



# FCC TEST REPORT

**Test report  
On Behalf of  
SWIFF TECHNOLOGY CO.,LTD.  
For  
WIRELESS TRANSMITTER & RECEIVER SYSTEM  
Model No.: WX501, For Series Models, see page 6**

**FCC ID: 2ARWY-WX501**

**Prepared for : SWIFF TECHNOLOGY CO.,LTD.**

**5/F, Building B, Hengchangrong Industrial Park, No.52 Huaning Road. Longhua, Shenzhen, 518109, China**

**Prepared By : Shenzhen HUAK Testing Technology Co., Ltd.**

**1-2/F., Building B2, Junfeng Zhongcheng Zhizao Innovation Park, Heping, Fuhai Street, Bao'an District, Shenzhen, Guangdong, China**

**Date of Test: Oct. 26, 2021 ~ Nov. 02, 2021**

**Date of Report: Nov. 02, 2021**

**Report Number: HK2110224000-E**

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## TEST RESULT CERTIFICATION

**Applicant's name** ..... : SWIFF TECHNOLOGY CO.,LTD.

Address ..... : 5/F, Building B, Hengchangrong Industrial Park, No.52 Huaning Road. Longhua, Shenzhen, 518109, China

**Manufacture's Name** ..... : SWIFF TECHNOLOGY CO.,LTD.

Address ..... : 5/F, Building B, Hengchangrong Industrial Park, No.52 Huaning Road. Longhua, Shenzhen, 518109, China

### Product description

Trade Mark: SWIFF AUDIO

Product name ..... : WIRELESS TRANSMITTER & RECEIVER SYSTEM

Model and/or type reference : WX501, For Series Models, see page 6

FCC Rules and Regulations Part 15 Subpart C Section 15.249

**Standards** ..... : ANSI C63.10: 2013

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

Date (s) of performance of tests ..... : Oct. 26, 2021 ~ Nov. 02, 2021

Date of Issue ..... : Nov. 02, 2021

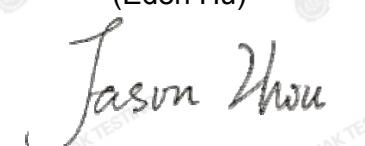
Test Result ..... : **Pass**

Testing Engineer : 

(Gary Qian)

Technical Manager : 

(Eden Hu)

Authorized Signatory : 

(Jason Zhou)



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**\*\* Modified History \*\***

Revision	Description	Issued Data	Remark
Revision 1.0	Initial Test Report Release	Nov. 02, 2021	Jason Zhou

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## 1. TEST SUMMARY

### 1.1 TEST PROCEDURES AND RESULTS

DESCRIPTION OF TEST		RESULT
CONDUCTED EMISSIONS TEST	§ 15.207	COMPLIANT
RADIATED EMISSION TEST	§ 15.249 (a) / §15.209	COMPLIANT
BAND EDGE	§ 15.249 (d)/ §15.209	COMPLIANT
OCCUPIED BANDWIDTH MEASUREMENT	§ 15.215 (c)	COMPLIANT
ANTENNA REQUIREMENT	§ 15.203	COMPLIANT

### 1.2 INFORMATION OF THE TEST LABORATORY

Shenzhen HUAK Testing Technology Co., Ltd.

Add.: 1-2/F., Building B2, Junfeng Zhongcheng Zhizao Innovation Park, Heping, Fuhai Street, Bao'an District, Shenzhen, Guangdong, China

Testing Laboratory Authorization :

A2LA Accreditation Code is 4781.01.

FCC Designation Number is CN1229.

Canada IC CAB identifier is CN0045.

CNAS Registration Number is L9589.

### 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	WIRELESS TRANSMITTER & RECEIVER SYSTEM
Model Name	WX501
Series Models	WX502, WX503, WX505, WX506, WX507, WX508, WX509, WX510, WX511, WX512, WX513, WX515, WX516, WX517, WX518, WX519, WX520, WX521, WX522, WX523, WX525, WX526, WX527, WX528, WX529, WX530
Model Difference	All model's the function, software and electric circuit are the same, only with a product color, appearance and model named different. Test sample model: WX501
FCC ID	2ARWY-WX501
Antenna Type	PCB Antenna
Antenna Gain	1.46dBi
Equipment	WIRELESS TRANSMITTER & RECEIVER SYSTEM
Operation frequency	5729MHz~5840MHz
Number of Channels	57CH
Modulation Type	GFSK
Power Source	DC 5V from Mirco USB or DC 3.7V from Battery
Power Rating	DC 5V from Mirco USB or DC 3.7V from Battery

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## 2.2 Carrier Frequency of Channels

Channel List							
Channel	Frequency (MHz)	Channel	Frequency (MHz)	Channel	Frequency (MHz)	Channel	Frequency (MHz)
01	5729	16	5759	31	5789	46	5819
02	5731	17	5761	32	5791	47	5821
03	5733	18	5763	33	5793	48	5823
04	5735	19	5765	34	5795	49	5825
05	5737	20	5767	35	5797	50	5827
06	5739	21	5769	36	5799	51	5829
07	5741	22	5771	37	5801	52	5831
08	5743	23	5773	38	5803	53	5833
09	5745	24	5775	39	5805	54	5835
10	5747	25	5777	40	5807	55	5837
11	5749	26	5779	41	5809	56	5839
12	5751	27	5781	42	5811	57	5840
13	5753	28	5783	43	5813		
14	5755	29	5785	44	5815		
15	5757	30	5787	45	5817		

## 2.3 Operation of EUT during testing

## Operating Mode

The mode is used: **Transmitting mode**

Low Channel: 5729MHz

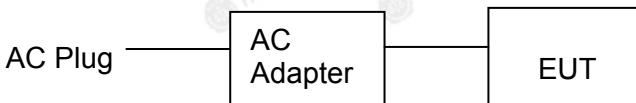
Middle Channel: 5781MHz

High Channel: 5840MHz



## 2.4 DESCRIPTION OF TEST SETUP

Operation of EUT during conducted testing and Under 1GHz Radiation testing:



Operation of EUT Above 1GHz Radiation testing:



### ● Adapter information

Model: HW-050500DFQ

Input: 100-240V~, 50/60Hz, 0.5A

Output: 5VDC, 0.5A

The sample was placed (0.8m below 1GHz, 1.5m above 1GHz) above the ground plane of 3m chamber. Measurements in both horizontal and vertical polarities were performed.

During the test, each emission was maximized by: having the EUT continuously working, investigated all operating modes, rotated about all 3 axis (X, Y & Z) and considered typical configuration to obtain worst position, manipulating interconnecting cables, rotating the turntable, varying antenna height from 1m to 4m in both horizontal and vertical polarizations. The emissions worst-case are shown in Test Results of the following pages. The worst case is X position



## 2.5 MEASUREMENT INSTRUMENTS LIST

Item	Equipment	Manufacturer	Model No.	Serial No.	Last Cal.	Cal. Interval
1.	L.I.S.N. Artificial Mains Network	R&S	ENV216	HKE-002	Dec. 10, 2020	1 Year
2.	Receiver	R&S	ESR-7	HKE-010	Dec. 10, 2020	1 Year
3.	RF automatic control unit	Tonscend	JS0806-2	HKE-060	Dec. 10, 2020	1 Year
4.	Spectrum analyzer	R&S	FSP40	HKE-025	Dec. 10, 2020	1 Year
5.	Spectrum analyzer	Agilent	N9020A	HKE-048	Dec. 10, 2020	1 Year
6.	Preamplifier	Schwarzbeck	BBV 9743	HKE-006	Dec. 10, 2020	1 Year
7.	EMI Test Receiver	Rohde & Schwarz	ESCI 7	HKE-010	Dec. 10, 2020	1 Year
8.	Bilog Broadband Antenna	Schwarzbeck	VULB9163	HKE-012	Dec. 10, 2020	1 Year
9.	Loop Antenna	Schwarzbeck	FMZB 1519 B	HKE-014	Dec. 10, 2020	1 Year
10.	Horn Antenna	Schwarzbeck	9120D	HKE-013	Dec. 10, 2020	1 Year
11.	Pre-amplifier	EMCI	EMC051845S E	HKE-015	Dec. 10, 2020	1 Year
12.	Pre-amplifier	Agilent	83051A	HKE-016	Dec. 10, 2020	1 Year
13.	EMI Test Software EZ-EMC	Tonscend	JY3120-B Version	HKE-083	Dec. 10, 2020	N/A
14.	Power Sensor	Agilent	E9300A	HKE-086	Dec. 10, 2020	1 Year
15.	Spectrum analyzer	Agilent	N9020A	HKE-048	Dec. 10, 2020	1 Year
16.	Signal generator	Agilent	N5182A	HKE-029	Dec. 10, 2020	1 Year
17.	Signal Generator	Agilent	83630A	HKE-028	Dec. 10, 2020	1 Year
18.	Shielded room	Shiel Hong	4*3*3	HKE-039	Dec. 17, 2020	3 Year
19.	High gain antenna	Schwarzbeck	LB-180400KF	HKE-054	Dec. 10, 2020	1 Year

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### 3. CONDUCTED EMISSIONS TEST

#### 3.1 Conducted Power Line Emission Limit

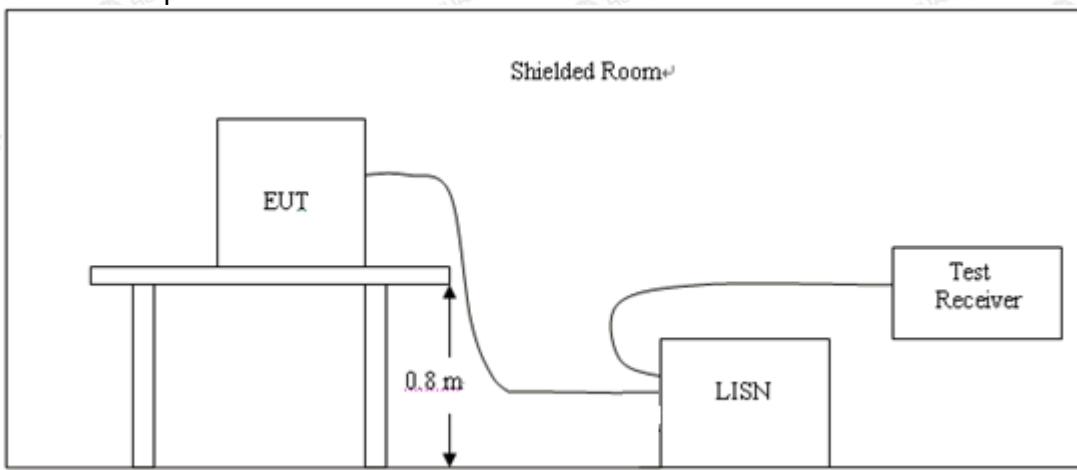
For unintentional device, according to § 15.107(a) Line Conducted Emission Limits is as following

Frequency (MHz)	Maximum RF Line Voltage (dB $\mu$ 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



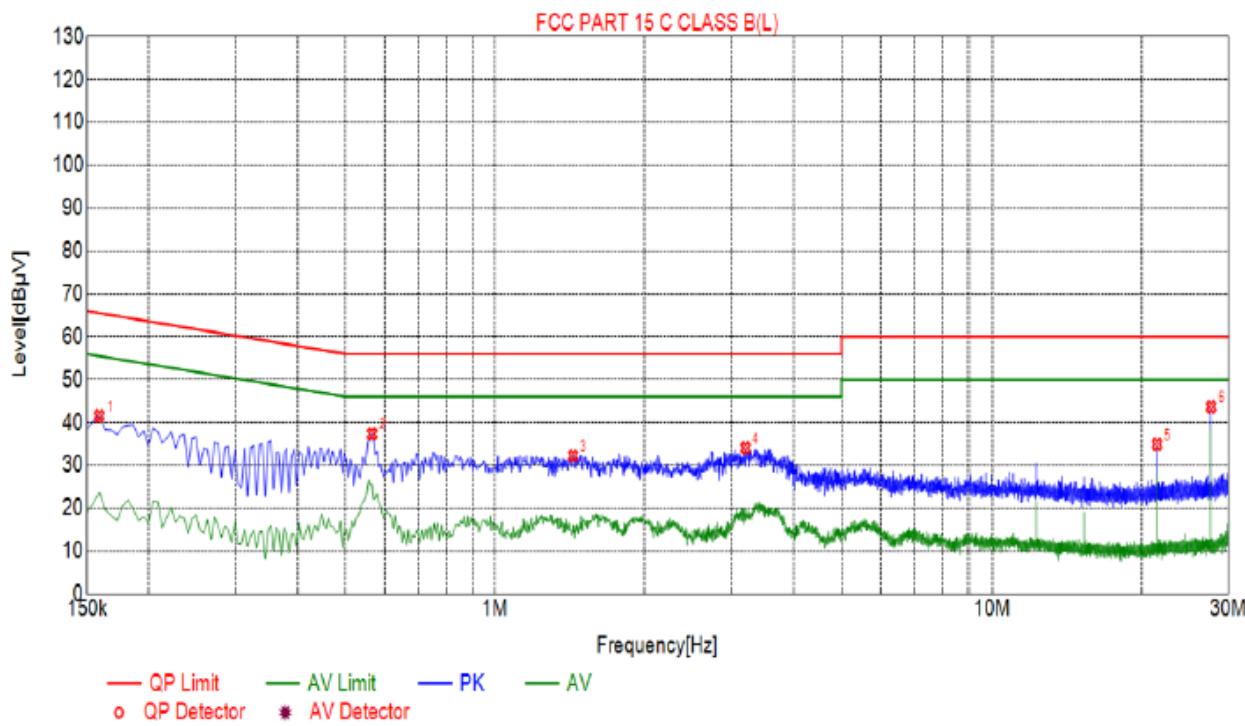
#### 3.3 Test Procedure

- 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

Test Specification: Line



### Suspected List

NO.	Freq. [MHz]	Level [dB $\mu$ V]	Factor [dB]	Limit [dB $\mu$ V]	Margin [dB]	Reading [dB $\mu$ V]	Detector	Type
1	0.1590	41.56	20.01	65.52	23.96	21.55	PK	L
2	0.5640	37.36	20.06	56.00	18.64	17.30	PK	L
3	1.4370	32.27	20.10	56.00	23.73	12.17	PK	L
4	3.2010	34.08	20.23	56.00	21.92	13.85	PK	L
5	21.5025	34.95	20.14	60.00	25.05	14.81	PK	L
6	27.6450	43.66	20.26	60.00	16.34	23.40	PK	L

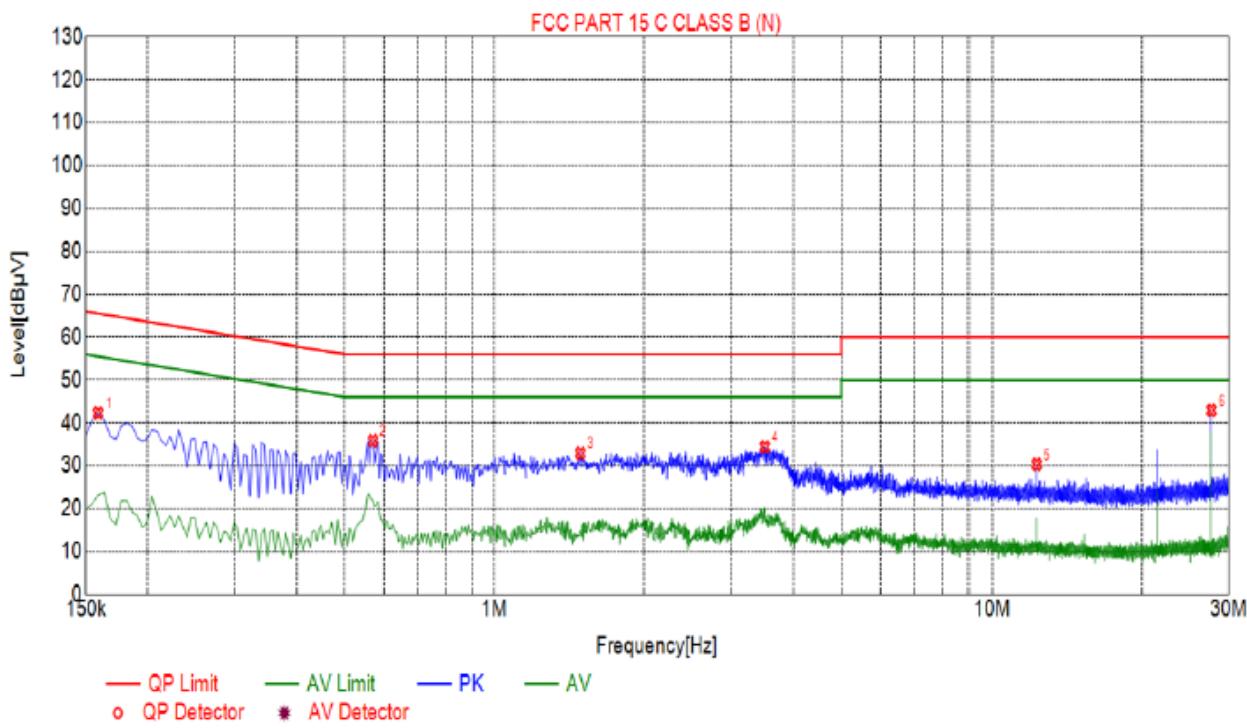
Remark: Margin = Limit – Level

Correction factor = Cable loss + LISN insertion loss

Level=Test receiver reading + correction factor



Test Specification: Neutral



Suspected List								
NO.	Freq. [MHz]	Level [dB $\mu$ V]	Factor [dB]	Limit [dB $\mu$ V]	Margin [dB]	Reading [dB $\mu$ V]	Detector	Type
1	0.1590	42.32	20.01	65.52	23.20	22.31	PK	N
2	0.5685	35.86	20.05	56.00	20.14	15.81	PK	N
3	1.4910	32.96	20.10	56.00	23.04	12.86	PK	N
4	3.5115	34.40	20.25	56.00	21.60	14.15	PK	N
5	12.2865	30.34	19.98	60.00	29.66	10.36	PK	N
6	27.6495	42.93	20.26	60.00	17.07	22.67	PK	N

Remark: Margin = Limit – Level

Correction factor = Cable loss + LISN insertion loss

Level=Test receiver reading + correction factor



## 4 RADIATED EMISSION TEST

### 4.1 Radiation Limit

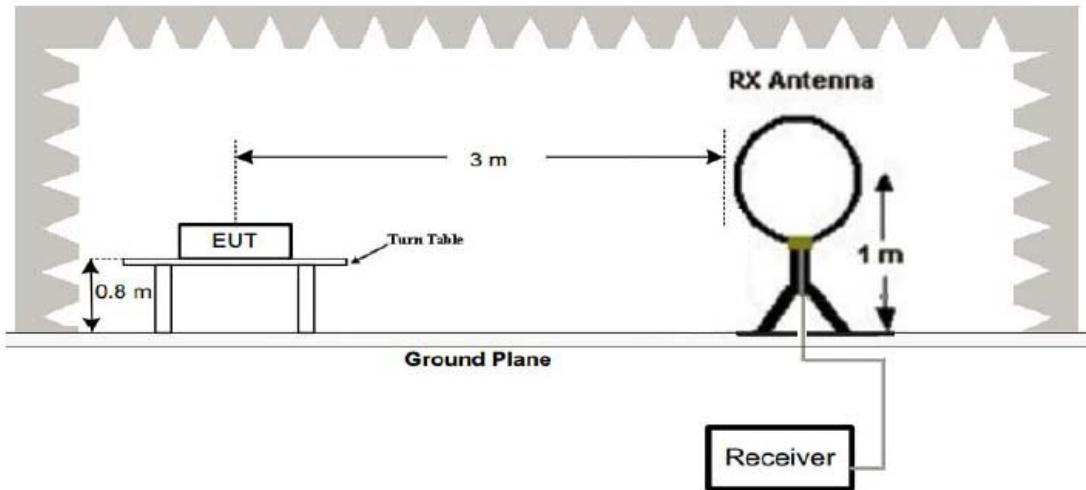
For unintentional device, according to § 15.109(a), except for Class A digital devices, the field strength of radiated emissions from unintentional radiators at a distance of 3 meters shall not exceed the following values:

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

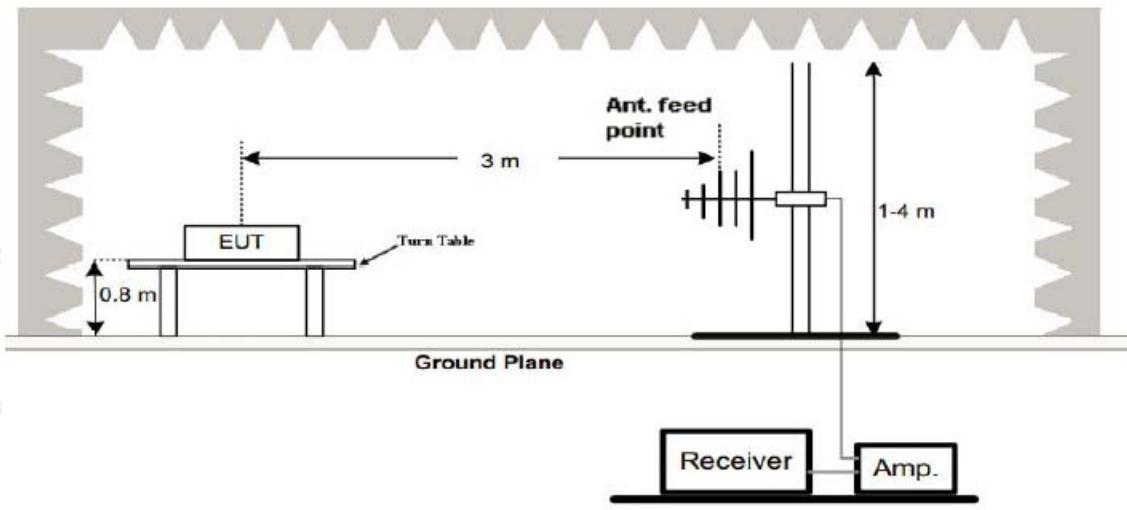
For intentional device, according to § 15.209(a), the general requirement of field strength of radiated emissions from intentional radiators at a distance of 3 meters shall not exceed the above table.

### 4.2 Test Setup

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

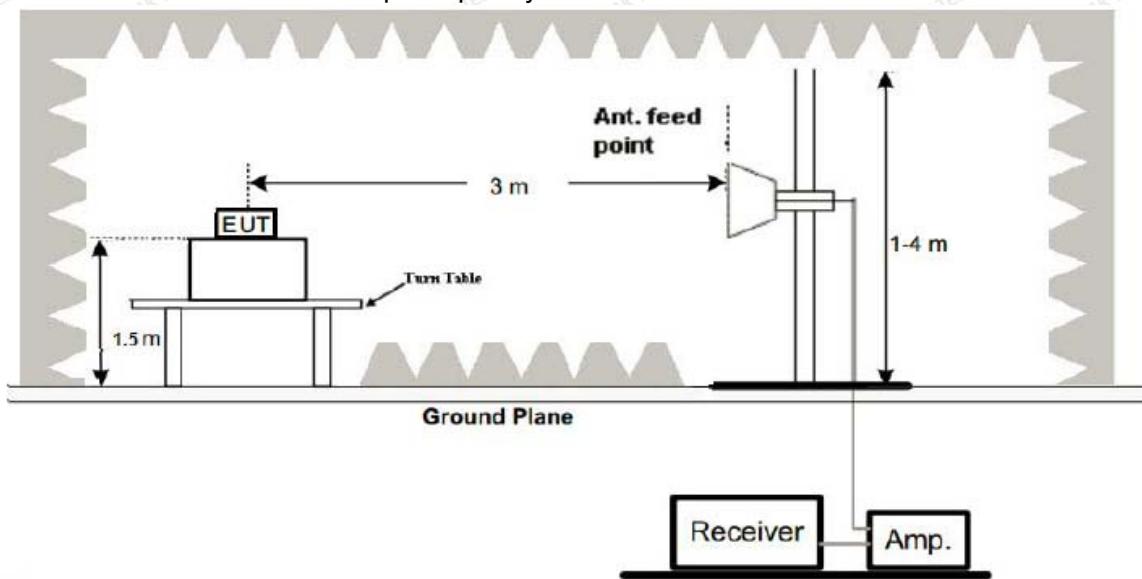


#### (2) Radiated Emission Test-Up Frequency 30MHz~1GHz





## (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.

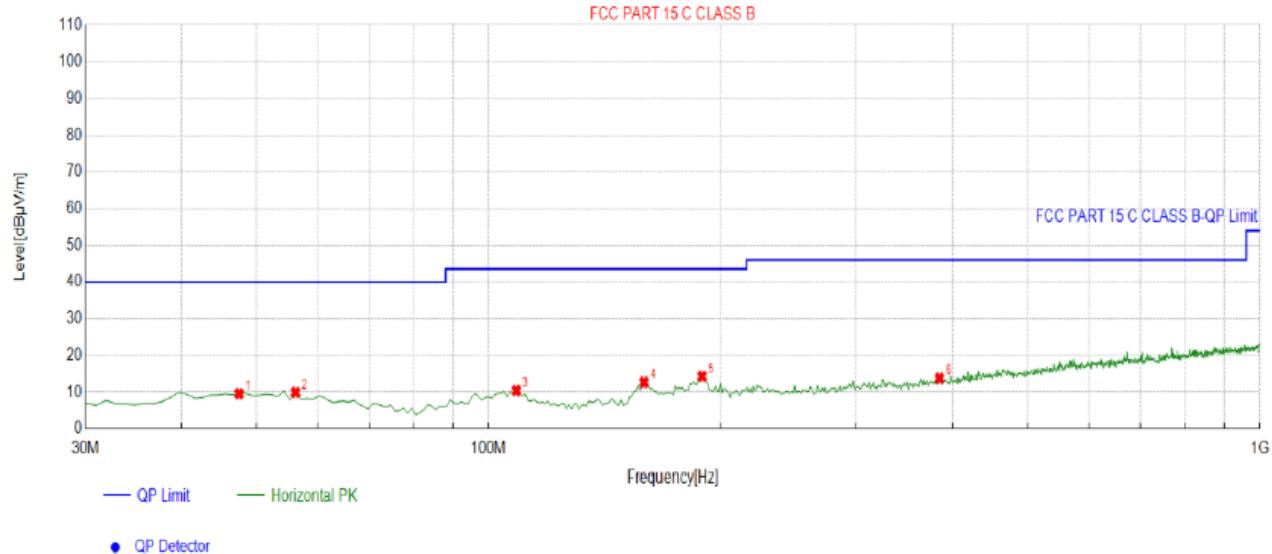
## 4.4 Test Result

PASS



## Below 1GHz Test Results:

Antenna polarity: H

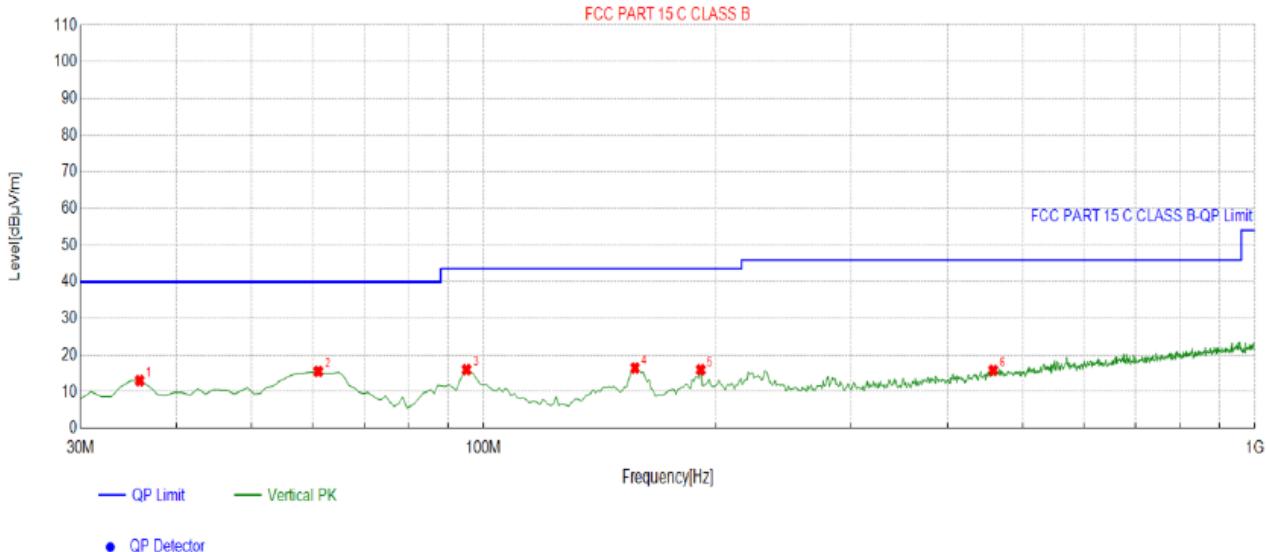


Suspected List									
NO.	Freq. [MHz]	Factor [dB]	Reading [dB $\mu$ V/m]	Level [dB $\mu$ V/m]	Limit [dB $\mu$ V/m]	Margin [dB]	Height [cm]	Angle [°]	Polarity
1	47.4775	-13.65	23.19	9.54	40.00	30.46	100	276	Horizontal
2	56.2162	-14.59	24.48	9.89	40.00	30.11	100	329	Horizontal
3	108.6486	-15.43	25.83	10.40	43.50	33.10	100	153	Horizontal
4	159.1391	-18.28	30.93	12.65	43.50	30.85	100	121	Horizontal
5	189.2392	-16.07	30.34	14.27	43.50	29.23	100	74	Horizontal
6	384.4044	-10.75	24.48	13.73	46.00	32.27	100	108	Horizontal

Remark: Factor = Cable loss + Antenna factor – Preamplifier; Level = Reading + Factor; Margin = Limit – Level



Antenna polarity: V



Suspected List									
NO.	Freq. [MHz]	Factor [dB]	Reading [dB $\mu$ V/m]	Level [dB $\mu$ V/m]	Limit [dB $\mu$ V/m]	Margin [dB]	Height [cm]	Angle [°]	Polarity
1	35.8258	-15.88	28.92	13.04	40.00	26.96	100	115	Vertical
2	61.0711	-15.43	30.96	15.53	40.00	24.47	100	285	Vertical
3	95.0551	-16.23	32.26	16.03	43.50	27.47	100	2	Vertical
4	157.1972	-18.42	34.91	16.49	43.50	27.01	100	222	Vertical
5	191.1812	-15.90	31.90	16.00	43.50	27.50	100	359	Vertical
6	458.1982	-8.72	24.55	15.83	46.00	30.17	100	0	Vertical

Remark: Factor = Cable loss + Antenna factor – Preamplifier; Level = Reading + Factor; 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.



## Above 1 GHz Test Results:

CH Low (5729MHz)

Horizontal:

Frequency (MHz)	Meter Reading (dB $\mu$ V)	Factor (dB)	Emission Level (dB $\mu$ V/m)	Limits	Margin (dB)	Detector Type
5729	101.25	-5.84	95.41	114	-18.59	peak
5729	86.47	-5.84	80.63	94	-13.37	AVG
11458	61.24	-3.64	57.6	74	-16.4	peak
11458	43.34	-3.64	39.7	54	-14.3	AVG
17187	55.02	-0.95	54.07	74	-19.93	peak
17187	43.26	-0.95	42.31	54	-11.69	AVG

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

Vertical:

Frequency (MHz)	Meter Reading (dB $\mu$ V)	Factor (dB)	Emission Level (dB $\mu$ V/m)	Limits	Margin (dB)	Detector Type
5729	100.87	-5.84	95.03	114	-18.97	peak
5729	84.26	-5.84	78.42	94	-15.58	AVG
11458	58.96	-3.64	55.32	74	-18.68	peak
11458	45.65	-3.64	42.01	54	-11.99	AVG
17187	55.12	-0.95	54.17	74	-19.83	peak
17187	38.68	-0.95	37.73	54	-16.27	AVG

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



## CH Middle (5781MHz)

Horizontal:

Frequency (MHz)	Meter Reading (dB $\mu$ V)	Factor (dB)	Emission Level (dB $\mu$ V/m)	Limits (dB $\mu$ V/m)	Margin (dB)	Detector Type
5781	100.25	-5.84	94.41	114	-19.59	peak
5781	87.87	-5.84	82.03	94	-11.97	AVG
11562	61.45	-3.64	57.81	74	-16.19	peak
11562	43.35	-3.64	39.71	54	-14.29	AVG
17343	55.26	-0.95	54.31	74	-19.69	peak
17343	43.02	-0.95	42.07	54	-11.93	AVG

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

Vertical:

Frequency (MHz)	Meter Reading (dB $\mu$ V)	Factor (dB)	Emission Level (dB $\mu$ V/m)	Limits (dB $\mu$ V/m)	Margin (dB)	Detector Type
5781	101.72	-5.84	95.88	114	-18.12	peak
5781	84.29	-5.84	78.45	94	-15.55	AVG
11562	58.74	-3.64	55.1	74	-18.9	peak
11562	45.65	-3.64	42.01	54	-11.99	AVG
17343	55.02	-0.95	54.07	74	-19.93	peak
17343	40.29	-0.95	39.34	54	-14.66	AVG

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



## CH High (5840MHz)

Horizontal:

Frequency (MHz)	Meter Reading (dB $\mu$ V)	Factor (dB)	Emission Level (dB $\mu$ V/m)	Limits (dB $\mu$ V/m)	Margin (dB)	Detector Type
5840	100.46	-5.84	94.62	114	-19.38	peak
5840	87.98	-5.84	82.14	94	-11.86	AVG
11680	61.34	-3.64	57.7	74	-16.3	peak
11680	43.28	-3.64	39.64	54	-14.36	AVG
17520	55.09	-0.95	54.14	74	-19.86	peak
17520	43.71	-0.95	42.76	54	-11.24	AVG

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

Vertical:

Frequency (MHz)	Meter Reading (dB $\mu$ V)	Factor (dB)	Emission Level (dB $\mu$ V/m)	Limits (dB $\mu$ V/m)	Margin (dB)	Detector Type
5840	104.55	-5.84	98.71	114	-15.29	peak
5840	84.84	-5.84	79	94	-15	AVG
11680	58.73	-3.64	55.09	74	-18.91	peak
11680	45.32	-3.64	41.68	54	-12.32	AVG
17520	56.23	-0.95	55.28	74	-18.72	peak
17520	38.92	-0.95	37.97	54	-16.03	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) The emissions are attenuated more than 20dB below the permissible limits are not record in the report.
- (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 73.16dB $\mu$ V/m(PK Value) <93.98(AV Limit), at harmonic 53.20 dB $\mu$ V/m(PK Value) <54 dB $\mu$ V/m(AV Limit), the Average Detected not need to completed.
- (7)All modes of operation were investigated and the worst-case emissions are reported.

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## 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 ANSI C63.10 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 1MHz and VBM to 3MHz 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 1MHz and VBW to 3MHz, to measure the conducted peak band edge.



## 5.3 Test Result

**PASS****Radiated Band Edge Test:**

Operation Mode: TX CH Low (5729MHz)

Horizontal (Worst case)

Frequency (MHz)	Meter Reading (dB $\mu$ V)	Factor (dB)	Emission Level (dB $\mu$ V/m)	Limits (dB $\mu$ V/m)	Margin (dB)	Detector Type
5725	50.38	-3.38	47.00	74	-27.00	peak
5725	/	-3.38	/	54	/	AVG

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

**Vertical:**

Frequency (MHz)	Meter Reading (dB $\mu$ V)	Factor (dB)	Emission Level (dB $\mu$ V/m)	Limits (dB $\mu$ V/m)	Margin (dB)	Detector Type
5725	51.62	-3.38	48.24	74	-25.76	peak
5725	/	-3.38	/	54	/	AVG

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



Operation Mode: TX CH High (5840MHz)  
Horizontal (Worst case)

Frequency (MHz)	Meter Reading (dB $\mu$ V)	Factor (dB)	Emission Level (dB $\mu$ V/m)	Limits (dB $\mu$ V/m)	Margin (dB)	Detector Type
5875	48.79	-3.38	45.41	74	-28.59	peak
5875	/	-2.99	/	54	/	AVG

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

Vertical:

Frequency (MHz)	Meter Reading (dB $\mu$ V)	Factor (dB)	Emission Level (dB $\mu$ V/m)	Limits (dB $\mu$ V/m)	Margin (dB)	Detector Type
5875	49.12	-3.38	45.74	74	-28.26	peak
5875	/	-2.99	/	54	/	AVG

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

Remark: All the other emissions not reported were too low to read and deemed to comply with FCC limit.



## 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= 20KHz. VBW= 62 KHz, Span=3MHz.
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**

Frequency	20dB Bandwidth (MHz)	Result
5729 MHz	5.095	<b>PASS</b>
5781 MHz	6.499	<b>PASS</b>
5840 MHz	8.231	<b>PASS</b>

CH: 5729 MHz

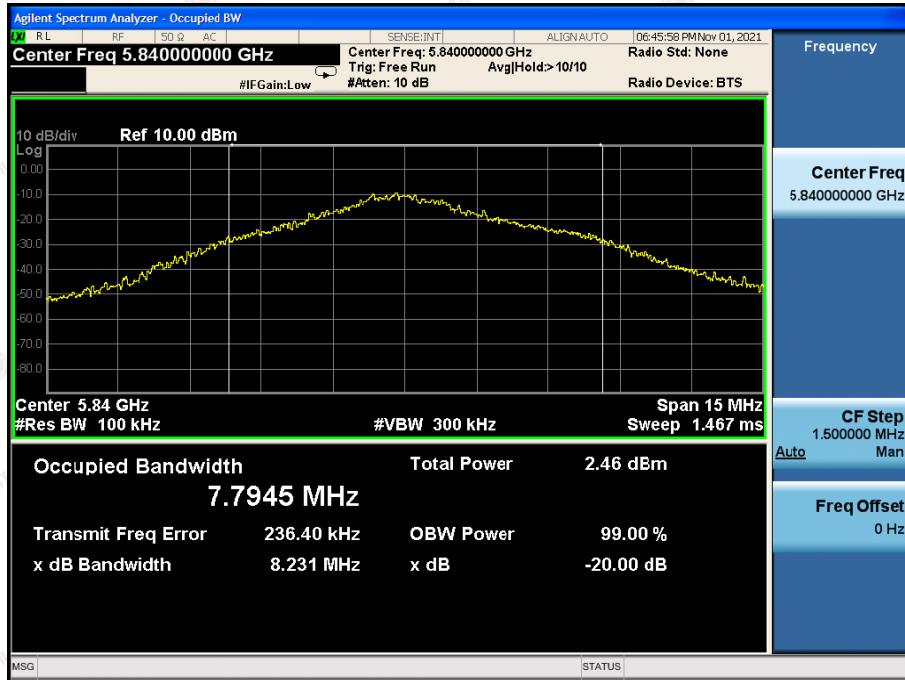


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CH: 5781 MHz



CH: 5840 MHz



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## 7 ANTENNA REQUIREMENT

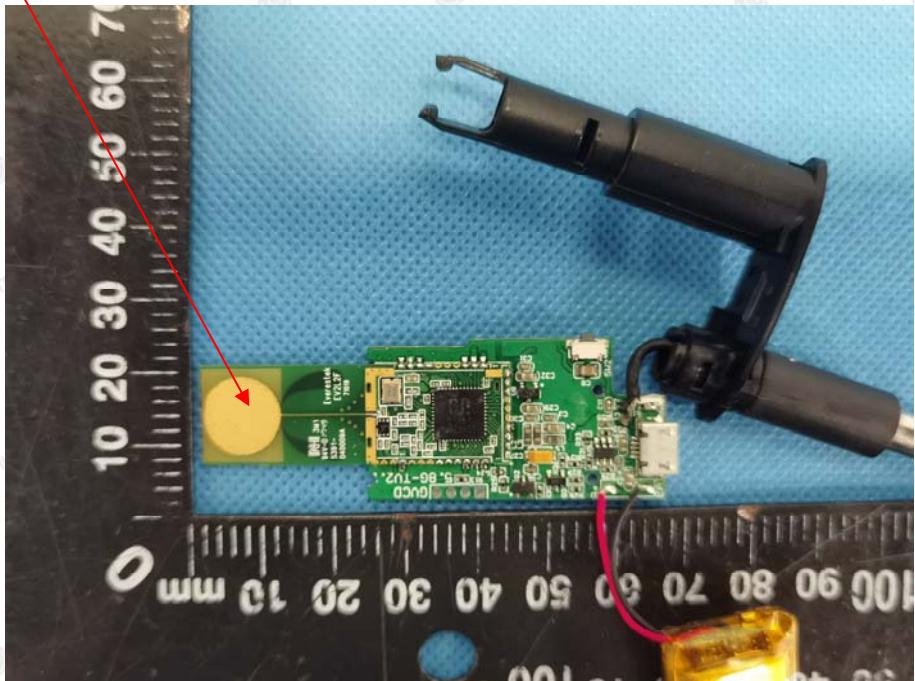
### **Standard Applicable**

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 PCB Antenna which permanently attached. It conforms to the standard requirements, The directional gains of antenna used for transmitting is 0dBi.

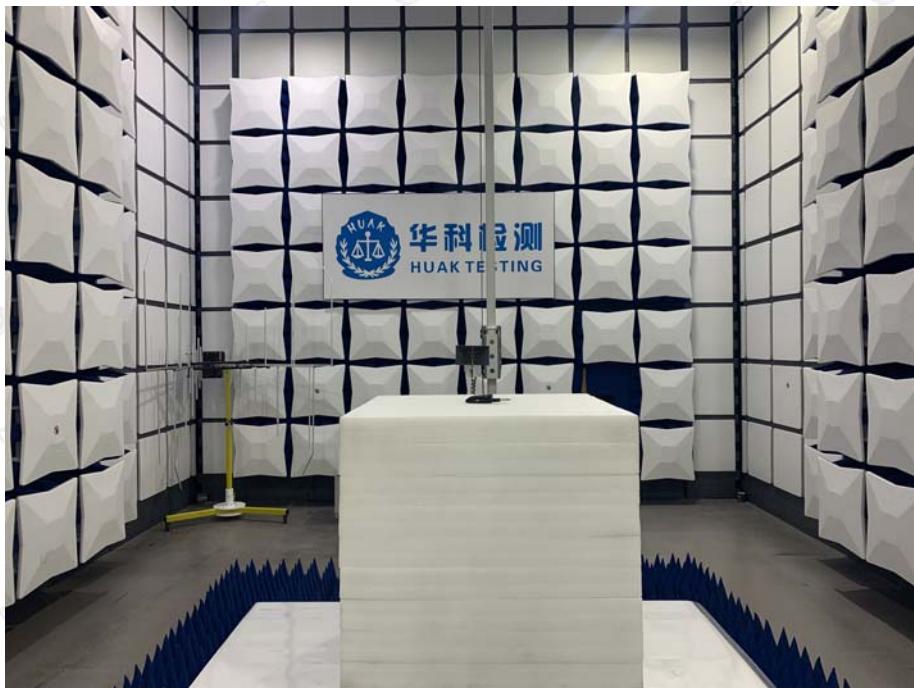
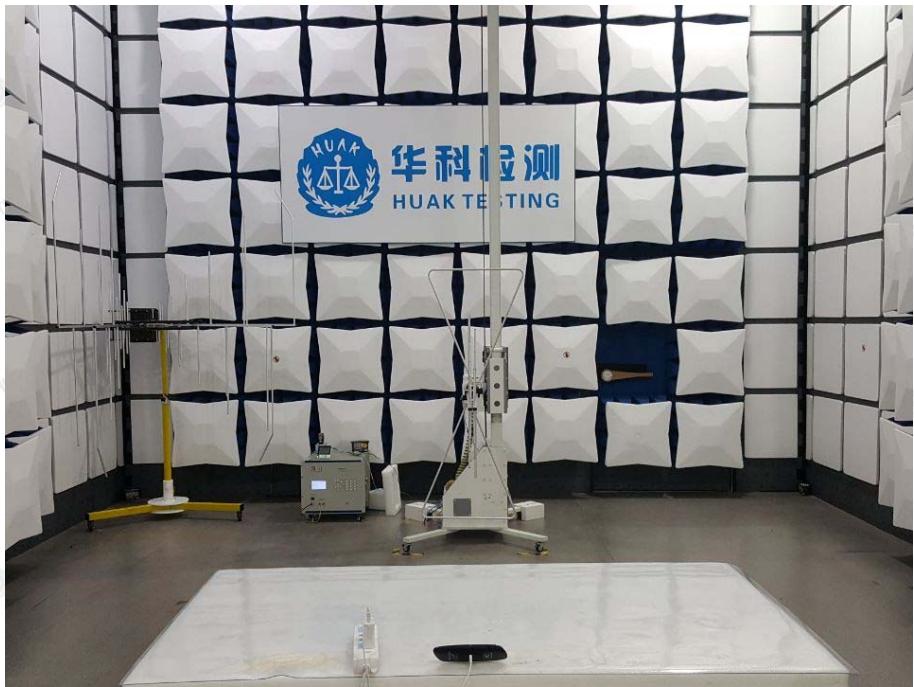
#### ANTENNA





## 8 PHOTOGRAPH OF TEST

### 8.1 Radiated Emission



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## 8.2 Conducted Emission Limit



## 9 PHOTOS OF THE EUT

Reference to the report: ANNEX A of external photos and ANNEX B of internal photos



-----End of test report-----



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