

FCC Test Report

**Test Report
On Behalf of
Xiamen Yiquan Technology Co., Ltd.
For
Lyrics Music Frame
Model No.: JD190H-B06**

FCC ID: 2BR9E-JD190H-B06

Prepared For: Xiamen Yiquan Technology Co., Ltd.
Room 1001, Century Fortune Center, Lianqian Street, Siming District, Xiamen, 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: Jul. 31, 2025 ~ Aug. 13, 2025
Date of Report: Aug. 13, 2025
Report Number: HK2507314231-5E

The results shown in this test report refer only to the sample(s) tested unless otherwise stated and the sample(s) are retained for 15 days only. The document is issued by Shenzhen HUAK Testing Technology Co., Ltd., this document cannot be reproduced except in full with our prior written permission.

Shenzhen HUAK Testing Technology Co., Ltd. Tel.: +86-0755-2302 9901 E-mail: info@huak.com Web.: www.huak.com

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

Test Result Certification

Applicant's Name : Xiamen Yiquan Technology Co., Ltd.
Address : Room 1001, Century Fortune Center, Lianqian Street, Siming District, Xiamen, China

Manufacturer's Name : SHENZHEN JOYHONG TECH CO., LTD
Address : Building B6, Western Industry Factory Zone, Tantou Community, Songgang Street, Bao'an District, Shenzhen, China

Product Description

Trade Mark : BOCT

Product Name : Lyrics Music Frame

Model and/or Type Reference : JD190H-B06

Standards : FCC Rules and Regulations Part 15 Subpart E Section 15.407
ANSI C63.10: 2020

This publication may be reproduced in whole or in part for non-commercial purposes as long as the Shenzhen HUAK Testing Technology Co., Ltd. is acknowledged as copyright owner and source of the material. Shenzhen HUAK Testing Technology Co., Ltd. takes no responsibility for and will not assume liability for damages resulting from the reader's interpretation of the reproduced material due to its placement and context.

Date of Test :

Date (s) of performance of tests : Jul. 31, 2025 ~ Aug. 13, 2025

Date of Issue : Aug. 13, 2025

Test Result : Pass

Testing Engineer

len liao

Len Liao

Technical Manager

Sliver Wan

Sliver Wan

Authorized Signatory

Jason Zhou

Jason Zhou

Table of Contents

1. Test Result Summary	5
1.1 Test Procedures and Results.....	5
1.2 Information of the Test Laboratory	5
1.3 Measurement Uncertainty	6
2. EUT Description	7
2.1 General Description of EUT	7
2.2 Operation Frequency Each of Channel.....	8
2.3 Operation of EUT during Testing.....	8
2.4 Description of Test Setup.....	9
2.5 Description of Support Units	10
3. General Information.....	11
3.1 Test Environment and Mode	11
4. Test Results and Measurement Data	13
4.1 AC Conducted Emission	13
4.2 Maximum Conducted Output Power	17
4.3 6dB Emission Bandwidth	20
4.4 26dB Bandwidth and 99% Occupied Bandwidth	27
4.5 Power Spectral Density	28
4.6 Band Edge.....	35
4.7 Spurious Emission.....	48
4.8 Frequency Stability Measurement.....	66
4.9 Antenna Requirement.....	68
5. Photographs of Test Setup	69
6. Photos of the EUT.....	71



HUAK TESTING

HUAK TESTING

HUAK TESTING

HUAK TESTING

HUAK TESTING



HUAK TESTING



Page 4 of 71



Report No.: HK2507314231-5E

** Modified History **

Revision	Description	Issued Date	Remark
Revision 1.0	Initial Test Report Release	Aug. 13, 2025	Jason Zhou
		HUAK TESTING	
HUAK TESTING			

HUAK 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 15 days only. The document is issued by Shenzhen HUAK Testing Technology Co., Ltd., this document cannot be reproduced except in full with our prior written permission.

Shenzhen HUAK Testing Technology Co., Ltd. Tel.: +86-0755-2302 9901 E-mail: info@huak.com Web.: www.huak.com

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



1. Test Result Summary

1.1 Test Procedures and Results

Requirement	CFR 47 Section	Result
Antenna Requirement	§15.203	PASS
AC Power Line Conducted Emission	§15.207	PASS
Maximum Conducted Output Power	§15.407(a)	PASS
6dB Emission Bandwidth	§15.407(e)	PASS
26dB Emission Bandwidth& 99% Occupied Bandwidth	§15.407(a)	N/A
Power Spectral Density	§15.407(a)	PASS
Band Edge	§15.407(b)/15.209/15.205	PASS
Radiated Emission	§15.407(b)/15.209/15.205	PASS
Frequency Stability	§15.407(g)	PASS

Note:

1. PASS: Test item meets the requirement.
2. Fail: Test item does not meet the requirement.
3. N/A: Test case does not apply to the test object.
4. The test result judgment is decided by the limit of test standard.

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

**HUAK TESTING**

HUAK TESTING

1.3 Measurement Uncertainty

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

No.	Item	MU
1	Conducted Emission	$\pm 0.37\text{dB}$
2	RF Power, Conducted	$\pm 3.35\text{dB}$
3	Spurious Emissions, Conducted	$\pm 2.20\text{dB}$
4	All Emissions, Radiated(<1G)	$\pm 3.90\text{dB}$
5	All Emissions, Radiated(>1G)	$\pm 4.28\text{dB}$
6	Temperature	$\pm 0.1^\circ\text{C}$
7	Humidity	$\pm 1.0\%$

The results shown in this test report refer only to the sample(s) tested unless otherwise stated and the sample(s) are retained for 15 days only. The document is issued by Shenzhen HUAK Testing Technology Co., Ltd., this document cannot be reproduced except in full with our prior written permission.

Shenzhen HUAK Testing Technology Co., Ltd. Tel.: +86-0755-2302 9901 E-mail: info@huak.com Web.: www.huak.com

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



2. EUT Description

2.1 General Description of EUT

Equipment:	Lyrics Music Frame
Model Name:	JD190H-B06
Series Model(s):	N/A
Model Difference:	N/A
Trade Mark:	BOCT
FCC ID:	2BR9E-JD190H-B06
Operation Frequency:	IEEE 802.11a/n/ac(HT20)5.745GHz-5.825GHz IEEE 802.11n/ac(HT40)5.755GHz-5.795GHz
Modulation Technology:	IEEE 802.11a/n/ac
Modulation Type:	256QAM, 64QAM, 16QAM, QPSK, BPSK for OFDM
Antenna Type:	Internal antenna
Antenna Gain:	3.83dBi
Power Source:	AC100-240V, 50/60Hz
Power Supply:	AC100-240V, 50/60Hz
Hardware Version:	V1.0
Software Version:	V1.0

Note:

1. For a more detailed features description, please refer to the manufacturer's specifications or the User's Manual.
2. Antenna gain Refer to the antenna specifications.
3. The cable loss data is obtained from the supplier.
4. The test results in the report only apply to the tested sample.



HUAK TESTING

HUAK TESTING



HUAK TESTING



HUAK TESTING



HUAK TESTING

2.2 Operation Frequency Each of Channel

802.11a/802.11n(HT20) 802.11ac(HT20)		802.11n(HT40)/ 802.11ac(HT40)	
Channel	Frequency	Channel	Frequency
149	5745	151	5755
153	5765	159	5795
157	5785		
161	5805		
165	5825		

Note:

In section 15.31(m), regards to the operating frequency range over 10 MHz, the Lowest frequency, the middle frequency, and the highest frequency of channel were selected to perform the test, and the selected channel see below:

2.3 Operation of EUT during Testing

Band IV (5725 - 5850MHz)		
For 802.11a/n (HT20)/ac(HT20)		
Channel Number	Channel	Frequency (MHz)
149	Low	5745
157	Mid	5785
165	High	5825

For 802.11n(HT40)/ac(HT40)		
Channel Number	Channel	Frequency (MHz)
151	Low	5755
159	High	5795

The results shown in this test report refer only to the sample(s) tested unless otherwise stated and the sample(s) are retained for 15 days only. The document is issued by Shenzhen HUAK Testing Technology Co., Ltd., this document cannot be reproduced except in full with our prior written permission.

Shenzhen HUAK Testing Technology Co., Ltd. Tel.: +86-0755-2302 9901 E-mail: info@huak.com Web.: www.huak.com

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



HUAK TESTING

HUAK TESTING

HUAK TESTING

HUAK TESTING

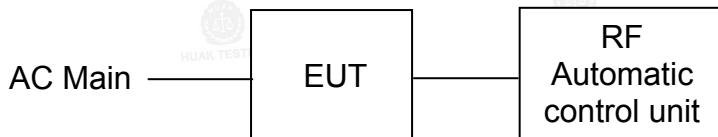
HUAK TESTING

2.4 Description of Test Setup

Operation of EUT during AC Conducted and Radiation testing:



Operation of EUT during RF Conducted testing:



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.

**HUAK TESTING**

HUAK TESTING



HUAK TESTING

HUAK TESTING

HUAK TESTING

HUAK TESTING



HUAK TESTING

2.5 Description of Support Units

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

Item	Equipment	Trade Mark	Model/Type No.	Specification	Note
1	Lyrics Music Frame	BOCT	JD190H-B06	N/A	EUT
2	AC Cable	N/A	N/A	Length: 3m	Accessory

Note:

1. All the equipment/cables were placed in the worst-case configuration to maximize the emission during the test.
2. Grounding was established in accordance with the manufacturer's requirements and conditions for the intended use.
3. For conducted measurements (Output Power, 6dB Emission Bandwidth, Power Spectral Density, Spurious Emissions), the antenna of EUT is connected to the test equipment via temporary antenna connector, the antenna connector is soldered on the antenna port of EUT, and the temporary antenna connector is listed in the Test Instruments.



HUAK TESTING

3. General Information

3.1 Test Environment and Mode

Operating Environment:

Temperature:	25.0 °C
Humidity:	56 % RH
Atmospheric Pressure:	1010 mbar

Test Mode:

Engineering Mode:	Keep the EUT in continuous transmitting by select channel and modulations
-------------------	---

We have verified the construction and function in typical operation. All the test modes were carried out with the EUT in transmitting operation, which was shown in this test report and defined as follows:

Per-scan all kind of data rate in lowest channel, and found the follow list which it was worst case.

Mode	Data Rate
802.11a	6 Mbps
802.11n(HT20)	MCS0
802.11n(HT40)	MCS0
802.11ac(HT20)/ac(HT40)	MCS0

Final Test Mode:

Operation Mode:	Keep the EUT in continuous transmitting with modulation
-----------------	---

Mode Test Duty Cycle:

Mode	Duty Cycle
802.11a	0.9645
802.11n(HT20)	0.9621
802.11n(HT40)	0.9275
802.11ac(HT20)	0.9621
802.11ac(HT40)	0.9130

Test plots as follows:

The results shown in this test report refer only to the sample(s) tested unless otherwise stated and the sample(s) are retained for 15 days only. The document is issued by Shenzhen HUAK Testing Technology Co., Ltd., this document cannot be reproduced except in full with our prior written permission.

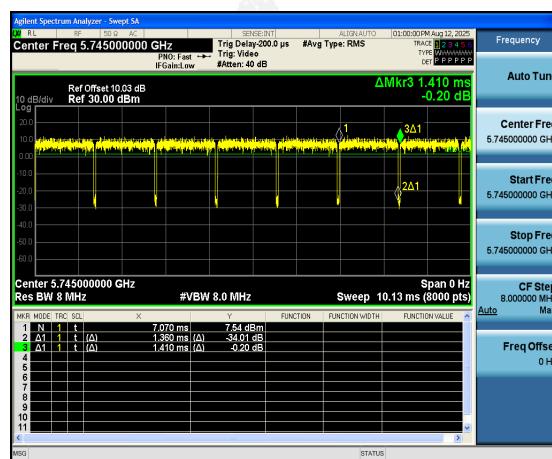
Shenzhen HUAK Testing Technology Co., Ltd. Tel.: +86-0755-2302 9901 E-mail: info@huak.com Web.: www.huak.com

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

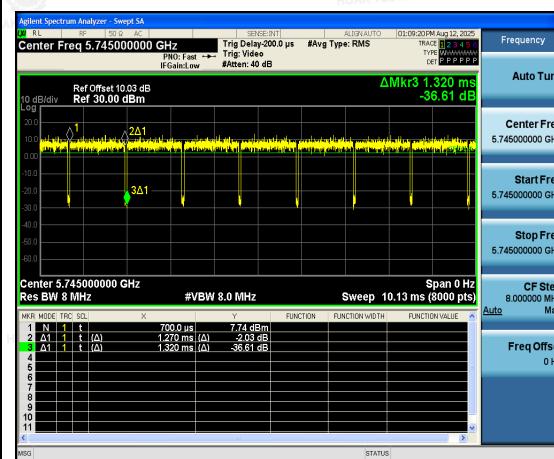


HUAK TESTING

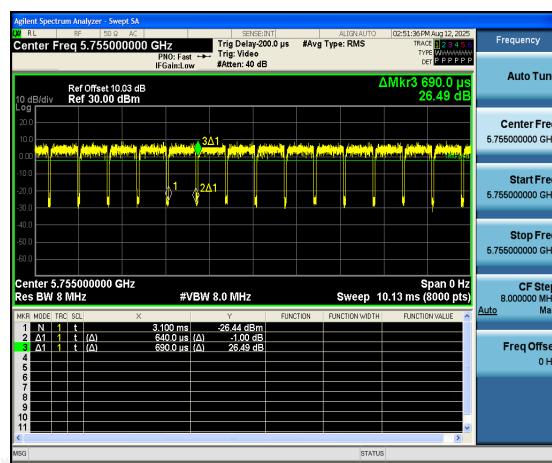
802.11a



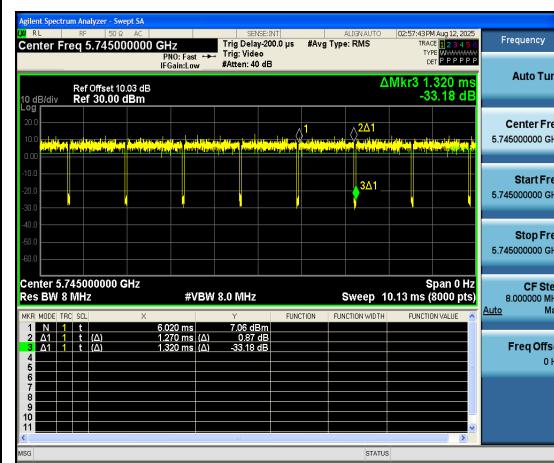
802.11n(HT20)



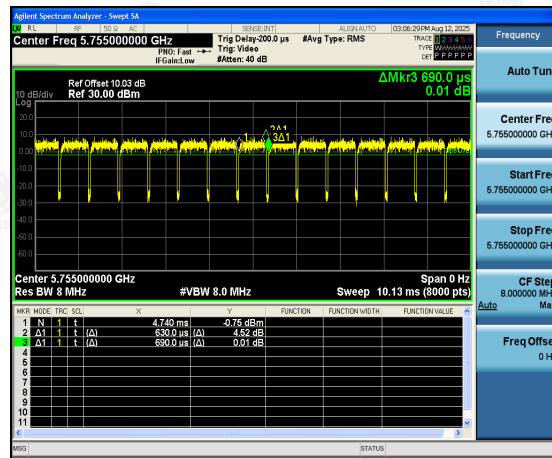
802.11n(HT40)



802.11ac(HT20)



802.11ac(HT40)

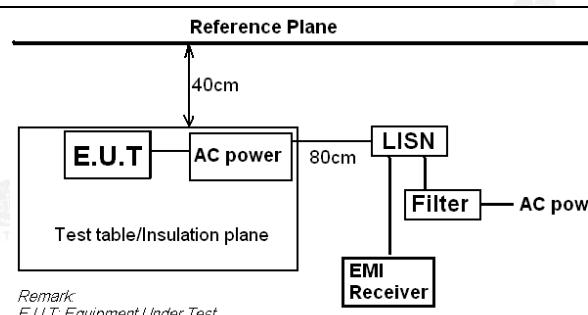


The results shown in this test report refer only to the sample(s) tested unless otherwise stated and the sample(s) are retained for 15 days only. The document is issued by Shenzhen HUAK Testing Technology Co., Ltd., this document cannot be reproduced except in full with our prior written permission.

4. Test Results and Measurement Data

4.1 AC Conducted Emission

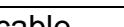
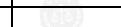
4.1.1. Test Specification

Test Requirement:	FCC Part15 C Section 15.207														
Test Method:	ANSI C63.10: 2020														
Frequency Range:	150 kHz to 30 MHz														
Receiver Setup:	RBW=9 kHz, VBW=30 kHz, Sweep time=auto														
Limits:	<table border="1"> <thead> <tr> <th rowspan="2">Frequency range (MHz)</th> <th colspan="2">Limit (dBuV)</th> </tr> <tr> <th>Quasi-peak</th> <th>Average</th> </tr> </thead> <tbody> <tr> <td>0.15-0.5</td> <td>66 to 56*</td> <td>56 to 46*</td> </tr> <tr> <td>0.5-5</td> <td>56</td> <td>46</td> </tr> <tr> <td>5-30</td> <td>60</td> <td>50</td> </tr> </tbody> </table>	Frequency range (MHz)	Limit (dBuV)		Quasi-peak	Average	0.15-0.5	66 to 56*	56 to 46*	0.5-5	56	46	5-30	60	50
Frequency range (MHz)	Limit (dBuV)														
	Quasi-peak	Average													
0.15-0.5	66 to 56*	56 to 46*													
0.5-5	56	46													
5-30	60	50													
Test Setup:	 <p>Reference Plane</p> <p>40cm</p> <p>E.U.T</p> <p>AC power</p> <p>LISN</p> <p>Test table/Insulation plane</p> <p>80cm</p> <p>Filter</p> <p>AC power</p> <p>EMI Receiver</p> <p>Remark E.U.T: Equipment Under Test LISN: Line Impedance Stabilization Network Test table height=0.8m</p>														
Test Mode:	Transmitting with modulation														
Test Procedure:	<ol style="list-style-type: none"> 1. The E.U.T and simulators are connected to the main power through a line impedance stabilization network (L.I.S.N.). This provides a 50ohm/50uH coupling impedance for the measuring equipment. 2. The peripheral devices are also connected to the main power through a LISN that provides a 50ohm/50uH coupling impedance with 50ohm termination. (Please refer to the block diagram of the test setup and photographs). 3. Both sides of A.C. line are checked for maximum conducted interference. In order to find the maximum emission, the relative positions of equipment and all of the interface cables must be changed according to ANSI C63.10: 2020 on conducted measurement. 														
Test Result:	PASS														



HUAK TESTING

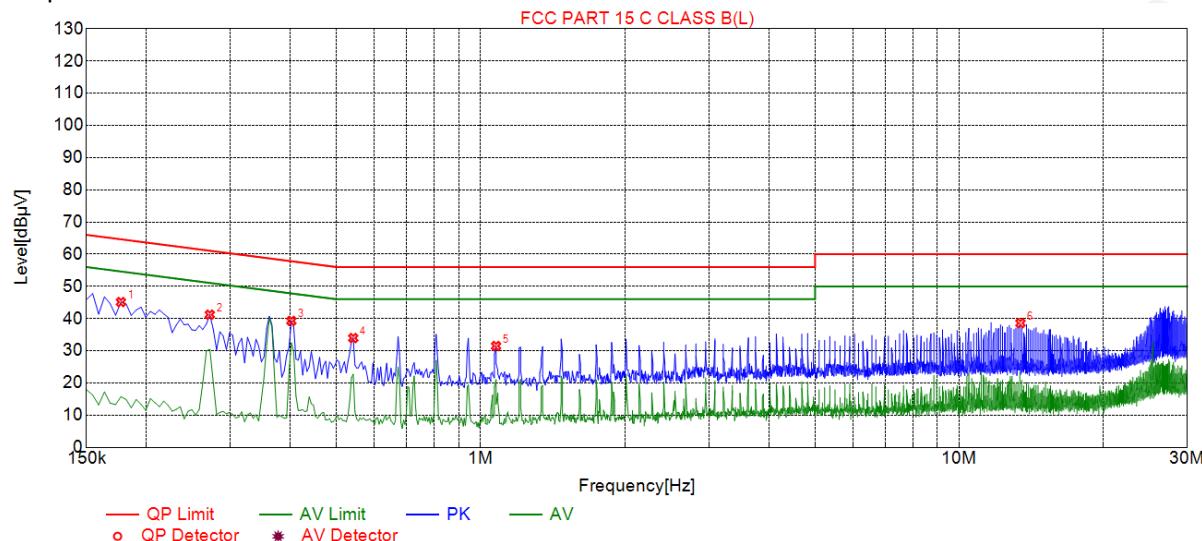
4.1.2. Test Instruments

Conducted Emission Shielding Room Test Site (843)					
Equipment	Manufacturer	Model	Serial Number	Calibration Date	Calibration Due
Receiver	R&S	ESR	HKE-005	Feb. 19, 2025	Feb. 18, 2026
LISN 	R&S	ENV216	HKE-002	Feb. 19, 2025	Feb. 18, 2026
LISN	R&S	ENV216	HKE-059	Feb. 19, 2025	Feb. 18, 2026
Coax cable (9KHz-30MHz)	Times 	381806-002	N/A 	Feb. 19, 2025	Feb. 18, 2026
EMI Test Software 	Tonscend	JS32-CE 2.5.0.6	HKE-081 	N/A 	N/A 
10dB Attenuator	Schwarzbeck	VTSD9561F	HKE-153 	Feb. 19, 2025 	Feb. 18, 2026 

Note: The calibration interval of the above test instruments is 12 months and the calibrations are traceable to international system unit (SI).

4.1.3. Test Data

Test Specification: Line



Suspected List

NO.	Freq. [MHz]	Level [dB μ V]	Factor [dB]	Limit [dB μ V]	Margin [dB]	Reading [dB μ V]	Detector	Type
1	0.1770	45.13	19.71	64.63	19.50	25.42	PK	L
2	0.2715	41.22	19.83	61.07	19.85	21.39	PK	L
3	0.4020	39.28	19.84	57.81	18.53	19.44	PK	L
4	0.5415	33.95	19.81	56.00	22.05	14.14	PK	L
5	1.0770	31.49	19.79	56.00	24.51	11.70	PK	L
6	13.4385	38.59	21.61	60.00	21.41	16.98	PK	L

Remark: Margin = Limit – Level

Correction factor = Cable loss + LISN insertion loss

Level=Test receiver reading + correction factor

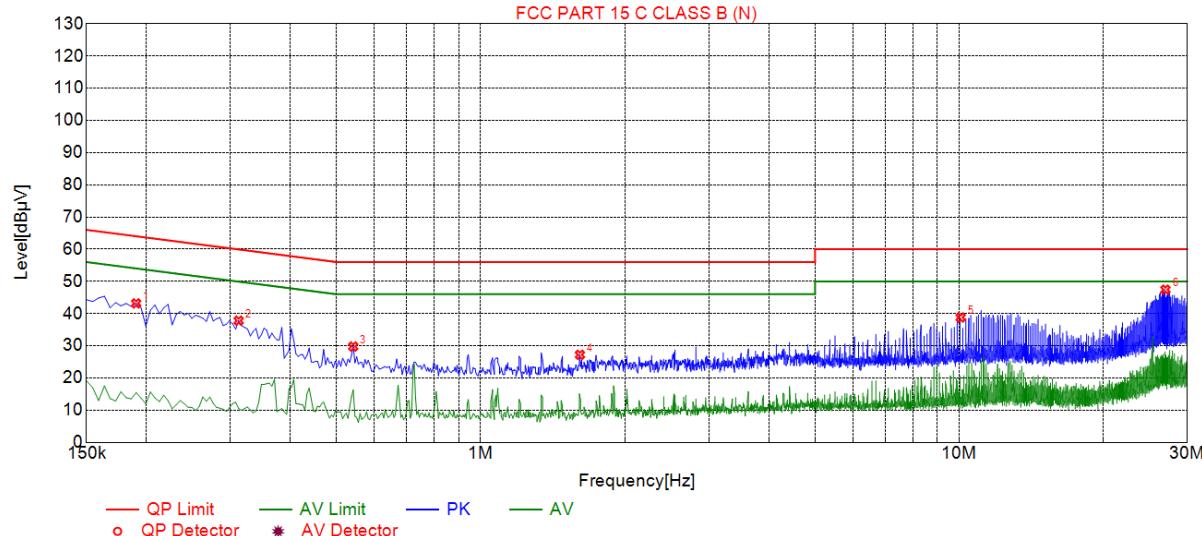


HUAK TESTING

Test Specification: Neutral

Page 16 of 71

Report No.: HK2507314231-5E



Suspected List

NO.	Freq. [MHz]	Level [dBμV]	Factor [dB]	Limit [dBμV]	Margin [dB]	Reading [dBμV]	Detector	Type
1	0.1905	43.17	19.64	64.01	20.84	23.53	PK	N
2	0.3120	37.81	19.69	59.92	22.11	18.12	PK	N
3	0.5415	29.77	19.75	56.00	26.23	10.02	PK	N
4	1.6125	27.21	19.87	56.00	28.79	7.34	PK	N
5	10.0770	38.78	20.97	60.00	21.22	17.81	PK	N
6	27.0060	47.43	24.80	60.00	12.57	22.63	PK	N

Remark: Margin = Limit – Level

Correction factor = Cable loss + 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 15 days only. The document is issued by Shenzhen HUAK Testing Technology Co., Ltd., this document cannot be reproduced except in full with our prior written permission.

Shenzhen HUAK Testing Technology Co., Ltd. Tel.: +86-0755-2302 9901 E-mail: info@huak.com Web.: www.huak.com

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

4.2 Maximum Conducted Output Power

4.2.1. Test Specification

The results shown in this test report refer only to the sample(s) tested unless otherwise stated and the sample(s) are retained for 15 days only. The document is issued by Shenzhen HUAK Testing Technology Co., Ltd., this document cannot be reproduced except in full with our prior written permission.

4.2.2. Test Instruments

RF Test Room					
Equipment	Manufacturer	Model	Serial Number	Calibration Date	Calibration Due
Spectrum analyzer	Agilent	N9020A	HKE-025	Feb. 19, 2025	Feb. 18, 2026
Spectrum analyzer	Agilent	N9020A	HKE-117	Feb. 19, 2025	Feb. 18, 2026
Power meter	Agilent	E4419B	HKE-085	Feb. 19, 2025	Feb. 18, 2026
Power Sensor	Agilent	E9300A	HKE-086	Feb. 19, 2025	Feb. 18, 2026
RF cable	Times	1-40G	HKE-034	Feb. 19, 2025	Feb. 18, 2026
RF automatic control unit	Tonscend	JS0806-2	HKE-060	Feb. 19, 2025	Feb. 18, 2026
RF Test Software	Tonscend	JS1120-3 Version 3.5.39	HKE-083	N/A	N/A

Note: The calibration interval of the above test instruments is 12 months and the calibrations are traceable to international system unit (SI).

**HUAK TESTING**

HUAK TESTING

Test Data**Configuration Band IV (5745 - 5825 MHz)**

Mode	Test channel	Maximum Conducted Output Power (dBm)	FCC Limit (dBm)	Result
802.11a	CH149	5.66	30	PASS
802.11a	CH157	5.53	30	PASS
802.11a	CH165	5.49	30	PASS
802.11n(HT20)	CH149	5.70	30	PASS
802.11n(HT20)	CH157	6.80	30	PASS
802.11n(HT20)	CH165	5.47	30	PASS
802.11n(HT40)	CH151	5.89	30	PASS
802.11n(HT40)	CH159	5.48	30	PASS
802.11ac(HT20)	CH149	5.29	30	PASS
802.11ac(HT20)	CH157	5.06	30	PASS
802.11ac(HT20)	CH165	5.40	30	PASS
802.11ac(HT40)	CH151	5.74	30	PASS
802.11ac(HT40)	CH159	5.61	30	PASS

Note: 1. The test results including the cable loss.

4.3 6dB Emission Bandwidth

4.3.1. Test Specification

4.3.2. Test Instruments

RF Test Room					
Equipment	Manufacturer	Model	Serial Number	Calibration Date	Calibration Due
Spectrum analyzer	Agilent	N9020A	HKE-025	Feb. 19, 2025	Feb. 18, 2026
Spectrum analyzer	Agilent	N9020A	HKE-117	Feb. 19, 2025	Feb. 18, 2026
RF cable	Times	1-40G	HKE-034	Feb. 19, 2025	Feb. 18, 2026
RF automatic control unit	Tonscend	JS0806-2	HKE-060	Feb. 19, 2025	Feb. 18, 2026
RF Test Software	Tonscend	JS1120-3 Version 3.5.39	HKE-083	N/A	N/A

Note: The calibration interval of the above test instruments is 12 months and the calibrations are traceable to international system unit (SI).

The results shown in this test report refer only to the sample(s) tested unless otherwise stated and the sample(s) are retained for 15 days only. The document is issued by Shenzhen HUAK Testing Technology Co., Ltd., this document cannot be reproduced except in full with our prior written permission.



HUAK TESTING

HUAK TESTING

4.3.3. Test Data

Band IV (5745 - 5825 MHz)					
Mode	Test channel	Frequency (MHz)	6dB Bandwidth (MHz)	Limit (MHz)	Result
802.11a	CH149	5745	16.320	0.5	PASS
802.11a	CH157	5785	16.320	0.5	PASS
802.11a	CH165	5825	16.280	0.5	PASS
802.11n(HT20)	CH149	5745	17.040	0.5	PASS
802.11n(HT20)	CH157	5785	16.960	0.5	PASS
802.11n(HT20)	CH165	5825	17.040	0.5	PASS
802.11n(HT40)	CH151	5755	35.760	0.5	PASS
802.11n(HT40)	CH159	5795	35.680	0.5	PASS
802.11ac(HT20)	CH149	5745	17.120	0.5	PASS
802.11ac(HT20)	CH157	5785	17.160	0.5	PASS
802.11ac(HT20)	CH165	5825	17.120	0.5	PASS
802.11ac(HT40)	CH151	5755	36.240	0.5	PASS
802.11ac(HT40)	CH159	5795	36.240	0.5	PASS

Test plots as follows:

The results shown in this test report refer only to the sample(s) tested unless otherwise stated and the sample(s) are retained for 15 days only. The document is issued by Shenzhen HUAK Testing Technology Co., Ltd., this document cannot be reproduced except in full with our prior written permission.

Shenzhen HUAK Testing Technology Co., Ltd. Tel.: +86-0755-2302 9901 E-mail: info@huak.com Web.: www.huak.com

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



HUAK TESTING

Band IV (5725 – 5850MHz)



The results shown in this test report refer only to the sample(s) tested unless otherwise stated and the sample(s) are retained for 15 days only. The document is issued by Shenzhen HUAK Testing Technology Co., Ltd., this document cannot be reproduced except in full with our prior written permission.

Shenzhen HUAK Testing Technology Co., Ltd. Tel: +86-0755-2302 9901 E-mail: info@huak.com Web: www.huak.com

Shenzhen HOAK Testing Technology Co., Ltd. Tel: +86-0755-2302 9901 E-mail: info@huak.com Web: www.huak.com
Add: 13/F, Building B2, Jinfeng Zhongcheng Zhizhi Innovation Park, Heping, Futian Street, Beicun District, Shenzhen, Guangdong, China

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



The results shown in this test report refer only to the sample(s) tested unless otherwise stated and the sample(s) are retained for 15 days only. The document is issued by Shenzhen HUAK Testing Technology Co., Ltd., this document cannot be reproduced except in full with our prior written permission.



802.11ac(HT20)



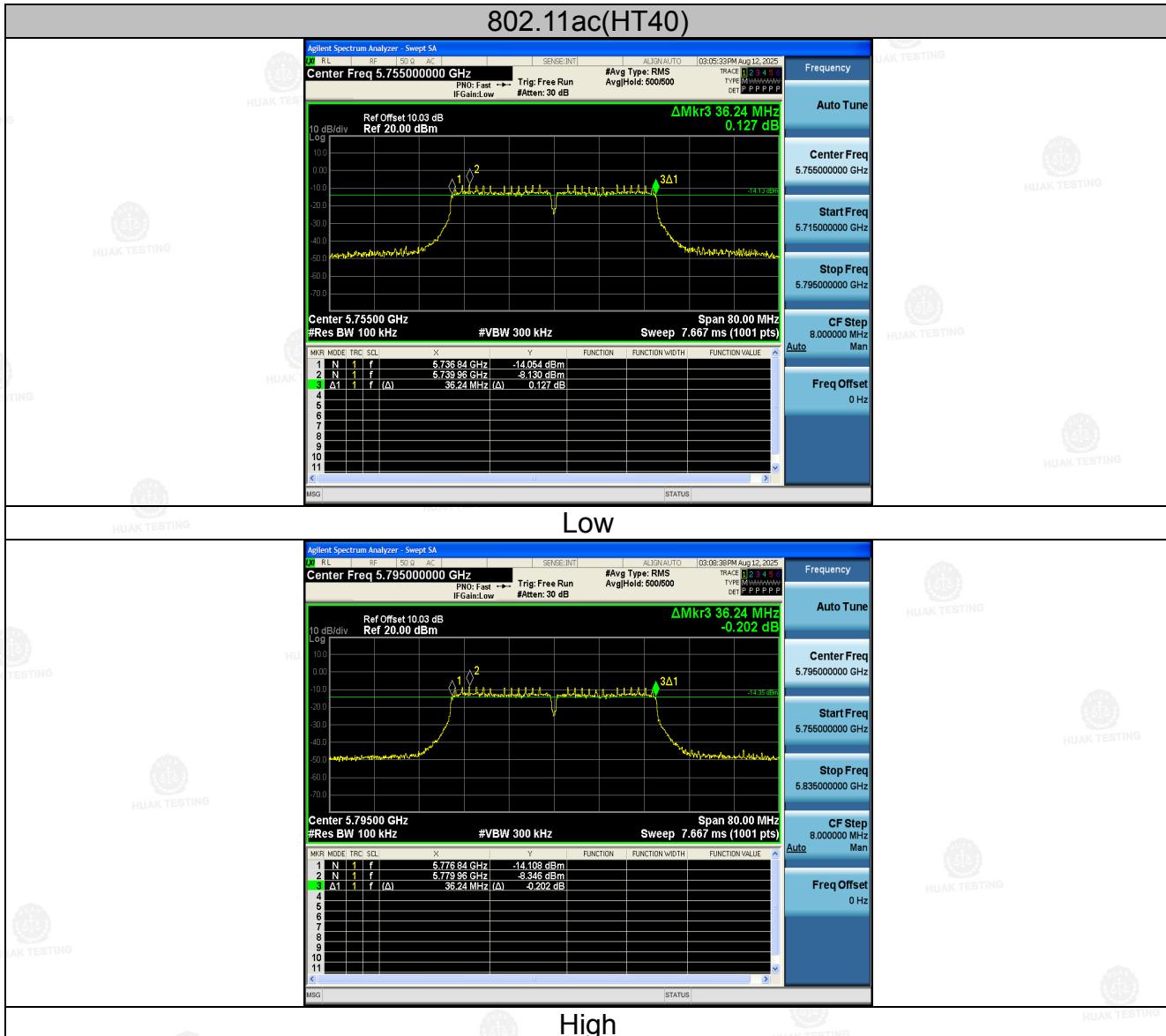
The results shown in this test report refer only to the sample(s) tested unless otherwise stated and the sample(s) are retained for 15 days only. The document is issued by Shenzhen HUAK Testing Technology Co., Ltd., this document cannot be reproduced except in full with our prior written permission.

Shenzhen HUAK Testing Technology Co., Ltd. Tel.: +86-0755-2302 9901 E-mail: info@huak.com Web.: www.huak.com

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



802.11ac(HT40)



The results shown in this test report refer only to the sample(s) tested unless otherwise stated and the sample(s) are retained for 15 days only. The document is issued by Shenzhen HUAK Testing Technology Co., Ltd., this document cannot be reproduced except in full with our prior written permission.

Shenzhen HUAK Testing Technology Co., Ltd. Tel.: +86-0755-2302 9901 E-mail: info@huak.com Web.: www.huak.com

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

4.4 26dB Bandwidth and 99% Occupied Bandwidth

4.4.1. Test Specification

4.4.2. Test Instruments

RF Test Room					
Equipment	Manufacturer	Model	Serial Number	Calibration Date	Calibration Due
Spectrum analyzer	Agilent	N9020A	HKE-025	Feb. 19, 2025	Feb. 18, 2026
Spectrum analyzer	Agilent	N9020A	HKE-117	Feb. 19, 2025	Feb. 18, 2026
RF cable	Times	1-40G	HKE-034	Feb. 19, 2025	Feb. 18, 2026
RF automatic control unit	Tonscend	JS0806-2	HKE-060	Feb. 19, 2025	Feb. 18, 2026
RF Test Software	Tonscend	JS1120-3 Version 3.5.39	HKE-083	N/A	N/A

Note: The calibration interval of the above test instruments is 12 months and the calibrations are traceable to international system unit (SI).

4.4.3. Test Result

NA

The results shown in this test report refer only to the sample(s) tested unless otherwise stated and the sample(s) are retained for 15 days only. The document is issued by Shenzhen HUAK Testing Technology Co., Ltd., this document cannot be reproduced except in full with our prior written permission.

Shenzhen HUAK Testing Technology Co., Ltd. Tel.: +86-0755-2302 9901 E-mail: info@huak.com Web.: www.huak.com

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

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

4.5.3. Test Data

Configuration Band IV (5745 - 5825 MHz)						
Mode	Test channel	Level [dBm/510kHz]	10log (500/510)	Power Spectral Density	Limit (dBm/500kHz)	Result
802.11a	CH149	-1.45	-0.086	-1.536	30	PASS
802.11a	CH157	-1.69	-0.086	-1.776	30	PASS
802.11a	CH165	-1.63	-0.086	-1.716	30	PASS
802.11n(HT20)	CH149	-1.31	-0.086	-1.396	30	PASS
802.11n(HT20)	CH157	-0.15	-0.086	-0.236	30	PASS
802.11n(HT20)	CH165	-2.08	-0.086	-2.166	30	PASS
802.11n(HT40)	CH151	-4.74	-0.086	-4.826	30	PASS
802.11n(HT40)	CH159	-5.63	-0.086	-5.716	30	PASS
802.11ac(HT20)	CH149	-2.34	-0.086	-2.426	30	PASS
802.11ac(HT20)	CH157	-2.40	-0.086	-2.486	30	PASS
802.11ac(HT20)	CH165	-2.21	-0.086	-2.296	30	PASS
802.11ac(HT40)	CH151	-5.04	-0.086	-5.126	30	PASS
802.11ac(HT40)	CH159	-5.05	-0.086	-5.136	30	PASS

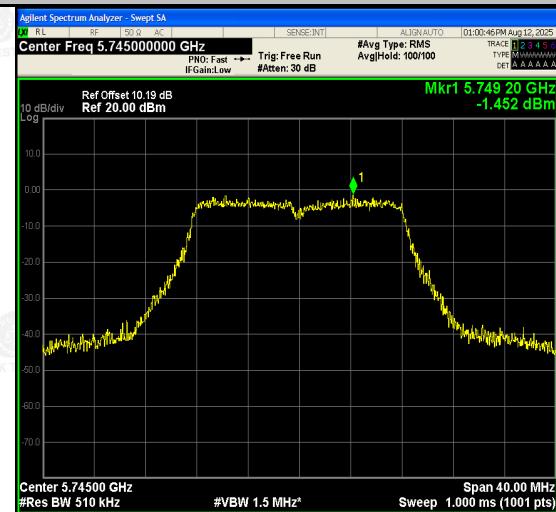
Note: Power Spectral Density= Level [dBm/510kHz]+(10log(Limit RBW/Test RBW))

Test plots as follows:

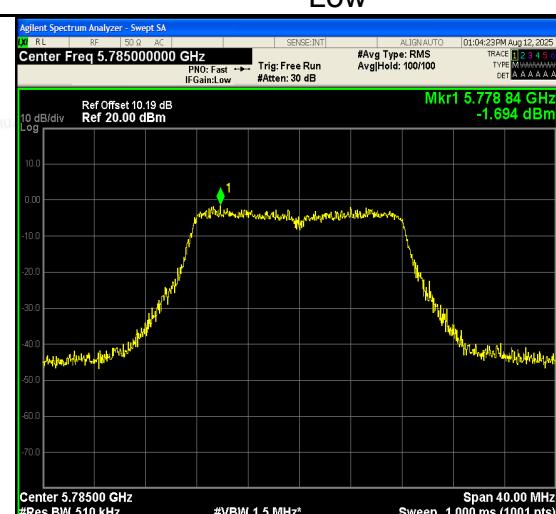


HUAK TESTING

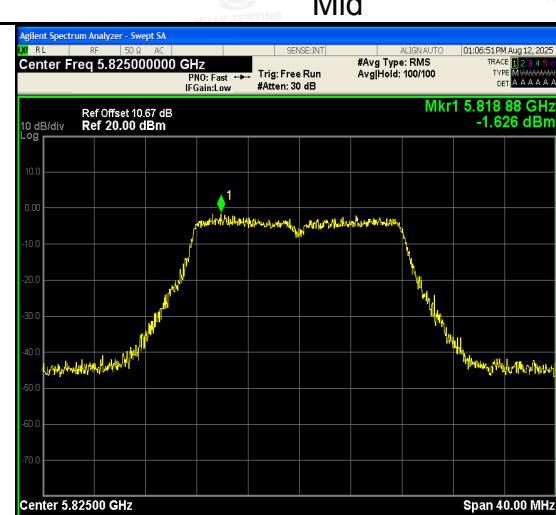
Band IV (5725-5850MHz)



Low



45



111

The results shown in this test report refer only to the sample(s) tested unless otherwise stated and the sample(s) are retained for 15 days only. The document is issued by Shenzhen HUAK Testing Technology Co., Ltd., this document cannot be reproduced except in full with our prior written permission.

Shenzhen HUAKE Testing Technology Co., Ltd. Tel: +86 0755 2302 9901 E-mail: info@huk.com Web: www.huk.com

Address: 1-2/F, Building B2, Junfeng Zhengcheng Zhizao Innovation Park, Heping, Futian District, Shenzhen, Guangdong, China

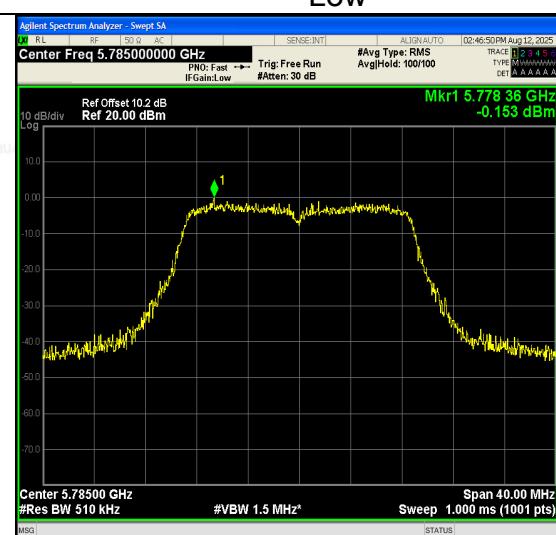
Add.: 1-2/F., Building B2, Junteng Zhongcheng Zhizao Innovation Park, Heping, Fuhai Street, Bao'an District, Shenzhen, Guangdong, China



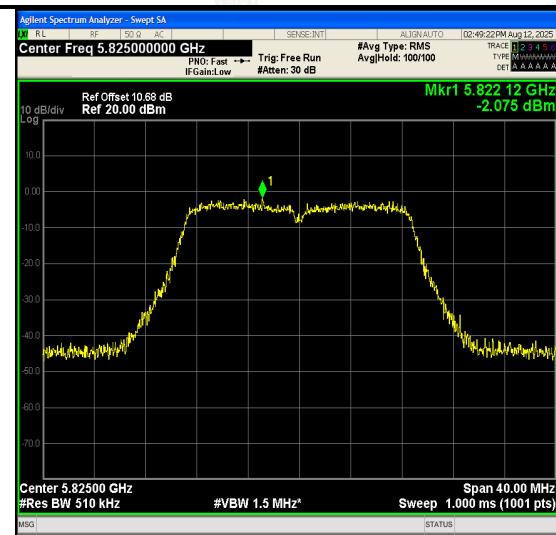
802.11n(HT20)



LOW



Mid



High

The results shown in this test report refer only to the sample(s) tested unless otherwise stated and the sample(s) are retained for 15 days only. The document is issued by Shenzhen HUAK Testing Technology Co., Ltd., this document cannot be reproduced except in full with our prior written permission.

Shenzhen HUAK Testing Technology Co., Ltd. Tel.: +86-0755-2302 9901 E-mail: info@huak.com Web.: www.huak.com

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

802.11n(HT40)



LOW



High

The results shown in this test report refer only to the sample(s) tested unless otherwise stated and the sample(s) are retained for 15 days only. The document is issued by Shenzhen HUAK Testing Technology Co., Ltd., this document cannot be reproduced except in full with our prior written permission.

Shenzhen HUAK Testing Technology Co., Ltd. Tel.: +86-0755-2302 9901 E-mail: info@huak.com Web.: www.huak.com

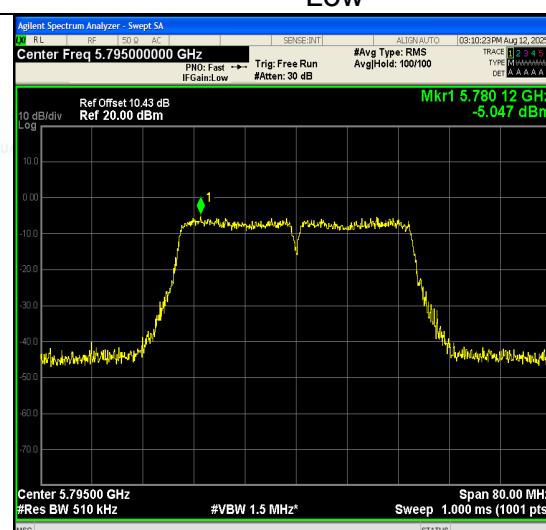
Add.: 1-2/F., Building B2, Junfeng Zhongcheng Zhizao Innovation Park, Heping, Fuhai Street, Bao'an District, Shenzhen, Guangdong, China



802.11ac(HT40)



LOW



High

The results shown in this test report refer only to the sample(s) tested unless otherwise stated and the sample(s) are retained for 15 days only. The document is issued by Shenzhen HUAK Testing Technology Co., Ltd., this document cannot be reproduced except in full with our prior written permission.

Shenzhen HUAK Testing Technology Co., Ltd. Tel.: +86-0755-2302 9901 E-mail: info@huak.com Web.: www.huak.com

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



4.6 Band Edge

4.6.1. Test Specification

Test Requirement:	FCC CFR47 Part 15E Section 15.407
Test Method:	ANSI C63.10: 2020
Limit:	(1) For transmitters operating in the 5.725-5.85 GHz band: (i) All emissions shall be limited to a level of -27 dBm/MHz at 75 MHz or more above or below the band edge increasing linearly to 10 dBm/MHz at 25 MHz above or below the band edge, and from 25 MHz above or below the band edge increasing linearly to a level of 15.6 dBm/MHz at 5 MHz above or below the band edge, and from 5 MHz above or below the band edge increasing linearly to a level of 27 dBm/MHz at the band edge. The limit of frequency below 1GHz and which fall in restricted bands should complies 15.209.
Test Setup:	
Test Mode:	Transmitting mode with modulation
Test Procedure:	<ol style="list-style-type: none"> The EUT was placed on the top of a rotating table 0.8 meters above the ground at a 3 meter camber. The table was rotated 360 degrees to determine the position of the highest radiation. The EUT was set 3 meters away from the interference-receiving antenna, which was mounted on the top of a variable-height antenna tower. The antenna height is varied from one meter to four meters above the ground to determine the maximum value of the field strength. Both horizontal and vertical polarizations of the antenna are set to make the measurement. For each suspected emission, the EUT was arranged to its worst case and then the antenna was tuned to heights from 1 meter to 4 meters and the rota table was turned from 0 degrees to 360 degrees to find the maximum reading.

The results shown in this test report refer only to the sample(s) tested unless otherwise stated and the sample(s) are retained for 15 days only. The document is issued by Shenzhen HUAK Testing Technology Co., Ltd., this document cannot be reproduced except in full with our prior written permission.

Shenzhen HUAK Testing Technology Co., Ltd. Tel.: +86-0755-2302 9901 E-mail: info@huak.com Web.: www.huak.com

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



HUAK TESTING

HUAK TESTING

HUAK TESTING

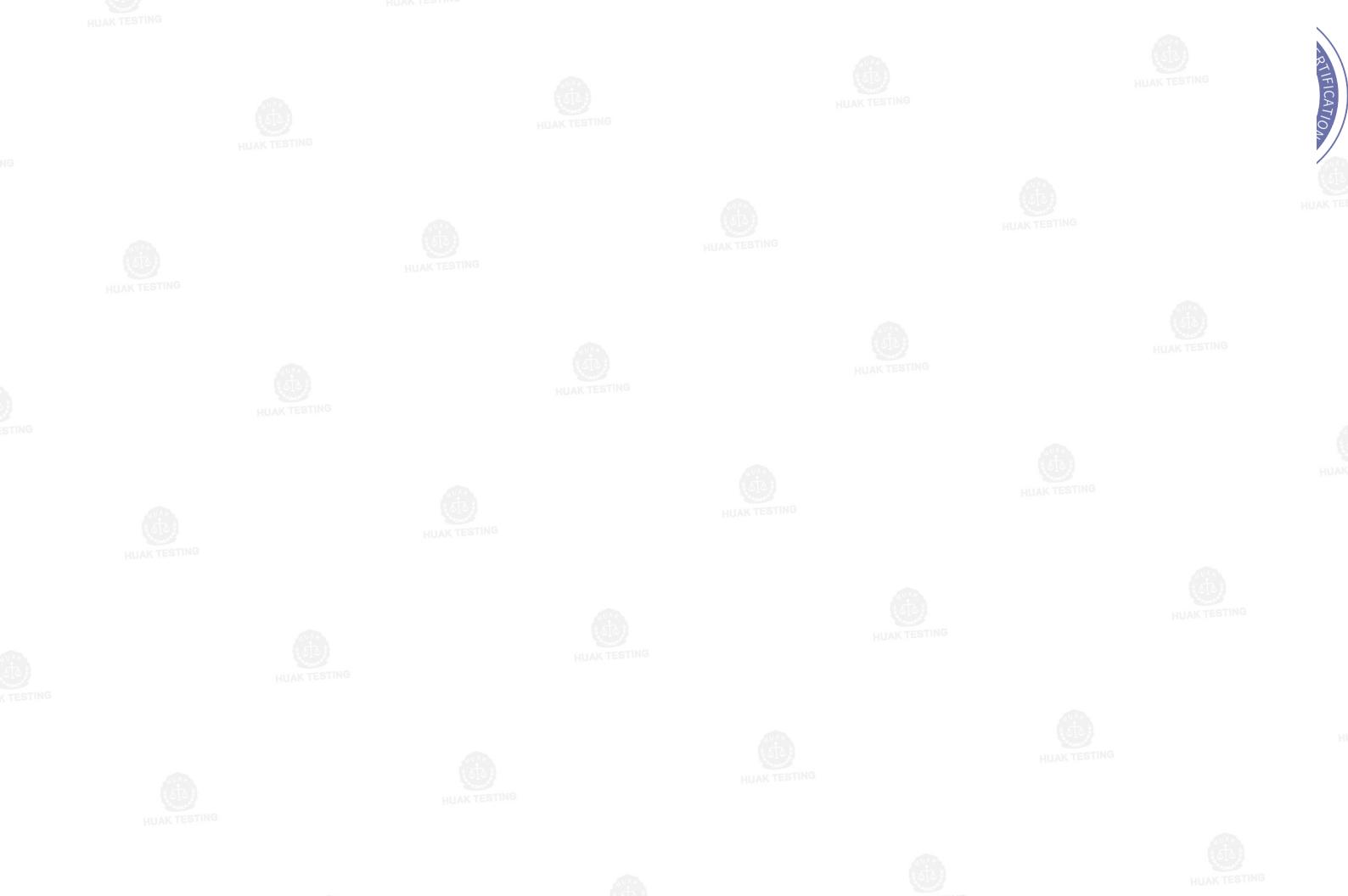
HUAK TESTING

HUAK TESTING

HUAK TESTING

HUAK TESTING

	<p>5. The test-receiver system was set to Peak Detect Function and Specified Bandwidth with Maximum Hold Mode.</p> <p>6. If the emission level of the EUT in peak mode was 10dB lower than the limit specified, then testing could be stopped and the peak values of the EUT would be reported. Otherwise the emissions that did not have 10dB margin would be re-tested one by one using peak, quasi peak or average method as specified and then reported in a data sheet.</p>
Test Result:	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 15 days only. The document is issued by Shenzhen HUAK Testing Technology Co., Ltd., this document cannot be reproduced except in full with our prior written permission.

Shenzhen HUAK Testing Technology Co., Ltd. Tel.: +86-0755-2302 9901 E-mail: info@huak.com Web.: www.huak.com

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

4.6.2. Test Instruments

Radiated Emission Test Site (966)

Name of Equipment	Manufacturer	Model	Serial Number	Calibration Date	Calibration Due
Spectrum analyzer	Agilent	N9020A	HKE-025	Feb. 19, 2025	Feb. 18, 2026
Spectrum analyzer	Agilent	N9020A	HKE-117	Feb. 19, 2025	Feb. 18, 2026
Spectrum analyzer	R&S	FSV3044	HKE-126	Feb. 19, 2025	Feb. 18, 2026
Preamplifier	EMCI	EMC051845S	HKE-006	Feb. 19, 2025	Feb. 18, 2026
Preamplifier	Schwarzbeck	BBV 9743	HKE-016	Feb. 19, 2025	Feb. 18, 2026
Preamplifier	A.H. Systems	SAS-574	HKE-182	Feb. 19, 2025	Feb. 18, 2026
6dB Attenuator	Pasternack	6db	HKE-184	Feb. 19, 2025	Feb. 18, 2026
EMI Test Receiver	Rohde & Schwarz	ESR-7	HKE-010	Feb. 19, 2025	Feb. 18, 2026
Broadband Antenna	Schwarzbeck	VULB9168	HKE-167	Feb. 21, 2024	Feb. 20, 2026
Loop Antenna	COM-POWER	AL-130R	HKE-014	Feb. 21, 2024	Feb. 20, 2026
Horn Antenna	Schwarzbeck	9120D	HKE-013	Feb. 21, 2024	Feb. 20, 2026
EMI Test Software	Tonscend	JS32-RE 5.0.0	HKE-082	N/A	N/A
RSE Test Software	Tonscend	JS36-RSE 5.0.0	HKE-184	N/A	N/A

Note: The calibration interval of the above test instruments is 12 months and the calibrations are traceable to international system unit (SI).



HUAK TESTING

4.6.3. Test Data

Operation Mode: 802.11a Mode with 5.8G TX CH Low

Horizontal:

Frequency	Meter Reading	Factor	Emission Level	Limits	Margin	Detector Type
(MHz)	(dB μ V)	(dB)	(dB μ V/m)	(dB μ V/m)	(dB)	
5650	48.51	-2.06	46.45	68.2	21.75	peak
5700	78.29	-1.96	76.33	105.2	28.87	peak
5720	81.61	-2.87	78.74	110.8	32.06	peak
5725	102.23	-2.14	100.09	122.2	22.11	peak

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

Vertical:

Frequency (MHz)	Meter Reading (dB μ V)	Factor (dB)	Emission Level (dB μ V/m)	Limits (dB μ V/m)	Margin (dB)	Detector Type
5650	48.41	-2.06	46.35	68.2	21.85	peak
5700	78.69	-1.96	76.73	105.2	28.47	peak
5720	82.81	-2.87	79.94	110.8	30.86	peak
5725	101.67	-2.14	99.53	122.2	22.67	peak

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

**HUAK TESTING**

HUAK TESTING

Horizontal

Frequency	Meter Reading	Factor	Emission Level	Limits	Margin	Detector Type
(MHz)	(dB μ V)	(dB)	(dB μ V/m)	(dB μ V/m)	(dB)	
5850	100.46	-1.97	98.49	122.2	23.71	peak
5855	83.34	-2.13	81.21	110.8	29.59	peak
5875	76.07	-2.65	73.42	105.2	31.78	peak
5925	44.51	-2.28	42.23	68.2	25.97	peak

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

Vertical:

Frequency	Meter Reading	Factor	Emission Level	Limits	Margin	Detector Type
(MHz)	(dB μ V)	(dB)	(dB μ V/m)	(dB μ V/m)	(dB)	
5850	100.42	-1.97	98.45	122.2	23.75	peak
5855	83.17	-2.13	81.04	110.8	29.76	peak
5875	75.01	-2.65	72.36	105.2	32.84	peak
5925	43.86	-2.28	41.58	68.2	26.62	peak

Remark: Factor = Cable loss + Antenna factor + Attenuator – 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 15 days only. The document is issued by Shenzhen HUAK Testing Technology Co., Ltd., this document cannot be reproduced except in full with our prior written permission.

Shenzhen HUAK Testing Technology Co., Ltd. Tel.: +86-0755-2302 9901 E-mail: info@huak.com Web.: www.huak.com

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



HUAK TESTING

HUAK TESTING

Operation Mode: 802.11n20 Mode with 5.8G TX CH Low

Page 40 of 71

Report No.: HK2507314231-5E

Horizontal:

Frequency	Meter Reading	Factor	Emission Level	Limits	Margin	Detector Type
(MHz)	(dB μ V)	(dB)	(dB μ V/m)	(dB μ V/m)	(dB)	
5650	48.69	-2.06	46.63	68.2	21.57	peak
5700	78.78	-1.96	76.82	105.2	28.38	peak
5720	79.78	-2.87	76.91	110.8	33.89	peak
5725	99.38	-2.14	97.24	122.2	24.96	peak

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

Vertical:

Frequency	Meter Reading	Factor	Emission Level	Limits	Margin	Detector Type
(MHz)	(dB μ V)	(dB)	(dB μ V/m)	(dB μ V/m)	(dB)	
5650	50.25	-2.06	48.19	68.2	20.01	peak
5700	77.62	-1.96	75.66	105.2	29.54	peak
5720	79.48	-2.87	76.61	110.8	34.19	peak
5725	99.76	-2.14	97.62	122.2	24.58	peak

Remark: Factor = Cable loss + Antenna factor + Attenuator – 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 15 days only. The document is issued by Shenzhen HUAK Testing Technology Co., Ltd., this document cannot be reproduced except in full with our prior written permission.

Shenzhen HUAK Testing Technology Co., Ltd. Tel.: +86-0755-2302 9901 E-mail: info@huak.com Web.: www.huak.com

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

**HUAK TESTING**

HUAK TESTING

Horizontal:

Frequency (MHz)	Meter Reading (dB μ V)	Factor (dB)	Emission Level (dB μ V/m)	Limits (dB μ V/m)	Margin (dB)	Detector Type
5850	102.14	-1.97	100.17	122.2	22.03	
5855	81.48	-2.13	79.35	110.8	31.45	peak
5875	72.71	-2.65	70.06	105.2	35.14	peak
5925	43.25	-2.28	40.97	68.2	27.23	peak

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

Vertical:

Frequency (MHz)	Meter Reading (dB μ V)	Factor (dB)	Emission Level (dB μ V/m)	Limits (dB μ V/m)	Margin (dB)	Detector Type
5850	101.96	-1.97	99.99	122.2	22.21	
5855	79.79	-2.13	77.66	110.8	33.14	peak
5875	73.72	-2.65	71.07	105.2	34.13	peak
5925	43.57	-2.28	41.29	68.2	26.91	peak

Remark: Factor = Cable loss + Antenna factor + Attenuator – 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 15 days only. The document is issued by Shenzhen HUAK Testing Technology Co., Ltd., this document cannot be reproduced except in full with our prior written permission.

Shenzhen HUAK Testing Technology Co., Ltd. Tel.: +86-0755-2302 9901 E-mail: info@huak.com Web.: www.huak.com

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

**HUAK TESTING**

HUAK TESTING

Horizontal:

Frequency	Meter Reading	Factor	Emission Level	Limits	Margin	Detector Type
(MHz)	(dB μ V)	(dB)	(dB μ V/m)	(dB μ V/m)	(dB)	
5650	46.61	-2.06	44.55	68.2	23.65	peak
5700	79.58	-1.96	77.62	105.2	27.58	peak
5720	80.84	-2.87	77.97	110.8	32.83	peak
5725	102.09	-2.14	99.95	122.2	22.25	peak

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

Vertical:

Frequency	Meter Reading	Factor	Emission Level	Limits	Margin	Detector Type
(MHz)	(dB μ V)	(dB)	(dB μ V/m)	(dB μ V/m)	(dB)	
5650	48.44	-2.06	46.38	68.2	21.82	peak
5700	78.49	-1.96	76.53	105.2	28.67	peak
5720	80.18	-2.87	77.31	110.8	33.49	peak
5725	101.38	-2.14	99.24	122.2	22.96	peak

Remark: Factor = Cable loss + Antenna factor + Attenuator – 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 15 days only. The document is issued by Shenzhen HUAK Testing Technology Co., Ltd., this document cannot be reproduced except in full with our prior written permission.

Shenzhen HUAK Testing Technology Co., Ltd. Tel.: +86-0755-2302 9901 E-mail: info@huak.com Web.: www.huak.com

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



HUAK TESTING

HUAK TESTING

Horizontal:

Frequency (MHz)	Meter Reading (dB μ V)	Factor (dB)	Emission Level (dB μ V/m)	Limits (dB μ V/m)	Margin (dB)	Detector Type
5850	99.64	-1.97	97.67	122.2	24.53	peak
5855	82.04	-2.13	79.91	110.8	30.89	peak
5875	73.18	-2.65	70.53	105.2	34.67	peak
5925	41.64	-2.28	39.36	68.2	28.84	peak

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

Vertical:

Frequency (MHz)	Meter Reading (dB μ V)	Factor (dB)	Emission Level (dB μ V/m)	Limits (dB μ V/m)	Margin (dB)	Detector Type
5850	100.12	-1.97	98.15	122.2	24.05	peak
5855	81.96	-2.13	79.83	110.8	30.97	peak
5875	74.12	-2.65	71.47	105.2	33.73	peak
5925	43.21	-2.28	40.93	68.2	27.27	peak

Remark: Factor = Cable loss + Antenna factor + Attenuator – 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 15 days only. The document is issued by Shenzhen HUAK Testing Technology Co., Ltd., this document cannot be reproduced except in full with our prior written permission.

Shenzhen HUAK Testing Technology Co., Ltd. Tel.: +86-0755-2302 9901 E-mail: info@huak.com Web.: www.huak.com

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

**HUAK TESTING**

HUAK TESTING

Horizontal:

Frequency	Meter Reading	Factor	Emission Level	Limits	Margin	Detector Type
(MHz)	(dB μ V)	(dB)	(dB μ V/m)	(dB μ V/m)	(dB)	
5650	48.88	-2.06	46.82	68.2	21.38	peak
5700	80.04	-1.96	78.08	105.2	27.12	peak
5720	82.76	-2.87	79.89	110.8	30.91	peak
5725	100.32	-2.14	98.18	122.2	24.02	peak

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

Vertical:

Frequency	Meter Reading	Factor	Emission Level	Limits	Margin	Detector Type
(MHz)	(dB μ V)	(dB)	(dB μ V/m)	(dB μ V/m)	(dB)	
5650	48.27	-2.06	46.21	68.2	21.99	peak
5700	78.64	-1.96	76.68	105.2	28.52	peak
5720	82.43	-2.87	79.56	110.8	31.24	peak
5725	99.38	-2.14	97.24	122.2	24.96	peak

Remark: Factor = Cable loss + Antenna factor + Attenuator – 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 15 days only. The document is issued by Shenzhen HUAK Testing Technology Co., Ltd., this document cannot be reproduced except in full with our prior written permission.

Shenzhen HUAK Testing Technology Co., Ltd. Tel.: +86-0755-2302 9901 E-mail: info@huak.com Web.: www.huak.com

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



HUAK TESTING

Operation Mode: TX CH High with 5.8G

Horizontal:

Frequency	Meter Reading	Factor	Emission Level	Limits	Margin	Detector Type HUAKE TESTING
(MHz)	(dB μ V)	(dB)	(dB μ V/m)	(dB μ V/m)	(dB)	
5850	101.52	-1.97	99.55	122.2	22.65	peak
5855	82.84	-2.13	80.71	110.8	30.09	peak
5875	71.72	-2.65	69.07	105.2	36.13	peak
5925	41.52	-2.28	39.24	68.2	28.96	peak

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

Vertical:

Frequency	Meter Reading	Factor	Emission Level	Limits	Margin	Detector Type
(MHz)	(dB μ V)	(dB)	(dB μ V/m)	(dB μ V/m)	(dB)	
5850	101.72	-1.97	99.75	122.2	22.45	peak
5855	82.31	-2.13	80.18	110.8	30.62	peak
5875	72.79	-2.65	70.14	105.2	35.06	peak
5925	43.17	-2.28	40.89	68.2	27.31	peak

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



HUAK TESTING

Operation Mode: 802.11ac40 Mode with 5.8G TX CH Low

Horizontal:

Frequency	Meter Reading	Factor	Emission Level	Limits	Margin	Detector Type
(MHz)	(dB μ V)	(dB)	(dB μ V/m)	(dB μ V/m)	(dB)	
5650	47.62	-2.06	45.56	68.2	22.64	peak
5700	80.58	-1.96	78.62	105.2	26.58	peak
5720	80.79	-2.87	77.92	110.8	32.88	peak
5725	100.26	-2.14	98.12	122.2	24.08	peak

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

Vertical:

Frequency	Meter Reading	Factor	Emission Level	Limits	Margin	Detector Type
(MHz)	(dB μ V)	(dB)	(dB μ V/m)	(dB μ V/m)	(dB)	
5650	47.23	-2.06	45.17	68.2	23.03	peak
5700	80.33	-1.96	78.37	105.2	26.83	peak
5720	80.34	-2.87	77.47	110.8	33.33	peak
5725	99.58	-2.14	97.44	122.2	24.76	peak

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

**HUAK TESTING**

HUAK TESTING

Horizontal:

Frequency	Meter Reading	Factor	Emission Level	Limits	Margin	Detector Type
(MHz)	(dB μ V)	(dB)	(dB μ V/m)	(dB μ V/m)	(dB)	
5850	100.75	-1.97	98.78	122.2	23.42	peak
5855	83.32	-2.13	81.19	110.8	29.61	peak
5875	76.66	-2.65	74.01	105.2	31.19	peak
5925	41.63	-2.28	39.35	68.2	28.85	peak

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

Vertical:

Frequency	Meter Reading	Factor	Emission Level	Limits	Margin	Detector Type
(MHz)	(dB μ V)	(dB)	(dB μ V/m)	(dB μ V/m)	(dB)	
5850	100.91	-1.97	98.94	122.2	23.26	peak
5855	82.86	-2.13	80.73	110.8	30.07	peak
5875	76.37	-2.65	73.72	105.2	31.48	peak
5925	41.65	-2.28	39.37	68.2	28.83	peak

Remark: Factor = Cable loss + Antenna factor + Attenuator – 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 15 days only. The document is issued by Shenzhen HUAK Testing Technology Co., Ltd., this document cannot be reproduced except in full with our prior written permission.

Shenzhen HUAK Testing Technology Co., Ltd. Tel.: +86-0755-2302 9901 E-mail: info@huak.com Web.: www.huak.com

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



HUAK TESTING

HUAK TESTING



HUAK TESTING



HUAK TESTING



HUAK TESTING



HUAK TESTING



HUAK TESTING



HUAK TESTING



HUAK TESTING

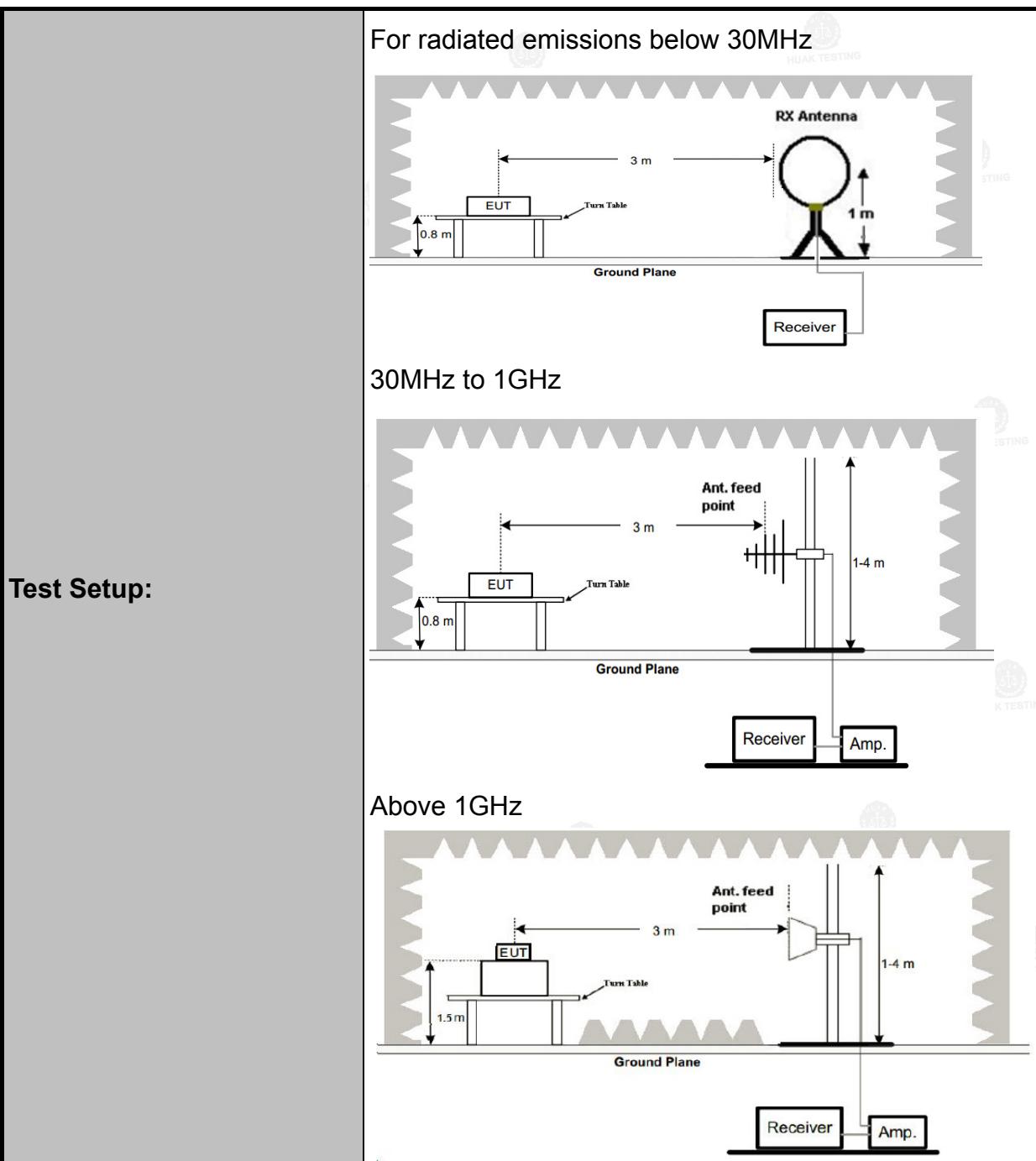


HUAK TESTING



HUAK 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 15 days only. The document is issued by Shenzhen HUAK Testing Technology Co., Ltd., this document cannot be reproduced except in full with our prior written permission.





HUAK TESTING

HUAK TESTING

HUAK TESTING

HUAK TESTING

HUAK TESTING



HUAK TESTING

Report No.: HK2507314231-5E

Page 50 of 71

Test Procedure:	<p>1. The EUT was placed on the top of a rotating table 0.8 meters above the ground at a 3 meter camber. The table was rotated 360 degrees to determine the position of the highest radiation.</p> <p>2. The EUT was set 3 meters away from the interference-receiving antenna, which was mounted on the top of a variable-height antenna tower.</p> <p>3. The antenna height is varied from one meter to four meters above the ground to determine the maximum value of the field strength. Both horizontal and vertical polarizations of the antenna are set to make the measurement.</p> <p>4. For each suspected emission, the EUT was arranged to its worst case and then the antenna was tuned to heights from 1 meter to 4 meters and the rotatable was turned from 0 degrees to 360 degrees to find the maximum reading.</p> <p>5. The test-receiver system was set to Peak Detect Function and Specified Bandwidth with Maximum Hold Mode.</p> <p>6. If the emission level of the EUT in peak mode was 10dB lower than the limit specified, then testing could be stopped and the peak values of the EUT would be reported. Otherwise the emissions that did not have 10dB margin would be re-tested one by one using peak, quasi-peak or average method as specified and then reported in a data sheet.</p>
Test Results:	PASS

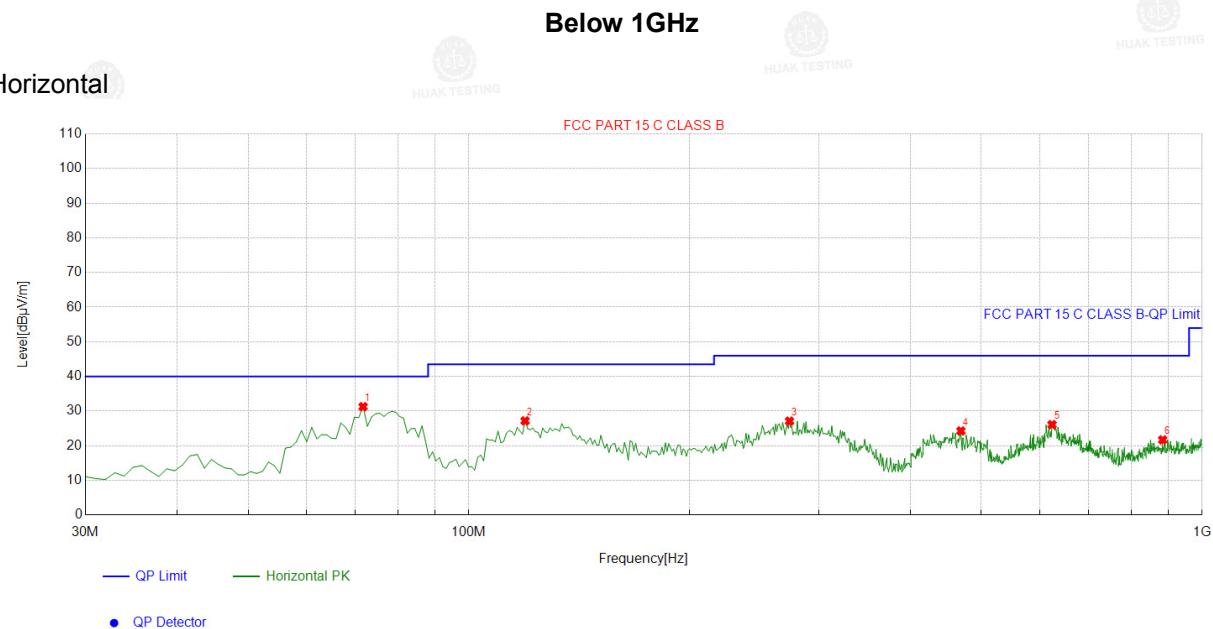
The results shown in this test report refer only to the sample(s) tested unless otherwise stated and the sample(s) are retained for 15 days only. The document is issued by Shenzhen HUAK Testing Technology Co., Ltd., this document cannot be reproduced except in full with our prior written permission.

Shenzhen HUAK Testing Technology Co., Ltd. Tel.: +86-0755-2302 9901 E-mail: info@huak.com Web.: www.huak.com

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

4.7.2. Test Data

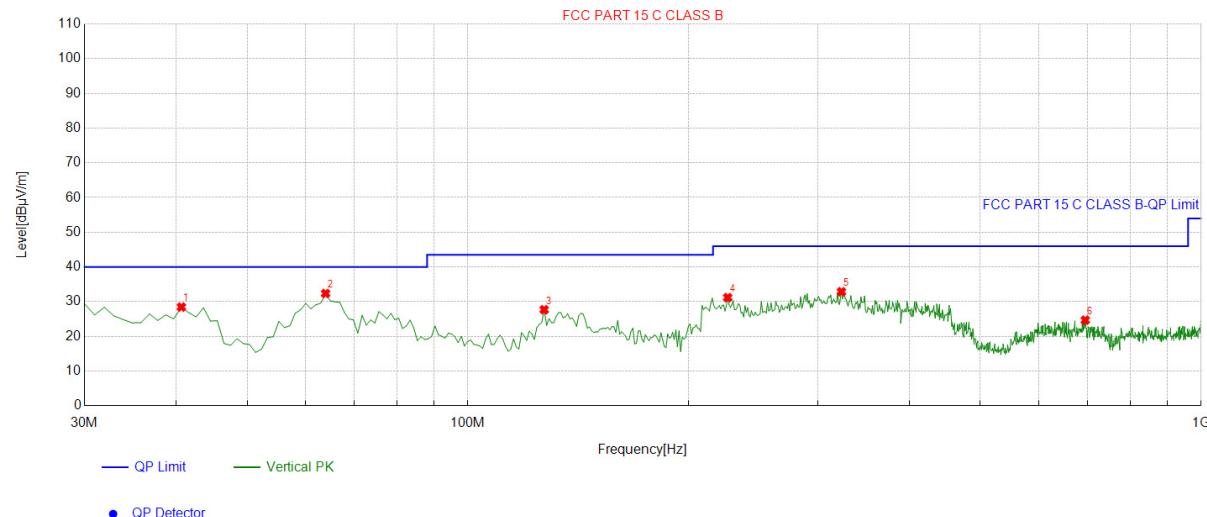
Remark: All the test modes completed for test. Only the worst result of 802. 11a was reported as below:



Suspected List									
NO.	Freq. [MHz]	Factor [dB]	Reading [dB μ V/m]	Level [dB μ V/m]	Limit [dB μ V/m]	Margin [dB]	Height [cm]	Angle [°]	Polarity
1	71.7518	-17.38	48.65	31.27	40.00	8.73	100	244	Horizontal
2	119.3293	-15.94	43.12	27.18	43.50	16.32	100	182	Horizontal
3	273.7137	-12.65	39.75	27.10	46.00	18.90	100	175	Horizontal
4	468.8789	-8.57	32.84	24.27	46.00	21.73	100	6	Horizontal
5	624.2342	-5.47	31.57	26.10	46.00	19.90	100	117	Horizontal
6	883.4835	-1.77	23.46	21.69	46.00	24.31	100	28	Horizontal

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

Vertical



Suspected List									
NO.	Freq. [MHz]	Factor [dB]	Reading [dB μ V/m]	Level [dB μ V/m]	Limit [dB μ V/m]	Margin [dB]	Height [cm]	Angle [°]	Polarity
1	40.6807	-13.83	42.28	28.45	40.00	11.55	100	178	Vertical
2	63.9840	-14.38	46.74	32.36	40.00	7.64	100	123	Vertical
3	127.0971	-17.13	44.82	27.69	43.50	15.81	100	182	Vertical
4	226.1361	-13.91	45.09	31.18	46.00	14.82	100	170	Vertical
5	323.2332	-11.07	43.93	32.86	46.00	13.14	100	87	Vertical
6	695.1151	-4.19	28.87	24.68	46.00	21.32	100	48	Vertical

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

Harmonics and Spurious Emissions

Frequency Range (9 kHz-30MHz)

Frequency (MHz)	Level@3m (dB μ V/m)	Limit@3m (dB μ V/m)
--	--	--
--	--	--
--	--	--
--	--	--

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.

**HUAK TESTING**

HUAK TESTING



HUAK TESTING



HUAK TESTING



HUAK TESTING



HUAK TESTING



HUAK TESTING



HUAK 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 15 days only. The document is issued by Shenzhen HUAK Testing Technology Co., Ltd., this document cannot be reproduced except in full with our prior written permission.

Shenzhen HUAK Testing Technology Co., Ltd. Tel.: +86-0755-2302 9901 E-mail: info@huak.com Web.: www.huak.com

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

Above 1GHz**Radiated Emission Test**

LOW CH 149 (802.11 a Mode with 5.8G)/5745

Horizontal:

Frequency	Meter Reading	Factor	Emission Level	HUAK Limits	Margin	Detector Type
(MHz)	(dB μ V)	(dB)	(dB μ V/m)	(dB μ V/m)	(dB)	
3368	53.57	-4.59	48.98	68.2	19.22	peak
11096	50.32	4.21	54.53	74	19.47	peak
11096	29.88	4.21	34.09	54	19.91	AVG

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

Vertical:

Frequency	Meter Reading	Factor	Emission Level	Limits	Margin	Detector Type
(MHz)	(dB μ V)	(dB)	(dB μ V/m)	(dB μ V/m)	(dB)	
3368	53.24	-4.59	48.65	68.2	19.55	peak
11096	49.74	4.21	53.95	74	20.05	peak
11096	31.13	4.21	35.34	54	18.66	AVG

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

**HUAK TESTING**

HUAK TESTING

HUAK TESTING

HUAK TESTING

HUAK TE

HUAK TESTING

MID CH157 (802.11 a Mode with 5.8G)/5785

Horizontal:

Frequency	Meter Reading	Factor	Emission Level	Limits	Margin	Detector Type
(MHz)	(dB μ V)	(dB)	(dB μ V/m)	(dB μ V/m)	(dB)	
3172	52.37	-4.59	47.78	68.2	20.42	peak
10523	52.16	4.21	56.37	68.2	11.83	peak

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

Vertical:

Frequency	Meter Reading	Factor	Emission Level	Limits	Margin	Detector Type
(MHz)	(dB μ V)	(dB)	(dB μ V/m)	(dB μ V/m)	(dB)	
3172	53.08	-4.59	48.49	68.2	19.71	peak
10523	52.94	4.21	57.15	68.2	11.05	peak

Remark: Factor = Cable loss + Antenna factor + Attenuator – 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 15 days only. The document is issued by Shenzhen HUAK Testing Technology Co., Ltd., this document cannot be reproduced except in full with our prior written permission.

Shenzhen HUAK Testing Technology Co., Ltd. Tel.: +86-0755-2302 9901 E-mail: info@huak.com Web.: www.huak.com

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



HUAK TESTING

MID CH157

Horizontal:

Horizontal						
Frequency	Meter Reading	Factor	Emission Level	Limits	Margin	Detector Type
(MHz)	(dB μ V)	(dB)	(dB μ V/m)	(dB μ V/m)	(dB)	
3172	52.36	-4.59	47.77	68.2	20.43	peak
10523	52.22	4.21	56.43	68.2	11.77	peak

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

Vertical:

Frequency	Meter Reading	Factor	Emission Level	Limits	Margin	Detector Type
(MHz)	(dB μ V)	(dB)	(dB μ V/m)	(dB μ V/m)	(dB)	
3172	52.47	-4.59	47.88	68.2	20.32	peak
10523	52.32	4.21	56.53	68.2	11.67	peak

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



HUAK TESTING

Horizontal:

© CHAOS 2014

Frequency (MHz)	Meter Reading (dB μ V)	Factor (dB)	Emission Level (dB μ V/m)	Limits (dB μ V/m)	Margin (dB)	Detector Type
2705	59.64	-4.59	55.05	74	18.95	peak
2705	43.12	-4.59	38.53	54	15.47	AVG
11717	50.87	4.84	55.71	74	18.29	peak
11717	35.27	4.84	40.11	54	13.89	AVG

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

Vertical:

Frequency (MHz)	Meter Reading (dB μ V)	Factor (dB)	Emission Level (dB μ V/m)	Limits (dB μ V/m)	Margin (dB)	Detector Type
2705	59.42	-4.59	54.83	74	19.17	peak
2705	43.66	-4.59	39.07	54	14.93	AVG
11717	49.87	4.84	54.71	74	19.29	peak
11717	36.25	4.84	41.09	54	12.91	AVG

Results

Remark:

- (1) Measuring frequencies from 1 GHz to the 40 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.
- (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.



HUAK TESTING

MID CH159

Horizontal:

Frequency	Meter Reading	Factor	Emission Level	Limits	Margin	Detector Type
(MHz)	(dB μ V)	(dB)	(dB μ V/m)	(dB μ V/m)	(dB)	
3172	52.14	-4.59	47.55	68.2	20.65	peak
10523	51.28	4.21	55.49	68.2	12.71	peak

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

Vertical:

Frequency	Meter Reading	Factor	Emission Level	Limits	Margin	Detector Type
(MHz)	(dB μ V)	(dB)	(dB μ V/m)	(dB μ V/m)	(dB)	
3172	52.36	-4.59	47.77	68.2	20.43	peak
10523	52.33	4.21	56.54	68.2	11.66	peak

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

Remark:

- (1) Measuring frequencies from 1 GHz to the 40 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.
- (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.



HUAK TESTING

MID CH157

Horizontal:

Frequency (MHz)	Meter Reading (dB μ V)	Factor (dB)	Emission Level (dB μ V/m)	Limits (dB μ V/m)	Margin (dB)	Detector Type
3172	51.27	-4.59	46.68	68.2	21.52	peak
10523	51.36	4.21	55.57	68.2	12.63	peak

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

Vertical:

Frequency	Meter Reading	Factor	Emission Level	Limits	Margin	Detector Type
(MHz)	(dB μ V)	(dB)	(dB μ V/m)	(dB μ V/m)	(dB)	
3172	52.47	-4.59	47.88	68.2	20.32	peak
10523	51.38	4.21	55.59	68.2	12.61	peak

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



HUAK TESTING

Horizontal:

© CHAD RIMA

Frequency (MHz)	Meter Reading (dB μ V)	Factor (dB)	Emission Level (dB μ V/m)	Limits (dB μ V/m)	Margin (dB)	Detector Type
2705	53.22	-4.59	48.63	74	25.37	peak
2705	41.96	-4.59	37.37	54	16.63	AVG
11717	48.52	4.84	53.36	74	20.64	peak
11717	35.87	4.84	40.71	54	13.29	AVG

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

Vertical:

Frequency (MHz)	Meter Reading (dB μ V)	Factor (dB)	Emission Level (dB μ V/m)	Limits (dB μ V/m)	Margin (dB)	Detector Type
2705	54.26	-4.59	49.67	74	24.33	peak
2705	41.36	-4.59	36.77	54	17.23	AVG
11717	47.59	4.84	52.43	74	21.57	peak
11717	34.72	4.84	39.56	54	14.44	AVG

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

Remark:

(1) Measuring frequencies from 1 GHz to the 40 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.

(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_V/m(PK Value) <93.98(AV Limit), at harmonic 53.20 dB_V/m(PK Value) <54 dB_V/m(AV Limit), the Average Detected not need to completed.



HUAK TESTING

5.8G 802.11ac40 Mode

LOW CH 151

Horizontal:

Frequency	Meter Reading	Factor	Emission Level	Limits	Margin	Detector Type
(MHz)	(dB μ V)	(dB)	(dB μ V/m)	(dB μ V/m)	(dB)	
3368	52.08	-4.59	47.49	68.2	20.71	peak
11096	51.36	4.21	55.57	74	18.43	peak
11096	32.98	4.21	37.19	54	16.81	AVG

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

Vertical:

Frequency (MHz)	Meter Reading (dB μ V)	Factor (dB)	Emission Level (dB μ V/m)	Limits (dB μ V/m)	Margin (dB)	Detector Type
3368	52.14	-4.59	47.55	68.2	20.65	peak
11096	51.33	4.21	55.54	74	18.46	peak
11096	32.58	4.21	36.79	54	17.21	AVG

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

**HUAK TESTING**

HUAK TESTING

HIGH CH159

Page 65 of 71

Report No.: HK2507314231-5E

Horizontal:

Frequency (MHz)	Meter Reading (dB μ V)	Factor (dB)	Emission Level (dB μ V/m)	Limits (dB μ V/m)	Margin (dB)	Detector Type
3172	58.12	-4.59	53.53	68.2	14.67	peak
10523	52.36	4.21	56.57	68.2	11.63	peak

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

Vertical:

Frequency (MHz)	Meter Reading (dB μ V)	Factor (dB)	Emission Level (dB μ V/m)	Limits (dB μ V/m)	Margin (dB)	Detector Type
3172	57.48	-4.59	52.89	68.2	15.31	peak
10523	51.92	4.21	56.13	68.2	12.07	peak

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

Remark:

- (1) Measuring frequencies from 1 GHz to the 40 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.
- (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 μ V/m(PK Value) <93.98(AV Limit), at harmonic 53.20 dB μ V/m(PK Value) <54 dB μ V/m(AV Limit), the Average Detected not need to completed.

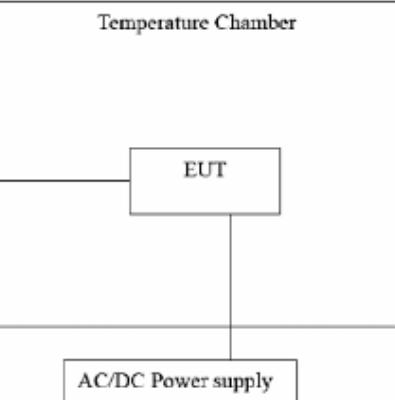
The results shown in this test report refer only to the sample(s) tested unless otherwise stated and the sample(s) are retained for 15 days only. The document is issued by Shenzhen HUAK Testing Technology Co., Ltd., this document cannot be reproduced except in full with our prior written permission.

Shenzhen HUAK Testing Technology Co., Ltd. Tel.: +86-0755-2302 9901 E-mail: info@huak.com Web.: www.huak.com

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

4.8 Frequency Stability Measurement

4.8.1. Test Specification

Test Requirement:	FCC Part15 Section 15.407(g)
Test Method:	ANSI C63.10: 2020
Limit:	The frequency tolerance shall be maintained within the band of operation frequency over a temperature variation of 0 degrees to 35 degrees C at normal supply voltage, and for a variation in the primary supply voltage from 85% to 115% of the rated supply voltage at a temperature of 20 degrees C.
Test Setup:	 <pre> graph LR SA[Spectrum Analyzer] --- EUT[EUT] EUT --- ACDC[AC/DC Power supply] EUT --- TC[Temperature Chamber] </pre>
Test Procedure:	<ol style="list-style-type: none"> The EUT was placed inside the environmental test chamber and powered by nominal AC/DC voltage. Turn the EUT on and couple its output to a spectrum analyzer. Turn the EUT off and set the chamber to the highest temperature specified. Allow sufficient time (approximately 30 min) for the temperature of the chamber to stabilize. Repeat step 2 and 3 with the temperature chamber set to the lowest temperature. The test chamber was allowed to stabilize at +20 degree C for a minimum of 30 minutes. The supply voltage was then adjusted on the EUT from 85% to 115% and the frequency record.
Test Result:	PASS
Remark:	N/A



HUAK TESTING

HUAK TESTING

Test Result as follows:

Mode	Voltage (V)	FHL (5745MHz)	Deviation (KHz)	FHH (5825MHz)	Deviation (KHz)
5.8G Band	102V	5744.989	-11	5824.986	-14
	120V	5745.015	15	5825.012	12
	138V	5745.007	7	5824.993	-7

Mode	Temperature (°C)	FHL (5745MHz)	Deviation (KHz)	FHH (5825MHz)	Deviation (KHz)
5.8G Band	-30	5744.986	-14	5825.034	34
	-20	5744.996	-4	5825.019	19
	-10	5744.975	-25	5825.008	8
	0	5744.984	-16	5825.014	14
	10	5744.993	-7	5824.985	-15
	20	5745.011	11	5824.971	-29
	30	5744.983	-17	5824.983	-17
	40	5744.991	-9	5824.988	-12
	50	5745.012	12	5824.983	-17

The results shown in this test report refer only to the sample(s) tested unless otherwise stated and the sample(s) are retained for 15 days only. The document is issued by Shenzhen HUAK Testing Technology Co., Ltd., this document cannot be reproduced except in full with our prior written permission.

Shenzhen HUAK Testing Technology Co., Ltd. Tel.: +86-0755-2302 9901 E-mail: info@huak.com Web.: www.huak.com

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



HUAK TESTING

HUAK TESTING



HUAK TESTING



HUAK TESTING



HUAK TESTING



HUAK TESTING



HUAK TESTING



HUAK TESTING



HUAK TESTING



HUAK TESTING



HUAK TESTING

5. Photographs of Test Setup

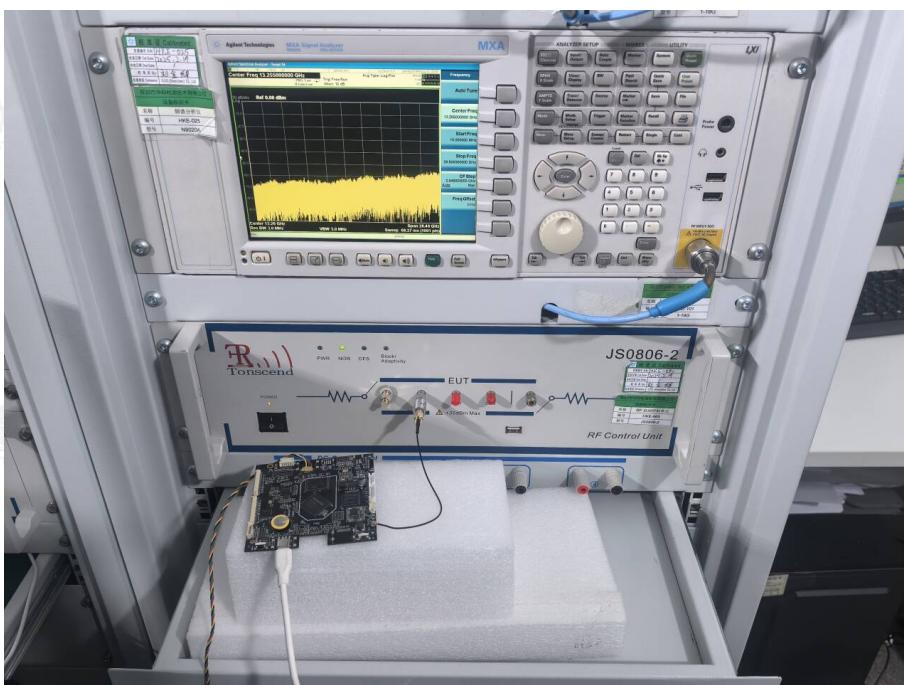
Radiated Emission



AC Conducted Emission



RF 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 15 days only. The document is issued by Shenzhen HUAK Testing Technology Co., Ltd., this document cannot be reproduced except in full with our prior written permission.

Shenzhen HUAK Testing Technology Co., Ltd. Tel: +86-0755-2302 9901 E-mail: info@huak.com Web: www.huak.com

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

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



HUAK TESTING

6. Photos of the EUT

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

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