



FCC TEST REPORT

Test report
On Behalf of
Tianjin borankeji youxiangongsi
For
wireless charger
Model No.: W18, W15PRO, W17, W25, A8, M3
FCC ID: 2A8M3-W18

Prepared for : Tianjin borankeji youxiangongsi
626shi 1hao chaoyangdonglu, suliaozhipingonggyequ baodi, Tianjin, 301800,
China

Prepared By : Shenzhen Tongzhou Testing Co.,Ltd
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Date of Test: 2022/9/12 ~ 2022/9/18

Date of Report: 2022/9/19

Report Number: TZ220903592-E1

The test report apply only to the specific sample(s) tested under stated test conditions
It is not permitted to copy extracts of these test result without the written permission of the test
laboratory.



TEST RESULT CERTIFICATION

Applicant's name : Tianjin borankeji youxiangongsi

Address : 626shi 1hao chaoyangdonglu, suliaozhipingongyequ baodi,
Tianjin, 301800, China

Manufacture's Name..... : Tianjin borankeji youxiangongsi

Address : 626shi 1hao chaoyangdonglu, suliaozhipingongyequ baodi,
Tianjin, 301800, China

Product description

Trade Mark : Boaraino

Product name : wireless charger

Model..... : W18, W15PRO, W17, W25, A8, M3

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 : 2022/9/12 ~ 2022/9/18

Date of Issue..... : 2022/9/19

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

Testing Engineer : _____

Nancy Li

(Nancy Li)

Technical Manager : _____

Hugo Chen

(Hugo Chen)

Authorized Signatory : _____

Andy Zhang

(Andy Zhang)



1. GENERAL INFORMATION

1.1 General Description of EUT

Equipment	wireless charger
Model Name	W18, W15PRO, W17, W25, A8, M3
Model Difference	All the same except for the model name
Test Model	W18
Trade Mark	Boaraino
FCC ID	2A8M3-W18
Antenna Type	Coil Antenna
Antenna Gain	0dBi
Operation frequency	110.5– 205 KHz
Test Frequency	127 KHz
Modulation Type	ASK
Power Rating	Input: 9V $\overline{\text{---}}$ 2A Output: 9V,7.5W(Wireless charger)
Test Sample ID	TZ220903592-1#

Note:

1. For a more detailed features description, please refer to the manufacturer's specifications or the User's Manual.

The EUT antenna is Coil Antenna. No antenna other than that furnished by the responsible party shall be used with the device.



2. SUMMARY OF TEST RESULTS

2.1 Test procedures according to the technical standards:

FCC KDBD01 RF Exposure Wireless Charging App v03r01

FCC CFR 47			
Standard Section	Test Item	Judgment	Remark
FCC CFR 47 part1, 1.1310 KDB680106 D01v03r01 (3)(3)	Electric Field Strength (E) (V/m)	PASS	
	Magnetic Field Strength (H) (A/m)	PASS	

2.2 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 %**.

No.	Item	Uncertainty
1	All emissions, radiated(<30M)(9KHz-30MHz)	$\pm 2.45\text{dB}$
2	Temperature	$\pm 0.5^\circ\text{C}$
3	Humidity	$\pm 2\%$



2.3 Test Instruments

Equipment	Manufacturer	Model	Serial no.	Calibrated date	Calibrated Due
Exposure Level Tester	Narda	ELT-400	N-0713	2022-08-08	2023-08-07
B-Field Probe	Narda	ELT-400	M-1154	2022-08-08	2023-08-07

NOTE: 1. The calibration interval of the above test instruments is 12 months.

2.4 Special Accessories

No.	Equipment	Manufacturer	Model
1	Mobile Phone	Apple	A2108
2	AC adapter	GOOD-SHE	GS-551

2.5 Operation of EUT during testing

Test Modes:		
Mode 1	AC/DC Adapter(DC 9V) + EUT + Mobile Phone (battery status: 1%)	Record
Mode 2	AC/DC Adapter(DC 9V) + EUT + Mobile Phone (battery status: 50%)	Pre-tested
Mode 3	AC/DC Adapter(DC 9V) + EUT + Mobile Phone (battery status: 100%)	Pre-tested
Note: All test modes were pre-tested, but we only recorded the worst case in this report.		



3. MAXIMUM PERMISSIBLE EXPOSURE

Limit of Maximum Permissible Exposure

Limits for Occupational / Controlled Exposure				
Frequency Range (MHz)	Electric Field Strength (E) (V/m)	Magnetic Field Strength (H) (A/m)	Power Density (S) (mW/ cm ²)	Averaging Time E ² , H ² or S (minutes)
0.3-3.0	614	1.63	(100)*	6
3.0-30	1842 / f	4.89 / f	(900 / f)*	6
30-300	61.4	0.163	1.0	6
300-1500			F/300	6
1500-100,000			5	6
Limits for General Population / Uncontrolled Exposure				
Frequency Range (MHz)	Electric Field Strength (E) (V/m)	Magnetic Field Strength (H) (A/m)	Power Density (S) (mW/ cm ²)	Averaging Time E ² , H ² or S (minutes)
0.3-1.34	614	1.63	(100)*	30
1.34-30	824/f	2.19/f	(180 / f)*	30
30-300	27.5	0.073	0.2	30
300-1500			F/1500	30
1500-100,000			1	30

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

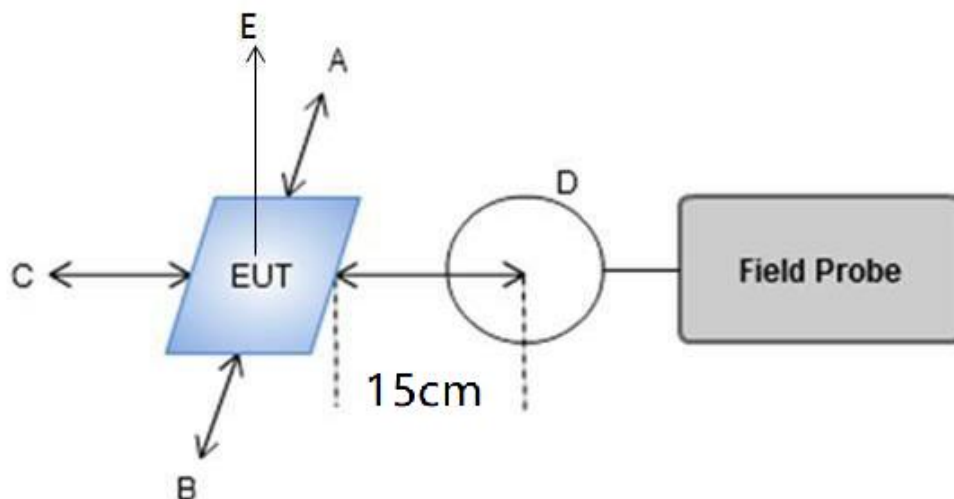
Note 2: For the applicable limit, see FCC 1.1310, D01 RF Exposure Wireless Charging App v03r01

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.

4. TEST PROCEDURE

a. For devices designed for typical desktop applications, such a wireless charging pads, RF exposure evaluation should be conducted assuming a user separation distance of 15 cm. 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 15 cm measured from the center of the probe(s) to the edge of the device.

4.1 TEST SETUP



4.2 RESULT OF MAXIMUM PERMISSIBLE EXPOSURE

Temperature	22.8°C	Humidity	55%
Test Engineer	Tony Luo	Configurations	Mode 1

E-Field Strength at 15 cm from the edges surrounding the EUT and 15cm from the top surface of the EUT

Test Mode	battery status	Unit	Frequency Range (MHz)	Measured E-Field Strength Values (V/m)					FCC E-Field Strength 50% Limits (V/m)	FCC E-Field Strength Limits (V/m)
				Test Position A	Test Position B	Test Position C	Test Position D	Test Position E		
1	1%	v/m	0.127	56.1579	51.5434	44.1241	36.5539	146.5173	307.0	614.0

Note: V/m= A/m *377

H-Field Strength at 15 cm from the edges surrounding the EUT and 15cm from the top surface of the EUT

Test Mode	battery status	Unit	Frequency Range (MHz)	Measured H-Field Strength Values (A/m)					FCC H-Field Strength 50% Limits (A/m)	FCC H-Field Strength Limits (A/m)
				Test Position A	Test Position B	Test Position C	Test Position D	Test Position E		
1	1%	uT	0.127	0.1862	0.1709	0.1463	0.1212	0.4858	--	--
	1%	A/m	0.127	0.1490	0.1367	0.1170	0.0970	0.3886	0.815	1.63

H-Field Strength at 20cm from the top surface of the EUT

Test Mode	battery status	Unit	Frequency Range (MHz)	Measured H-Field Strength Values (A/m)	FCC H-Field Strength 50% Limits (A/m)	FCC H-Field Strength Limits (A/m)
				Test Position E		
1	1%	uT	0.127	0.2302	--	--
	1%	A/m	0.127	0.1842	0.815	1.63

Note: A/m=uT/1.25



4.3 Equipment Approval Considerations

The EUT does comply with KDB 680106 D01 as follow table.

Requirements of KDB 680106 D01	Yes / No	Description
Power transfer frequency is less than 1 MHz	Yes	The device operate in the frequency range 110.5KHz~205KHz
Output power from each primary coil is less than 15 watts	Yes	The maximum output power for each primary coil is 7.5W.
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.	Yes	The transfer system includes one primary coils and are able to detect and allow coupling only between individual pairs of coils.
Client device is placed directly in contact with the transmitter.	Yes	Client device is placed directly in contact with the transmitter.
Mobile exposure conditions only (portable exposure conditions are not covered by this exclusion).	Yes	Mobile exposure conditions only
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.	Yes	The EUT H-field strengths at 15 cm surrounding the device and 20 cm above the top surface from all simultaneous transmitting coils are demonstrated to be less than 50% of the MPE limit.

4.4 Conclusion

The detected emissions with a distance of 15cm surrounding the device and 20 cm above the top surface of the device are below the FCC E-Field Strength & H-Field Strength limits; and comply with the requirements of FCC KDB 680106 D01.

PHOTOGRAPH OF TEST



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