# RF TEST REPORT



Report No.: 18070496-FCC-R2 Supersede Report No.: N/A

Applicant	INFINIX MOBILITY LIMITED			
Product Name	Mobile phone			
Model No.	X606D			
Serial No.	N/A			
Test Standard	FCC Part 15.24	47, ANSI	C63.10: 2013	
Test Date	May 11 to 22, 2	2018		
Issue Date	May 23, 2018			
Test Result	Pass F	ail		
Equipment compl	ed with the spec	cification	<b>V</b>	
Equipment did no	Equipment did not comply with the specification			
James Lioney		David	Huang	
Aaron Liang Test Engineer			d Huang cked By	

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Test result presented in this test report is applicable to the tested sample only

#### Issued by:

### SIEMIC (SHENZHEN-CHINA) LABORATORIES

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## **Laboratories Introduction**

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### **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



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## 1. Report Revision History

Report No.	Report Version	Description	Issue Date
18070496-FCC-R2	NONE	Original	May 23, 2018

## 2. Customer information

Applicant Name	INFINIX MOBILITY LIMITED
Applicant Add	RMS 05-15, 13A/F SOUTH TOWER WORLD FINANCE CTR HARBOUR CITY 17
	CANTON RD TST KLN HONG KONG
Manufacturer	INFINIX MOBILITY LIMITED
Manufacturer Add	RMS 05-15, 13A/F SOUTH TOWER WORLD FINANCE CTR HARBOUR CITY 17
	CANTON RD TST KLN HONG KONG

## 3. Test site information

### Test Lab A:

Lab performing tests	SIEMIC (Shenzhen-China) LABORATORIES	
	Zone A, Floor 1, Building 2 Wan Ye Long Technology Park	
Lab Address	South Side of Zhoushi Road, Bao' an District, Shenzhen, Guangdong China	
	518108	
FCC Test Site No.	535293	
IC Test Site No.	4842E-1	
Test Software	Radiated Emission Program-To Shenzhen v2.0	

#### Test Lab B:

Lab performing tests	SIEMIC (Nanjing-China) Laboratories	
Lab Address	2-1 Longcang Avenue Yuhua Economic and	
	Technology Development Park, Nanjing, China	
FCC Test Site No.	694825	
IC Test Site No.	4842B-1	
Test Software	EZ_EMC(ver.lcp-03A1)	

Note: We just perform Radiated Spurious Emission above 18GHz in the test Lab. B.



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## 4. Equipment under Test (EUT) Information

Description of EUT:	Mobile phone
Main Model:	X606D
Serial Model:	N/A
Date EUT received:	May 10, 2018
Test Date(s):	May 11 to 22, 2018
Equipment Category :	DSS
Antenna Gain:	Bluetooth: 1.97dBi
Antenna Type:	PIFA antenna
Type of Modulation:	Bluetooth: GFSK, π /4DQPSK, 8DPSK
RF Operating Frequency (ies):	Bluetooth: 2402-2480 MHz
Max. Output Power:	1.584dBm
Number of Channels:	Bluetooth: 79CH
Port:	Please refer to the user's manual



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Adapter :

Model: A88-502000

Input: AC100-240V~50/60Hz,0.35A

Output: DC 5.0V, 2.0A

Input Power: Battery :

Model: BL-39HX

Rating: 3.85V, 3900mAh/4000mAh (min/typ)

15.01Wh/15.40Wh (min/typ)

Limited charge voltage: 4.4V

Trade Name : Infinix

FCC ID: 2AIZN-X606D



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## 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& Restricted Band	Compliance
§15.207(a)	AC Line Conducted Emissions	Compliance
§15.205, §15.209, §15.247(d)	Radiated Emissions& Restricted Band	Compliance

### **Measurement Uncertainty**

Emissions				
Test Item	Uncertainty			
Band Edge& Restricted  Band and Radiated  Emissions& Restricted  Band	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		
-	-	-		



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### 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/WIF/GPS, the gain is 1.97dBi for Bluetooth/BLE, the gain is 1.97dBi for WIFI, the gain is 1.97dBi for GPS.

A permanently attached PIFA antenna for GSM/PCS/UMTS, the gain is -3.03dBi for GSM850, -1.93dBi for PCS1900, -3.03dBi for UMTS-FDD Band V, -1.93dBi for UMTS-FDD Band II, -1.21dBi for UMTS-FDD Band IV.

The antenna meets up with the ANTENNA REQUIREMENT.

Result: Compliance.



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## 6.2 Channel Separation

Temperature	26°C		
Relative Humidity	55%		
Atmospheric Pressure	1020mbar		
Test date :	May 11, 2018		
Tested By :	Aaron Liang		

### Requirement(s):

Requirement(s):					
Spec	Item	Applicable			
2.45.047(.)(4)		Channel Separation < 20dB BW and 20dB BW <			
	۵۱	25KHz;Channel Separation Limit=25KHz			
§ 15.247(a)(1)	(a)	Chanel Separation < 20dB BW and 20dB BW >			
		25kHz; Channel Separation Limit=2/3 20dB BW			
Test Setup	Spectrum Analyzer EUT				
	The t	est follows FCC Public Notice DA 00-705 Measurement	Guidelines.		
	Use t	ne following spectrum analyzer settings:			
	- The EUT must have its hopping function enabled				
	- Span = wide enough to capture the peaks of two adjacent				
	channels				
	- Resolution (or IF) Bandwidth (RBW) ≥ 1% of the span				
Test Procedure	- Video (or Average) Bandwidth (VBW) ≥ RBW				
Tool Toolaaro	- Sweep = auto				
	- Detector function = peak				
	- Trace = max hold				
	- 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.			



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Rema	rk				_
Resu	lt	Pass	Fail		
Test Data	Yes	;	□ <sub>N/A</sub>		
Test Plot Yes (See below)		□ <sub>N/A</sub>			

## Channel Separation measurement result

Type/ Modulation	СН	CH Frequency (MHz)	CH Separation (MHz)	Limit (MHz)	Result
	Low Channel	2402	1.005	0.683	Pass
	Adjacency Channel	2403	1.005	0.063	P d 5 5
CH Separation	Mid Channel	2440	1.005	0.968	Pass
GFSK	Adjacency Channel	2441	1.005	0.900	P d 5 5
	High Channel	2480	1.005	0.681	Door
	Adjacency Channel	2479	1.005	0.061	Pass
	Low Channel	2402	1.005	0.855 0.859 0.856	Pass Pass Pass
	Adjacency Channel	2403	1.005		
CH Separation	Mid Channel	2440	1.005		
π /4 DQPSK	Adjacency Channel	2441	1.005		
	High Channel	2480	1.005		
	Adjacency Channel	2479	1.005		
	Low Channel	2402	4.005	0.863	Pass
	Adjacency Channel	2403	1.005		
CH Separation	Mid Channel	2440	4.005	0.862	Dana
8DPSK	Adjacency Channel	2441	1.005		Pass
	High Channel	2480	1.005	0.057	Dess
	Adjacency Channel	2479	1.005	0.857	Pass



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#### **Test Plots**

### Channel Separation measurement result







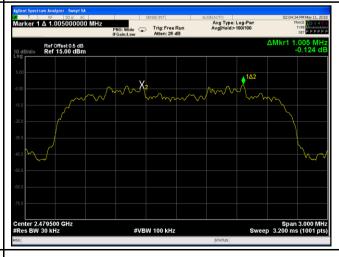




GFSK - High Channel







 $\pi$  /4 DQPSK - Middle Channel

 $\pi$  /4 DQPSK - High Channel



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8DPSK - Low Channel



8DPSK - Middle Channel



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## 6.3 20dB Bandwidth

Temperature	26°C
Relative Humidity	55%
Atmospheric Pressure	1020mbar
Test date :	May 11, 2018
Tested By:	Aaron Liang

Requirement(s):				
Spec	Item	Requirement Applicable		
§15.247(a) (1)	a)	<b>V</b>		
Test Setup	Spectrum Analyzer EUT			
Test Procedure		st follows FCC Public Notice DA 00-705 Measurement Good e following spectrum analyzer settings:  Span = approximately 2 to 3 times the 20 dB bandwidth, a hopping channel  RBW ≥ 1% of the 20 dB bandwidth  VBW ≥ RBW  Sweep = auto  Detector function = peak  Trace = max hold.  The EUT should be transmitting at its maximum data rate trace to stabilize. Use the marker-to-peak function to set to the peak of the emission. Use the marker-delta function measure 20 dB down one side of the emission. Reset the delta function, and move the marker to the other side of the emission, until it is (as close as possible to) even with the	e. Allow the the marker n to e marker-he	



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_					
		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	on (e.g., data rate, modulation format, etc.), repeat this test for		
		each va	riation. The limit is specified in one of the subparagraphs of		
		this Sec	ction. Submit this plot(s).		
Remark					
Result		Pass	Fail		
Test Data	Y	es	□ <sub>N/A</sub>		
Test Plot	V	es (See below)	□ <sub>N/A</sub>		

### Measurement result

Modulation	СН	CH Frequency	20dB Bandwidth	99% Occupied
Modulation	Сп	(MHz)	(MHz)	Bandwidth (MHz)
	Low	2402	1.024	0.887
GFSK	Mid	2441	0.968	0.892
	High	2480	1.022	0.891
π /4 DQPSK	Low	2402	1.282	1.1759
	Mid	2441	1.289	1.1724
	High	2480	1.284	1.1690
8-DPSK	Low	2402	1.295	1.1774
	Mid	2441	1.293	1.1742
	High	2480	1.286	1.1777



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#### **Test Plots**

#### 20dB Bandwidth measurement result

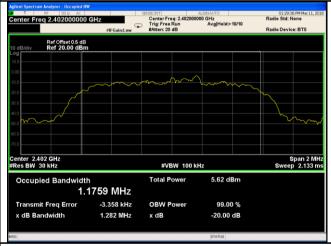




GFSK - Low Channel



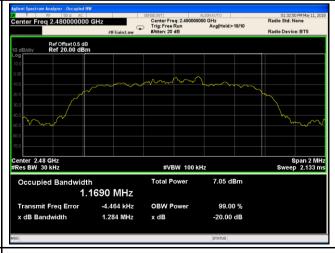




GFSK - High Channel

π /4 DPSK - Low Channel



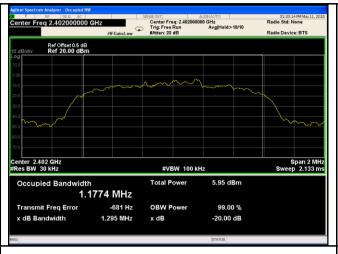


π /4 DQPSK - Middle Channel

π /4 DQPSK - High Channel



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8DPSK - Middle Channel

8DPSK - Low Channel



8DPSK - High Channel



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## 6.4 Peak Output Power

Temperature	26°C
Relative Humidity	55%
Atmospheric Pressure	1020mbar
Test date :	May 11, 2018
Tested By :	Aaron Liang

### Requirement(s):

Spec	Item	Requirement	Applicable	
	۵)	FHSS in 2400-2483.5MHz with ≥ 75 channels: ≤ 1		
	a)	Watt	>	
	b)	FHSS in 5725-5850MHz: ≤ 1 Watt		
C4E 047/b)	٥)	For all other FHSS in the 2400-2483.5MHz band:		
§15.247(b)	c)	≤ 0.125 Watt.	<b>&gt;</b>	
(3)	d)	FHSS in 902-928MHz with ≥ 50 channels: ≤ 1 Watt		
	٥)	FHSS in 902-928MHz with ≥ 25 & <50 channels:		
	e)	≤ 0.25 Watt		
	f)	DTS in 902-928MHz, 2400-2483.5MHz: ≤ 1 Watt		
Test Setup				
'		Spectrum Analyzer EUT		
	The test follows FCC Public Notice DA 00-705 Measurement Guidelines.			
	Use the following spectrum analyzer settings:			
	- Span = approximately 5 times the 20 dB bandwidth, centered on a			
		hopping channel		
Test	- RBW > the 20 dB bandwidth of the emission being measured			
Procedure	- VBW ≥ RBW			
	-	Sweep = auto		
	-	Detector function = peak		
	- Trace = max hold			
	- Allow the trace to stabilize.			



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		- 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.
Remark		
Result		Pass Fail
Test Data	Y	es N/A
Test Plot	V	es (See below)

### Peak Output Power measurement result

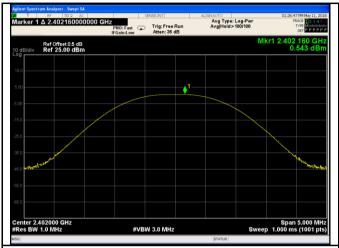
Туре	Modulation	СН	Frequenc y (MHz)	Conducted Power (dBm)	Limit (mW)	Result
		Low	2402	0.543	125	Pass
	GFSK	Mid	2441	0.943	1000	Pass
		High	2480	1.584	125	Pass
Outtout		Low	2402	0.350	125	Pass
Output	π /4 DQPSK	Mid	2441	0.716	125	Pass
power		High	2480	1.258	125	Pass
		Low	2402	0.599	125	Pass
	8-DPSK	Mid	2441	1.001	125	Pass
		High	2480	1.526	125	Pass

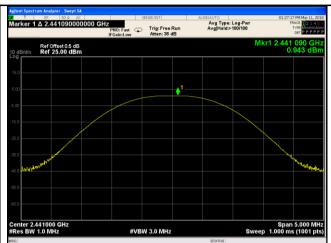


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#### **Test Plots**

#### Output Power measurement result





GFSK Output power - Low CH 2402

| Alignor | Section | Analyses | Section | Analyses | Section | Alignor | A

GFSK Output power - Mid CH 2441



GFSK Output power - High CH 2480



 $\pi$  /4 DQPSK Output power - Low CH 2402

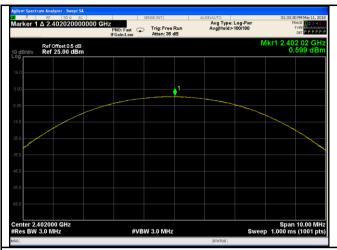


 $\pi$  /4 DQPSK Output power - Mid CH 2441

 $\pi$  /4 DQPSK Output power - High CH 2480

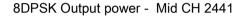


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8DPSK Output power - Low CH 2402





8DPSK Output power - High CH 2480



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## 6.5 Number of Hopping Channel

Temperature	26°C
Relative Humidity	55%
Atmospheric Pressure	1020mbar
Test date :	May 11, 2018
Tested By:	Aaron Liang

Requirement(s):						
Spec	Item	Requirement	Applicable			
§15.247(a) (1)(iii)	a)	FHSS in 2400-2483.5MHz ≥ 15 channels	V			
Test Setup	Spectrum Analyzer EUT					
	The to	st follows FCC Public Notice DA 00-705 Measurement Gu	uidalinaa			
			iluelines.			
		e following spectrum analyzer settings:				
		JT must have its hopping function enabled.				
	-	Span = the frequency band of operation				
	-	RBW ≥ 1% of the span				
Test	- VBW ≥ RBW					
	-	Sweep = auto				
Procedure	-	- Detector function = peak				
	- Trace = max hold					
	- Allow trace to fully stabilize.					
	It may prove necessary to break the span up to sections, in order to					
	clearly show all of the hopping frequencies. The limit is specified in					
		one of the subparagraphs of this Section. Submit this plot				
Remark		· · · · · · · · · · · · · · · · · · ·	. ,			
Result	Pas	s Fail				
Test Data	Yes	□ <sub>N/A</sub>				
Test Plot	Yes (See	below)				



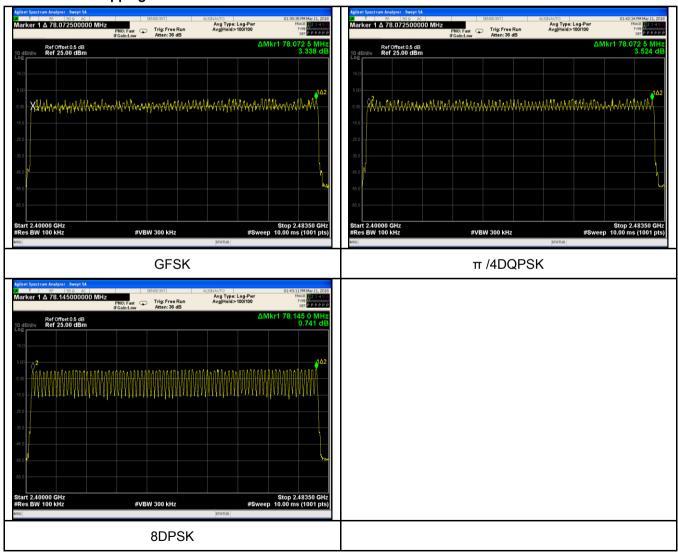
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### Number of Hopping Channel measurement result

Туре	Modulation	Frequency Range	Number of Hopping Channel	Limit
Number of	GFSK	2400-2483.5	79	15
Number of Hopping Channel	π /4 DQPSK	2400-2483.5	79	15
	8-DPSK	2400-2483.5	79	15

#### **Test Plots**

### Number of Hopping Channels measurement result





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## 6.6 Time of Occupancy (Dwell Time)

Temperature	26°C
Relative Humidity	55%
Atmospheric Pressure	1020mbar
Test date :	May 11, 2018
Tested By :	Aaron Liang

### Requirement(s):

Spec	Item	Requirement	Applicable
§15.247(a) (1)(iii)	a)	Dwell Time < 0.4s	<b>V</b>
Test Setup		Spectrum Analyzer EUT	
	The te	st follows FCC Public Notice DA 00-705 Measurement G	Guidelines.
	Use th	e following spectrum analyzer	
	-	Span = zero span, centered on a hopping channel	
	-	RBW = 1 MHz	
Test	-	VBW ≥ RBW	
Procedure	-	Sweep = as necessary to capture the entire dwell time p	er hopping
		channel	
	-	Detector function = peak	
	-	Trace = max hold	
	-	use the marker-delta function to determine the dwell time	е
Remark			
Result	Pas	s Fail	

Test Data	Yes	□ <sub>N/A</sub>
Test Plot	Yes (See below)	□ <sub>N/A</sub>



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### Dwell Time measurement result

Tymo	Modulation	СН	Pulse Width	Dwell Time	Limit	Docult
Туре	Modulation	Сп	(ms)	(ms)	(ms)	Result
		Low	2.920	311.467	400	Pass
	GFSK	Mid	2.930	312.533	400	Pass
		High	2.910	310.400	400	Pass
	π /4 DQPSK	Low	2.900	309.333	400	Pass
Dwell Time		Mid	2.910	310.400	400	Pass
		High	2.920	311.467	400	Pass
		Low	2.910	310.400	400	Pass
	8-DPSK	Mid	2.920	311.467	400	Pass
		High	2.920	311.467	400	Pass
Note: Dwell time=Pulse Time (ms) × (1600 ÷ 6 ÷ 79) ×31.6						

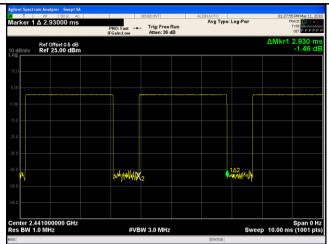


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#### **Test Plots**

#### **Dwell Time measurement result**

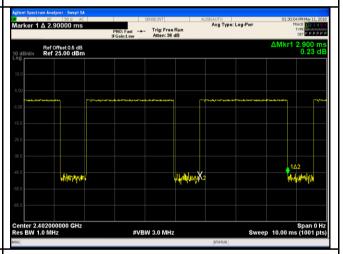




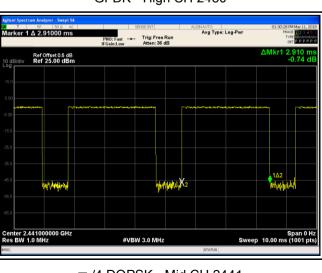
GFSK - Low CH 2402



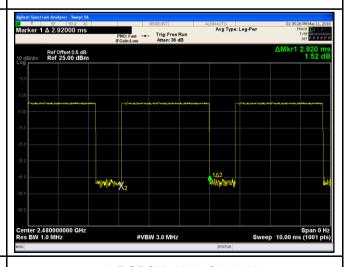
GFSK - Mid CH 2441



GFDK - High CH 2480



 $\pi$  /4 DQPSK - Low CH 2402

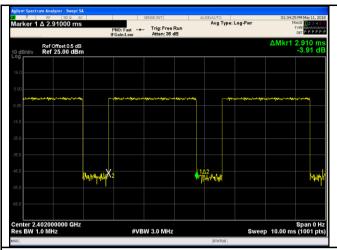


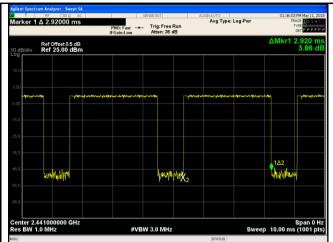
 $\pi$  /4 DQPSK - Mid CH 2441

 $\pi$  /4 DQPSK - High CH 2480  $\,$ 



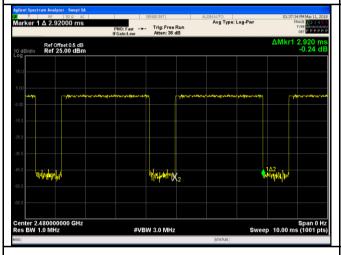
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8DPSK - Low CH 2402

8DPSK - Mid CH 2441



8DPSK - High CH 2480



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## 6.7 Band Edge & Restricted Band

Temperature	26°C
Relative Humidity	55%
Atmospheric Pressure	1020mbar
Test date :	May 11, 2018
Tested By :	Aaron Liang

### 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	
Test Setup	Ant. Tower  Support Units  Turn Table  Ground Plane  Test Receiver		
Test Procedure	The test follows FCC Public Notice DA 00-705 Measurement Guidelines.  Radiated Method Only  - 1. Check the calibration of the measuring instrument using either an internal calibrator or a known signal from an external generator.  - 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,		



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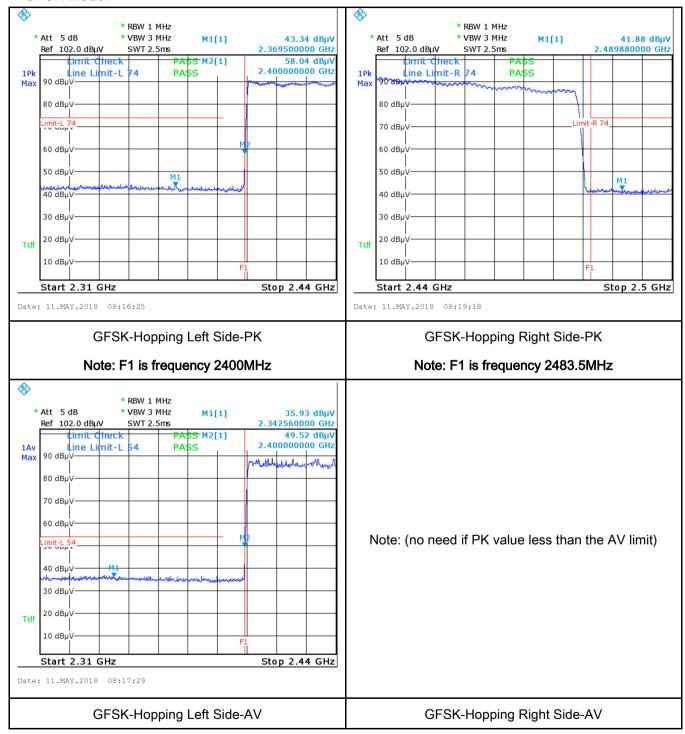
	and make sure the instrument is operated in its linear range.
	- 3. First, set both RBW and VBW of spectrum analyzer to 100 kHz with a
	convenient frequency span including 100kHz bandwidth from band edge, check
	the emission of EUT, if pass then set Spectrum Analyzer as below:
	a. The resolution bandwidth and video bandwidth of test receiver/spectrum
	analyzer is 120 kHz for Quasiy Peak detection at frequency below 1GHz.
	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.
	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.
	- 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.
	- 5. Repeat above procedures until all measured frequencies were complete.
Remark	
Tterriark	
Result	Pass Fail
Test Data	Yes N/A
i esi Daid	165
Test Plot	Yes (See below)



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#### **Test Plots**

#### **GFSK Mode:**





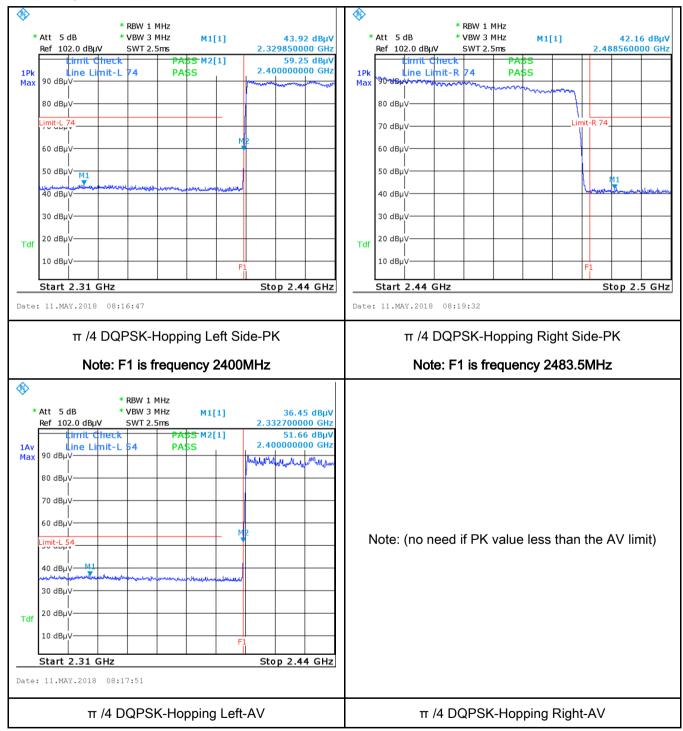
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#### π /4 DQPSK Mode:





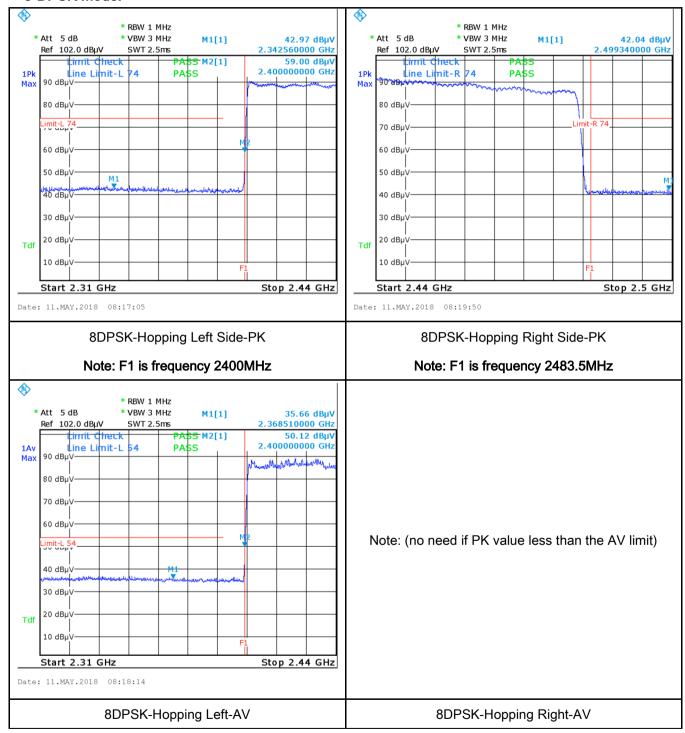
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#### 8-DPSK Mode:





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## 6.8 AC Power Line Conducted Emissions

Temperature	26°C
Relative Humidity	55%
Atmospheric Pressure	1020mbar
Test date :	May 11, 2018
Tested By :	Aaron Liang

### Requirement(s):

Spec	Item	Requirement	Requirement			
47CFR§15. 207, RSS210 (A8.1)	a)	For Low-power radio-fr connected to the public voltage that is conducte frequency or frequencie not exceed the limits in [mu]H/50 ohms line imp lower limit applies at th Frequency ranges (MHz) 0.15 ~ 0.5	e utility (AC) power line, ed back onto the AC po es, within the band 150 the following table, as pedance stabilization n	the radio frequency ower line on any kHz to 30 MHz, shall measured using a 50 etwork (LISN). The	Applicable	
		0.5 ~ 5	56	46		
		5 ~ 30	60	50		
Test Setup	Vertical Ground Reference Plane  Horizontal Ground Reference Plane  Note: 1.Support units were connected to second LISN. 2.Both of LISNs (AMN) are 80cm from EUT and at least 80cm					
	4 Th.		r units and other metal pla		in-on-on-to-of	
Procedure	<ol> <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>					

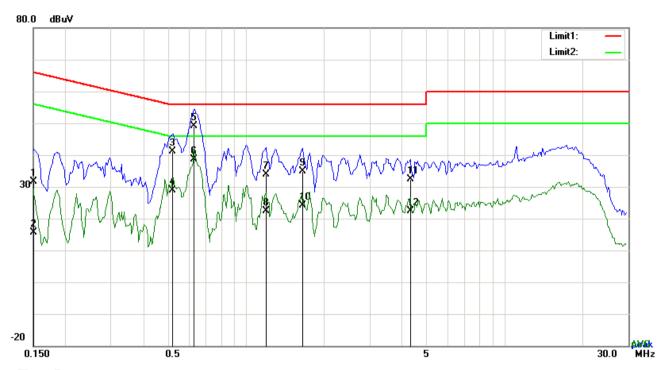


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	coaxial cable.					
	4. All other supporting equipment were powered separately from another main supply.					
	The EUT was switched on and allowed to warm up to its normal operating condition.					
	6. A scan was made on the NEUTRAL line (for AC mains) 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	Pass Fail					
Test Data	Yes N/A					
Test Plot	Yes (See below)					



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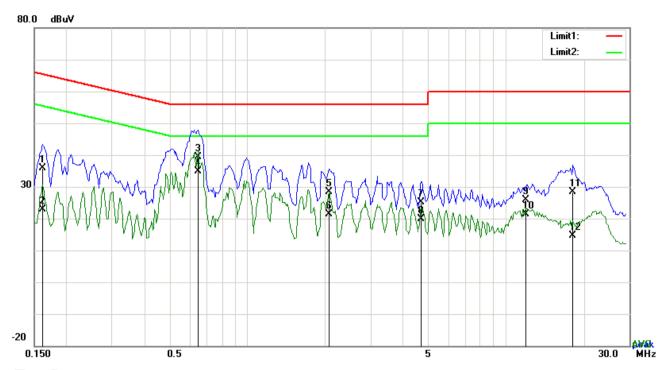
#### Test Data

## Phase Line Plot at 120Vac, 60Hz

No.	P/L	Frequency	Reading	Detector	Corrected	Result	Limit	Margin
		(MHz)	(dBuV)		(dB}	(dBuV)	(dBuV)	(dB)
1	L1	0.1500	21.71	QP	10.03	31.74	66.00	-34.26
2	L1	0.1500	5.59	AVG	10.03	15.62	56.00	-40.38
3	L1	0.5205	31.00	QP	10.03	41.03	56.00	-14.97
4	L1	0.5205	18.74	AVG	10.03	28.77	46.00	-17.23
5	L1	0.6297	39.22	QP	10.03	49.25	56.00	-6.75
6	L1	0.6297	28.65	AVG	10.03	38.68	46.00	-7.32
7	L1	1.1952	23.94	QP	10.03	33.97	56.00	-22.03
8	L1	1.1952	12.46	AVG	10.03	22.49	46.00	-23.51
9	L1	1.6515	24.80	QP	10.04	34.84	56.00	-21.16
10	L1	1.6515	14.03	AVG	10.04	24.07	46.00	-21.93
11	L1	4.3182	22.43	QP	10.07	32.50	56.00	-23.50
12	L1	4.3182	12.27	AVG	10.07	22.34	46.00	-23.66



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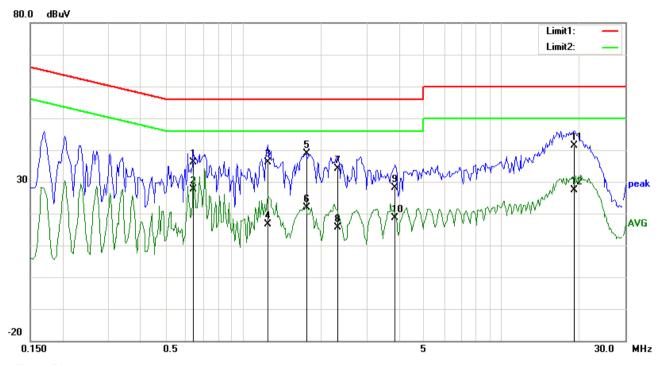
Test Data

## Phase Neutral Plot at 120Vac, 60Hz

No.	P/L	Frequency	Reading	Detector	Corrected	Result	Limit	Margin
		(MHz)	(dBuV)		(dB}	(dBuV)	(dBuV)	(dB)
1	N	0.1617	25.87	QP	10.02	35.89	65.38	-29.49
2	N	0.1617	12.80	AVG	10.02	22.82	55.38	-32.56
3	N	0.6453	29.43	QP	10.02	39.45	56.00	-16.55
4	N	0.6453	24.79	AVG	10.02	34.81	46.00	-11.19
5	N	2.0727	18.31	QP	10.04	28.35	56.00	-27.65
6	N	2.0727	11.32	AVG	10.04	21.36	46.00	-24.64
7	N	4.7199	14.95	QP	10.07	25.02	56.00	-30.98
8	N	4.7199	9.70	AVG	10.07	19.77	46.00	-26.23
9	N	11.9895	15.60	QP	10.16	25.76	60.00	-34.24
10	N	11.9895	11.29	AVG	10.16	21.45	50.00	-28.55
11	N	18.1632	18.04	QP	10.24	28.28	60.00	-31.72
12	N	18.1632	4.33	AVG	10.24	14.57	50.00	-35.43



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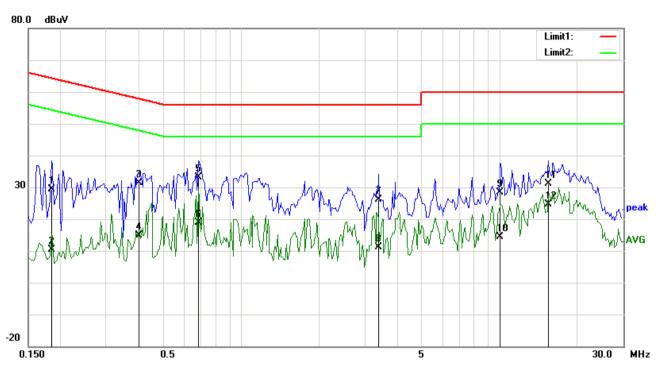
#### Test Data

#### Phase Line Plot at 240Vac, 60Hz

	1 11455 21115 1 151 41 2 15 146, 551 12							
No.	P/L	Frequency	Reading	Detector	Corrected	Result	Limit	Margin
		(MHz)	(dBuV)		(dB}	(dBuV)	(dBuV)	(dB)
1	L1	0.6414	26.15	QP	10.03	36.18	56.00	-19.82
2	L1	0.6414	17.55	AVG	10.03	27.58	46.00	-18.42
3	L1	1.2459	26.03	QP	10.03	36.06	56.00	-19.94
4	L1	1.2459	6.63	AVG	10.03	16.66	46.00	-29.34
5	L1	1.7568	28.90	QP	10.04	38.94	56.00	-17.06
6	L1	1.7568	11.90	AVG	10.04	21.94	46.00	-24.06
7	L1	2.3106	24.03	QP	10.05	34.08	56.00	-21.92
8	L1	2.3106	5.62	AVG	10.05	15.67	46.00	-30.33
9	L1	3.8619	18.13	QP	10.07	28.20	56.00	-27.80
10	L1	3.8619	8.47	AVG	10.07	18.54	46.00	-27.46
11	L1	19.0758	31.09	QP	10.29	41.38	60.00	-18.62
12	L1	19.0758	17.04	AVG	10.29	27.33	50.00	-22.67



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Test Data

## Phase Neutral Plot at 240Vac, 60Hz

No.	P/L	Frequency	Reading	Detector	Corrected	Result	Limit	Margin
		(MHz)	(dBuV)		(dB)	(dBuV)	(dBuV)	(dB)
1	N	0.1851	19.26	QP	10.02	29.28	64.25	-34.97
2	N	0.1851	0.29	AVG	10.02	10.31	54.25	-43.94
3	N	0.4035	21.25	QP	10.02	31.27	57.78	-26.51
4	N	0.4035	4.75	AVG	10.02	14.77	47.78	-33.01
5	N	0.6843	23.13	QP	10.02	33.15	56.00	-22.85
6	N	0.6843	8.76	AVG	10.02	18.78	46.00	-27.22
7	N	3.4173	16.20	QP	10.05	26.25	56.00	-29.75
8	N	3.4173	1.08	AVG	10.05	11.13	46.00	-34.87
9	N	10.0668	18.13	QP	10.14	28.27	60.00	-31.73
10	N	10.0668	4.21	AVG	10.14	14.35	50.00	-35.65
11	N	15.4371	21.04	QP	10.21	31.25	60.00	-28.75
12	N	15.4371	14.32	AVG	10.21	24.53	50.00	-25.47



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# 6.9 Radiated Emissions & Restricted Band

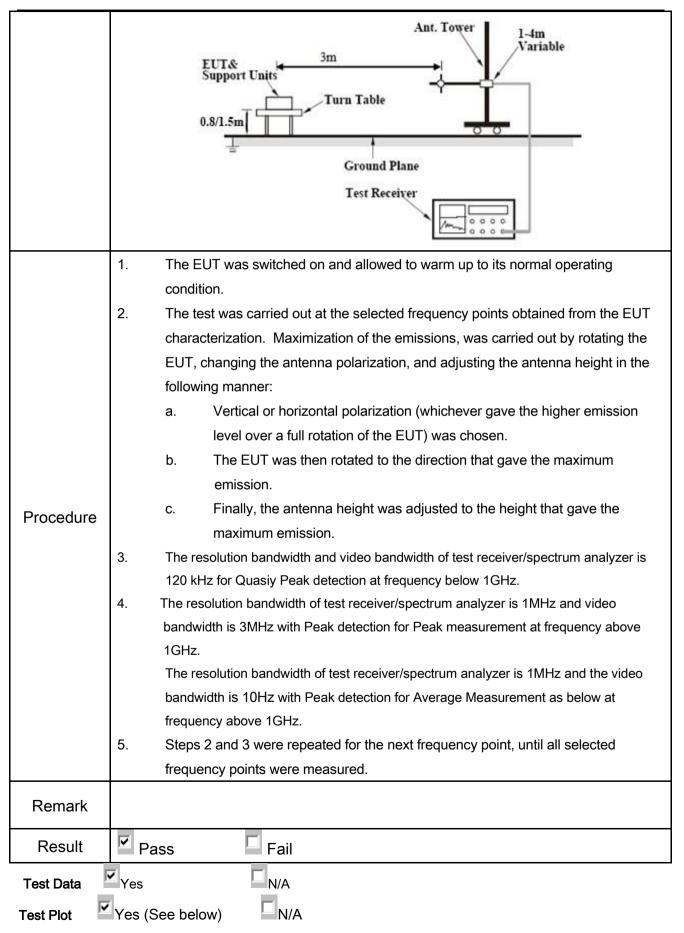
Temperature	26°C
Relative Humidity	55%
Atmospheric Pressure	1020mbar
Test date :	May 11, 2018
Tested By :	Aaron Liang

## Requirement(s):

Spec	Item	Requirement Applicable								
47CFR§15.		Except higher limit as specified else emissions from the low-power radio exceed the field strength levels specthe level of any unwanted emissions the fundamental emission. The tight edges								
205,	2)	Frequency range (MHz)	Field Strength (µV/m)	<b>V</b>						
§15.209,	a)	0.009~0.490	2400/F(KHz)							
§15.209, §15.247(d)		0.490~1.705	24000/F(KHz)							
		1.705~30.0	30							
		30 – 88	100							
		88 – 216	150							
		216 960	200							
		Above 960	500							
Test Setup		EUT 0.8m	3 meter  RF Test Receive							



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#### **Test Result:**

Test Mode: Transmitting Mode

Frequency range: 9KHz - 30MHz

Freq.	Detection	Factor	Reading	Result	Limit@3m	Margin
(MHz)	value (dB/m) (dBuV/m)		(dBuV/m)	(dBuV/m)	(dB)	
						>20
						>20

#### Note:

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

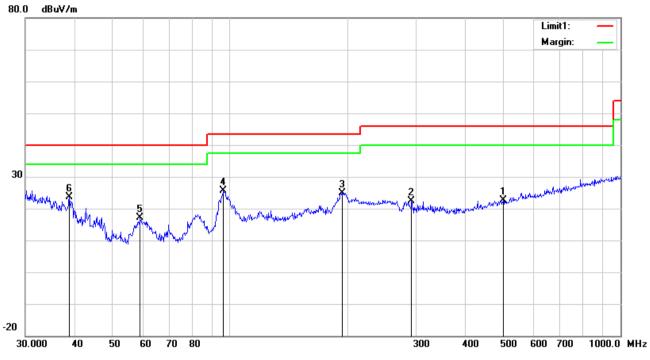
Distance extrapolation factor =40 log (specific distance/test distance)(dB);

Limit line = specific limits(dBuv) + distance extrapolation factor.



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#### 30MHz -1GHz



#### Test Data

## Horizontal Polarity Plot @3m

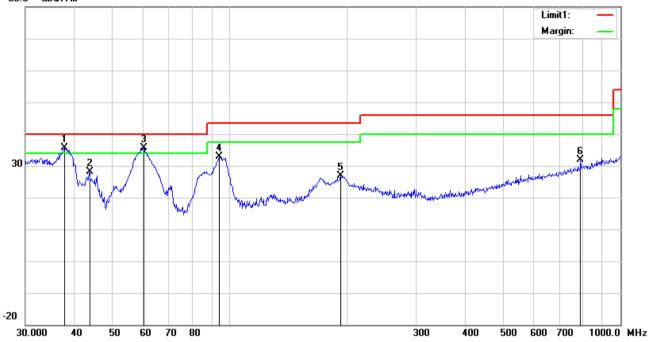
No.	P/L	Frequency	Reading	Detect	Ant_F	PA_G	Cab_L	Result	Limit	Margin	Height	Degr
	.,_			or								ee
		(MHz)	(dBuV/m)		(dB/m)	(dB)	(dB)	(dBuV/m)	(dBuV/m)	(dB)	(cm)	()
1	Н	501.1790	24.32	peak	17.72	21.81	2.42	22.65	46.00	-23.35	100	289
2	Н	292.0583	29.76	peak	13.25	22.29	1.78	22.50	46.00	-23.50	100	350
3	Н	193.7728	33.92	peak	11.76	22.34	1.54	24.88	43.50	-18.62	100	135
4	Н	96.4362	37.50	peak	9.54	22.32	1.03	25.75	43.50	-17.75	200	28
5	Н	59.0251	31.43	peak	7.41	22.41	0.76	17.19	40.00	-22.81	100	2
6	Н	38.8879	30.30	peak	14.71	22.27	0.78	23.52	40.00	-16.48	100	134



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#### 30MHz -1GHz





#### Test Data

## Vertical Polarity Plot @3m

No.	P/L	Frequency	Reading	Detect or	Ant_F	PA_G	Cab_L	Result	Limit	Margin	Height	Degr
		(MHz)	(dBuV/m)	J.	(dB/m)	(dB)	(dB)	(dBuV/m)	(dBuV/m)	(dB)	(cm)	( )
1	٧	37.8121	41.57	QP	15.50	22.27	0.78	35.58	40.00	-4.42	100	7
2	٧	43.8119	38.33	peak	11.38	22.29	0.76	28.18	40.00	-11.82	100	271
3	٧	60.2801	49.89	QP	7.31	22.41	0.76	35.55	40.00	-4.45	100	13
4	<	94.0979	45.29	peak	8.98	22.32	0.98	32.93	43.50	-10.57	100	273
5	V	192.4186	35.92	peak	11.68	22.33	1.54	26.81	43.50	-16.69	100	95
6	V	790.6188	28.89	peak	21.29	21.17	2.94	31.95	46.00	-14.05	100	170



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## Above 1GHz

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

#### Low Channel: 8-DPSK Mode (Worst Case) (2402 MHz)

Frequency (MHz)	S.A. Reading (dBµV)	Detector (PK/AV)	Polarity (H/V)	Ant. Factor (dB/m)	Cable Loss (dB)	Pre- Amp. Gain (dB)	Cord. Amp. (dBµV/m)	Limit (dBµV/m)	Margin (dB)
4804	42.61	AV	V	33.39	7.22	48.46	34.76	54	-19.24
4804	46.23	AV	Н	33.39	7.22	48.46	38.38	54	-15.62
4804	69.22	PK	V	33.39	7.22	48.46	61.37	74	-12.63
4804	64.63	PK	Н	33.39	7.22	48.46	56.78	74	-17.22
11062	28.03	AV	V	40.21	10.63	47.54	31.33	54	-22.67
11062	24.12	AV	Н	40.21	10.63	47.54	27.42	54	-26.58
11062	43.48	PK	V	40.21	10.63	47.54	46.78	74	-27.22
11062	46.33	PK	Н	40.21	10.63	47.54	49.63	74	-24.37

## Middle Channel: 8-DPSK Mode (Worst Case) (2441 MHz)

Frequency (MHz)	S.A. Reading (dBµV)	Detector (PK/AV)	Polarity (H/V)	Ant. Factor (dB/m)	Cable Loss (dB)	Pre- Amp. Gain (dB)	Cord. Amp. (dBµV/m)	Limit (dBµV/m)	Margin (dB)
4882	43.1	AV	V	33.62	7.53	48.36	35.89	54	-18.11
4882	43.57	AV	Н	33.62	7.53	48.36	36.36	54	-17.64
4882	66.97	PK	V	33.62	7.53	48.36	59.76	74	-14.24
4882	62.48	PK	Н	33.62	7.53	48.36	55.27	74	-18.73
8566	35.57	AV	V	38.61	7.12	48.16	33.14	54	-20.86
8566	31.31	AV	Н	38.61	7.12	48.16	28.88	54	-25.12
8566	52.16	PK	V	38.61	7.12	48.16	49.73	74	-24.27
8566	54.8	PK	Н	38.61	7.12	48.16	52.37	74	-21.63



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#### High Channel: GFSK Mode (Worst Case) (2480 MHz)

Frequency (MHz)	S.A. Reading (dBµV)	Detector (PK/AV)	Polarity (H/V)	Ant. Factor (dB/m)	Cable Loss (dB)	Pre- Amp. Gain (dB)	Cord. Amp. (dBµV/m)	Limit (dBµV/m)	Margin (dB)
4960	44.46	AV	V	33.89	7.86	48.31	37.9	54	-16.1
4960	48.21	AV	Н	33.89	7.86	48.31	41.65	54	-12.35
4960	68.44	PK	V	33.89	7.86	48.31	61.88	74	-12.12
4960	65.22	PK	Н	33.89	7.86	48.31	58.66	74	-15.34
17764	20.83	AV	V	42.97	17.23	45.98	35.05	54	-18.95
17764	20.74	AV	Н	42.97	17.23	45.98	34.96	54	-19.04
17764	41.67	PK	V	42.97	17.23	45.98	55.89	74	-18.11
17764	42.97	PK	Н	42.97	17.23	45.98	57.19	74	-16.81

#### Note:

- 1, The testing has been conformed to 10\*2480MHz=24,800MHz
- 2, All other emissions more than 30 dB below the limit
- 3, X-Axis, Y-Axis and Z-Axis were investigated. The results above show only the worst case.
- 4, The radiated spurious test above 18GHz is subcontracted to SIEMIC (Nanjing-China) Laboratories. and found 30dB below the limit at least.



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# Annex A. TEST INSTRUMENT

Instrument	Model	Serial #	Cal Date	Cal Due	In use
AC Line Conducted					
EMI test receiver	ESCS30	8471241027	09/15/2017	09/14/2018	>
Line Impedance	LI-125A	191106	09/23/2017	09/22/2018	•
Line Impedance	LI-125A	191107	09/23/2017	09/22/2018	•
ISN	ISN T800	34373	09/23/2017	09/22/2018	
Transient Limiter	LIT-153	531118	08/30/2017	08/29/2018	✓
RF conducted test					
Agilent ESA-E SERIES	E4407B	MY45108319	09/15/2017	09/14/2018	>
Power Splitter	1#	1#	08/30/2017	08/29/2018	~
DC Power Supply	E3640A	MY40004013	09/15/2017	09/14/2018	>
Radiated Emissions					
EMI test receiver	ESL6	100262	09/15/2017	09/14/2018	•
Positioning Controller	UC3000	MF780208282	11/17/2017	11/16/2018	•
OPT 010 AMPLIFIER	0.4.475	0707400400	00/00/00/7	00/00/00/0	_
(0.1-1300MHz)	8447E	2727A02430	08/30/2017	08/29/2018	>
Horn Antenna	BBHA9170	3145226D1	09/27/2017	09/26/2018	Y
Microwave Preamplifier (1 ~ 26.5GHz)	8449B	3008A02402	03/22/2018	03/21/2019	<b>\</b>
Active Antenna (9kHz-30MHz)	AL-130	121031	10/12/2017	10/11/2018	<u>&lt;</u>
Bilog Antenna (30MHz~6GHz)	JB6	A110712	09/19/2017	09/18/2018	<u>&lt;</u>
Double Ridge Horn Antenna (1 ~18GHz)	AH-118	71283	09/22/2017	09/21/2018	<u> </u>
Universal Radio Communication Tester	CMU200	121393	09/23/2017	09/22/2018	V

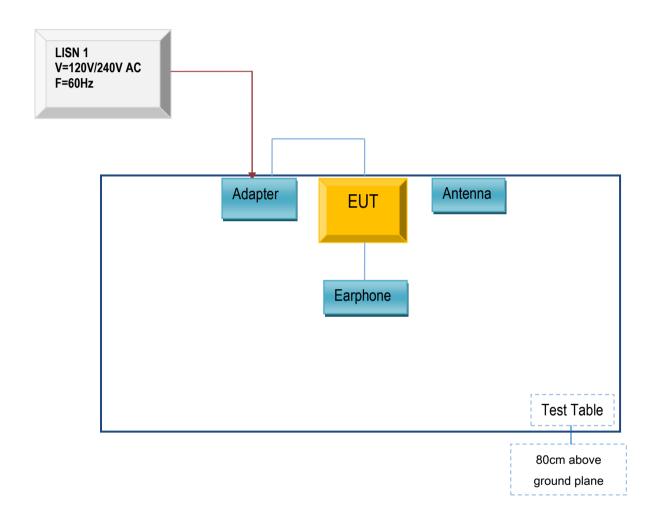


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## Annex B. TEST SETUP AND SUPPORTING EQUIPMENT

## Annex B.i. TEST SET UP BLOCK

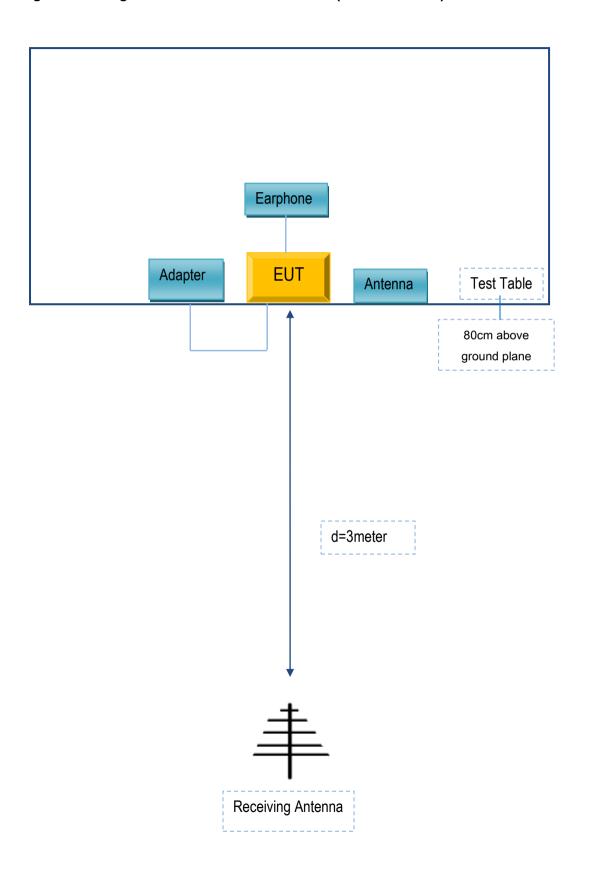
Block Configuration Diagram for AC Line Conducted Emissions





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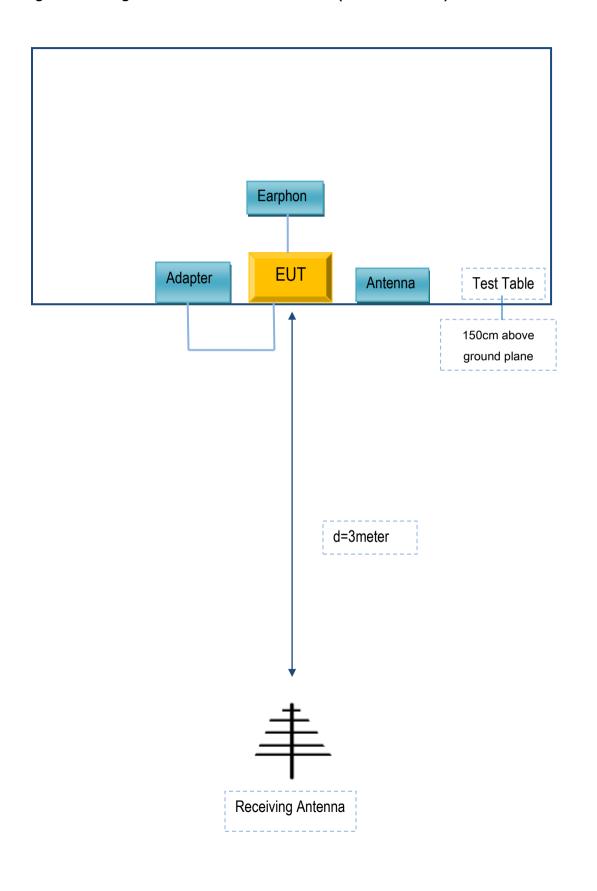
# Block Configuration Diagram for Radiated Emissions (Below 1GHz).





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# Block Configuration Diagram for Radiated Emissions ( Above 1GHz ) .





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# Annex C. il. SUPPORTING EQUIPMENT DESCRIPTION

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

## Supporting Equipment:

Manufacturer	Manufacturer Equipment Description		Serial No
INFINIX MOBILITY LIMITED	Adapter	A88-502000	N/A
INFINIX MOBILITY LIMITED	Earphone	НОТ 6	N/A
Agilent	Wireless Connectivity  Test Set	N4010A	N/A
OEM	omnidirectional antenna	AntSuck	N/A

## Supporting Cable:

Cable type	Shield Type	Ferrite Core	Length	Serial No
USB Cable	Un-shielding	No	0.8m	N/A



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# Annex C. User Manual / Block Diagram / Schematics / Partlist/ DECLARATION OF SIMILARITY

Please see the attachment