

# RF TEST REPORT



Report No.: 15070273-FCC-R2

Supersede Report No.: N/A

Applicant	Social Mobile Telecommunications	
Product Name	PHONE	
Model No.	X301	
Serial No.	Vapor	
Test Standard	FCC Part 15.247: 2014, ANSI C63.10: 2013	
Test Date	April 20 to April 28, 2015	
Issue Date	May 08, 2015	
Test Result	<input checked="" type="checkbox"/> Pass	<input type="checkbox"/> Fail
Equipment complied with the specification		<input checked="" type="checkbox"/>
Equipment did not comply with the specification		<input type="checkbox"/>
Wiky.Jam	Chris You	
Wiky.Jam Test Engineer	Chris You Checked By	
This test report may be reproduced in full only		
Test result presented in this test report is applicable to the tested sample only		

Issued by:

**SIEMIC (SHENZHEN-CHINA) LABORATORIES**

Zone A, Floor 1, Building 2 Wan Ye Long Technology Park

South Side of Zhoushi Road, Bao'an District, Shenzhen, Guangdong China 518108

Phone: +86 0755 2601 4629801 Email: [China@siemic.com.cn](mailto:China@siemic.com.cn)

## Laboratories Introduction

SIEMIC, headquartered in the heart of Silicon Valley, with superior facilities in US and Asia, is one of the leading independent testing and certification facilities providing customers with one-stop shop services for Compliance Testing and Global Certifications.



In addition to testing and certification, SIEMIC provides initial design reviews and compliance management throughout a project. Our extensive experience with China, Asia Pacific, North America, European, and International compliance requirements, assures the fastest, most cost effective way to attain regulatory compliance for the global markets.

### Accreditations for Conformity Assessment

Country/Region	Scope
USA	EMC, RF/Wireless, SAR, Telecom
Canada	EMC, RF/Wireless, SAR, Telecom
Taiwan	EMC, RF, Telecom, SAR, Safety
Hong Kong	RF/Wireless, SAR, Telecom
Australia	EMC, RF, Telecom, SAR, Safety
Korea	EMI, EMS, RF, SAR, Telecom, Safety
Japan	EMI, RF/Wireless, SAR, Telecom
Singapore	EMC, RF, SAR, Telecom
Europe	EMC, RF, SAR, Telecom, Safety

Test Report	15070273-FCC-R2
Page	3 of 52

This page has been left blank intentionally.

## CONTENTS

1. REPORT REVISION HISTORY .....	5
2. CUSTOMER INFORMATION .....	5
3. TEST SITE INFORMATION.....	5
4. EQUIPMENT UNDER TEST (EUT) INFORMATION .....	6
5. TEST SUMMARY .....	8
6. MEASUREMENTS, EXAMINATION AND DERIVED RESULTS .....	9
6.1 ANTENNA REQUIREMENT.....	9
6.2 CHANNEL SEPARATION .....	10
6.3 20DB BANDWIDTH.....	14
6.4 PEAK OUTPUT POWER.....	18
6.5 NUMBER OF HOPPING CHANNEL.....	22
6.6 TIME OF OCCUPANCY (DWELL TIME) .....	24
6.7 BAND EDGE.....	28
6.8 AC POWER LINE CONDUCTED EMISSIONS.....	33
6.9 RADIATED SPURIOUS EMISSIONS .....	37
ANNEX A. TEST INSTRUMENT.....	42
ANNEX B. EUT AND TEST SETUP PHOTOGRAPHS.....	43
ANNEX C. TEST SETUP AND SUPPORTING EQUIPMENT.....	48
ANNEX D. USER MANUAL / BLOCK DIAGRAM / SCHEMATICS / PARTLIST .....	51
ANNEX E. DECLARATION OF SIMILARITY .....	52

## 1. Report Revision History

Report No.	Report Version	Description	Issue Date
15070273-FCC-R2	NONE	Original	May 08, 2015

## 2. Customer information

Applicant Name	Social Mobile Telecommunications
Applicant Add	16400 NW 2nd Ave. #201 Miami, Florida 33169
Manufacturer	SMT TELECOMM HK LIMITED
Manufacturer Add	Unit C 8/F, CHARMHILL CTR 50 HILLWOOD RD TST KL

## 3. Test site information

Lab performing tests	SIEMIC (Shenzhen-China) LABORATORIES
Lab Address	Zone A, Floor 1, Building 2 Wan Ye Long Technology Park South Side of Zhoushi Road, Bao'an District, Shenzhen, Guangdong China 518108
FCC Test Site No.	718246
IC Test Site No.	4842E-1
Test Software	Radiated Emission Program-To Shenzhen v2.0

#### 4. Equipment under Test (EUT) Information

Description of EUT: PHONE

Main Model: X301

Serial Model: Vapor

Date EUT received: April 15, 2015

Test Date(s): April 20 to April 28, 2015

Equipment Category : DSS

GSM850: 0.8 dBi

PCS1900: -1 dBi

Antenna Gain:	UMTS-FDD Band V: -0.7dBi
	UMTS-FDD Band II: -0.9dBi
	Bluetooth/BLE: -0.5dBi
	WIFI: -0.5 dBi

## GSM / GPRS: GMSK

## EGPRS: GMSK, 8PSK

Type of Modulation:	UMTS-FDD: QPSK, 16QAM 802.11b/g/n: DSSS, OFDM Bluetooth: GFSK, $\pi/4$ DQPSK BLE: GFSK
---------------------	---

GSM850 TX: 824.2 ~ 848.8 MHz; RX: 869.2 ~ 893.8 MHz

PCS1900 TX: 1850.2 ~ 1909.8 MHz; RX: 1930.2 ~ 1989.8 MHz

UMTS-FDD Band V TX: 826.4 ~ 846.6 MHz; RX: 871.4 ~ 891.6 MHz

RF Operating Frequency (ies): UMTS-FDD Band II TX:1852.4 ~ 1907.6 MHz;  
RX: 1932.4 ~ 1987.6 MHz

WIFI:802.11b/g/n(20M): 2412-2462 MHz

WIFI:802.11n(40M): 2422-2452 MHz

Bluetooth® BLE 2402-2480 MHz

Max. Output Power: GFSK:-0.858 dBm

Test Report	15070273-FCC-R2
Page	7 of 52

GSM 850: 124CH  
PCS1900: 299CH  
UMTS-FDD Band V : 102CH  
UMTS-FDD Band II : 277CH  
WIFI :802.11b/g/n(20M): 11CH  
WIFI :802.11n(40M): 7CH  
Bluetooth: 79CH  
BLE: 40CH

Number of Channels: Port: Power Port, Earphone Port, USB Port

Battery:  
Model: BP X301  
Spec: 3.7V 1200mAh 4.44Wh

Input Power: Charging Limit Voltage:4.2V  
Adapter:  
Model: PC X301  
Input: AC 100-240V; 50/60Hz 0.15A Max  
Output: DC 5.0V; 0.5A

Trade Name : Vapor

GPRS/EGPRS Multi-slot class 8/10/12

FCC ID: 2ACLMX301V

## 5. Test Summary

The product was tested in accordance with the following specifications.

All testing has been performed according to below product classification:

FCC Rules	Description of Test	Result
§15.203	Antenna Requirement	Compliance
§15.247(a)(1)	Channel Separation	Compliance
§15.247(a)(1)	20 dB Bandwidth	Compliance
§15.247(b)(1)	Peak Output Power	Compliance
§15.247(a)(1)(iii)	Number of Hopping Channel	Compliance
§15.247(a)(1)(iii)	Time of Occupancy (Dwell Time)	Compliance
§15.247(d)	Band Edge	Compliance
§15.207(a)	AC Line Conducted Emissions	Compliance
§15.205, §15.209, §15.247(d)	Radiated Emissions	Compliance

### Measurement Uncertainty

Emissions		
Test Item	Description	Uncertainty
Band Edge and Radiated Spurious Emissions	Confidence level of approximately 95% (in the case where distributions are normal), with a coverage factor of 2 (for EUTs < 0.5m X 0.5m X 0.5m)	+5.6dB/-4.5dB
-	-	-

## **6. Measurements, Examination And Derived Results**

### **6.1 Antenna Requirement**

#### **Applicable Standard**

According to § 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. 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 provisions of this section. The manufacturer may design the unit so that a broken antenna can be replaced by the user, but the user of a standard antenna jack or electrical connector is prohibited. The structure and application of the EUT were analyzed to determine compliance with section §15.203 of the rules. §15.203 state that the subject device must meet the following criteria:

- a. Antenna must be permanently attached to the unit.
- b. Antenna must use a unique type of connector to attach to the EUT.

Unit must be professionally installed, and installer shall be responsible for verifying that the correct antenna is employed with the unit.

And according to FCC 47 CFR section 15.247 (b), if the 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 6 dBi.

#### **Antenna Connector Construction**

The EUT has 2 antennas:

A permanently attached PIFA antenna for Bluetooth/BLE/WIFI, the gain is -0.5dBi for Bluetooth/BLE/WIFI.

A permanently attached PIFA antenna for GSM and UMTS, the gain is 0.8dBi for GSM850, -0.7dBi for UMTS-FDD Band V, -1dBi for PCS1900, the gain is -0.9dBi for UMTS-FDD Band II

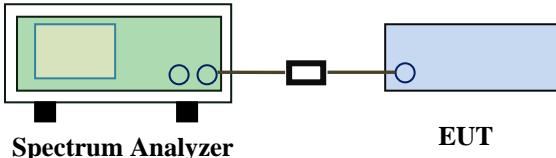
**The antenna meets up with the ANTENNA REQUIREMENT.**

**Result:** Compliance.

## 6.2 Channel Separation

Temperature	21°C
Relative Humidity	56%
Atmospheric Pressure	1016mbar
Test date :	April 16, 2015
Tested By :	Wiky.Jam

### Requirement(s):

Spec	Item	Requirement	Applicable
§ 15.247(a)(1)	a)	Channel Separation < 20dB BW and 20dB BW < 25KHz ; Channel Separation Limit=25KHz Chanel Separation < 20dB BW and 20dB BW > 25kHz ; Channel Separation Limit=2/3 20dB BW	<input checked="" type="checkbox"/>
Test Setup	 <p style="text-align: center;"><b>Spectrum Analyzer</b>   <b>EUT</b></p>		
Test Procedure	<p>The test follows FCC Public Notice DA 00-705 Measurement Guidelines.</p> <p><u>Use the following spectrum analyzer settings:</u></p> <ul style="list-style-type: none"> <li>- The EUT must have its hopping function enabled</li> <li>- Span = wide enough to capture the peaks of two adjacent channels</li> <li>- Resolution (or IF) Bandwidth (RBW) <math>\geq</math> 1% of the span</li> <li>- Video (or Average) Bandwidth (VBW) <math>\geq</math> RBW</li> <li>- Sweep = auto</li> <li>- Detector function = peak</li> <li>- Trace = max hold</li> <li>- Allow the trace to stabilize. Use the marker-delta function to determine the separation between the peaks of the adjacent channels. The limit is specified in one of the subparagraphs of this Section. Submit this plot.</li> </ul>		

Remark		
Result	<input checked="" type="checkbox"/> Pass	<input type="checkbox"/> Fail

Test Data  Yes  N/A

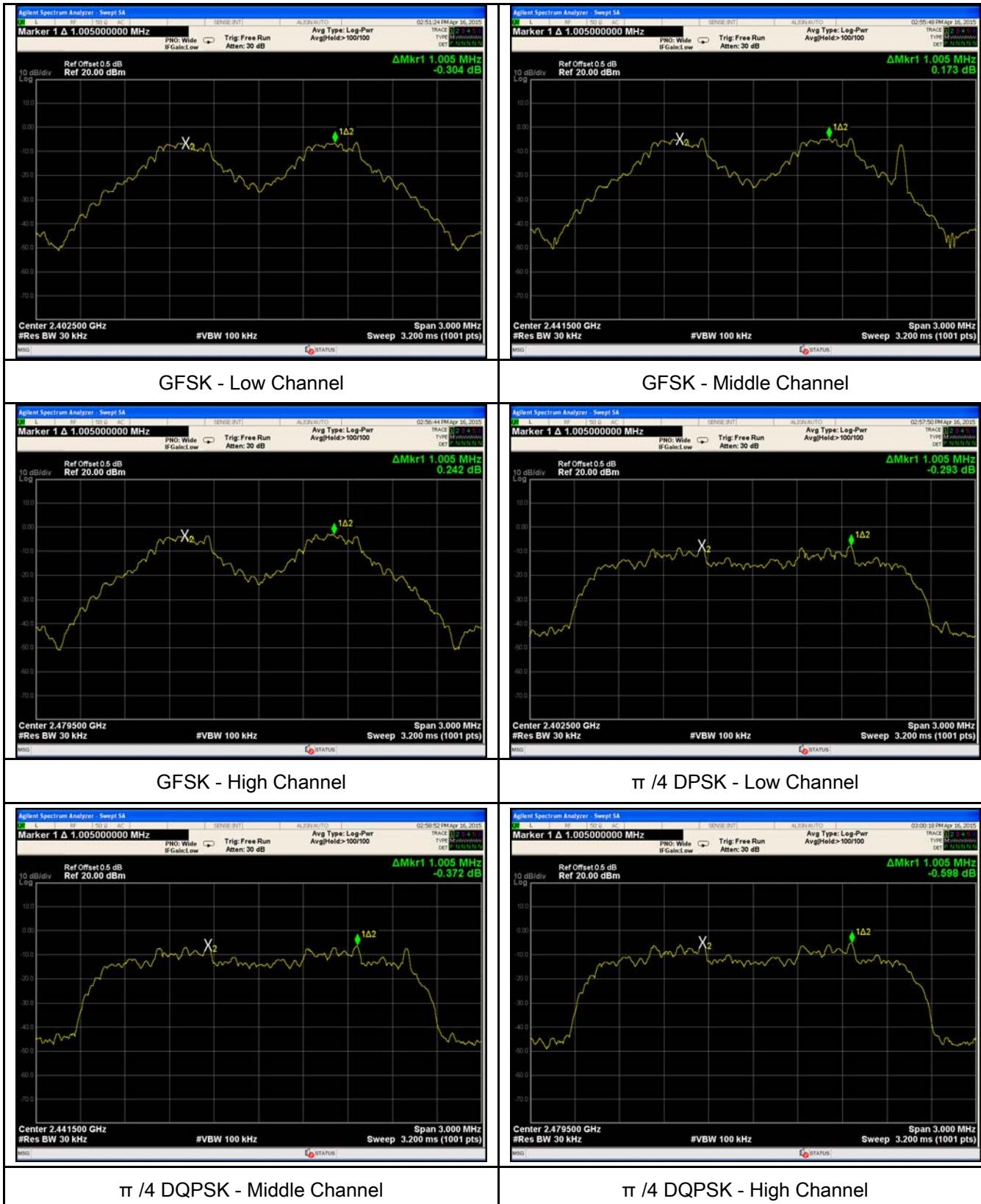
Test Plot  Yes (See below)  N/A

### Channel Separation measurement result

Type/ Modulation	CH	CH Freq (MHz)	CH Separation (MHz)	Limit (MHz)	Result
CH Separation GFSK	Low Channel	2402	1.005	0.681	Pass
	Adjacency Channel	2403			
	Mid Channel	2440			
	Adjacency Channel	2441	1.005	0.684	Pass
	High Channel	2480			
	Adjacency Channel	2479			
CH Separation $\pi/4$ DQPSK	Low Channel	2402	1.005	0.859	Pass
	Adjacency Channel	2403			
	Mid Channel	2440			
	Adjacency Channel	2441	1.005	0.875	Pass
	High Channel	2480			
	Adjacency Channel	2479			
CH Separation 8DPSK	Low Channel	2402	1.005	0.865	Pass
	Adjacency Channel	2403			
	Mid Channel	2440			
	Adjacency Channel	2441	1.005	0.861	Pass
	High Channel	2480			
	Adjacency Channel	2479			

## Test Plots

### Channel Separation measurement result





8DPSK - Low Channel

8DPSK - Middle Channel

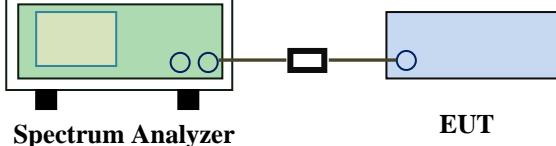


8DPSK - High Channel

### 6.3 20dB Bandwidth

Temperature	21°C
Relative Humidity	56%
Atmospheric Pressure	1016mbar
Test date :	April 16, 2015
Tested By :	Wiky.Jam

#### Requirement(s):

Spec	Item	Requirement	Applicable
§15.247(a) (1)	a)	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.	<input checked="" type="checkbox"/>
Test Setup			
Test Procedure	<p>The test follows FCC Public Notice DA 00-705 Measurement Guidelines.</p> <p><u>Use the following spectrum analyzer settings:</u></p> <ul style="list-style-type: none"> <li>- Span = approximately 2 to 3 times the 20 dB bandwidth, centered on a hopping channel</li> <li>- RBW <math>\geq</math> 1% of the 20 dB bandwidth</li> <li>- VBW <math>\geq</math> RBW</li> <li>- Sweep = auto</li> <li>- Detector function = peak</li> <li>- Trace = max hold.</li> <li>- The EUT should be transmitting at its maximum data rate. Allow the trace to stabilize. Use the marker-to-peak function to set the marker to the peak of the emission. Use the marker-delta function to measure 20 dB down one side of the emission. Reset the marker-delta function, and move the marker to the other side of the emission, until it is (as close as possible to) even with the reference</li> </ul>		

	marker level. The marker-delta reading at this point is the 20 dB bandwidth of the emission. If this value varies with different modes of operation (e.g., data rate, modulation format, etc.), repeat this test for each variation. The limit is specified in one of the subparagraphs of this Section. Submit this plot(s).
Remark	
Result	<input checked="" type="checkbox"/> Pass <input type="checkbox"/> Fail

Test Data  Yes  N/A

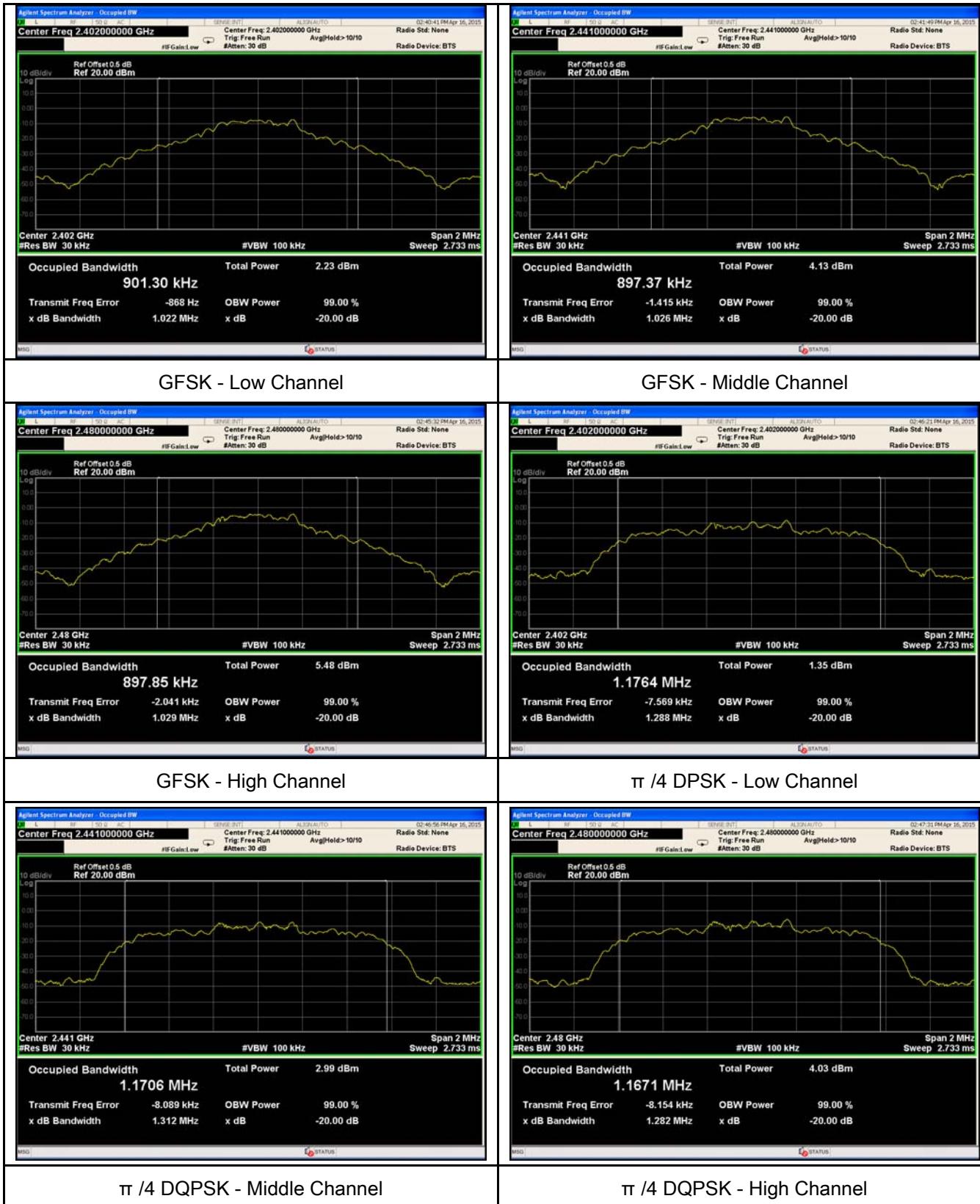
Test Plot  Yes (See below)  N/A

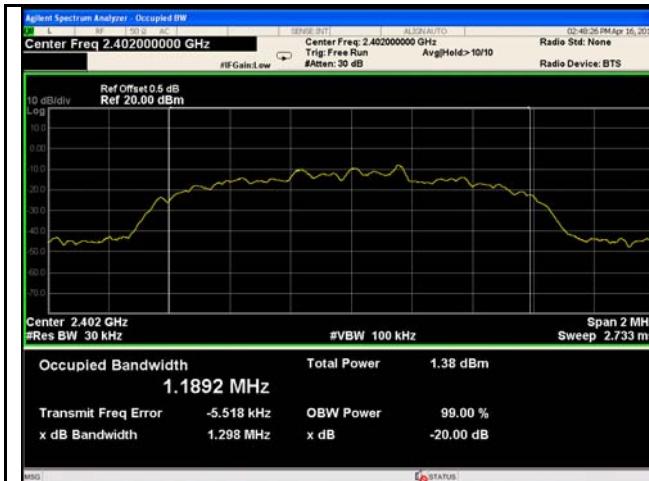
#### Measurement result

Modulation	CH	CH Freq (MHz)	20dB Bandwidth (MHz)	99% Occupied Bandwidth (MHz)
GFSK	Low	2402	1.022	0.901
	Mid	2441	1.026	0.897
	High	2480	1.029	0.898
$\pi/4$ DQPSK	Low	2402	1.288	1.1764
	Mid	2441	1.312	1.1706
	High	2480	1.282	1.1671
8-DPSK	Low	2402	1.298	1.1892
	Mid	2441	1.292	1.1803
	High	2480	1.291	1.1773

## Test Plots

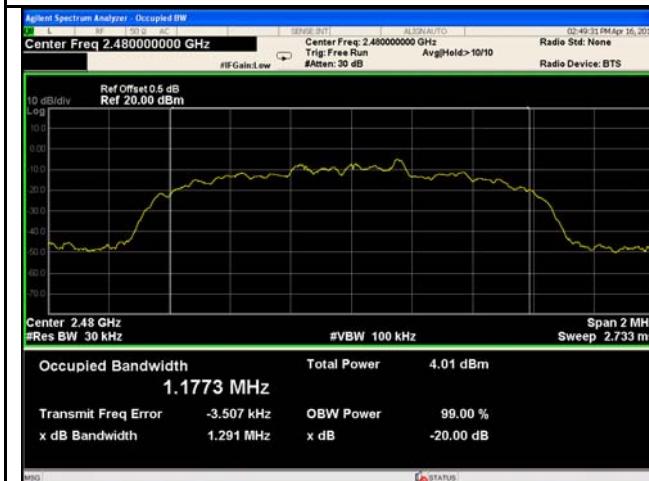
### 20dB Bandwidth measurement result





8DPSK - Low Channel

8DPSK - Middle Channel

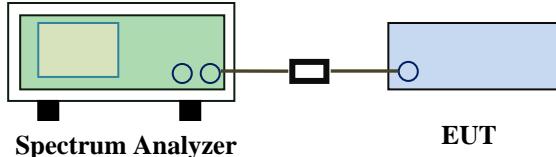


8DPSK - High Channel

## 6.4 Peak Output Power

Temperature	21°C
Relative Humidity	56%
Atmospheric Pressure	1016mbar
Test date :	April 16, 2015
Tested By :	Wiky.Jam

### Requirement(s):

Spec	Item	Requirement	Applicable
§15.247(b) (2)	a)	FHSS in 2400-2483.5MHz with $\geq$ 75 channels: $\leq$ 1 Watt	<input checked="" type="checkbox"/>
	b)	FHSS in 5725-5850MHz: $\leq$ 1 Watt	<input type="checkbox"/>
	c)	For all other FHSS in the 2400-2483.5MHz band: $\leq$ 0.125 Watt.	<input checked="" type="checkbox"/>
	d)	FHSS in 902-928MHz with $\geq$ 50 channels: $\leq$ 1 Watt	<input type="checkbox"/>
	e)	FHSS in 902-928MHz with $\geq$ 25 & $<$ 50 channels: $\leq$ 0.25 Watt	<input type="checkbox"/>
	f)	DSSS in 902-928MHz, 2400-2483.5MHz, 5725-5850MHz: $\leq$ 1 Watt	<input type="checkbox"/>
Test Setup		 <b>Spectrum Analyzer</b> <b>EUT</b>	
Test Procedure		<p>The test follows FCC Public Notice DA 00-705 Measurement Guidelines.</p> <p><u>Use the following spectrum analyzer settings:</u></p> <ul style="list-style-type: none"> <li>- Span = approximately 5 times the 20 dB bandwidth, centered on a hopping channel</li> <li>- RBW &gt; the 20 dB bandwidth of the emission being measured</li> <li>- VBW <math>\geq</math> RBW</li> <li>- Sweep = auto</li> <li>- Detector function = peak</li> <li>- Trace = max hold</li> </ul>	

	<ul style="list-style-type: none"> <li>- Allow the trace to stabilize.</li> <li>- Use the marker-to-peak function to set the marker to the peak of the emission. The indicated level is the peak output power (see the note above regarding external attenuation and cable loss). The limit is specified in one of the subparagraphs of this Section. Submit this plot. A peak responding power meter may be used instead of a spectrum analyzer.</li> </ul>
Remark	
Result	<input checked="" type="checkbox"/> Pass <input type="checkbox"/> Fail

Test Data  Yes  N/A

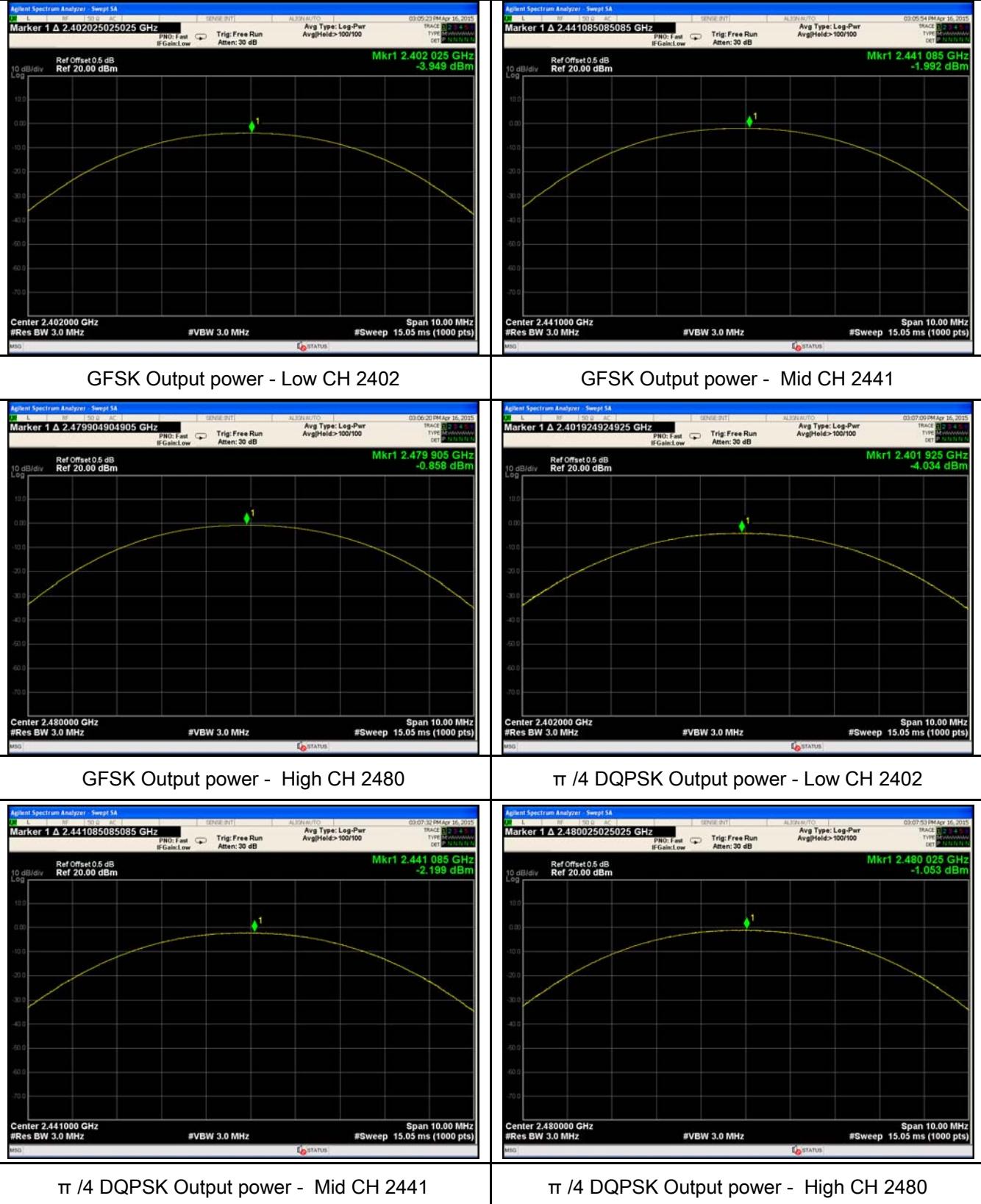
Test Plot  Yes (See below)  N/A

#### Peak Output Power measurement result

Type	Modulation	CH	Freq (MHz)	Conducted Power (dBm)	Limit (mW)	Result
Output power	GFSK	Low	2402	<b>-3.949</b>	125	Pass
		Mid	2441	<b>-1.992</b>	125	Pass
		High	2480	<b>-0.858</b>	125	Pass
	$\pi/4$ DQPSK	Low	2402	-4.034	125	Pass
		Mid	2441	-2.199	125	Pass
		High	2480	-1.053	125	Pass
	8-DPSK	Low	2402	-4.108	125	Pass
		Mid	2441	-2.045	125	Pass
		High	2480	-0.964	125	Pass

## Test Plots

### Output Power measurement result



Test Report	15070273-FCC-R2
Page	21 of 52



8DPSK Output power - Low CH 2402

8DPSK Output power - Mid CH 2441



8DPSK Output power - High CH 2480

## 6.5 Number of Hopping Channel

Temperature	22°C
Relative Humidity	57%
Atmospheric Pressure	1017mbar
Test date :	April 17 2015
Tested By :	Wiky.Jam

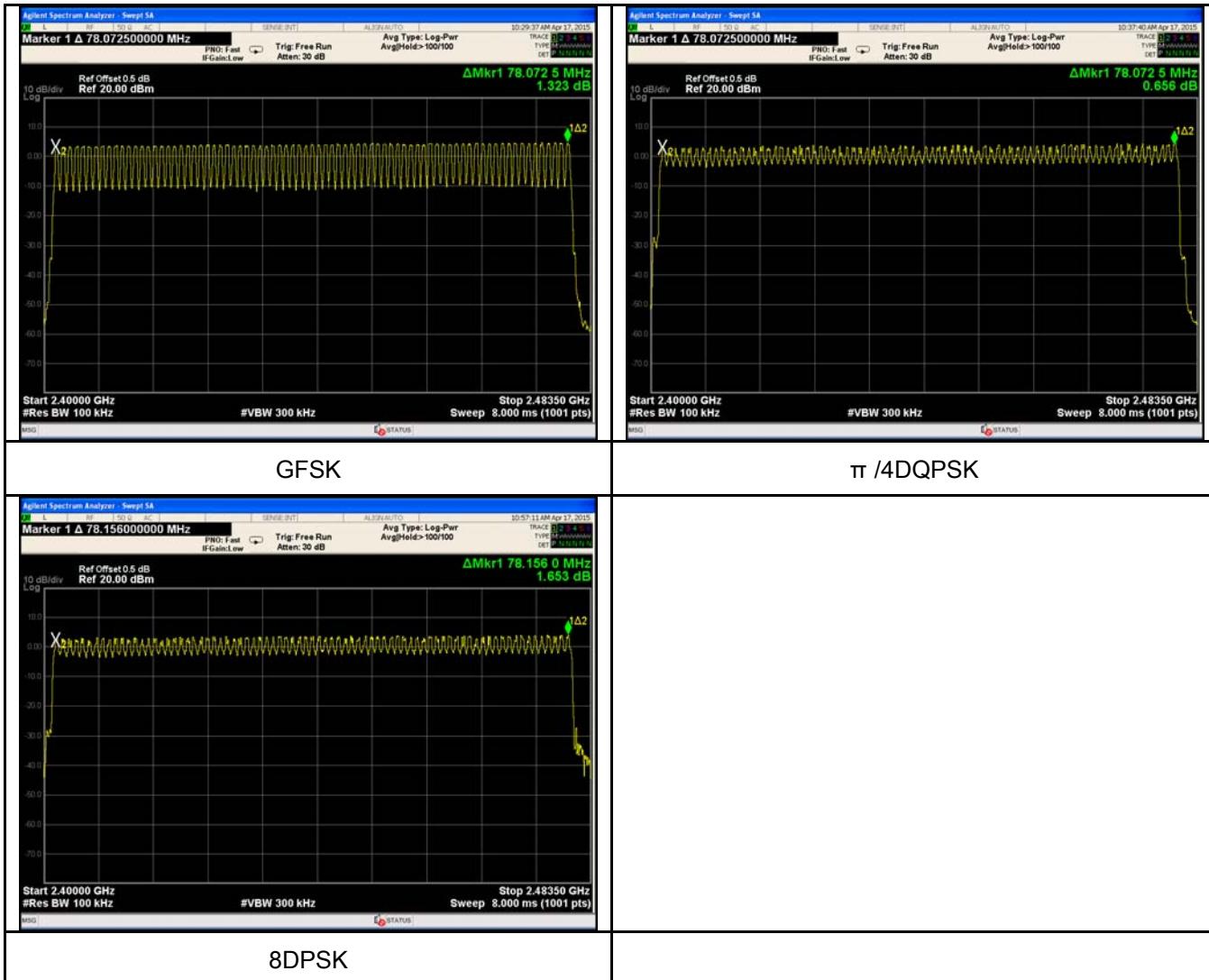
### Requirement(s):

### Number of Hopping Channel measurement result

Type	Modulation	Frequency Range	Number of Hopping Channel	Limit
Number of Hopping Channel	GFSK	2400-2483.5	79	15
	$\pi/4$ DQPSK	2400-2483.5	79	15
	8-DPSK	2400-2483.5	79	15

### Test Plots

#### Number of Hopping Channels measurement result



## 6.6 Time of Occupancy (Dwell Time)

Temperature	25°C
Relative Humidity	53%
Atmospheric Pressure	1013mbar
Test date :	April 13, 2015
Tested By :	Wiky.Jam

### Requirement(s):

**Test Data**  Yes  N/A

Yes (See below)  N/A

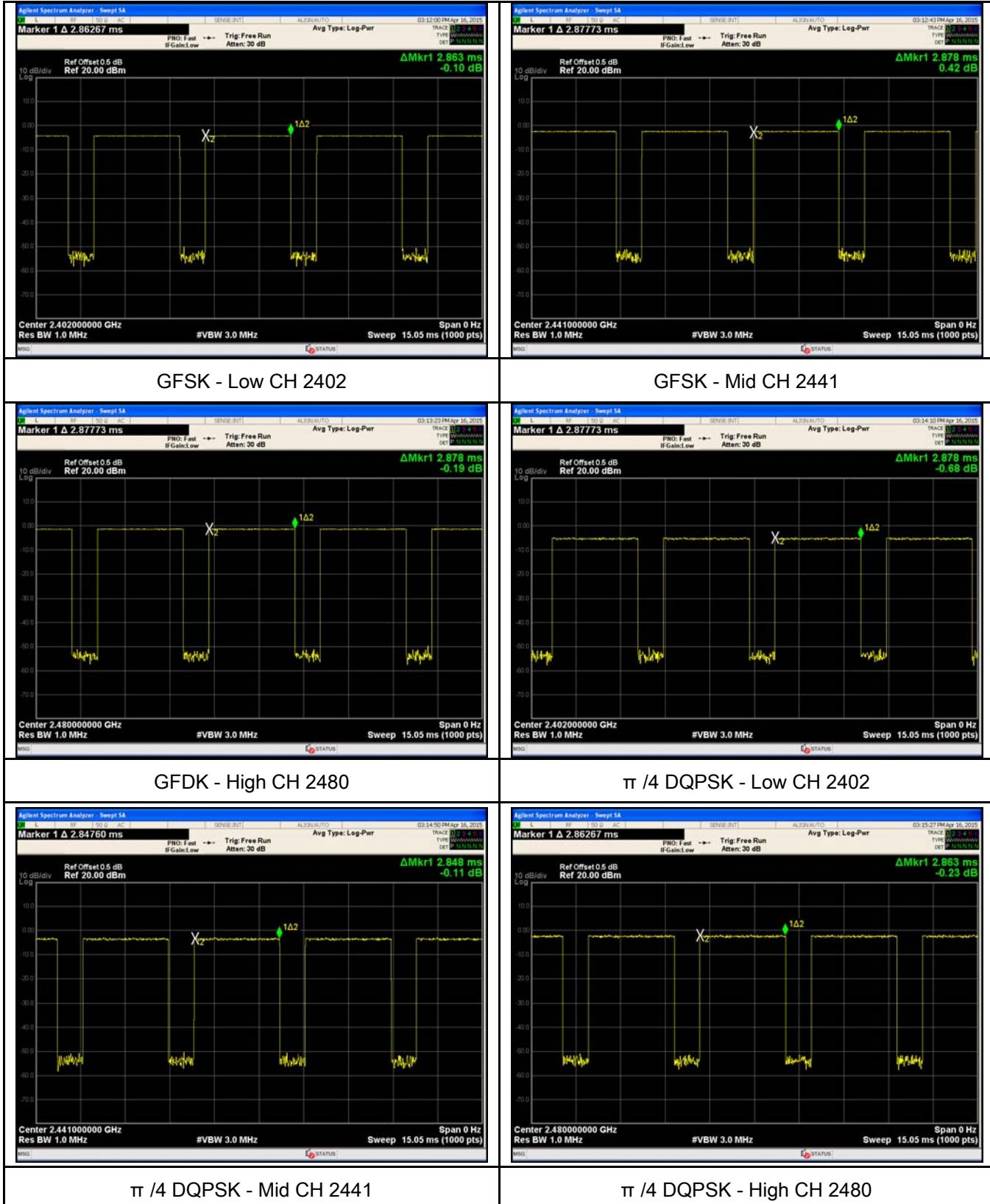
**Dwell Time measurement result**

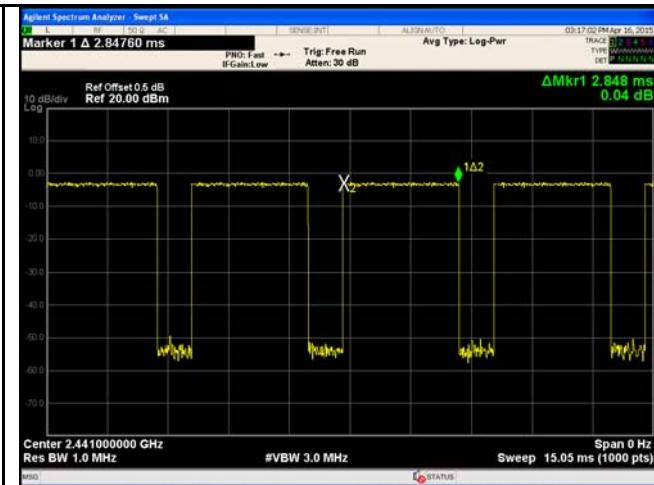
Type	Modulation	CH	Pulse Width (ms)	Dwell Time (ms)	Limit (ms)	Result
Dwell Time	GFSK	Low	2.863	305.387	400	Pass
		Mid	2.878	306.987	400	Pass
		High	2.878	306.987	400	Pass
	$\pi/4$ DQPSK	Low	2.878	306.987	400	Pass
		Mid	2.848	303.787	400	Pass
		High	2.863	305.387	400	Pass
	8-DPSK	Low	2.878	306.987	400	Pass
		Mid	2.848	303.787	400	Pass
		High	2.878	306.987	400	Pass

Note: Dwell time=Pulse Time (ms)  $\times$  (1600  $\div$  6  $\div$  79)  $\times$  31.6

## Test Plots

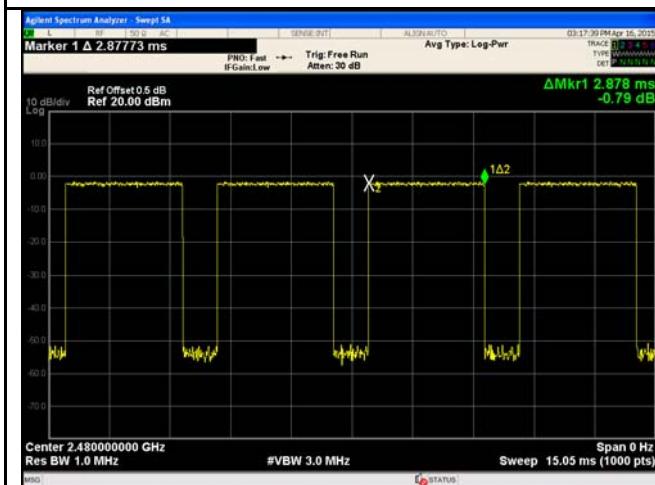
### Dwell Time measurement result





8DPSK - Low CH 2402

8DPSK - Mid CH 2441

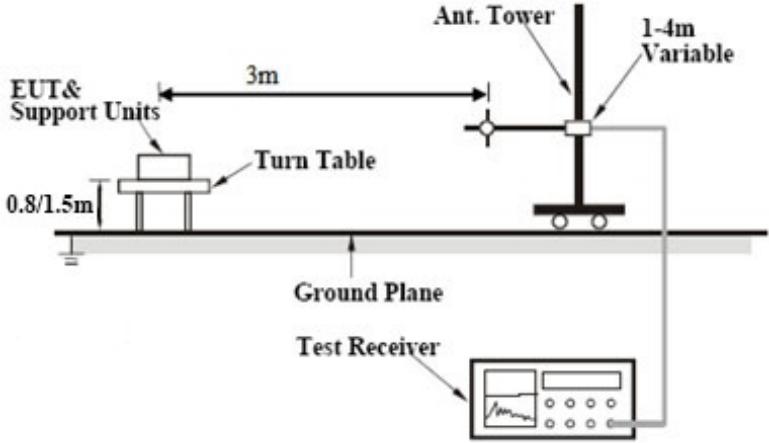


8DPSK - High CH 2480

## 6.7 Band Edge

Temperature	25°C
Relative Humidity	51%
Atmospheric Pressure	1020mbar
Test date :	April 20 2015
Tested By :	Wiky.Jam

### Requirement(s):

Spec	Item	Requirement	Applicable
§15.247(a) (1)(iii)	a)	In any 100 kHz 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 20 dB below that in the 100 kHz bandwidth within the band that contains the highest level of the desired power, based on either an RF conducted or a radiated measurement, provided the transmitter demonstrates compliance with the peak conducted power limits.	<input checked="" type="checkbox"/>
Test Setup	 <p>The diagram illustrates the test setup. A Turn Table is positioned on a Ground Plane. An EUT &amp; Support Units is placed on the turn table. A vertical Ant. Tower is mounted on the turn table, with a 1-4m Variable height adjustment. A Test Receiver is connected to the turn table, and its signal is processed by a spectrum analyzer.</p>		
Test Procedure	<p>The test follows FCC Public Notice DA 00-705 Measurement Guidelines. Radiated Method Only</p> <ul style="list-style-type: none"> <li>- 1. Check the calibration of the measuring instrument using either an internal calibrator or a known signal from an external generator.</li> <li>- 2. Position the EUT without connection to measurement instrument. Put it on the Rotated table and turn on the EUT and make it operate in transmitting mode. Then set it to Low Channel and High Channel within its operating range,</li> </ul>		

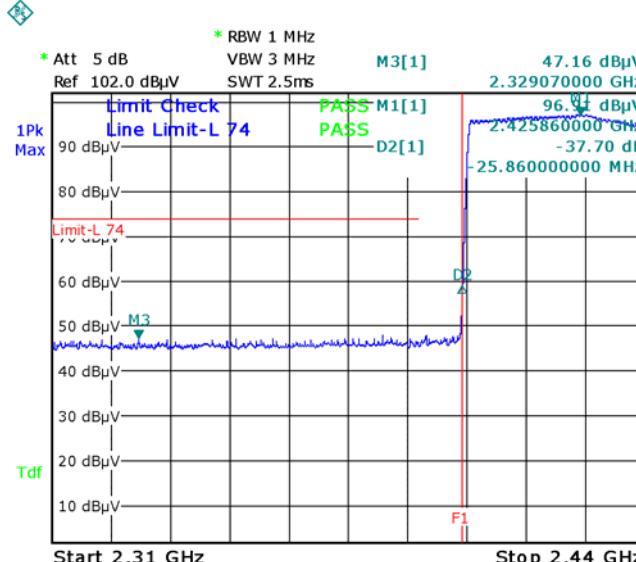
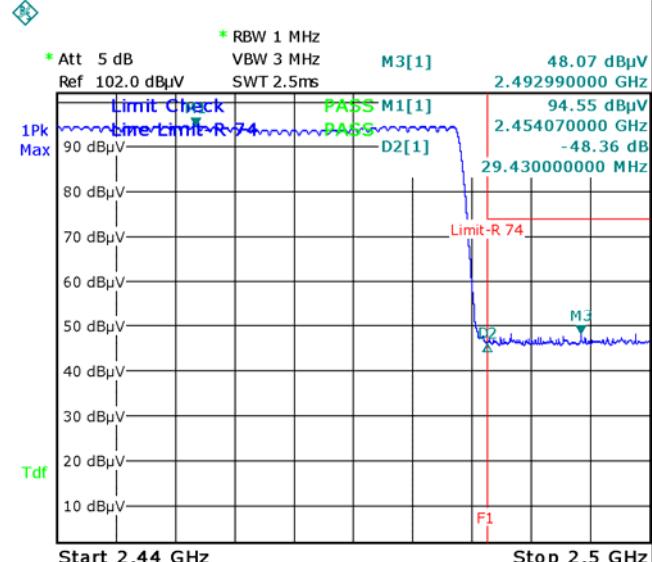
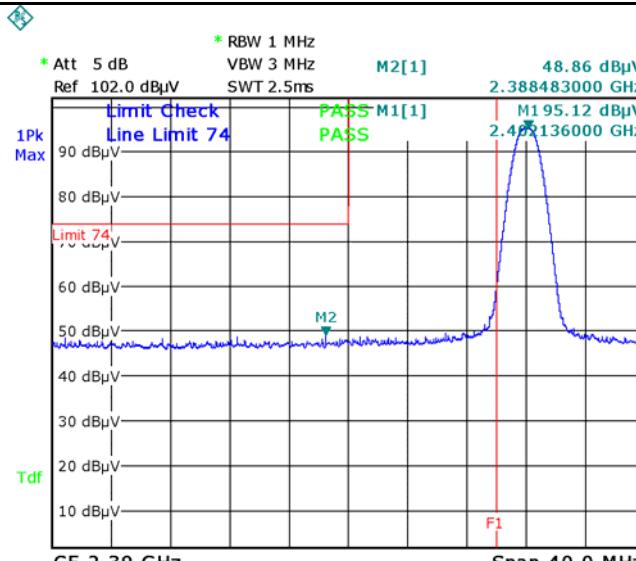
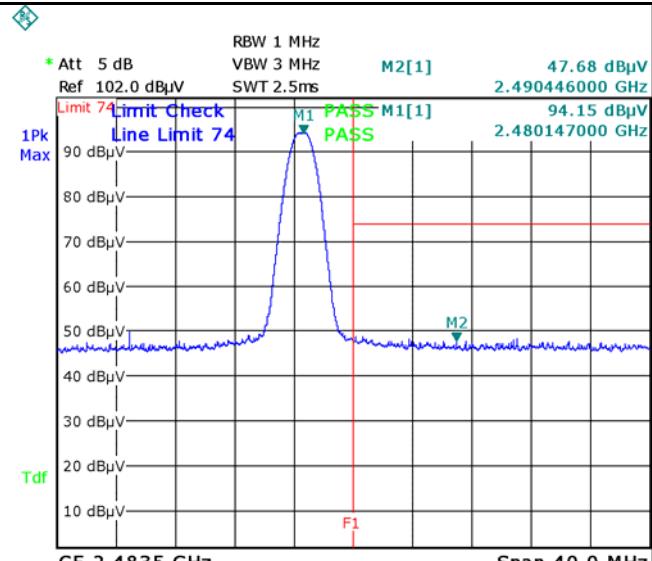
	<p>and make sure the instrument is operated in its linear range.</p> <ul style="list-style-type: none"> <li>- 3. First, set both RBW and VBW of spectrum analyzer to 100 kHz with a convenient frequency span including 100kHz bandwidth from band edge, check the emission of EUT, if pass then set Spectrum Analyzer as below:           <ul style="list-style-type: none"> <li>a. The resolution bandwidth and video bandwidth of test receiver/spectrum analyzer is 120 kHz for Quasiy Peak detection at frequency below 1GHz.</li> <li>b. The resolution bandwidth of test receiver/spectrum analyzer is 1MHz and video bandwidth is 3MHz with Peak detection for Peak measurement at frequency above 1GHz.</li> <li>c. The resolution bandwidth of test receiver/spectrum analyzer is 1MHz and the video bandwidth is 10Hz with Peak detection for Average Measurement as below at frequency above 1GHz.</li> </ul> </li> <li>- 4. Measure the highest amplitude appearing on spectral display and set it as a reference level. Plot the graph with marking the highest point and edge frequency.</li> <li>- 5. Repeat above procedures until all measured frequencies were complete.</li> </ul>
Remark	
Result	<input checked="" type="checkbox"/> Pass <input type="checkbox"/> Fail

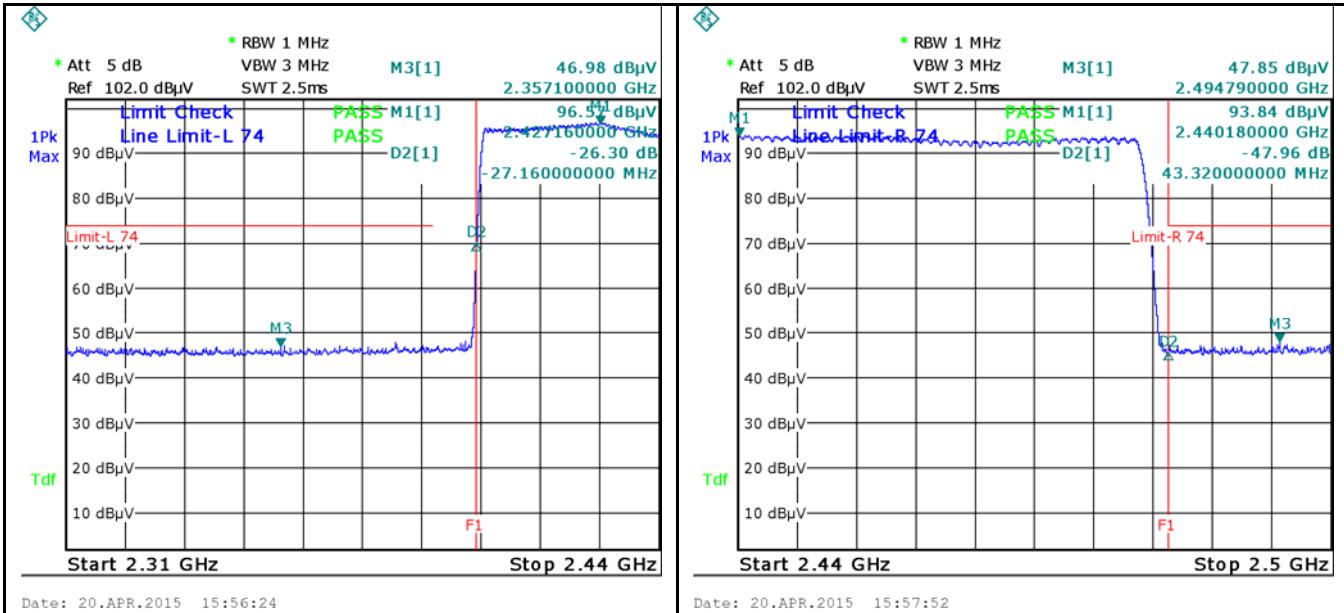
Test Data     Yes       N/A

Test Plot     Yes (See below)       N/A

## Test Plots

### GFSK Mode:

 <p>RBW 1 MHz Att 5 dB Ref 102.0 dB<math>\mu</math>V VBW 3 MHz SWT 2.5ms M3[1] 47.16 dB<math>\mu</math>V 2.329070000 GHz 1Pk Max 90 dB<math>\mu</math>V Limit Check PASS M1[1] 96.44 dB<math>\mu</math>V Line Limit-L 74 PASS D2[1] 2.425860000 GHz -37.70 dB -25.860000000 MHz Tdf 10 dB<math>\mu</math>V Start 2.31 GHz Stop 2.44 GHz</p> <p>Date: 20.APR.2015 15:50:55</p>	 <p>RBW 1 MHz Att 5 dB Ref 102.0 dB<math>\mu</math>V VBW 3 MHz SWT 2.5ms M3[1] 48.07 dB<math>\mu</math>V 2.492990000 GHz 1Pk Max 90 dB<math>\mu</math>V Limit Check PASS M1[1] 94.55 dB<math>\mu</math>V Line Limit-R 74 PASS D2[1] 2.454070000 GHz -48.36 dB 29.430000000 MHz Tdf 10 dB<math>\mu</math>V Start 2.44 GHz Stop 2.5 GHz</p> <p>Date: 20.APR.2015 15:49:14</p>
<p><b>GFSK-Hopping Left Side-PK</b></p> <p><b>Note: F1 is frequency 2400MHz</b></p>	<p><b>GFSK-Hopping Right Side-PK</b></p> <p><b>Note: F1 is frequency 2483.5MHz</b></p>
<p>Note: (no need if PK value less than the AV limit)</p>	<p>Note: (no need if PK value less than the AV limit)</p>
<p><b>GFSK-Hopping Left Side-AV</b></p>	<p><b>GFSK-Hopping Right Side-AV</b></p>
 <p>RBW 1 MHz Att 5 dB Ref 102.0 dB<math>\mu</math>V VBW 3 MHz SWT 2.5ms M2[1] 48.86 dB<math>\mu</math>V 2.388483000 GHz 1Pk Max 90 dB<math>\mu</math>V Limit Check PASS M1[1] 95.12 dB<math>\mu</math>V Line Limit 74 PASS D2[1] 2.482136000 GHz Tdf 10 dB<math>\mu</math>V CF 2.39 GHz Span 40.0 MHz</p> <p>Date: 20.APR.2015 14:48:20</p>	 <p>RBW 1 MHz Att 5 dB Ref 102.0 dB<math>\mu</math>V VBW 3 MHz SWT 2.5ms M2[1] 47.68 dB<math>\mu</math>V 2.490446000 GHz 1Pk Max 90 dB<math>\mu</math>V Limit 74 Limit Check PASS M1[1] 94.15 dB<math>\mu</math>V Line Limit 74 PASS D2[1] 2.480147000 GHz Tdf 10 dB<math>\mu</math>V CF 2.4835 GHz Span 40.0 MHz</p> <p>Date: 20.APR.2015 15:31:49</p>
<p><b>GFSK-Left Side-PK</b></p>	<p><b>GFSK-Right Side-PK</b></p>
<p><b>Note: F1 is frequency 2400MHz</b></p>	<p><b>Note: F1 is frequency 2483.5MHz</b></p>
<p>Note: (no need if PK value less than the AV limit)</p>	<p>Note: (no need if PK value less than the AV limit)</p>
<p><b>GFSK-Left Side-AV</b></p>	<p><b>GFSK-Right Side-AV</b></p>

**$\pi/4$  DQPSK Mode:**

 **$\pi/4$  DQPSK-Hopping Left Side-PK**

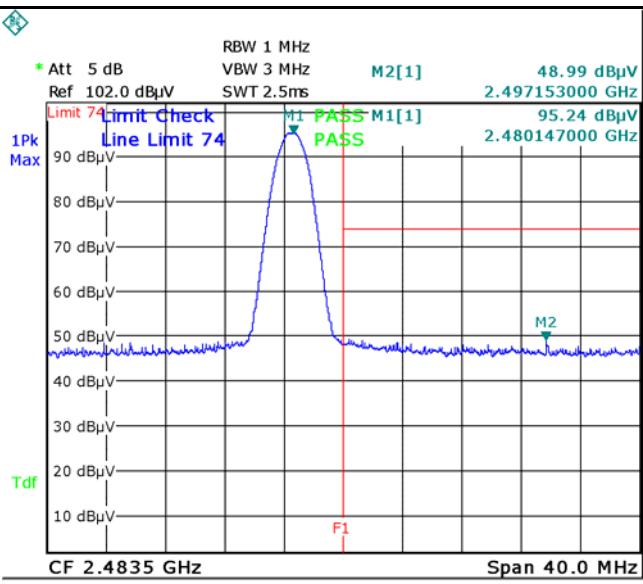
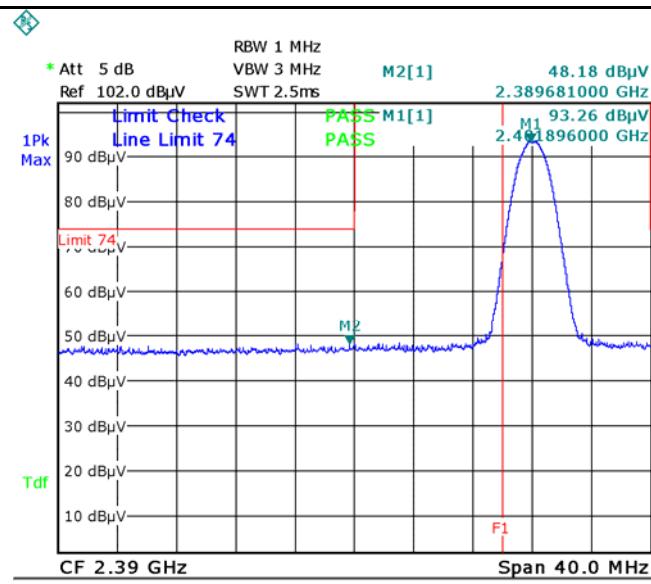
Note: F1 is frequency 2400MHz

 **$\pi/4$  DQPSK-Hopping Right Side-PK**

Note: F1 is frequency 2483.5MHz

Note: (no need if PK value less than the AV limit)

Note: (no need if PK value less than the AV limit)

 **$\pi/4$  DQPSK-Hopping Left-AV**
 **$\pi/4$  DQPSK-Hopping Right-AV**

 **$\pi/4$  DQPSK-Left Side-PK**

Note: F1 is frequency 2400MHz

 **$\pi/4$  DQPSK-Right Side-PK**

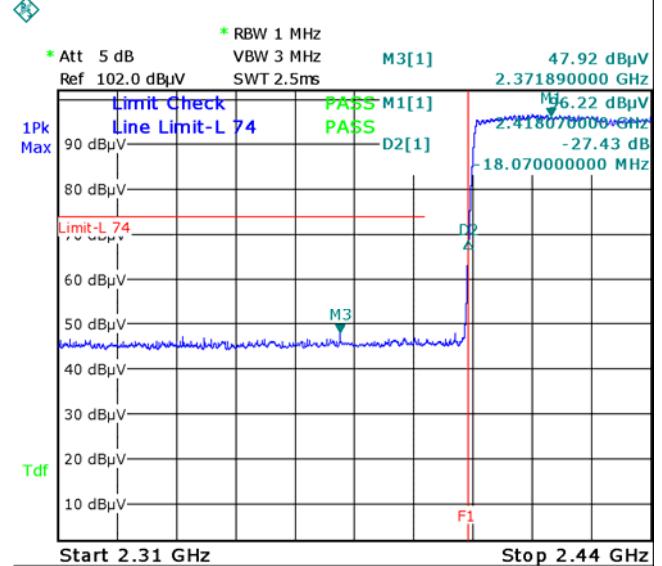
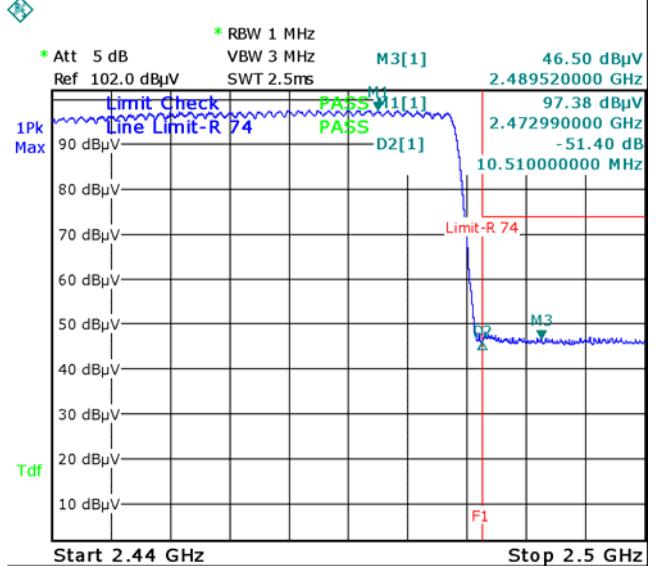
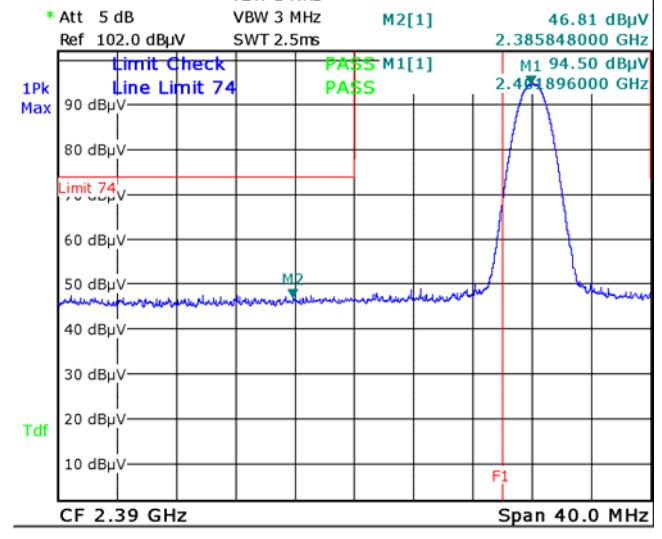
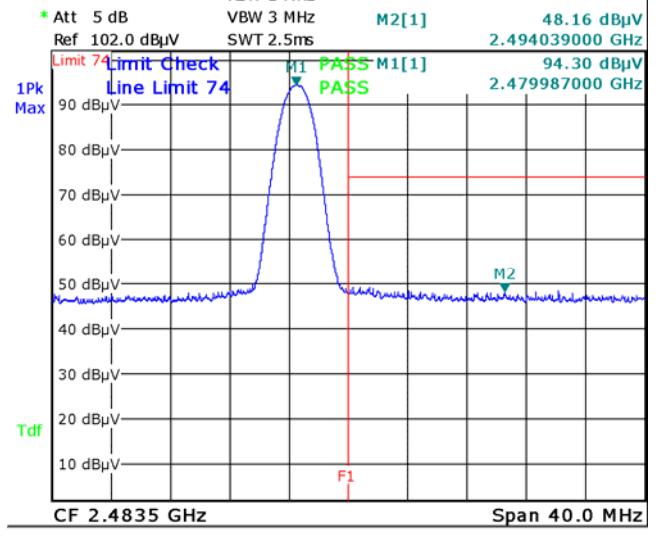
Note: F1 is frequency 2483.5MHz

Note: (no need if PK value less than the AV limit)

Note: (no need if PK value less than the AV limit)

 **$\pi/4$  DQPSK-Left Side-AV**
 **$\pi/4$  DQPSK-Right Side-AV**

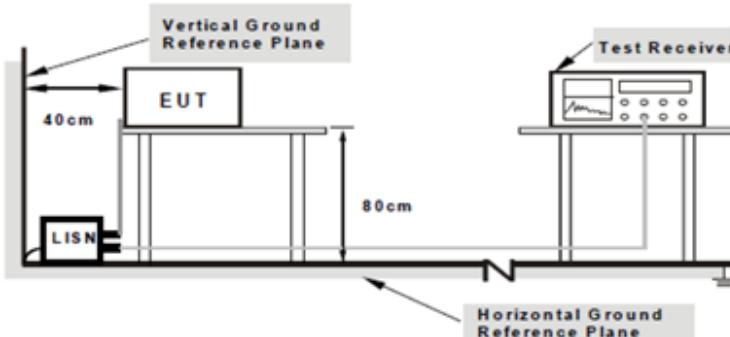
### 8-DPSK Mode:

 <p>RBW 1 MHz VBW 3 MHz Ref 102.0 dB<math>\mu</math>V SWT 2.5ms</p> <p>1Pk Max: Limit Check Line Limit-L 74 Tdf: Limit-L 74</p> <p>M3[1] 47.92 dB<math>\mu</math>V 2.371890000 GHz</p> <p>M1 96.22 dB<math>\mu</math>V 2.418070000 GHz -27.43 dB -18.070000000 MHz</p> <p>Start 2.31 GHz Stop 2.44 GHz</p> <p>Date: 20.APR.2015 16:03:41</p>	 <p>RBW 1 MHz VBW 3 MHz Ref 102.0 dB<math>\mu</math>V SWT 2.5ms</p> <p>1Pk Max: Limit Check Line Limit-R 74 Tdf: Limit-R 74</p> <p>M3[1] 46.50 dB<math>\mu</math>V 2.489520000 GHz</p> <p>M1 97.38 dB<math>\mu</math>V 2.472990000 GHz -51.40 dB 10.510000000 MHz</p> <p>Start 2.44 GHz Stop 2.5 GHz</p> <p>Date: 20.APR.2015 16:02:05</p>
<p>8DPSK-Hopping Left Side-PK</p> <p><b>Note: F1 is frequency 2400MHz</b></p>	<p>8DPSK-Hopping Right Side-PK</p> <p><b>Note: F1 is frequency 2483.5MHz</b></p>
<p>Note: (no need if PK value less than the AV limit)</p>	<p>Note: (no need if PK value less than the AV limit)</p>
<p>8DPSK-Hopping Left-AV</p>	<p>8DPSK-Hopping Right-AV</p>
 <p>RBW 1 MHz VBW 3 MHz Ref 102.0 dB<math>\mu</math>V SWT 2.5ms</p> <p>1Pk Max: Limit Check Line Limit 74 Tdf: Limit 74</p> <p>M2[1] 46.81 dB<math>\mu</math>V 2.385848000 GHz</p> <p>M1 94.50 dB<math>\mu</math>V 2.401896000 GHz</p> <p>CF 2.39 GHz Span 40.0 MHz</p> <p>Date: 20.APR.2015 15:11:19</p>	 <p>RBW 1 MHz VBW 3 MHz Ref 102.0 dB<math>\mu</math>V SWT 2.5ms</p> <p>1Pk Max: Limit 74 Limit Check Line Limit 74 Tdf: Limit 74</p> <p>M2[1] 48.16 dB<math>\mu</math>V 2.494039000 GHz</p> <p>M1 94.30 dB<math>\mu</math>V 2.479987000 GHz</p> <p>CF 2.4835 GHz Span 40.0 MHz</p> <p>Date: 20.APR.2015 15:24:29</p>
<p>8DPSK-Left Side-PK</p> <p><b>Note: F1 is frequency 2400MHz</b></p>	<p>8DPSK-Right Side-PK</p> <p><b>Note: F1 is frequency 2483.5MHz</b></p>
<p>Note: (no need if PK value less than the AV limit)</p>	<p>Note: (no need if PK value less than the AV limit)</p>
<p>8DPSK-Left Side-AV</p>	<p>8DPSK-Right Side-AV</p>

## 6.8 AC Power Line Conducted Emissions

Temperature	22°C
Relative Humidity	57%
Atmospheric Pressure	1017mbar
Test date :	April 17, 2015
Tested By :	Wiky.Jam

### Requirement(s):

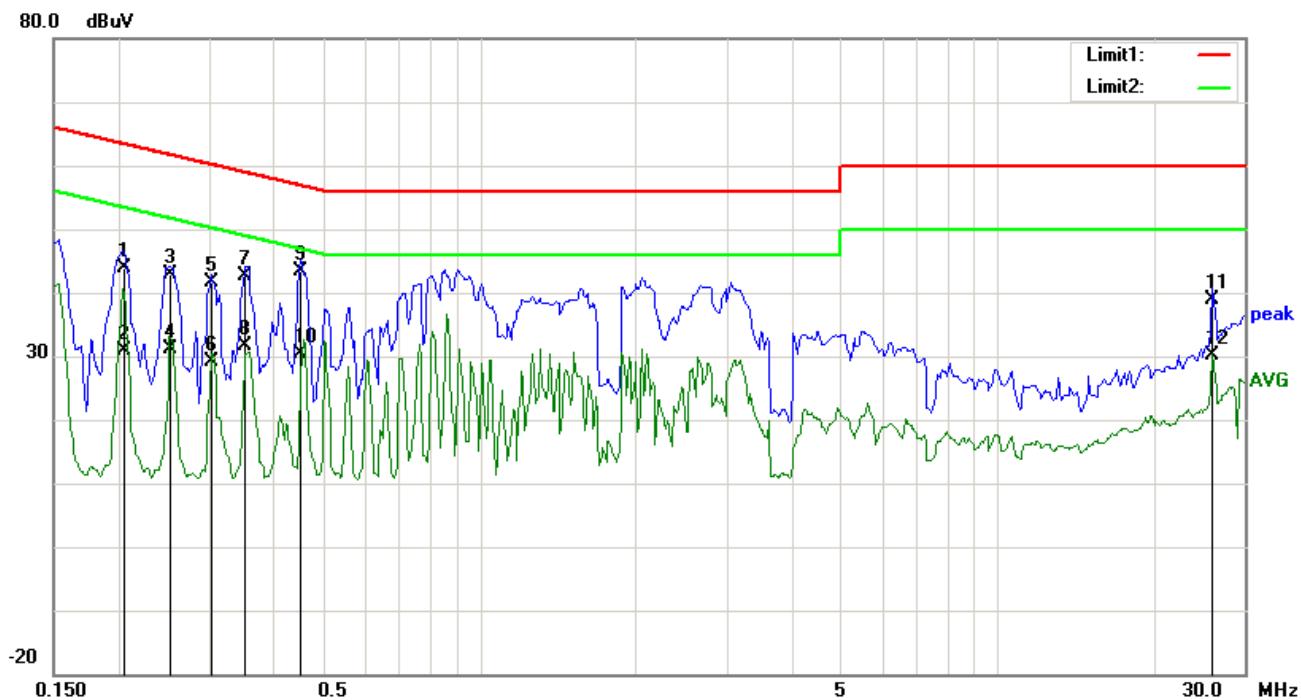
Spec	Item	Requirement	Applicable														
47CFR§15.207, RSS210 (A8.1)	a)	<p>For Low-power radio-frequency devices that is designed to be connected to the public utility (AC) power line, the radio frequency voltage that is conducted back onto the AC power line on any frequency or frequencies, within the band 150 kHz to 30 MHz, shall not exceed the limits in the following table, as measured using a 50 [mu]H/50 ohms line impedance stabilization network (LISN). The lower limit applies at the boundary between the frequencies ranges.</p> <table border="1"> <thead> <tr> <th rowspan="2">Frequency ranges (MHz)</th> <th colspan="2">Limit (dB<math>\mu</math>V)</th> </tr> <tr> <th>QP</th> <th>Average</th> </tr> </thead> <tbody> <tr> <td>0.15 ~ 0.5</td> <td>66 – 56</td> <td>56 – 46</td> </tr> <tr> <td>0.5 ~ 5</td> <td>56</td> <td>46</td> </tr> <tr> <td>5 ~ 30</td> <td>60</td> <td>50</td> </tr> </tbody> </table>	Frequency ranges (MHz)	Limit (dB $\mu$ V)		QP	Average	0.15 ~ 0.5	66 – 56	56 – 46	0.5 ~ 5	56	46	5 ~ 30	60	50	<input checked="" type="checkbox"/>
Frequency ranges (MHz)	Limit (dB $\mu$ V)																
	QP	Average															
0.15 ~ 0.5	66 – 56	56 – 46															
0.5 ~ 5	56	46															
5 ~ 30	60	50															
Test Setup	 <p><b>Note:</b> 1. Support units were connected to second LISN. 2. Both of LISNs (AMN) are 80cm from EUT and at least 80cm from other units and other metal planes support units.</p>																
Procedure	<ol style="list-style-type: none"> <li>The EUT and supporting equipment were set up in accordance with the requirements of the standard on top of a 1.5m x 1m x 0.8m high, non-metallic table.</li> <li>The power supply for the EUT was fed through a 50W/50mH EUT LISN, connected to filtered mains.</li> <li>The RF OUT of the EUT LISN was connected to the EMI test receiver via a low-loss</li> </ol>																

	coaxial cable. 4. All other supporting equipment were powered separately from another main supply. 5. The EUT was switched on and allowed to warm up to its normal operating condition. 6. A scan was made on the NEUTRAL line (for AC mains) or Earth line (for DC power) over the required frequency range using an EMI test receiver. 7. High peaks, relative to the limit line, The EMI test receiver was then tuned to the selected frequencies and the necessary measurements made with a receiver bandwidth setting of 10 kHz. 8. Step 7 was then repeated for the LIVE line (for AC mains) or DC line (for DC power).
Remark	
Result	<input checked="" type="checkbox"/> Pass <input type="checkbox"/> Fail

Test Data  Yes  N/A

Test Plot  Yes (See below)  N/A

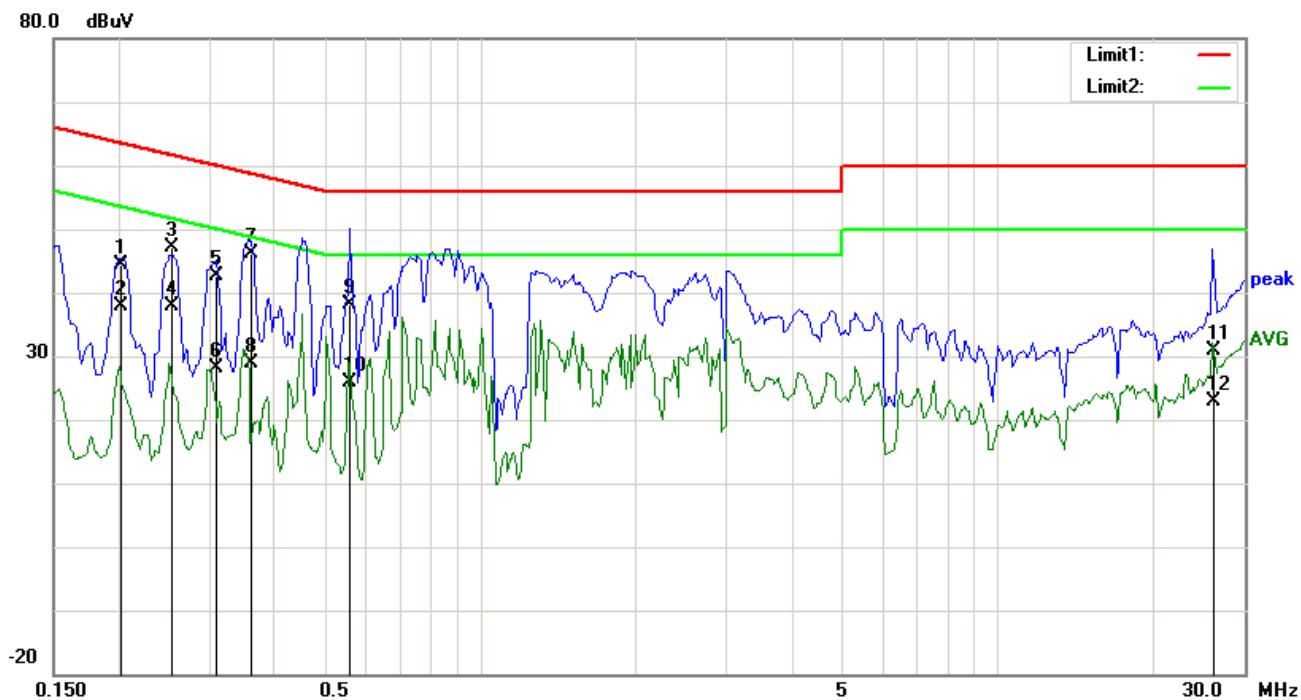
Test Mode: Bluetooth Mode



### Test Data

Phase Line Plot at 120Vac, 60Hz

No.	P/L	Frequency (MHz)	Reading (dBuV)	Detector	Corrected (dB)	Result (dBuV)	Limit (dBuV)	Margin (dB)	Comment
1	L1	0.2050	30.77	QP	13.00	43.77	63.41	-19.64	
2	L1	0.2050	17.85	AVG	13.00	30.85	53.41	-22.56	
3	L1	0.2521	29.99	QP	12.82	42.81	61.69	-18.88	
4	L1	0.2521	18.43	AVG	12.82	31.25	51.69	-20.44	
5	L1	0.3035	29.03	QP	12.63	41.66	60.15	-18.49	
6	L1	0.3035	16.51	AVG	12.63	29.14	50.15	-21.01	
7	L1	0.3531	30.14	QP	12.45	42.59	58.89	-16.30	
8	L1	0.3531	19.20	AVG	12.45	31.65	48.89	-17.24	
9	L1	0.4508	31.38	QP	12.08	43.46	56.86	-13.40	
10	L1	0.4508	18.35	AVG	12.08	30.43	46.86	-16.43	
11	L1	26.0012	24.51	QP	14.32	38.83	60.00	-21.17	
12	L1	26.0012	15.80	AVG	14.32	30.12	50.00	-19.88	

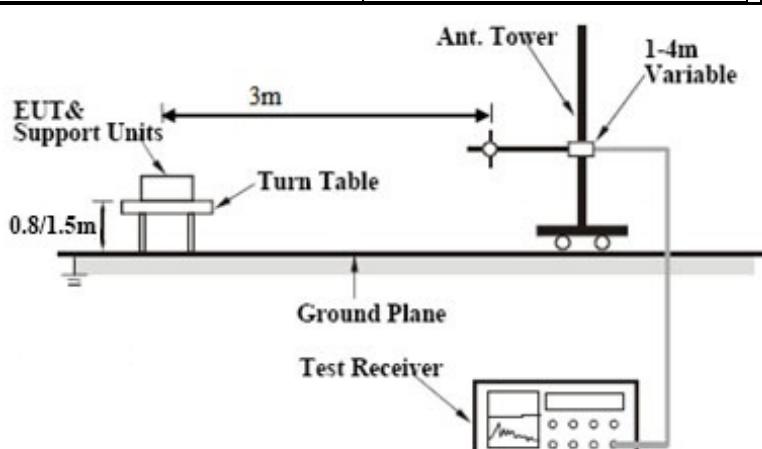
**Test Mode: Bluetooth Mode**

**Test Data**
**Phase Neutral Plot at 120Vac, 60Hz**

No.	P/L	Frequency (MHz)	Reading (dBuV)	Detector	Corrected (dB)	Result (dBuV)	Limit (dBuV)	Margin (dB)	Comment
1	N	0.2008	31.37	QP	13.01	44.38	63.58	-19.20	
2	N	0.2008	24.80	AVG	13.01	37.81	53.58	-15.77	
3	N	0.2535	34.27	QP	12.82	47.09	61.64	-14.55	
4	N	0.2535	24.98	AVG	12.82	37.80	51.64	-13.84	
5	N	0.3102	30.07	QP	12.60	42.67	59.97	-17.30	
6	N	0.3102	15.61	AVG	12.60	28.21	49.97	-21.76	
7	N	0.3615	33.62	QP	12.41	46.03	58.69	-12.66	
8	N	0.3615	16.46	AVG	12.41	28.87	48.69	-19.82	
9	N	0.5611	26.37	QP	11.84	38.21	56.00	-17.79	
10	N	0.5611	14.13	AVG	11.84	25.97	46.00	-20.03	
11	N	26.1393	13.40	QP	17.43	30.83	60.00	-29.17	
12	N	26.1393	5.56	AVG	17.43	22.99	50.00	-27.01	

## 6.9 Radiated Spurious Emissions

Temperature	20°C
Relative Humidity	53%
Atmospheric Pressure	1002mbar
Test date :	April 22, 2015
Tested By :	Wiky.Jam

### Requirement(s):

Spec	Item	Requirement	Applicable										
47CFR§15. 205, §15.209, §15.247(d)	a)	<p>Except higher limit as specified elsewhere in other section, the emissions from the low-power radio-frequency devices shall not exceed the field strength levels specified in the following table and the level of any unwanted emissions shall not exceed the level of the fundamental emission. The tighter limit applies at the band edges</p> <table border="1"> <thead> <tr> <th>Frequency range (MHz)</th> <th>Field Strength (<math>\mu</math>V/m)</th> </tr> </thead> <tbody> <tr> <td>30 – 88</td> <td>100</td> </tr> <tr> <td>88 – 216</td> <td>150</td> </tr> <tr> <td>216 – 960</td> <td>200</td> </tr> <tr> <td>Above 960</td> <td>500</td> </tr> </tbody> </table>	Frequency range (MHz)	Field Strength ( $\mu$ V/m)	30 – 88	100	88 – 216	150	216 – 960	200	Above 960	500	<input checked="" type="checkbox"/>
Frequency range (MHz)	Field Strength ( $\mu$ V/m)												
30 – 88	100												
88 – 216	150												
216 – 960	200												
Above 960	500												
Test Setup	 <p>The diagram illustrates the test setup for radiated spurious emissions. It shows a 'Turn Table' on a 'Ground Plane' with a 'EUT &amp; Support Units' mounted on it. A '3m' horizontal distance separates the EUT from an 'Ant. Tower'. The 'Ant. Tower' is a vertical mast with a '1-4m Variable' height adjustment. A 'Test Receiver' is connected to the 'Ant. Tower' to measure the signal levels.   </p>												
Procedure	<ol style="list-style-type: none"> <li>The EUT was switched on and allowed to warm up to its normal operating condition.</li> <li>The test was carried out at the selected frequency points obtained from the EUT characterization. Maximization of the emissions, was carried out by rotating the EUT, changing the antenna polarization, and adjusting the antenna height in the following manner:</li> </ol>												

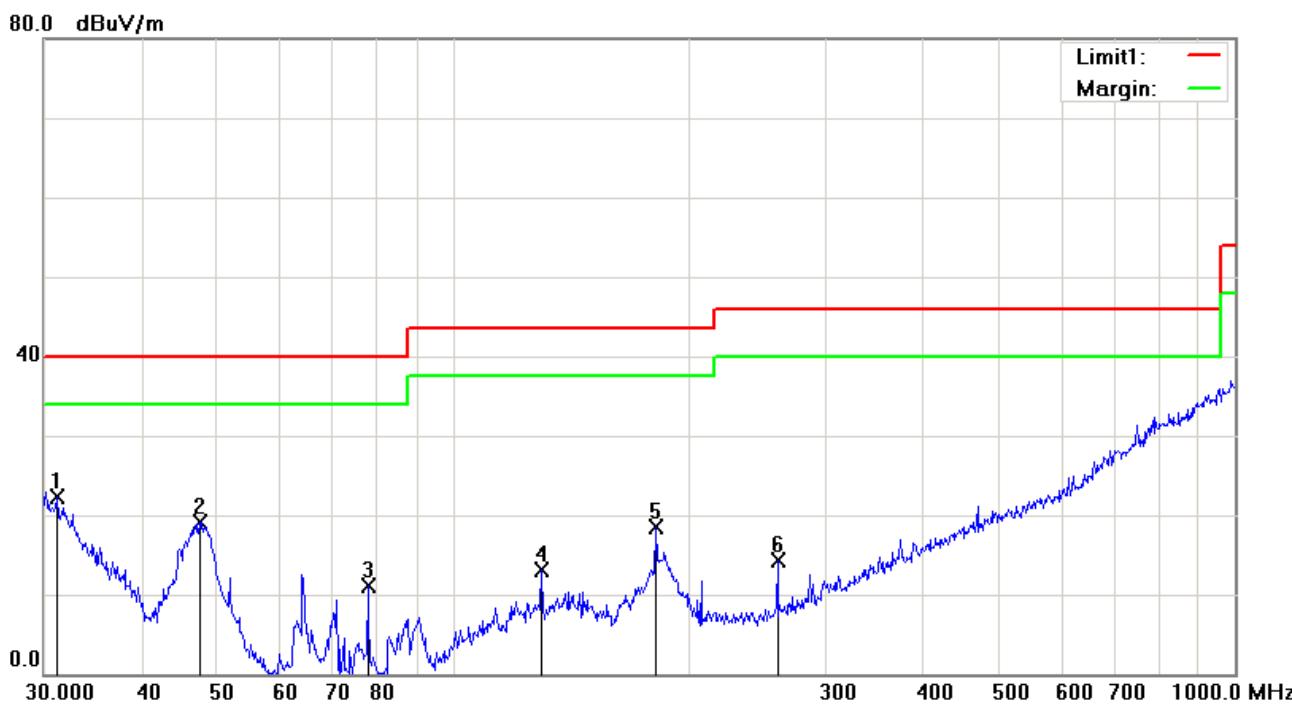
	<p>a. Vertical or horizontal polarization (whichever gave the higher emission level over a full rotation of the EUT) was chosen.</p> <p>b. The EUT was then rotated to the direction that gave the maximum emission.</p> <p>c. Finally, the antenna height was adjusted to the height that gave the maximum emission.</p> <p>3. The resolution bandwidth and video bandwidth of test receiver/spectrum analyzer is 120 kHz for Quasiy Peak detection at frequency below 1GHz.</p> <p>4. The resolution bandwidth of test receiver/spectrum analyzer is 1MHz and video bandwidth is 3MHz with Peak detection for Peak measurement at frequency above 1GHz.</p> <p>The resolution bandwidth of test receiver/spectrum analyzer is 1MHz and the video bandwidth is 10Hz with Peak detection for Average Measurement as below at frequency above 1GHz.</p> <p>5. Steps 2 and 3 were repeated for the next frequency point, until all selected frequency points were measured.</p>
Remark	
Result	<input checked="" type="checkbox"/> Pass <input type="checkbox"/> Fail

**Test Data**     Yes       N/A

**Test Plot**     Yes (See below)       N/A

Test Mode: Bluetooth Mode

Below 1GHz

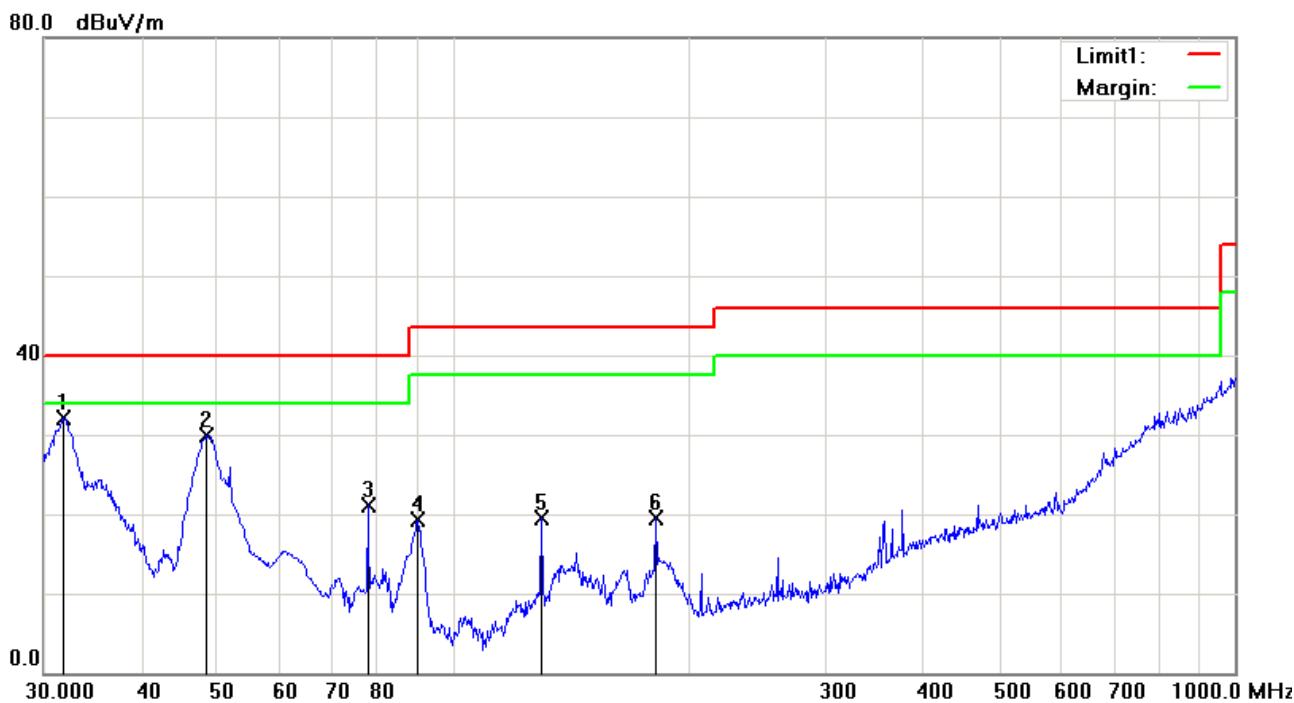


Test Data

Horizontal Polarity Plot @3m

No.	P/L	Frequency	Reading	Detector	Corrected	Result	Limit	Margin	Height	Degree	Comment
		(MHz)	(dBuV/m)		(dB/m)	(dBuV/m)	(dBuV/m)	(dB)	(cm)	( )	
1	H	31.1798	23.46	peak	-1.13	22.33	40.00	-17.67	100	182	
2	H	47.4918	25.93	peak	-6.74	19.19	40.00	-20.81	100	201	
3	H	77.8654	24.79	peak	-13.76	11.03	40.00	-28.97	100	190	
4	H	129.9226	21.10	peak	-7.92	13.18	43.50	-30.32	100	249	
5	H	181.9202	28.21	peak	-9.76	18.45	43.50	-25.05	100	120	
6	H	260.1444	23.11	peak	-8.72	14.39	46.00	-31.61	100	167	

**Below 1GHz**



**Test Data**

**Vertical Polarity Plot @3m**

No.	P/L	Frequency (MHz)	Reading (dBuV/ m)	Detector	Corrected (dB/m)	Result (dBuV/m )	Limit (dBuV/m)	Margin (dB)	Height (cm)	Degree ( )	Comment
1	V	31.7313	34.67	peak	-2.47	32.20	40.00	-7.80	100	221	
2	V	48.5016	43.18	peak	-13.31	29.87	40.00	-10.13	100	335	
3	V	77.8654	34.83	peak	-13.76	21.07	40.00	-18.93	100	338	
4	V	90.2205	33.05	peak	-13.83	19.22	43.50	-24.28	100	99	
5	V	129.9226	26.96	peak	-7.53	19.43	43.50	-24.07	100	158	
6	V	181.9202	28.23	peak	-8.80	19.43	43.50	-24.07	100	199	

Test Mode:	Transmitting Mode
------------	-------------------

Mode: GFSK (Worst Case)

## Low Channel (2402 MHz)

Frequency (MHz)	S.A. Reading (dB $\mu$ V)	Detector (PK/AV)	Polarity (H/V)	Ant. Factor (dB/m)	Cable Loss (dB)	Pre-Amp. Gain (dB)	Cord. Amp. (dB $\mu$ V/m)	Limit (dB $\mu$ V/m)	Margin (dB)
4804	37.29	AV	V	33.83	6.86	31.72	46.26	54	-7.74
4804	35.51	AV	H	33.83	6.86	31.72	44.48	54	-9.52
4804	46.64	PK	V	33.83	6.86	31.72	55.61	74	-18.39
4804	47.83	PK	H	33.83	6.86	31.72	56.8	74	-17.2

## Middle Channel (2441 MHz)

Frequency (MHz)	S.A. Reading (dB $\mu$ V)	Detector (PK/AV)	Polarity (H/V)	Ant. Factor (dB/m)	Cable Loss (dB)	Pre-Amp. Gain (dB)	Cord. Amp. (dB $\mu$ V/m)	Limit (dB $\mu$ V/m)	Margin (dB)
4882	36.83	AV	V	33.86	6.82	31.82	45.69	54	-8.31
4882	34.71	AV	H	33.86	6.82	31.82	43.57	54	-10.43
4882	47.92	PK	V	33.86	6.82	31.82	56.78	74	-17.22
4882	47.34	PK	H	33.86	6.82	31.82	56.2	74	-17.8

## High Channel (2480 MHz)

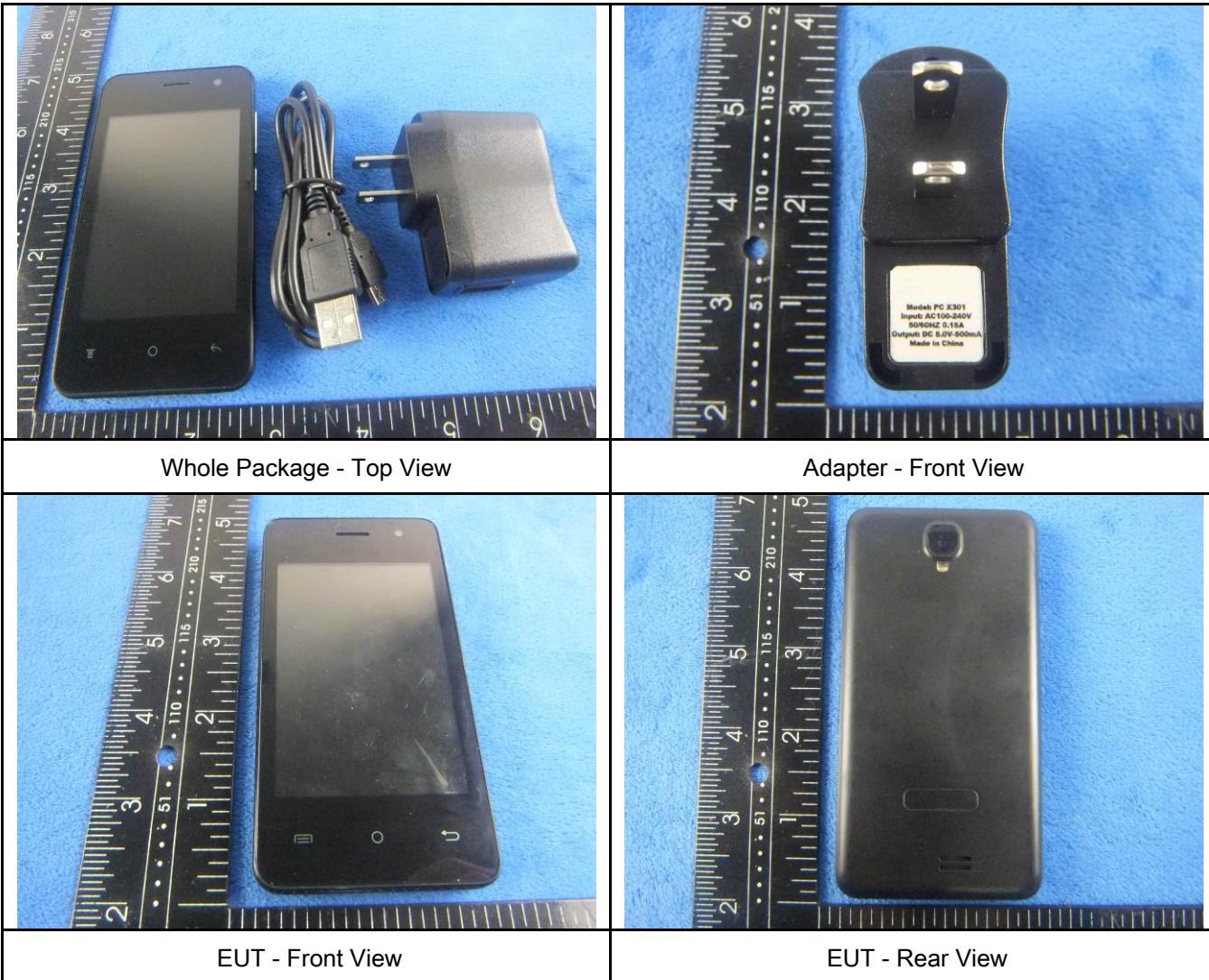
Frequency (MHz)	S.A. Reading (dB $\mu$ V)	Detector (PK/AV)	Polarity (H/V)	Ant. Factor (dB/m)	Cable Loss (dB)	Pre-Amp. Gain (dB)	Cord. Amp. (dB $\mu$ V/m)	Limit (dB $\mu$ V/m)	Margin (dB)
4960	36.59	AV	V	33.9	6.76	31.92	45.33	54	-8.67
4960	37.42	AV	H	33.9	6.76	31.92	46.16	54	-7.84
4960	48.13	PK	V	33.9	6.76	31.92	56.87	74	-17.13
4960	48.62	PK	H	33.9	6.76	31.92	57.36	74	-16.64

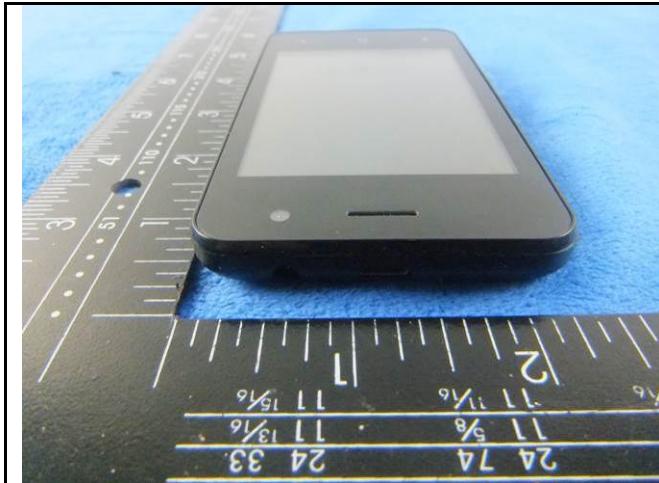
## Annex A. TEST INSTRUMENT

Instrument	Model	Serial #	Cal Date	Cal Due	In use
<b>AC Line Conducted</b>					
EMI test receiver	ESCS30	8471241027	09/18/2014	09/17/2015	<input checked="" type="checkbox"/>
Line Impedance	LI-125A	191106	09/26/2014	09/25/2015	<input checked="" type="checkbox"/>
Line Impedance	LI-125A	191107	09/26/2014	09/25/2015	<input checked="" type="checkbox"/>
LISN	ISN T800	34373	09/26/2014	09/25/2015	<input checked="" type="checkbox"/>
Double Ridge Horn Antenna (1 ~18GHz)	AH-118	71283	09/25/2014	09/24/2015	<input checked="" type="checkbox"/>
Transient Limiter	LIT-153	531118	09/02/2014	09/01/2015	<input checked="" type="checkbox"/>
<b>RF conducted test</b>					
Agilent ESA-E SERIES	E4407B	MY45108319	09/18/2014	09/17/2015	<input checked="" type="checkbox"/>
Power Splitter	1#	1#	09/02/2014	09/01/2015	<input checked="" type="checkbox"/>
DC Power Supply	E3640A	MY40004013	09/18/2014	09/17/2015	<input checked="" type="checkbox"/>
<b>Radiated Emissions</b>					
EMI test receiver	ESL6	100262	09/18/2014	09/17/2015	<input checked="" type="checkbox"/>
Positioning Controller	UC3000	MF780208282	11/20/2014	11/19/2015	<input checked="" type="checkbox"/>
OPT 010 AMPLIFIER (0.1-1300MHz)	8447E	2727A02430	09/02/2014	09/01/2015	<input checked="" type="checkbox"/>
Microwave Preamplifier (1 ~ 26.5GHz)	8449B	3008A02402	03/25/2015	03/24/2016	<input checked="" type="checkbox"/>
Bilog Antenna (30MHz~6GHz)	JB6	A110712	09/22/2014	09/21/2015	<input checked="" type="checkbox"/>
Double Ridge Horn Antenna (1 ~18GHz)	AH-118	71283	09/25/2014	09/24/2015	<input checked="" type="checkbox"/>
Universal Radio Communication Tester	CMU200	121393	09/26/2014	09/25/2015	<input checked="" type="checkbox"/>

## Annex B. EUT And Test Setup Photographs

### Annex B.i. Photograph: EUT External Photo





EUT - Top View



EUT - Bottom View

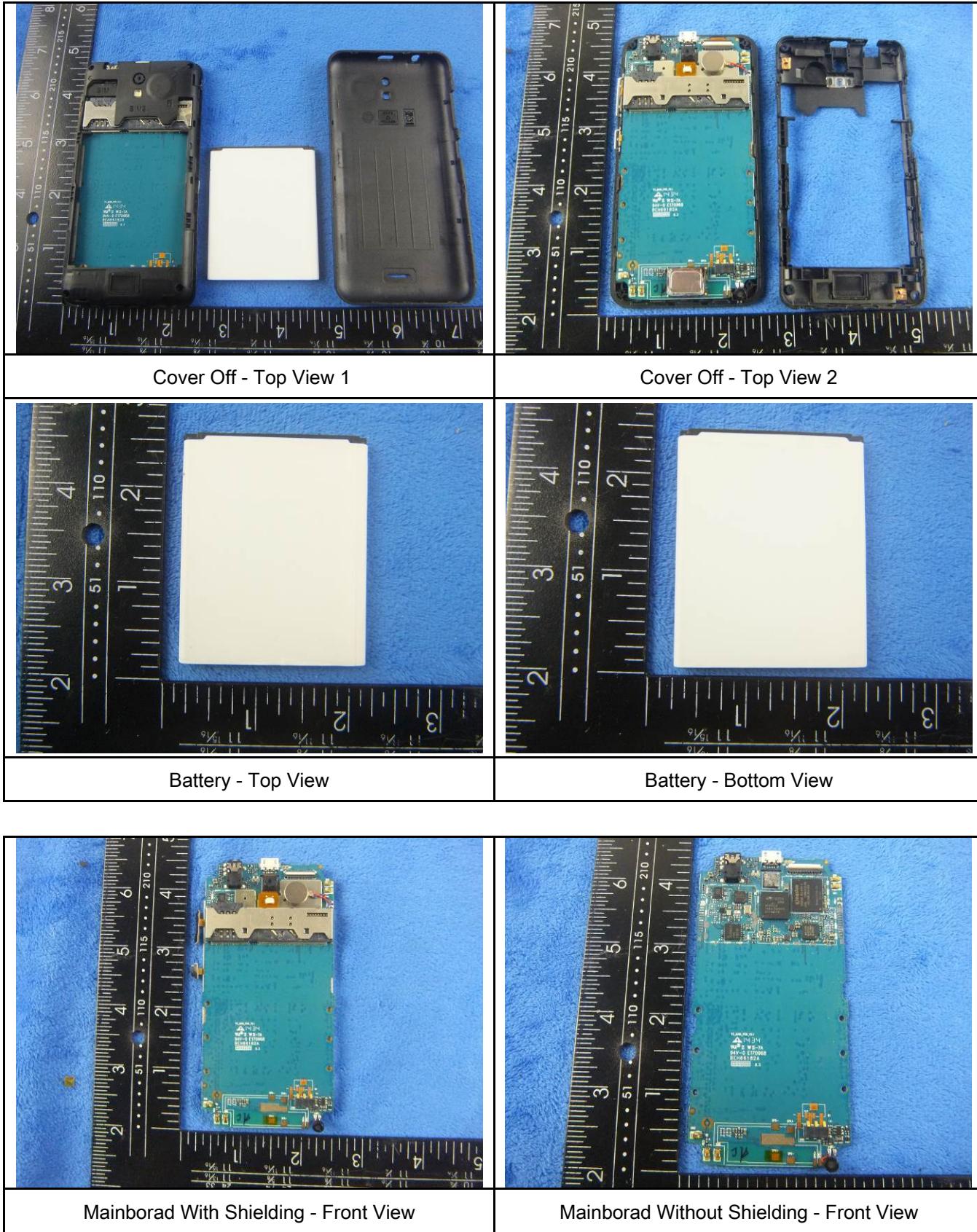


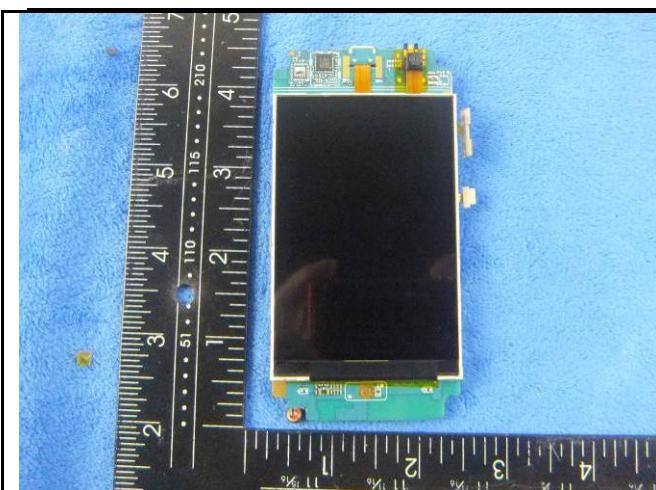
EUT - Left View



EUT - Right View

Annex B.ii. Photograph: EUT Internal Photo

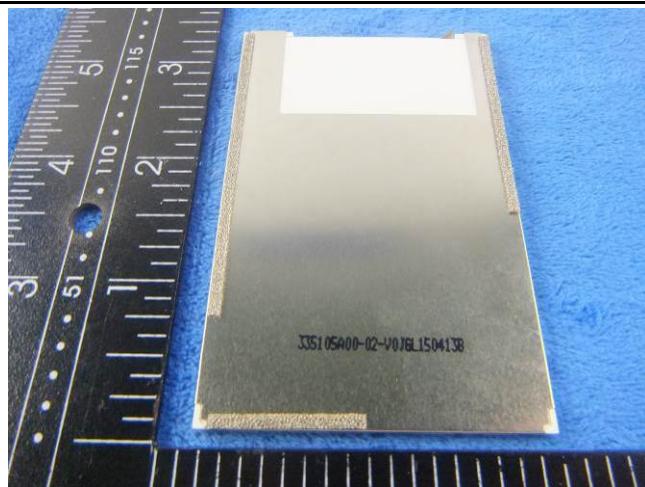




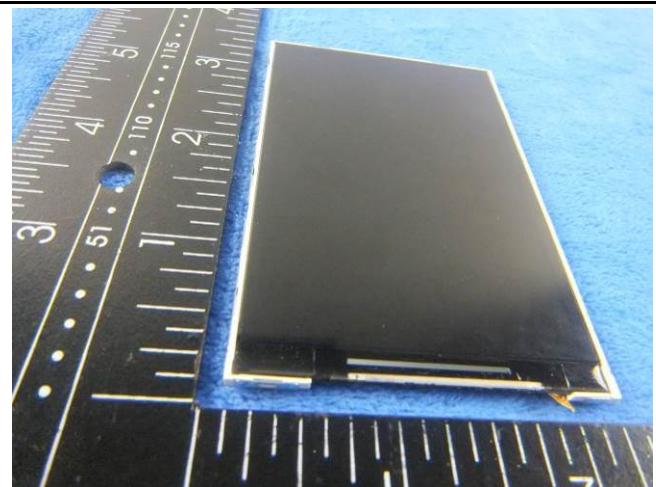
Mainborad With Shielding - rear View



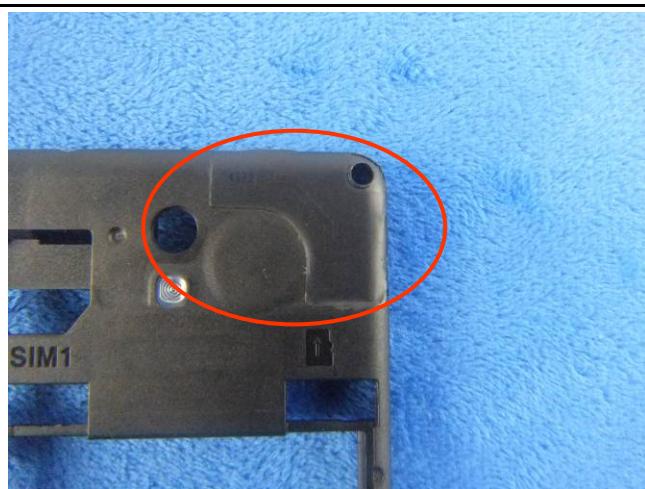
Mainborad Without Shielding - rear View



LCD - Rear View



LCD - Front View



WIFI/BT/BLE - Antenna View



GSM/PCS/UMTS-FDD Antenna View

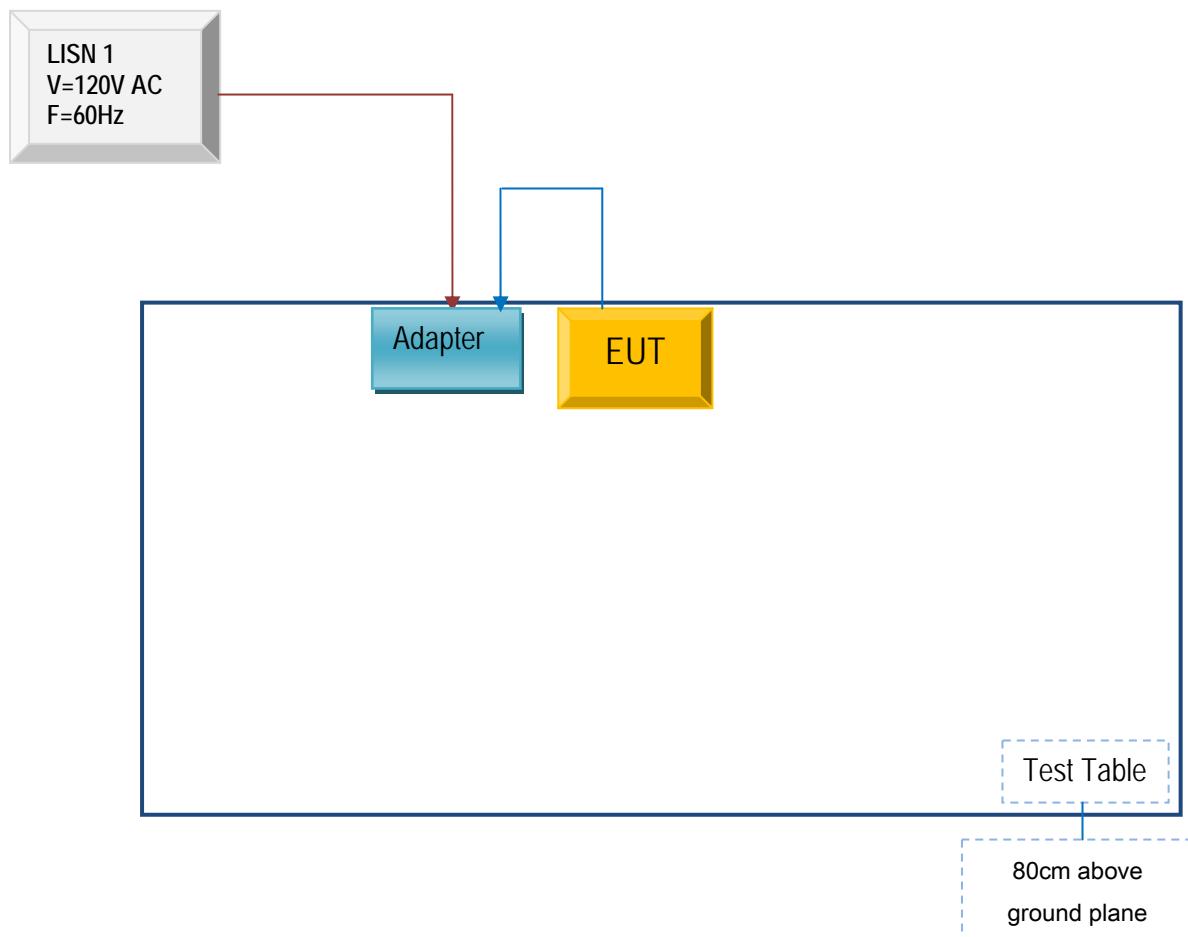
**Annex B.iii. Photograph: Test Setup Photo**



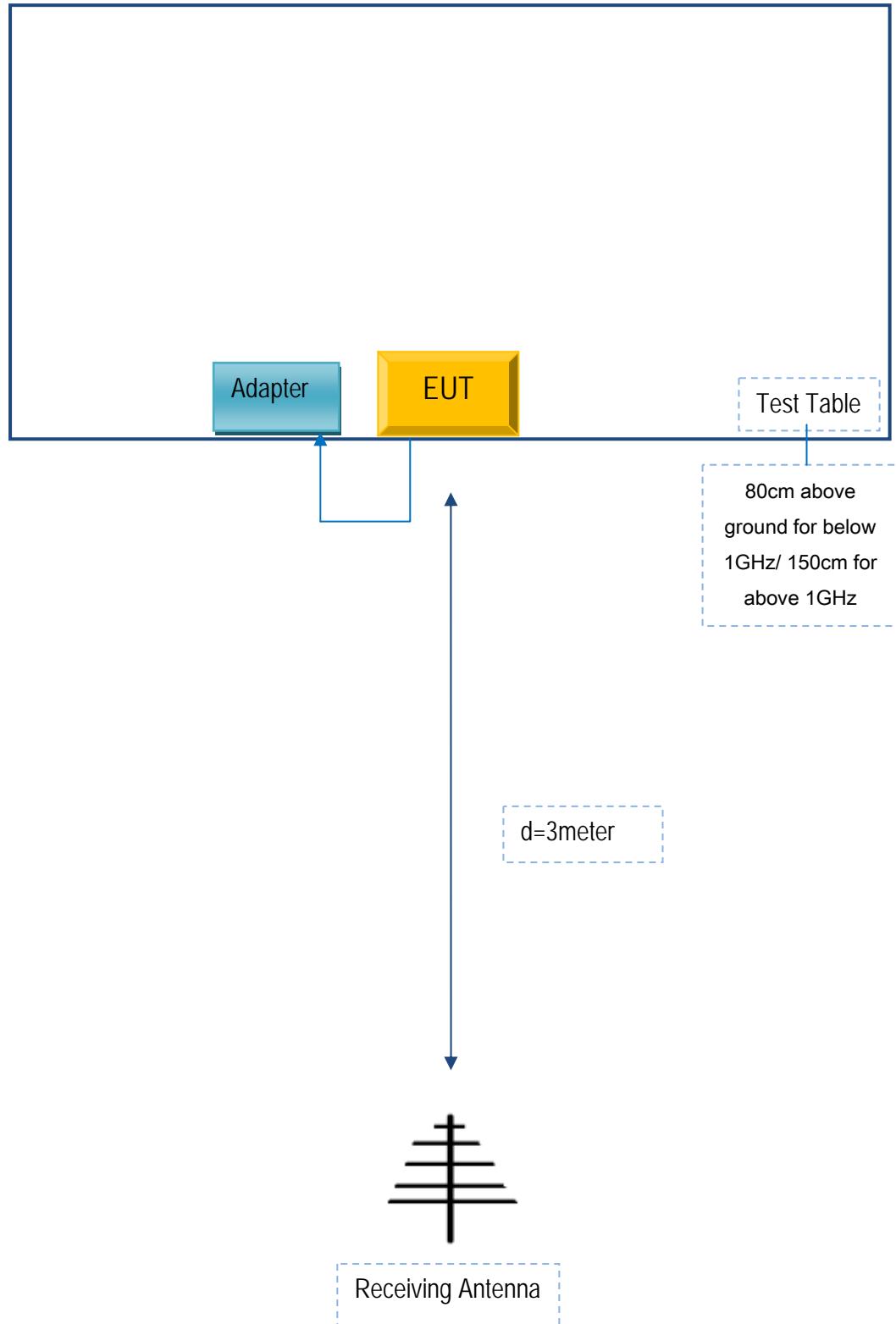
## Annex C. TEST SETUP AND SUPPORTING EQUIPMENT

### Annex C.ii. TEST SET UP BLOCK

Block Configuration Diagram for AC Line Conducted Emissions



## Block Configuration Diagram for Radiated Emissions



### Annex C. ii. SUPPORTING EQUIPMENT DESCRIPTION

The following is a description of supporting equipment and details of cables used with the EUT.

Manufacturer	Equipment Description	Model	Calibration Date	Calibration Due Date
N/A	N/A	N/A	N/A	N/A

Test Report	15070273-FCC-R2
Page	51 of 52

## Annex D. User Manual / Block Diagram / Schematics / Partlist

Please see attachment

## Annex E. DECLARATION OF SIMILARITY

# Social Mobile Telecommunications

To: SIEMIC ,775 Montague Expressway, Milpitas, CA 95035,USA

## Declaration Letter

Dear Sir,

For our business issue and marketing requirement, we would like to list 2 model numbers on the FCC certificates and reports, as following:

Model No.: X301, Vapor

We declare that, all the model PCB ,Antenna and Appearance shape , accessories are the same . The difference of these is listed as below:

Main Model No	Serial Model No	Difference
X301	Vapor	Different model name

Thank you!

Signature:

Printed name/title: Freddy Morcos / Manager  
Address: 16400 NW 2nd Ave. #201 Miami, Florida 33169