Product Name:	Sifang Power Bank
Product Model No.:	GJMC-001
Test Auxiliary:	Wireless charging load
Model No.:	EESON
Transmitting mode:	Keep the EUT in continuously wireless charging mode
Power supply:	Input: 5V⎓2A or DC 3.7V by battery Output: Wireless Charging Power: 10W Wired output: 5V⎓2.1A
Note:	EUT does not support wireless charging output while charging

Test Modes:	
Mode 1	Wireless charging(10W)
Mode 2	Wireless charging(10W)+Wired output
Mode 3	Standby
Note: All modes were tested, only the worst-case was recorded in the report. Mode 1 is the worst mode.	

RF Exposure Evaluation

1 Measuring Standard

KDB 680106 RF Exposure Wireless Charging Apps v03r01

2 Requirements

According to the item 5 of KDB 680106 v03r01:

Inductive wireless power transfer applications that meet all of the following requirements are excluded from submitting an RF exposure evaluation.

(1) Power transfer frequency is less than 1MHz.

The EUT frequency range is: 115kHz- 205kHz.

(2) Output power from each primary coil is less than or equal to 15 watts.

The output power is less than 15W.

(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.

EUT has only one coil.

(4) Client device is placed directly in contact with the transmitter.

EUT can be directly charged.

(5) Mobile exposure conditions only (portable exposure conditions are not covered by this exclusion).

EUT is a mobile device

(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.

Fulfil requirements.

Remark: Meet all the above requirements.

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)

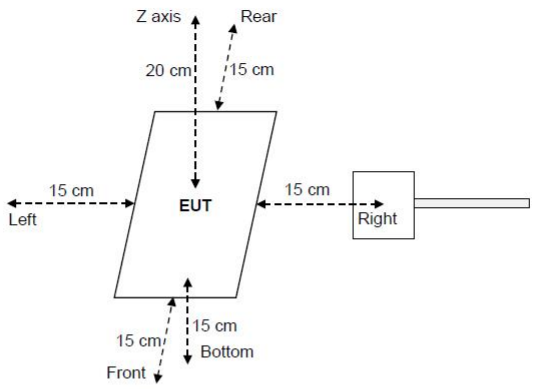
Limits for Maximum Permissible Exposure (MPE)

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

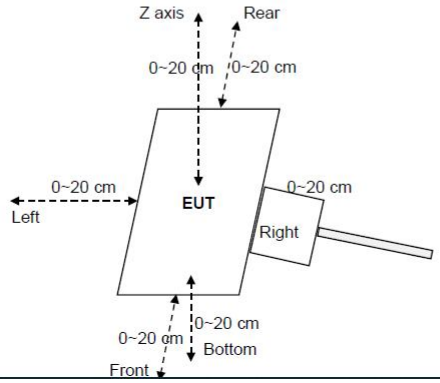
F=frequency in MHz
*=Plane-wave equivalent power density
RF exposure compliance will need to be determined with respect to 1.1307(c) and (d) of the FCC rules. The emissions should be within the limits at 300kHz in Table 1 of 1.1310(use the 300kHz limits for 150kHz:614V/m,1.63A/m).

3 Test Setup

For mobile exposure conditions:



For portable exposure conditions:



4 Test Procedure

1) For mobile exposure conditions:

a. The RF exposure test was performed in anechoic chamber.

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

c. The highest emission level was recorded and compared with limit.

d. The EUT was measured according to the dictates of KDB 680106 v03r01.

2) For portable exposure conditions:

a. The RF exposure test was performed in anechoic chamber.

b. E and H-field measurements should be made with the probe at 0 cm for all side of the EUT.

c. The highest emission level was recorded and compared with limit.

3) For portable exposure conditions:Perform H-field measurements for each edge/top surface of the host/client pair at every 2 cm, starting from as close as possible out to 10 cm

5 Test Instruments list

Test Equipment	Manufacturer	Model No.	SN.	Cal.Date (mm-dd-yy)	Cal.Due date (mm-dd-yy)
Exposure Level Tester	Narda	ELT-400	N-0231	June 25, 2022	June 24, 2023
Magnetic field probe 100cm^2	Narda	ELT probe 100cm^2	M0675	June 25, 2022	June 24, 2023
Isotropic Electric field probe	Narda	EP-601	611WX70332	June 25, 2022	June 24, 2023

Note: Probe size :6*5*5cm

6 Test Result

We have evaluated 1%, 50% and 99% battery charging mode, and the worst mode (1%) is showed in this report.

E-Filed Strength from the edges surrounding the EUT (V/m)								
The measurement probe was placed at test distance which is between the edge of the charger and the geometric of probe(cm)	Frequency Range (MHz)	Test Position A (Left)	Test Position B (Right)	Test Position C (Rear)	Test Position D (Front)	Test Position E (Top)	Test Position F (Bottom)	Limits (V/m)
0	0.115-0.205	0.95	1.04	0.95	0.94	1.00	0.91	614
2	0.115-0.205	0.89	0.85	1.02	0.89	1.02	0.83	614
4	0.115-0.205	0.91	0.91	0.94	0.90	1.02	1.02	614
6	0.115-0.205	0.94	0.84	0.85	1.01	0.87	0.87	614
8	0.115-0.205	0.93	0.96	0.91	0.87	0.86	0.81	614
10	0.115-0.205	0.89	0.99	0.98	0.96	0.98	0.84	614
12	0.115-0.205	0.86	0.94	0.98	0.90	0.90	0.90	614
14	0.115-0.205	0.85	1.02	0.91	0.87	0.84	0.94	614
16	0.115-0.205	0.82	0.87	1.00	0.98	0.88	0.84	614
18	0.115-0.205	0.96	0.96	0.98	0.91	0.89	0.85	614
20	0.115-0.205	0.99	0.93	0.87	0.92	0.88	0.91	614

H-Filed Strength from the edges surrounding the EUT (A/m)														
The measurement probe was placed at test distance which is between the edge of the charger and the geometric of probe(cm)	Frequency Range (MHz)	Test Position A (Left) uT	Test Position A (Left) A/m	Test Position B (Right) uT	Test Position B (Right) A/m	Test Position C (Rear) uT	Test Position C (Rear) A/m	Test Position D (Front) uT	Test Position D (Front) A/m	Test Position E (Top) uT	Test Position E (Top) A/m	Test Position F (Bottom) uT	Test Position F (Bottom) A/m	Limits (A/m)
0	0.115-0.205	0.46	0.37	0.29	0.23	0.44	0.35	0.20	0.16	0.30	0.24	0.25	0.20	1.63
2	0.115-0.205	0.28	0.22	0.29	0.23	0.30	0.24	0.33	0.26	0.29	0.23	0.29	0.23	1.63
4	0.115-0.205	0.25	0.20	0.39	0.31	0.26	0.21	0.24	0.19	0.33	0.26	0.38	0.30	1.63
6	0.115-0.205	0.30	0.24	0.33	0.26	0.30	0.24	0.40	0.32	0.18	0.14	0.40	0.32	1.63
8	0.115-0.205	0.39	0.31	0.20	0.16	0.24	0.19	0.30	0.24	0.28	0.22	0.16	0.13	1.63
10	0.115-0.205	0.25	0.20	0.40	0.32	0.28	0.22	0.16	0.13	0.33	0.26	0.19	0.15	1.63
12	0.115-0.205	0.18	0.14	0.35	0.28	0.35	0.28	0.40	0.32	0.45	0.36	0.36	0.29	1.63
14	0.115-0.205	0.33	0.26	0.18	0.14	0.15	0.12	0.23	0.18	0.38	0.30	0.31	0.25	1.63
16	0.115-0.205	0.35	0.28	0.39	0.31	0.19	0.15	0.16	0.13	0.28	0.22	0.35	0.28	1.63
18	0.115-0.205	0.15	0.12	0.24	0.19	0.39	0.31	0.26	0.21	0.38	0.30	0.18	0.14	1.63
20	0.115-0.205	0.31	0.25	0.33	0.26	0.31	0.25	0.38	0.30	0.21	0.17	0.39	0.31	1.63

Note: Calculation: A/m=uT/1.25

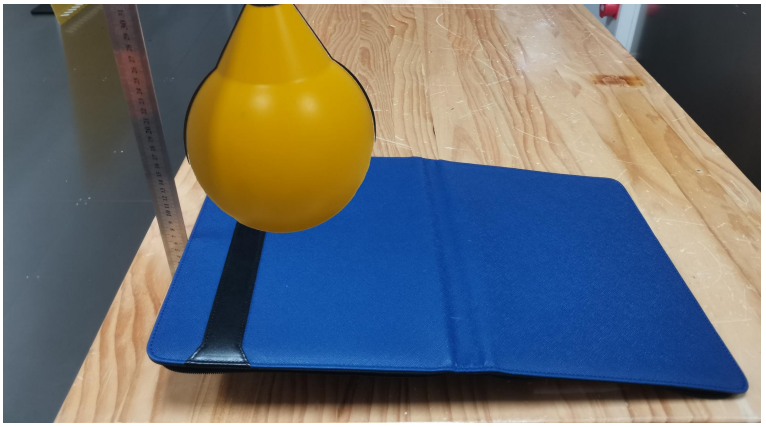
7 Test Set-up Photo

Position A

Position B

Position C

Position D

Position E

Position F