

TEST REPORT

FCC PART 15 SUBPART C 15.247

Test report

On Behalf of

Dongguan Yuzhenrong Trading Co., Ltd.

For

Multimode Backlit Wireless Mouse

Model No.: PC344A

FCC ID: 2A3JH-PC344A

Prepared For: Dongguan Yuzhenrong Trading Co., Ltd.

Room 204 No.74 Humen Xinlian 9th Street Humen Village Humen Town Dongguan

City Guangdong, dongguan, 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: May. 05, 2022 ~ Jun. 15, 2022

Date of Report: Jun. 15, 2022

Report Number: HK2205051854-1E

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



HUAN TESTING HUAN TESTIN IE	ST RESULT CERTIFICATION
Applicant's name:	Dongguan Yuzhenrong Trading Co., Ltd.
Address	Room 204 No.74 Humen Xinlian 9th Street Humen Village Humen Town Dongguan City Guangdong, dongguan, China
Manufacture's Name	Dongguan Yuzhenrong Trading Co., Ltd.
Address	Room 204 No.74 Humen Xinlian 9th Street Humen Village Humen Town Dongguan City Guangdong, dongguan, China
Product description	
Trade Mark:	N/A
Product name:	Multimode Backlit Wireless Mouse
Model and/or type reference:	PC344A
Standards:	47 CFR FCC Part 15 Subpart C 15.247
the Shenzhen HUAK Testing Te of the material. Shenzhen HUA	
Date (s) of performance of tests	May. 05, 2022 ~ Jun. 15, 2022
Date of Issue	: Jun. 15, 2022
Test Result	: Pass
Prepared	by:
	Project Engineer
Reviewed	1 by: Zden Hu
	- 1/4

Technical Director

Project Supervisor

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.

Approved by:

		Content			Page
1	TEST S	SUMMARY	MAKTESI	NATES THE	6
	1.1 TES	ST DESCRIPTIONASUREMENT UNCERTAINTY		(i)	6
		ORMATION OF THE TEST LABORATORY			
2	GENER	AL INFORMATION	M HUAKTE	HUMELL	
	2.1 GE	NERAL DESCRIPTION OF EUT			8
		SCRIPTION OF TEST CONDITIONS			
	2.3 DE	SCRIPTION OF TEST SETUP	(I)		10
3		MENTS LIST FOR ALL TEST ITEMS			
4	TEST R	RESULT	THE HILL		13
	4.1 AN	TENNA REQUIREMENT	HIME	HUAK TES	13
	4.1.1	Standard requirement			13
	4.1.2	EUT Antenna			13
	4.2 CO	NDUCTION EMISSIONS MEASUREMENT			
	4.2.1	Applied procedures / Limit	MAK .	HUAK "	14
	4.2.2	Test procedure	<i></i>		14
	4.2.3	Test setup		TESTING.	15
	4.2.4	Test results	TSTINE CO.	HUAN	16
	4.3 RA	DIATED EMISSIONS MEASUREMENT			
	4.3.1	Applied procedures / Limit		ESTING .	18
	4.3.2	Test setup			
	4.3.3	Test Result			
	4.4 MA	XIMUM OUTPUT POWER MEASUREMEN	Г		27
	4.4.1	Limit			27
	4.4.2	Test procedure			27
	4.4.3	Deviation from standard			
	4.4.4	Test setup	D'HOW		27
	4.4.5	Test results			27
	4.5 PO	WER SPECTRAL DENSITY			
	4.5.1	Limit	(TE)"		28
	4.5.2	Test procedure			28
	4.5.3	Deviation from standard			
	4.5.4	Test setup			28
	4.5.5	Test results			29
	4.6 6DE	BANDWIDTH)		31
	4.6.1	Limit			31
	4.6.2	Test procedure			
	4.6.3	Deviation from standard	IIIAK TESTIT	KIESTI	31
	4.6.4	Test setup			31
	4.6.5	Test result			31

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 cannon 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.

4	4.7 OC	CCUPIED BANDWIDTH	AVI.			34
	4.7.1	Test procedure	TESTIN COM	A LESTING	TESTING	34
	4.7.2	Deviation from standard		HUA		34
	4.7.3	Test setup				34
	4.7.4	Test result				34
	4.8 BA	ND EDGELimit	ESTING.	ESTING.	TSTING.	3
	4.8.1	Limit	HUAN.	HUAL	HUAL	3
	4.8.2	Test procedure				3
	4.8.3	Deviation from standard		755		3
	4.8.4	Test setup	TES TIME	W HIDE	TES TIME	38
	4.8.5	Test results				36
4	4.9 CC	ONDUCTED SPURIOUS EMISSIONS		ESTING		37
	4.9.1	Applied procedures / Limit	AN AND DIS		J.G.	37
	4.9.2	Test procedure	Val.	V TED	LOX I	37
	4.9.3	Deviation from standard		(a) No.	(b) "	37
	4.9.4	Test setup				37
	4.9.5	Test results				38
pK	TEST S	SETUP PHOTO	HIAK TESTING	HIAK TESTINE	HAR TESTINE	4 ²
•	рното	OS OF THE EUT				4
,						,

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 cannon 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.



Page 5 of 43

** Modified History **

Report No.: HK2205051854-1E

Revision	Description	Issued Data	Remark		
Revision 1.0	Initial Test Report Release	Jun. 15, 2022	Jason Zhou		
G	9	G	.6		
AKTESTINE	AKTESTIN	AKTESTIVE	TESTING		

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.



1 TEST SUMMARY

1.1 TEST DESCRIPTION

100	107	103-10		
Test Item	Test Requirement			
Antenna Requirement	§15.203/§15.247(b)(4)	PASS		
Conducted Emission	FCC Part 15.207	PASS		
Radiated Emissions	FCC Part 15.205/15.209	PASS		
Maximum Peak Output Power	FCC Part 15.247(b)	PASS		
Power Spectral Density	FCC Part 15.247(e)	PASS		
6dB Bandwidth & 99% Bandwidth	FCC Part 15.247(a)(2)	PASS		
Spurious RF Conducted Emission	FCC Part 15.247(d)	PASS		
Band Edge	FCC Part 15.247(d)	PASS		

FICATION

Report No.: HK2205051854-1E

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 cannon 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.

1.2 MEASUREMENT UNCERTAINTY

All measurements involve certain levels of uncertainties. The data and results referenced in this document are true and accurate. The reader is cautioned that there may be errors within the calibration limits of the equipment and facilities. The measurement uncertainty was calculated for all measurements listed in this test report acc. To CISPR 16 – 4 "Specification for radio disturbance and immunity measuring apparatus and methods – Part 4: Uncertainty in EMC Measurements" and is documented in the LCS quality system acc. To DIN EN ISO/IEC 17025. Furthermore, component and process variability of devices similar to that tested may result in additional deviation. The manufacturer has the sole responsibility of continued compliance of the device. The maximum value of the uncertainty as below:

No.	Item	Uncertainty
HI AK TES	Conducted Emission Test	±2.71dB
2	All emissions, radiated(<1G)	±3.90dB
3	All emissions, radiated(>1G)	±4.28dB

1.3 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.

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

2 GENERAL INFORMATION

2.1 GENERAL DESCRIPTION OF EUT

TING TING	TING TING	TING .
EUT Name:	Multimode Backlit Wireless Mous	se war TES.
Model No:	PC344A	0
Series Model:	N/A	TESTING
Model Difference:	N/A	HUAN
Brand Name:	N/A	(D) HOW
Operation Frequency:	2402 MHz to 2480 MHz	AV TESTING
Channel Separation:	2MHz	HU.
Number of Channel:	40 MAR 18 MARAN	HUAKTE
Modulation Technology:	GFSK	9
Hardware Version:	V1.0	
Software Version:	V1.0	TES ING
Antenna Type:	PCB Antenna	MUAN MUAN
Antenna Gain:	0dBi	mlG
Power Supply:	DC 5V From Type-C or DC 3.7V	From Battery
Note:	MUNCTE	WAKTES.
(600)	(89)	(69)

1.For a more detailed features description, please refer to the manufacturer's specifications or the User's Manual.

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.

-6	MIG AND PIC.		MG AN H		G MG
LAK TESTING		Description of	f Channel:		
Channel	Frequency (MHz)	Channel	Frequency (MHz)	Channel	Frequency (MHz)
0	2402	14	2430	28	2458
JAKTES 1	2404	15	2432	29	2460
2	2406	16	2434	30	2462
ESTIME 3	2408	TESTIN 17	2436	31	2464
4	2410	18	2438	32	2466
5	2412	s 19	2440	33	2468
6	2414	20	2442	34	2470
10K TE 7 THE	2416	21	2444	35	2472
8	2418	22	2446	36	2474
9	2420	23	2448	37	2476
10	2422	24	2450	38	2478
JAK 11	2424	25	2452	39	2480
12	2426	26	2454		
13	2428	27	2456	WILLIAM TEST	TETHIG .
		•	170	_	

2.2 DESCRIPTION OF TEST CONDITIONS

(1) E.U.T. test conditions:

For intentional radiators, measurements of the variation of the input power or the radiated signal level of the fundamental frequency component of the emission, as appropriate, shall be performed with the supply voltage varied between 85% and 115% of the nominal rated supply voltage. For battery operated equipment, the equipment tests shall be performed using a new battery.

- (2) Frequency range of radiated measurements:
 The test range will be up to the tenth harmonic of the highest fundamental frequency.
- (3) Pre-test the EUT in all transmitting mode at the lowest (2402 MHz), middle (2440 MHz) and highest (2480 MHz) channel with different data packet and conducted to determine the worst-case mode, only the worst-case results are recorded in this report.
- (4) The EUT was programmed to be in continuously transmitting mode and the transmit duty cycle is not less than 98%.

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.



2.3 DESCRIPTION OF TEST SETUP

Operation of EUT during Conducted testing:



Operation of EUT during Radiation testing:



PC information

Model: TP00067A

Input: DC20V, 2.25-3.25A 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.

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.



EQUIPMENTS LIST FOR ALL TEST ITEMS

Item	Equipment	Manufacturer	Model No.	Serial No.	Last Cal.	Cal.
TESTING 1.	L.I.S.N. Artificial Mains Network	R&S	ENV216	HKE-002	Feb. 18, 2022	1 Year
2.	L.I.S.N.	R&S	ENV216	HKE-059	Feb. 18, 2022	1 Year
3.	Receiver	R&S	ESCI 7	HKE-010	Feb. 18, 2022	1 Year
4.	RF automatic control unit	Tonscend	JS0806-2	HKE-060	Feb. 18, 2022	1 Year
5.5	Spectrum analyzer	R&S	FSP40	HKE-025	Feb. 18, 2022	1 Year
6.	Spectrum analyzer	Agilent	N9020A	HKE-048	Feb. 18, 2022	1 Year
7.	High gain antenna	Schwarzbeck	LB-180400KF	HKE-054	Feb. 18, 2022	1 Year
8.	Preamplifier	Schwarzbeck	BBV 9743	HKE-006	Feb. 18, 2022	1 Year
9.	Bilog Broadband Antenna	Schwarzbeck	VULB9163	HKE-012	Feb. 18, 2022	1 Year
10.	Loop Antenna	Schwarzbeck	FMZB 1519 B	HKE-014	Feb. 18, 2022	1 Year
11.	Horn Antenna	Schewarzbeck	9120D	HKE-013	Feb. 18, 2022	1 Year
12.	Pre-amplifier	EMCI	EMC051845SE	HKE-015	Feb. 18, 2022	1 Year
13.	Pre-amplifier	Agilent	83051A	HKE-016	Feb. 18, 2022	1 Year
14.	High pass filter unit	Tonscend	JS0806-F	HKE-055	Feb. 18, 2022	1 Year
15.	Conducted test software	Tonscend	TS+ Rev 2.5.0.0	HKE-081	N/A	N/A
16.	Radiated test software	Tonscend	TS+ Rev 2.5.0.0	HKE-082	N/A	N/A
17.	RF test software	Tonscend	JS1120-B Version 2.6	HKE-083	N/A	N/A
18.	RF automatic control unit	Tonscend	JS0806-2	HKE-060	Feb. 18, 2022	1 Year
19.	RF test software	Tonscend	JS1120-4	HKE-113	N/A	N/A
20.	RF test software	Tonscend	JS1120-3	HKE-114	N/A	N/A
21.	RF test software	Tonscend	JS1120-1	HKE-115	N/A	N/A
22.	Spectrum analyzer	Agilent	N9020A	HKE-048	Feb. 18, 2022	1 Year
23.	Signal generator	Agilent	N5182A	HKE-029	Feb. 18, 2022	1 Year
24.	Signal Generator	Agilent	83630A	HKE-028	Feb. 18, 2022	1 Year
25.	Power meter	Agilent	E4419B	HKE-085	Feb. 18, 2022	1 Year

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.

Report No.: HK2205051854-1E



Feb. 18, 2022 E9300A HKE-086 26. Power Sensor Agilent 1 Year RF 9kHz-1GHz HKE-117 Feb. 18, 2022 27. **Times** 1 Year Cable(below1GHz) RF Cable(above 1-40G 28. Times HKE-034 Feb. 18, 2022 1 Year 1GHz) RF Cable Feb. 18, 2022 29. 170660 N/A Tonscend 1 Year (9KHz-40GHz) 30. Shielded room Shiel Hong 4*3*3 HKE-039 Dec. 09, 2021 3 Year

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.

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

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



Report No.: HK2205051854-1E



4 TEST RESULT

4.1 ANTENNA REQUIREMENT

4.1.1 Standard 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 15.247, 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.

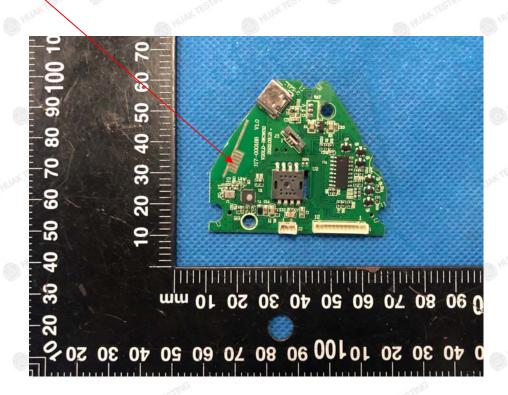
Refer to statement below for compliance.

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

4.1.2 EUT 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 cannon 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.



4.2 CONDUCTION EMISSIONS MEASUREMENT

4.2.1 Applied procedures / Limit

According to FCC CFR Title 47 Part 15 Subpart C Section 15.207, AC Power Line Conducted Emissions Limits for Licence-Exempt Radio Apparatus as below:

HUANTESTINE HUANTESTINE AND HUANTESTINE	Limit (dBuV)				
Frequency range (MHz)	Quasi-peak	Average			
0.15-0.5	66 to 56*	56 to 46*			
0.5-5	56	46			
5-30	60	50			

^{*} Decreases with the logarithm of the frequency.

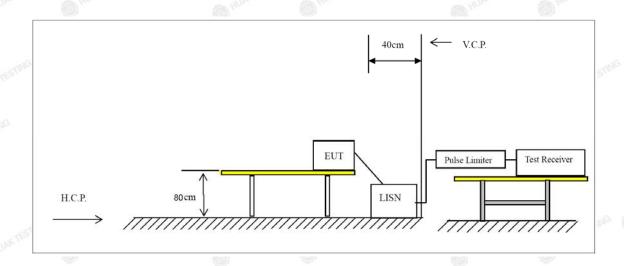
4.2.2 Test procedure

- 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 C63.10:2013.
- 2. Support equipment, if needed, was placed as per ANSI C63.10:2013.
- 3. All I/O cables were positioned to simulate typical actual usage as per ANSI C63.10:2013.
- 4. The 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.
- 8. During the above scans, the emissions were maximized by cable manipulation.

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



4.2.3 Test setup



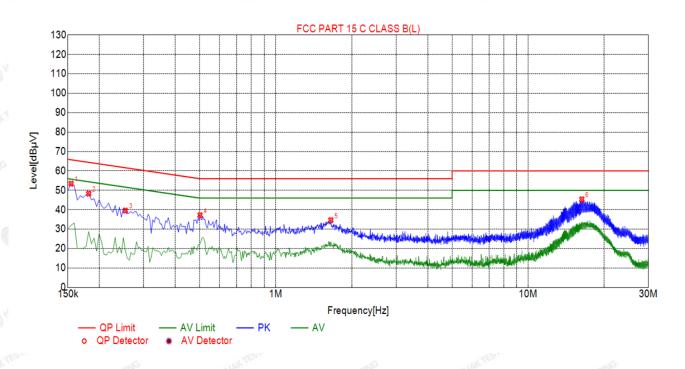
HUAY TESTING

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.



4.2.4 Test results

Test Specification: Line



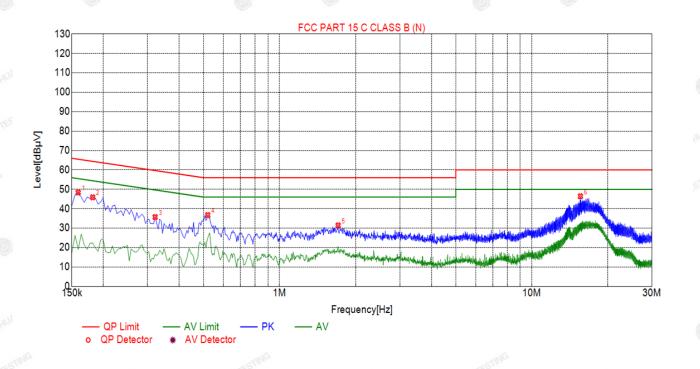
Sus	Suspected List								
NO.	Freq. [MHz]	Level [dBµV]	Factor [dB]	Limit [dBµV]	Margin [dB]	Reading [dBµV]	Detector	Туре	
1	0.1545	53.41	20.03	65.75	12.34	33.38	PK	L	
2	0.1815	48.31	20.06	64.42	16.11	28.25	PK	L	
3	0.2535	39.57	20.04	61.64	22.07	19.53	PK	L	
4	0.5010	37.18	20.04	56.00	18.82	17.14	PK	L	
5	1.6530	34.67	20.12	56.00	21.33	14.55	PK	L	
6	16.3275	45.37	19.98	60.00	14.63	25.39	PK	L	

Remark: Margin = Limit - Level

Correction factor = Cable lose + LISN insertion loss Level=Test receiver reading + correction factor

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.

Test Specification: Neutral



Sı	Suspected List									
NO)_	Freq. [MHz]	Level [dBµV]	Factor [dB]	Limit [dBµV]	Margin [dB]	Reading [dBµV]	Detector	Туре	
1		0.1590	48.37	20.01	65.52	17.15	28.36	PK	N	
2		0.1815	45.87	20.06	64.42	18.55	25.81	PK	Z	
3		0.3210	35.71	20.05	59.68	23.97	15.66	PK	N	
4		0.5190	36.75	20.04	56.00	19.25	16.71	PK	N	
5		1.7070	31.42	20.13	56.00	24.58	11.29	PK	N	
6		15.6030	46.42	19.97	60.00	13.58	26.45	PK	N	

Remark: Margin = Limit - Level

Correction factor = Cable lose + LISN insertion loss Level=Test receiver reading + correction factor

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.

4.3 RADIATED EMISSIONS MEASUREMENT

4.3.1 Applied procedures / Limit

For intentional device, according to § 15.209(a), the general requirement of field strength of radiated emission out of authorized band shall not exceed the following table at a 3 meters measurement distance.

In addition, radiated emissions which fall in the restricted bands, as defined in §15.205(a), must also comply with the radiated emission limits specified in §15.209(a).

Except when the requirements applicable to a given device state otherwise, emissions from license-exempt transmitters shall comply with the field strength limits shown in table below. Additionally, the level of any transmitter emission shall not exceed the level of the transmitter's fundamental emission.

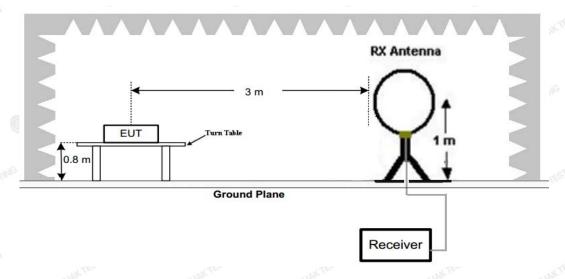
Radiated emission limits

	Frequency (MHz)	Distance (Meters)	Radiated (dBµV/m)	Radiated (µV/m)
	0.009-0.49 3		20log(2400/F(KHz))+40log(300/3)	2400/F(KHz)
	0.49-1.705 3		20log(24000/F(KHz))+ 40log(30/3)	24000/F(KHz)
	1.705-30	3	20log(30)+ 40log(30/3)	30
	30-88	3	40.0	100
n G	88-216	3 STING	43.5	150
	216-960	3	46.0	200
	Above 960	3	54.0	500

4.3.2 Test setup

Test Configuration:

1) 9 kHz to 30 MHz emissions:



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.

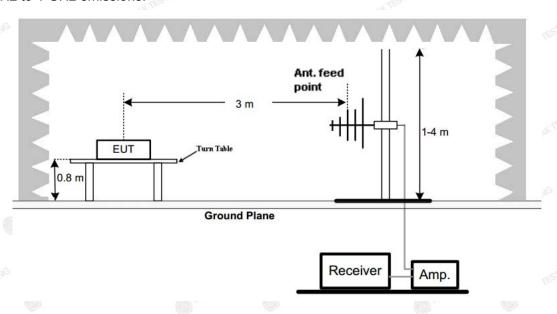
O HO

6

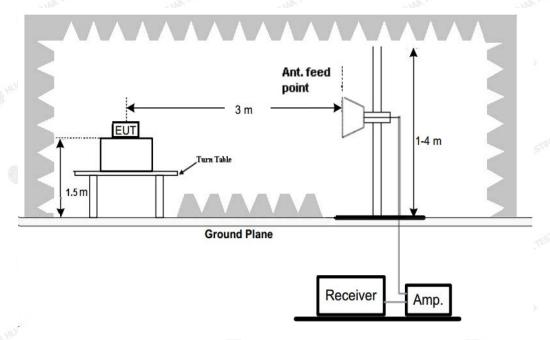


Report No.: HK2205051854-





3) 1 GHz to 25 GHz emissions:



Test Procedure

- 1. The EUT was placed on turn table which is 0.8m above ground plane for below 1GHz test, and on a low permittivity and low loss tangent turn table which is 1.5m above ground plane for above 1GHz test.
- 2. Maximum procedure was performed by raising the receiving antenna from 1m to 4m and rotating the turn table from 0° C to 360° C to acquire the highest emissions from EUT.
- 3. And also, each emission was to be maximized by changing the polarization of receiving antenna both horizontal and vertical.
- 4. Repeat above procedures until all frequency measurements have been completed.

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.

4.3.3 Test Result

Below 1GHz Test Results:

Antenna polarity: H



•	QP	Det	ec	to
•	-			

-												
4	Suspected List											
	NO	Freq.	Factor	Reading	Level	Limit	Margin	Height	Angle	Dolovitu		
1	NO.	[MHz]	[dB]	[dBµV/m]	[dBµV/m]	[dBµV/m]	[dB]	[cm]	[°]	Polarity		
3	1	65.9259	-16.65	33.66	17.01	40.00	22.99	100	1	Horizontal		
	2	153.3133	-20.50	39.43	18.93	43.50	24.57	100	132	Horizontal		
	3	240.7007	-13.82	39.76	25.94	46.00	20.06	100	84	Horizontal		
	4	327.1171	-11.74	36.91	25.17	46.00	20.83	100	3	Horizontal		
	5	479.5596	-8.44	39.67	31.23	46.00	14.77	100	183	Horizontal		
	6	798.0380	-3.15	30.81	27.66	46.00	18.34	100	5	Horizontal		

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

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.

Antenna polarity: V



Suspected List											
NO.	Freq. [MHz]	Factor [dB]	Reading [dBµV/m]	Level [dBµV/m]	Limit [dBµV/m]	Margin [dB]	Height [cm]	Angle [°]	Polarity		
1	65.9259	-16.65	36.91	20.26	40.00	19.74	100	27	Vertical		
2	149.4294	-20.23	40.42	20.19	43.50	23.31	100	149	Vertical		
3	175.6456	-17.64	36.33	18.69	43.50	24.81	100	197	Vertical		
4	398.9690	-10.43	31.62	21.19	46.00	24.81	100	78	Vertical		
5	479.5596	-8.44	36.27	27.83	46.00	18.17	100	4	Vertical		
6	598.0180	-6.24	32.54	26.30	46.00	19.70	100	288	Vertical		

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

Harmonics and Spurious Emissions

Frequency Range (9 kHz-30MHz)

Frequency (MHz)	Level@3m (dBµV/m)	Limit@3m (dBµV/m)
	ESTIL	LAK TESTING
WANTEST" PRO	WAK-TEST	- WAY TEST
.	6	
TAN TESTA		<u></u>

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.

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.



For 1GHz to 25GHz

Report No.: HK2205051854-

CH Low (2402MHz)

Horizontal:

and V	and All		Was HOL	are W	0'	Why were	
Frequency	Meter Reading	Factor	Emission Level	Limits	Margin	Detector	
(MHz)	(dBµV)	(dB)	(dBµV/m)	(dBµV/m)	(dB)	Detector Type	
4804	50.47	-3.65	46.82	74.00	-27.18	peak	
4804	38.71	-3.65	35.06	54.00	-18.94	AVG	
7206	50.60	-0.95	49.65	74.00	-24.35	peak	
7206	38.17	-0.95	37.22	54.00	-16.78	AVG	

Vertical:

Frequency	Meter Reading	Factor	Emission Level	Limits	Margin	Detector
(MHz)	(dBµV)	(dB)	(dBµV/m)	(dBµV/m)	(dB)	Type
4804	52.75	-3.65	49.10	74.00	-24.90	peak
4804	41.55	-3.65	37.90	54.00	-16.10	AVG
7206	47.30	-0.95	46.35	74.00	-27.65	peak
7206	39.89	-0.95	38.94	54.00	-15.06	AVG

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.

CH Middle (2440MHz)

Horizontal:

Meter Reading	Factor	Emission Level	Limits	Margin	Detector
(dBµV)	(dB)	(dBµV/m)	(dBµV/m)	(dB)	Detector Type
57.91	-3.54	54.37	74.00	-19.63	peak
45.28	-3.54	41.74	54.00	-12.26	AVG
51.23	-0.81	50.42	74.00	-23.58	peak
36.51	-0.81	35.70	54.00	-18.30	AVG
	Reading (dBμV) 57.91 45.28 51.23	Reading Factor (dBμV) (dB) 57.91 -3.54 45.28 -3.54 51.23 -0.81	Reading Factor Emission Level (dBμV) (dB) (dBμV/m) 57.91 -3.54 54.37 45.28 -3.54 41.74 51.23 -0.81 50.42	Reading Factor Emission Level Limits (dBμV) (dB) (dBμV/m) (dBμV/m) 57.91 -3.54 54.37 74.00 45.28 -3.54 41.74 54.00 51.23 -0.81 50.42 74.00	Reading Factor Emission Level Limits Margin (dBμV) (dB) (dBμV/m) (dBμV/m) (dB) 57.91 -3.54 54.37 74.00 -19.63 45.28 -3.54 41.74 54.00 -12.26 51.23 -0.81 50.42 74.00 -23.58

Vertical:

Meter Reading	Factor	Emission Level	Limits	Margin	Datasta
(dBµV)	(dB)	(dBµV/m)	(dBµV/m)	(dB)	Detecto Type
52.97	-3.54	49.43	74.00	-24.57	peak
43.68	-3.54	40.14	54.00	-13.86	AVG
49.13	-0.81	48.32	74.00	-25.68	peak
39.99	-0.81	39.18	54.00	-14.82	AVG
	Reading (dBμV) 52.97 43.68 49.13	Reading Factor (dBμV) (dB) 52.97 -3.54 43.68 -3.54 49.13 -0.81	Reading Factor Emission Level (dBμV) (dB) (dBμV/m) 52.97 -3.54 49.43 43.68 -3.54 40.14 49.13 -0.81 48.32	Reading Factor Emission Level Limits (dBμV) (dB) (dBμV/m) (dBμV/m) 52.97 -3.54 49.43 74.00 43.68 -3.54 40.14 54.00 49.13 -0.81 48.32 74.00	Reading Factor Emission Level Limits Margin (dBμV) (dB) (dBμV/m) (dBμV/m) (dB) 52.97 -3.54 49.43 74.00 -24.57 43.68 -3.54 40.14 54.00 -13.86 49.13 -0.81 48.32 74.00 -25.68

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

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 cannon 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.

CH High (2480MHz)

Horizontal:

Frequency	Meter Reading	Factor	Emission Level	Limits	Margin	Detector
(MHz)	(dBµV)	(dB)	(dBµV/m)	(dBµV/m)	(dB)	Type
4960	52.57	-3.43	49.14	74.00	-24.86	peak
4960	40.11	-3.44	36.67	54.00	-17.33	AVG
7440	46.74	-0.77	45.97	74.00	-28.03	peak
7440	37.73	-0.77	36.96	54.00	-17.04	AVG
mark: Facto	r = Antenna Fac	ctor + Cable L	oss – Pre-amplifier.			

Vertical:

Frequency	Meter Reading	Factor	Emission Level	Limits	Margin	Detector
(MHz)	(dBµV)	(dB)	(dBµV/m)	(dBµV/m)	(dB)	Type
4960	54.63	-3.43	51.20	74.00	-22.80	peak
4960	45.13	-3.44	41.69	54.00	-12.31	AVG
7440	49.02	-0.77	48.25	74.00	-25.75	peak
7440	40.35	-0.77	39.58	54.00	-14.42	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 recorded 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.



Report No.: HK2205051854

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.

Report No.: HK2205051854

Radiated Band Edge Test:

Operation Mode: TX CH Low (2402MHz)

Horizontal (Worst case):

Frequency	Reading Result	Factor	Emission Level	Limits	Margin	Detector
(MHz)	(dBµV)	(dB)	(dBµV/m)	(dBµV/m)	(dB)	Туре
2310.00	56.66	-5.81	50.85	74	-23.15	peak
2310.00	1	-5.81	1	54	1	AVG
2390.00	55.31	-5.84	49.47	74	-24.53	peak
2390.00	1	-5.84	1	54	HO.	AVG
2400.00	53.27	-5.84	47.43	74	-26.57	peak
2400.00	N TEXTING	-5.84	STAND / NATEST	54	KTESTING	AVG

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

Vertical:

Frequency	Reading Result	Factor	Emission Level	Limits	Margin	Detector
(MHz)	(dBµV)	(dB)	(dBµV/m)	(dBµV/m)	(dB)	Туре
2310.00	55.65	-5.81	49.84	74	-24.16	peak
2310.00	LINE	-5.81	NE 1	₆ 54	TESTINA	AVG
2390.00	54.17	-5.84	48.33	74	-25.67	peak
2390.00	1	-5.84	1	54	STIME /	AVG
2400.00	53.08	-5.84	47.24	74	-26.76	peak
2400.00	1	-5.84		54	1 (1)	AVG

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

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.

Operation Mode: TX CH High (2480MHz)

Horizontal (Worst case)

Frequency	Meter Reading	Factor	Emission Level	Limits	Margin	Detector
(MHz)	(dBµV)	(dB)	(dBµV/m)	(dBµV/m)	(dB)	Type
2483.50	56.15	-5.81	50.34	74 HUMETE	-23.66	peak
2483.50	1	-5.81	MI I	54	1 🐠	AVG
2500.00	55.37	-6.06	49.31	74	-24.69	peak
2500.00	WAX TESTING	-6.06	ESTING / LAKTEST	54	AK TETING	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
2483.50	55.22	-5.81	49.41	74	-24.59	peak
2483.50	STAGE (1)	-5.81	TING /	54	ING	AVG
2500.00	55.37	-6.06	49.31	74	-24.69	peak
2500.00	1	-6.06	1	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.

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.

4.4 MAXIMUM OUTPUT POWER MEASUREMENT

4.4.1 Limit

The Maximum Peak Output Power Measurement is 30dBm.

4.4.2 Test procedure

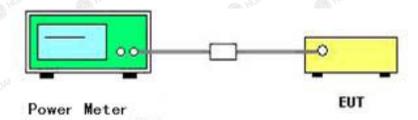
The maximum peak conducted output power may be measured using a broadband peak RF power meter. The power meter shall have a video bandwidth that is greater than or equal to the DTS bandwidth and shall utilize a fast-responding diode detector.

The maximum Average conducted output power may be measured using a wideband RF power meter with a thermocouple detector or equivalent. The power meter shall have a video bandwidth that is greater than or equal to the DTS bandwidth and shall utilize a fast-responding diode detector.

4.4.3 Deviation from standard

No deviation.

4.4.4 Test setup



4.4.5 Test results

Channel	Channel frequency (MHz)	Output power (dBm)	Limit (dBm)	Result
Low	2402	-3.23		Pass
Middle	2440	-3.21	30	Pass
High	2480	-3.09	O 100	Pass

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.



4.5 POWER SPECTRAL DENSITY

4.5.1 Limit

For digitally modulated systems, the power spectral density conducted from the intentional radiator to the antenna shall not be greater than 8 dBm in any 3 kHz band during any time interval of continuous transmission.

4.5.2 Test procedure

Use this procedure when the maximum peak conducted output power in the fundamental emission is used to demonstrate compliance.

Set the RBW =3 kHz.

Set the VBW =10 KHz.

Set the span to 1.5 times the DTS channel bandwidth.

Detector = peak.

Sweep time = auto couple.

Trace mode = max hold.

Allow trace to fully stabilize.

Use the peak marker function to determine the maximum power level.

If measured value exceeds limit, reduce RBW(no less than 3 kHz)and repeat.

The resulting peak PSD level must be 8 dBm.

4.5.3 Deviation from standard

No deviation.

4.5.4 Test setup



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



4.5.5 Test results

Channel	Channel frequency (MHz)	Power Spectral Density (dBm/3KHz)	Limit (dBm/3KHz)	Result
Low	2402	-17.82	O suppo	Pass
Middle	2440	-17.63	8.00	Pass
High	2480	-17.49	HUAK	Pass

CH 00



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 cannon 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.



CH 19



CH 39



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 cannon 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.

4.6 6DB BANDWIDTH

4.6.1 Limit

For digital modulation systems, the minimum 6 dB bandwidth shall be at least 500 kHz.

4.6.2 Test procedure

The transmitter output was connected to the spectrum analyzer through an attenuator. The bandwidth of the fundamental frequency was measured by spectrum analyzer with RBW=100 KHz and VBW=300KHz. The 6dB bandwidth is defined as the total spectrum the power of which is higher than peak power minus 6dB.

- 1. Set RBW = 100 kHz.
- Set the video bandwidth (VBW) ≥ 3 RBW.
- 3. Detector = Peak.
- 4. Trace mode = max hold.
- 5. Sweep = auto couple.
- 6. Allow the trace to stabilize.
- 7. Measure the maximum width of the emission that is constrained by the frequencies associated with the two outermost amplitude points (upper and lower frequencies) that are attenuated by 6 dB relative to the maximum level measured in the fundamental emission.

4.6.3 Deviation from standard

No deviation.

4.6.4 Test setup



4.6.5 Test result

Channel	Channel frequency (MHz)	6dB Bandwidth (MHz)	Limit (KHz)	Result
Low	2402	0.940	TING	Pass
Middle	2440	0.888	≥500	Pass
High	2480	0.892	9	Pass

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.



CH 00



CH 19



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 cannot 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.



CH 39



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.



4.7 OCCUPIED BANDWIDTH

4.7.1 Test procedure

The occupied bandwidth is the frequency bandwidth such that, below its lower and above its upper frequency limits, the mean powers are each equal to 0.5% of the total mean power of the given emission. The following procedure shall be used for measuring 99% power bandwidth:

RBW=1% to 5% of the OBW

VBW=approximately 3 X RBW

Detector=Peak

Trace Mode: Max Hold

Use the 99% power bandwidth function of the instrument to measure the Occupied Bandwidth and recorded.

4.7.2 Deviation from standard

No deviation.

4.7.3 Test setup



4.7.4 Test result

N/A

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.

4.8 BAND EDGE

4.8.1 Limit

In any 100 kHz bandwidth outside the frequency band in which the spread spectrum or digitally modulated device is operating, the RF power that is produced shall be at least 20 dB below that in the 100 kHz bandwidth within the band that contains the highest level of the desired power, based on either an RF conducted or a radiated measurement, provided that the transmitter demonstrates compliance with the peak conducted power limits. If the transmitter complies with the conducted power limits based on the use of root-mean-square averaging over a time interval, as permitted under FCC rules in section 5.8.1, the attenuation required shall be 30 dB instead of 20 dB.

4.8.2 Test procedure

- a. The EUT was directly connected to the spectrum analyzer and antenna output port as show in the block diagram below.
- b. Span = wide enough to capture the peak level of the emission operating on the channel closest to the band edge, as well as any modulation products which fall outside of the authorized band of operation, RBW ≥ 1% of the span, VBW ≥ RBW, Sweep = auto, Detector function = peak, Trace = max hold

4.8.3 Deviation from standard

No deviation.

4.8.4 Test setup



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

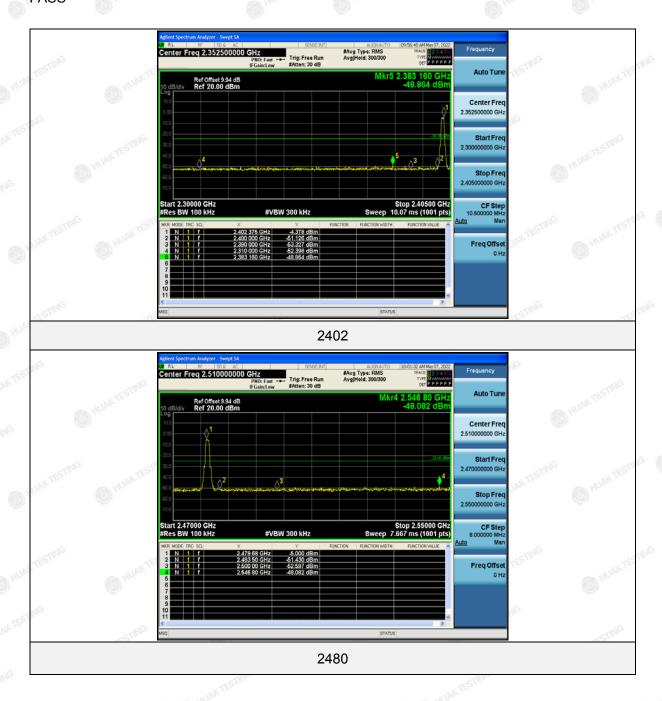
TEL: +86-755 2302 9901 FAX: +86-755 2302 9901 E-mail: service@cer-mark.com



Report No.: HK2205051854-18

4.8.5 Test results

PASS



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.

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

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



Report No.: HK2205051854-1E



4.9 CONDUCTED SPURIOUS EMISSIONS

4.9.1 Applied procedures / Limit

In any 100 kHz bandwidth outside the frequency band in which the spread spectrum or digitally modulated device is operating, the RF power that is produced shall be at least 20 dB below that in the 100 kHz bandwidth within the band that contains the highest level of the desired power, based on either an RF conducted or a radiated measurement, provided that the transmitter demonstrates compliance with the peak conducted power limits. If the transmitter complies with the conducted power limits based on the use of root-mean-square averaging over a time interval, as permitted under Section (b)(3) of RSS 5.4(4), the attenuation required shall be 30 dB instead of 20 dB. For below 30MHz,For 9KHz-150kHz,150K-10MHz,We use the RBW 1KHz,10KHz, So the limit need to calculated by "10lg(BW1/BW2)". for example For9KHz-150kHz,RBW 1KHz, The Limit= the highest

4.9.2 Test procedure

a. The EUT was directly connected to the spectrum analyzer and antenna output port as show in the block diagram below.

b.Span = wide enough to capture the peak level of the emission operating on the channel closest to the band edge, as well as any modulation products which fall outside of the authorized band of operation, RBW \geq 1% of the span, VBW \geq RBW, Sweep = auto,

Detector function = peak, Trace = max hold

emission level-20-10log(100/1)= the highest emission level-40.

4.9.3 Deviation from standard

No deviation.

4.9.4 Test setup

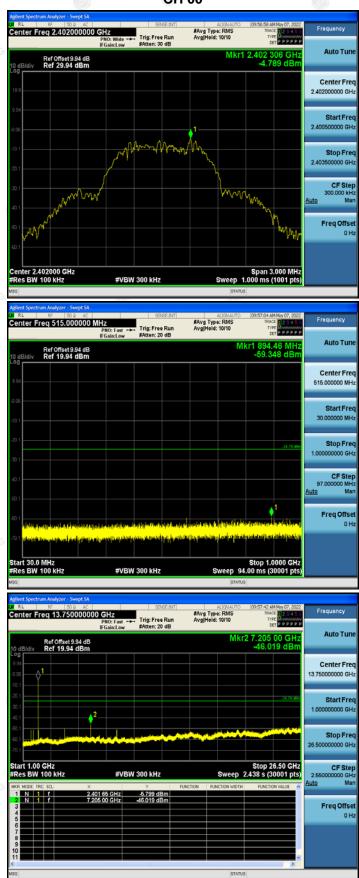


The results shown in this test report refer only to the sample(s) tested unless otherwise stated and the sample(s) are retained for 30 days only. The document is issued by HUAK, this document cannon be reproduced except in full with our prior written permission. The more details and the authenticity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



4.9.5 Test results

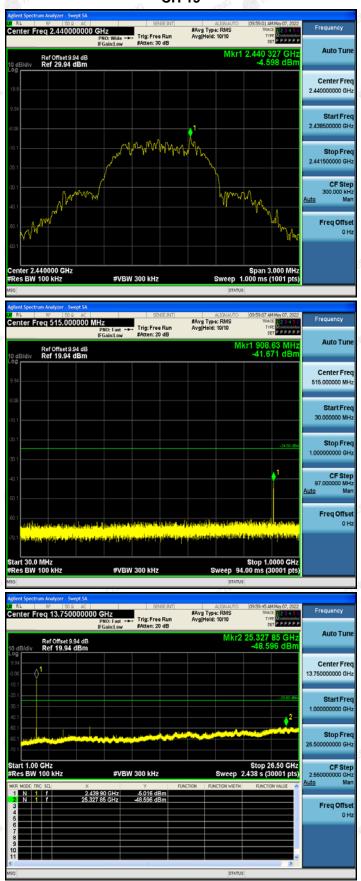
CH 00



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 cannon 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.



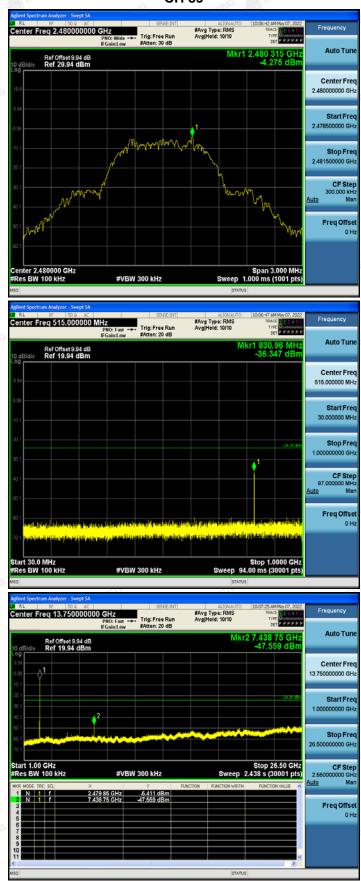
CH 19



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 cannot 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.

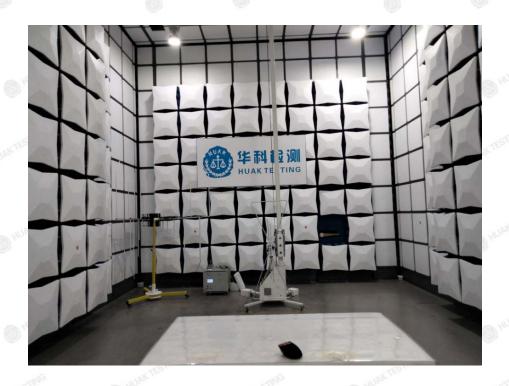


CH 39



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 cannot 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.

Radiated Emissions

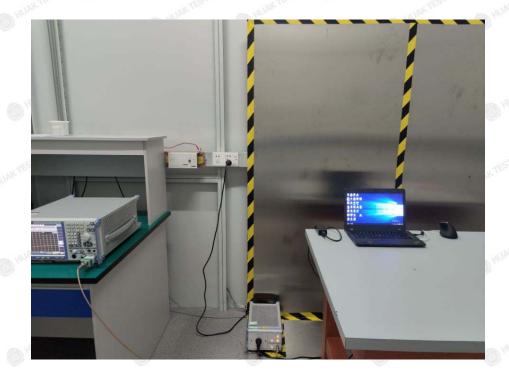




The results shown in this test report refer only to the sample(s) tested unless otherwise stated and the sample(s) are retained for 30 days only. The document is issued by HUAK, this document cannont be reproduced except in full with our prior written permission. The more details and the authenticity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



Conducted Emission



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 cannon 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.

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

End of test report

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.