SGS-CSTC Standards Technical Services Co., Ltd.
Shenzhen Branch

No. 1 Workshop, M-10, Middle section, Science & Technology Park,
Shenzhen, Guangdong, China 518057

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Email: ee.shenzhen@sgs.com

TEST REPORT

Application No.:	SZEM1612010465CR
Applicant:	ACOUSTMAX INTERNATIONAL CO., LTD.
Address of Applicant:	Unit D 16/F Cheuk Nang Plaza 250 Hennessy Road Wanchai HongKong
Manufacturer:	ACOUSTMAX INTERNATIONAL CO., LTD.
Address of Manufacturer:	Unit D 16/F Cheuk Nang Plaza 250 Hennessy Road Wanchai HongKong
Factory:	Arts Electronics Co., Ltd.
Address of Factory:	NO. 1, SHANGXING LU, SHANGJIAO COMMUNITY, CHANGAN TOWN, DONGGUAN CITY, GUANGDONG PROVINCE, CHINA
Equipment Under Test (EUT):	
EUT Name:	ROCKIN' ROLLER 3 SPEAKER
Model No.:	ROCKIN ROLLER 3(RR3), RR3-1, RR3 PRO, RR3 mini, RR3 ♣
♣	Please refer to section 2 of this report which indicates which model was actually tested and which were electrically identical.
Trade Mark:	Monster
FCC ID:	2AAINYS1349
Standards:	47 CFR PART 15,Subpart B:2015
Date of Receipt:	2016-12-06
Date of Test:	2016-12-12 to 2016-12-24
Date of Issue:	2016-12-28
Test Result :	**Pass***

* In the configuration tested, the EUT complied with the standards specified above.

Jack Zhang
EMC Laboratory Manager

The manufacturer should ensure that all products in series production are in conformity with the product sample detailed in this report.
If the product in this report is used in any configuration other than that detailed in the report, the manufacturer must ensure the new system complies with all relevant standards. Any mention of SGS International Electrical Approvals or testing done by SGS International Electrical Approvals in connection with, distribution or use of the product described in this report must be approved by SGS International Electrical Approvals in writing.
The report must not be used by the client to claim product certification, approval, or endorsement by NVLAP, NIST, or any agency of the federal government. All test results in this report can be traceable to National or International Standards.

2 Test Summary

Item	Standard	Method	Class	Result
Conducted Disturbance at Mains Terminals (150kHz-30MHz)	47 CFR PART 15,Subpart B:2015	ANSI C63.4	Class B	Pass
Radiated Disturbance (30MHz-1GHz)	47 CFR PART 15,Subpart B:2015	ANSI C63.4	Class B	Pass
Radiated Disturbance (above 1GHz)	47 CFR PART 15,Subpart B:2015	ANSI C63.4	Class B	Pass

Remark:
Model No.: ROCKIN ROLLER3(RR3), RR3-1, RR3 PRO, RR3 mini, RR3

Only the model ROCKIN ROLLER 3(RR3) was tested, since the electrical circuit design, layout, components used and internal wiring were identical for all above models, only different on model No..

3 Contents

4 General Information

4.1 Details of E.U.T.

Power Supply: Input: AC 120V 60Hz

Internal rechargeable battery: DC 12V 9Ah

Test voltage: AC 120V 60Hz

Cable: AUX in cable: 190cm unshielded

AC cable: 200cm unshielded

Microphone cable: 220cm unshielded

Receiving Frequency Range: 162.400MHz - 162.550MHz

4.2 Description of Support Units

Description	Manufacturer	Model No.	Serial No.
Load Resistor	SGS	N/A	REF. No.SEA0600
Micro USB Cable	PHILIPS	SWR2101	REF. No.SEA0700

4.3 Standards Applicable for Testing

Table 1 : Tests Carried Out Under 47 CFR PART 15,Subpart B:2015

Method	Item	Status
ANSI C63.4	Conducted Disturbance at Mains Terminals (150kHz-30MHz)	√
ANSI C63.4	Radiated Disturbance(30MHz-1GHz)	√
ANSI C63.4	Radiated Disturbance(above 1GHz)	√

× Indicates that the test is not applicable
√ Indicates that the test is applicable

4.4 Test Location

All tests were performed at:

SGS-CSTC Standards Technical Services Co., Ltd., Shenzhen Branch

No. 1 Workshop, M-10, Middle section, Science & Technology Park, Shenzhen, Guangdong,

China 518057

Tel: +86 755 2601 2053 Fax: +86 755 2671 0594

No tests were sub-contracted.

4.5 Test Facility

The test facility is recognized, certified, or accredited by the following organizations:

•CNAS (No. CNAS L2929)

CNAS has accredited SGS-CSTC Standards Technical Services Co., Ltd. Shenzhen Branch EMC Lab to ISO/IEC 17025:2005 General Requirements for the Competence of Testing and Calibration Laboratories (CNAS-CL01 Accreditation Criteria for the Competence of Testing and Calibration Laboratories) for the competence in the field of testing.

• A2LA (Certificate No. 3816.01)

SGS-CSTC Standards Technical Services Co., Ltd., Shenzhen EMC Laboratory is accredited by the American Association for Laboratory Accreditation(A2LA). Certificate No. 3816.01.

• VCCI

The 10m Semi-anechoic chamber and Shielded Room of SGS-CSTC Standards Technical Services Co., Ltd. have been registered in accordance with the Regulations for Voluntary Control Measures with Registration No.: G-823, R-4188, T-1153 and C-2383 respectively.

• FCC – Registration No.: 556682

SGS-CSTC Standards Technical Services Co., Ltd., Shenzhen 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. Registration No.: 556682.

• Industry Canada (IC)

Two 3m Semi-anechoic chambers and the 10m Semi-anechoic chamber of SGS-CSTC Standards Technical Services Co., Ltd. Shenzhen Branch EMC Lab have been registered by Certification and Engineering Bureau of Industry Canada for radio equipment testing with Registration No.: 4620C-1, 4620C-2, 4620C-3.

4.6 Deviation from Standards

None

4.7 Abnormalities from Standard Conditions

None

5 Equipment List

Conducted Disturbance at Mains Terminals(150kHz-30MHz)						
Item	**Equipment**	**Manufacturer**	**Model No**	**Inventory No**	**Cal Date**	**Cal Due Date**
1	Shielding Room	ChangZhou ZhongYu	GB-88	SEM001-06	2016-05-13	2017-05-13
2	LISN	Rohde & Schwarz	ENV216	SEM007-01	2016-10-09	2017-10-09
3	LISN	ETS-LINDGREN	3816/2	SEM007-02	2016-04-25	2017-04-25
4	EMI Test Receiver	Rohde & Schwarz	ESCI	SEM004-02	2016-04-25	2017-04-25

Radiated Disturbance(30MHz-1GHz)						
Item	**Equipment**	**Manufacturer**	**Model No**	**Inventory No**	**Cal Date**	**Cal Due Date**
1	3m Semi-Anechoic Chamber	ETS-LINDGREN	N/A	SEM001-01	2016-05-13	2017-05-13
2	EMI Test Receiver	Agilent Technologies	N9038A	SEM004-05	2016-10-09	2017-10-09
3	BiConiLog Antenna (26-3000MHz)	ETS-LINDGREN	3142C	SEM003-01	2014-11-01	2017-11-01
4	Pre-amplifier (0.1-1300MHz)	Agilent Technologies	8447D	SEM005-01	2016-04-25	2017-04-25

Radiated Disturbance(above 1GHz)						
Item	**Equipment**	**Manufacturer**	**Model No**	**Inventory No**	**Cal Date**	**Cal Due Date**
1	3m Semi-Anechoic Chamber	AUDIX	N/A	SEM001-02	2016-05-13	2017-05-13
2	EXA Spectrum Analyzer	AgilentTechnologies Inc	N9010A	SEM004-09	2016-07-19	2017-07-19
3	Horn Antenna (1-18GHz)	Rohde & Schwarz	HF907	SEM003-06	2015-06-14	2018-06-14
4	Low Noise Amplifier	Black Diamond Series	BDLNA-0118-352810	SEM005-05	2016-10-09	2017-10-09

General used equipment						
Item	**Equipment**	**Manufacturer**	**Model No**	**Inventory No**	**Cal Date**	**Cal Due Date**
1	Humidity/ Temperature Indicator	Shanghai Meteorological Industry Factory	ZJ1-2B	SEM002-03	2016-10-12	2017-10-12
2	Humidity/ Temperature Indicator	Shanghai Meteorological Industry Factory	ZJ1-2B	SEM002-04	2016-10-12	2017-10-12
3	Humidity/ Temperature Indicator	Mingle	N/A	SEM002-08	2016-10-12	2017-10-12
4	Barometer	Changchun Meteorological Industry Factory	DYM3	SEM002-01	2016-05-18	2017-05-18

6 Emission Test Results

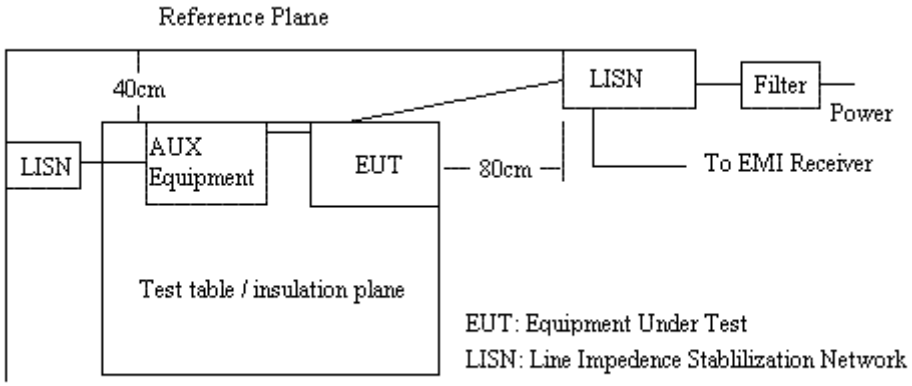
6.1 Conducted Disturbance at Mains Terminals(150kHz-30MHz)

Test Requirement:	47 CFR PART 15,Subpart B:2015
Test Method:	ANSI C63.4
Frequency Range:	150kHz to 30MHz
Limit:	
0.15M-0.5MHz	66dB(μV)-56dB(μV) quasi-peak, 56dB(μV)-46dB(μV) average
0.5M-5MHz	56dB(μV) quasi-peak, 46dB(μV) average
5M-30MHz	60dB(μV) quasi-peak, 50dB(μV) average
Detector:	Peak for pre-scan (9kHz resolution bandwidth) 0.15M to 30MHz

6.1.1 E.U.T. Operation

Operating Environment:								
Temperature:	25.0	°C	Humidity:	55	% RH	Atmospheric Pressure:	1015	mbar
Pretest these mode to find the worst case:	e: NOAA+ charge+ discharge, Keep EUT working at low channel while discharging with full load and being charged. f: NOAA+ charge+ discharge, Keep EUT working at middle channel while discharging with full load and being charged. g: NOAA+ charge+ discharge, Keep EUT working at high channel while discharging with full load and being charged.							
The worst case for final test:	f: NOAA+ charge+ discharge, Keep EUT working at middle channel while discharging with full load and being charged.							

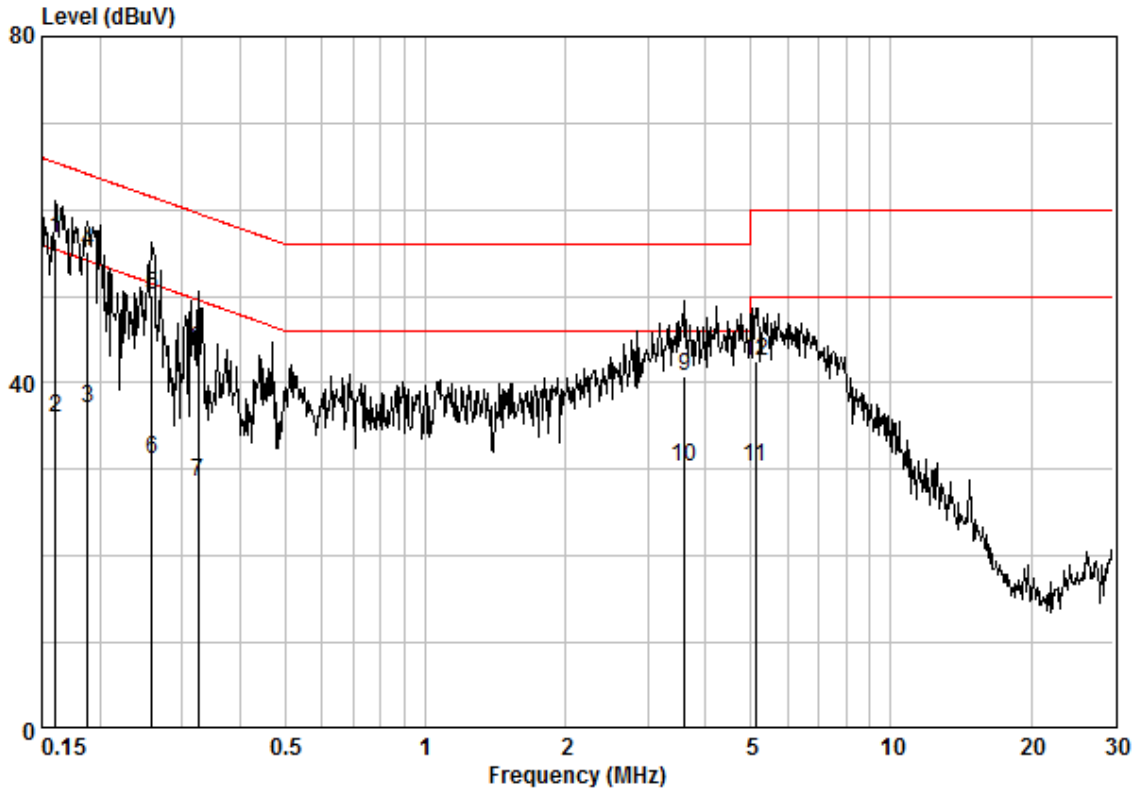
6.1.2 Test Setup



6.1.3 Measurement Data

An initial pre-scan was performed with peak detector.Quasi-Peak or Average measurement were performed at the frequencies with maximized peak emission were detected.

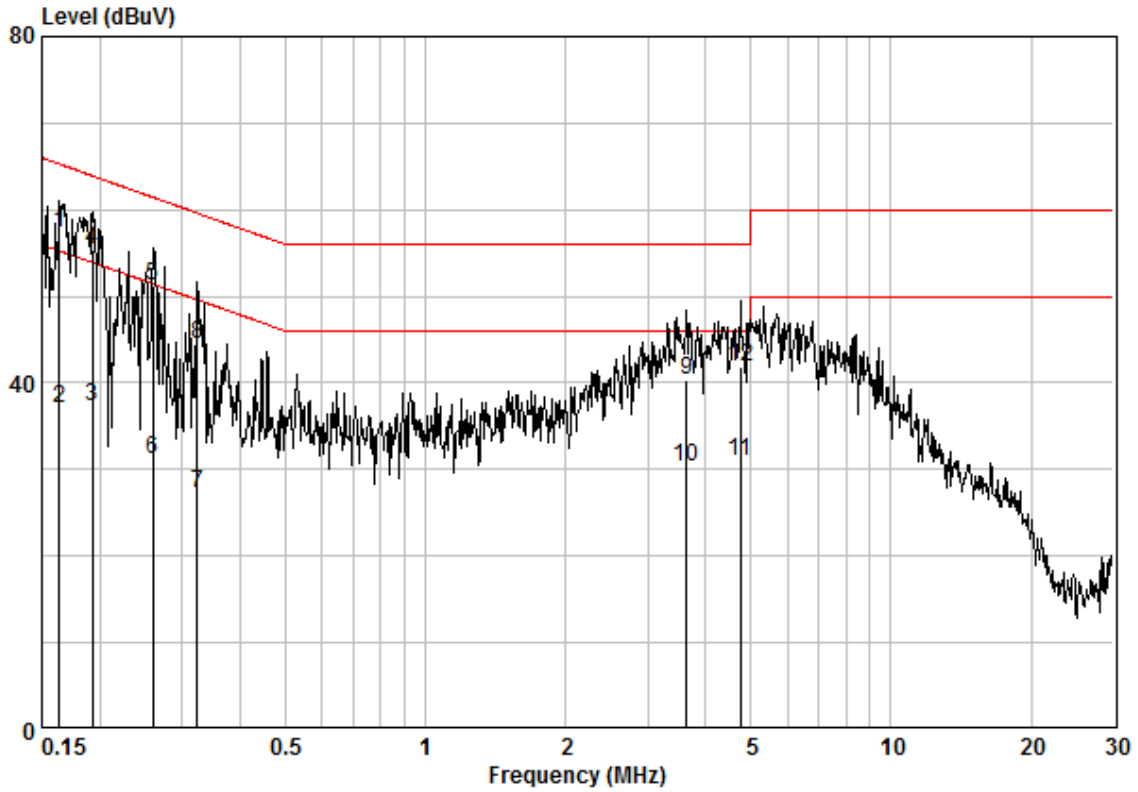
Mode:f;Line:Live Line



Site : Shielding Room
Condition : CE LINE
Model : 10465CR
Test mode : f

	Freq	Cable Loss	LISN Factor	Read Level	Level	Limit Line	Over Limit	Remark
	MHz	dB	dB	dBuV	dBuV	dBuV	dB	
1 @	0.16070	0.02	9.60	47.09	56.70	65.43	-8.72	QP
2	0.16070	0.02	9.60	26.41	36.03	55.43	-19.40	AVERAGE
3	0.18838	0.02	9.60	27.42	37.04	54.11	-17.07	AVERAGE
4	0.18838	0.02	9.60	45.63	55.25	64.11	-8.86	QP
5	0.25888	0.02	9.60	40.58	50.20	61.47	-11.27	QP
6	0.25888	0.02	9.60	21.61	31.23	51.47	-20.24	AVERAGE
7	0.32512	0.02	9.59	18.92	28.53	49.57	-21.04	AVERAGE
8	0.32512	0.02	9.59	34.11	43.72	59.57	-15.86	QP
9	3.603	0.02	9.63	31.11	40.76	56.00	-15.24	QP
10	3.603	0.02	9.63	20.62	30.27	46.00	-15.73	AVERAGE
11	5.112	0.02	9.65	20.69	30.36	50.00	-19.64	AVERAGE
12	5.112	0.02	9.65	32.75	42.42	60.00	-17.58	QP

Mode:f;Line:Neutral Line



Site : Shielding Room
Condition : CE NEUTRAL
Model : 10465CR
Test mode : f

	Freq	Cable Loss	LISN Factor	Read Level	Level	Limit Line	Over Limit	Remark
	MHz	dB	dB	dBuV	dBuV	dBuV	dB	
1 @	0.16327	0.02	9.61	47.66	57.29	65.30	-8.01	QP
2	0.16327	0.02	9.61	27.32	36.95	55.30	-18.35	AVERAGE
3	0.19242	0.02	9.62	27.53	37.17	53.93	-16.76	AVERAGE
4 @	0.19242	0.02	9.62	45.79	55.42	63.93	-8.51	QP
5	0.26025	0.02	9.61	41.49	51.12	61.42	-10.30	QP
6	0.26025	0.02	9.61	21.60	31.23	51.42	-20.19	AVERAGE
7	0.32340	0.02	9.62	17.60	27.24	49.62	-22.38	AVERAGE
8	0.32340	0.02	9.62	34.86	44.50	59.62	-15.12	QP
9	3.642	0.02	9.68	30.61	40.31	56.00	-15.69	QP
10	3.642	0.02	9.68	20.57	30.27	46.00	-15.73	AVERAGE
11	4.746	0.02	9.71	21.28	31.01	46.00	-14.99	AVERAGE
12	4.746	0.02	9.71	32.14	41.87	56.00	-14.13	QP

6.2 Radiated Disturbance(30MHz-1GHz)

Test Requirement:	47 CFR PART 15,Subpart B:2015
Test Method:	ANSI C63.4
Frequency Range:	30MHz to 1GHz
Limit:	
30MHz -88MHz	40.0(dBμV/m) quasi-peak
88MHz-216MHz	43.5(dBμV/m) quasi-peak
216MHz-960MHz	46.0(dBμV/m) quasi-peak
960MHz-1000MHz	54.0(dBμV/m) quasi-peak
Detector:	Peak for pre-scan (120kHz resolution bandwidth) 30M to1000MHz

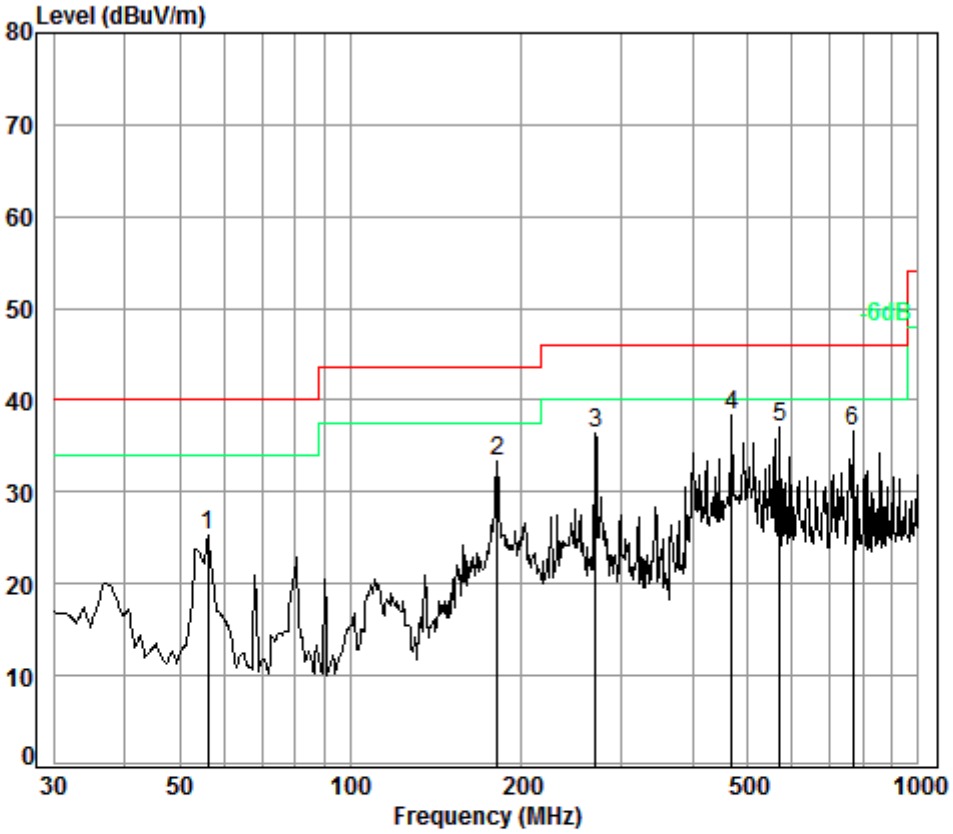
6.2.1 E.U.T. Operation

Operating Environment:								
Temperature:	24.0	°C	Humidity:	54	% RH	Atmospheric Pressure:	1010	mbar
Pretest these mode to find the worst case:	e: NOAA+ charge+ discharge, Keep EUT working at low channel while discharging with full load and being charged. f: NOAA+ charge+ discharge, Keep EUT working at middle channel while discharging with full load and being charged. g: NOAA+ charge+ discharge, Keep EUT working at high channel while discharging with full load and being charged.							
The worst case for final test:	e: NOAA+ charge+ discharge, Keep EUT working at low channel while discharging with full load and being charged.							

6.2.2 Measurement Data

An initial pre-scan was performed in the chamber using the spectrum analyser in peak detection mode. Quasi-peak measurements were conducted based on the peak sweep graph. The EUT was measured by BiConiLog antenna with 2 orthogonal polarities.

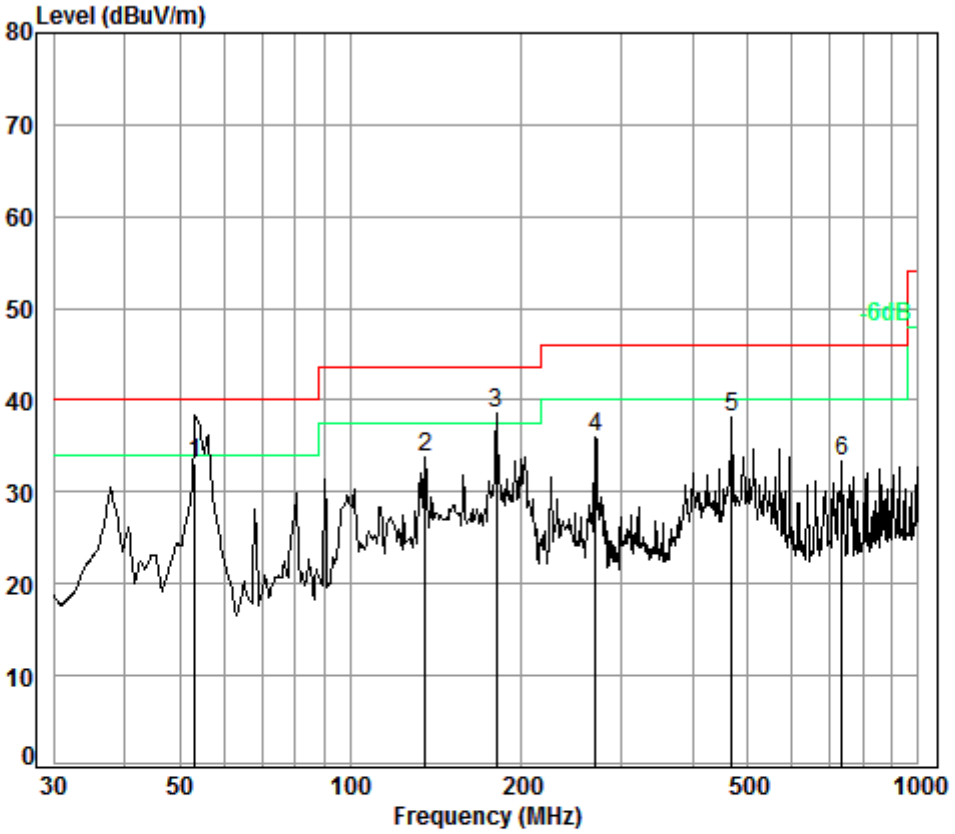
Mode:e;Polarization:Horizontal



Condition: 3m Horizontal
Job No. : 10465CR
Test mode: e

	Freq	Cable Loss	Ant Factor	Preamp Factor	Read Level	Level	Limit Line	Over Limit
	MHz	dB	dB/m	dB	dBuV	dBuV/m	dBuV/m	dB
1	56.20	0.80	7.77	27.27	43.94	25.24	40.00	-14.76
2	181.28	1.37	9.93	26.77	48.85	33.38	43.50	-10.12
3	270.37	1.77	12.71	26.48	48.41	36.41	46.00	-9.59
4 pp	468.88	2.49	17.58	27.54	45.93	38.46	46.00	-7.54
5	570.61	2.67	19.06	27.59	42.94	37.08	46.00	-8.92
6	766.06	3.11	21.89	27.33	39.04	36.71	46.00	-9.29

Mode:e;Polarization:Vertical



Condition: 3m Vertical
Job No. : 10465CR
Test mode: e

	Freq	Cable Loss	Ant Factor	Preamp Factor	Read Level	Level	Limit Line	Over Limit
	MHz	dB	dB/m	dB	dBuV	dBuV/m	dBuV/m	dB
1	53.32	0.80	8.20	27.28	51.50	33.22	40.00	-6.78
2	135.51	1.29	7.92	26.98	51.64	33.87	43.50	-9.63
3 pp	180.65	1.37	9.91	26.77	54.02	38.53	43.50	-4.97
4	270.37	1.77	12.71	26.48	47.88	35.88	46.00	-10.12
5	468.88	2.49	17.58	27.54	45.59	38.12	46.00	-7.88
6	734.49	3.01	21.64	27.37	36.18	33.46	46.00	-12.54

6.3 Radiated Disturbance(above 1GHz)

Test Requirement: 47 CFR PART 15,Subpart B:2015
Test Method: ANSI C63.4
Frequency Range: Above 1GHz
Limit:
Above 1GHz 74(dBμV/m) peak, 54(dBμV/m) average
Detector: Peak for pre-scan (1000kHz resolution bandwidth) 1000M to18000MHz

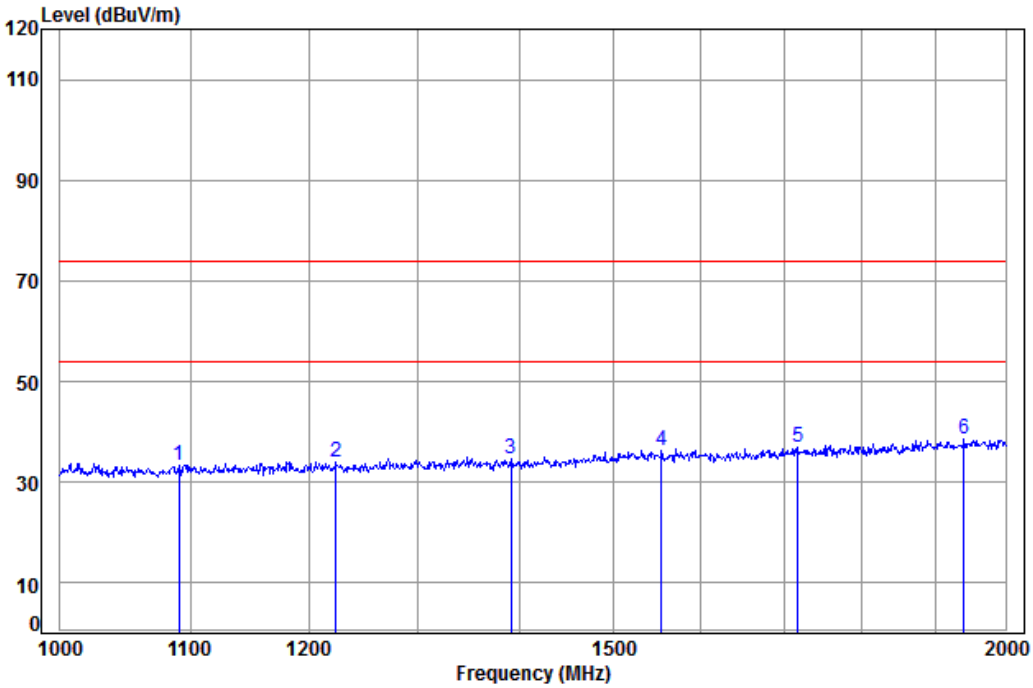
6.3.1 E.U.T. Operation

Operating Environment:								
Temperature:	25.0	°C	Humidity:	55	% RH	Atmospheric Pressure:	1010	mbar
Pretest these mode to find the worst case:	e: NOAA+ charge+ discharge, Keep EUT working at low channel while discharging with full load and being charged. f: NOAA+ charge+ discharge, Keep EUT working at middle channel while discharging with full load and being charged. g: NOAA+ charge+ discharge, Keep EUT working at high channel while discharging with full load and being charged.							
The worst case for final test:	f: NOAA+ charge+ discharge, Keep EUT working at middle channel while discharging with full load and being charged.							

6.3.2 Measurement Data

An initial pre-scan was performed in the chamber using the spectrum analyser in peak detection mode. Quasi-peak measurements were conducted based on the peak sweep graph. The EUT was measured by BiConiLog antenna with 2 orthogonal polarities.

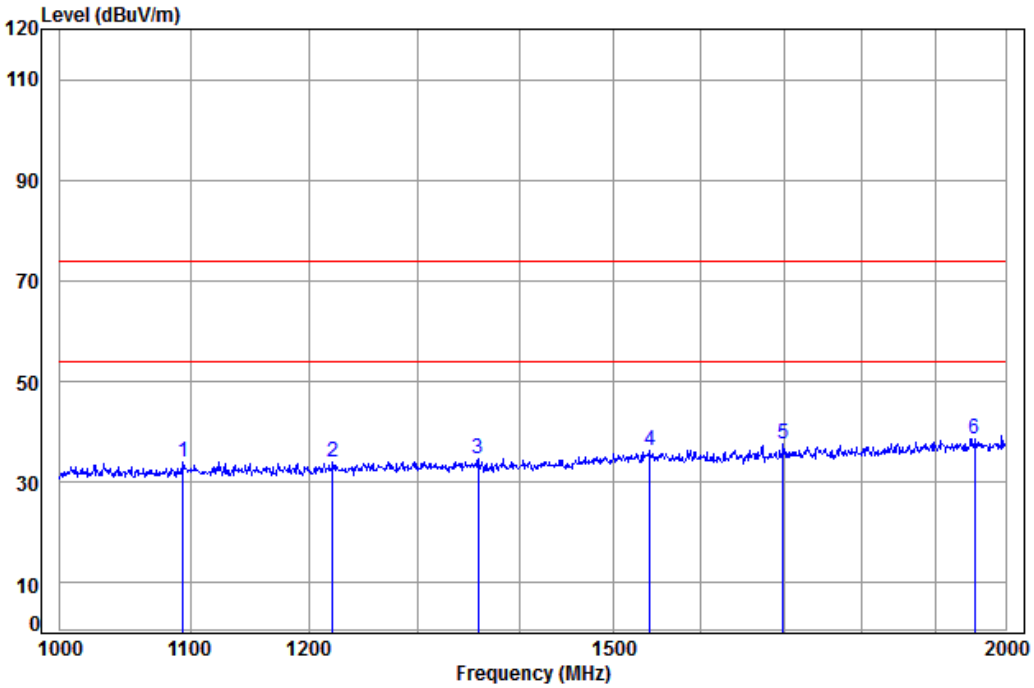
Mode:f;Polarization:Horizontal



Condition: 3m HORIZONTAL
Job No: : 10465CR
Mode: : f

	Freq	Cable Loss	Ant Factor	Preamp Factor	Read Level	Level	Limit Line	Over Limit	Remark
	MHz	dB	dB/m	dB	dBuV	dBuV/m	dBuV/m	dB	
1	1091.264	3.91	24.15	38.09	43.43	33.40	74.00	-40.60	Peak
2	1224.336	4.11	24.28	38.08	43.73	34.04	74.00	-39.96	Peak
3	1391.846	4.34	24.78	38.06	43.64	34.70	74.00	-39.30	Peak
4	1554.015	4.54	25.89	38.04	43.93	36.32	74.00	-37.68	Peak
5	1717.131	4.72	26.50	38.03	43.77	36.96	74.00	-37.04	Peak
6 pp	1939.924	4.95	27.84	38.01	43.80	38.58	74.00	-35.42	Peak

Mode:f;Polarization:Vertical

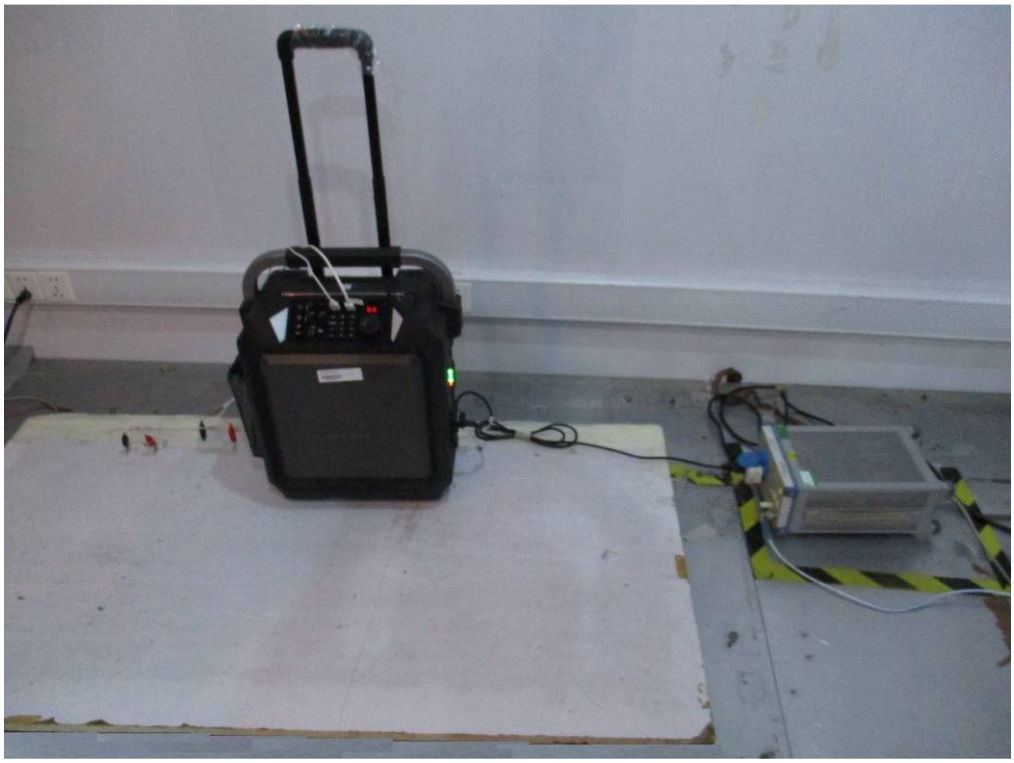


Condition: 3m VERTICAL
Job No: : 10465CR
Mode: : f

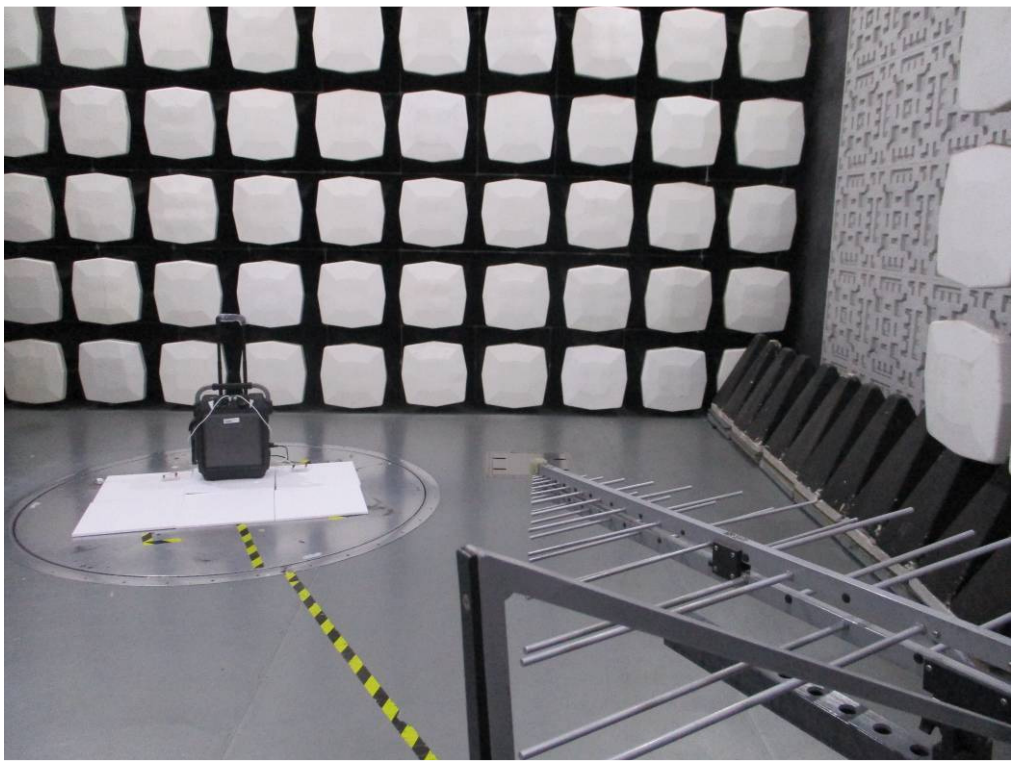
	Freq	Cable Loss	Ant Factor	Preamp Factor	Read Level	Level	Limit Line	Over Limit	Remark
	MHz	dB	dB/m	dB	dBuV	dBuV/m	dBuV/m	dB	
1	1094.294	3.92	24.15	38.09	43.91	33.89	74.00	-40.11	Peak
2	1220.947	4.11	24.27	38.08	43.62	33.92	74.00	-40.08	Peak
3	1358.486	4.30	24.68	38.06	43.78	34.70	74.00	-39.30	Peak
4	1541.142	4.52	25.81	38.05	44.07	36.35	74.00	-37.65	Peak
5	1699.370	4.70	26.46	38.03	44.53	37.66	74.00	-36.34	Peak
6 pp	1954.771	4.97	27.95	38.00	43.75	38.67	74.00	-35.33	Peak

7 Photographs

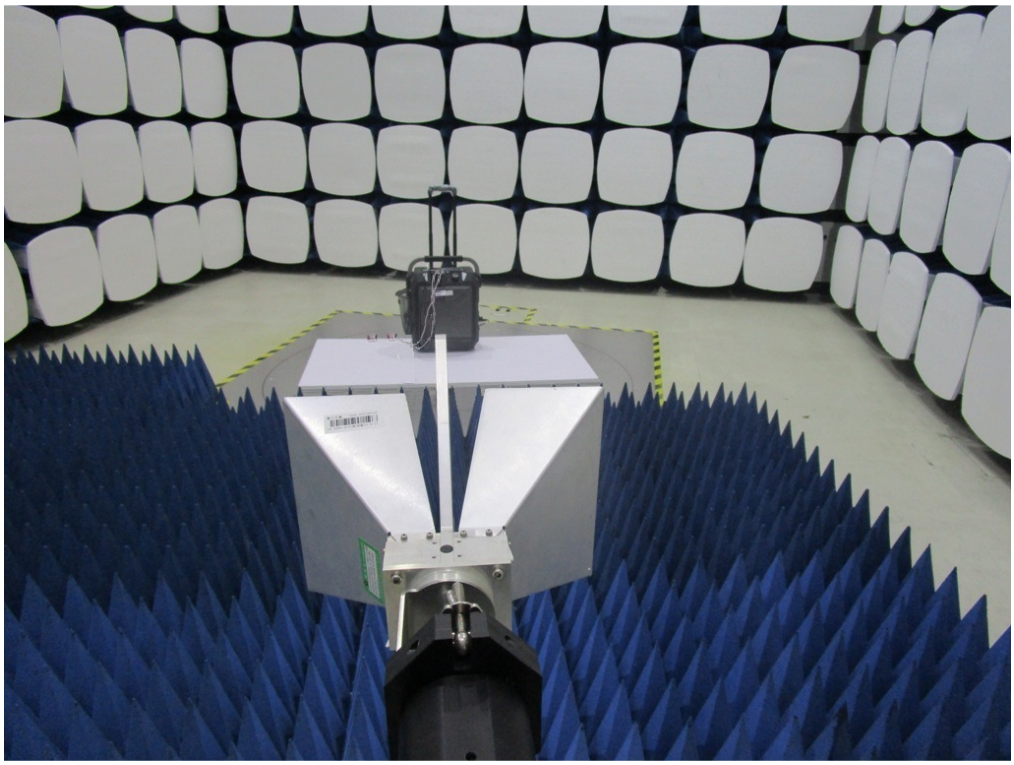
7.1 Conducted Disturbance at Mains Terminals(150kHz-30MHz) Test Setup



7.2 Radiated Disturbance(30MHz-1GHz) Test Setup



7.3 Radiated Disturbance(above 1GHz) Test Setup



7.4 EUT Constructional Details

Refer to Appendix A - Photographs of EUT Constructional Details for SZEM1612010465CR.