

Page 1 of 27

Report No.: HK2502110488-22E

FCC Test Report

Test Report On Behalf of AOZORA WIRELESS INC. For Rugged Tablet Model No.: K8 Active, K8

FCC ID: 2BNQ8-K8ACTIVE

Prepared For:

AOZORA WIRELESS INC.

8605 Santa Monica Blvd 30327, West Hollywood California 90069 United States

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:
 Feb. 11, 2025 ~ Mar. 28, 2025

 Date of Report:
 Mar. 28, 2025

 Report Number:
 HK2502110488-22E

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



Page 2 of 27

Test Result Certification

Applicant's Name	AOZORA WIRELESS INC.
Address	8605 Santa Monica Blvd 30327, West Hollywood California 90069 United States
Manufacturer's Name	AOZORA WIRELESS INC.
Address	8605 Santa Monica Blvd 30327, West Hollywood California 90069 United States
Product Description	
Trade Mark	AOZORA
Product Name	Rugged Tablet
Model and/or Type Reference :	K8 Active, K8
Standards	FCC Rules and Regulations Part 15 Subpart C Section 15.225 ANSI C63.10: 2013
TU U U U	

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	Feb. 11, 2025 ~ Mar. 28, 2025
Date of Issue	Mar. 28, 2025
Test Result	Pass

Testing Engineer

Len Liao

Technical Manager

Sliver Wan

Authorized Signatory

Jason Zhou

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



NG

¦К РВ

Table of Contents

1.	Test Result Summary	5
	1.1 Information of the Test Laboratory	5
	1.2 Measurement Uncertainty	
2.	EUT Description	
3.	General Information	
	3.1 Test Environment and Mode	7
	3.2 Description of Test Setup	8
	3.3 Description of Support Units	9
4.	Test Results and Measurement Data	10
	4.1 Antenna Requirement	10
	4.2 Conducted Emission	11
	4.3 Radiated Emission Measurement	
	4.4 Occupied Bandwidth	21
	4.5 Frequency Stability	23
5.	Photographs of Test Setup	25
6.	Photos of the EUT	27

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



Т 691

** Modified History **

Revision	Description	Issued Data	Remark	
Revision 1.0	Initial Test Report Release	Mar. 28, 2025	Jason Zhou	
NKTESTIC NKTE	AK TESTIN	TESTI-	NK TESTIN	
AUT HUT	A HU.	HUM	HUM	

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

Page 5 of 27



1. Test Result Summary

Requirement	CFR 47 Section	Result	
Conduction Emission, 0.15MHz to 30MHz	§15.207	PASS	
Radiation Emission	§15.225, §15.205, §15.209, §15.35	PASS	
Occupied Bandwidth	§ 15.215	PASS	
Antenna Requirement	§ 15.203	PASS	
Frequency Stability	§ 15.225	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.

1.1 Information of the Test Laboratory

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

Testing Laboratory Authorization:

A2LA Accreditation Code is 4781.01. FCC Designation Number is CN1229. Canada IC CAB identifier is CN0045. CNAS Registration Number is L9589.

1.2 Measurement Uncertainty

Measurement Uncertainty

Conducted Emission Expanded Uncertainty Radiated emission expanded uncertainty(9kHz-30MHz) Radiated emission expanded uncertainty(30MHz-1000MHz) Radiated emission expanded uncertainty(Above 1GHz)

- = 2.71dB, k=2
- = 3.90dB, k=2
- = 3.90dB, k=2
 - = 4.28dB, k=2

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



FICATION

2. EUT Description

Equipment:	Rugged Tablet	
Model Name:	K8 Active	MAKTESTING
Series Model:	К8	
Model Difference:	All model's the function, software and electric same, only with model named different. Test K8 Active.	
FCC ID:	2BNQ8-K8ACTIVE	Y
Antenna Type:	FPC antenna	TESTING
Antenna Gain:	0dBi	O HUM
Operation frequency:	13.56MHz	
Modulation Type:	ASK	N TESTING
Power Source:	DC 5V from Type-C or DC 3.86V from Batter	y O ^{rea}
Power Rating:	DC 5V from Type-C or DC 3.86V from Batter	y
Note:		- C. M.

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.

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.



3. General Information

3.1 Test Environment and Mode

Operating Environment:			
Temperature:	24.0 °C	HUAKTESI	HUAKTES
Humidity:	54 % RH	and a second	
Atmospheric Pressure:	1010 mbar	C HUAK TESH	K TESTING

Test Mode:

Operation mode:	Keep the EUT in o with modulation	continuous transmitting

The sample was placed (0.8m below 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.

Per-test mode.

We have verified the construction and function in typical operation, The EUT was placed on three different polar directions; i.e. X axis, Y axis, Z axis. which was shown in this test report and defined as follows:

Axis	X	Y	Z WANTES IN Z WANTES
Field Strength(dBuV/m)	93.29	96.51	94.18

Final Test Mode:

According to ANSI C63.10 standards, the test results are both the "worst case" and "worst setup": Y axis (see the test setup photo)

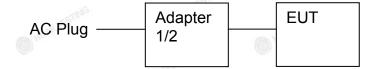
The results shown in this test report refer only to the sample(s) tested unless otherwise stated and the sample(s) are retained for 30 days only. The document is issued by HUAK, this document cannont be reproduced except in full with our prior written permission. The more details and the authenticity 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



3.2 Description of Test Setup

Operation of EUT during conducted testing and radiation testing:



The sample was placed (0.8m below 1GHz) above the ground plane of 3mchamber. 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.

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



3.3 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.

ltem	Equipment	Trade Mark	Model/Type No.	Specification	Remark
1	Rugged Tablet	AOZORA	K8 Active	N/A	EUT
۵	Adapter1	N/A	N/A	Input: AC100-240V, 50/60Hz, 0.75A Output: 5V 2A	Peripheral
3	Adapter2	N/A	MDY-10-EH	Input: 100-240VAC, 50/60Hz, 0.7A Output: 5V 3A/9V 3A/12V 2.25A/20V 1.35A	Peripheral

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.

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



4. Test Results and Measurement Data

4.1 Antenna Requirement

Standard requirement:

FCC Part15 C Section 15.203

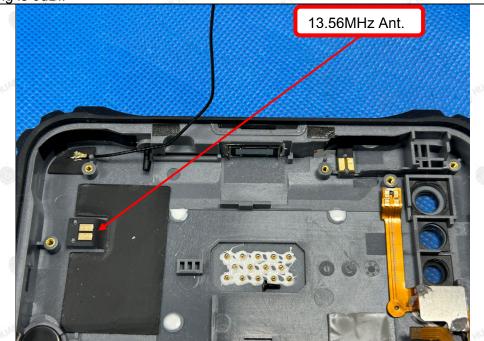
15.203 requirement:

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. The use of a permanently attached antenna or of an antenna that uses a unique coupling to the intentional radiator, the manufacturer may design the unit so that a broken antenna can be replaced by the user, but the use of a standard antenna jack or electrical connector is prohibited.

E.U.T Antenna:

FPC antenna

The antenna used in this product is a FPC Antenna, is a permanently attached antenna on the PCB. It conforms to the standard requirements. The directional gains of antenna used for transmitting is 0dBi.



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



4.2 Conducted Emission

4.2.1 Conducted Power Line Emission Limit

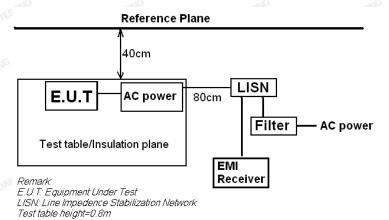
For unintentional device, according to § 15.107(a) Line Conducted Emission Limits is as following.

Fraguanay	Maximum RF Line Voltage (dBµV)					
Frequency (MHz)	CLAS	SS A	CLASS B			
(11112)	Q.P.	Ave.	Q.P.	Ave.		
0.15 - 0.50	79	66	66-56*	56-46*		
0.50 - 5.00	73	60	56	46		
5.00 - 30.0	73	60	60	50		

* Decreasing linearly with the logarithm of the frequency.

For intentional device, according to §15.207(a) Line Conducted Emission Limit is same as above table.

4.2.2 Test Setup



4.2.3 Test Procedure

- 1. The equipment was set up as per the test configuration to simulate typical actual usage per the user's manual. The EUT is a tabletop system, a wooden table with a height of 0.8 meters is used and is placed on the ground plane as per ANSI C63.10.
- 2. Support equipment, if needed, was placed as per ANSI C63.10.
- 3. All I/O cables were positioned to simulate typical actual usage as per ANSI C63.10.
- 4. If a EUT received DC power from the USB Port of Notebook PC, the PC's adapter received AC120V/60Hz power through a Line Impedance Stabilization Network (LISN) which supplied power source and was grounded to the ground plane.
- 5. All support equipments received AC power from a second LISN, if any.
- 6. The EUT test program was started. Emissions were measured on each current carrying line of the EUT using a spectrum Analyzer / Receiver connected to the LISN powering the EUT. The LISN has two monitoring points: Line 1 (Hot Side) and Line 2 (Neutral Side). Two scans were taken: one with Line 1 connected to Analyzer / Receiver and Line 2 connected to a 50 ohm load; the second scan had Line 1 connected to a 50 ohm load and Line 2 connected to the Analyzer / Receiver.
- 7. Analyzer / Receiver scanned from 150 KHz to 30MHz for emissions in each of the test modes.

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



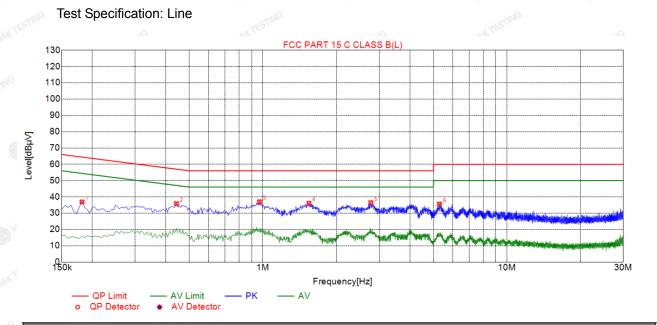
Page 12 of 27

FICATION

4.2.4 Test Result

Remark: All the test modes completed for test. only the worst result

Of was reported as below: Conducted Emission on Line Terminal of the power line (150 kHz to 30MHz)



Suspected List								
NO.	Freq. [MHz]	Level [dBµV]	Factor [dB]	Limit [dBµV]	Margin [dB]	Reading [dBµV]	Detector	Туре
1	0.1815	36.90	19.86	64.42	27.52	17.04	PK	L
2	0.4425	35.86	19.85	57.01	21.15	16.01	PK	L
3	0.9690	37.02	19.87	56.00	18.98	17.15	PK	L
4	1.5450	36.14	19.93	56.00	19.86	16.21	PK	L
5	2.7690	36.48	20.04	56.00	19.52	16.44	PK	L
6	5.2935	35.58	20.11	60.00	24.42	15.47	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.

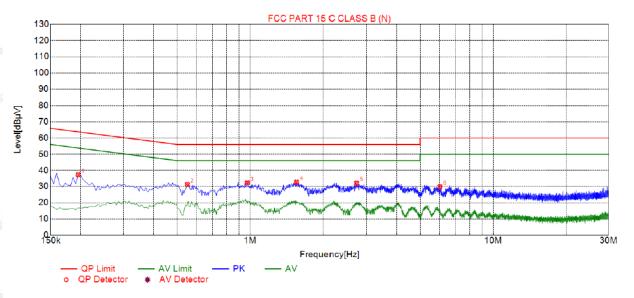
TEL: +86-755 2302 9901 FAX: +86-755 2302 9901 E-mail: service@cer-mark.com



Page 13 of 27

Report No.: HK2502110488-22E

Test Specification: Neutral



Sus	Suspected List							
NO.	Freq. [MHz]	Level [dBµV]	Factor [dB]	Limit [dBµV]	Margin [dB]	Reading [dBµV]	Detector	Туре
1	0.1950	37.36	19.73	63.82	26.46	17.63	PK	N
2	0.5505	31.32	19.75	56.00	24.68	11.57	PK	N
3	0.9735	32.36	19.74	56.00	23.64	12.62	PK	N
4	1.5540	32.79	19.80	56.00	23.21	12.99	PK	Ν
5	2.7330	32.13	19.92	56.00	23.87	12.21	PK	N
6	6.0315	29.92	19.98	60.00	30.08	9.94	PK	Ν

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.

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



4.3 Radiated Emission Measurement

4.3.1 Test Specification

Test Requirement:	FCC Part15 C Section 15.225(a) and 15.209					
Test Method:	ANSI C63.10:2013					
Frequency Range:	9 kHz to 1 GHz					
Measurement Distance:	3 m					
Antenna Polarization:	Horizontal & Vertical					
Receiver Setup:	FrequencyDetectorRBWVBWRemark9kHz-150kHzQuasi-peak200Hz1kHzQuasi-peak Value150kHz-Quasi-peak9kHz30kHzQuasi-peak Value30MHzQuasi-peak120KHz300KHzQuasi-peak Value					
	 meters above the ground at a 3 meter camber in below 1GHz. The table was rotated 360 degrees to determine the position of the highest radiation. 2. The EUT was set 3 meters away from the interference-receiving antenna, which was mounter on the top of a variable-height antenna tower. 3. The antenna height is varied from one meter to four meters above the ground to determine the maximu value of the field strength. Both horizontal and vertical polarizations of the antenna are set to mak the measurement. 4. For each suspected emission, the EUT was arrange to its worst case and then the antenna was tuned the heights from 1 meter to 4 meters and the rotatable table was turned from 0 degrees to 360 degrees to find the maximum reading. 5. The test-receiver system was set to Peak Detect Function and Specified Bandwidth with Maximum Hold Mode. 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 b 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 ar then reported in a data sheet. 					

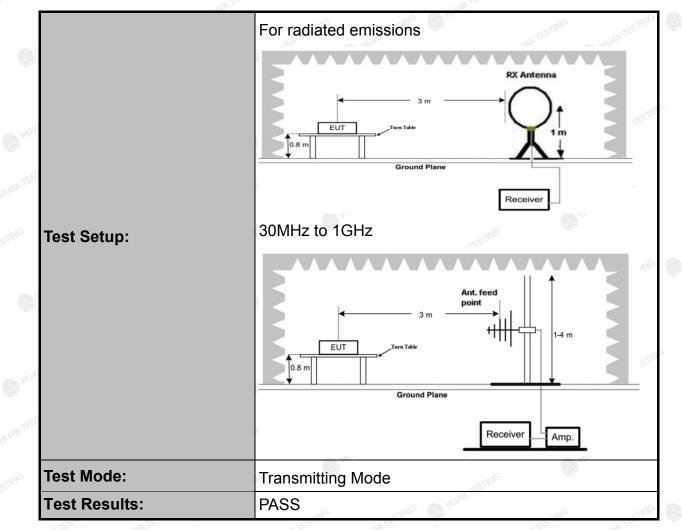
The results shown in this test report refer only to the sample(s) tested unless otherwise stated and the sample(s) are retained for 30 days only. The document is issued by HUAK, this document cannont be reproduced except in full with our prior written permission. The more details and the authenticity 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



Page 15 of 27

Report No.: HK2502110488-22E



4.3.2 Limit

(a)The field strength of any emissions within the band 13.553-13.567 MHz shall not exceed 15,848 microvolts/meter at 30 meters.

(b) Within the bands 13.410-13.553 MHz and 13.567-13.710 MHz, the field strength of any emissions shall not exceed 334 microvolts/meter at 30 meters.

(c) Within the bands 13.110-13.410 MHz and 13.710-14.010 MHz the field strength of any emissions shall not exceed 106 microvolts/meter at 30 meters.

(d) The field strength of any emissions appearing outside of the 13.110-14.010 MHz band shall not exceed the general radiated emission limits in §15.209.

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.



Frequency Range (MHz)	Distance (m)	Field strength (dB μ V/m)	Field strength (microvolts/meter)
0.009-0.490	300	20log 2400/F (kHz)	2400/F (kHz)
0.490-1.705	30	20log 24000/F (kHz)	24000/F (kHz)
1.705-30	30	20log 30	30
30-88	3	40.0	100**
88-216		43.5	150**
216-960	HUM- 3	46.0	200**
Above 960	3	54.0	500

4.3.3 Frequencies in restricted band are complied to limit on Paragraph 15.209

NOTE:

**Except as provided in paragraph (g), fundamental emissions from intentional radiators operating under this section shall not be located in the frequency bands 54-72 MHz, 76-88 MHz, 174-216 MHz or 470-806 MHz. However, operation within these frequency bands is permitted under other sections of this part, e.g., S 15.231 and 15.241.

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



4.3.4 Test Instruments

Item	Equipment	Manufacturer	Model No.	Serial No.	Last Cal.	Cal. Interval
NAX TEST	Spectrum analyzer	Agilent	N9020A	HKE-025	Feb. 19, 2025	1 Year
2.	L.I.S.N.	R&S	ENV216	HKE-002	Feb. 19, 2025	1 Year
3.	L.I.S.N.	R&S	ENV216	HKE-059	Feb. 19, 2025	1 Year
4.	EMI Test Receiver	R&S	ESR	HKE-005	Feb. 19, 2025	1 Year
5.	Spectrum analyzer	Agilent	N9020A	HKE-025	Feb. 19, 2025	1 Year
6.	Spectrum analyzer	R&S	FSV3044	HKE-126	Feb. 19, 2025	1 Year
7.	Preamplifier	EMCI	EMC051845S	HKE-006	Feb. 19, 2025	1 Year
8.	Preamplifier	Schwarzbeck	BBV 9743	HKE-016	Feb. 19, 2025	1 Year
9.	Preamplifier	A.H. Systems	SAS-574	HKE-182	Feb. 19, 2025	1 Year
10.	6dB Attenuator	Pasternack	6db	HKE-184	Feb. 19, 2025	1 Year
11.	EMI Test Receiver	Rohde & Schwarz	ESR-7	HKE-010	Feb. 19, 2025	1 Year
12.	Broadband Antenna	Schwarzbeck	VULB9168	HKE-167	Feb. 21, 2024	2 Year
13.	Loop Antenna	COM-POWER	AL-130R	HKE-014	Feb. 21, 2024	2 Year
14.	Horn Antenna	Schwarzbeck	9120D	HKE-013	Feb. 21, 2024	2 Year
15.	EMI Test Software	Tonscend	JS32-CE 2.5.0.6	HKE-081	1	1
16.	EMI Test Software	Tonscend	JS32-RE 5.0.0	HKE-082	MUAK TESTIN	KTESI
17.	10dB Attenuator	Schwarzbeck	VTSD9561F	HKE-153	Feb. 19, 2025	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

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



CATION

4.3.5 Test Data

PASS

Note: this EUT was tested for all models and the worst case model (DC 5V) data was reported.

Field Strength of Fundamental

Frequency (MHz)	Reading (dBuV/m)	Correction Factor(dB/m)	Result (dBuV/m)	Limit (dBuV/m)	Margin (dB)	Polar (H/V)	Detector
13.21	44.66	15.82	60.48	80.51	-20.03	H	QP
13.21	43.79	15.82	59.61	80.51	-20.9	V	QP
13.85	47.87	15.82	63.69	80.51	-16.82	H	QP
13.85	45.35	15.82	61.17	80.51	-19.34	V	QP
13.56	82.76	12.33	95.09	124	-28.91	Н	Peak
13.56	81.96	12.33	94.29	124	-29.71	V	Peak
13.45	50.28	15.82	66.1	90.47	-24.37	Н	QP
13.45	50.12	15.82	65.94	90.47	-24.53	V	QP
13.62	49.29	15.82	65.11	90.47	-25.36	Н	QP
13.62	44.46	15.82	60.28	90.47	-30.19	v	QP

Remark: Margin = Result - Limit

Result = Reading +Correction Factor

Correction Factor = Antenna Factor + Cable Factor

Spurious Emissions

Frequency Range (9 kHz-30MHz)

2	Frequency (MHz)		Level@3m (dBµV/m)	Limit@3	3m (dBµV/m)
2	-This		AKTES	IN WAKTED	
	- HUAKTER-		W WINKTER	0	- HUAK TE
			(W	-alG	
ſ		OX TES		AX TEST	

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.

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



Page 19 of 27

About 30MHz-1GHz

Note: this EUT was tested in 3 orthogonal positions and the worst case position data was reported.



C	nantar	4 1 1 - 4
Sus	pected	i List

NO. Freq. Factor Reading Level Limit Margin Height Angle	Polarity
	Polarity
[MHz] [dB] [dBµV/m] [dBµV/m] [dBµV/m] [dB] [cm] [°]	
1 72.722723 -17.59 31.07 13.48 40.00 26.52 100 40	Horizontal
2 161.08108 -17.67 29.29 11.62 43.50 31.88 100 290	Horizontal
3 316.43643 -11.36 29.23 17.87 46.00 28.13 100 210	Horizontal
4 394.11411 -9.19 29.48 20.29 46.00 25.71 100 210	Horizontal
5 643.65365 -4.95 24.66 19.71 46.00 26.29 100 300	Horizontal
6 925.23523 -0.93 24.01 23.08 46.00 22.92 100 110	Horizontal

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

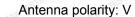
The results shown in this test report refer only to the sample(s) tested unless otherwise stated and the sample(s) are retained for 30 days only. The document is issued by HUAK, this document cannont be reproduced except in full with our prior written permission. The more details and the authenticity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

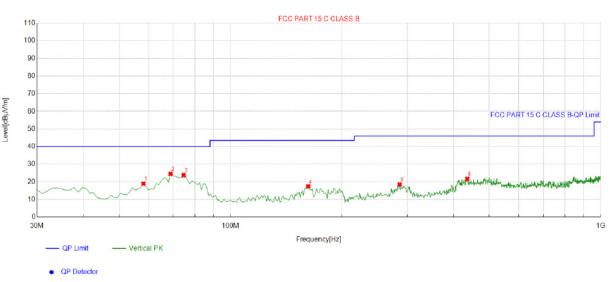
TEL: +86-755 2302 9901 FAX: +86-755 2302 9901 E-mail: service@cer-mark.com



Page 20 of 27

Report No.: HK2502110488-22E





Suspected List

	Freq.	Factor	Reading	Level	Limit	Margin	Height	Angle	D L 1
NO.	[MHz]	[dB]	[dBµV/m]	[dBµV/m]	[dBµV/m]	[dB]	[cm]	[°]	Polarity
1	58.158158	-14.00	32.99	18.99	40.00	21.01	100	140	Vertical
2	68.838839	-16.41	40.97	24.56	40.00	15.44	100	350	Vertical
3	74.664665	-17.94	41.78	23.84	40.00	16.16	100	180	Vertical
4	162.05205	-17.59	35.08	17.49	43.50	26.01	100	10	Vertical
5	286.33633	-12.36	30.87	18.51	46.00	27.49	100	120	Vertical
6	435.86586	-8.99	30.69	21.70	46.00	24.30	100	110	Vertical

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 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



4.4 Occupied Bandwidth

4.4.1 Test Specification

Test Requirement:	FCC Part15 C Section 15.215(c)
Test Method:	ANSI C63.10: 2013
Limit:	N/A stress stress
	 According to the follow Test-setup, keep the relative position between the artificial antenna and the EUT. Set to the maximum power setting and enable the EUT transmit continuously. Use the following spectrum analyzer settings for 20dB Bandwidth measurement. Span = approximately 2 to 3 times the 20 dB bandwidth, centered on a hopping channel; RBW≥ 1% of the 20 dB bandwidth; VBW≥RBW; Sweep = auto; Detector function = peak; Trace = max hold. Measure and record the results in the test report.
Test Setup:	Attenuator Spectrum Analyzer EUT
Test Mode:	Transmitting Mode
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



ŀ

4.4.2 Test data

	Test Channel (MHz)	20dB Occupy Bandwidth (kHz)	Limit (kHz)	Conclusion
A	13.56	2.703	N/A	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 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



*

4.5 Frequency Stability

4.5.1 Test Specification

-STITE STITE	
Test Requirement:	FCC Part15 C Section 15.225
Test Method:	ANSI C63.10: 2013
Limit:	+/-0.01%
	 The equipment under test was connected to an external DC power supply and input rated voltage. RF output was connected to a spectrum analyzer. The EUT was placed inside the temperature chamber. Set the spectrum analyzer RBW low enough to obtain the desired frequency resolution and measure EUT 25°C operating frequency as reference frequency. Turn EUT off and set the chamber temperature to - 20°C. After the temperature stabilized for approximately 30 minutes recorded the frequency. Repeat step measure with 10°C increased per stage until the highest temperature of +50°C reached.
Test Setup:	Spectrum Analyzer
Test Mode:	Transmitting Mode

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



4.5.2 Test Data

PASS

Note: this EUT was tested for all models and the worst case model (DC 5V) data was reported.

Voltage (Vdc)	Temperature (℃)	Frequency (MHz)	Deviation (%)	Limit (%)
3	-20	13.560182	0.00134%	
3	-10	13.560043	0.00032%	
3	0	13.560322	0.00237%	UNAX TESTING
3	10	13.560333	0.00246%	
3	20	13.560387	0.00285%	
3	30	13.560359	0.00265%	K TESTING
3	40	13.560378	0.00279%	O HUAN
	50	13.560464	0.00342%	
2.7	-20	13.560429	0.00316%	A TESTING
2.7	-10	13.560509	0.00375%	
2.7	0	13.560263	0.00194%	
2.7	10	13.560646	0.00476%	
2.7	20	13.560358	0.00264%	+/-0.01%
2.7	30	13.560512	0.00378%	
2.7	40	13.560099	0.00073%	AKTESTING
2.7	50	13.560261	0.00192%	O HOM
3.3	-20	13.560058	0.00043%	
3.3	-10	13.560093	0.00069%	A TESTING
3.3	0	13.560132	0.00097%	
3.3	10	13.560736	0.00543%	ang ang
3.3	20	13.560154	0.00114%	HUAKTESTIN
3.3	30	13.560151	0.00111%	
3.3	40	13.560061	0.00045%	1
3.3	50	13.560263	0.00194%	AK TESTING

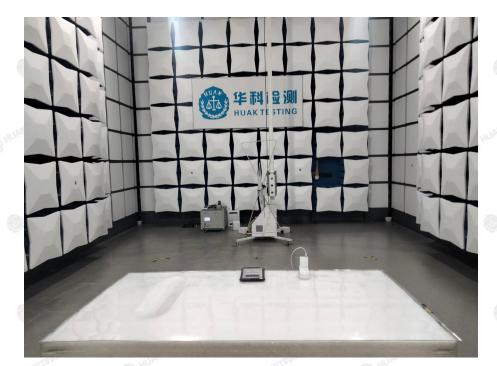
The results shown in this test report refer only to the sample(s) tested unless otherwise stated and the sample(s) are retained for 30 days only. The document is issued by HUAK, this document cannont be reproduced except in full with our prior written permission. The more details and the authenticity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

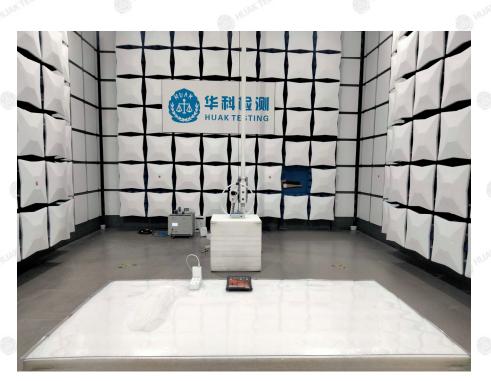
TEL: +86-755 2302 9901 FAX: +86-755 2302 9901 E-mail: service@cer-mark.com



5. Photographs of Test Setup

Radiated 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 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



Page 26 of 27

Report No.: HK2502110488-22E

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 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



Page 27 of 27

Report No.: HK2502110488-22E

D A T

6. Photos of the EUT

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.

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