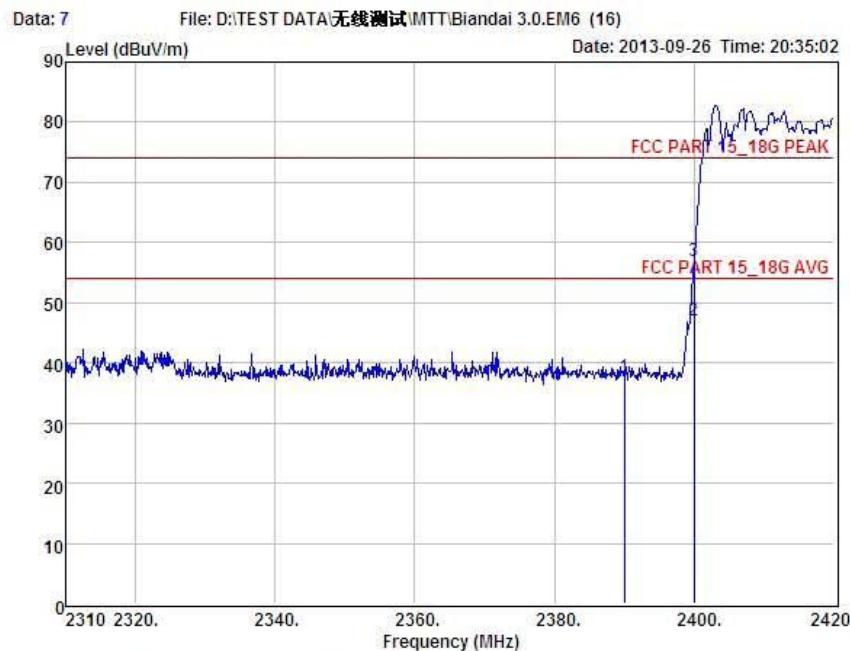
Item	Freq	Read Level	Antenna Factor	Preamp Factor	Cable Loss	Level	Limit	Margin	Remark
	MHz	dBuV	dB	dB	dB	dBuV	dBuV	dBuV	
1	2483.50	54.19	27.59	34.97	4.00	50.81	74.00	-23.19	Peak

Remark: Level = Read Level + Antenna Factor - Preamp Factor + Cable Loss

## GFSK Hopping:



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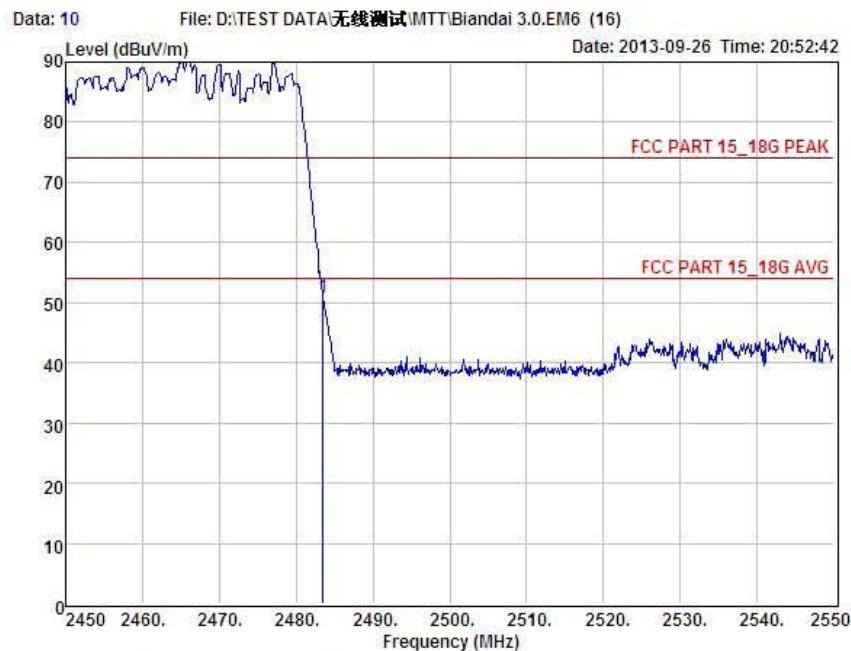


Condition	:	FCC PART 15_18G PEAK 3m	POL:	VERTICAL					
EUT	:	2G Mobile Phone							
Model No	:	M.T.T. Protection 2G							
Test Mode	:	GFSK TX 2402MHz Hopping							
Power	:	DC 5V with adapter for AC 120V/60Hz							
Test Engineer	:	Anna							
Remark	:								
Temp	:								
Hum	:								
Item	Freq	Read Level	Antenna Factor	Preamp Factor	Cable Loss	Level	Limit	Margin	Remark
	MHz	dBuV	dB	dB	dB	dBuV	dBuV	dBuV	
1	2390.00	41.00	27.62	34.97	3.92	37.57	74.00	-36.43	Peak
2	2400.00	50.55	27.62	34.97	3.94	47.14	54.00	-6.86	Average
3	2400.00	60.25	27.62	34.97	3.94	56.84	74.00	-17.16	Peak

Remark: Level = Read Level + Antenna Factor - Preamp Factor + Cable Loss



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Condition : FCC PART 15\_18G PEAK 3m POL: VERTICAL

EUT : 2G Mobile Phone

Model No : M.T.T. Protection 2G

Test Mode : GFSK TX 2480MHz Hopping

Power : DC 5V with adapter for AC 120V/60Hz

Test Engineer : Anna

Remark :

Temp :

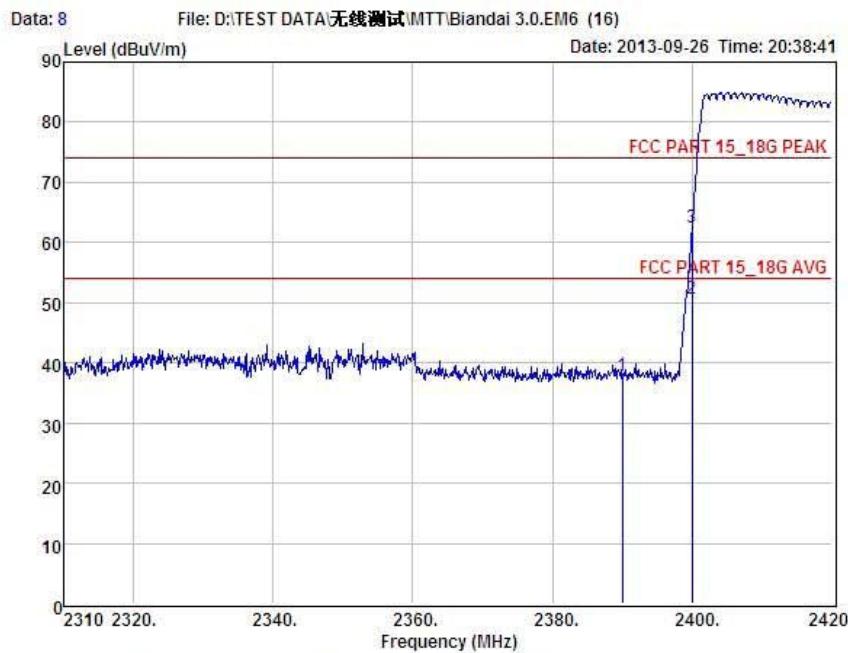
Hum :

Item	Freq	Read Level	Antenna Factor	Preamp Factor	Cable Loss	Level	Limit	Margin	Remark
	MHz	dBuV	dB	dB	dB	dBuV	dBuV	dBuV	
1	2483.50	54.33	27.59	34.97	4.00	50.95	74.00	-23.05	Peak

Remark: Level = Read Level + Antenna Factor - Preamp Factor + Cable Loss



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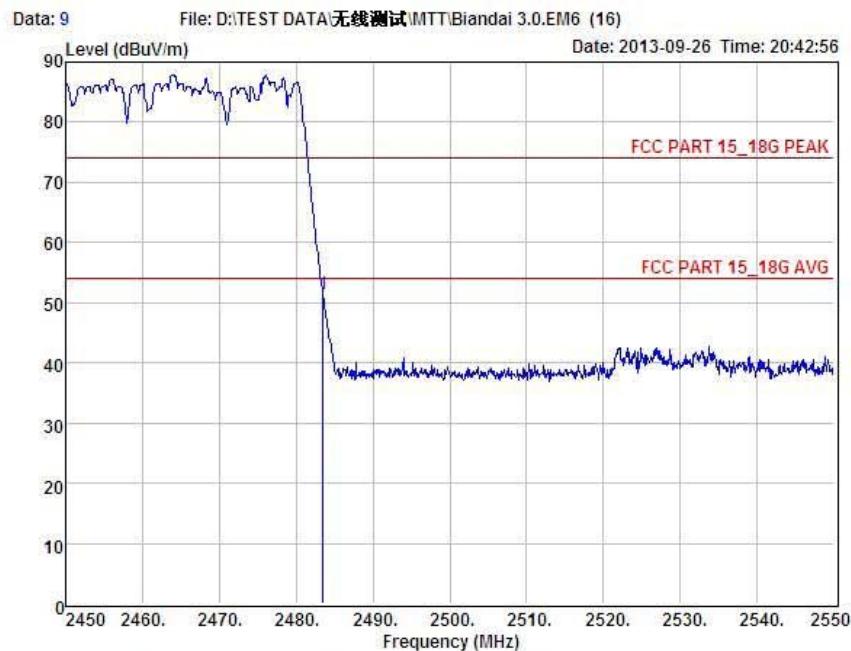
Condition : FCC PART 15\_18G PEAK 3m POL: HORIZONTAL  
EUT : 2G Mobile Phone  
Model No : M.T.I. Protection 2G  
Test Mode : GFSK TX 2402MHz Hopping  
Power : DC 5V with adapter for AC 120V/60Hz  
Test Engineer : Anna  
Remark :  
Temp :  
Hum :

Item	Freq	Read Level	Antenna Factor	Preamp Factor	Cable Loss	Level	Limit	Margin	Remark
	MHz	dBuV	dB	dB	dB	dBuV	dBuV	dBuV	
1	2390.00	41.33	27.62	34.97	3.92	37.90	74.00	-36.10	Peak
2	2400.00	54.14	27.62	34.97	3.94	50.73	54.00	-3.27	Average
3	2400.00	65.80	27.62	34.97	3.94	62.39	74.00	-11.61	Peak

Remark: Level = Read Level + Antenna Factor - Preamp Factor + Cable Loss



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Condition : FCC PART 15\_18G PEAK 3m POL: HORIZONTAL

EUT : 2G Mobile Phone

Model No : M.T.T. Protection 2G

Test Mode : GFSK TX 2480MHz Hopping

Power : DC 5V with adapter for AC 120V/60Hz

Test Engineer : Anna

Remark :

Temp :

Hum :

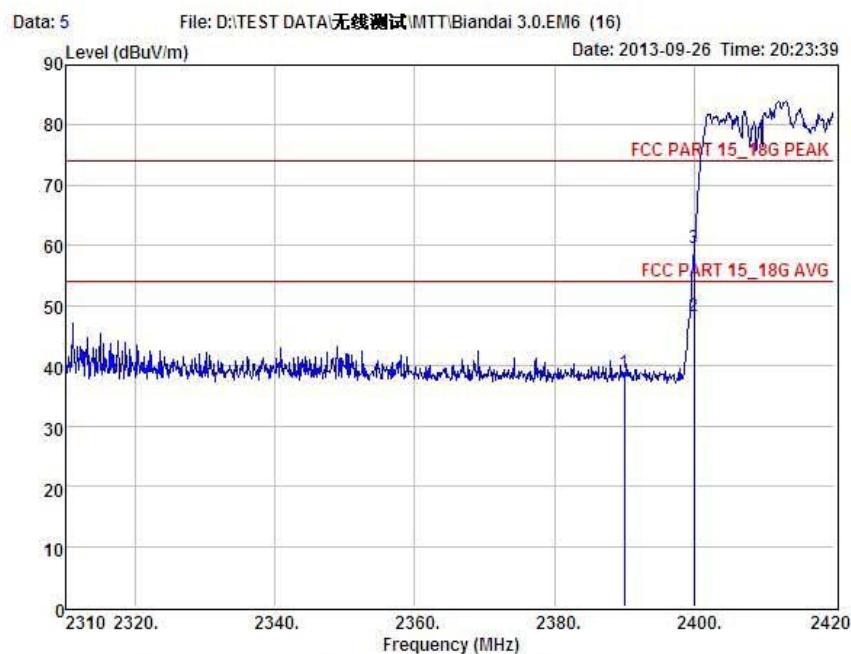
Item	Freq	Read Level	Antenna Factor	Preamp Factor	Cable Loss	Level	Limit	Margin	Remark
	MHz	dBuV	dB	dB	dB	dBuV	dBuV	dBuV	
1	2483.50	54.82	27.59	34.97	4.00	51.44	74.00	-22.56	Peak

Remark: Level = Read Level + Antenna Factor - Preamp Factor + Cable Loss

8-DPSK Hopping:



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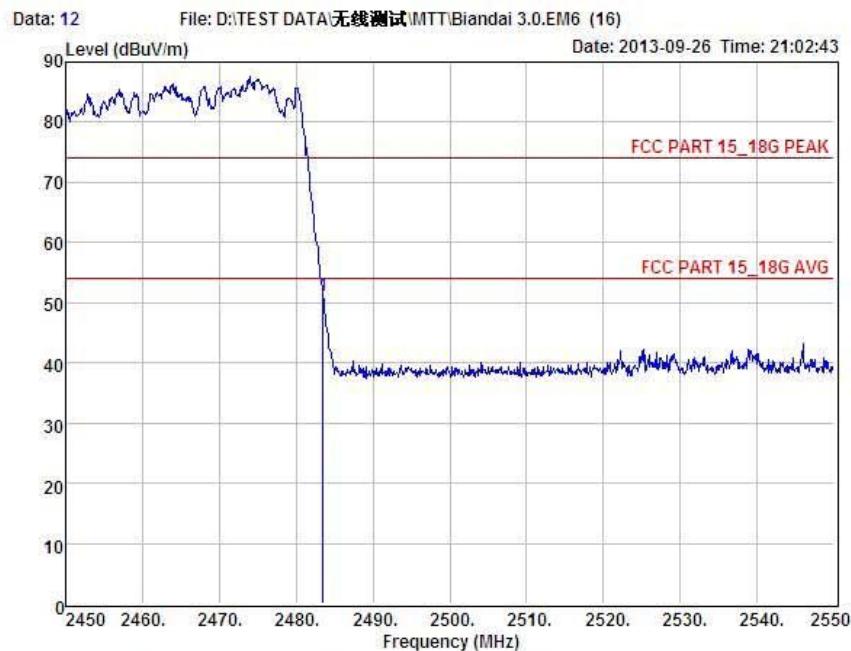


Condition	:	FCC PART 15_18G PEAK 3m	POL: HORIZONTAL						
EUI	:	2G Mobile Phone							
Model No	:	M.T.T. Protection 2G							
Test Mode	:	DPSK TX 2402MHz Hopping							
Power	:	DC 5V with adapter for AC 120V/60Hz							
Test Engineer	:	Anna							
Remark	:								
Temp	:								
Hum	:								
Item	Freq	Read Level	Antenna Factor	Preamp Factor	Cable Loss	Level	Limit	Margin	Remark
	MHz	dBuV	dB	dB	dB	dBuV	dBuV	dBuV	
1	2390.00	42.36	27.62	34.97	3.92	38.93	74.00	-35.07	Peak
2	2400.00	51.73	27.62	34.97	3.94	48.32	54.00	-5.68	Average
3	2400.00	63.10	27.62	34.97	3.94	59.69	74.00	-14.31	Peak

Remark: Level = Read Level + Antenna Factor - Preamp Factor + Cable Loss



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Condition : FCC PART 15\_18G PEAK 3m POL: HORIZONTAL

EUT : 2G Mobile Phone

Model No : M.T.T. Protection 2G

Test Mode : DPSK TX 2480MHz Hopping

Power : DC 5V with adapter for AC 120V/60Hz

Test Engineer : Anna

Remark :

Temp :

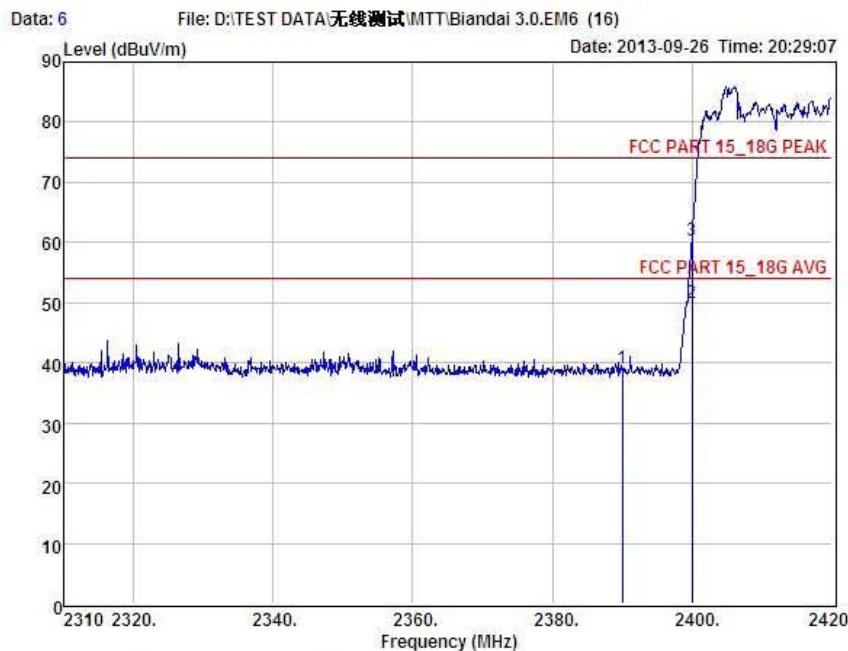
Hum :

Item	Freq	Read Level	Antenna Factor	Preamp Factor	Cable Loss	Level	Limit	Margin	Remark
	MHz	dBuV	dB	dB	dB	dBuV	dBuV	dBuV	
1	2483.50	54.53	27.59	34.97	4.00	51.15	74.00	-22.85	Peak

Remark: Level = Read Level + Antenna Factor - Preamp Factor + Cable Loss



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Condition : FCC PART 15\_18G PEAK 3m POL: VERTICAL

EUT : 2G Mobile Phone

Model No : M.T.T. Protection 2G

Test Mode : DPSK TX 2402MHz Hopping

Power : DC 5V with adapter for AC 120V/60Hz

Test Engineer : Anna

Remark :

Temp :

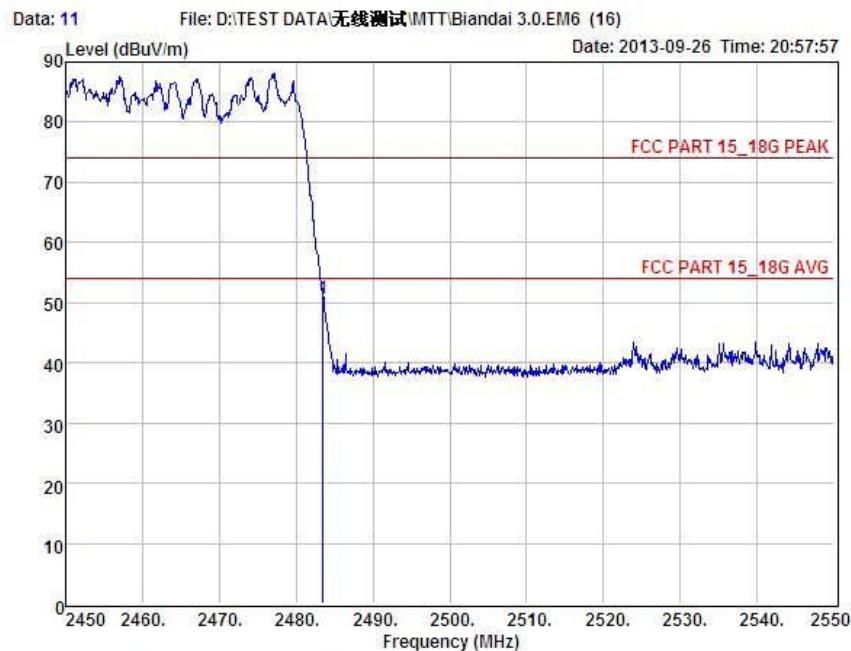
Hum :

Item	Freq	Read Level	Antenna Factor	Preamp Factor	Cable Loss	Level	Limit	Margin	Remark
	MHz	dBuV	dB	dB	dB	dBuV	dBuV	dBuV	
1	2390.00	42.60	27.62	34.97	3.92	39.17	74.00	-34.83	Peak
2	2400.00	53.34	27.62	34.97	3.94	49.93	54.00	-4.07	Average
3	2400.00	63.79	27.62	34.97	3.94	60.38	74.00	-13.62	Peak

Remark: Level = Read Level + Antenna Factor - Preamp Factor + Cable Loss



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Condition : FCC PART 15\_18G PEAK 3m POL: VERTICAL

EUT : 2G Mobile Phone

Model No : M.T.T. Protection 2G

Test Mode : DPSK TX 2480MHz Hopping

Power : DC 5V with adapter for AC 120V/60Hz

Test Engineer : Anna

Remark :

Temp :

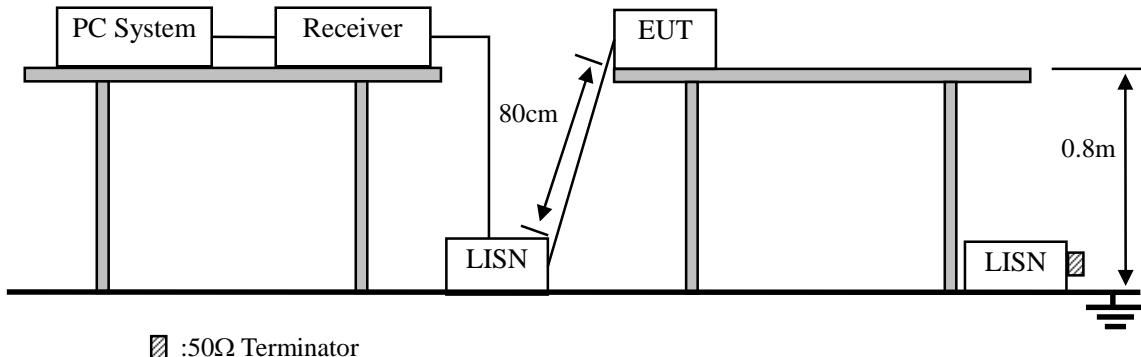
Hum :

Item	Freq	Read Level	Antenna Factor	Preamp Factor	Cable Loss	Level	Limit	Margin	Remark
	MHz	dBuV	dB	dB	dB	dBuV	dBuV	dBuV	
1	2483.50	53.97	27.59	34.97	4.00	50.59	74.00	-23.41	Peak

Remark: Level = Read Level + Antenna Factor - Preamp Factor + Cable Loss

## 10. Power Line Conducted Emissions

### 10.1. Block Diagram of Test Setup



### 10.2. Limit

Frequency	Maximum RF Line Voltage	
	Quasi-Peak Level dB(μV)	Average Level dB(μV)
150kHz ~ 500kHz	66 ~ 56*	56 ~ 46*
500kHz ~ 5MHz	56	46
5MHz ~ 30MHz	60	50

Notes: 1. \* Decreasing linearly with logarithm of frequency.  
2. The lower limit shall apply at the transition frequencies.

### 10.3. Test Procedure

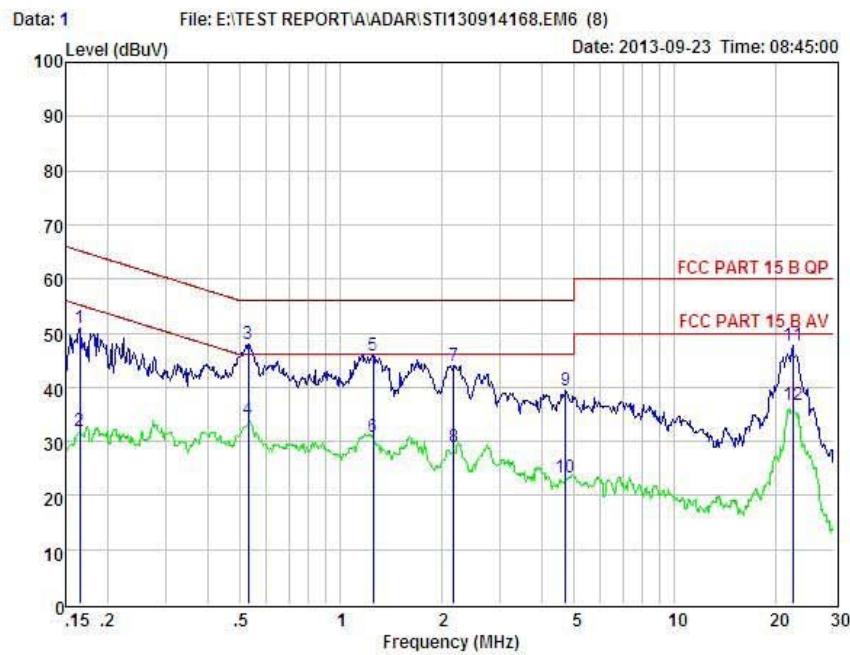
- (1) The EUT was placed on a non-metallic table, 80cm above the ground plane.
- (2) Setup the EUT and simulator as shown in 10.1
- (3) The EUT Power connected to the power mains through a power adapter and a line impedance stabilization network (L.I.S.N1). The other peripheral devices power cord connected to the power mains through a line impedance stabilization network (L.I.S.N1), this provided a 50-ohm coupling impedance for the EUT (Please refer to the block diagram of the test setup and photographs). Both sides of power line were checked for maximum conducted interference. In order to find the maximum emission, the relative positions of equipments and all of the interface cables were changed according to ANSI C63.4 2009 and ANSI C64.10:2009 on conducted Emission test.
- (4) The bandwidth of test receiver is set at 10KHz.
- (5) The frequency range from 150 KHz to 30MHz is checked.

### 10.4. Test Result

**PASS.** Detailed information please see the following page.



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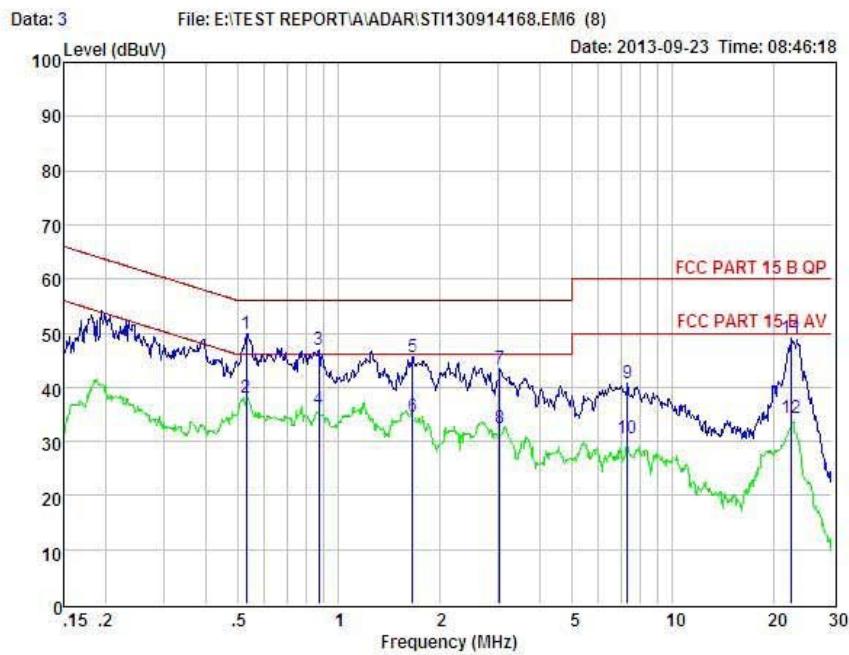
Condition : FCC PART 15 B QP POL: NEUTRAL Temp:24 °C Hum:56 %  
 EUT : 2G Mobile Phone  
 Model No : M.T.T. Protection 2G  
 Test Mode : Charging  
 Power : DC 5V From Adapter AC 120V/50Hz  
 Test Engineer: Simple  
 Remark :

Item	Freq	Read	LISN	Preamp		Cable	Level	Limit	Margin	Remark
				Factor	Factor					
	MHz	dBuV		dB	dB	dB	dBuV	dBuV	dBuV	
1	0.165	41.02	0.03	-9.72	0.10	50.87	65.21	-14.34	QP	
2	0.165	22.02	0.03	-9.72	0.10	31.87	55.21	-23.34	Average	
3	0.529	38.09	0.03	-9.72	0.10	47.94	56.00	-8.06	QP	
4	0.529	24.09	0.03	-9.72	0.10	33.94	46.00	-12.06	Average	
5	1.249	36.05	0.04	-9.71	0.10	45.90	56.00	-10.10	QP	
6	1.249	21.05	0.04	-9.71	0.10	30.90	46.00	-15.10	Average	
7	2.178	34.11	0.06	-9.70	0.10	43.97	56.00	-12.03	QP	
8	2.178	19.11	0.06	-9.70	0.10	28.97	46.00	-17.03	Average	
9	4.721	29.49	0.10	-9.68	0.12	39.39	56.00	-16.61	QP	
10	4.721	13.49	0.10	-9.68	0.12	23.39	46.00	-22.61	Average	
11	22.655	37.23	0.41	-9.54	0.42	47.60	60.00	-12.40	QP	
12	22.655	26.23	0.41	-9.54	0.42	36.60	50.00	-13.40	Average	

Remarks: Level = Read + LISN Factor - Preamp Factor + Cable loss



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Condition : FCC PART 15 B QP POL: LINE Temp:24 °C Hum:56 %  
 EUT : 2G Mobile Phone  
 Model No : M.T.T. Protection 2G  
 Test Mode : Charging  
 Power : DC 5V From Adapter AC 120V/50Hz  
 Test Engineer: Simple  
 Remark :

Item	Freq	Read	LISN	Preamp		Cable	Level	Limit	Margin	Remark
				Factor	Factor					
	MHz	dBuV		dB	dB	dB	dBuV	dBuV	dBuV	
1	0.529	40.12	0.03	-9.72	0.10	49.97	56.00	-6.03	QP	
2	0.529	28.12	0.03	-9.72	0.10	37.97	46.00	-8.03	Average	
3	0.871	36.95	0.04	-9.71	0.10	46.80	56.00	-9.20	QP	
4	0.871	25.95	0.04	-9.71	0.10	35.80	46.00	-10.20	Average	
5	1.662	35.81	0.05	-9.71	0.10	45.67	56.00	-10.33	QP	
6	1.662	24.81	0.05	-9.71	0.10	34.67	46.00	-11.33	Average	
7	3.041	33.48	0.07	-9.69	0.12	43.36	56.00	-12.64	QP	
8	3.041	22.48	0.07	-9.69	0.12	32.36	46.00	-13.64	Average	
9	7.329	30.90	0.13	-9.52	0.15	40.70	60.00	-19.30	QP	
10	7.329	20.90	0.13	-9.52	0.15	30.70	50.00	-19.30	Average	
11	22.775	38.80	0.41	-9.55	0.42	49.18	60.00	-10.82	QP	
12	22.775	23.80	0.41	-9.55	0.42	34.18	50.00	-15.82	Average	

Remarks: Level = Read + LISN Factor - Preamp Factor + Cable loss

## **11. Antenna Requirements**

### **11.1. Limit**

For intentional device, according to FCC 47 CFR Section 15.203, 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. And according to FCC 47 CFR Section 15.247 (b), if transmitting antennas of directional gain greater than 6dBi are used, the power shall be reduced by the amount in dB that the directional gain of the antenna exceeds 6dBi.

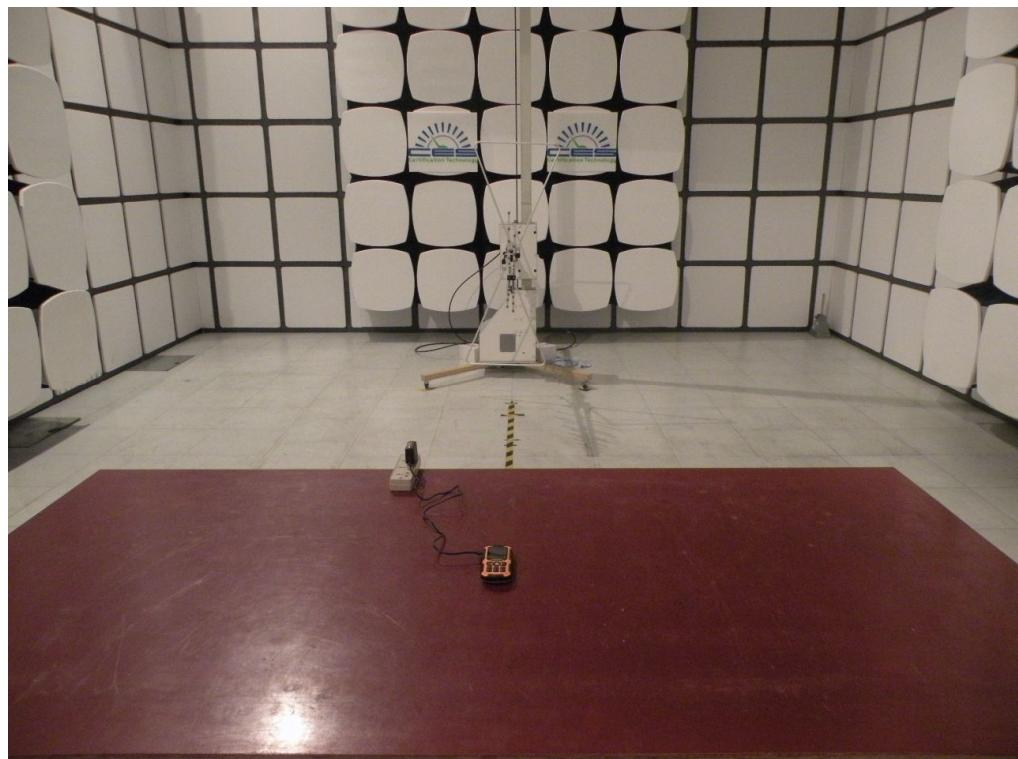
### **11.2. Result**

The antennas used for this product are Dipole Antenna for Bluetooth, PIFA Antenna For GSM and that no antenna other than that furnished by the responsible party shall be used with the device, the maximum peak gain of the transmit antenna is only 1dBi for BT and 1dBi for GSM .

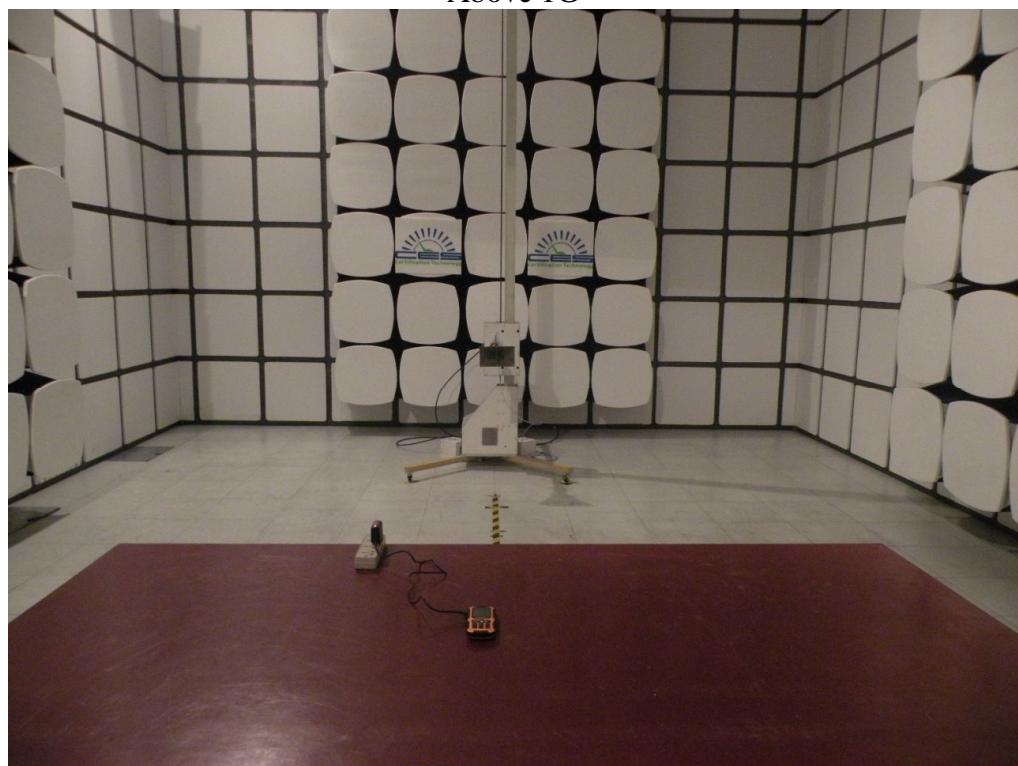
## 12. Test setup photo

Photographs-Radiated Emission Test Setup in Chamber

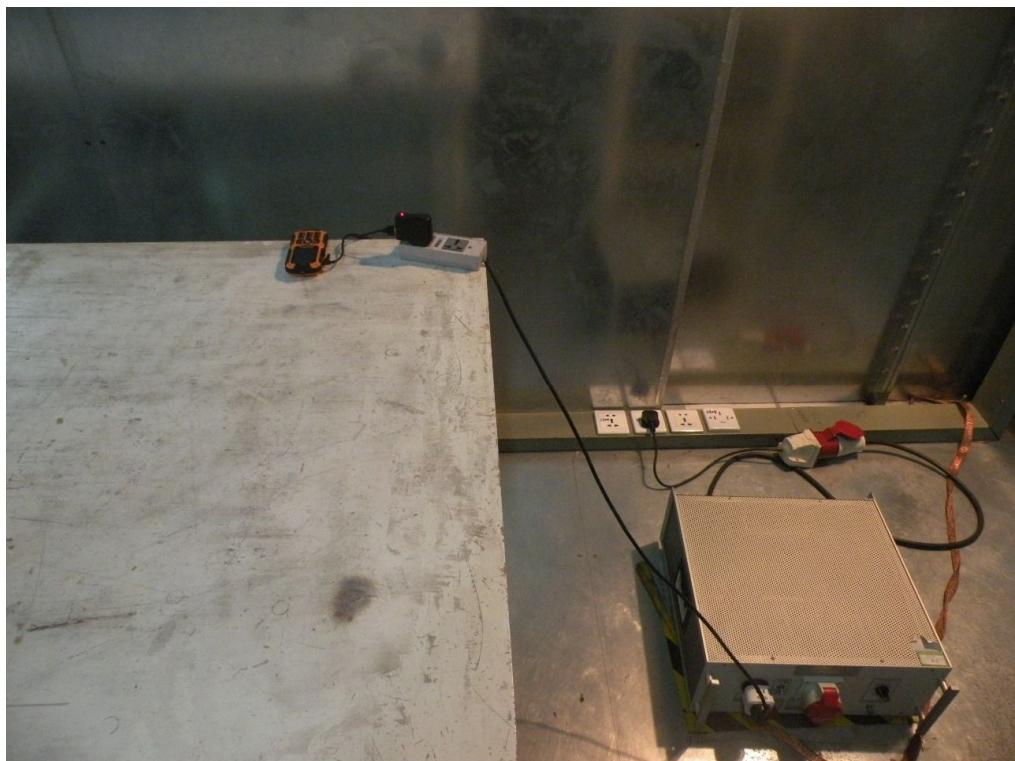
Below 1G



Above 1G



Photographs-Conducted Emission Test Setup



### 13. Photos of EUT

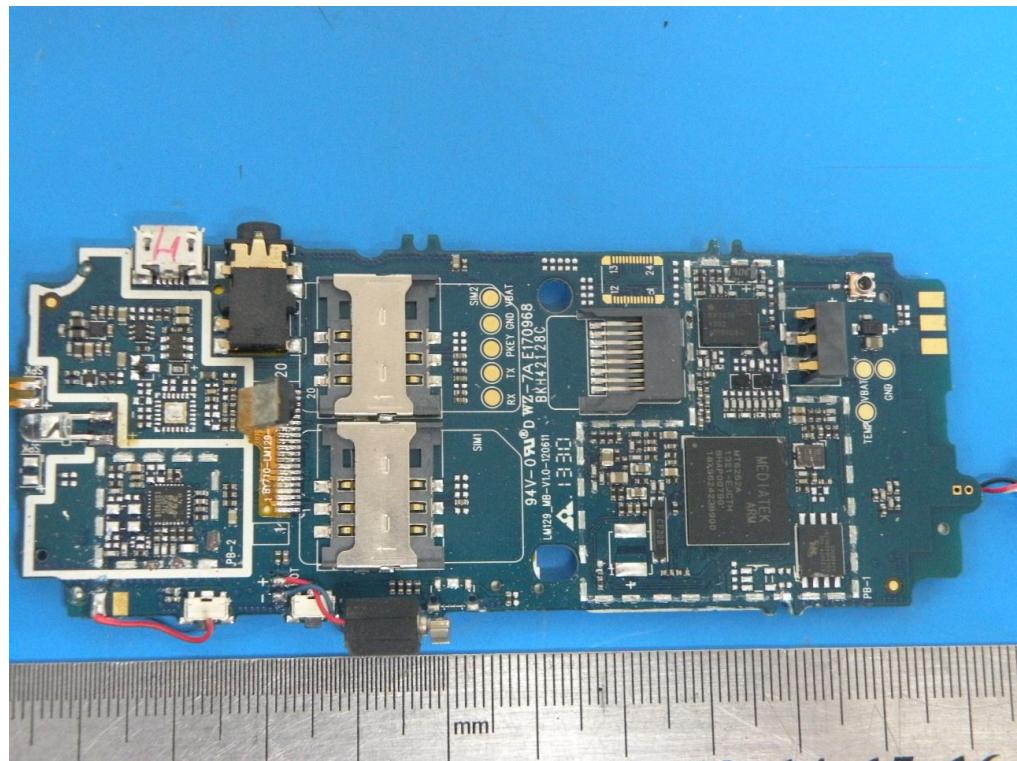
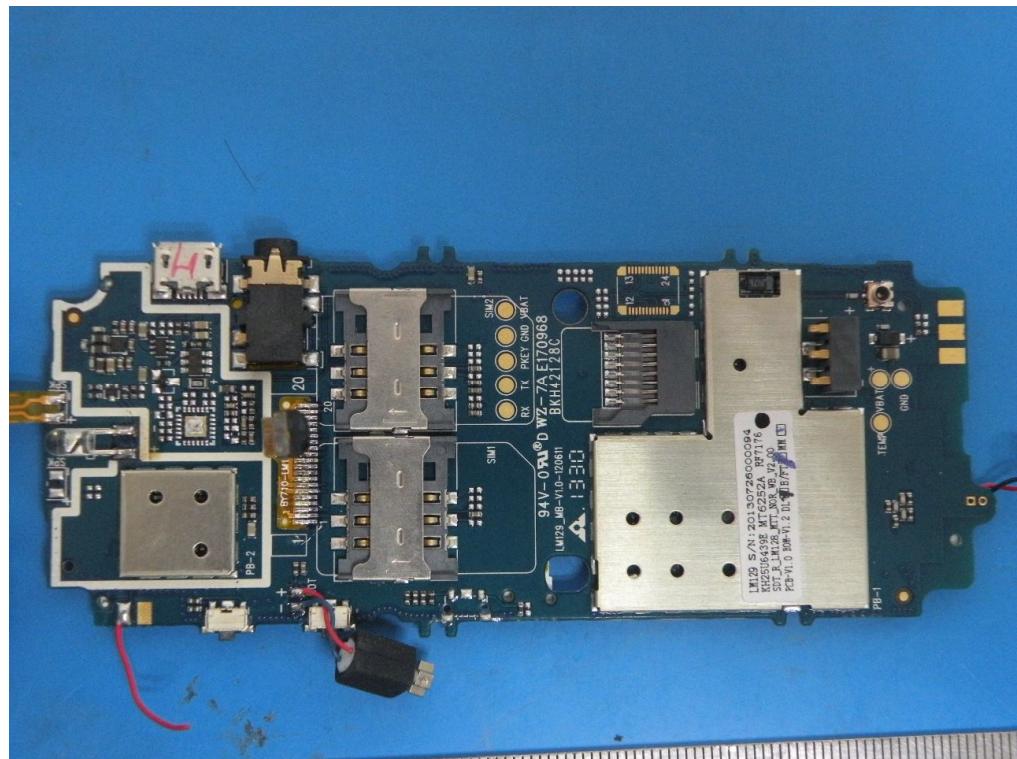


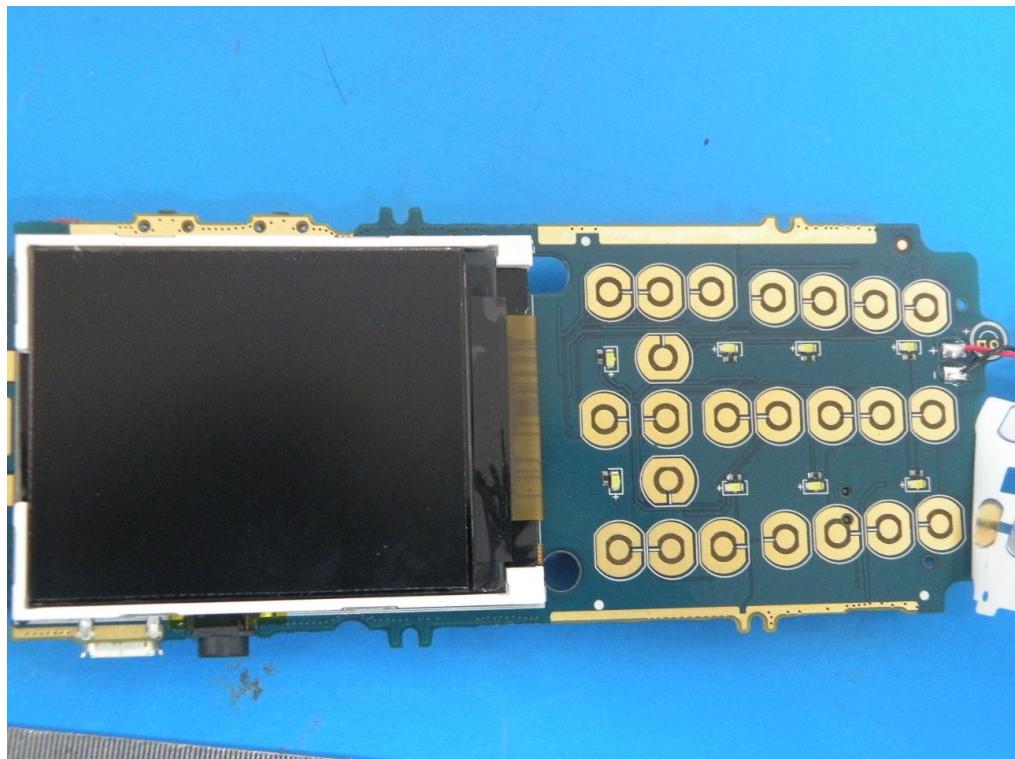












-----END OF THE REPORT-----