

EMC TEST REPORT



Report No.: 15070467-FCC-E

Applicant	Swagtek	
Product Name	Smart Phone	
Model No.	IS-B1102	
Serial No.	DU-1B011B	
Test Standard	FCC Part 15 Subpart B Class B:2014, ANSI C63.4: 2014	
Test Date	June 20 to June 27, 2015	
Issue Date	June 27, 2015	
Test Result	☒ Pass ☐ Fail	
Equipment complied with the specification ☒		
Equipment did not comply with the specification ☐		
<i>Winnie Zhang</i>	<i>David Huang</i>	
Winnie Zhang Test Engineer	David Huang Checked By	
This test report may be reproduced in full only Test result presented in this test report is applicable to the tested sample only		

Issued by:

SIEMIC (SHENZHEN-CHINA) LABORATORIES

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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

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1. Report Revision History

Report No.	Report Version	Description	Issue Date
15070467-FCC-E	NONE	Original	June 27, 2015

2. Customer information

Applicant Name	Swagtek
Applicant Add	10205 NW 19th Street, STE101, Miami, FL 33172 USA
Manufacturer	Swagtek
Manufacturer Add	10205 NW 19th Street, STE101, Miami, FL 33172 USA

3. Test site information

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

4. Equipment under Test (EUT) Information

Description of EUT:	Smart Phone
Main Model:	IS-B1102
Serial Model:	DU-1B011B
Date EUT received:	June 19, 2015
Test Date(s):	June 20 to June 27, 2015
Equipment Category :	JBP
Antenna Gain:	GSM850: 0.07 dBi PCS1900:0.58 dBi Bluetooth:0.51 dBi
Type of Modulation:	GSM / GPRS: GMSK Bluetooth: GFSK, π /4DQPSK, 8DPSK
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 Bluetooth: 2402-2480 MHz
Number of Channels:	GSM 850: 124CH PCS1900: 299CH Bluetooth: 79CH
Port:	Power Port, Earphone Port, USB Port

Battery:

Model: IS-B1102

Spec: 3.7V 800mAh 2.96Wh

Input Power:

Adapter:

Model: IS-B1102

Input: AC 100-240V; 50/60Hz 150mA

Output: DC 5.0V; 500mA

Trade Name :

iSwag Shark , Duo Shark

GPRS/EGPRS Multi-slot class

8/10/12

FCC ID:

O55B110X2

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
§15.107; ANSI C63.4: 2014	AC Power Line Conducted Emissions	Compliance
§15.109; ANSI C63.4: 2014	Radiated Emissions	Compliance

Measurement Uncertainty

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

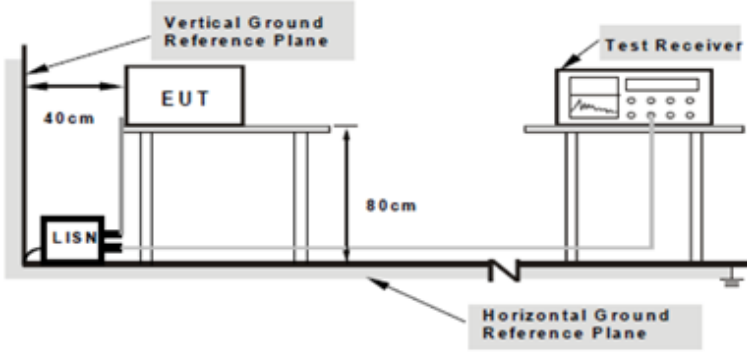
6. Measurements, Examination And Derived Results

6.1 AC Power Line Conducted Emissions

Temperature	25°C
Relative Humidity	52%
Atmospheric Pressure	1026mbar
Test date :	June 26, 2015
Tested By :	Winnie Zhang

Requirement(s):

Spec	Item	Requirement	Applicable														
47CFR§15.107	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.															
		<table><tr><th rowspan="2">Frequency ranges (MHz)</th><th colspan="2">Limit (dBµV)</th></tr><tr><th>QP</th><th>Average</th></tr><tr><td>0.15 ~ 0.5</td><td>66 – 56</td><td>56 – 46</td></tr><tr><td>0.5 ~ 5</td><td>56</td><td>46</td></tr><tr><td>5 ~ 30</td><td>60</td><td>50</td></tr></table>	Frequency ranges (MHz)	Limit (dBµV)		QP	Average	0.15 ~ 0.5	66 – 56	56 – 46	0.5 ~ 5	56	46	5 ~ 30	60	50	
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.
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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.
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	3. The RF OUT of the EUT LISN was connected to the EMI test receiver via a low-loss 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

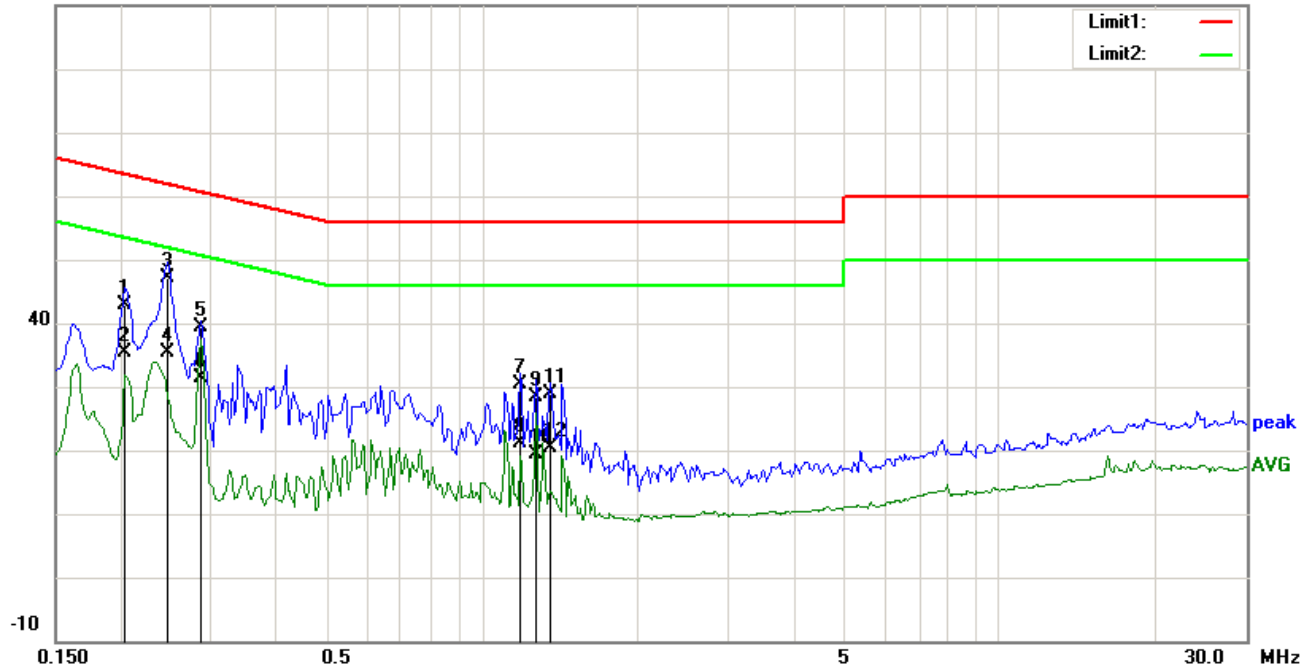
Test Data ☒ Yes ☐ N/A

Test Plot ☒ Yes (See below) ☐ N/A

Test Mode 1: USB Mode

120V/60Hz

90.0 dBuV

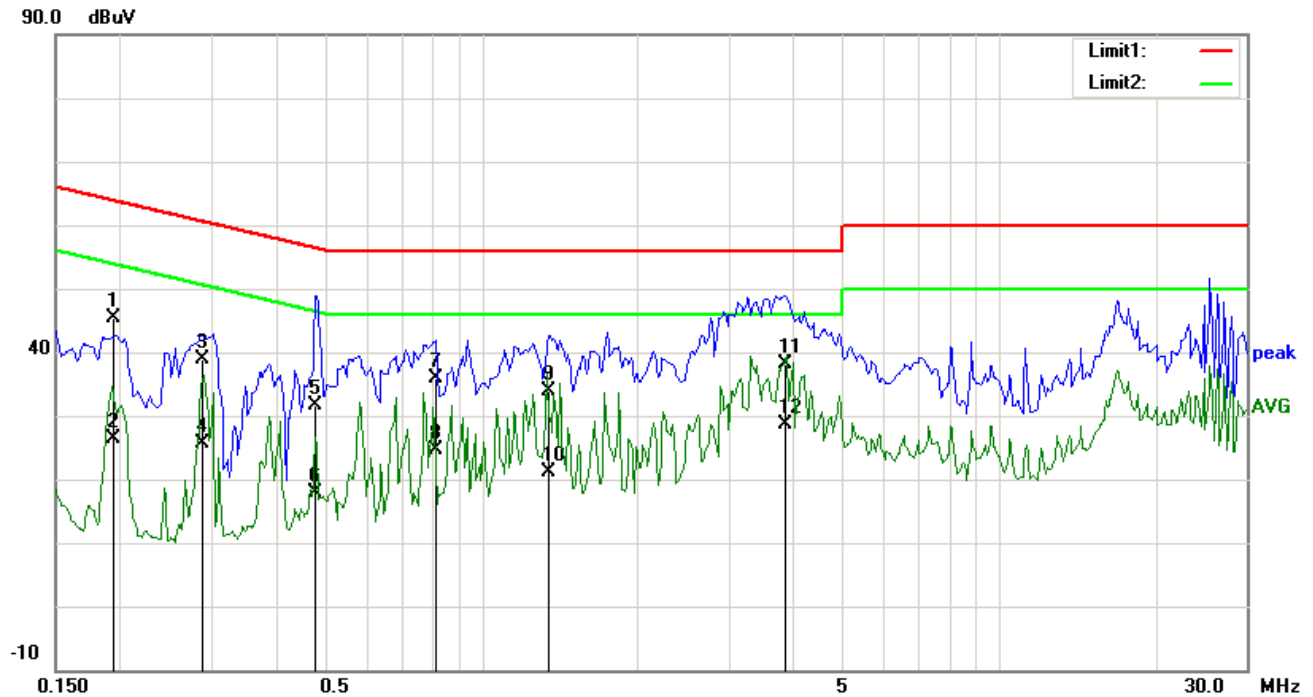


Test Data

Phase Line Plot at 120Vac, 60Hz

No.	P/L	Frequency	Reading	Detector	Corrected	Result	Limit	Margin	Comment
		(MHz)	(dBuV)		(dB}	(dBuV)	(dBuV)	(dB)	
1	L1	0.2047	29.97	QP	13.00	42.97	63.42	-20.45	
2	L1	0.2047	22.48	AVG	13.00	35.48	53.42	-17.94	
3	L1	0.2477	34.39	QP	12.84	47.23	61.83	-14.60	
4	L1	0.2477	22.43	AVG	12.84	35.27	51.83	-16.56	
5	L1	0.2867	26.65	QP	12.69	39.34	60.62	-21.28	
6	L1	0.2867	18.69	AVG	12.69	31.38	50.62	-19.24	
7	L1	1.1891	18.92	QP	11.42	30.34	56.00	-25.66	
8	L1	1.1891	9.75	AVG	11.42	21.17	46.00	-24.83	
9	L1	1.2711	16.98	QP	11.43	28.41	56.00	-27.59	
10	L1	1.2711	7.94	AVG	11.43	19.37	46.00	-26.63	
11	L1	1.3531	17.36	QP	11.44	28.80	56.00	-27.20	
12	L1	1.3531	8.83	AVG	11.44	20.27	46.00	-25.73	

Test Mode 1: USB Mode



Test Data

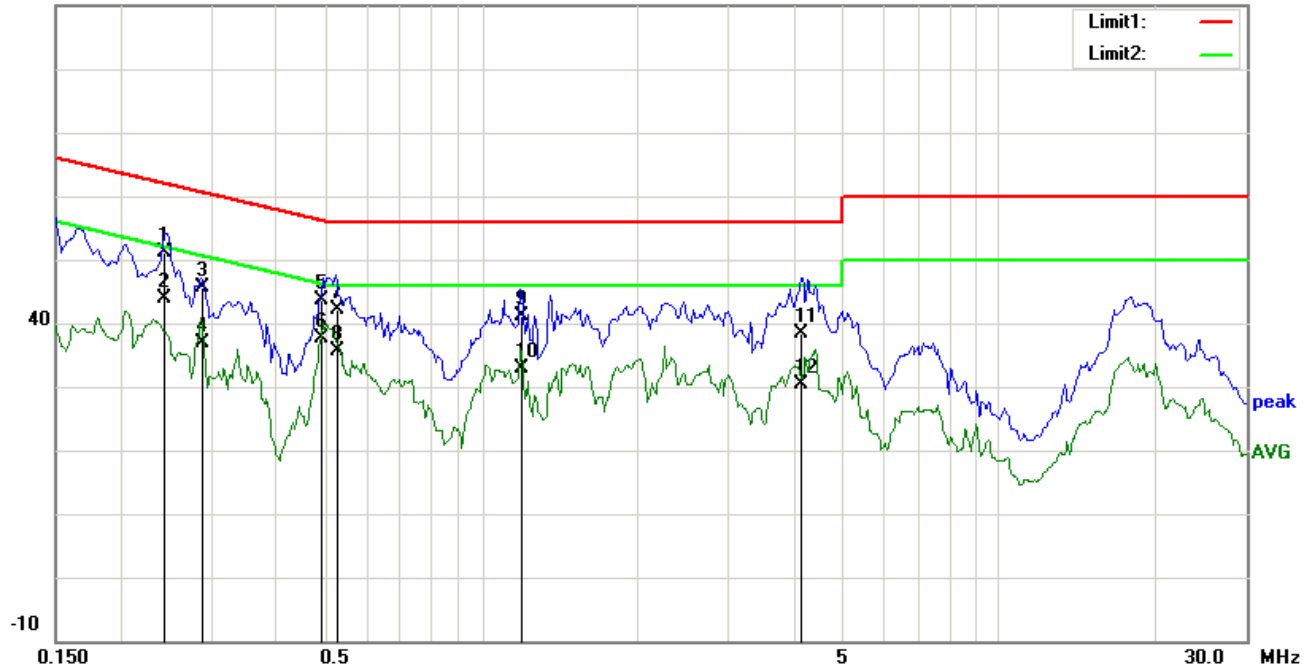
Phase Neutral Plot at 120Vac, 60Hz

No.	P/L	Frequency	Reading	Detector	Corrected	Result	Limit	Margin	Comment
		(MHz)	(dBuV)		(dB}	(dBuV)	(dBuV)	(dB)	
1	N	0.1930	32.45	QP	13.04	45.49	63.91	-18.42	
2	N	0.1930	13.27	AVG	13.04	26.31	53.91	-27.60	
3	N	0.2878	26.15	QP	12.69	38.84	60.59	-21.75	
4	N	0.2878	12.90	AVG	12.69	25.59	50.59	-25.00	
5	N	0.4781	19.54	QP	11.98	31.52	56.37	-24.85	
6	N	0.4781	5.95	AVG	11.98	17.93	46.37	-28.44	
7	N	0.8141	24.37	QP	11.59	35.96	56.00	-20.04	
8	N	0.8141	13.06	AVG	11.59	24.65	46.00	-21.35	
9	N	1.3492	22.39	QP	11.44	33.83	56.00	-22.17	
10	N	1.3492	9.71	AVG	11.44	21.15	46.00	-24.85	
11	N	3.8603	26.45	QP	11.76	38.21	56.00	-17.79	
12	N	3.8603	16.87	AVG	11.76	28.63	46.00	-17.37	

Test Mode 1: USB Mode

240V/60Hz

90.0 dBuV

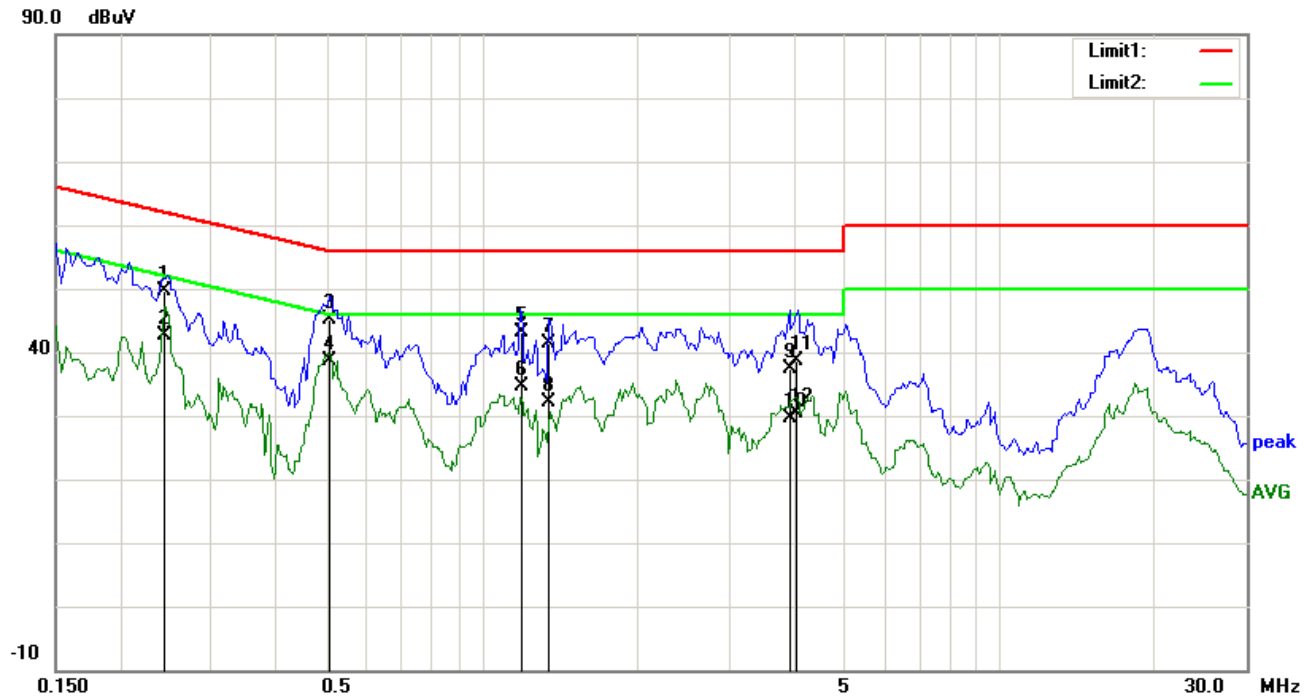


Test Data

Phase Line Plot at 120Vac, 60Hz

No.	P/L	Frequency	Reading	Detector	Corrected	Result	Limit	Margin	Comment
		(MHz)	(dBuV)		(dB}	(dBuV)	(dBuV)	(dB)	
1	L1	0.2437	38.38	QP	12.85	51.23	61.97	-10.74	
2	L1	0.2437	31.01	AVG	12.85	43.86	51.97	-8.11	
3	L1	0.2878	32.89	QP	12.69	45.58	60.59	-15.01	
4	L1	0.2878	24.20	AVG	12.69	36.89	50.59	-13.70	
5	L1	0.4889	31.68	QP	11.94	43.62	56.19	-12.57	
6	L1	0.4889	25.58	AVG	11.94	37.52	46.19	-8.67	
7	L1	0.5289	30.17	QP	11.87	42.04	56.00	-13.96	
8	L1	0.5289	23.84	AVG	11.87	35.71	46.00	-10.29	
9	L1	1.1907	29.79	QP	11.40	41.19	56.00	-14.81	
10	L1	1.1907	21.41	AVG	11.40	32.81	46.00	-13.19	
11	L1	4.1563	27.05	QP	11.40	38.45	56.00	-17.55	
12	L1	4.1563	18.96	AVG	11.40	30.36	46.00	-15.64	

Test Mode 1: USB Mode



Test Data

Phase Neutral Plot at 120Vac, 60Hz

No.	P/L	Frequency	Reading	Detector	Corrected	Result	Limit	Margin	Comment
		(MHz)	(dBuV)		(dB}	(dBuV)	(dBuV)	(dB)	
1	N	0.2437	36.78	QP	12.85	49.63	61.97	-12.34	
2	N	0.2437	29.73	AVG	12.85	42.58	51.97	-9.39	
3	N	0.5094	33.12	QP	11.89	45.01	56.00	-10.99	
4	N	0.5094	26.76	AVG	11.89	38.65	46.00	-7.35	
5	N	1.1907	31.79	QP	11.42	43.21	56.00	-12.79	
6	N	1.1907	23.16	AVG	11.42	34.58	46.00	-11.42	
7	N	1.3492	30.04	QP	11.44	41.48	56.00	-14.52	
8	N	1.3492	20.58	AVG	11.44	32.02	46.00	-13.98	
9	N	3.9609	25.72	QP	11.77	37.49	56.00	-18.51	
10	N	3.9609	17.97	AVG	11.77	29.74	46.00	-16.26	
11	N	4.0489	26.96	QP	11.78	38.74	56.00	-17.26	
12	N	4.0489	18.57	AVG	11.78	30.35	46.00	-15.65	

6.2 Radiated Emissions

Temperature	25°C
Relative Humidity	52%
Atmospheric Pressure	1026mbar
Test date :	June 26, 2015
Tested By :	Winnie Zhang

Requirement(s):

Spec	Item	Requirement	Applicable	
47CFR§15.107(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	
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Procedure	- The EUT was switched on and allowed to warm up to its normal operating condition. - The test was carried out at the selected frequency points obtained from the EUT characterization. Maximization of the emissions, was carried out by rotating the EUT, changing the antenna polarization, and adjusting the antenna height in the following manner: - Vertical or horizontal polarization (whichever gave the higher emission level
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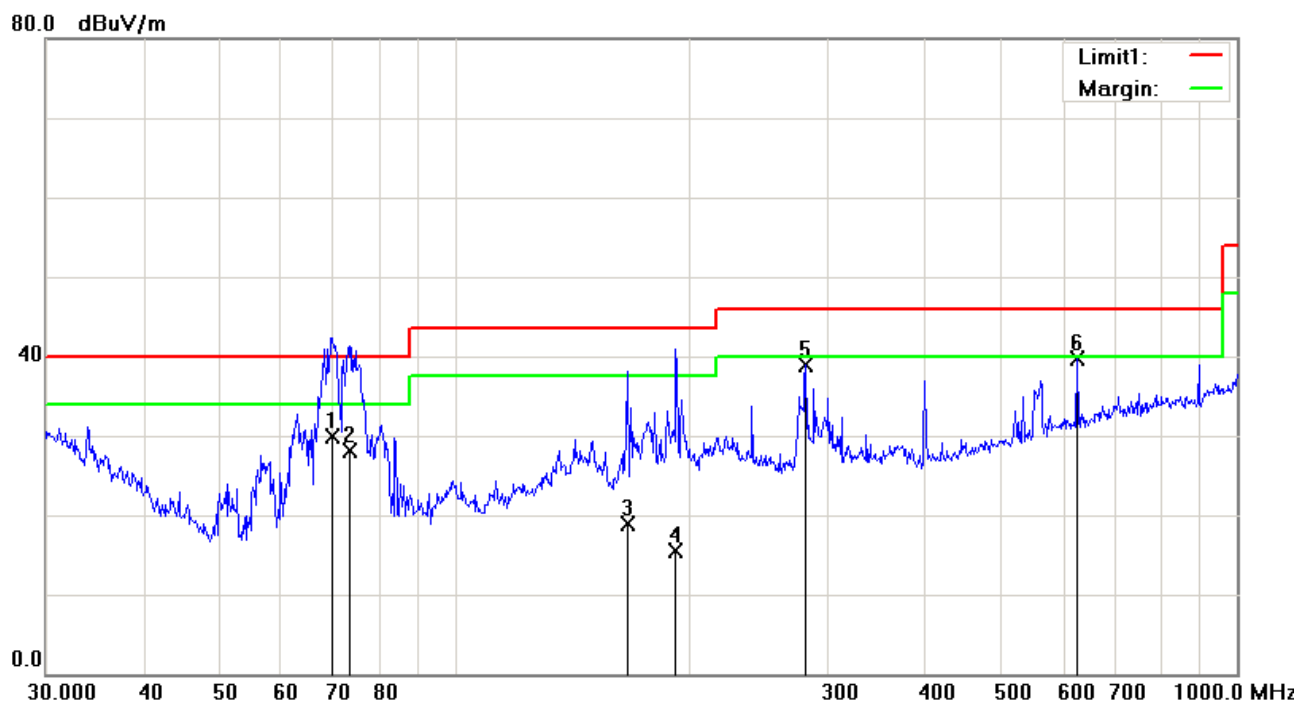
	over a full rotation of the EUT) was chosen. b. The EUT was then rotated to the direction that gave the maximum emission. c. Finally, the antenna height was adjusted to the height that gave the maximum emission. 3. The resolution bandwidth and video bandwidth of test receiver/spectrum analyzer is 120 kHz for Quasi Peak detection at frequency below 1GHz. 4. The resolution bandwidth of test receiver/spectrum analyzer is 1MHz and video bandwidth is 3MHz with Peak detection for Peak measurement at frequency above 1GHz. The resolution bandwidth of test receiver/spectrum analyzer is 1MHz and the video bandwidth with Peak detection for Average Measurement as below at frequency above 1GHz. ■ 1 kHz (Duty cycle < 98%) □ 10 Hz (Duty cycle > 98%) 5. 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: USB Mode

Below 1GHz



Test Data

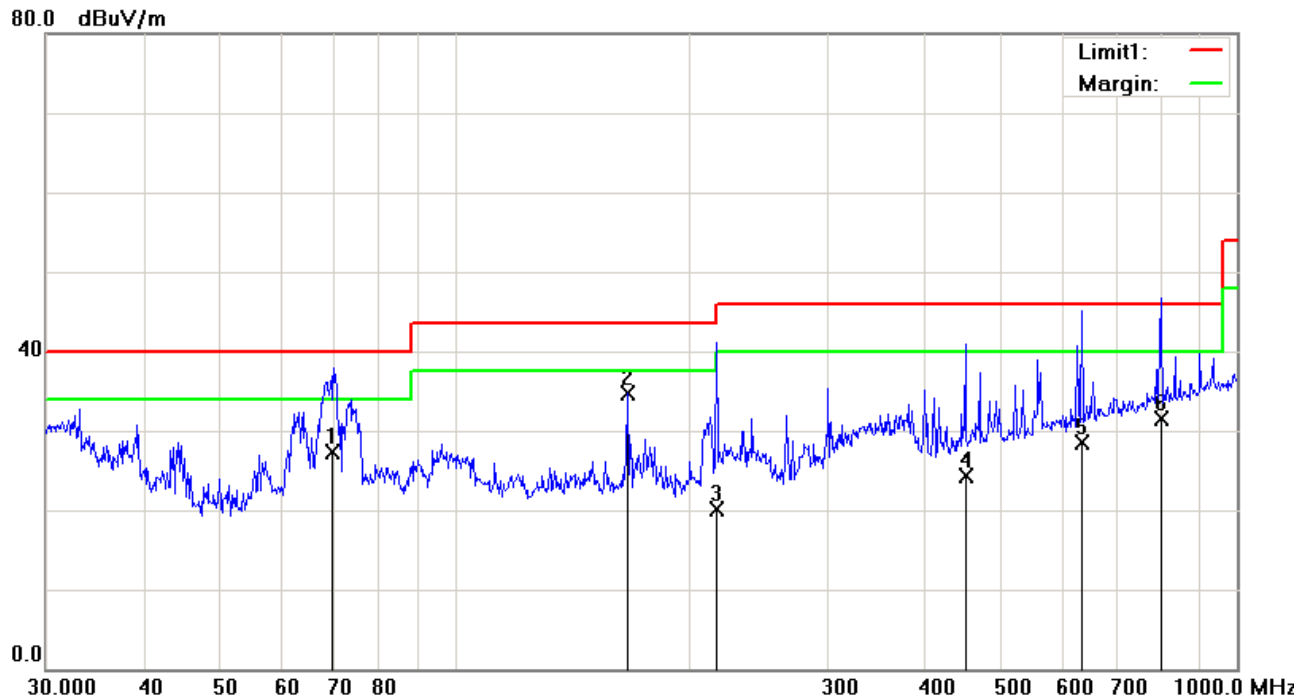
Horizontal Polarity Plot @3m

No.	P/L	Frequency	Reading	Detector	Corrected	Result	Limit	Margin	Height	Degree	Comment
		(MHz)	(dBuV/m)		(dB/m)	(dBuV/m)	(dBuV/m)	(dB)	(cm)	()	
1	H	69.7880	43.61	QP	-13.61	30.00	40.00	-10.00	200	0	
2	H	73.2934	41.89	QP	-13.69	28.20	40.00	-11.80	200	0	
3	H	166.0820	27.70	QP	-8.78	18.92	43.50	-24.58	200	0	
4	H	192.1006	24.54	QP	-9.12	15.42	43.50	-28.08	200	0	
5	H	281.0075	46.63	peak	-7.77	38.86	46.00	-7.14	150	20	
6	H	625.0780	39.21	peak	0.42	39.63	46.00	-6.37	150	158	

Above 1GHz

Note: The frequency that above 1GHz is mainly from the environment noise.

Below 1GHz



Test Data

Vertical Polarity Plot @3m

No.	P/L	Frequency	Reading	Detector	Corrected	Result	Limit	Margin	Height	Degree	Comment
		(MHz)	(dBuV/m)		(dB/m)	(dBuV/m)	(dBuV/m)	(dB)	(cm)	()	
1	V	69.8051	41.01	QP	-13.61	27.40	40.00	-12.60	100	0	
2	V	166.0680	43.44	peak	-8.78	34.66	43.50	-8.84	100	0	
3	V	215.9780	28.89	QP	-8.88	20.01	43.50	-23.49	100	0	
4	V	448.6727	27.36	QP	-3.11	24.25	46.00	-21.75	100	0	
5	V	634.7964	27.95	QP	0.57	28.52	46.00	-17.48	100	0	
6	V	798.5461	28.31	QP	3.19	31.50	46.00	-14.50	100	0	

Above 1GHz

Note: The frequency that above 1GHz is mainly from the environment noise.

Annex A. TEST INSTRUMENT

Instrument	Model	Serial #	Cal Date	Cal Due	In use
AC Line Conducted Emissions					
EMI test receiver	ESCS30	8471241027	09/18/2014	09/17/2015	☒
Line Impedance Stabilization Network	LI-125A	191106	09/26/2014	09/25/2015	☒
Line Impedance Stabilization Network	LI-125A	191107	09/26/2014	09/25/2015	☒
LISN	ISN T800	34373	09/26/2014	09/25/2015	☒
Transient Limiter	LIT-153	531118	09/02/2014	09/01/2015	☒
Radiated Emissions					
EMI test receiver	ESL6	100262	09/18/2014	09/17/2015	☒
OPT 010 AMPLIFIER (0.1-1300MHz)	8447E	2727A02430	09/02/2014	09/01/2015	☒
Microwave Preamplifier (1 ~ 26.5GHz)	8449B	3008A02402	03/25/2015	03/24/2016	☒
Bilog Antenna (30MHz~6GHz)	JB6	A110712	09/22/2014	09/21/2015	☒
Double Ridge Horn Antenna	AH-118	71259	09/25/2014	09/24/2015	☒

Annex B. EUT And Test Setup Photographs

Annex B.i. Photograph: EUT External Photo



Whole Package - Top View



Adapter - Front View



EUT - Front View



EUT - Rear View



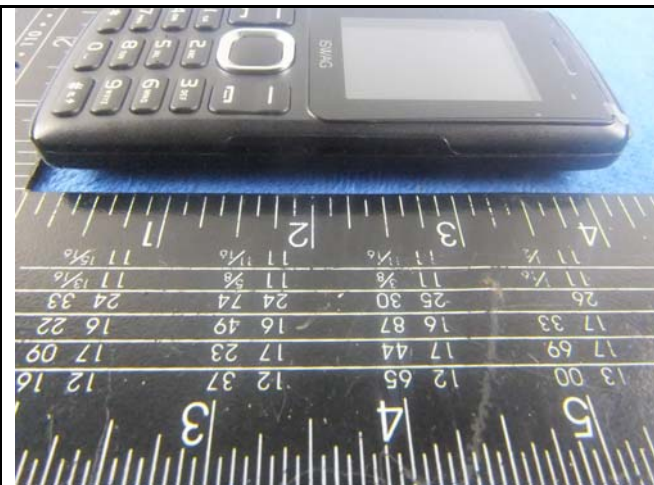
EUT - Top View



EUT - Bottom View



EUT - Left View



EUT - Right View

Annex B.ii. Photograph: EUT Internal Photo



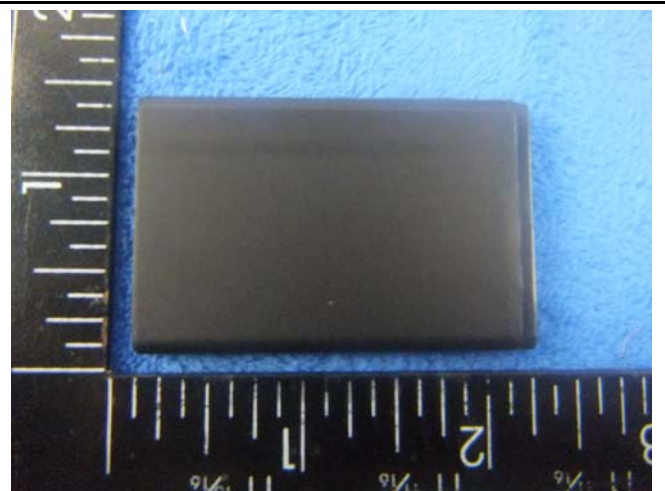
Cover Off - Top View 1



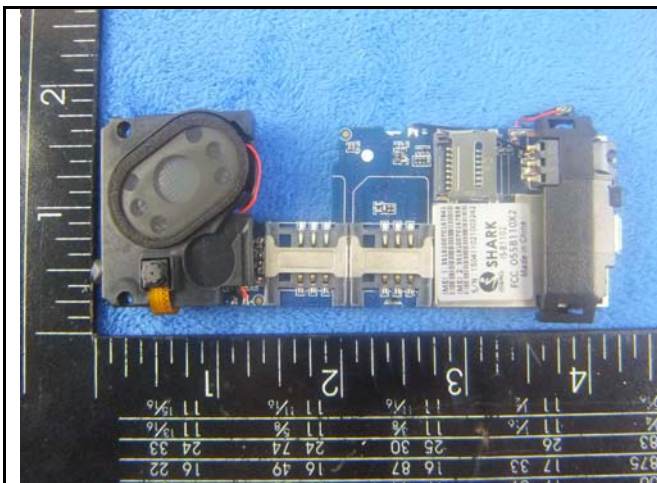
Cover Off - Top View 2



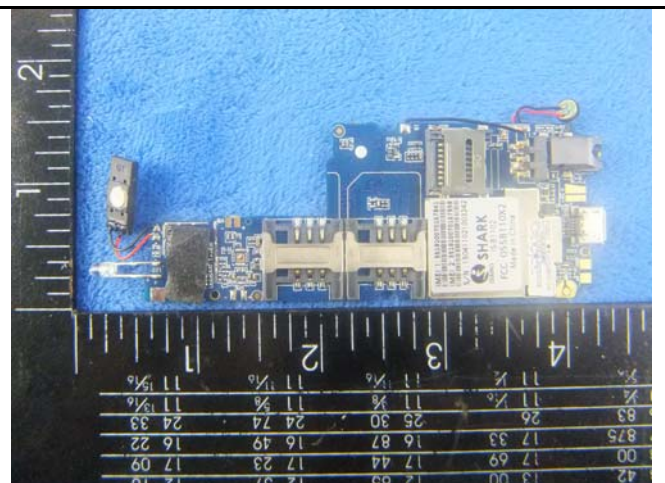
Battery - Top View



Battery - Bottom View

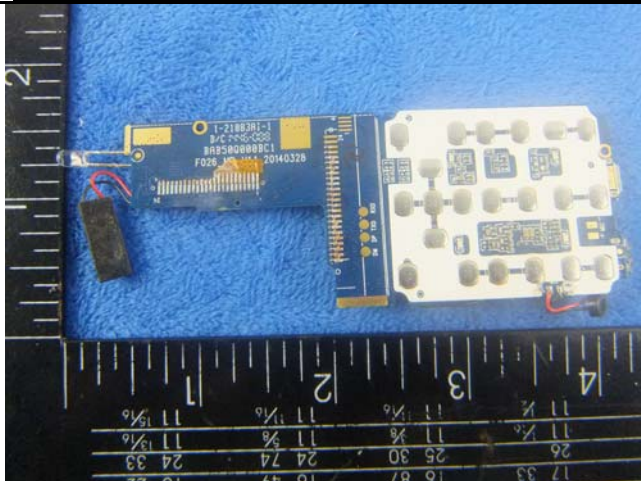


Mainboard With Shielding - Front View 1

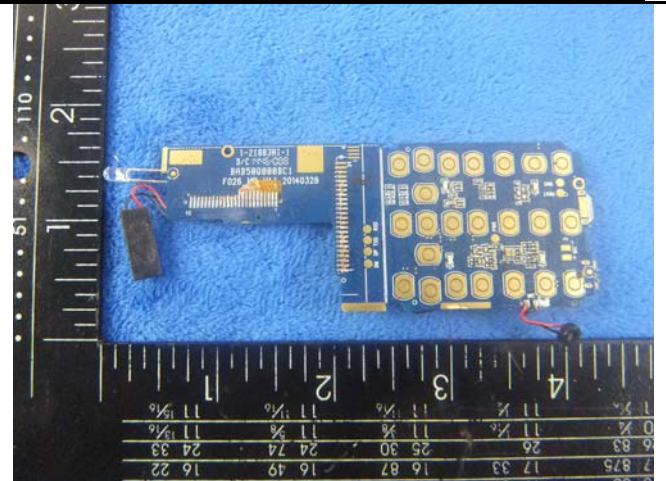


Mainboard With Shielding - Front View 2

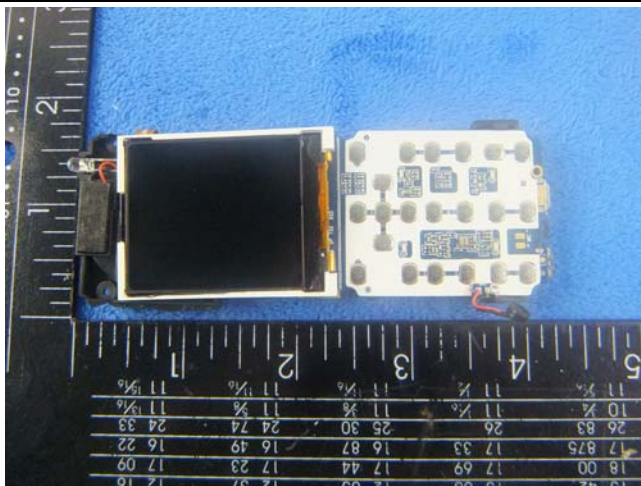
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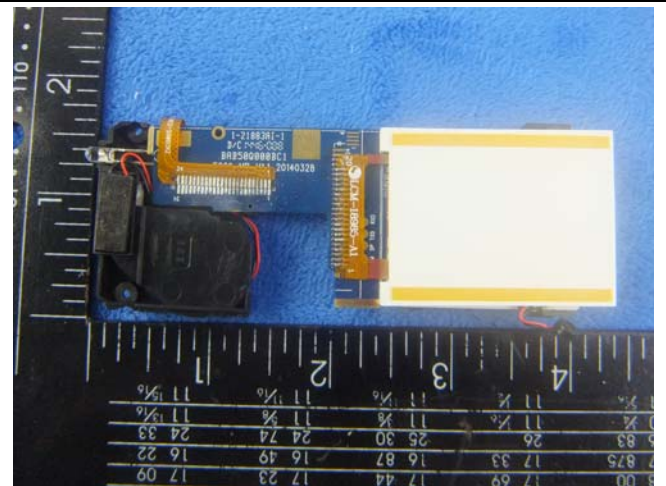
Mainboard With Shielding - rear View



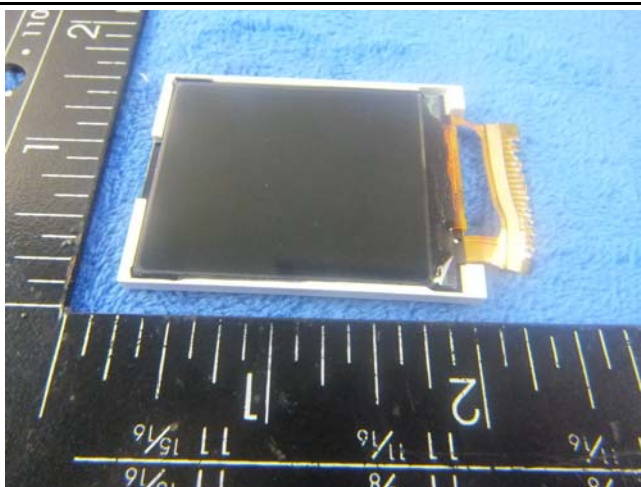
Mainboard Without Shielding - rear View



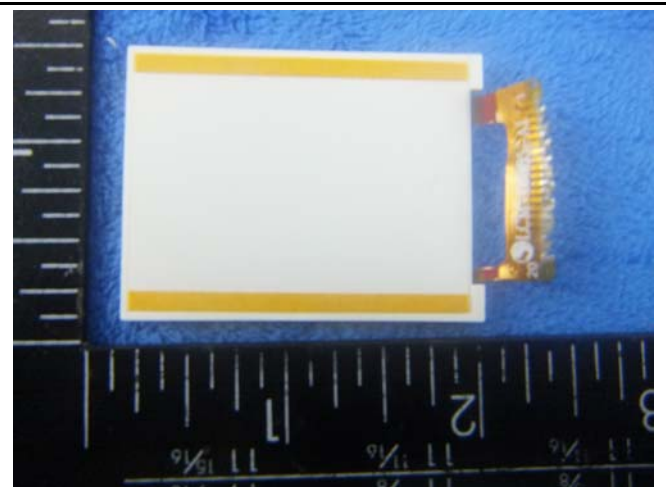
LCD - Front View 1



LCD - Rear View 1



LCD - Front View 2

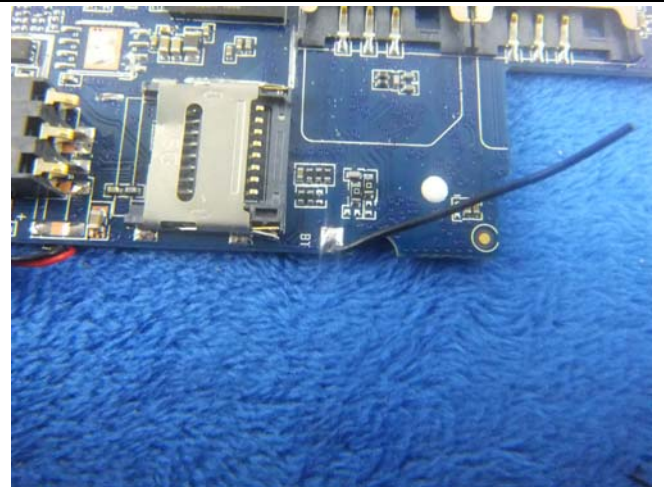


LCD - Rear View 2

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GSM Antenna View



BT Antenna View

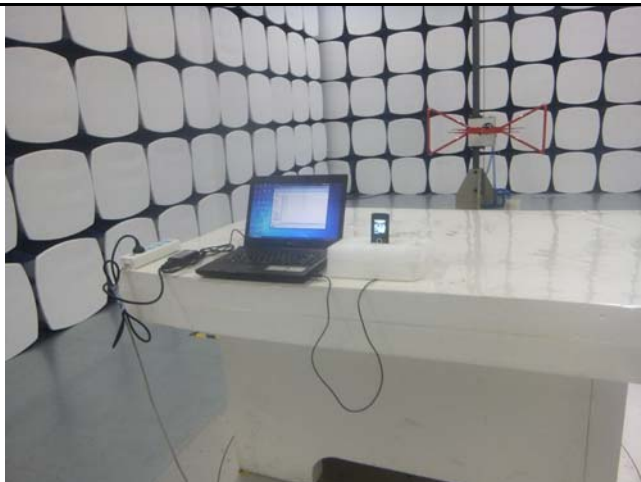
Annex B.iii. Photograph: Test Setup Photo



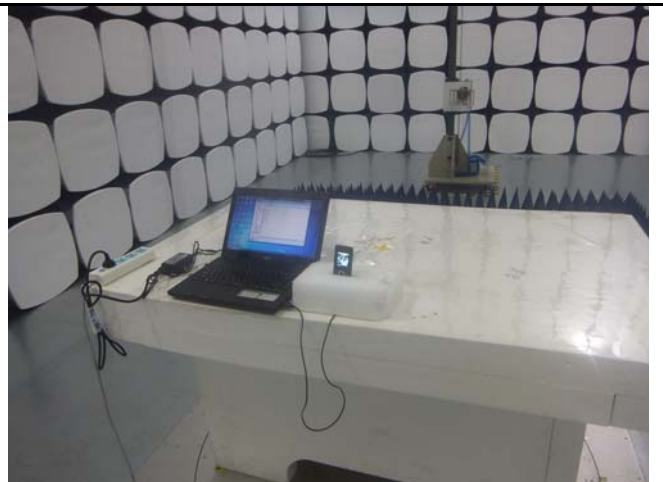
Conducted Emissions Test Setup – Front View



Conducted Emissions Test Setup – Side View



Radiated Spurious Emissions Test Setup Below 1GHz

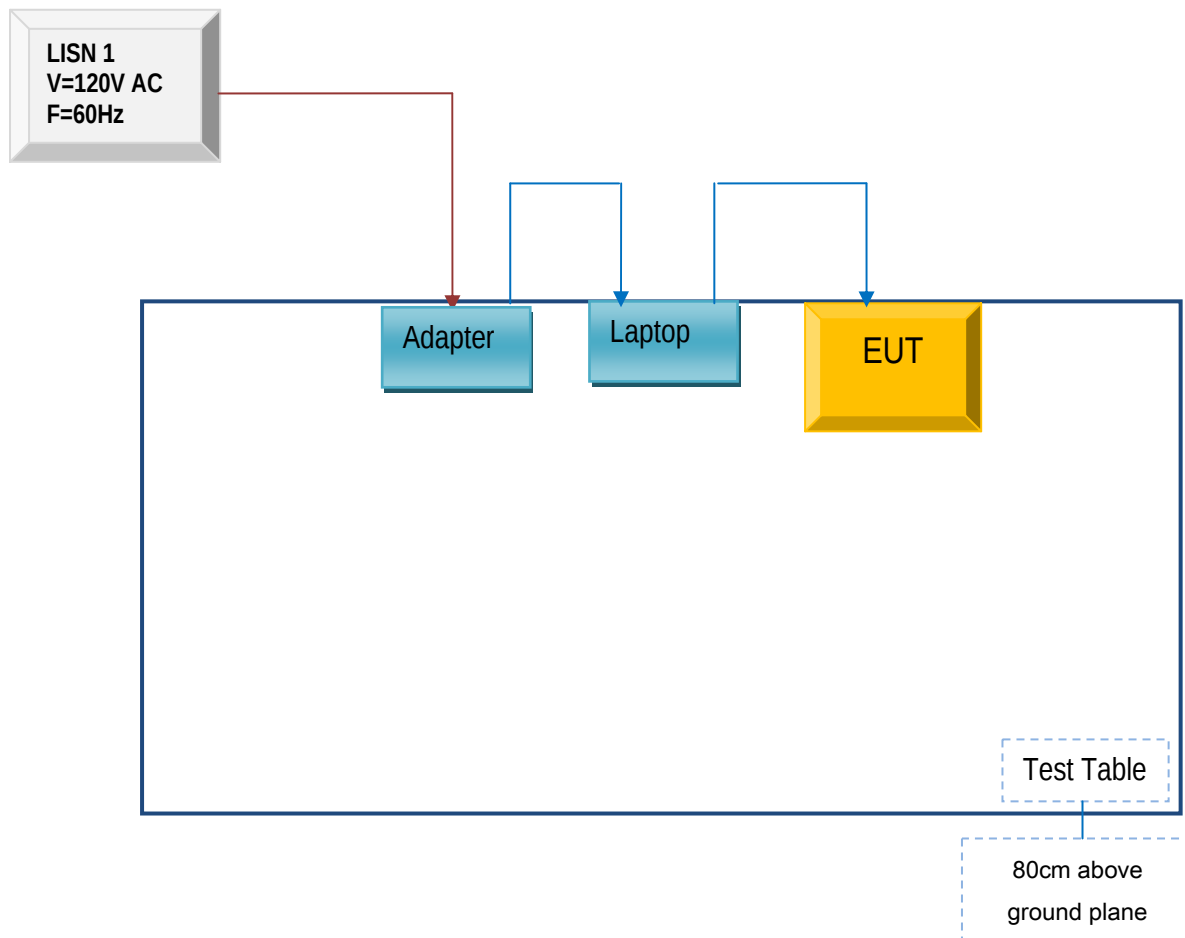


Radiated Spurious Emissions Test Setup Above
1GHz

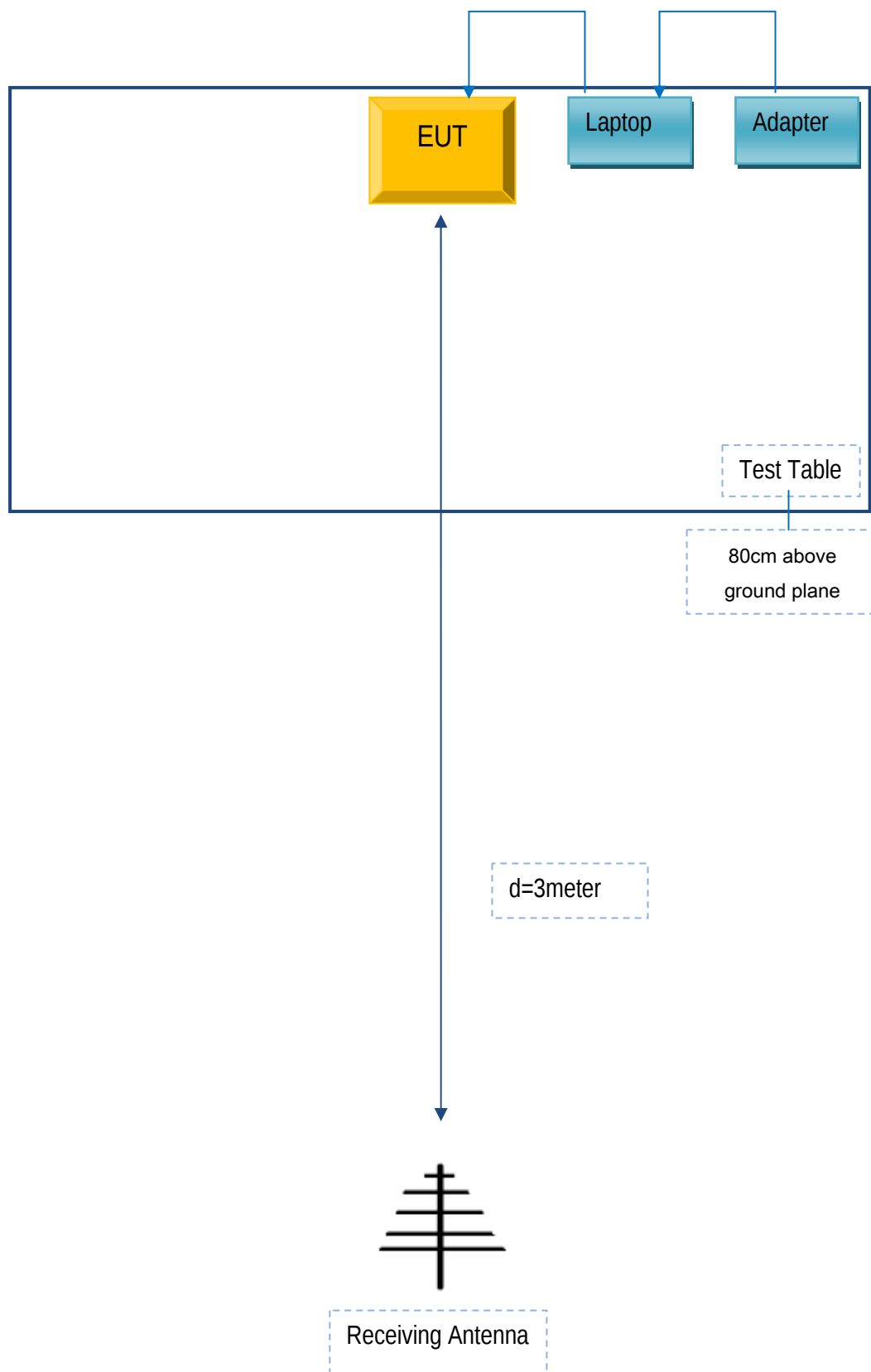
Annex C. TEST SETUP AND SUPPORTING EQUIPMENT

Annex C.ii. TEST SET UP BLOCK

Block Configuration Diagram for Conducted Emissions



Block Configuration Diagram for Radiated Emissions



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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
Lenovo	Lenovo Laptop	E40& 0579A52	N/A	N/A

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

Please see Attachment

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Annex E. DECLARATION OF SIMILARITY

Swagtek

To: 775 Montague Expressway Mlpitas,CA 95035,USA

Declaration Letter

Dear Sir,

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

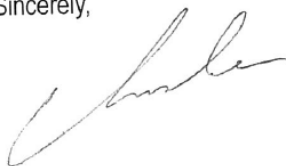
Model No.:	Trade :
IS-B1102	iSwag Shark
DU-1B011B	Duo Shark

We declare that : IS-B1102, DU-1B011B, All models the same PCB and Appearance shape, accessories .the difference of these is listed as below:

Main Model No	Serial Model No	Difference
IS-B1102	DU-1B011B	IS-B1102 (Dual SIM card); DU-1B011B (Single SIM card)

Thank you!

Sincerely,



Client's signature :

Client's name / title : Charles Cheng/ Manager

Contact information : 1-305 421 9938

Address : 10205 NW 19th Street, STE101, Miami, FL 33172 USA