

Page 1 of 23

Report No.: HK2408024331-1E

FCC Test Report

Test Report On Behalf of NINGBO WISEASIA CO., LTD. For Wireless Charging Alarm Clock and Speaker Model No.: MI-WCR03

FCC ID: 2BH43-MI-WCR03

Prepared For:

NINGBO WISEASIA CO., LTD.

3F, Unit 7, No.688 Jinda Road, Yinzhou, Ningbo, 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:
 Aug. 02, 2024 ~ Sept. 11, 2024

 Date of Report:
 Sept. 11, 2024

 Report Number:
 HK2408024331-1E

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Page 2 of 23

Report No.: HK2408024331-1E

Test Result Certification

Applicant's Name:	NINGBO WISEASIA CO., LTD.
Address:	3F, Unit 7, No.688 Jinda Road, Yinzhou, Ningbo, China
Manufacturer's Name:	NINGBO WISEASIA CO., LTD.
Address:	3F, Unit 7, No.688 Jinda Road, Yinzhou, Ningbo, China
Product Description	
Trade Mark:	MERKURY
Product Name	Wireless Charging Alarm Clock and Speaker
Model and/or Type Reference:	MI-WCR03
Standards	FCC Rules and Regulations Part 15 Subpart C (Section 15.209), ANSI C63.10: 2013

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Date of Test	
Date (s) of Performance of Tests	Aug. 02, 2024 ~ Sept. 11, 2024
Date of Issue	Sept. 11, 2024
Test Result	Pass

Testing Engineer

em lian

(Len Liao)

Technical Manager

Ubm VOY

(Sliver Wan)

Authorized Signatory

rein thou

(Jason Zhou)

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Page 3 of 23

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		Table of Con	tents	Page	
1	. Test Summary			5	
	1.1 Test Procedures a	and Results		5	
	1.2 Information of the	Test Laboratory	HUAKTE	5	
	1.3 Measurement Und	certainty		5	
2	. General Information			6	
	2.1 General Description	on of EUT		NUM TEST 6	
	2.2 Carrier Frequency	of Channels		7	
	2.3 Operation of EUT	during Testing		7	
	2.4 Description of Tes	t Setup		8	
	2.5 Description of Sup	port Units		9	
	2.6 Measurement Inst	ruments List		10	
3	. Conducted Emission T	est		11.5m	
	3.1 Block Diagram of	Test Setup		11	
	3.2 Conducted Power	Line Emission	_imit	11	
	3.3 Test Procedure			11	
	3.4 Test Result			12	
4	. Radiated Emissions			14	
	4.1 Block Diagram of	Test Setup		14	
	4.2 Rules and Specific	cations		15	
	4.3 Test Procedure			16	
	4.4 Test Result			17	
5	. Antenna Requirement			20	
6	. Photographs of Test			21	
7 ¹⁰ 7	. Photos of the EUT			23	
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Т 691

** Modified History **

Revision	Description	Issued Data	Remark
Revision 1.0	Initial Test Report Release	Sept. 11, 2024	Jason Zhou
-cSTING	STING	-sting	G
HUAK .	- HUAK I - HUAK	HUAK I	HUAK

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Page 5 of 23

SECTION NUMBER

15.207

15.209

15.203

Report No.: HK2408024331-1E

RESULT

COMPLIANT

COMPLIANT

COMPLIANT

1. Test Summary

1.1 Test Procedures and Results

DESCRIPTION OF TEST CONDUCTED EMISSIONS TEST RADIATED EMISSION TEST ANTENNA REQUIREMENT

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

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

1.3 Measurement Uncertainty

Measurement Uncertainty

Conducted Emission Expanded Uncertainty
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

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Page 6 of 23

FICATION

2. General Information

HUAK TESTING

2.1 General Description of EUT

Equipment:	Wireless Charging Alarm Clock and Speaker					
Model Name:	MI-WCR03	THUAK TEST	HUAKTEST	HUAKTEST		
Series Models:	N/A		0	0		
Model Difference:	N/A		KTESTING			
Trade Mark:	MERKURY	I LAK TESTING	O HUM	NAK TESTING		
FCC ID:	2BH43-MI-WCR03		Ola	0		
Antenna Type:	Coil Antenna	-G - M	UANTESTIC	.6		
Antenna Gain:	0dBi	MAKTESTIN	INK TESTIN	IS UNAK TESTING		
Operation Frequency:	112KHz~205KHz	0	O HO	0.		
Test Frequency:	131KHz					
Number of Channels:	1 1	KTESTING	KTESTING	K TESTING		
Modulation Type:	ASK	O HOM	O HOL	O HUM		
Power Source:	Input: DC9V/2A, 5V Wireless Outout: 15 Battery: DC3.7V, 12	5W/10W/7.5W/5W	HUNKTESTING	WTESTING		
Power Rating:	Input: DC9V/2A, 5V Wireless Outout: 15 Battery: DC3.7V, 12	5W/10W/7.5W/5W	INCRESTING	O HUM		

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.

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2.2 Carrier Frequency of Channels

Operation Free	quency each of chan	nel	HUAKTE	HUAKTES	HUAKTE
Channel	Frequency	9	2		w.
Middle CH	131KHz				
TNG	TING	CING	TING	TING	-712

2.3 Operation of EUT during Testing

Test Item	Test mode	Description	STING
Radiated & Conducted	Mode 1	AC/DC Adapter + EUT + Mobile Phone (Bat	tery Status: <1%)
Test Cases	Mode 2	AC/DC Adapter + EUT + Mobile Phone (Batt	ery Status: <50%)
	Mode 3	AC/DC Adapter + EUT + Mobile Phone (Batt	ery Status: >95%)

Note:

1. All modes and configurations above have been tested, Only the result of the worst case was recorded in the report, the worst-case configuration is Mode 1.

2. For Radiated Emission, 3axis were chosen for testing for each applicable mode.

3. The Mobile Phone provided by Lab.

4. According to the manufacturer's design principle, the wireless charging power will reach its maximum when the client device's battery level is between 1% and 10%.

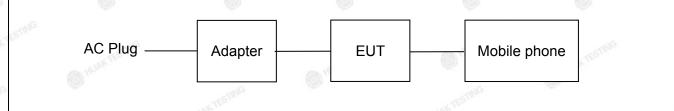
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2.4 Description of Test Setup

Operation of EUT during conducted testing and radiation testing:



The sample was placed (0.8m (30MHz~1GHz), 0.8m (9KHz~30MHz)) 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.

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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	Wireless Charging Alarm Clock and Speaker	MERKURY	MI-WCR03	N/A N/A	EUT
2	USB Cable	N/A	N/A	Length: 50cm	Accessory
autostar 3 Star	Adapter	N/A mar	CD289	Input: AC100-240V, 50/60Hz, 2A Max USB-C1 Output: DC5V/3A, 9V3A, 12V/3A, 15V/3A, 20V/5A, 28V/5A 140W MAX USB-C2 Output: DC5V/3A, 9V/3A, 12V/3A, 15V/3A, 20V/5A 100W MAX USB-A Output: DC5V/4.5A, 4.5V/5A, 5V/3A, 9V/2A, 12V/1.5A 22.5W MAX Total Output: 140W Max	Peripheral
4	Mobile Phone	iPhone	iPhone 13	N/A	Periphera
HOM		0	0	O HOLL O H	
					l

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.

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.6 Me	asurement Instru	ments List 🛛 🔬				
Item	Equipment	Manufacturer	Model No.	Serial No.	Last Cal.	Cal. Interval
1.	L.I.S.N.	R&S	ENV216	HKE-002	Feb. 20, 2024	1 Year
2.	L.I.S.N.	R&S	ENV216	HKE-059	Feb. 20, 2024	1 Year
3.	EMI Test Receiver	R&S	ESR	HKE-005	Feb. 20, 2024	1 Year
4.	Spectrum analyzer	Agilent	N9020A	HKE-048	Feb. 20, 2024	1 Year
5.	Spectrum analyzer	R&S	FSV3044	HKE-126	Feb. 20, 2024	1 Year
6.	Preamplifier	EMCI	EMC051845 S	HKE-006	Feb. 20, 2024	1 Year
7.	Preamplifier	Schwarzbeck	BBV 9743	HKE-016	Feb. 20, 2024	1 Year
8.	Preamplifier	A.H. Systems	SAS-574	HKE-182	Feb. 20, 2024	1 Year
9.	6dB Attenuator	Pasternack	6db	HKE-184	Feb. 20, 2024	1 Year
10.	EMI Test Receiver	Rohde & Schwarz	ESR-7	HKE-010	Feb. 20, 2024	1 Year
11.	Broadband Antenna	Schwarzbeck	VULB9168	³ HKE-167	Feb. 21, 2024	2 Year
12.	Loop Antenna	COM-POWER	AL-130R	HKE-014	Feb. 21, 2024	2 Year
13.	Horn Antenna	Schwarzbeck	9120D	HKE-013	Feb. 21, 2024	2 Year
14.	EMI Test Software	Tonscend	JS32-CE 2.5.0.6	HKE-081	/ I	e /
15.	EMI Test Software	Tonscend	JS32-RE 5.0.0	HKE-082	() HOM	/
16.	10dB Attenuator	Schwarzbeck	VTSD9561F	HKE-153	Feb. 20, 2024	1 Year

2.6 Measurement Instruments List

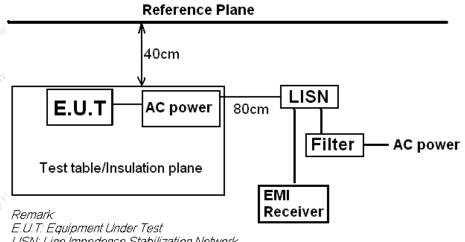
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3. Conducted Emission Test

3.1 Block Diagram of Test Setup



LISN: Line Impedence Stabilization Network Test table height=0.8m

3.2 Conducted Power Line Emission Limit

According to FCC Part 15.207(a)

	- 1529	0.0007	- 6		S202		
	Eregueney	Maximum RF Line Voltage (dBµV)					
	Frequency (MHz)	CLAS	SS A	CLASS B			
		Q.P.	Ave.	Q.P.	Ave.		
	0.15 - 0.50	79	66	66-56*	56-46*		
N	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 Line Conducted Emission Limit is same as above table.

3.3 Test Procedure

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

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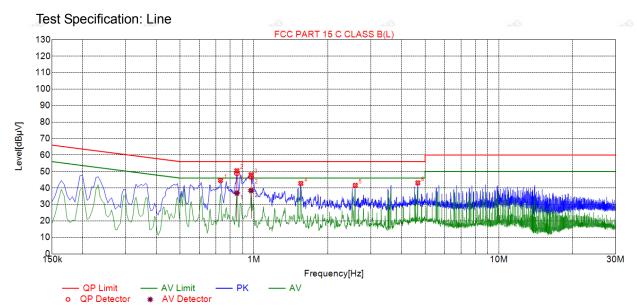


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3.4 Test Result

PASS

All the test modes completed for test. Only the worst result of Full Load was reported as below:



Suspected List

	NO.	Freq. [MHz]	Level [dBµV]	Factor [dB]	Limit [dBµV]	Margin [dB]	Reading [dBµV]	Detector	Туре
	1	0.7305	44.64	19.86	56.00	11.36	24.78	PK	L
	2	0.8520	50.48	19.87	56.00	5.52	30.61	PK	L
	3	0.9735	48.04	19.87	56.00	7.96	28.17	PK	L
	4	1.5540	42.79	19.93	56.00	13.21	22.86	PK	L
	5	2.5935	41.60	20.03	56.00	14.40	21.57	PK	L
	6	4.6680	43.13	20.10	56.00	12.87	23.03	PK	L

Final Data List

1	10.	Freq. [MHz]	Correction factor[dB]	QP Value [dBµV]	QP Limit [dBµV]	QP Margin [dB]	QP Reading [dBµV]	AV Value [dBµV]	A∨ Limit [dBµV]	AV Margin [dB]	AV Reading [dBµV]	Туре
	1	0.8519	19.87	48.95	56.00	7.05	29.08	36.93	46.00	9.07	17.06	L
	2	0.9741	19.87	46.79	56.00	9.21	26.92	38.47	46.00	7.53	18.60	L
	Pomork: Margin - Limit Loval											

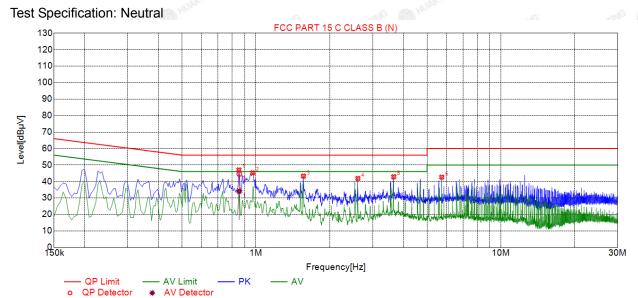
Remark: Margin = Limit – Level

Correction factor = Cable lose + ISN insertion loss

Level=Test receiver reading + correction factor

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	Sus	Suspected List										
2	NO.	Freq. [MHz]	Level [dBµV]	Factor [dB]	Limit [dBµV]	Margin [dB]	Reading [dBµV]	Detector	Туре			
5	1	0.8520	47.02	19.74	<mark>56.00</mark>	8.98	27.28	PK	Ν			
	2	0.9690	45.20	19.74	56.00	10.80	25.46	PK	Ν			
	3	1.5630	43.27	19.80	56.00	12.73	23.47	PK	Ν			
	4	2.6070	41.84	19.91	56.00	14.16	21.93	PK	Ν			
1007	5	3.6510	42.88	19.97	56.00	13.12	22.91	PK	Ν			
	6	5.7345	42.63	19.99	60.00	17.37	22.64	PK	Ν			

Final Data List

NO.	Freq. [MHz]	Correction factor[dB]	QP Value [dBµV]	QP Limit [dBµV]	QP Margin [dB]	QP Reading [dBµ∨]	AV Value [dBµV]	A∨ Limit [dBµ∨]	A∨ Margin [dB]	A∨ Reading [dBµ∨]	Туре
1	0.8548	19.74	44.59	56.00	11.41	24.85	34.06	46.00	11.94	14.32	N

Remark: Margin = Limit – Level

Correction factor = Cable lose + ISN insertion loss

Level=Test receiver reading + correction factor

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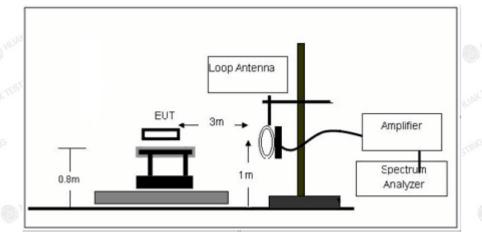
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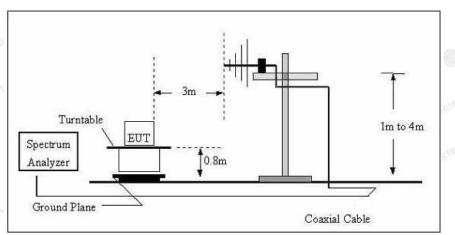


EST ⊢ FiF

4. Radiated Emissions

4.1 Block Diagram of Test Setup





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Page 15 of 23

4.2 Rules and Specifications

CFR 47 Part 15, section 15.205

Only spurious emissions are permitted in any of the frequency bands listed the tables in these sections.

MHz	MHz	MHz	GHz
0.090-0.110	16.42-16.423	399.9-410	4.5-5.15
\1\ 0.495-0.505	16.69475-16.69525	608-614	5.35-5.46
2.1735-2.1905	16.80425-16.80475	960-1240	7.25-7.75
4.125-4.128	25.5-25.67	1300-1427	8.025-8.5
4.17725-4.17775	37.5-38.25	1435-1626.5	9.0-9.2
4.20725-4.20775	73-74.6	1645.5-1646.5	9.3-9.5
6.215-6.218	74.8-75.2	1660-1710	10.6-12.7
6.26775-6.26825	108-121.94	1718.8-1722.2	13.25-13.4
6.31175-6.31225	123-138	2200-2300	14.47-14.5
8.291-8.294	149.9-150.05	2310-2390	15.35-16.2
8.362-8.366	156.52475-156.52525	2483.5-2500	17.7-21.4
8.37625-8.38675	156.7-156.9	2690-2900	22.01-23.12
8.41425-8.41475	162.0125-167.17	3260-3267	23.6-24.0
12.29-12.293.	167.72-173.2	3332-3339	31.2-31.8
12.51975-12.52025	240-285	3345.8-3358	36.43-36.5
12.57675-12.57725	322-335.4	3600-4400	(\2\)
13.36-13.41			

CFR 47 Part 15, section 15.209

The emissions from an intentional radiator shall not exceed the limits in the tables in these sections using an average detector.

Frequency (MHz)	Field strength (microvolts/meter)	Measurement distance (meters)
0.009-0.490	2400/F(kHz)	300
0.490-1.705	24000/F(kHz)	30
1.705-30.0	30	30
30-88	100**	3
88–216	150**	3
216-960	200**	3
Above 960	500	3

Limit calculation and transfer to 3m distance as showed in the following table:

Frequency	Limit	Distance
(MHz)	(dBuV/m)	(m)
0.009-0.490	20log(2400/F(KHz))+40log(300/3)	3
0.490-1.705	20log(24000/F(KHz))+40log(30/3)	3
1.705-30.0	69.5	3
30-88	40.0	3
88-216	43.5	3
216-960	46.0	3
Above 960	54.0	3

CFR 47 Part 15, section 15.35

When average radiated emission measurements are specified, the limit on the peak level of the radio Frequency emission is 20dB above the maximum permitted average emission limit.

Transmitter Spurious Emissions 9KHz-30MHz								
TSTING OF	9-150KHz	150-490KHz	490KHz-30MHz					
Resolution Bandwidth	200Hz	9KHz	9KHz					
Video Bandwidth	600Hz	30KHz	30KHz					
Detector	Peak	Peak	Peak					
Trace Mode	Max Hold	Max Hold	Max Hold					
Sweep Time	Auto	Auto	Auto					

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4.3 Test Procedure

Measurement distance 3m

For the measurement range up to 30MHz in the following plots the field strength result from 3m Distance measurement are extrapolated to 300m and 30m distance respectively, by 40dB/decade, According to part 15.31(f)(2), per antenna factor scaling.

Measurements below 1000MHz are performed with a peak detector and compared to average limits, Measurements with an average detector are not required.

Note:

For battery operated equipment, the equipment tests shall be performed using a new battery.

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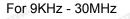
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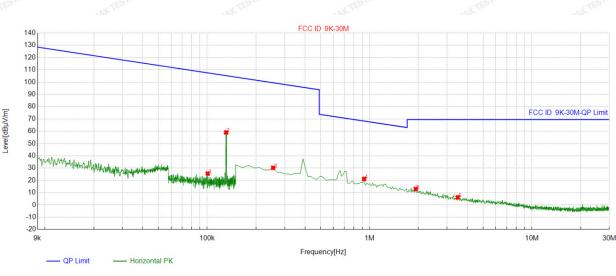


4.4 Test Result

PASS

Note: All the test modes completed for test. Only the worst result Full Load was reported as below:





	OP	Detector
•	Gel	Delector

Suspe	ected	List
-------	-------	------

	Freq.	Factor	Reading	Level	Limit	Margin
NO.	[MHz]	[dB]	[dBµV/m]	[dBµV/m]	[dBµV/m]	[dB]
1	0.100696	-10.62	36.18	25.56	107.54	81.98
2	0.130673	-10.60	69.61	59.01	105.27	46.26
3	0.254527	-11.01	41.20	30.19	99.49	69.30
4	0.926488	-10.83	32.01	21.18	68.28	47.10
5	1.926963	-10.48	23.50	13.02	69.50	56.48
6	3.494872	-11.26	17.42	6.16	69.50	63.34

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

Limit - Level;

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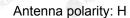


Page 18 of 23

Report No.: HK2408024331-1E

FICATION

For 30MHz-1GHz





Suspected List

<u>`</u>											
		Freq.	Factor	Reading	Level	Limit	Margin	Height	Angle	Polarity	
NO.	NO.	[MHz]	[dB]	[dBµV/m]	[dBµV/m]	[dBµV/m]	[dB]	[cm]	[°]		
	1	127.09709	-17.13	55.60	38.47	43.50	5.03	100	174	Horizontal	
	2	159.13913	-17.79	53.92	36.13	43.50	7.37	100	133	Horizontal	
	3	221.28128	-14.41	52.86	38.45	46.00	7.55	100	174	Horizontal	
	4	249.43943	-13.41	54.18	40.77	46.00	5.23	100	323	Horizontal	
	5	319.34934	-11.24	52.96	41.72	46.00	4.28	100	248	Horizontal	
Q.	6	639.76977	-5.26	39.08	33.82	46.00	12.18	100	225	Horizontal	

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

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Suspected List

4	NO.	Freq.	Factor	Reading	Level	Limit	Margin	Height	Angle	Delerity
NO.	NO.	[MHz]	[dB]	[dBµV/m]	[dBµV/m]	[dBµV/m]	[dB]	[cm]	[°]	Polarity
	1	96.026026	-15.55	51.00	35.45	43.50	8.05	100	171	Vertical
	2	127.09709	-17.13	52.77	35.64	43.50	7.86	100	47	Vertical
3	3	171.76176	-16.84	52.79	35.95	43.50	7.55	100	83	Vertical
	4	209.62963	-14.93	52.33	37.40	43.50	6.10	100	119	Vertical
	5	353.33333	-10.17	49.97	39.80	46.00	6.20	100	299	Vertical
	6	639.76977	-5.26	39.69	34.43	46.00	11.57	100	218	Vertical

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

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Page 20 of 23

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5. Antenna Requirement

HUAK TESTING

Standard Applicable

For intentional device, according to FCC 47 CFR Section 15.203, an intentional radiator shall be designed to ensure that no antenna other than that furnished by the responsible party shall be used with the device.

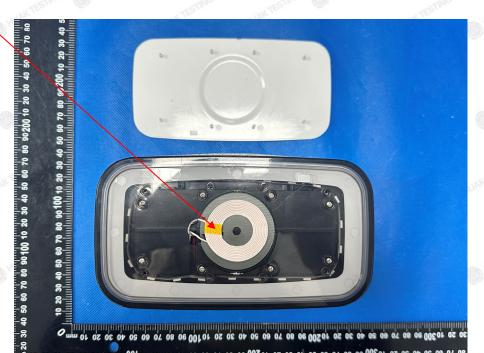
Refer to statement below for compliance.

The manufacturer may design the unit so that the user can replace a broken antenna, but the use of a standard antenna jack or electrical connector is prohibited. Further, this requirement does not apply to intentional radiators that must be professionally installed.

Antenna Connected Construction

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

Antenna



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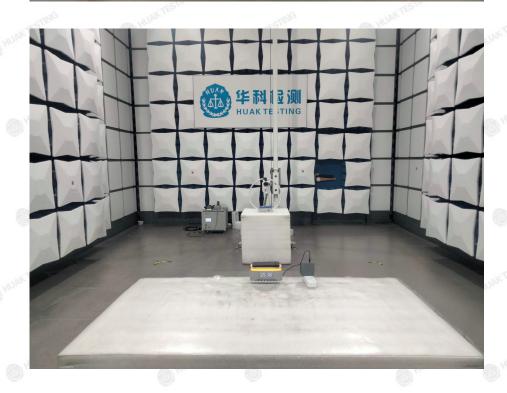


PRO!

*

6. Photographs of Test

 Radiated Emission



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98 JAL

Conducted Emission



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TIFICATION

7. Photos of the EUT

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

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

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