EMC TEST REPORT

Report No.: 15070372-FCC-E

Supersede Report No.:N/A

Applicant	Worldlinks Communications, L.L.C.
Product Name	Speaker
Model No.	BTS200
Serial No.	N/A
Test Standard	FCC Part 15 Subpart B Class B:2014, ANSI C63.4: 2014
Test Date	May 26 To June 04, 2015
Issue Date	June 04, 2015
Test Result	☑ Pass ☐ Fail
Equipment complied with the specification	☑
Equipment did not comply with the specification	☐

Lucifer He	Chris You	
Lucifer He Test Engineer	Chris You Checked By	

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

Issued by:

SIEMIC (SHENZHEN-CHINA) LABORATORIES

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

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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CONTENTS

1. Report Revision History

Report No.	Report Version	Description	Issue Date
15070372-FCC-E	NONE	Original	June 04, 2015

2. Customer information

Applicant Name	Worldlinks Communications, L.L.C.
Applicant Add	270 Center Drive Suite 230, Vernon Hills, IL. 60061
Manufacturer	KINGTA TECHNOLOGY CO.,LIMITED
Manufacturer Add	Floor 4,Building 9, Futing Industrial Zone, Zhucun, Guanlan, Bao'an ,Shenzhen,Guangdong,China

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:	Speaker
Main Model:	BTS200
Serial Model:	N/A
Antenna Gain:	Bluetooth: 0 dBi
Input Power:	Battery: Model: ZKH523450AR Spec: 3.7V 1000mAh Limited charger voltage: 4.2V
Trade Name :	REDDOTMOBILE
FCC ID:	2ADNIBTS200
Date EUT received:	May 25, 2015

Equipment Category： JBP

Type of Modulation: Bluetooth: GFSK, π /4DQPSK, 8DPSK

RF Operating Frequency (ies): Bluetooth: 2402-2480 MHz

Number of Channels: Bluetooth: 79CH

Port: Power Port,Audio Port, USB Port

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

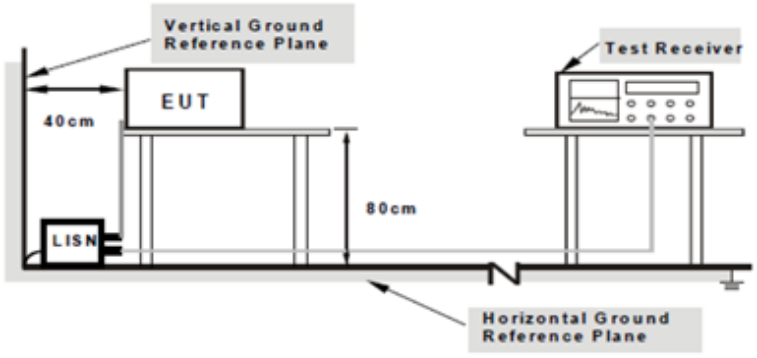
Emissions		
Test Item	**Description**	**Uncertainty**
Band Edge and Radiated Spurious Emissions	Confidence level of approximately 95% (in the case where distributions are normal), with a coverage factor of 2 (for EUTs < 0.5m X 0.5m X 0.5m)	+5.6dB/-4.5dB
-	-	-

6. Measurements, Examination And Derived Results

6.1 AC Power Line Conducted Emissions

Temperature	23°C
Relative Humidity	54%
Atmospheric Pressure	1010mbar
Test date :	June 01, 2015
Tested By :	Lucifer He

Requirement(s):

<table>
<tr><th>Spec</th><th>Item</th><th>Requirement</th><th>Applicable</th></tr>
<tr><td>47CFR§15.107</td><td>a)</td><td>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>
</td><td>☑</td></tr>
<tr><td>Test Setup</td><td colspan="3"> 

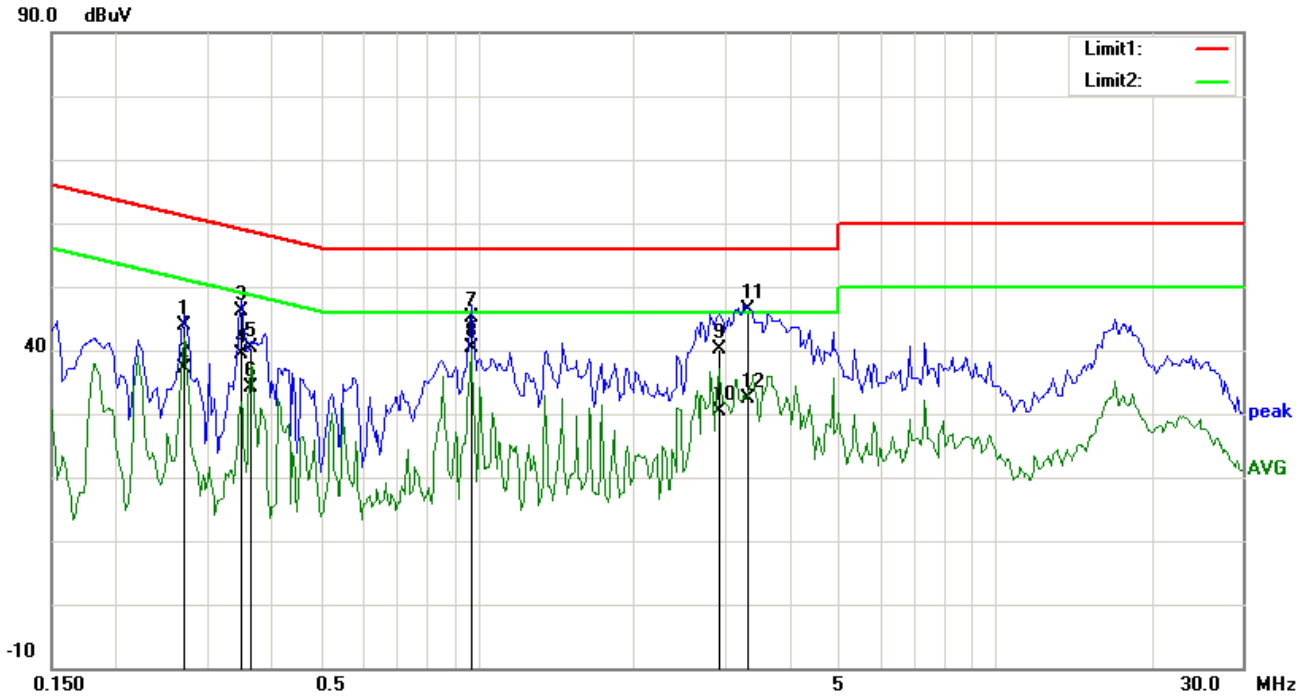
Note: 1.Support units were connected to second LISN.
2.Both of LISNs (AMN) are 80cm from EUT and at least 80cm from other units and other metal planes support units.</td></tr>
<tr><td>Procedure</td><td colspan="3">1. The EUT and supporting equipment were set up in accordance with the requirements of the standard on top of a 1.5m x 1m x 0.8m high, non-metallic table.
2. The power supply for the EUT was fed through a 50W/50mH EUT LISN, connected to filtered mains.</td></tr>
</table>

	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:	Playing music with PC

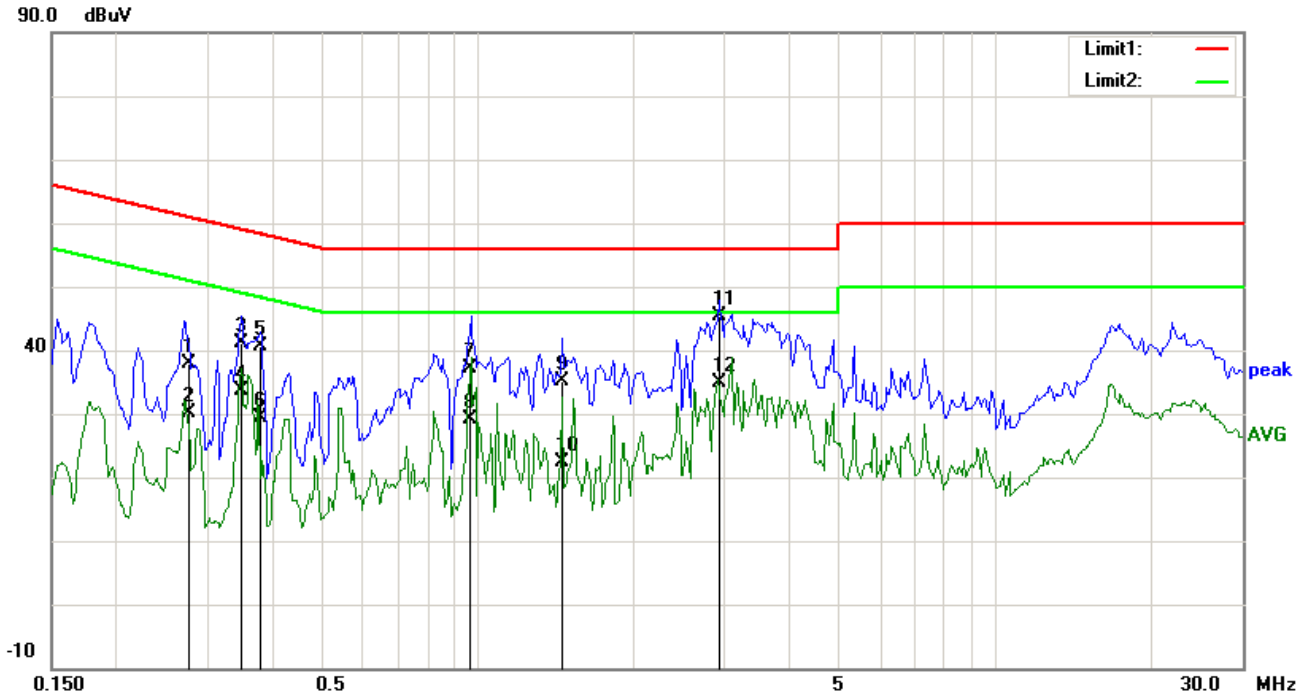


Test Data

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	0.2711	31.17	QP	12.75	43.92	61.08	-17.16	
2	L1	0.2711	24.30	AVG	12.75	37.05	51.08	-14.03	
3	L1	0.3492	33.68	QP	12.46	46.14	58.98	-12.84	
4	L1	0.3492	26.84	AVG	12.46	39.30	48.98	-9.68	
5	L1	0.3648	28.01	QP	12.40	40.41	58.62	-18.21	
6	L1	0.3648	21.62	AVG	12.40	34.02	48.62	-14.60	
7	L1	0.9742	33.78	QP	11.43	45.21	56.00	-10.79	
8	L1	0.9742	29.00	AVG	11.43	40.43	46.00	-5.57	
9	L1	2.9307	28.65	QP	11.40	40.05	56.00	-15.95	
10	L1	2.9307	18.91	AVG	11.40	30.31	46.00	-15.69	
11	L1	3.3086	34.86	QP	11.40	46.26	56.00	-9.74	
12	L1	3.3086	20.91	AVG	11.40	32.31	46.00	-13.69	

Test Mode2:	Playing music with PC



Test Data

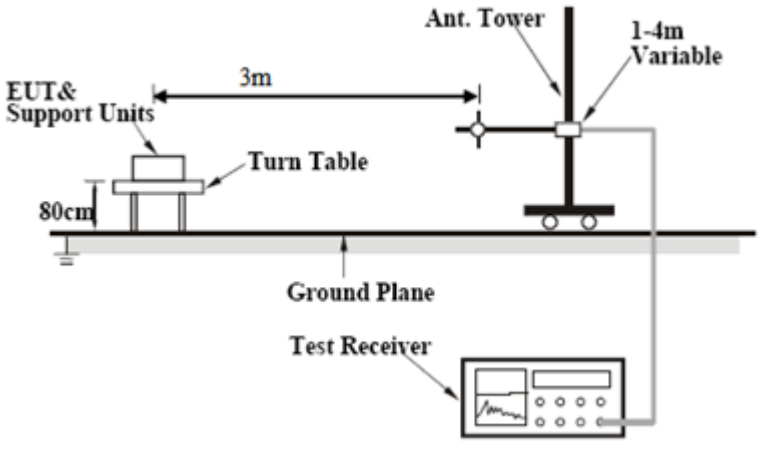
Phase Neutral Plot at 120Vac, 60Hz

No.	P/L	Frequency	Reading	Detector	Corrected	Result	Limit	Margin	Comment
		(MHz)	(dBuV)		(dB}	(dBuV)	(dBuV)	(dB)	
1	N	0.2759	25.04	QP	12.73	37.77	60.94	-23.17	
2	N	0.2759	17.47	AVG	12.73	30.20	50.94	-20.74	
3	N	0.3492	28.67	QP	12.46	41.13	58.98	-17.85	
4	N	0.3492	21.28	AVG	12.46	33.74	48.98	-15.24	
5	N	0.3805	28.30	QP	12.34	40.64	58.27	-17.63	
6	N	0.3805	16.97	AVG	12.34	29.31	48.27	-18.96	
7	N	0.9633	25.67	QP	11.44	37.11	56.00	-18.89	
8	N	0.9633	17.76	AVG	11.44	29.20	46.00	-16.80	
9	N	1.4703	23.65	QP	11.46	35.11	56.00	-20.89	
10	N	1.4703	10.81	AVG	11.46	22.27	46.00	-23.73	
11	N	2.9307	33.74	QP	11.64	45.38	56.00	-10.62	
12	N	2.9307	23.28	AVG	11.64	34.92	46.00	-11.08	

6.2 Radiated Emissions

Temperature	23°C
Relative Humidity	54%
Atmospheric Pressure	1010mbar
Test date :	June 0, 2015
Tested By :	Lucifer He

Requirement(s):

<table>
<tr><th>Spec</th><th>Item</th><th>Requirement</th><th>Applicable</th></tr>
<tr><td>47CFR§15.
107(d)</td><td>a)</td><td>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
<table>
<tr><th>Frequency range (MHz)</th><th>Field Strength (μV/m)</th></tr>
<tr><td>30 – 88</td><td>100</td></tr>
<tr><td>88 – 216</td><td>150</td></tr>
<tr><td>216 960</td><td>200</td></tr>
<tr><td>Above 960</td><td>500</td></tr>
</table></td><td>☑</td></tr>
<tr><td>Test Setup</td><td colspan="3"> 
</td></tr>
<tr><td>Procedure</td><td colspan="3">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 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:
a. Vertical or horizontal polarization (whichever gave the higher emission level</td></tr>
</table>

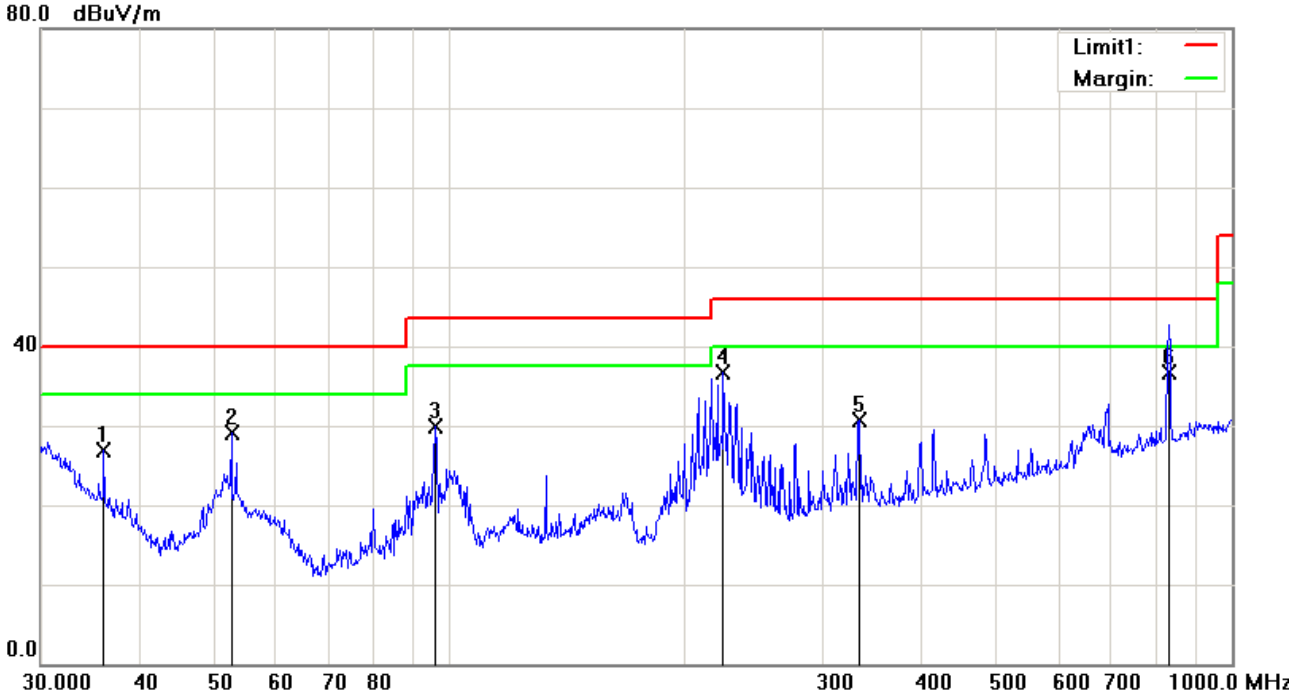
	over a full rotation of the EUT) was chosen. b. The EUT was then rotated to the direction that gave the maximum emission. c. Finally, the antenna height was adjusted to the height that gave the maximum emission. 3. The resolution bandwidth and video bandwidth of test receiver/spectrum analyzer is 120 kHz for Quasiy 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:	Playing music with PC

B Below 1GHz



Test Data

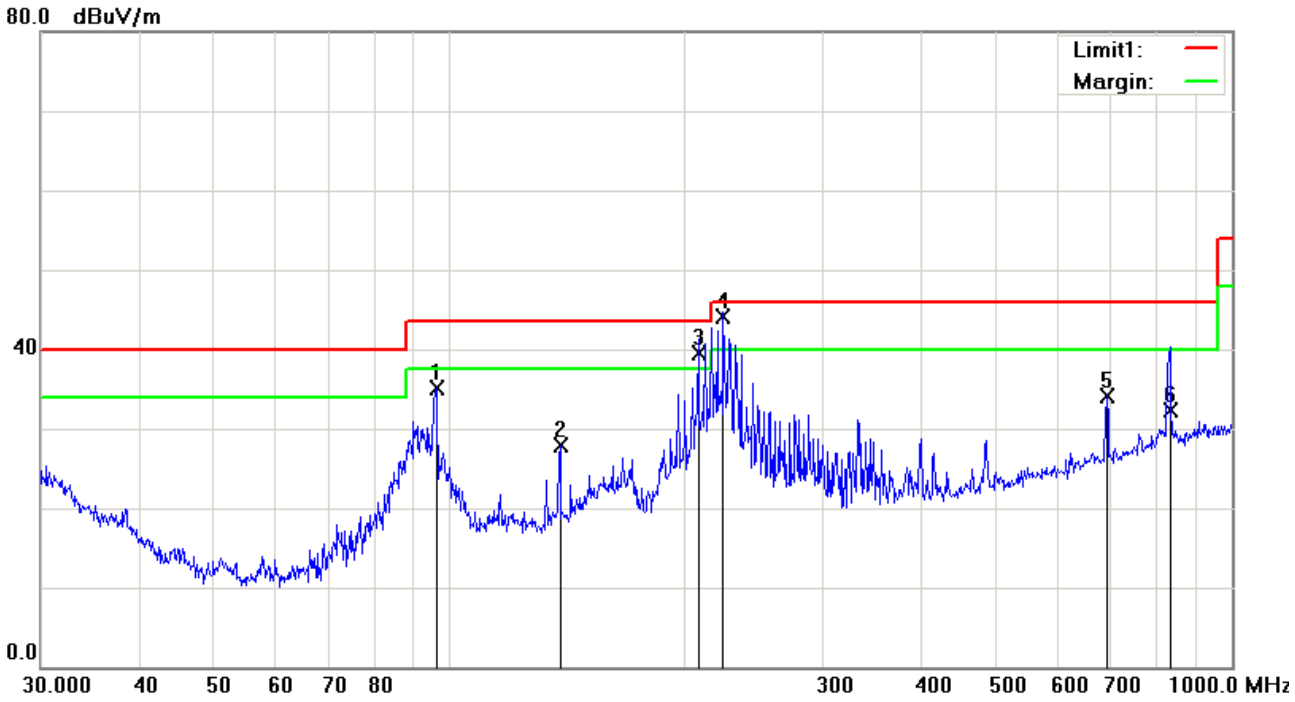
Horizontal Polarity Plot @3m

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	36.1272	31.71	peak	-4.76	26.95	40.00	-13.05	100	229	
2	H	52.5753	42.63	peak	-13.48	29.15	40.00	-10.85	112	360	
3	H	95.7622	41.78	peak	-11.93	29.85	43.50	-13.65	200	96	
4	H	223.7334	45.74	peak	-8.95	36.79	46.00	-9.21	200	205	
5	H	333.6867	36.55	peak	-5.93	30.62	46.00	-15.38	100	191	
6	H	830.9339	33.10	QP	3.57	36.67	46.00	-9.33	200	213	

Above 1GHz

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

Below 1GHz



Test Data

Horizonta 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	96.0986	47.00	peak	-11.84	35.16	43.50	-8.34	200	165	
2	H	138.3873	36.26	peak	-8.45	27.81	43.50	-15.69	200	221	
3	H	207.9960	48.27	QP	-8.81	39.46	43.50	-4.04	200	152	
4	H	223.9951	52.99	QP	-8.96	44.03	46.00	-1.97	100	141	
5	H	691.9867	32.90	peak	1.28	34.18	46.00	-11.82	200	124	
6	H	833.0214	28.66	QP	3.60	32.26	46.00	-13.74	200	236	

Above 1GHz

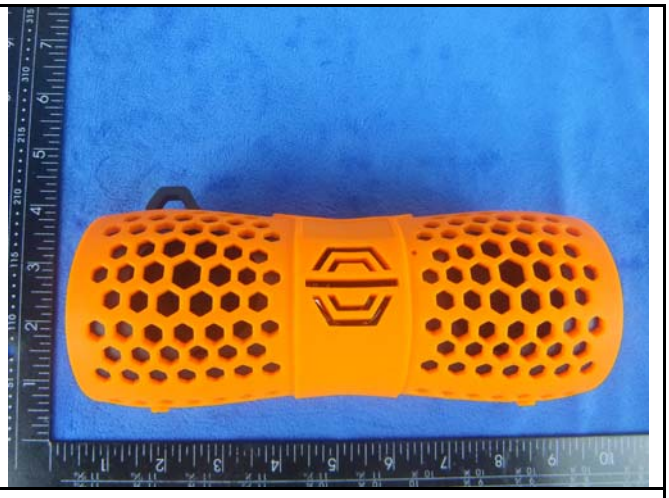
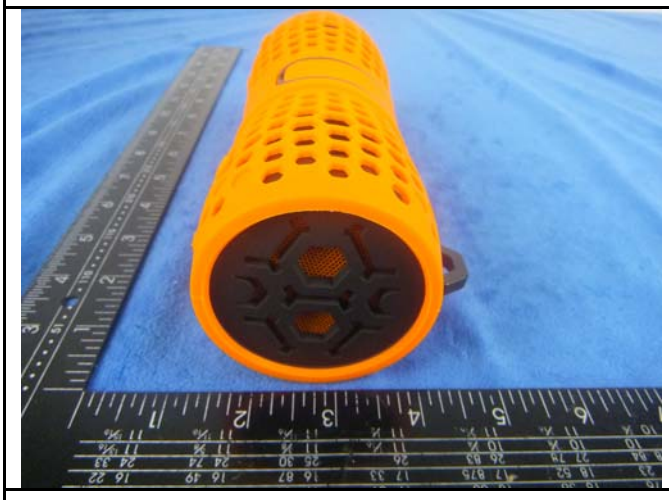
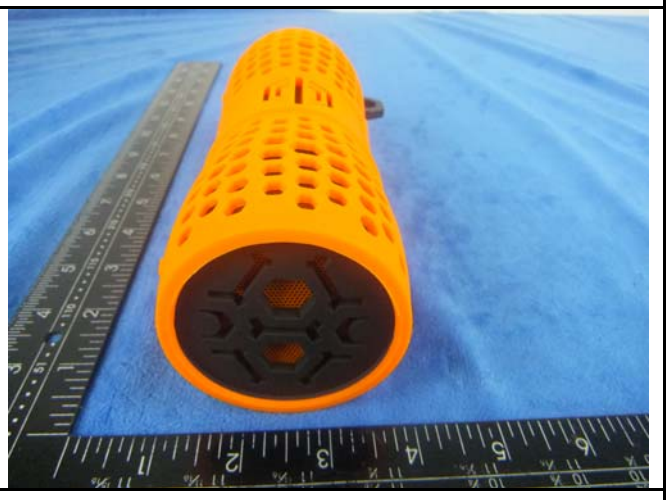
Note: The frequency that above 1GHz is mainly from the environment noise.

Annex A. TEST INSTRUMENT

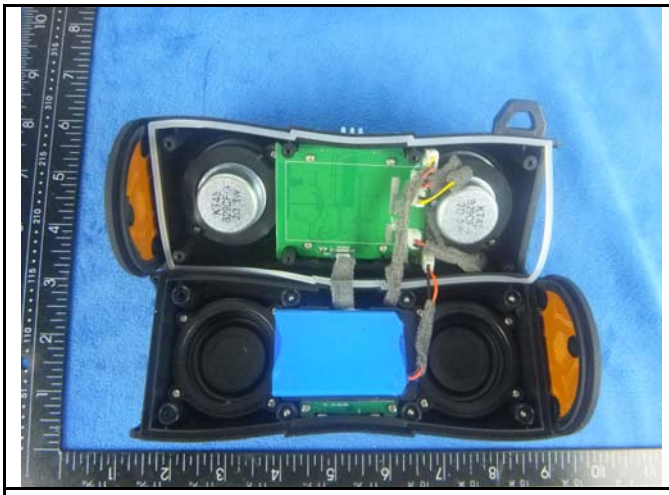
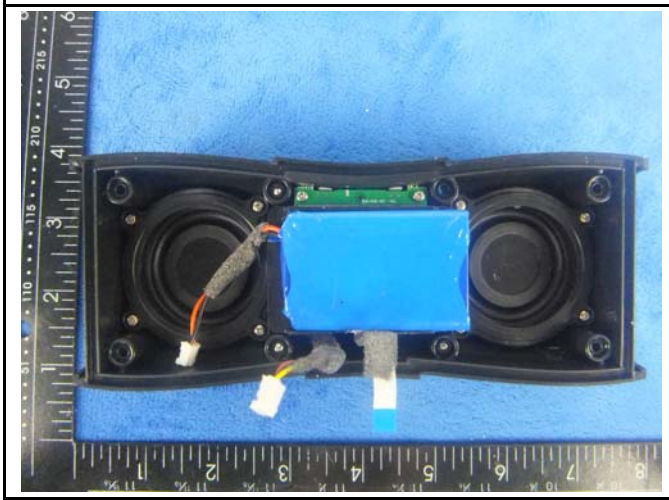
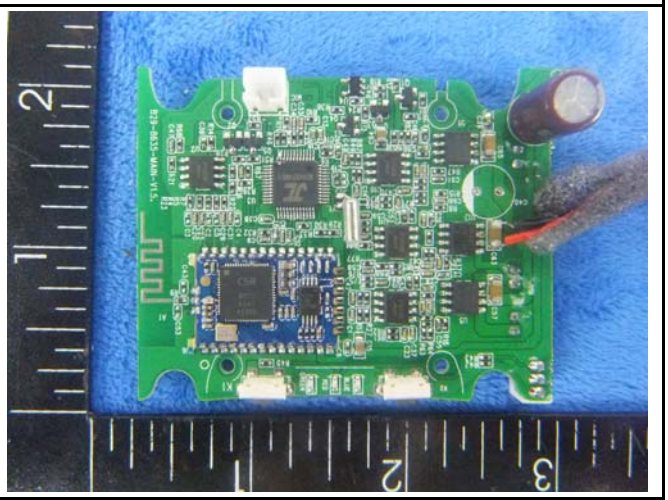
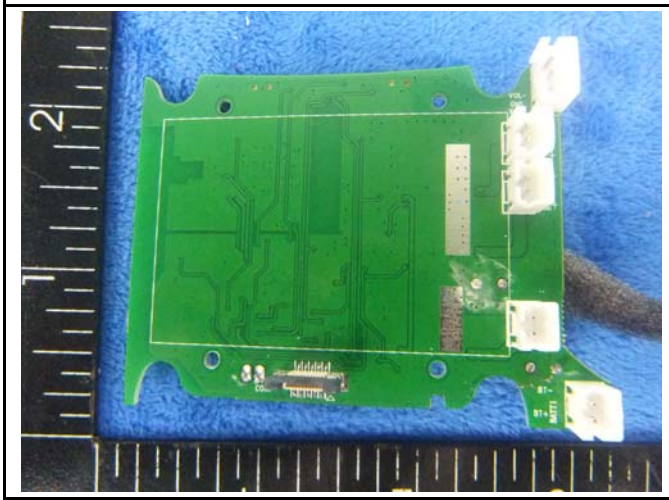
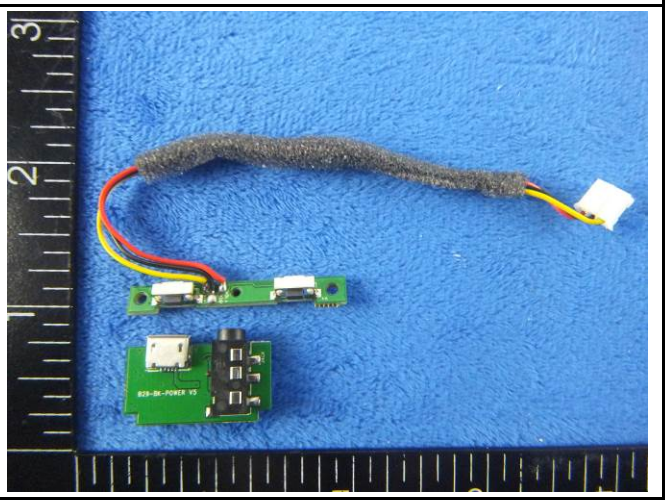
Instrument	Model	Serial #	Cal Date	Cal Due	In use
AC Line Conducted Emissions					
EMI test receiver	ESCS30	8471241027	09/18/2014	09/17/2015	☑
Line Impedance Stabilization Network	LI-125A	191106	09/26/2014	09/25/2015	☑
Line Impedance Stabilization Network	LI-125A	191107	09/26/2014	09/25/2015	☑
LISN	ISN 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	☑

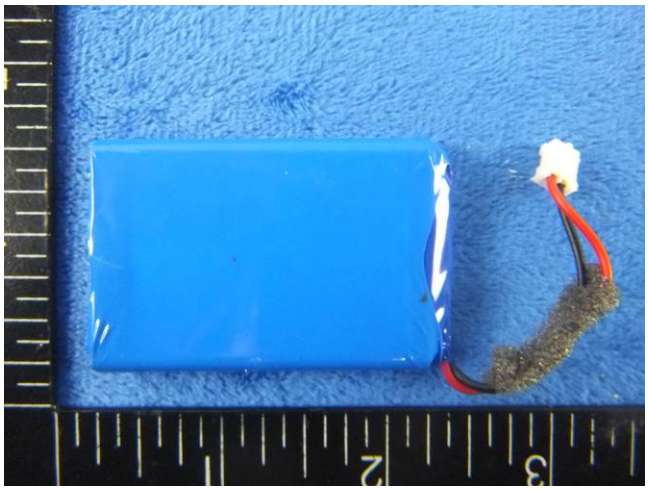
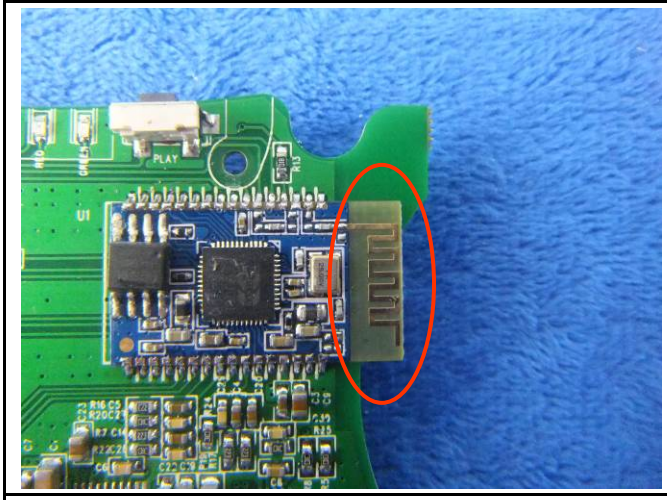
Annex B. EUT And Test Setup Photographs

Annex B.i. Photograph: EUT External Photo

<table>
<tr><td>  </td><td>  </td></tr>
<tr><td>Whole Package - Top View</td><td>EUT - Front View</td></tr>
<tr><td>  </td><td>  </td></tr>
<tr><td>EUT - Top View</td><td>EUT - Bottom View</td></tr>
</table>

Annex B.ii. Photograph: EUT Internal Photo

	
Cover Off - Top View	Cover Off - Bottom View1
	
Cover Off - Bottom Vie2	Mainborad With Shielding - Front View
	
Mainborad Without Shielding - Rear View	Usb connect board View

	
Battery – Front View	Battery - Rear View
	
BT Antenna View	

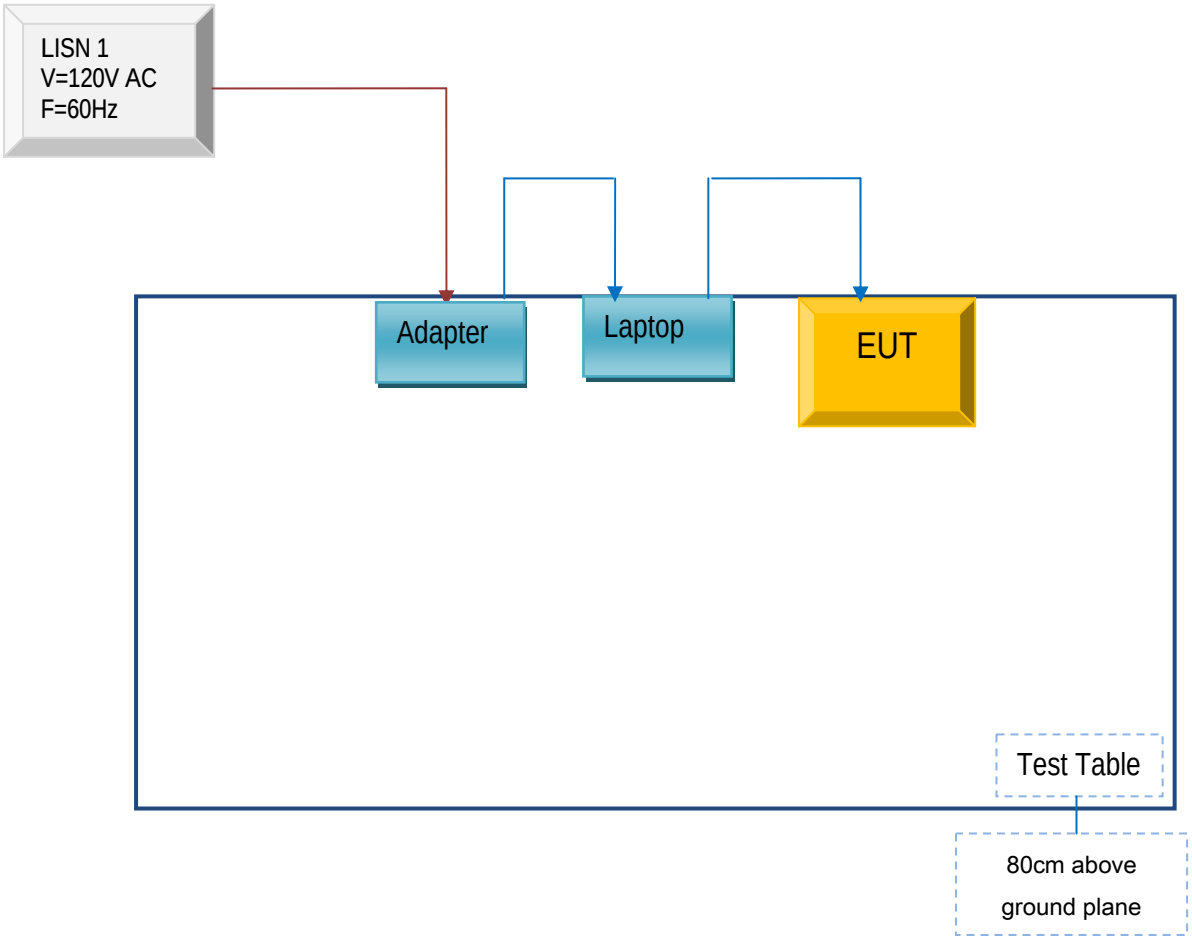
Annex B.iii. Photograph: Test Setup Photo

	
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

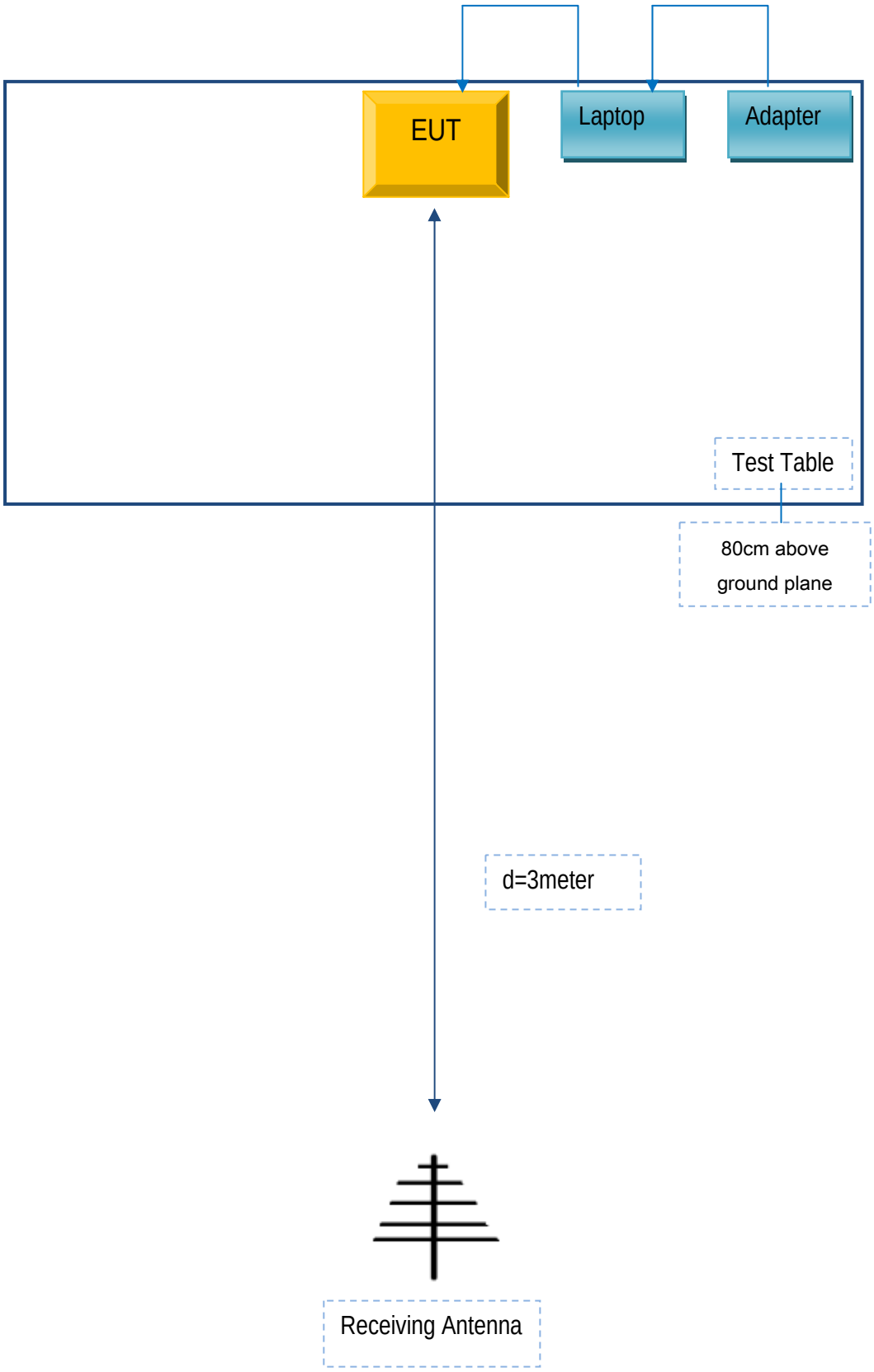
Annex C. TEST SETUP AND SUPPORTING EQUIPMENT

Annex C.ii. TEST SET UP BLOCK

Block Configuration Diagram for Conducted Emissions



Block Configuration Diagram for Radiated Emissions



Annex C. il. 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

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

Please see Attachment

Annex E. DECLARATION OF SIMILARITY

Worldlinks Communications, L.L.C.

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

Authorization Letter

Dear Sir,

We declare that the difference between BTS200 and BTS100(**FCC ID: 2ADNIBTS100**) is BTS200 is one more louderspeaker than BTS100.

Thank you!

Signature:

Elie Maloof

Printed name/title: Elie Maloof / Manager

Address: 270 Center Drive Suite 230, Vernon Hills, IL. 60061