RED-Health Test Report

Client Name	:	EcoFlow Inc.
Address	:	Factory Building A202, Founder Technology Industrial Park, Longteng Community, Shiyan Sub-district, Baoan, Shenzhen, Guangdong, China
Product Name	:	Portable Power Station
Date	:	Oct. 15, 2021

Shenzhen Anbotek Compliance Laboratory Limited

Contents

TEST REPORT

Applicant	:	EcoFlow Inc.
Manufacturer	:	EcoFlow Inc.
Product Name	:	Portable Power Station
Model No.	:	EFD310
Trade Mark	:	
Rating(s)	:	Input Ports: AC Charge: 2000W Max AC Input Voltage:220-240V~10A,50Hz/60Hz Solar Charger:11-100V⎓ 10AMax, 800W Max Output Ports: 2786W total 12V(x1): 12.6V⎓ 10A, 126W Max AC(x4): 230V~10A,50Hz/60Hz,2400W total(surge4600W) USB-A(x 2): 5V⎓ 2.4A, 12W Max,per port USB-A Fast Charge(x2): 5V⎓ 2.4A,9V⎓ 2A,12V⎓ 1.5A,18W Max USB-C(x2): 5/9/12/15/20V⎓ 5A,100W Max Battery Inside: 50.4V, 2016Wh
Test Standard(s)	:	**EN IEC 62311: 2020**

The device described above is tested by Shenzhen Anbotek Compliance Laboratory Limited to determine the maximum emission levels emanating from the device and the severe levels of the device can endure and its performance criterion. The measurement results are contained in this test report and Shenzhen Anbotek Compliance Laboratory Limited is assumed full of responsibility for the accuracy and completeness of these measurements. Also, this report shows that the EUT (Equipment Under Test) is technically compliant with the EN IEC 62311 requirements.

This report applies to above tested sample only and shall not be reproduced in part without written approval of Shenzhen Anbotek Compliance Laboratory Limited.

Date of Receipt: Aug. 31, 2021

Date of Test: Aug. 31 ~ Oct. 08, 2021

Prepared By: (Ella Liang)

Approved & Authorized Signer: (Kingkong Jin)

Address: 1/F., Building D, Sogood Science and Technology Park, Sanwei Community, Hangcheng Street, Bao'an District, Shenzhen, Guangdong, China.
Tel:(86) 755-26066440 Fax: (86) 755-26014772 Email: service@anbotek.com
Hotline 400-003-0500
www.anbotek.com

1. General Information

1.1. Client Information

Applicant	:	EcoFlow Inc.
Address	:	Factory Building A202, Founder Technology Industrial Park, Longteng Community, Shiyan Sub-district, Baoan, Shenzhen, Guangdong, China
Manufacturer	:	EcoFlow Inc.
Address	:	Factory Building A202, Founder Technology Industrial Park, Longteng Community, Shiyan Sub-district, Baoan, Shenzhen, Guangdong, China
Factory	:	EcoFlow Inc.
Address	:	Factory Building A202, Founder Technology Industrial Park, Longteng Community, Shiyan Sub-district, Baoan, Shenzhen, Guangdong, China

1.2. Description of Device (EUT)

Product Name	:	Portable Power Station	
Model No.	:	EFD310	
Trade Mark	:		
Test Power Supply	:	AC 230V, 50Hz for adapter/ DC 50.4V Battery inside	
Test Sample No.	:	1-2-1(Normal Sample), 1-2-2(Engineering Sample)	
Product Description	:	Operation Frequency:	2412-2472MHz
		Number of Channel:	13 Channels for 802.11b/g/n(HT20)
		Modulation Type:	CCK, DQPSK, DBPSK for DSSS 64QAM, 16QAM, QPSK, BPSK for OFDM
		Antenna Type:	PCB Antenna
		Antenna Gain(Peak):	2.07 dBi (Provided by customer)
		Adapter:	N/A
Remark: 1) For a more detailed features description, please refer to the manufacturer's specifications or the User's Manual.			

1.3. Auxiliary Equipment Used during Test

N/A		

1.4. Description of Test Facility

The test facility is recognized, certified, or accredited by the following organizations:

FCC-Registration No.: 184111
Shenzhen Anbotek Compliance Laboratory Limited, 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. 184111.

ISED-Registration No.: 8058A
Shenzhen Anbotek Compliance Laboratory Limited, EMC Laboratory has been registered and fully described in a report filed with the (ISED) Innovation, Science and Economic Development Canada. The acceptance letter from the ISED is maintained in our files. Registration 8058A.

Test Location
Shenzhen Anbotek Compliance Laboratory Limited.
1/F, Building D, Sogood Science and Technology Park, Sanwei community, Hangcheng Street, Bao'an District, Shenzhen, Guangdong, China.518128

2. General Product Information

2.1 Basic Restriction

The essential requirements of Directive 99/519/EC in the article 3.1(a) and the limits must be taken from Council Recommendation 99/519/EC for General Population or from the ICNIRP Guidelines for Occupational Exposure. EN 50371:2002 Generic standard to demonstrate the compliance of low power electronic and electrical apparatus with the basic restrictions related to human exposure to electromagnetic fields. The average power of EUT is less than 20mW then comply with basic restriction (1999/519/EC) without test.

2.2 Table for Filed Antenna

	Antenna Type	Gain (dBi)
Wifi 2.4G	PCB Antenna	2.07

3.Test Result

3.1 Limit

Council Recommendation 99/519/EC Annex III

Reference levels for electric, magnetic and electromagnetic fields (0Hz to 300GHz)

Frequency range	E-field strength (V/m)	H-field strength (A/m)	B-field (μT)	Equivalent plane wave power density Seq (W/m2)
0-1Hz	-	3,2×104	4×104	-
1-8Hz	1000	3,2×104/f2	4×104/f2	-
8-25Hz	1000	4000/f	5000/f	-
0.025Hz-0,8kHz	250/f	4/f	5/f6,25	-
0,8-3kHz	250/f	5	6,25	-
3-150kHz	87	5	6,25	-
0,15-1MHz	87	0.73/f	0,92/f	-
1-10MHz	87/f1/2	0.73/f	0,92/f	-
10-400MHz	28	0.073	0,092	2
400-2000MHz	1,375 f1/2	0,0037 f1/2	0,0046f1/2	f/200
2-300GHz	61	0,16	0,20	10

Note:
(1)As indicated in the frequency range column.
(2)For frequencies between 100kHz and 10GHz, Seq, E2, H2 and B2 are to be averaged over any six-minute period.
(3)For frequencies exceeding 10GHz, Seq, E2, H2 and B2 are to be averaged over any 68/.1.05-minute period (.in GHz).
(4)No E-field value is provided for frequencies <1Hz, which are effectively static electric fields. For most people the annoying perception of surface electric charges will not occur at field strengths less than 20kV/m. Spark discharges causing stress or annoyance should be avoided.

3.2 Detailed results

3.2.1 MPE Evaluation

S =PG* Duty factor / 4πR²
P = Peak Power Input to antenna (Watts)
G =Antenna Gain (numeric)
R = distance to the center of radiation of antenna (in meter) = 0.20 m
Note:
1) P (Watts)=(10 ^ (dBm /10))/1000
2) G (Antenna gain in numeric) = 10^ (Antenna gain in dBi /10)
3) Duty factor=1
4) π=3.142

The maximum power density at a distance of 0.2 m for EUT is shown as below:

Test Mode	Antenna Gain(dBi)	Peak Output Power (dBm)	Peak Output Power (W)	Duty factor	Calculated RF Exposure (W/ m²)	Limit (W/ m²)
Wifi 2.4G	2.07	15.06	0.0321	1.000	0.103	10

---------- End of Report ----------