



FCC TEST REPORT

**Test report
On Behalf of
GuangZhou Chicken Run Network Technology Co,Ltd.
For
GameSir Gaming Keyboard
Model No.:GK300**

FCC ID: 2AF9S-GK300

Prepared for : GuangZhou Chicken Run Network Technology Co,Ltd.
301A-1,NO.68-1,Huacui Street,Jianye Road,Tianhe District,GuangZhou

Prepared By : Shenzhen HUAKE Testing Technology Co., Ltd.
1F, B2 Building, Junfeng Zhongcheng Zhizao Innovation Park, Fuhai Street,
Bao'an District, Shenzhen City, China

Date of Test: May. 15, 2019 ~ May. 24, 2019

Date of Report: May. 24, 2019

Report Number: HK1905241144-E



TEST RESULT CERTIFICATION

Applicant's name: GuangZhou Chicken Run Network Technology Co.,Ltd.
Address: 301A-1,NO.68-1,Huacui Street,Jianye Road,Tianhe District,
GuangZhou
Manufacture's Name: GuangZhou Chicken Run Network Technology Co.,Ltd.
Address: 301A-1,NO.68-1,Huacui Street,Jianye Road,Tianhe District,
GuangZhou

Product description

Trade Mark: N/A
Product name.....: GameSir Gaming Keyboard
Model and/or type reference .: GK300
Standards.....: FCC Rules and Regulations Part 15 Subpart C Section 15.249
ANSI C63.10: 2013

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Date of Test:
Date (s) of performance of tests: **May. 15, 2019 ~ May. 24, 2019**
Date of Issue.....: **May. 24, 2019**
Test Result.....: **Pass**

Testing Engineer :

(Gary Qian)

Technical Manager :

(Eden Hu)

Authorized Signatory :

(Jason Zhou)



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1. TEST SUMMARY

1.1 TEST PROCEDURES AND RESULTS

FCC Rule	Description of Test	Result
15.207	. Conducted Emission	Pass
15.205 15.209 15.249	. Radiated Emission	Pass
15.215(c)	. 20dB Bandwidth	Pass
15.205 15.249	Band Edge And Restricted Frequency Bands	Pass

1.2 TEST FACILITY

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

Address 1F, B2 Building, Junfeng Zhongcheng Zhizao Innovation Park, Fuhai Street, Bao'an District, Shenzhen City, China

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



2. GENERAL INFORMATION

2.1 GENERAL DESCRIPTION OF EUT

Equipment	GameSir Gaming Keyboard
Model Name	GK300
Serial No.	N/A
Trade Mark	N/A
Model Difference	N/A
Antenna Type	PCB Antenna
Antenna Gain	0dBi
Operation frequency	2402-2480MHz
Number of Channels	BT BLE:40CH 2.4G: 79CH
Modulation Type	BT: GFSK 2.4G: GFSK
Power Source	DC 5V by Adapter AC 100V/60Hz 2*18650,1800mA 3.7V Battery
Power Rating	DC 5V by Adapter AC 100V/60Hz 2*18650,1800mA 3.7V Battery

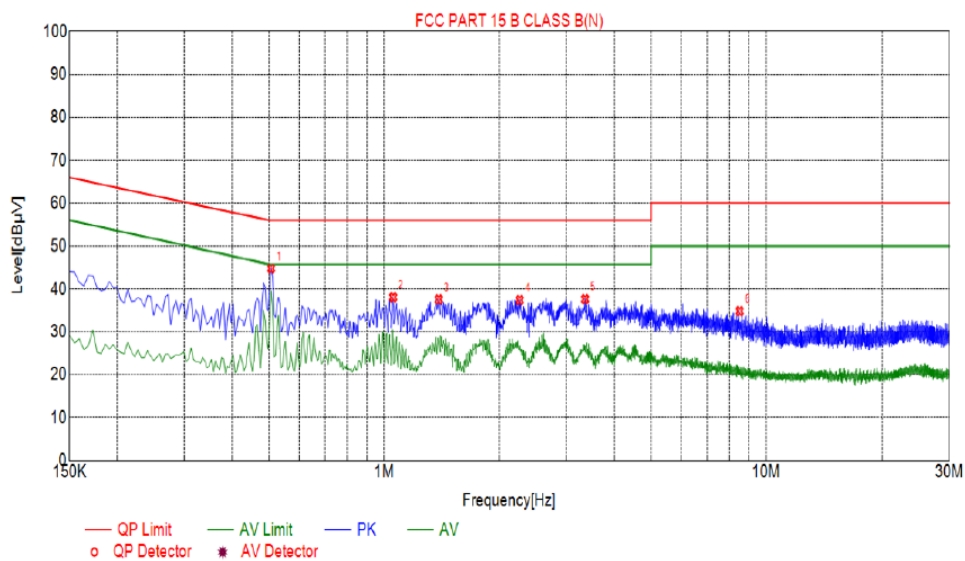


EUT :	GameSir Gaming Keyboard	Model Name :	RF-300
Temperature :	24 °C	Relative Humidity :	54%
Pressure :	1010 hPa	Test Date :	2019-06-23
Test Mode :	2.4G	Polarization :	L
Test Power :	2*18650,1800mA 3.7V Battery		



EUT :	GameSir Gaming Keyboard	Model Name :	RF-300
Temperature :	24 °C	Relative Humidity :	54%
Pressure :	1010 hPa	Test Date :	2019-06-23
Test Mode :	2.4G	Polarization :	N
Test Power :	2*18650,1800mA 3.7V Battery		

Test Graph



Suspected List						
NO.	Freq. [MHz]	Level [dBμV]	Factor [dB]	Limit [dBμV]	Margin [dB]	Detector
1	0.5055	44.89	10.04	56.00	11.11	PK
2	1.0545	38.12	10.07	56.00	17.88	PK
3	1.3875	37.62	10.11	56.00	18.38	PK
4	2.2650	37.46	10.18	56.00	18.54	PK
5	3.3585	37.69	10.24	56.00	18.31	PK
6	8.5245	34.91	10.13	60.00	25.09	PK

4 RADIATED EMISSION TEST

4.1 Radiation Limit

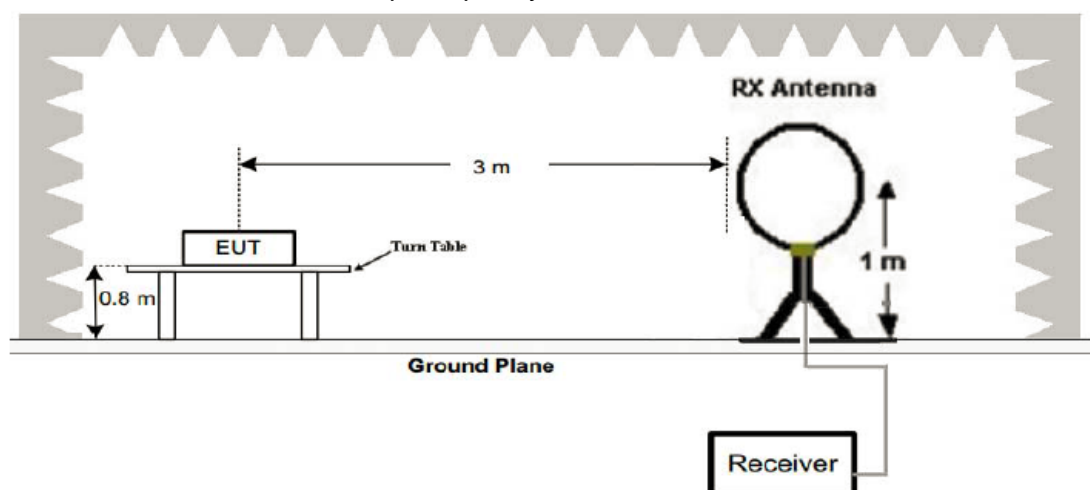
For unintentional device, according to § 15.109(a), except for Class A digital devices, the field strength of radiated emissions from unintentional radiators at a distance of 3 meters shall not exceed the following values:

Frequency (MHz)	Distance (Meters)	Radiated (dB μ V/m)	Radiated (μ V/m)
30-88	3	40	100
88-216	3	43.5	150
216-960	3	46	200
Above 960	3	54	500

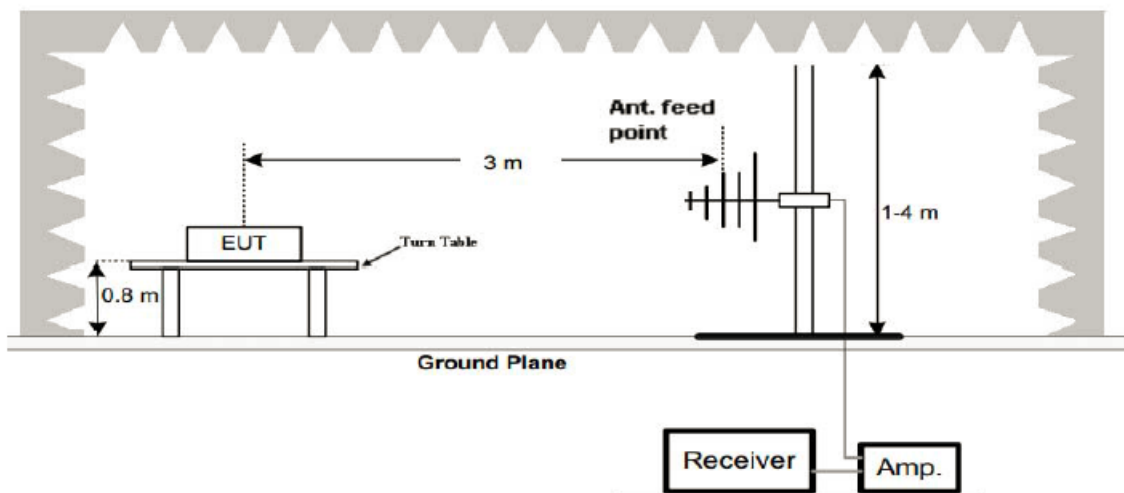
For intentional device, according to § 15.209(a), the general requirement of field strength of radiated emissions from intentional radiators at a distance of 3 meters shall not exceed the above table.

4.2 Test Setup

(1) Radiated Emission Test-Up Frequency Below 30MHz

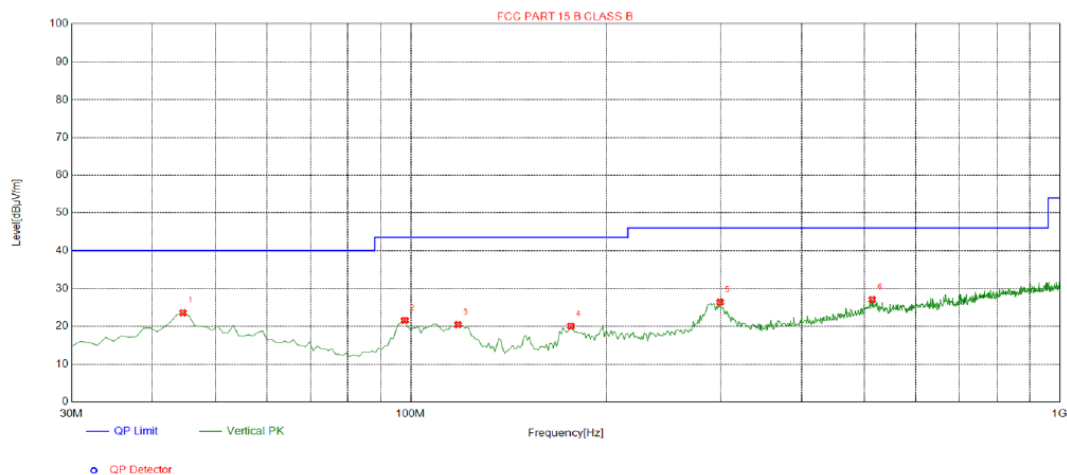


(2) Radiated Emission Test-Up Frequency 30MHz~1GHz





EUT :	GameSir Gaming Keyboard	Model Name :	RF-300
Temperature :	24 °C	Relative Humidity :	54%
Pressure :	1010 hPa	Test Date :	2019-06-23
Test Mode :	BT	Polarization :	Horizontal
Test Power :	2*18650,1800mA 3.7V Battery		

Test Graph**Suspected List**

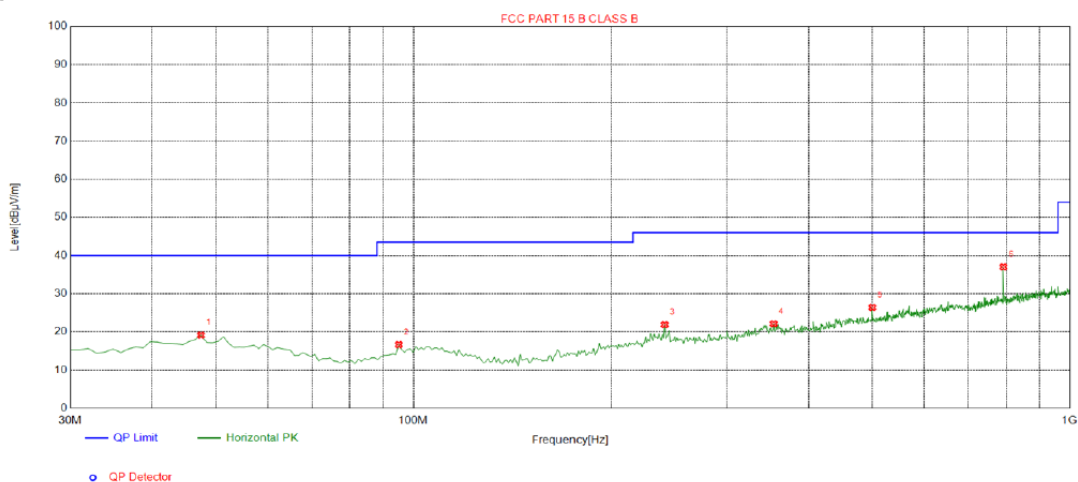
Suspected List								
NO.	Freq. [MHz]	Level [dBμV/m]	Factor [dB]	Limit [dBμV/m]	Margin [dB]	Height [cm]	Angle [°]	Polarity
1	44.5500	23.59	-13.73	40.00	16.41	100	94	Vertical
2	97.9000	21.59	-15.75	43.50	21.91	100	233	Vertical
3	118.270	20.45	-16.81	43.50	23.05	100	272	Vertical
4	176.470	20.06	-17.01	43.50	23.44	100	205	Vertical
5	299.660	26.40	-12.74	46.00	19.60	100	345	Vertical
6	514.030	27.09	-7.90	46.00	18.91	100	348	Vertical

Final Data List

Remark: Transd = Cable lose + Antenna factor - Pre-amplifier; Margin = Limit – Level



EUT :	GameSir Gaming Keyboard	Model Name :	RF-300
Temperature :	24 °C	Relative Humidity :	54%
Pressure :	1010 hPa	Test Date :	2019-06-23
Test Mode :	BT	Polarization :	Vertical
Test Power :	2*18650,1800mA 3.7V Battery		

Test Graph**Suspected List**

Suspected List								
NO.	Freq. [MHz]	Level [dBμV/m]	Factor [dB]	Limit [dBμV/m]	Margin [dB]	Height [cm]	Angle [°]	Polarity
1	47.4600	19.13	-13.65	40.00	20.87	100	81	Horizontal
2	94.9900	16.65	-16.24	43.50	26.85	100	331	Horizontal
3	241.460	21.89	-13.79	46.00	24.11	100	12	Horizontal
4	353.980	22.13	-11.55	46.00	23.87	100	359	Horizontal
5	500.450	26.40	-8.29	46.00	19.60	100	15	Horizontal
6	792.420	37.02	-3.23	46.00	8.98	100	100	Horizontal

Final Data List

Remark: Transd = Cable lose + Antenna factor - Pre-amplifier; Margin = Limit – Level

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.



CH High (2480MHz)

Horizontal:

Frequency	Meter Reading	Factor	Emission Level	Limits	Margin	Detector Type
(MHz)	(dBμV)	(dB)	(dBμV/m)	(dBμV/m)	(dB)	
2480	107.32	-5.65	101.67	114	-12.33	peak
2480	82.41	-5.65	76.76	94	-17.24	AVG
4960	57.25	-3.43	53.82	74	-20.18	peak
4960	43.16	-3.43	39.73	54	-14.27	AVG
7440	56.51	-0.75	55.76	74	-18.24	peak
7440	39.86	-0.75	39.11	54	-14.89	AVG

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

Vertical:

Frequency	Meter Reading	Factor	Emission Level	Limits	Margin	Detector Type
(MHz)	(dBμV)	(dB)	(dBμV/m)	(dBμV/m)	(dB)	
2480	107.64	-5.65	101.99	114	-12.01	peak
2480	82.16	-5.65	76.51	94	-17.49	AVG
4960	57.49	-3.43	54.06	74	-19.94	peak
4960	44.57	-3.43	41.14	54	-12.86	AVG
7440	54.89	-0.75	54.14	74	-19.86	peak
7440	40.52	-0.75	39.77	54	-14.23	AVG

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

CH Middle (2440MHz)

Horizontal:

Frequency	Meter Reading	Factor	Emission Level	Limits	Margin	Detector Type
(MHz)	(dBμV)	(dB)	(dBμV/m)	(dBμV/m)	(dB)	
2440	106.85	-5.71	101.14	114	-12.86	peak
2440	81.34	-5.71	75.63	94	-18.37	AVG
4880	55.27	-3.51	51.76	74	-22.24	peak
4880	39.61	-3.51	36.1	54	-17.9	AVG
7320	55.95	-0.82	55.13	74	-18.87	peak
7320	39.84	-0.82	39.02	54	-14.98	AVG

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

Vertical:

Frequency	Meter Reading	Factor	Emission Level	Limits	Margin	Detector Type
(MHz)	(dBμV)	(dB)	(dBμV/m)	(dBμV/m)	(dB)	
2440	106.52	-5.71	100.81	114	-13.19	peak
2440	82.37	-5.71	76.66	94	-17.34	AVG
4880	54.82	-3.51	51.31	74	-22.69	peak
4880	43.83	-3.51	40.32	54	-13.68	AVG
7320	55.29	-0.82	54.47	74	-19.53	peak
7320	39.81	-0.82	38.99	54	-15.01	AVG

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



CH High (2480MHz)

Horizontal:

Frequency	Meter Reading	Factor	Emission Level	Limits	Margin	Detector Type
(MHz)	(dB μ V)	(dB)	(dB μ V/m)	(dB μ V/m)	(dB)	
2480	106.95	-5.65	101.3	114	-12.7	peak
2480	82.74	-5.65	77.09	94	-16.91	AVG
4960	55.34	-3.43	51.91	74	-22.09	peak
4960	44.95	-3.43	41.52	54	-12.48	AVG
7440	55.28	-0.75	54.53	74	-19.47	peak
7440	40.16	-0.75	39.41	54	-14.59	AVG

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

Vertical:

Frequency	Meter Reading	Factor	Emission Level	Limits	Margin	Detector Type
(MHz)	(dB μ V)	(dB)	(dB μ V/m)	(dB μ V/m)	(dB)	
2480	105.47	-5.65	99.82	114	-14.18	peak
2480	81.69	-5.65	76.04	94	-17.96	AVG
4960	56.28	-3.43	52.85	74	-21.15	peak
4960	41.08	-3.43	37.65	54	-16.35	AVG
7440	53.61	-0.75	52.86	74	-21.14	peak
7440	39.86	-0.75	39.11	54	-14.89	AVG

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

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 shown “--- ” in the table above means the reading of emissions are attenuated more than 20dB below the permissible limits or the field strength is too small to be measured.
- (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 1MHz and video bandwidth is 3MHz for peak measurement with peak detector at frequency above 1GHz. The resolution bandwidth of test receiver/spectrum analyzer is 1MHz and 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 emissions are reported.

Operation Mode: TX CH High (2480MHz)

Horizontal (Worst case)

Horizontal (Worst case)

Frequency	Meter Reading	Factor	Emission Level	Limits	Margin	Detector Type
(MHz)	(dBμV)	(dB)	(dBμV/m)	(dBμV/m)	(dB)	
2483.50	55.84	-5.81	50.03	74	-23.97	peak
2483.50	44.29	-5.81	38.48	54	-15.52	AVG
2500.00	52.17	-6.06	46.11	74	-27.89	peak
2500.00	43.56	-6.06	37.5	54	-16.5	peak
Remark: Factor = Antenna Factor + Cable Loss – Pre-amplifier.						

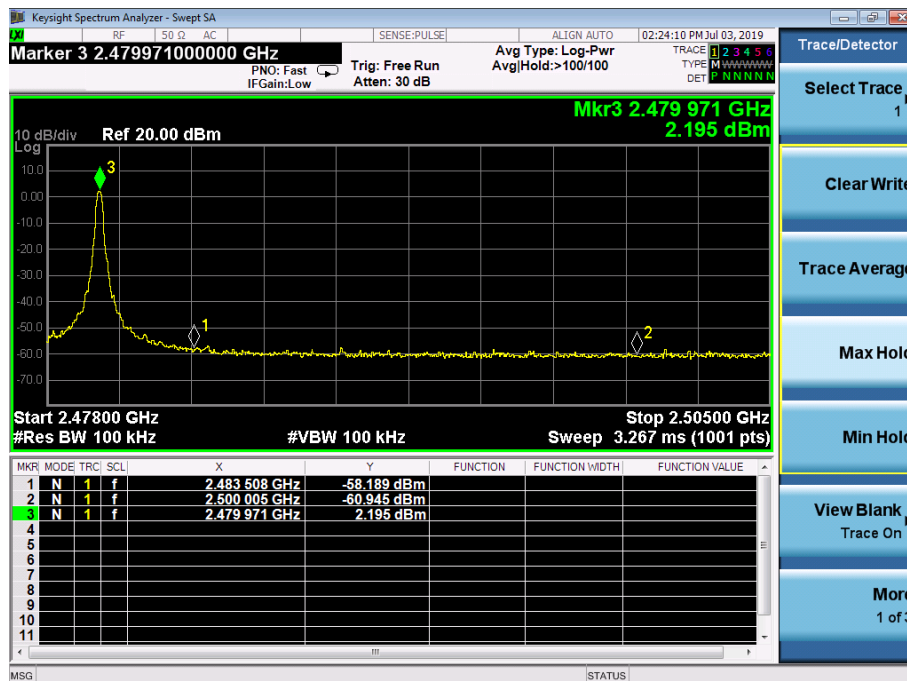
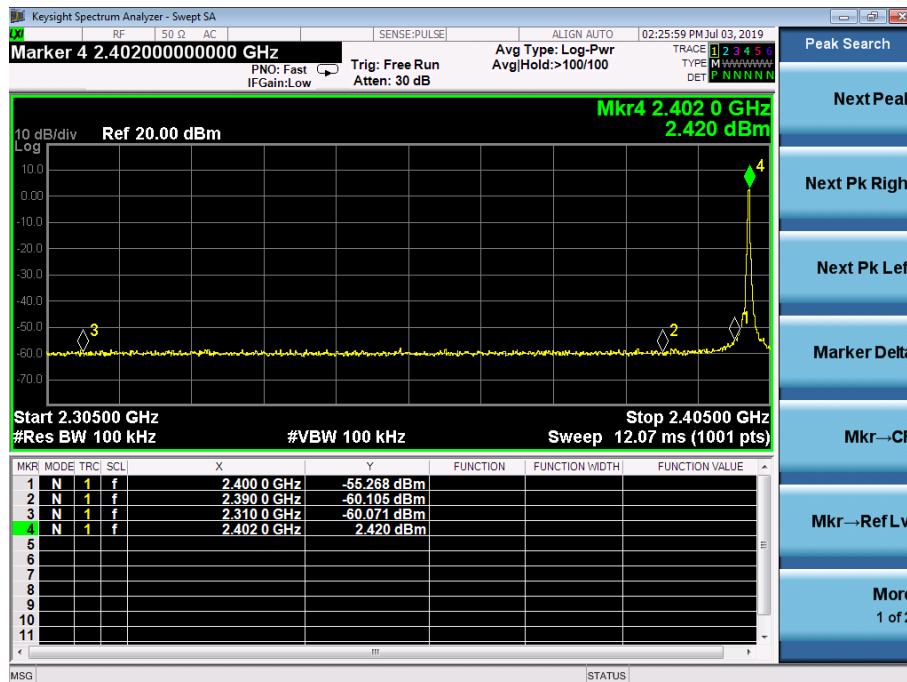
Vertical:

Frequency	Meter Reading	Factor	Emission Level	Limits	Margin	Detector Type
(MHz)	(dBμV)	(dB)	(dBμV/m)	(dBμV/m)	(dB)	
2483.50	56.49	-5.81	50.68	74	-23.32	peak
2483.50	45.71	-5.81	39.9	54	-14.1	AVG
2500.00	57.24	-6.06	51.18	74	-22.82	peak
2500.00	43.38	-6.06	37.32	54	-16.68	peak

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



BT4.2





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= 30KHz. VBW= 100 KHz, Span=4MHz.
4. The useful radiated emission from the EUT was detected by the spectrum analyser with peak detector.

6.3 Measurement Equipment Used

Same as Radiated Emission Measurement

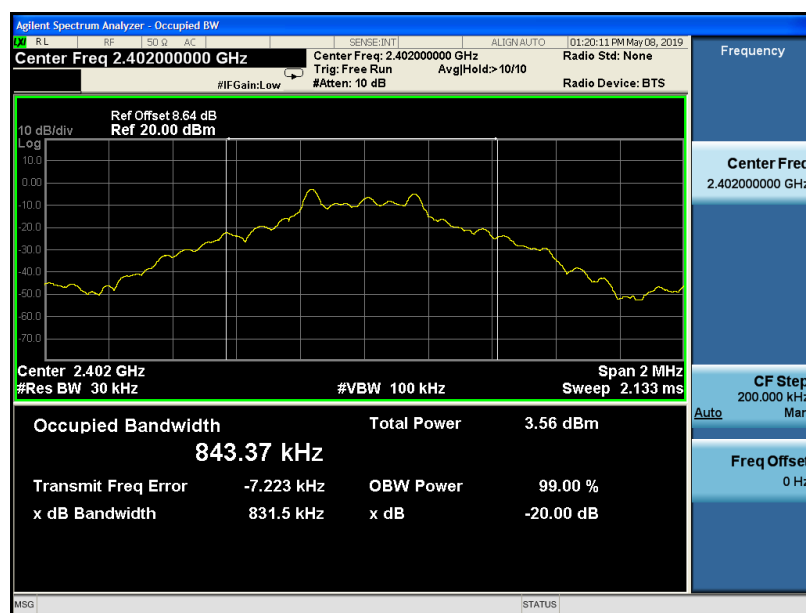
6.4 Test Result

PASS

2.4G

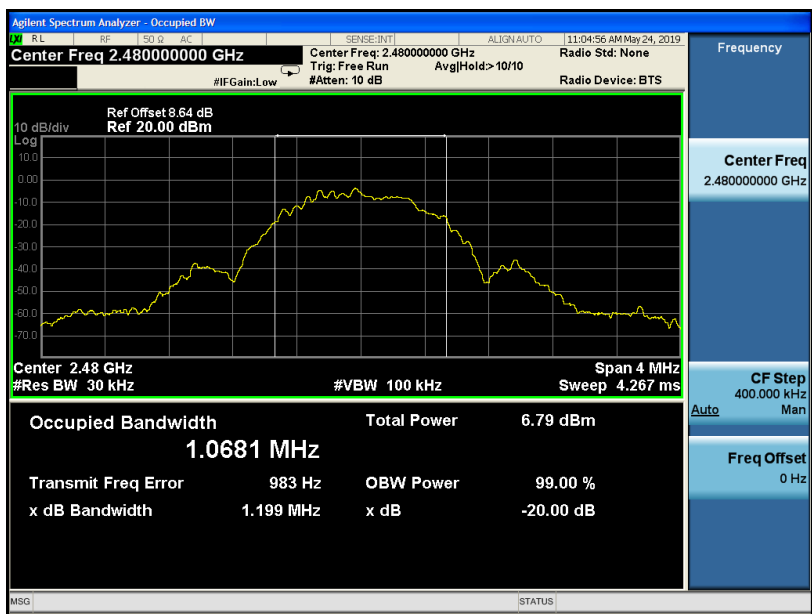
Frequency	20dB Bandwidth (MHz)	Result
2402 MHz	0.843	PASS
2440 MHz	0.843	PASS
2480 MHz	0.843	PASS

CH: 2402MHz





CH: 2480MHz



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. And according to FCC 47 CFR Section 15.249, if transmitting antennas of directional gain greater than 6dBi are used, the power shall be reduced by the amount in dB that the directional gain of the antenna exceeds 6dBi.

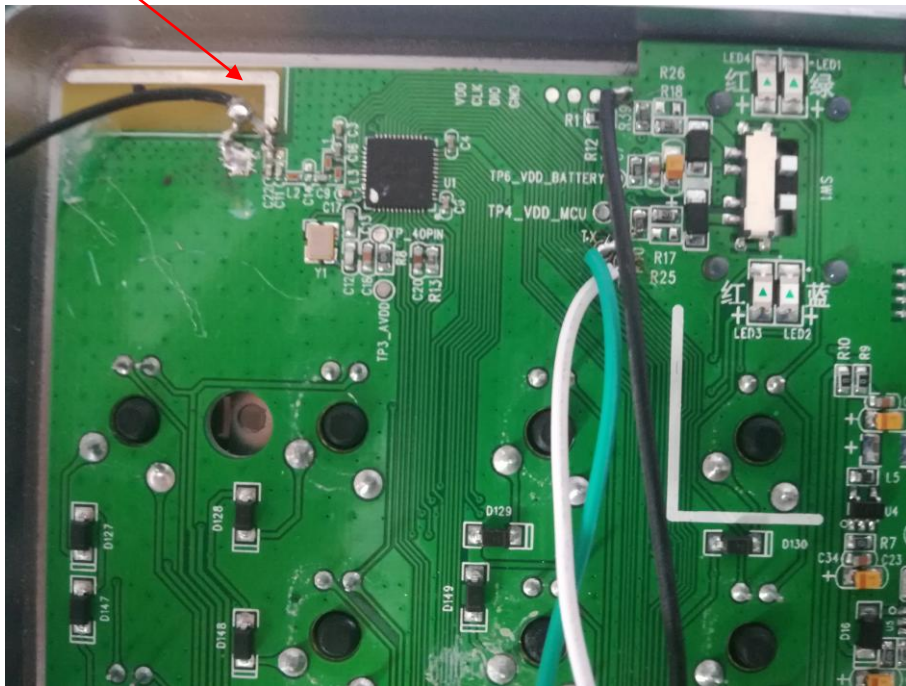
Refer to statement below for compliance.

The manufacturer may design the unit so that the user can replace a broken antenna, but the use of a standard antenna jack or electrical connector is prohibited. Further, this requirement does not apply to intentional radiators that must be professionally installed.

Antenna Connected Construction

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

ANTENNA





CE





Photo 5



Photo 6

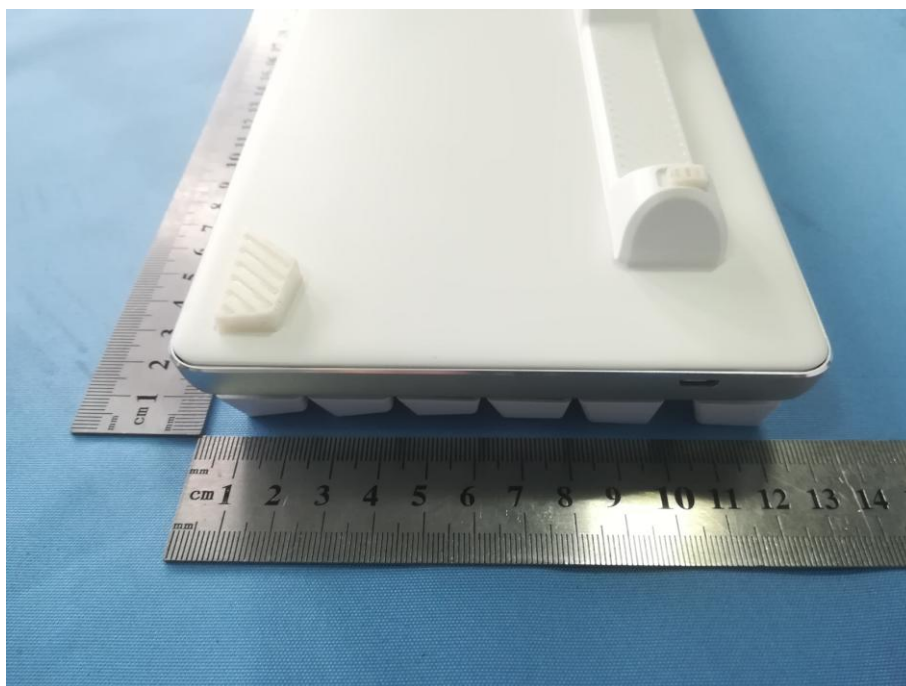




Photo 7



Photo 8

