

RF Exposure Test report

1 GENERAL DESCRIPTION

FCC ID: 2BD9K-C007

Product Name: Magnetic Wireless Power Bank

Model No.: C007

Report Number: BLA-EMC-202312-A3203

Operation Frequency:	110-205KHz
Modulation type:	Backscatter modulation
Antenna Type:	Inductive loop coil Antenna
Antenna Gain:	0dBi (Max)
Power Supply:	Type-C Out/Input: 9V/2A;12V/1.5A Wireless Out/Input: 5W/7.5W/10W/15W (Max)

2 List of Test Equipment

Equipment name	Manufacturer	Model	Serial No.	Calibration date	Due date
Magnetic Amplitude and Gradient Probe System	Schmid & Partner Engineering AG	MAGPy V2.0	3061	2023-04-13	2024-04-12

3 Maximum Permissible Exposure

3.1 Standard and Requirements

KDB 680106 D01 Wireless Power Transfer v04.

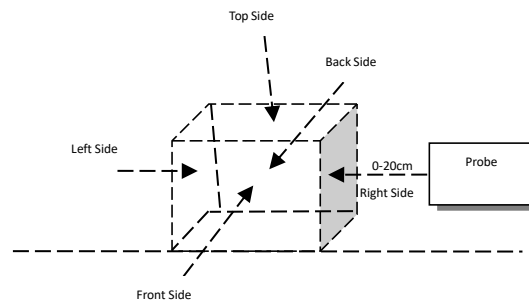
No.	Requirement	Description
(1)	Power transfer frequency is less than 1 MHz.	Yes
(2)	Output power from each primary coil is less than or equal to 15 watts.	Yes
(3)	The system may consist of more than one source primary coils, charging one or more clients. If more than one primary coil is present, the 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

3.2 Limit

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 Exposure				
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	6
300-1500			f/300	6
1500-100000			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
1500-100000			1	30
f = frequency in MHz * = Plane-wave equivalent power density				

3.3 Test Setup



3.4 Test Procedures

- The RF exposure test was performed in an echoic chamber.
- The measurement probe was placed at test distance (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 20 cm);
- The highest emission level was recorded and compared with limit as soon as measurement of each points (A,B, C,D, E) were completed;
- The EUT was measured according to the dictates of TCB Workshop “41-Part-18-&Wireless-Power-Transfer - April 27, 2022”

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

3.5 Test Result

For portable exposure condition:

Operating modes with client device (1 %, 50%, 99% battery status of client device) have been test, only show the data of worst case of 1% battery status of client device.

H-field measurements taken every 2 cm (starting as close to 20 cm as possible) on each edge/top surface of the host/client pair were also evaluated for portable use conditions. The report reflects data for the worst 0 cm test distance mode only.

Test condition 1: Mode 2 operating mode with client device (1 % battery status of client device).

Measurement results directly tested using MAGPy.

Maximum permissible Exposure				
Battery levels	Test sides	Test distance(cm)	E –field(V/m)	H–field(A/m)
<1%	Top	0	8.6274	0.1028
<1%	Left	0	65.220	0.1082
<1%	Right	0	21.522	0.1104
<1%	Front	0	9.4877	0.1872
<1%	Back	0	13.237	0.0529
<1%	Bottom	0	49.774	0.3427
Limit			614	1.63
Margin Limit (%)			10.62%	21.02%

When setting MAGPy to select compliance location as probe tip, the measured value is extrapolated to 0 mm as the result.

Maximum permissible Exposure				
Battery levels	Test sides	Test distance(cm)	E –field(V/m)	H–field(A/m)
<1%	Top	0	9.3357	0.2527
<1%	Left	0	66.375	0.2731
<1%	Right	0	22.032	0.2603
<1%	Front	0	10.154	0.2056
<1%	Back	0	14.059	0.1618
<1%	Bottom	0	50.362	0.4651
Limit			614	1.63
Margin Limit (%)			10.81%	28.53%

4 Test Set-up Photo

MPE



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