

RF EXPOSURE Test Report

Product: Charge Ring

Trade Mark: N/A

Model Number: MG01

FCC ID: 2BCML-MGT01

Prepared for

Sincere.inc

3-3-21 Nippombashi, Naniwa-ku, Osaka, Japan 556-0005

Prepared by

Shenzhen HongBiao Certification& Testing Co., Ltd

Room 102, 201, Building 2, Yuanwanggu RFID Industrial Park, Tongguan Road, Tianliao Community, Yutang Street, Guangming District, Shenzhen, China

Tel.: +86-755-2998 9321 Fax.: +86-755-2998 5110

Website: <http://www.sz-hongbiao.com>

Table of Contents

1	GENERAL DESCRIPTION	5
1.1	DESCRIPTION OF EUT	5
1.2	TEST MODE.....	5
1.3	TEST SETUP.....	5
1.4	ANCILLARY EQUIPMENT	6
2	TEST FACILITIES AND ACCREDITATIONS	7
2.1	TEST LABORATORY	7
2.2	ENVIRONMENTAL CONDITIONS.....	7
2.3	MEASUREMENT UNCERTAINTY	7
2.4	TEST SOFTWARE.....	7
3	LIST OF TEST EQUIPMENT	8
4	RF EXPOSURE.....	9
4.1	MAXIMUM PERMISSIBLE EXPOSURE	9
4.1.1.	<i>Limit</i>	9
4.1.2.	<i>Test Procedures</i>	9
4.1.3.	<i>Test Setup</i>	10
4.1.4.	<i>Test Result</i>	10
5	PHOTOGRAPHS OF THE TEST SETUP.....	12

1 General Description

1.1 Description of EUT

Product name:	Charge Ring
Model name:	MG01
Series Model:	N/A
Different of series model:	N/A
Operation frequency:	Phone: 115kHz–205kHz Watch: 324kHz
Operational mode:	Wireless charging
Modulation type:	ASK
Antenna type:	Coil Antenna
Hardware version:	V1.0
Software version:	V1.0
Power supply:	Input: DC 5V/2A, 9V/2A, 12V/1.5A Wireless Output (Phone): 5W/7.5W/10W/15W Wireless Output (AirPods): 3W Wireless Output (Watch): 1.5W
Adapter information:	N/A

1.2 Test Mode

Pretest Test Mode	Description of Mode
1	Wireless Output (Phone:15W+Watch:1.5W)
2	Wireless Output (Phone:10W+Watch:1.5W)
3	Wireless Output (Phone:7.5W+Watch:1.5W)
4	Wireless Output (Phone:5W+Watch:1.5W)
The test data only show worst test mode: Mode 1	

1.3 Test Setup

See photographs of the test setup in the report for the actual setup and connections between EUT and support equipment.

1.4 Ancillary Equipment

Equipment	Model	S/N	Manufacturer
Adapter	TA65B	2S36003438 PL97T09582	Nanjing Bolande Electronic Technology Co., Ltd
Watch	/	/	Apple Inc.
Phone	iPhone 12pro	/	Apple Inc.

2 Test Facilities and Accreditations

2.1 Test Laboratory

Test Site	Shenzhen HongBiao Certification& Testing Co., Ltd
Test Site Location	Room 102, 201, Building 2, Yuanwanggu RFID Industrial Park, Tongguan Road, Tianliao Community, Yutang Street, Guangming District, Shenzhen, China
Telephone:	(86-755) 2998 9321
Fax:	(86-755) 2998 5110
FCC Registration No.:	CN1341
A2LA Certificate No.:	6765.01

2.2 Environmental Conditions

During the measurement the environmental conditions were within the listed ranges:

Temperature:	15°C~35°C
Relative Humidity:	20%~75%
Air Pressure:	98kPa~101kPa

2.3 Measurement Uncertainty

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

Measurement Frequency Range	U, (dB)	Note
RF frequency	2×10^{-5}	
RF power, conducted	± 0.57 dB	
Conducted emission(150kHz~30MHz)	± 2.5 dB	
Radiated emission(30MHz~1GHz)	± 4.2 dB	
Radiated emission (above 1GHz)	± 4.7 dB	
Temperature	± 1 degree	
Humidity	± 5 %	

2.4 Test Software

Software name	Manufacturer	Model	Version
EHP200-TS	Narda	EHP-200A	Rel 1.95

3 List of Test Equipment

Item	Equipment No.	Equipment name	Manufacturer	Model	Serial No.	Calibration date	Due date
1	HB-E073	Electric and Magnetic Field Analyzer	Narda	EHP-200A	180ZX11013	2023-06-09	2024-06-08

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

4 RF Exposure

4.1 Maximum Permissible Exposure

4.1.1. Limit

Frequency range(MHz)	Electric field strength(V/m)	Magnetic field strength(A/m)	Power density(mW/cm2)	Averaging time(minutes)
(A) Limits for Occupational/Controlled Exposure				
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	6
300-1500			f/300	6
1500-100000			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
1500-100000			1	30
f = frequency in MHz * = Plane-wave equivalent power density				

4.1.2. Test Procedures

E and H-field measurements should be made with the center of the probe at a distance of 15 cm surrounding the device and 20 cm above the top surface of the primary/client pair.

These measurements should be repeated for three different client battery levels, 1%, 50%, and 99%.

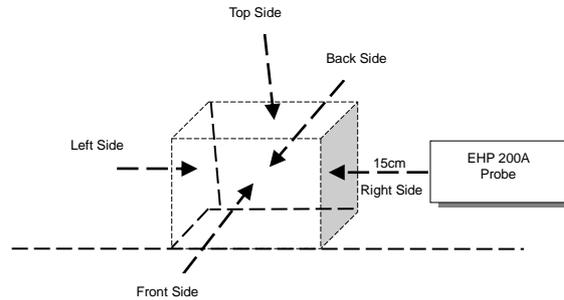
Record the test results.

KDB 680106 D01 RF Exposure Wireless Charging Apps v03r01:

- (1) Power transfer frequency is less than 1 MHz
- (2) Output power from each primary coil is less than or equal to 15 watts.
- (3) The system may consist of more than one source primary coils, charging one or more clients. If more than one primary coil is present, the coil pairs may be powered on at the same time.
- (4) Client device is placed directly in contact with the transmitter.
- (5) Mobile exposure conditions only (portable exposure conditions are not covered by this exclusion).
- (6) The aggregate H-field strengths anywhere at or beyond 15 cm surrounding the device, and 20 cm 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.

Note: The device is in compliance with KDB 680106 D01 RF Exposure Wireless Charging Apps v03r01 6 conditions.

4.1.3. Test Setup



4.1.4. Test Result

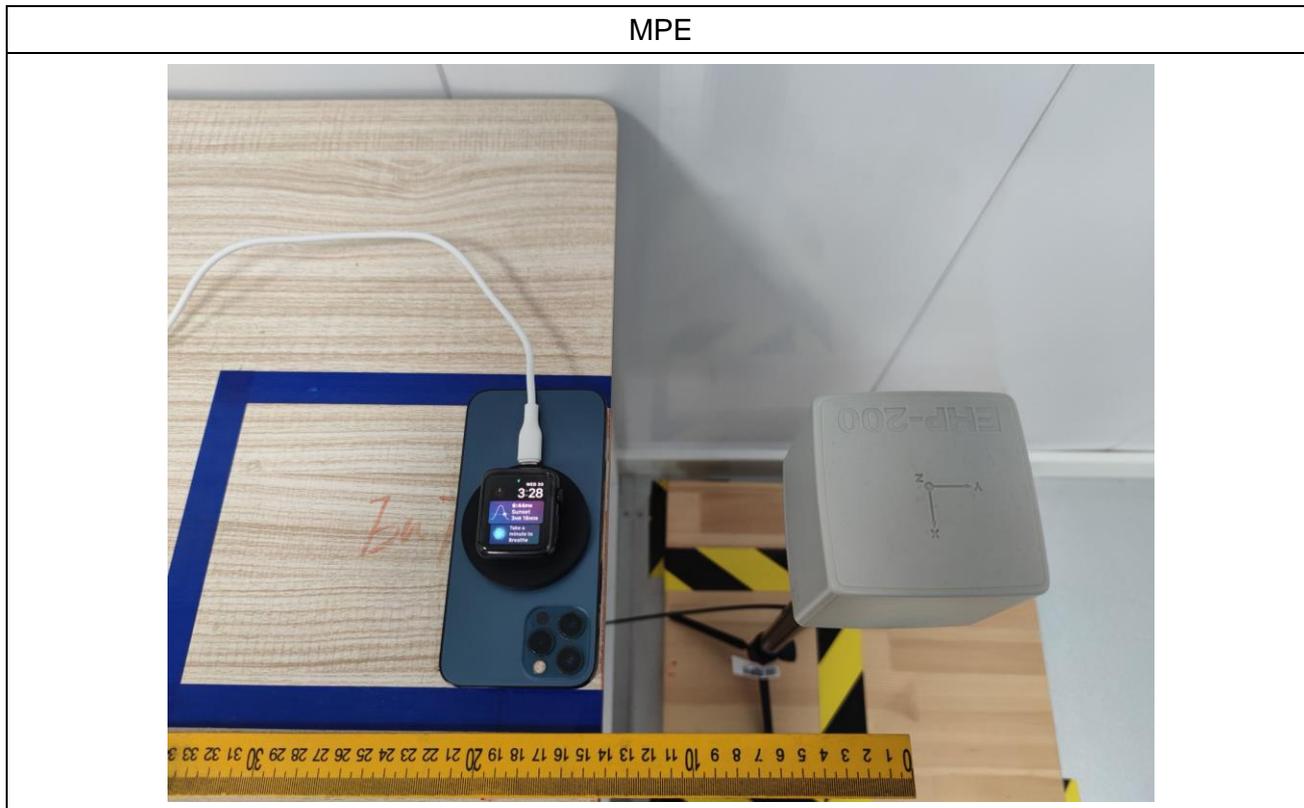
Maximum permissible Exposure				
Battery levels	Test sides	Test distance(cm)	E -field(V/m)	H-field(A/m)
<1%	Top	20	1.5953	0.0489
<1%	Left	15	0.9872	0.0474
<1%	Right	15	0.8487	0.0489
<1%	Front	15	1.6544	0.0489
<1%	Back	15	1.1381	0.0489
Limit			614	1.63
Margin Limit (%)			0.27%	3.00%

Maximum permissible Exposure				
Battery levels	Test sides	Test distance(cm)	E -field(V/m)	H-field(A/m)
<50%	Top	20	1.5945	0.0487
<50%	Left	15	0.9868	0.0473
<50%	Right	15	0.8485	0.0487
<50%	Front	15	1.6542	0.0488
<50%	Back	15	1.1377	0.0487
Limit			614	1.63
Margin Limit (%)			0.27%	2.99%

Maximum permissible Exposure				
Battery levels	Test sides	Test distance(cm)	E-field(V/m)	H-field(A/m)
<99%	Top	20	1.5938	0.0485
<99%	Left	15	0.9862	0.0472
<99%	Right	15	0.8478	0.0484
<99%	Front	15	1.6537	0.0484
<99%	Back	15	1.1362	0.0481
Limit			614	1.63
Margin Limit (%)			0.27%	2.98%

5 Photographs of the Test Setup

MPE



***** END OF REPORT *****