

# EMC Measurement and Test Report

For

**Vonino ELelectronics LTD.**

**Miramar Tower 10F-No.1010, 132 Nathan Road, Tsim Sha Tsui , Kowloon,**

**Hong Kong**

<b>Test Standards:</b>	EN 55032:2012+AC:2013 EN 61000-3-2:2014 EN 61000-3-3:2013 <u>EN 55024:2010</u>
<b>Product Description:</b>	<u>Smart Phone</u>
<b>Tested Model:</b>	<u>VOLT X</u>
<b>Report No.:</b>	<u>STR16128114E-8</u>
<b>Tested Date:</b>	<u>2016-12-12 to 2016-12-21</u>
<b>Issued Date:</b>	<u>2016-12-22</u>
<b>Tested By:</b>	<u>Iven Guo / Engineer</u> <i>Iven Guo</i>
<b>Reviewed By:</b>	<u>Silin Chen / EMC Manager</u> <i>Silin chen</i>
<b>Approved &amp; Authorized By:</b>	<u>Jandy So / PSQ Manager</u> <i>Jandyso</i>
<b>Prepared By:</b>	

**Shenzhen SEM.Test Technology Co., Ltd.**  
1/F, Building A, Hongwei Industrial Park, Liuxian 2nd Road,  
Bao'an District, Shenzhen, P.R.C. (518101)  
Tel.: +86-755-33663308 Fax.: +86-755-33663309 Website: www.semtest.com.cn

Note: This test report is limited to the above client company and the product model only. It may not be duplicated without prior permitted by Shenzhen SEM.Test Technology Co., Ltd.

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## 1. GENERAL INFORMATION

### 1.1 Product Description for Equipment Under Test (EUT)

#### Client Information

Applicant: Vonino EElectronics LTD.  
Address of applicant: Miramar Tower 10F-No.1010, 132 Nathan Road,  
Tsim Sha Tsui , Kowloon, Hong Kong

Manufacturer: Gui zhou Fortuneship Technology Co., Ltd.  
Address of manufacturer: No. 4 Plant, High-tech Industrial Park, Xinpu  
Economic Development Zone) Jingkai Road, Xinpu  
Jingkai District, Xinpu New District, Zunyi City,  
Guizhou Province, P. R. China

General Description of EUT	
Product Name:	Smart Phone
Trade Name:	vonino
Model No.:	VOLT X
Adding Model(s):	/
Software Version:	Vonino_v1.1.1_20161130
Hardware Version:	F1-4G-V60-CF9-KS670
<i>Note: The test data is gathered from a production sample, provided by the manufacturer.</i>	

Technical Characteristics of EUT	
Rated Voltage:	DC 3.8V by Battery
Battery Capacity:	4000mAh
Rated Current:	/
Rated Power:	/
Adapter Model:	JT288-05100 Input: 100-240Vac, 50/60Hz, 0.15A Output: 5.0V $\overline{=}$ , 1A
Highest Internal Frequency:	2480MHz

## 1.2 Test Standards

The following report is prepared on behalf of the Vonino EElectronics LTD. in accordance with EN55032, Electromagnetic compatibility of multimedia equipment - Emission requirements, and EN61000-3-2, Electromagnetic compatibility (EMC) -- Part 3-2: Limits - Limits for harmonic current emissions (equipment input current up to and including 16 A per phase), and EN61000-3-3, Electromagnetic compatibility (EMC) -- Part 3-3: Limits - Limitation of voltage changes, voltage fluctuations and flicker in public low-voltage supply systems, for equipment with rated current  $\leq 16$  A per phase and not subject to conditional connection, and EN55024, Immunity characteristics Limits and methods of measurement.

The objective of the manufacturer is to demonstrate compliance with the standards EN55032, EN61000-3-2, EN61000-3-3, and EN55024 for multimedia equipment.

**Maintenance of compliance** is the responsibility of the manufacturer. Any modification of the product maybe which result in lowering the emission/immunity should be checked to ensure compliance has been maintained.

## 1.3 Test Methodology

All measurements contained in this report were conducted with the standards EN55032, EN61000-3-2, EN61000-3-3, and EN55024 for Information Technology Equipment, and all related testing and measurement techniques intentional standards.

## 1.4 Test Facility

### **FCC – Registration No.: 934118**

Shenzhen SEM.Test Technology Co., Ltd. EMC Laboratory has been registered and fully described in a report filed with the (FCC) Federal Communications Commission. The acceptance letter from the FCC is maintained in our files and the Registration is 934118.

### **Industry Canada (IC) Registration No.: 11464A**

The 3m Semi-anechoic chamber of Shenzhen SEM.Test Technology Co., Ltd. has been registered by Certification and Engineering Bureau of Industry Canada for radio equipment testing with Registration No.: 11464A.

### **CNAS Registration No.: L4062**

Shenzhen SEM.Test Technology Co., Ltd. is a testing organization accredited by China National Accreditation Service for Conformity Assessment (CNAS) according to ISO/IEC 17025. The accreditation certificate number is L4062. All measurement facilities used to collect the measurement data are located at 1/F, Building A, Hongwei Industrial Park, Liuxian 2<sup>nd</sup> Road, Bao'an District, Shenzhen, P.R.C (518101).

## 1.5 EUT Setup and Operation Mode

The equipment under test (EUT) was configured to measure its highest possible emission/immunity level. The test modes were adapted according to the operation manual for use, more detailed description as follows:

Test Mode List:

Test Mode	Description	Remark
TM1	Charging & Playing	Connected to Adapter
TM2	Downloading	Connected to PC
TM3	Camera On	worse case back camera
TM4	FM	Receive 98MHz

EUT Cable List and Details

Cable Description	Length (M)	Shielded/Unshielded	With Core/Without Core
USB Cable	1.0	Shielded	Without Ferrite
Earplug Cable	1.2	Unshielded	Without Ferrite

Auxiliary Equipment List and Details

Description	Manufacturer	Model	Serial Number
Notebook	Lenovo	T410	/

Special Cable List and Details

Cable Description	Length (M)	Shielded/Unshielded	With Core/Without Core
/	/	/	/

## 1.6 Performance Criteria for EMS

All the test data has been collected, reduced, and analyzed within this report in accordance with Immunity requires the following as specific performance criteria:

- A. The apparatus shall continue to operate as intended during and after the test. The manufacturer specifies some minimum performance level. The performance level may be specified by the manufacturer as a permissible loss of performance.
- B. The apparatus shall continue to operate as intended after the test. This indicates that the EUT does not need to function at normal performance levels during the test, but must recover. Again some minimal performance is defined by the manufacture. No change in operating state or loss or data is permitted.
- C. Temporary loss of function is allowed. Operation of the EUT may stop as long as it is either automatically reset or can be manually restored by operation of the controls.

## 1.7 Test Equipment List and Details

No.	Description	Manufacturer	Model	Serial No.	Cal Date	Due. Date
SEMT-1031	Spectrum Analyzer	Rohde & Schwarz	FSP	836079/035	2016-06-04	2017-06-03
SEMT-1007	EMI Test Receiver	Rohde & Schwarz	ESVB	825471/005	2016-06-04	2017-06-03
SEMT-1008	Amplifier	Agilent	8447F	3113A06717	2016-06-04	2017-06-03
SEMT-1043	Amplifier	C&D	PAP-1G18	2002	2016-06-04	2017-06-03
SEMT-1011	Trilog Broadband Antenna	Schwarz beck	VULB9163	9163-333	2016-06-04	2017-06-03
SEMT-1068	Trilog Broadband Antenna	Schwarz beck	VULB9163(B)	9163-333	2016-06-04	2017-06-03
SEMT-1042	Horn Antenna	ETS	3117	00086197	2016-06-04	2017-06-03
SEMT-1069	Loop Antenna	Schwarz beck	FMZB 1516	9773	2016-06-04	2017-06-03
SEMT-1001	EMI Test Receiver	Rohde & Schwarz	ESPI	101611	2016-06-04	2017-06-03
SEMT-1066	EMI Test Receiver	Rohde & Schwarz	ESPI	101391	2016-06-04	2017-06-03
SEMT-1002	Pulse Limiter	Rohde & Schwarz	ESH3-Z2	100911	2016-06-04	2017-06-03
SEMT-1003	AC LISN	Schwarz beck	NSLK8126	8126-224	2016-06-04	2017-06-03
SEMT-1060	DC LISN	Schwarz beck	NNBM8126D	279	2016-06-04	2017-06-03
SEMT-1061	DC LISN	Schwarz beck	NNBM8126D	280	2016-06-04	2017-06-03
SEMT-1085	8-WIRE LISN	Schwarz beck	8158	CAT3-8158-0059	2016-06-04	2017-06-03
SEMT-1086	8-WIRE LISN	Schwarz beck	8158	CAT5-8158-0117	2016-06-04	2017-06-03
SEMT-1005	Clamp	Schwarz beck	MDS21	3809	2016-06-04	2017-06-03
SEMT-1014	Loop Antenna	EVERFINE	LLA-2	711001	2016-06-04	2017-06-03
SEMT-1071	VDH Test Head	AFJ	VDH 30	SC022Z	2016-06-04	2017-06-03
SEMT-1056	Digital Power Analyzer	California Instrument	CTS	72831	2016-06-04	2017-06-03
SEMT-1057	Power Source	California Instrument	5001IX-CTS-400	25965	2016-06-04	2017-06-03
SEMT-1027	ESD Generator	TESQ AG	NSG 437	161	2016-06-04	2017-06-03
SEMT-1055	Signal Generator	HP	8648A	3642U01277	2016-06-04	2017-06-03
SEMT-1008	Amplifier	Agilent	8447F	3113A06717	2016-06-04	2017-06-03
SEMT-1067	Amplifier	Agilent	8447D	2944A10179	2016-06-04	2017-06-03
SEMT-1024	Transient 2000	EMC PARTNER	TRA2000	863	2016-06-04	2017-06-03
SEMT-1045	CS Immunity Tester	EMTEST	CWS500	0900-03	2016-06-04	2017-06-03

## 2. SUMMARY OF TEST RESULTS

Standards	Description of Test Item	Result
EN55032	Conducted Emission	Compliant
	Radiated Emission	Compliant
EN61000-3-2	Harmonic Current Emission	Compliant
EN61000-3-3	Voltage Fluctuation and Flicker	Compliant
EN55024	Electrostatic Discharge Immunity in accordance with IEC 61000-4-2	Compliant
	Continuous Radiated Disturbances Immunity in accordance with IEC 61000-4-3	Compliant
	Electrical Fast Transient/Burst Immunity in accordance with IEC 61000-4-4	Compliant
	Surges Immunity in accordance with IEC 61000-4-5	Compliant
	Continuous Conducted Disturbances Immunity in accordance with IEC 61000-4-6	Compliant
	Power-frequency Magnetic Fields Immunity in accordance with IEC 61000-4-8	N/A
	Voltage Dips/Interruptions Immunity in accordance with IEC 61000-4-11	Compliant

N/A: not applicable



### 3. Conducted Emission

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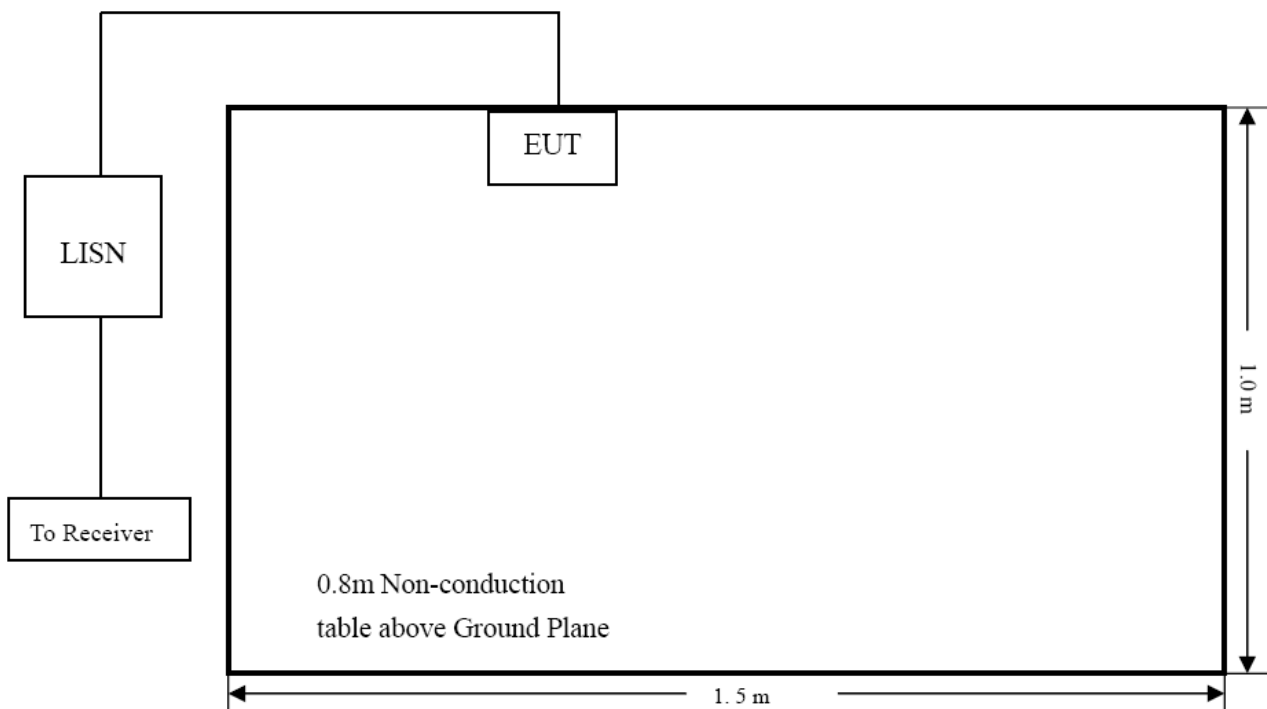
#### 3.1 Measurement Uncertainty

Base on NIS 81, The Treatment of Uncertainty in EMC Measurements, the best estimate of the uncertainty of any conducted emissions measurement is  $\pm 2.88$  dB.

#### 3.2 Test Procedure

Test is conducting under the description of EN55032 Annex A.3.5.

#### 3.3 Basic Test Setup Block Diagram



### 3.4 Environmental Conditions

Temperature:	22 ° C
Relative Humidity:	55 %
ATM Pressure:	1015 mbar

### 3.5 Summary of Test Results/Plots

According to the data in section 3.6, the EUT complied with the EN55032 Conducted margin for a Class B device, with the *worst* margin reading of:

**-2.62 dB at 0.1740 MHz in the Neutral Mode, QP detector, 0.15-30MHz**

### 3.6 Conducted Emissions Test Data

**Plot of Conducted Emissions Test Data**

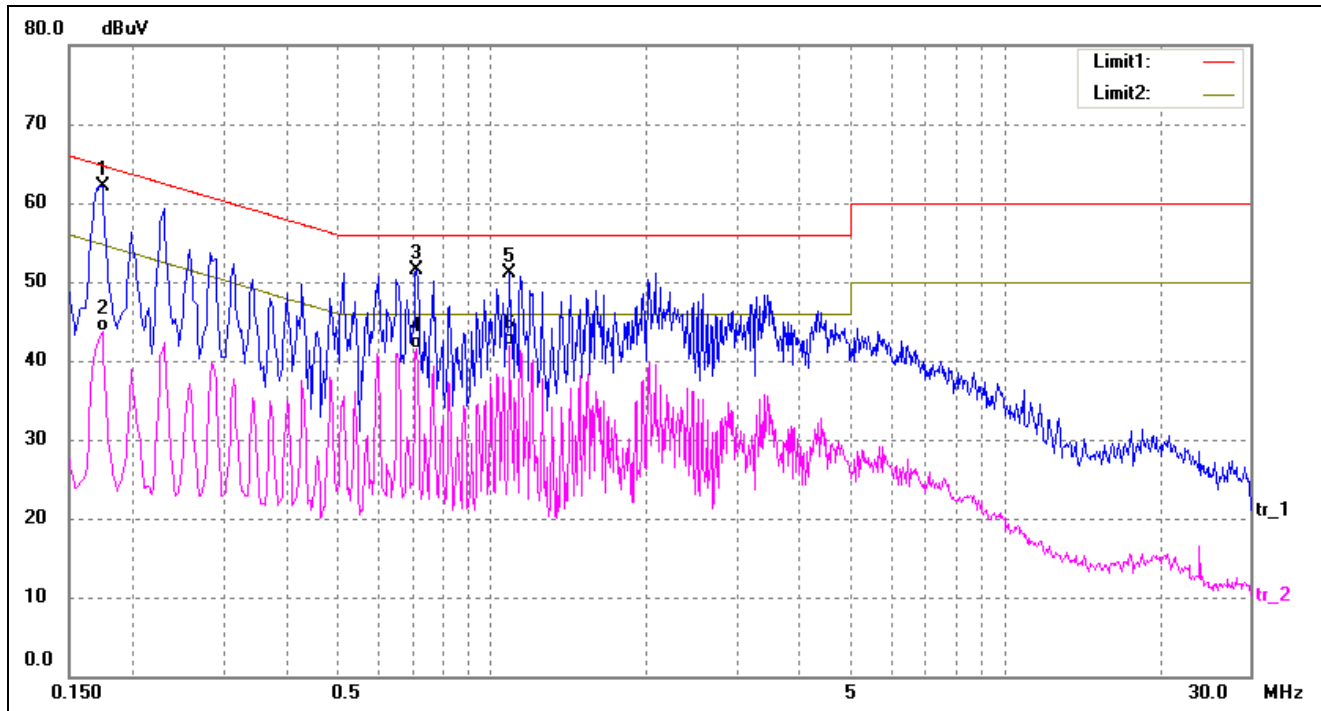
EUT: Smart Phone

Tested Model: VOLT X

Operating Condition: TM1

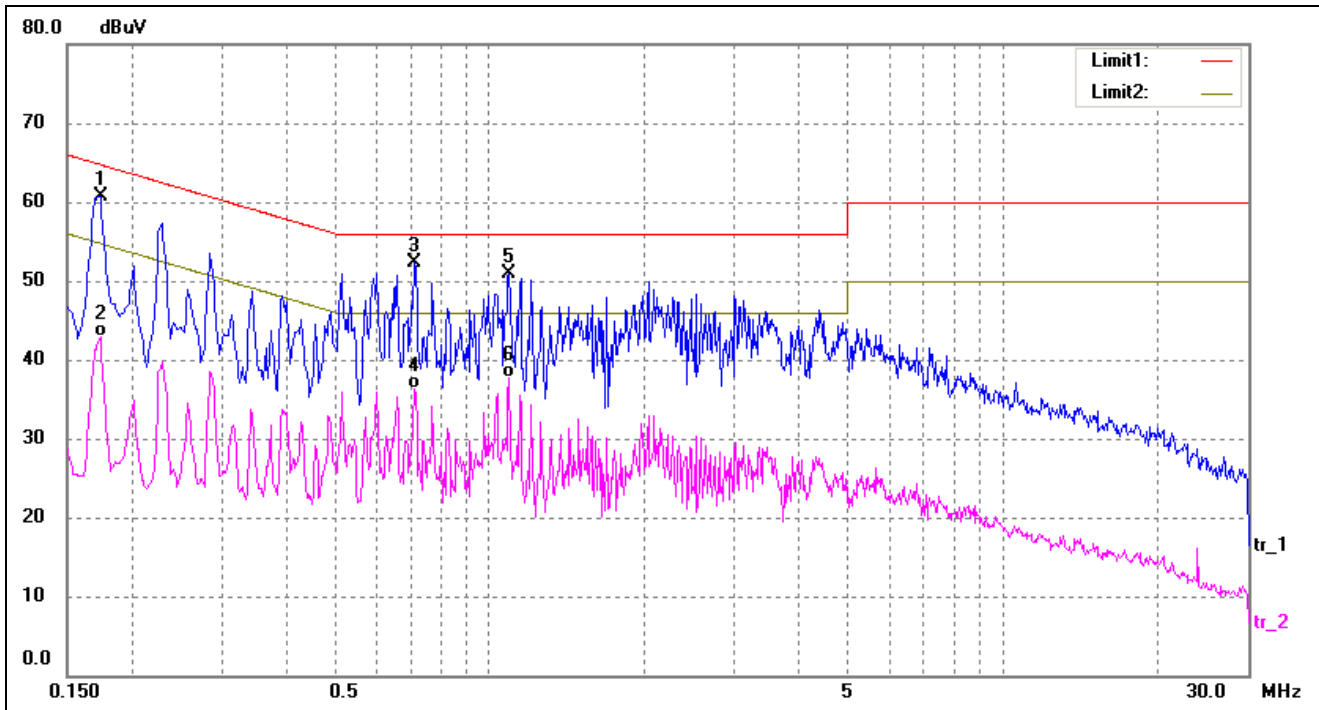
Comment: DC 5V

Test Specification: Neutral



No.	Frequency (MHz)	Reading (dBuV)	Correct (dB/m)	Result (dBuV)	Limit (dBuV)	Margin (dB)	Detector
1*	0.1740	52.32	9.83	62.15	64.77	-2.62	QP
2	0.1740	33.91	9.83	43.74	54.77	-11.03	AVG
3	0.7140	41.69	9.78	51.47	56.00	-4.53	QP
4	0.7140	31.70	9.78	41.48	46.00	-4.52	AVG
5	1.0860	41.32	9.76	51.08	56.00	-4.92	QP
6	1.0860	32.20	9.76	41.96	46.00	-4.04	AVG

Test Specification: Line



No.	Frequency (MHz)	Reading (dBuV)	Correct (dB/m)	Result (dBuV)	Limit (dBuV)	Margin (dB)	Detector
1	0.1740	50.91	9.83	60.74	64.77	-4.03	QP
2	0.1740	33.13	9.83	42.96	54.77	-11.81	AVG
3*	0.7140	42.46	9.78	52.24	56.00	-3.76	QP
4	0.7140	26.49	9.78	36.27	46.00	-9.73	AVG
5	1.0900	41.23	9.76	50.99	56.00	-5.01	QP
6	1.0900	27.90	9.76	37.66	46.00	-8.34	AVG

## 4. Radiated Emission

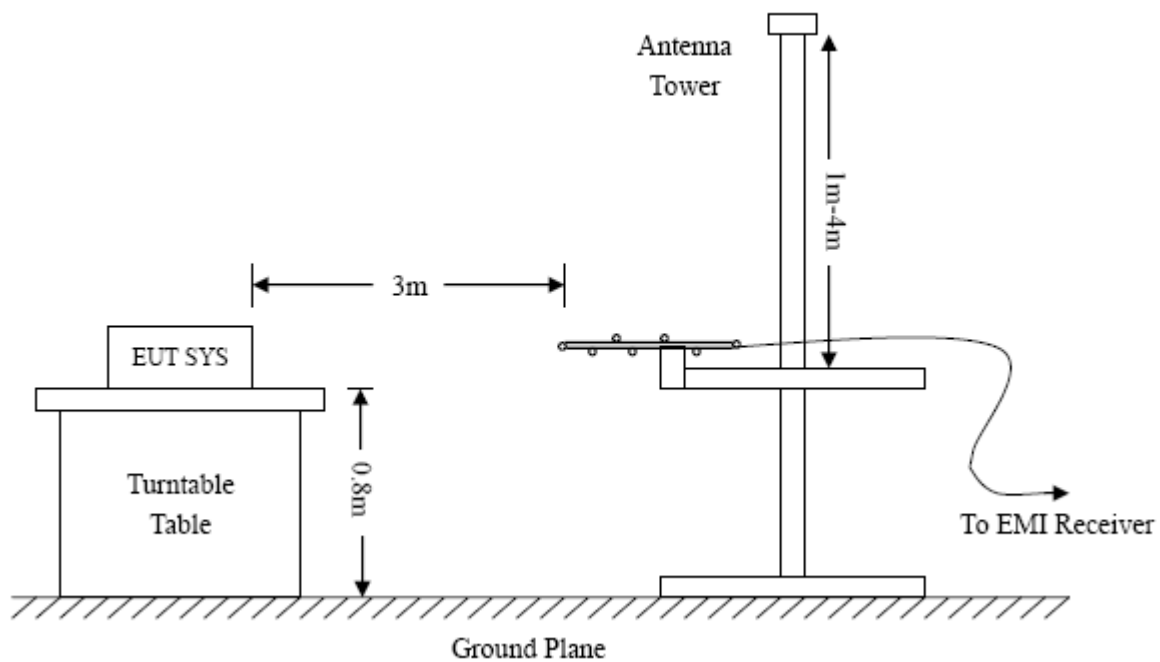
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### 4.1 Measurement Uncertainty

Base on NIS 81, The Treatment of Uncertainty in EMC Measurements, the best estimate of the uncertainty of any radiation emissions measurement is  $\pm 5.10$  dB.

### 4.2 Test Procedure

Test is conducting under the description of EN55032 Annex A.3.4.



### 4.3 Corrected Amplitude & Margin Calculation

The Corrected Amplitude is calculated by adding the Antenna Factor and the Cable Factor, and subtracting the Amplifier Gain from the Amplitude reading. The basic equation is as follows:

$$\text{Corr. Ampl.} = \text{Indicated Reading} + \text{Antenna Factor} + \text{Cable Factor} - \text{Amplifier Gain}$$

The “**Margin**” column of the following data tables indicates the degree of compliance with the applicable limit. For example, a margin of  $-6\text{dB}\mu\text{V}$  means the emission is  $6\text{dB}\mu\text{V}$  below the maximum limit for Class B device. The equation for margin calculation is as follows:

$$\text{Margin} = \text{Corr. Ampl.} - \text{EN55032 Class B Limit}$$

### 4.4 Environmental Conditions

Temperature:	23° C
Relative Humidity:	53%
ATM Pressure:	1011 mbar

### 4.5 Summary of Test Results/Plots

According to the data in section 4.5, the EUT complied with the EN55032 Class B standards, and had the worst margin is:

**-1.10 dB at 89.2764 MHz in the Horizontal polarization, TM1 mode, 30 MHz to 6 GHz, 3Meters**

**Plot of Radiated Emissions Test Data (Below 1GHz)**

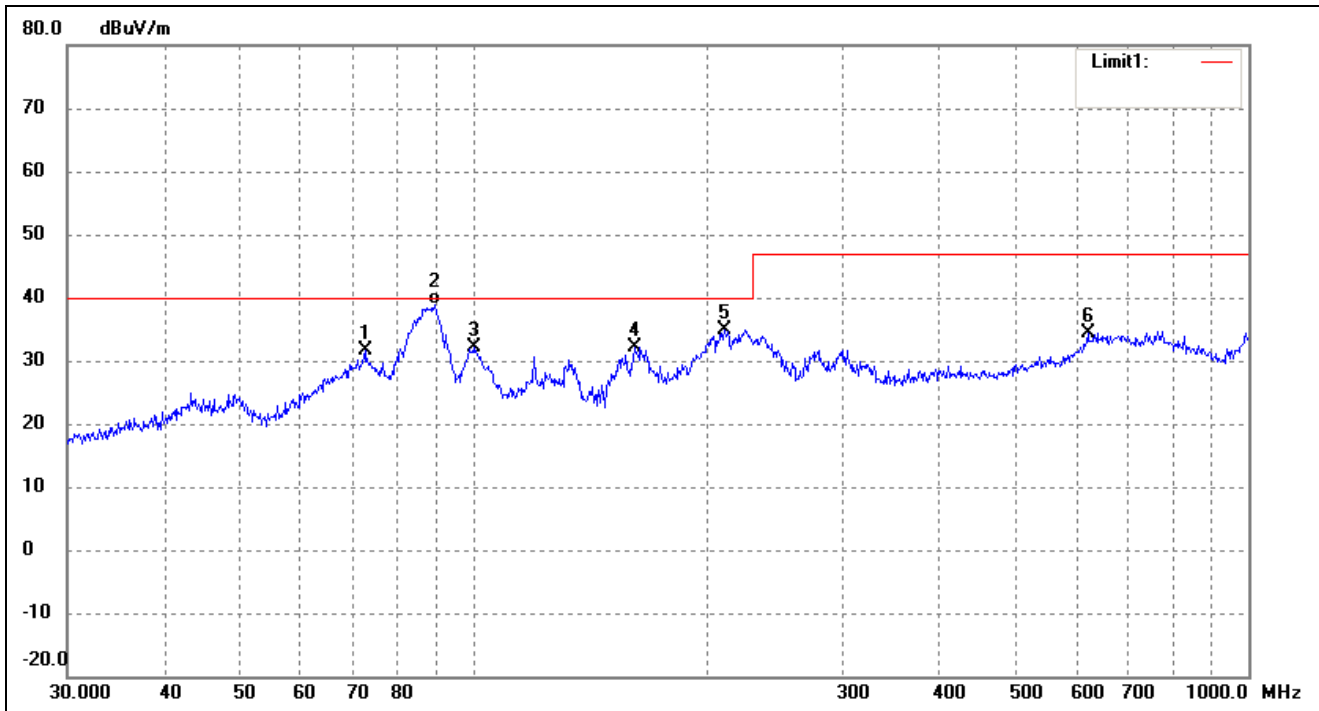
EUT: Smart Phone

Tested Model: VOLT X

Operating Condition: TM1

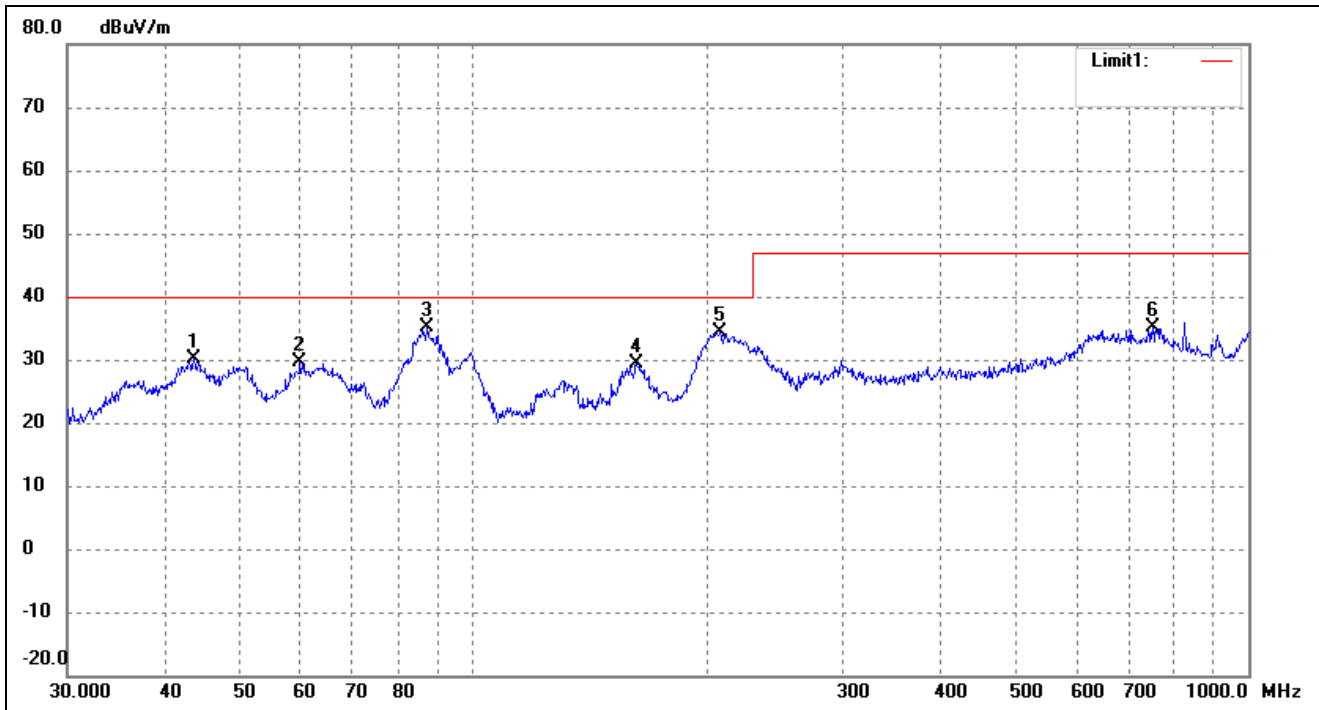
Comment: DC 5V

Test Specification: Horizontal



No.	Frequency (MHz)	Reading (dBuV/m)	Correct dB/m	Result (dBuV/m)	Limit (dBuV/m)	Margin (dB)	Degree ( )	Height (cm)	Remark
1	72.5916	28.95	2.57	31.52	40.00	-8.48	63	100	QP
2	89.2764	35.62	3.28	38.90	40.00	-1.10	147	100	QP
3	100.2286	27.11	4.93	32.04	40.00	-7.96	251	100	QP
4	161.4742	29.77	2.41	32.18	40.00	-7.82	90	100	QP
5	210.7860	29.28	5.69	34.97	40.00	-5.03	66	100	QP
6	620.7096	17.00	17.38	34.38	47.00	-12.62	337	100	QP

Test Specification: Vertical



No.	Frequency (MHz)	Reading (dBuV/m)	Correct (dB/m)	Result (dBuV/m)	Limit (dBuV/m)	Margin (dB)	Degree ( )	Height (cm)	Remark
1	43.6585	25.21	4.94	30.15	40.00	-9.85	105	100	QP
2	59.8588	24.61	5.03	29.64	40.00	-10.36	320	100	QP
3	87.4177	32.05	2.96	35.01	40.00	-4.99	257	100	QP
4	162.6106	27.00	2.42	29.42	40.00	-10.58	83	100	QP
5	208.5803	29.05	5.22	34.27	40.00	-5.73	285	100	QP
6	752.7432	16.62	18.47	35.09	47.00	-11.91	161	100	QP



**Plot of Radiated Emissions Test Data (Below 1GHz)**

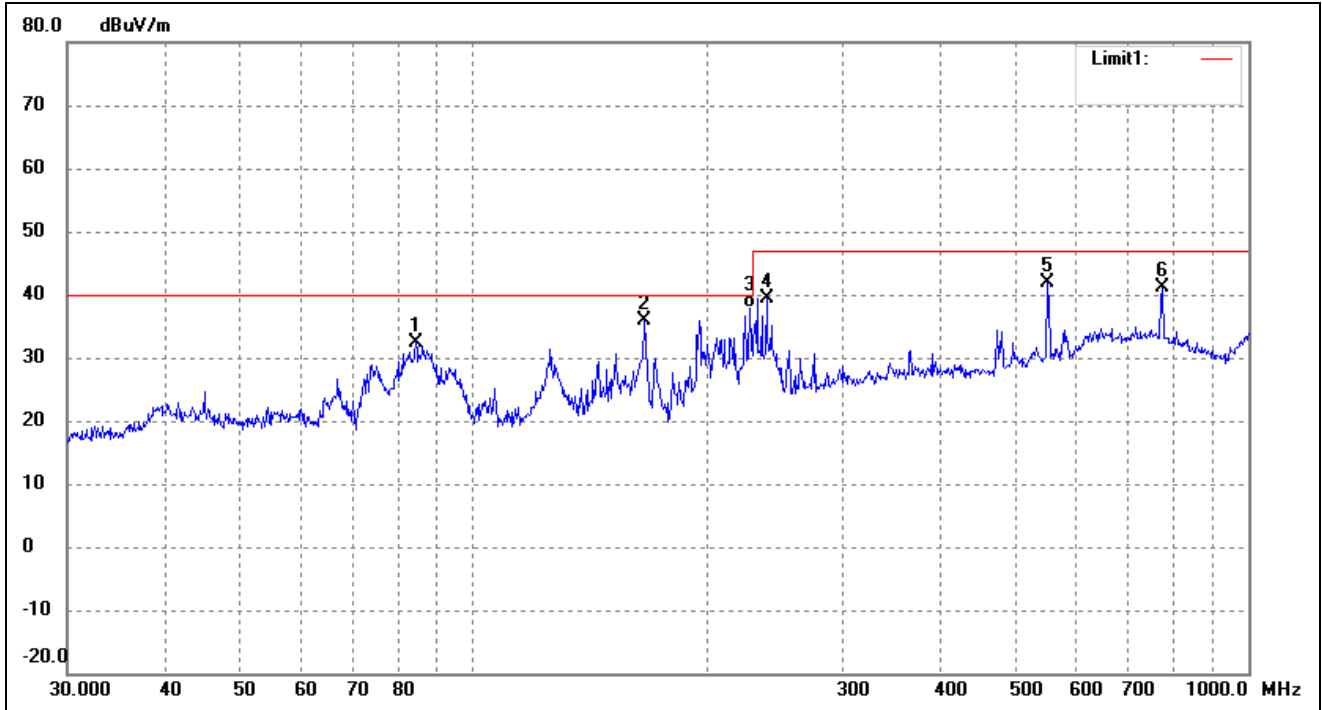
EUT: Smart Phone

Tested Model: VOLT X

Operating Condition: TM2

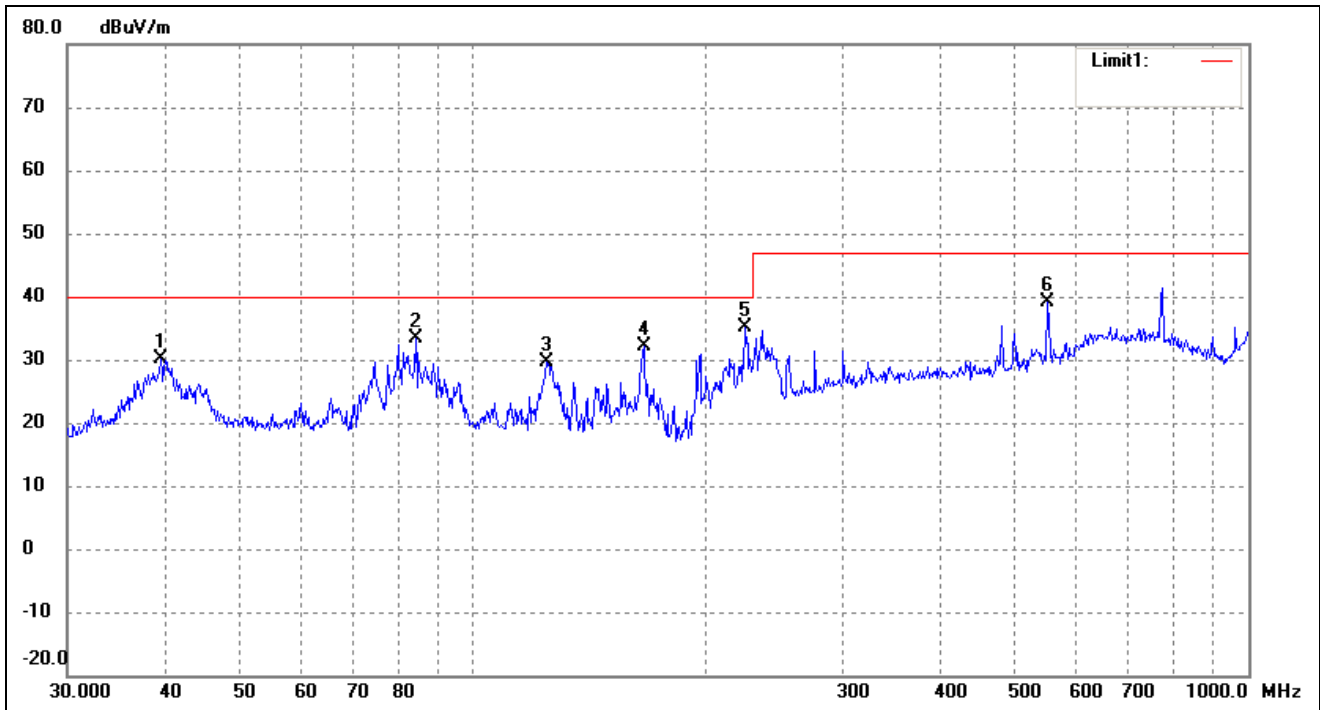
Comment: DC 5V

Test Specification: Horizontal



No.	Frequency (MHz)	Reading (dBuV/m)	Correct (dB/m)	Result (dBuV/m)	Limit (dBuV/m)	Margin (dB)	Degree ( )	Height (cm)	Remark
1	84.4054	30.05	2.45	32.50	40.00	-7.50	109	100	QP
2	166.6514	33.53	2.46	35.99	40.00	-4.01	314	100	QP
3	227.6906	29.77	8.14	37.91	40.00	-2.09	130	100	QP
4	239.1473	30.53	8.87	39.40	47.00	-7.60	92	100	QP
5	550.9480	28.02	13.93	41.95	47.00	-5.05	158	100	QP
6	774.1584	24.00	17.19	41.19	47.00	-5.81	342	100	QP

Test Specification: Vertical



No.	Frequency (MHz)	Reading (dBuV/m)	Correct (dB/m)	Result (dBuV/m)	Limit (dBuV/m)	Margin (dB)	Degree ( )	Height (cm)	Remark
1	39.5757	25.27	4.87	30.14	40.00	-9.86	176	100	QP
2	84.4054	30.92	2.45	33.37	40.00	-6.63	333	100	QP
3	124.5690	25.08	4.44	29.52	40.00	-10.48	279	100	QP
4	166.0680	29.73	2.45	32.18	40.00	-7.82	68	100	QP
5	224.5193	27.10	7.95	35.05	40.00	-4.95	322	100	QP
6	550.9480	25.13	13.93	39.06	47.00	-7.94	273	100	QP

**Plot of Radiated Emissions Test Data (Below 1GHz)**

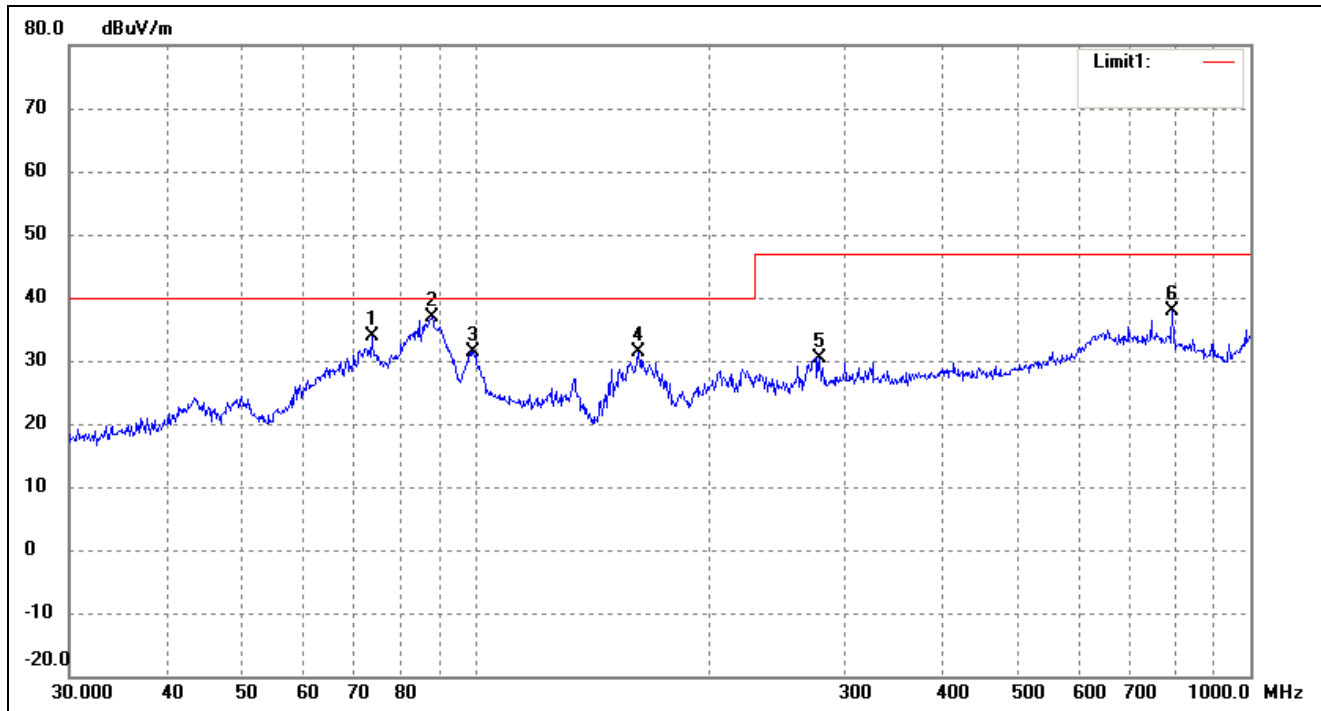
EUT: Smart Phone

Tested Model: VOLT X

Operating Condition: TM3

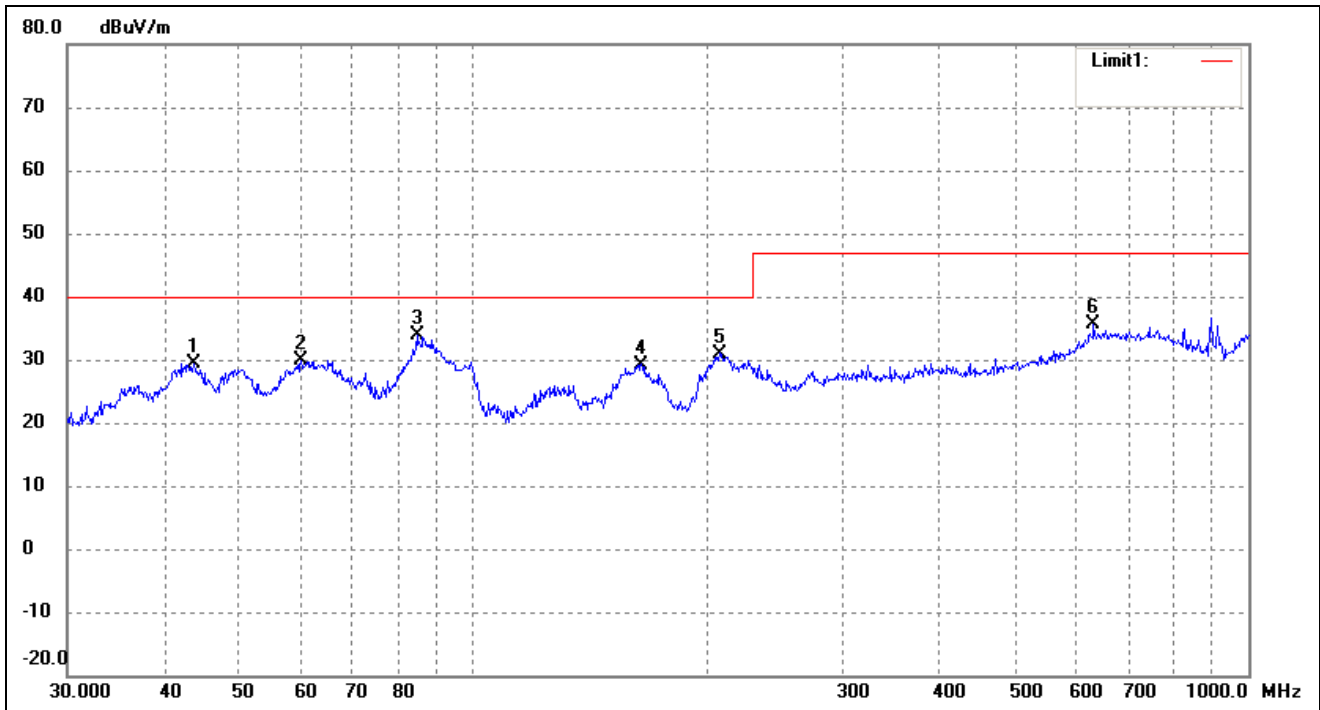
Comment: DC 5V

Test Specification: Horizontal



No.	Frequency (MHz)	Reading (dBuV/m)	Correct (dB/m)	Result (dBuV/m)	Limit (dBuV/m)	Margin (dB)	Degree ( )	Height (cm)	Remark
1	73.6170	31.31	2.45	33.76	40.00	-6.24	157	100	QP
2	88.0329	33.78	3.07	36.85	40.00	-3.15	280	100	QP
3	99.5281	26.53	4.86	31.39	40.00	-8.61	80	100	QP
4	162.6106	29.02	2.42	31.44	40.00	-8.56	66	100	QP
5	278.0669	19.46	11.00	30.46	47.00	-16.54	248	100	QP
6	793.3960	21.48	16.48	37.96	47.00	-9.04	189	100	QP

Test Specification: Vertical



No.	Frequency (MHz)	Reading (dBuV/m)	Correct (dB/m)	Result (dBuV/m)	Limit (dBuV/m)	Margin (dB)	Degree ( )	Height (cm)	Remark
1	43.6584	24.37	4.94	29.31	40.00	-10.69	195	100	QP
2	60.0691	24.84	5.02	29.86	40.00	-10.14	234	100	QP
3	84.7019	31.32	2.50	33.82	40.00	-6.18	201	100	QP
4	164.9075	26.81	2.44	29.25	40.00	-10.75	68	100	QP
5	208.5803	25.78	5.22	31.00	40.00	-9.00	91	100	QP
6	631.6884	17.89	17.78	35.67	47.00	-11.33	175	100	QP

**Plot of Radiated Emissions Test Data (Below 1GHz)**

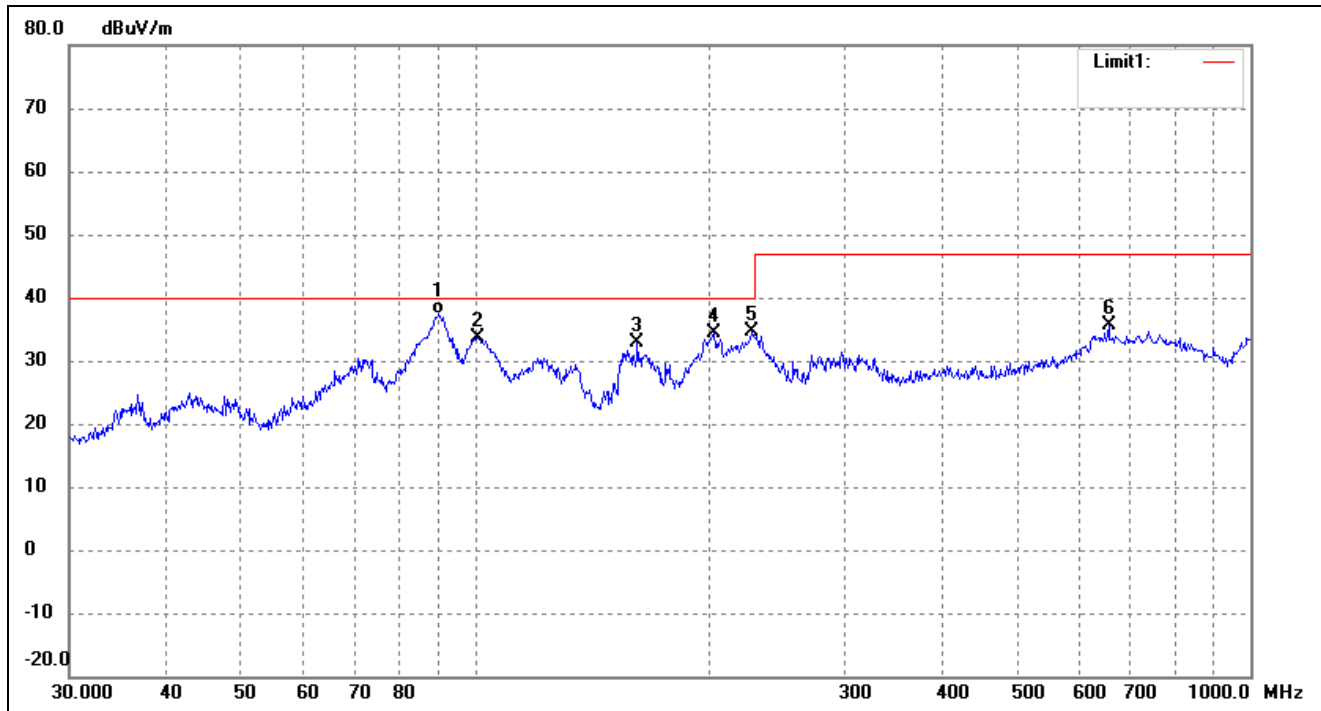
EUT: Smart Phone

Tested Model: VOLT X

Operating Condition: TM4

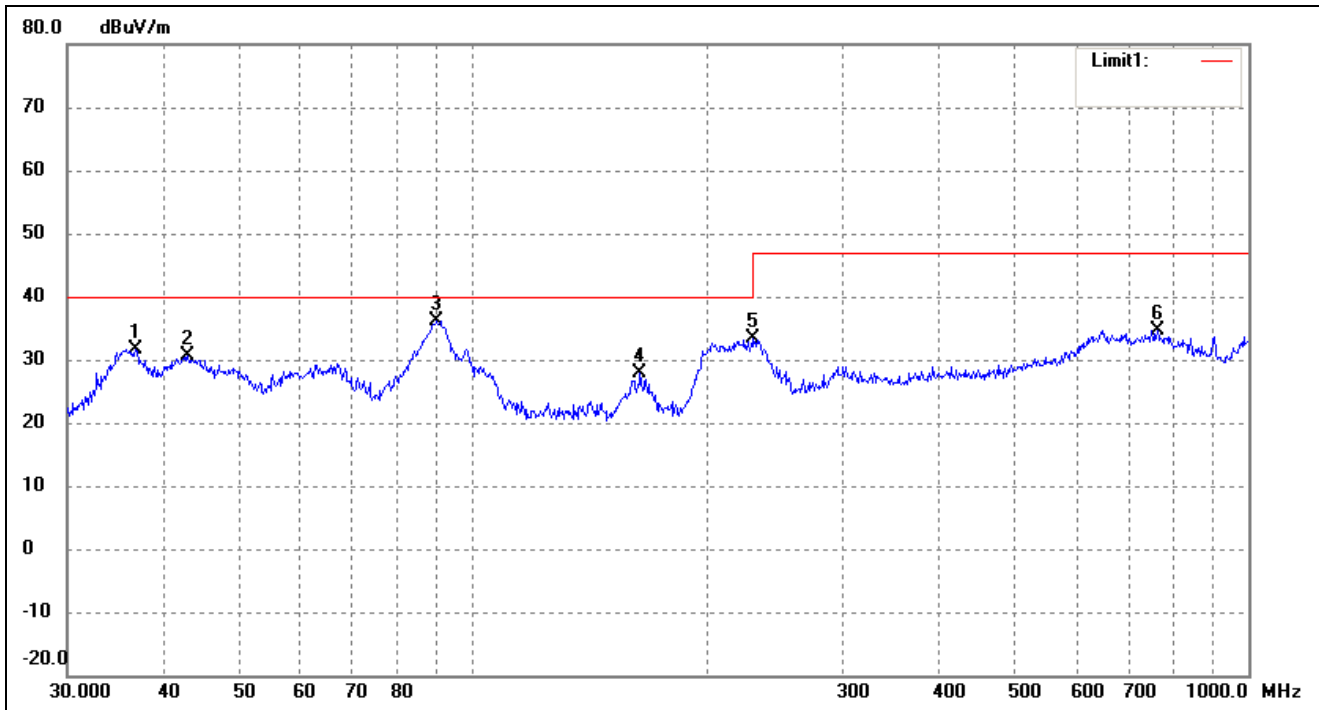
Comment: DC 5V

Test Specification: Horizontal



No.	Frequency (MHz)	Reading (dBuV/m)	Correct dB/m	Result (dBuV/m)	Limit (dBuV/m)	Margin (dB)	Degree ( )	Height (cm)	Remark
1	89.9047	34.09	3.38	37.47	40.00	-2.53	81	100	QP
2	100.9340	28.62	4.92	33.54	40.00	-6.46	247	100	QP
3	162.0414	30.42	2.41	32.83	40.00	-7.17	107	100	QP
4	203.5228	30.13	4.13	34.26	40.00	-5.74	83	100	QP
5	227.6906	26.44	8.14	34.58	40.00	-5.42	86	100	QP
6	656.5300	17.91	17.67	35.58	47.00	-11.42	258	100	QP

Test Specification: Vertical



No.	Frequency (MHz)	Reading (dBuV/m)	Correct (dB/m)	Result (dBuV/m)	Limit (dBuV/m)	Margin (dB)	Degree ( )	Height (cm)	Remark
1	36.7662	27.23	4.45	31.68	40.00	-8.32	199	100	QP
2	42.8998	25.76	4.94	30.70	40.00	-9.30	253	100	QP
3	89.9047	32.85	3.38	36.23	40.00	-3.77	153	100	QP
4	164.3302	25.54	2.44	27.98	40.00	-12.02	71	100	QP
5	230.0985	25.13	8.31	33.44	47.00	-13.56	170	100	QP
6	763.3757	16.73	17.95	34.68	47.00	-12.32	220	100	QP

### Emissions 1 - 6 GHz

During measurements from 1 GHz to 6 GHz, only base noise was detected.

---

## 5. Harmonic Current Emissions

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### 5.1 Test Procedure

Test is conducting under the description of EN61000-3-2.

### 5.2 Test Standards

EN61000-3-2, Clause 7.1 Limits for Class A equipment.

### Environmental Conditions

Temperature:	22 °C
Relative Humidity:	48%
ATM Pressure:	1022 mbar

### 5.3 Harmonic Current Emissions Test Data

## Harmonics – Class-A per Ed. 3.2 (2009)(Run time)

EUT: Smart Phone

Tested by: Iven

Test category: Class-A per Ed. 3.2 (2009) (European limits)

Test Margin: 100

Test date: 2016-12-16

Start time: 02:07:49 PM

End time: 02:10:40 PM

Test duration (min): 2.5

Data file name: H-000638.cts\_data

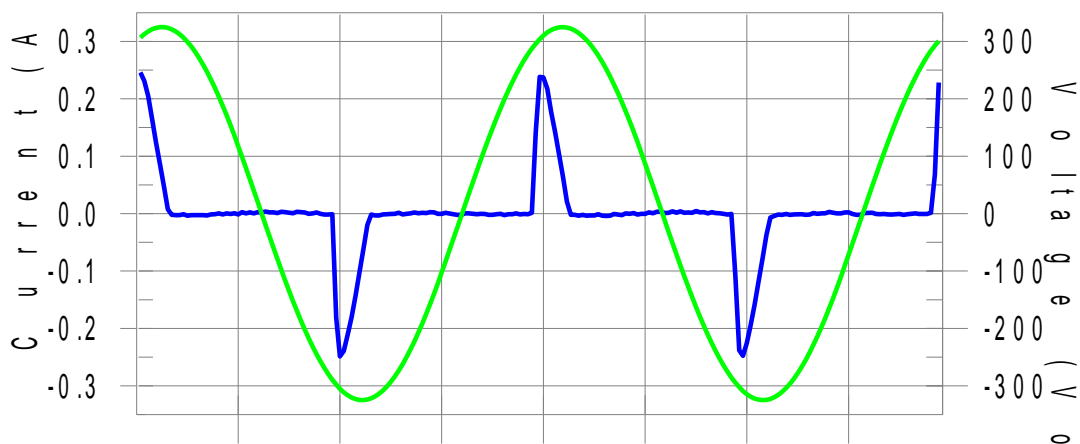
Comment: TM1

Customer: Vonino EElectronics LTD.

Test Result: Pass

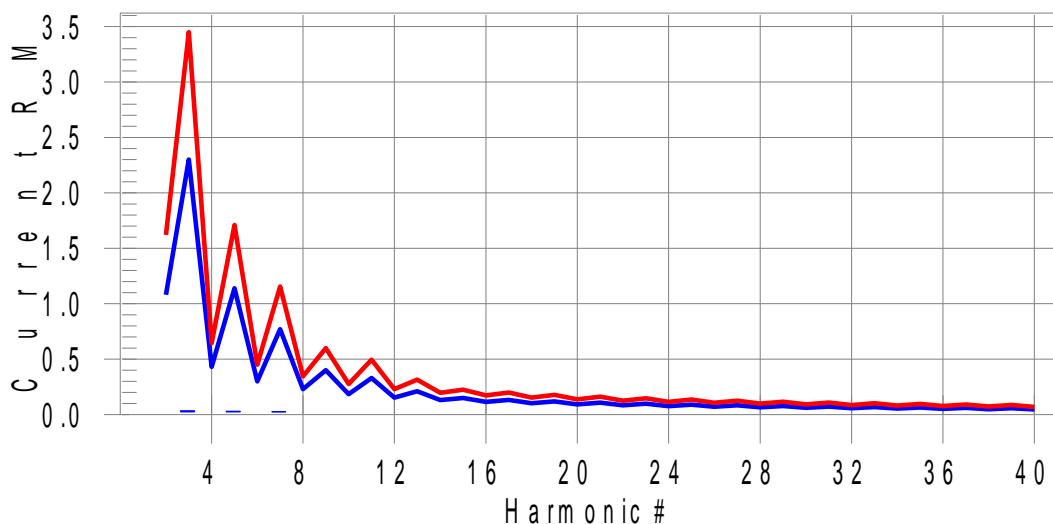
Source qualification: Normal

### Current & voltage waveforms



### Harmonics and Class A limit line

### European Limits



**Test result: Pass**      **Worst harmonic was #19 with 5.00% of the limit.**



### Current Test Result Summary (Run time)

EUT: Smart Phone Tested by: Iven  
 Test category: Class-A per Ed. 3.2 (2009) (European limits) Test Margin: 100  
 Test date: 2016-12-16 Start time: 02:07:49 PM End time: 02:10:40 PM  
 Test duration (min): 2.5 Data file name: H-000638.cts\_data  
 Comment: TM1  
 Customer: Vonino EElectronics LTD.

Test Result: Pass Source qualification: Normal  
 THC(A): 0.06 I-THD(%): 157.76 POHC(A): 0.005 POHC Limit(A): 0.309

#### Highest parameter values during test:

V_RMS (Volts): 229.80	Frequency(Hz): 50.00
I_Peak (Amps): 0.256	I_RMS (Amps): 0.071
I_Fund (Amps): 0.038	Crest Factor: 3.645
Power (Watts): 8.4	Power Factor: 0.522

Harm#	Harms(avg)	100%Limit	%of Limit	Harms(max)	150%Limit	%of Limit	Status
2	0.001	1.080	0.0	0.001	1.620	0.05	Pass
3	0.035	2.300	1.5	0.036	3.450	1.04	Pass
4	0.000	0.430	0.0	0.001	0.645	0.08	Pass
5	0.031	1.140	2.7	0.031	1.710	1.80	Pass
6	0.000	0.300	0.0	0.000	0.450	0.06	Pass
7	0.025	0.770	3.2	0.025	1.155	2.16	Pass
8	0.000	0.230	0.0	0.000	0.345	0.05	Pass
9	0.019	0.400	4.6	0.019	0.600	3.11	Pass
10	0.000	0.184	0.0	0.000	0.276	0.07	Pass
11	0.013	0.330	3.9	0.013	0.495	2.60	Pass
12	0.000	0.153	0.0	0.000	0.230	0.06	Pass
13	0.008	0.210	4.0	0.008	0.315	2.69	Pass
14	0.000	0.131	0.0	0.000	0.197	0.04	Pass
15	0.006	0.150	4.2	0.006	0.225	2.83	Pass
16	0.000	0.115	0.0	0.000	0.173	0.07	Pass
17	0.006	0.132	4.6	0.006	0.199	3.07	Pass
18	0.000	0.102	0.0	0.000	0.153	0.10	Pass
19	0.006	0.118	5.0	0.006	0.178	3.37	Pass
20	0.000	0.092	0.0	0.000	0.138	0.09	Pass
21	0.005	0.107	4.9	0.005	0.161	3.34	Pass
22	0.000	0.084	0.0	0.000	0.125	0.08	Pass
23	0.004	0.098	0.0	0.004	0.147	2.95	Pass
24	0.000	0.077	0.0	0.000	0.115	0.08	Pass
25	0.003	0.090	0.0	0.003	0.135	2.46	Pass
26	0.000	0.071	0.0	0.000	0.106	0.10	Pass
27	0.003	0.083	0.0	0.003	0.125	2.22	Pass

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28	0.000	0.066	0.0	0.000	0.099	0.15	Pass
29	0.003	0.078	0.0	0.003	0.116	2.34	Pass
30	0.000	0.061	0.0	0.000	0.092	0.12	Pass
31	0.003	0.073	0.0	0.003	0.109	2.47	Pass
32	0.000	0.058	0.0	0.000	0.086	0.16	Pass
33	0.002	0.068	0.0	0.002	0.102	2.41	Pass
34	0.000	0.054	0.0	0.000	0.081	0.10	Pass
35	0.002	0.064	0.0	0.002	0.096	2.16	Pass
36	0.000	0.051	0.0	0.000	0.077	0.09	Pass
37	0.002	0.061	0.0	0.002	0.091	1.84	Pass
38	0.000	0.048	0.0	0.000	0.073	0.12	Pass
39	0.001	0.058	0.0	0.001	0.087	1.68	Pass
40	0.000	0.046	0.0	0.000	0.069	0.13	Pass

## Voltage Source Verification Data (Run time)

EUT: Smart Phone Tested by: Iven  
 Test category: Class-A per Ed. 3.2 (2009) (European limits) Test Margin: 100  
 Test date: 2016-12-16 Start time: 02:07:49 PM End time: 02:10:40 PM  
 Test duration (min): 2.5 Data file name: H-000638.cts\_data  
 Comment: TM1  
 Customer: Vonino EElectronics LTD.

Test Result: Pass Source qualification: Normal

### Highest parameter values during test:

Voltage (Vrms): 229.80	Frequency(Hz): 50.00
I_Peak (Amps): 0.256	I_RMS (Amps): 0.071
I_Fund (Amps): 0.038	Crest Factor: 3.645
Power (Watts): 8.4	Power Factor: 0.522

Harm#	Harmonics V-rms	Limit V-rms	% of Limit	Status
2	0.059	0.460	12.94	OK
3	0.538	2.068	26.03	OK
4	0.057	0.460	12.48	OK
5	0.071	0.919	7.77	OK
6	0.028	0.460	6.00	OK
7	0.021	0.689	3.00	OK
8	0.014	0.459	3.14	OK
9	0.014	0.460	3.11	OK
10	0.010	0.459	2.25	OK
11	0.022	0.230	9.41	OK
12	0.009	0.230	4.10	OK
13	0.011	0.230	4.85	OK
14	0.003	0.230	1.50	OK
15	0.012	0.230	5.35	OK
16	0.008	0.230	3.49	OK
17	0.015	0.230	6.56	OK
18	0.010	0.230	4.19	OK
19	0.011	0.230	4.70	OK
20	0.014	0.230	6.18	OK
21	0.012	0.230	5.26	OK
22	0.005	0.230	2.00	OK
23	0.009	0.230	3.74	OK
24	0.002	0.230	0.77	OK
25	0.007	0.230	3.17	OK
26	0.002	0.230	0.66	OK
27	0.008	0.230	3.61	OK

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28	0.003	0.230	1.33	OK
29	0.004	0.230	1.77	OK
30	0.003	0.230	1.12	OK
31	0.005	0.230	2.00	OK
32	0.002	0.230	1.00	OK
33	0.004	0.230	1.91	OK
34	0.002	0.230	0.70	OK
35	0.005	0.230	2.09	OK
36	0.001	0.230	0.52	OK
37	0.007	0.230	2.97	OK
38	0.002	0.230	0.72	OK
39	0.006	0.230	2.67	OK
40	0.008	0.230	3.41	OK

## 6. Voltage Fluctuation Flicker

---

### 6.1 Test Procedure

Test is conducting under the description of EN61000-3-3.

### 6.2 Test Standards

EN61000-3-3, Limit: Clause 5.

### Environmental Conditions

Temperature:	22 °C
Relative Humidity:	48%
ATM Pressure:	1022 mbar

### 6.3 Voltage Fluctuation and Flicker Test Data

**Flicker Test Summary per EN/IEC61000-3-3 (Run time)**

EUT: Smart Phone

Tested by: Iven

Test category: All parameters (European limits)

Test Margin: 100

Test date: 2016-12-16

Start time: 02:12:16 PM

End time: 02:22:37 PM

Test duration (min): 10

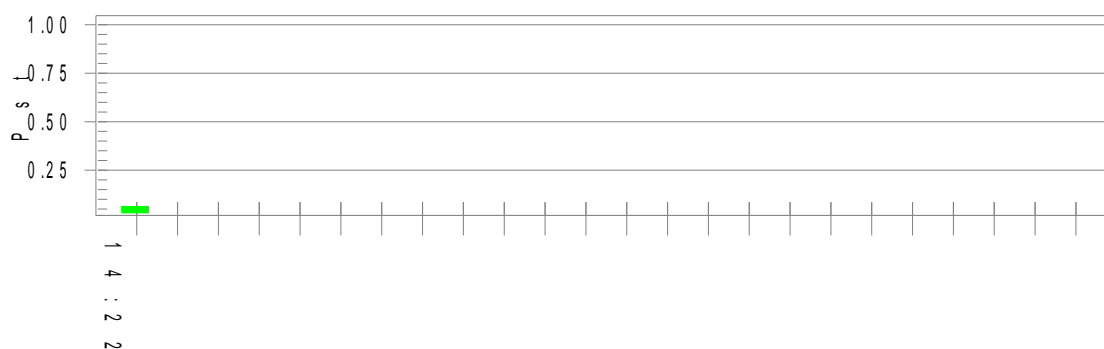
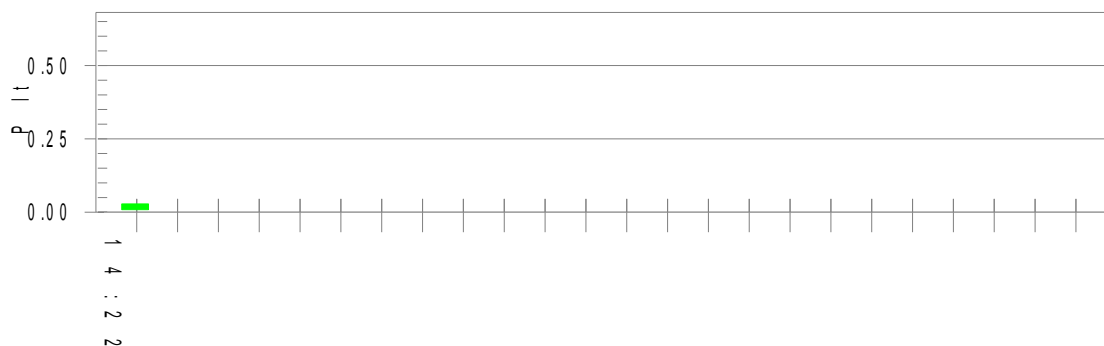
Data file name: F-000639.cts\_data

Comment: TM1

Customer: Vonino EElectronics LTD.

Test Result: Pass

Status: Test Completed

**Pst<sub>i</sub> and limit line****European Limits****Plt and limit line****Parameter values recorded during the test:**

Vrms at the end of test (Volt): 229.77

Highest dt (%): 0.00      Test limit (%): 3.30      Pass

Time(mS) &gt; dt: 0.0      Test limit (mS): 500.0      Pass

Highest dc (%): 0.00      Test limit (%): 3.30      Pass

Highest dmax (%): 0.00      Test limit (%): 4.00      Pass

Highest Pst (10 min. period): 0.064      Test limit: 1.000      Pass

Highest Plt (2 hr. period): 0.028      Test limit: 0.650      Pass

## 7. Electrostatic Discharges (ESD)

### 7.1 Test Procedure

Test is conducting under the description of IEC61000-4-2.

### Test Performance

Performance Criterion: B

### Environmental Conditions

Temperature:	26 °C
Relative Humidity:	55%
ATM Pressure:	1011 mbar

### 7.2 Electrostatic Discharge Immunity Test Data

Test Mode: TM1/TM2/TM3/TM4

Table 1: Electrostatic Discharge Immunity (Air Discharge)

EN 61000-4-2 Test Points	Test Levels (kV)									
	-2	+2	-4	+4	-6	+6	-8	+8	-15	+15
Screen	B	B	B	B	B	B	B	B		
Buttons	B	B	B	B	B	B	B	B		
loudspeaker	B	B	B	B	B	B	B	B		
I/O Port	B	B	B	B	B	B	B	B		
Camera	B	B	B	B	B	B	B	B		
Flashlight	B	B	B	B	B	B	B	B		

Table 2: Electrostatic Discharge Immunity (Direct Contact)

EN 61000-4-2 Test Points	Test Levels (kV)									
	-2	+2	-4	+4	-6	+6	-8	+8	-15	+15
/	/	/	/	/						

Table 3: Electrostatic Discharge Immunity (Indirect Contact HCP)

EN 61000-4-2 Test Points	Test Levels (kV)									
	-2	+2	-4	+4	-6	+6	-8	+8	-15	+15
Front Side	A	A	A	A						
Top Side	A	A	A	A						
Back Side	A	A	A	A						
Left Side	A	A	A	A						
Right Side	A	A	A	A						

Table 4: Electrostatic Discharge Immunity (Indirect Contact VCP)

EN 61000-4-2 Test Points	Test Levels (kV)									
	-2	+2	-4	+4	-6	+6	-8	+8	-15	+15
Front Side	A	A	A	A						
Top Side	A	A	A	A						
Back Side	A	A	A	A						
Left Side	A	A	A	A						
Right Side	A	A	A	A						

Test Result: Pass



## 8. Continuous Radiated Disturbances (R/S)

### 8.1 Test Procedure

Test is conducting under the description of IEC61000-4-3.

### Test Performance

Performance Criterion: A

### Environmental Conditions

Temperature:	25 °C
Relative Humidity:	52%
ATM Pressure:	1010 mbar

### 8.2 Continuous Radiated Disturbances Test Data

Frequency step: 1% of fundamental

Dwell time: 1 second

Modulation: AM by 1kHz sine wave with 80% modulation depth

Test Mode: TM1/TM2/TM3/TM4

Frequency Range(MHz)	Field (V/m)	Front		Rear		Left Side		Right Side	
		VERT	HORI	VERT	HORI	VERT	HORI	VERT	HORI
80-1000	3	A	A	A	A	A	A	A	A
1400-2700	3	A	A	A	A	A	A	A	A

Test Result: Pass

## 9. Electrical Fast Transients (EFT)

### 9.1 Test Procedure

Test is conducting under the description of IEC61000-4-4.

### Test Performance

Performance Criterion: B

### Environmental Conditions

Temperature:	22 °C
Relative Humidity:	53%
ATM Pressure:	1011 mbar

### 9.2 Electrical Fast Transients Test Data

TM1/TM2/TM3/TM4

EN 61000-4-4 Test Points		Test Levels (kV)							
		+0.5	-0.5	+1.0	-1.0	+2.0	-2.0	+4.0	-4.0
Power Supply  Power Port of EUT	L1	B	B	B	B	/	/	/	/
	L2	B	B	B	B	/	/	/	/
	PE	/	/	/	/	/	/	/	/
	L1+L2	B	B	B	B	/	/	/	/
	L1 + PE	/	/	/	/	/	/	/	/
	L2 + PE	/	/	/	/	/	/	/	/
	L1+L2+PE	/	/	/	/	/	/	/	/
Signal ports	/	/	/	/	/	/	/	/	

Test Result: Pass

## 10. Surges

### 10.1 Test Procedure

Test is conducting under the description of IEC 61000-4-5.

### Test Performance

Performance Criterion: B

### Environmental Conditions

Temperature:	25 °C
Relative Humidity:	53%
ATM Pressure:	1011 mbar

### 10.2 Surge Test Data

TM1/TM2/TM3/TM4

Level	Voltage	Poll	Path	Pass	Fail
1	0.5kV	±	L-N	B	/
2	1kV	±	L-N	B	/
3	2kV	±	L-PE, N-PE	/	/
4	4kV	±	L-N, L-PE, N-PE	/	/

Test Result: Pass

## 11. Continuous Conducted Disturbances (C/S)

### 11.1 Test Procedure

Test is conducting under the description of IEC 61000-4-6.

### Test Performance

Performance Criterion: A

### Environmental Conditions

Temperature:	25 °C
Relative Humidity:	53%
ATM Pressure:	1011 mbar

### 11.2 Continuous Conducted Disturbances Test Data

Sweep frequency range: 150kHz~80MHz

Frequency step: 1% of fundamental

Dwell time: 1 second

TM1/TM2/TM3/TM4

Level	Voltage Level (e.m.f.) $U_0$	Modulation:	Pass	Fail
1	1	AM 80%, 1kHz sinewave	/	/
2	3	AM 80%, 1kHz sinewave	A	/
3	10	AM 80%, 1kHz sinewave	/	/
X	Special	/	/	/

Test Result: Pass

## 12. Voltage Dips and Interruptions

### 12.1 Test Procedure

Test is conducting under the description of IEC 61000-4-11.

### Test Performance

Performance Criterion: B/C

### Environmental Conditions

Temperature:	25 °C
Relative Humidity:	50%
ATM Pressure:	1011 mbar

### 12.2 Voltage Dips And Interruptions Test Data

U: Voltage dips in %  $U_T$  ( $U_T$  is rated voltage for the EUT)

T: Test duration

TM1(Worst case)

Level	U	T	Phase Angle	N	Pass	Fail
1	100%	10ms	0/90/180/270	3	A	/
2	100%	20ms	0/90/180/270	3	A	/
3	30%	500ms	0/90/180/270	3	C	/
4	100%	5000ms	0/90/180/270	3	C	/

Test Result: Pass

## EXHIBIT 1 - PRODUCT LABELING

### Proposed CE Label Format

Smart Phone  
Model: VOLT X  
Input: 5V $\overline{\text{---}}$ , 1A or Powered by 3.8V, 4000mAh  
Rechargeable Li-polymer Battery

**CE 0700** 

Gui zhou Fortuneship Technology Co., Ltd.

Specifications: Text is Black in color and is justified. Labels are printed in indelible ink on permanent adhesive backing or silk-screened onto the EUT or shall be affixed at a conspicuous location on the EUT. The 'CE' marking must be affixed to the EUT or to its data plate. Where this is not possible or not warranted on account of the nature of the apparatus, it must be affixed to the packaging, if any, and to the accompanying documents. The 'CE' marking is allowed less than 5 mm but must clear. If the 'CE' marking is reduced or enlarged the proportions given in the above graduated drawing must be respected. The Importer name, address and Manufacturer name and address should indicate on marking label or packaging or in a document accompanying

### Proposed Label Location on EUT

CE Label Location



## EXHIBIT 2 - EUT PHOTOGRAPHS

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EUT View 1



EUT View 2



**EUT View 3****EUT Housing and Board View 1**



### EUT Housing and Board View 2



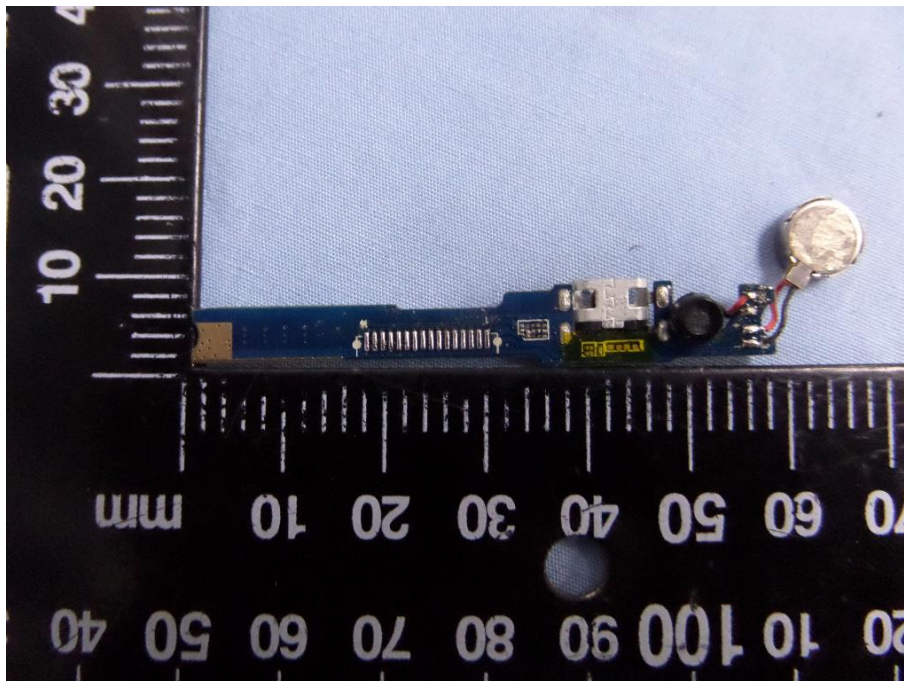
### EUT Housing and Board View 3

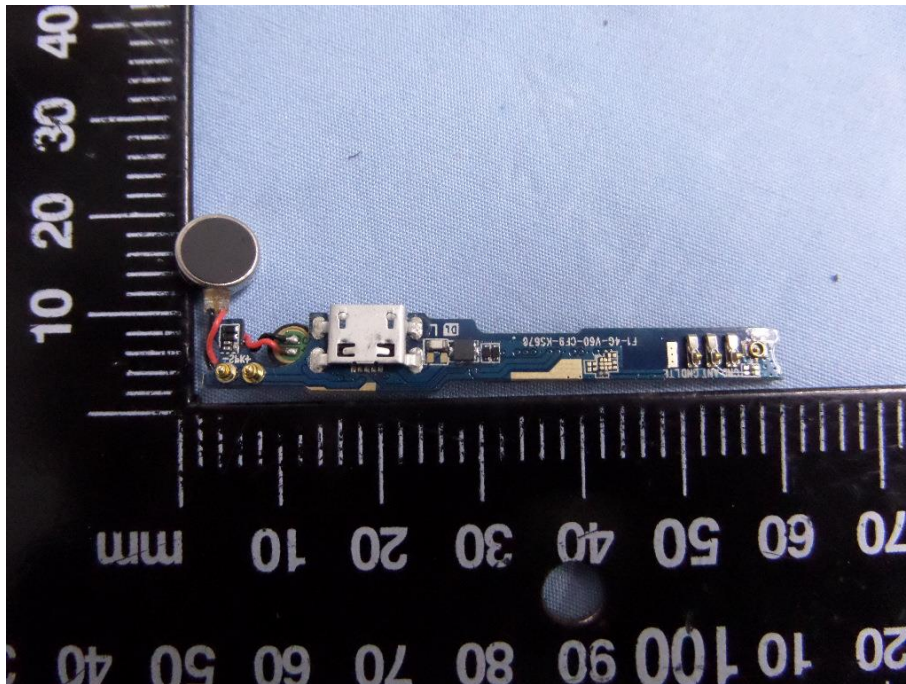
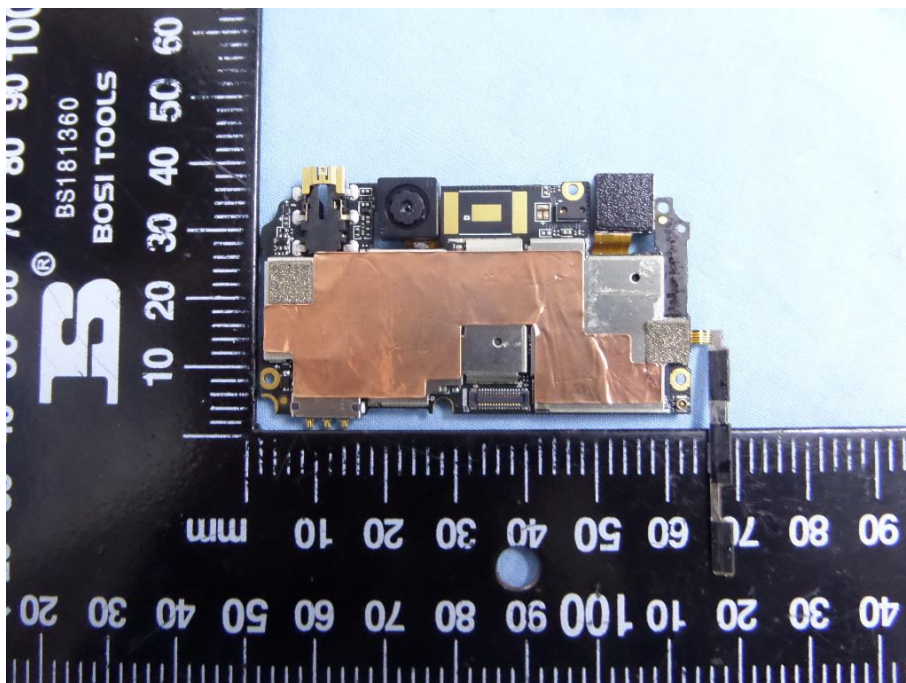


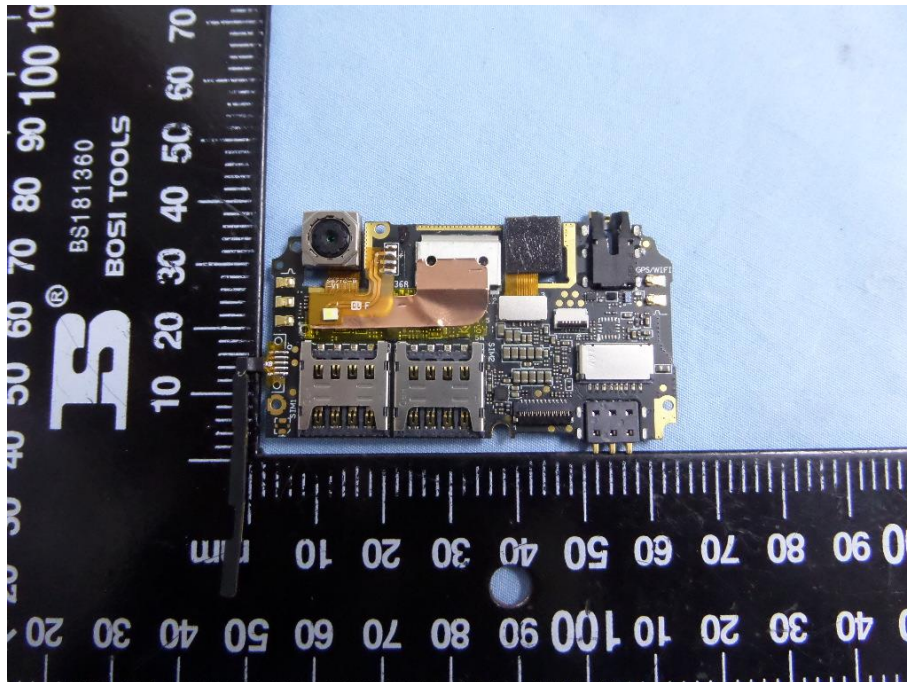
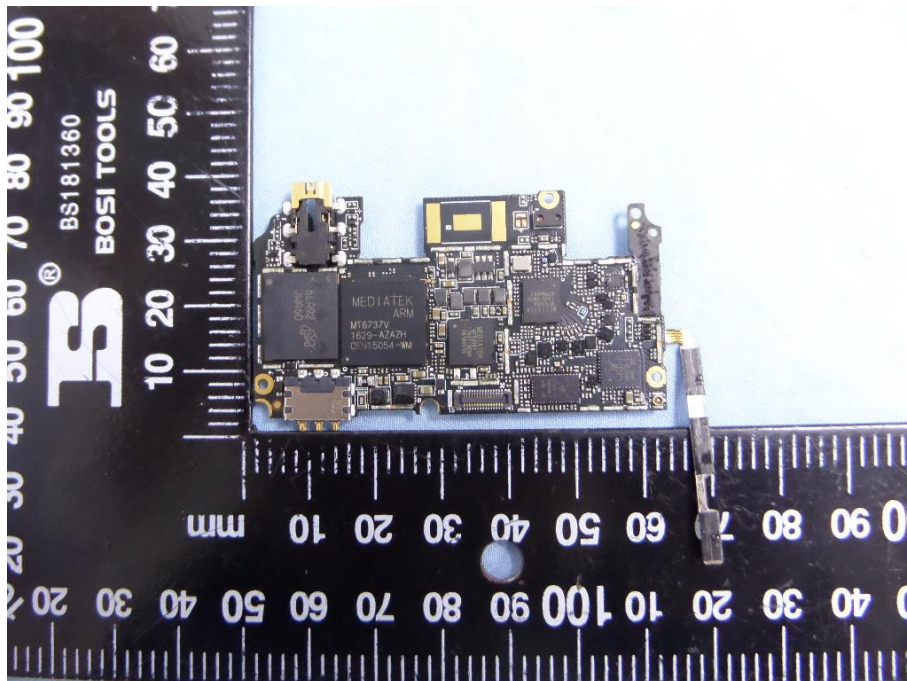
#### EUT Housing and Board View 4



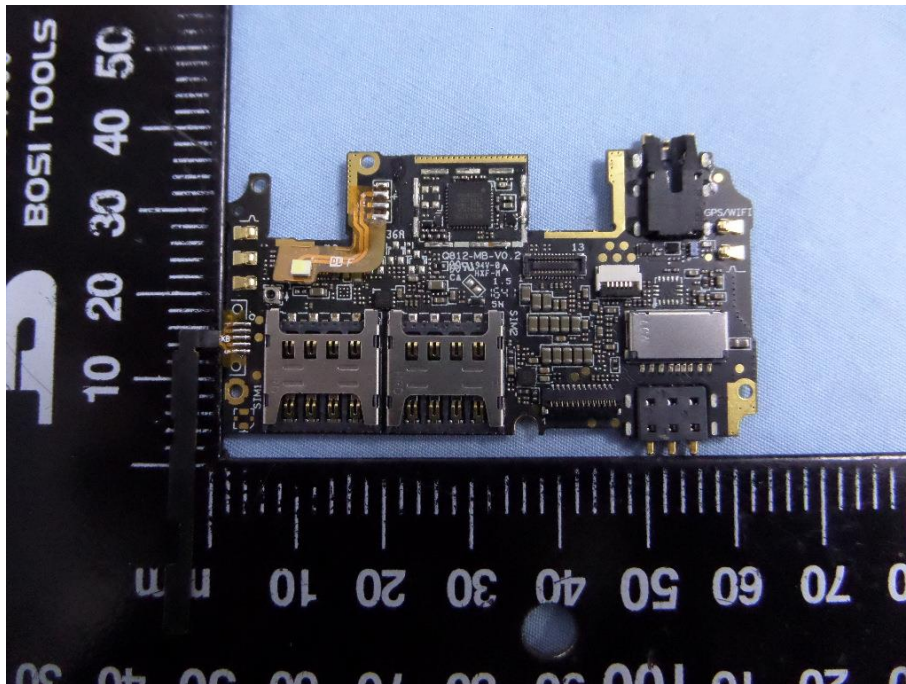
#### Solder Board-Component View 1

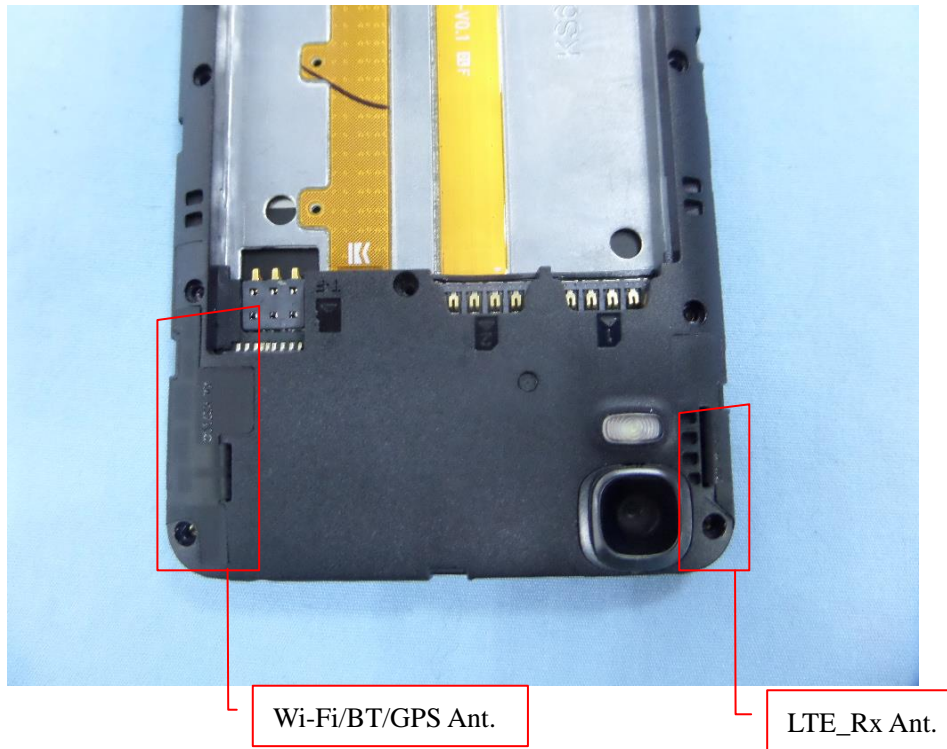


**Solder Board-Component View 2****Solder Board-Component View 3**

**Solder Board-Component View 4****Solder Board-Component View 5**

Solder Board-Component View 6

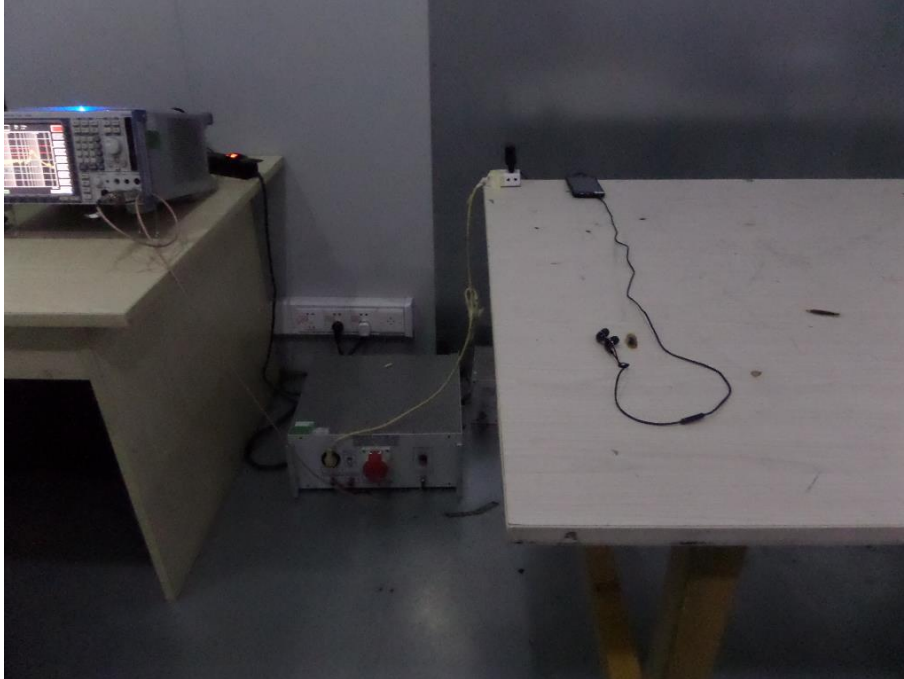


**Antenna View**

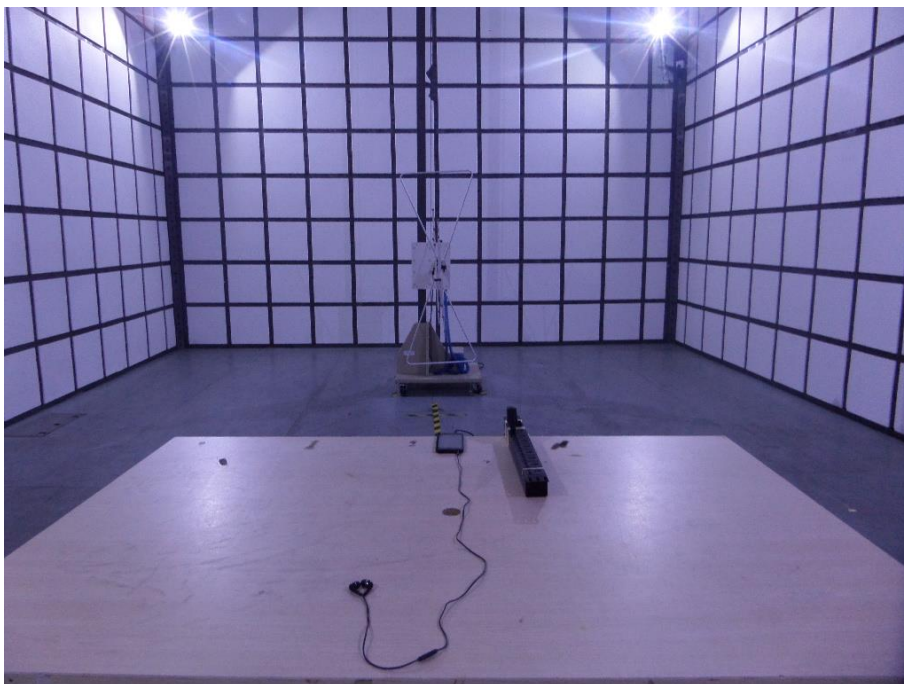
## EXHIBIT 3 - TEST SETUP PHOTOGRAPHS

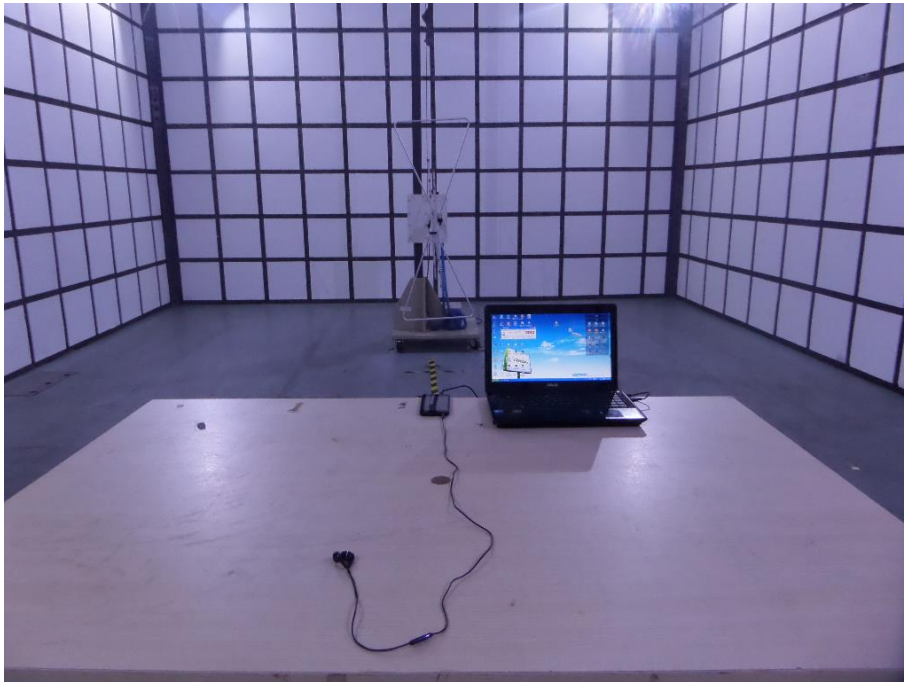
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### Conduction Emission Test View



### Radiation Emission Test View





### Harmonic/Flicker Test View

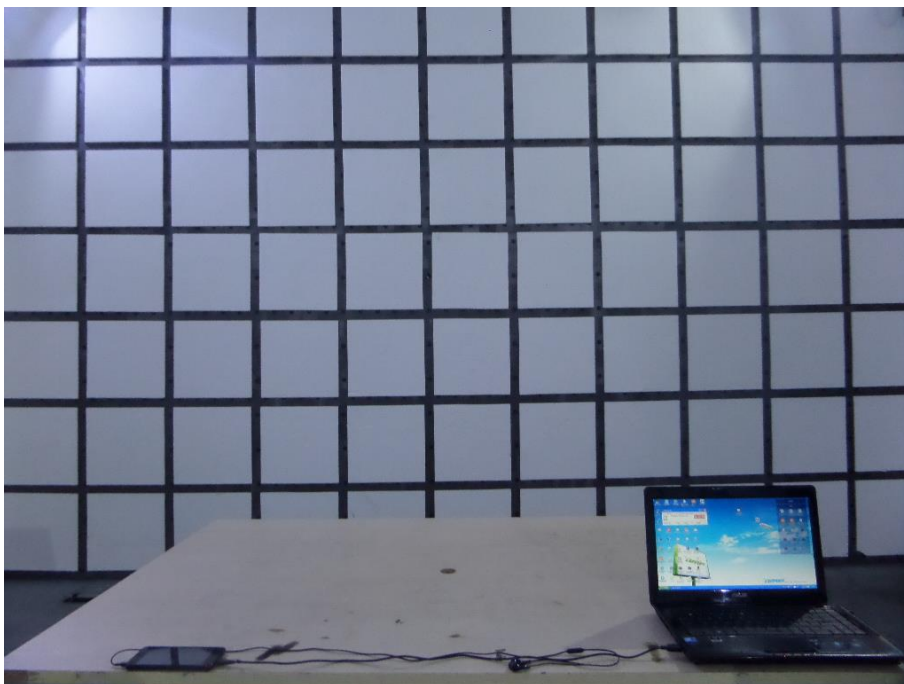
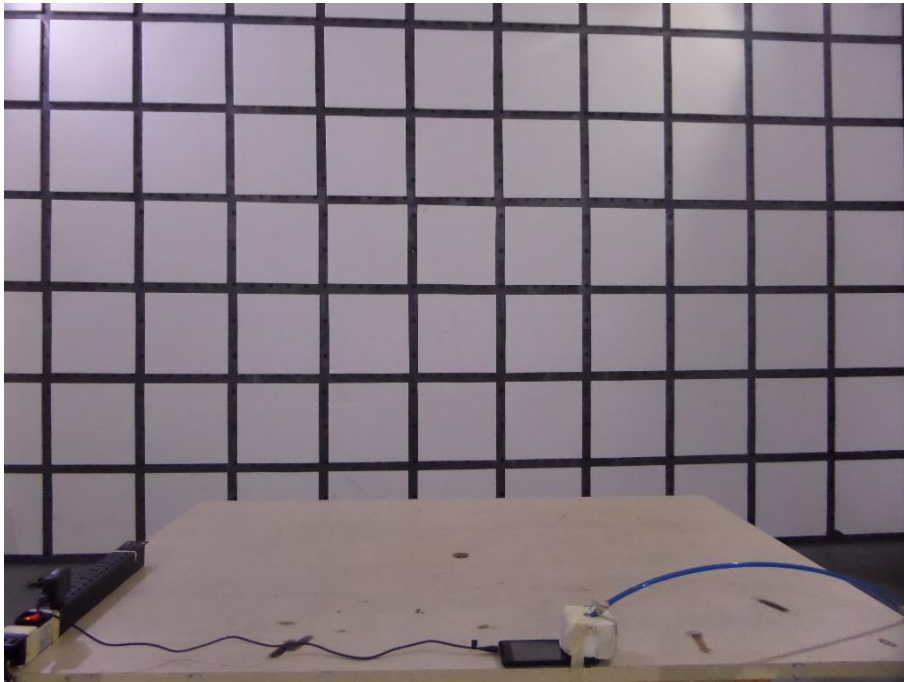




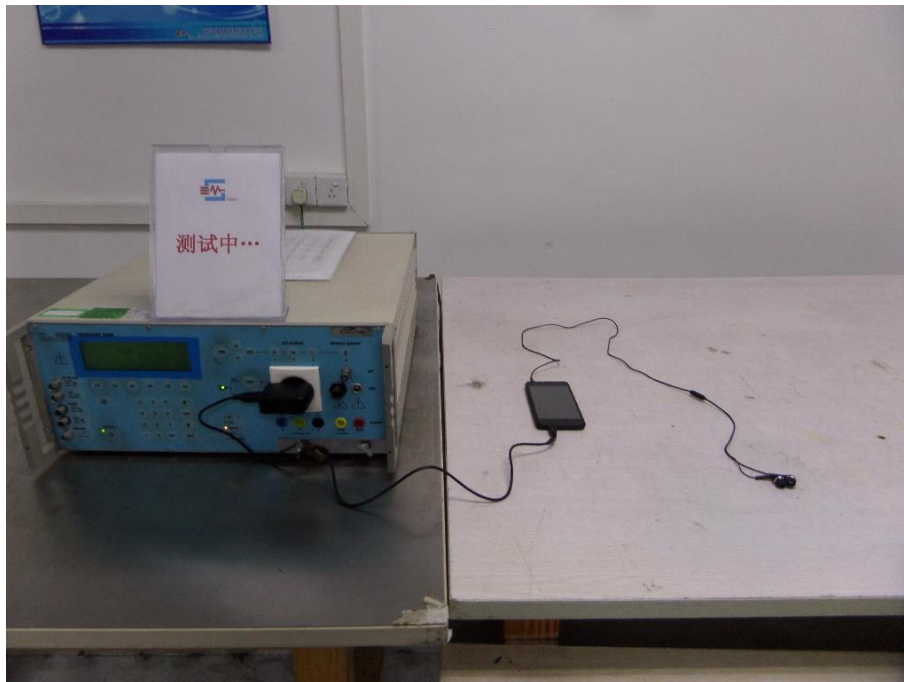
## IEC61000-4-2 Test View

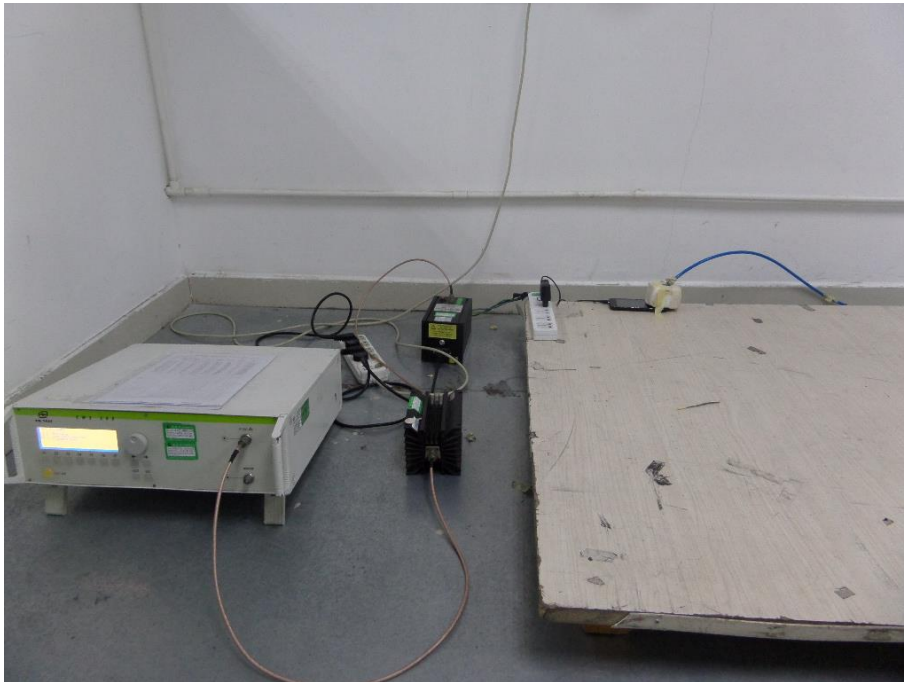




**IEC61000-4-3 Test View**

IEC61000-4-4/5/11 Test View



**IEC61000-4-6 Test View**

**\*\*\*\*\* END OF REPORT \*\*\*\*\***