

TEST REPORT

Reference No..... : WTD23D06139174W004
FCC ID : 2AENW-37500
Applicant..... : GOAL ZERO LLC
Address..... : 287 WEST 12300 SOUTH DRAPER, UT 84020, USA
Manufacturer : DONGGUAN PROTRONIC ELECTRONICS LTD.
Address..... : No.1 Gongye Blvd, Shipai Town, Dongguan, Guangdong Province,
P.R. China
Product..... : Portable Power Station
Model(s) : Yeti PRO 4000
Brand Name..... : GOAL ZERO
Standards..... : FCC 47CFR Part 2 Subpart J Section 2.1091
Date of Receipt sample : 2023-06-27
Date of Test : 2023-06-27 to 2023-07-12
Date of Issue..... : 2023-08-16
Test Result..... : Pass

Remarks:

The results shown in this test report refer only to the sample(s) tested, this test report cannot be reproduced, except in full, without prior written permission of the company. The report would be invalid without specific stamp of test institute and the signatures of compiler and approver.

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3. Revision History

Test Report No.	Date of Receipt Sample	Date of Test	Date of Issue	Purpose	Comment	Approved
WTD23D06139174W004	2023-06-27	2023-06-27 to 2023-07-12	2023-08-16	Original	-	Valid

4. General Information

4.1. General Description of E.U.T.

Product:	Portable Power Station
Model(s):	Yeti PRO 4000
Wi-Fi Specification:	2.4G-802.11b/g/n HT20/n HT40
Bluetooth Version:	Bluetooth v5.0 with BLE
Hardware Version:	SGM040-CNTRL-V12
Software Version:	SGM040-PCU-V5.4.6

4.2. Details of E.U.T.

Operation Frequency:	2.4G Wi-Fi: 802.11b/g/n HT20: 2412~2462MHz 802.11n HT40: 2422~2452MHz BT/BLE: 2402-2480MHz
Max. RF output power:	BT: 12.540dBm 2.4G Wi-Fi: 19.71dBm BLE: 9.453dBm
Type of Modulation:	BT: GFSK, $\pi/4$ DQPSK, 8DPSK 2.4G Wi-Fi: CCK, OFDM BLE:GFSK
Antenna installation:	BT/2.4G Wi-Fi/BLE: PCB printed antenna
Antenna Gain:	BT/2.4G Wi-Fi/BLE:3.76dBi

Note:

#: The antenna gain is provided by the applicant, and the applicant should be responsible for its authenticity, WALTEK lab has not verified the authenticity of its information.

Ratings:

<u>Tech Specifications:</u>	
Battery:	Rechargeable Lithium Iron-Phosphate Battery
Capacity:	3993.6Wh (51.2V, 78Ah)
<u>Inputs:</u>	
Low Voltage DC:	13.3-28V DC, up to 10A (275W max)
High Voltage DC:	13.3-145V DC, up to 40A (3000W max)
AC Input:	120V AC 60Hz, up to 15A (1800W)
<u>Outputs:</u>	
AC Outlet:	(4x) 120V AC 60Hz pure sine wave, 30A (2400W per port, 3600W continuous, 7200W surge)
TT-30R AC Outlet:	120V AC 60Hz, 30A (3600W max)
6mm Port (x2):	13.5V DC, 10A continuous, 40A Surge (135W max)
12V Car Port:	13.5V DC, 12A continuous, 40A surge (162W max)
High Power Port:	13.5V DC, 30A continuous, 40A surge (405W max)
USB-A:	(3x) 5-12V DC, up to 3A (18W max)
USB-C 100W:	5V-20V DC, up to 5A (100W max)
USB-C 30W:	(2x) 5V-20V DC, up to 3A (30W each)
<u>Input/Outputs:</u>	
Power+ Port:	Input: 120V AC, 60Hz, up to 15A (1800W)/ 240V AC 60Hz, up to 13A (3000W max) Output: 120V AC 60Hz, up to 30A (3600W AC)
Expansion Port:	To be used with Goal Zero Expansion Modules: up to 56V DC, 100A
<u>Charging Temperature:</u>	32° to 104° F (0° to 40° C)
<u>Discharging Temperature:</u>	-4° to 104° F (-20° to 40° C)

4.3. Test Facility

The test facility has a test site registered with the following organizations:

ISED CAB identifier: CN0013. Test Firm Registration No.: 7760A.

Waltek Testing Group Co., Ltd. Has been registered and fully described in a report filed with the Industry Canada. The acceptance letter from the Industry Canada is maintained in our files.

Registration number 7760A, October 15, 2016.

FCC Designation No.: CN1201. Test Firm Registration No.: 523476.

Waltek Testing Group Co., Ltd. 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 number 523476, September 10, 2019.

4.4. Subcontracted

Whether parts of tests for the product have been subcontracted to other labs:

☐ Yes ☒ No

If Yes, list the related test items and lab information:

Test Lab: N/A

Lab address: N/A

Test items: N/A

4.5. Abnormalities from Standard Conditions

None.

5. Test Summary

Test Items	Test Requirement	Result
Maximum Permissible Exposure (Exposure of Humans to RF Fields)	FCC Part 2.1091	PASS

6. RF Exposure

Test Requirement: FCC 47CFR Part 2 Subpart J Section 2.1091

Evaluation Method: FCC 47CFR Part 1 Subpart I Section 1.1310,
KDB 447498 D01 General RF Exposure Guidance v06

6.1. Requirements

Systems operating under the provisions of this section shall be operated in a manner that ensures that the public is not exposed to radio frequency energy levels in excess limit for maximum permissible exposure. In accordance with 47 CFR FCC Part 2 Subpart J, section 2.1091 this device has been defined as a mobile device whereby a distance of 0.2 m normally can be maintained between the user and the device.

6.2. The procedures / limit

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)
(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	<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	<30

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

6.3. MPE Calculation Method

$$S = \frac{P \times G}{4 \times \pi \times R^2}$$

S = power density (in appropriate units, e.g. mW/cm²)

P = output power to the antenna (in appropriate units, e.g., mW).

G = power gain of the antenna in the direction of interest relative to an isotropic radiator, the power gain factor, is normally numeric gain.

R = distance to the center of radiation of the antenna (appropriate units, e.g., cm)

From the peak EUT RF output power, the minimum mobile separation distance, R=20cm, as well as the gain of the used antenna, the RF power density can be obtained

6.4. Radio Frequency Radiation Exposure Evaluation

Band	Antenna Gain (dBi)	Antenna Gain (numeric)	Max. Peak Output Power (dBm)	Peak Output Power (mW)	Power Density (mW/cm ²)	Limit (mW/cm ²)
BT	3.76	2.377	12.540	17.947	0.008485	1.0
BLE	3.76	2.377	9.453	8.817	0.004168	1.0
2.4G Wi-Fi	3.76	2.377	19.71	93.541	0.044226	1.0

Note:

1. For conservativeness, the lowest frequency of each band is used to determine the MPE limit of that band.
2. Chose the maximum power to do MPE analysis.
3. WLAN and Bluetooth share the same antenna, and cannot transmit simultaneously.

Conclusion:

RF Exposure is FCC compliant.

=====End of Report=====