

FCC Test Report

Report No.: AGC08482190601FE03

FCC ID : 2AEVN-R09

APPLICATION PURPOSE : Original Equipment

PRODUCT DESIGNATION : Remote Control Toys

BRAND NAME : N/A

MODEL NAME : R09, R01, R02, R03, R05, R06, R07, R08, R09A, R09B, R09C, R09D, R09E, R09F, R09H, R09L, R09M, R09N, R09P, R09Q, R09S, R09X, R09W, R10, R20, R30, R50, R60, R70, R80, R90, R MINI, R PRO, R RANGER, R PET

APPLICANT : GUANGDONG ATTOP TECHNOLOGY CO., LTD

DATE OF ISSUE : Jul. 24, 2019

STANDARD(S) : FCC Part 15 Rules

TEST PROCEDURE(S)

REPORT VERSION : V1.0

Attestation of Global Compliance (Shenzhen) Co., Ltd

CAUTION:

This report shall not be reproduced except in full without the written permission of the test laboratory and shall not be quoted out of context.



Attestation of Global Compliance(Shenzhen)Co.,Ltd.

Add: 2/F., Building 2, No.1-4, Chaxi Sanwei Technial Industrial Park, Gushu, Xixiang, Bao'an District, Shenzhen, Guangdong, China

Tel: +86-755 2523 4088

E-mail: agc@agc-cert.com

Service Hotline:400 089 2118

REPORT REVISE RECORD

Report Version	Revise Time	Issued Date	Valid Version	Notes
V1.0	/	Jul. 24, 2019	Valid	Initial Release



Attestation of Global Compliance(Shenzhen)Co.,Ltd.

Add: 2/F., Building 2, No.1-4, Chaxi Sanwei Technial Industrial Park, Gushu,
Xixiang, Bao'an District, Shenzhen, Guangdong, China

Tel: +86-755 2523 4088

E-mail: agc@agc-cert.com

Service Hotline:400 089 2118

TABLE OF CONTENTS

1. VERIFICATION OF CONFORMITY	4
2. GENERAL INFORMATION.....	5
2.1. PRODUCT DESCRIPTION	5
2.2. TABLE OF CARRIER FREQUENCY	5
3. MEASUREMENT UNCERTAINTY	6
4. DESCRIPTION OF TEST MODES.....	7
5. SYSTEM TEST CONFIGURATION	8
5.1. CONFIGURATION OF EUT SYSTEM	8
5.2 EQUIPMENT USED IN TESTED SYSTEM.....	8
5.3. SUMMARY OF TEST RESULTS.....	8
6. TEST FACILITY	9
7. RADIATED EMISSION.....	10
7.1TEST LIMIT	10
7.2. MEASUREMENT PROCEDURE	11
7.3. TEST SETUP.....	13
7.4. TEST RESULT	14
8. BAND EDGE EMISSION	20
8.1. MEASUREMENT PROCEDURE	20
8.2 TEST SETUP.....	20
8.3 RADIATED TEST RESULT	20
9. 20DB BANDWIDTH	25
9.1. MEASUREMENT PROCEDURE	25
9.2. TEST SET-UP (BLOCK DIAGRAM OF CONFIGURATION).....	25
9.3. MEASUREMENT RESULTS.....	26
APPENDIX A: PHOTOGRAPHS OF TEST SETUP	28
APPENDIX B: PHOTOGRAPHS OF THE EUT	29



Attestation of Global Compliance(Shenzhen)Co.,Ltd.

Add: 2/F., Building 2, No.1-4, Chaxi Sanwei Technial Industrial Park, Gushu,
Xixiang, Bao'an District, Shenzhen, Guangdong, China

Tel: +86-755 2523 4088

E-mail: agc@agc-cert.com

Service Hotline:400 089 2118

1. VERIFICATION OF CONFORMITY

Applicant	GUANGDONG ATTOP TECHNOLOGY CO., LTD
Address	LINGHAI INDUSTRY ZONE, LAIMEI ROAD, CHENGHAI DISTRICT, SHANTOU, GUANGDONG, CHINA
manufacturer	GUANGDONG ATTOP TECHNOLOGY CO., LTD
Address	LINGHAI INDUSTRY ZONE, LAIMEI ROAD, CHENGHAI DISTRICT, SHANTOU, GUANGDONG, CHINA
Product Designation	Remote Control Toys
Brand Name	N/A
Test Model	R09
Series Model	R01, R02, R03, R05, R06, R07, R08, R09A, R09B, R09C, R09D, R09E, R09F, R09H, R09L, R09M, R09N, R09P, R09Q, R09S, R09X, R09W, R10, R20, R30, R50, R60, R70, R80, R90, R MINI, R PRO, R RANGER, R PET
Difference description	All the same except for the model name and color
Date of test	Jul. 05, 2019 to Jul. 23, 2019
Deviation	None
Condition of Test Sample	Normal
Test Result	Pass
Report Template	AGCRT-US-BR/RF

We hereby certify that:

The above equipment was tested by Attestation of Global Compliance (Shenzhen) Co., Ltd. The test data, data evaluation, test procedures, and equipment configurations shown in this report were made in accordance with the procedures given in ANSI C63.10 (2013) and the energy emitted by the sample EUT tested as described in this report is in compliance with radiated emission limits of FCC Rules Part 15.249.

Tested By

NiNi

NiNi(Guo lili)

Jul. 23, 2019

Reviewed By

Max Zhang

Max Zhang(Zhang Yi)

Jul. 24, 2019

Approved By

Forrest Lei

Forrest Lei(Lei Yonggang)

Authorized Officer

Jul. 24, 2019



Attestation of Global Compliance(Shenzhen)Co.,Ltd.

Add: 2/F., Building 2, No.1-4, Chaxi Sanwei Technial Industrial Park, Gushu, Xixiang, Bao'an District, Shenzhen, Guangdong, China

Tel: +86-755 2523 4088

E-mail: agc@agc-cert.com

Service Hotline:400 089 2118

2. GENERAL INFORMATION

2.1. PRODUCT DESCRIPTION

A major technical description of EUT is described as following

Operation Frequency	2.420 GHz to 2.465GHz
Maximum field strength	86.81dBuV/m(Average)@3m
Modulation	GFSK
Number of channels	3
Antenna Gain	0dBi
Antenna Designation	Wire antenna (Met 15.203 Antenna requirement)
Hardware Version	WJ-YDR09T
Software Version	V1.0
Power Supply	DC 4.5V by battery

2.2. TABLE OF CARRIER FREQUENCY

Channel Number	Frequency	Channel Number	Frequency	Channel Number	Frequency
1	2420MHz	2	2445MHz	3	2465MHz



Attestation of Global Compliance(Shenzhen)Co.,Ltd.

Add: 2/F., Building 2, No.1-4, Chaxi Sanwei Technial Industrial Park, Gushu,
Xixiang, Bao'an District, Shenzhen, Guangdong, China

Tel: +86-755 2523 4088

E-mail: agc@agc-cert.com

Service Hotline:400 089 2118

3. MEASUREMENT UNCERTAINTY

The uncertainty is calculated using the methods suggested in the “Guide to the Expression of Uncertainty in measurement” (GUM) published by CISPR and ANSI.

- Uncertainty of Conducted Emission, $U_c = \pm 3.2$ dB
- Uncertainty of Radiated Emission below 1GHz, $U_c = \pm 3.9$ dB
- Uncertainty of Radiated Emission above 1GHz, $U_c = \pm 4.8$ dB



Attestation of Global Compliance(Shenzhen)Co.,Ltd.

Add: 2/F., Building 2, No.1-4, Chaxi Sanwei Technial Industrial Park, Gushu,
Xixiang, Bao'an District, Shenzhen, Guangdong, China

Tel: +86-755 2523 4088

E-mail: agc@agc-cert.com

Service Hotline:400 089 2118

4. DESCRIPTION OF TEST MODES

NO.	TEST MODE DESCRIPTION
1	Low channel GFSK
2	Middle channel GFSK
3	High channel GFSK
Note: 1. All the test modes can be supply by battery, only the result of the worst case was recorded in the report, if no other cases. 2. For Radiated Emission, 3axis were chosen for testing for each applicable mode.	



Attestation of Global Compliance(Shenzhen)Co.,Ltd.

Add: 2/F., Building 2, No.1-4, Chaxi Sanwei Technial Industrial Park, Gushu,
Xixiang, Bao'an District, Shenzhen, Guangdong, China

Tel: +86-755 2523 4088

E-mail: agc@agc-cert.com

Service Hotline:400 089 2118

5. SYSTEM TEST CONFIGURATION

5.1. CONFIGURATION OF EUT SYSTEM



5.2 EQUIPMENT USED IN TESTED SYSTEM

Item	Equipment	Model No.	ID or Specification	Remark
1	Remote Control Toys	R09	2AEVN-R09	EUT

5.3. SUMMARY OF TEST RESULTS

FCC RULES	DESCRIPTION OF TEST	RESULT
§15.249&15.209	Radiated Emission	Compliant
§15.249	Band Edges	Compliant
§15.215	20dB bandwidth	Compliant
§15.207	Conducted Emission	N/A

Note: The conducted limits are not required for devices which only employ battery power for operation.



Attestation of Global Compliance(Shenzhen)Co.,Ltd.

Add: 2/F., Building 2, No.1-4, Chaxi Sanwei Technial Industrial Park, Gushu,
Xixiang, Bao'an District, Shenzhen, Guangdong, China

Tel: +86-755 2523 4088

E-mail: agc@agc-cert.com

Service Hotline:400 089 2118

6. TEST FACILITY

Test Site	Attestation of Global Compliance (Shenzhen) Co., Ltd
Location	1-2/F, Building 19, Junfeng Industrial Park, Chongqing Road, Heping Community, Fuhai Street, Bao'an District, Shenzhen, Guangdong, China
Designation Number	CN1259
FCC Test Firm Registration Number	975832
A2LA Cert. No.	5054.02
Description	Attestation of Global Compliance(Shenzhen) Co., Ltd is accredited by A2LA

TEST EQUIPMENT OF RADIATED EMISSION TEST

Equipment	Manufacturer	Model	S/N	Cal. Date	Cal. Due
TEST RECEIVER	R&S	ESCI	10096	Jun. 12, 2019	Jun. 11, 2020
EXA Signal Analyzer	Aglient	N9010A	MY53470504	Dec. 20, 2018	Dec. 19, 2019
2.4GHz Fliter	EM Electronics	2400-2500MHz	N/A	Feb. 27, 2019	Feb. 26, 2020
Attenuator	ZHINAN	E-002	N/A	Aug. 28, 2018	Aug. 27, 2019
Horn antenna	SCHWARZBECK	BBHA 9170	#768	Sep. 21, 2017	Sep. 20, 2020
Active loop antenna (9K-30MHz)	ZHINAN	ZN30900C	18051	Jun. 14, 2018	Jun. 13, 2020
Double-Ridged Waveguide Horn	ETS LINDGREN	3117	00034609	May. 26, 2018	May. 25, 2020
Broadband Preamplifier	ETS LINDGREN	3117PA	00225134	Oct. 25, 2018	Oct. 24, 2019
ANTENNA	SCHWARZBECK	VULB9168	D69250	Sep. 28, 2017	Sep. 27, 2019



Attestation of Global Compliance(Shenzhen)Co.,Ltd.

Add: 2/F., Building 2, No.1-4, Chaxi Sanwei Technial Industrial Park, Gushu, Xixiang, Bao'an District, Shenzhen, Guangdong, China

Tel: +86-755 2523 4088

E-mail: agc@agc-cert.com

Service Hotline:400 089 2118

7. RADIATED EMISSION

7.1 TEST LIMIT

Standard FCC15.249

Fundamental Frequency	Field Strength of Fundamental (millivolts/meter)	Field Strength of Harmonics (microvolts/meter)
900-928MHz	50	500
2400-2483.5MHz	50	500
5725-5875MHz	50	500
24.0-24.25GHz	250	2500

Standard FCC 15.209

Frequency (MHz)	Distance Meters	Field Strengths Limit	
		$\mu V/m$	dB(μV)/m
0.009 ~ 0.490	300	2400/F(kHz)	---
0.490 ~ 1.705	30	24000/F(kHz)	---
1.705 ~ 30	30	30	---
30 ~ 88	3	100	40.0
88 ~ 216	3	150	43.5
216 ~ 960	3	200	46.0
960 ~ 1000	3	500	54.0
Above 1000	3	Other:74.0 dB(μV)/m (Peak) 54.0 dB(μV)/m (Average)	

Remark: (1) Emission level dB $\mu V = 20 \log$ Emission level $\mu V/m$
(2) The smaller limit shall apply at the cross point between two frequency bands.
(3) Distance is the distance in meters between the measuring instrument, antenna and the closest point of any part of the device or system.



Attestation of Global Compliance(Shenzhen)Co.,Ltd.

Add: 2/F., Building 2, No.1-4, Chaxi Sanwei Technial Industrial Park, Gushu,
Xixiang, Bao'an District, Shenzhen, Guangdong, China

Tel: +86-755 2523 4088

E-mail: agc@agc-cert.com

Service Hotline:400 089 2118

7.2. MEASUREMENT PROCEDURE

1. The EUT was placed on the top of the turntable 0.8 or 1.5 meter above ground. The phase center of the receiving antenna mounted on the top of a height-variable antenna tower was placed 3 meters far away from the turntable.
2. Power on the EUT and all the supporting units. The turntable was rotated by 360 degrees to determine the position of the highest radiation.
3. The height of the broadband receiving antenna was varied between one meter and four meters above ground to find the maximum emissions field strength of both horizontal and vertical polarization.
4. For each suspected emissions, the antenna tower was scan (from 1 M to 4 M) and then the turntable was rotated (from 0 degree to 360 degrees) to find the maximum reading.
5. Set the test-receiver system to Peak or CISPR quasi-peak Detect Function with specified bandwidth under Maximum Hold Mode.
6. For emissions above 1GHz, use minimum resolution bandwidth of 1 MHz. Place the measurement antenna away from each area of the EUT determined to be a source of emissions at the specified measurement distance, while keeping the measurement antenna aimed at the source of emissions at each frequency of significant emissions, with polarization oriented for maximum response. The measurement antenna may have to be higher or lower than the EUT, depending on the radiation pattern of the emission and staying aimed at the emission source for receiving the maximum signal. The final measurement antenna elevation shall be that which maximizes the emissions. The measurement antenna elevation for maximum emissions shall be restricted to a range of heights of from 1 m to 4 m above the ground or reference ground plane.
7. When the radiated emissions limits are expressed in terms of the average value of the emissions, and pulsed operation is employed, the measurement field strength shall be determined by averaging over one complete pulse train, including blanking intervals, as long as the pulse train does not exceed 0.1 seconds. As an alternative (provided the transmitter operates for longer than 0.1 seconds) or in cases where the pulse train exceeds 0.1 seconds, the measured field strength shall be determined from the average absolute voltage during a 0.1 second interval during which the field strength is at its maximum values.
8. If the emissions level of the EUT in peak mode was 3 dB lower than the average limit specified, then testing will be stopped and peak values of EUT will be reported, otherwise, the emissions which do not have 3 dB margin will be repeated one by one using the quasi-peak method for below 1GHz.
9. For testing above 1GHz, the emissions level of the EUT in peak mode was lower than average limit (that means the emissions level in peak mode also complies with the limit in average mode), then testing will be stopped and peak values of EUT will be reported, otherwise, the emissions will be measured in average mode again and reported.
10. In case the emission is lower than 30MHz, loop antenna has to be used for measurement and the recorded data should be QP measured by receiver. High - Low scan is not required in this case.



The following table is the setting of spectrum analyzer and receiver.

Spectrum Parameter	Setting
Start ~Stop Frequency	9KHz~150KHz/RB 200Hz for QP
Start ~Stop Frequency	150KHz~30MHz/RB 9KHz for QP
Start ~Stop Frequency	30MHz~1000MHz/RB 120KHz for QP
Start ~Stop Frequency	1GHz~26.5GHz RBW 4MHz/ 50VBW MHz for Peak, RBW 4MHz/1kHz for Average

Receiver Parameter	Setting
Start ~Stop Frequency	9KHz~150KHz/RB 200Hz for QP
Start ~Stop Frequency	150KHz~30MHz/RB 9KHz for QP
Start ~Stop Frequency	30MHz~1000MHz/RB 120KHz for QP



Attestation of Global Compliance(Shenzhen)Co.,Ltd.

Add: 2/F., Building 2, No.1-4, Chaxi Sanwei Technial Industrial Park, Gushu,
Xixiang, Bao'an District, Shenzhen, Guangdong, China

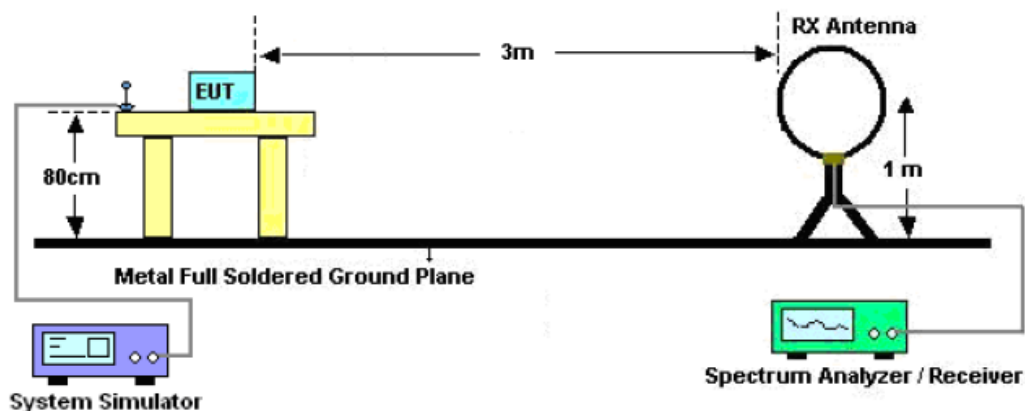
Tel: +86-755 2523 4088

E-mail: agc@agc-cert.com

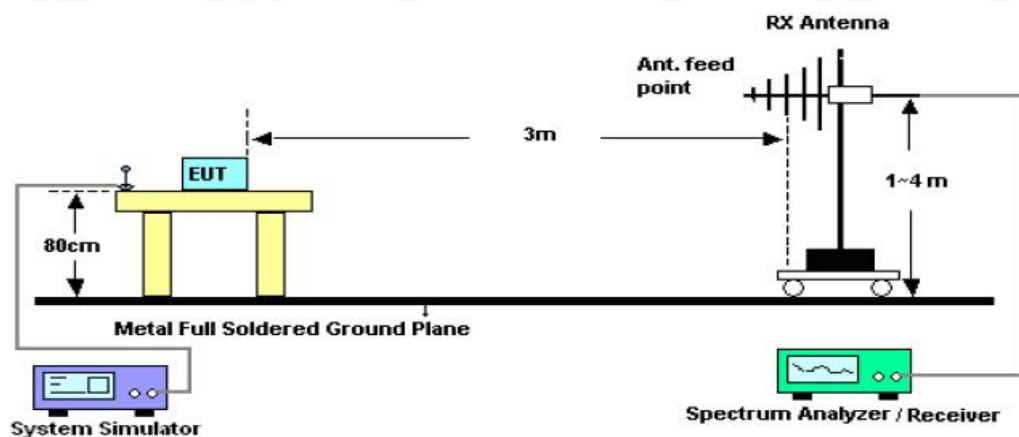
Service Hotline:400 089 2118

7.3. TEST SETUP

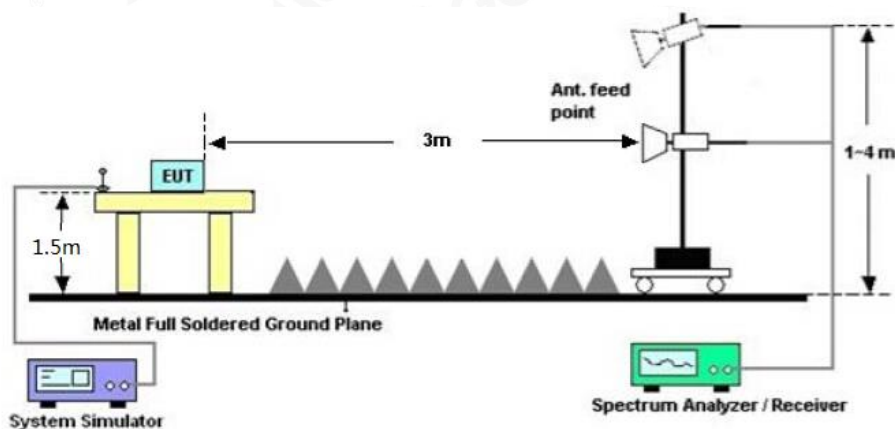
Radiated Emission Test-Setup Frequency Below 30MHz



RADIATED EMISSION TEST SETUP 30MHz-1000MHz



RADIATED EMISSION TEST SETUP ABOVE 1000MHz



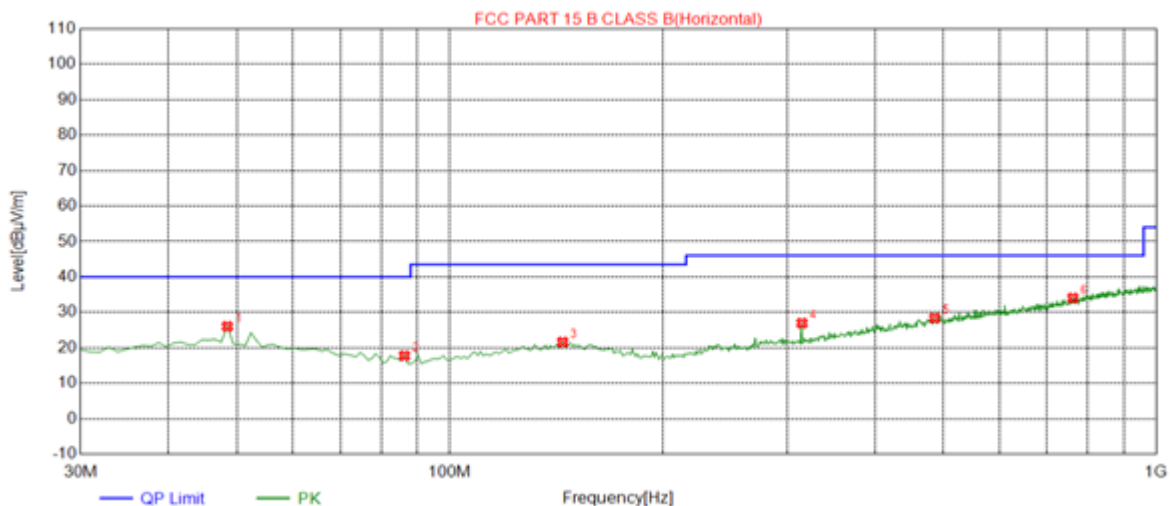
7.4. TEST RESULT

RADIATED EMISSION BELOW 30MHZ

No emission found between lowest internal used/generated frequencies to 30MHz.

RADIATED EMISSION 30MHz- 1GHZ

EUT :	Remote Control Toys	Model Name. :	R09
Temperature :	20 °C	Relative Humidity :	48%
Pressure :	1010 hPa	Test Voltage :	DC4.5V
Test Mode :	Mode 1	Polarization :	Horizontal



NO.	Freq. [MHz]	Level [dBμV/m]	Factor [dB]	Limit [dBμV/m]	Margin [dB]	Height [cm]	Angle [°]	Polarity
1	48.4300	26.01	14.71	40.00	13.99	100	10	Horizontal
2	86.2600	17.76	10.22	40.00	22.24	200	296	Horizontal
3	144.4600	21.61	14.88	43.50	21.89	150	359	Horizontal
4	315.1800	26.95	16.48	46.00	19.05	150	192	Horizontal
5	485.9000	28.37	21.85	46.00	17.63	150	159	Horizontal
6	762.3500	34.03	27.50	46.00	11.97	100	346	Horizontal



Attestation of Global Compliance(Shenzhen)Co.,Ltd.

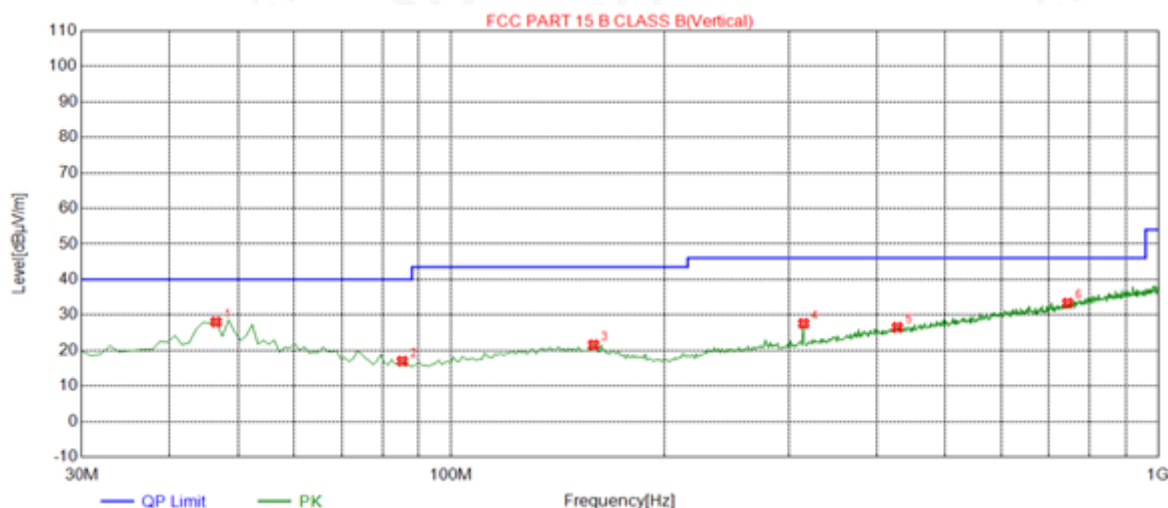
Add: 2/F., Building 2, No.1-4, Chaxi Sanwei Technial Industrial Park, Gushu, Xixiang, Bao'an District, Shenzhen, Guangdong, China

Tel: +86-755 2523 4088

E-mail: agc@agc-cert.com

Service Hotline:400 089 2118

EUT :	Remote Control Toys	Model Name. :	R09
Temperature :	20 °C	Relative Humidity :	48%
Pressure :	1010 hPa	Test Voltage :	DC4.5V
Test Mode :	Mode 1	Polarization :	Vertical



NO.	Freq. [MHz]	Level [dBμV/m]	Factor [dB]	Limit [dBμV/m]	Margin [dB]	Height [cm]	Angle [°]	Polarity
1	46.4900	28.01	14.77	40.00	11.99	100	125	Vertical
2	85.2900	16.98	10.20	40.00	23.02	150	352	Vertical
3	159.0100	21.59	14.94	43.50	21.91	200	41	Vertical
4	315.1800	27.60	16.48	46.00	18.40	150	251	Vertical
5	427.7000	26.50	20.48	46.00	19.50	200	92	Vertical
6	744.8900	33.33	27.10	46.00	12.67	100	302	Vertical

RESULT: PASS

Note:

Factor=Antenna Factor + Cable loss, Margin=Result-Limit.

The "Factor" value can be calculated automatically by software of measurement system.

The mode 1 is the worst case, and only the data of the worst case recorded in this test report.



Attestation of Global Compliance(Shenzhen)Co.,Ltd.

Add: 2/F., Building 2, No.1-4, Chaxi Sanwei Technial Industrial Park, Gushu, Xixiang, Bao'an District, Shenzhen, Guangdong, China

Tel: +86-755 2523 4088

E-mail: agc@agc-cert.com

Service Hotline:400 089 2118

FIELD STRENGTH OF FUNDAMENTAL

EUT :	Remote Control Toys	Model Name. :	R09
Temperature :	20 °C	Relative Humidity :	48%
Pressure :	1010 hPa	Test Voltage :	DC4.5V
Test Modulation :	GFSK	Polarization :	Horizontal

Frequency (MHz)	Meter Reading (dBμV)	Factor (dB)	Emission Level (dBμV/m)	Limits (dBμV/m)	Margin (dB)	Value Type
2420.031	102.54	-9.61	92.93	114.00	-21.07	peak
2420.031	96.42	-9.61	86.81	94.00	-7.19	AVG
2445.031	102.14	-9.28	92.86	114.00	-21.14	peak
2445.031	95.87	-9.28	86.59	94.00	-7.41	AVG
2465.031	101.85	-9.14	92.71	114.00	-21.29	peak
2465.031	95.16	-9.14	86.02	94.00	-7.98	AVG

Remark:

Factor = Antenna Factor + Cable Loss – Pre-amplifier.

EUT :	Remote Control Toys	Model Name. :	R09
Temperature :	20 °C	Relative Humidity :	48%
Pressure :	1010 hPa	Test Voltage :	DC4.5V
Test Modulation :	GFSK	Polarization :	Vertical

Frequency (MHz)	Meter Reading (dBμV)	Factor (dB)	Emission Level (dBμV/m)	Limits (dBμV/m)	Margin (dB)	Value Type
2420.031	101.42	-9.61	91.81	114.00	-22.19	peak
2420.031	95.32	-9.61	85.71	94.00	-8.29	AVG
2445.031	101.35	-9.28	92.07	114.00	-21.93	peak
2445.031	95.04	-9.28	85.76	94.00	-8.24	AVG
2465.031	101.25	-9.14	92.11	114.00	-21.89	peak
2465.031	94.64	-9.14	85.50	94.00	-8.50	AVG

Remark:

Factor = Antenna Factor + Cable Loss – Pre-amplifier.



Attestation of Global Compliance(Shenzhen)Co.,Ltd.

Add: 2/F., Building 2, No.1-4, Chaxi Sanwei Technial Industrial Park, Gushu,
Xixiang, Bao'an District, Shenzhen, Guangdong, China

Tel: +86-755 2523 4088

E-mail: agc@agc-cert.com

Service Hotline:400 089 2118

RADIATED EMISSION ABOVE 1GHZ

EUT :	Remote Control Toys	Model Name. :	R09
Temperature :	20 °C	Relative Humidity :	48%
Pressure :	1010 hPa	Test Voltage :	DC4.5V
Test Mode :	Mode 1	Polarization :	Horizontal

Frequency (MHz)	Meter Reading (dBμV)	Factor (dB)	Emission Level (dBμV/m)	Limits (dBμV/m)	Margin (dB)	Value Type
4840.062	49.85	3.76	53.61	74.00	-20.39	peak
4840.062	43.42	3.76	47.18	54.00	-6.82	AVG
7260.093	46.78	8.17	54.95	74.00	-19.05	peak
7260.093	40.25	8.17	48.42	54.00	-5.58	AVG
Remark:						
Factor = Antenna Factor + Cable Loss – Pre-amplifier.						

EUT :	Remote Control Toys	Model Name. :	R09
Temperature :	20 °C	Relative Humidity :	48%
Pressure :	1010 hPa	Test Voltage :	DC4.5V
Test Mode :	Mode 1	Polarization :	Vertical

Frequency (MHz)	Meter Reading (dBμV)	Factor (dB)	Emission Level (dBμV/m)	Limits (dBμV/m)	Margin (dB)	Value Type
4840.062	46.78	3.76	50.54	74.00	-22.45	peak
4840.062	40.54	3.76	44.30	54.00	-5.96	AVG
7260.093	44.69	8.17	52.86	74.00	-23.29	peak
7260.093	38.42	8.17	46.59	54.00	-9.74	AVG
Remark:						
Factor = Antenna Factor + Cable Loss – Pre-amplifier.						



Attestation of Global Compliance(Shenzhen)Co.,Ltd.

Add: 2/F., Building 2, No.1-4, Chaxi Sanwei Technial Industrial Park, Gushu,
Xixiang, Bao'an District, Shenzhen, Guangdong, China

Tel: +86-755 2523 4088

E-mail: agc@agc-cert.com

Service Hotline:400 089 2118

EUT :	Remote Control Toys	Model Name. :	R09
Temperature :	20 °C	Relative Humidity :	48%
Pressure :	1010 hPa	Test Voltage :	DC4.5V
Test Mode :	Mode 2	Polarization :	Horizontal

Frequency (MHz)	Meter Reading (dBμV)	Factor (dB)	Emission Level (dBμV/m)	Limits (dBμV/m)	Margin (dB)	Value Type
4890.062	48.74	3.78	52.52	74.00	-21.48	peak
4890.062	42.15	3.78	45.93	54.00	-8.07	AVG
7335.093	46.42	8.23	54.65	74.00	-19.35	peak
7335.093	40.24	8.23	48.47	54.00	-5.53	AVG
Remark:						
Factor = Antenna Factor + Cable Loss – Pre-amplifier.						

EUT :	Remote Control Toys	Model Name. :	R09
Temperature :	20 °C	Relative Humidity :	48%
Pressure :	1010 hPa	Test Voltage :	DC4.5V
Test Mode :	Mode 2	Polarization :	Vertical

Frequency (MHz)	Meter Reading (dBμV)	Factor (dB)	Emission Level (dBμV/m)	Limits (dBμV/m)	Margin (dB)	Value Type
4890.062	48.85	3.78	52.63	74.00	-21.37	peak
4890.062	42.64	3.78	46.42	54.00	-7.58	AVG
7335.093	45.74	8.23	53.97	74.00	-20.03	peak
7335.093	39.21	8.23	47.44	54.00	-6.56	AVG
Remark:						
Factor = Antenna Factor + Cable Loss – Pre-amplifier.						



Attestation of Global Compliance(Shenzhen)Co.,Ltd.

Add: 2/F., Building 2, No.1-4, Chaxi Sanwei Technial Industrial Park, Gushu,
Xixiang, Bao'an District, Shenzhen, Guangdong, China

Tel: +86-755 2523 4088

E-mail: agc@agc-cert.com

Service Hotline:400 089 2118

EUT :	Remote Control Toys	Model Name. :	R09
Temperature :	20 °C	Relative Humidity :	48%
Pressure :	1010 hPa	Test Voltage :	DC4.5V
Test Mode :	Mode 3	Polarization :	Horizontal

Frequency (MHz)	Meter Reading (dBμV)	Factor (dB)	Emission Level (dBμV/m)	Limits (dBμV/m)	Margin (dB)	Value Type
4930.062	48.77	3.81	52.58	74.00	-21.42	peak
4930.062	42.36	3.81	46.17	54.00	-7.83	AVG
7395.093	44.52	8.27	52.79	74.00	-21.21	peak
7395.093	38.16	8.27	46.43	54.00	-7.57	AVG
Remark:						
Factor = Antenna Factor + Cable Loss – Pre-amplifier.						

EUT :	Remote Control Toys	Model Name. :	R09
Temperature :	20 °C	Relative Humidity :	48%
Pressure :	1010 hPa	Test Voltage :	DC4.5V
Test Mode :	Mode 3	Polarization :	Vertical

Frequency (MHz)	Meter Reading (dBμV)	Factor (dB)	Emission Level (dBμV/m)	Limits (dBμV/m)	Margin (dB)	Value Type
4930.062	49.25	3.81	53.06	74.00	-20.94	peak
4930.062	43.04	3.81	46.85	54.00	-7.15	AVG
7395.093	46.77	8.27	55.04	74.00	-18.96	peak
7395.093	40.42	8.27	48.69	54.00	-5.31	AVG
Remark:						
Factor = Antenna Factor + Cable Loss – Pre-amplifier.						

Note: Other emissions from 8G to 25 GHz are considered as ambient noise. No recording in the test report.

Factor=Antenna Factor + Cable loss - Amplifier gain, Margin=Measurement-Limit.

The “Factor” value can be calculated automatically by software of measurement system.



Attestation of Global Compliance(Shenzhen)Co.,Ltd.

Add: 2/F., Building 2, No.1-4, Chaxi Sanwei Technial Industrial Park, Gushu,
Xixiang, Bao'an District, Shenzhen, Guangdong, China

Tel: +86-755 2523 4088

E-mail: agc@agc-cert.com

Service Hotline:400 089 2118

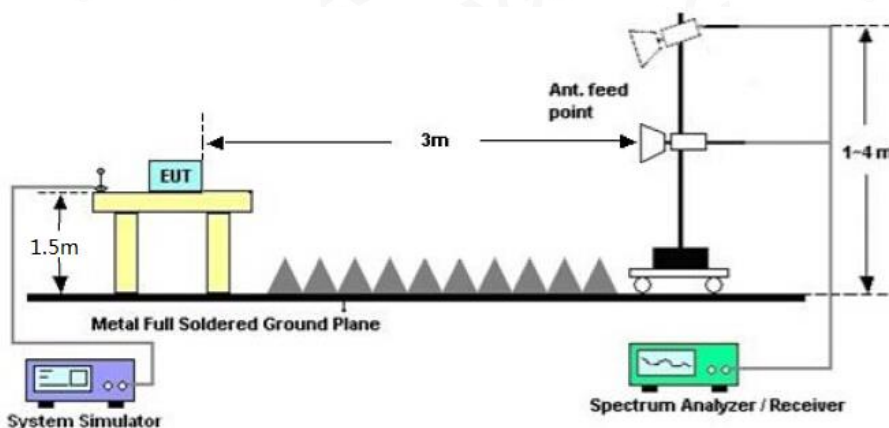
8. BAND EDGE EMISSION

8.1. MEASUREMENT PROCEDURE

1. The EUT operates at transmitting mode. The operate channel is tested to verify the largest transmission and spurious emissions power at the continuous transmission mode.
2. Set the spectrum analyzer in the following setting in order to capture the lower and upper band-edges of the emission: (a) PEAK: RBW=1MHz, VBW=3MHz / Sweep=AUTO
(b) AVERAGE: RBW=1MHz ; VBW=1/on time(1KHz) / Sweep=AUTO
3. Other procedures refer to clause 7.2.

8.2 TEST SETUP

RADIATED EMISSION TEST SETUP



8.3 RADIATED TEST RESULT

Note:

1. Factor=Antenna Factor + Cable loss - Amplifier gain. Field Strength=Factor + Reading level
2. The factor had been edited in the "Input Correction" of the Spectrum Analyzer. So the Amplitude of test plots is equal to Reading level plus the Factor in dB. Use the A dB(μ V) to represent the Amplitude. Use the F dB(μ V/m) to represent the Field Strength. So A=F.

EUT :	Remote Control Toys	Model Name. :	R09
Temperature :	20 °C	Relative Humidity :	48%
Pressure :	1010hPa	Test Voltage :	DC4.5V
Test Mode :	Mode 1	Polarization :	Horizontal

Peak Value



Attestation of Global Compliance(Shenzhen)Co.,Ltd.

Add: 2/F., Building 2, No.1-4, Chaxi Sanwei Technial Industrial Park, Gushu, Xixiang, Bao'an District, Shenzhen, Guangdong, China

Tel: +86-755 2523 4088

E-mail: agc@agc-cert.com

Service Hotline:400 089 2118

EUT :	Remote Control Toys	Model Name. :	R09
Temperature :	20 °C	Relative Humidity :	48%
Pressure :	1010hPa	Test Voltage :	DC4.5V
Test Mode :	Mode 1	Polarization :	Vertical

Peak Value



Attestation of Global Compliance(Shenzhen)Co.,Ltd.

Add: 2/F., Building 2, No.1-4, Chaxi Sanwei Technial Industrial Park, Gushu,
Xixiang, Bao'an District, Shenzhen, Guangdong, China

Tel: +86-755 2523 4088

E-mail: agc@agc-cert.com

Service Hotline:400 089 2118

EUT :	Remote Control Toys	Model Name. :	R09
Temperature :	20 °C	Relative Humidity :	48%
Pressure :	1010hPa	Test Voltage :	DC4.5V
Test Mode :	Mode 3	Polarization :	Horizontal

Peak Value



Attestation of Global Compliance(Shenzhen)Co.,Ltd.

Add: 2/F., Building 2, No.1-4, Chaxi Sanwei Technial Industrial Park, Gushu, Xixiang, Bao'an District, Shenzhen, Guangdong, China

Tel: +86-755 2523 4088

E-mail: agc@agc-cert.com

Service Hotline:400 089 2118

EUT :	Remote Control Toys	Model Name. :	R09
Temperature :	20 °C	Relative Humidity :	48%
Pressure :	1010hPa	Test Voltage :	DC4.5V
Test Mode :	Mode 3	Polarization :	Vertical

Peak Value



Note: The value of the peak emission are less than the average limits, so the average value are deemed to comply with the average limits without test.



Attestation of Global Compliance(Shenzhen)Co.,Ltd.

Add: 2/F., Building 2, No.1-4, Chaxi Sanwei Technial Industrial Park, Gushu,
Xixiang, Bao'an District, Shenzhen, Guangdong, China

Tel: +86-755 2523 4088

E-mail: agc@agc-cert.com

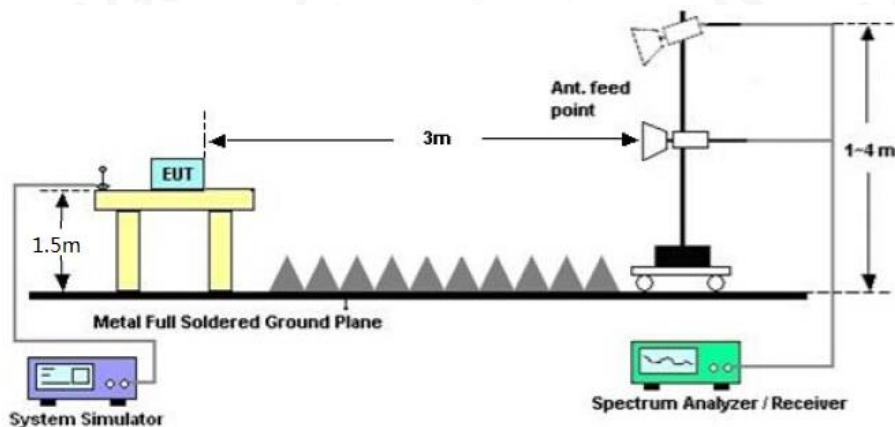
Service Hotline:400 089 2118

9. 20DB BANDWIDTH

9.1. MEASUREMENT PROCEDURE

1. Set the EUT Work on the top, the middle and the bottom operation frequency individually.
2. Set SPA Centre Frequency = Operation Frequency, RBW= 30 KHz, VBW $\geq 3 \times$ RBW.
3. Set SPA Trace 1 Max hold, then View.

9.2. TEST SET-UP (BLOCK DIAGRAM OF CONFIGURATION)



9.3. MEASUREMENT RESULTS

TEST ITEM	20DB BANDWIDTH
TEST MODULATION	GFSK

Test Data (MHz)		Criteria
Low Channel	3.525	PASS
Middle Channel	3.474	PASS
High Channel	2.582	PASS

TEST PLOT OF BANDWIDTH FOR LOW CHANNEL



Attestation of Global Compliance (Shenzhen) Co., Ltd.

Add: 2/F., Building 2, No.1-4, Chaxi Sanwei Technial Industrial Park, Gushu,
Xixiang, Bao'an District, Shenzhen, Guangdong, China

Tel: +86-755 2523 4088

E-mail: agc@agc-cert.com

Service Hotline: 400 089 2118

TEST PLOT OF BANDWIDTH FOR MIDDLE CHANNEL



TEST PLOT OF BANDWIDTH FOR HIGH CHANNEL



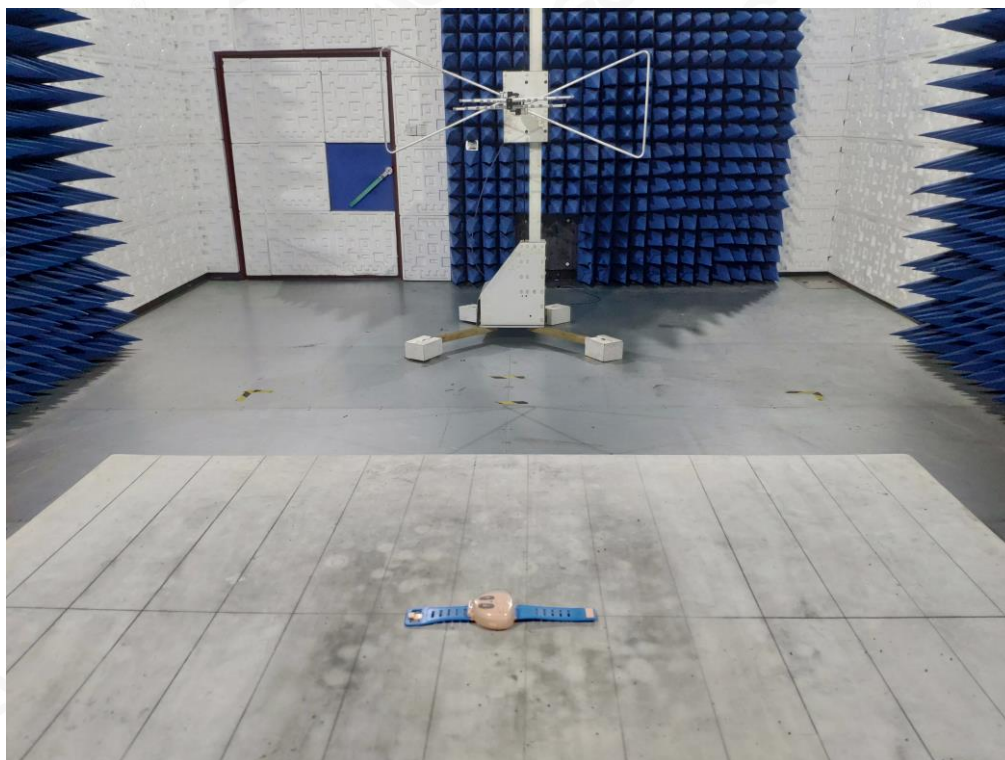
Attestation of Global Compliance (Shenzhen) Co., Ltd.

Add: 2/F., Building 2, No.1-4, Chaxi Sanwei Technial Industrial Park, Gushu,
Xixiang, Bao'an District, Shenzhen, Guangdong, China

Tel: +86-755 2523 4088

E-mail: agc@agc-cert.com

Service Hotline: 400 089 2118

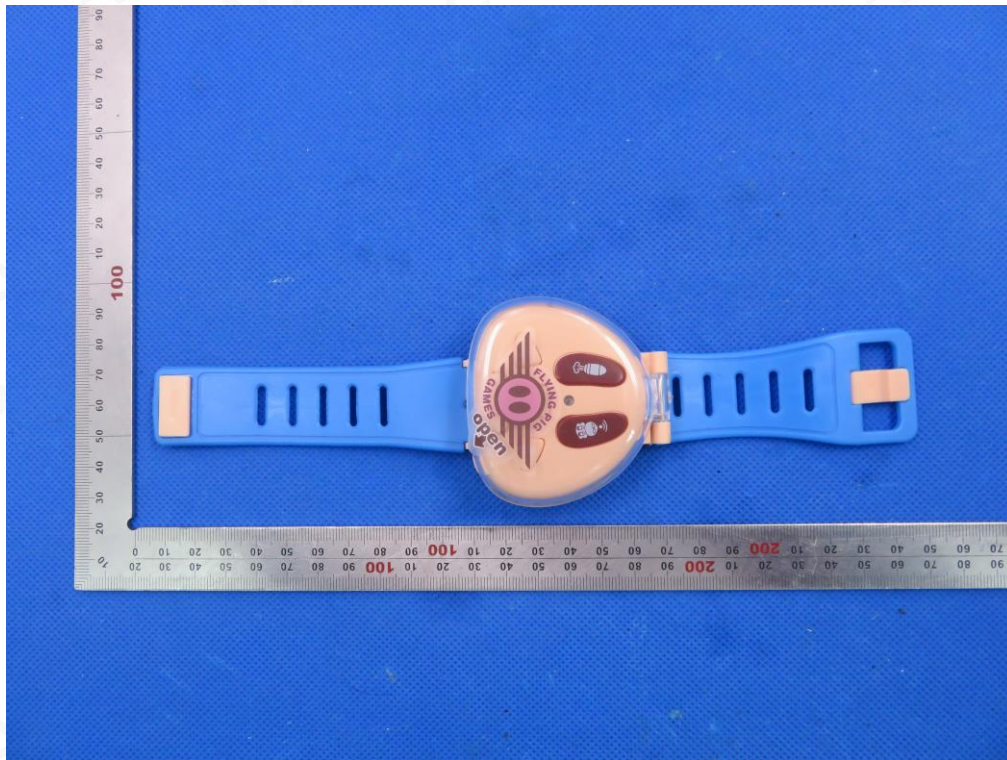
APPENDIX A: PHOTOGRAPHS OF TEST SETUP**FCC RADIATED EMISSION TEST SETUP BELOW 1GHZ****FCC RADIATED EMISSION TEST SETUP ABOVE 1GHZ**

APPENDIX B: PHOTOGRAPHS OF THE EUT

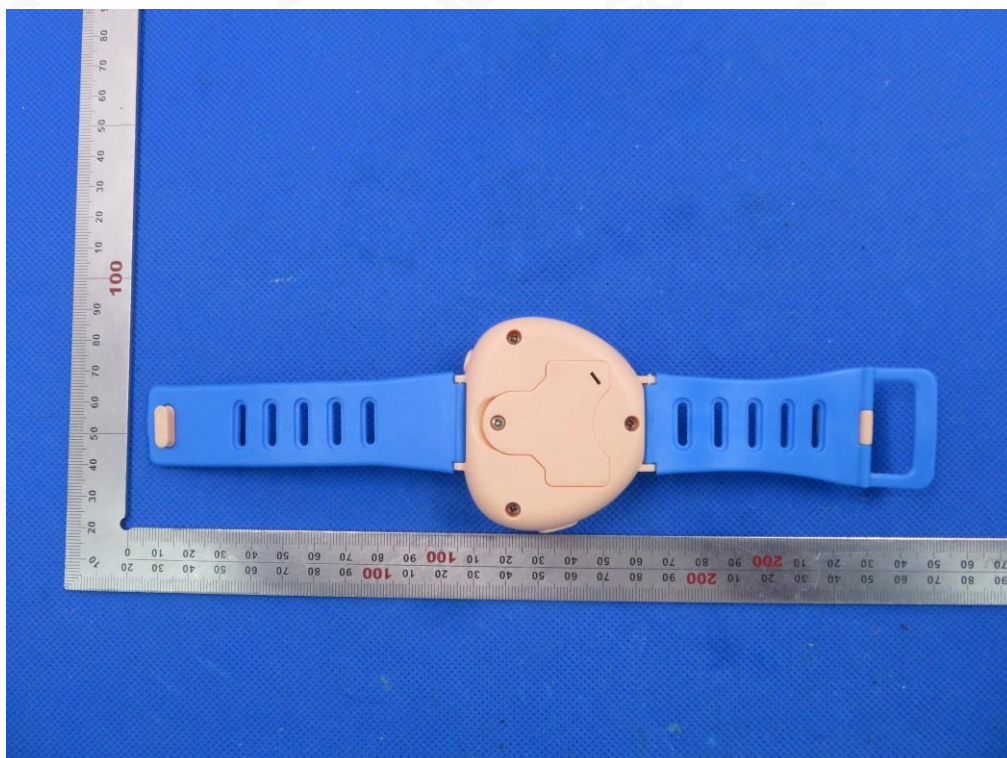
ALL VIEW OF EUT



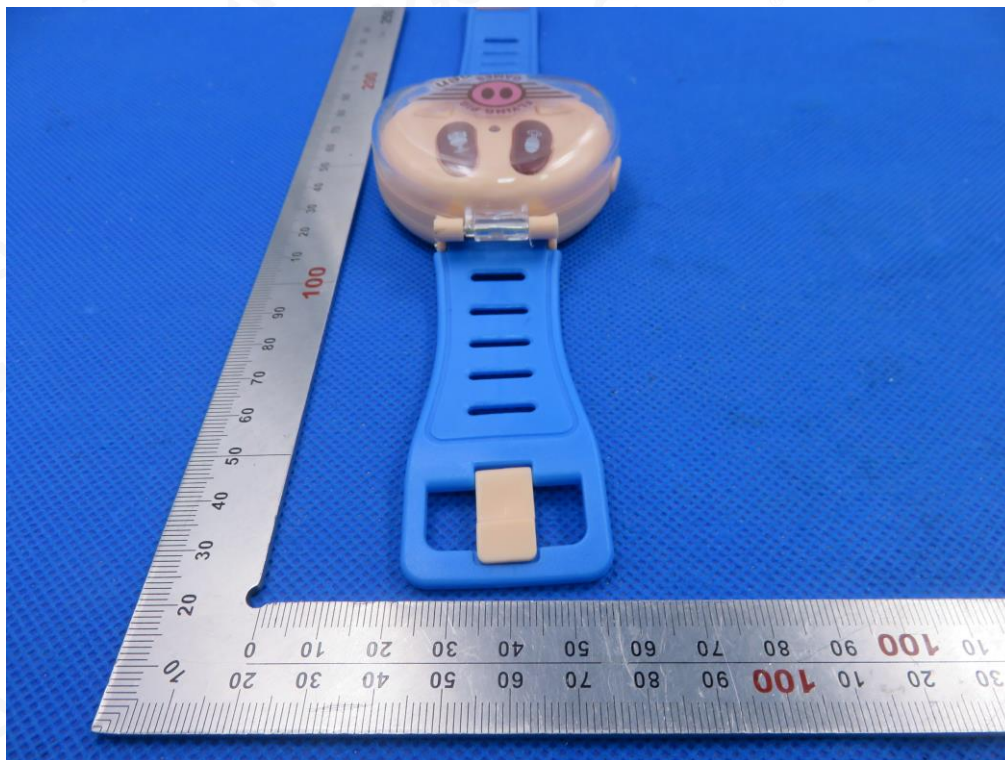
TOP VIEW OF EUT



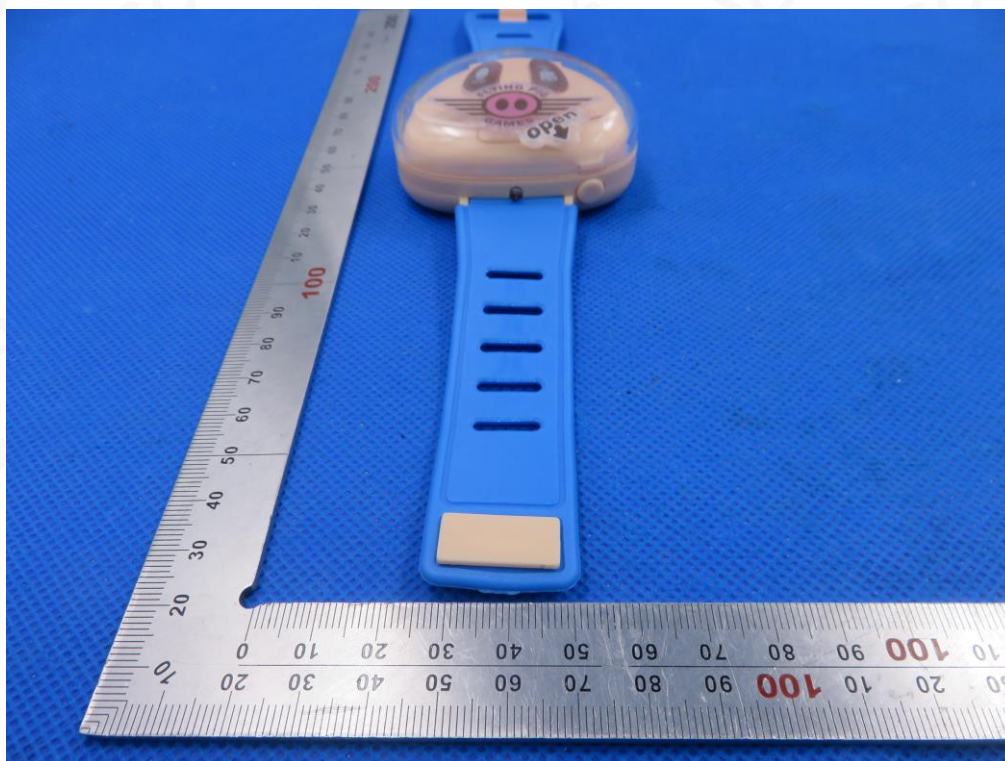
BOTTOM VIEW OF EUT



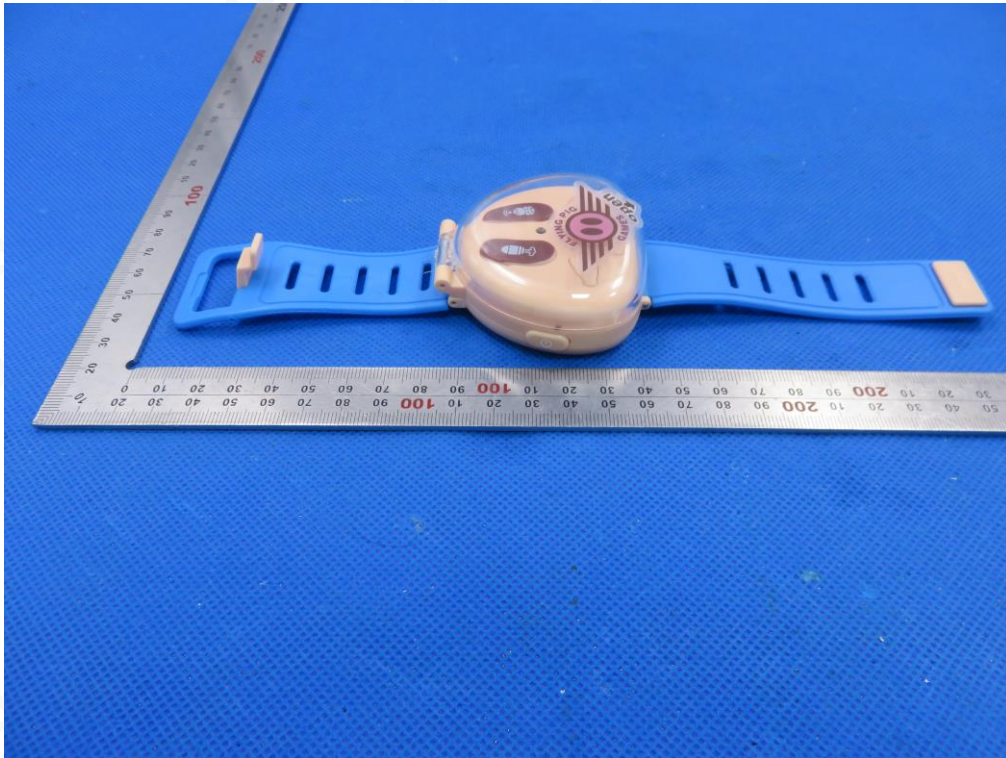
FRONT VIEW OF EUT



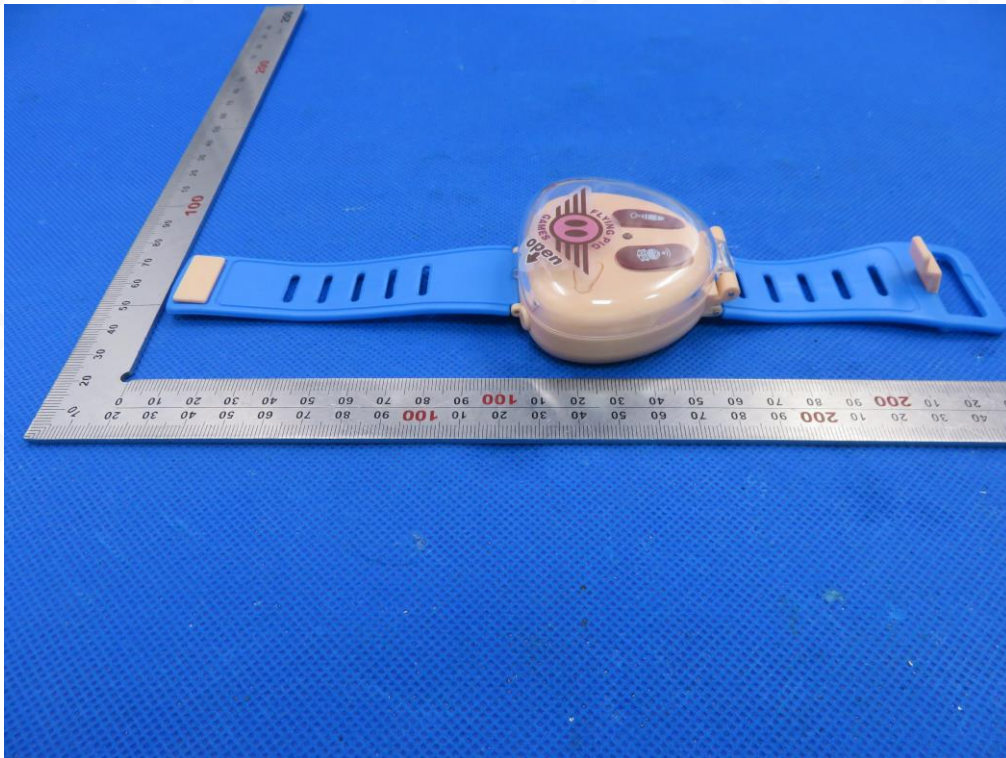
BACK VIEW OF EUT



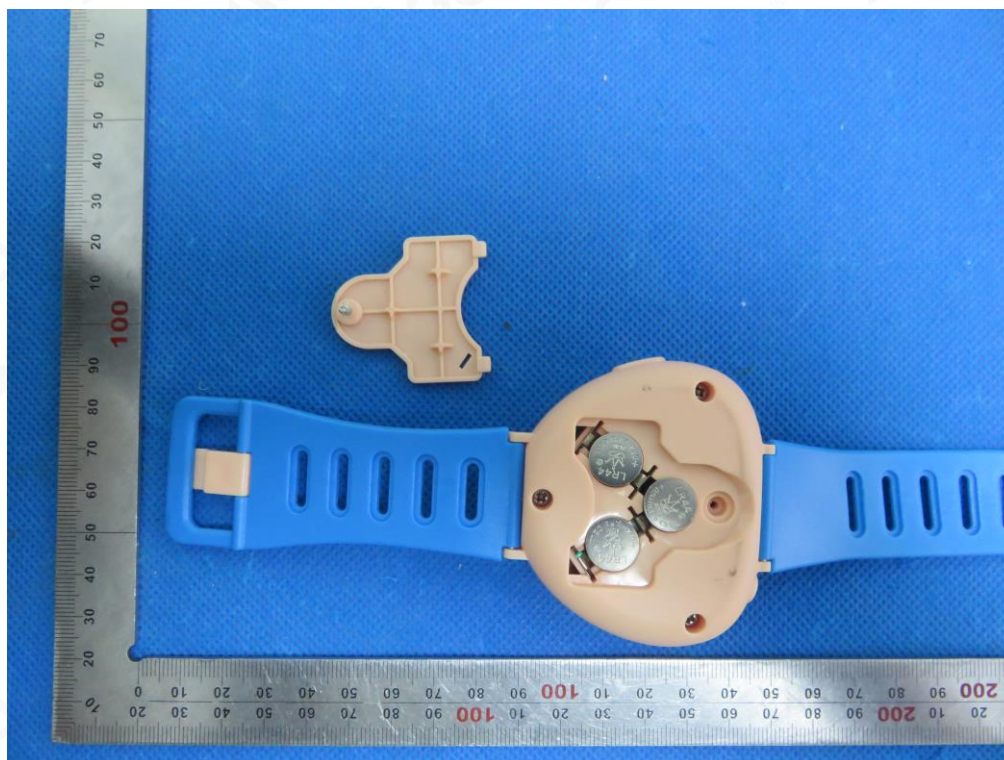
LEFT VIEW OF EUT



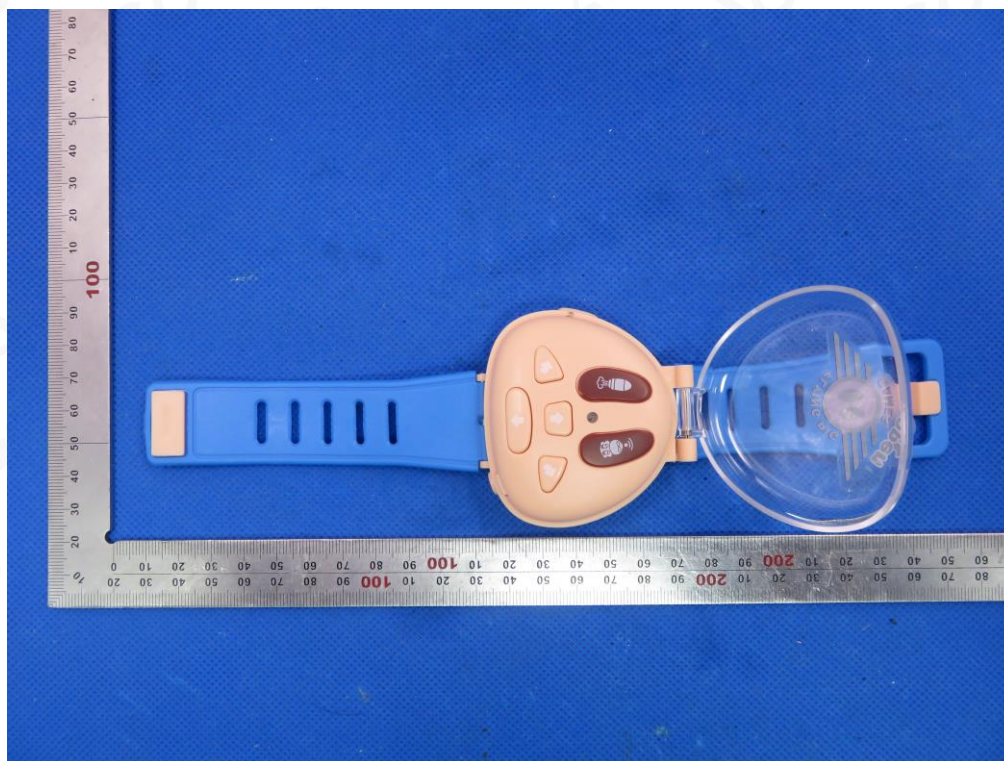
RIGHT VIEW OF EUT



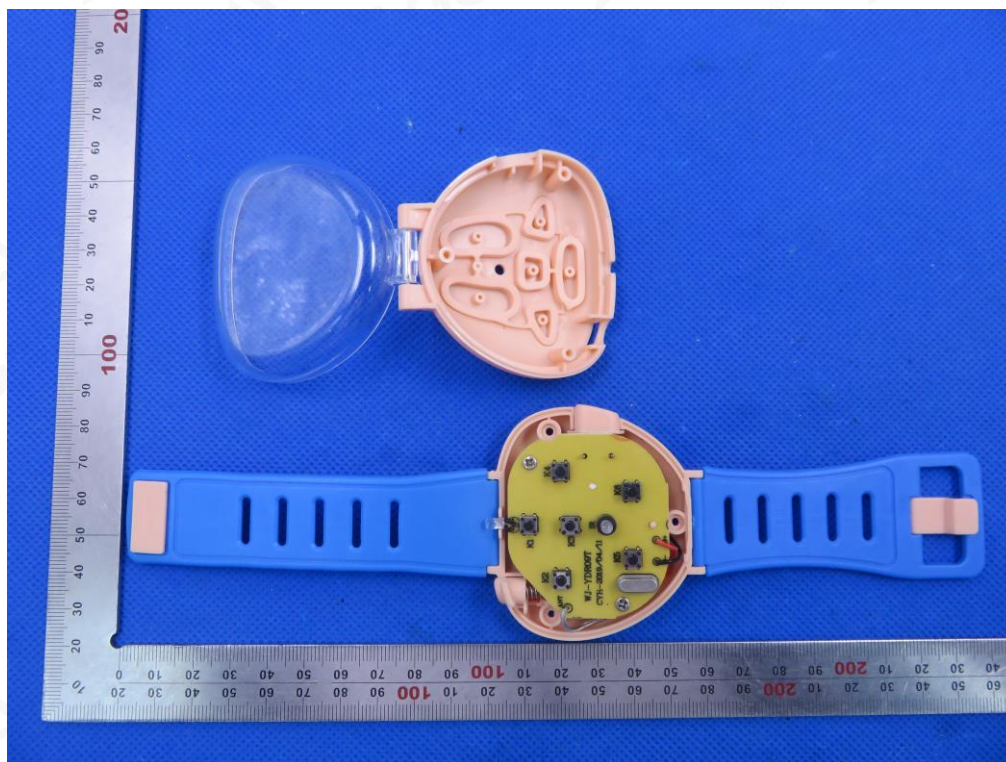
OPEN VIEW OF EUT-1



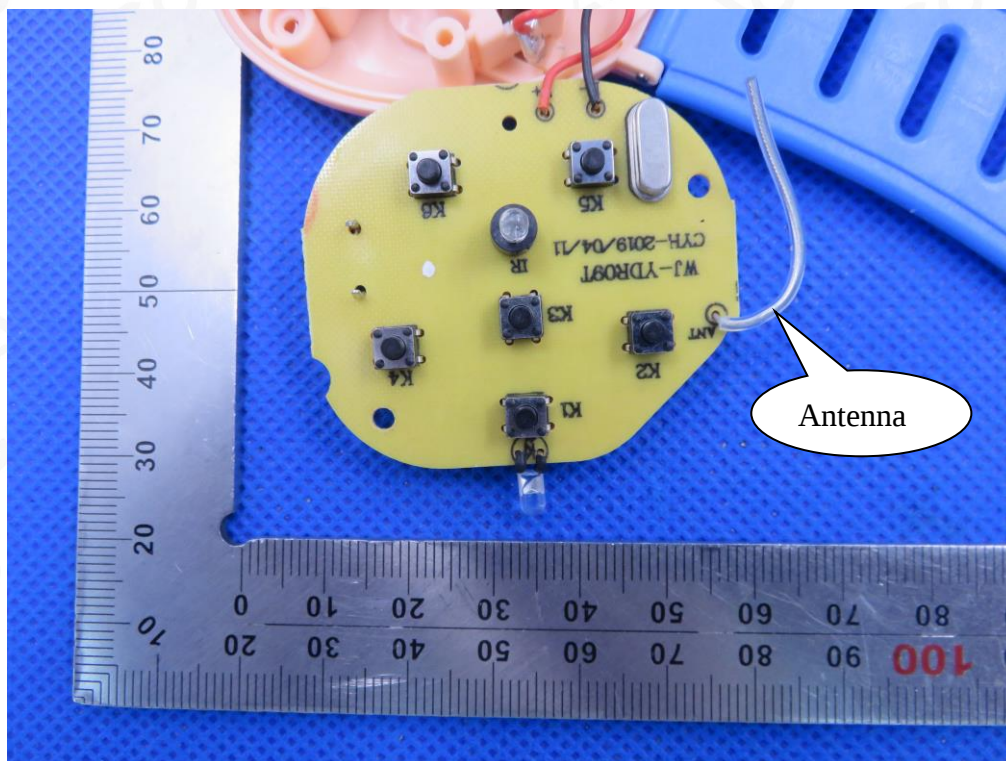
OPEN VIEW OF EUT-2



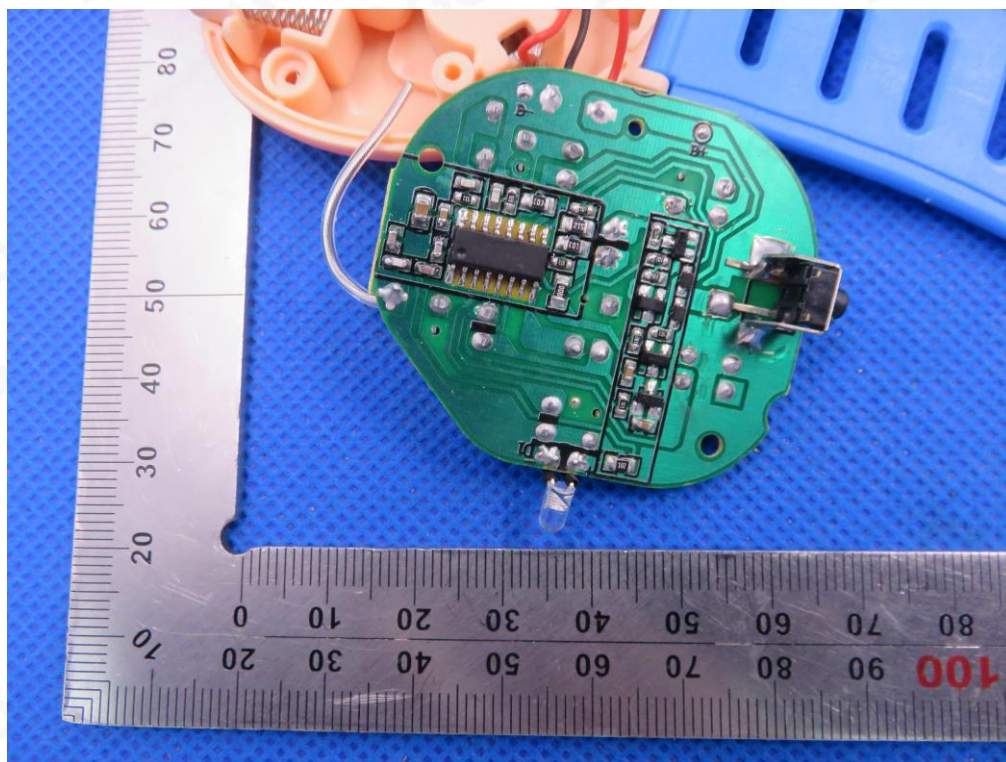
OPEN VIEW OF EUT-3



INTERNAL VIEW OF EUT-1



INTERNAL VIEW OF EUT-2



-----END OF REPORT-----