

TEST REPORT

FCC ID..... :	2A4DZ-TSB7100	
Test Report No..... :	TCT220301E026	
Date of issue..... :	Mar. 10, 2022	
Testing laboratory	SHENZHEN TONGCE TESTING LAB	
Testing location/ address:	TCT Testing Industrial Park Fuqiao 5th Industrial Zone, Fuhai Street, Bao'an District Shenzhen, Guangdong, 518103, People's Republic of China	
Applicant's name..... :	MITA EXPEDITIONS LLC	
Address..... :	3821 Bedford Avenue, Brooklyn, New York, 11229, United States	
Manufacturer's name ... :	MITA EXPEDITIONS LLC	
Address..... :	3821 Bedford Avenue, Brooklyn, New York, 11229, United States	
Standard(s)	FCC CFR Title 47 Part 1.1310 KDB 680106 D01 RF Exposure Wireless Charging App v03r01	
Product Name..... :	wireless power bank	
Trade Mark	TECHSMARTER	
Model/Type reference..... :	TSB7100, TSB7500	
Rating(s)	Rechargeable Li-ion Battery DC 3.7V	
Date of receipt of test item	Mar. 01, 2022	
Date (s) of performance of test..... :	Mar. 01, 2022 - Mar. 10, 2022	
Tested by (+signature) ... :	Brews XU	
Check by (+signature).... :	Beryl ZHAO	
Approved by (+signature):	Tomsin	

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1. General Product Information

1.1. EUT description

Product Name.....:	wireless power bank
Model/Type reference.....:	TSB7100
Sample Number.....:	TCT220301E025-0101
Operation Frequency	109.78kHz - 147.60kHz
Modulation Technology	Load modulation
Max. Wireless Output Power:	10W
Antenna Type.....:	Inductive loop coil Antenna
Rating(s)	Rechargeable Li-ion Battery DC 3.7V

1.2. Model(s) list

No.	Model No.	Tested with
1	TSB7100	☒
Other models	TSB7500	☐

Note: TSB7100 is tested model, other models are derivative models. The models are identical in circuit and PCB layout, different on the model names and capacity. So the test data of TSB7100 can represent the remaining models.

2. Facilities and Accreditations

2.1. Facilities

The test facility is recognized, certified, or accredited by the following organizations:

- FCC - Registration No.: 645098

SHENZHEN TONGCE TESTING LAB

Designation Number: CN1205

The testing lab has been registered and fully described in a report with the (FCC) Federal Communications Commission. The acceptance letter from the FCC is maintained in our files.

- IC - Registration No.: 10668A-1

SHENZHEN TONGCE TESTING LAB

CAB identifier: CN0031

The testing lab has been registered by Certification and Engineering Bureau of Industry Canada for radio equipment testing.

2.2. Location

SHENZHEN TONGCE TESTING LAB

Address: TCT Testing Industrial Park Fuqiao 5th Industrial Zone, Fuhai Street, Bao'an District Shenzhen, Guangdong, 518103, People's Republic of China

TEL: +86-755-27673339

3. Technical Requirements Specification

3.1. Requirements

According to the item 5 of KDB 680106 D01 RF Exposure Wireless Charging App v03r01:

- (1) Power transfer frequency is less than 1 MHz.
Yes
- (2) Output power from each primary coil is less than or equal to 15 watts.
Yes
- (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.
Yes
- (4) Client device is placed directly in contact with the transmitter.
Yes
- (5) Mobile exposure conditions only (portable exposure conditions are not covered by this exclusion).
No
- (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

Limits

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 1.1307(b)

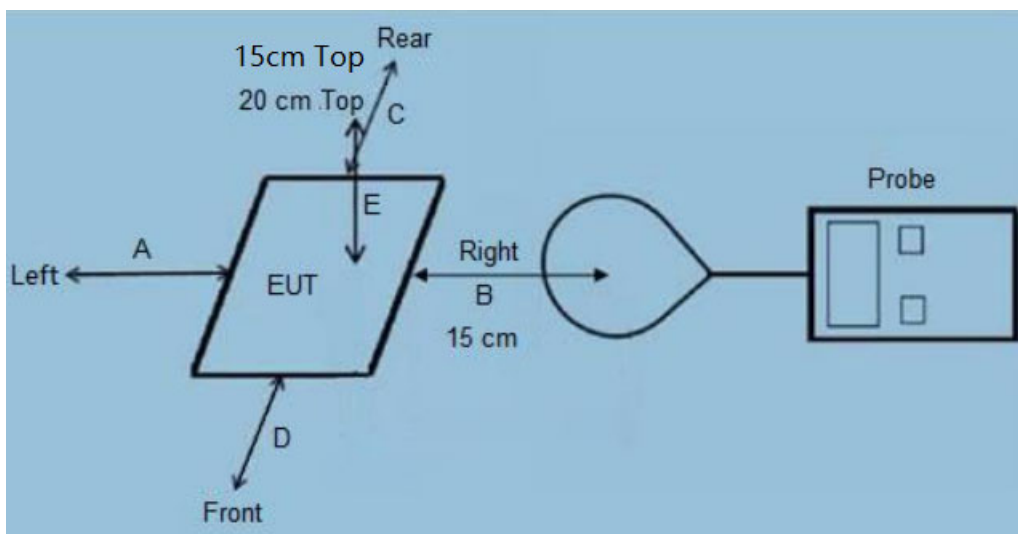
Limits for Maximum Permissible Exposure (MPE)

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

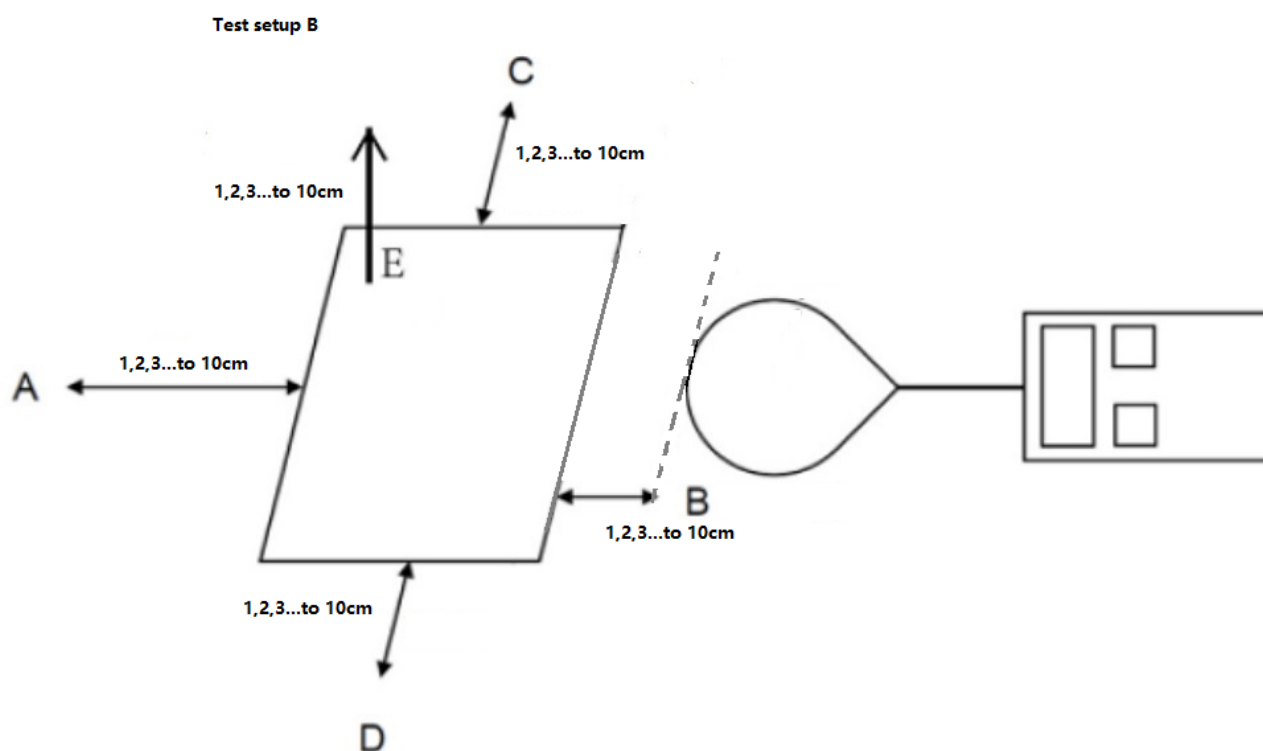
F=frequency in MHz
 * =Plane-wave equivalent power density
 RF exposure compliance will need to be determined with respect to 1.1307(c) and (d) of the FCC rules. The emissions should be within the limits at 300kHz in Table 1 of 1.1310(use the 300kHz limits for 150kHz:614V/m,1.63A/m).

3.2. Test Setup

A:



B:



3.3. Test Procedure

- 1) The RF exposure test was performed in an echoic chamber;
- 2) The measurement probe was placed at test distance(15 cm from edges, 20 cm and 15cm from top) Which is between the edge of the charger and the geometric center of probe, for test setup A;
- 3) In addition to what is described in KDB 680106 D01, please measure and provide magnetic and electrical field strength at a distance 10cm to 1cm at 1cm iteration, i.e. at a distance of 10cm, 9cm, 8cm, ... 1cm. Which is between the edge of the charger and the edge of of probe, for test setup B;
- 4) The highest emission level was recorded and compared with limit as soon as measurement of each points (A,B, C,D, E)were completed;
- 5) The EUT was measured according to the dictates of KDB680106D01v03; And KDB Tracking Number 671578 ; TCB Workshop, October 2018, 5.2 RF Exposure Procedures

Remark: The EUT's test position A, B,C, D and E is valid for the E and H field measurements.

3.4. Test Instruments List

Equipment	Manufacturer	Model No.	Calibration Due
Magnetic field meter	NARDA	ELT-400	Feb. 24, 2023
Mobile Phone	SAMSUNG	SM-G9350	/
Adapter	SAMSUNG	EP-TA20CBC	/

3.5. Test Result

Note: EUT mode: wireless output 10 W

Test Result for Test setup A:

Note: Internal battery power mode

E-Filed Strength at (15 cm from edges A,B,C,D, 20 cm and 15cm from top E) surrounding the EUT (V/m)

Charging Load Worse case	Test Position A (V/m)	Test Position B (V/m)	Test Position C (V/m)	Test Position D (V/m)	Test Position E (V/m)20cm	Test Position E (V/m)15cm	Limits (V/m)
<5%	1.52	1.62	1.64	1.78	1.53	1.72	614
50%	1.33	1.56	1.54	1.65	1.45	1.63	614
>90 %	1.27	1.35	1.46	1.52	1.42	1.60	614

H-Filed Strength at (15 cm from edges A,B,C,D, 20 cm and 15cm from top E) surrounding the EUT (A/m)

Charging Load Worse case	Test Position A (A/m)	Test Position B (A/m)	Test Position C (A/m)	Test Position D (A/m)	Test Position E (A/m)20cm	Test Position E (A/m)15cm	Limits (A/m)
<5%	0.202	0.190	0.200	0.196	0.188	0.195	1.63
50%	0.193	0.187	0.194	0.185	0.182	0.186	1.63
>90 %	0.195	0.173	0.189	0.187	0.177	0.182	1.63

Note: AC power in mode

E-Filed Strength at (15 cm from edges A,B,C,D, 20 cm and 15cm from top E) surrounding the EUT (V/m)

Charging Load Worse case	Test Position A (V/m)	Test Position B (V/m)	Test Position C (V/m)	Test Position D (V/m)	Test Position E (V/m)20cm	Test Position E (V/m)15cm	Limits (V/m)
<5%	1.56	1.62	1.65	1.75	1.48	1.74	614
50%	1.30	1.57	1.56	1.62	1.42	1.63	614
>90 %	1.26	1.37	1.44	1.53	1.43	1.58	614

H-Filed Strength at (15 cm from edges A,B,C,D, 20 cm and 15cm from top E) surrounding the EUT (A/m)

Charging Load Worse case	Test Position A(A/m)	Test Position B(A/m)	Test Position C(A/m)	Test Position D(A/m)	Test Position E(A/m)	Test Position E(A/m)	Limits (A/m)
<5%	0.203	0.195	0.196	0.195	0.187	0.195	1.63
50%	0.192	0.187	0.194	0.187	0.179	0.186	1.63
>90 %	0.193	0.170	0.193	0.188	0.175	0.183	1.63

Test Result for Test setup B:

Note: internal battery power mode

<5% ,50% ,>90% load all have been tested ,only worse case Max load (<5%) is reported.

E-Filed Strength at (distance 10cm to 1cm at 1cm iteration, i.e. at a distance of 10cm, 9cm, 8cm, ... 1cm, Which is between the edge of the charger and the edge of of probe,) surrounding the EUT (V/m)

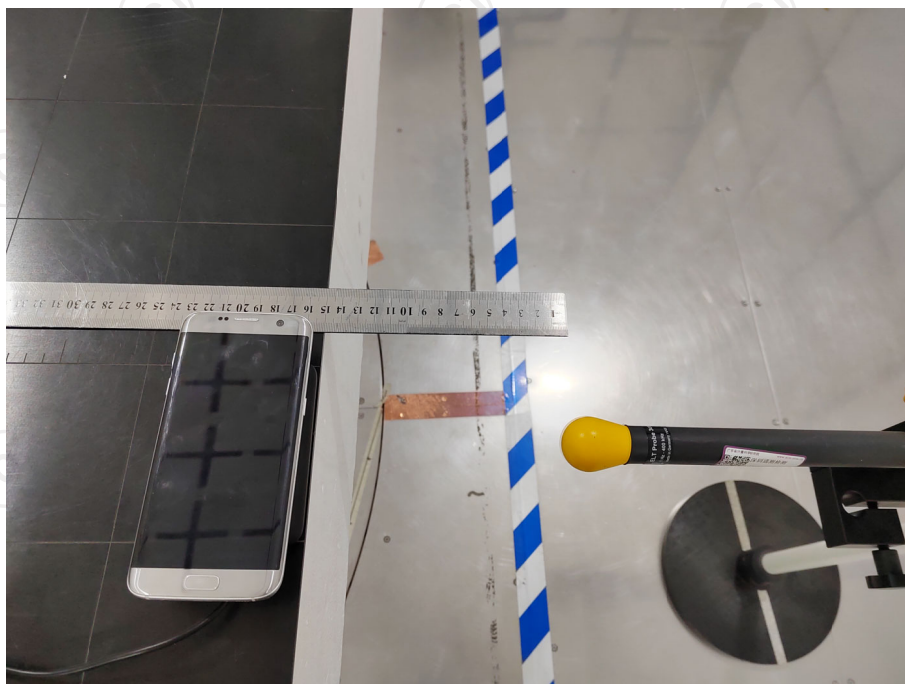
Test distance (cm)	Test Position A(V/m)	Test Position B(V/m)	Test Position C(V/m)	Test Position D(V/m)	Test Position E(V/m)	Limits (V/m)
1	2.45	2.57	2.44	2.60	2.37	614
2	2.25	2.42	2.32	2.40	2.26	614
3	2.18	2.36	2.25	2.35	2.22	614
4	2.12	2.33	2.22	2.28	2.15	614
5	1.97	2.20	2.13	2.20	2.07	614
6	1.92	2.17	2.08	2.16	2.04	614
7	1.86	2.15	2.01	2.12	1.95	614
8	1.83	2.08	1.95	2.09	1.92	614
9	1.80	2.03	1.92	2.07	1.88	614
10	1.75	2.00	1.86	2.03	1.84	614

H-Filed Strength at (distance 10cm to 1cm at 1cm iteration, i.e. at a distance of 10cm, 9cm, 8cm, ... 1cm, Which is between the edge of the charger and the edge of of probe,) surrounding the EUT (A/m)

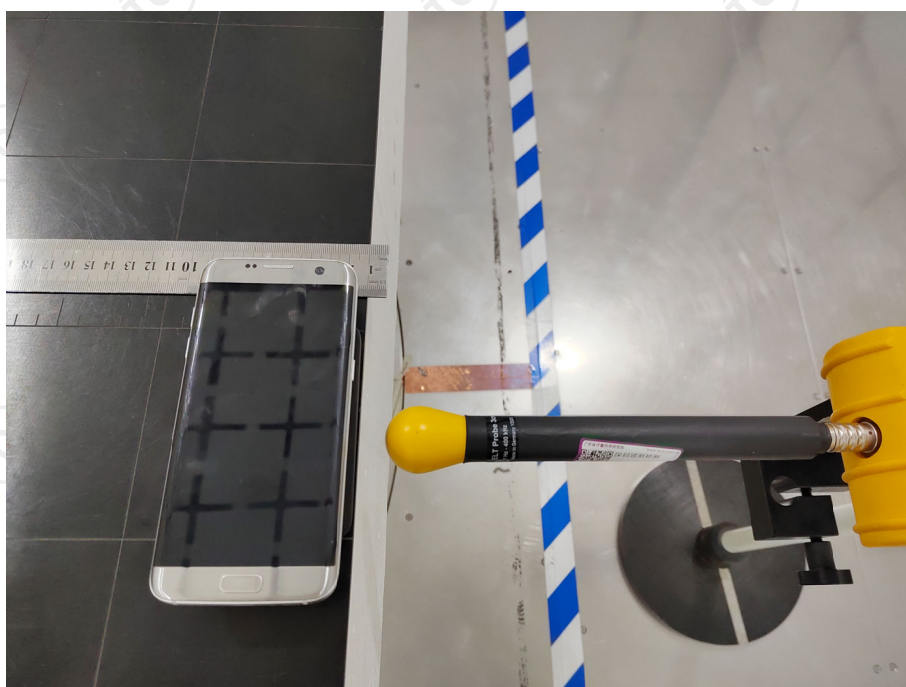
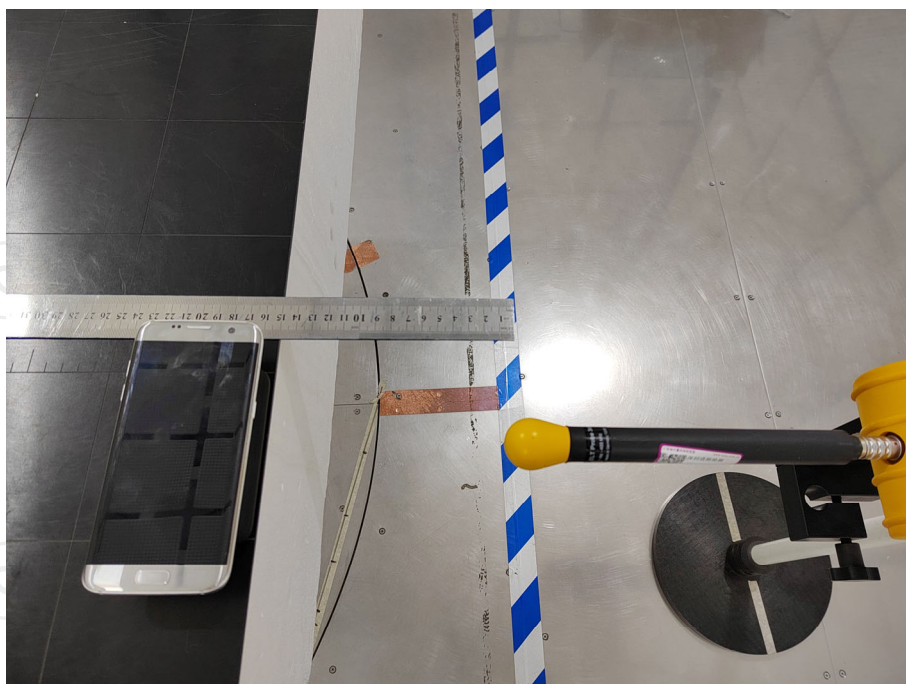
Test distance (cm)	Test Position A(A/m)	Test Position B(A/m)	Test Position C(A/m)	Test Position D(A/m)	Test Position E(A/m)	Limits (A/m)
1	0.373	0.350	0.340	0.338	0.350	1.63
2	0.344	0.312	0.307	0.306	0.303	1.63
3	0.302	0.284	0.288	0.284	0.282	1.63
4	0.285	0.260	0.266	0.258	0.260	1.63
5	0.264	0.242	0.255	0.242	0.246	1.63
6	0.253	0.225	0.243	0.227	0.232	1.63
7	0.242	0.213	0.232	0.220	0.217	1.63
8	0.225	0.202	0.220	0.207	0.205	1.63
9	0.213	0.188	0.212	0.200	0.194	1.63
10	0.205	0.180	0.203	0.193	0.188	1.63

3.6. Test Set-up Photo

AC in mode



Internal battery mode



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