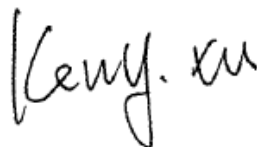


TEST REPORT

Application No.: SZCR2104020439ET(SGS SZ No.:T52110250075EM)
Applicant: BERG Toys B.V.
Address of Applicant: P.O. Box 73 Ede 6710 BB Netherlands
Manufacturer: Berg Toys B.V.
Equipment Under Test (EUT):
EUT Name: BERG AirHive
Model No.: 35.82.00.00
Requested Age Grading: 6+
Country of Origin: China
Country of Destination: USA
Standard(s) : 47 CFR Part 15, Subpart B
Date of Receipt: 2021-04-08
Date of Test: 2021-04-11 to 2021-04-12
Date of Issue: 2021-04-20

Test Result:	Pass*
---------------------	--------------

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



Keny Xu
 EMC Laboratory Manager



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Revision Record				
Version	Chapter	Date	Modifier	Remark
01		2021-04-20		Original

Authorized for issue by:			
		Gebin Sun	
		<hr/> Gebin Sun/Project Engineer	
		Eric Fu	
		<hr/> Eric Fu/Reviewer	



2 Test Summary

Emission Part				
Item	Standard	Method	Requirement	Result
Conducted Emissions at Mains Terminals (150kHz-30MHz)	47 CFR Part 15, Subpart B	ANSI C63.4:2014	Class B	Pass
Radiated Emissions (30MHz-1GHz)		ANSI C63.4:2014	Class B	Pass



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4 General Information

4.1 Details of E.U.T.

Power supply:	Rechargeable battery DC3.7V 100mAh,Charged by DC5V
Cable(s):	USB cable:25cm unshielded

4.2 Description of Support Units

Description	Manufacturer	Model No.	Serial No.
Adapter	Apple	A1357	REF. No.SEA05A01A
iPhone 8	Apple	A1863	REF. No.SEA16J00

4.3 Measurement Uncertainty

Test Item	Measurement Uncertainty
Conducted Emissions at Mains Terminals (150kHz-30MHz)	± 3.0dB
Radiated Emissions (30MHz-1GHz)	± 4.5dB

Remark:

The U_{lab} (lab Uncertainty) is less than U_{cispr} (CISPR Uncertainty), so the test results

- compliance is deemed to occur if no measured disturbance level exceeds the disturbance limit;
- non-compliance is deemed to occur if any measured disturbance level exceeds the disturbance limit.



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:

- **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 3m Fully-anechoic chamber for above 1GHz, 10m Semi-anechoic chamber for below 1GHz, Shielded Room for Mains Port Conducted Interference Measurement and Telecommunication Port Conducted Interference Measurement of SGS-CSTC Standards Technical Services Co., Ltd. have been registered in accordance with the Regulations for Voluntary Control Measures with Registration No.: G-20026, R-14188, C-12383 and T-11153 respectively.

- **FCC –Designation Number: CN1178**

SGS-CSTC Standards Technical Services Co., Ltd., Shenzhen EMC Laboratory has been recognized as an accredited testing laboratory.

Designation Number: CN1178. Test Firm Registration Number: 406779.

- **Innovation, Science and Economic Development Canada**

SGS-CSTC Standards Technical Services Co., Ltd., Shenzhen EMC Laboratory has been recognized by ISED as an accredited testing laboratory.

CAB identifier: CN0006.

IC#: 4620C.

4.6 Deviation from Standards

None

4.7 Abnormalities from Standard Conditions

None



5 Equipment List

Conducted Emissions at Mains Terminals (150kHz-30MHz)					
Equipment	Manufacturer	Model No	Inventory No	Cal Date	Cal Due Date
Shielding Room	ZhongYu Electron	GB-88	SEM001-06	2019-06-13	2022-06-12
EMI Test Receiver	Rohde&Schwarz	ESCI	SEM004-02	2021-03-24	2022-03-23
Measurement Software	AUDIX	e3 V8.2014-6-27	N/A	N/A	N/A
Coaxial Cable	SGS	N/A	SEM024-01	2020-07-10	2021-07-09
LISN	Rohde&Schwarz	ENV216	SEM007-01	2020-09-23	2021-09-22
LISN	ETS-LINDGREN	3816/2	SEM007-02	2021-03-24	2022-03-25

Radiated Emissions (30MHz-1GHz)					
Equipment	Manufacturer	Model No	Inventory No	Cal Date	Cal Due Date
3m Semi-Anechoic Chamber	ETS-LINDGREN	N/A	SEM001-01	2020-07-19	2023-07-18
MXE EMI Receiver	Agilent Technologies	N9038A	SEM004-15	2020-11-02	2021-11-01
BiConiLog Antenna	ETS-LINDGREN	3142C	SEM003-02	2019-05-24	2022-05-23
Pre-Amplifier	Agilent Technologies	8447D	SEM005-01	2021-03-24	2022-03-23
Measurement Software	AUDIX	e3 V8.2014-6-27	N/A	N/A	N/A
Coaxial Cable	SGS	N/A	SEM025-01	2020-07-10	2021-07-09

General used equipment					
Equipment	Manufacturer	Model No	Inventory No	Cal Date	Cal Due Date
Humidity/ Temperature Indicator	Shanghai Meteorological Industry Factory	ZJ1-2B	SEM002-04	2020-09-15	2021-09-14
Humidity/ Temperature Indicator	Mingle	N/A	SEM002-08	2020-09-15	2021-09-14
Barometer	Changchun Meteorological Industry Factory	DYM3	SEM002-01	2021-03-30	2022-03-29



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6 Emission Test Results

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

Test Requirement: 47 CFR Part 15, Subpart B
 Test Method: ANSI C63.4:2014

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

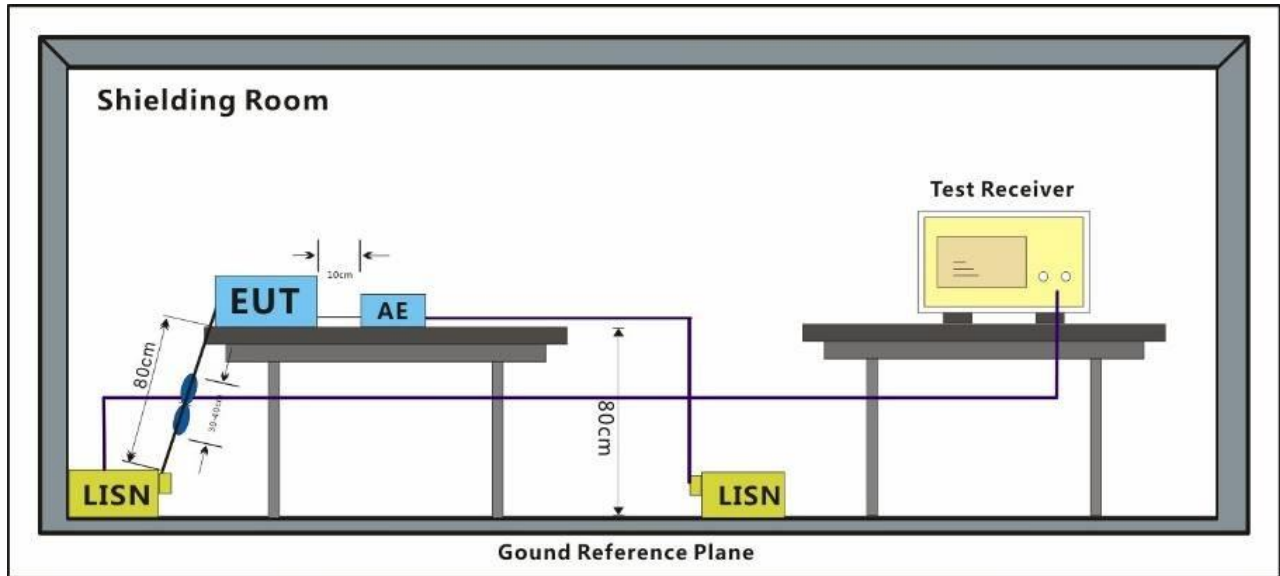
Operating Environment:
 Temperature: 23.5 °C Humidity: 53.5 % RH Atmospheric Pressure: 1010 mbar

6.1.2 Test Mode Description

Pre-scan / Final test	Mode Code	Description
Final test	02	Charge mode,keep EUT being charged.



6.1.3 Test Setup Diagram

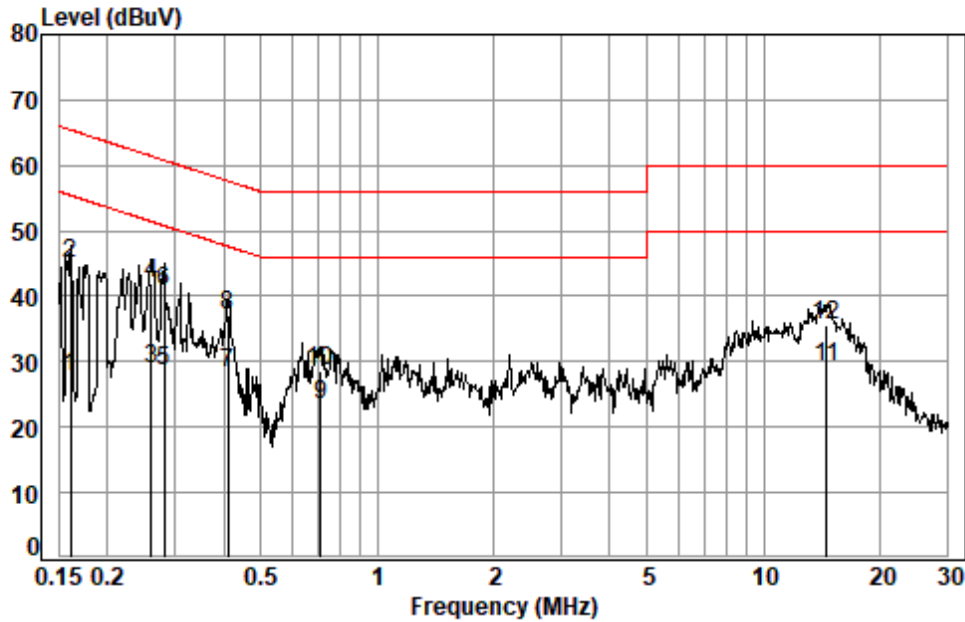


6.1.4 Measurement Procedure and Data

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.



Test Mode: 02; Line: Live line



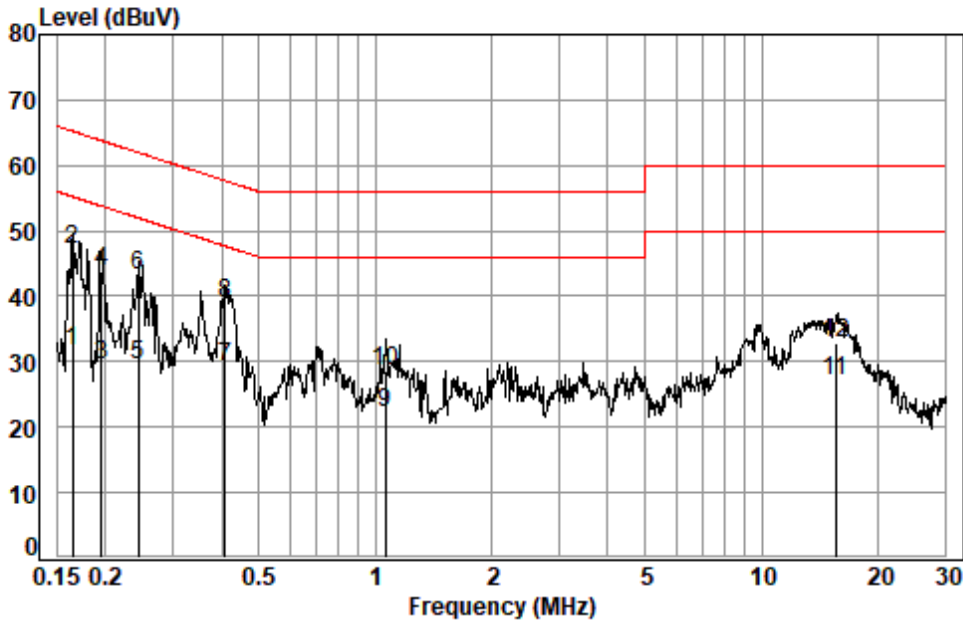
Site : Shielding Room
Condition: Line
Job No. : 20439ET
Test mode: 02

	Freq	Cable Loss	LISN Factor	Read Level	Limit Level	Limit Line	Over Limit	Remark
	MHz	dB	dB	dBuV	dBuV	dBuV	dB	
1	0.1607	0.03	9.71	18.08	27.82	55.43	-27.61	Average
2	0.1607	0.03	9.71	35.38	45.12	65.43	-20.31	QP
3	0.2603	0.05	9.74	19.23	29.02	51.42	-22.40	Average
4	0.2603	0.05	9.74	32.31	42.10	61.42	-19.32	QP
5	0.2803	0.05	9.74	18.66	28.45	50.81	-22.36	Average
6	0.2803	0.05	9.74	30.96	40.75	60.81	-20.06	QP
7	0.4105	0.07	9.76	18.42	28.25	47.64	-19.39	Average
8	0.4105	0.07	9.76	27.30	37.13	57.64	-20.51	QP
9	0.7122	0.09	9.77	13.51	23.37	46.00	-22.63	Average
10	0.7122	0.09	9.77	18.79	28.65	56.00	-27.35	QP
11	14.5942	0.16	10.50	18.52	29.18	50.00	-20.82	Average
12	14.5942	0.16	10.50	25.04	35.70	60.00	-24.30	QP



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Test Mode: 02; Line: Neutral Line



Site : Shielding Room
Condition: Neutral
Job No. : 20439ET
Test mode: 02

	Freq	Cable Loss	LISN Factor	Read Level	Limit Level	Limit Line	Over Limit	Remark
	MHz	dB	dB	dBuV	dBuV	dBuV	dB	
1	0.1641	0.03	9.71	22.00	31.74	55.25	-23.51	Average
2	0.1641	0.03	9.71	37.50	47.24	65.25	-18.01	QP
3	0.1955	0.04	9.72	19.72	29.48	53.80	-24.32	Average
4	0.1955	0.04	9.72	33.92	43.68	63.80	-20.12	QP
5	0.2442	0.04	9.73	19.70	29.47	51.95	-22.48	Average
6	0.2442	0.04	9.73	33.49	43.26	61.95	-18.69	QP
7	0.4083	0.06	9.75	19.39	29.20	47.68	-18.48	Average
8	0.4083	0.06	9.75	29.11	38.92	57.68	-18.76	QP
9	1.0653	0.10	9.78	12.22	22.10	46.00	-23.90	Average
10	1.0653	0.10	9.78	18.63	28.51	56.00	-27.49	QP
11	15.5523	0.16	10.56	16.40	27.12	50.00	-22.88	Average
12	15.5523	0.16	10.56	22.02	32.74	60.00	-27.26	QP



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6.2 Radiated Emissions (30MHz-1GHz)

Test Requirement: 47 CFR Part 15, Subpart B
 Test Method: ANSI C63.4:2014
 Measurement Distance: 3m

Limit:

FREQUENCY (MHz)	dB μ V/m (At 10m)		dB μ V/m (At 3m)	
	Class B		Class B	
30MHz -88MHz	29.5		40.0	
88MHz-216MHz	33.1		43.5	
216MHz-960MHz	35.6		46.0	
960MHz-1000MHz	43.5		54.0	

Detector: Peak for pre-scan (120kHz resolution bandwidth) 30M to 1000MHz

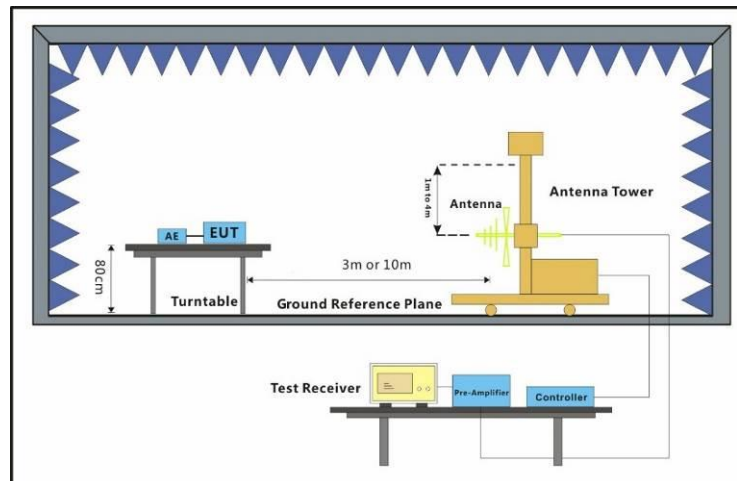
6.2.1 E.U.T. Operation

Operating Environment:
 Temperature: 23.2 °C Humidity: 56.8 % RH Atmospheric Pressure: 1010 mbar

6.2.2 Test Mode Description

Pre-scan / Final test	Mode Code	Description
Final test	01	On mode,keep EUT working normally.
Pre-scan	02	Charge mode,keep EUT being charged.

6.2.3 Test Setup Diagram



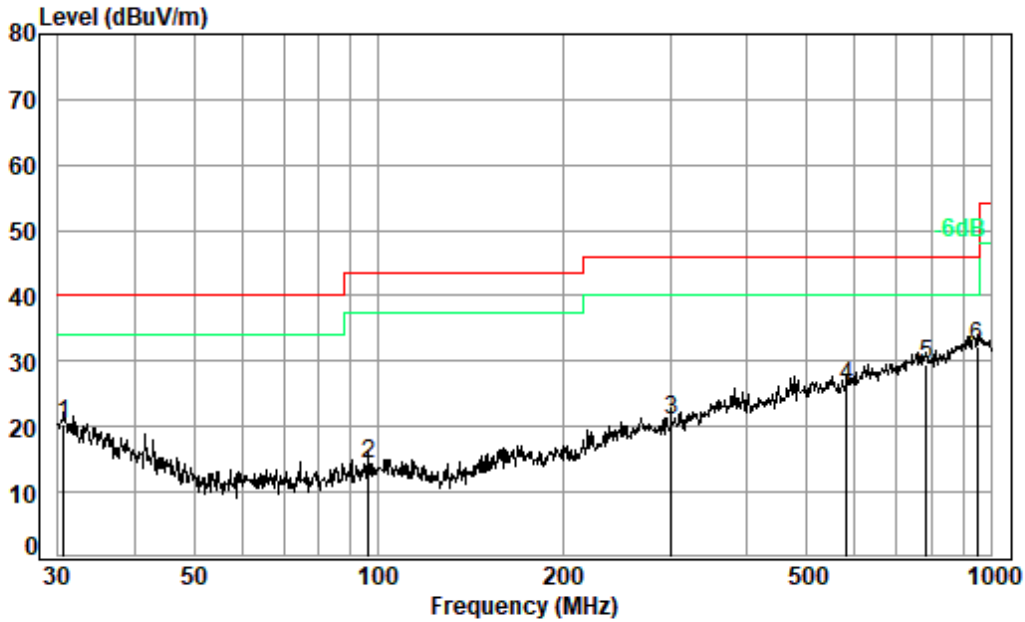
6.2.4 Measurement Procedure and Data

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.



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Test Mode: 01; Polarity: Horizontal



Condition: 3m HORIZONTAL

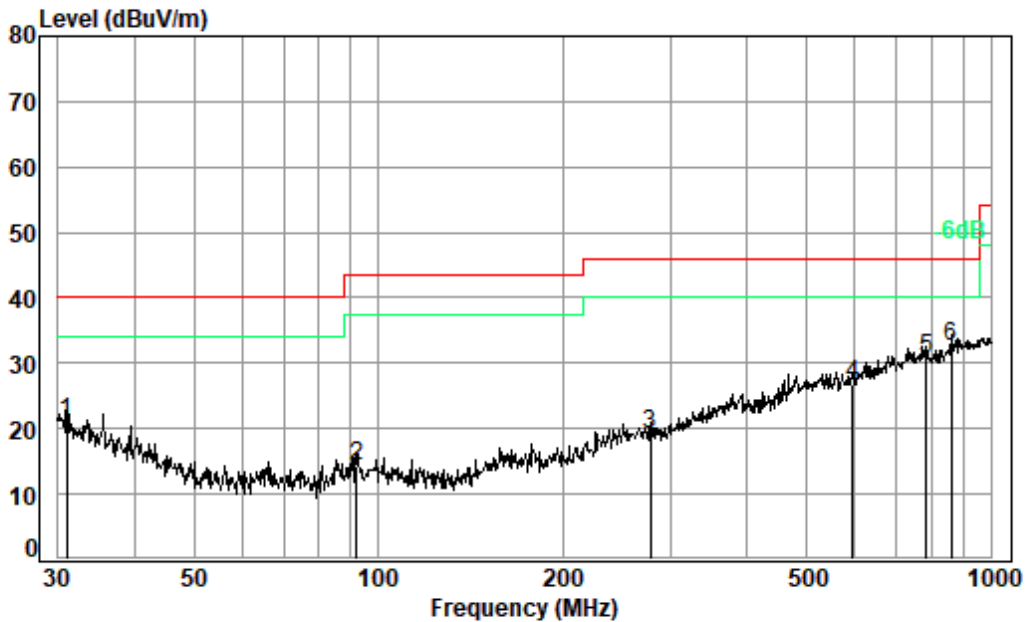
Job No. : 20439ET

Test mode: 01

	Freq	Cable Loss	Ant Factor	Preamp Factor	Read Level	Limit Level	Over Line	Over Limit	Remark
	MHz	dB	dB/m	dB	dBuV	dBuV/m	dBuV/m	dB	
1	30.64	0.61	22.51	27.73	24.97	20.36	40.00	-19.64	QP
2	96.44	1.17	13.80	27.61	26.98	14.34	43.50	-29.16	QP
3	300.37	2.00	19.11	26.87	26.86	21.10	46.00	-24.90	QP
4	580.70	2.66	25.14	28.07	26.40	26.13	46.00	-19.87	QP
5	785.09	3.24	28.00	27.76	26.02	29.50	46.00	-16.50	QP
6 pp	948.76	3.55	29.33	26.91	26.13	32.10	46.00	-13.90	QP



Test Mode: 01; Polarity: Vertical



Condition: 3m VERTICAL
Job No. : 20439ET
Test mode: 01

	Freq	Cable Loss	Ant Factor	Preamp Factor	Read Level	Limit Level	Over Line	Over Limit	Remark
	MHz	dB	dB/m	dB	dBuV	dBuV/m	dBuV/m	dB	
1	30.96	0.61	22.27	27.73	25.74	20.89	40.00	-19.11	QP
2	92.14	1.26	13.50	27.62	27.23	14.37	43.50	-29.13	QP
3	278.07	1.85	18.44	26.92	25.73	19.10	46.00	-26.90	QP
4	595.13	2.69	25.70	28.12	26.60	26.87	46.00	-19.13	QP
5	785.09	3.24	28.00	27.76	27.16	30.64	46.00	-15.36	QP
6 pp	863.06	3.43	28.51	27.37	28.00	32.57	46.00	-13.43	QP



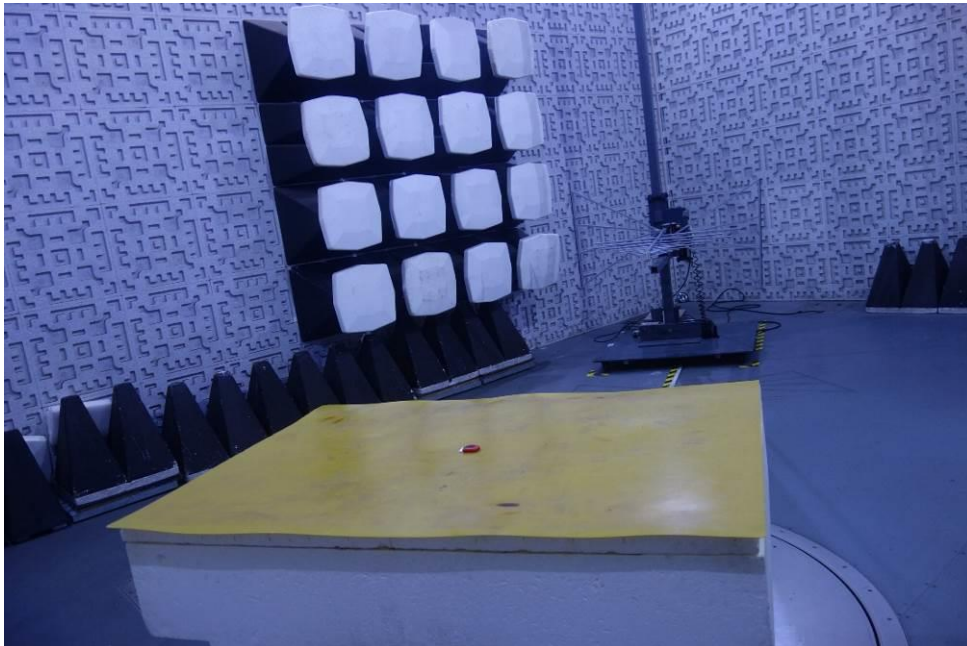
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7 Test Setup Photo

Conducted Emissions at Mains Terminals (150kHz-30MHz)



Radiated Emissions (30MHz-1GHz)



8 EUT Constructional Details (EUT Photos)

Refer to Appendix A - Photographs of EUT Constructional Details for SZEM1706006742CR.

- End of the Report -

