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RF Exposure Evaluation Report

Report No.: CQASZ20250501118E-02
Applicant: Joint Chinese Ltd
Address of Applicant: Building 6, Huafeng Tech Park, Luotian Industrial Area.
Songgang Town, Baoan, Shenzhen, China

Equipment Under Test (EUT):

Product: Smart Health Ring
Model No.: X3A-07, X3A-08, X3A-09, X3A-10, X3A-11, X3A-12, X3A-13, X3A-14
X3B-07, X3B-08, X3B-09, X3B-10, X3B-11, X3B-12, X3B-13, X3B-14
X3C-07, X3C-08, X3C-09, X3C-10, X3C-11, X3C-12, X3C-13, X3C-14
X3D-07, X3D-08, X3D-09, X3D-10, X3D-11, X3D-12, X3D-13, X3D-14

Test Model No.: X3A-10

Brand Name: N/A

FCC ID: 2AB73-X3-C

Standards: 47 CFR Part 1.1307
47 CFR Part 1.1310

KDB 680106 D01 RF Exposure Wireless Charging Base App v04r01

Date of Receipt: 2025-05-21

Date of Test: 2025-05-21 to 2025-05-30

Date of Issue: 2025-06-09

Test Result : **PASS***

*In the configuration tested, the EUT complied with the standards specified above

Tested By: Lewis Zhou
(Lewis Zhou)

Reviewed By: Timo Lei
(Timo Lei)

Approved By: Jack Ai
(Jack Ai)



1 Version

Revision History Of Report

Report No.	Version	Description	Issue Date
CQASZ20250501118E-02	Rev.01	Initial report	2025-06-09

2 Contents

	Page
1 VERSION	2
2 CONTENTS	3
.....	3
3 GENERAL INFORMATION	4
3.1 CLIENT INFORMATION	4
3.2 GENERAL DESCRIPTION OF EUT	4
3.3 PRODUCT SPECIFICATION SUBJECTIVE TO THIS STANDARD	4
3.4 TEST ENVIRONMENT	5
3.5 DESCRIPTION OF SUPPORT UNITS	5
3.6 TEST LOCATION	6
3.7 TEST FACILITY	6
3.8 EQUIPMENT LIST	6
4 RF EXPOSURE EVALUATION	7
4.1 RF EXPOSURE COMPLIANCE REQUIREMENT	7
4.1.1 Limits	7
4.1.2 Test Procedure	7
4.1.3 Test Setup	8
4.1.4 Test Results	8
4.1.5 Test Results	10
APPENDIX A: PHOTOGRAPHS OF TEST SETUP	19

3 General Information

3.1 Client Information

Applicant:	Joint Chinese Ltd
Address of Applicant:	Building 6, Huafeng Tech Park, Luotian Industrial Area. Songgang Town, Baoan, Shenzhen, China
Manufacturer:	Joint Chinese Ltd
Address of Manufacturer:	Building 6, Huafeng Tech Park, Luotian Industrial Area. Songgang Town, Baoan, Shenzhen, China
Factory:	Joint Chinese Ltd
Address of Factory:	Building 6, Huafeng Tech Park, Luotian Industrial Area. Songgang Town, Baoan, Shenzhen, China

3.2 General Description of EUT

Product Name:	Smart Health Ring
Model No.:	X3A-07, X3A-08, X3A-09, X3A-10, X3A-11, X3A-12, X3A-13, X3A-14 X3B-07, X3B-08, X3B-09, X3B-10, X3B-11, X3B-12, X3B-13, X3B-14 X3C-07, X3C-08, X3C-09, X3C-10, X3C-11, X3C-12, X3C-13, X3C-14 X3D-07, X3D-08, X3D-09, X3D-10, X3D-11, X3D-12, X3D-13, X3D-14
Test Model No.:	X3A-10
Brand Name:	N/A
Software Version:	V1.0
Hardware Version:	V1.0
EUT Power Supply:	Adapter: DC 5V 1A

3.3 Product Specification subjective to this standard

Equipment Category:	Non-ISM frequency
Operation Frequency range:	115kHz~315kHz
Modulation Type:	backscatter
Antenna Type:	Induction coil
Antenna Gain:	0dBi

Note:

1. In section 15.31(m), regards to the operating frequency range less 1 MHz.

3.4 Test Environment

Operating Environment:	
Temperature:	25.5 °C
Humidity:	53 % RH
Atmospheric Pressure:	101.1kpa
Test Mode:	
Mode a:	Keep the EUT at Wireless Out Put for Phone 5W
Note: The above test modes all include full load,empty load,and half load, The worst-case state reflected in this report is the fully loaded state	

3.5 Description of Support Units

The EUT has been tested with associated equipment below.

1) Support equipment

Description	Manufacturer	Model No.	Certification	Supplied by
Adapter	/	LPL-C010050200Z	/	CQA
Smart Ring	/	YOUHONG	/	CQA

2) Cable

Cable No.	Description	Manufacturer	Cable Type/Length	Supplied by
/	/	/	/	/

3.6 Test Location

Shenzhen Huaxia Testing Technology Co., Ltd.

1F., Block A of Tongsheng Technology Building, Huahui Road, Dalang Street, Longhua District, Shenzhen, China

3.7 Test Facility

• **A2LA (Certificate No. 4742.01)**

Shenzhen Huaxia Testing Technology Co., Ltd., Shenzhen EMC Laboratory is accredited by the American Association for Laboratory Accreditation(A2LA). Certificate No. 4742.01.

• **FCC Registration No.: 522263**

Shenzhen Huaxia Testing Technology Co., Ltd., Shenzhen EMC Laboratory has been registered and fully described in a report filed with the (FCC) Federal Communications Commission. The acceptance letter from the FCC is maintained in our files. Registration No.:522263

3.8 Equipment List

Test Equipment	Manufacturer	Model No.	Instrument No.	Calibration Date	Calibration Due Date
Electromagnetic field analyzer	Narda	EHP-200A	AC-012	2024/3/12	2026/3/11

4 RF Exposure Evaluation

4.1 RF Exposure Compliance Requirement

4.1.1 Limits

According to FCC Part1.1310: The criteria listed in the following table shall be used to evaluate the environment impact of human exposure to radio frequency (RF) radiation as specified in part1.1307(b)

TABLE 1—LIMITS FOR MAXIMUM PERMISSIBLE EXPOSURE (MPE)

Frequency range (MHz)	Electric field strength (V/m)	Magnetic field strength (A/m)	Power density (mW/cm ²)	Averaging time (minutes)
(A) Limits for Occupational/Controlled Exposures				
0.3–3.0	614	1.63	*(100)	6
3.0–30	1842/f	4.89/f	*(900/f ²)	6
30–300	61.4	0.163	1.0	6
300–1500			f/300	6
1500–100,000			5	6
(B) Limits for General Population/Uncontrolled Exposure				
0.3–1.34	614	1.63	*(100)	30
1.34–30	824/f	2.19/f	*(180/f ²)	30
30–300	27.5	0.073	0.2	30
300–1500			f/1500	30
1500–100,000			1.0	30

Note 1: f = frequency in MHz ; *Plane-wave equivalent power density

Note 2: For the applicable limit, see FCC 1.1310, 680106 D01 RF Exposure Wireless Charging Apps v04

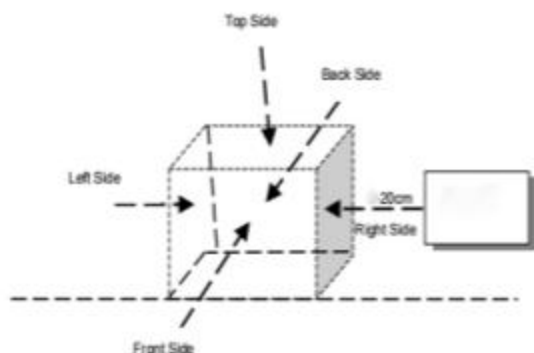
Note 3: Emissions between 100 kHz to 300 kHz should be assessed versus the limits at 300 kHz in Table 1 of Section 1.1310: 614 V/m and 1.63 A/m. A KDB inquiry is required to determine the applicable exposure limits below 100 kHz.

Note 4: The aggregate H-field strengths 20 cm above the top surface from all simultaneous transmitting coils are demonstrated to be less than 50% of the MPE limit .

4.1.2 Test Procedure

For devices designed for typical desktop applications, such a wireless charging pads, RF exposure evaluation should be conducted assuming a user separation distance of 20 cm(Top) . E and H field strength measurements or numerical modeling may be used to demonstrate compliance. Measurements should be made from all sides and the top of the primary/client pair, with the 20 cm(Top) from the center of the probe(s) to the edge of the device.

4.1.3 Test Setup



Note: Position A: Front of EUT; Position B: Left of EUT; Position C: back of EUT; Position D: Right of EUT; Position E: Top of EUT(20 cm measure distance);

4.1.4 Test Results

The EUT does comply with item 5 KDB680106 D01 v04r01.

Requirement	Device
1.Power transfer frequency is less than 1 MHz	Yes. The operating frequency range are.Operating frequency range: 115 kHz - 315KHz
2. Output power from each primary coil is less than or equal to 10 watts.	Yes. The maximum output power is:Wireless Output: 5W(Max)
3.For systems with more than one radiating structure, the conditions specified in (5) must be met when the system is fully loaded (i.e., clients absorbing maximum power available), and with all the radiating structures operating at maximum power at the same time, as per design conditions.	Yes, the EUT has Three coil,all test modes met the conditions specified in (5).
4. Client device is placed directly in contact with the transmitter.	Yes. The client device is placed directly in contact with the transmitter.
5.Mobile exposure conditions only (portable exposure conditions are not covered by this exclusion)	Yes. Mobile exposure conditions only.

6. The aggregate H-field strengths anywhere at or beyond 20 cm surrounding the device, and 20cm away from the surface from all coils that by design can simultaneously transmit, and while those coils are simultaneously energized, are demonstrated to be less than 50% of the applicable MPE limit.	Yes. See the test result in item 4.1.5

4.1.5 Test Results

Test condition: Mode a 115kHz~315kHz

X-axis

Maximum permissible Exposure				
Battery levels	Test sides	Test distance(cm)	E -field(V/m)	H-field(A/m)
<1%	Top	20	1.08	0.131
<1%	Left	20	0.82	0.028
<1%	Right	20	0.70	0.157
<1%	Front	20	1.08	0.154
<1%	Back	20	0.86	0.116
Limit			614	1.63
test result			PASS	PASS

Maximum permissible Exposure				
Battery levels	Test sides	Test distance(cm)	E -field(V/m)	H-field(A/m)
<50%	Top	20	0.46	0.156
<50%	Left	20	0.97	0.045
<50%	Right	20	0.63	0.005
<50%	Front	20	0.36	0.016
<50%	Back	20	0.99	0.076
Limit			614	1.63
test result			PASS	PASS

Maximum permissible Exposure				
Battery levels	Test sides	Test distance(cm)	E -field(V/m)	H-field(A/m)
<99%	Top	20	0.21	0.010
<99%	Left	20	0.29	0.085
<99%	Right	20	1.04	0.066
<99%	Front	20	0.85	0.163
<99%	Back	20	0.33	0.073
Limit			614	1.63
test result			PASS	PASS

Maximum permissible Exposure				
Battery levels	Test sides	Test distance(cm)	E -field(V/m)	H-field(A/m)
<1%	Top	22	0.31	0.046
<1%	Left	22	0.77	0.143
<1%	Right	22	0.70	0.058
<1%	Front	22	0.68	0.027
<1%	Back	22	0.64	0.048
Limit			614	1.63
test result			PASS	PASS

Maximum permissible Exposure				
Battery levels	Test sides	Test distance(cm)	E -field(V/m)	H-field(A/m)
<50%	Top	22	1.05	0.036
<50%	Left	22	0.96	0.013
<50%	Right	22	0.15	0.058
<50%	Front	22	0.18	0.138
<50%	Back	22	0.92	0.092
Limit			614	1.63
test result			PASS	PASS

Maximum permissible Exposure				
Battery levels	Test sides	Test distance(cm)	E -field(V/m)	H-field(A/m)
<99%	Top	22	0.92	0.023
<99%	Left	22	0.38	0.089
<99%	Right	22	0.97	0.137
<99%	Front	22	0.99	0.157
<99%	Back	22	0.22	0.167
Limit			614	1.63
test result			PASS	PASS

Maximum permissible Exposure				
Battery levels	Test sides	Test distance(cm)	E -field(V/m)	H-field(A/m)
<1%	Top	24	0.67	0.059
<1%	Left	24	0.31	0.098
<1%	Right	24	1.07	0.113
<1%	Front	24	0.13	0.110
<1%	Back	24	0.61	0.020
Limit			614	1.63
test result			PASS	PASS

Maximum permissible Exposure				
Battery levels	Test sides	Test distance(cm)	E -field(V/m)	H-field(A/m)
<50%	Top	24	0.95	0.056
<50%	Left	24	0.86	0.079
<50%	Right	24	0.52	0.091
<50%	Front	24	0.71	0.012
<50%	Back	24	0.92	0.160
Limit			614	1.63
test result			PASS	PASS

Maximum permissible Exposure				
Battery levels	Test sides	Test distance(cm)	E -field(V/m)	H-field(A/m)
<99%	Top	24	0.61	0.080
<99%	Left	24	0.93	0.120
<99%	Right	24	0.42	0.109
<99%	Front	24	0.21	0.157
<99%	Back	24	0.76	0.126
Limit			614	1.63
test result			PASS	PASS

Y-axis

Maximum permissible Exposure				
Battery levels	Test sides	Test distance(cm)	E -field(V/m)	H-field(A/m)
<1%	Top	20	0.30	0.089
<1%	Left	20	0.70	0.160
<1%	Right	20	0.49	0.086
<1%	Front	20	0.46	0.007
<1%	Back	20	0.72	0.085
Limit			614	1.63
test result			PASS	PASS

Maximum permissible Exposure				
Battery levels	Test sides	Test distance(cm)	E -field(V/m)	H-field(A/m)
<50%	Top	20	0.52	0.117
<50%	Left	20	0.67	0.079
<50%	Right	20	0.15	0.043
<50%	Front	20	0.88	0.154
<50%	Back	20	0.56	0.148
Limit			614	1.63
test result			PASS	PASS

Maximum permissible Exposure				
Battery levels	Test sides	Test distance(cm)	E -field(V/m)	H-field(A/m)
<99%	Top	20	0.97	0.139
<99%	Left	20	0.72	0.026
<99%	Right	20	0.47	0.141
<99%	Front	20	0.58	0.122
<99%	Back	20	0.98	0.038
Limit			614	1.63
test result			PASS	PASS

Maximum permissible Exposure				
Battery levels	Test sides	Test distance(cm)	E -field(V/m)	H-field(A/m)
<1%	Top	22	0.88	0.020
<1%	Left	22	0.67	0.078
<1%	Right	22	0.47	0.079
<1%	Front	22	0.29	0.109
<1%	Back	22	0.90	0.093
Limit			614	1.63
test result			PASS	PASS

Maximum permissible Exposure				
Battery levels	Test sides	Test distance(cm)	E -field(V/m)	H-field(A/m)
<50%	Top	22	0.66	0.160
<50%	Left	22	0.19	0.126
<50%	Right	22	0.41	0.136
<50%	Front	22	0.75	0.167
<50%	Back	22	0.12	0.172
Limit			614	1.63
test result			PASS	PASS

Maximum permissible Exposure				
Battery levels	Test sides	Test distance(cm)	E -field(V/m)	H-field(A/m)
<99%	Top	22	0.52	0.133
<99%	Left	22	0.86	0.074
<99%	Right	22	0.55	0.137
<99%	Front	22	0.26	0.151
<99%	Back	22	0.98	0.136
Limit			614	1.63
test result			PASS	PASS

Maximum permissible Exposure				
Battery levels	Test sides	Test distance(cm)	E -field(V/m)	H-field(A/m)
<1%	Top	24	0.26	0.077
<1%	Left	24	0.75	0.112
<1%	Right	24	0.92	0.137
<1%	Front	24	0.46	0.068
<1%	Back	24	0.18	0.023
Limit			614	1.63
test result			PASS	PASS

Maximum permissible Exposure				
Battery levels	Test sides	Test distance(cm)	E -field(V/m)	H-field(A/m)
<50%	Top	24	0.76	0.050
<50%	Left	24	0.31	0.119
<50%	Right	24	0.83	0.036
<50%	Front	24	0.57	0.056
<50%	Back	24	1.04	0.137
Limit			614	1.63
test result			PASS	PASS

Maximum permissible Exposure				
Battery levels	Test sides	Test distance(cm)	E -field(V/m)	H-field(A/m)
<99%	Top	24	0.50	0.116
<99%	Left	24	0.71	0.084
<99%	Right	24	0.26	0.150
<99%	Front	24	0.11	0.049
<99%	Back	24	0.13	0.046
Limit			614	1.63
test result			PASS	PASS

Z-axis

Maximum permissible Exposure				
Battery levels	Test sides	Test distance(cm)	E -field(V/m)	H-field(A/m)
<1%	Top	20	0.14	0.094
<1%	Left	20	0.40	0.008
<1%	Right	20	0.64	0.139
<1%	Front	20	0.68	0.019
<1%	Back	20	1.02	0.007
Limit			614	1.63
test result			PASS	PASS

Maximum permissible Exposure				
Battery levels	Test sides	Test distance(cm)	E -field(V/m)	H-field(A/m)
<50%	Top	20	0.62	0.064
<50%	Left	20	0.44	0.058
<50%	Right	20	0.18	0.046
<50%	Front	20	0.41	0.092
<50%	Back	20	0.55	0.003
Limit			614	1.63
test result			PASS	PASS

Maximum permissible Exposure				
Battery levels	Test sides	Test distance(cm)	E -field(V/m)	H-field(A/m)
<99%	Top	20	0.32	0.170
<99%	Left	20	0.33	0.075
<99%	Right	20	0.35	0.006
<99%	Front	20	0.20	0.093
<99%	Back	20	0.99	0.138
Limit			614	1.63
test result			PASS	PASS

Maximum permissible Exposure				
Battery levels	Test sides	Test distance(cm)	E -field(V/m)	H-field(A/m)
<1%	Top	22	0.65	0.163
<1%	Left	22	0.78	0.125
<1%	Right	22	0.75	0.035
<1%	Front	22	1.09	0.031
<1%	Back	22	1.01	0.113
Limit			614	1.63
test result			PASS	PASS

Maximum permissible Exposure				
Battery levels	Test sides	Test distance(cm)	E -field(V/m)	H-field(A/m)
<50%	Top	22	1.07	0.073
<50%	Left	22	0.19	0.065
<50%	Right	22	0.96	0.041
<50%	Front	22	0.11	0.051
<50%	Back	22	0.82	0.034
Limit			614	1.63
test result			PASS	PASS

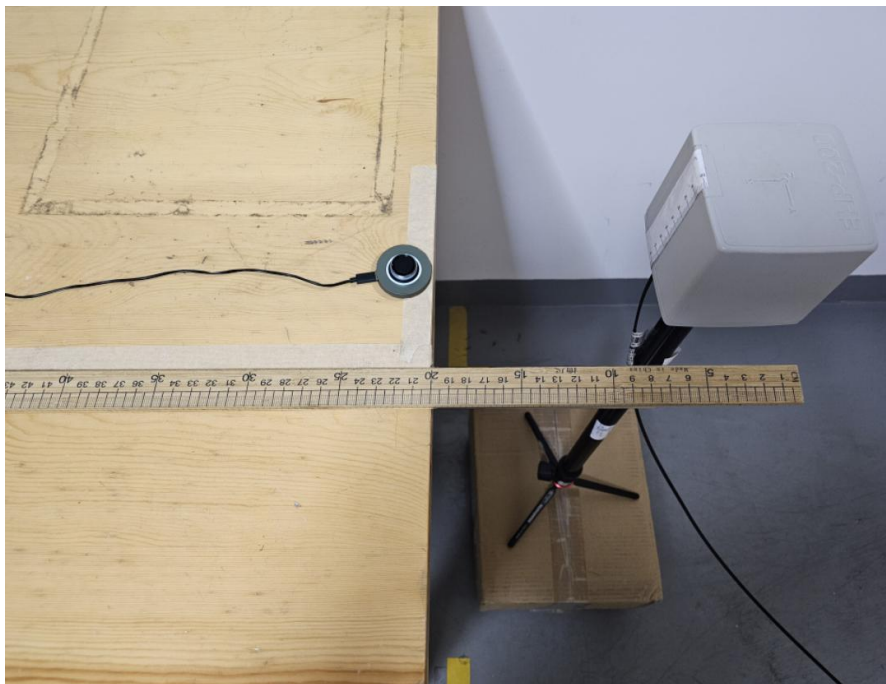
Maximum permissible Exposure				
Battery levels	Test sides	Test distance(cm)	E -field(V/m)	H-field(A/m)
<99%	Top	22	0.43	0.037
<99%	Left	22	1.01	0.171
<99%	Right	22	0.83	0.103
<99%	Front	22	1.02	0.073
<99%	Back	22	0.90	0.087
Limit			614	1.63
test result			PASS	PASS

Maximum permissible Exposure				
Battery levels	Test sides	Test distance(cm)	E -field(V/m)	H-field(A/m)
<1%	Top	24	0.53	0.118
<1%	Left	24	0.97	0.055
<1%	Right	24	0.71	0.089
<1%	Front	24	1.02	0.106
<1%	Back	24	0.62	0.086
Limit			614	1.63
test result			PASS	PASS

Maximum permissible Exposure				
Battery levels	Test sides	Test distance(cm)	E -field(V/m)	H-field(A/m)
<50%	Top	24	0.88	0.050
<50%	Left	24	0.90	0.165
<50%	Right	24	0.88	0.166
<50%	Front	24	0.88	0.044
<50%	Back	24	0.76	0.049
Limit			614	1.63
test result			PASS	PASS

Maximum permissible Exposure				
Battery levels	Test sides	Test distance(cm)	E -field(V/m)	H-field(A/m)
<99%	Top	24	0.45	0.017
<99%	Left	24	0.22	0.026
<99%	Right	24	0.84	0.068
<99%	Front	24	0.71	0.151
<99%	Back	24	1.06	0.094
Limit			614	1.63
test result			PASS	PASS

APPENDIX A: PHOTOGRAPHS OF TEST SETUP



*** END OF REROPT ***