

RF EXPOSURE Test Report

Product: EcoFlow Power Bank

Trade Mark: EF ECOFLOW, ECOFLOW

Model Number: EFPB503-10K

FCC ID: 2A2P9-EFPB50310K

Prepared for

EcoFlow Inc.

RM 401, Plant #1, Runheng Industrial Zone, Fuhai Street, Bao'an District,
Shenzhen, China

Prepared by

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TEST RESULT CERTIFICATION

Applicant's Name: EcoFlow Inc.

Address: RM 401, Plant #1, Runheng Industrial Zone, Fuhai Street, Bao'an District, Shenzhen, China

Manufacturer's Name.....: EcoFlow Inc.

Address: RM 401, Plant #1, Runheng Industrial Zone, Fuhai Street, Bao'an District, Shenzhen, China

Product description

Product name: EcoFlow Power Bank

Model Number: EFPB503-10K

Standards: FCC CFR 47 PART 1 , 1.1310

Test procedure: KDB 680106 D01 Wireless Power Transfer v04

This device described above has been tested by Shenzhen HongBiao Certification& Testing Co., Ltd and the test results show that the equipment under test (EUT) is in compliance with the EMC requirements. And it is applicable only to the tested sample identified in the report.

Date of Test:

Date (s) of performance of tests: Dec. 17, 2024~Dec. 29, 2024

Test Result.....: **Pass**

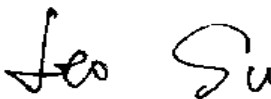
Testing Engineer :


(Z o e S u)

Technical Manager :


(G a r y L u)

Authorized Signatory :


(L e o S u)

[illegible]

1 General Description

1.1 Description of EUT

Product name:	EcoFlow Power Bank EcoFlow RAPID Magnetic Power Bank (10000mAh)
Model name:	EFPB503-10K
Series Model:	N/A
Different of series model:	N/A
Frequency range:	BPP/EPP: 115kHz-205kHz MPP: 360kHz
Operational mode:	Wireless charging
Modulation type:	ASK
Antenna type:	Coil Antenna
Hardware Version:	V1.6
Software Version:	V3.0
Battery:	Battery Capacity: 10000mAh (2500mAh*4pcs) Lithium Battery Energy: 2500mAh 15.48V/38.7Wh
Power supply:	USB-C1 Input: 5V=3A, 9V=3A, 12V=3A, 15V=3A, 20V=3A USB-C2 Input: 5V=3A, 9V=3A, 12V=3A, 15V=3A, 20V=3.25A USB-C1/C2 Output: 5V=3A, 9V=3A, 12V=3A, 15V=3A, 20V=3.25A Wireless Output: 15W (Max) Total Output: 15W (USB-C1+C2) Battery Capacity: 10000mAh (2500mAh*4pcs) Lithium Battery Energy: 2500mAh 15.48V/38.7Wh
Adapter information:	N/A

1.2 Test Mode

Pretest Test Mode	Description of Mode
1	Wireless Output (Phone: 5W)
2	Wireless Output (Phone: 7.5W)
3	Wireless Output (Phone: 10W)
4	Wireless Output (Phone: 15W)

1.3 Test Setup

See photographs of the test setup in the report for the actual setup and connections between EUT and support equipment.

1.4 Ancillary Equipment

Equipment	Model	S/N	Manufacturer	Maximum charging power	Software version
Phone	iPhone 12 pro Max	FF2LDX4T60D5H	Apple Inc	15W	17.6.1
Phone	LE2120	860284056441073	Shenzhen Oneplus Technology Co., Ltd	15W	LE2120_14.0.0.211(CN01)
Phone	iPhone 12pro	DNPF9UL20D9L	Apple Inc.	7.5W	16.6.1
Phone	Galaxy S4	S4CQCWJ1C	Samsung Group	10W	Android 4.2.2
Phone	MIX2s	89bxd78c	Xiaomi Corporation	5W	MIUI 9.5

2 Test Facilities and Accreditations

2.1 Test Laboratory

Test Site	Shenzhen HongBiao Certification& Testing Co., Ltd
Test Site Location	Room 102, 201, Building 2, Yuanwanggu RFID Industrial Park, Tongguan Road, Tianliao Community, Yutang Street, Guangming District, Shenzhen, China
Telephone:	(86-755) 2998 9321
Fax:	(86-755) 2998 5110
FCC Registration No.:	CN1341
A2LA Certificate No.:	6765.01

2.2 Environmental Conditions

During the measurement the environmental conditions were within the listed ranges:

Temperature:	15°C~35°C
Relative Humidity:	20%~75%
Air Pressure:	98kPa~101kPa

2.3 Measurement Uncertainty

The reported uncertainty of measurement $y \pm U$, 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 %.

The data and results quoted in this document are true and accurate values, and uncertainties are not involved in the calculations.

In addition, components and mass production processes that are similar to testing equipment may introduce additional deviations, and the manufacturer is solely responsible for the continued compliance of the equipment.

Measurement Frequency Range	U, (dB)	Note
RF frequency	2×10^{-5}	
E-field	± 2.5 dB	
H-field	± 4.2 dB	
Temperature	± 1 degree	
Humidity	± 5 %	

2.4 Test Software

Software name	Manufacturer	Model	Version
MAGPy V2.6	Schmid & Partner Engineering AG	MAGPy V2.6	V2.6

3 List of Test Equipment

Item	Equipment No.	Equipment name	Manufacturer	Model	Serial No.	Calibration date	Due date
1	HB-E077	Magnetic Amplitude and Gradient Probe System	Schmid & Partner Engineering AG	MAGPy -8H3D+E3D	3107	2024-03-15	2025-03-14
2	HB-E078	Magnetic Amplitude and Gradient Probe System	Schmid & Partner Engineering AG	MAGPy-DAS	3097	2024-03-15	2025-03-14

Note: the calibration interval of the above test instruments is 12 months and the calibrations are traceable to international system unit (SI).

4 RF Exposure

4.1 Maximum Permissible Exposure

4.1.1. Limit

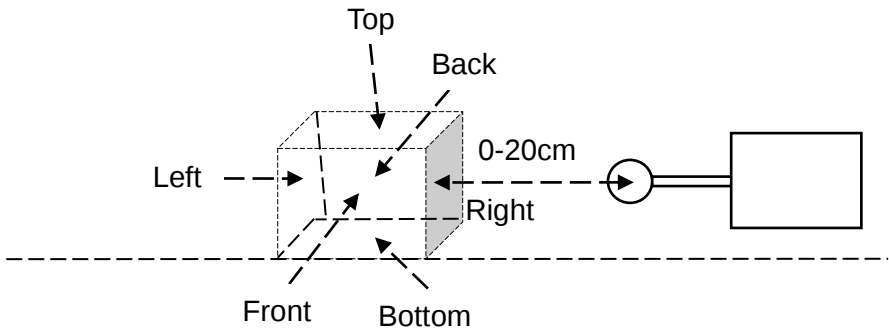
Frequency range(MHz)	Electric field strength(V/m)	Magnetic field strength(A/m)	Power density(mW/cm2)	Averaging time(minutes)
(A) Limits for Occupational/Controlled Exposure				
0.3-3.0	614	1.63	*100	6
3.0-30	1842/f	4.89/f	*900/f ²	6
30-300	61.4	0.163	1.0 6	6
300-1500	/	/	f/300	6
1500-100000	/	/	5	6
(B) 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

4.1.2. Test Procedures

- a. The RF exposure test was performed in anechoic chamber.
- b. 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.
- c. The highest emission level was recorded and compared with limit.
- d. The EUT was measured according to the dictates of TCB Workshop “41-Part-18-&-Wireless-Power-Transfer - April 27, 2022”

4.1.3. Test Setup



4.1.4. Test Result

For portable exposure condition:

All operating modes of the client device (1%, 50%, 99% battery status of the client device) have been tested, and the report only reflects the worst-case data of the 1% battery status of the client device in mode 4.

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 4 operating mode with client device (1 % battery status of client device).
Measurement results directly tested using MAGPy.

Maximum permissible Exposure (115kHz-205kHz)				
Battery levels	Test sides	Test distance(cm)	E -field(V/m)	H-field(A/m)
<1%	Top	0	44.7	0.19
<1%	Left	0	25.1	0.08
<1%	Right	0	20.6	0.34
<1%	Front	0	21.7	0.82
<1%	Back	0	11.5	0.71
<1%	Bottom	0	40.1	0.06
Limit			614	1.63
Margin Limit (%)			7.28%	50.31%

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

Maximum permissible Exposure (115kHz-205kHz)				
Battery levels	Test sides	Test distance(cm)	E -field(V/m)	H-field(A/m)
<1%	Top	0	52.1	0.32
<1%	Left	0	27.1	0.20
<1%	Right	0	24.2	0.53
<1%	Front	0	23	1.19
<1%	Back	0	13.9	1.17
<1%	Bottom	0	44.5	0.15
Limit			614	1.63
Margin Limit (%)			8.49%	88.96%

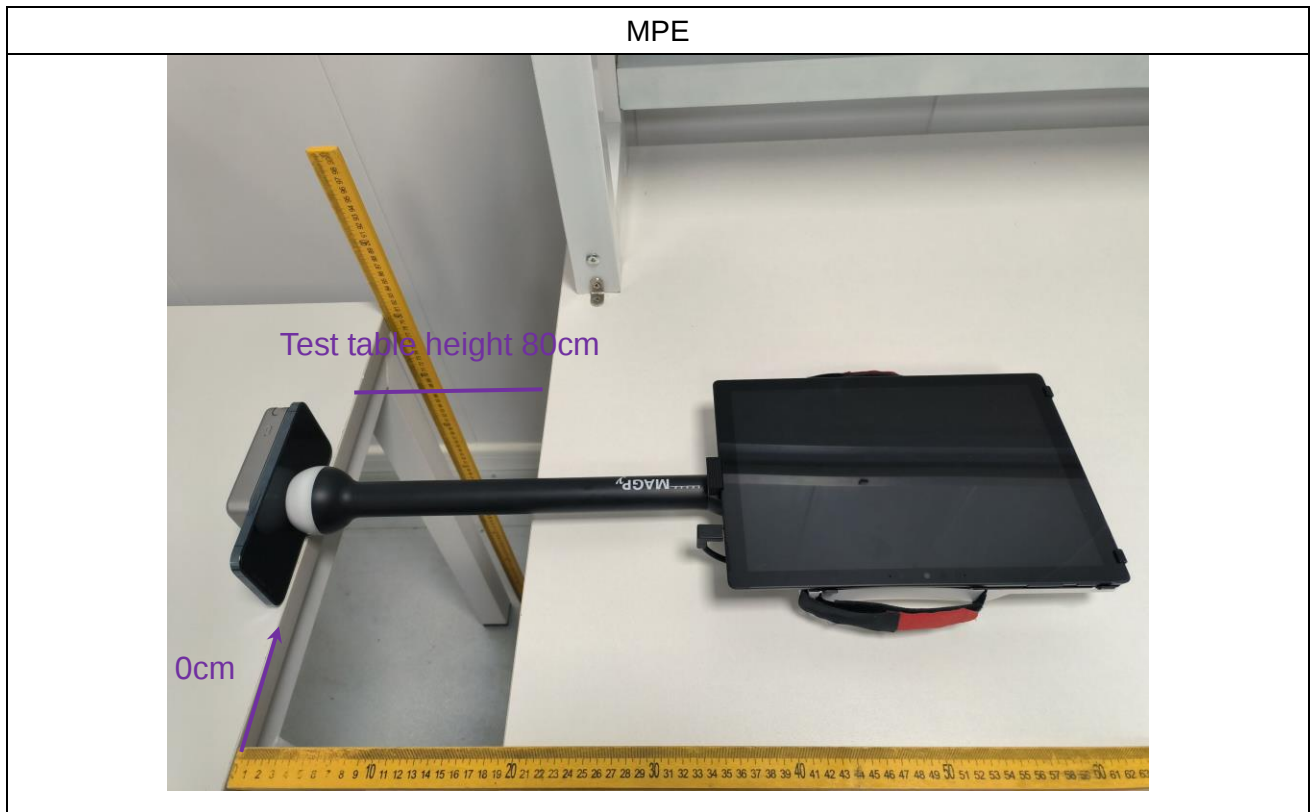
Test condition 1: Mode 4 operating mode with client device (1 % battery status of client device).
Measurement results directly tested using MAGPy.

Maximum permissible Exposure (360kHz)				
Battery levels	Test sides	Test distance(cm)	E -field(V/m)	H-field(A/m)
<1%	Top	0	21.2	0.11
<1%	Left	0	4.71	0.17
<1%	Right	0	4.05	0.35
<1%	Front	0	3.85	0.54
<1%	Back	0	13.8	0.05
<1%	Bottom	0	25.9	0.07
Limit			614	1.63
Margin Limit (%)			3.45%	33.13%

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

Maximum permissible Exposure (360kHz)				
Battery levels	Test sides	Test distance(cm)	E -field(V/m)	H-field(A/m)
<1%	Top	0	68.2	0.13
<1%	Left	0	5.14	0.53
<1%	Right	0	4.39	0.83
<1%	Front	0	4.28	1.02
<1%	Back	0	14.5	0.13
<1%	Bottom	0	29.9	0.14
Limit			614	1.63
Margin Limit (%)			11.11%	62.58%

5 Photographs of the Test Setup



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