

MPE REPORT

For

BEL USA,LLC.

Wireless charger

Model No.: XTCG009

FCC ID: 2ASHX-XTCG009

Prepared for : BEL USA,LLC.
Address : 12610 NW 115 Avenue, Bldg. 200 Medley, FL 33178, USA

Prepared by : SHENZHEN EMTEK CO., LTD.
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Report Number : ES181225012W02
Date of Test : December 25, 2018 to March 22, 2019
Date of Report : March 25, 2019

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TEST REPORT DESCRIPTION

Applicant : BEL USA,LLC.
12045 East Waterfront Dr., Playa Vista, California, 90094 United States
JMTEK Technology Co., Limited
Manufacturer : 14G, Innovation Tech building, Quanzhi Science and Technology innovation
Park, Shajin Street, Bao'an District, Shenzhen, China
Trade Mark : N/A
EUT : Wireless charger
Model No. : XTCG009

Measurement Procedure Used:

FCC Part 1(1.1310) and Part 2(2.1091)
680106 D01 RF Exposure Wireless Charging App v03

The device described above is tested by SHENZHEN EMTEK CO., LTD. to determine the maximum emission levels emanating from the device and the severe levels of the device can endure and its performance criterion. The measurement results are contained in this test report and SHENZHEN EMTEK CO., LTD. is assumed full of responsibility for the accuracy and completeness of these measurements. Also, this report shows that the EUT (Equipment Under Test) is technically compliant with the FCC requirements.

This report applies to above tested sample only and shall not be reproduced in part without written approval of SHENZHEN EMTEK CO., LTD.

Date of Test : December 25, 2018 to March 22, 2019

Yaping Shen

Prepared by : _____

Yaping Shen/Editor

Joe Xia

Reviewer : _____

Jack Li/Supervisor



[Signature]

Approve & Authorized Signer : _____

Lisa Wang/Manager

1. SUMMARY OF TEST RESULT

EMISSION		
Description of Test Item	Standard & Limits	Results
MPE	FCC Part 1(1.1310) and Part 2(2.1091) 680106 D01 RF Exposure Wireless Charging App v03	Pass
Note: N/A is an abbreviation for Not Applicable.		

2. GENERAL INFORMATION

2.1. Description of Device (EUT)

EUT : Wireless charger

Model Number : XTGC009

Test Voltage : Input: DC 5V2A
Output: DC 5V 1000mA Max

Applicant : BEL USA,LLC.

Address : 12610 NW 115 Avenue, Bldg. 200 Medley, FL 33178, USA

Manufacturer : JMTEK Technology Co., Limited

Date of Received : December 25, 2018

Date of Test : December 25, 2018 to March 22, 2019

2.2. Description of Test Facility

Site Description

EMC Lab. : Accredited by CNAS, 2016.10.24
The certificate is valid until 2022.10.28
The Laboratory has been assessed and proved to be in compliance with
CNAS-CL01:2006 (identical to ISO/IEC 17025:2005)
The Certificate Registration Number is L2291.

Accredited by TUV Rheinland Shenzhen 2016.5.19
The Laboratory has been assessed according to the requirements
ISO/IEC 17025.

Accredited by FCC, August 06, 2018
The certificate is valid until August 07, 2020
Designation Number: CN1204
Test Firm Registration Number: 882943

Accredited by Industry Canada, November 09, 2018
The Conformity Assessment Body Identifier is CN0008.

Accredited by A2LA, July 31, 2017
The Certificate Number is 4321.01.

Name of Firm : EMTEK (SHENZHEN) CO., LTD.

Site Location : Bldg 69, Majialong Industry Zone, Nanshan District, Shenzhen,
Guangdong, China

2.3. Measurement Uncertainty

Radiated Emission Uncertainty : 3.3dB (30M~1GHz Polarize: H)
3.2dB (30M~1GHz Polarize: V)
3.7dB (1~18GHz Polarize: H)
3.6dB (1~18GHz Polarize: V)

3. MEASURING DEVICE AND TEST EQUIPMENT

3.1. For MPE Measurement

Used	Equipment	Manufacturer	Model No.	Serial No.	Last Cal.	Cal. Interval
<input checked="" type="checkbox"/>	E-Field Probe(100kHz-3GHz)	Narda	EF0391	2304/03	May 20, 2018	1 Year
<input checked="" type="checkbox"/>	Broadband Field Meter	Narda	NBM-550	232421	May 20, 2018	1 Year
<input checked="" type="checkbox"/>	Exposure Level Tester(1Hz-400KHz)	Narda	ELT-400	C-0012	May 20, 2018	1 Year

4. RF EXPOSURE

4.1. Measuring Standard

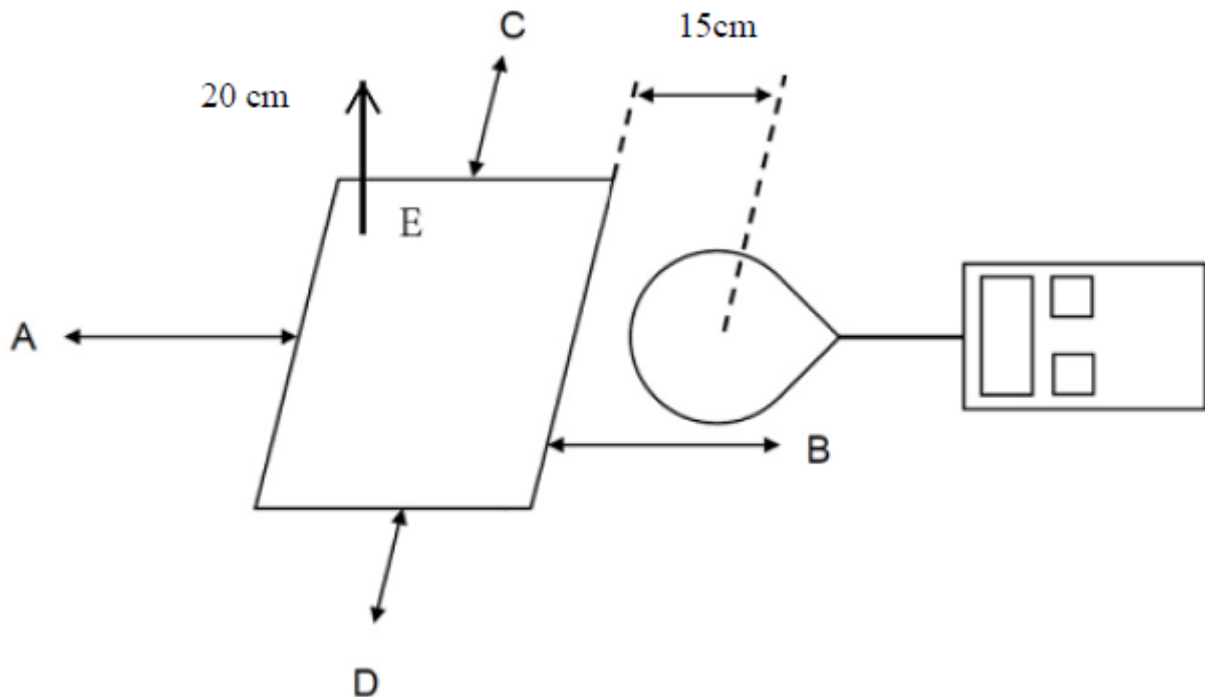
FCC Part 1(1.1310) and Part 2(2.1091)

4.2. Equipment Approval Considerations

According to the item 5(b) of KDB 680106 D01 RF Exposure Wireless Charging App v03: Inductive wireless power transfer applications that meets KDB 680106 Clause 5(b) 6 conditions are excluded from submitting an RF exposure evaluation.

1	Power transfer frequency is less than 1 MHz
	YES; the device operated in the frequency range from 110-205KHz
2	Output power from each primary coil is less than or equal to 15 watts
	YES; the maximum output power of the primary coil is 5W.
3	The transfer system includes only single primary and secondary coils. This includes charging systems that may have multiple primary coils and clients that are able to detect and allow coupling only between individual pairs of coils.
	YES; the transfer system includes only single primary and secondary coils.
4	Client device is placed directly in contact with the transmitter
	YES; 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
6	The aggregate 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.
	YES; The EUT field strength levels are 50% x MPE limits.

4.3. Test configuration



1. The RF exposure test is performed in the shield room.
2. The test distance is between the edge of the charger and the geometric centre of probe.
3. The probe was placed at 15 cm surrounding the device and 20 cm above the top of the charger and the geometric centre of the probe.
4. The RF power density was measured at 3 different charge conditions: min load, mid load, max load.
5. The highest emission level was recorded and compared with limit as soon as measurement of each point; A, B, C, D, E were completed.
6. This device uses a wireless charging circuit for power transfer operating at the frequency of 111 – 205kHz. Thus, the 300kHz limits were used: E-field Limit = 614 (V/m); H-field limit = 1.63 (A/m).

4.4. Test Mode

Test Mode	Description
Mode 1	Mobile phone is charging at 1% battery power
Mode 2	Mobile phone is charging at 50% battery power
Mode 3	Mobile phone is charging at 99% battery power

4.5. Limits

(A) 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

(B) 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			1.0	30

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

4.6. Measuring Results

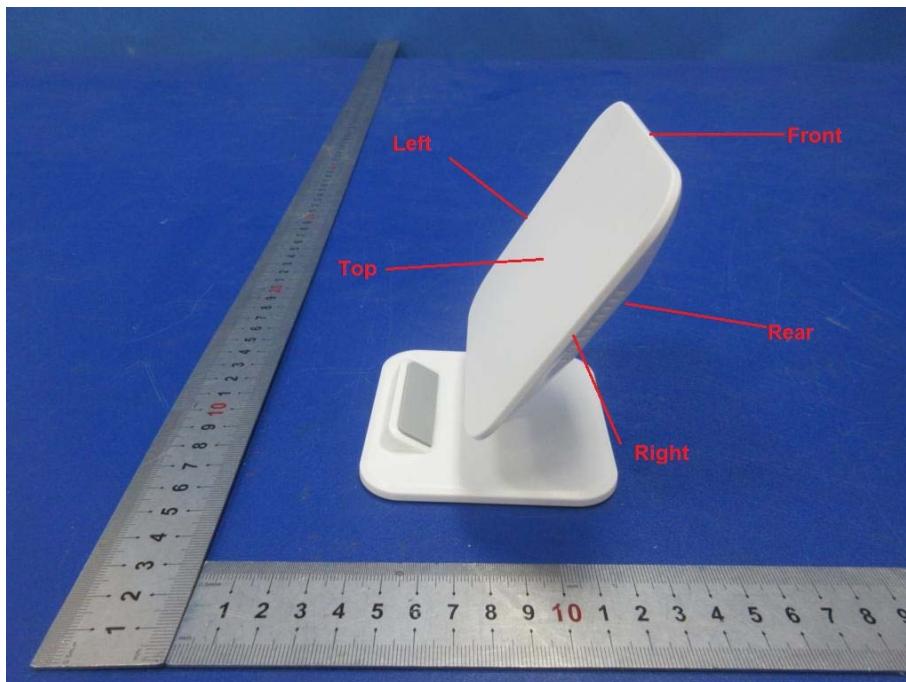
H-Field Strength at 15 cm surrounding the EUT and 20cm above the top surface of the EUT

Frequency MHz	EUT Operation	Probe Position Front (A/m)	Probe Position Rear (A/m)	Probe Position Left (A/m)	Probe Position Right (A/m)	Probe Position Top (A/m)	Limits(A/m)
0.112-0.205	1% battery level	0.085	0.082	0.084	0.082	0.081	1.63
0.112-0.205	50% battery level	0.081	0.077	0.082	0.079	0.078	1.63
0.112-0.205	99% battery level	0.075	0.076	0.074	0.078	0.076	1.63

E-Field Strength at 15 cm surrounding the EUT and 20cm above the top surface of the EUT

Frequency MHz	EUT Operation	Probe Position Front (V/m)	Probe Position Rear (V/m)	Probe Position Left (V/m)	Probe Position Right (V/m)	Probe Position Top (V/m)	Limits(V/m)
0.112-0.205	1% battery level	0.125	0.121	0.123	0.126	0.121	614
0.112-0.205	50% battery level	0.115	0.116	0.113	0.121	0.111	614
0.112-0.205	99% battery level	0.118	0.116	0.117	0.119	0.112	614

Test Points



5. PHOTOGRAPHS OF TEST SETUP



-----The end-----