

EMC TEST REPORT



Report No.: 16070853-FCC-E

Supersede Report No.: N/A

Applicant	Vitek Electronics International Co.,Ltd	
Product Name	GSM Senior phone	
Model No.	RLTP169 -BLACK	
Serial No.	T19, S19Y	
Test Standard	FCC Part 15 Subpart B Class B:2015, ANSI C63.4: 2014	
Test Date	July 15 to 27, 2016	
Issue Date	July 28, 2016	
Test Result	<input checked="" type="checkbox"/> Pass <input type="checkbox"/> Fail	
Equipment complied with the specification <input checked="" type="checkbox"/>		
Equipment did not comply with the specification <input type="checkbox"/>		
Loren Luo 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
16070853-FCC-E	NONE	Original	July 28, 2016

2. Customer information

Applicant Name	Vitek Electronics International Co.,Ltd
Applicant Add	Rm 2202, Leizhen Building, Fuming Rd,Shen Zhen, China
Manufacturer	Shenzhen Vitek Electronics Co., Ltd
Manufacturer Add	Rm 2202, Leizhen Building, Fuming Rd, Futian District, Shen Zhen, 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:	GSM Senior phone
Main Model:	RLTP169 -BLACK
Serial Model:	T19, S19Y
Date EUT received:	July 14, 2016
Test Date(s):	July 15 to 27, 2016
Equipment Category :	Class B
Antenna Gain:	GSM850:0.4dBi PCS1900:1.2dBi
Antenna Type:	PIFA antenna
Type of Modulation:	GSM / GPRS: GMSK
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
Number of Channels:	GSM 850: 124CH PCS1900: 299CH
Port:	Power Port, Earphone Port, USB Port
Input Power:	Adapter: Model: RLTP169-BLACK Input: AC 100-240V~50/60Hz Output: DC 5V,500mA Battery: Spec:3.7V,600mAh,2.22Wh
Trade Name :	RCA, VITEK, VTEX

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GPRS Multi-slot class

8/10/12

FCC ID:

2AI3CRLTP169-BLACK

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	22°C
Relative Humidity	58%
Atmospheric Pressure	1025mbar
Test date :	July 25, 2016
Tested By :	Loren Luo

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	 <p>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.</p>
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Procedure	<ol style="list-style-type: none"> 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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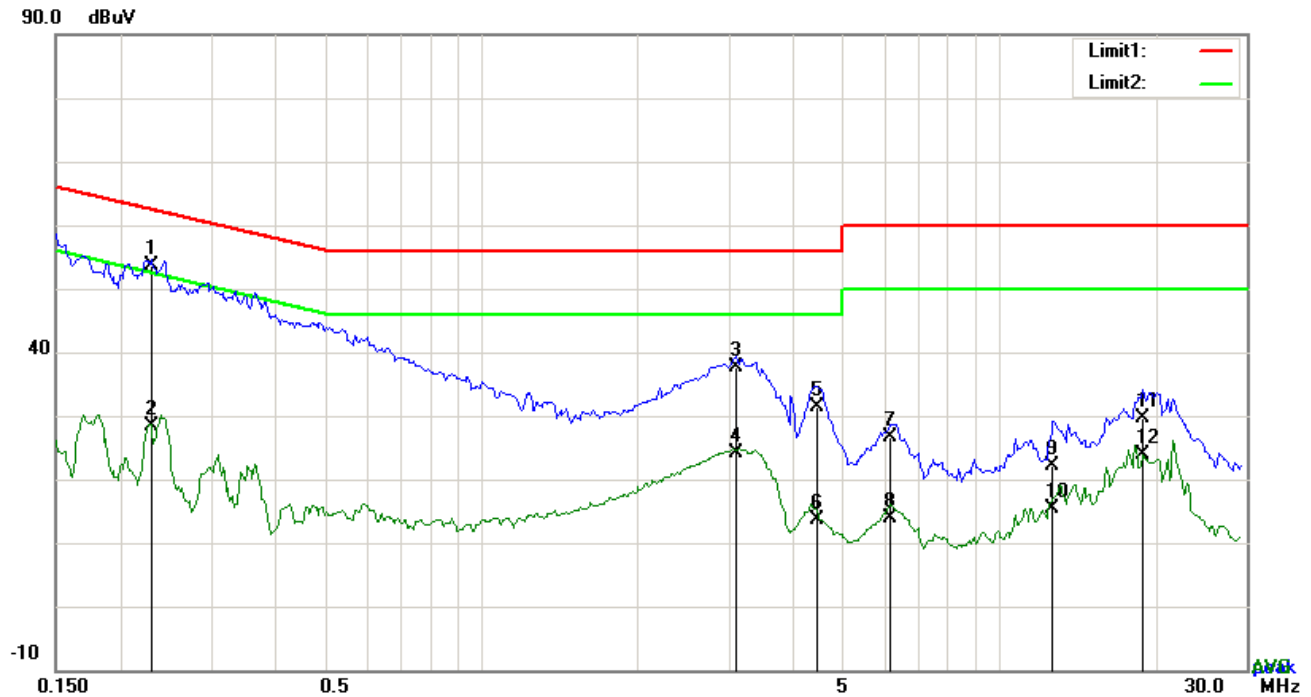
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	<p>3. The RF OUT of the EUT LISN was connected to the EMI test receiver via a low-loss coaxial cable.</p> <p>4. All other supporting equipment were powered separately from another main supply.</p> <p>5. The EUT was switched on and allowed to warm up to its normal operating condition.</p> <p>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.</p> <p>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.</p> <p>8. Step 7 was then repeated for the LIVE line (for AC mains) or DC line (for DC power).</p>
Remark	
Result	<input checked="" type="checkbox"/> Pass <input type="checkbox"/> Fail

Test Data ☒ Yes ☐ N/A

Test Plot ☒ Yes (See below) ☐ N/A

Test Mode: USB Mode

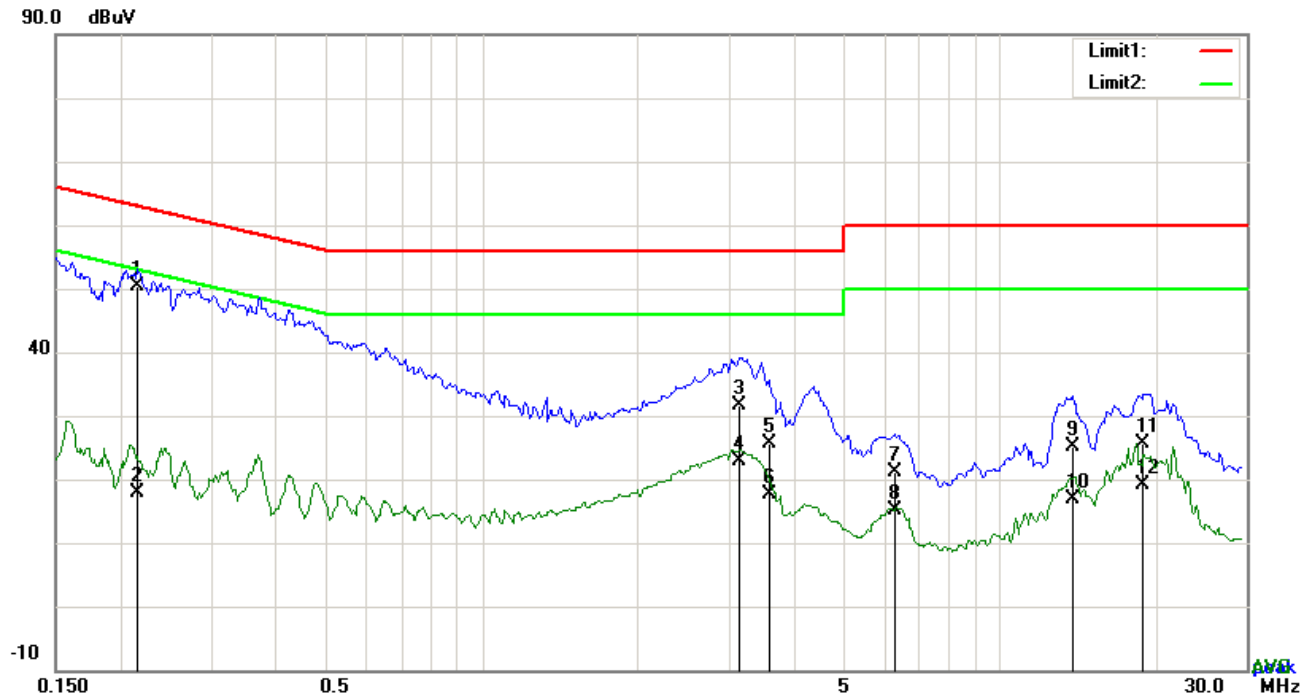


Test Data

Phase Line Plot at 120Vac, 60Hz

No.	P/L	Frequency	Reading	Detector	Corrected	Result	Limit	Margin
		(MHz)	(dBuV)		(dB}	(dBuV)	(dBuV)	(dB)
1	L1	0.2292	43.57	QP	10.03	53.60	62.48	-8.88
2	L1	0.2292	18.42	AVG	10.03	28.45	52.48	-24.03
3	L1	3.0936	27.63	QP	10.06	37.69	56.00	-18.31
4	L1	3.0936	14.02	AVG	10.06	24.08	46.00	-21.92
5	L1	4.4313	21.38	QP	10.07	31.45	56.00	-24.55
6	L1	4.4313	3.51	AVG	10.07	13.58	46.00	-32.42
7	L1	6.1551	16.43	QP	10.10	26.53	60.00	-33.47
8	L1	6.1551	3.90	AVG	10.10	14.00	50.00	-36.00
9	L1	12.6993	11.97	QP	10.19	22.16	60.00	-37.84
10	L1	12.6993	5.31	AVG	10.19	15.50	50.00	-34.50
11	L1	18.9159	19.40	QP	10.28	29.68	60.00	-30.32
12	L1	18.9159	13.59	AVG	10.28	23.87	50.00	-26.13

Test Mode: USB Mode

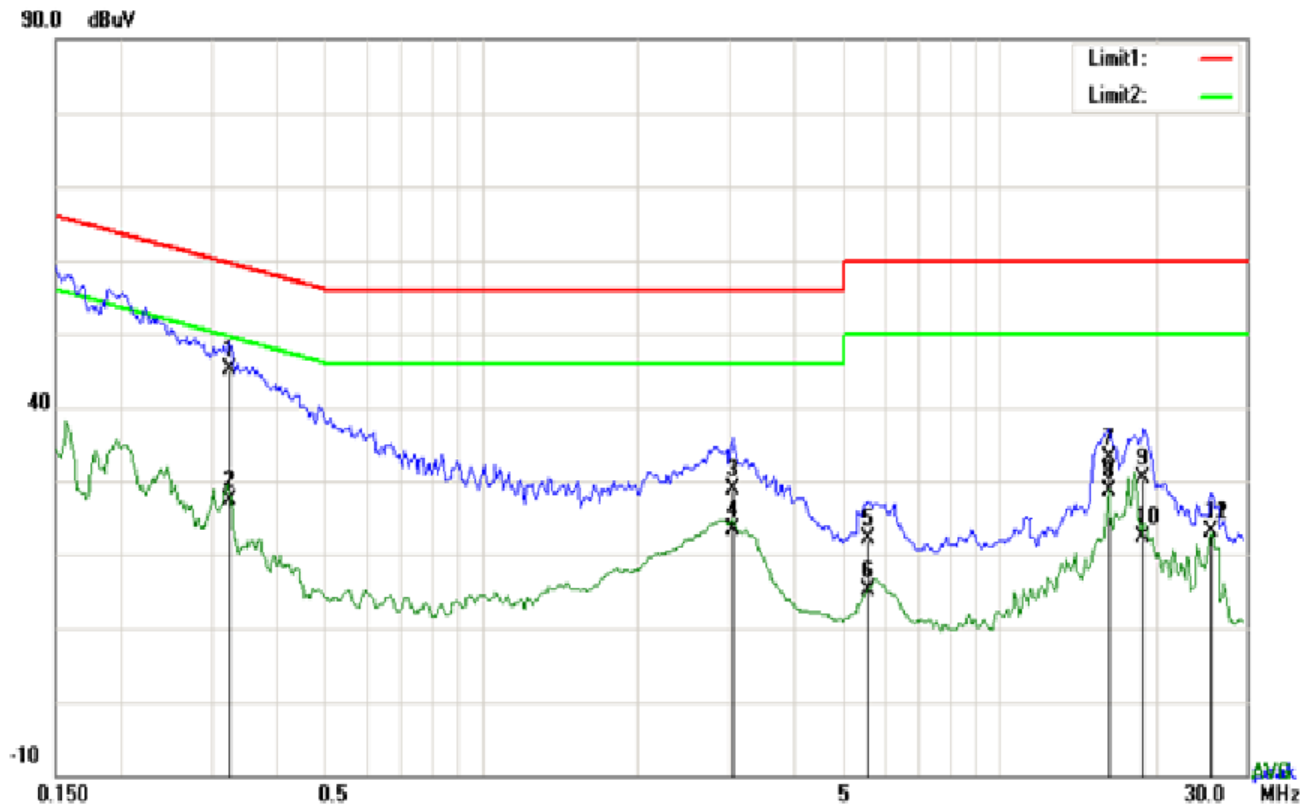


Test Data

Phase Neutral Plot at 120Vac, 60Hz

No.	P/L	Frequency	Reading	Detector	Corrected	Result	Limit	Margin
		(MHz)	(dBuV)		(dB}	(dBuV)	(dBuV)	(dB)
1	N	0.2163	40.43	QP	10.02	50.45	62.96	-12.51
2	N	0.2163	7.98	AVG	10.02	18.00	52.96	-34.96
3	N	3.1521	21.54	QP	10.05	31.59	56.00	-24.41
4	N	3.1521	12.77	AVG	10.05	22.82	46.00	-23.18
5	N	3.5889	15.61	QP	10.06	25.67	56.00	-30.33
6	N	3.5889	7.64	AVG	10.06	17.70	46.00	-28.30
7	N	6.2799	11.10	QP	10.09	21.19	60.00	-38.81
8	N	6.2799	4.92	AVG	10.09	15.01	50.00	-34.99
9	N	13.9044	14.86	QP	10.19	25.05	60.00	-34.95
10	N	13.9044	6.72	AVG	10.19	16.91	50.00	-33.09
11	N	18.9666	15.38	QP	10.25	25.63	60.00	-34.37
12	N	18.9666	8.99	AVG	10.25	19.24	50.00	-30.76

Test Mode: USB Mode

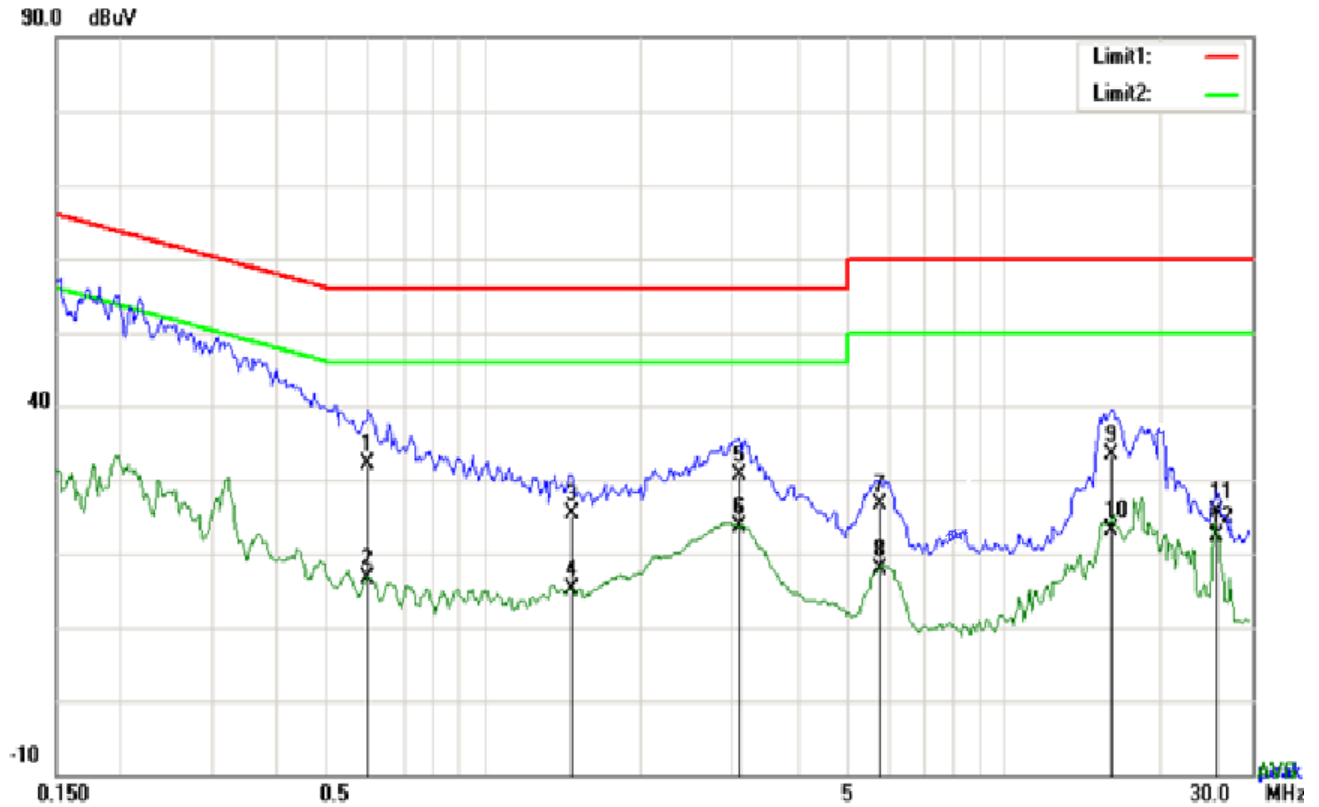


Test Data

Phase Line Plot at 240Vac, 60Hz

No.	P/L	Frequency	Reading	Detector	Corrected	Result	Limit	Margin
		(MHz)	(dBuV)		(dB)	(dBuV)	(dBuV)	(dB)
1	L1	0.3255	35.03	QP	10.03	45.06	59.57	-14.51
2	L1	0.3255	17.24	AVG	10.03	27.27	49.57	-22.30
3	L1	3.0507	18.82	QP	10.06	28.88	56.00	-27.12
4	L1	3.0507	13.40	AVG	10.06	23.46	46.00	-22.54
5	L1	5.5935	12.04	QP	10.09	22.13	60.00	-37.87
6	L1	5.5935	4.95	AVG	10.09	15.04	50.00	-34.96
7	L1	16.2288	22.96	QP	10.24	33.20	60.00	-26.80
8	L1	16.2288	18.50	AVG	10.24	28.74	50.00	-21.26
9	L1	18.9861	20.00	QP	10.28	30.28	60.00	-29.72
10	L1	18.9861	12.18	AVG	10.28	22.46	50.00	-27.54
11	L1	25.6941	12.70	QP	10.41	23.11	60.00	-36.89
12	L1	25.6941	12.60	AVG	10.41	23.01	50.00	-26.99

Test Mode: USB Mode



Test Data

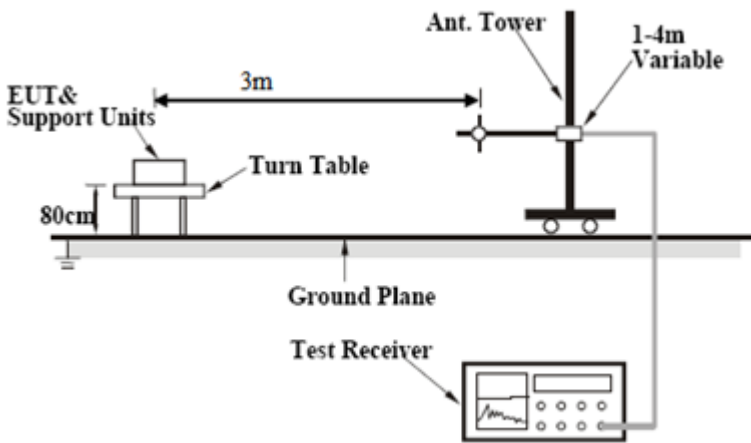
Phase Neutral Plot at 240Vac, 60Hz

No.	P/L	Frequency	Reading	Detector	Corrected	Result	Limit	Margin
		(MHz)	(dBuV)		(dB)	(dBuV)	(dBuV)	(dB)
1	N	0.5985	22.15	QP	10.02	32.17	56.00	-23.83
2	N	0.5985	6.71	AVG	10.02	16.73	46.00	-29.27
3	N	1.4721	15.40	QP	10.03	25.43	56.00	-30.57
4	N	1.4721	5.13	AVG	10.03	15.16	46.00	-30.84
5	N	3.0975	20.58	QP	10.05	30.63	56.00	-25.37
6	N	3.0975	13.50	AVG	10.05	23.55	46.00	-22.45
7	N	5.8041	16.60	QP	10.08	26.68	60.00	-33.32
8	N	5.8041	7.72	AVG	10.08	17.80	50.00	-32.20
9	N	16.0689	23.13	QP	10.21	33.34	60.00	-26.66
10	N	16.0689	12.94	AVG	10.21	23.15	50.00	-26.85
11	N	25.6941	15.19	QP	10.35	25.54	60.00	-34.46
12	N	25.6941	11.98	AVG	10.35	22.33	50.00	-27.67

6.2 Radiated Emissions

Temperature	22°C
Relative Humidity	58%
Atmospheric Pressure	1025mbar
Test date :	July 25, 2016
Tested By :	Loren Luo

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	<div><input checked="" type="checkbox"/></div>										
		<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>		Frequency range (MHz)	Field Strength (µV/m)	30 – 88	100	88 – 216	150	216 960	200	Above 960	500
		Frequency range (MHz)		Field Strength (µV/m)									
		30 – 88		100									
		88 – 216		150									
		216 960		200									
Above 960	500												
Test Setup	<div></div>												
Procedure	<div><div>1.</div><div>The EUT was switched on and allowed to warm up to its normal operating condition.</div><div>2.</div><div>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:</div><div>a.</div><div>Vertical or horizontal polarization (whichever gave the higher emission level</div></div>												

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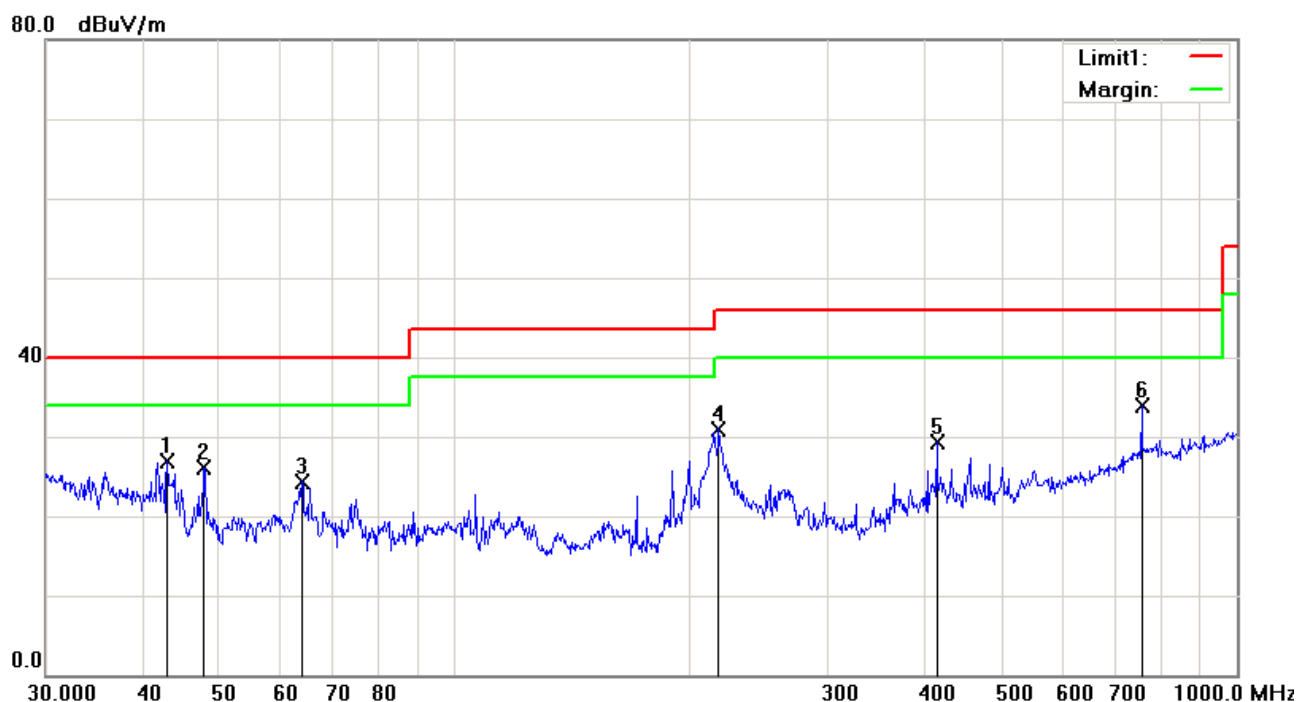
	<p>over a full rotation of the EUT) was chosen.</p> <p>b. The EUT was then rotated to the direction that gave the maximum emission.</p> <p>c. Finally, the antenna height was adjusted to the height that gave the maximum emission.</p> <p>3. The resolution bandwidth and video bandwidth of test receiver/spectrum analyzer is 120 kHz for Quasi Peak detection at frequency below 1GHz.</p> <p>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.</p> <p>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.</p> <p>■ 1 kHz (Duty cycle < 98%) □ 10 Hz (Duty cycle > 98%)</p> <p>5. Steps 2 and 3 were repeated for the next frequency point, until all selected frequency points were measured.</p>
Remark	
Result	<input checked="" type="checkbox"/> Pass <input type="checkbox"/> Fail

Test Data ☒ Yes ☐ N/A

Test Plot ☒ Yes (See below) ☐ N/A

Test Mode : USB Mode

Below 1GHz



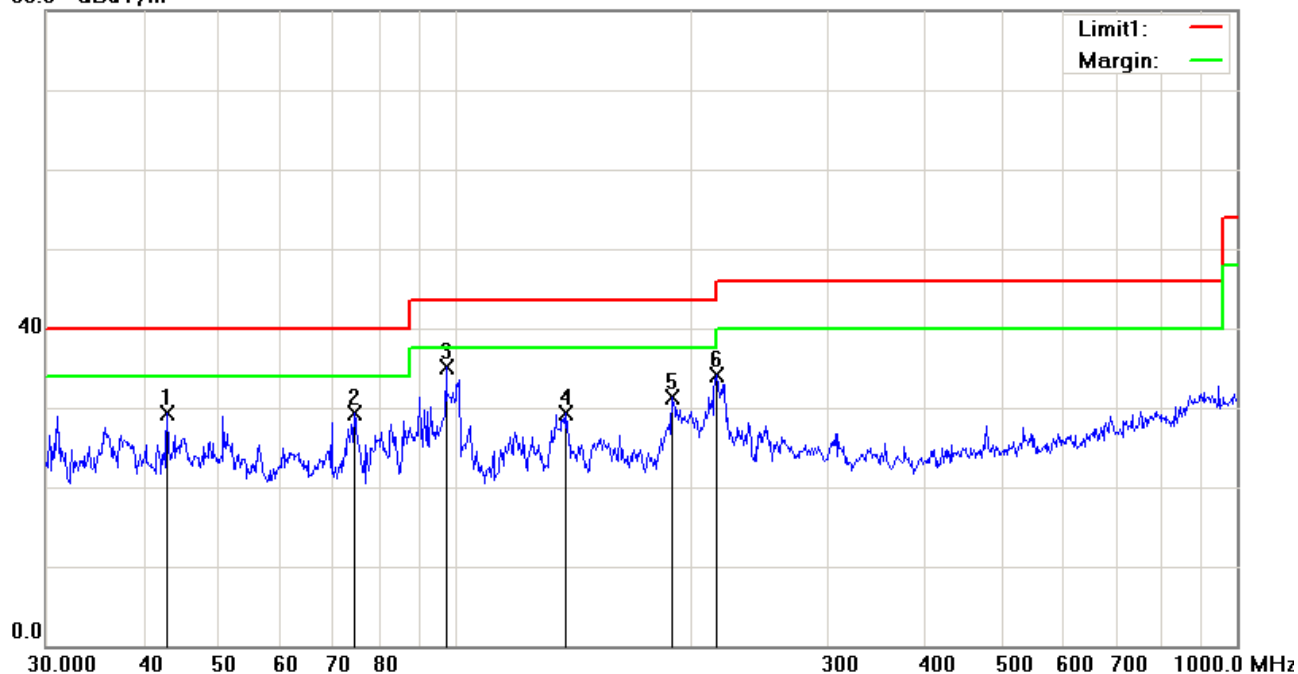
Test Data

Horizontal Polarity Plot @3m

No.	P/L	Frequency	Reading	Detector	Corrected	Result	Limit	Margin	Height	Degree
		(MHz)	(dBuV/m)		(dB/m)	(dBuV/m)	(dBuV/m)	(dB)	(cm)	(°)
1	H	42.8998	36.44	peak	-9.53	26.91	40.00	-13.09	100	334
2	H	47.8260	38.24	peak	-12.20	26.04	40.00	-13.96	100	244
3	H	63.7588	38.46	peak	-14.06	24.40	40.00	-15.60	100	252
4	H	217.5443	39.90	peak	-8.90	31.00	46.00	-15.00	100	116
5	H	413.2706	33.28	peak	-3.97	29.31	46.00	-16.69	100	98
6	H	755.3873	31.38	peak	2.50	33.88	46.00	-12.12	100	98

Below 1GHz

80.0 dBuV/m



Test Data

Vertical Polarity Plot @3m

No.	P/L	Frequency	Reading	Detector	Corrected	Result	Limit	Margin	Height	Degree
		(MHz)	(dBuV/m)		(dB/m)	(dBuV/m)	(dBuV/m)	(dB)	(cm)	(°)
1	V	42.8998	38.91	peak	-9.53	29.38	40.00	-10.62	100	355
2	V	74.3955	43.05	peak	-13.73	29.32	40.00	-10.68	100	246
3	V	97.4560	46.55	peak	-11.48	35.07	43.50	-8.43	100	194
4	V	138.3873	37.69	peak	-8.45	29.24	43.50	-14.26	100	51
5	V	189.7385	40.60	peak	-9.23	31.37	43.50	-12.13	100	74
6	V	216.0240	42.98	peak	-8.88	34.10	46.00	-11.90	100	227

Above 1GHz

Frequency (MHz)	Amplitude (dBμV/m)	Azimuth	Height (cm)	Polarity (H/V)	Factors (dB)	Limit (dBμV/m)	Margin (dB)	Detector (PK/AV)
1535.21	49.55	67	120	V	-22.40	74	-24.45	PK
2046.66	50.32	120	115	V	-22.37	74	-23.68	PK
1782.18	49.37	83	108	V	-21.45	74	-24.63	PK
2174.53	50.34	78	163	H	-22.66	74	-23.66	PK
2867.81	49.33	120	100	H	-22.67	74	-24.67	PK
1874.96	50.59	73	135	H	-23.41	74	-23.41	PK

Note1: The testing has been conformed to 60,000MHz.

Note2: The frequency that above 3GHz is mainly from the environment noise.

Note3, X-Axis, Y-Axis and Z–Axis were investigated. The results above show only the worst case.

Note4: The AV measurement performed, more than 20dB below limit so AV test data was not presented.

Annex A. TEST INSTRUMENT

Instrument	Model	Serial #	Cal Date	Cal Due	In use
AC Line Conducted Emissions					
EMI test receiver	ESCS30	8471241027	09/17/2015	09/16/2016	<input checked="" type="checkbox"/>
Line Impedance Stabilization Network	LI-125A	191106	09/25/2015	09/24/2016	<input checked="" type="checkbox"/>
Line Impedance Stabilization Network	LI-125A	191107	09/25/2015	09/24/2016	<input checked="" type="checkbox"/>
LISN	ISN T800	34373	09/25/2015	09/24/2016	<input checked="" type="checkbox"/>
Transient Limiter	LIT-153	531118	09/01/2015	08/31/2016	<input checked="" type="checkbox"/>
Radiated Emissions					
EMI test receiver	ESL6	100262	09/17/2015	09/16/2016	<input checked="" type="checkbox"/>
OPT 010 AMPLIFIER (0.1-1300MHz)	8447E	2727A02430	09/01/2015	08/31/2016	<input checked="" type="checkbox"/>
Microwave Preamplifier (1 ~ 26.5GHz)	8449B	3008A02402	03/24/2016	03/23/2017	<input checked="" type="checkbox"/>
Bilog Antenna (30MHz~6GHz)	JB6	A110712	09/21/2015	09/20/2016	<input checked="" type="checkbox"/>
Double Ridge Horn Antenna	AH-118	71259	09/24/2015	09/23/2016	<input checked="" type="checkbox"/>

Annex B. EUT And Test Setup Photographs

Annex B.i. Photograph: EUT External Photo



Whole Package View



EUT - Front View



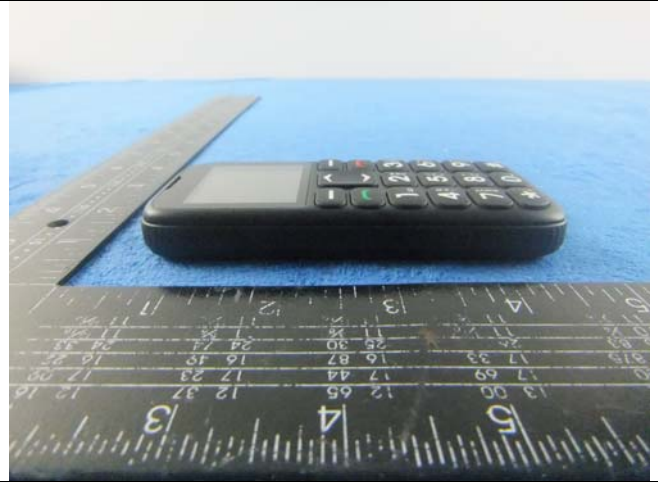
EUT - Rear View



EUT - Top View



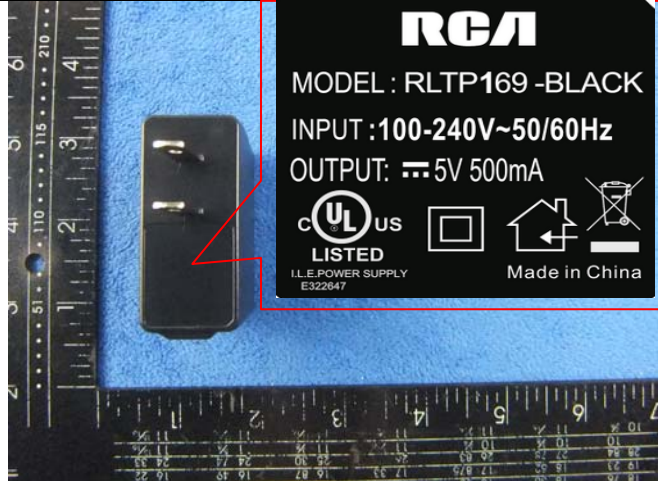
EUT - Bottom View



EUT - Left View



EUT - Right View



Adapter - Front View

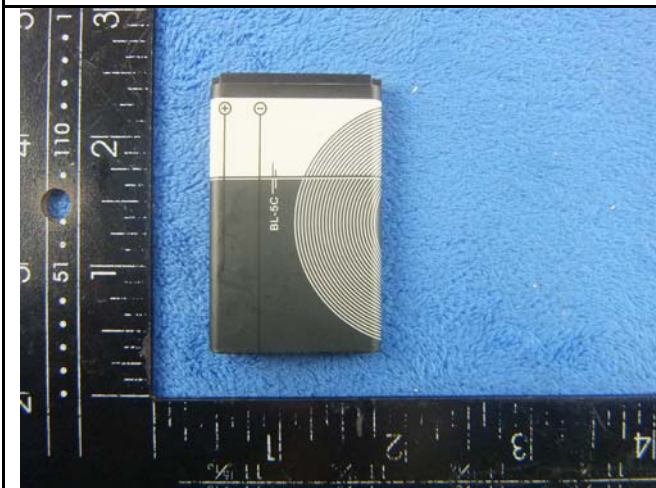
Annex B.ii. Photograph: EUT Internal Photo



Cover Off - Top View 1



Cover Off - Top View 2



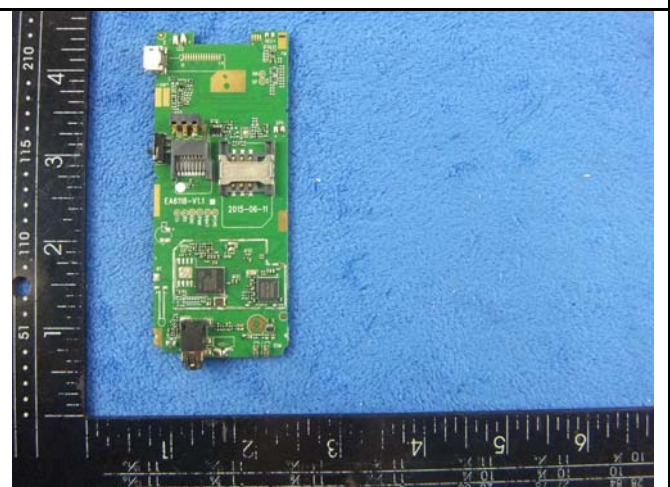
Battery - Front View



Battery - Rear View

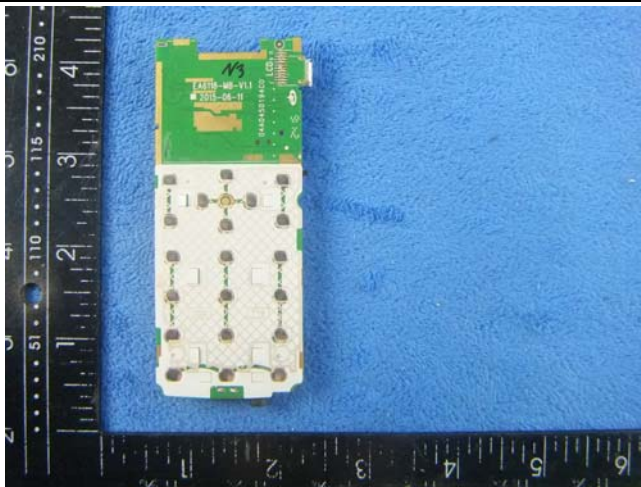


Mainboard with Shielding - Front View

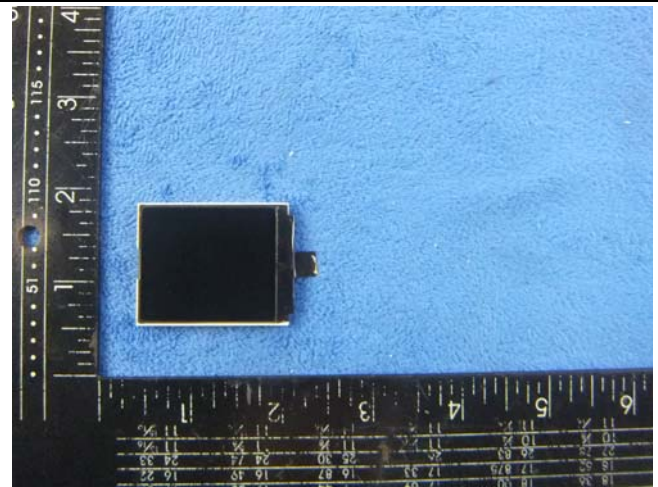


Mainboard without Shielding - Front View

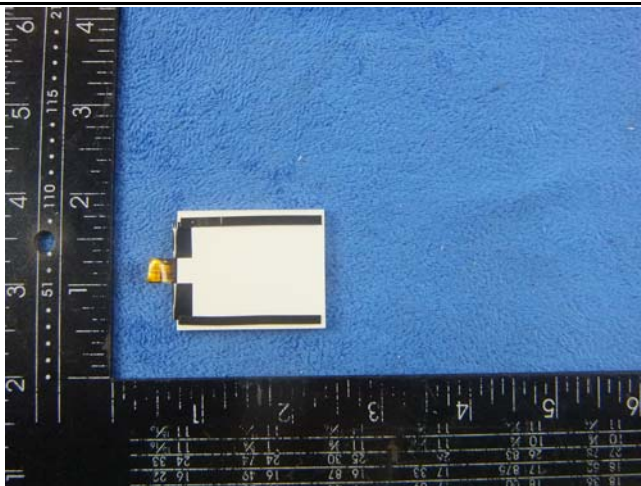
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Mainboard - Rear View



LCD - Front View



LCD - Rear View



GSM/PCS Antenna View

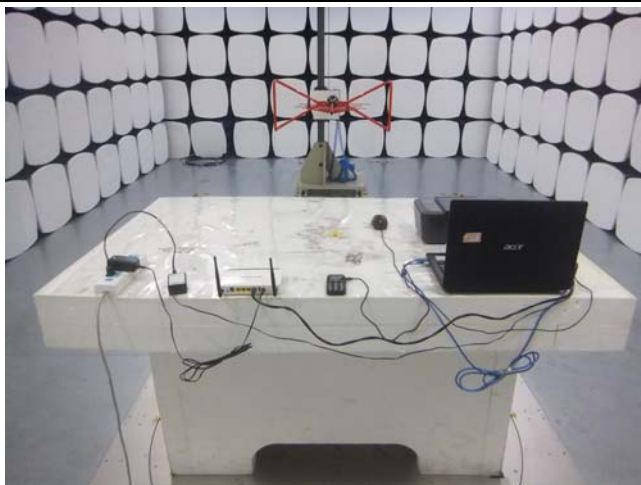
Annex B.iii. Photograph: Test Setup Photo



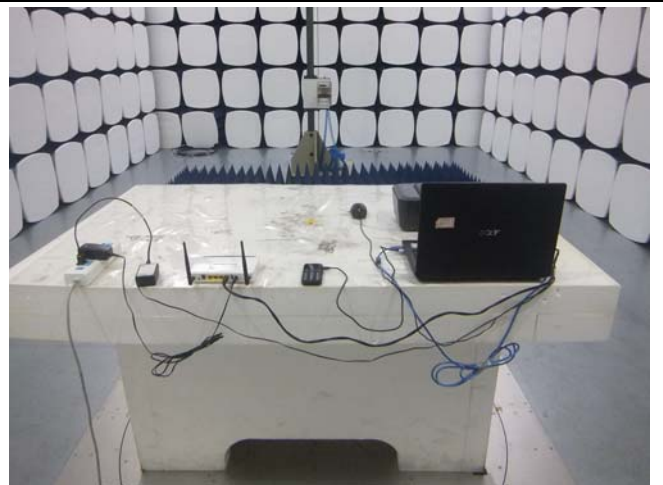
Conducted Emissions Test Setup – TF Card Front View



Conducted Emissions Test Setup – TF Card Side View



Radiated Emissions Test Setup Below 1GHz - TF Card Front View

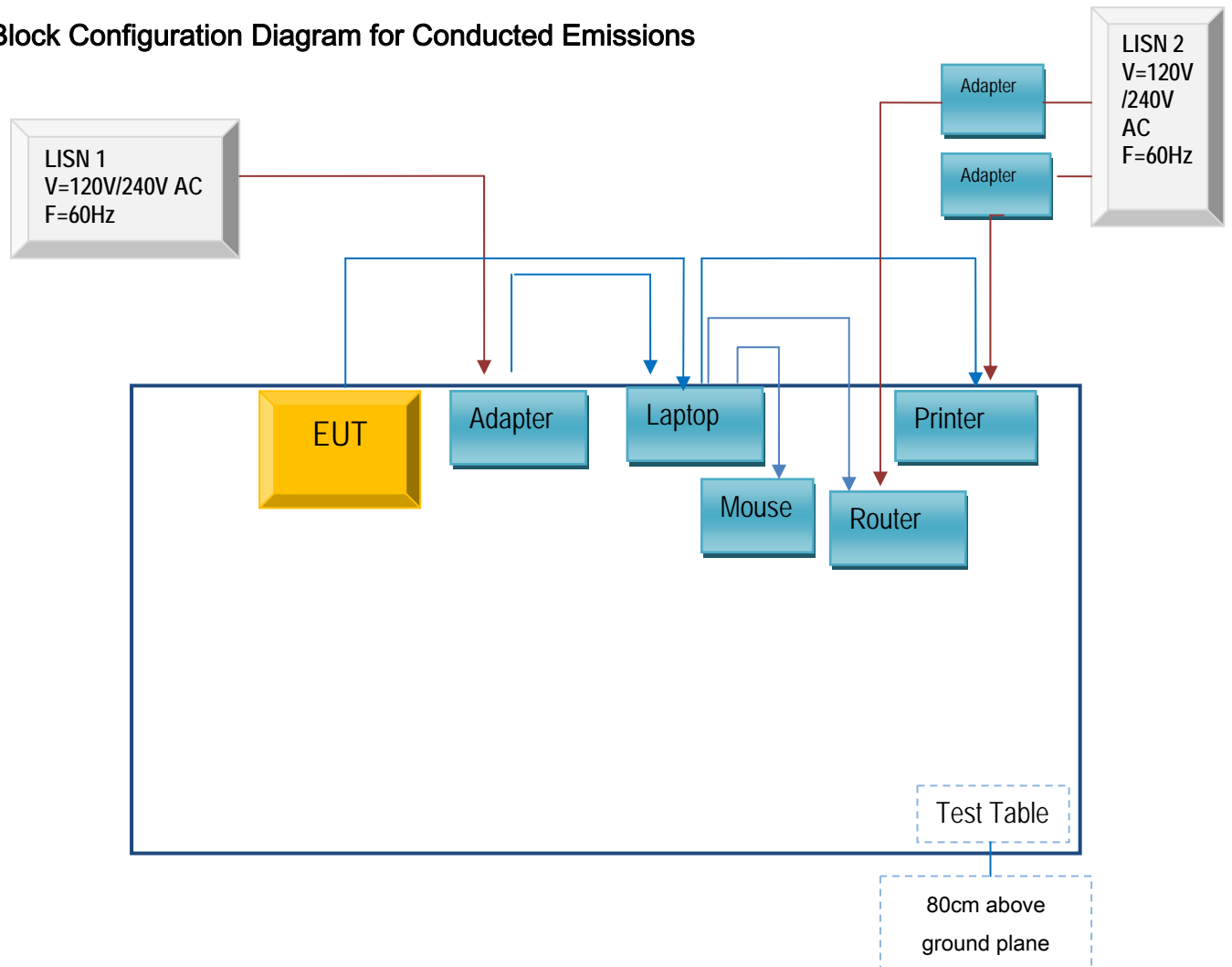


Radiated Emissions Test Setup Above 1GHz - TF Card Side View

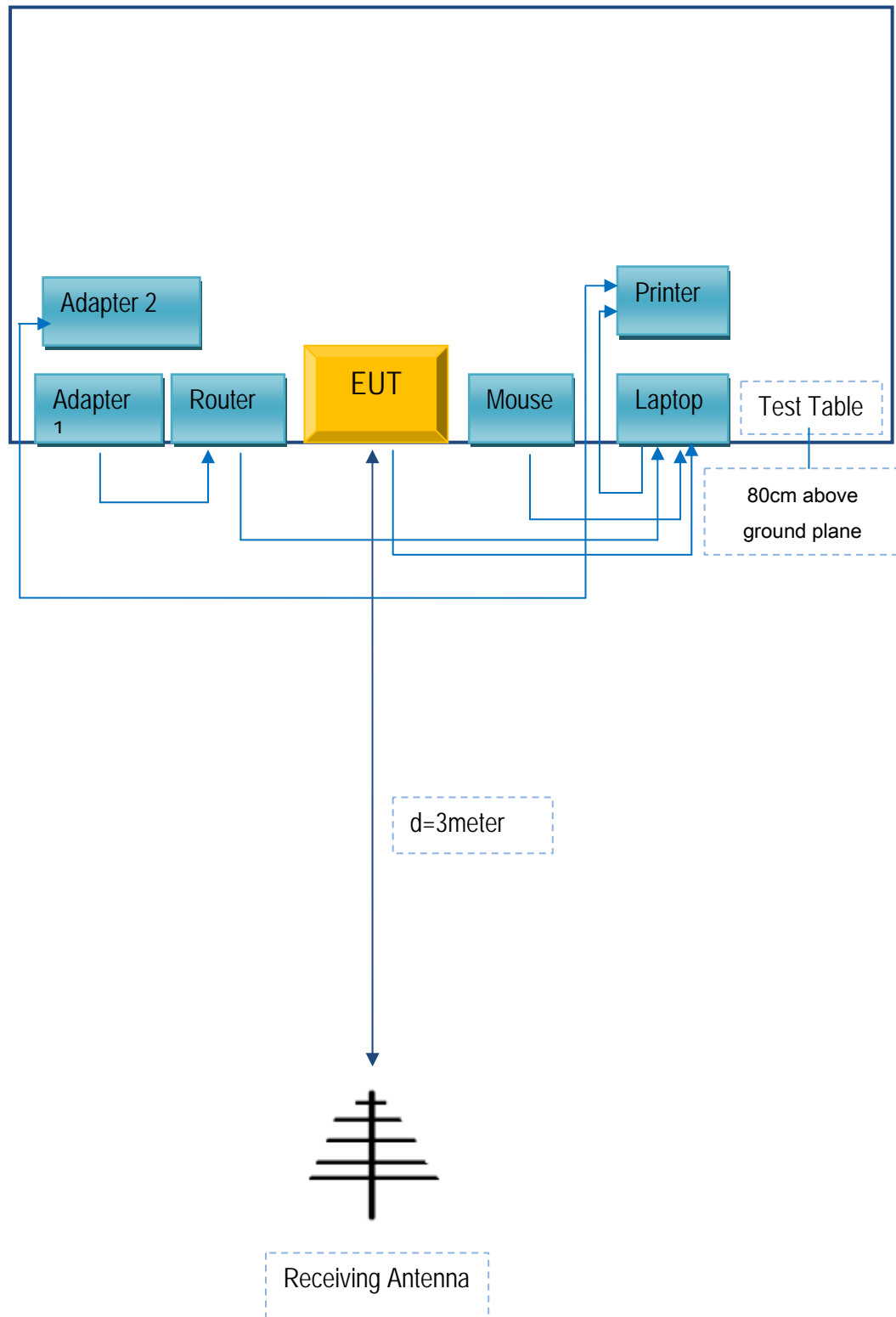
Annex C. TEST SETUP AND SUPPORTING EQUIPMENT

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.

Supporting equipment:

Manufacturer	Equipment Description	Model	Serial No
Lenovo	Laptop	E40	LR-1EHRX
GOLDWEB	Router	R102	1202032094
Shenzhen Vitek Electronics Co., Ltd	AC Adapter	RLTP169-BLACK	S71001
HP	Printer	VCVRA-1003	CN36M19JWX
DELL	Mouse	E100	912NMTUT41481
BULL	Socket	GN-403	GN201203

Supporting Cable:

Cable type	Shield Type	Ferrite Core	Length	Serial No
USB Cable	Un-shielding	No	2m	JX120051274
USB Cable	Un-shielding	No	0.8m	S71001
RJ45 Cable	Un-shielding	No	2m	KX156327541
Router Power cable	Un-shielding	No	2m	13274630Z
Printer Power cable	Un-shielding	No	2m	127581031
Power Cable	Un-shielding	No	0.8m	GT211032

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

Please see attachment

Annex E. DECLARATION OF SIMILARITY

Vitek Electronics International Co.,Ltd

To: 775 Montague Expressway Milpitas, CA 95035, USA

Declaration Letter

Dear Sir,

For our business issue and marketing requirement, we would like to list 3 model numbers on The FCC reports, as following:

Model No: RLTP169 -BLACK, T19, S19Y

Trade: RCA, VITEK, VTEX

FCC ID: 2A13CRLTP169-BLACK

We declare that : RLTP169 -BLACK, T19, S19Y, All models the same PCB and Appearance shape, accessories ,the difference of these is listed as below:

Main Model No	Serial Model No	Difference
RLTP169 -BLACK	T19, S19Y	Model and trade mark

Thank you!

Sincerely,

Client's signature :

Client's name / title: SHI SHENG LI /Manager

Contact information : Vitek Electronics International Co.,Ltd

Address : Rm 2202, Leizhen Building, Fuming Rd, Shen Zhen, China

