EMC TEST REPORT

SIEMIC
GLOBAL TESTING & CERTIFICATIONS
YOUR CHOICE FOR- TCB FCB CB NB CAB RCB

Report No.: 15070325-FCC-E1

Supersede Report No.: N/A

Applicant	JIANGSU SHUANGSHUANG TECHNOLOGY CO.,LTD
Product Name	tablet
Model No.	TQ10A11
Serial No.	/
Test Standard	FCC Part 15 Subpart B Class B:2014, ANSI C63.4: 2014
Test Date	April 25 to May 28, 2015
Issue Date	May 29, 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

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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
15070325-FCC-E1	NONE	Original	May 29, 2015

2. Customer information

Applicant Name	JIANGSU SHUANGSHUANG TECHNOLOGY CO.,LTD
Applicant Add	No.188,West Coastal Road，Haian County，Jiangsu Province,P,R.China.
Manufacturer	JIANGSU SHUANGSHUANG HIGH TECHNOLOGY CO.,LTE
Manufacturer Add	No.188,West Coastal Road，Haian County，Jiangsu Province,P,R.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:	tablet
Main Model:	TQ10A11
Serial Model:	/
Date EUT received:	April 24, 2015
Test Date(s):	April 25 to May 28, 2015
Equipment Category :	JBC
Antenna Gain:	Bluetooth: 2dBi WIFI: 2dBi
Type of Modulation:	802.11b/g/n: DSSS, OFDM Bluetooth: GFSK, π /4DQPSK, 8DPSK
RF Operating Frequency (ies):	WIFI:802.11b/g/n(20M): 2412-2462 MHz WIFI:802.11n(40M): 2422-2452 MHz Bluetooth: 2402-2480 MHz
Number of Channels:	WIFI :802.11b/g/n(20M): 11CH WIFI :802.11n(40M): 7CH Bluetooth: 79CH
Port:	Power Port, Earphone Port, USB Port
Input Power:	Battery: Model: / Spec: 3.7V Adapter: Model: PS10E050K2000UU Input: AC 100-240V; 50/60Hz 0.35A Max Output: DC 5.0V; 2A

Trade Name : /

FCC ID: 2ABDT-TQ10A11

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

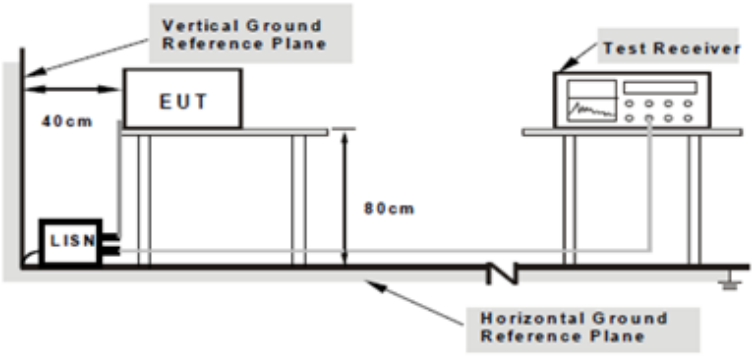
Emissions		
Test Item	**Description**	**Uncertainty**
Band Edge and Radiated Spurious Emissions	Confidence level of approximately 95% (in the case where distributions are normal), with a coverage factor of 2 (for EUTs < 0.5m X 0.5m X 0.5m)	+5.6dB/-4.5dB
-	-	-

6. Measurements, Examination And Derived Results

6.1 AC Power Line Conducted Emissions

Temperature	21°C
Relative Humidity	56%
Atmospheric Pressure	1016mbar
Test date :	May 26, 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"> 

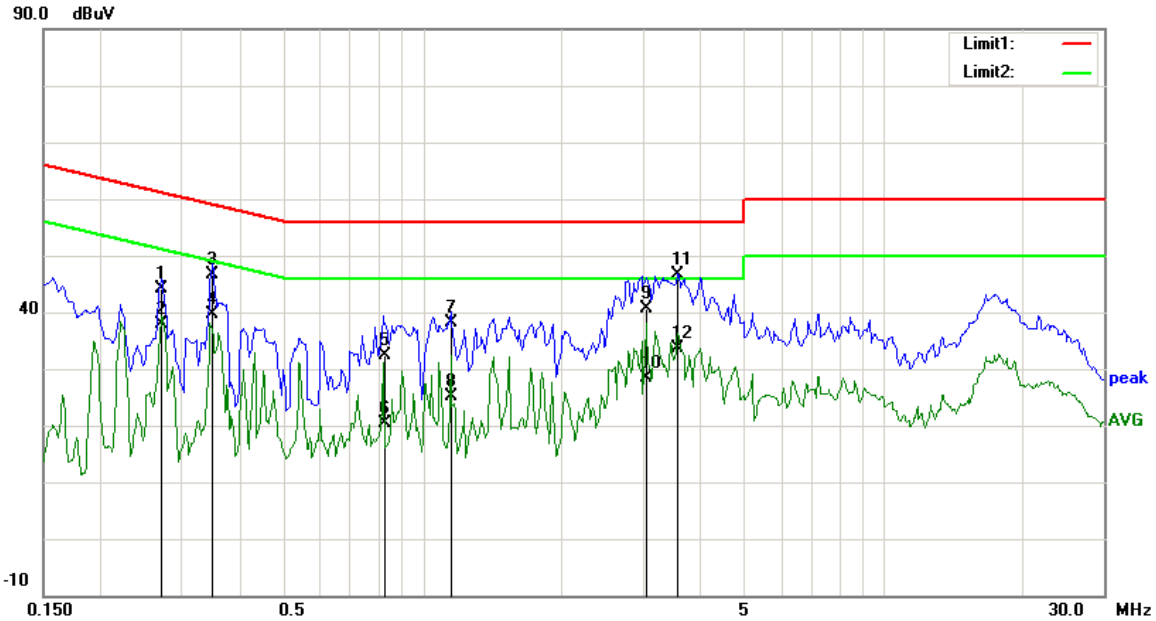
Note: 1.Support units were connected to second LISN.
2.Both of LISNs (AMN) are 80cm from EUT and at least 80cm from other units and other metal planes support units.</td></tr>
<tr><td>Procedure</td><td colspan="3">1. The EUT and supporting equipment were set up in accordance with the requirements of 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:	USB Mode

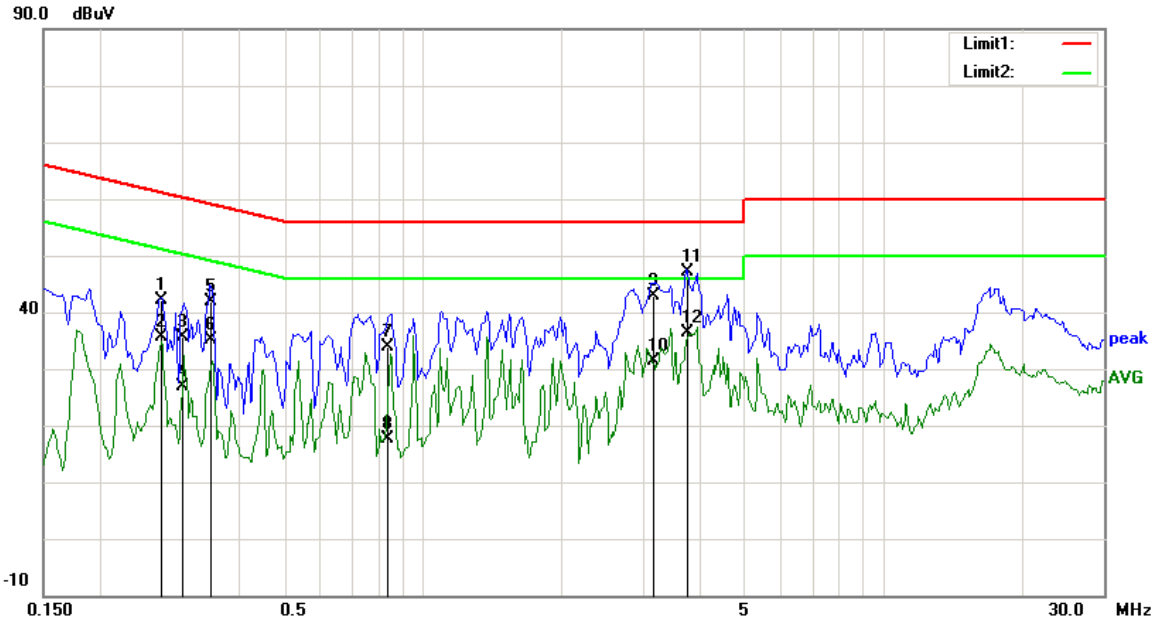


Test Data

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	31.49	QP	12.75	44.24	61.08	-16.84	
2	L1	0.2711	25.10	AVG	12.75	37.85	51.08	-13.23	
3	L1	0.3492	34.06	QP	12.46	46.52	58.98	-12.46	
4	L1	0.3492	27.09	AVG	12.46	39.55	48.98	-9.43	
5	L1	0.8297	20.72	QP	11.57	32.29	56.00	-23.71	
6	L1	0.8297	8.82	AVG	11.57	20.39	46.00	-25.61	
7	L1	1.1539	26.82	QP	11.40	38.22	56.00	-17.78	
8	L1	1.1539	13.83	AVG	11.40	25.23	46.00	-20.77	
9	L1	3.0576	29.16	QP	11.40	40.56	56.00	-15.44	
10	L1	3.0576	16.98	AVG	11.40	28.38	46.00	-17.62	
11	L1	3.5781	35.13	QP	11.40	46.53	56.00	-9.47	
12	L1	3.5781	22.24	AVG	11.40	33.64	46.00	-12.36	

Test Mode 1:	USB Mode



Test Data

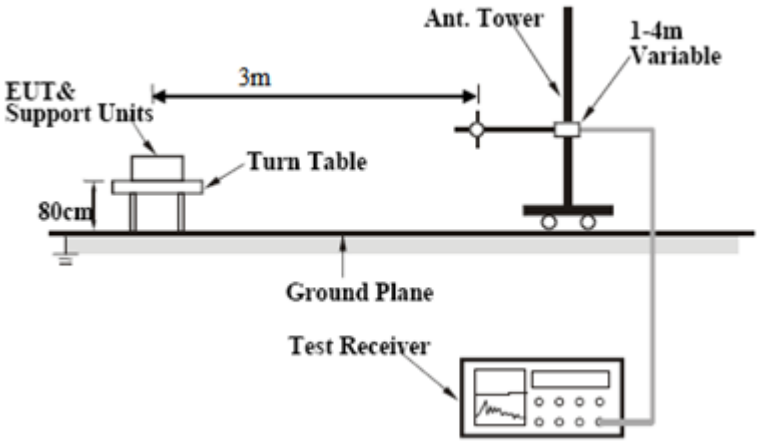
Phase Neutral Plot at 120Vac, 60Hz

No.	P/L	Frequency	Reading	Detector	Corrected	Result	Limit	Margin	Comment
		(MHz)	(dBuV)		(dB}	(dBuV)	(dBuV)	(dB)	
1	N	0.2711	29.32	QP	12.75	42.07	61.08	-19.01	
2	N	0.2711	22.85	AVG	12.75	35.60	51.08	-15.48	
3	N	0.3003	22.96	QP	12.64	35.60	60.23	-24.63	
4	N	0.3003	14.36	AVG	12.64	27.00	50.23	-23.23	
5	N	0.3492	29.36	QP	12.46	41.82	58.98	-17.16	
6	N	0.3492	22.64	AVG	12.46	35.10	48.98	-13.88	
7	N	0.8393	22.37	QP	11.56	33.93	56.00	-22.07	
8	N	0.8393	6.03	AVG	11.56	17.59	46.00	-28.41	
9	N	3.1563	31.11	QP	11.67	42.78	56.00	-13.22	
10	N	3.1563	19.75	AVG	11.67	31.42	46.00	-14.58	
11	N	3.7395	35.39	QP	11.74	47.13	56.00	-8.87	
12	N	3.7395	24.54	AVG	11.74	36.28	46.00	-9.72	

6.2 Radiated Emissions

Temperature	21°C
Relative Humidity	56%
Atmospheric Pressure	1016mbar
Test date :	May 26, 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>

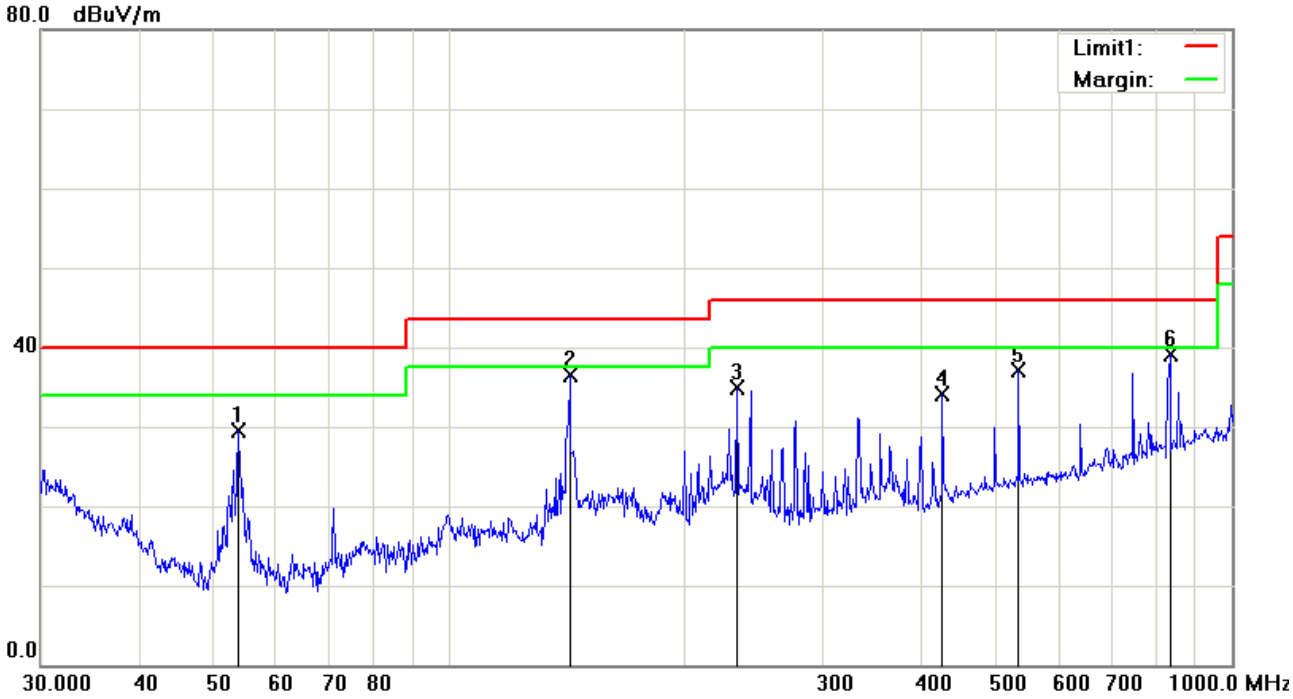
	over a full rotation of the EUT) was chosen. b. The EUT was then rotated to the direction that gave the maximum emission. c. Finally, the antenna height was adjusted to the height that gave the maximum emission. 3. The resolution bandwidth and video bandwidth of test receiver/spectrum analyzer is 120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

Below 1GHz



Test Data

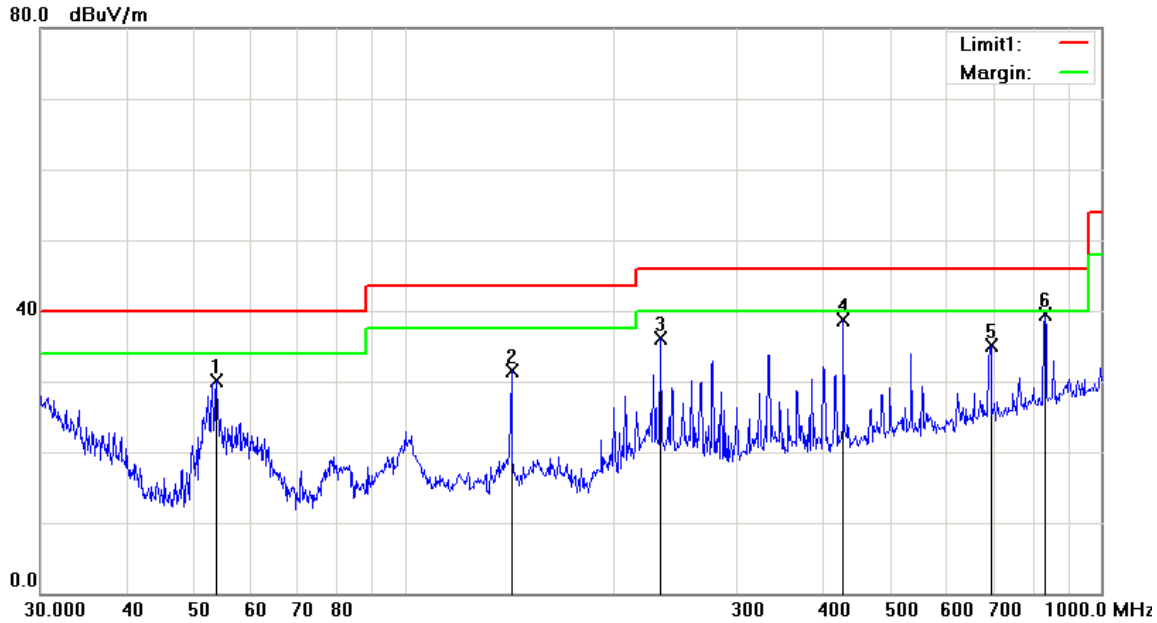
Horizontal Polarity Plot @3m

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	53.6932	43.03	peak	-13.61	29.42	40.00	-10.58	100	162	
2	H	142.3244	44.95	peak	-8.50	36.45	43.50	-7.05	100	128	
3	H	232.5318	43.99	peak	-9.04	34.95	46.00	-11.05	100	132	
4	H	426.5210	37.86	peak	-3.66	34.20	46.00	-11.80	100	199	
5	H	533.8321	38.27	peak	-1.10	37.17	46.00	-8.83	100	312	
6	H	833.3171	35.40	peak	3.61	39.01	46.00	-6.99	100	154	

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	53.6932	43.75	peak	-13.61	30.14	40.00	-9.86	100	246	
2	V	142.3244	39.91	peak	-8.50	31.41	43.50	-12.09	100	198	
3	V	233.3487	45.16	peak	-9.04	36.12	46.00	-9.88	100	209	
4	V	426.5210	42.33	peak	-3.66	38.67	46.00	-7.33	100	153	
5	V	694.4174	33.79	peak	1.32	35.11	46.00	-10.89	100	179	
6	V	830.4002	35.96	peak	3.57	39.53	46.00	-6.47	100	194	

Above 1GHz

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

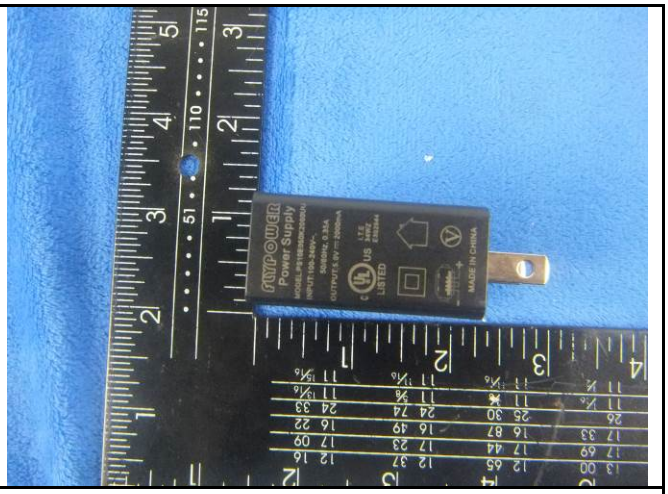
Annex A. TEST INSTRUMENT

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	☑

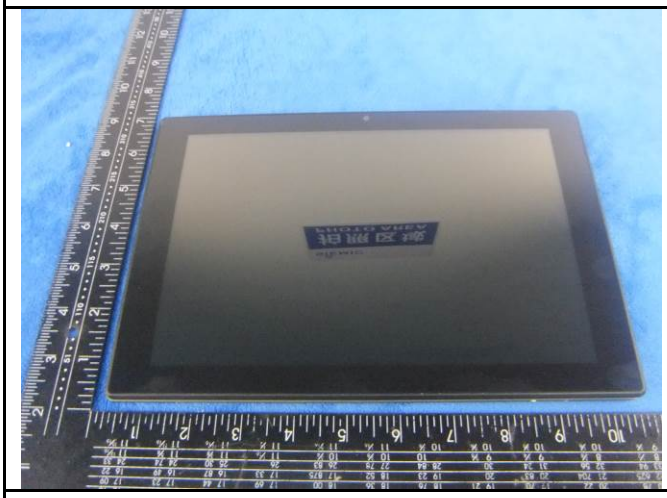
Annex B. EUT And Test Setup Photographs

Annex B.i. Photograph: EUT External Photo

Whole Package - Top View

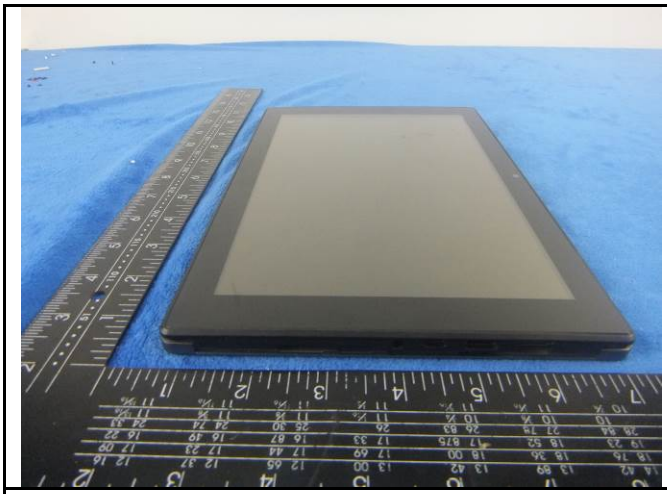


Adapter - Front View

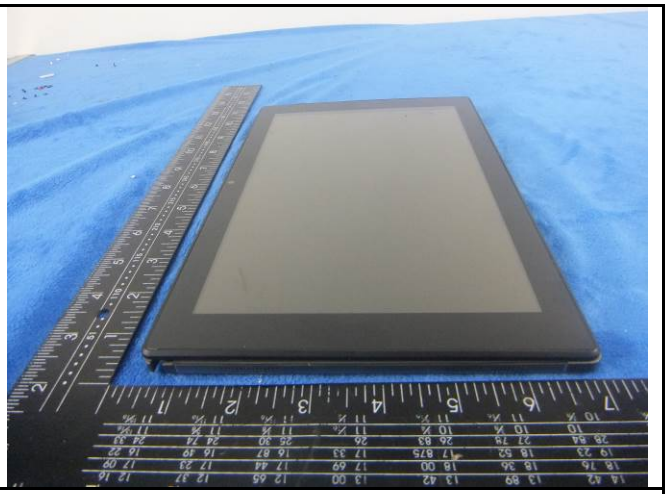


EUT - Front View

EUT - Rear View

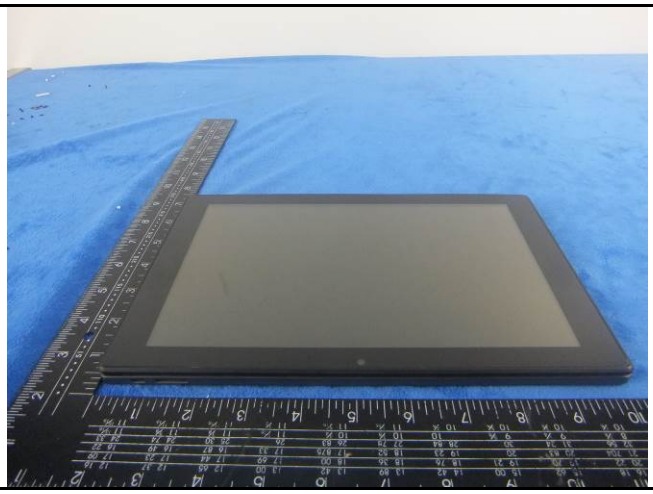


EUT - Top View



EUT - Bottom View

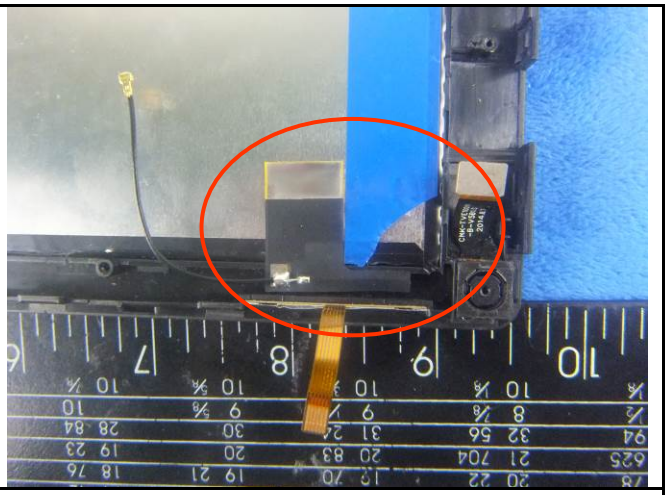
EUT - Left View



EUT - Right View

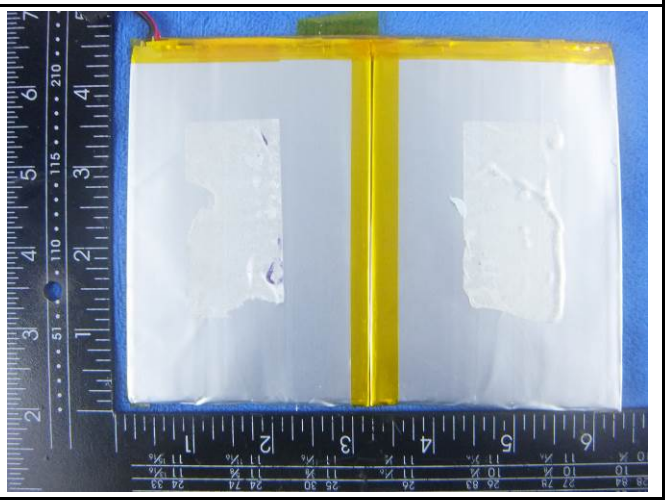
Annex B.ii. Photograph: EUT Internal Photo

Cover Off - Top View 1

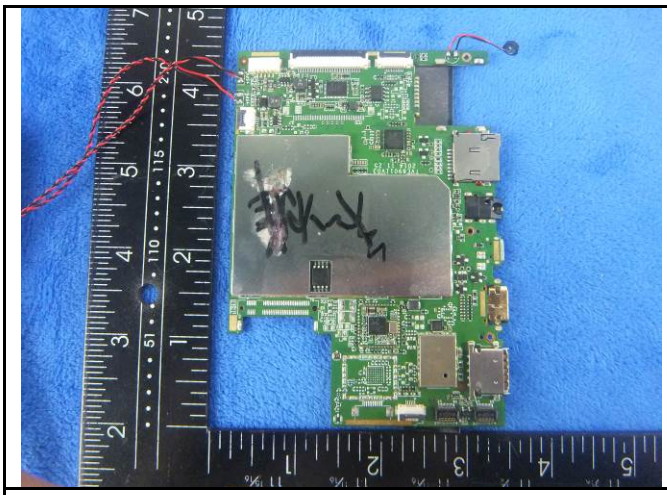


WIFI/BT - Antenna View

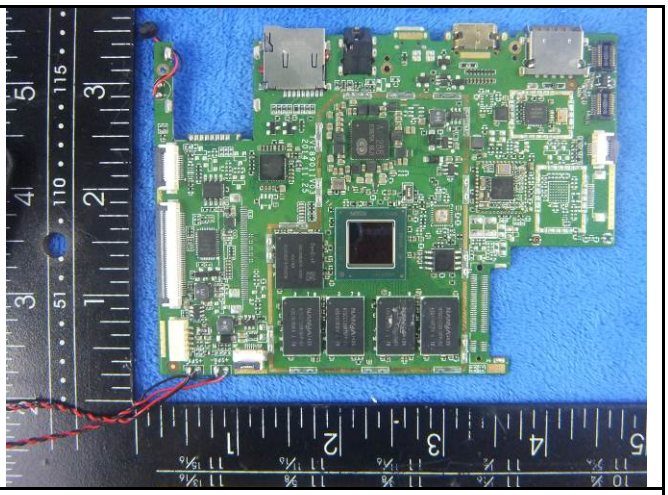
Battery - Top View



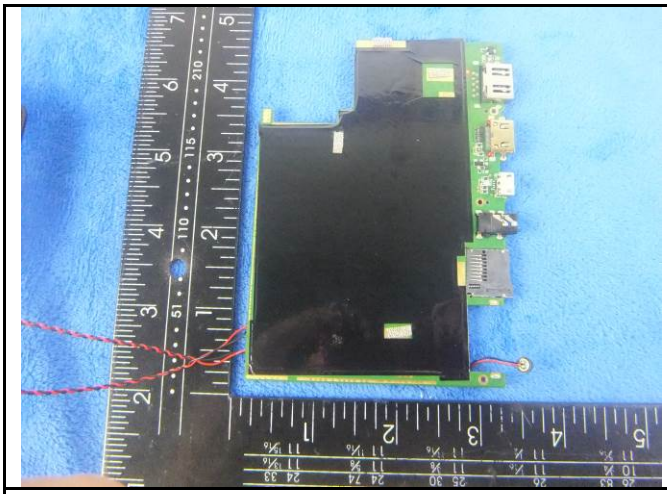
Battery - Bottom View



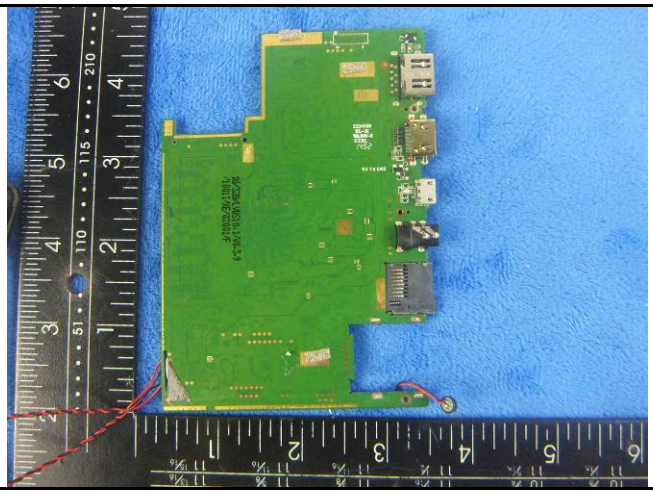
Mainborad With Shielding - Front View



Mainborad Without Shielding - Front View



Mainborad With Shielding - rear View

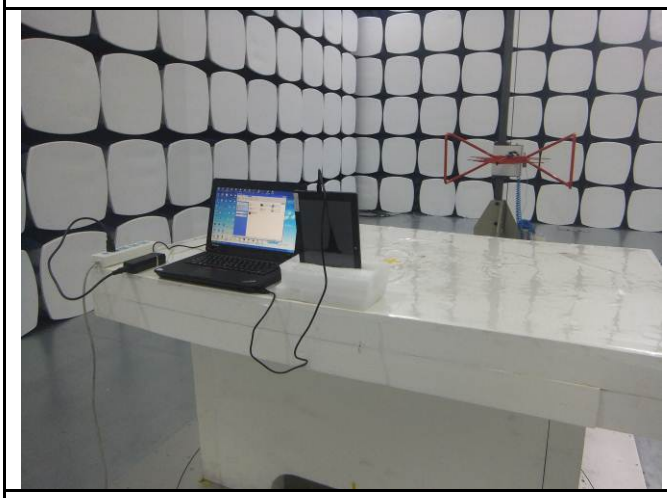
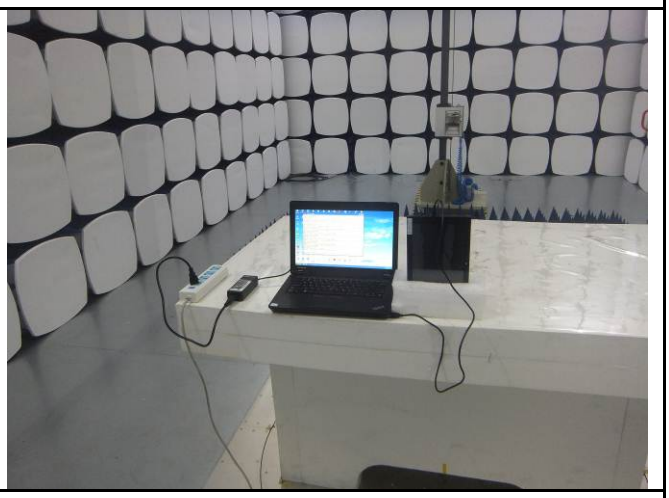


Mainborad Without Shielding - rear View

LCD – Rear View

LCD - Front View

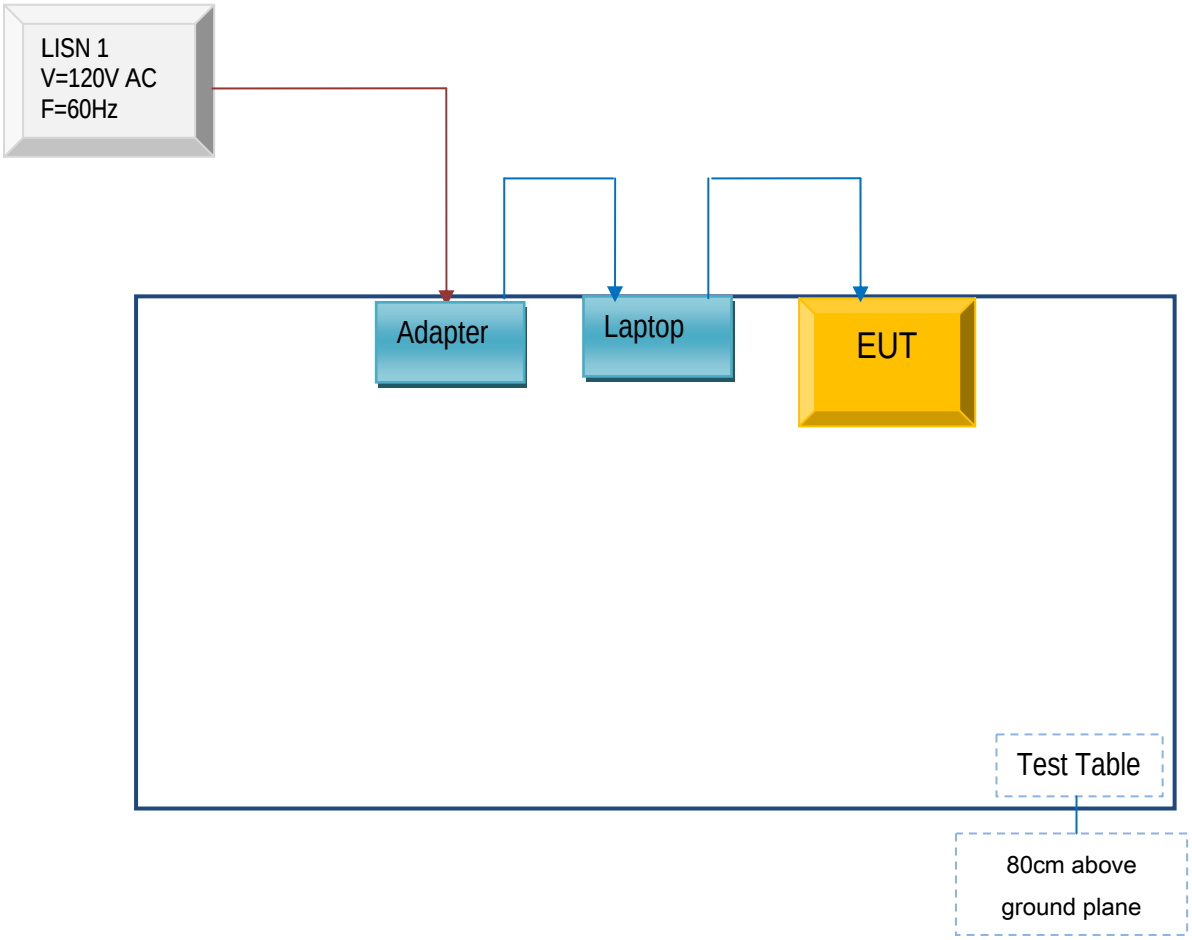
Annex B.iii. Photograph: Test Setup Photo

Conducted Emissions Test Setup – Front View	Conducted Emissions Test Setup – Side View
	
Radiated Spurious Emissions Test Setup Below 1GHz	Radiated Spurious Emissions Test Setup Above 1GHz

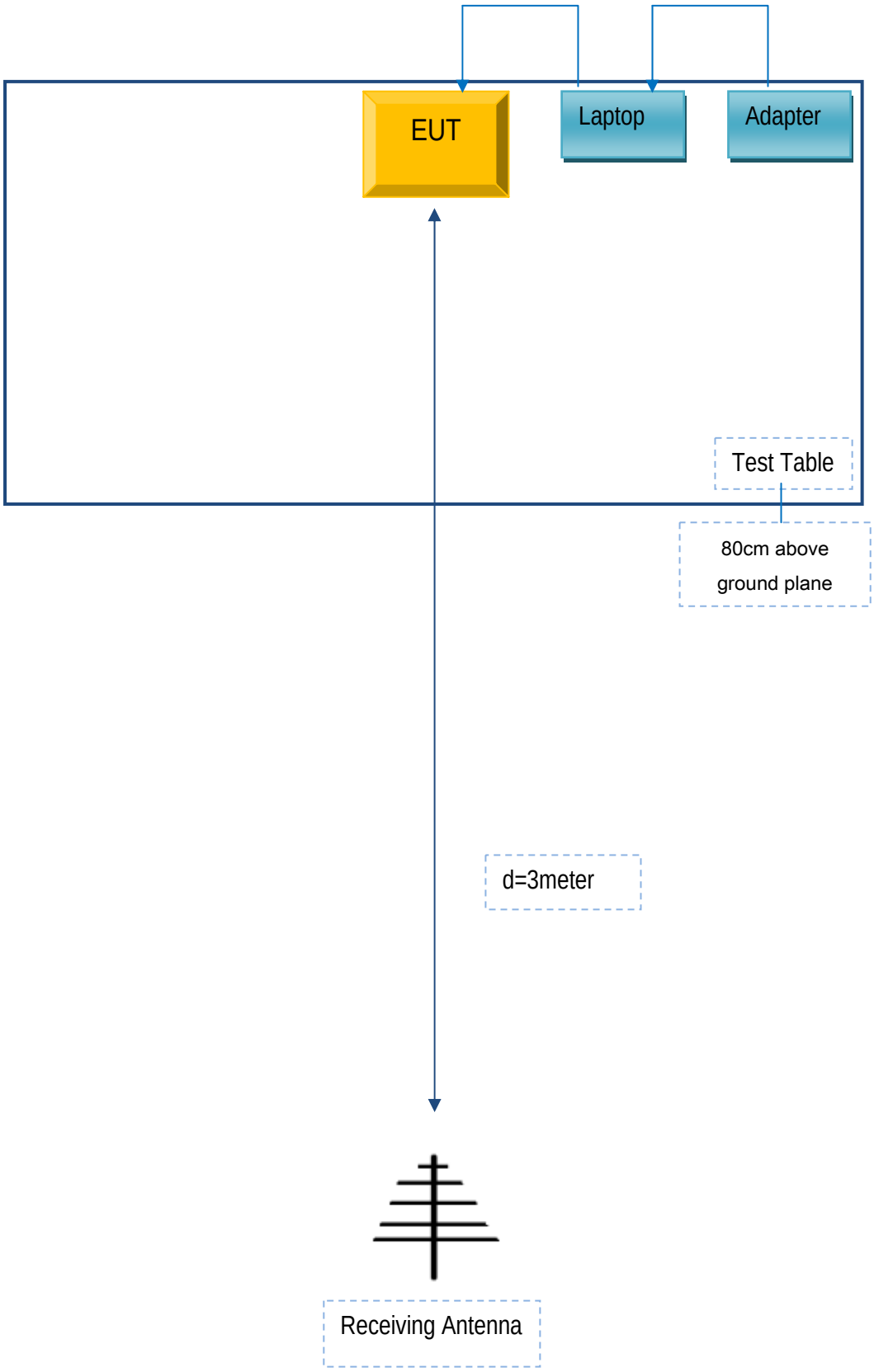
Annex C. TEST SETUP AND SUPPORTING EQUIPMENT

Annex C.ii. TEST SET UP BLOCK

Block Configuration Diagram for Conducted Emissions



Block Configuration Diagram for Radiated Emissions



Annex C. 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

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

Please see Attachment

Annex E. DECLARATION OF SIMILARITY