

RF EXPOSURE Test Report

Product: 100W Multi-Functional Fast Charging
Power Bank

Trade Mark: **UGREEN 绿联**

Model Number: PB769

FCC ID: 2AQI5-PB769

Prepared for

Ugreen Group Limited

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Prepared by

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TEST RESULT CERTIFICATION

Applicant's Name : Ugreen Group Limited
Ugreen Building, Longcheng Industrial Park, Longguanxi Road,
Address : Longhua, 518000 Shenzhen, PEOPLE'S REPUBLIC OF
CHINA.

Manufacturer's Name : Ugreen Group Limited
Ugreen Building, Longcheng Industrial Park, Longguanxi Road,
Address : Longhua, 518000 Shenzhen, PEOPLE'S REPUBLIC OF
CHINA.

Product description

Product name : 100W Multi-Functional Fast Charging Power Bank

Model Number : PB769

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 : Aug. 29, 2025~Oct. 23, 2025

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

Testing Engineer :

Zoe Su

(Z o e S u)

Technical Manager :

Hans Mou

(Hans Mou)

Authorized Signatory :

Leo

(L e o S u)



[illegible]

1 General Description

1.1 Description of EUT

Product name:	100W Multi-Functional Fast Charging Power Bank
Model name:	PB769
Series Model:	N/A
Different of series model:	N/A
Operation frequency:	Phone: 111-148.5kHz, 360kHz Earphone: 111-148.5kHz
Operational mode:	Wireless charging
Modulation type:	FSK
Antenna type:	Coil Antenna
Battery:	N/A
Power supply:	USB-Cable Input: 5V=3A/9V=3A/12V=3A/15V=3A/20V=3.25A 65W Max USB-C Input: 5V=3A/9V=3A/12V=3A/15V=3A/20V=3.25A 65W Max USB-Cable Output: 10V=2.25A/5V=3A/9V=3A/12V=3A/15V=3A/20V=5A 100W Max USB-C Output: 10V=2.25A/5V=3A/9V=3A/12V=3A/15V=3A/20V=3.25A 65W Max USB-A1 Output: 5V/2A Max10W Earphone Wireless Output: BPP 5W Max5W Phone Wireless Output: MPP 5W/7.5W/15W/25W Max25W PD100W-PPS Output: 5-21V/5A PD65W-PPS Output: 5-21V/3.25A
Adapter information:	N/A

Remark:

- P/N code in the below table, for marketing purpose, will be marked on the marking plate

75066	75066P	75066X	75066A	75066B	75066U	75066JP	75066ZD
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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): 15W
4	Wireless Output(Phone): 25W

5	Wireless Output(Phone): 5W+ Wireless Output(Earphone): 5W
6	Wireless Output(Phone): 7.5W+ Wireless Output(Earphone): 5W
7	Wireless Output(Phone): 15W+ Wireless Output(Earphone): 5W
8	Wireless Output(Phone): 25W+ Wireless Output(Earphone): 5W

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
Phone	iPhone 16pro	HMV3W3W1 9W	Apple Inc.
Airpods	A3057	GX8H9X0D5 3A0000B31	Apple Inc.

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	2026-03-14
2	HB-E078	Magnetic Amplitude and Gradient Probe System	Schmid & Partner Engineering AG	MAGPy-DAS	3097	2024-03-15	2026-03-14

Note: the calibration interval of the above test instruments is 24 months and the calibrations are traceable to international system unit (SI).

4 RF Exposure

4.1 Maximum Permissible Exposure

4.1.1. Limit

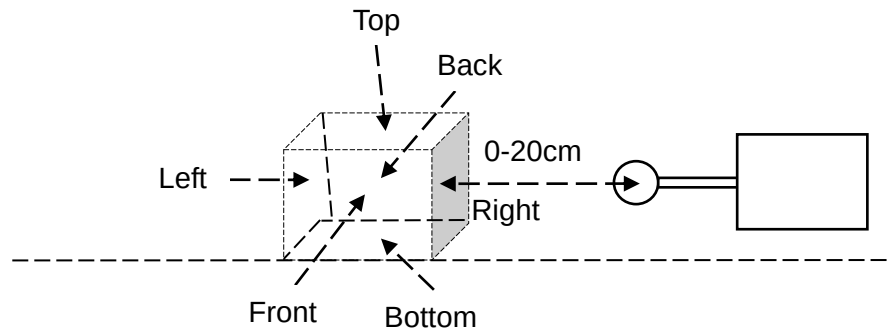
Frequency range(MHz)	Electric field strength(V/m)	Magnetic field strength(A/m)	Power density(mW/cm2)	Averaging time(minutes)
(A) Limits for Occupational/Controlled Exposure				
0.3-3.0	614	1.63	*100	6
3.0-30	1842/f	4.89/f	*900/f ²	6
30-300	61.4	0.163	1.0 6	6
300-1500			f/300	6
1500-100000			5	6
(B) Limits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

Per the guidance of KDB 680106, the E-field and H-field limits between 100 kHz to 300 kHz are to be considered the same as those at 300 kHz in Table 1 of § 1.1310 shown in the table above, any device (both portable and mobile) operating at frequencies below 100 kHz is considered compliant for the purpose of equipment authorization when the external (unperturbed) temporal peak field strengths do not exceed the 83 V/m for the electric field strength (E) and 90A/m for the magnetic field strength (H).

4.1.2. Test Procedures

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

4.1.3. Test Setup



4.1.4. 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.

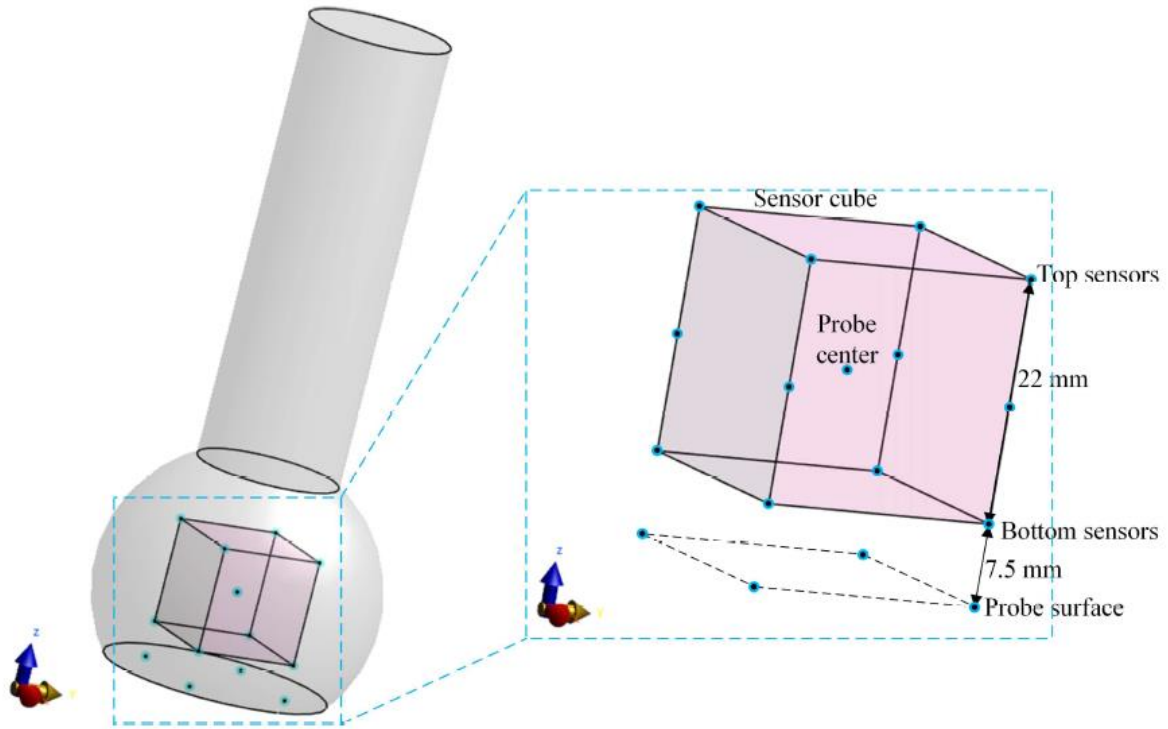
H-field measurements taken every 2 cm (starting as close to 20 cm as possible) on each edge/top surface of the host/client pair were also evaluated for portable use conditions. The report reflects data for the worst 0 cm test distance mode only.

1. The GGSM is used to determine the induced fields(or basic restriction quantities) based on the magnetic field,which is measured at fo and extrapolated to the probe tip,and the magnetic field gradient.The GGSM is a numerically determined transformation matrix that takes as inputs the evaluation frequency and the magnetic field and its gradient,and provides as output the resulting induced quantities or basic quantities according to international safety standards.

In MAGPy V2.6,the GGSM method is used to calculate:

- induced E-field(V/m): not averaged, line(5mm)-and volume($2 \times 2 \times 2 \text{ mm}^3$ cube)-averaged,
- induced current density (A/m²): area(1cm² disc)-averaged,
- specific absorption rate(SAR): averaged over a cube of 10g (psSAR 10g) and 1g (psSAR1g).

2. In the MAGPy V2.6 implementation,the H-field is evaluated at the center of the probe(which is 18.5mm above the surface of its tip) and also at the surface of its tip.



The total H-field at the tip surface $H_{tip-surface}$ can be extrapolated using the total H-field measured at the top and bottom sensors (Figure 2.5), H_{top} and H_{bottom} , and the normalized H-field gradient G_n . The field extrapolation formula is a polynomial function of G_n ($\Delta d = 7.5\text{mm}$ is the sensor offset of the bottom sensors).

$$H_{tip-surface} = \frac{H_{bottom} + H_{top}}{2} \sum_{i=0}^7 c_i [G_n (\Delta d + 11 \text{ mm})]^i$$

The polynomial coefficients c_i were determined from simulations of 70 coils covering normalized gradients up to 80 for the 97.5th percentile. This provides a conservative estimate of the total H-field at the tip surface without large overestimation. Since the local (i.e., not spatial averaged) values of $H_{tip-surface}$ obtained from simulations were used for the curve fitting, $H_{tip-surface}$ estimated can be considered not suffered from the sensor averaging error. The field extrapolation formula is applied to four pairs of top and bottom sensors along the vertical (i.e., along z axis) edges of the sensor cube, and the H-field at the probe tip reported by MAGPy V2.6 adopts the average of the four extrapolated values.

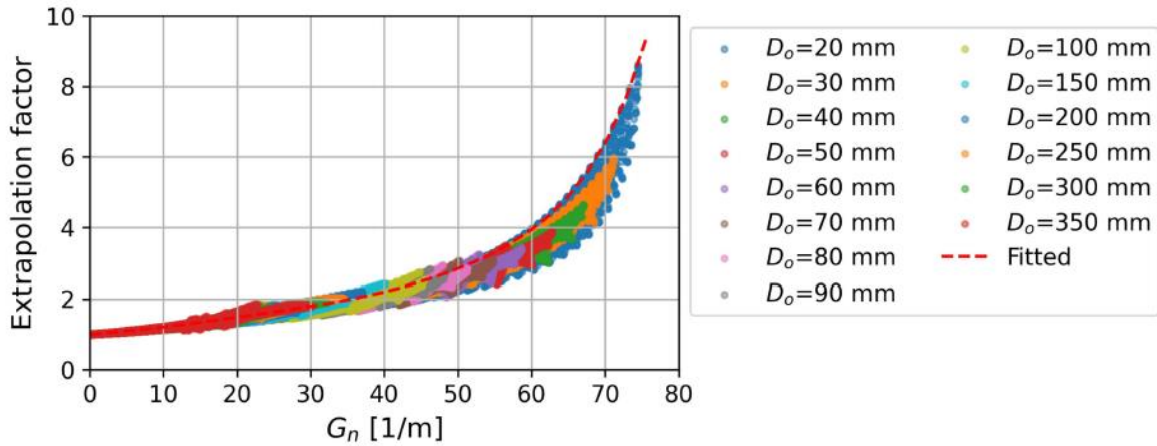


Figure 2.6: Extrapolation factors (i.e., ratios between the simulated results of $H_{tip-surface}$ and $\frac{H_{bottom}+H_{top}}{2}$) plotted as a function of the normalized H-field gradient. The data are from simulations of 70 coils with varying outer diameters D_o and filling ratios (0.1–0.9). The predication of the polynomial function $\sum_{i=0}^7 c_i [G_n (\Delta d + 11 \text{ mm})]^i$ with coefficients fitted for the 97.5th percentile (i.e., the red dashed line) is also shown.

Coefficient	Value
c_0	1.00
c_1	1.00
c_2	-0.764
c_3	14.5
c_4	-47.7
c_5	70.7
c_6	-48.7
c_7	13.1

Table 2.2: Coefficients of the polynomial function for the H-field extrapolation to the tip surface of the probe, determined with 0.975 quantile regression (i.e., the 97.5th percentile)

Single Phone Output:

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(Phone: 111-148.5kHz)				
Battery levels	Test sides	Test distance(cm)	E -field(V/m)	H-field(A/m)
<1%	Top	0	88.5	0.85
<1%	Left	0	29.1	0.02
<1%	Right	0	30.2	0.22
<1%	Front	0	10.7	0.18
<1%	Back	0	12.3	0.35
<1%	Bottom	0	13.3	0.02
Limit			614	1.63
Margin Limit (%)			14.4%	52.1%

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

Maximum permissible Exposure(Phone: 111-148.5kHz)				
Battery levels	Test sides	Test distance(cm)	E –field(V/m)	H–field(A/m)
<1%	Top	0	90.8	0.89
<1%	Left	0	29.5	0.04
<1%	Right	0	31.5	0.29
<1%	Front	0	11.5	0.22
<1%	Back	0	12.7	0.41
<1%	Bottom	0	14.0	0.03
Limit			614	1.63
Margin Limit (%)			14.8%	54.6%

Test condition 2: Mode 4 operating mode with client device (1 % battery status of client device).
Measurement results directly tested using MAGPy.

Maximum permissible Exposure(Phone: 360kHz)				
Battery levels	Test sides	Test distance(cm)	E –field(V/m)	H–field(A/m)
<1%	Top	0	56.3	0.05
<1%	Left	0	24.2	0.01
<1%	Right	0	6.08	0.14
<1%	Front	0	7.03	0.13
<1%	Back	0	4.29	0.11
<1%	Bottom	0	4.69	0.008
Limit			614	1.63
Margin Limit (%)			9.16%	8.5%

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

Maximum permissible Exposure(Phone: 360kHz)				
Battery levels	Test sides	Test distance(cm)	E –field(V/m)	H–field(A/m)
<1%	Top	0	56.5	0.08
<1%	Left	0	24.4	0.02
<1%	Right	0	6.31	0.22
<1%	Front	0	7.13	0.17
<1%	Back	0	4.40	0.15
<1%	Bottom	0	4.83	0.01
Limit			614	1.63
Margin Limit (%)			9.2%	13.4%

For mobile 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 10 cm test distance mode only.

Phone + Earphone Output:

Test condition 3: Mode 6 operating mode with client device (1 % battery status of client device).

Measurement results directly tested using MAGPy.

Maximum permissible Exposure(Phone: 111-148.5K, Earphone: 111-148.5K)				
Battery levels	Test sides	Test distance(cm)	E -field(V/m)	H-field(A/m)
<1%	Top	10	0.42	0.59
<1%	Left	10	0.43	0.14
<1%	Right	10	0.62	0.16
<1%	Front	10	0.38	0.02
<1%	Back	10	1.44	0.02
<1%	Bottom	10	0.75	0.17
Limit			614	1.63
Margin Limit (%)			0.01%	36.1%

Test condition 4: Mode 8 operating mode with client device (1 % battery status of client device).

Measurement results directly tested using MAGPy.

Maximum permissible Exposure(Phone: 360kHz, Earphone: 111-148.5kHz)				
Battery levels	Test sides	Test distance(cm)	E -field(V/m)	H-field(A/m)
<1%	Top	10	0.33	0.53
<1%	Left	10	0.32	0.07
<1%	Right	10	0.59	0.14
<1%	Front	10	0.24	0.03
<1%	Back	10	1.1	0.05
<1%	Bottom	10	0.59	0.11
Limit			614	1.63
Margin Limit (%)			0.01%	32.5%

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