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RF Exposure Evaluation Report

Report No.: CQASZ20230500806E-02
Applicant: Shenzhen Baseus Technology Co., Ltd.
Address of Applicant: 2nd Floor, Building B, Baseus Intelligence Park, No.2008, Xuegang Rd, Gangtou Community, Bantian Street, Longgang District, Shenzhen.
Equipment Under Test (EUT):
Product: Power Bank
Model No.: PPCXM05
Test Model No.: PPCXM05
Brand Name: Baseus
FCC ID: 2A482-PPCXM05
Standards: 47 CFR Part 1.1307
47 CFR Part 1.1310
KDB 680106 D01 RF Exposure Wireless Charging Base App v03r01
Date of Receipt: 2023-05-16
Date of Test: 2023-05-16 to 2023-05-23
Date of Issue: 2023-06-05
Test Result : **PASS***

*In the configuration tested, the EUT complied with the standards specified above

Tested By: Lewis Zhou
(Lewis Zhou)

Reviewed By: Timo Lei
(Timo Lei)

Approved By: Jack Ai
(Jack Ai)



1 Version

Revision History Of Report

Report No.	Version	Description	Issue Date
CQASZ20230500806E-02	Rev.01	Initial report	2023-06-05

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3 General Information

3.1 Client Information

Applicant:	Shenzhen Baseus Technology Co., Ltd.
Address of Applicant:	2 nd Floor, Building B, Baseus Intelligence Park, No.2008, Xuegang Rd, Gangtou Community, Bantian Street, Longgang District, Shenzhen.
Manufacturer:	Shenzhen Baseus Technology Co., Ltd.
Address of Manufacturer:	2 nd Floor, Building B, Baseus Intelligence Park, No.2008, Xuegang Rd, Gangtou Community, Bantian Street, Longgang District, Shenzhen.
Factory:	Huizhou Tongyinhai Precision Electronics Co., Ltd.
Address of Factory:	27 Xingwang Street, Gaobao Road, Lilin Town, Huicheng District, Huizhou City, Guangdong Province

3.2 General Description of EUT

Product Name:	Power Bank
Model No.:	PPCXM05
Test Model No.:	PPCXM05
Brand Name:	Baseus
Software Version:	V1.0
Hardware Version:	V1.0
EUT Power Supply:	Li-ion battery DC 3.85V 5000mAh, Charge by DC 5V for adapter

3.3 Product Specification subjective to this standard

Equipment Category:	Non-ISM frequency
Operation Frequency range:	115kHz~205kHz
Modulation Type:	Induction
Antenna Type:	Induction coil
Antenna Gain:	0dBi

Note:

1. In section 15.31(m), regards to the operating frequency range less 1 MHz.

3.4 Test Environment

Operating Environment:	
Temperature:	25.5 °C
Humidity:	53 % RH
Atmospheric Pressure:	1009 mbar
Test Mode:	
Mode a:	Keep the EUT Wireless Out Put 5W
Mode b:	Keep the EUT Wireless Out Put 7.5W
Mode c:	Keep the EUT Wireless Out Put 10W
Mode d:	Keep the EUT Wireless Out Put 15W (Max)

3.5 Description of Support Units

The EUT has been tested with associated equipment below.

1) Support equipment

Description	Manufacturer	Model No.	Certification	Supplied by
Adapter	/	LPL- C010050200Z	/	CQA
Wireless charge load	/	/	/	CQA

2) Cable

Cable No.	Description	Manufacturer	Cable Type/Length	Supplied by
/	/	/	/	/

3.6 Test Location

Shenzhen Huaxia Testing Technology Co., Ltd.

1F., Block A of Tongsheng Technology Building, Huahui Road, Dalang Street, Longhua District, Shenzhen, China

3.7 Test Facility

• **A2LA (Certificate No. 4742.01)**

Shenzhen Huaxia Testing Technology Co., Ltd., Shenzhen EMC Laboratory is accredited by the American Association for Laboratory Accreditation(A2LA). Certificate No. 4742.01.

• **FCC Registration No.: 522263**

Shenzhen Huaxia Testing Technology Co., Ltd., Shenzhen EMC Laboratory has been registered and fully described in a report filed with the (FCC) Federal Communications Commission. The acceptance letter from the FCC is maintained in our files. Registration No.:522263

3.8 Equipment List

Test Equipment	Manufacturer	Model No.	Instrument No.	Calibration Date	Calibration Due Date
Broadband Field Meter	Narda Safety Test Solutions GmbH	NBM-520	SB9873	2022/9/9	2023/9/8
Magnetic field probe	HIOKI	3470	SB9058/04	2022/9/9	2023/9/8
E-field probe	Narda	EF0391	SB9059	2022/9/9	2023/9/8

4 RF Exposure Evaluation

4.1 RF Exposure Compliance Requirement

4.1.1 Limits

According to FCC Part1.1310: 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 part1.1307(b)

TABLE 1—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

Note 1: f = frequency in MHz ; *Plane-wave equivalent power density

Note 2: For the applicable limit, see FCC 1.1310, 680106 D01 RF Exposure Wireless Charging Apps v03

Note 3: Emissions between 100 kHz to 300 kHz should be assessed versus the limits at 300 kHz in Table 1 of Section 1.1310: 614 V/m and 1.63 A/m. A KDB inquiry is required to determine the applicable exposure limits below 100 kHz.

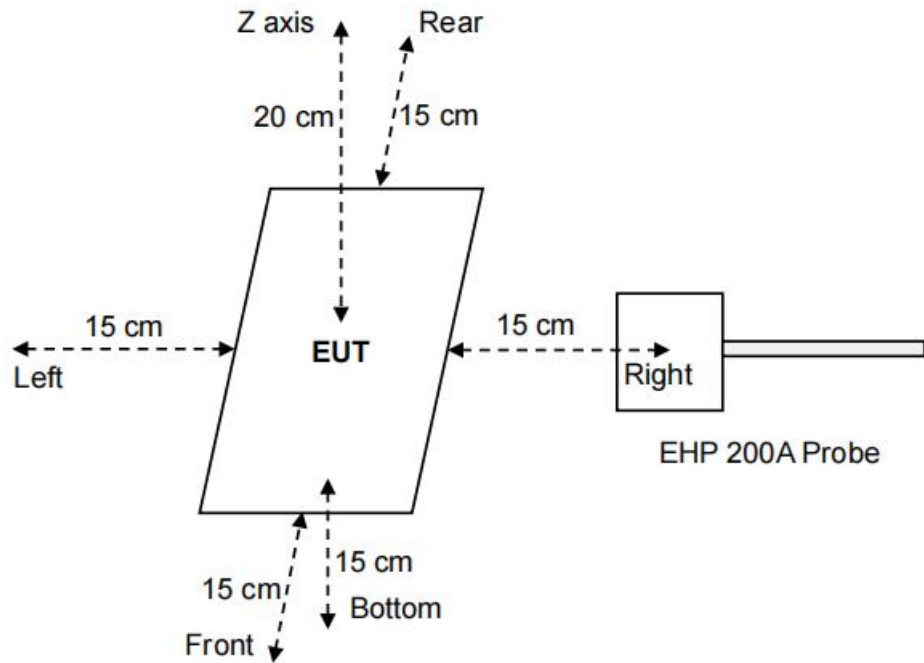
Note 4: The aggregate H-field strengths at 15 cm surrounding the device and 20 cm above the top surface from all simultaneous transmitting coils are demonstrated to be less than 50% of the MPE limit .

4.1.2 Test Procedure

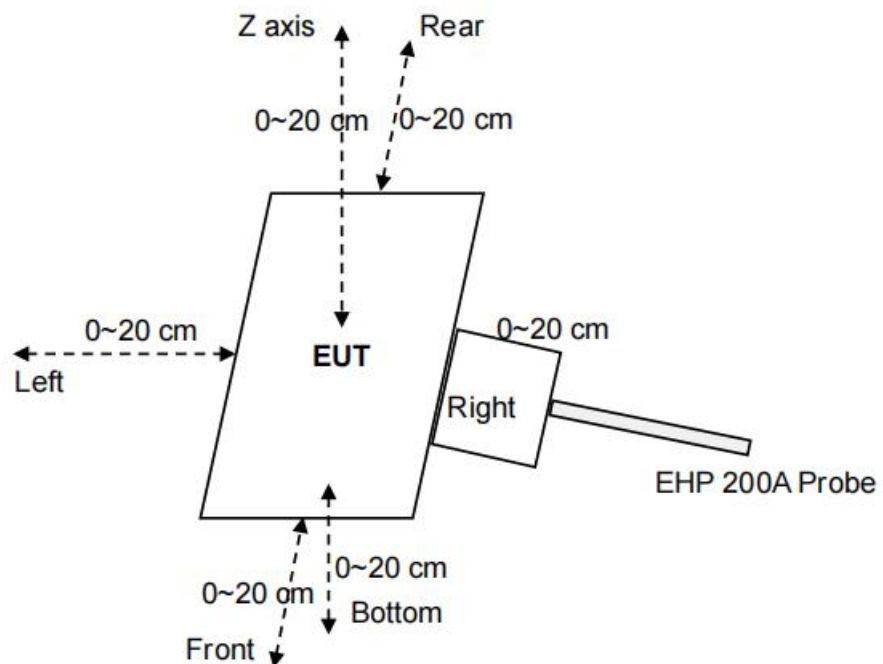
For devices designed for typical desktop applications, such a wireless charging pads, RF exposure evaluation should be conducted assuming a user separation distance of 20 cm(Top) and 15cm(Edge). E and H field strength measurements or numerical modeling may be used to demonstrate compliance. Measurements should be made from all sides and the top of the primary/client pair, with the 20 cm(Top) and 15cm(Edge) measured from the center of the probe(s) to the edge of the device.

4.1.3 Test Setup

For mobile exposure conditions:



For portable exposure conditions:



Note: 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

4.1.4 Test Results

The EUT does comply with item 5 KDB680106 D01 v03r01.

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

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

(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.
(Conform)

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

(5) Mobile exposure conditions only (portable exposure conditions are not covered by this exclusion).
(No. The EUT has portable exposure condition)

(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.
(Conform)

(7) the 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 were also evaluated for portable use condition.

Test condition: Mode d

H-field strength test result:

test distance: 0cm

Antenna	Probe Position	H-field (A/m)		
		Measurement	Limit	Max. Percentage (%)
1	Z axis	0.78544	1.63	74.4%
	Left	0.84421		
	Right	0.77411		
	Front	0.45741		
	Rear	1.21440		
	Bottom	0.87441		

test distance: 2cm

Antenna	Probe Position	H-field (A/m)		
		Measurement	Limit	Max. Percentage (%)
1	Z axis	0.5809	1.63	66.4%
	Left	0.7418		
	Right	0.5383		
	Front	0.3111		
	Rear	1.0122		
	Bottom	0.6581		

test distance: 4cm

Antenna	Probe Position	H-field (A/m)		
		Measurement	Limit	Max. Percentage (%)
1	Z axis	0.1241	1.63	51.4%
	Left	0.2151		
	Right	0.1552		
	Front	0.0911		
	Rear	0.98745		
	Bottom	0.41230		

test distance: 6cm

Antenna	Probe Position	H-field (A/m)		
		Measurement	Limit	Max. Percentage (%)
1	Z axis	0.1011	1.63	30.8%
	Left	0.1868		
	Right	0.1237		
	Front	0.0714		
	Rear	0.8448		
	Bottom	0.2530		

test distance: 8cm

Antenna	Probe Position	H-field (A/m)		
		Measurement	Limit	Max. Percentage (%)
1	Z axis	0.0870	1.63	15.8%
	Left	0.0980		
	Right	0.0848		
	Front	0.0447		
	Rear	0.4536		
	Bottom	0.0893		

test distance: 10cm

Antenna	Probe Position	H-field (A/m)		
		Measurement	Limit	Max. Percentage (%)
1	Z axis	0.0737	1.63	7.4%
	Left	0.0836		
	Right	0.0408		
	Front	0.0407		
	Rear	0.4141		
	Bottom	0.0737		

test distance: 12cm

Antenna	Probe Position	H-field (A/m)		
		Measurement	Limit	Max. Percentage (%)
1	Z axis	0.0408	1.63	5.22%
	Left	0.0483		
	Right	0.0446		
	Front	0.0407		
	Rear	0.0851		
	Bottom	0.0411		

test distance: 14cm

Antenna	Probe Position	H-field (A/m)		
		Measurement	Limit	Max. Percentage (%)
1	Z axis	0.0395	1.63	2.61%
	Left	0.0409		
	Right	0.0448		
	Front	0.0380		
	Rear	0.0442		
	Bottom	0.0431		

test distance: 16cm

Antenna	Probe Position	H-field (A/m)		
		Measurement	Limit	Max. Percentage (%)
1	Z axis	0.0417	1.63	2.69%
	Left	0.0407		
	Right	0.0405		
	Front	0.0340		
	Rear	0.0439		
	Bottom	0.0415		

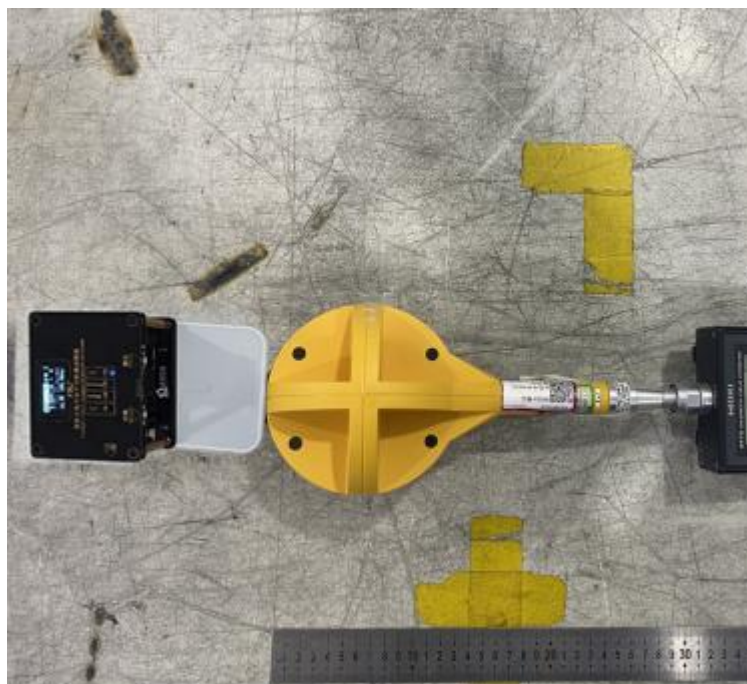
test distance: 18cm

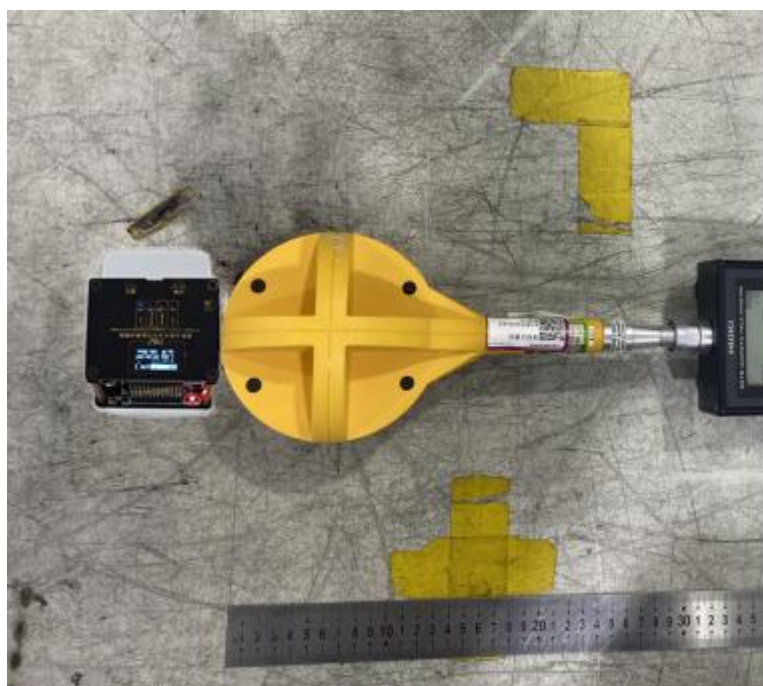
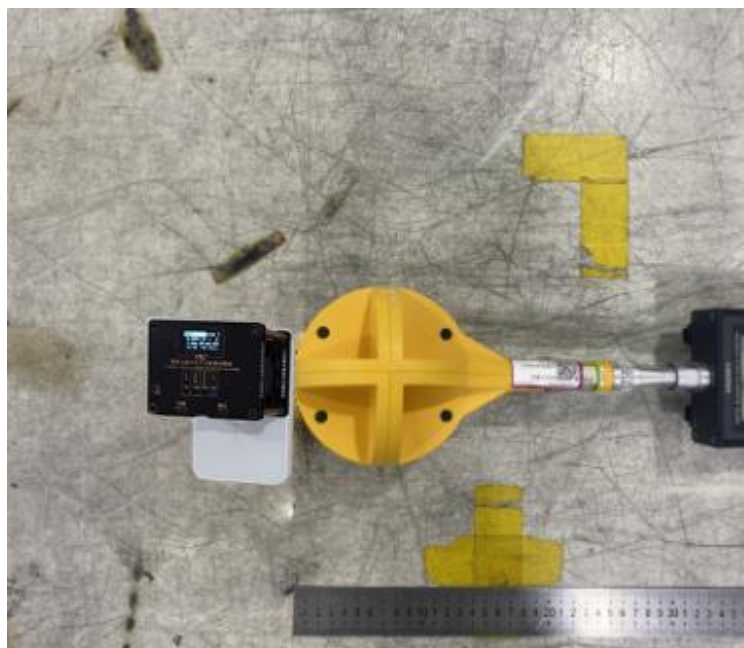
Antenna	Probe Position	H-field (A/m)		
		Measurement	Limit	Max. Percentage (%)
1	Z axis	0.0411	1.63	2.55%
	Left	0.0397		
	Right	0.0408		
	Front	0.0403		
	Rear	0.0415		
	Bottom	0.0397		

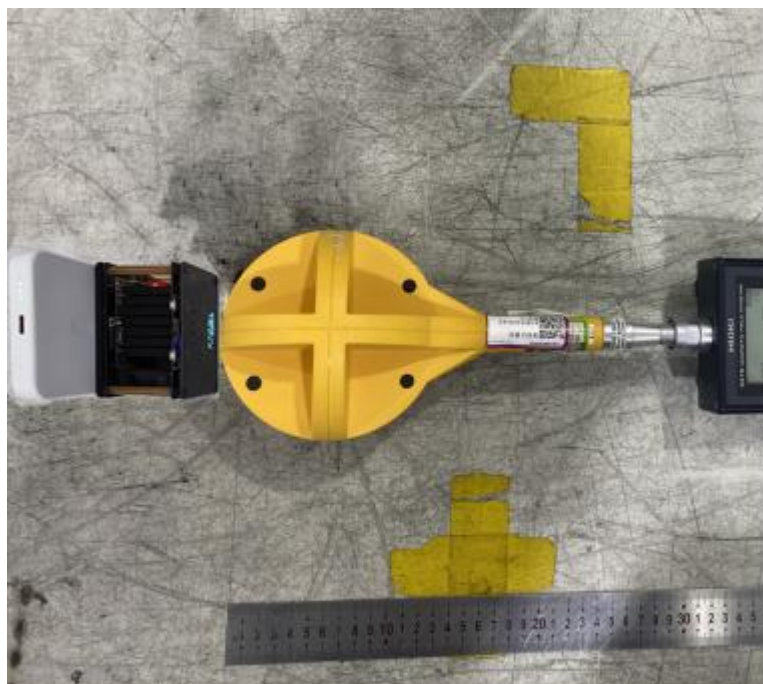
test distance: 20cm

Antenna	Probe Position	H-field (A/m)		
		Measurement	Limit	Max. Percentage (%)
1	Z axis	0.0417	1.63	1.91%
	Left	0.0380		
	Right	0.0370		
	Front	0.0385		
	Rear	0.0312		
	Bottom	0.0313		

APPENDIX A: PHOTOGRAPHS OF TEST SETUP







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