RF TEST REPORT

Report No.: 14021149-FCC-R2
Supersede Report No.: N/A

Applicant	Beneworld International (HK) Co., Limited
Product Name	7inch Tablet PC
Main Model	BW9
Test Standard	FCC Part 15.247: 2014, ANSI C63.10: 2009
Test Date	November 11 to November 12, 2014
Issue Date	November 14, 2014
Test Result	☑ **Pass** ☐ **Fail**
Equipment complied with the specification	☑
Equipment did not comply with the specification	☐

Deon Dai	Alex Liu	
Deon Dai **Test Engineer**	**Alex Liu** **Checked By**	

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

Issued by:
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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
14021149-FCC-R2	NONE	Original	November 14, 2014

2. Customer information

Applicant Name	Beneworld International (HK) Co., Limited
Applicant Add	Unit 04, 7/F, Bright Way Tower, No. 33 Mong Kok Road, Kowloon, Hong Kong
Manufacturer	Shenzhen Beneworld Technology Co. Ltd.
Manufacturer Add	Building 3, Huangtian Industrial Park, Xixiang, Baoan District, Shenzhen, Guangdong, China

3. Test site information

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.	986914
IC Test Site No.	4842B-1
Test Software	Labview of SIEMIC version 1.0

4. Equipment under Test (EUT) Information

Description of EUT:	7inch Tablet PC
Main Model:	BW9
Serial Model:	BW7D9, BW7D19, BW7D29, BW7D61, BW7D62, BW7D66, BW7D68,BW7D69, BW7D70, BW7D71
Date EUT received:	November 03, 2014
Test Date(s):	November 11 to November 12, 2014
Output Max power	5.21 dBm (3.32mW)
Antenna Gain:	GSM850: -0.46 dBi PCS1900:1.19 dBi UMTS-FDD Band II: 1.3 dBi Bluetooth/ WIFI&BLE: 1.56 dBi
Type of Modulation:	GSM / GPRS: GMSK UMTS-FDD: QPSK 802.11b/g/n: DSSS/OFDM Bluetooth: GFSK&π/4DQPSK&8DPSK BLE: GFSK
RF Operating Frequency (ies):	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 II TX :1852.4 ~ 1907.6 MHz; RX : 1932.4 ~ 1987.6 MHz 802.11b/g/n(20M): 2412-2462 MHz(TX/RX) 802.11n(40M): 2422-2452 MHz (TX/RX) Bluetooth&BLE: 2402-2480 MHz(TX/RX)
Number of Channels:	299CH (PCS1900) and 124CH (GSM850) UMTS-FDD BandII : 277CH 802.11b/g/n(20M): 11CH 802.11n(40M): 7CH Bluetooth: 79CH BLE: 40CH
Port:	USB Port, Earphone Port
Input Power:	Adapter: Model: XHY050200UUCH Input: AC 100-240V 50/60Hz 0.5A MAX Output: DC 5V 2.0A BATTERY: 3.7V 5200mAh
Trade Name :	N/A
FCC ID:	2AANC-BENEWORLD-BW9

Note: the difference between these models please refer to **Annex E. DECLARATION OF SIMILARITY.**

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
§15.247 (i), §2.1093	RF Exposure	Compliance
§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**
Radiated 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)	3.952dB

6. Measurements, Examination And Derived Results

6.1 RF Exposure

The EUT is a portable device, thus requires RF exposure evaluation;
Please refer to SIEMIC RF Exposure Report: 14021149-FCC-H1.

6.2 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

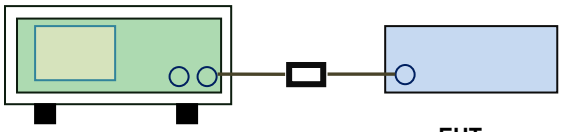
The EUT has 2 antennas:
A PIFA antenna for Bluetooth/BLE/WIFI, the gain is 1.56 dBi for Bluetooth/BLE/WIFI.
A PIFA antenna for GSM and UMTS, the gain is -0.46 dBi for GSM850, the gain is 1.19 dBi for PCS1900, 1.3 dBi for UMTS-FDD Band II .

Result: Compliance.

6.3 Channel Separation

Temperature	20°C
Relative Humidity	50%
Atmospheric Pressure	1019mbar
Test date :	November 12, 2014
Tested By :	Deon Dai

Requirement(s):

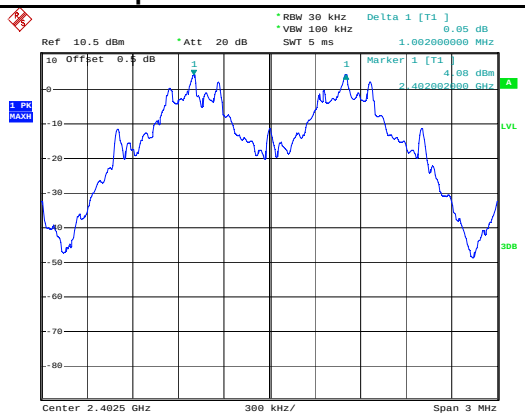
Spec	Item	Requirement	Applicable
§ 15.247(a)(1)	a)	Channel Separation < 20dB BW and 20dB BW < 25KHz ; Channel Separation Limit=25KHz Chanel Separation < 20dB BW and 20dB BW > 25kHz ; Channel Separation Limit=2/3 20dB BW	☑
Test Setup			
Test Procedure		The test follows FCC Public Notice DA 00-705 Measurement 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 - Video (or Average) Bandwidth (VBW) ≥RBW - 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.	
Remark			
Result		☑ Pass ☐ 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	1.002	0.696	Pass
	Adjacency Channel	2403			
	Mid Channel	2441	1.002	0.696	Pass
	Adjacency Channel	2440			
	High Channel	2480	1.002	0.696	Pass
	Adjacency Channel	2479			
CH Separation π/4 DQPSK	Low Channel	2402	1.002	0.747	Pass
	Adjacency Channel	2403			
	Mid Channel	2441	1.002	0.747	Pass
	Adjacency Channel	2440			
	High Channel	2480	1.002	0.747	Pass
	Adjacency Channel	2479			
CH Separation 8-DPSK	Low Channel	2402	1.002	0.747	Pass
	Adjacency Channel	2403			
	Mid Channel	2441	1.002	0.880	Pass
	Adjacency Channel	2440			
	High Channel	2480	1.002	0.877	Pass
	Adjacency Channel	2479			

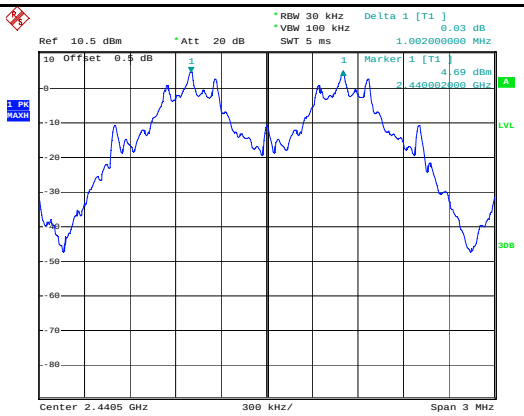
Test Plots

Channel Separation measurement result



Date: 12.NOV.2014 17:32:00

GFSK - Low Channel



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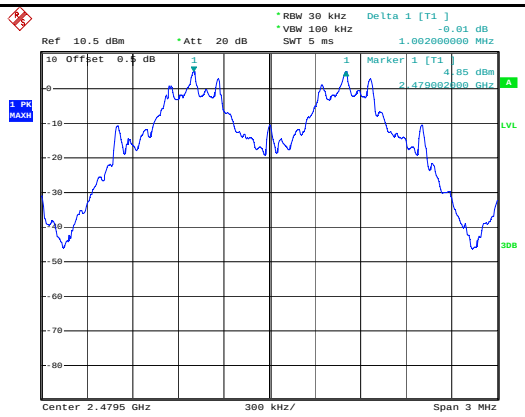
GFSK - Middle Channel



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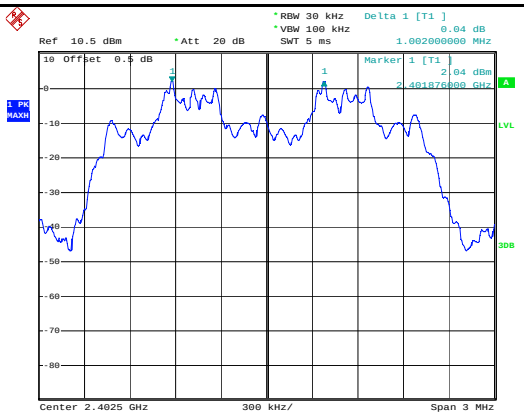
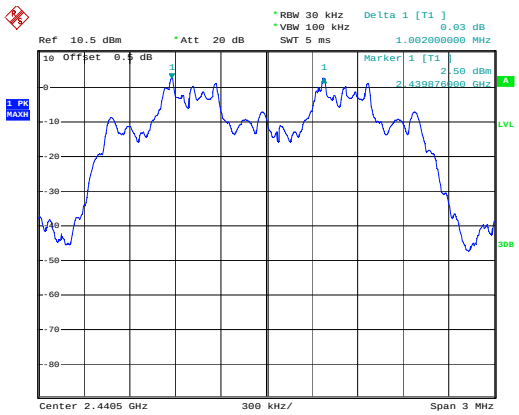
GFSK - High Channel



Date: 12.NOV.2014 18:27:44

π/4 DQPSK - Low Channel



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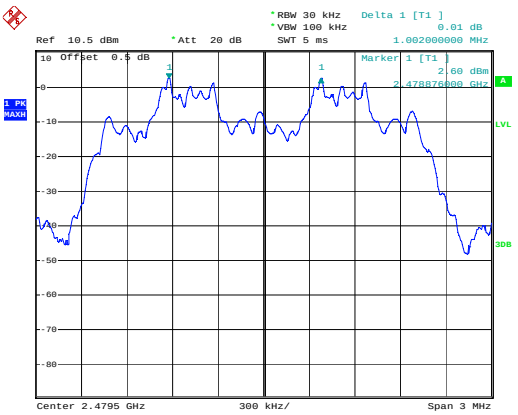
π/4 DQPSK - Middle Channel



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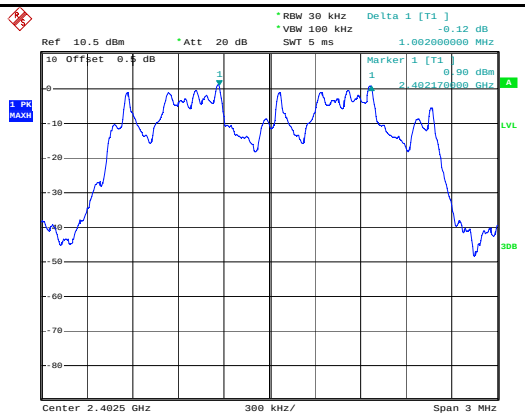
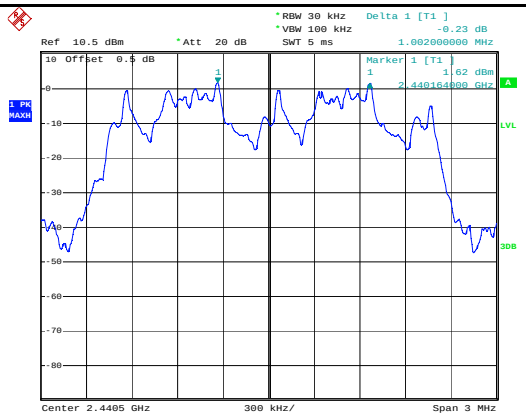
π/4 DQPSK - High Channel



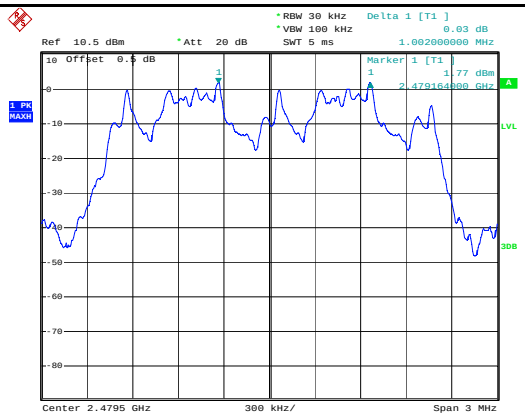
Date: 12.NOV.2014 20:02:33

8DPSK - Low Channel



Date: 12.NOV.2014 20:03:52

8DPSK - Middle Channel



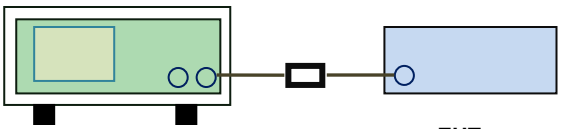
Date: 12.NOV.2014 20:00:57

8DPSK - High Channel

6.4 20dB Bandwidth

Temperature	20°C
Relative Humidity	50%
Atmospheric Pressure	1019mbar
Test date :	November 12, 2014
Tested By :	Deon Dai

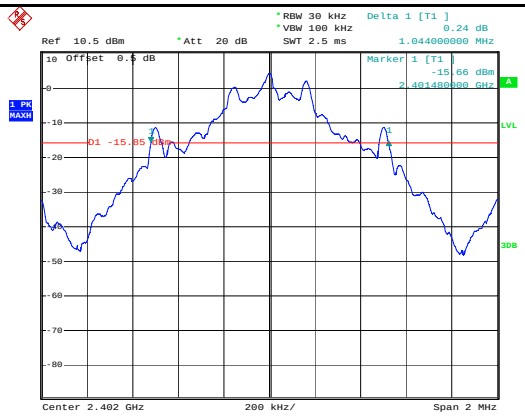
Requirement(s):

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			
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 emission, until it is (as close as possible to) even with the reference 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	☑ Pass ☐ Fail		
Test Data	☑ Yes ☐ N/A		
Test Plot	☑ Yes (See below) ☑ N/A		

20dB Bandwidth measurement result

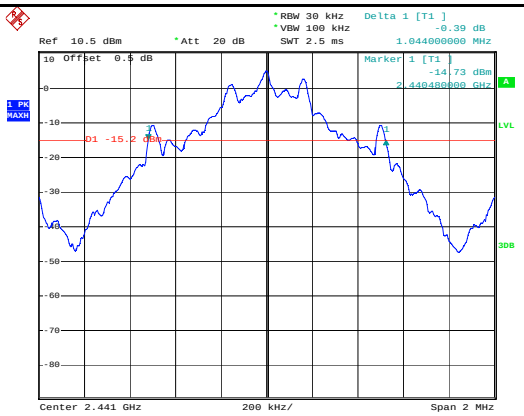
Type	Modulation	CH	CH Freq (MHz)	20dB Bandwidth(MHz)
20dB BW	GFSK	Low	2402	1.044
		Mid	2441	1.044
		High	2480	1.044
	π/4 DQPSK	Low	2402	1.120
		Mid	2441	1.120
		High	2480	1.120
	8-DPSK	Low	2402	1.120
		Mid	2441	1.132
		High	2480	1.316

Test Plots
20dB Bandwidth measurement result



Date: 12.NOV.2014 17:23:29

GFSK - Low Channel



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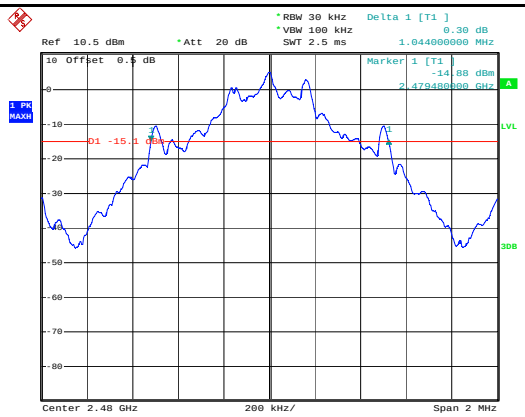
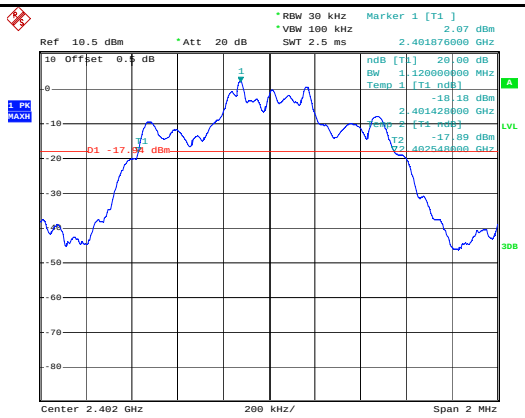
GFSK - Middle Channel



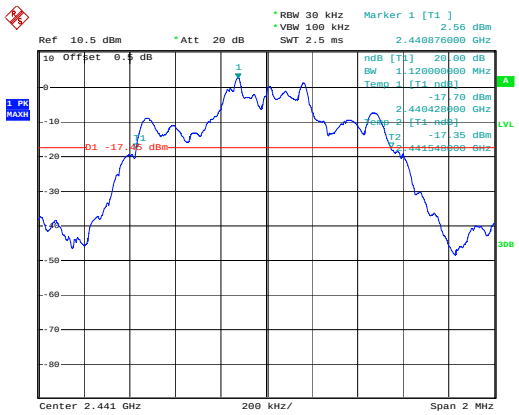
Date: 12.NOV.2014 17:25:15

GFSK - High Channel



Date: 12.NOV.2014 18:10:10

π/4 DPSK - Low Channel



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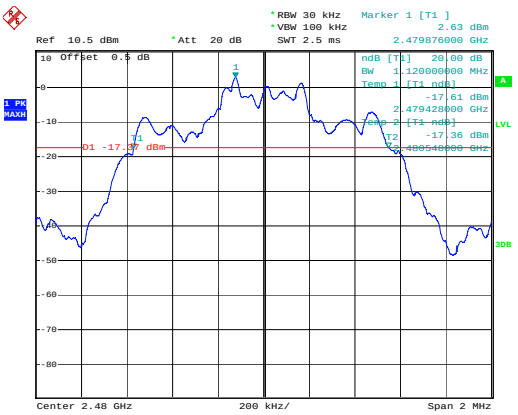
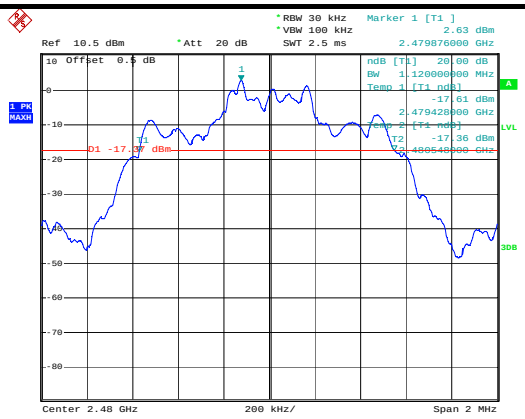
π/4 DQPSK - Middle Channel



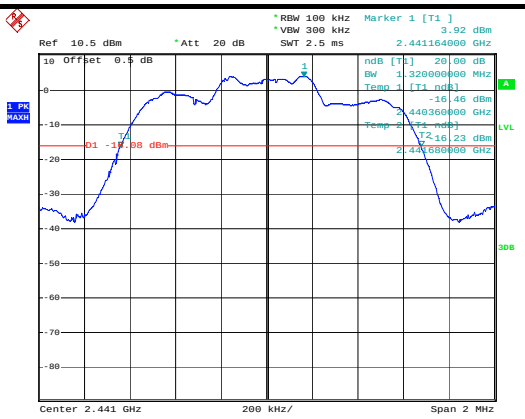
Date: 12.NOV.2014 18:12:46

π/4 DQPSK - High Channel



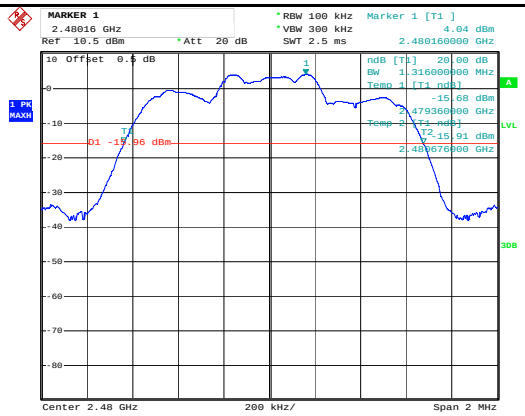
Date: 12.NOV.2014 18:12:46

8DPSK - Low Channel



Date: 12.NOV.2014 19:53:53

8DPSK - Middle Channel



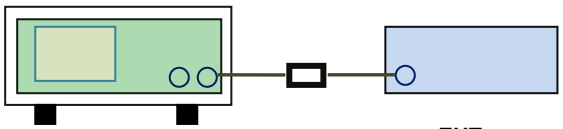
Date: 12.NOV.2014 19:55:37

8DPSK - High Channel

6.5 Peak Output Power

Temperature	20°C
Relative Humidity	50%
Atmospheric Pressure	1019mbar
Test date :	November 12, 2014
Tested By :	Deon Dai

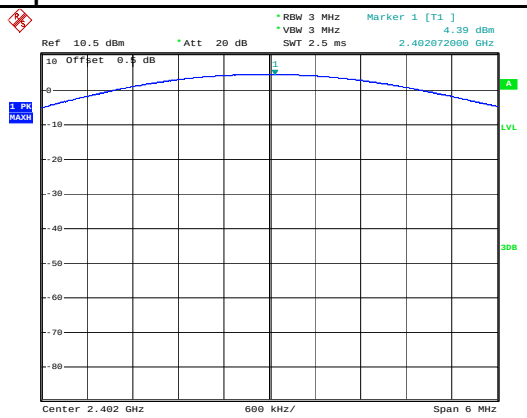
Requirement(s):

Spec	Item	Requirement	Applicable
§15.247(b) (2)	a)	FHSS in 2400-2483.5MHz with ≥ 75 channels: ≤1 Watt	☐
	b)	FHSS in 5725-5850MHz: ≤1 Watt	☐
	c)	For all other FHSS in the 2400-2483.5MHz band: ≤0.125 Watt.	☑
	d)	FHSS in 902-928MHz with ≥ 50 channels: ≤1 Watt	☐
	e)	FHSS in 902-928MHz with ≥ 25 & <50 channels: ≤0.25 Watt	☐
	f)	DSSS in 902-928MHz, 2400-2483.5MHz, 5725-5850MHz: ≤1 Watt	☐
Test Setup			
Test Procedure	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 - RBW > the 20 dB bandwidth of the emission being measured - VBW ≥RBW - Sweep = auto - Detector function = peak - Trace = max hold - Allow the trace to stabilize. - 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		
Test Plot	☑ Yes (See below) ☐ N/A		

Peak Output Power measurement result

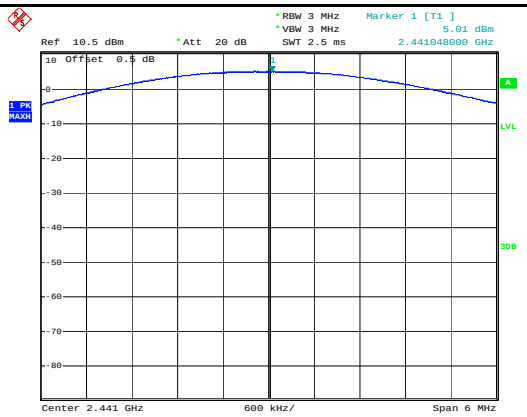
Type	Modulation	CH	Freq (MHz)	Conducted Power (dBm)	Conducted Power (mW)	Limit (mW)	Result
Output power	GFSK	Low	2402	4.39	2.75	125	Pass
		Mid	2441	5.01	3.17	125	Pass
		High	2480	5.21	3.32	125	Pass
	π/4 DQPSK	Low	2402	3.82	2.41	125	Pass
		Mid	2441	4.39	2.75	125	Pass
		High	2480	4.54	2.84	125	Pass
	8-DPSK	Low	2402	3.96	2.49	125	Pass
		Mid	2441	4.62	2.90	125	Pass
		High	2480	4.74	2.98	125	Pass

Test Plots
Output Power measurement result



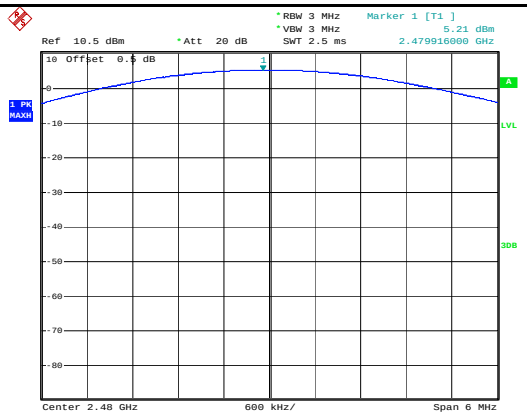
Date: 12.NOV.2014 18:21:56

GFSK Output power - Low CH 2402



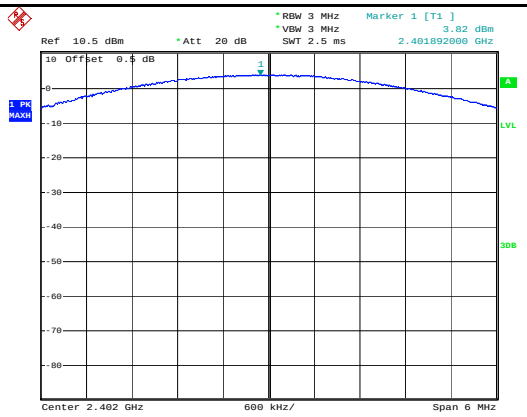
Date: 12.NOV.2014 18:22:17

GFSK Output power - Mid CH 2441



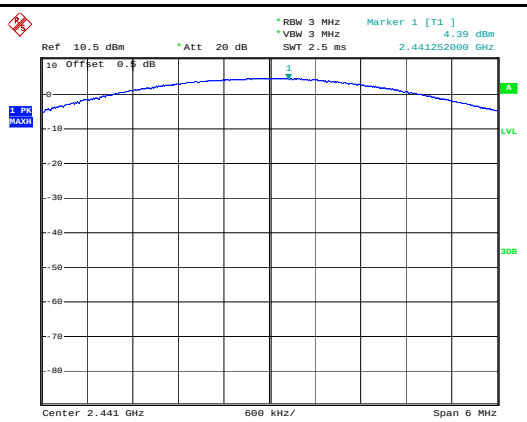
Date: 12.NOV.2014 18:20:30

GFSK Output power - High CH 2480



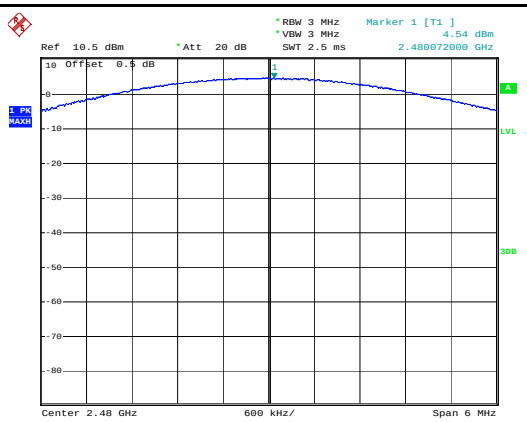
Date: 12.NOV.2014 18:19:16

π/4 DQPSK Output power - Low CH 2402



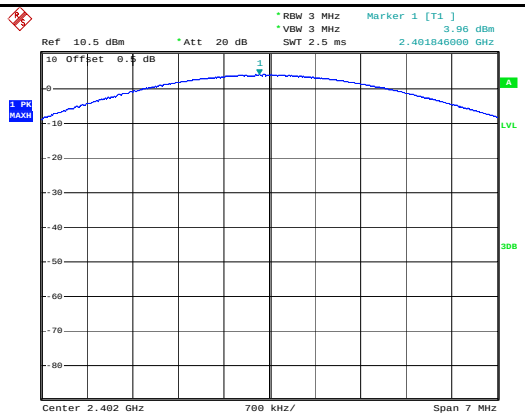
Date: 12.NOV.2014 18:18:49

π/4 DQPSK Output power - Mid CH 2441



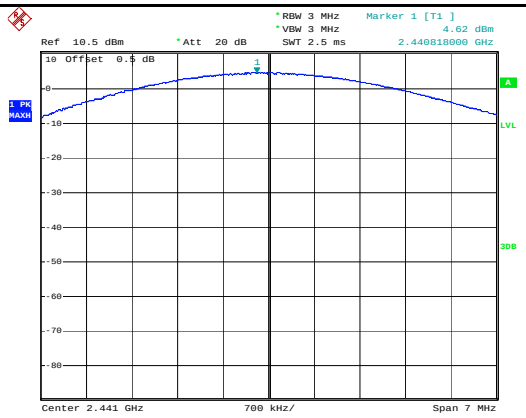
Date: 12.NOV.2014 18:19:42

π/4 DQPSK Output power - High CH 2480



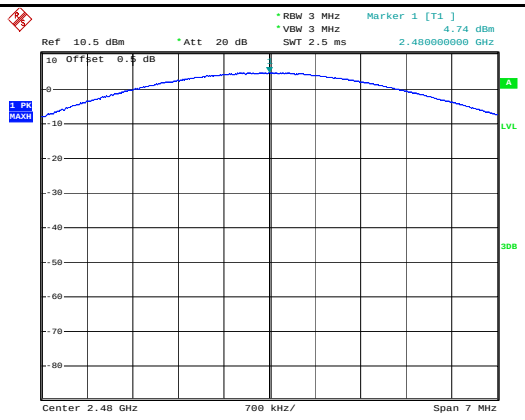
Date: 12.NOV.2014 19:58:35

8DPSK Output power - Low CH 2402



Date: 12.NOV.2014 19:58:59

8DPSK Output power - Mid CH 2441



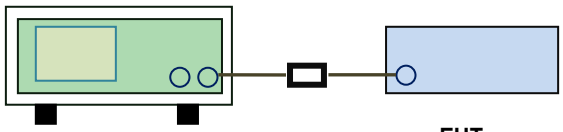
Date: 12.NOV.2014 19:59:24

8DPSK Output power - High CH 2480

6.6 Number of Hopping Channel

Temperature	20°C
Relative Humidity	50%
Atmospheric Pressure	1019mbar
Test date :	November 12, 2014
Tested By :	Deon Dai

Requirement(s):

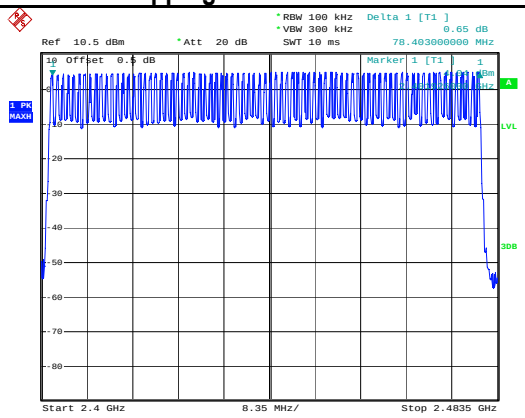
Spec	Item	Requirement	Applicable
§15.247(a)(1)(iii)	a)	FHSS in 2400-2483.5MHz ≥ 15 channels	☑
Test Setup			
Test Procedure	The test follows FCC Public Notice DA 00-705 Measurement Guidelines. Use the following spectrum analyzer settings: The EUT must have its hopping function enabled. - Span = the frequency band of operation - RBW ≥1% of the span - VBW ≥RBW - Sweep = auto - 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	☑ Pass ☐ Fail		
Test Data	☑ Yes ☐ N/A		
Test Plot	☑ Yes (See below) ☐ N/A		

Number of Hopping Channel measurement result

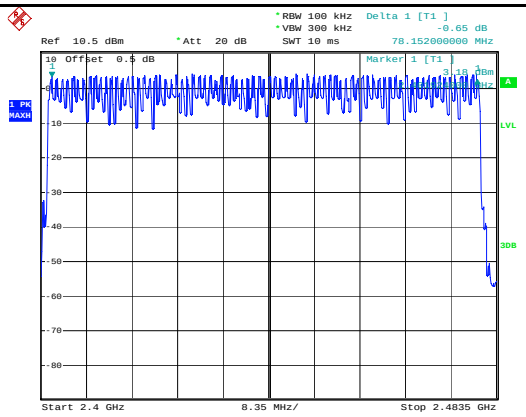
Type	Modulation	Frequency Range	Number of Hopping Channel	Limit
Number of Hopping Channel	GFSK	2400-2483.5	79	15
	π/4 DQPSK	2400-2483.5	79	15
	8-DPSK	2400-2483.5	79	15

Test Plots

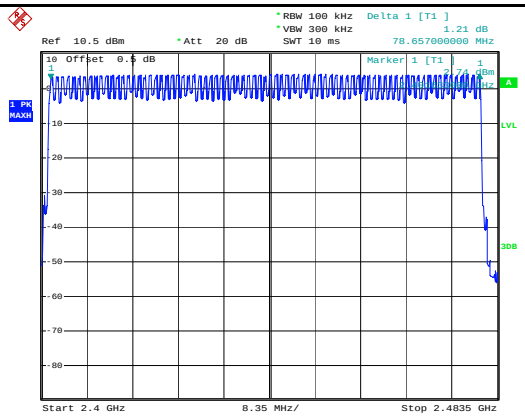
Number of Hopping Channels measurement result



GFSK



π/4DQPSK

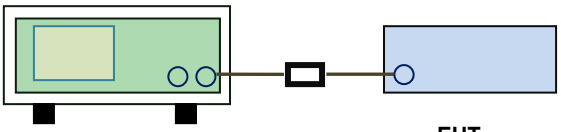


8DPSK

6.7 Time of Occupancy (Dwell Time)

Temperature	20°C
Relative Humidity	50%
Atmospheric Pressure	1019mbar
Test date :	November 12, 2014
Tested By :	Deon Dai

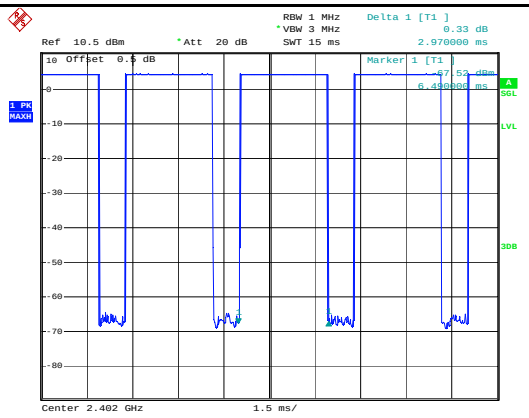
Requirement(s):

Spec	Item	Requirement	Applicable
§15.247(a)(1)(iii)	a)	Dwell Time < 0.4s	☑
Test Setup			
Test Procedure	The test follows FCC Public Notice DA 00-705 Measurement Guidelines. Use the following spectrum analyzer - Span = zero span, centered on a hopping channel - RBW = 1 MHz - VBW ≥RBW - Sweep = as necessary to capture the entire dwell time per hopping channel - Detector function = peak - Trace = max hold - use the marker-delta function to determine the dwell time		
Remark			
Result	☑ Pass ☐ Fail		
Test Data	☑ Yes ☐ N/A		
Test Plot	☑ Yes (See below) ☐ N/A		

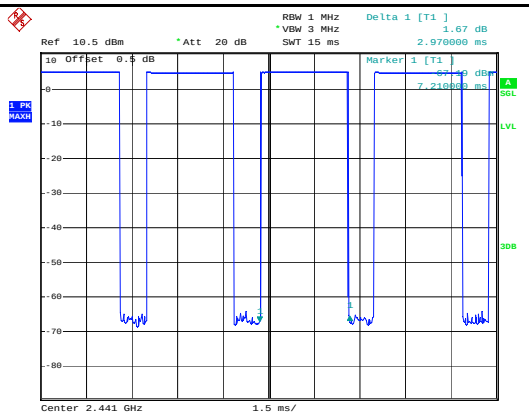
Dwell Time measurement result

Type	Modulation	CH	Pulse Width (ms)	Dwell Time (s)	Limit (s)	Result
Dwell Time	GFSK	Low	2.97	0.31680	0.4	Pass
		Mid	2.97	0.31680	0.4	Pass
		High	2.97	0.31680	0.4	Pass
	π/4 DQPSK	Low	2.93	0.31253	0.4	Pass
		Mid	2.93	0.31253	0.4	Pass
		High	2.96	0.31573	0.4	Pass
	8-DPSK	Low	2.94	0.31360	0.4	Pass
		Mid	2.94	0.31360	0.4	Pass
		High	2.94	0.31360	0.4	Pass
Note: Dwell time=Pulse Time (ms) × (1600 ÷ 6 ÷ 79) ×31.6 Second						

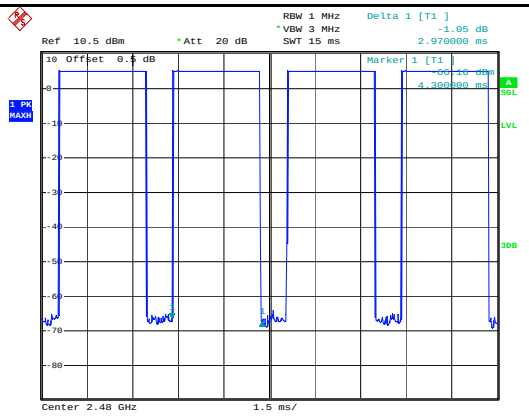
Test Plots
Dwell Time measurement result



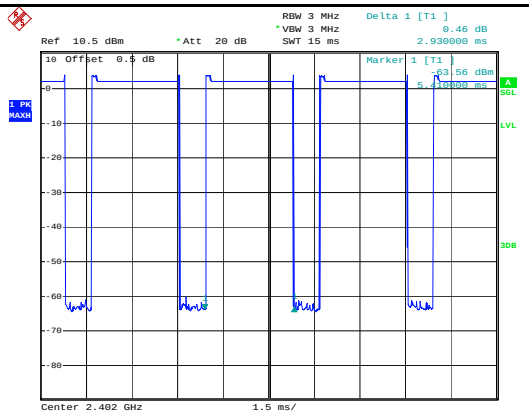
GFSK - Low CH 2402



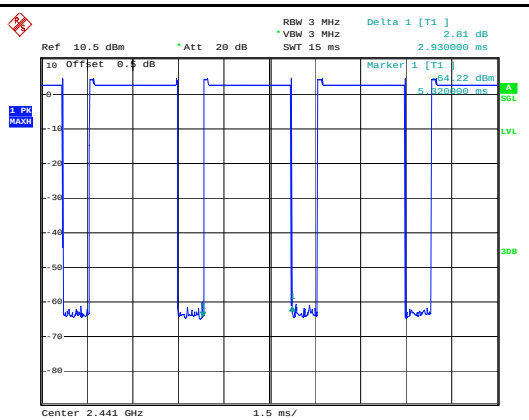
GFSK - Mid CH 2441



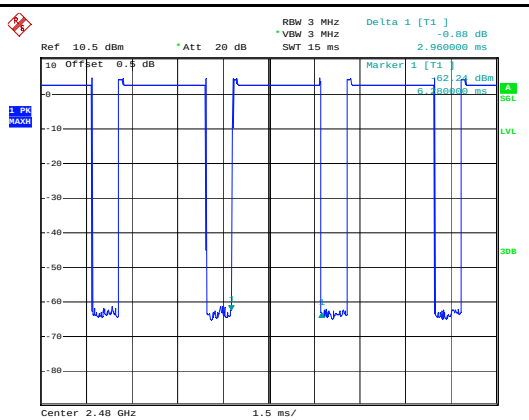
GFSK - High CH 2480



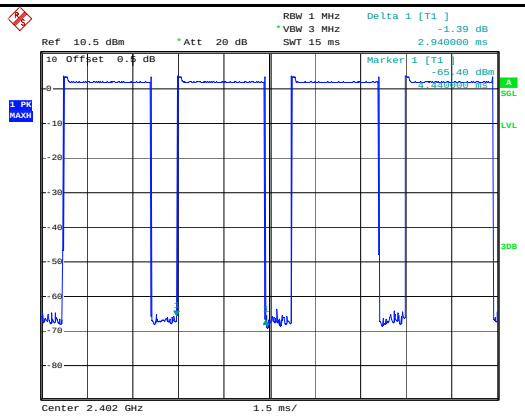
π/4 DQPSK - Low CH 2402



π/4 DQPSK - Mid CH 2441

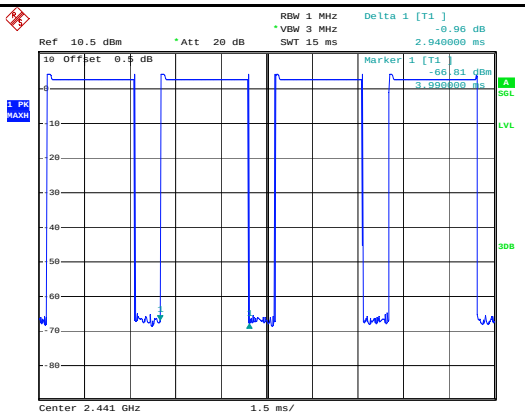


π/4 DQPSK - Mid CH 2441



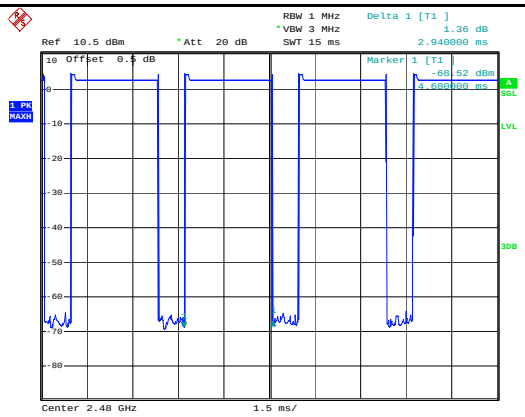
Date: 12.NOV.2014 19:57:32

8DPSK - Low CH 2402



Date: 12.NOV.2014 19:56:54

8DPSK - Mid CH 2441



Date: 12.NOV.2014 19:56:22

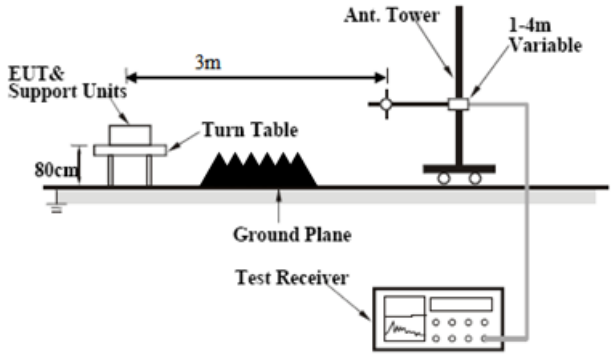
8DPSK - High CH 2480

6.8 Band Edge

Temperature	20°C
Relative Humidity	50%
Atmospheric Pressure	1019mbar
Test date :	November 12, 2014
Tested By :	Deon Dai

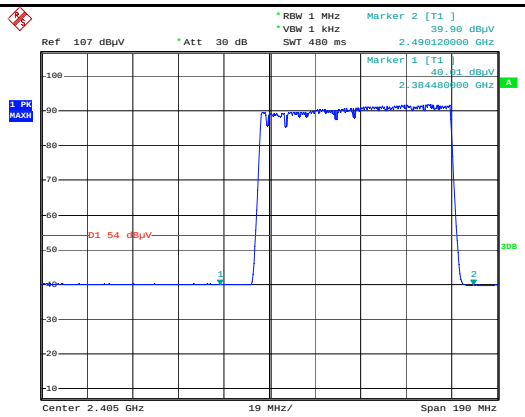
Requirement(s):

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	
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, 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 for Peak detection at frequency above 1GHz. c. The resolution bandwidth of test receiver/spectrum analyzer is 1MHz and the video bandwidth for Average detection (AV) as below at frequency above 1GHz. ■ 1/T kHz (Duty cycle < 98%) □ 10 Hz (Duty cycle > 98%) - 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

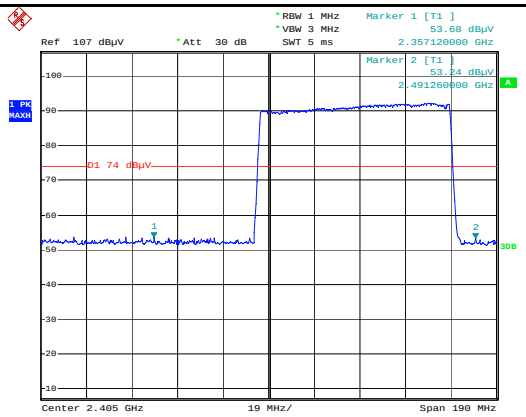
Test Data	☐ Yes ☑ N/A
Test Plot	☑ Yes (See below) ☐ N/A

Test Plots
Band Edge measurement result
GFSK Mode:



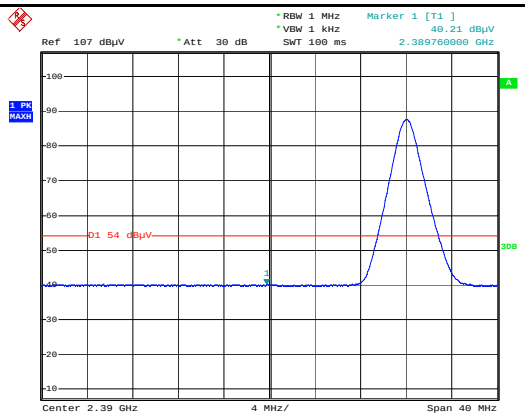
Date: 12.NOV.2014 21:43:53

GFSK-Hopping-Ave



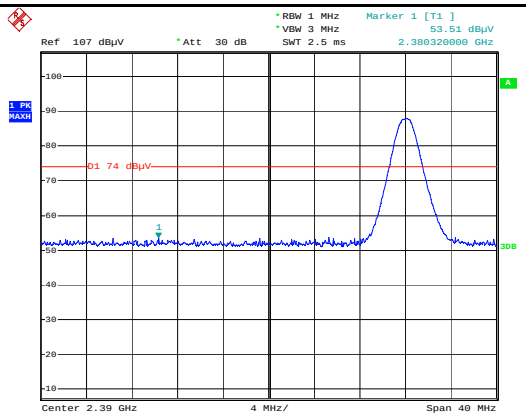
Date: 12.NOV.2014 21:40:30

GFSK-Hopping-PK



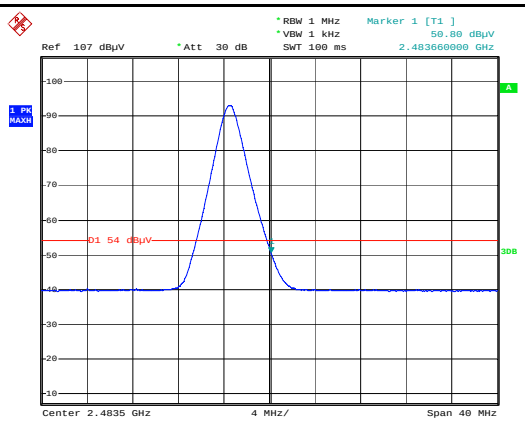
Date: 12.NOV.2014 21:52:05

GFSK-Left Side-Ave



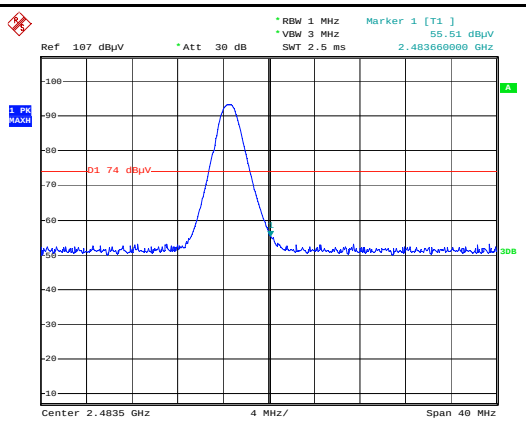
Date: 12.NOV.2014 21:52:59

GFSK-Left Side-PK



Date: 12.NOV.2014 22:04:02

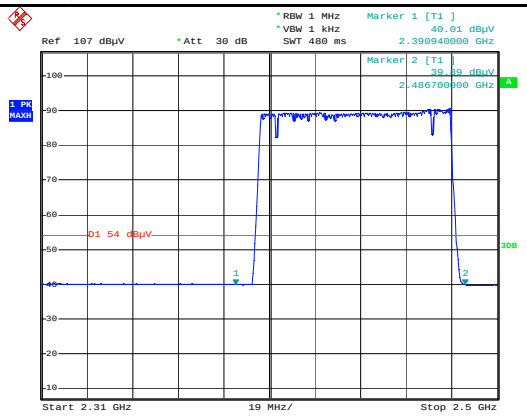
GFSK-Right Side-Ave



Date: 12.NOV.2014 22:03:26

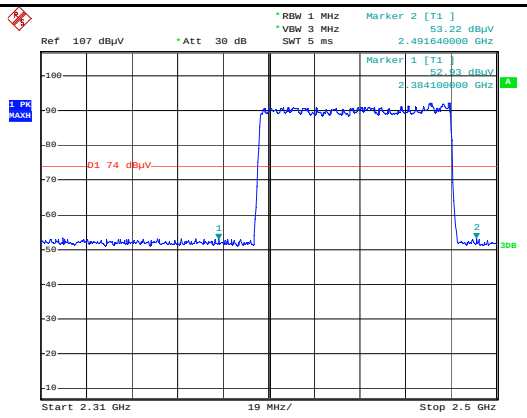
GFSK-Right Side-PK

π/4 DQPSK Mode:



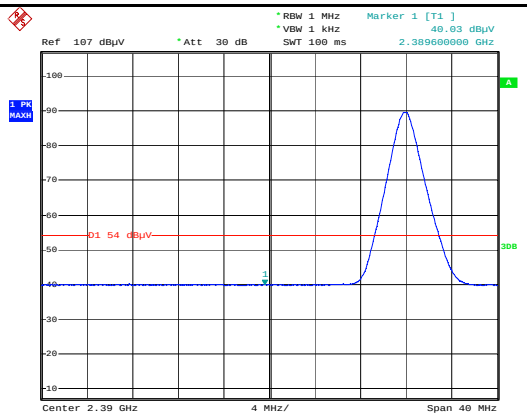
Date: 12.NOV.2014 22:28:57

π/4 DQPSK-Hopping-Ave-Left Side



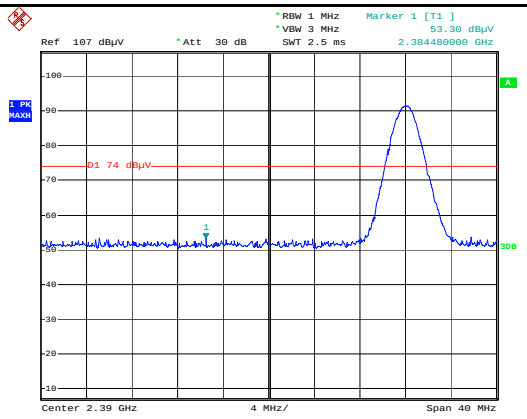
Date: 12.NOV.2014 22:25:20

π/4 DQPSK-Hopping-PK



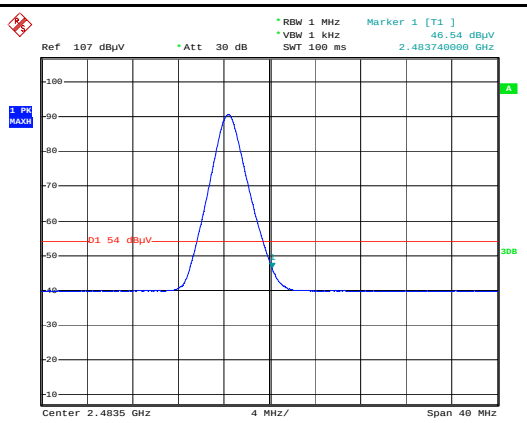
Date: 12.NOV.2014 22:18:28

π/4 DQPSK-Left Side-Ave



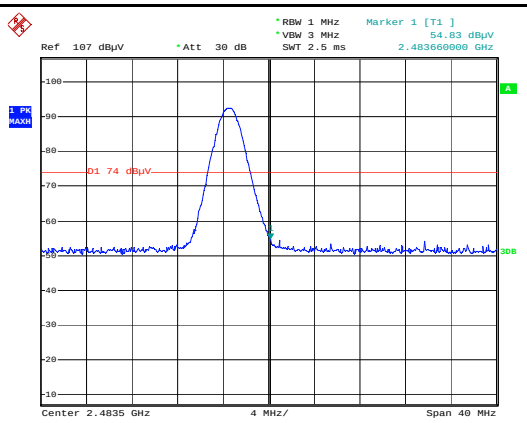
Date: 12.NOV.2014 22:15:53

π/4 DQPSK-Left Side-PK



Date: 12.NOV.2014 22:11:11

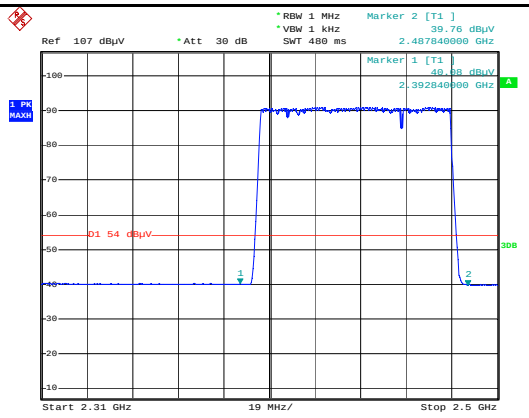
π/4 DQPSK-Right Side-Ave



Date: 12.NOV.2014 22:07:21

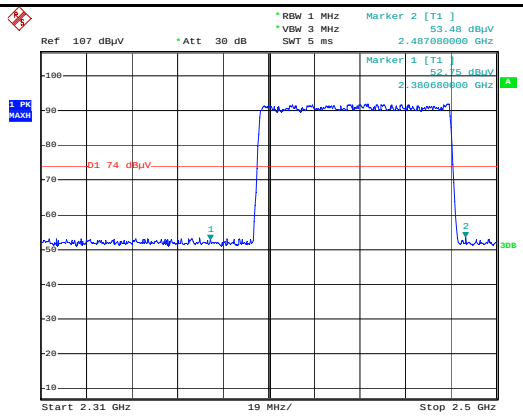
π/4 DQPSK-Right Side-PK

8-DPSK Mode:



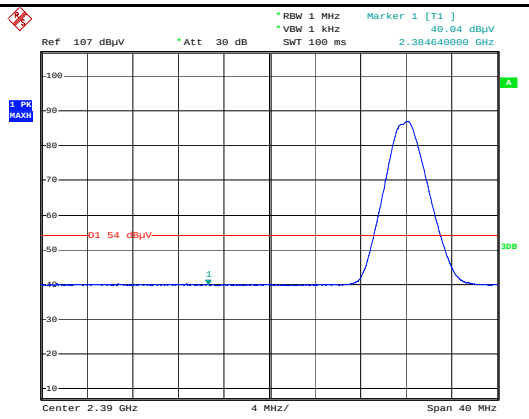
Date: 12.NOV.2014 22:45:11

8DPSK-Hopping-Ave-Left Side



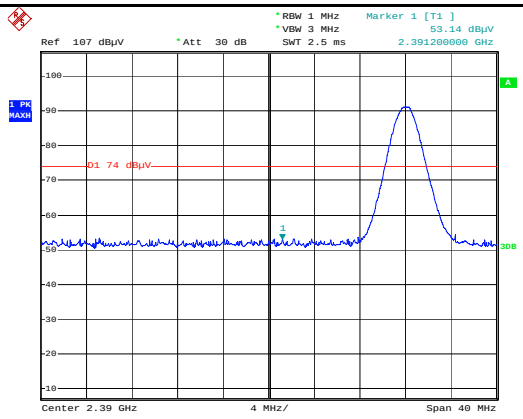
Date: 12.NOV.2014 22:38:19

8DPSK-Hopping-PK



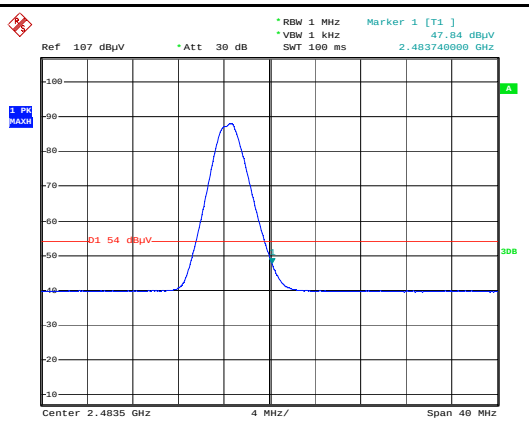
Date: 12.NOV.2014 22:50:41

8DPSK-Left Side-Ave



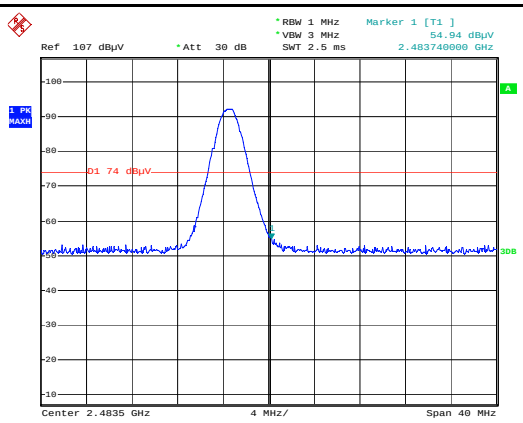
Date: 12.NOV.2014 22:47:00

8DPSK-Left Side-PK



Date: 12.NOV.2014 22:57:32

8DPSK-Right Side-Ave



Date: 12.NOV.2014 22:53:56

8DPSK-Right Side-PK

6.9 AC Power Line Conducted Emissions

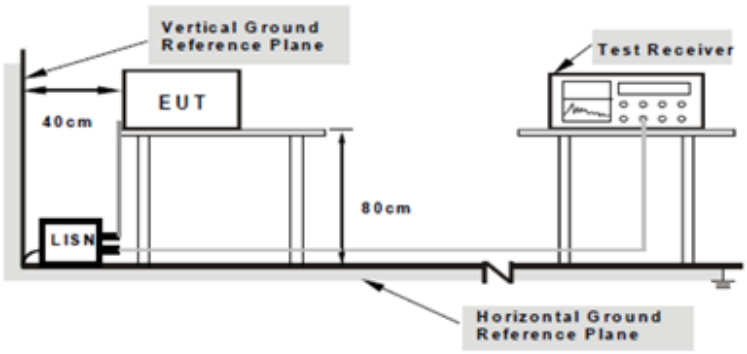
Temperature	20°C
Relative Humidity	50%
Atmospheric Pressure	1019mbar
Test date :	November 11, 2014
Tested By :	Deon Dai

Requirement(s):

Spec	Item	Requirement	Applicable
47CFR§15.207, RSS210 (A8.1)	a)	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.	☑

Frequency ranges (MHz)	Limit (dBμV)	
	QP	Average
0.15 ~ 0.5	66 – 56	56 – 46
0.5 ~ 5	56	46
5 ~ 30	60	50

Test Setup



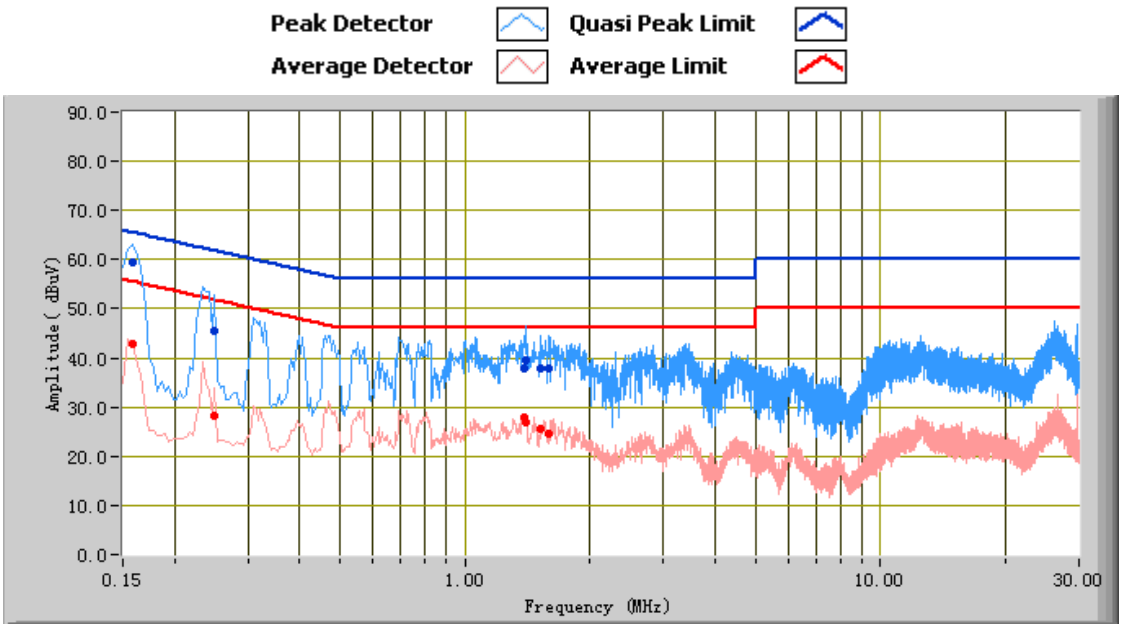
Note: 1.Support units were connected to second LISN.
2.Both of LISNs (AMN) are 80cm from EUT and at least 80cm from other units and other metal planes support units.

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, as shown in Annex B.
- The power supply for the EUT was fed through a 50W/50mH EUT LISN, connected to filtered mains.
- The RF OUT of the EUT LISN was connected to the EMI test receiver via a low-loss coaxial cable.
- All other supporting equipment was powered separately from another main supply.

Remark	
Result	☑ Pass ☐ Fail
Test Data	☑ Yes ☐ N/A
Test Plot	☑ Yes (See below) ☐ N/A

Test Mode:	Charging & GFSK Transmitting (Worse Case)

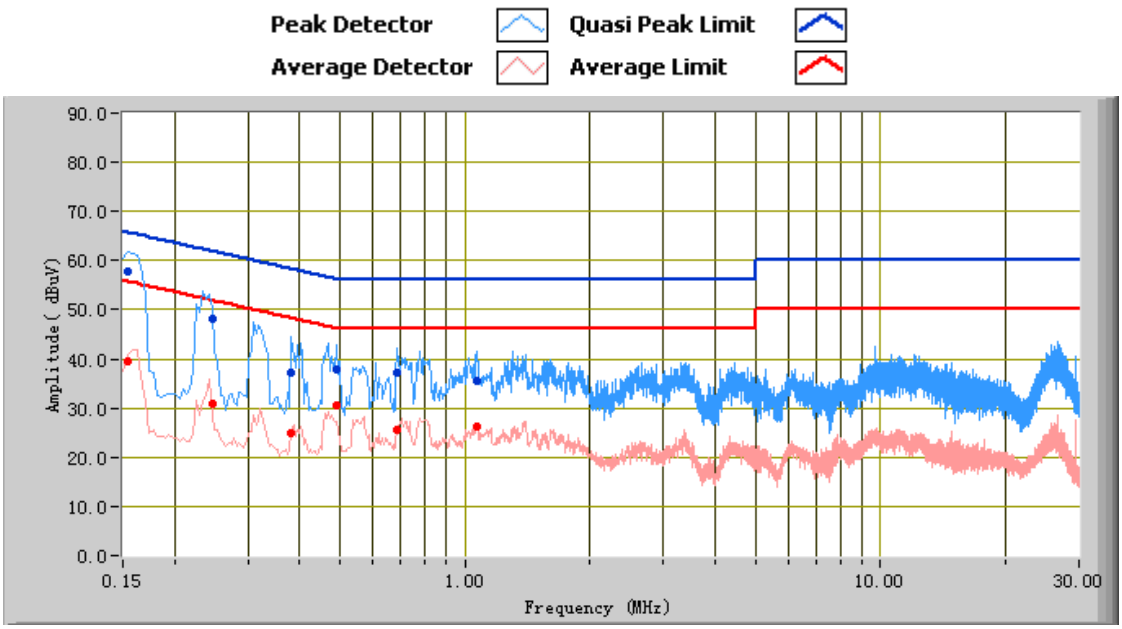


Test Data

Phase Line Plot at 120Vac, 60Hz

Frequency (MHz)	Quasi Peak (dBµV)	Limit (dBµV)	Margin (dB)	Average (dBµV)	Limit (dBµV)	Margin (dB)	Factors (dB)
0.16	59.46	65.57	-6.11	42.83	55.57	-12.74	12.11
0.25	45.34	61.76	-16.42	28.31	51.76	-23.45	11.45
1.40	39.49	56.00	-16.51	27.03	46.00	-18.97	10.76
1.52	38.00	56.00	-18.00	25.71	46.00	-20.29	10.78
1.59	37.84	56.00	-18.16	24.64	46.00	-21.36	10.80
1.38	37.79	56.00	-18.21	27.88	46.00	-18.12	10.76

Test Mode:	Charging & GFSK Transmitting (Worse Case)



Test Data

Phase Neutral Plot at 120Vac, 60Hz

Frequency (MHz)	Quasi Peak (dBµV)	Limit (dBµV)	Margin (dB)	Average (dBµV)	Limit (dBµV)	Margin (dB)	Factors (dB)
0.15	57.87	65.78	-7.91	39.63	55.78	-16.15	12.15
0.25	48.18	61.89	-13.71	30.98	51.89	-20.91	11.46
0.49	37.76	56.17	-18.41	30.43	46.17	-15.73	11.07
0.69	37.17	56.00	-18.83	25.56	46.00	-20.44	10.93
0.38	37.30	58.24	-20.93	24.95	48.24	-23.28	11.25
1.07	35.53	56.00	-20.47	26.18	46.00	-19.82	10.71

6.10 Radiated Spurious Emissions

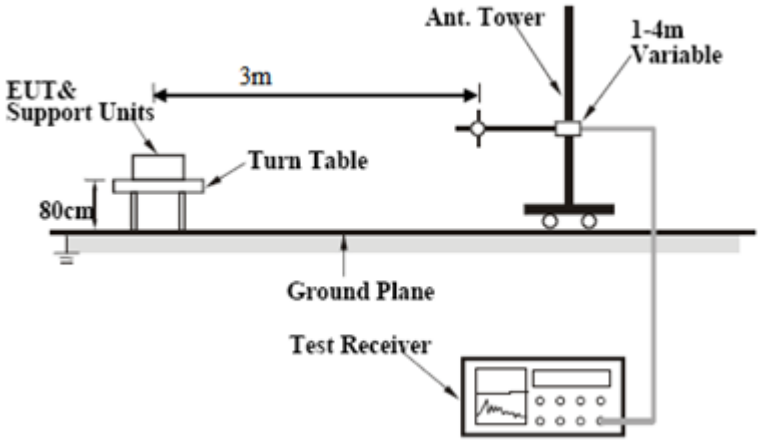
Temperature	20°C
Relative Humidity	50%
Atmospheric Pressure	1019mbar
Test date :	November 11, 2014
Tested By :	Deon Dai

Requirement(s):

Spec	Item	Requirement	Applicable
47CFR§15.205, §15.209, §15.247(d)	a)	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	☑

Frequency range (MHz)	Field Strength (μV/m)
30 – 88	100
88 – 216	150
216 960	200
Above 960	500

Test Setup



Procedure

The test follows FCC Public Notice DA 00-705 Measurement Guidelines.

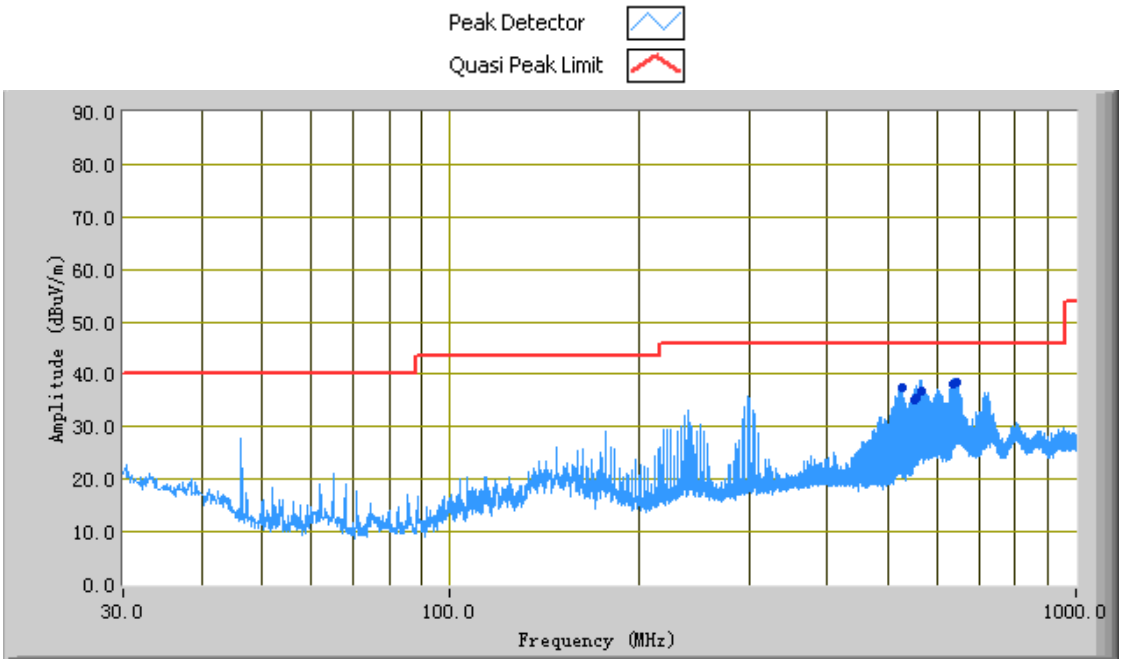
1. The EUT was switched on and allowed to warm up to its normal operating condition.
2. The test was carried out at the selected frequency points obtained from the EUT characterisation. Maximization of the emissions, was carried out by rotating the EUT, changing the antenna polarization, and adjusting the antenna height in the following manner:
   a. Vertical or horizontal polarisation (whichever gave the higher emission level over a full rotation of the EUT) was chosen.
   b. The EUT was then rotated to the direction that gave the maximum emission.
   c. Finally, the antenna height was adjusted to the height that gave the maximum emission.
   ■ 1/T kHz (Duty cycle < 98%) □ 10 Hz (Duty cycle > 98%)
3. A Quasi-peak measurement was then made for that frequency point.
4. Steps 2 and 3 were repeated for the next frequency point, until all selected frequency points were measured.

Remark	
Result	☑ Pass ☐ Fail
Test Data	☑ Yes ☐ N/A

Test Plot	☑ Yes (See below)	☐ N/A

Test Mode:	**Charging & GFSK Transmitting (Worse Case)**

(Below 1GHz)



Test Data

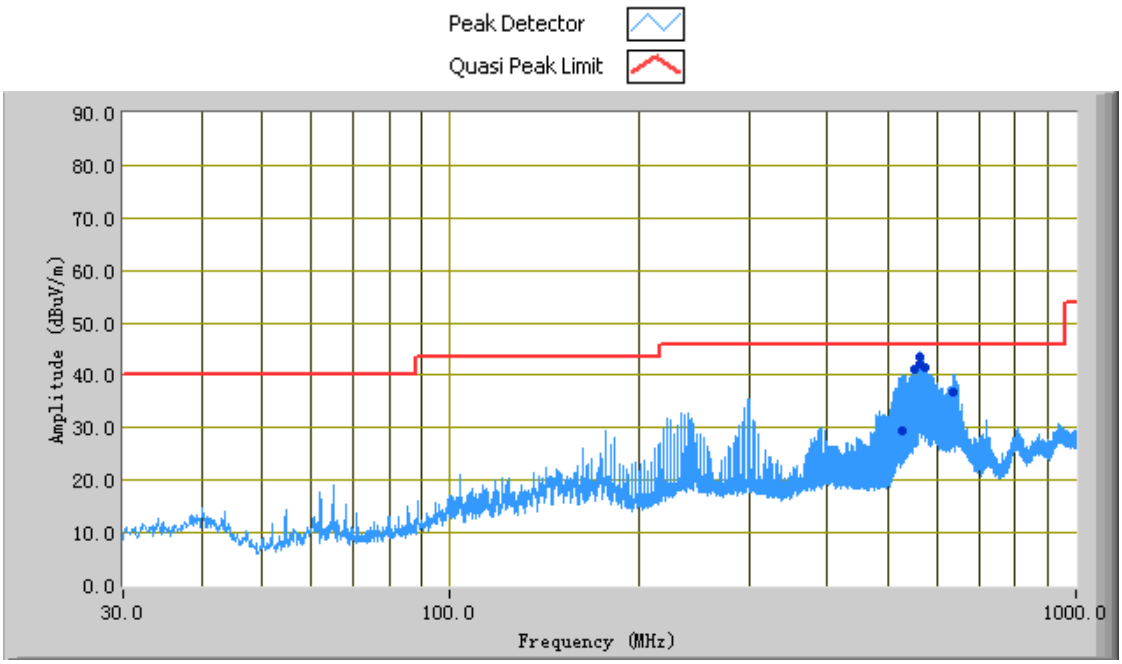
Vertical Polarity Plot @3m

Frequency (MHz)	Quasi Peak (dBµV/m)	Azimuth	Polarity (H/V)	Height (cm)	Factors (dB)	Limit (dBµV/m)	Margin (dB)
638.40	38.12	255.00	V	102.00	-21.47	46.00	-7.88
644.33	38.55	264.00	V	108.00	-21.28	46.00	-7.45
567.36	36.94	234.00	V	117.00	-25.60	46.00	-9.06
555.50	35.34	218.00	V	112.00	-26.50	46.00	-10.66
526.03	37.62	244.00	V	136.00	-28.03	46.00	-8.38
552.75	35.04	235.00	V	107.00	-26.70	46.00	-10.96

Note: The low frequency, which started from 9 kHz to 30MHz, was pre-scanned and the result which was 20dB lower than the limit line per 15.31(o) was not recorded.

Test Mode:	Charging & GFSK Transmitting (Worse Case)

(Below 1GHz)



Test Data

Horizontal Polarity Plot @3m

Frequency (MHz)	Quasi Peak (dBµV/m)	Azimuth	Polarity (H/V)	Height (cm)	Factors (dB)	Limit (dBµV/m)	Margin (dB)
564.37	43.53	211.00	H	178.00	-23.24	46.00	-2.47
561.46	42.29	211.00	H	206.00	-23.45	46.00	-3.71
573.29	41.35	196.00	H	188.00	-22.61	46.00	-4.65
552.74	41.26	208.00	H	180.00	-24.07	46.00	-4.74
529.06	29.29	42.00	H	99.00	-26.10	46.00	-16.71
635.50	36.64	0.00	H	177.00	-20.79	46.00	-9.36

Note: The low frequency, which started from 9 kHz to 30MHz, was pre-scanned and the result which was 20dB lower than the limit line per 15.31(o) was not recorded.

Test Mode:	GFSK Transmitting(Worse Case)

Note: Other modes were verified, only the result of worst case basic rate mode was presented.

Low Channel (2402 MHz)

Frequency (MHz)	Substituted level (dBμV/m)	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)
4804.00	33.54	AV	V	33.83	4.87	24	48.24	54	-5.76
4804.00	35.26	AV	H	33.83	4.87	24	49.96	54	-4.04
4804.00	44.99	PK	V	33.83	4.87	24	59.69	74	-14.31
4804.00	47.29	PK	H	33.83	4.87	24	61.99	74	-12.01

Middle Channel (2441 MHz)

Frequency (MHz)	Substituted level (dBμV/m)	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)
4882.00	32.25	AV	V	33.83	4.87	24	46.95	54	-7.05
4882.00	33.25	AV	H	34.83	4.87	24	48.95	54	-5.05
4882.00	45.57	PK	V	35.83	4.87	24	62.27	74	-11.73
4882.00	45.3	PK	H	36.83	4.87	24	63	74	-11

High Channel (2480 MHz)

Frequency (MHz)	Substituted level (dBμV/m)	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)
4960.00	33.81	AV	V	33.9	4.87	24	48.58	54	-5.42
4960.00	34.25	AV	H	33.9	4.87	24	49.02	54	-4.98
4960.00	44.23	PK	V	33.9	4.87	24	59	74	-15
4960.00	45.6	PK	H	33.9	4.87	24	60.37	74	-13.63

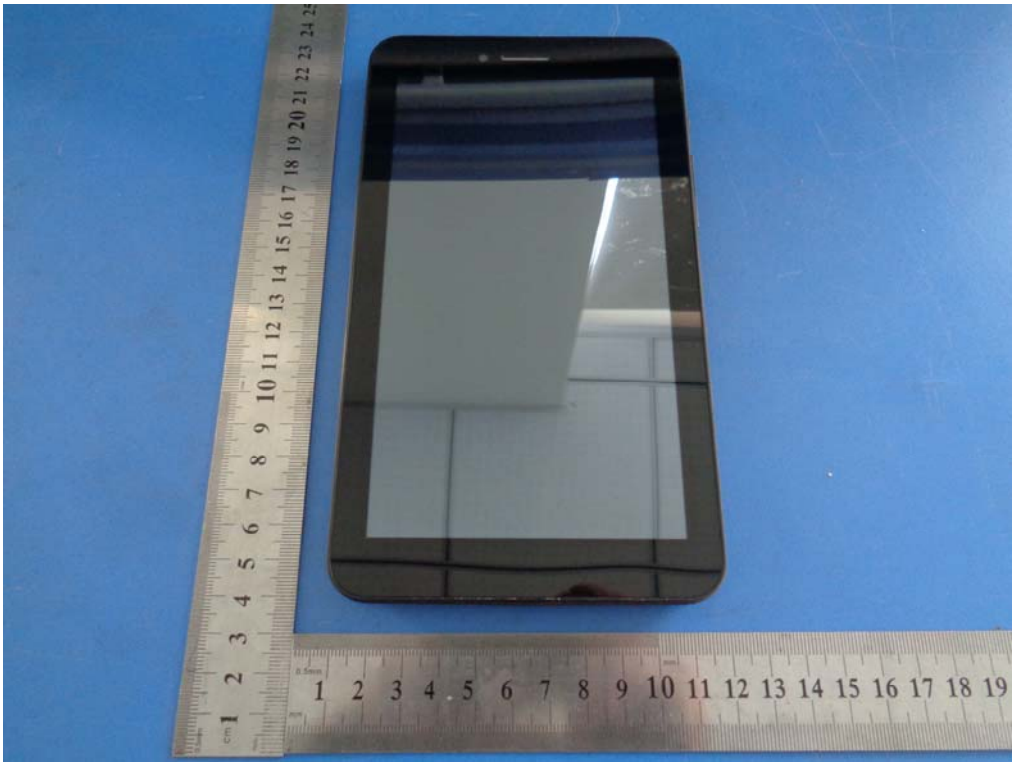
Annex A. TEST INSTRUMENT

Instrument	Model	Serial #	Cal Date	Cal Due	In use
AC Line Conducted Emissions Emission					
R&S EMI Test Receiver	ESPI3	101216	09/27/2014	09/26/2015	☑
V-LISN	ESH3-Z5	838979/005	09/27/2014	09/26/2015	☑
INFOMW Antenna (1 ~18GHz)	JXTXLB-10180	J2031081120092	10/09/2014	10/08/2015	☑
SIEMIC Labview Conducted Emissions software	V1.0	N/A	N/A	N/A	☑
RF conducted test					
R&S EMI Receiver	ESPI3	101216	09/27/2014	09/26/2015	☑
Power Splitter	1#	1#	02/02/2014	02/01/2015	☑
Hp Spectrum Analyzer	8563E	3821A09023	09/27/2014	09/26/2015	☑
Temperature/Humidity Chamber	1007H	N/A	01/07/2014	01/06/2015	☑
Radiated Emissions					
Hp Spectrum Analyzer	8563E	3821A09023	09/27/2014	09/26/2015	☑
R&S EMI Receiver	ESPI3	101216	09/27/2014	09/26/2015	☑
Antenna (30MHz~6GHz)	JB6	A121411	04/15/2014	04/14/2015	☑
EMCO Horn Antenna (1 ~18GHz)	3115	N/A	10/09/2014	10/08/2015	☑
INFOMW Antenna (1 ~18GHz)	JXTXLB-10180	J2031081120092	10/09/2014	10/08/2015	☑
Horn Antenna (18~40GHz)	AH-840	101013	04/22/2014	04/22/2015	☑
Microwave Pre-Amp (18~40GHz)	PA-840	181250	05/29/2014	05/28/2015	☑
Hp Agilent Pre-Amplifier	8447F	1937A01160	10/27/2014	10/26/2015	☑
MITEQ Pre-Amplifier (0.1 ~ 18GHz)	AMF-7D-00101800-30-10P	1451709	10/27/2014	10/26/2015	☑
SIEMIC Labview Radiated Emissions software	V1.0	N/A	N/A	N/A	☑

Annex B. EUT And Test Setup Photographs

Annex B.i. Photograph EUT Internal Photo

All Packages – Front View

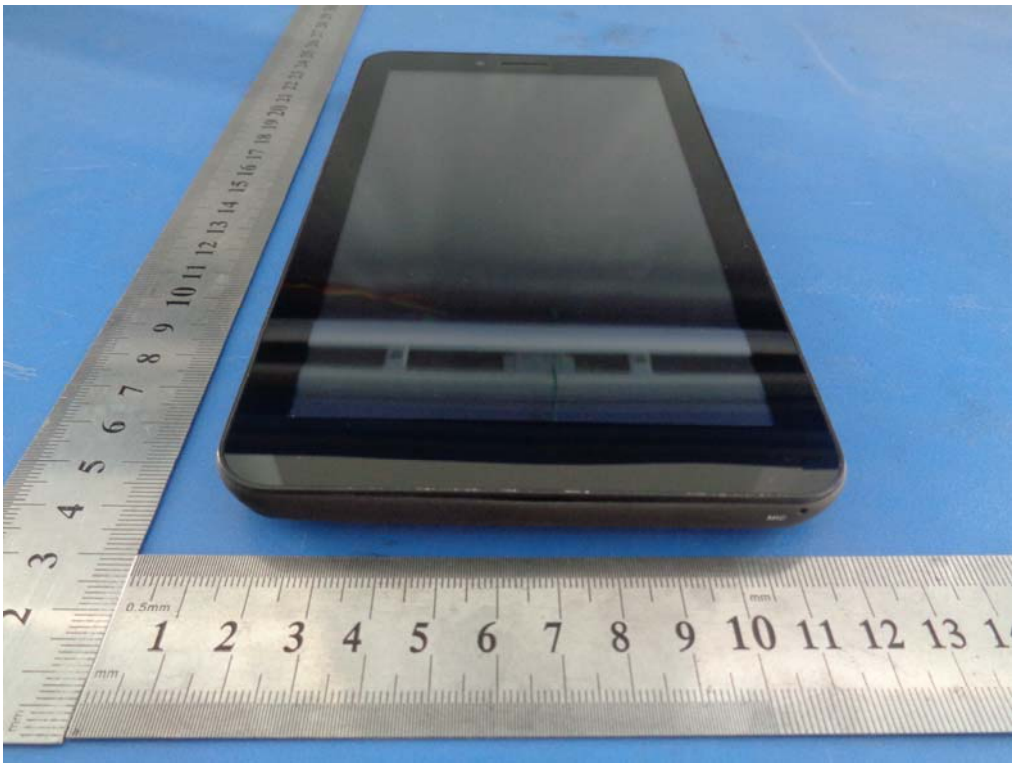


Front View of EUT

Rear View of EUT

Top View of EUT

Bottom View of EUT

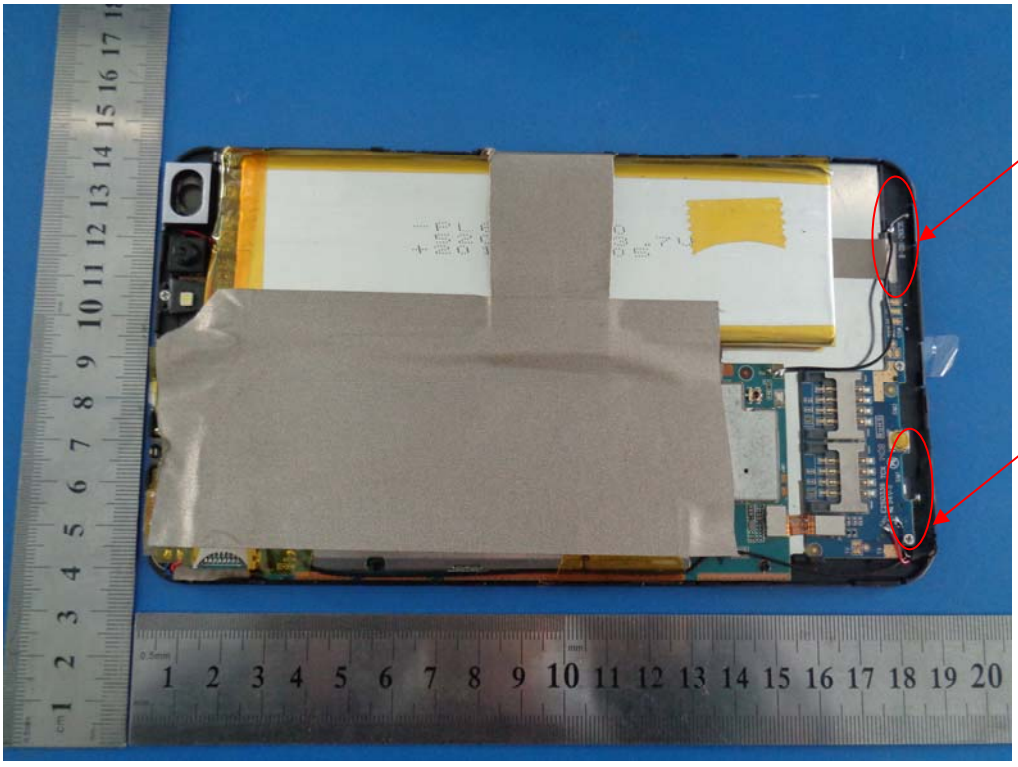


Left View of EUT

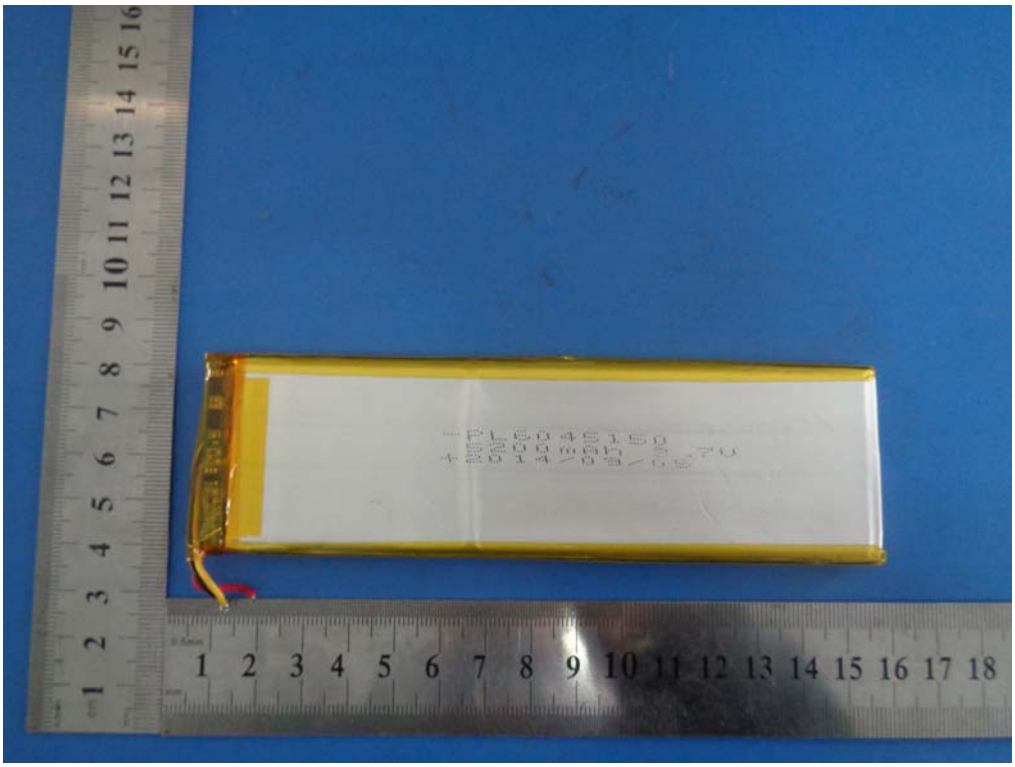
Right View of EUT

Annex B.ii. Photograph EUT Internal Photo

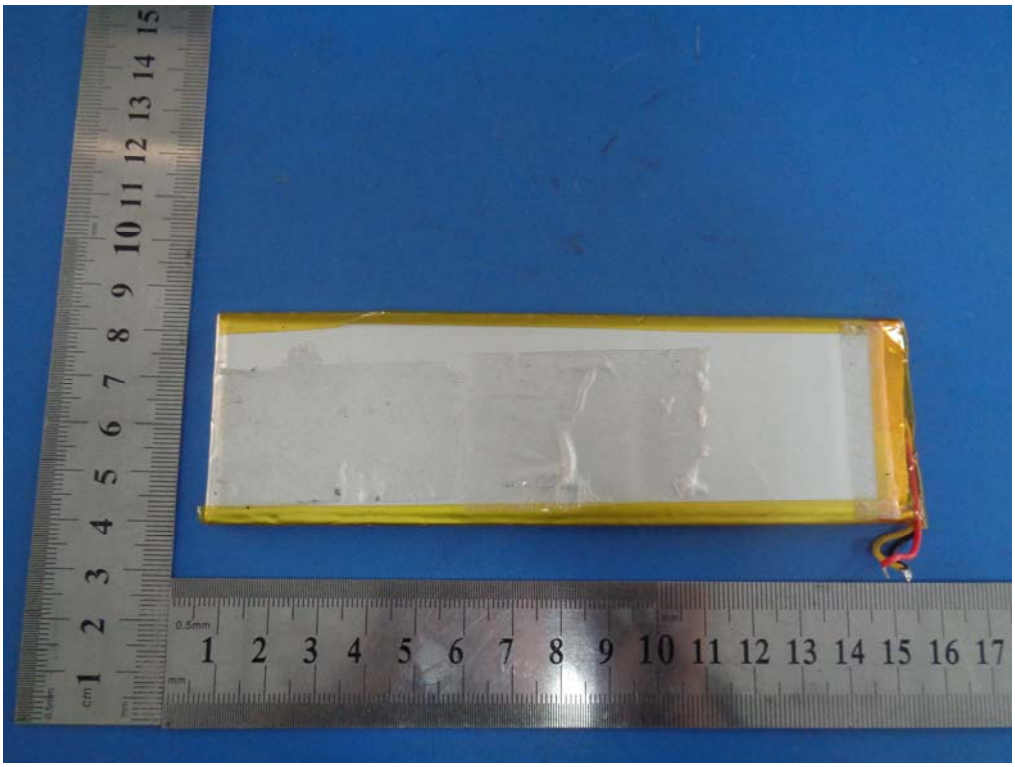
Uncover- Front View 1



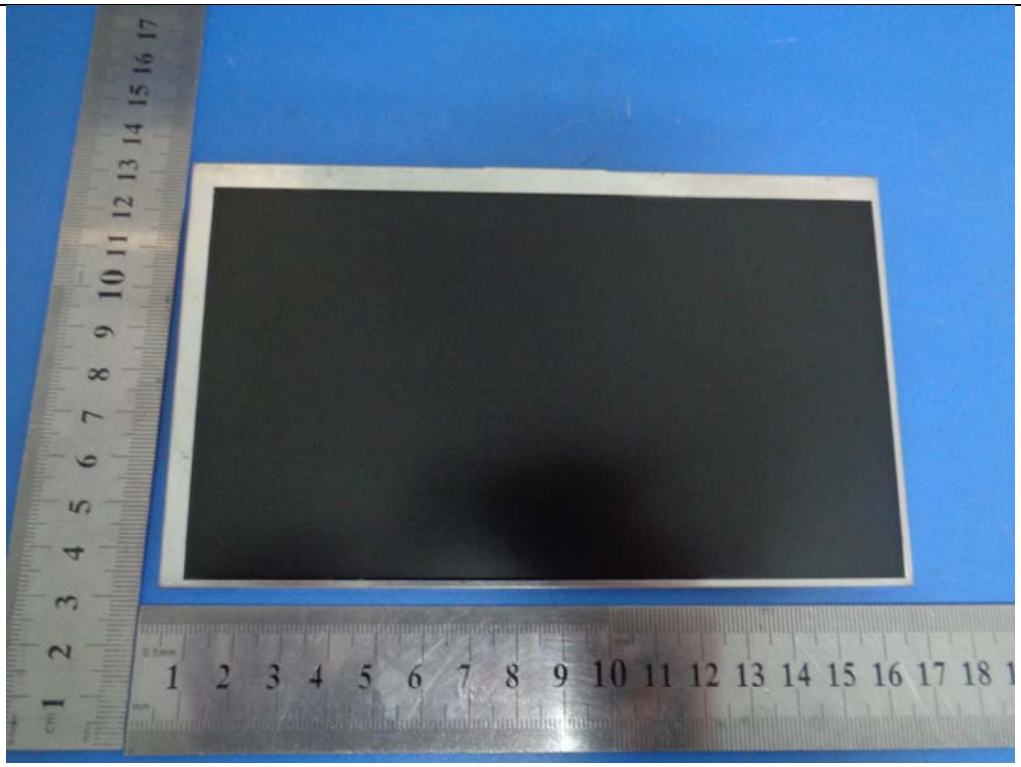
Uncover- Front View 2



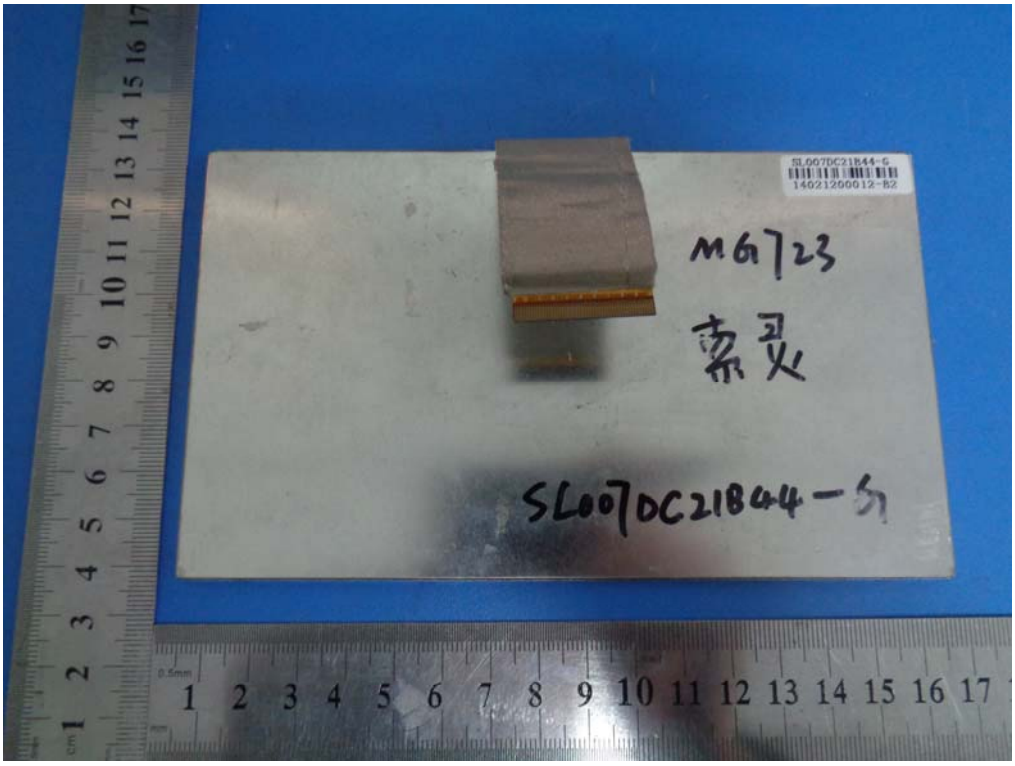
Battery– Front View



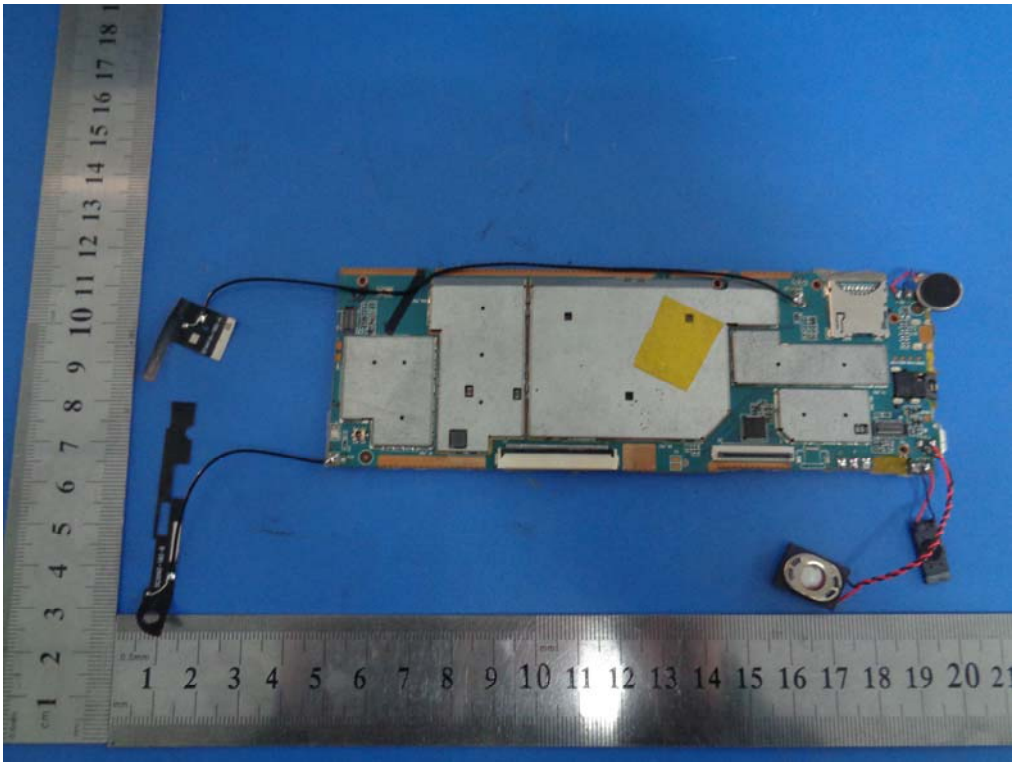
Battery– Rear View



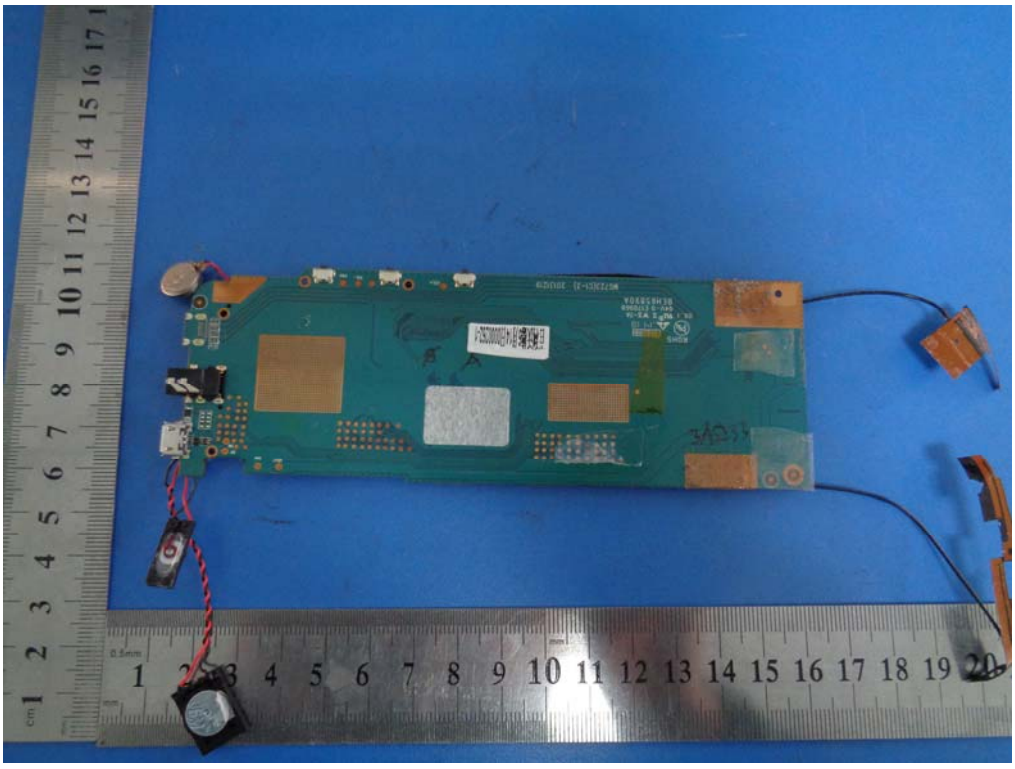
LCD – Front View



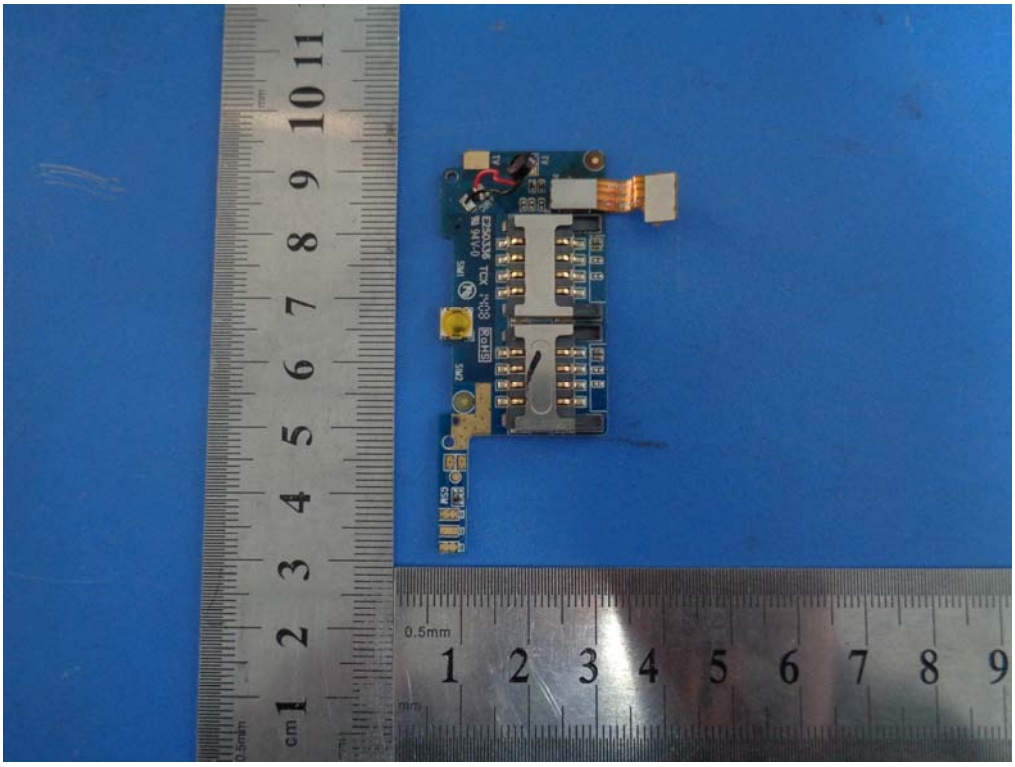
LCD – Rear View



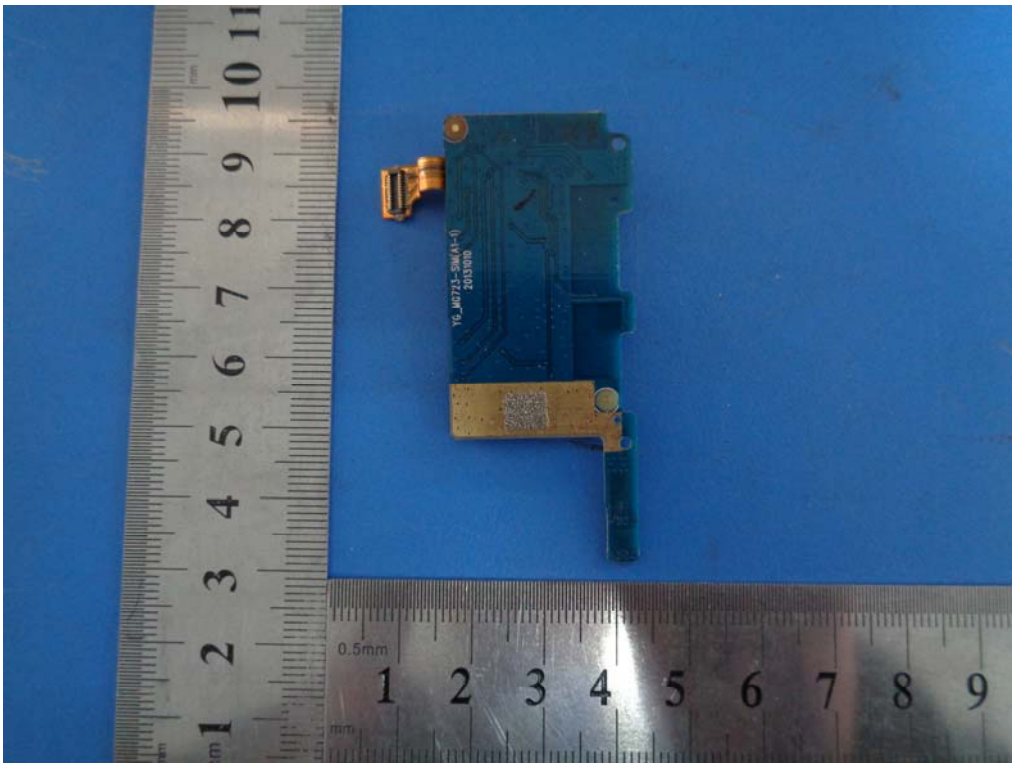
EUT PCB 1 – Front View



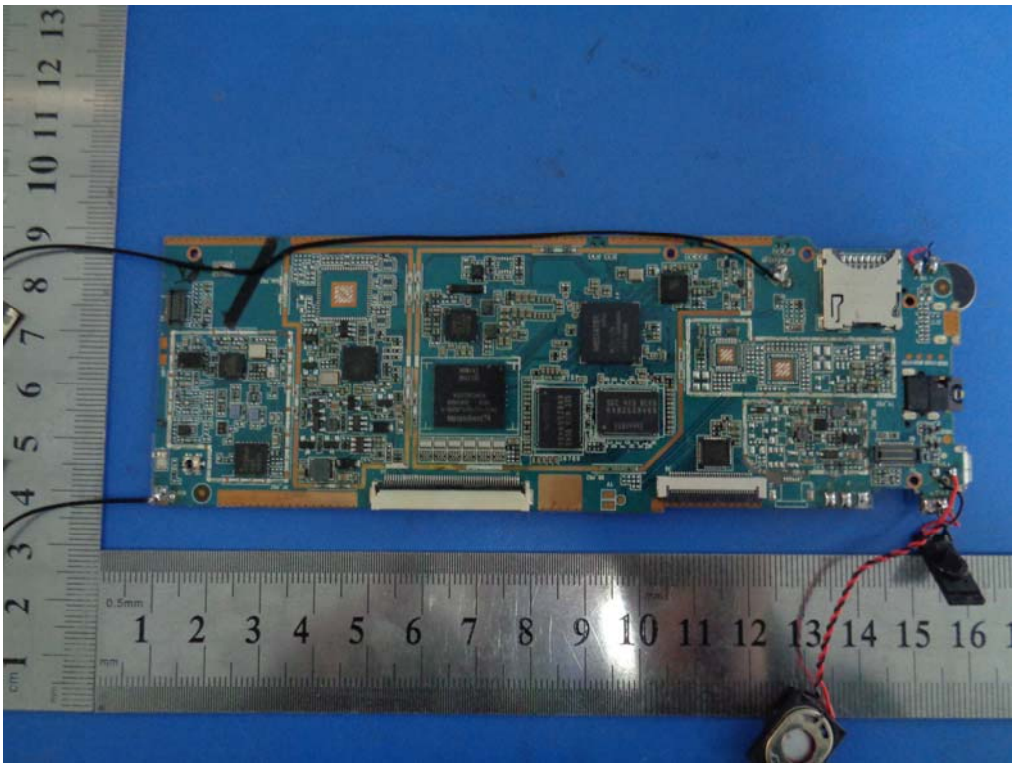
EUT PCB 1 – Rear View



EUT PCB 2 – Front View



EUT PCB 2 – Rear View

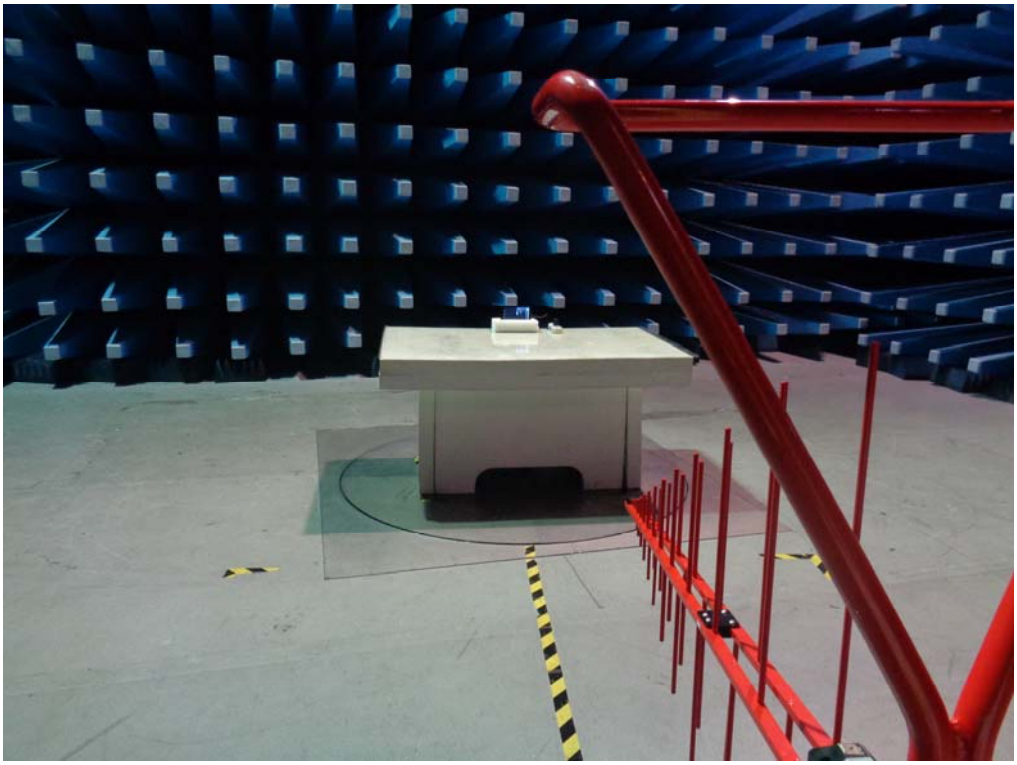


EUT PCB 1 – Withouting Shielding Front View

Annex B.iii. Photograph: Test Setup Photo

Conducted Emissions Test Setup – Front View

Conducted Emissions Test Setup – Side View



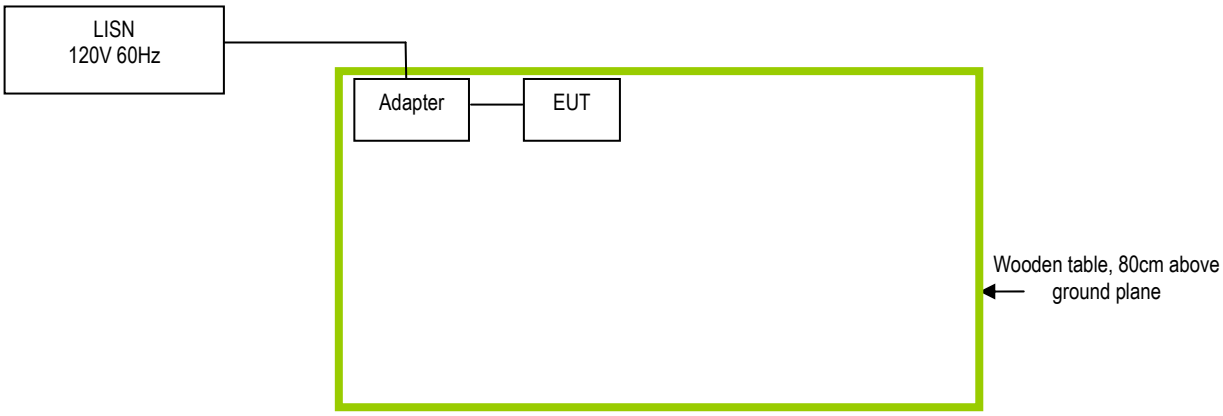
Radiated Spurious Emissions Test Setup Below 1GHz

Radiated Spurious Emissions Test Setup Below 1GHz

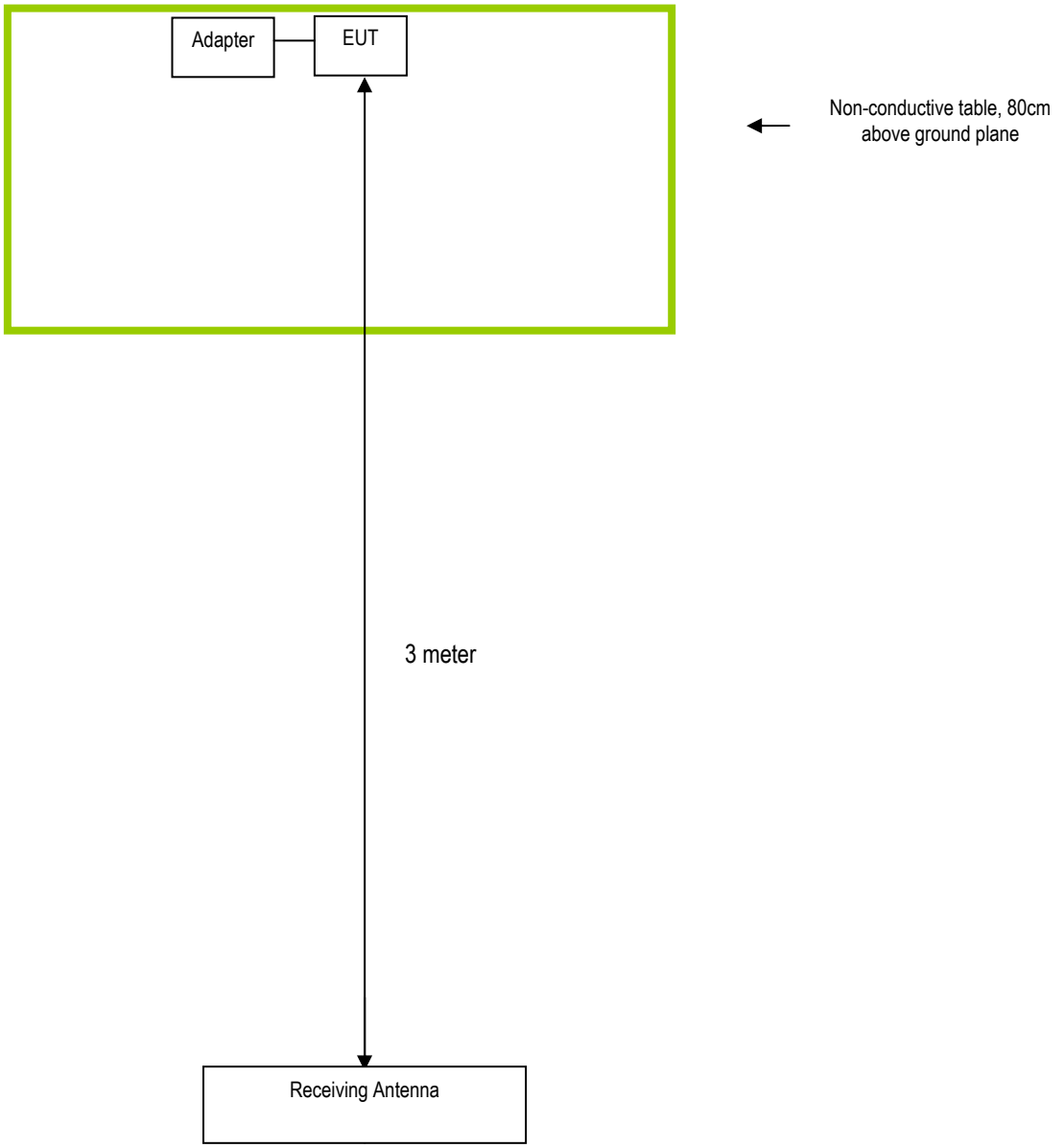
Annex C. TEST SETUP AND SUPPORTING EQUIPMENT

Annex C.i. 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

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

Please see attachment

Annex E. DECLARATION OF SIMILARITY

Beneworld International(HK) Co., Limited
HK: Unit 04, 7/F, Bright Way Tower, No. 33 Mong Kok Road, Kowloon, Hong Kong
TEL: +852-69172443/ 30772819 FAX: +852-30772819

Statement

To whom it may concern

Date: November 18, 2014

We hereby state that the 7inch Tablet PC of our model number **BW9** and serial numbers BW7D9， BW7D19， BW7D29, BW7D61, BW7D62, BW7D66, BW7D68,BW7D69, BW7D70, BW7D71 have the same constructions, circuit diagram and PCB layout. Only model name are different.

Sincerely,

Stephen Tang