RF TEST REPORT



Report No.: 17071364-FCC-R3
Supersede Report No.: N/A

Applicant	INFINIX MOBILITY LIMITED			
Product Name	Mobile pho	Mobile phone		
Model No.	X573			
Serial No.	N/A			
Test Standard	FCC Part 1	5.247: 2016,	ANSI C63.10: 2	013
Test Date	December	06, 2017 to c	January 1, 2018	
Issue Date	January 2,	2018		
Test Result	Pass	Fail		
Equipment compli	ied with the	specification	V	
Equipment did no	t comply with	n the specific	ation 🗖	
Jaron Li		David	Huang	
Aaron Liang Test Engineer			d Huang cked 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



Test Report	17071364-FCC-R3
Page	2 of 69

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	17071364-FCC-R3
Page	3 of 69

This page has been left blank intentionally.



Test Report	17071364-FCC-R3
Page	4 of 69

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	9
6.	MEASUREMENTS, EXAMINATION AND DERIVED RESULTS	10
6.1	ANTENNA REQUIREMENT	10
6.2	CHANNEL SEPARATION	11
6.3	20DB BANDWIDTH	15
6.4	PEAK OUTPUT POWER	19
6.5	NUMBER OF HOPPING CHANNEL	23
6.6	TIME OF OCCUPANCY (DWELL TIME)	25
6.7	BAND EDGE & RESTRICTED BAND	29
6.8	AC POWER LINE CONDUCTED EMISSIONS	37
6.9	RADIATED EMISSIONS & RESTRICTED BAND	43
ANN	NEX A. TEST INSTRUMENT	50
ANN	NEX B. EUT AND TEST SETUP PHOTOGRAPHS	51
ANN	NEX C. TEST SETUP AND SUPPORTING EQUIPMENT	64
ANI	NEX D. USER MANUAL / BLOCK DIAGRAM / SCHEMATICS / PARTLIST	68
ANN	NEX E. DECLARATION OF SIMILARITY	69



Test Report	17071364-FCC-R3
Page	5 of 69

1. Report Revision History

Report No.	Report Version	Description	Issue Date
17071364-FCC-R3	NONE	Original	January 2, 2018

2. Customer information

Applicant Name	INFINIX MOBILITY LIMITED
Applicant Add	ROOMS 05-15, 13A/F., SOUTH TOWER, WORLD FINANCE CENTRE, HARBOUR
	CITY, 17 CANTON ROAD, TSIM SHA TSUI, KOWLOON, HONG KONG
Manufacturer	SHENZHEN TECNO TECHNOLOGY CO.,LTD.
Manufacturer Add	1-4th Floor,3rd Building,Pacific Industrial Park,No.2088,Shenyan Road,Yantian
	District,Shenzhen,Guangdong,China

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
I als Addisons	2-1 Longcang Avenue Yuhua Economic and
Lab Address	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.



Test Report	17071364-FCC-R3
Page	6 of 69

4. Equipment under Test (EUT) Information

Description of EUT: Mobile phone

Main Model: X573

Serial Model: N/A

Date EUT received: December 05, 2017

Test Date(s): December 06, 2017 to January 1, 2018

Equipment Category: DSS

GSM850: -0.7dBi PCS1900: 1.4dBi

UMTS-FDD Band V: -0.7dBi UMTS-FDD Band IV: 1.4dBi UMTS-FDD Band II: 1.4dBi

Antenna Gain: LTE Band II: 1.4dBi

LTE Band IV: 1.7dBi LTE Band VII: 1.7dBi Bluetooth/BLE: 1.7dBi

WIFI: 1.7dBi GPS: 1.7dBi

Antenna Type: PIFA Antenna

Type of Modulation:

GSM / GPRS: GMSK EGPRS: GMSK,8PSK UMTS-FDD: QPSK

LTE Band: QPSK, 16QAM

802.11b/g/n: DSSS, OFDM

Bluetooth: GFSK, π /4DQPSK, 8DPSK

BLE: GFSK GPS:BPSK



Test Report	17071364-FCC-R3
Page	7 of 69

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

UMTS-FDD Band IV TX:1712.4 ~ 1752.6 MHz:

RX: 2112.4 ~ 2152.6 MHz

UMTS-FDD Band II TX:1852.4 ~ 1907.6 MHz:

RX: 1932.4 ~ 1987.6 MHz

RF Operating Frequency (ies): LTE Band II TX: 1850.7 ~ 1909.3MHz; RX: 1930.7 ~ 1989.3 MHz

> LTE Band IV TX: 1710.7 ~ 1754.3 MHz; RX: 2110.7~ 2154.3 MHz LTE Band VII TX: 2502.5 ~ 2567.5 MHz; RX: 2622.5 ~ 2687.5 MHz

WIFI: 802.11b/g/n(20M): 2412-2462 MHz WIFI: 802.11n(40M): 2422-2452 MHz Bluetooth& BLE: 2402-2480 MHz

GPS: 1575.42 MHz

Max. Output Power: 5.34dBm

Number of Channels:

GSM 850: 124CH PCS1900: 299CH

UMTS-FDD Band V: 102CH UMTS-FDD Band IV: 202CH UMTS-FDD Band II: 277CH

WIFI:802.11b/g/n(20M): 11CH WIFI:802.11n(40M): 7CH

Bluetooth: 79CH

BLE: 40CH GPS:1CH

Port: USB Port, Earphone Port

Adapter:

Model: A88-502000

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

Output: DC 5V, 2.0A

Input Power: Battery:

Model: BL-39GX

Spec: 3.85V, 3900mAh/4000mAh, 15.02Wh/15.4Wh

Voltage: 4.4V

Trade Name: Infinix



Test Report	17071364-FCC-R3
Page	8 of 69

GPRS/EGPRS Multi-slot class 8	/10/1	1/12	•
-------------------------------	-------	------	---

FCC ID: 2AIZN-X573



Test Report	17071364-FCC-R3
Page	9 of 69

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	Description	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	
-	-	-	



Test Report	17071364-FCC-R3
Page	10 of 69

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 1.7dBi for Bluetooth/BLE/WIFI/GPS.

A permanently attached PIFA antenna for GSM/PCS/UMTS/LTE Band II/IV/VII, the gain is -0.7dBi for GSM850/UMTS-FDD Band V, the gain is 1.4dBi for PCS1900/UMTS-FDD Band II/ UMTS-FDD Band IV/ LTE Band II, the gain is 1.7dBi for LTE Band IV/ LTE Band VII.

The antenna meets up with the ANTENNA REQUIREMENT.

Result: Compliance.



Test Report	17071364-FCC-R3
Page	11 of 69

6.2 Channel Separation

Temperature	26 °C
Relative Humidity	56%
Atmospheric Pressure	1022mbar
Test date :	December 26, 2017
Tested By :	Aaron Liang

Requirement(s):

Requirement(s):			1			
Spec	Item	Item Requirement Applical				
		Channel Separation < 20dB BW and 20dB BW <	~			
\$ 45 247(0)(4)		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	Setup Spectrum Analyzer EUT					
	The to	est follows FCC Public Notice DA 00-705 Measurement	Guidelines.			
	Use the 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					
1000110000000	- 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.					



Test Report	17071364-FCC-R3	
Page	12 of 69	

Rema	rk				
Resu	lt	Pass	Fail		
Test Data	Yes	.	□ _{N/A}		
Test Plot	Ye	s (See below)	□ _{N/A}		

Channel Separation measurement result

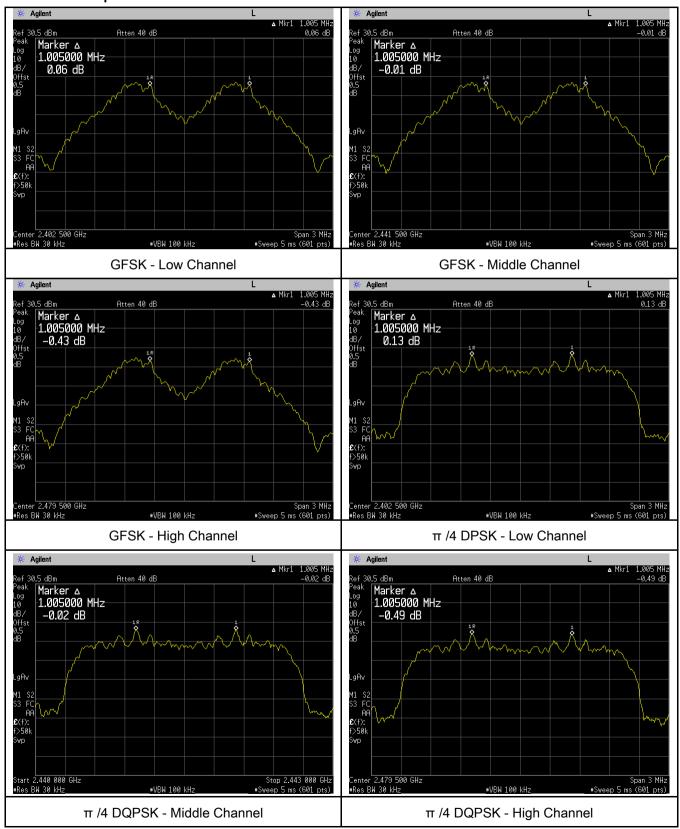
Type/ Modulation	СН	CH Frequency (MHz)	CH Separation (MHz)	Limit (MHz)	Result
	Low Channel	2402	1.005	0.954	Pass
	Adjacency Channel	2403	1.003	0.954	F d 5 5
CH Separation	Mid Channel	2440	1.005	0.958	Pass
GFSK	Adjacency Channel	2441	1.005	0.956	Pa55
	High Channel	2480	1 005	0.053	Door
	Adjacency Channel	2479	1.005	0.953	Pass
	Low Channel	2402	1.005	0.875	Pass
	Adjacency Channel	2403	1.005	0.675	Pass
CH Separation	Mid Channel	2440	1.005	0.859	Pass
π /4 DQPSK	Adjacency Channel	2441	1.005	0.059	Pass
	High Channel	2480	1.005	0.851	Desc
	Adjacency Channel	2479	1.005	0.851	Pass
	Low Channel	2402	4.005	0.007	Dese
	Adjacency Channel	2403	1.005	0.867	Pass
CH Separation	Mid Channel	2440	4.005	0.000	Desc
8DPSK	Adjacency Channel	2441	1.005	0.862	Pass
	High Channel	2480	4.005	0.050	Dess
	Adjacency Channel	2479	1.005	0.856	Pass



Test Report	17071364-FCC-R3
Page	13 of 69

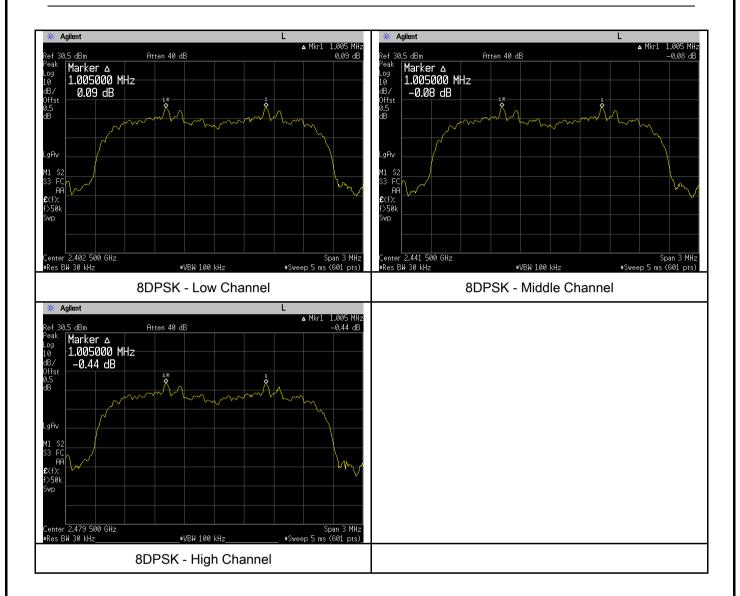
Test Plots

Channel Separation measurement result





Test Report	17071364-FCC-R3
Page	14 of 69





Test Report	17071364-FCC-R3
Page	15 of 69

6.3 20dB Bandwidth

Temperature	26 °C
Relative Humidity	56%
Atmospheric Pressure	1022mbar
Test date :	December 26, 2017
Tested By :	Aaron Liang

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.		
Test Setup	Spectrum Analyzer EUT		
Test Procedure	The test follows FCC Public Notice DA 00-705 Measurement Guidelines. Use the following spectrum analyzer settings: - Span = approximately 2 to 3 times the 20 dB bandwidth, centered on 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. 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		



Test Report	17071364-FCC-R3
Page	16 of 69

		marker	level. The marker-delta reading at this point is the 20 dB
		bandwid	dth of the emission. If this value varies with different modes of
		operatio	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	□ _{N/A}
Test Plot	V	es (See below)	N/A

Measurement result

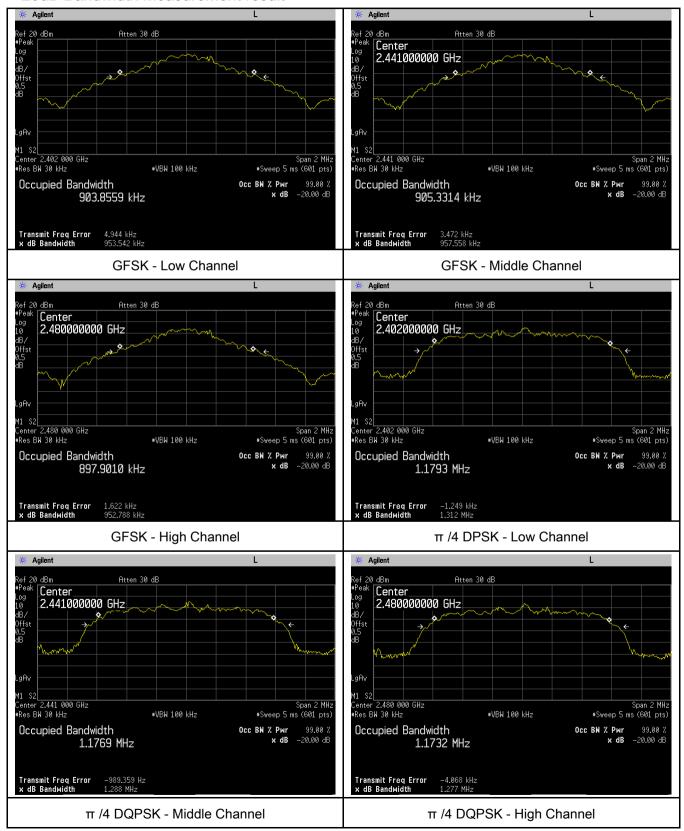
Modulation	СН	CH Frequency	20dB Bandwidth	99% Occupied
Modulation		(MHz)	(MHz)	Bandwidth (MHz)
	Low	2402	0.9535	0.9039
GFSK	Mid	2441	0.9576	0.9053
	High	2480	0.9528	0.8979
	Low	2402	1.312	1.1793
π /4 DQPSK	Mid	2441	1.288	1.1769
	High	2480	1.277	1.1732
	Low	2402	1.301	1.1826
8-DPSK	Mid	2441	1.293	1.1775
	High	2480	1.284	1.1730



Test Report	17071364-FCC-R3
Page	17 of 69

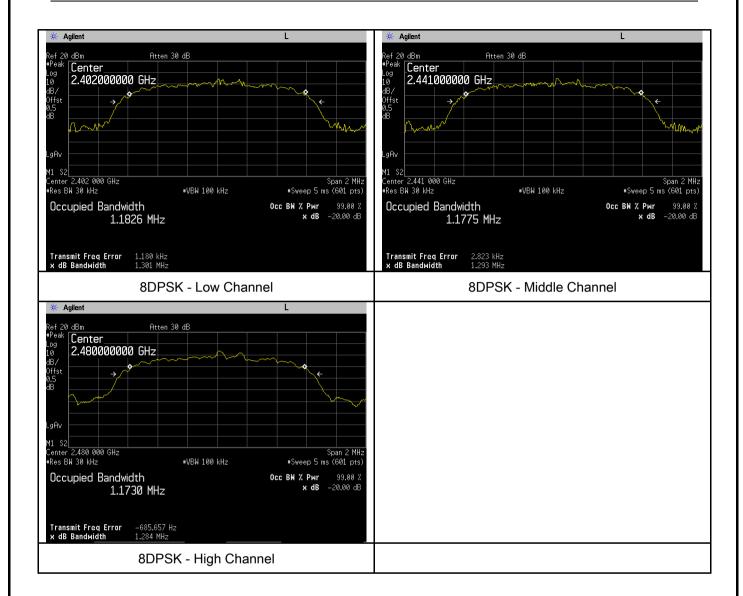
Test Plots

20dB Bandwidth measurement result





Test Report	17071364-FCC-R3
Page	18 of 69





Test Report	17071364-FCC-R3
Page	19 of 69

6.4 Peak Output Power

Temperature	26 °C
Relative Humidity	56%
Atmospheric Pressure	1022mbar
Test date :	December 26, 2017
Tested By :	Aaron Liang

Requirement(s):

Spec	Item	Requirement	Applicable	
	a)	FHSS in 2400-2483.5MHz with ≥ 75 channels: ≤ 1 Watt	V	
	b)	FHSS in 5725-5850MHz: ≤ 1 Watt		
§15.247(b)	c)	For all other FHSS in the 2400-2483.5MHz band: ≤ 0.125 Watt.	<u>\</u>	
(3)	d)	FHSS in 902-928MHz with ≥ 50 channels: ≤ 1 Watt		
	e)	FHSS in 902-928MHz with ≥ 25 & <50 channels: ≤ 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.				



Test Report	17071364-FCC-R3	
Page	20 of 69	

	- 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	Yes N/A			

Peak Output Power measurement result

Test Plot Yes (See below) N/A

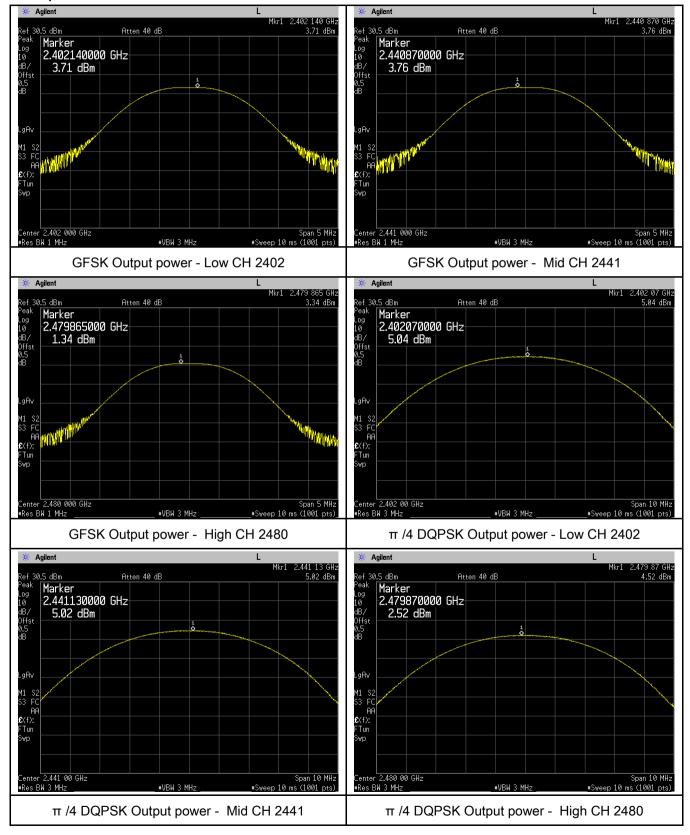
Туре	Modulation	СН	Frequenc y (MHz)	Conducted Power (dBm)	Limit (mW)	Result
		Low	2402	3.71	1000	Pass
	GFSK	Mid	2441	3.76	1000	Pass
		High	2480	3.34	1000	Pass
Outrot	π /4 DQPSK	Low	2402	5.04	125	Pass
Output power		Mid	2441	5.02	125	Pass
		High	2480	4.52	125	Pass
	8-DPSK	Low	2402	5.30	125	Pass
		Mid	2441	5.34	125	Pass
		High	2480	4.84	125	Pass



Test Report	17071364-FCC-R3	
Page	21 of 69	

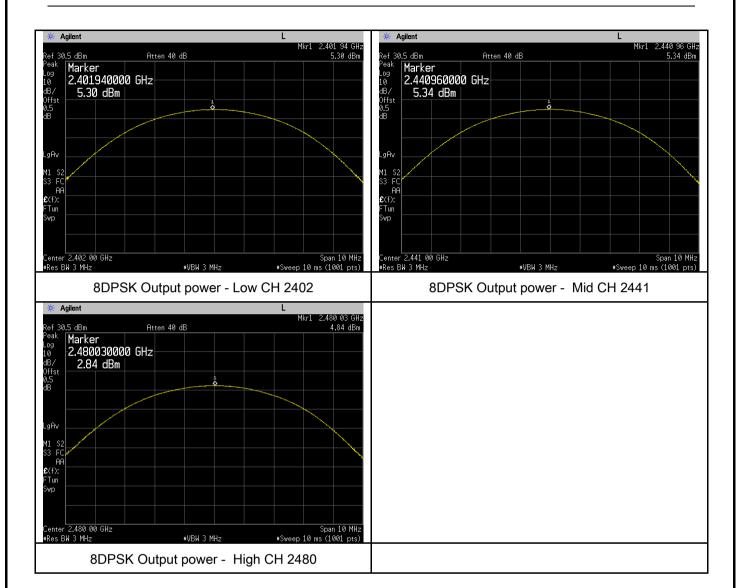
Test Plots

Output Power measurement result





Test Report	17071364-FCC-R3
Page	22 of 69





Test Report	17071364-FCC-R3
Page	23 of 69

6.5 Number of Hopping Channel

Temperature	26 °C
Relative Humidity	56%
Atmospheric Pressure	1022mbar
Test date :	December 26, 2017
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 te	st follows FCC Public Notice DA 00-705 Measurement Gu	idelines.	
	Use the	e following spectrum analyzer settings:		
	The El	JT must have its hopping function enabled.		
	-	Span = the frequency band of operation		
	-	RBW ≥ 1% of the span		
Test	- VBW ≥ RBW			
Procedure	- 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	(s).	
Remark				
Result	Pas	Fail		
Test Data	Yes	N/A		
Test Plot	Yes (See	below) N/A		



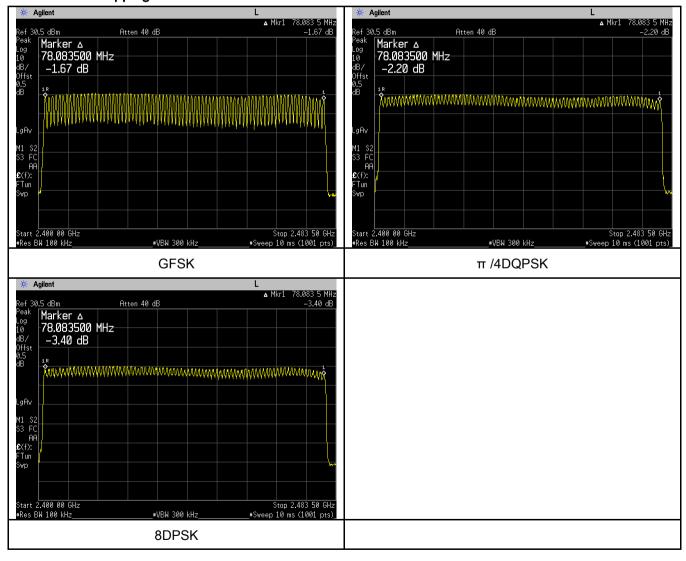
Test Report	17071364-FCC-R3	
Page	24 of 69	

Number of Hopping Channel measurement result

Туре	Modulation	Frequency Range	Number of Hopping Channel	Limit
Number	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





Test Report	17071364-FCC-R3
Page	25 of 69

6.6 Time of Occupancy (Dwell Time)

Temperature	26 °C
Relative Humidity	56%
Atmospheric Pressure	1022mbar
Test date :	December 26, 2017
Tested By :	Aaron Liang

Requirement(s):

Spec	Item	Requirement	Applicable
§15.247(a) (1)(iii)	a)	Dwell Time < 0.4s	V
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	e
Remark			
Result	Pas	s Fail	

Test Data	Yes	□ _{N/A}
Test Plot	Yes (See below)	□ _{N/A}



Test Report	17071364-FCC-R3
Page	26 of 69

Dwell Time measurement result

Туре	Modulation	СН	Pulse Width (ms)	Dwell Time (ms)	Limit (ms)	Result
		Low	2.92	311.467	400	Pass
	GFSK	Mid	2.92	311.467	400	Pass
		High	2.92	311.467	400	Pass
		Low	2.92	311.467	400	Pass
Dwell Time	π /4 DQPSK	Mid	2.92	311.467	400	Pass
		High	2.92	311.467	400	Pass
		Low	2.92	311.467	400	Pass
	8-DPSK	Mid	2.93	312.533	400	Pass
		High	2.93	312.533	400	Pass

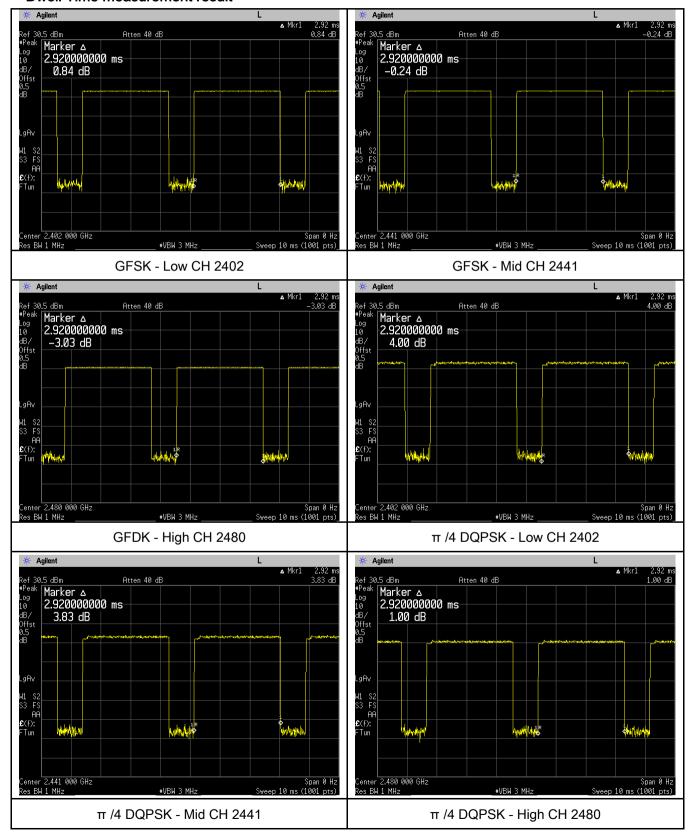
Note: Dwell time=Pulse Time (ms) × (1600 \div 6 \div 79) ×31.6



Test Report	17071364-FCC-R3
Page	27 of 69

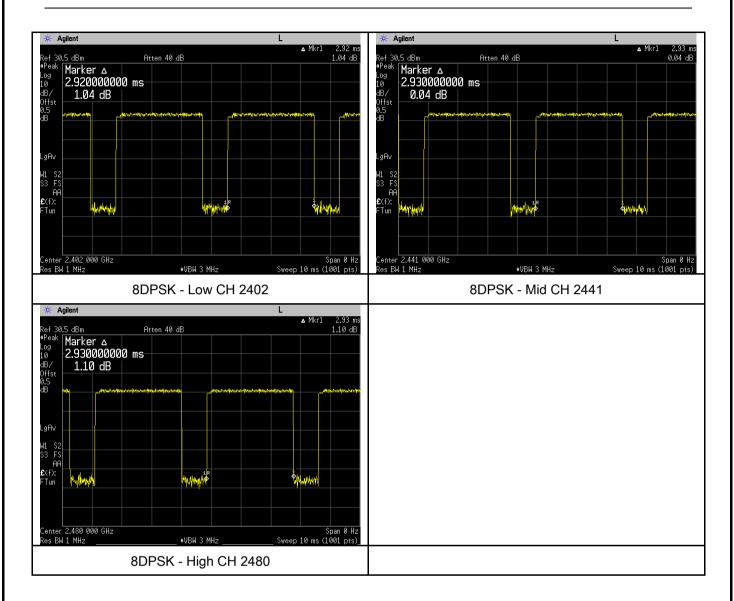
Test Plots

Dwell Time measurement result





Test Report	17071364-FCC-R3
Page	28 of 69





Test Report	17071364-FCC-R3
Page	29 of 69

6.7 Band Edge & Restricted Band

Temperature	25 °C
Relative Humidity	57%
Atmospheric Pressure	1023mbar
Test date :	December 27, 2017
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 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.	\
Test Setup	Ant. Tower Support Units Turn Table O.8/1.5m 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,		



Test Report	17071364-FCC-R3
Page	30 of 69

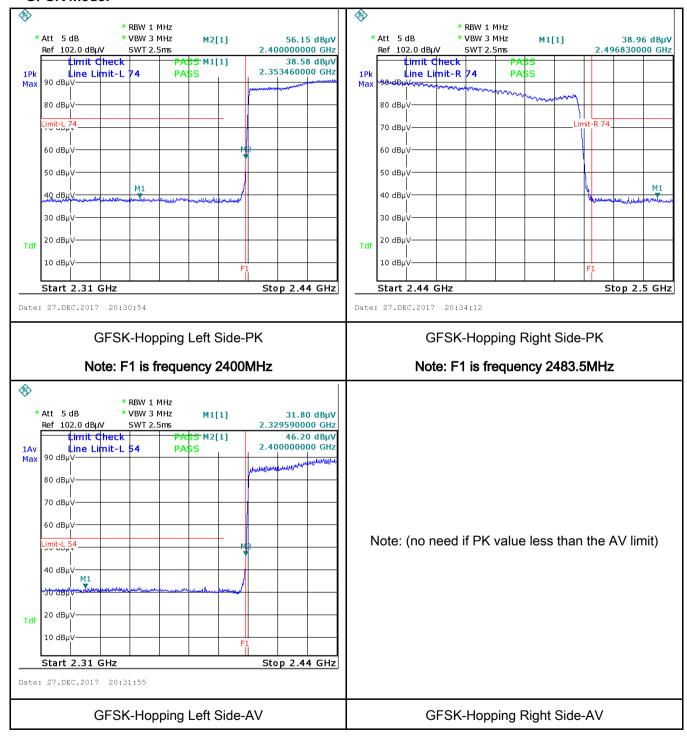
_	
	and make sure the instrument is operated in its linear range.
	- 3. First, set both RBW and VBW of spectrum analyzer to 100 kHz with a
	convenient frequency span including 100kHz bandwidth from band edge, check
	the emission of EUT, if pass then set Spectrum Analyzer as below:
	a. The resolution 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	
Result	Pass Fail
Test Data	Yes N/A
i esi Dala	165
Test Plot	Yes (See below) N/A



Test Report	17071364-FCC-R3
Page	31 of 69

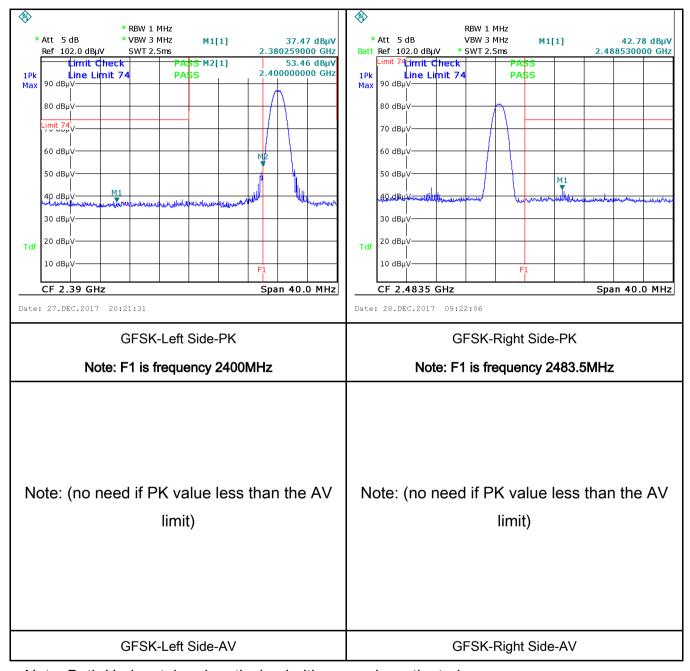
Test Plots

GFSK Mode:





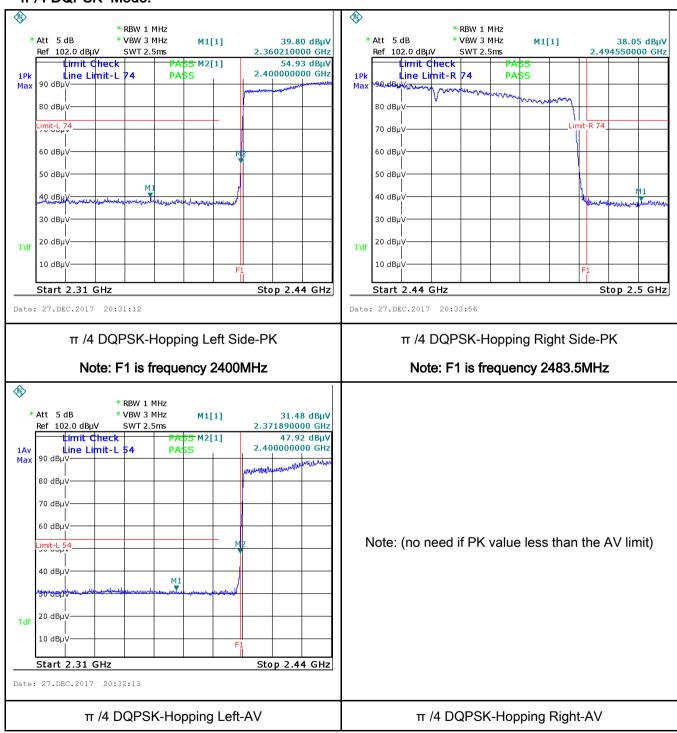
Test Report	17071364-FCC-R3
Page	32 of 69





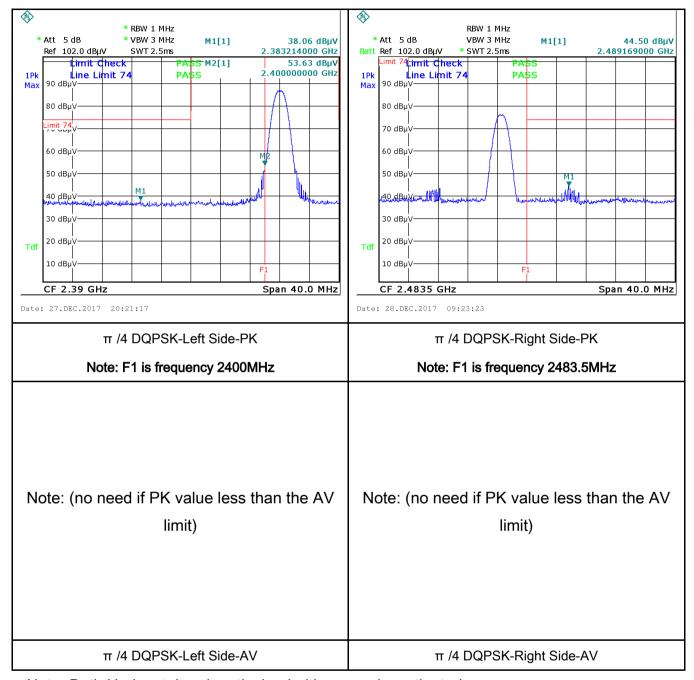
Test Report	17071364-FCC-R3
Page	33 of 69

π /4 DQPSK Mode:





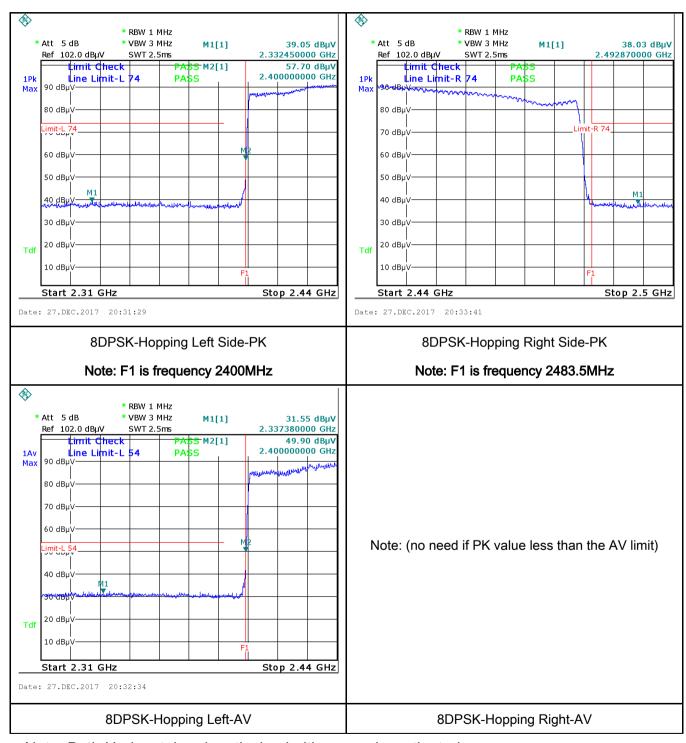
Test Report	17071364-FCC-R3
Page	34 of 69





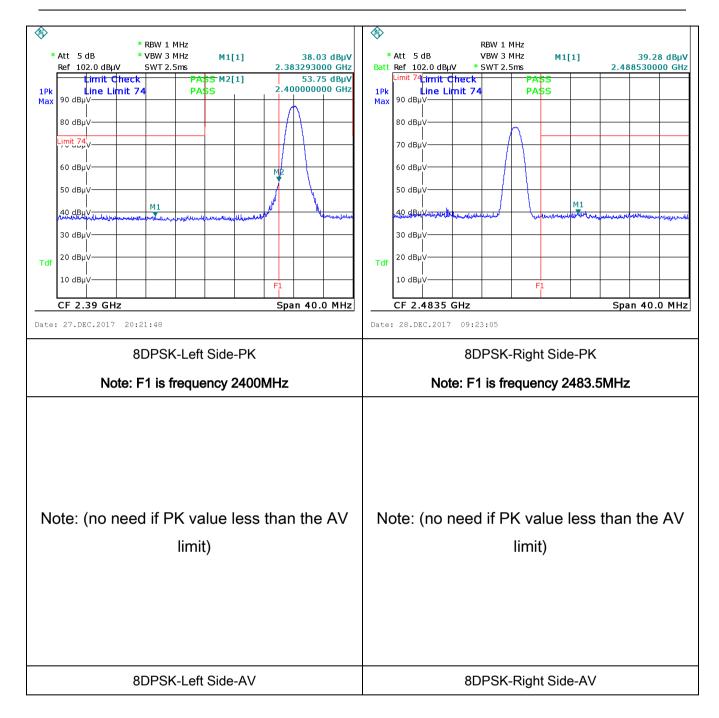
Test Report	17071364-FCC-R3
Page	35 of 69

8-DPSK Mode:





Test Report	17071364-FCC-R3
Page	36 of 69





Test Report	17071364-FCC-R3
Page	37 of 69

6.8 AC Power Line Conducted Emissions

Temperature	25 °C
Relative Humidity	50%
Atmospheric Pressure	1008mbar
Test date :	December 08, 2017
Tested By :	Aaron Liang

Requirement(s):

Spec	Item	Requirement	Applicable			
47CFR§15. 207, RSS210	a)	For Low-power radio-from connected to the public voltage that is conducted frequency or frequencied not exceed the limits in [mu]H/50 ohms line implower limit applies at the Frequency ranges	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	V	
(A8.1)		(MHz)	QP	Average		
		0.15 ~ 0.5	66 – 56	56 – 46		
		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					
	1. The		r units and other metal pla		aguirements of	
Procedure	 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. The power supply for the EUT was fed through a 50W/50mH EUT LISN, connected to filtered mains. 					
	3. The	RF OUT of the EUT LIS	SN was connected to the	ne EMI test receiver via	a low-loss	



Test Plot Yes (See below) N/A

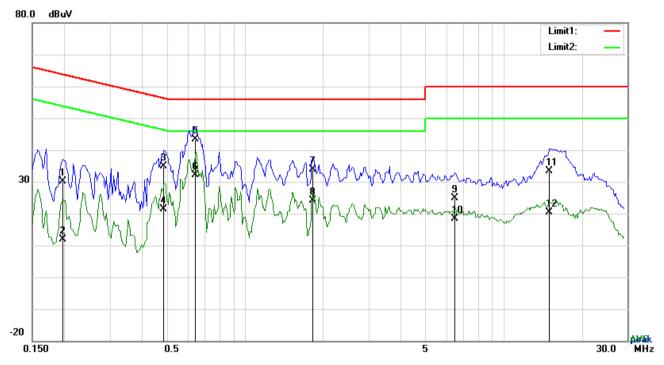
Test Report	17071364-FCC-R3
Page	38 of 69

	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	Pass Fail					
Test Data	Yes N/A					



Test Report	17071364-FCC-R3
Page	39 of 69

Test Mode:



Test Data

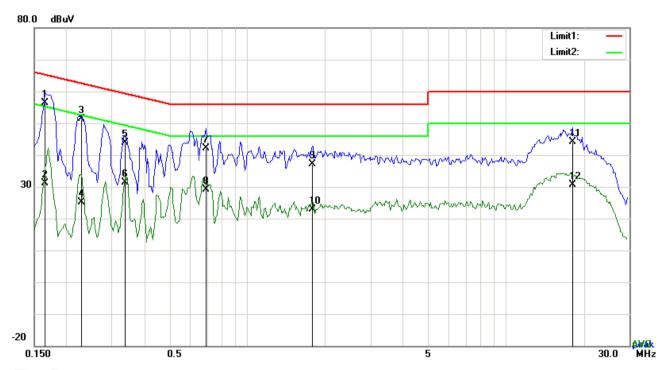
Phase Line Plot at 120Vac, 60Hz

No.	P/L	Frequency	Reading	Detector	Corrected	Result	Limit	Margin
		(MHz)	(dBuV)		(dB)	(dBuV)	(dBuV)	(dB)
1	L1	0.1968	19.99	QP	10.03	30.02	63.74	-33.72
2	L1	0.1968	1.75	AVG	10.03	11.78	53.74	-41.96
3	L1	0.4854	24.77	QP	10.03	34.80	56.25	-21.45
4	L1	0.4854	11.46	AVG	10.03	21.49	46.25	-24.76
5	L1	0.6414	33.43	QP	10.03	43.46	56.00	-12.54
6	L1	0.6414	22.21	AVG	10.03	32.24	46.00	-13.76
7	L1	1.8270	23.95	QP	10.04	33.99	56.00	-22.01
8	L1	1.8270	14.14	AVG	10.04	24.18	46.00	-21.82
9	L1	6.4749	14.88	QP	10.10	24.98	60.00	-35.02
10	L1	6.4749	8.23	AVG	10.10	18.33	50.00	-31.67
11	L1	14.9379	23.19	QP	10.22	33.41	60.00	-26.59
12	L1	14.9379	10.15	AVG	10.22	20.37	50.00	-29.63



Test Report	17071364-FCC-R3
Page	40 of 69

lode
1



Test Data

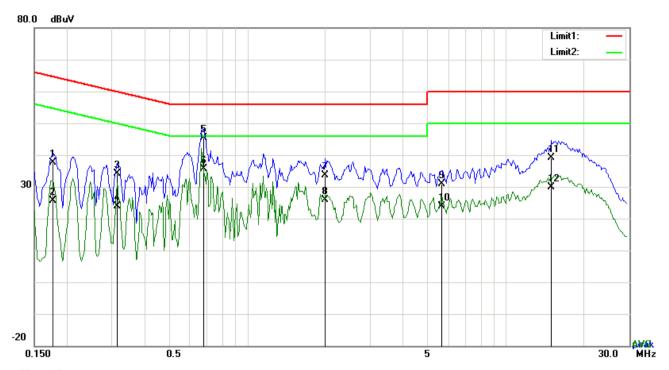
Phase Neutral Plot at 120Vac, 60Hz

No.	P/L	Frequency	Reading	Detector	Corrected	Result	Limit	Margin
		(MHz)	(dBuV)		(dB)	(dBuV)	(dBuV)	(dB)
1	N	0.1656	46.47	QP	10.02	56.49	65.18	-8.69
2	N	0.1656	21.15	AVG	10.02	31.17	55.18	-24.01
3	N	0.2280	41.25	QP	10.02	51.27	62.52	-11.25
4	N	0.2280	15.17	AVG	10.02	25.19	52.52	-27.33
5	N	0.3372	33.81	QP	10.02	43.83	59.27	-15.44
6	N	0.3372	21.42	AVG	10.02	31.44	49.27	-17.83
7	N	0.6921	32.06	QP	10.02	42.08	56.00	-13.92
8	N	0.6921	19.17	AVG	10.02	29.19	46.00	-16.81
9	N	1.7880	27.12	QP	10.04	37.16	56.00	-18.84
10	N	1.7880	12.89	AVG	10.04	22.93	46.00	-23.07
11	N	18.1320	34.01	QP	10.24	44.25	60.00	-15.75
12	N	18.1320	20.46	AVG	10.24	30.70	50.00	-19.30



Test Report	17071364-FCC-R3
Page	41 of 69

Test Mode:	Bluetooth Mode



Test Data

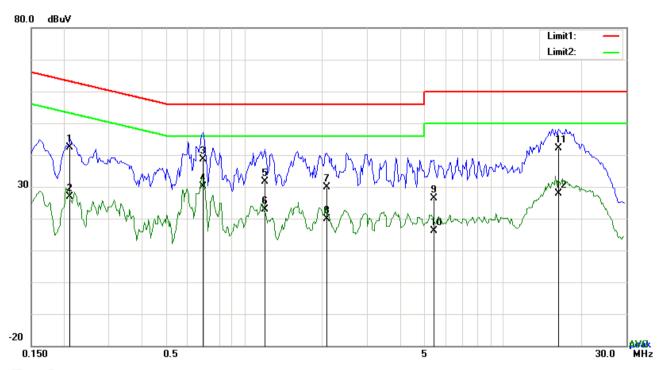
Phase Line Plot at 240Vac, 60Hz

No.	P/L	Frequency	Reading	Reading Detector C		Result	Limit	Margin	
		(MHz)	(dBuV)		(dB}	(dBuV)	(dBuV)	(dB)	
1	L1	0.1773	27.60	QP	10.02	37.62	64.61	-26.99	
2	L1	0.1773	15.64	AVG	10.02	25.66	54.61	-28.95	
3	L1	0.3138	24.14	QP	10.02	34.16	59.87	-25.71	
4	L1	0.3138	13.78	AVG	10.02	23.80	49.87	-26.07	
5	L1	0.6765	35.48	QP	10.02	45.50	56.00	-10.50	
6	L1	0.6765	25.62	AVG	10.02	35.64	46.00	-10.36	
7	L1	2.0025	23.49	QP	10.04	33.53	56.00	-22.47	
8	L1	2.0025	15.81	AVG	10.04	25.85	46.00	-20.15	
9	L1	5.6754	20.73	QP	10.08	30.81	60.00	-29.19	
10	L1	5.6754	13.92	AVG	10.08	24.00	50.00	-26.00	
11	L1	15.0198	28.95	QP	10.20	39.15	60.00	-20.85	
12	L1	15.0198	19.74	AVG	10.20	29.94	50.00	-20.06	



Test Report	17071364-FCC-R3
Page	42 of 69

Test Mode: Bluetooth Mode



Test Data

Phase Neutral Plot at 240Vac, 60Hz

No.	P/L	Frequency	Frequency Reading		Corrected	Result	Limit	Margin
		(MHz)	(dBuV)		(dB)	(dBuV)	(dBuV)	(dB)
1	N	0.2124	32.24	QP	10.02	42.26	63.11	-20.85
2	N	0.2124	16.76	AVG	10.02	26.78	53.11	-26.33
3	N	0.6960	28.65	QP	10.02	38.67	56.00	-17.33
4	N	0.6960	20.07	AVG	10.02	30.09	46.00	-15.91
5	N	1.2030	21.59	QP	10.03	31.62	56.00	-24.38
6	N	1.2030	12.80	AVG	10.03	22.83	46.00	-23.17
7	N	2.0805	19.85	QP	10.04	29.89	56.00	-26.11
8	N	2.0805	9.76	AVG	10.04	19.80	46.00	-26.20
9	N	5.3946	16.22	QP	10.08	26.30	60.00	-33.70
10	N	5.3946	6.09	AVG	10.08	16.17	50.00	-33.83
11	N	16.4121	32.00	QP	10.22	42.22	60.00	-17.78
12	N	16.4121	17.59	AVG	10.22	27.81	50.00	-22.19



Test Report	17071364-FCC-R3
Page	43 of 69

6.9 Radiated Emissions & Restricted Band

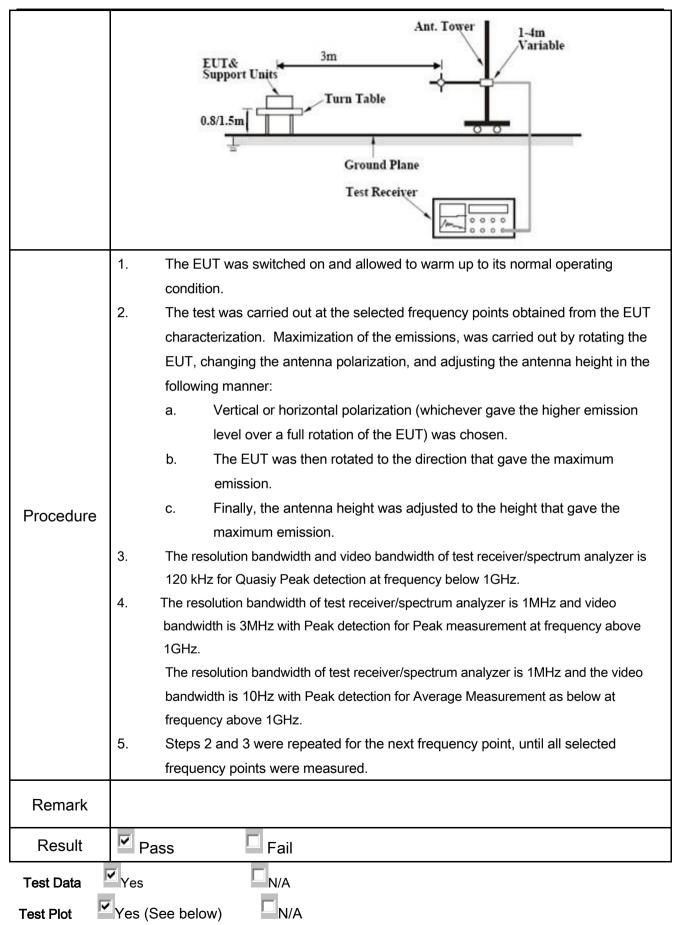
Temperature	25 °C
Relative Humidity	57%
Atmospheric Pressure	1023mbar
Test date :	December 27, 2017
Tested By :	Aaron Liang

Requirement(s):

Spec	Item	Requirement	quirement Applicable						
47CFR§15.		Except higher limit as specified else emissions from the low-power radio exceed the field strength levels spet the level of any unwanted emissions the fundamental emission. The tight edges							
205, §15.209,	a)	Frequency range (MHz) 0.009~0.490	Field Strength (μV/m) 2400/F(KHz)	V					
§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 6	3 meter RF Tes Receiv	nna t					



Test Report	17071364-FCC-R3
Page	44 of 69





Test Report	17071364-FCC-R3
Page	45 of 69

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.



Test Report	17071364-FCC-R3
Page	46 of 69

Test Mode: Bluetooth Mode

30MHz -1GHz



Test Data

Horizontal Polarity Plot @3m

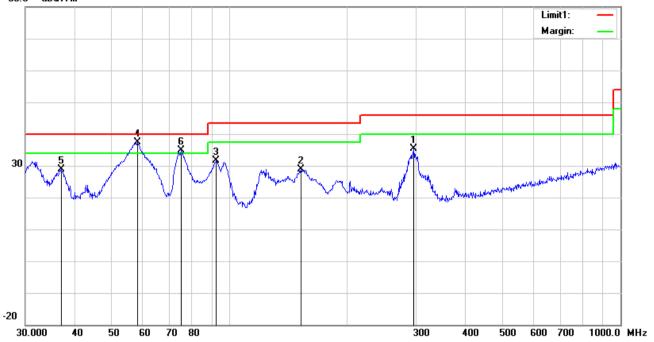
No.	P/L	Frequency	Reading	Detect	Ant_F	PA_G	Cab_L	Result	Limit	Margin	Height	Degr
				or								ее
		(MHz)	(dBuV/m)		(dB/m)	(dB)	(dB)	(dBuV/m)	(dBuV/m)	(dB)	(cm)	()
1	Н	296.1836	40.22	peak	13.43	22.29	1.78	33.14	46.00	-12.86	100	346
2	Н	189.0743	38.24	peak	11.50	22.31	1.52	28.95	43.50	-14.55	100	323
3	Н	97.1148	39.09	peak	9.71	22.32	1.04	27.52	43.50	-15.98	100	310
4	Н	57.9993	31.69	peak	7.52	22.40	0.76	17.57	40.00	-22.43	100	142
5	Н	76.5121	29.90	peak	7.67	22.41	0.99	16.15	40.00	-23.85	100	140
6	Н	215.2678	36.93	peak	11.89	22.35	1.59	28.06	43.50	-15.44	100	245



Test Report	17071364-FCC-R3
Page	47 of 69

30MHz -1GHz





Test Data

Vertical Polarity Plot @3m

No.	P/L	Frequency	Reading	Detect	Ant_F	PA_G	Cab_L	Result	Limit	Margin	Height	Degr
		(MHz)	(dBuV/m)	or	(dB/m)	(dB)	(dB)	(dBuV/m)	(dBuV/m)	(dB)	(cm)	()
1	٧	296.1836	42.57	peak	13.43	22.29	1.78	35.49	46.00	-10.51	100	357
2	٧	152.1297	37.34	AVG	12.60	22.33	1.35	28.96	43.50	-14.54	100	212
3	V	92.4624	44.38	peak	8.59	22.32	0.97	31.62	43.50	-11.88	100	183
4	V	57.9993	51.52	QP	7.52	22.40	0.76	37.40	40.00	-2.60	100	35
5	٧	37.0249	34.37	peak	16.07	22.26	0.77	28.95	40.00	-11.05	100	147
6	V	75.1823	48.55	QP	7.70	22.40	0.96	34.81	40.00	-5.19	100	345



Test Report	17071364-FCC-R3
Page	48 of 69

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	45.07	AV	V	33.39	7.22	48.46	37.22	54	-16.78
4804	46.12	AV	Н	33.39	7.22	48.46	38.27	54	-15.73
4804	69.42	PK	V	33.39	7.22	48.46	61.57	74	-12.43
4804	65.24	PK	Н	33.39	7.22	48.46	57.39	74	-16.61
10725	20.46	AV	V	40.7	9.9	46.6	24.46	54	-29.54
10725	20.63	AV	Н	40.7	9.9	46.6	24.63	54	-29.37
10725	38.43	PK	V	40.7	9.9	46.6	42.43	74	-31.57
10725	40.81	PK	Н	40.7	9.9	46.6	44.81	74	-29.19

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	46.44	AV	V	33.62	7.53	48.36	39.23	54	-14.77
4882	45.76	AV	Н	33.62	7.53	48.36	38.55	54	-15.45
4882	66.49	PK	V	33.62	7.53	48.36	59.28	74	-14.72
4882	65.36	PK	Н	33.62	7.53	48.36	58.15	74	-15.85
9749	18.04	AV	V	39.03	10.47	47.96	19.58	54	-34.42
9749	20.75	AV	Н	39.03	10.47	47.96	22.29	54	-31.71
9749	38.11	PK	V	39.03	10.47	47.96	39.65	74	-34.35
9749	37.23	PK	Н	39.03	10.47	47.96	38.77	74	-35.23



Test Report	17071364-FCC-R3
Page	49 of 69

High Channel: 8-DPSK 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	46.59	AV	V	33.89	7.86	48.31	40.03	54	-13.97
4960	44.61	AV	Н	33.89	7.86	48.31	38.05	54	-15.95
4960	65.34	PK	V	33.89	7.86	48.31	58.78	74	-15.22
4960	68.81	PK	Н	33.89	7.86	48.31	62.25	74	-11.75
17871	20.76	AV	V	43.6	20.13	43.69	40.8	54	-13.2
17871	18	AV	Н	43.6	20.13	43.69	38.04	54	-15.96
17871	40.21	PK	V	43.6	20.13	43.69	60.25	74	-13.75
17871	40.46	PK	Н	43.6	20.13	43.69	60.5	74	-13.5

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.



Test Report	17071364-FCC-R3
Page	50 of 69

Annex A. TEST INSTRUMENT

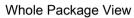
Instrument	Model	Serial #	Cal Date	Cal Due	In use
AC Line Conducted					
EMI test receiver	ESCS30	8471241027	09/15/2017	09/14/2018	>
Line Impedance	LI-125A	191106	09/23/2017	09/22/2018	•
Line Impedance	LI-125A	191107	09/23/2017	09/22/2018	~
ISN	ISN T800	34373	09/23/2017	09/22/2018	
Transient Limiter	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	04475	0707400400	00/00/0047	00/00/0040	
(0.1-1300MHz)	8447E	2727A02430	08/30/2017	08/29/2018	~
Microwave Preamplifier	0.1.105	0000100100	00/00/0047	00/00/00/0	
(1 ~ 26.5GHz)	8449B	3008A02402	03/23/2017	03/22/2018	>
					_
Horn Antenna	BBHA9170	3145226D1	09/27/2017	09/26/2018	>
Active Antenna					
(9kHz-30MHz)	AL-130	121031	10/12/2017	10/11/2018	~
,					
Bilog Antenna	JB6	A110712	09/19/2017	09/18/2018	~
(30MHz~6GHz)					
Double Ridge Horn	ΛU 440	71000	00/22/2017	00/24/2049	>
Antenna (1 ~18GHz)	AH-118	71283	09/22/2017	09/21/2018	•
Universal Radio					
Communication Tester	CMU200	121393	09/23/2017	09/22/2018	>



Test Report	17071364-FCC-R3
Page	51 of 69

Annex B. EUT And Test Setup Photographs

Annex B.i. Photograph: EUT External Photo





Adapter - Lable View





Test Report	17071364-FCC-R3
Page	52 of 69

EUT - Front View



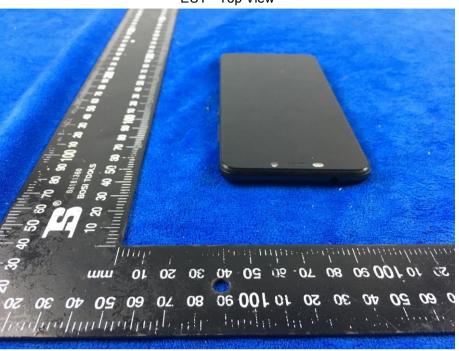
EUT - Rear View



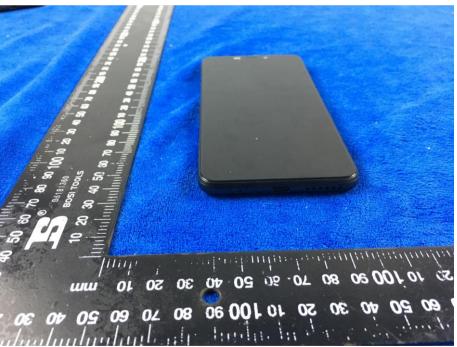


Test Report	17071364-FCC-R3
Page	53 of 69

EUT - Top View



EUT - Bottom View



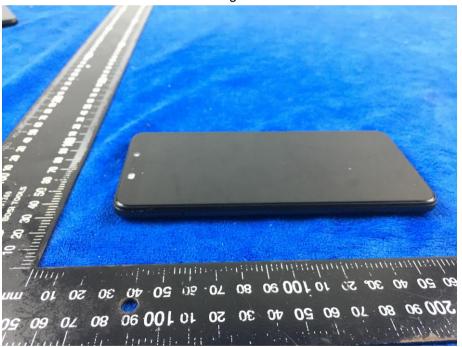


Test Report	17071364-FCC-R3
Page	54 of 69

EUT - Left View



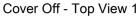
EUT - Right View





Test Report	17071364-FCC-R3
Page	55 of 69

Annex B.ii. Photograph: EUT Internal Photo





Cover Off - Top View 2





Test Report	17071364-FCC-R3
Page	56 of 69

Battery - Front View



Battery - Rear View



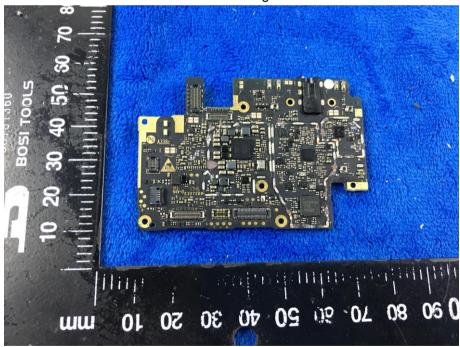


Test Report	17071364-FCC-R3
Page	57 of 69

Mainboard with Shielding - Front View



Mainboard with Shielding - Rear View



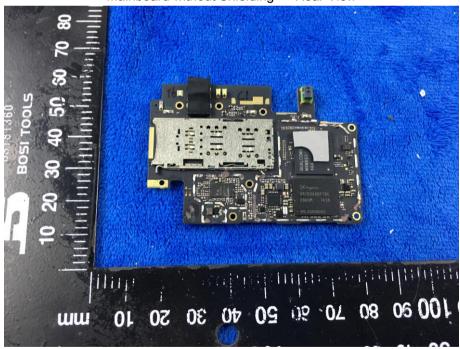


Test Report	17071364-FCC-R3
Page	58 of 69

Mainboard without Shielding - Front View



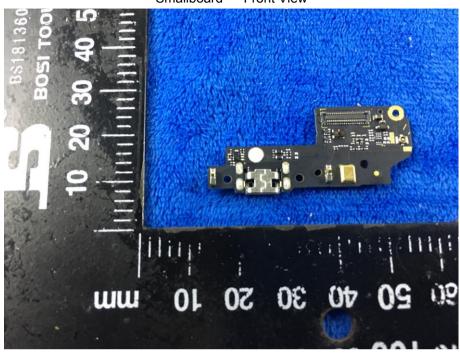
Mainboard without Shielding - Rear View



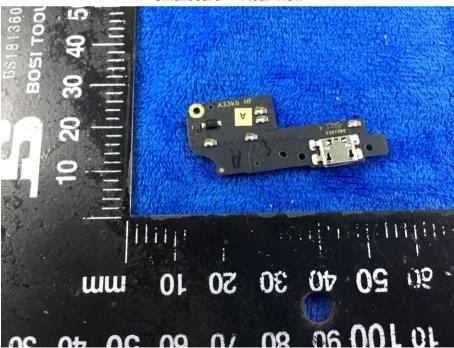


Test Report	17071364-FCC-R3
Page	59 of 69

Smallboard - Front View



Smallboard - Rear View





Test Report	17071364-FCC-R3
Page	60 of 69

LCD - Front View



LCD - Rear View





Test Report	17071364-FCC-R3
Page	61 of 69

GSM/PCS/U MTS-FDD/LTE Antenna View



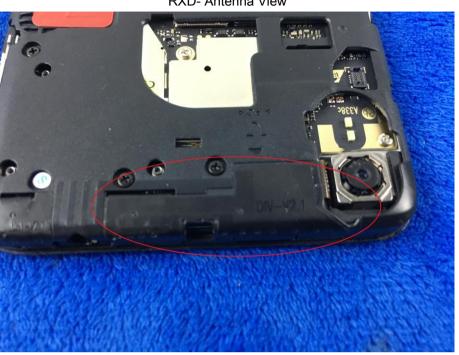
WIFI/BT/BLE/GPS - Antenna View





Test Report	17071364-FCC-R3
Page	62 of 69

RXD- Antenna View





Test Report	17071364-FCC-R3
Page	63 of 69

Annex B.iii. Photograph: Test Setup Photo



Conducted Emissions Test Setup Front View



Conducted Emissions Test Setup Side View



Radiated Spurious Emissions Test Setup Below 1GHz



Radiated Spurious Emissions Test Setup Above 1GHz

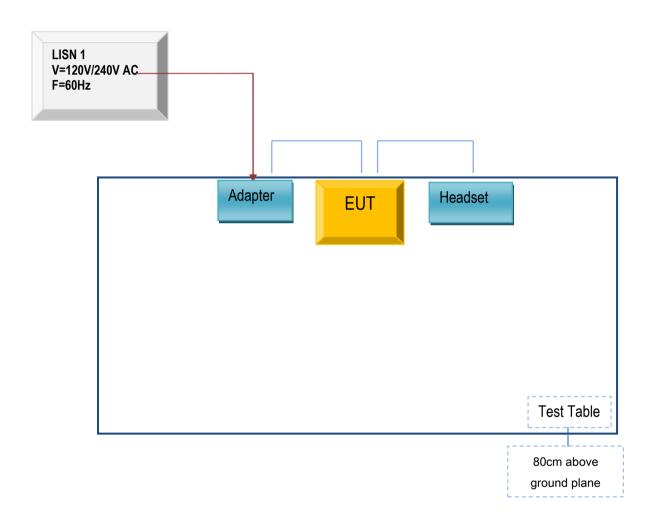


Test Report	17071364-FCC-R3
Page	64 of 69

Annex C. TEST SETUP AND SUPPORTING EQUIPMENT

Annex C.ii. TEST SET UP BLOCK

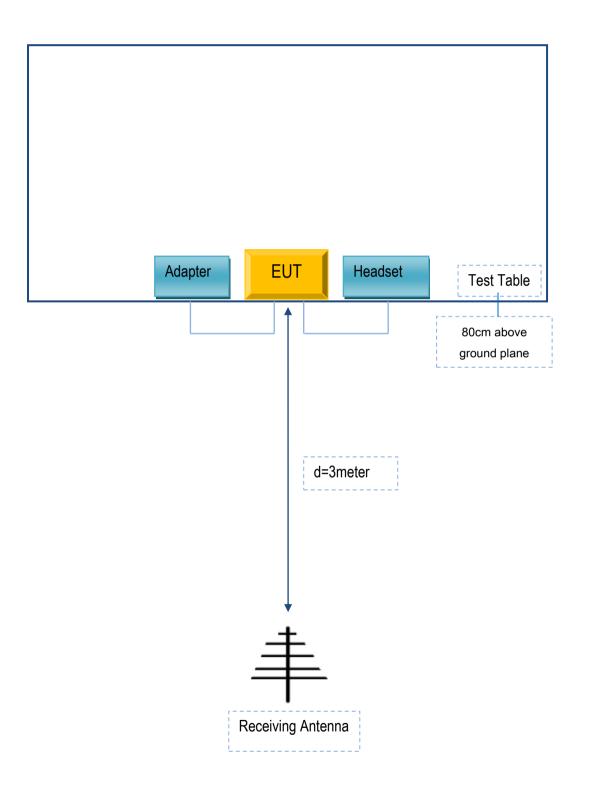
Block Configuration Diagram for AC Line Conducted Emissions





Test Report	17071364-FCC-R3
Page	65 of 69

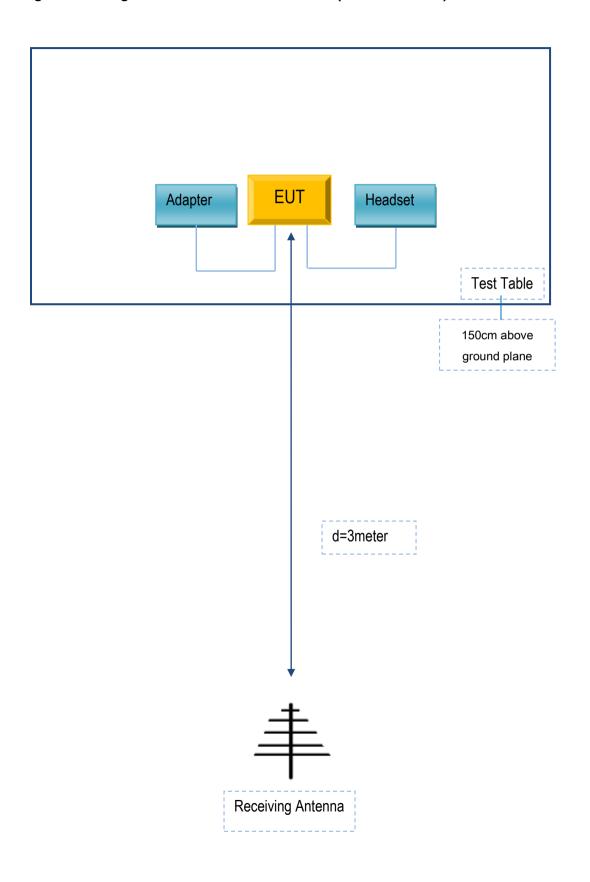
Block Configuration Diagram for Radiated Emissions (Below 1GHz).





Test Report	17071364-FCC-R3
Page	66 of 69

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





Test Report	17071364-FCC-R3
Page	67 of 69

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	Equipment Description	Model	Serial No
TECNO MOBILE LIMITED	Adapter	A88-502000	N/A
TECNO MOBILE LIMITED	headset	X573	N/A

Supporting Cable:

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



Test Report	17071364-FCC-R3
Page	68 of 69

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

Please see the attachment



Test Report	17071364-FCC-R3
Page	69 of 69

Annex E. DECLARATION OF SIMILARITY

N/A