

TEST REPORT

FCC ID.	2AYT3-ELITE30
Test Report No.	TCT250512E031
Date of issue	May 28, 2025
Testing laboratory	SHENZHEN TONGCE TESTING LAB
Testing location/ address:	2101 & 2201, Zhenchang Factory, Renshan Industrial Zone, Fuhai Subdistrict, Bao'an District, Shenzhen, Guangdong, 518103, People's Republic of China
Applicant's name	SHENZHEN POWEROAK NEWENER CO., LTD
Address	F19, BLD No.1, Kaidaer Tongsha Rd No.168, Xili Street, Nanshan, Shenzhen, China
Manufacturer's name	SHENZHEN POWEROAK NEWENER CO., LTD
Address	F19, BLD No.1, Kaidaer Tongsha Rd No.168, Xili Street, Nanshan, Shenzhen, China
Standard(s)	FCC CFR Title 47 Part 1.1307 FCC CFR Title 47 Part 2.1091 KDB 447498 D01 V06
Product Name	Portable Power Station
Trade Mark	BLUETTI
Model/Type reference	Elite 30 V2
Rating(s)	Refer to EUT description of page 3
Date of receipt of test item	May 12, 2025
Date (s) of performance of test	May 12, 2025 ~ May 28, 2025
Tested by (+signature)	Yannie ZHONG
Check by (+signature)	Beryl ZHAO
Approved by (+signature) :	Tomsin



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1. General Product Information

1.1. EUT description

Product Name	Portable Power Station
Model/Type reference	Elite 30 V2
Hardware Version	V4.0
Software Version	25.0301.1087-04
Sample Number	TCT250512E026-0101
Operation Frequency	For BLE: 2402MHz~2480MHz For WIFI: 2412MHz~2462MHz (802.11b/802.11g/802.11n(HT20)) 2422MHz~2452MHz (802.11n(HT40))
Modulation Type	For BLE: GFSK For WIFI: 802.11b: Direct Sequence Spread Spectrum (DSSS) 802.11g/802.11n: Orthogonal Frequency Division Multiplexing (OFDM)
Antenna Type	PCB Antenna
Antenna Gain	3.37dBi
Rating(s)	Battery Capacity: DC 16V, 18Ah, 288Wh AC Input: AC 120V, 50/60Hz, 8.2A DC/PV Input: DC 12V-28V, 10A, 200W Max. AC Output: AC 120V, 50/60Hz, 600W Total USB-A Output: DC 5V, 3A each port USB-C Output(100W): DC 5/9/12/15/20V, 3A/ DC 20V, 5A USB-C Output(140W): DC 5/9/12/15/20V, 3A/ DC 20V/28V, 5A (With E-Marker chip built in) Cigarette Lighter Port Output: DC 12V, 10A DC-5521 Output: DC 12V, 5 A each port, 8A Total DC Output: 350W Max. AC & DC Output: 600W Max.

Note: The antenna gain listed in this report is provided by applicant, and the test laboratory is not responsible for this parameter.

1.2. Model(s) list

None.

2. General Information

2.1. Test environment and mode

Item	Normal condition
Temperature	+25°C
Voltage	DC 16V
Humidity	56%
Atmospheric Pressure:	1008 mbar
Test Mode:	
Transmitting Mode:	Keep the EUT in continuous transmitting by select channel

2.2. Description of Support Units

The EUT has been tested as an independent unit together with other necessary accessories or support units. The following support units or accessories were used to form a representative test configuration during the tests.

Equipment	Model No.	Serial No.	FCC ID	Trade Name
/	/	/	/	/

Note:

1. All the equipment/cables were placed in the worst-case configuration to maximize the emission during the test.
2. Grounding was established in accordance with the manufacturer's requirements and conditions for the intended use.
3. For conducted measurements (Output Power, 20dB Occupied Bandwidth, Carrier Frequencies Separation, Hopping Channel Number, Dwell Time, Spurious Emissions), the antenna of EUT is connected to the test equipment via temporary antenna connector, the antenna connector is soldered on the antenna port of EUT, and the temporary antenna connector is listed in the Test Instruments.

3. Facilities and Accreditations

3.1. Facilities

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

- FCC - Registration No.: 645098

SHENZHEN TONGCE TESTING LAB

Designation Number: CN1205

The testing lab has been registered and fully described in a report with the (FCC) Federal Communications Commission. The acceptance letter from the FCC is maintained in our files.

- A2LA-No.: 4320.01

SHENZHEN TONGCE TESTING LAB

The testing lab has been accredited in accordance with the recognized International Standard ISO/IEC 17025:2017 General requirements for the competence of testing and calibration laboratories.

3.2. Location

SHENZHEN TONGCE TESTING LAB

Address: 2101 & 2201, Zhenchang Factory, Renshan Industrial Zone, Fuhai Subdistrict, Bao'an District, Shenzhen, Guangdong, 518103, People's Republic of China

TEL: +86-755-27673339

4. Limit

According to §1.1310, the limit is as follow,

TABLE 1 TO § 1.1310(e)(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)
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(i) 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
300-1,500			f/300	<6
1,500-100,000			5	<6

(ii) 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
300-1,500			f/1500	<30
1,500-100,000			1.0	<30

*f = frequency in MHz. * = Plane-wave equivalent power density.*



5. Test Results and Measurement Data

According to §1.1307(b), systems operating under the provisions of this section shall be operated in a manner that ensure that the public is not exposed to radio frequency energy level in excess of the Commission's guideline.

Remark: 1) **For BLE:** The maximum output power for antenna is 19.10dBm(81.28mW) at 2480MHz, 3.37dBi antenna gain(with 2.17 numeric antenna gain.)

For WIFI: The maximum output power for antenna is 19.75dBm(94.41mW) at 2462MHz, 3.37dBi antenna gain(with 2.17 numeric antenna gain.)

2) For mobile or fixed location transmitters, no SAR consideration applied. The minimum separation generally be used is at least 20cm, even if the calculation indicate that the MPE distance would be lesser.

Calculation

$$\text{Given } E = \sqrt{\frac{30 \times P \times G}{d}} \quad \& \quad S = \frac{E^2}{3770}$$

Where E = Field Strength in Volts / meter

P = Power in Watts

G =Numeric antenna gain

d =Distance in meters

S =Power Density in milliwatts / square centimeter

Substituting the MPE safe distance using $d=20\text{cm}$ into above equation.

Yields: $S=0.000199*P*G$

Mode	Power (dBm)	Power (mW)	numeric antenna gain	Power density (mW/cm ²)	Limit (mW/cm ²)	Result
BLE	19.10	81.28	2.17	0.035099	1.00	PASS
WIFI	19.75	94.41	2.17	0.040769	1.00	

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