

# **FCC TEST REPORT**

Test report
On Behalf of
Shantou Skynor Technologies Co., Ltd.
For
TOY AIRCRAFT

Model No.: SQN-007, Please refer to page 6 for Serial models

FCC ID: 2A3WM-SQN-007

Prepared For: Shantou Skynor Technologies Co., Ltd.

FLOOR4, NO.12 SONGSHAN ROAD WEST, LONGHU DISTRICT, SHANTOU,

**GUANGDONG PROVINCE, China** 

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

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Fuhai Street, Bao'an District, Shenzhen, Guangdong, China

Date of Test: Nov. 23, 2021 ~Dec. 09, 2021

Date of Report: Dec. 09, 2021

Report Number: HK2111234540-E



## **TEST RESULT CERTIFICATION**

Applicant's name:	:	Shantou Skynor	Т	echnologies Co., Ltd.	
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FLOOR4, NO.12 SONGSHAN ROAD WEST, LONGHU DISTRICT, SHANTOU, GUANGDONG PROVINCE, China

Manufacture's Name.....: Shantou Skynor Technologies Co., Ltd.

FLOOR4, NO.12 SONGSHAN ROAD WEST, LONGHU

DISTRICT, SHANTOU, GUANGDONG PROVINCE, China

Report No.: HK2111234540-E

**Product description** 

Trade Mark: N/A

Product name ..... **TOY AIRCRAFT** 

SQN-007, Please refer to page 6 for Serial models Model and/or type reference :

FCC Rules and Regulations Part 15 Subpart C Section 15.249

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

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Date of Test

Nov. 23, 2021 ~Dec. 09, 2021 Date (s) of performance of tests .....:

Dec. 09, 2021 Date of Issue....:

Test Result .....

samp Dian **Testing Engineer** 

(Gary Qian)

**Technical Manager** 

(Eden Hu)

Authorized Signatory

(Jason Zhou)

26



**Table of Contents** Page 1. TEST SUMMARY 5 1.1. Test Procedures and Results 1.2 . Information of the Test Laboratory 1.3 . Measurement Uncertainty 5 2 . GENERAL INFORMATION 6 2.1. General Description of EUT 2.2 . Operation of EUT During Testing 2.3 . Description of Test Setup 8 2.4 . Measurement Instruments List CONDUCTED EMISSIONS TEST 10 3.1. Conducted Power Line Emission Limit 10 3.2. Test Setup 10 3.3. Test Procedure 10 3.4. Test Result 11 4. RADIATED EMISSION TEST 12 4.1. Radiation Limit 12 4.2. Test Setup 12 4.3. Test Procedure 13 4.4. Test Result 13 5. BAND EDGE 19 5.1. Limits 19 5.2. Test Procedure 19 5.3. Test Result 20 OCCUPIED BANDWIDTH MEASUREMENT 22 6.1. Test Setup 22 6.2. Test Procedure 22 6.3. Measurement Equipment Used 22 6.4. Test Result 22 7. ANTENNA REQUIREMENT 24 8. PHOTOGRAPH OF TEST 25

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9. PHOTOS OF THE EUT



Page 4 of 26

Report No.: HK2111234540-E

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

Revision	Description	Issued Data	Remark	
Revision 1.0	Initial Test Report Release	Dec. 09, 2021	Jason Zhou	

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### 1. TEST SUMMARY

#### 1.1. Test Procedures and Results

DESCRIPTION OF TEST	SECTION NUMBER	RESULT
CONDUCTED EMISSIONS TEST	15.207	N/A
RADIATED EMISSION TEST	15.249(a)/15.209	COMPLIANT
BAND EDGE	15.249(d)/15.205	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 = 2.71dB, k=2 Radiated emission expanded uncertainty(9kHz-30MHz) = 3.90dB, k=2 Radiated emission expanded uncertainty(30MHz-1000MHz) = 3.90dB, k=2 Radiated emission expanded uncertainty(Above 1GHz) = 4.28dB, k=2

## 2. GENERAL INFORMATION

## 2.1. General Description of EUT

Equipment:	TOY AIRCRAFT	.n.iG
Model Name:	SQN-007	JK TESTI
	SQN-001, SQN-002, SQN-003, SQN-004, SQN-005, SQN	QN-006,
	SQN-008, SQN-009, SQN-010,SQN-011, SQN-012, SQ	QN-013,
	SQN-014, SQN-015, SQN-016, SQN-017, SQN-018, S	QN-019,
	SQN-020,SQN-021, SQN-022, SQN-023, SQN-024, SQ	QN-025,
	SQN-026, SQN-027, SQN-028, SQN-029, SQN-030,SC	QN-031,
	SQN-032, SQN-033, SQN-034, SQN-035, SQN-036, SQN	QN-037,
	SQN-038, SQN-039, SQN-040,SQN-041, SQN-042, SQ	QN-043,
Series Model:	SQN-044, SQN-045, SQN-046, SQN-047, SQN-048, S	QN-049,
	SQN-050,SQN-051, SQN-052, SQN-053, SQN-054, SQ	QN-055,
	SQN-056, SQN-057, SQN-058, SQN-059, SQN-060,SC	์ N-061,
	SQN-062, SQN-063, SQN-064, SQN-065, SQN-066, SQN-066, SQN-065, SQN-066, SQN	QN-067,
	SQN-068, SQN-069, SQN-070, SQN-071, SQN-072, SQ	QN-073,
	SQN-074, SQN-075, SQN-076, SQN-077, SQN-078, S	QN-079,
	SQN-080, HST-88665, 8866, HST-0075, MJ001, MJ002	2,
	MJ003, MJ004, MJ005, MJ006, MJ007, MJ008, MJ009	, MJ010
	All model's the function, software and electric circuit are	the
Model Difference:	same, only with a product color, appearance and model	named
	different. Test sample model: SQN-007.	
FCC ID:	2A3WM-SQN-007	
Antenna Type:	Internal Antenna	IK TESTING
Antenna Gain:	OdBi OdBi	
Operation frequency:	2416-2475MHz	
Number of Channels:	22CH	10
Modulation Type:	GFSK	
Power Source:	DC 4.5V from battery	ESTING OF
Power Rating:	DC 4.5V from battery	

AFICATION





## 2.1.1. Carrier Frequency of Channels

Channel	Frequency (MHz)	Channel	Frequency (MHz)	Channel	Frequency (MHz)
CING 0	2416	STING 8	2456	16	2464
1	2440	9	2457	17	2465
2	2450	10	2458	18	2466
3	2451	11	2459	19	2467
4 HUALT	2452	12	2460	20	2468
5	2453	13	2461	21	2475
6	2454	14	2462		10 10 10
AK TESTING	2455	15	2463	TAK 7 STINE	UAK I STILL

## 2.2. Operation of EUT During Testing

**Operating Mode** 

The mode is used: Transmitting mode

Low Channel: 2416MHz Middle Channel: 2440MHz High Channel: 2475MHz

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2.3. Description of Test Setup

Operatio	n of EUT during tes	sting:		
LAKTESTING		EUT	LAKTESTIVE	
-TING		O r.	O HU	
ES.				

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.



## 2.4. Measurement Instruments List

Item	Equipment	Manufacturer	Model No.	Serial No.	Last Cal.	Cal.
AKTESIA 1.	L.I.S.N. Artificial Mains	R&S	ENV216	HKE-002	Dec. 10, 2020	1 Year
TING	Network	Nas	LINVZIO	TIKE-002	Dec. 10, 2020	i i cai
2.	Receiver	R&S	ESCI 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	<sup>1</sup> Year
10.	Horn Antenna	Schewarzbeck	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	N/A	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.	Hight gain antenna	Schwarzbeck	LB-180400KF	HKE-054	Dec. 10, 2020	1 Year



### 3. CONDUCTED EMISSIONS TEST

### 3.1. Conducted Power Line Emission Limit

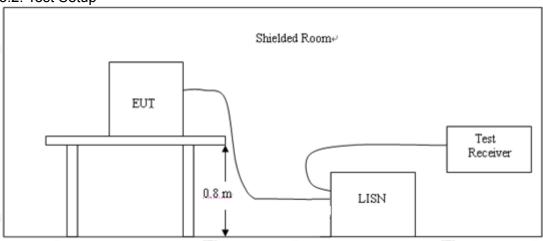
For unintentional device, according to § 15.107(a) Line Conducted Emission Limits is as following.

F========	Maximum RF Line Voltage (dBμV)					
Frequency (MHz)	CLAS	SS A	CLASS B			
(11112)	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		

<sup>\*</sup> 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

Not applicable. Note: EUT power supply by DC Power, so this test item not applicable.



### 4. RADIATED EMISSION TEST

### 4.1. Radiation Limit

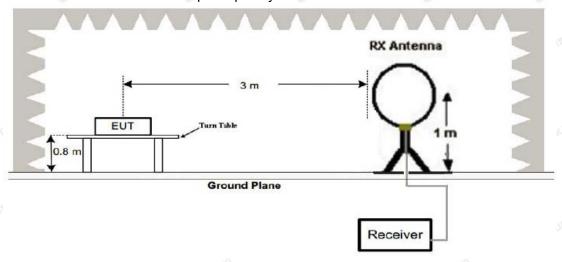
For unintentional device, according to § 15.109(a), except for Class A digital devices, the field strength of radiated emissions from unintentional radiators at a distance of 3 meters shall not exceed the following values:

Frequency (MHz)	Distance (Meters)	Radiated (dBµV/m)	Radiated (µV/m)
0.009-0.490	300	20log 2400/F (kHz)	2400/F (kHz)
0.490-1.705	30	20log 24000/F (kHz)	24000/F (kHz)
1.705-30	30	20log 30	30
30-88	3	40	100
88-216	3	43.5	150
216-960	TESTING 3	46	200
Above 960	HUPAT 3	54	500

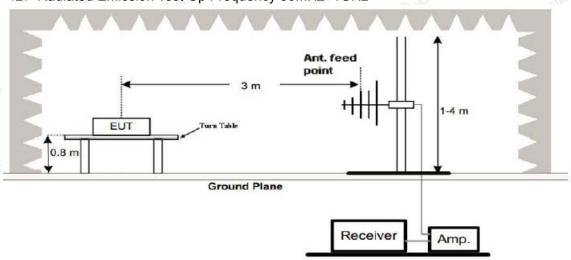
For intentional device, according to § 15.209(a), the general requirement of field strength of radiated emissions from intentional radiators at a distance of 3 meters shall not exceed the above table.

### 4.2. Test Setup

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



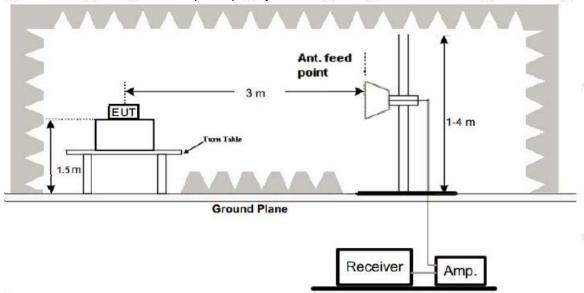
### (2) Radiated Emission Test-Up Frequency 30MHz~1GHz



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### (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

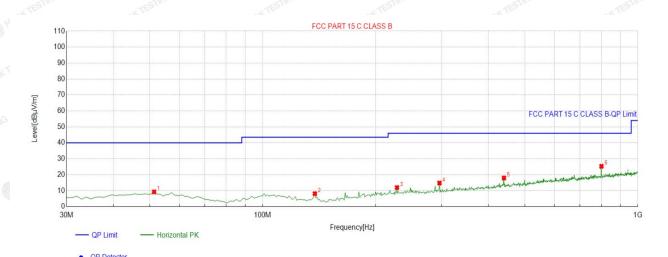
#### PASS

All the test modes completed for test. The worst case of Radiated Emission is CH 01; the test data of this mode was reported.



Below 1GHz Test Results:

Antenna polarity: H



Suspe	ected List								
NO.	Freq. [MHz]	Factor [dB]	Reading [dBµV/m]	Level [dBµV/m]	Limit [dBµV/m]	Margin [dB]	Height [cm]	Angle [°]	Polarity
1	51.3614	-13.86	23.10	9.24	40.00	30.76	100	268	Horizontal
2	137.7778	-19.04	27.17	8.13	43.50	35.37	100	268	Horizontal
3	228.0781	-14.37	26.34	11.97	46.00	34.03	100	136	Horizontal
4	296.0460	-12.78	27.59	14.81	46.00	31.19	100	42	Horizontal
5	439.7498	-9.43	27.41	17.98	46.00	28.02	100	344	Horizontal
6	799.9800	-3.12	28.40	25.28	46.00	20.72	100	176	Horizontal

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

Antenna polarity: V



Suspe	Suspected List								
NO	Freq.	Factor	Reading	Level	Limit	Margin	Height	Angle	Dalanita
NO.	[MHz]	[dB]	[dBµV/m]	[dBµV/m]	[dBµV/m]	[dB]	[cm]	[°]	Polarity
1	44.5646	-13.73	24.21	10.48	40.00	29.52	100	237	Vertical
2	78.5485	-19.21	31.94	12.73	40.00	27.27	100	50	Vertical
3	136.8068	-18.99	33.29	14.30	43.50	29.20	100	121	Vertical
4	274.6847	-13.47	31.82	18.35	46.00	27.65	100	224	Vertical
5	439.7498	-9.43	28.72	19.29	46.00	26.71	100	37	Vertical
6	799.9800	-3.12	28.37	25.25	46.00	20.75	100	353	Vertical

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

## **Harmonics and Spurious Emissions**

## Frequency Range (9 kHz-30MHz)

Frequency (MHz)	Level@3m (dBµV/m)	Limit@3m (dBµV/m)			
The U.S.	KTESTING TING	WAKTESTING			
HILAKTES	HLAK TES	HUAKTES			
5		-STING			
THE HUNK I	THE THE WHI	je.			

Note: 1. Emission Level=Reading+ Cable loss+ Antenna factor-Amp factor.

2. The emission levels are 20 dB below the limit value, which are not reported. It is deemed to comply with the requirement.



Above 1 GHz Test Results: CH Low (2416MHz)

## Horizontal:

Frequency	Meter Reading	Factor	Emission Level	Limits O	Margin	(i) Hor
(MHz)	(dBµV)	(dB)	(dBµV/m)	(dBµV/m)	(dB)	Detector Type
2416	105.36	-5.84	99.52	114	-14.48	peak
2416	81.65	-5.84	75.81	94	-18.19	AVG
4832	57.42	-3.64	53.78	74	-20.22	peak
4832	44.61	-3.64	40.97	54	-13.03	AVG
7248	53.74	-0.95	52.79	74	-21.21	peak
7248	40.21	-0.95	39.26	54	-14.74	AVG
lemark: Facto	r = Antenna Fa	ctor + Cable L	oss – Pre-amplifier.			

## Vertical:

Frequency	Meter Reading	Factor	Emission Level	Limits	Margin	WAK TES.
(MHz)	(dBµV)	(dB)	(dBµV/m)	(dBµV/m)	(dB)	Detector Type
2416	107.82	-5.84	101.98	114	-12.02	peak
2416	81.79	-5.84	75.95	94	-18.05	AVG
4832	56.63	-3.64	52.99	74	-21.01	peak
4832	43.51	-3.64	39.87	54	-14.13	AVG
7248	52.27	-0.95	51.32	74	-22.68	peak
7248	40.18	-0.95	39.23	54	-14.77	AVG

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

## CH Middle (2440MHz)

## Horizontal:

Frequency	Meter Reading	Factor	Emission Level	Limits	Margin	Detecto
(MHz)	(dBµV)	(dB)	(dBµV/m)	(dBµV/m)	(dB)	Type
2440	105.42	-5.71	99.71	114	-14.29	peak
2440	77.61	-5.71	71.9	94	-22.1	AVG
4880	55.79	-3.51	52.28	74	-21.72	peak
4880	43.32	-3.51	39.81	54	-14.19	AVG
7320	51.55	-0.82	50.73	74	-23.27	peak
7320	41.75	-0.82	40.93	54	-13.07	AVG

# Vertical:

Frequency	Meter Reading	Factor	Emission Level	Limits	Margin	Deseting
(MHz)	(dBµV)	(dB)	(dBµV/m)	(dBµV/m)	(dB)	Detector Type
2440	106.29	-5.71	100.58	114 ESTING	-13.42	peak
2440	81.33	-5.71	75.62	94	-18.38	AVG
4880	56.41	-3.51 Jak	52.9	74	-21.1	peak
4880	45.74	-3.51	42.23	54	-11.77	AVG
7320	53.68	-0.82	52.86	74	-21.14	peak
7320	42.71	-0.82	41.89	54	-12.11	AVG

CH High (2475MHz)

### Horizontal:

Frequency	Meter Reading	Factor	Emission Level	Limits	Margin	Datasta
(MHz)	(dBµV)	(dB)	(dBµV/m)	(dBµV/m)	(dB)	Detector Type
2475	107.15	-5.65	101.5	114	-12.5	peak
2475	81.29	-5.65	75.64	94	-18.36	AVG
4950	55.43	-3.43	52	74	-22	peak
4950	42.62	-3.43	39.19	54 grini	-14.81	AVG
7425	52.37	-0.75	51.62	74	-22.38	peak
7425	40.85	-0.75	40.1	54	-13.9	AVG

### Vertical:

Frequency	Meter Reading	Factor	Emission Level	Limits	Margin	
(MHz)	(dBµV)	(dB)	(dBµV/m)	(dBµV/m)	(dB)	Detector Type
2475	106.12	-5.65	100.47	114	-13.53	peak
2475	80.75	-5.65	75.1	94	-18.9	AVG
4950	56.33	-3.43	52.9	74	-21.1	peak
4950	43.59	-3.43	40.16	54	-13.84	AVG
7425	51.12	-0.75	50.37	74	-23.63	peak
7425	40.84	-0.75	40.09	54	-13.91	AVG
Remark: Facto	r = Antenna Fac	ctor + Cable I	oss – Pre-amplifier.	51.	JUAK TEST	900

#### 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 73.16dBuV/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.

AFICATION



### 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 100KHz and VBM to 300KHz to measure the peak field strength and set RBW to 1MHz and VBW to 10Hz to measure the average radiated field strength. The conducted RF band edge was measured by using a spectrum analyzer. Set span wide enough to capture the highest in-band emission and the emission at the band edge. Set RBW to 100 KHz and VBW to 300 KHz, to measure the conducted peak band edge.

## 5.3. Test Result

## **PASS**

Radiated Band Edge Test:

Operation Mode: TX CH Low (2416MHz)

Horizontal (Worst case)

Frequency	Meter Reading	Factor	Emission Level	Limits	Margin	Detector
(MHz)	(dBµV)	(dB)	(dBµV/m)	(dBµV/m)	(dB)	Туре
2310	56.97	-5.81	51.16	74 TESTING	-22.84	peak
2310	ISTAG ()	-5.81	TING 1	54	TING	AVG
2390	55.48	-5.84	49.64	74	-24.36	peak
2390	1	-5.84	1	54	/	AVG
2400	54.66	-5.84	48.82	74	-25.18	peak
2400	HUAK	-5.84	I HUAK	54	1	AVG

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

## Vertical:

Frequency	Meter Reading	Factor	Emission Level	Limits	Margin	Detector
(MHz)	(dBµV)	(dB)	(dBµV/m)	(dBµV/m)	(dB)	Туре
2310	56.29	-5.81	50.48	74	-23.52	peak
2310	W TEATHG	-5.81	DIG /	54	K TESTING	AVG
2390	55.72	-5.84	49.88	74	-24.12	peak
2390	1	-5.84	1	54	TING /	AVG
2400	54.18	-5.84	48.34	74	-25.66	peak
2400	1	-5.84	9 /	54	1 🖤	AVG

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



Operation Mode: TX CH High (2475MHz)

Horizontal (Worst case)

Frequency	Reading Result	Factor	Emission Level	Limits	Margin	Detector Tune
(MHz)	(dBµV)	(dB)	(dBµV/m)	(dBµV/m)	(dB)	Detector Type
2483.50	57.11	-5.65	51.46	74	-22.54	peak
2483.50	1	-5.65	1	54	K TESTING	AVG
2500.00	56.38	-5.65	50.73	74	-23.27	peak
2500.00	1	-5.65	1	54	10 I	AVG

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

## Vertical:

71110	71/10	-	410	777	77/10	War.
Frequency	Reading Result	Factor	Emission Level	Limits	Margin	Detector Type
(MHz)	(dBµV)	(dB)	(dBµV/m)	(dBµV/m)	(dB)	Detector Type
2483.50	56.79	-5.65	51.14	74	-22.86	peak
2483.50	1	-5.65	O HUAN	54	1	AVG
2500.00	54.46	-5.65	48.81	74	-25.19	peak
2500.00	HUAKTESTIL	-5.65	STIME / HUAKTES	54	TESTIN	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= 30KHz. VBW= 100 KHz, Span=6MHz.
- 4. The useful radiated emission from the EUT was detected by the spectrum analyzer with peak detector.

### 6.3. Measurement Equipment Used

Same as Radiated Emission Measurement

## 6.4. Test Result

#### **PASS**

Frequency	20dB Bandwidth (MHz)	Result
2416 MHz	1.568	PASS
2440 MHz	1.591	PASS
2475 MHz	1.404	PASS

CH: 2416MHz





## CH: 2440MHz



### CH: 2475MHz





## 7. ANTENNA REQUIREMENT

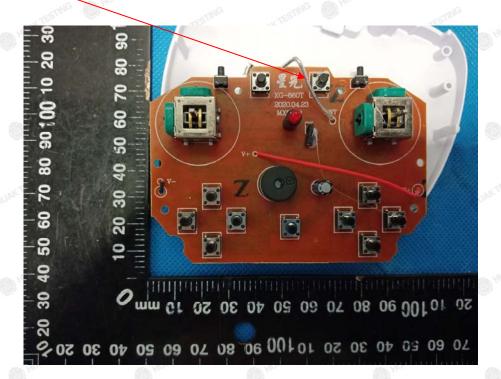
### **Standard Applicable**

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

## **ANTENNA**



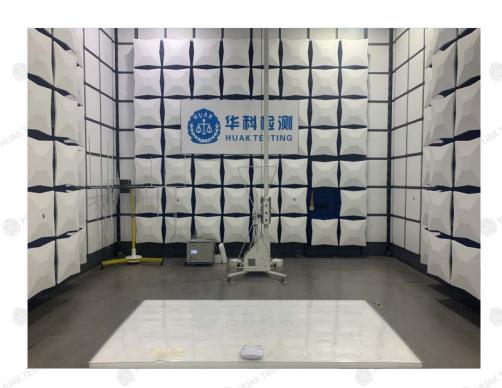
The results shown in this test report refer only to the sample(s) tested unless otherwise stated and the sample(s) are retained for 30 days only. The document is issued by HUAK, this document cannont be reproduced except in full with our prior written permission. The more details and the authenticity of the report will be confirmed at http://www.cer-mark.com.

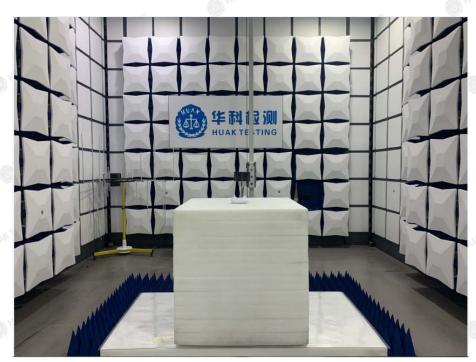
HUAK Testing Lab TEL: +86-755 2302 9901 FAX: +86-755 2302 9901 E-mail: service@cer-mark.com



## 8. PHOTOGRAPH OF TEST

## Radiated Emission







## 9. PHOTOS OF THE EUT

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

End of test report-