FCC REPORT

Applicant:	Kids of America Corp
Address of Applicant:	103 Route 46 West, 2nd Floor, Fairfield, NJ 07004
Manufacturer/ Factory:	Kids of America Corp
Address of Manufacturer/ Factory:	103 Route 46 West, 2nd Floor, Fairfield, NJ 07004
Equipment Under Test (EUT)	
Product Name:	2.4G Interactive Animated Duos
Model No.:	R-HA37736, R-HA37762, R-HA37761,R- HA37735, R-HA32577, R-HA27658, R-HA33571, R-HA35414, R-HA38853, R-HA39496, R-XA39794, R-XA39836, R-HA39657, R-HA41700A, R-HA41702A, R-HA41703A, R-HA41704A, R-HA41705A, R-HA41706A, R-HA44198A, R-HF41701A, R-XF41707A
FCC ID:	2AEQ8RMP87191188
Applicable standards:	FCC CFR Title 47 Part 15 Subpart C Section 15.249:2016
Date of sample receipt:	March 23, 2017
Date of Test:	March 23-27, 2017
Date of report issued:	March 28, 2017
Test Result :	PASS *

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

Authorized Signature:

Robinson Lo
Laboratory Manager

This results shown in this test report refer only to the sample(s) tested, this test report cannot be reproduced, except in full, without prior written permission of the company. The report would be invalid without specific stamp of test institute and the signatures of compiler and approver.

2 Version

Version No.	Date	Description
00	*March 28, 2017*	*Original*

Prepared By:	Tiger. Chen	***Date:***	*March 28, 2017*
	Project Engineer		
Check By:	Andy. wu	***Date:***	*March 28, 2017*
	Reviewer		

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4 Test Summary

Test Item	Section in CFR 47	Result
Antenna requirement	15.203	Pass
AC Power Line Conducted Emission	15.207	N/A
Field strength of the fundamental signal	15.249 (a)	Pass
Spurious emissions	15.249 (a) (d)/15.209	Pass
Band edge	15.249 (d)/15.205	Pass
20dB Occupied Bandwidth	15.215 (c)	Pass

Pass: The EUT complies with the essential requirements in the standard.

4.1 Measurement Uncertainty

Test Item	Frequency Range	Measurement Uncertainty	Notes
Radiated Emission	9kHz ~ 30MHz	± 4.34dB	(1)
Radiated Emission	30MHz ~ 1000MHz	± 4.24dB	(1)
Radiated Emission	1GHz ~ 26.5GHz	± 4.68dB	(1)
AC Power Line Conducted Emission	0.15MHz ~ 30MHz	± 3.45dB	(1)
Note (1): The measurement uncertainty is for coverage factor of k=2 and a level of confidence of 95%.			

5 General Information

5.1 General Description of EUT

Product Name:	2.4G Interactive Animated Duos
Model No.:	R-HA37736, R-HA37762, R-HA37761,R- HA37735, R-HA32577, R-HA27658, R-HA33571, R-HA35414, R-HA38853, R-HA39496, R-XA39794, R-XA39836, R-HA39657, R-HA41700A, R-HA41702A, R-HA41703A, R-HA41704A, R-HA41705A, R-HA41706A, R-HA44198A, R-HF41701A, R-XF41707A
Test Model No.:	R-HA37736
Remark: All above models are identical in the same PCB layout, interior structure and electrical circuits The only differences are the model name and appearance for commercial purpose.	
Operation Frequency:	2405MHz
Channel numbers:	1
Modulation type:	GFSK
Antenna Type:	PCB Antenna
Antenna gain:	0dBi (declare by Applicant)
Power supply:	DC 4.5V (3 * 1.5V AA Size battery)

5.2 Test mode

Transmitting mode	Keep the EUT in continuously transmitting mode
Remark: During the test, the new battery was used..	

Per-test mode.

We have verified the construction and function in typical operation, The EUT was placed on three different polar directions; i.e. X axis, Y axis, Z axis. which was shown in this test report and defined as follows:

Axis	X	Y	Z
Field Strength(dBuV/m)	88.76	90.77	88.64

5.3 Description of Support Units

None

5.4 Test Facility

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

● **FCC —Registration No.: 600491**

Global United Technology Services Co., Ltd., Shenzhen EMC Laboratory has been registered and fuly described in a report filed with the (FCC) Federal Communications Commission. The acceptance letter from the FCC is maintained in files. Registration 600491, June 22, 2016.

● **Industry Canada (IC) —Registration No.: 9079A-2**

The 3m Semi-anechoic chamber of Global United Technology Services Co., Ltd. has been registered by Certification and Engineering Bureau of Industry Canada for radio equipment testing with Registration No.: 9079A-2, August 15, 2016.

5.5 Test Location

All tests were performed at:

Global United Technology Services Co., Ltd.

Address: No. 301-309, 3/F., Jinyuan Business Building, No.2, Laodong Industrial Zone, Xixiang Road, Baoan District, Shenzhen, Guangdong, China 518102

Tel: 0755-27798480

Fax: 0755-27798960

5.6 Description of Support Units

None.

5.7 Other Information Requested by the Customer

None.

6 Test Instruments list

Radiated Emission:						
Item	**Test Equipment**	**Manufacturer**	**Model No.**	**Inventory No.**	**Cal.Date (mm-dd-yy)**	**Cal.Due date (mm-dd-yy)**
1	3m Semi- Anechoic Chamber	ZhongYu Electron	9.2(L)*6.2(W)* 6.4(H)	GTS250	July 03 2015	July 02 2020
2	Control Room	ZhongYu Electron	6.2(L)*2.5(W)* 2.4(H)	GTS251	N/A	N/A
3	Spectrum Analyzer	Agilent	E4440A	GTS533	June 29 2016	June 28 2017
4	EMI Test Receiver	Rohde & Schwarz	ESU26	GTS203	June 29 2016	June 28 2017
5	BiConiLog Antenna	SCHWARZBECK MESS-ELEKTRONIK	VULB9163	GTS214	June 29 2016	June 28 2017
6	Double -ridged waveguide horn	SCHWARZBECK MESS-ELEKTRONIK	9120D-829	GTS208	June 29 2016	June 28 2017
7	Horn Antenna	ETS-LINDGREN	3160	GTS217	June 29 2016	June 28 2017
8	EMI Test Software	AUDIX	E3	N/A	N/A	N/A
9	Coaxial Cable	GTS	N/A	GTS213	June 29 2016	June 28 2017
10	Coaxial Cable	GTS	N/A	GTS211	June 29 2016	June 28 2017
11	Coaxial cable	GTS	N/A	GTS210	June 29 2016	June 28 2017
12	Coaxial Cable	GTS	N/A	GTS212	June 29 2016	June 28 2017
13	Amplifier(100kHz-3GHz)	HP	8347A	GTS204	June 29 2016	June 28 2017
14	Amplifier(2GHz-20GHz)	HP	8349B	GTS206	June 29 2016	June 28 2017
15	Amplifier (18-26GHz)	Rohde & Schwarz	AFS33-18002 650-30-8P-44	GTS218	June 29 2016	June 28 2017
16	Band filter	Amindeon	82346	GTS219	June 29 2016	June 28 2017
17	Power Meter	Anritsu	ML2495A	GTS540	June 29 2016	June 28 2017
18	Power Sensor	Anritsu	MA2411B	GTS541	June 29 2016	June 28 2017

General used equipment:						
Item	**Test Equipment**	**Manufacturer**	**Model No.**	**Inventory No.**	**Cal.Date (mm-dd-yy)**	**Cal.Due date (mm-dd-yy)**
1	Barometer	ChangChun	DYM3	GTS257	June 29 2016	June 28 2017

7 Test results and Measurement Data

7.1 Antenna requirement

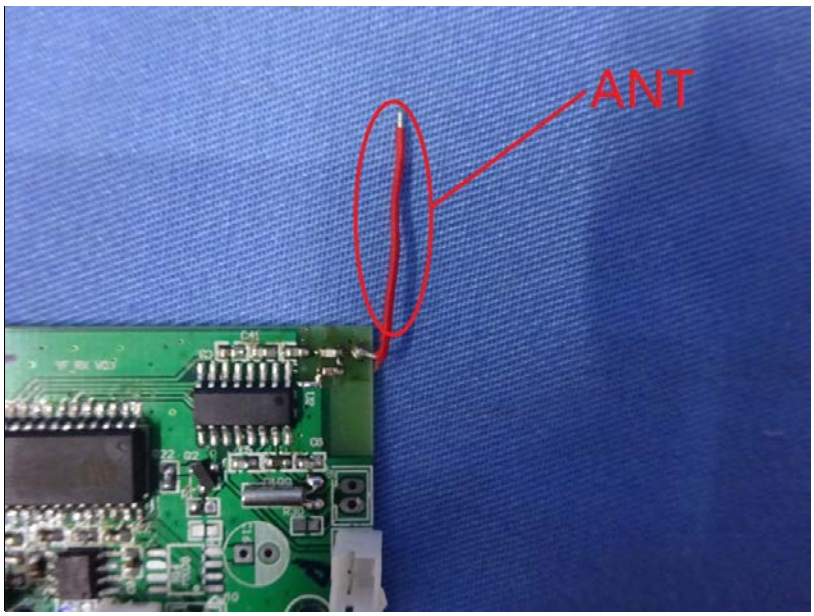
Standard requirement:	FCC Part15 C Section 15.203

15.203 requirement:

An intentional radiator shall be designed to ensure that no antenna other than that furnished by the responsible party shall be used with the device. The use of a permanently attached antenna or of an antenna that uses a unique coupling to the intentional radiator, the manufacturer may design the unit so that a broken antenna can be replaced by the user, but the use of a standard antenna jack or electrical connector is prohibited.

EUT Antenna:

The antenna is Integral antenna, the best case gain of the antenna is 0dBi



7.2 Radiated Emission Method

Test Requirement:	FCC Part15 C Section 15.209
Test Method:	ANSI C63.10:2013
Test Frequency Range:	30MHz to 25GHz
Test site:	Measurement Distance: 3m

Receiver setup:

Frequency	Detector	RBW	VBW	Remark
30MHz-1GHz	Quasi-peak	120KHz	300KHz	Quasi-peak Value
Above 1GHz	Peak	1MHz	3MHz	Peak Value
	Peak	1MHz	10Hz	Average Value

Limit:
(Field strength of the fundamental signal)

Frequency	Limit (dBuV/m @3m)	Remark
2400MHz-2483.5MHz	94.00	Average Value

Limit:
(Spurious Emissions)

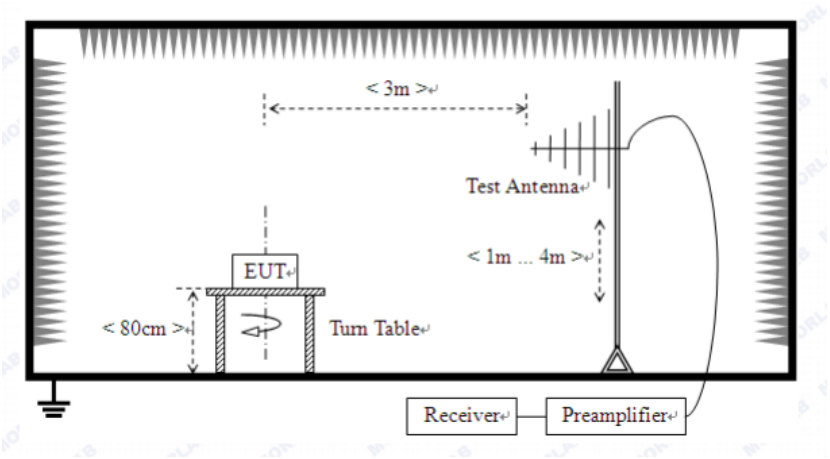
Frequency	Limit (dBuV/m @3m)	Remark
30MHz-88MHz	40.00	Quasi-peak Value
88MHz-216MHz	43.50	Quasi-peak Value
216MHz-960MHz	46.00	Quasi-peak Value
960MHz-1GHz	54.00	Quasi-peak Value
Above 1GHz	54.00	Average Value
	74.00	Peak Value

Limit:
(band edge)

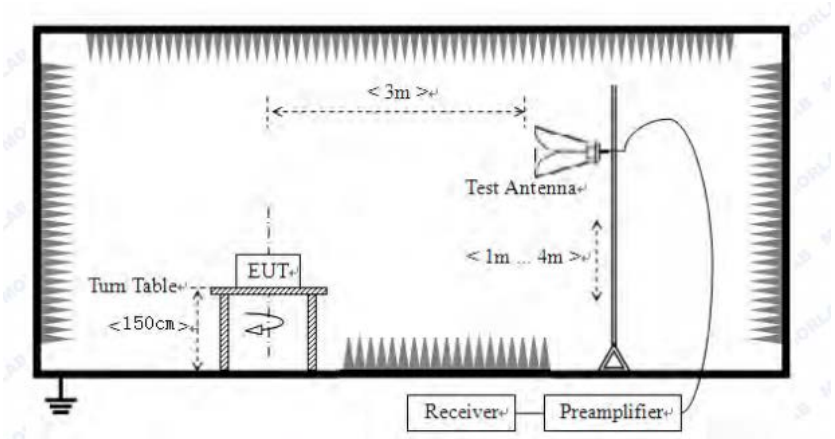
Emissions radiated outside of the specified frequency bands, except for harmonics, shall be attenuated by at least 50 dB below the level of the fundamental or to the general radiated emission limits in Section 15.209, whichever is the lesser attenuation.

Test setup:

Below 1GHz



Above 1GHz

	
Test Procedure:	1. The EUT was placed on the top of a rotating table (0.8 meters below 1G and 1.5 meters above 1G) above the ground at a 3 meter camber. The table was rotated 360 degrees to determine the position of the highest radiation. 2. The EUT was set 3 meters away from the interference-receiving antenna, which was mounted on the top of a variable-height antenna tower. 3. The antenna height is varied from one meter to four meters above the ground to determine the maximum value of the field strength. Both horizontal and vertical polarizations of the antenna are set to make the measurement. 4. For each suspected emission, the EUT was arranged to its worst case and then the antenna was tuned to heights from 1 meter to 4 meters and the rota table was turned from 0 degrees to 360 degrees to find the maximum reading. 5. The test-receiver system was set to Peak Detect Function and Specified Bandwidth with Maximum Hold Mode. 6. If the emission level of the EUT in peak mode was 10dB lower than the limit specified, then testing could be stopped and the peak values of the EUT would be reported. Otherwise the emissions that did not have 10dB margin would be re-tested one by one using peak, quasi-peak or average method as specified and then reported in a data sheet.
Test Instruments:	Refer to section 6.0 for details
Test mode:	Refer to section 5.2 for details
Test results:	Pass

Measurement data:

7.2.1 Field Strength of The Fundamental Signal

Peak value:

Frequency (MHz)	Read Level (dBuV)	Antenna Factor (dB/m)	Cable Loss (dB)	Preamp Factor (dB)	Level (dBuV/m)	Limit Line (dBuV/m)	Over Limit (dB)	polarization
2405.00	94.55	27.55	5.40	36.73	90.77	114.00	-23.23	Vertical
2405.00	92.83	27.55	5.40	36.73	89.05	114.00	-24.95	Horizontal

Average value:

Frequency (MHz)	Read Level (dBuV)	Antenna Factor (dB/m)	Cable Loss (dB)	Preamp Factor (dB)	Level (dBuV/m)	Limit Line (dBuV/m)	Over Limit (dB)	polarization
2405.00	84.28	27.55	5.40	36.73	80.50	94.00	-13.50	Vertical
2405.00	81.76	27.55	5.40	36.73	77.98	94.00	-16.02	Horizontal

Note： RBW 3MHz VBW 3MHz peak detector is for PK value， RMS detector is for AV value

7.2.2 Spurious emissions

■ Below 1GHz

Frequency (MHz)	Read Level (dBuV)	Antenna Factor (dB/m)	Cable Loss (dB)	Preamp Factor (dB)	Level (dBuV/m)	Limit Line (dBuV/m)	Over Limit (dB)	polarization
40.56	38.94	15.58	0.67	30.04	25.15	40.00	-14.85	Vertical
55.61	37.71	14.97	0.82	29.95	23.55	40.00	-16.45	Vertical
83.23	46.34	11.72	1.06	29.78	29.34	40.00	-10.66	Vertical
116.95	45.81	13.00	1.34	29.59	30.56	43.50	-12.94	Vertical
192.42	49.56	12.56	1.80	29.23	34.69	43.50	-8.81	Vertical
339.59	47.92	16.12	2.57	29.78	36.83	46.00	-9.17	Vertical
53.13	41.90	15.10	0.80	29.97	27.83	40.00	-12.17	Horizontal
68.15	41.99	11.34	0.93	29.87	24.39	40.00	-15.61	Horizontal
112.92	43.80	13.73	1.30	29.61	29.22	43.50	-14.28	Horizontal
185.79	47.40	12.16	1.77	29.25	32.08	43.50	-11.42	Horizontal
262.90	48.94	14.17	2.19	29.74	35.56	46.00	-10.44	Horizontal
478.85	43.95	18.07	3.22	29.34	35.90	46.00	-10.10	Horizontal

■ Above 1G

Peak value:

Frequency (MHz)	Read Level (dBuV)	Antenna Factor (dB/m)	Cable Loss (dB)	Preamp Factor (dB)	Level (dBuV/m)	Limit Line (dBuV/m)	Over Limit (dB)	polarization
4810.00	36.44	32.46	8.6	32.09	45.41	74	-28.59	Vertical
7215.00	32.72	38.94	11.65	32	51.31	74	-22.69	Vertical
9620.00	28.83	36.43	14.14	31.62	47.78	74	-26.22	Vertical
12025.00						74		Vertical
14430.00						74		Vertical
4810.00	34.42	32.25	8.6	32.09	43.18	74	-30.82	Horizontal
7215.00	29.52	37.46	11.65	32	46.63	74	-27.37	Horizontal
9620.00	29.04	38.04	14.14	31.62	49.6	74	-24.40	Horizontal
12025.00	*					74.00		Horizontal
14430.00	*					74.00		Horizontal

Average value:

Frequency (MHz)	Read Level (dBuV)	Antenna Factor (dB/m)	Cable Loss (dB)	Preamp Factor (dB)	Level (dBuV/m)	Limit Line (dBuV/m)	Over Limit (dB)	polarization
4810.00	27.06	32.44	8.6	32.09	36.01	54	-17.99	Vertical
7215.00	20.14	38.05	11.65	32	37.84	54	-16.16	Vertical
9620.00	18.96	38.63	14.14	31.62	40.11	54	-13.89	Vertical
12025.00						54		Vertical
14430.00						54		Vertical
4810.00	24.46	32.41	8.6	32.09	33.38	54	-20.62	Horizontal
7215.00	19.63	37.83	11.65	32	37.11	54	-16.89	Horizontal
9620.00	18.54	36.42	14.14	31.62	37.48	54	-16.52	Horizontal
12025.00	*					54.00		Horizontal
14430.00	*					54.00		Horizontal

7.2.3 Bandedge emissions

All of the restriction bands were tested, and only the data of worst case was exhibited.

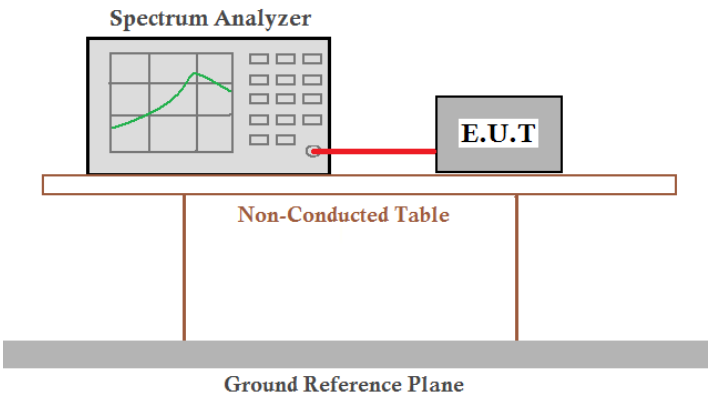
Peak value:

Frequency (MHz)	Read Level (dBuV)	Antenna Factor (dB/m)	Cable Loss (dB)	Preamp Factor (dB)	Level (dBuV/m)	Limit Line (dBuV/m)	Over Limit (dB)	Polarization
2310.00	47.77	27.91	5.30	36.64	44.34	74.00	-29.66	Horizontal
2390.00	46.04	27.59	5.39	36.71	42.31	74.00	-31.69	Horizontal
2310.00	47.82	27.91	5.30	36.64	44.39	74.00	-29.61	Vertical
2390.00	45.53	27.59	5.39	36.71	41.80	74.00	-32.20	Vertical
2483.50	49.32	27.52	5.47	36.78	45.53	74.00	-28.47	Horizontal
2500.00	48.41	27.54	5.48	36.79	44.64	74.00	-29.36	Horizontal
2483.50	48.88	27.52	5.47	36.78	45.09	74.00	-28.91	Vertical
2500.00	46.76	27.54	5.48	36.79	42.99	74.00	-31.01	Vertical

Average value:

Frequency (MHz)	Read Level (dBuV)	Antenna Factor (dB/m)	Cable Loss (dB)	Preamp Factor (dB)	Level (dBuV/m)	Limit Line (dBuV/m)	Over Limit (dB)	Polarization
2310.00	39.46	27.91	5.30	36.64	36.03	54.00	-17.97	Horizontal
2390.00	39.77	27.59	5.39	36.71	36.04	54.00	-17.96	Horizontal
2310.00	40.04	27.91	5.30	36.64	36.61	54.00	-17.39	Vertical
2390.00	39.43	27.59	5.39	36.71	35.70	54.00	-18.30	Vertical
2483.50	42.33	27.52	5.47	36.78	38.54	54.00	-15.46	Horizontal
2500.00	40.14	27.54	5.48	36.79	36.37	54.00	-17.63	Horizontal
2483.50	42.13	27.52	5.47	36.78	38.34	54.00	-15.66	Vertical
2500.00	41.06	27.54	5.48	36.79	37.29	54.00	-16.71	Vertical

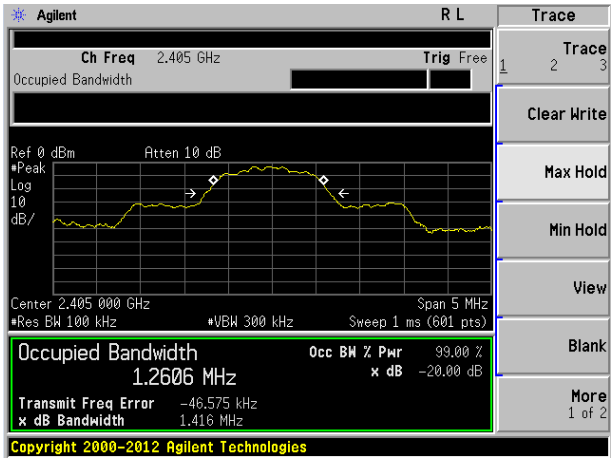
7.3 20dB Occupy Bandwidth

Test Requirement:	FCC Part15 C Section 15.249/15.215
Test Method:	ANSI C63.10:2013
Limit:	Operation Frequency range 2400MHz~2483.5MHz
Test setup:	
Test Instruments:	Refer to section 6.0 for details
Test mode:	Refer to section 5.3 for details
Test results:	Pass

Measurement Data

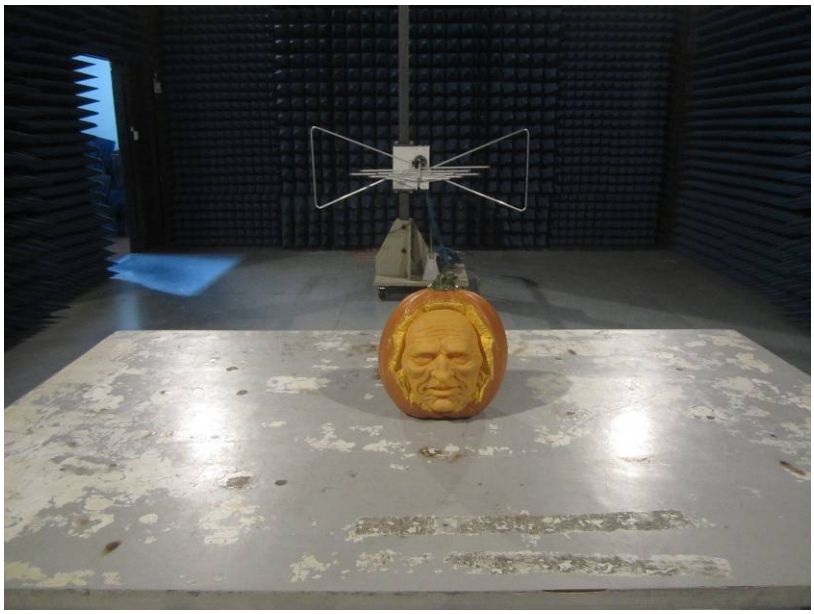
Test Frequency (MHz)	20dB bandwidth(MHz)	Result
2405	1.416	Pass

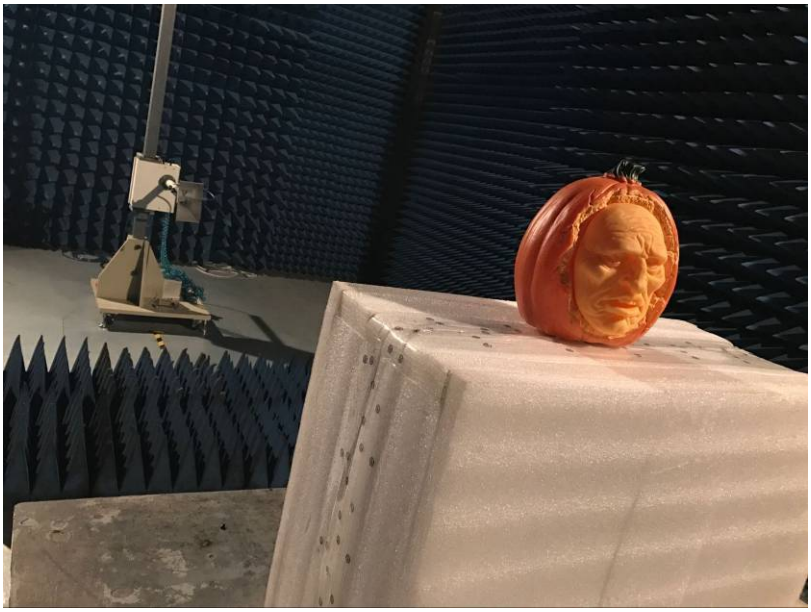
Test plot as follows:



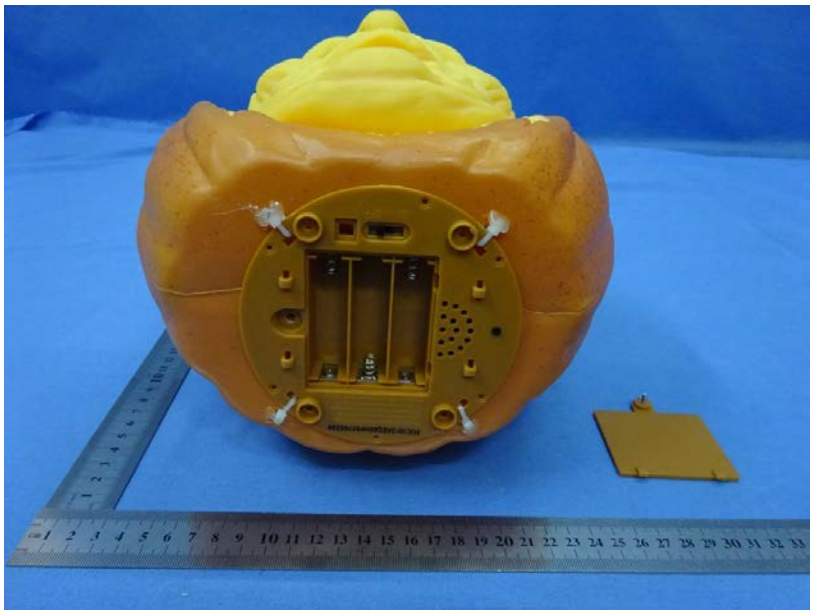
8 Test Setup Photo

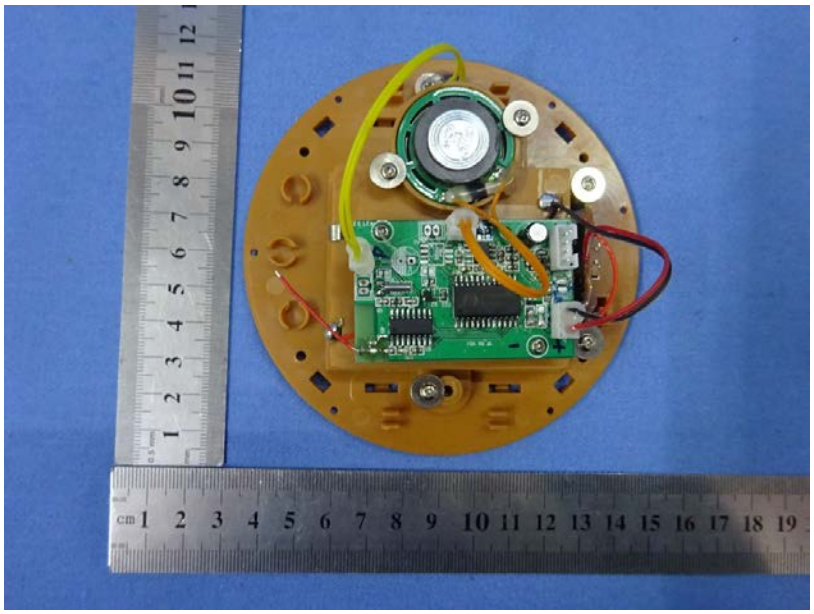
Radiated Emission

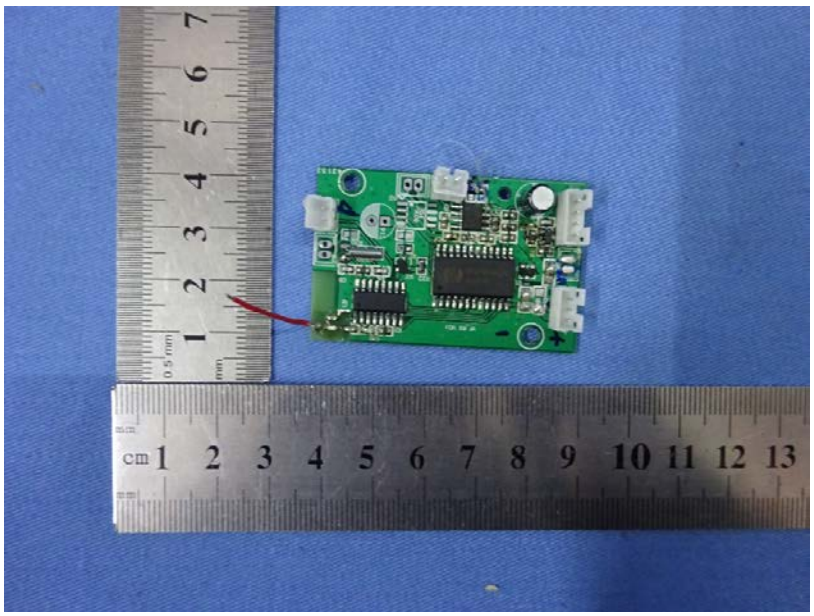


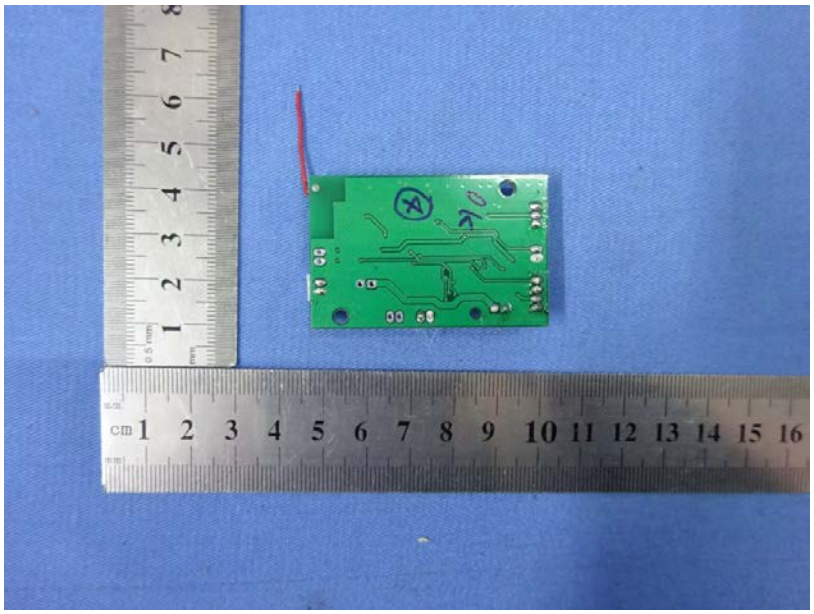


9 EUT Constructional Details








cm 1 2 3 4 5 6 7 8 9 10 11 12 13 14 15 16

R.I.P.

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