FCC ID:2A93X-V99

Product Name:	Game Magnetic Wireless Charging Power Bank
Product Model No.:	V99
Model Difference:	/
Test Auxiliary:	Mobile phone and AC Adapter and Wireless charging load
Transmitting mode:	Keep the EUT in continuously wireless charging mode
Power supply:	USB-C Input: 5 V⎓3 A, 9 V⎓2.22 A, 12 V⎓1.67 A USB-C Output: 5 V⎓3 A, 9 V⎓2.22 A Wireless Output: 15 W(Max) Total Output: 20 W(Max) Capacity: 5000mAh Rated Capacity: 2800mAh(5 V/2 A)

Test Modes:	
Mode 1	AC Mains + Phone charging port (Battery Status:≤1%)
Mode 2	AC Mains + Phone charging port (Battery Status:50%)
Mode 3	AC Mains + Phone charging port (Battery Status:≥98%)
Mode 4	Phone charging port (Battery Status:≤1%)
Mode 5	Phone charging port (Battery Status:50%)
Mode 6	Phone charging port (Battery Status:≥98%)
Mode 7	Standby
Note: 1. All test modes has been tested, this report only reflected the worst mode.	

Auxiliary equipment

Item	Equipment	Mfr/Brand	Model/Type No.	Series No.	Note
E-1	AC Adapter	Xiaomi	MDY-08-EH	/	AE
E-3	Mobile phone	Apple Inc.	iPhone Xr	/	AE

1 Measuring Standard

KDB 680106 D01 Wireless Power Transfer v04

2 Requirements

According to the item 5 of KDB 680106 D01 v04:

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

Requirements of section 3 of KDB 680106 D01	Yes/ No	Description
Mobile Device and Portable Device Configurations	Yes	Mobile Device
Equipment Authorization Procedures for Devices Operating at Frequencies Below 4 MHz	Yes	The device operate in the frequency range:115-205kHz
RF Exposure compliance may be ensured only for a minimum conditions at smaller distances can still be considered unlikely.separation distance that is greater than 20 cm, while use	Yes	The EUT H-field and E-field strengths at 20 cm surrounding the device.

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)

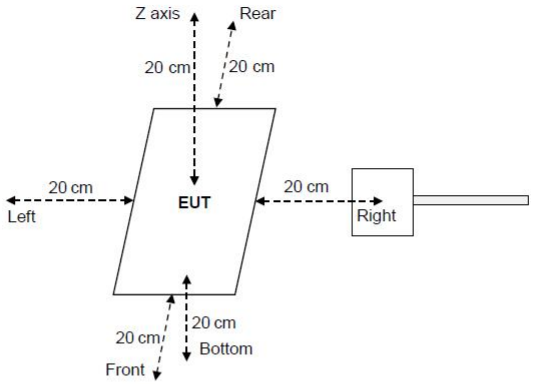
Limits for Maximum Permissible Exposure (MPE)

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

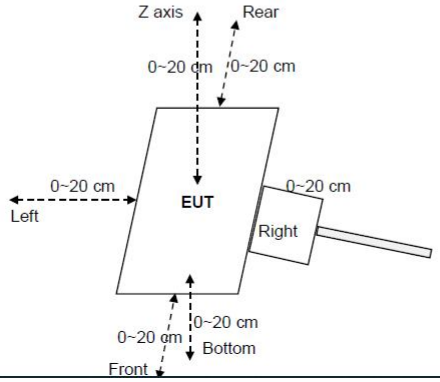
F=frequency in MHz
*=Plane-wave equivalent power density
RF exposure compliance will need to be determined with respect to 1.1307(c) and (d) of the FCC rules. The emissions should be within the limits at 300kHz in Table 1 of 1.1310(use the 300kHz limits for 150kHz:614V/m,1.63A/m).

3 Test Setup

For mobile exposure conditions:



For portable exposure conditions:



4 Test Procedure

1) The RF exposure test was performed in anechoic chamber.
2) The measurement probe was placed at test distance (20 cm from all sides and 20 cm from the top) which is between the edge of the charger and the geometric center of probe.
3) The highest emission level was recorded and compared with limit as soon as measurement of each points (A, B, C, D, E) were completed.
4) The EUT was measured according to the dictates of KDB 680106 D01 v04.
Remark：The EUT's test position A, B, C, D and E is valid for the E and H field measurements.

5 MEASUREMENT UNCERTAINTY

The reported uncertainty of measurement y ± U, where expended 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	H-field	±0.7dB
2	E-field	±1.06dB

Decision Rule

☒ Uncertainty is not included

☐ Uncertainty is included

6 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	Sep. 29, 2024	Sep. 28, 2025
Magnetic field probe 100cm2	Narda	ELT probe 100cm2	M0675	Sep. 29, 2024	Sep. 28, 2025
Isotropic Electric field probe	Narda	EP-601	611WX70332	Sep. 29, 2024	Sep. 28, 2025

7 Test Result

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)	Unit	Test Position A	Test Position B	Test Position C	Test Position D	Test Position E	Test Position F	Limits (A/m)	test result
6	0.115-0.205	A (uT)	0.490	0.550	0.520	0.500	0.550	0.540	1.63	PASS
		(A/m)	0.392	0.440	0.416	0.400	0.440	0.432		
8	0.115-0.205	A (uT)	0.450	0.450	0.420	0.450	0.460	0.420	1.63	PASS
		(A/m)	0.360	0.360	0.336	0.360	0.368	0.336		
10	0.115-0.205	A (uT)	0.420	0.390	0.420	0.400	0.420	0.410	1.63	PASS
		(A/m)	0.336	0.312	0.336	0.320	0.336	0.328		
12	0.115-0.205	A (uT)	0.350	0.350	0.370	0.370	0.360	0.360	1.63	PASS
		(A/m)	0.280	0.280	0.296	0.296	0.288	0.288		
14	0.115-0.205	A (uT)	0.340	0.350	0.330	0.350	0.330	0.330	1.63	PASS
		(A/m)	0.272	0.280	0.264	0.280	0.264	0.264		
16	0.115-0.205	A (uT)	0.330	0.320	0.320	0.300	0.290	0.310	1.63	PASS
		(A/m)	0.264	0.256	0.256	0.240	0.232	0.248		
18	0.115-0.205	A (uT)	0.270	0.280	0.290	0.280	0.280	0.260	1.63	PASS
		(A/m)	0.216	0.224	0.232	0.224	0.224	0.208		
20	0.115-0.205	A (uT)	0.250	0.230	0.230	0.230	0.240	0.260	1.63	PASS
		(A/m)	0.200	0.184	0.184	0.184	0.192	0.208		

Note: Calculation: A/m=uT/1.25

Note: Biot-Savar law:

1. Magnetic field on the axis of a current-carrying circle coil:

$$B = \frac{u_0 I R^2}{2(R^2+X^2)^{\frac{3}{2}}}$$

R is the coil outside diameter radius.

X is the distance from the test point to the center of the coil circle.

B is the magnetic magnetic field.

2. According to the KDB 680106, the model needs to be validated by probe measurements at the two points closest to the surface of the device, in 2cm increments, and if there is a 30% agreement between the model and the (E-field and/or h-field) probe measurements, the validation is considered sufficient.

3. We derived the field strengths at 10cm to 8cm and 8cm to 6cm, respectively, which are close to the actual test values, based on the field strength at 6 cm, the field strength at 4cm and 2cm and O cm can be deduced.

4. A table of error data between the assessed and measured values:

distance (cm)	Measurements (A/m)	distance (cm)	Assessed (A/m)	Error (%)	Limit (%)
10	0.336	/	/	/	/
8	0.368	10 to 8	0.464	-20.69	＜30
6	0.440	8 to 6	0.524	-16.03	＜30

5. Calculation process:

distance (cm)	Position Left (A/m)
8	0.368
6	0.524
4	0.745
2	1.060
0	1.508

8cm: $u_0IR^2 = B * 2(R^2 + X^2)^{\frac{2}{3}} = 0.368 * 2(0.055^2 + 0.08^2)^{\frac{3}{2}} = 0.01040520$

To 6cm: $B = \frac{u_0IR^2}{2(R^2+X^2)^{\frac{2}{3}}} = \frac{0.01040520}{2(0.055^2+0.06^2)^{\frac{3}{2}}} = 0.524$

6cm: $u_0IR^2 = B * 2(R^2 + X^2)^{\frac{2}{3}} = 0.524 * 2(0.055^2 + 0.06^2)^{\frac{3}{2}} = 0.01041450$

To 4cm: $B = \frac{u_0IR^2}{2(R^2+X^2)^{\frac{2}{3}}} = \frac{0.01040520}{2(0.055^2+0.04^2)^{\frac{3}{2}}} = 0.751$

4cm: $u_0IR^2 = B * 2(R^2 + X^2)^{\frac{2}{3}} = 0.751 * 2(0.055^2 + 0.04^2)^{\frac{3}{2}} = 0.01042013$

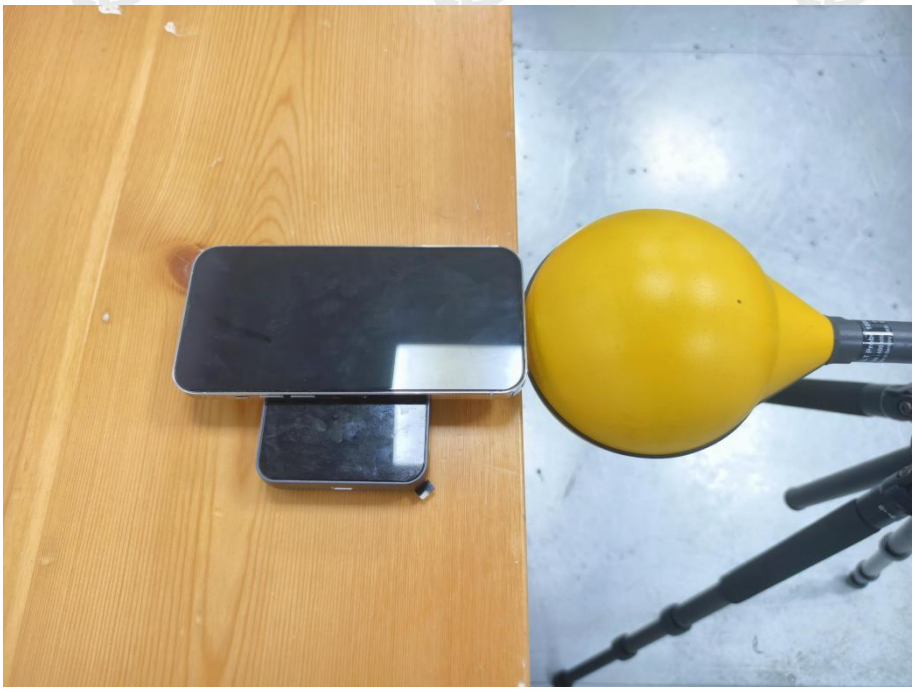
To 2cm: $B = \frac{u_0IR^2}{2(R^2+X^2)^{\frac{2}{3}}} = \frac{0.01040520}{2(0.055^2+0.02^2)^{\frac{3}{2}}} = 1.014$

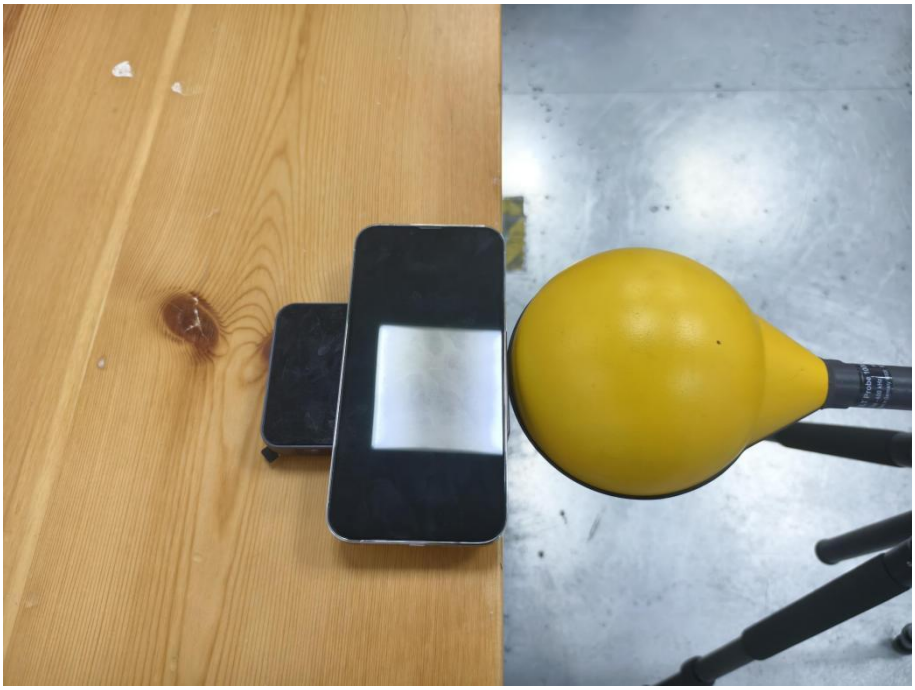
2cm: $u_0IR^2 = B * 2(R^2 + X^2)^{\frac{2}{3}} = 1.014 * 2(0.055^2 + 0.02^2)^{\frac{3}{2}} = 0.01041885$

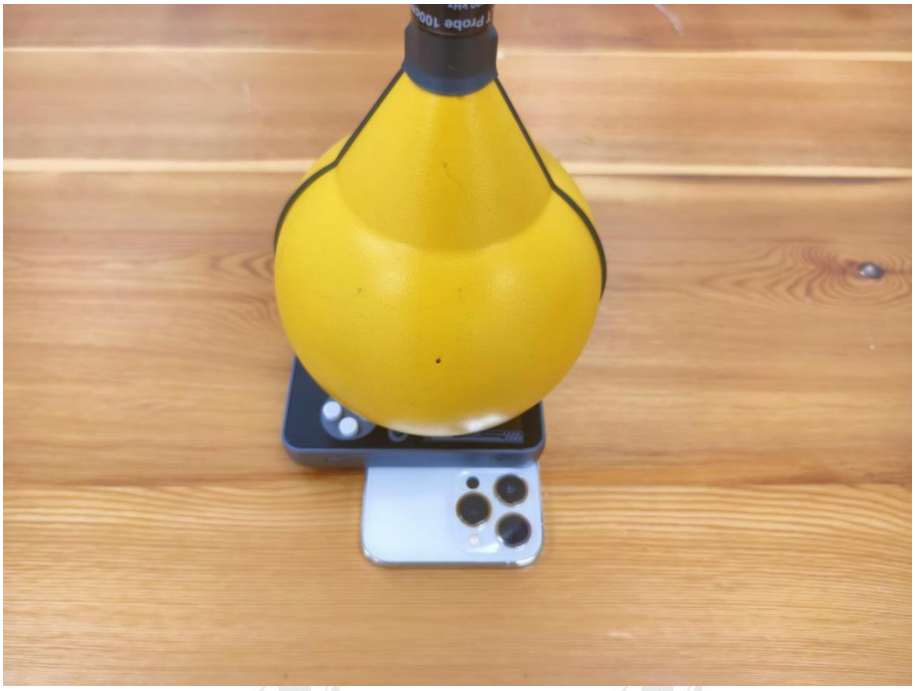
To 0cm: $B = \frac{u_0IR^2}{2(R^2+X^2)^{\frac{2}{3}}} = \frac{0.01040520}{2(0.055^2+0^2)^{\frac{3}{2}}} = 1.148$

8. Test Photo

0cm







20cm