

RF EXPOSURE Test Report

Product: 3-in-1 wireless charger

Trade Mark: /

Model Number: 966-M1116Q

FCC ID: 2A9Q9-966-M1116Q

Prepared for

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Prepared by

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TEST RESULT CERTIFICATION

Applicant's Name.....: ShenZhen Zhongyi Technology CO., Ltd.
Room 401, No.4 Road One, Shangxue Science and Technology
Address: City, Xinxue Community, Bantian Street, Longgang District,
Shenzhen, China

Manufacturer's Name: ShenZhen Zhongyi Technology CO., Ltd.
Room 401, No.4 Road One, Shangxue Science and Technology
Address: City, Xinxue Community, Bantian Street, Longgang District,
Shenzhen, China

Product description

Product name: 3-in-1 wireless charger
Model Number: 966-M1116Q

Standards.....: FCC CFR 47 PART 1 , 1.1310


Test procedure.....: KDB 680106 D01 RF Exposure Wireless Charging Apps v03r01

This device described above has been tested by Shenzhen HongBiao Certification& Testing Co., Ltd and the test results show that the equipment under test (EUT) is in compliance with the EMC requirements. And it is applicable only to the tested sample identified in the report.


Date of Test.....:

Date (s) of performance of tests.....: October 10, 2023~October 20, 2023

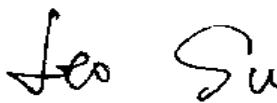
Test Result.....: **Pass**

Testing Engineer : 

(Z o e S u)

Technical Manager : 

(G a r y L u)

Authorized Signatory : 

(L e o S u)

1 General Description

1.1 Description of EUT

Product name:	3-in-1 wireless charger
Model name:	966-M1116Q
Series Model:	/
Different of series model:	N/A
Operation frequency:	Wireless charging Output(Phone/Earphone):110kHz-205kHz, Wireless charging Output(Watch): 310kHz-340kHz
Operational mode:	Wireless charging
Modulation type:	ASK
Antenna type:	Coil Antenna
Power supply:	ype C Input: DC 5V/3A, 9V/3A, 12V/2.2A Wireless charging Output (Phone): 5W, 7.5W, 10W, 15W(MAX) Wireless charging Output (Earphone):5W Wireless charging Output (Watch):2.5W
Adapter information:	N/A

1.2 Test Mode

Pretest Test Mode	Description of Mode
TM1	Wireless charging 15W (Phone)
TM2	Wireless charging 3W (Earphone)
TM3	Wireless charging 2.5W (Watch)
TM4	Wireless charging 5W (Phone) + Wireless charging 5W (Earphone) + Wireless charging 2.5W (Watch)
TM5	Wireless charging 7.5W (Phone) + Wireless charging 5W (Earphone) + Wireless charging 2.5W (Watch)
TM6	Wireless charging 10W (Phone) + Wireless charging 5W (Earphone) + Wireless charging 2.5W (Watch)
TM7	Wireless charging 15W (Phone) + Wireless charging 5W (Earphone) + Wireless charging 2.5W (Watch) (Recorded)

Note: All test modes were pre-tested, but we only recorded the worst case in this report.

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	TS-C137	/	PISEN
Dummy load	DL01	/	/
Earphone Charging case	I7MINI	/	YOUXUAN
Smart Watch	Series 3	/	Apple

Equipment	Length (cm)	Shielded/Unshielded	With/Without Ferrite
USB A to C Cable	100	Unshielded	Without Ferrite

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%.

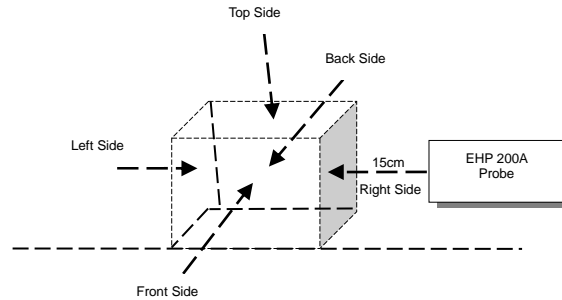
Record the test results.

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	1.879	0.213
<1%	Left	15	4.167	0.157
<1%	Right	15	6.273	0.173
<1%	Front	15	3.883	0.148
<1%	Back	15	1.926	0.133
Limit			614	1.63
Margin Limit (%)			1.021%	13.067%

Maximum permissible Exposure				
Battery levels	Test sides	Test distance(cm)	E -field(V/m)	H-field(A/m)
<50%	Top	20	1.845	0.204
<50%	Left	15	4.143	0.141
<50%	Right	15	6.167	0.162
<50%	Front	15	3.745	0.135
<50%	Back	15	1.904	0.126
Limit			614	1.63
Margin Limit (%)			1.004%	12.515%

Maximum permissible Exposure				
Battery levels	Test sides	Test distance(cm)	E-field(V/m)	H-field(A/m)
<99%	Top	20	1.857	0.194
<99%	Left	15	4.123	0.135
<99%	Right	15	6.157	0.160
<99%	Front	15	3.804	0.129
<99%	Back	15	1.876	0.117
Limit			614	1.63
Margin Limit (%)			1.003%	11.902%

5 Photographs of the Test Setup

MPE



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