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

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TEST REPORT

Application No.:	SZEM1811010107ET
Applicant:	SHANTOU BEIBE GOOD (JIACHENG) PLASTIC TOYS CO., LTD.
Address of Applicant:	CHENGHAI DISTRICT, SHANTOU CITY, GUANGDONG PROVINCE, CHINA
Equipment Under Test (EUT):	
EUT Name:	TOY SERIES
Model No.:	Please refer to page 2 ♣
♣	Please refer to section 2 of this report which indicates which item was actually tested and which were electrically identical.
Standard(s) :	EN 55014-1:2017
	EN 55014-2:2015
Date of Receipt:	2018-11-23
Date of Test:	2018-11-23 to 2018-11-26
Date of Issue:	2018-11-27
Test Result:	**Pass***

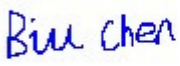
* In the configuration tested, the EUT complied with the standards specified above.

The CE mark as shown below can be used, under the responsibility of the manufacturer, after completion of an EU Declaration of Conformity and compliance with all relevant EU Directives.

Keny Xu
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.

Revision Record				
Version	**Chapter**	**Date**	**Modifier**	**Remark**
01		2018-11-27		Original

Authorized for issue by:				
				
		Bill Chen /Project Engineer		
				
		Eric Fu /Reviewer		

2 Test Summary

Emission Part				
Item	**Standard**	**Method**	**Requirement**	**Result**
Radiated Emissions (30MHz-1GHz)	EN 55014-1:2017	CISPR 16-2-3	N/A	Pass

N/A: Not applicable

Immunity Part				
Item	**Standard**	**Method**	**Requirement**	**Result**
Electrostatic Discharge	EN 55014-2:2015	EN 61000-4-2:2009	4kV Contact Discharge 8kV Air Discharge	Pass

N/A: Not applicable

The EUT belongs to Category B of EN 55014-1:2017
The EUT belongs to Category Ⅲ of EN 55014-2:2015

Declaration of EUT Family Grouping:

Model No.: 889-152, 889-145, 889-146, 889-147, 889-148, 889-149, 889-150, 888D, 888E, 888F, 888G, 889-151, 889-153, 889-154, 889-59, 889-60, 889-63, 889-64, 888, 888A, 888B, 888C, 889-3, 889-4, 889-05, 889-06, 666S, 666, 666P, 535, 535P, 889-111, 889-112, 889-125, 889-126, 889-119, 889-120, 889-121, 889-122, 889-141, 889-142, 889-143, 889-144, 889-301, 889-302, 889-303, 889-304, 889-201, 889-202, 889-203, 889-204, 889-123, 889-124, 889-137, 889-138, 889-15B, 889-16B, 889-65, 889-66, 889-89, 889-90, 889-95, 889-96, 889-68, 889-50, 889-51, 889-52, 889-53, 889-55, 889-56, 889-57, 889-58, 889-39, 889-40, 889-31, 889-30, 889-32, 889-34, 889-15A, 889-16A

Only the model 889-152 was tested, since the electrical circuit design, layout, components used, internal wiring and functions were identical for the above models, with only difference on colour, appearance and packaging.

3 Contents

4 General Information

4.1 Details of E.U.T.

Power supply:	DC 4.5V by 1.5V x 3"AA" batteries DC 4.5V by 1.5V x 3"AA" batteries

4.2 Description of Support Units

The EUT has been tested as an independent unit.

4.3 Measurement Uncertainty

No.	Item	Measurement Uncertainty
1	Radiated Emission	± 4.5dB (30MHz-1GHz)
2	ESD	± 6 %
3	Temperature test	± 1℃
4	Humidity test	± 3%

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 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

4.8 Monitoring of EUT for All Immunity Test

Visual: Monitored the flashing

Audio: Monitored the sounding

5 Equipment List

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	2017-08-05	2020-08-04
Measurement Software	AUDIX	e3 V8.2014-6-27	N/A	N/A	N/A
Coaxial Cable	SGS	N/A	SEM025-01	2018-07-12	2019-07-11
EMI Test Receiver	Agilent Technologies	N9038A	SEM004-05	2018-09-25	2019-09-24
BiConiLog Antenna (26-3000MHz)	ETS-LINDGREN	3142C	SEM003-01	2017-06-27	2020-06-26
Pre-amplifier (0.1-1300MHz)	Agilent Technologies	8447D	SEM005-01	2018-04-02	2019-04-01

Electrostatic Discharge					
Equipment	**Manufacturer**	**Model No**	**Inventory No**	**Cal Date**	**Cal Due Date**
ESD Ground Plane	SGS(3m*3m)	N/A	SEN006-01	N/A	N/A
ESD Generator	TESEQ AG	NSG 437	SEM019-02	2018-04-16	2019-04-15

General used equipment					
Equipment	**Manufacturer**	**Model No**	**Inventory No**	**Cal Date**	**Cal Due Date**
Humidity/ Temperature Indicator	Shanghai Meteorological Industry Factory	ZJ1-2B	SEM002-03	2018-09-27	2019-09-26
Humidity/ Temperature Indicator	Shanghai Meteorological Industry Factory	ZJ1-2B	SEM002-04	2018-09-27	2019-09-26
Humidity/ Temperature Indicator	Mingle	N/A	SEM002-08	2018-09-27	2019-09-26
Barometer	Changchun Meteorological Industry Factory	DYM3	SEM002-01	2018-04-08	2019-04-07

6 Emission Test Results

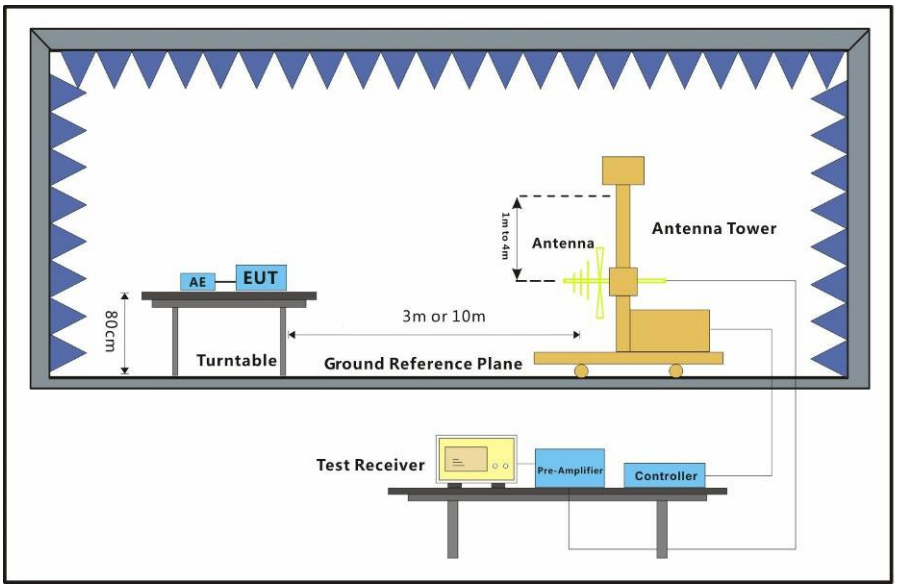
6.1 Radiated Emissions (30MHz-1GHz)

Test Requirement: EN 55014-1:2017
Test Method: CISPR 16-2-3
Frequency Range: 30MHz to 1GHz
Measurement Distance: 3m
Limit:
30MHz-230MHz 40 dB(μV/m) quasi-peak
230MHz-1GHz 47 dB(μV/m) quasi-peak
Detector: Peak for pre-scan (120kHz resolution bandwidth) 30M to 1000MHz

6.1.1 E.U.T. Operation

Operating Environment:
Temperature: 24.7 °C Humidity: 55.7 % RH Atmospheric Pressure: 1020 mbar
Test mode a:On mode_keep the EUT sounding & flashing

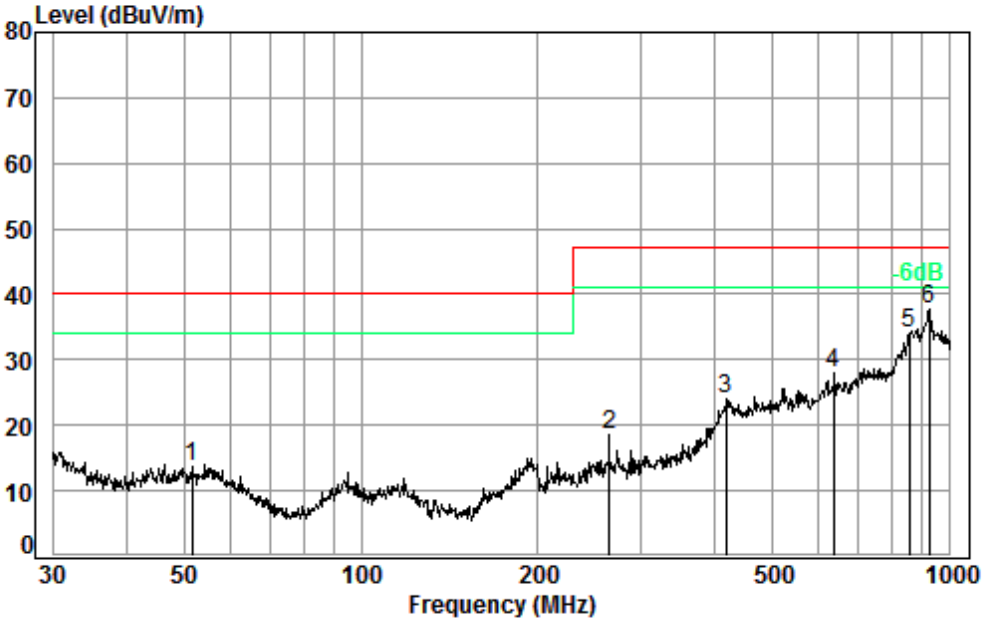
6.1.2 Test Setup Diagram



6.1.3 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.

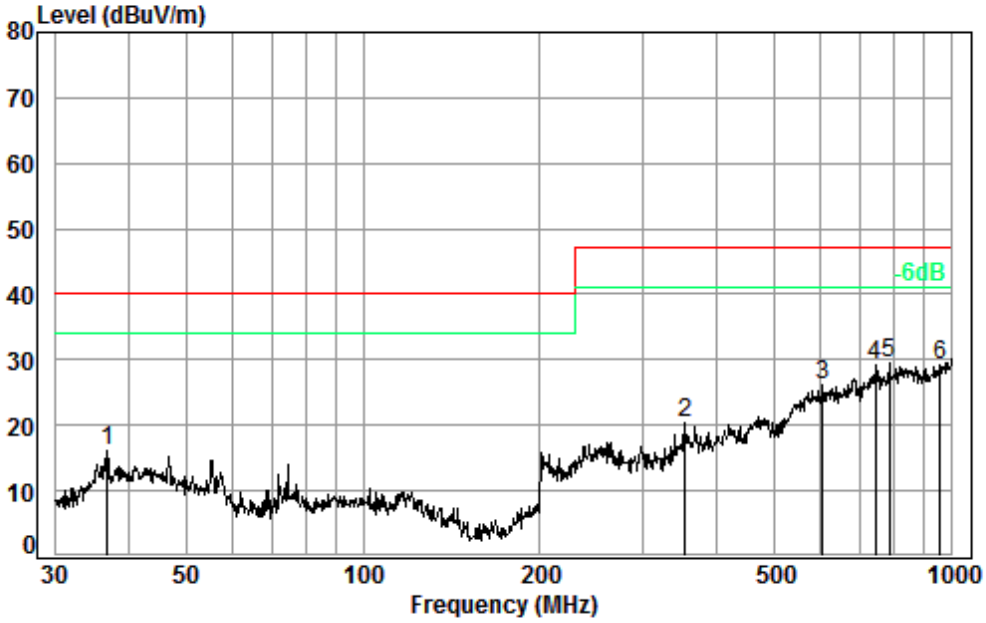
Mode:a; Polarization:Horizontal



Condition: 3m HORIZONTAL
Job No. : 10107ET

	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	51.66	0.80	14.02	27.59	26.58	13.81	40.00	-26.19
2	263.82	1.74	19.04	27.54	25.29	18.53	47.00	-28.47
3	417.64	2.28	22.83	27.76	26.83	24.18	47.00	-22.82
4	636.13	2.78	27.09	27.64	25.76	27.99	47.00	-19.01
5	854.02	3.42	29.22	27.23	28.78	34.19	47.00	-12.81
6 pp	922.52	3.62	29.92	27.00	31.16	37.70	47.00	-9.30

Mode:a; Polarization:Vertical



Condition: 3m VERTICAL
Job No. : 10107ET

	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	36.77	0.60	18.97	27.64	24.31	16.24	40.00	-23.76
2	352.94	2.07	21.18	27.65	24.66	20.26	47.00	-26.74
3	603.54	2.71	26.65	27.70	24.44	26.10	47.00	-20.90
4	742.26	3.03	28.16	27.49	25.37	29.07	47.00	-17.93
5 pp	785.09	3.16	28.42	27.44	25.36	29.50	47.00	-17.50
6	955.44	3.66	30.08	26.90	22.47	29.31	47.00	-17.69

7 Immunity Test Results

7.1 Performance Criteria Description in EN 55014-2:2015

Criterion A The apparatus shall continue to operate as intended during the test. No degradation of performance or loss of function is allowed below a performance level (or permissible loss of performance) specified by the manufacturer, when the apparatus is used as intended. If the minimum performance level or the permissible performance loss is not specified by the manufacturer, then either of these may be derived from the product description and documentation, and from what the user may reasonably expect from the apparatus if used as intended.

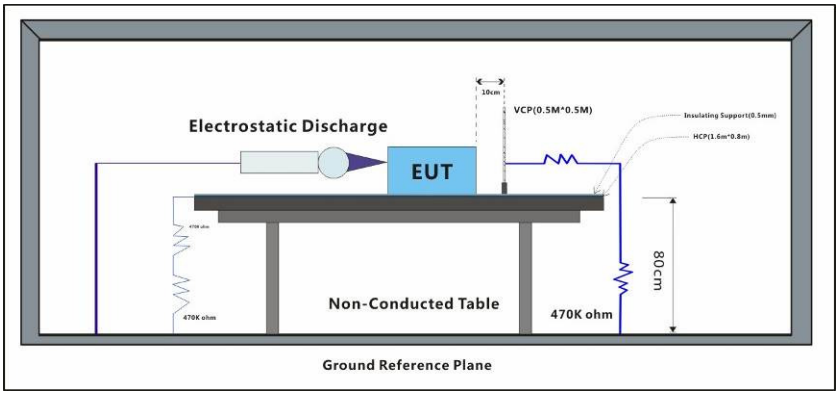
Criterion B The apparatus shall continue to operate as intended after the test. No degradation of performance or loss of function is allowed below a performance level (or permissible loss of performance) specified by the manufacturer, when the apparatus is used as intended. During the test, degradation of performance is allowed, however. No change of actual operating state or stored data is allowed. If the minimum performance level or the permissible performance loss is not specified by the manufacturer, then either of these may be derived from the product description and documentation and from what the user may reasonably expect from the apparatus if used as intended.

Criterion C Temporary loss of function is allowed, provided the function is self recoverable or can be restored by the operation of the controls, or by any operation specified in the instructions for use.

7.2 Electrostatic Discharge

Test Requirement: EN 55014-2:2015
Test Method: EN 61000-4-2:2009
Performance Criterion: C
Discharge Impedance: 330Ω/150pF
Number of Discharge: Minimum 10 times at each test point
Discharge Mode: Single Discharge
Discharge Period: 1 second minimum

7.2.1 Test Setup Diagram



7.2.2 E.U.T. Operation

Operating Environment:
Temperature: 22 °C Humidity: 50 % RH Atmospheric Pressure: 1020 mbar
Test mode: a:On mode_keep the EUT sounding & flashing
b:Idle mode_Keep the EUT standby

7.2.3 Test Results:

Observations: Test Point:
1. All insulated enclosure and seams.
2. All accessible metal parts of the enclosure.
3. All side

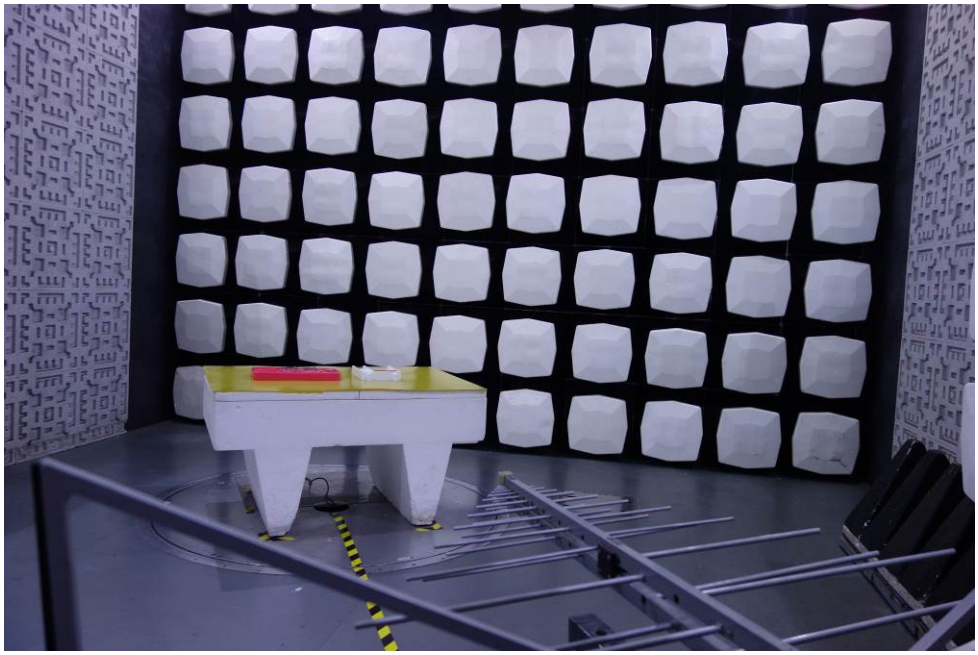
Discharge type	Level (kV)	Polarity	Test Point	Result / Observations
Air Discharge	8	+	1	A
Air Discharge	8	-	1	A
Contact Discharge	4	+	2	A
Contact Discharge	4	-	2	A
Vertical Coupling	4	+	3	A
Vertical Coupling	4	-	3	A

Results:

A: No degradation in the performance of the EUT was observed.

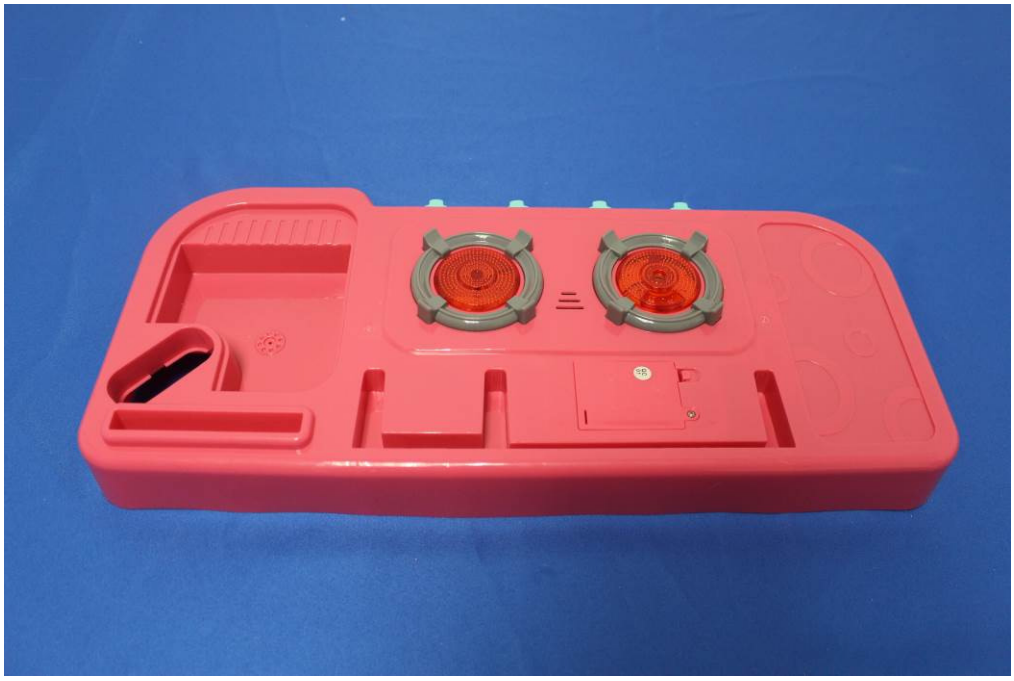
8 Photographs

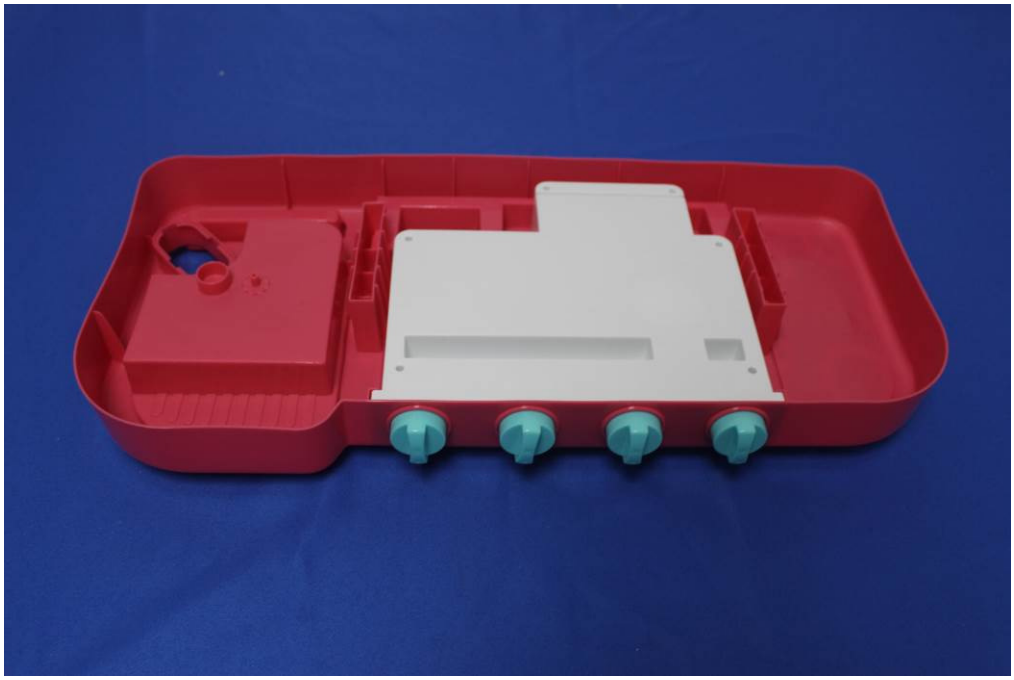
8.1 Radiated Emissions (30MHz-1GHz) Test Setup

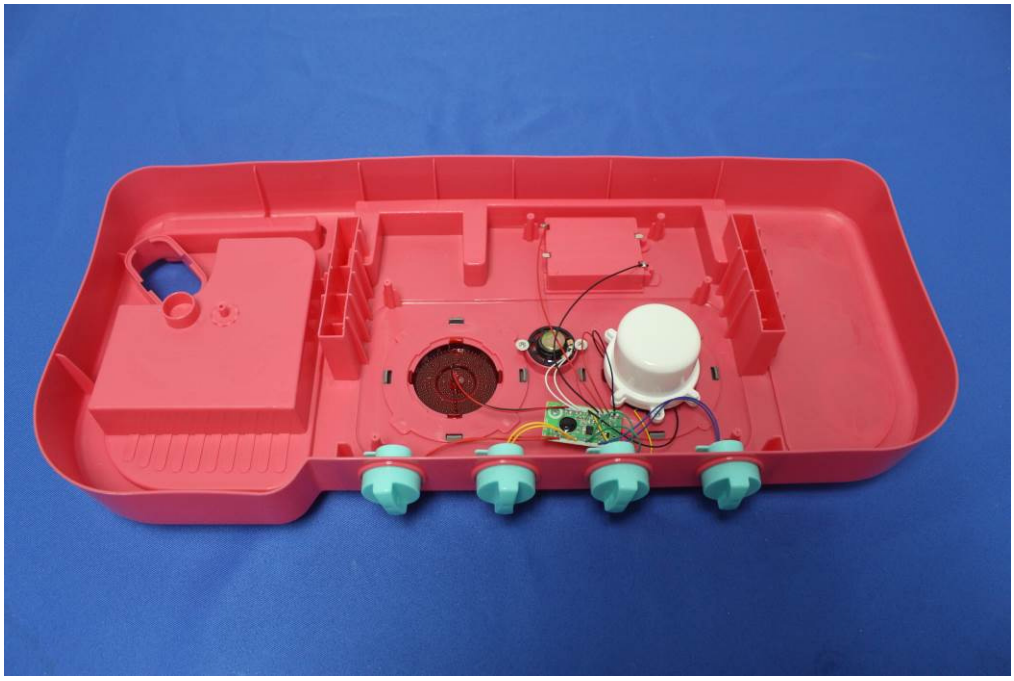


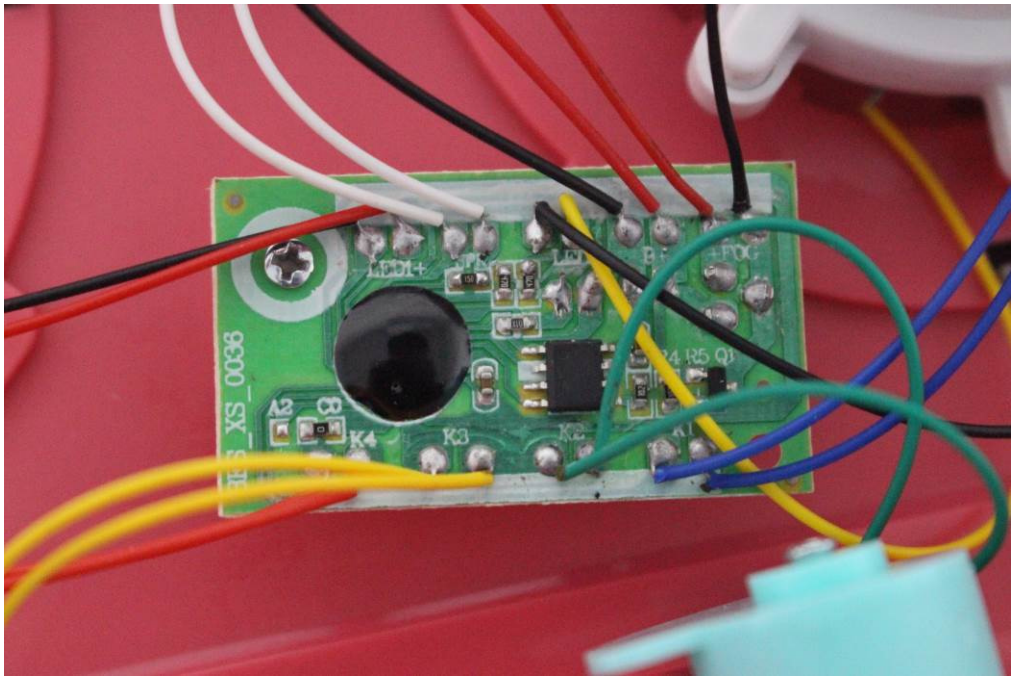
8.2 Electrostatic Discharge Test Setup

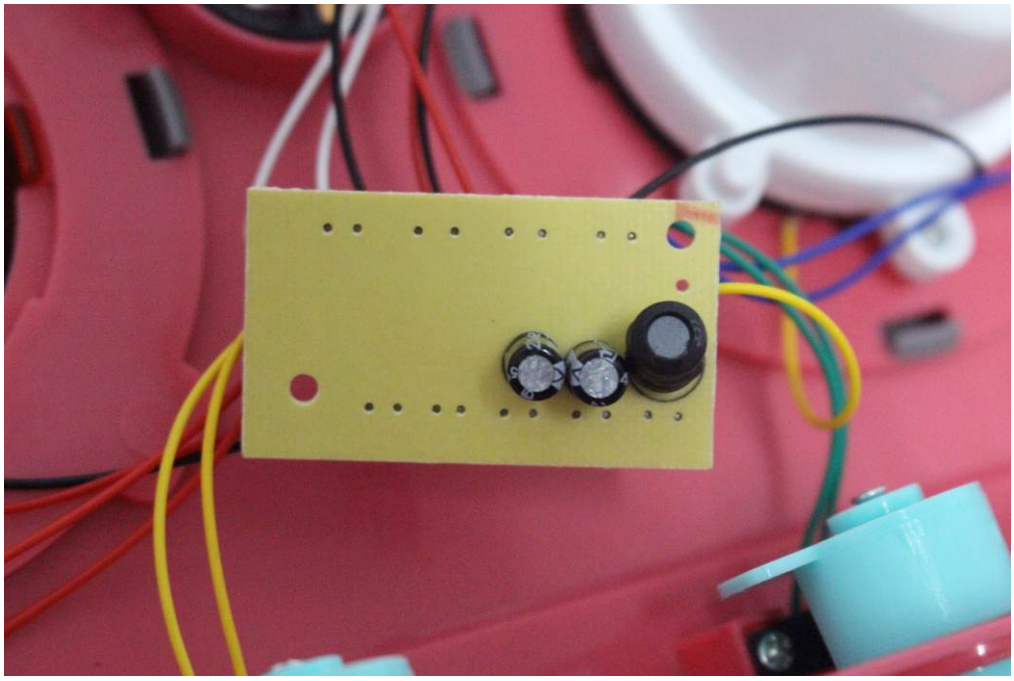
8.3 EUT Constructional Details (EUT Photos)

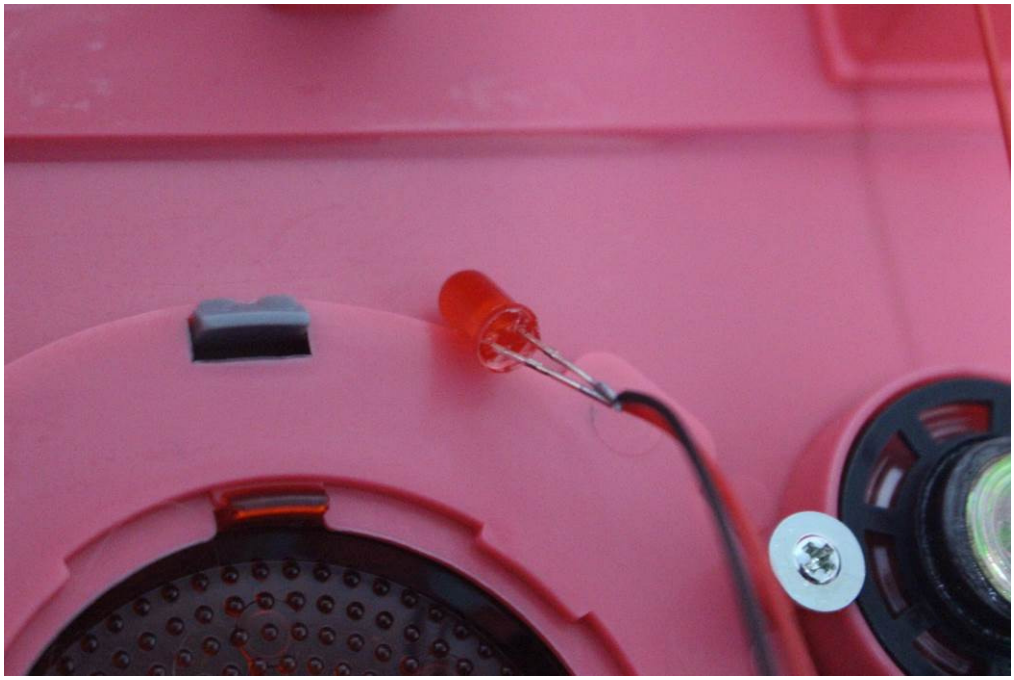


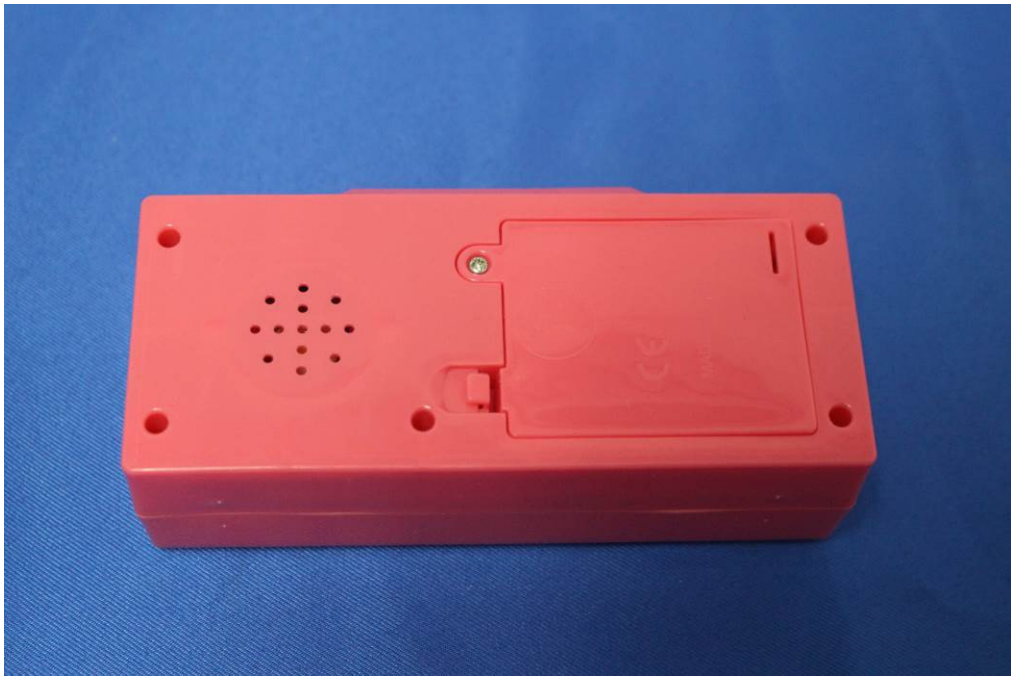


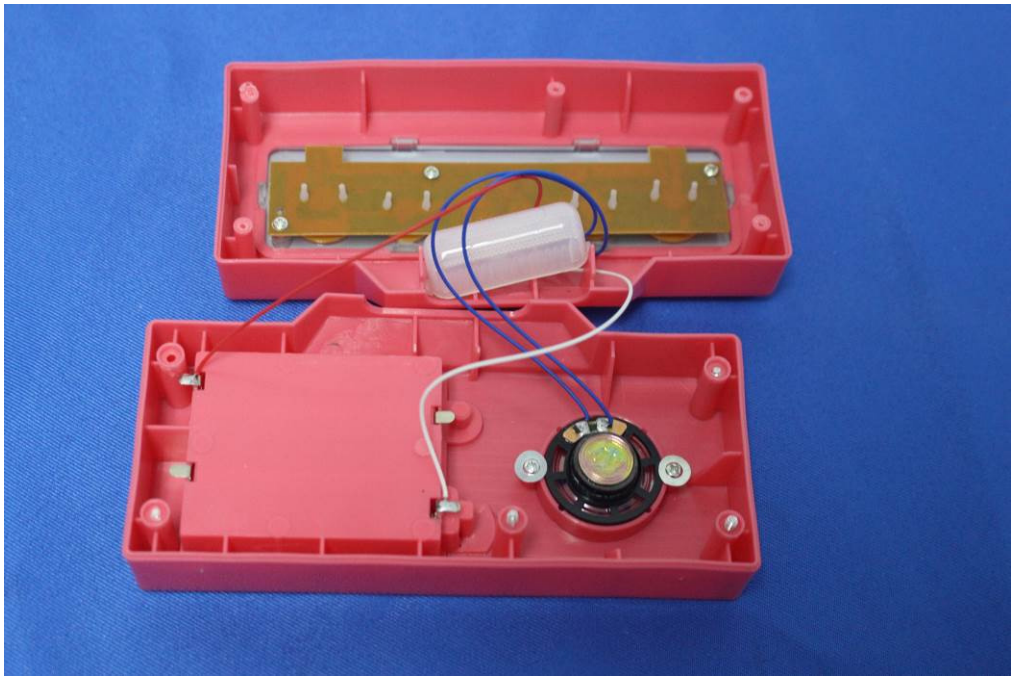


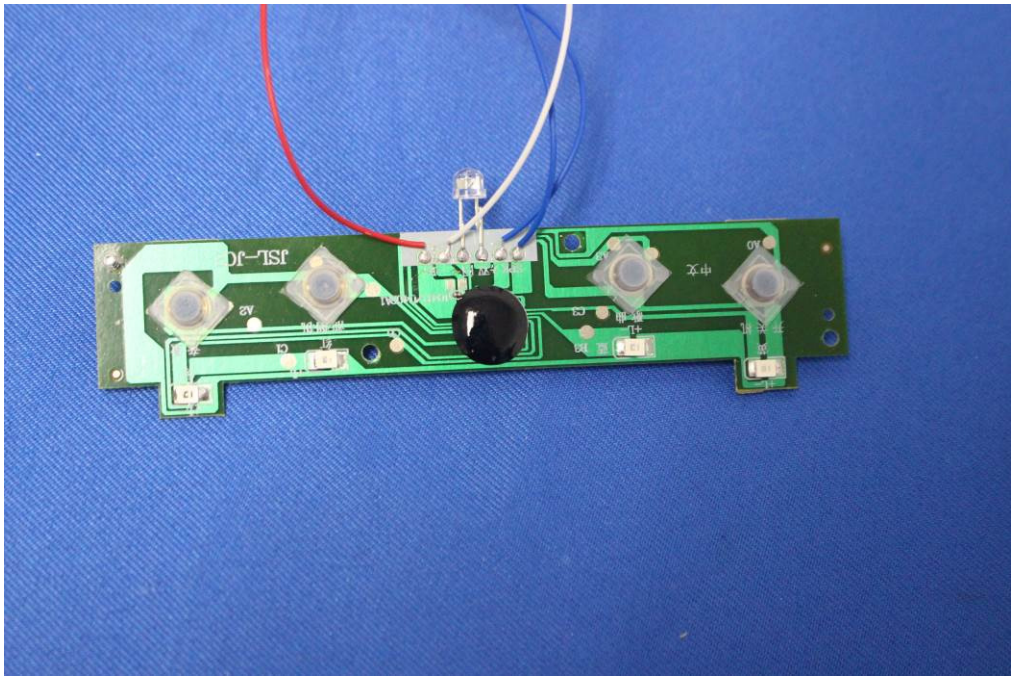


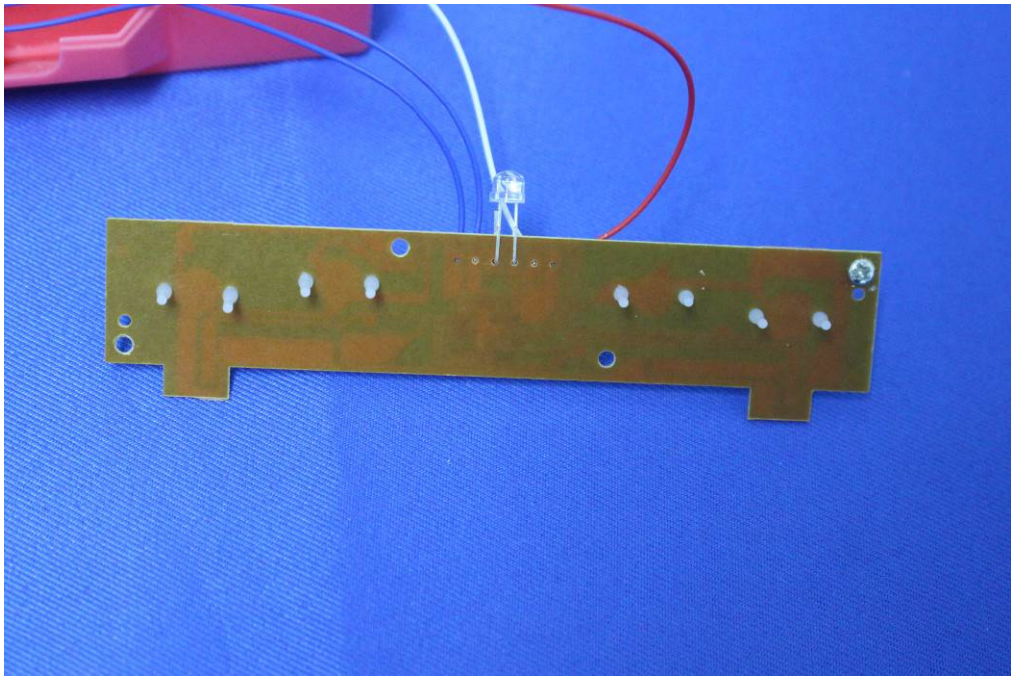












- End of the Report -