

FCC RADIO TEST REPORT

FCC ID:2AJGILHX31

Product : Remote Control Drone
Trade Name : CRAIG, Lead honor
Model Name : LH-X31
Serial Model : CRD746C,LH-X35,LH-X39,LH-X40,LH-X41,
LH-X43,LH-X46,LH-X48,LH-X49,LH-X52
Report No. : UNIA20060105ER-01

Prepared for

Shantou Chenghai Lihuang Plastic Toys Co.,Ltd
No.1,1 Road,Huaihe Industrial Park,Lianxia,Chenghai,
Shantou,China.

Prepared by

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TEST RESULT CERTIFICATION

Applicant's name: Shantou Chenghai Lihuang Plastic Toys Co.,Ltd
Address: No.1,1 Road,Huaihe Industrial Park,Lianxia,Chenghai,
Shantou,China.

Manufacture's Name: Shantou Chenghai Lihuang Plastic Toys Co.,Ltd
Address: No.1,1 Road,Huaihe Industrial Park,Lianxia,Chenghai,
Shantou,China.

Product description

Product name.....: Remote Control Drone

Trade Mark.....: CRAIG, Lead honor

Model and/or type reference ..: LH-X31,CRD746C,LH-X35,LH-X39,LH-X40,LH-X41,
LH-X43,LH-X46,LH-X48,LH-X49,LH-X52

Standards.....: FCC Rules and Regulations Part 15 Subpart C Section 15.249,
ANSI C63.10: 2013

This device described above has been tested by Shenzhen United Testing Technology Co., Ltd., and the test results show that the equipment under test (EUT) is in compliance with the FCC requirements. And it is applicable only to the tested sample identified in the report.

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Date of Test

Date (s) of performance of tests.....: May. 27, 2020 - Jun. 05, 2020

Date of Issue.....: Jun. 05, 2020

Test Result.....: Pass

Prepared by:

Bob Liao

Bob Liao/Editor

Reviewer:

Kahn Yang
Kahn Yang/Supervisor

Approved & Authorized Signer:

Liuzee
Liuzee/Manager

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11. TEST SUMMARY

1.1 TEST PROCEDURES AND RESULTS

DESCRIPTION OF TEST	RESULT	STANGARD
CONDUCTED EMISSIONS TEST	COMPLIANT	FCC Part 15.207
RADIATED EMISSION TEST	COMPLIANT	FCC Part15.209/15.249
BAND EDGE	COMPLIANT	FCC Part15.249(d)
OCCUPIED BANDWIDTH MEASUREMENT	COMPLIANT	FCC Part15.215
ANTENNA REQUIREMENT	COMPLIANT	FCC Part15.203

1.2 TEST FACILITY

Test Firm : Shenzhen United Testing Technology Co., Ltd.

Address : 2F, Annex Bldg, Jiahuangyuan Tech Park, #365 Baotian 1 Rd, Tiegang Community, Xixiang Str, Bao'an District, Shenzhen, China

The testing quality ability of our laboratory meet with "Quality Law of People's Republic of China" Clause 19. The testing quality system of our laboratory meets with ISO/IEC-17025 requirements. This approval result is accepted by MRA of APLAC.

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

A2LA Certificate Number: 4747.01

The EMC Laboratory has been accredited by A2LA, and in compliance with ISO/IEC 17025:2017 General Requirements for testing Laboratories.

FCC Registration Number: 674885

The EMC Laboratory has been registered and fully described in a report filed with the (FCC) Federal Communications commission.

IC Registration Number: 21947

The EMC Laboratory has been registered and fully described in a report filed with the (IC) Industry Canada.

1.3 MEASUREMENT UNCERTAINTY

Measurement Uncertainty

Conducted Emission Expanded Uncertainty	=	2.23dB, k=2
Radiated emission expanded uncertainty(9kHz-30MHz)	=	3.08dB, k=2
Radiated emission expanded uncertainty(30MHz-1000MHz)	=	4.42dB, k=2
Radiated emission expanded uncertainty(Above 1GHz)	=	4.06dB, k=2

22. GENERAL INFORMATION

2.12.1 GENERAL DESCRIPTION OF EUT

Equipment	Remote Control Drone
Trade Mark	CRAIG, Lead honor
Model Name	LH-X31
Serial No.	CRD746C,LH-X35,LH-X39,LH-X40,LH-X41, LH-X43,LH-X46,LH-X48,LH-X49,LH-X52
Model Difference	The model name and product function are different but the rest are the same
Antenna Type	Extension line antenna
Antenna Gain	0 dBi
Frequency Range	2458~2473MHz
Number of Channels	16CH
Modulation Type	GFSK
Battery	N/A
PowerSource	DC 4.5V by 3*1.5V AAA Battery

2.22.2 Carrier Frequency of Channels

Channel List			
Channel	Frequency (MHz)	Channel	Frequency (MHz)
01	2458	09	2466
02	2459	10	2467
03	2460	11	2468
04	2461	12	2469
05	2462	13	2470
06	2463	14	2471
07	2464	15	2472
08	2465	16	2473

2.32.3 Operation of EUT during testing

Operating Mode

The mode is used: Transmitting mode

Low Channel: 2458MHz

Middle Channel: 2465MHz

High Channel: 2473MHz

2.4 2.4DESCRIPTION OF TEST SETUP

Operation of EUT during Conducted testing:



Operation of EUT during Radiation testing:



Table for auxiliary equipment:

Equipment Description	Manufacturer	Model	Calibration Due Date
N/A	N/A	N/A	N/A

2.5 2.5MEASUREMENT INSTRUMENTS LIST

Item	Equipment	Manufacturer	Model No.	Serial No.	Calibrated until
CONDUCTED EMISSIONS TEST					
1	AMN	Schwarzbeck	NNLK8121	8121370	2020.09.06
2	AMN	ETS	3810/2	00020199	2020.09.06
3	EMI TEST RECEIVER	Rohde&Schwarz	ESCI	101210	2020.09.06
4	AAN	TESEQ	LH-X31-Cat6	38888	2020.09.06
RADIATED EMISSION TEST					
1	Horn Antenna	Sunol	DRH-118	A101415	2020.09.06
2	BicoNLog Antenna	Sunol	JB1 Antenna	A090215	2020.09.06
3	PREAMP	HP	8449B	3008A00160	2020.09.06
4	PREAMP	HP	8447D	2944A07999	2020.09.06
5	EMI TEST RECEIVER	Rohde&Schwarz	ESR3	101891	2020.09.06
6	VECTOR Signal Generator	Rohde&Schwarz	SMU200A	101521	2020.09.06
7	Signal Generator	Agilent	E4421B	MY4335105	2020.09.06
8	MXA Signal Analyzer	Agilent	N9020A	MY50510140	2020.09.06
9	MXA Signal Analyzer	Agilent	N9020A	MY51110104	2020.09.06
10	ANT Tower&Turn table Controller	Champro	EM 1000	60764	2020.09.06
11	Anechoic Chamber	Taihe Maorui	9m*6m*6m	966A0001	2020.09.06
12	Shielding Room	Taihe Maorui	6.4m*4m*3m	643A0001	2020.09.06
13	RF Power sensor	DARE	RPR3006W	15I00041SNO88	2021.3.14
14	RF Power sensor	DARE	RPR3006W	15I00041SNO89	2021.3.14
15	RF power divider	Anritsu	K241B	992289	2020.09.06
16	Wideband radio communication tester	Rohde&Schwarz	CMW500	154987	2020.09.06
17	Biconical antenna	Schwarzbeck	VHA 9103	91032360	2020.09.06
18	Biconical antenna	Schwarzbeck	VHA 9103	91032361	2020.09.06
19	Broadband Hybrid Antennas	Schwarzbeck	VULB9163	VULB9163#958	2020.09.06
20	Horn Antenna	Schwarzbeck	BBHA9120D	9120D-1680	2021.1.12
21	Active Receive Loop Antenna	Schwarzbeck	FMZB 1919B	00023	2020.11.02
22	Horn Antenna	Schwarzbeck	BBHA 9170	BBHA9170651	2021.03.14
23	Microwave Broadband Preamplifier	Schwarzbeck	BBV 9721	100472	2020.09.06
24	Active Loop Antenna	Com-Power	AL-130R	10160009	2021.05.10
25	Power Meter	KEYSIGHT	N1911A	MY50520168	2021.05.10
26	Frequency Meter	VICTOR	VC2000	997406086	2021.05.10
27	DC Power Source	HYELEC	HY5020E	055161818	2021.05.10

33. CONDUCTED EMISSIONS TEST

3.1 Conducted Power Line Emission Limit

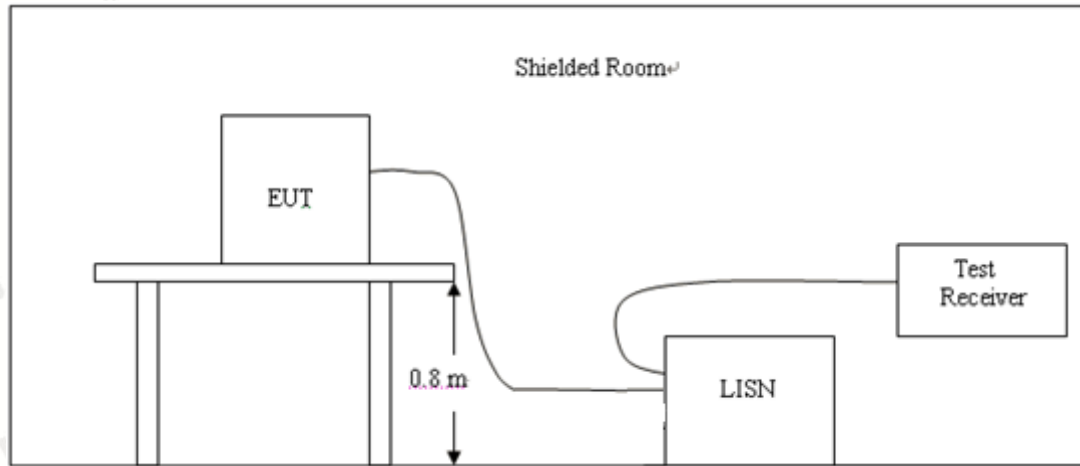
For unintentional device, according to § 15.107(a) Line Conducted Emission Limits is as following

Frequency (MHz)	Maximum RF Line Voltage(dB μ V)			
	CLASS A		CLASS B	
	Q.P.	Ave.	Q.P.	Ave.
0.15~0.50	79	66	66~56*	56~46*
0.50~5.00	73	60	56	46
5.00~30.0	73	60	60	50

* Decreasing linearly with the logarithm of the frequency

For intentional device, according to §15.207(a) Line Conducted Emission Limit is same as above table.

3.2 Test Setup



3.3 Test Procedure

- 1, The equipment was set up as per the test configuration to simulate typical actual usage per the user's manual. The EUT is a tabletop system, a wooden table with a height of 0.8 meters is used and is placed on the ground plane as per ANSI C63.10.
- 2, Support equipment, if needed, was placed as per ANSI C63.10.
- 3, All I/O cables were positioned to simulate typical actual usage as per ANSI C63.10.
- 4, If a EUT received DC power from the USB Port of Notebook PC, the PC's adapter received AC120V/60Hz power through a Line Impedance Stabilization Network (LISN) which supplied power source and was grounded to the ground plane.
- 5, All support equipments received AC power from a second LISN, if any.
- 6, The EUT test program was started. Emissions were measured on each current carrying line of the EUT using a spectrum Analyzer / Receiver connected to the LISN powering the EUT. The LISN has two monitoring points: Line 1 (Hot Side) and Line 2 (Neutral Side). Two scans were taken: one with Line 1 connected to Analyzer / Receiver and Line 2 connected to a 50 ohm load; the second scan had Line 1 connected to a 50 ohm load and Line 2 connected to the Analyzer / Receiver.
- 7, Analyzer / Receiver scanned from 150 KHz to 30MHz for emissions in each of the test modes.

3.4 Test Result

N/A



Temperature:	24°C	Relative Humidity:	45%
Test Date:	N/A	Pressure:	N/A
Test Voltage:	N/A	Phase:	N/A
Test Mode:	N/A		

4 RADIATED EMISSION TEST

4.1 Radiation Limit

For unintentional device, according to § 15.109(a), except for Class A digital devices, the field strength of radiated emissions from unintentional radiators at a distance of 3 meters shall not exceed the following values :

Limit calculation and transfer to 3m distance as showed in the following table:

Frequency (MHz)	Limit (dBuV/m)	Distance (m)
0.009-0.490	$20\log(2400/F(\text{KHz}))+40\log(300/3)$	3
0.490-1.705	$20\log(24000/F(\text{KHz}))+40\log(30/3)$	3
1.705-30.0	69.5	3
30-88	40.0	3
88-216	43.5	3
216-960	46.0	3
Above 960	54.0	3

For intentional device, according to § 15.209(a), the general requirement of field strength of radiated emissions from intentional radiators at a distance of 3 meters shall not exceed the above table.

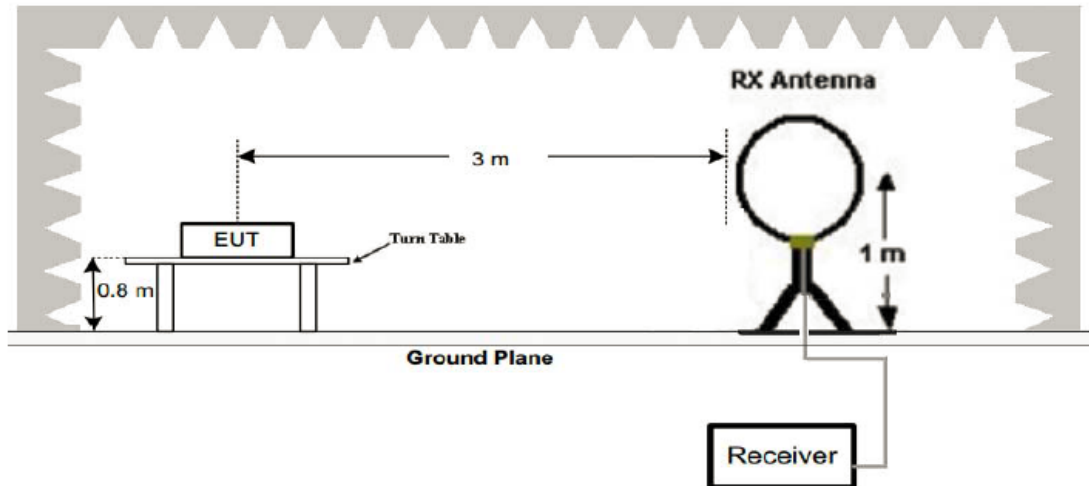
(a) Except as provided in paragraph (b) of this section, the field strength of emissions from intentional radiators operated within these frequency bands shall comply with the following:

Fundamental frequency	Field strength of fundamental (millivolts/meter)	Field strength of harmonics (microvolts/meter)
902-928 MHz	50	500
2400-2483.5 MHz	50	500
5725-5875 MHz	50	500
24.0-24.25 GHz	250	2500

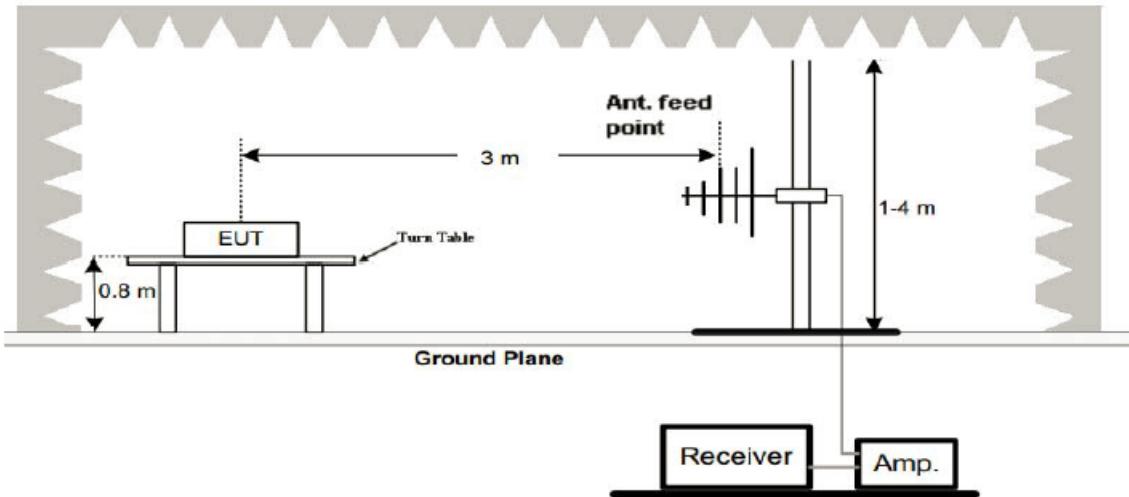
For intentionally used equipment, the general requirements for the magnetic field strength limits of the fundamental and harmonic radiation from the intentional radiator at a distance of 3 meters shall not exceed the above table, as specified in § 15.249(a).

4.2 Test Setup

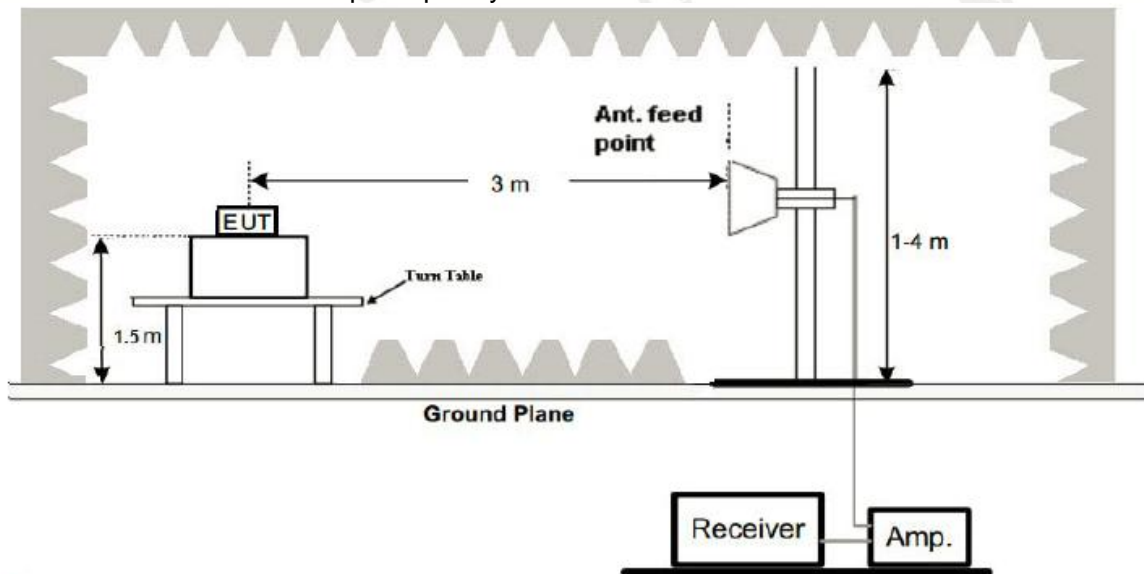
1. Radiated Emission Test-Up Frequency Below 30MHz



2. Radiated Emission Test-Up Frequency 30MHz~1GHz



3. Radiated Emission Test-Up Frequency Above 1GHz



4.3 Test Procedure

1. Below 1GHz measurement the EUT is placed on turntable which is 0.8m above ground plane. And above 1GHz measurement EUT was placed on low permittivity and low tangent turn table which is 1.5m above ground plane.
2. The turntable shall be rotated for 360 degrees to determine the position of maximum emission level.
3. EUT is set 3m away from the receiving antenna, which is varied from 1m to 4m to find out the highest emissions.
4. Maximum procedure was performed on the six highest emissions to ensure EUT compliance.
5. And also, each emission was to be maximized by changing the polarization of receiving antenna both horizontal and vertical.
6. Repeat above procedures until the measurements for all frequencies are complete.
7. The test frequency range from 9KHz to 25GHz per FCC PART 15.33(a).

Note:

For battery operated equipment, the equipment tests shall be performed using a new battery.

4.4 Test Result

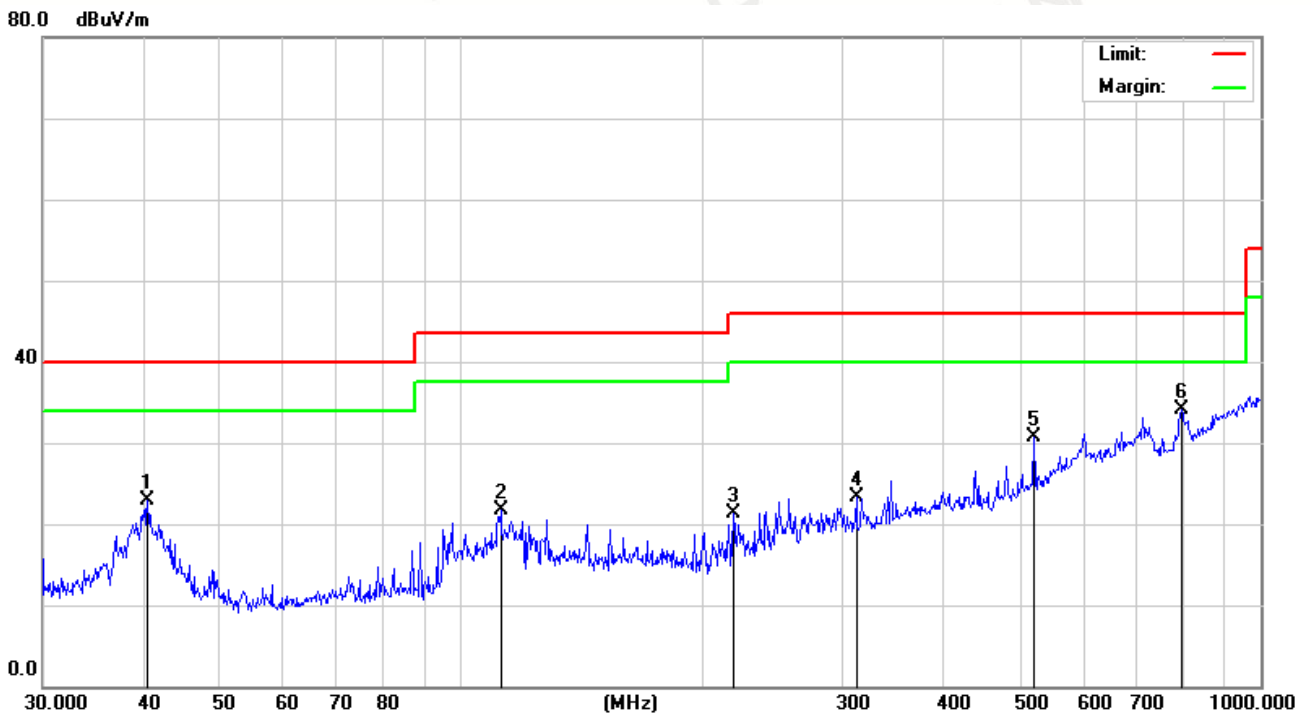
PASS

Remark:

1. All the test modes completed for test. The worst case of Radiated Emission is High channel, the test data of this mode was reported.
2. By preliminary testing and verifying three axis (X, Y and Z) position of EUT transmitted status, it was found that "Z axis" position was the worst, and test data recorded in this report.
3. Radiated emission test from 9KHz to 10th harmonic of fundamental was verified, and no emission found except system noise floor in 9KHz to 30MHz and not recorded in this report.

Below 1GHz Test Results:

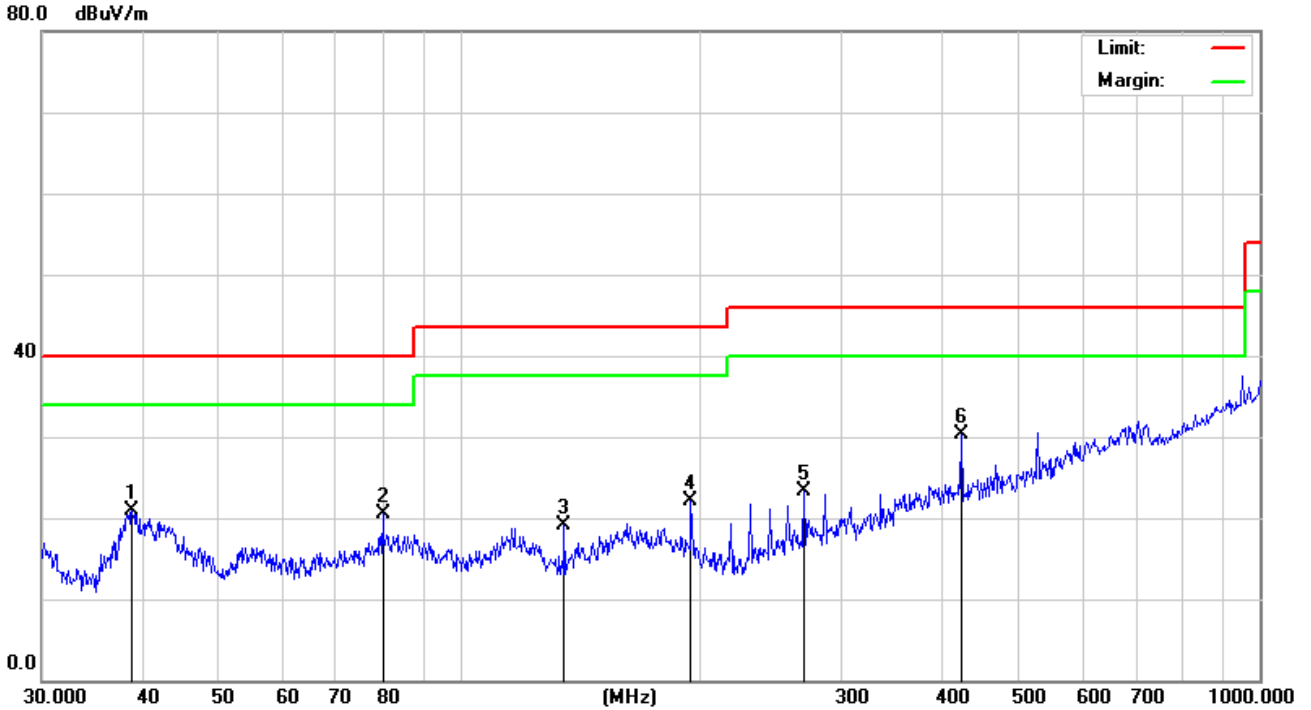
Temperature:	24°C	Relative Humidity:	45%
Test Date:	Jun.04,2020	Pressure:	1010hPa
Test Voltage:	DC 4.5V	Polarization:	Horizontal
Test Mode:	Transmitting mode of GFSK2473MHz		



No.	Mk.	Freq. MHz	Reading Level dBuV	Correct Factor dB	Measure- ment dBuV/m	Limit dBuV/m	Over dB	Antenna Height cm	Table Degree degree	Comment
1		40.5591	39.71	-16.74	22.97	40.00	-17.03	QP	100	245
2		112.1304	35.42	-13.72	21.70	43.50	-21.80	QP	100	124
3		219.0752	37.39	-16.09	21.30	46.00	-24.70	QP	100	318
4		312.1792	32.43	-9.11	23.32	46.00	-22.68	QP	100	96
5		520.8881	35.61	-4.97	30.64	46.00	-15.36	QP	100	239
6	*	796.1829	31.12	3.01	34.13	46.00	-11.87	QP	100	147

Remark: Absolute Level= Reading Level+ Factor, Margin= Absolute Level – Limit

Temperature:	24°C	Relative Humidity:	45%
Test Date:	Jun.04,2020	Pressure:	1010hPa
Test Voltage:	DC 4.5V	Polarization:	Vertical
Test Mode:	Transmitting mode of GFSK2473MHz		



No.	Mk.	Freq. MHz	Reading Level dBuV	Correct Factor dB	Measure- ment dBuV/m	Limit dBuV/m	Over dB	Antenna Height cm	Table Degree	Comment
1		38.8878	35.41	-14.51	20.90	40.00	-19.10	QP	100	146
2		80.0806	39.28	-18.78	20.50	40.00	-19.50	QP	100	331
3		135.0319	33.92	-14.72	19.20	43.50	-24.30	QP	100	128
4		194.4533	37.67	-15.57	22.10	43.50	-21.40	QP	100	194
5		269.4284	35.88	-12.58	23.30	46.00	-22.70	QP	100	92
6	*	423.5403	37.01	-6.61	30.40	46.00	-15.60	QP	100	317

Remark: Absolute Level= Reading Level+ Factor, Margin= Absolute Level – Limit
 Factor=Ant. Factor + Cable Loss – Pre-amplifier

Remark:

- (1) Measuring frequencies from 9 KHz to the 1 GHz, Radiated emission test from 9KHz to 30MHz was verified, and no any emission was found except system noise floor.
- (2) * denotes emission frequency which appearing within the Restricted Bands specified in provision of 15.205, then the general radiated emission limits in 15.209 apply.
- (3) The IF bandwidth of EMI Test Receiver between 30MHz to 1GHz was 120KHz, 1 MHz for measuring above 1 GHz, below 30MHz was 10KHz.

Above 1 GHz Test Results:
CH Low (2458MHz)

Horizontal:

Frequency (MHz)	Reading Result (dBμV)	Factor (dB)	Emission Level (dBμV/m)	Limits (dBμV/m)	Margin (dB)	Detector Type
2458	104.28	-5.84	98.44	114	-15.56	PK
2458	84.15	-5.84	78.31	94	-15.69	AV
4916	53.68	-3.64	50.04	74	-23.96	PK
4916	44.17	-3.64	40.53	54	-13.47	AV
7374	53.06	-0.95	52.11	74	-21.89	PK
7374	43.62	-0.95	42.67	54	-11.33	AV

Remark: Factor = Antenna Factor + Cable Loss – Pre-amplifier. Margin= Absolute Level – Limit

Vertical:

Frequency (MHz)	Reading Result (dBμV)	Factor (dB)	Emission Level (dBμV/m)	Limits (dBμV/m)	Margin (dB)	Detector Type
2458	103.92	-5.84	98.08	114	-15.92	PK
2458	83.67	-5.84	77.83	94	-16.17	AV
4916	52.74	-3.64	49.1	74	-24.9	PK
4916	49.27	-3.64	45.63	54	-8.37	AV
7374	52.19	-0.95	51.24	74	-22.76	PK
7374	44.62	-0.95	43.67	54	-10.33	AV

Remark: Factor = Antenna Factor + Cable Loss – Pre-amplifier. Margin= Absolute Level – Limit

Note:For fundamental frequency, RBW and VBW set to be 1.5MHz , PK detector for PK value , RMS detector for AV value

CH Middle (2465MHz)

Horizontal:

Frequency (MHz)	Reading Result (dBμV)	Factor (dB)	Emission Level (dBμV/m)	Limits (dBμV/m)	Margin (dB)	Detector Type
2465	103.48	-5.71	97.77	114	-16.23	PK
2465	82.64	-5.71	76.93	94	-17.07	AV
4930	54.29	-3.51	50.78	74	-23.22	PK
4930	46.36	-3.51	42.85	54	-11.15	AV
7395	55.18	-0.82	54.36	74	-19.64	PK
7395	46.37	-0.82	45.55	54	-8.45	AV

Remark: Factor = Antenna Factor + Cable Loss – Pre-amplifier. Margin = Absolute Level – Limit

Vertical:

Frequency (MHz)	Reading Result (dBμV)	Factor (dB)	Emission Level (dBμV/m)	Limits (dBμV/m)	Margin (dB)	Detector Type
2465	102.94	-5.71	97.23	114	-16.77	PK
2465	81.75	-5.71	76.04	94	-17.96	AV
4930	55.39	-3.51	51.88	74	-22.12	PK
4930	45.73	-3.51	42.22	54	-11.78	AV
7395	54.71	-0.82	53.89	74	-20.11	PK
7395	45.29	-0.82	44.47	54	-9.53	AV

Remark: Factor = Antenna Factor + Cable Loss – Pre-amplifier. Margin= Absolute Level – Limit

Note:For fundamental frequency, RBW and VBW set to be 1.5MHz , PK detector for PK value , RMS detector for AV value



CH High (2473MHz)

Horizontal:

Frequency	Reading Result	Factor	Emission Level	Limits	Margin	Detector
(MHz)	(dB μ V)	(dB)	(dB μ V/m)	(dB μ V/m)	(dB)	Type
2473	102.38	-5.65	96.73	114	-17.27	PK
2473	83.29	-5.65	77.64	94	-16.36	AV
4946	54.32	-3.43	50.89	74	-23.11	PK
4946	45.63	-3.43	42.2	54	-11.8	AV
7419	55.17	-0.75	54.42	74	-19.58	PK
7419	45.23	-0.75	44.48	54	-9.52	AV

Remark: Factor = Antenna Factor + Cable Loss – Pre-amplifier. Margin= Absolute Level – Limit

Vertical:

Frequency	Reading Result	Factor	Emission Level	Limits	Margin	Detector
(MHz)	(dB μ V)	(dB)	(dB μ V/m)	(dB μ V/m)	(dB)	Type
2473	102.06	-5.65	96.41	114	-17.59	PK
2473	85.94	-5.65	80.29	94	-13.71	AV
4946	55.13	-3.43	51.7	74	-22.3	PK
4946	46.28	-3.43	42.85	54	-11.15	AV
7419	54.19	-0.75	53.44	74	-20.56	PK
7419	44.28	-0.75	43.53	54	-10.47	AV

Remark: Factor = Antenna Factor + Cable Loss – Pre-amplifier. Margin= Absolute Level – Limit

Note:For fundamental frequency, RBW and VBW set to be 1.5MHz , PK detector for PK value , RMS detector for AV value

Remark :

- (1) Measuring frequencies from 1 GHz to the 25 GHz.
- (2) "F" denotes fundamental frequency; "H" denotes spurious frequency. "E" denotes band edge frequency.
- (3) * denotes emission frequency which appearing within the Restricted Bands specified in provision of 15.205, then the general radiated emission limits in 15.209 apply.
- (4) Data of measurement within this frequency range ,that the value more than 20dB below limit is not record in the form.
- (5) The IF bandwidth of EMI Test Receiver between 30MHz to 1GHz was 120KHz, 1 MHz for measuring above 1 GHz, below 30MHz was 10KHz.The resolution bandwidth of test receiver/spectrum analyzer is 1MHzand video bandwidth is 3MHz for peak measurement with peak detectorat frequency above 1GHz.The resolution bandwidth of test receiver/spectrum analyzer is 1MHzand video bandwidth is 10Hz for Average measurement with peak detection at frequency above 1GHz.
- (6) When the test results of Peak Detected below the limits of Average Detected, the Average Detected is not need completed. For example: Top Channel at Fundamental 73.16dBuV/m(PK Value) <93.98(AV Limit), at harmonic 53.20 dBuV/m(PK Value) <54 dBuV/m(AV Limit), the Average Detected not need to completed.
- (7)All modes of operation were investigated and the worst-case emissionsare reported.

5 BAND EDGE

5.1 Limits

FCC PART 15.249(d) 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 §15.209, whichever is the lesser attenuation.

5.2 Test Procedure

The band edge compliance of RF radiated emission should be measured by following the guidance in ANSIC63.10 with respect to maximizing the emission by rotating the EUT, measuring the emission while the EUT is situated in three orthogonal planes (if appropriate), adjusting the measurement antenna height and polarization etc. Set RBW to 100KHz and VBW to 300KHz to measure the peak field strength and set RBW to 1MHz and VBW to 10Hz to measure the average radiated field strength. The conducted RF band edge was measured by using a spectrum analyzer. Set span wide enough to capture the highest in-band emission and the emission at the band edge. Set RBW to 100 KHz and VBW to 300 KHz, to measure the conducted peak band edge.

5.3 Test Result

PASS

Radiated Band Edge Test:

Operation Mode: TX CH Low (2458MHz)

Horizontal:

Frequency (MHz)	Reading Result (dBμV)	Factor (dB)	Emission Level (dBμV/m)	Limits (dBμV/m)	Margin (dB)	Detector Type
2310	39.47	-5.81	33.66	74	-40.34	PK
2310	31.64	-5.81	25.83	54	-28.17	AV
2390	40.08	-5.84	34.24	74	-39.76	PK
2390	31.27	-5.84	25.43	54	-28.57	AV
2400	40.94	-5.84	35.1	74	-38.9	PK
2400	32.76	-5.84	26.92	54	-27.08	AV

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

Vertical:

Frequency (MHz)	Reading Result (dBμV)	Factor (dB)	Emission Level (dBμV/m)	Limits (dBμV/m)	Margin (dB)	Detector Type
2310	39.65	-5.81	33.84	74	-40.16	PK
2310	30.48	-5.81	24.67	54	-29.33	AV
2390	40.57	-5.84	34.73	74	-39.27	PK
2390	32.69	-5.84	26.85	54	-27.15	AV
2400	41.06	-5.84	35.22	74	-38.78	PK
2400	33.52	-5.84	27.68	54	-26.32	AV

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

Operation Mode: TX CH High (2473MHz)

Horizontal:

Frequency	Reading Result	Factor	Emission Level	Limits	Margin	Detector Type
(MHz)	(dBμV)	(dB)	(dBμV/m)	(dBμV/m)	(dB)	
2483.5	58.36	-5.65	52.71	74	-21.29	PK
2483.5	47.39	-5.65	41.74	54	-12.26	AV
2500	59.41	-5.72	53.69	74	-20.31	PK
2500	48.52	-5.72	42.8	54	-11.2	AV

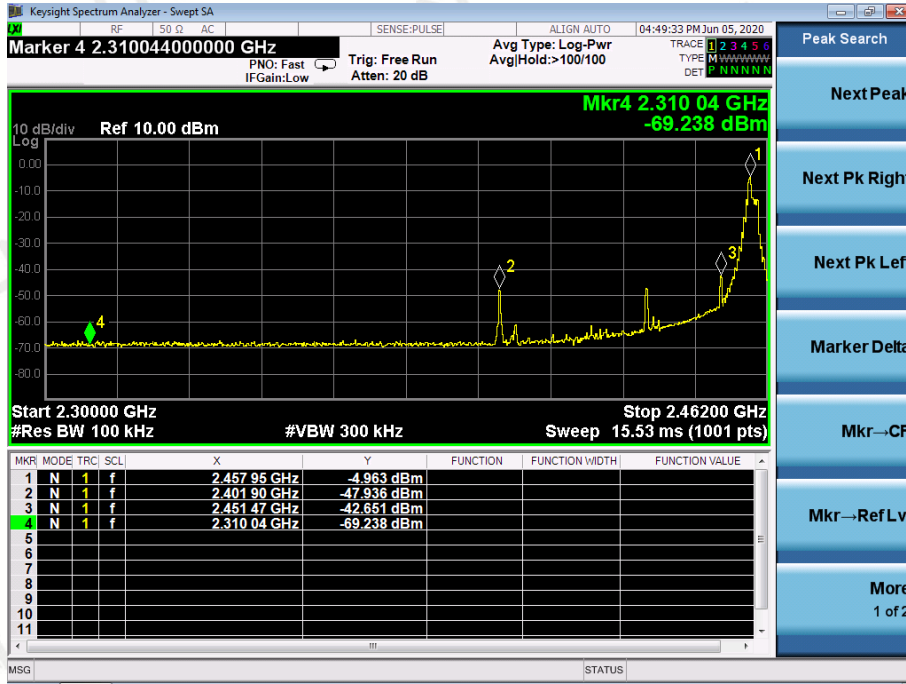
Remark: Factor = Antenna Factor + Cable Loss – Pre-amplifier.

Vertical:

Frequency	Reading Result	Factor	Emission Level	Limits	Margin	Detector Type
(MHz)	(dBμV)	(dB)	(dBμV/m)	(dBμV/m)	(dB)	
2483.5	59.13	-5.65	53.48	74	-20.52	PK
2483.5	47.39	-5.65	41.74	54	-12.26	AV
2500	58.64	-5.72	52.92	74	-21.08	PK
2500	47.86	-5.72	42.14	54	-11.86	AV

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

2458



2473



6 OCCUPIED BANDWIDTH MEASUREMENT

6.1 Test Setup

Same as Radiated Emission Measurement

6.2 Test Procedure

1. The EUT was placed on a turn table which is 0.8m above ground plane.
2. Set EUT as normal operation.
3. Based on ANSI C63.10 section 6.9.2: RBW=100KHz, VBW=100KHz, Span=10MHz.
4. The useful radiated emission from the EUT was detected by the spectrum analyzer with peak detector.

6.3 Measurement Equipment Used

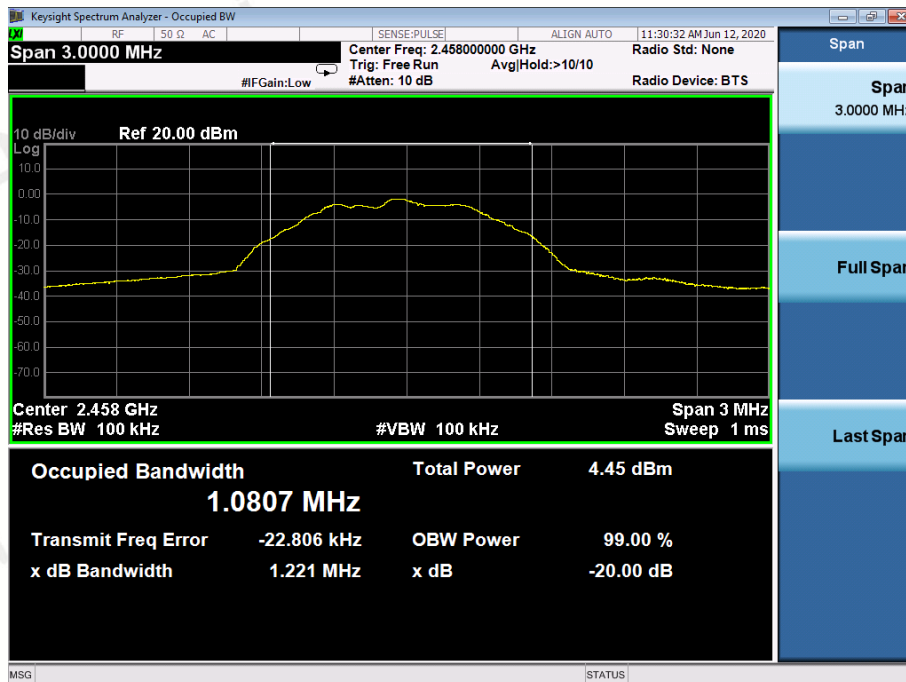
Same as Radiated Emission Measurement

6.4 Test Result

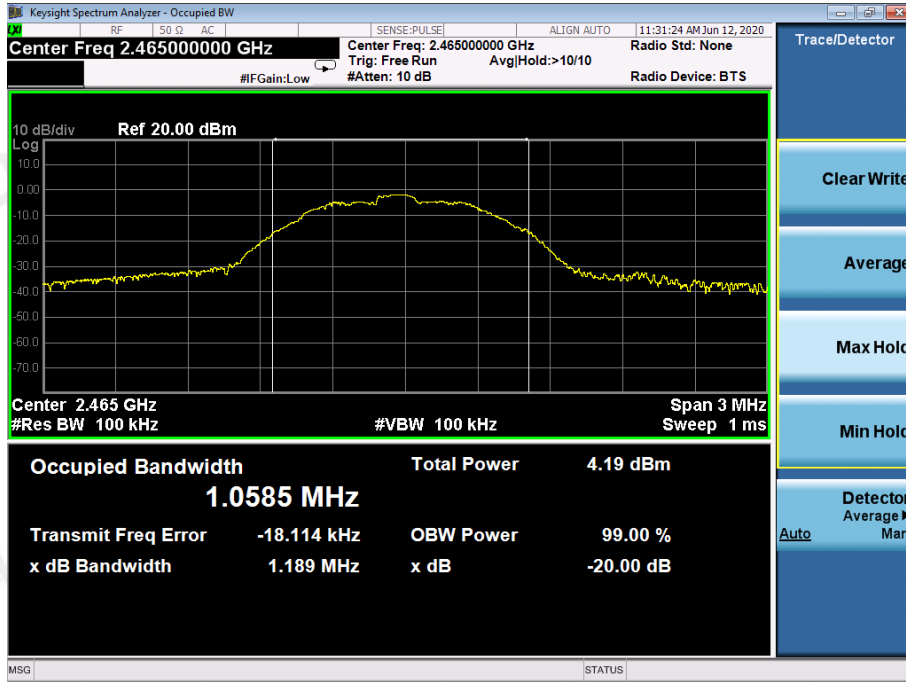
PASS

Frequency (MHz)	20dB Bandwidth (MHz)	Result
2458	1.221	PASS
2465	1.189	PASS
2473	1.214	PASS

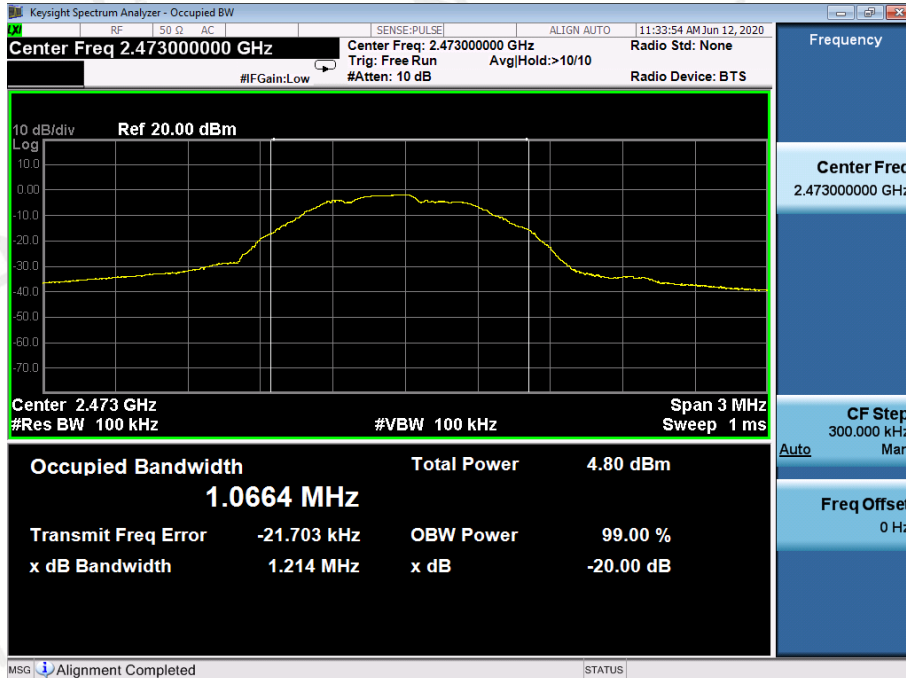
CH:2458MHz



CH:2465MHz



CH:2473MHz



7 ANTENNA REQUIREMENT

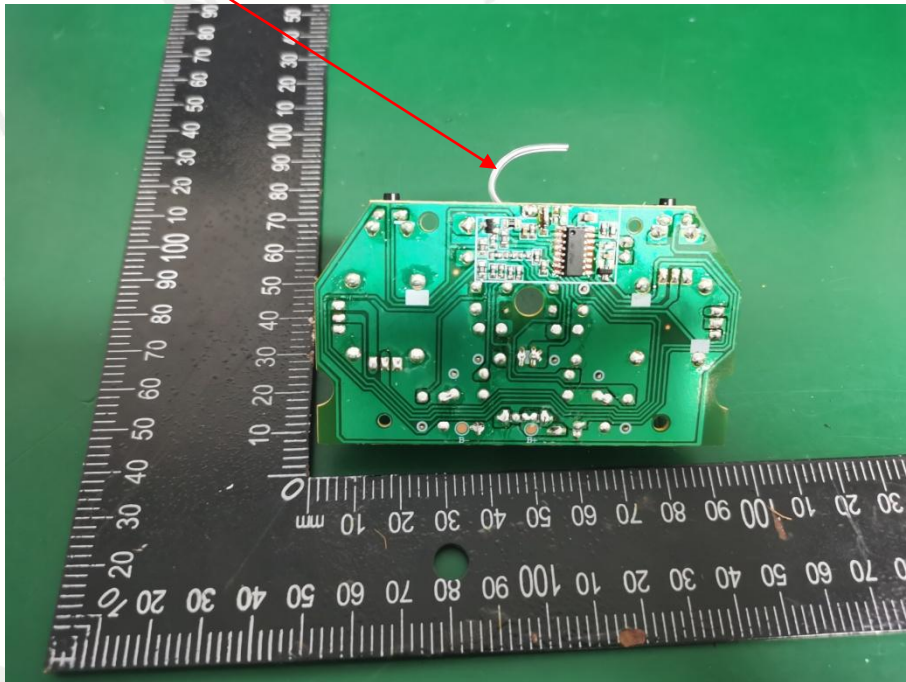
Standard Applicable:

For intentional device, according to FCC 47 CFR Section 15.203, 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.

Antenna Connected Construction

The antenna used in this product is a Extension line antenna, The directional gains of antenna used for transmitting is 0 dBi.

ANTENNA:



8 PHOTOGRAPH OF TEST

8.1 Radiated Emission

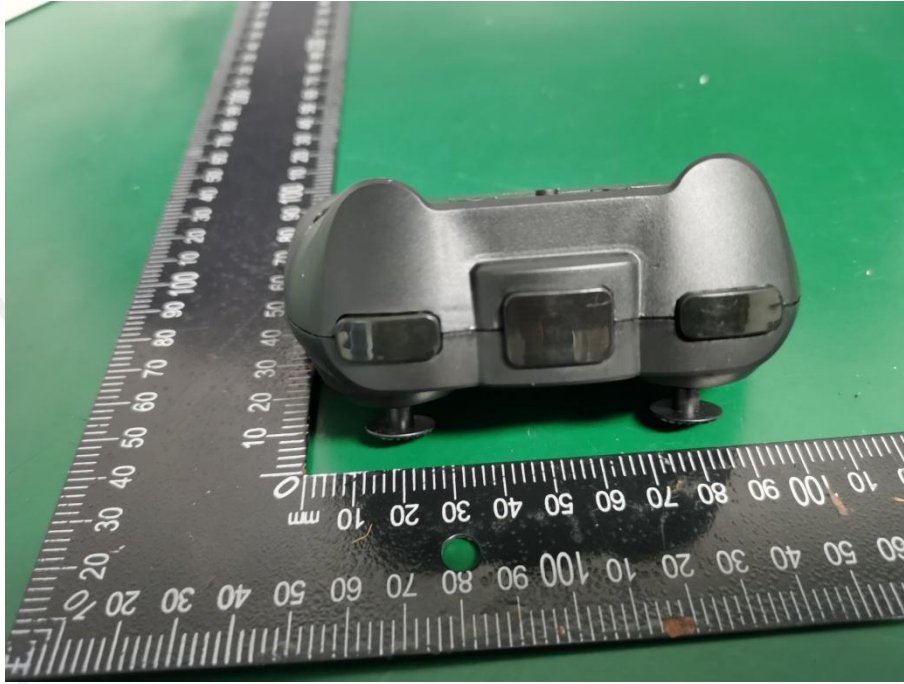
RE



8.2 EUT

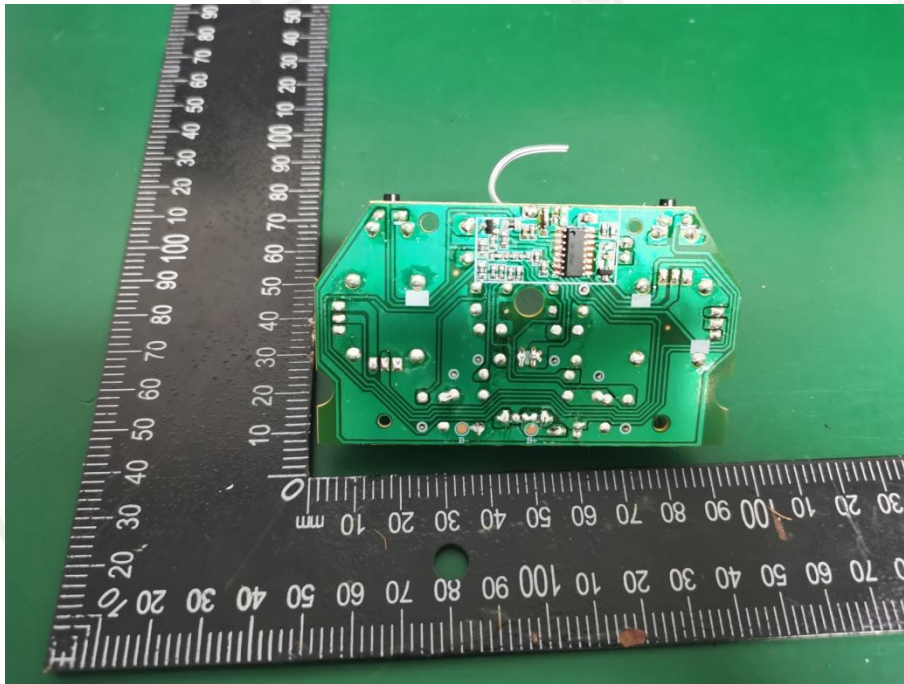
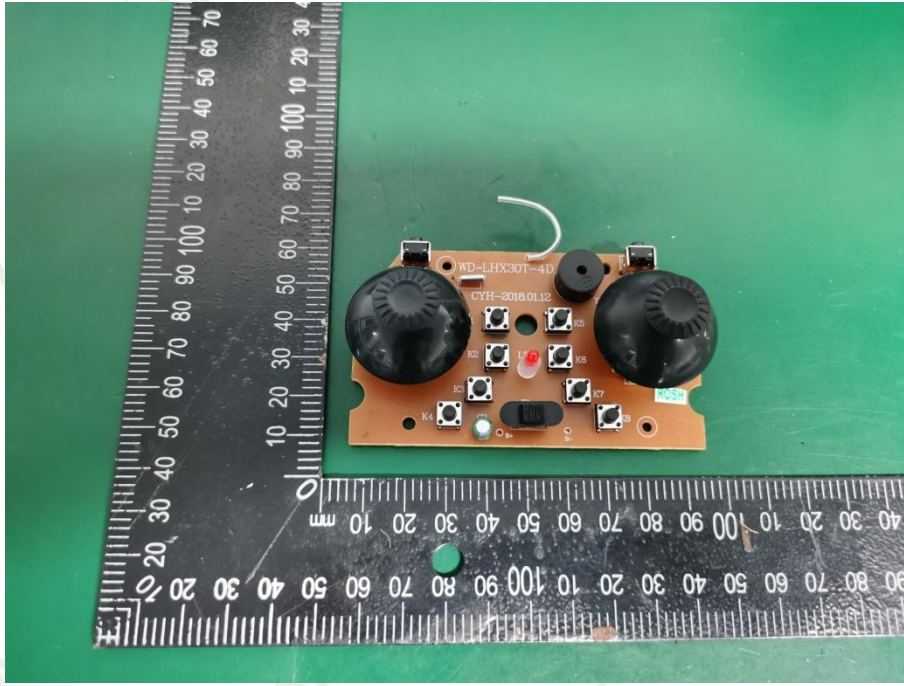


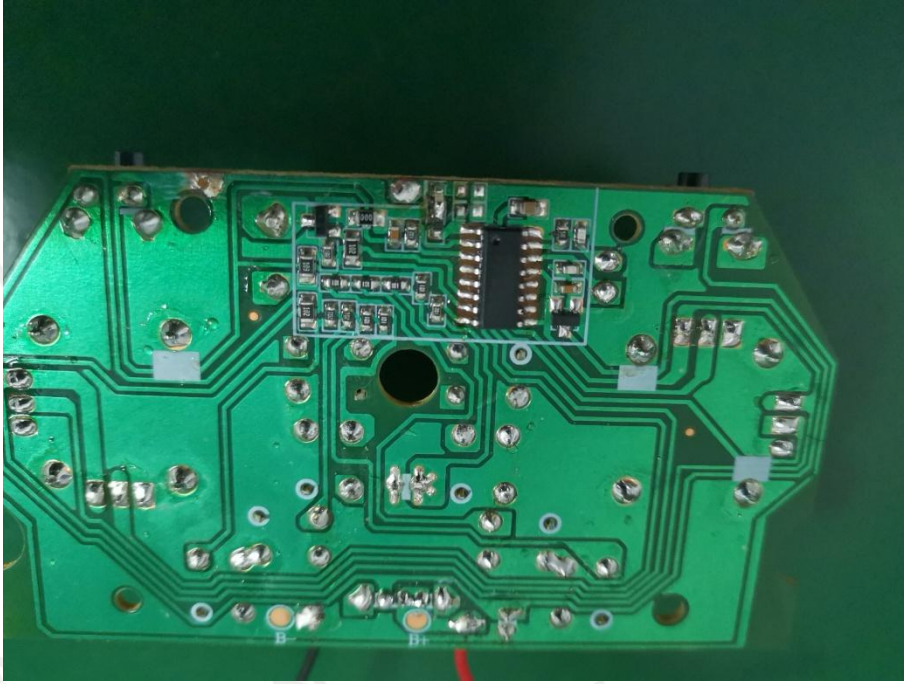












End of Report