FCC REPORT

Applicant:	Zhejiang Yihe Sanitary Ware Co., Ltd.
Address of Applicant:	District A, No. 102 East Taihe Road, Haimen street, Jiaojiang, Taizhou, Zhejiang

Equipment Under Test (EUT)

Product Name:	Remote Control
Model No.:	RC10-02, RC10-03
FCC ID:	2AQBG-RC10-02
Applicable standards:	FCC CFR Title 47 Part 15 Subpart C Section 15.249
Date of sample receipt:	02 Jul., 2019
Date of Test:	03 Jul., to 08 Jul., 2019
Date of report issued:	09 Jul., 2019
Test Result:	PASS*

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

Authorized Signature:

Bruce Zhang
Laboratory Manager

This report details the results of the testing carried out on one sample. The results contained in this test report do not relate to other samples of the same product and does not permit the use of the CCIS product certification mark. The manufacturer should ensure that all products in series production are in conformity with the product sample detailed in this report.

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2 Version

Version No.	Date	Description
00	*09 Jul., 2019*	*Original*

Prepared By: Carey Chen ***Date:*** *09 Jul., 2019*

Project Engineer

Check By: Winner Zhang ***Date:*** *09 Jul., 2019*

Reviewer

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4 Test Summary

Test Item	Section in CFR 47	Result
Antenna requirement	15.203	Pass
Conducted Emission	15.207	N/A
Field strength of the fundamental signal	15.249 (a)(e)	Pass
Spurious emissions	15.249 (d)/15.209	Pass
20dB Occupy Bandwidth	15.215	Pass

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

5 General Information

5.1 Client Information

Applicant:	Zhejiang Yihe Sanitary Ware Co., Ltd.
Address:	District A, No. 102 East Taihe Road, Haimen street, Jiaojiang, Taizhou, Zhejiang
Factory:	WUXI DENVEL INTELLIGENT ELECNIC INC
Address:	Building A, NO.8 LianHe Road, WuXi, JiangSu, China

5.2 General Description of E.U.T.

Product Name:	Remote Control
Model No.:	RC10-02, RC10-03
Operation Frequency:	2407MHz~2477MHz
Channel numbers:	12
Modulation type:	GFSK
Antenna Type:	PCB antenna
Antenna gain:	2.5 dBi
Power supply:	DC 3V (2 × ” AA” Battery)
Test Sample Condition:	The test samples were provided in good working order with no visible defects.
Remark:	Item No.: RC10-02，RC10-03 were identical inside, the electrical circuit design, layout, components used and internal wiring, with only difference being： RC10-02 function: stop, Feminine Wash, Posterior Wash, Dryer, Flush, Nozzle forward, Strengh of cleaning, Nozzle backward, Strength of cleaning, Nozzle clean, C/H Massage, Night light, Wing temp, Water temp, Seat temp, ON/OFF cover,ON/OFF seat. RC10-03 cancels the on/off cover function, on/off circle function, based on RC10-02

Operation Frequency each of channel					
Channel	Frequency	Channel	Frequency	Channel	Frequency
0	2407MHz	4	2421MHz	8	2460MHz
1	2410MHz	5	2428MHz	9	2469MHz
2	2412MHz	6	2435MHz	10	2467MHz
3	2414MHz	7	2442MHz	11	2477MHz

Note:

In section 15.31(m), regards to the operating frequency range over 10 MHz, the Lowest frequency, the middle frequency, and the highest frequency of channel were selected to perform the test. Channel No. 0, 7 & 11 were selected as Lowest, Middle and Highest channel.

5.3 Test mode

Transmitting mode:	Keep the EUT in transmitting mode with modulation. (New battery is used during all test)

Pre-Test Mode: (highest channel=2407MHz)

CCIS has 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:

RC10-02			
Axis	X	Y	Z
Field Strength(dBuV/m)	79.88	86.91	82.26
RC10-03			
Axis	X	Y	Z
Field Strength(dBuV/m)	79.89	86.97	82.37

Final Test Mode:

According to ANSI C63.4 standards, the test results are both the “worst case” and “worst setup”:
Z axis (see the test setup photo)

5.4 Description of Support Units

N/A

5.5 Laboritory Facility

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

- **FCC - Registration No.: 727551**

Shenzhen Zhongjian Nanfang Testing Co., Ltd. has been accredited as a testing laboratory by FCC (Federal Communications Commission). The Registration No. is 727551.

- **IC - Registration No.: 10106A-1**

The 3m Semi-anechoic chamber of Shenzhen Zhongjian Nanfang Testing Co., Ltd. has been Registered by Certification and Engineering Bureau of Industry Canada for radio equipment testing with Registration No.: 10106A-1.

- **CNAS - Registration No.: CNAS L6048**

Shenzhen Zhongjian Nanfang Testing Co., Ltd. is accredited to ISO/IEC 17025:2005 General Requirements for the Competence of Testing and Calibration laboratories for the competence of testing. The Registration No. is CNAS L6048.

- **A2LA - Registration No.: 4346.01**

This laboratory is accredited in accordance with the recognized International Standard ISO/IEC 17025:2005 General requirements for the competence of testing and calibration laboratories. The test scope can be found as below link: https://portal.a2la.org/scopepdf/4346-01.pdf

5.6 Laboritory Location

Shenzhen Zhongjian Nanfang Testing Co., Ltd.
Address: No. B-C, 1/F., Building 2, Laodong No.2 Industrial Park, Xixiang Road,
Bao’an District, Shenzhen, Guangdong, China
Tel: +86-755-23118282, Fax: +86-755-23116366
Email: info@ccis-cb.com, Website: http://www.ccis-cb.com

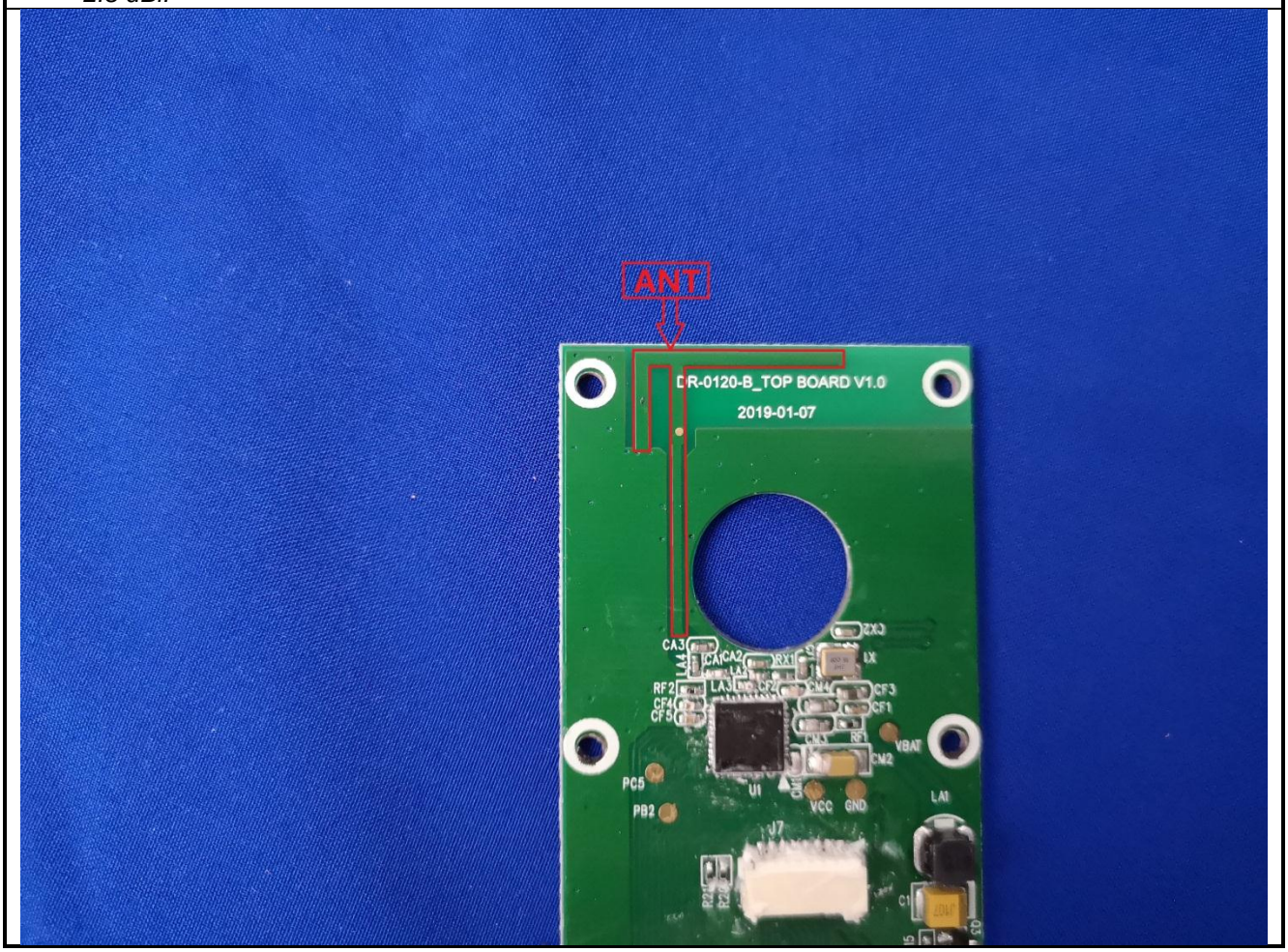
5.7 Test Instruments list

Radiated Emission:					
Test Equipment	**Manufacturer**	**Model No.**	**Serial No.**	**Cal. Date (mm-dd-yy)**	**Cal. Due date (mm-dd-yy)**
3m SAC	SAEMC	9m*6m*6m	966	07-22-2017	07-21-2020
BiConiLog Antenna	SCHWARZBECK	VULB9163	497	03-18-2019	03-17-2020
Horn Antenna	SCHWARZBECK	BBHA9120D	916	03-18-2019	03-17-2020
Horn Antenna	SCHWARZBECK	BBHA9120D	1805	06-22-2017	06-21-2020
Horn Antenna	SCHWARZBECK	BBHA 9170	BBHA9170582	11-21-2018	11-20-2019
Loop Antenna	SCHWARZBECK	FMZB 1519 B	00044	03-18-2019	03-17-2020
EMI Test Software	AUDIX	E3	Version: 6.110919b		
Pre-amplifier	HP	8447D	2944A09358	03-18-2019	03-17-2020
Pre-amplifier	CD	PAP-1G18	11804	03-18-2019	03-17-2020
Spectrum analyzer	Rohde & Schwarz	FSP30	101454	03-18-2019	03-17-2020
Spectrum analyzer	Rohde & Schwarz	FSP40	100363	11-21-2018	11-20-2019
EMI Test Receiver	Rohde & Schwarz	ESRP7	101070	03-18-2019	03-17-2020
Simulated Station	Anritsu	MT8820C	6201026545	03-18-2019	03-17-2020
Cable	ZDECL	Z108-NJ-NJ-81	1608458	03-18-2019	03-17-2020
Cable	MICRO-COAX	MFR64639	K10742-5	03-18-2019	03-17-2020
Cable	SUHNER	SUCOFLEX100	58193/4PE	03-18-2019	03-17-2020

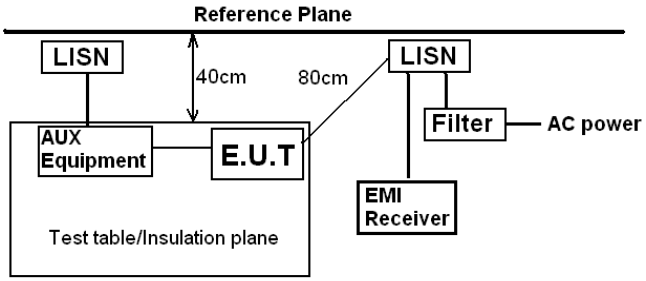
6 Test results and Measurement Data

6.1 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.*	
E.U.T Antenna:	
The antenna is PCB antenna which cannot detachable . The best case gain of the antenna is 2.5 dBi.	



6.2 Conducted Emission

Test Requirement:	FCC Part 15 B Section 15.207		
Test Method:	ANSI C63.4:2014		
Test Frequency Range:	150kHz to 30MHz		
Class / Severity:	Class B		
Receiver setup:	RBW=9kHz, VBW=30kHz		
Limit:	Frequency range (MHz)	Limit (dBµV)	
		Quasi-peak	Average
	0.15-0.5	66 to 56*	56 to 46*
	0.5-5	56	46
	0.5-30	60	50
	* Decreases with the logarithm of the frequency.		
Test setup:	 *Remark:* *E.U.T: Equipment Under Test* *LISN: Line Impedence Stabilization Network* *Test table height=0.8m*		
Test procedure	1. The E.U.T and simulators are connected to the main power through a line impedance stabilization network(L.I.S.N.). The provide a 50ohm/50uH coupling impedance for the measuring equipment. 2. The peripheral devices are also connected to the main power through a LISN that provides a 50ohm/50uH coupling impedance with 50ohm termination. (Please refers to the block diagram of the test setup and photographs). 3. Both sides of A.C. line are checked for maximum conducted interference. In order to find the maximum emission, the relative positions of equipment and all of the interface cables must be changed according to ANSI C63.4: 2014 on conducted measurement.		
Test Instruments:	Refer to section 5.9 for details		
Test mode:	Refer to section 5.3 for details		
Test results:	The power supply of the EUT is by the ” AA” Battery, so not need to be tested.		

6.3 Radiated Emission

Test Requirement:	FCC Part15 C Section 15.249 and 15.209
Test Method:	ANSI C63.10: 2013
Test Frequency Range:	30MHz to 25000MHz
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
	RMS	1MHz	3MHz	Average Value

Limit:
(Field strength of the fundamental signal)

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

Limit:
(Spurious Emissions)

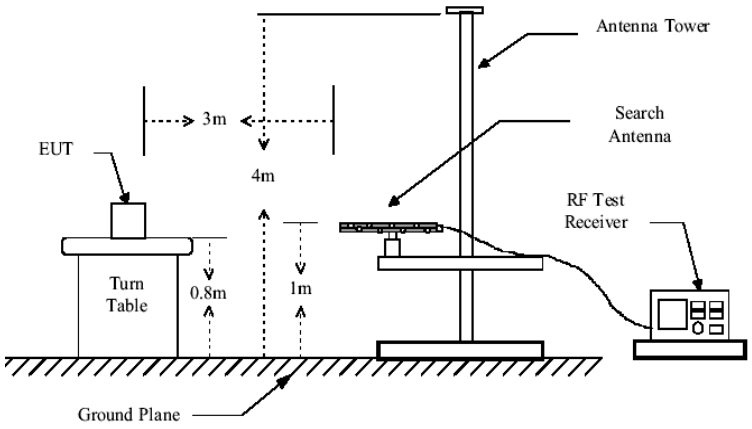
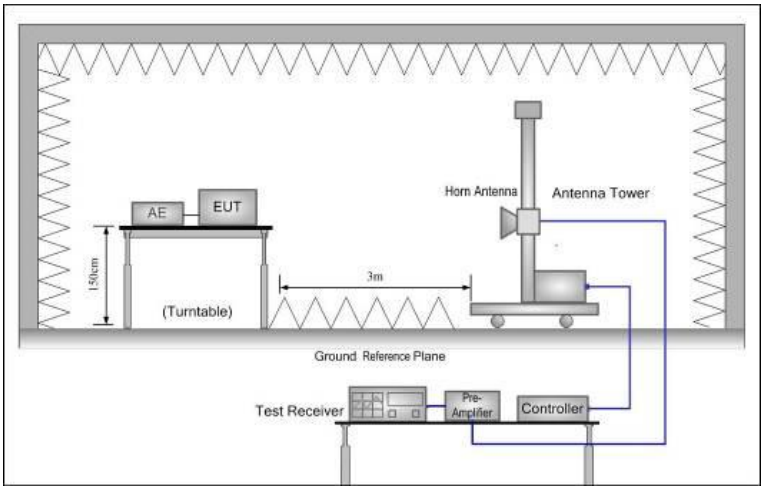
Frequency	Limit (dBuV/m @3m)	Remark
30MHz-88MHz	40.00	Quasi-peak Value
88MHz-216MHz	43.50	Quasi-peak Value
216MHz-960MHz	46.00	Quasi-peak Value
960MHz-1GHz	54.00	Quasi-peak Value
Above 1GHz	54.00	Average Value
	74.00	Peak Value

Limit:
(outside of the specified frequency band)

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 Procedure:

1. The EUT was placed on the top of a rotating table 0.8m(below 1GHz)/1.5m(above 1GHz) 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 rotatable 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 setup:	Below 1GHz  Above 1GHz 
Test Instruments:	Refer to section 5.7
Test mode:	Refer to section 5.3
Test results:	Passed

6.3.1 Field Strength Of The Fundamental Signal

RC10-02:

Peak value							
Frequency (MHz)	Read Level (dBuV)	Antenna Factor (dB/m)	Cable Loss (dB)	Level (dBuV/m)	Limit Line (dBuV/m)	Over Limit (dB)	Polarization
2407	53.36	27.13	4.71	85.2	114.00	-28.80	Vertical
	55.07	27.13	4.71	86.91	114.00	-27.09	Horizontoal
2442	52.13	27.13	4.71	83.97	114.00	-30.03	Vertical
	54.25	27.13	4.71	86.09	114.00	-27.91	Horizontoal
2477	52.48	27.13	4.71	84.32	114.00	-29.68	Vertical
	54.64	27.13	4.71	86.48	114.00	-27.52	Horizontoal
Average value							
Frequency (MHz)	Read Level (dBuV)	Antenna Factor (dB/m)	Cable Loss (dB)	Level (dBuV/m)	Limit Line (dBuV/m)	Over Limit (dB)	Polarization
2407	49.14	27.13	4.71	80.98	94.00	-13.02	Vertical
	50.86	27.13	4.71	82.7	94.00	-11.30	Horizontoal
2442	48.04	27.13	4.71	79.88	94.00	-14.12	Vertical
	50.15	27.13	4.71	81.99	94.00	-12.01	Horizontoal
2477	48.23	27.13	4.71	80.07	94.00	-13.93	Vertical
	50.19	27.13	4.71	82.03	94.00	-11.97	Horizontoal

NOTE: Field strength of the fundamental signal test, RBW >20dB BW, VBW>=3XRBW.

RC10-03:

Peak value							
Frequency (MHz)	Read Level (dBuV)	Antenna Factor (dB/m)	Cable Loss (dB)	Level (dBuV/m)	Limit Line (dBuV/m)	Over Limit (dB)	Polarization
2407	53.52	27.13	4.71	85.36	114.00	-28.64	Vertical
	55.13	27.13	4.71	86.97	114.00	-27.03	Horizontoal
2442	52.31	27.13	4.71	84.15	114.00	-29.85	Vertical
	54.52	27.13	4.71	86.36	114.00	-27.64	Horizontoal
2477	52.63	27.13	4.71	84.47	114.00	-29.53	Vertical
	54.87	27.13	4.71	86.71	114.00	-27.29	Horizontoal
Average value							
Frequency (MHz)	Read Level (dBuV)	Antenna Factor (dB/m)	Cable Loss (dB)	Level (dBuV/m)	Limit Line (dBuV/m)	Over Limit (dB)	Polarization
2407	49.25	27.13	4.71	81.09	94.00	-12.91	Vertical
	50.76	27.13	4.71	82.60	94.00	-11.40	Horizontoal
2442	48.44	27.13	4.71	80.28	94.00	-13.72	Vertical
	50.12	27.13	4.71	81.96	94.00	-12.04	Horizontoal
2477	48.33	27.13	4.71	80.17	94.00	-13.83	Vertical
	50.06	27.13	4.71	81.90	94.00	-12.10	Horizontoal

NOTE: Field strength of the fundamental signal test, RBW >20dB BW, VBW>=3XRBW.

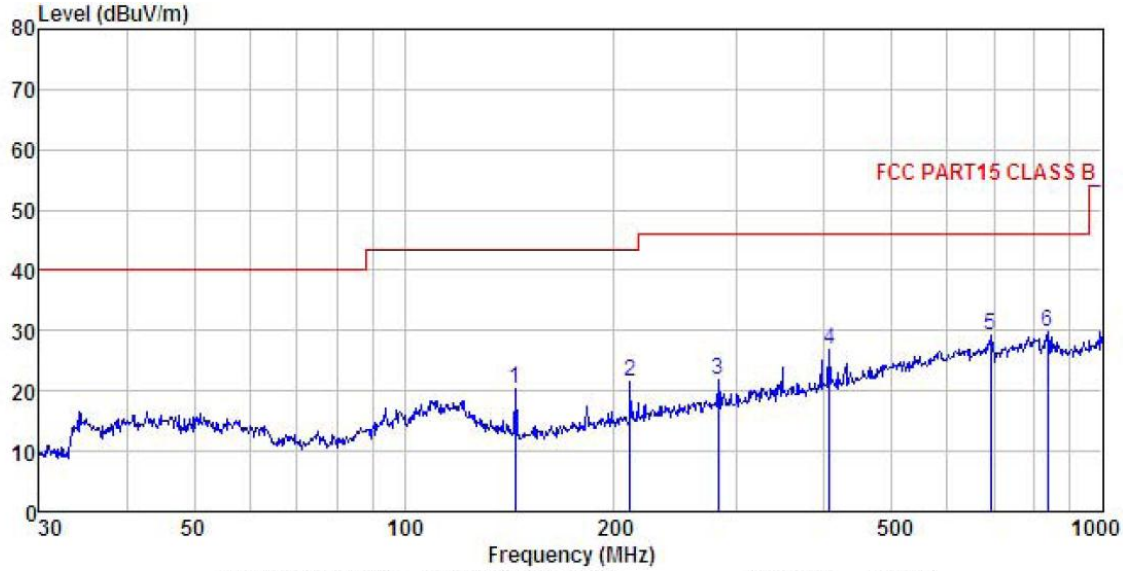
6.3.2 Spurious Emissions

Measurement Data (worst case):

RC10-02

Below 1GHz:

Product Name:	Remote Control	**Product Model:**	RC10-02
Test By:	Carey	**Test mode:**	2.4G Tx mode
Test Frequency:	30 MHz ~ 1 GHz	**Polarization:**	Vertical
Test Voltage:	DC 3V	**Environment:**	Temp: 24℃ Huni: 57%

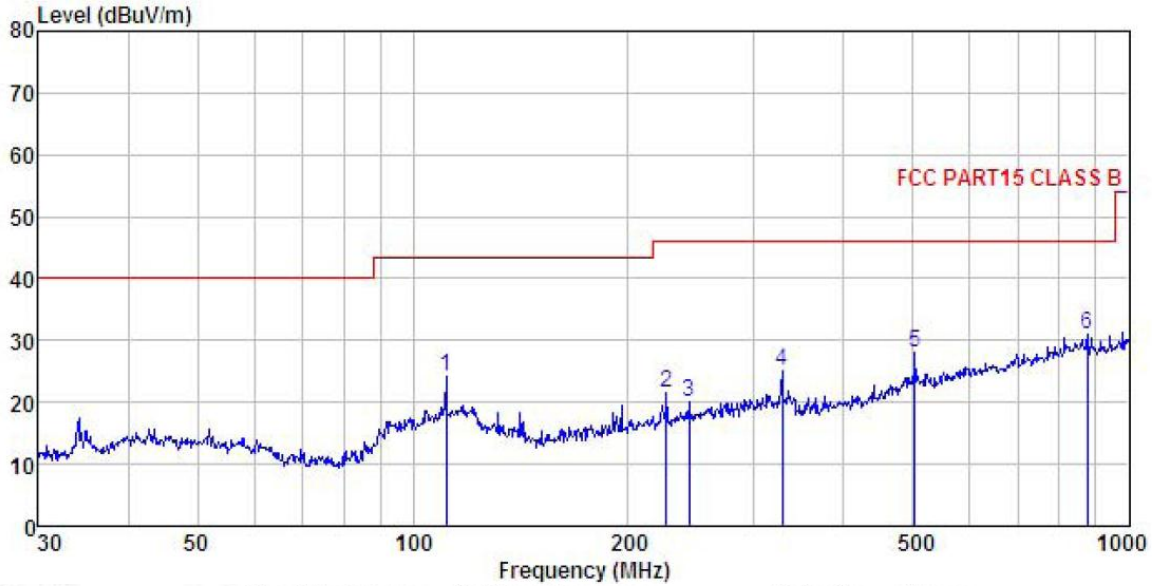


	Freq	Read Level	Antenna Factor	Cable Loss	Preamp Factor	Level	Limit Line	Over Limit	Remark
	MHz	dBuV	dB/m	dB	dB	dBuV/m	dBuV/m	dB	
1	144.335	37.82	9.24	2.45	29.25	20.26	43.50	-23.24	QP
2	210.786	36.23	11.08	2.86	28.76	21.41	43.50	-22.09	QP
3	281.995	34.25	13.31	2.89	28.48	21.97	46.00	-24.03	QP
4	406.088	37.09	15.43	3.09	28.79	26.82	46.00	-19.18	QP
5	691.987	33.40	20.28	4.13	28.69	29.12	46.00	-16.88	QP
6	836.244	31.31	22.29	4.23	28.06	29.77	46.00	-16.23	QP

Remark:

1. *Final Level = Receiver Read level + Antenna Factor + Cable Loss – Preamplifier Factor.*
2. *The emission levels of other frequencies are very lower than the limit and not show in test report.*

Product Name:	Remote Control	**Product Model:**	RC10-02
Test By:	Carey	**Test mode:**	2.4G Tx mode
Test Frequency:	30 MHz ~ 1 GHz	**Polarization:**	Horizontal
Test Voltage:	DC 3V	**Environment:**	Temp: 24℃ Huni: 57%



	Freq	Read Level	Antenna Factor	Cable Loss	Preamp Factor	Level	Limit Line	Over Limit	Remark
	MHz	dBuV	dB/m	dB	dB	dBuV/m	dBuV/m	dB	
1	111.347	40.03	11.56	2.07	29.45	24.21	43.50	-19.29	QP
2	226.099	35.76	11.75	2.84	28.67	21.68	46.00	-24.32	QP
3	243.377	33.45	12.42	2.82	28.58	20.11	46.00	-25.89	QP
4	327.887	36.49	14.17	3.03	28.51	25.18	46.00	-20.82	QP
5	502.940	35.08	18.21	3.64	28.96	27.97	46.00	-18.03	QP
6	875.247	32.56	22.55	3.95	27.94	31.12	46.00	-14.88	QP

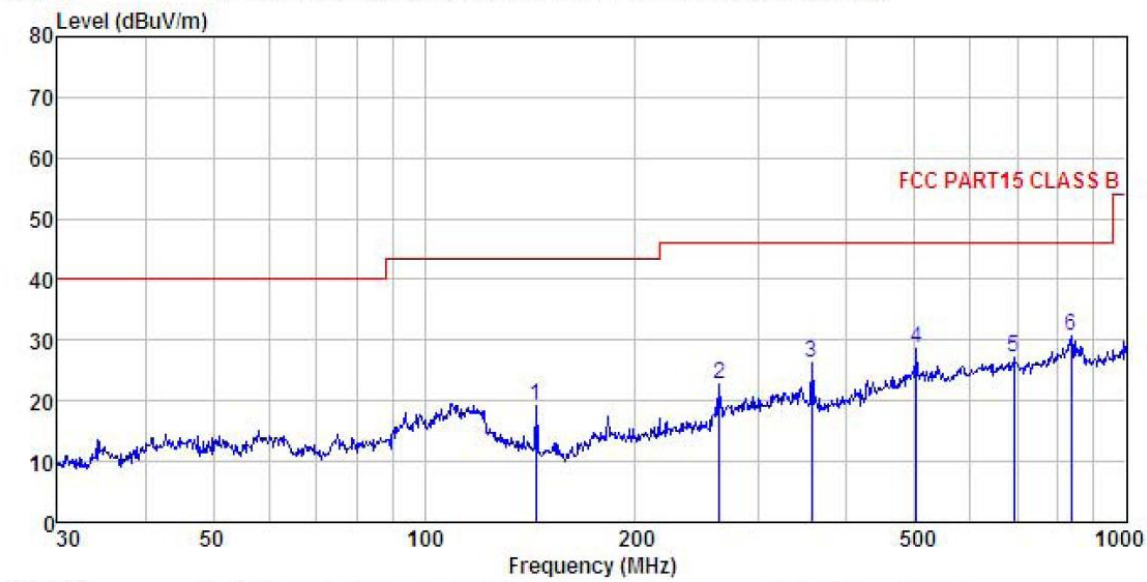
Remark:

1. *Final Level = Receiver Read level + Antenna Factor + Cable Loss – Preamplifier Factor.*
2. *The emission levels of other frequencies are very lower than the limit and not show in test report.*

RC10-03

Below 1GHz:

Product Name:	Remote Control	**Product Model:**	RC10-03
Test By:	Carey	**Test mode:**	2.4G Tx mode
Test Frequency:	30 MHz ~ 1 GHz	**Polarization:**	Vertical
Test Voltage:	DC 3V	**Environment:**	Temp: 24℃ Huni: 57%

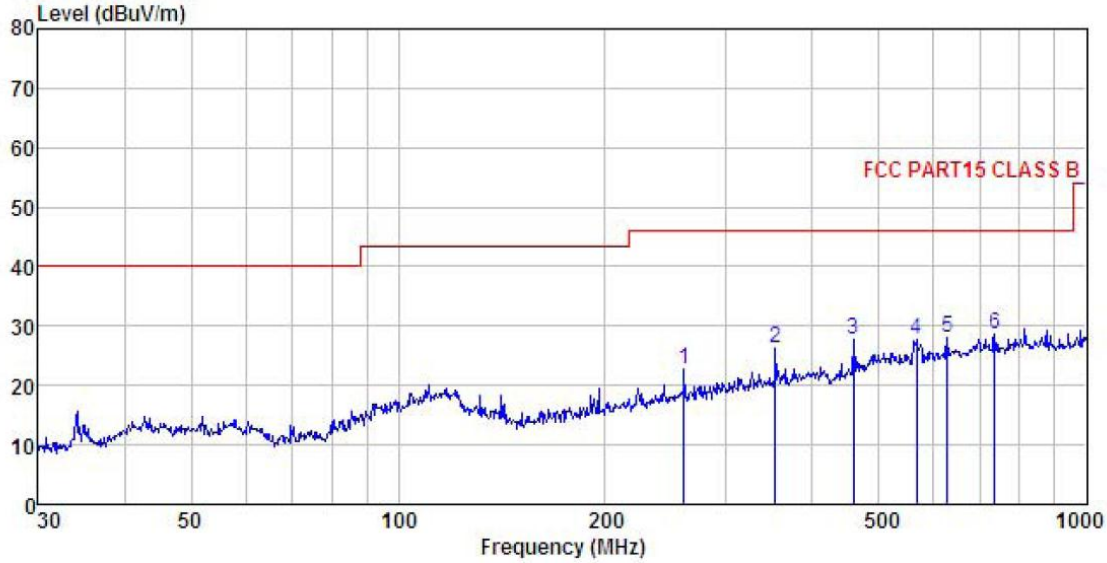


	Freq	Read Level	Antenna Factor	Cable Loss	Preamp Factor	Level	Limit Line	Over Limit	Remark
	MHz	dBuV	dB/m	dB	dB	dBuV/m	dBuV/m	dB	
1	144.335	36.82	9.24	2.45	29.25	19.26	43.50	-24.24	QP
2	262.896	35.60	12.95	2.84	28.52	22.87	46.00	-23.13	QP
3	356.676	37.12	14.69	3.10	28.59	26.32	46.00	-19.68	QP
4	502.940	35.71	18.21	3.64	28.96	28.60	46.00	-17.40	QP
5	691.987	31.40	20.28	4.13	28.69	27.12	46.00	-18.88	QP
6	836.244	32.31	22.29	4.23	28.06	30.77	46.00	-15.23	QP

Remark:

1. *Final Level = Receiver Read level + Antenna Factor + Cable Loss – Preamplifier Factor.*
2. *The emission levels of other frequencies are very lower than the limit and not show in test report.*

Product Name:	Remote Control	**Product Model:**	RC10-03
Test By:	Carey	**Test mode:**	2.4G Tx mode
Test Frequency:	30 MHz ~ 1 GHz	**Polarization:**	Horizontal
Test Voltage:	DC 3V	**Environment:**	Temp: 24℃ Huni: 57%



	Freq	Read Level	Antenna Factor	Cable Loss	Preamp Factor	Level	Limit Line	Over Limit	Remark
	MHz	dBuV	dB/m	dB	dB	dBuV/m	dBuV/m	dB	
1	260.144	35.64	12.89	2.84	28.52	22.85	46.00	-23.15	QP
2	352.943	37.24	14.64	3.10	28.57	26.41	46.00	-19.59	QP
3	459.114	36.65	16.84	3.27	28.89	27.87	46.00	-18.13	QP
4	566.622	34.00	18.78	3.91	29.05	27.64	46.00	-18.36	QP
5	627.274	33.46	19.62	3.90	28.85	28.13	46.00	-17.87	QP
6	737.071	32.45	20.55	4.31	28.53	28.78	46.00	-17.22	QP

Remark:

1. *Final Level = Receiver Read level + Antenna Factor + Cable Loss – Preamplifier Factor.*
2. *The emission levels of other frequencies are very lower than the limit and not show in test report.*

RC10-02
Above 1GHz

Test channel: Lowest channel								
Detector: 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
4814.00	49.74	31.62	6.81	41.82	46.35	74.00	-27.65	Vertical
4814.00	49.07	31.62	6.81	41.82	45.68	74.00	-28.32	Horizontal
Detector: 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
4814.00	38.48	31.62	6.81	41.82	35.09	54.00	-18.91	Vertical
4814.00	38.95	31.62	6.81	41.82	35.56	54.00	-18.44	Horizontal
Test channel: Middle channel								
Detector: 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
4884.00	51.46	31.72	6.86	41.84	48.20	74.00	-25.80	Vertical
4884.00	49.31	31.72	6.86	41.84	46.05	74.00	-27.95	Horizontal
Detector: 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
4884.00	41.12	31.72	6.86	41.84	37.86	54.00	-16.14	Vertical
4884.00	39.55	31.72	6.86	41.84	36.29	54.00	-17.71	Horizontal
Test channel: Highest channel								
Detector: 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
4954.00	53.76	31.84	6.91	41.87	50.64	74.00	-23.36	Vertical
4954.00	50.47	31.84	6.91	41.87	47.35	74.00	-26.65	Horizontal
Detector: 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
4954.00	44.56	31.84	6.91	41.87	41.44	54.00	-12.56	Vertical
4954.00	40.94	31.84	6.91	41.87	37.82	54.00	-16.18	Horizontal

Remark:

1. *Final Level = Receiver Read level + Antenna Factor + Cable Loss – Preamplifier Factor.*
2. *The emission levels of other frequencies are very lower than the limit and not show in test report.*

RC10-03
Above 1GHz

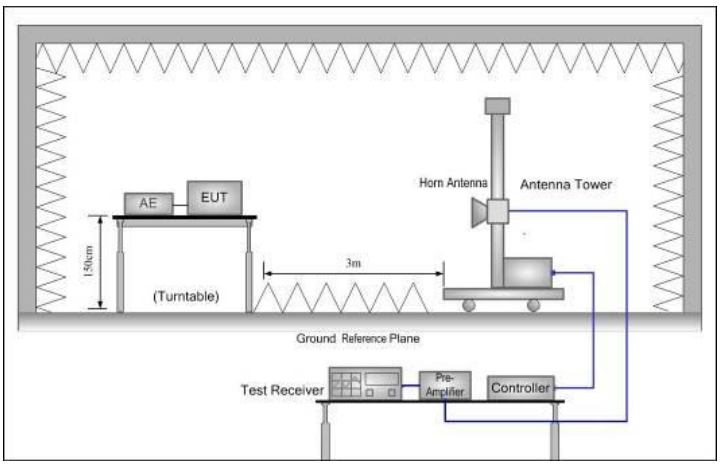
Test channel: Lowest channel								
Detector: Peak Value								
Frequency (MHz)	Read Level (dBuV)	Antenna Factor (dB/m)	Cable Loss (dB)	Preamp Factor (dB)	Level (dBuV/m)	Limit Line (dBuV/m)	Over Limit (dB)	Polarization
4814.00	50.29	31.62	6.81	41.82	46.90	74.00	-27.10	Vertical
4814.00	49.21	31.62	6.81	41.82	45.82	74.00	-28.18	Horizontal
Detector: 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
4814.00	39.67	31.62	6.81	41.82	36.28	54.00	-17.72	Vertical
4814.00	38.84	31.62	6.81	41.82	35.45	54.00	-18.55	Horizontal
Test channel: Middle channel								
Detector: 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
4884.00	51.17	31.72	6.86	41.84	47.91	74.00	-26.09	Vertical
4884.00	49.32	31.72	6.86	41.84	46.06	74.00	-27.94	Horizontal
Detector: 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
4884.00	41.24	31.72	6.86	41.84	37.98	54.00	-16.02	Vertical
4884.00	39.57	31.72	6.86	41.84	36.31	54.00	-17.69	Horizontal
Test channel: Highest channel								
Detector: 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
4954.00	54.46	31.84	6.91	41.87	51.34	74.00	-22.66	Vertical
4954.00	50.07	31.84	6.91	41.87	46.95	74.00	-27.05	Horizontal
Detector: 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
4954.00	44.55	31.84	6.91	41.87	41.43	54.00	-12.57	Vertical
4954.00	40.56	31.84	6.91	41.87	37.44	54.00	-16.56	Horizontal

Remark:

1. *Final Level = Receiver Read level + Antenna Factor + Cable Loss – Preamplifier Factor.*
2. *The emission levels of other frequencies are very lower than the limit and not show in test report.*

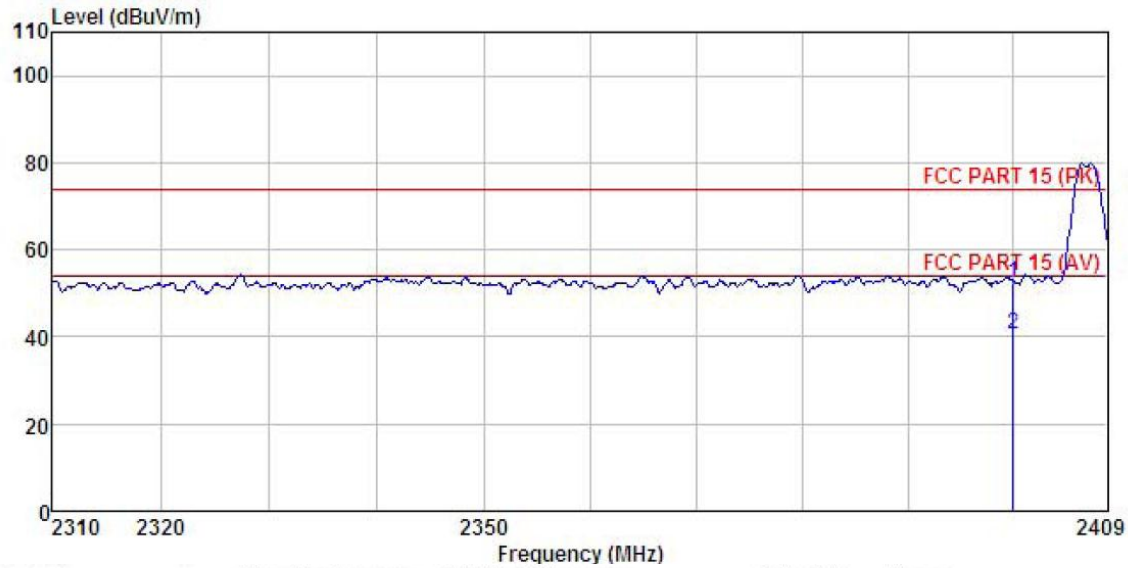
6.3.3 Band Edge

Radiated Emission Method

Test Requirement:	FCC Part 15 C Section 15.205 and 15.209				
Test Method:	ANSI C63.10: 2013				
Test Frequency Range:	2.3GHz to 2.5GHz				
Test Distance:	3m				
Receiver setup:	Frequency	Detector	RBW	VBW	Remark
	Above 1GHz	Peak	1MHz	3MHz	Peak Value
		RMS	1MHz	3MHz	Average Value
Limit:	Frequency	Limit (dBuV/m @3m)	Remark		
	Above 1GHz	54.00	Average Value		
		74.00	Peak Value		
Test Procedure:	7. The EUT was placed on the top of a rotating table 1.5 meters above the ground at a 3 meter camber. The table was rotated 360 degrees to determine the position of the highest radiation. 8. The EUT was set 3 meters away from the interference-receiving antenna, which was mounted on the top of a variable-height antenna tower. 9. 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. 10. 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. 11. The test-receiver system was set to Peak Detect Function and Specified Bandwidth with Maximum Hold Mode. 12. If the emission level of the EUT in peak mode was 10 dB 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 10 dB 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 setup:					
Test Instruments:	Refer to section 5.7 for details				
Test mode:	Refer to section 5.3 for details				
Test results:	Passed				

RC10-02:

Product Name:	Remote Control	**Product Model:**	RC10-02
Test By:	Carey	**Test mode:**	2.4G-Tx mode
Test Channel:	Lowest channel	**Polarization:**	Vertical
Test Voltage:	DC 3V	**Environment:**	Temp: 24℃ Huni: 57%

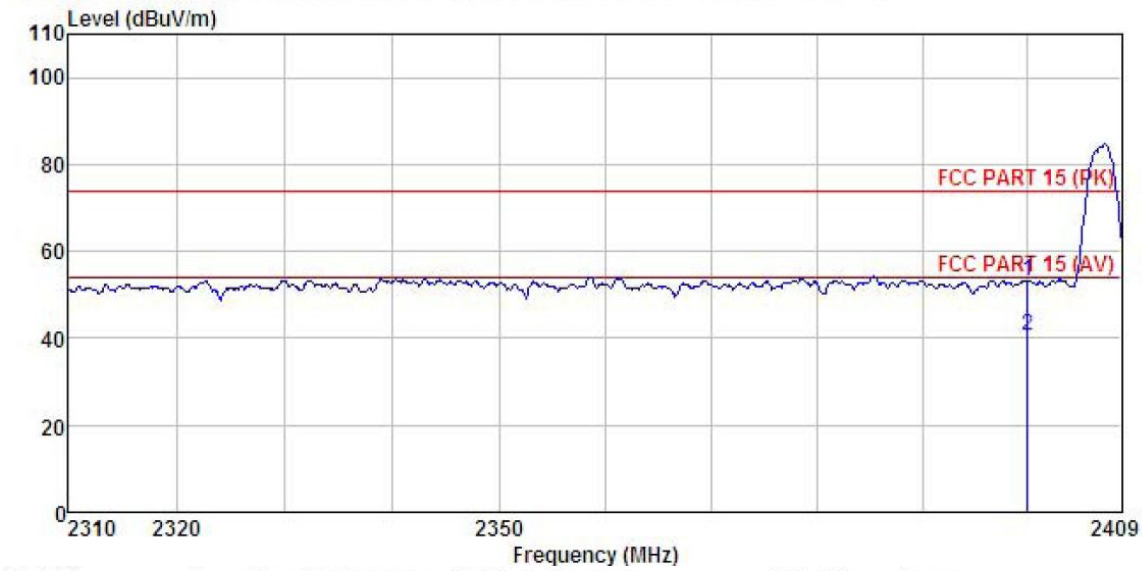


	Freq	Read Level	Antenna Factor	Cable Loss	Preamp Factor	Level	Limit Line	Over Limit	Remark
	MHz	dBuV	dB/m	dB	dB	dBuV/m	dBuV/m	dB	
1	2400.000	20.47	27.11	4.70	0.00	52.28	74.00	-21.72	Peak
2	2400.000	8.89	27.11	4.70	0.00	40.70	54.00	-13.30	Average

Remark:

1. *Final Level = Receiver Read level + Antenna Factor + Cable Loss – Preamplifier Factor.*
2. *The emission levels of other frequencies are very lower than the limit and not show in test report.*

Product Name:	Remote Control	Product Model:	RC10-02
Test By:	Carey	Test mode:	2.4G-Tx mode
Test Channel:	Lowest channel	Polarization:	Horizontal
Test Voltage:	DC 3V	Environment:	Temp: 24℃ Huni: 57%

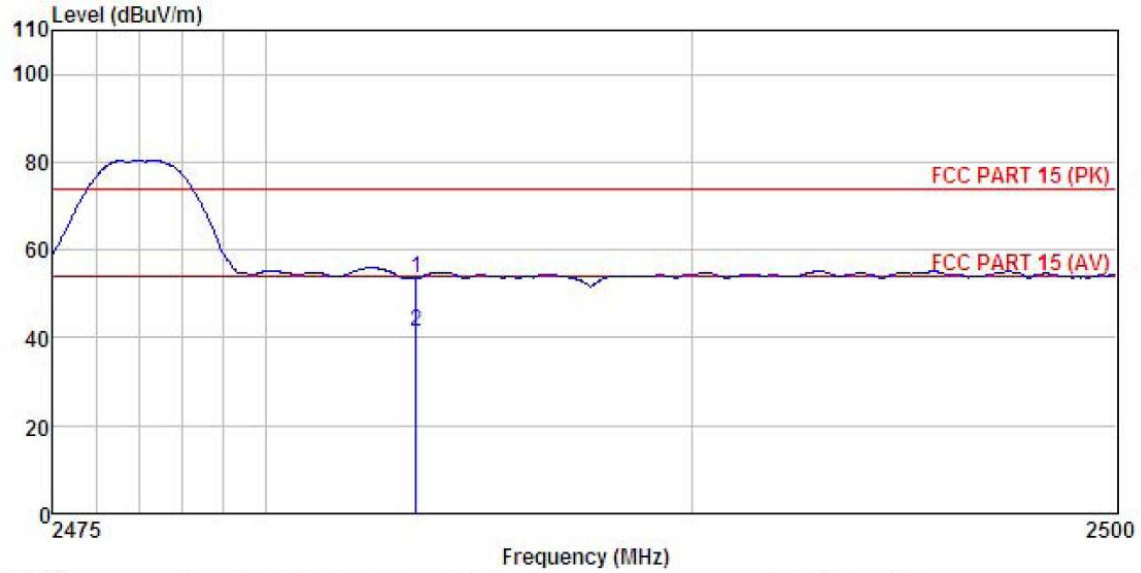


	Freq	Read Level	Antenna Factor	Cable Loss	Preamp Factor	Level	Limit Line	Over Limit	Remark
	MHz	dBuV	dB/m	dB	dB	dBuV/m	dBuV/m	dB	
1	2400.000	21.41	27.11	4.70	0.00	53.22	74.00	-20.78	Peak
2	2400.000	8.92	27.11	4.70	0.00	40.73	54.00	-13.27	Average

Remark:

1. *Final Level = Receiver Read level + Antenna Factor + Cable Loss – Preamplifier Factor.*
2. *The emission levels of other frequencies are very lower than the limit and not show in test report.*

Product Name:	Remote Control	**Product Model:**	RC10-02
Test By:	Carey	**Test mode:**	2.4G-Tx mode
Test Channel:	Highest channel	**Polarization:**	Vertical
Test Voltage:	DC 3V	**Environment:**	Temp: 24℃ Huni: 57%

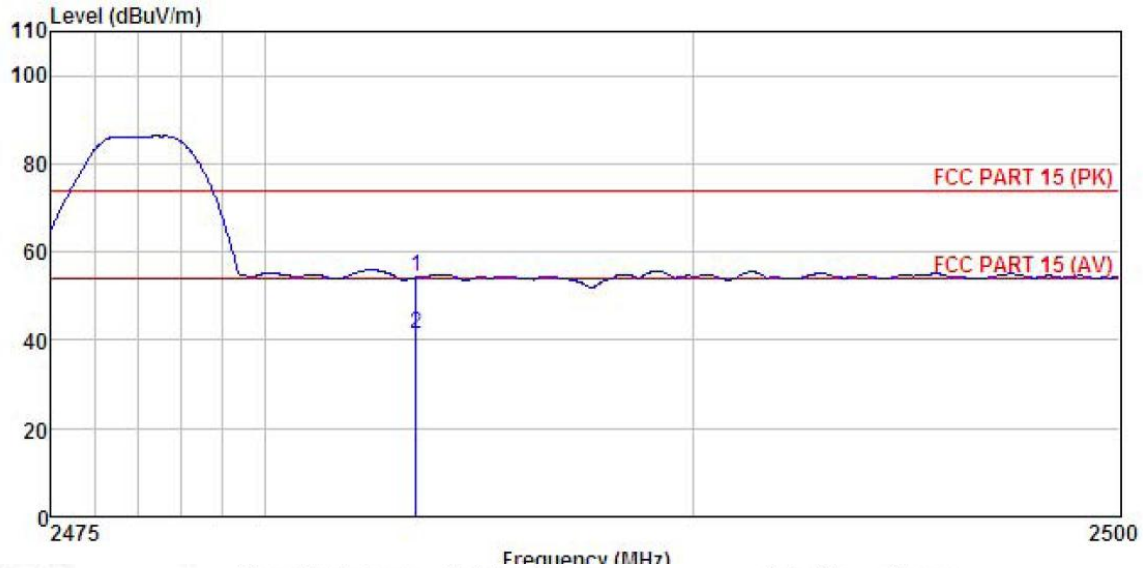


	Freq	Read Level	Antenna Factor	Cable Loss	Preamp Factor	Level	Limit Line	Over Limit	Remark
	MHz	dBuV	dB/m	dB	dB	dBuV/m	dBuV/m	dB	
1	2483.500	21.52	27.36	4.81	0.00	53.69	74.00	-20.31	Peak
2	2483.500	9.42	27.36	4.81	0.00	41.59	54.00	-12.41	Average

Remark:

1. *Final Level = Receiver Read level + Antenna Factor + Cable Loss – Preamplifier Factor.*
2. *The emission levels of other frequencies are very lower than the limit and not show in test report.*

Product Name:	Remote Control	Product Model:	RC10-02
Test By:	Carey	Test mode:	2.4G-Tx mode
Test Channel:	Highest channel	Polarization:	Horizontal
Test Voltage:	DC 3V	Environment:	Temp: 24℃ Huni: 57%



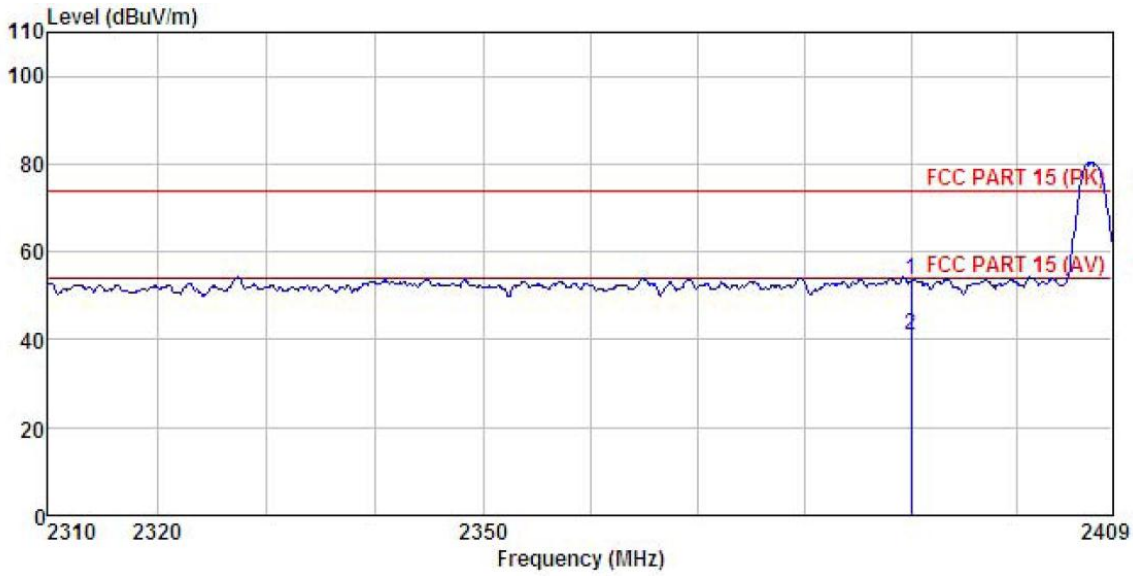
	Freq	Read Level	Antenna Factor	Cable Loss	Preamp Factor	Level	Limit Line	Over Limit	Remark
	MHz	dBuV	dB/m	dB	dB	dBuV/m	dBuV/m	dB	
1	2483.500	22.08	27.35	4.81	0.00	54.24	74.00	-19.76	Peak
2	2483.500	9.18	27.35	4.81	0.00	41.34	54.00	-12.66	Average

Remark:

1. *Final Level = Receiver Read level + Antenna Factor + Cable Loss – Preamplifier Factor.*
2. *The emission levels of other frequencies are very lower than the limit and not show in test report.*

RC10-03:

Product Name:	Remote Control	**Product Model:**	RC10-03
Test By:	Carey	**Test mode:**	2.4G-Tx mode
Test Channel:	Lowest channel	**Polarization:**	Vertical
Test Voltage:	DC 3V	**Environment:**	Temp: 24℃ Huni: 57%

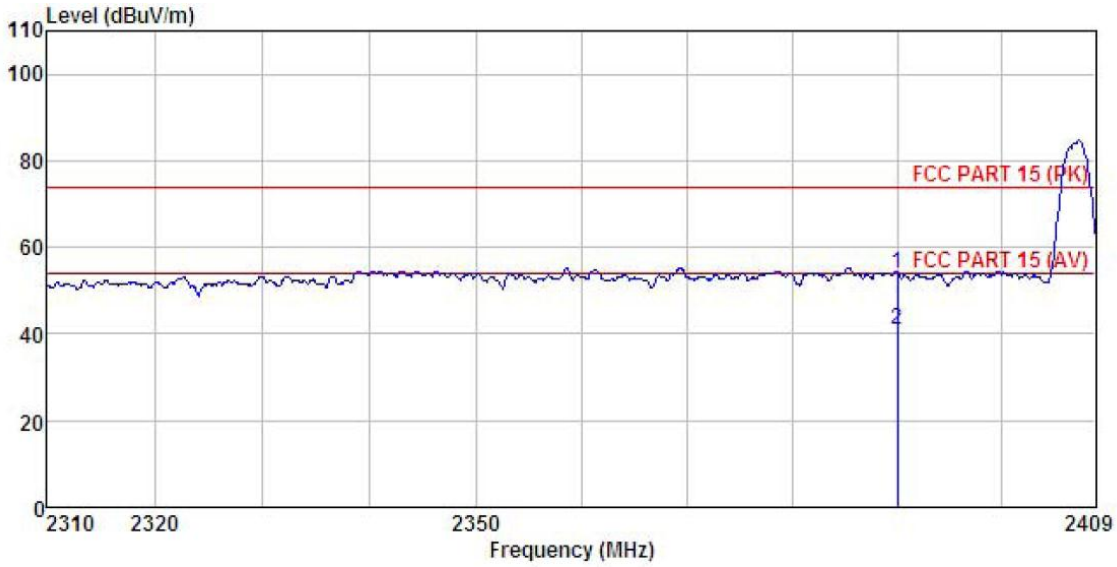


	Freq	Read Level	Antenna Factor	Cable Loss	Preamp Factor	Level	Limit Line	Over Limit	Remark
	MHz	dBuV	dB/m	dB	dB	dBuV/m	dBuV/m	dB	
1	2390.000	21.93	27.07	4.69	0.00	53.69	74.00	-20.31	Peak
2	2390.000	9.05	27.07	4.69	0.00	40.81	54.00	-13.19	Average

Remark:

1. *Final Level = Receiver Read level + Antenna Factor + Cable Loss – Preamplifier Factor.*
2. *The emission levels of other frequencies are very lower than the limit and not show in test report.*
3. *2400MHz and 2390MHz all have been tested,Only worse case is reported.*

Product Name:	Remote Control	Product Model:	RC10-03
Test By:	Carey	Test mode:	2.4G-Tx mode
Test Channel:	Lowest channel	Polarization:	Horizontal
Test Voltage:	DC 3V	Environment:	Temp: 24℃ Huni: 57%

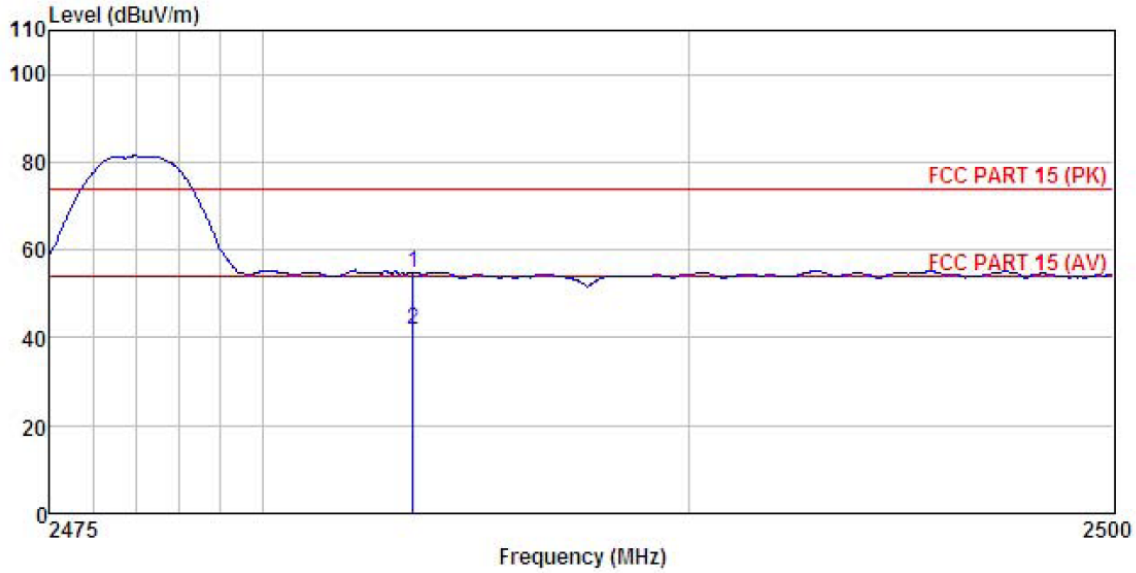


	Freq	Read Level	Antenna Factor	Cable Loss	Preamp Factor	Level	Limit Line	Over Limit	Remark
	MHz	dBuV	dB/m	dB	dB	dBuV/m	dBuV/m	dB	
1	2390.000	22.37	27.08	4.69	0.00	54.14	74.00	-19.86	Peak
2	2390.000	9.11	27.08	4.69	0.00	40.88	54.00	-13.12	Average

Remark:

1. *Final Level = Receiver Read level + Antenna Factor + Cable Loss – Preamplifier Factor.*
2. *The emission levels of other frequencies are very lower than the limit and not show in test report.*
3. *2400MHz and 2390MHz all have been tested,Only worse case is reported.*

Product Name:	Remote Control	**Product Model:**	RC10-03
Test By:	Carey	**Test mode:**	2.4G-Tx mode
Test Channel:	Highest channel	**Polarization:**	Vertical
Test Voltage:	DC 3V	**Environment:**	Temp: 24℃ Huni: 57%

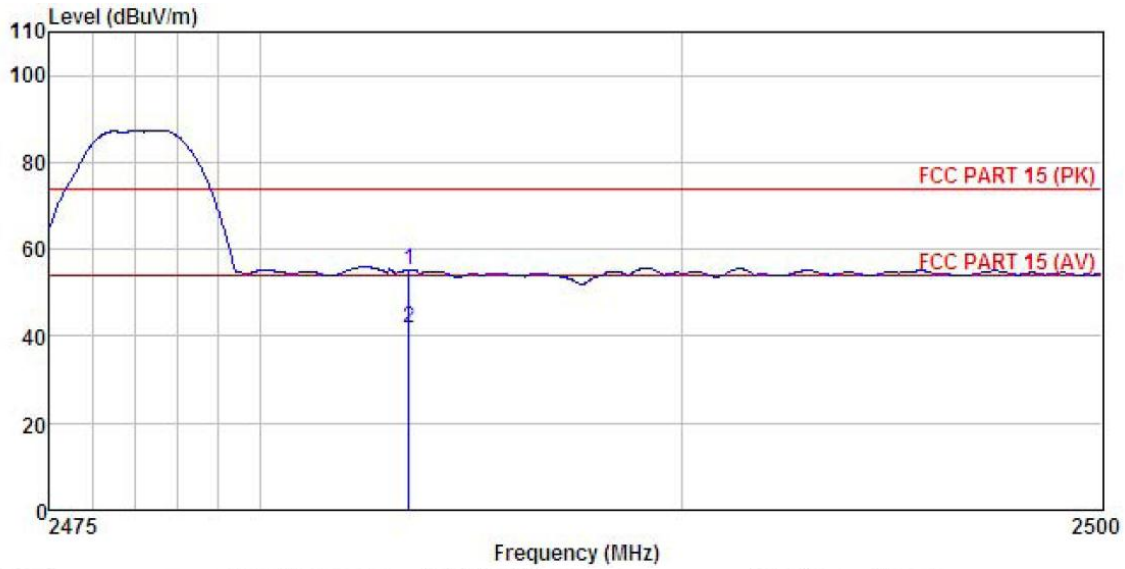


	Freq	Read Level	Antenna Factor	Cable Loss	Preamp Factor	Level	Limit Line	Over Limit	Remark
	MHz	dBuV	dB/m	dB	dB	dBuV/m	dBuV/m	dB	
1	2483.500	22.52	27.36	4.81	0.00	54.69	74.00	-19.31	Peak
2	2483.500	9.53	27.36	4.81	0.00	41.70	54.00	-12.30	Average

Remark:

1. *Final Level = Receiver Read level + Antenna Factor + Cable Loss – Preamplifier Factor.*
2. *The emission levels of other frequencies are very lower than the limit and not show in test report.*

Product Name:	Remote Control	Product Model:	RC10-03
Test By:	Carey	Test mode:	2.4G-Tx mode
Test Channel:	Highest channel	Polarization:	Horizontal
Test Voltage:	DC 3V	Environment:	Temp: 24℃ Huni: 57%

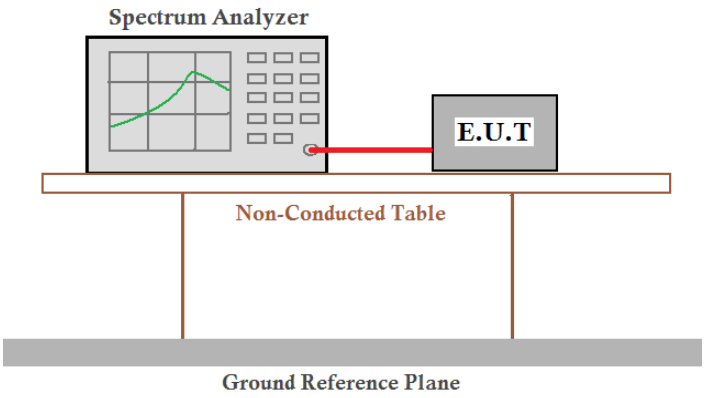


	Freq	Read Level	Antenna Factor	Cable Loss	Preamp Factor	Level	Limit Line	Over Limit	Remark
	MHz	dBuV	dB/m	dB	dB	dBuV/m	dBuV/m	dB	
1	2483.500	23.11	27.35	4.81	0.00	55.27	74.00	-18.73	Peak
2	2483.500	9.73	27.35	4.81	0.00	41.89	54.00	-12.11	Average

Remark:

1. *Final Level = Receiver Read level + Antenna Factor + Cable Loss – Preamplifier Factor.*
2. *The emission levels of other frequencies are very lower than the limit and not show in test report.*

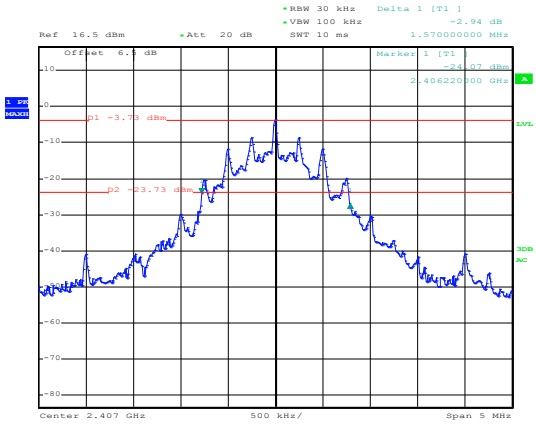
6.4 20dB Occupy Bandwidth

Test Requirement:	FCC Part 15 C Section 15.215
Test Method:	ANSI C63.10:2013
Receiver setup:	RBW=30 kHz, VBW=100 kHz, detector=Peak
Limit:	N/A
Test setup:	
Test Instruments:	Refer to section 5.7 for details
Test mode:	Transmitting mode
Test results:	Pass

Measurement Data:

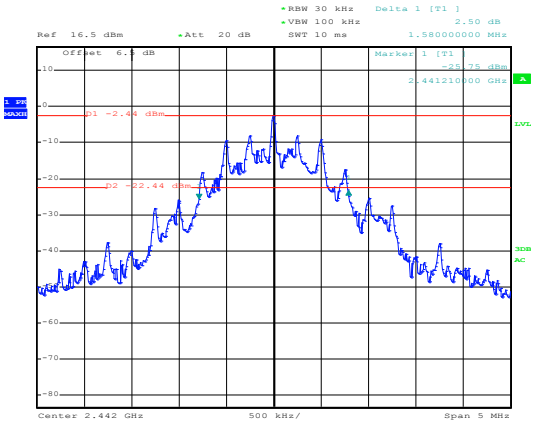
20dB Occupy Bandwidth (MHz)		
Lowest channel	Middle channel	Highest Highest
1.57	1.58	1.59

Test plot as follows:



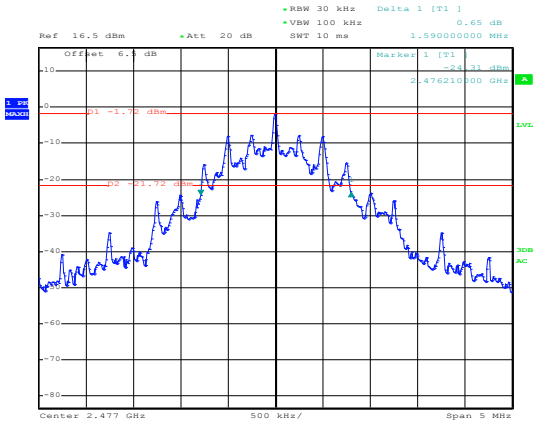
Date: 3.JUL.2019 20:52:24

Lowest channel



Date: 3.JUL.2019 20:53:38

Middle channel



Date: 3.JUL.2019 20:55:38

Highest channel