



# **FCC TEST REPORT**

## **FCC ID: 2AJ4F-RPSWG-D**

**Product:** Redgear Pro series wireless gamepad

**Trade Name:** Redgear

**Model Number:** Redgear Pro series wireless gamepad-Dongle

### **Prepared for**

Redwood Interactive

131, Guru gobind industrial estate jay coach goregoan east, Mumbai,  
400063 India

### **Prepared by**

Shenzhen POCE Technology Co.,Ltd.

Room 502, Bldg. 1, Xinghua Garden, Baoan Road Xixiang,  
Baoan District,Shenzhen, China

## TEST RESULT CERTIFICATION

**Applicant's name** ..... : Redwood Interactive  
**Address** ..... : 131, Guru gobind industrial estate jay coach goregoan east,  
Mumbai, 400063 India

**Manufacturer's Name** ..... : Fortune Power Electronic Technology Co., Ltd.  
**Address** ..... : 11F-4, No.163, Sec.5, Nanking E Rd., Taipei, Taiwan, R.O.C.

### Product description

**Product name** ..... : Redgear Pro series wireless gamepad  
FCC Part15B

**Standards** ..... : ANSI C63.4:2014

This device described above has been tested by POCE, and the test results show that the equipment under test (EUT) is in compliance with Part 15 of FCC Rules. And it is applicable only to the tested sample identified in the report.

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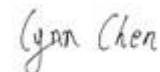
**Date of Test** ..... :

**Date (s) of performance of tests** ..... : 6 May 2017 ~17 May 2017

**Date of Issue** ..... : 17 May 2017

**Test Result** ..... : **Pass**

Testing Engineer :



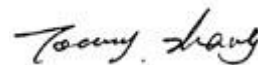
(Lynn Chen)

Technical Manager :



(Carlen Liu)

Authorized Signatory :



(Tommy zhang)

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## 1. TEST SUMMARY

Test procedures according to the technical standards:

EMC Emission				
Standard	Test Item	Limit	Judgment	Remark
FCC Part15B ANSI C63.4: 2014	Conducted Emission	Class B	PASS	
	Radiated Emission	Class B	PASS	

NOTE:

- (1) 'N/A' denotes test is not applicable in this Test Report
- (2) For client's request and manual description, the test will not be executed.

## 1.1 TEST FACILITY

Shenzhen POCE Technology Co.,Ltd.

Add.: Room 502, Bldg. 1, Xinghua Garden, Baoan Road Xixiang, Baoan District, Shenzhen, China

FCC-Registration No.: 222278

## 1.2 MEASUREMENT UNCERTAINTY

The reported uncertainty of measurement  $y \pm U$ , where expanded uncertainty  $U$  is based on a standard uncertainty multiplied by a coverage factor of  $k=2$ , providing a level of confidence of approximately **95 %**.

### A. Conducted Measurement :

Test Site	Method	Measurement Frequency Range	U, (dB)	NOTE
POCE C01	ANSI	150 KHz ~ 30MHz	3.2	

### B. Radiated Measurement :

Test Site	Method	Measurement Frequency Range	U, (dB)	NOTE
POCE A01	ANSI	30MHz ~ 1000MHz	4.7	
		1GHz ~6GHz	5.0	

## 2. GENERAL INFORMATION

### 2.1 GENERAL DESCRIPTION OF EUT

Equipment	Redgear Pro series wireless gamepad	
Model Name	Redgear Pro series wireless gamepad-Dongle	
Serial No	N/A	
Model Difference	All the same, only the color is different.	
Product Description	The EUT is a Redgear Pro series wireless gamepad.	
	Operating frequency:	OSC 12MHz
	Connecting I/O port:	USB
	Based on the application, features, or specification exhibited in User's Manual, the EUT is considered as an ITE/Computing Device. More details of EUT technical specification, please refer to the User's Manual.	
Power Source	DC Voltage	
Power Rating	DC 5V from PC 120V/60Hz	

## 2.2 DESCRIPTION OF TEST MODES

To investigate the maximum EMI emission characteristics generates from EUT, the test system was pre-scanning tested base on the consideration of following EUT operation mode or test configuration mode which possible have effect on EMI emission level. Each of these EUT operation mode(s) or test configuration mode(s) mentioned above was evaluated respectively.

Pretest Mode	Description
Mode 1	Charging and data transmission

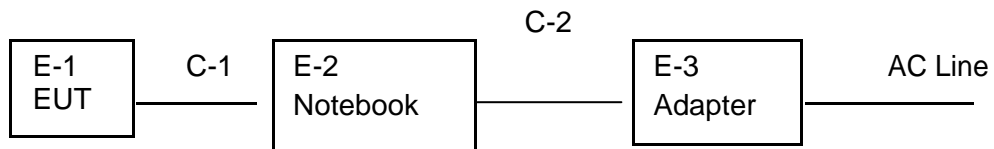
For Conducted Test	
Final Test Mode	Description
Mode 1	Charging and data transmission

For Radiated Test	
Final Test Mode	Description
Mode 1	Charging and data transmission

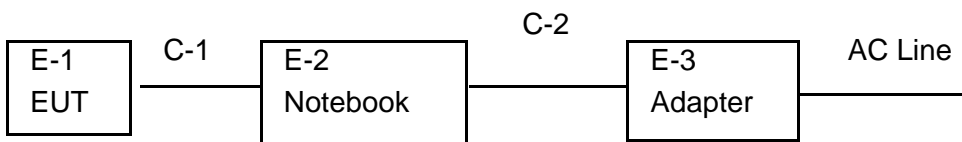
## 2.3 DESCRIPTION OF TEST SETUP

Mode 1:

CE:



RE:





## 2.4 DESCRIPTION TEST PERIPHERAL AND EUT PERIPHERAL

The EUT has been tested as an independent unit together with other necessary accessories or support units. The following support units or accessories were used to form a representative test configuration during the tests.

Item	Equipment	Mfr/Brand	Model/Type No.	Series No.	Note
E-1	Redgear Pro series wireless gamepad	N/A	Redgear Pro series wireless gamepad-Dongle	N/A	EUT
E-2	Notebook Computer	IBM	2366	N/A	
E-3	Adapter	IBM	08K8202	N/A	

Item	Shielded Type	Ferrite Core	Length	Note
C-1	NO	NO	80cm	
C-2	NO	NO	80cm	

Note:

- (1) The support equipment was authorized by Declaration of Confirmation.
- (2) For detachable type I/O cable should be specified the length in cm in 『Length』 column.
- (3) “YES” means “shielded” “with core”; “NO” means “unshielded” “without core”.

## 2.5 MEASUREMENT INSTRUMENTS LIST

### Radiation Test equipment

Item	Kind of Equipment	Manufacturer	Type No.	Serial No.	Last calibration	Calibrated until
1	EMI Test Receiver	R&S	ESU8	100316	2016/10/25	2017/10/24
2	Double Ridged Horn Antenna (0.8GHz-18GHz)	R&S	HF907	100276	2016/11/01	2017/10/31
3	Log-periodic Dipole Antenna (30MHz-1GHz)	R&S	HL223	100435	2016/11/01	2017/10/31
4	Biconical Antenna (9K-30MHz)	R&S	HK116	100431	2016/10/25	2017/10/24
5	Pre-amplifier	Schwarzbeck	VULB 9163	9163-462	2017/04/12	2018/04/11
6	Signal Conditioning Unit	R&S	SCU-08	10008	2016/10/25	2017/10/24
7	Rod Antenna (9K-30MHz)	R&S	HFH2-Z6	100386	2016/11/01	2017/10/31
8	Pre-amplifier	R&S	SCU-01	10049	2016/10/25	2017/10/24
9	Active loop antenna (9K-30MHz)	Schwarzbeck	FMZB1519	1519-038	2016/11/01	2017/10/31
10	Spectrum Analyzer	Agilent	E4407B	MY45109572	2016/11/01	2017/10/31

### Conduction Test equipment

Item	Kind of Equipment	Manufacturer	Type No.	Serial No.	Last calibration	Calibrated until
1	Test Receiver	R&S	ESU8	100316	2016/10/25	2017/10/24
	Current Probe	R&S	EZ-17	100532	2016/10/25	2017/10/24
3	Two Line V-Network	R&S	ENV216	101109	2016/10/25	2017/10/24
4	Passive Voltage Probe	R&S	ESH2-Z3	100169	2016/10/25	2017/10/24
5	V-Network	R&S	ESH3-Z6	100694	2016/10/25	2017/10/24
6	V-Network	R&S	ESH3-Z6	100690	2016/10/25	2017/10/24
7	Artificial mains	R&S	ESH2-Z5	100309	2016/10/25	2017/10/24
8	Pulse Limiter	R&S	ESH3-Z2	101242	2016/10/25	2017/10/24

### 3. EMC EMISSION TEST

#### 3.1 CONDUCTED EMISSION MEASUREMENT

##### 3.1.1 POWER LINE CONDUCTED EMISSION (Frequency Range 150KHz-30MHz)

FREQUENCY (MHz)	Class A (dBuV)		Class B (dBuV)	
	Quasi-peak	Average	Quasi-peak	Average
0.15 -0.5	79.00	66.00	66 - 56 *	56 - 46 *
0.50 -5.0	73.00	60.00	56.00	46.00
5.0 -30.0	73.00	60.00	60.00	50.00

Note:

- (1) The tighter limit applies at the band edges.
- (2) The limit of " \* " marked band means the limitation decreases linearly with the logarithm of the frequency in the range.

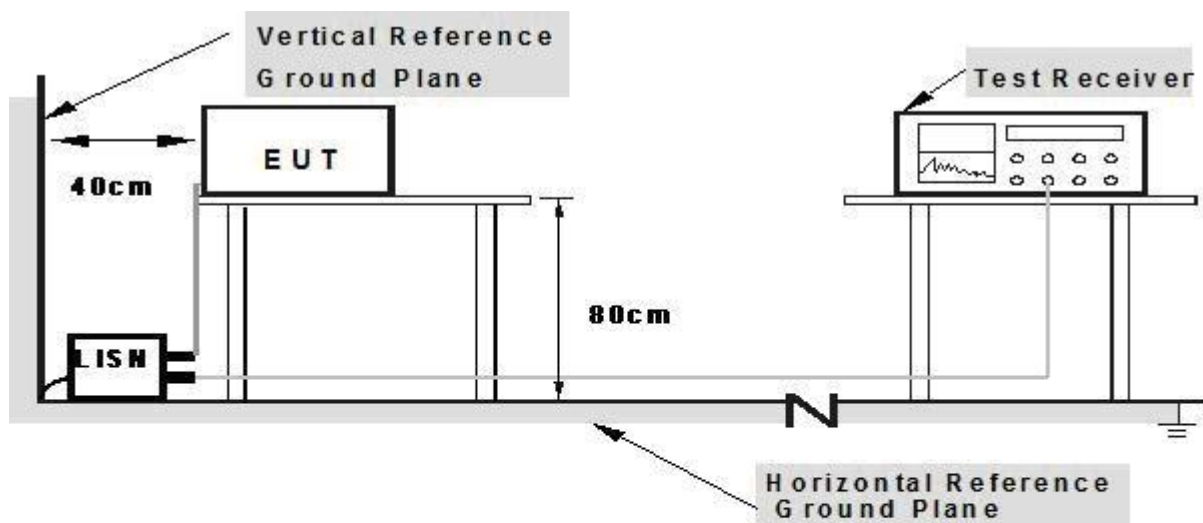
The following table is the setting of the receiver

Receiver Parameters	Setting
Attenuation	10 dB
Start Frequency	0.15 MHz
Stop Frequency	30 MHz
IF Bandwidth	9 kHz

### 3.1.2 TEST PROCEDURE

- The EUT was placed 0.4 meters from the horizontal ground plane with EUT being connected to the power mains through a line impedance stabilization network (LISN). All other support equipments powered from additional LISN(s). The LISN provide 50 Ohm/ 50uH of coupling impedance for the measuring instrument.
- Interconnecting cables that hang closer than 40 cm to the ground plane shall be folded back and forth in the center forming a bundle 30 to 40 cm long.
- I/O cables that are not connected to a peripheral shall be bundled in the center. The end of the cable may be terminated, if required, using the correct terminating impedance. The overall length shall not exceed 1 m.
- LISN at least 80 cm from nearest part of EUT chassis.
- For the actual test configuration, please refer to the related Item –EUT Test Photos.

### 3.1.3 TEST SETUP



**Note: 1. Support units were connected to second LISN.**

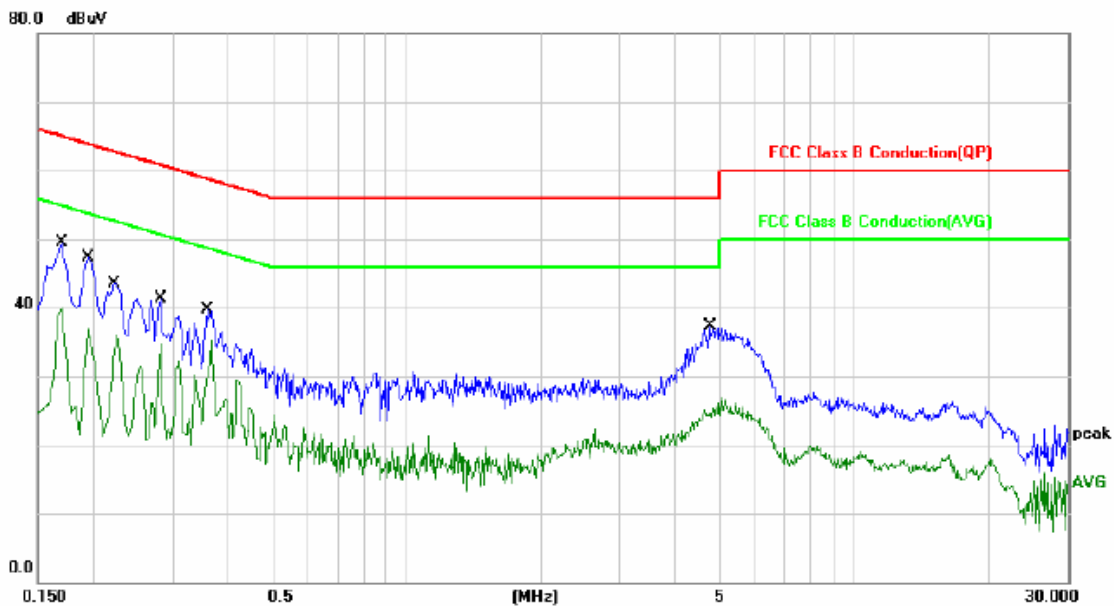
**2. Both of LISNs (AMN) are 80 cm from EUT and at least 80 cm from other units and other metal planes**

### 3.1.4 EUT OPERATING CONDITIONS

The EUT tested system was configured as the statements of **2.3** Unless otherwise a special operating condition is specified in the follows during the testing.

### 3.1.5 TEST RESULTS

EUT:	Redgear Pro series wireless gamepad	Model Name. :	Redgear Pro series wireless gamepad-Dongle
Temperature:	26 °C	Relative Humidity:	54%
Pressure:	1010hPa	Test Date :	2017-5-14
Test Mode:	Mode 1	Phase :	L
Test Voltage :	DC 5V from PC 120V/60Hz		



Site Chamber #1

Phase: L1

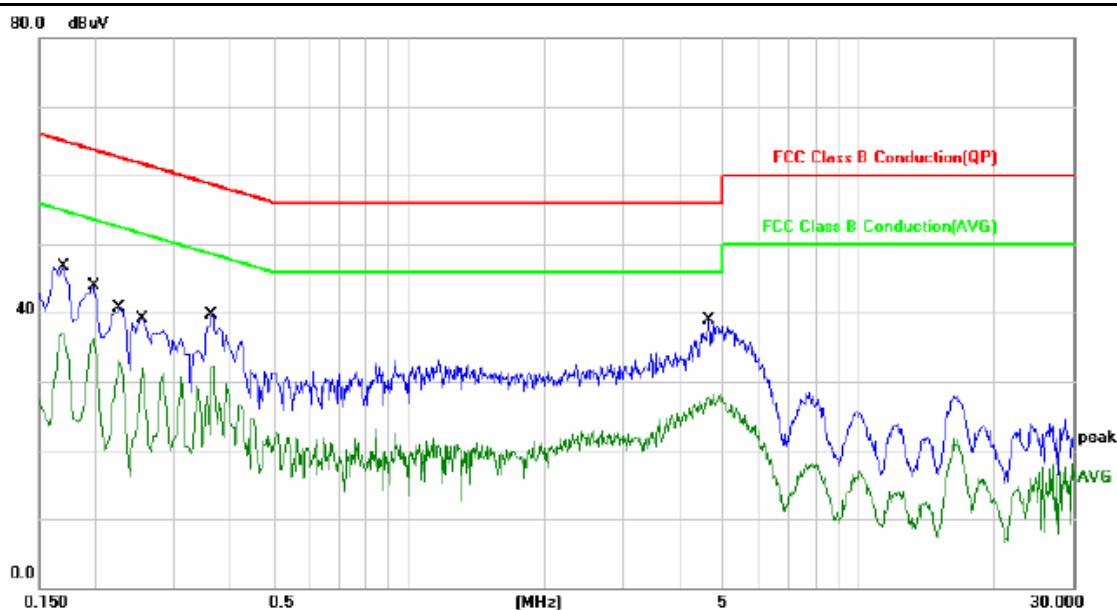
Temperature:

No.	Mk.	Freq.	Reading Level	Correct Factor	Measurement	Limit	Over	Detector	Comment
		MHz	dBμV	dB	dBμV	dBμV	dB		
1		0.1700	49.53	-0.13	49.40	64.96	-15.56	QP	
2		0.1700	39.99	-0.13	39.86	54.96	-15.10	AVG	
3		0.1940	47.45	-0.13	47.32	63.86	-16.54	QP	
4		0.1940	37.01	-0.13	36.88	53.86	-16.98	AVG	
5		0.2220	43.67	-0.12	43.55	62.74	-19.19	QP	
6		0.2220	36.25	-0.12	36.13	52.74	-16.61	AVG	
7		0.2819	41.34	-0.01	41.33	60.76	-19.43	QP	
8		0.2819	34.72	-0.01	34.71	50.76	-16.05	AVG	
9		0.3579	39.68	-0.02	39.66	58.78	-19.12	QP	
10	*	0.3579	35.31	-0.02	35.29	48.78	-13.49	AVG	
11		4.7500	37.52	-0.21	37.31	56.00	-18.69	QP	
12		4.7500	27.08	-0.21	26.87	46.00	-19.13	AVG	

Remark:

1. All readings are Quasi-Peak and Average values.
2. Factor = Antenna Factor + Cable Loss.
3. N/A means All Data have pass Limit

EUT:	Redgear Pro series wireless gamepad	Model Name. :	Redgear Pro series wireless gamepad-Dongle
Temperature:	26 °C	Relative Humidity:	54%
Pressure:	1010hPa	Test Date :	2017-5-14
Test Mode:	Mode 1	Phase :	N
Test Voltage :	DC 5V from PC 120V/60Hz		



Site Chamber #1

Phase: N

Temperature:

No.	Mk.	Freq.	Reading Level	Correct Factor	Measurement	Limit	Over		
		MHz	dBuV	dB	dBuV	dBuV	dB	Detector	Comment
1		0.1700	46.91	-0.13	46.78	64.96	-18.18	QP	
2		0.1700	37.07	-0.13	36.94	54.96	-18.02	AVG	
3		0.1980	44.07	-0.13	43.94	63.69	-19.75	QP	
4		0.1980	36.51	-0.13	36.38	53.69	-17.31	AVG	
5		0.2260	40.75	-0.12	40.63	62.59	-21.96	QP	
6		0.2260	33.22	-0.12	33.10	52.59	-19.49	AVG	
7		0.2540	39.21	-0.11	39.10	61.62	-22.52	QP	
8		0.2540	32.03	-0.11	31.92	51.62	-19.70	AVG	
9		0.3620	39.69	-0.02	39.67	58.68	-19.01	QP	
10	*	0.3620	32.27	-0.02	32.25	48.68	-16.43	AVG	
11		4.6420	39.08	-0.21	38.87	56.00	-17.13	QP	
12		4.6420	28.28	-0.21	28.07	46.00	-17.93	AVG	

Remark:

4. All readings are Quasi-Peak and Average values.

5. Factor = Antenna Factor + Cable Loss.

6. N/A means All Data have pass Limit

## 3.2 RADIATED EMISSION MEASUREMENT

### 3.2.1 LIMITS OF RADIATED EMISSION MEASUREMENT

FREQUENCY (MHz)	Class A (at 10m)	Class B (at 3m)
	dBuV/m	dBuV/m
30 ~ 88	39.0	40.0
88 ~ 216	43.5	43.5
216 ~ 960	46.5	46.0
Above 960	49.5	54.0

Notes:

- (1) The limit for radiated test was performed according to as following:  
FCC PART 15B /ICES-003.
- (2) The tighter limit applies at the band edges.
- (3) Emission level (dBuV/m)=20log Emission level (uV/m).

### 3.2.2 TEST PROCEDURE

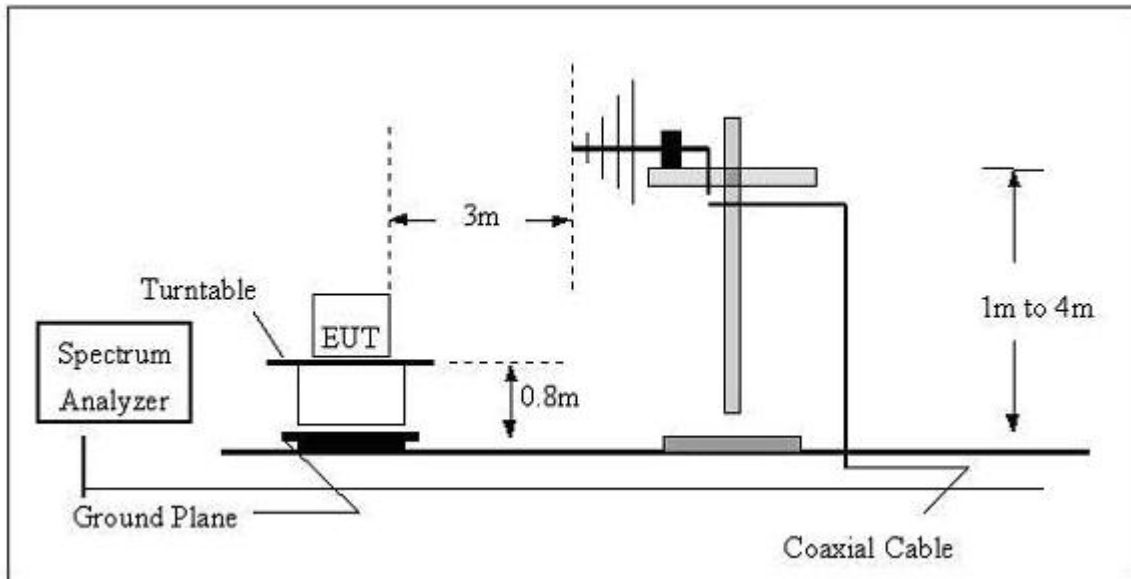
- a. The measuring distance of at 3 m shall be used for measurements at frequency up to 1GHz. For frequencies above 1GHz, any suitable measuring distance may be used.
- b. The EUT was placed on the top of a rotating table 0.8 meters above the ground at a 3m meter open area test site. The table was rotated 360 degrees to determine the position of the highest radiation.
- c. The height of the equipment or of the substitution antenna shall be 0.8 m; the height of the test antenna shall vary between 1 m to 4 m.
- d. The initial step in collecting conducted emission data is a spectrum analyzer peak detector mode pre-scanning the measurement frequency range. Significant peaks are then marked and then Quasi Peak detector mode re-measured.
- e. If the Peak Mode measured value compliance with and lower than Quasi Peak Mode Limit, the EUT shall be deemed to meet QP Limits and then no additional QP Mode measurement performed.
- f. For the actual test configuration, please refer to the related Item –EUT Test

Photos. Note:

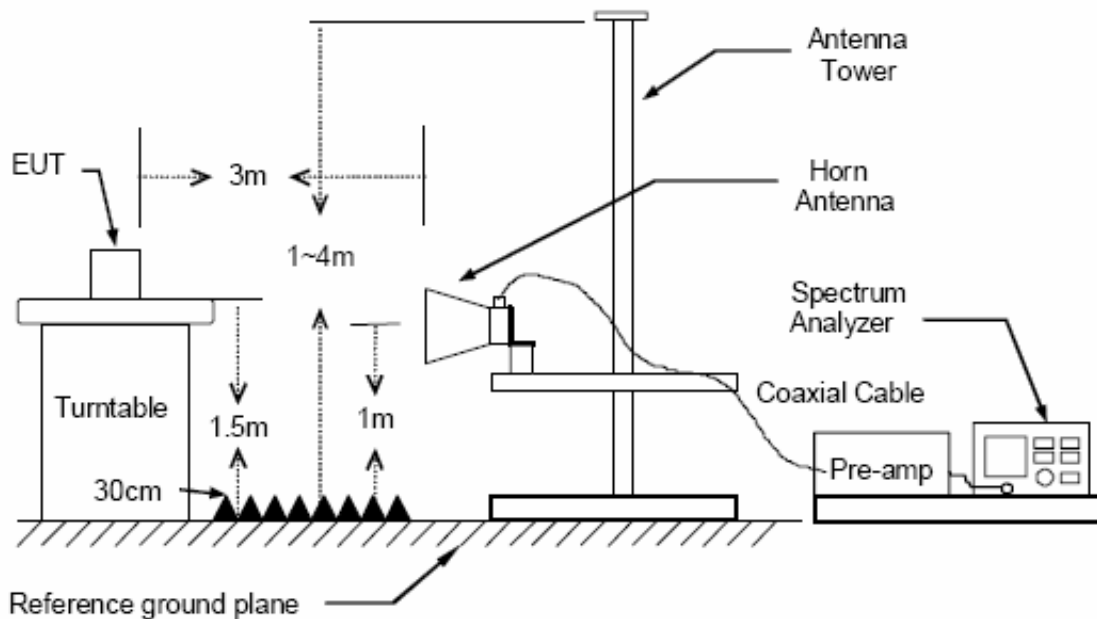
Both horizontal and vertical antenna polarities were tested and performed pretest to three orthogonal axis. The worst case emissions were reported

### 3.2.3 TEST SETUP

#### (A) Radiated Emission Test Set-Up Frequency Below 1 GHz



#### (B) Radiated Emission Test Set-Up Frequency Above 1GHz



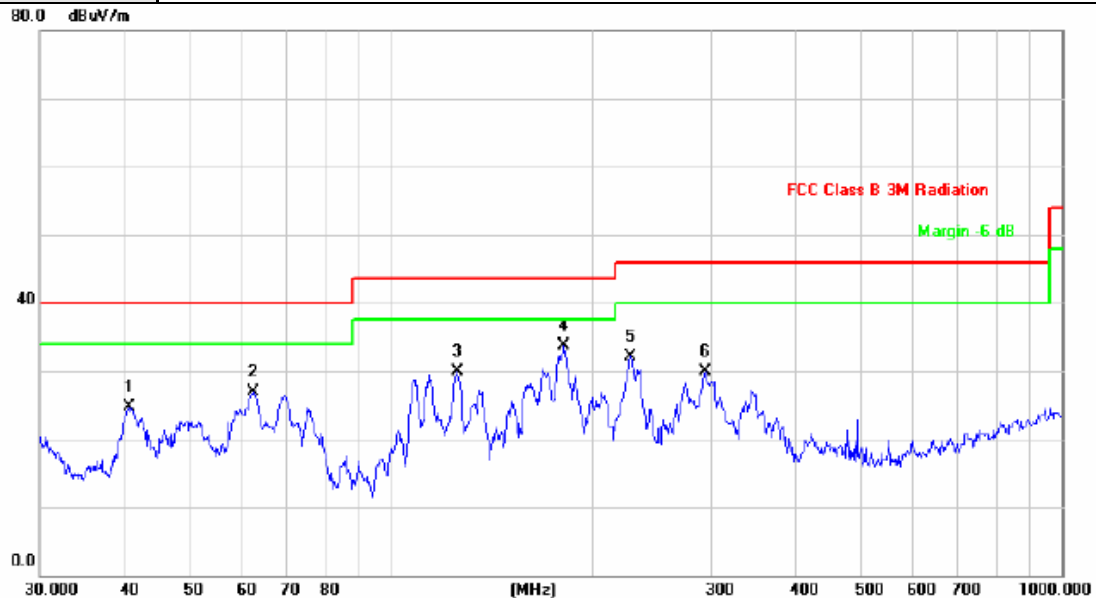
### 3.2.4 EUT OPERATING CONDITIONS

The EUT tested system was configured as the statements of **2.3** Unless otherwise a special operating condition is specified in the follows during the testing.



### 3.2.5 TEST RESULTS

EUT:	Redgear Pro series wireless gamepad	Model Name :	Redgear Pro series wireless gamepad-Dongle
Temperature:	24 °C	Relative Humidity:	54%
Pressure:	1010 hPa	Test Date :	2017-05-14
Test Mode :	Charging and discharging	Polarization :	Horizontal
Test Power :	DC 5V from PC 120V/60Hz		



Site Chamber #1

Polarization: *Horizontal*

Temperature: 25

No.	Mk.	Freq.	Reading Level	Correct Factor	Measurement	Limit	Over	Antenna Height	Table Degree	
		MHz	dBuV	dB/m	dBuV/m	dBuV/m	dB	Detector	cm	degree
1		40.7016	39.14	-14.38	24.76	40.00	-15.24	QP		
2		62.2128	47.06	-20.24	26.82	40.00	-13.18	QP		
3		125.4457	43.86	-13.95	29.91	43.50	-13.59	QP		
4	*	181.2834	49.72	-16.04	33.68	43.50	-9.82	QP		
5		227.6906	47.63	-15.43	32.20	46.00	-13.80	QP		
6		294.1137	42.94	-13.09	29.85	46.00	-16.15	QP		

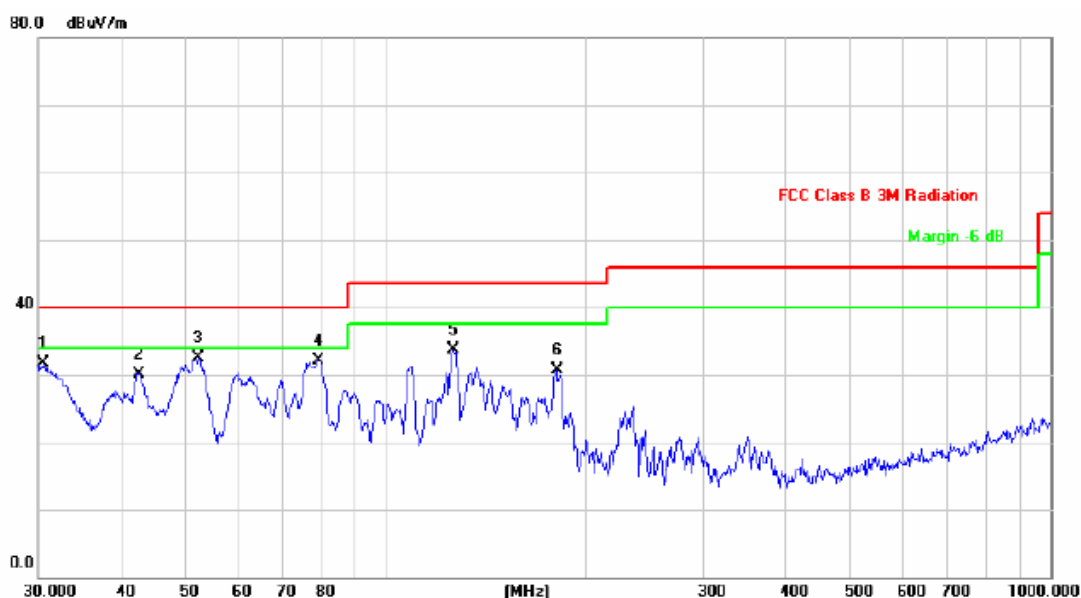
#### Remark:

7. All readings are Quasi-Peak and Average values.

8. Factor = Antenna Factor + Cable Loss.

9. N/A means All Data have pass Limit

EUT:	Redgear Pro series wireless gamepad	Model Name :	Redgear Pro series wireless gamepad-Dongle
Temperature:	24 °C	Relative Humidity:	54%
Pressure:	1010 hPa	Test Date :	2017-05-14
Test Mode :	Charging and discharging	Polarization :	Vertical
Test Power :	DC 5V from PC 120V/60Hz		



Site Chamber #1

Polarization: **Vertical**

Temperature: 25

No.	Mk.	Freq.	Reading Level	Correct Factor	Measurement	Limit	Over	Antenna Height	Table Degree	
		MHz	dBuV	dB/m	dBuV/m	dBuV/m	dB	Detector	cm	degree
1		30.4237	38.84	-7.06	31.78	40.00	-8.22	QP		
2		42.4508	46.64	-16.48	30.16	40.00	-9.84	QP		
3	*	52.2079	52.68	-20.18	32.50	40.00	-7.50	QP		
4		79.2425	52.53	-20.40	32.13	40.00	-7.87	QP		
5		126.3285	47.38	-13.76	33.62	43.50	-9.88	QP		
6		180.6487	46.49	-15.84	30.65	43.50	-12.85	QP		

Remark:

1. All readings are Quasi-Peak and Average values.
2. Factor = Antenna Factor + Cable Loss.
3. N/A means All Data have pass Limit

### 3.2.6 TEST RESULTS(Above 1GHz)

EUT:	Redgear Pro series wireless gamepad	Model Name :	Redgear Pro series wireless gamepad-Dongle
Temperature:	24 °C	Relative Humidity:	54%
Pressure:	1010 hPa	Test Date :	2017-05-14

Freq.	Ant. Pol	Peak	AV	Ant./CL	Actual Fs		Peak	AV	Peak	AV
(MHz)	H/V	Reading	Reading	CF			Limit	Limit	margin	margin
		(dBuV)	(dBuV)	(dB)	Peak	AV	(dBuV/m)	(dBuV/m)	(dBuV/m)	(dBuV/m)

Freq.	Ant. Pol	Peak	AV	Ant./CL	Actual Fs		Peak	AV	Peak	AV
(MHz)	H/V	Reading	Reading	CF			Limit	Limit	margin	margin
		(dBuV)	(dBuV)	(dB)	Peak	AV	(dBuV/m)	(dBuV/m)	(dBuV/m)	(dBuV/m)
					(dBuV/m)	(dBuV/m)				
1097.45	H	57.54	41.28	5.15	62.69	46.43	74.00	54.00	-11.31	-7.57
2866.31	H	52.23	38.29	9.45	61.68	47.74	74.00	54.00	-12.32	-6.26
N/A										
1069.67	V	52.67	37.55	5.15	57.82	42.70	74.00	54.00	-16.18	-11.30
2896.73	V	49.35	32.14	9.45	58.80	41.59	74.00	54.00	-15.20	-12.41
N/A										

#### Notes:

1. Measuring frequencies from 1 GHz to 13GHz.
2. Radiated emissions measured in frequency above 1000MHz were made with an instrument using Peak detector mode of the emission shown in Actual FS column.
3. The frequency that above 3GHz is mainly from the environment noise.

#### 4. EUT TEST PHOTO

##### Radiated Measurement Photos



### Conducted Measurement Photos

