TCT 通测检测 TESTING CENTRE TECHNOLOGY

TEST REPORT

FCC ID. ..... :	2ARVR-BLACKBEE1000
Test Report No..... :	TCT220117E924
Date of issue..... :	May 26, 2022
Testing laboratory ..... :	SHENZHEN TONGCE TESTING LAB
Testing location/ address:	TCT Testing Industrial Park Fuqiao 5th Industrial Zone, Fuhai Street, Bao'an District Shenzhen, Guangdong, 518103, People's Republic of China
Applicant's name..... :	SHENZHEN DBK ELECTRONICS CO., LTD
Address..... :	No.8 Qinghua Road, Zhu Village, Fucheng New Community, Guanlan Street, Longhua District, Shenzhen City, Guangdong Province, China
Manufacturer's name ... :	Dongguan DBK Energy Technology Co., Ltd
Address..... :	No. 252, Zhangmutou Section, Dongshen Rd., Zhangmutou Town, Dongguan City, Guangdong Province, P.R.China
Standard(s) ..... :	FCC CFR Title 47 Part 1.1310 KDB 680106 D01 RF Exposure Wireless Charging App v03r01
Product Name..... :	Portable Power Station
Trade Mark ..... :	AlphaESS
Model/Type reference..... :	BlackBee 1000, AP1000
Rating(s) ..... :	Refer to EUT description of page 3
Date of receipt of test item ..... :	Jan. 17, 2022
Date (s) of performance of test..... :	Aug. 13, 2021 - May 26, 2022
Tested by (+signature) ... :	Rleo
Check by (+signature).... :	Beryl Zhao
Approved by (+signature):	Tomsin

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Hotline: 400-6611-140 Tel: 86-755-27673339 Fax: 86-755-27673332 http://www.tct-lab.com

1. General Product Information

1.1. EUT description

Product Name.....:	Portable Power Station
Model/Type reference.....:	BlackBee 1000
Sample Number.....:	TCT210813E015-0101
Operation Frequency.....:	116.81kHz - 147.10kHz
Modulation Type.....:	Load modulation
Antenna Type.....:	Inductive loop coil Antenna
Rating(s).....:	Adapter Model: HKA18019095-6C Adapter Input: AC 100-240 V, 50/60 Hz, 2.5 A Adapter Output: DC 19.0 V, 9.47 A, 179.93 W Input:12-24VDC,10A Max Type-C Input: 5VDC, 3A; 9VDC, 3A; 12VDC, 3A; 15VDC, 3A; 20VDC, 5A; 100W Total input: 300W AC Socket(x3) Output: 110VAC/60Hz, Total: 1000W USB(x2) Output: 5VDC, 2.4A each port, Total: 24W Type-C PD Output: 5VDC, 3A; 9VDC, 3A; 12VDC, 3A; 15VDC, 3A; 20VDC, 5A; 100W Type-C Output: 5VDC, 3A, 15W DC 5525(x2), DC Power Socket: 13.3VDC, 10A each port; Total: 133W Wireless charging(x2) output:10W+10W; Total: 20W Total DC Output: 292W Total AC and DC Output:1000W Battery energy: 1036Wh, 21.6V

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

No.	Model No.	Tested with
1	BlackBee 1000	☒
Other models	AP1000	☐
Note: BlackBee 1000 is tested model, other models are derivative models. The models are identical in circuit and PCB layout, only different on the model names. So the test data of BlackBee 1000 can represent the remaining models.		

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2. Facilities and Accreditations

2.1. 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.

- IC - Registration No.: 10668A-1

  SHENZHEN TONGCE TESTING LAB

  CAB identifier: CN0031

  The testing lab has been registered by Certification and Engineering Bureau of Industry Canada for radio equipment testing.

2.2. Location

SHENZHEN TONGCE TESTING LAB

Address: TCT Testing Industrial Park Fuqiao 5th Industrial Zone, Fuhai Street, Bao'an District Shenzhen, Guangdong, 518103, People's Republic of China

TEL: +86-755-27673339

3. Test Results and Measurement Data

3.1. Requirements

According to the item 5.b of KDB 680106 D01v03:

Inductive wireless power transfer applications with supporting field strength results and meeting all of the following requirements are not required to submit a KDB inquiry for devices approved using SDoC or a PAG for equipment approved using certification to address RF exposure compliance. However, the responsible party is required to keep a copy of the test report in accordance with KDB 865664 D02. A copy of the test report is to be submitted with the application if the device is approved using certification.

(1) Power transfer frequency is less than 1 MHz.

(2) Output power from each primary coil is less than or equal to 15 watts.

(3) The system may consist of more than one source primary coils, charging one or more clients. If more than one primary coil is present, the coil pairs may be powered on at the same time.

(4) Client device is placed directly in contact with the transmitter.

(5) Mobile exposure conditions only (portable exposure conditions are not covered by this exclusion).

(6) The aggregate H-field strengths at 15 cm surrounding the device and 20 cm above the top surface from all simultaneous transmitting coils are demonstrated to be less than 50% of the MPE limit.

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)
(A) Limits for Occupational/Controlled Exposures				
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
300-1500	/	/	f/300	6
1500-100,000	/	/	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
1500-100,000	/	/	1.0	30
F=frequency in MHz *=Plane-wave equivalent power density RF exposure compliance will need to be determined with respect to 1.1307(c) and (d) of the FCC rules. The emissions should be within the limits at 300kHz in Table 1 of 1.1310(use the 300kHz limits for 150kHz:614V/m,1.63A/m).				

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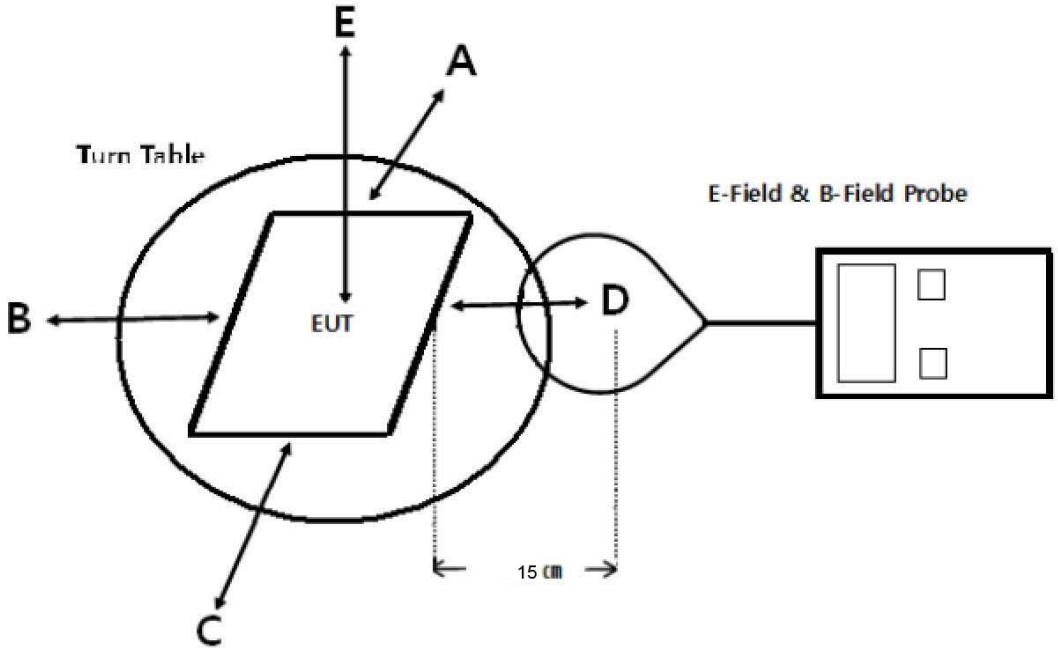
3.2. Test Setup



Note: Measurements should be made from all sides and the top of the primary/client pair, with the 15cm measured from the center of the probe(s) to the edge of the device.

3.3. Test Procedure

1) The RF exposure test was performed in anechoic chamber.
2) The measurement probe was placed at 15 cm surrounding the device and 20 cm above the top surface of the charger and the geometric center of probe.
3) The highest emission level was recorded and compared with limit as soon as measurement of each points (A, B, C, D, E) were completed.
4) The EUT was measured according to the dictates of KDB 680106 D01 v03. Remark;
The EUT's test position A, B, C, D and E is valid for the E and H field measurements.

3.4. Test Equipment List

Equipment	Manufacturer	Model No.	Calibration Due
Magnetic field meter	NARDA	ELT-400	Feb. 24, 2023
Mobile Phone	SM-G9350	R28HA2ER3GT	/

3.5. Test Result

E-Filed Strength 15 cm surrounding the device and 20 cm above the top surface of the EUT (V/m)

Frequency Range (KHz)	Operation condition	Test Position A	Test Position B	Test Position C	Test Position D	Test Position E	Reference Limits Test (V/m)	Limits Test (V/m)
116.81 ~ 147.10	Full load	1.58	1.61	1.67	1.72	1.54	307	614
116.81 ~ 147.10	Half load	1.37	1.52	1.58	1.60	1.36	307	614
116.81 ~ 147.10	No load	1.25	1.36	1.44	1.53	1.37	307	614

H-Filed Strength 15 cm surrounding the device and 20 cm above the top surface of the EUT (A/m)

Frequency Range (KHz)	Operation condition	Test Position A	Test Position B	Test Position C	Test Position D	Test Position E	Reference Limits Test (A/m)	Limits Test ((A/m)
116.81 ~ 147.10	Full load	0.205	0.187	0.192	0.190	0.181	0.815	1.63
116.81 ~ 147.10	Half load	0.193	0.182	0.194	0.187	0.185	0.815	1.63
116.81 ~ 147.10	No load	0.191	0.177	0.182	0.186	0.179	0.815	1.63

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According to KDB 680106 D01 v03 section 5, b, satisfy the following conditions.

Requirement of KDB 680106 D01	Yes/No	Description
Power transfer frequency is less than 1MHz	Yes	The device operate in the frequency range 116.81kHz - 147.10kHz
Output power from each primary coil is less than or equal to 15 watts	Yes	The maximum output power of one primary coil is 10W and the total power is 20W.
The system may consist of more than one source primary coils, charging one or more clients. If more than one primary coil is present, the coil pairs may be powered on at the same time.	Yes	The transfer system includes single coil that is able to detect receiver device.
Client device is placed directly in contact with the transmitter.	Yes	Client device is placed directly in contact with the transmitter.
Mobile exposure conditions only(portable exposure conditions are not covered by this exclusion).	Yes	Mobile exposure conditions only
The aggregate H-field strengths at 15 cm surrounding the device and 20cm above the top surface from all simultaneous transmitting coils are demonstrated to be less than 50% of the MPE limit.	Yes	The EUT H-filed strengths at 15 cm surrounding the device and 20cm above the top surface from all simultaneous transmitting coils are demonstrated to be less than 50% of the MPE limit.

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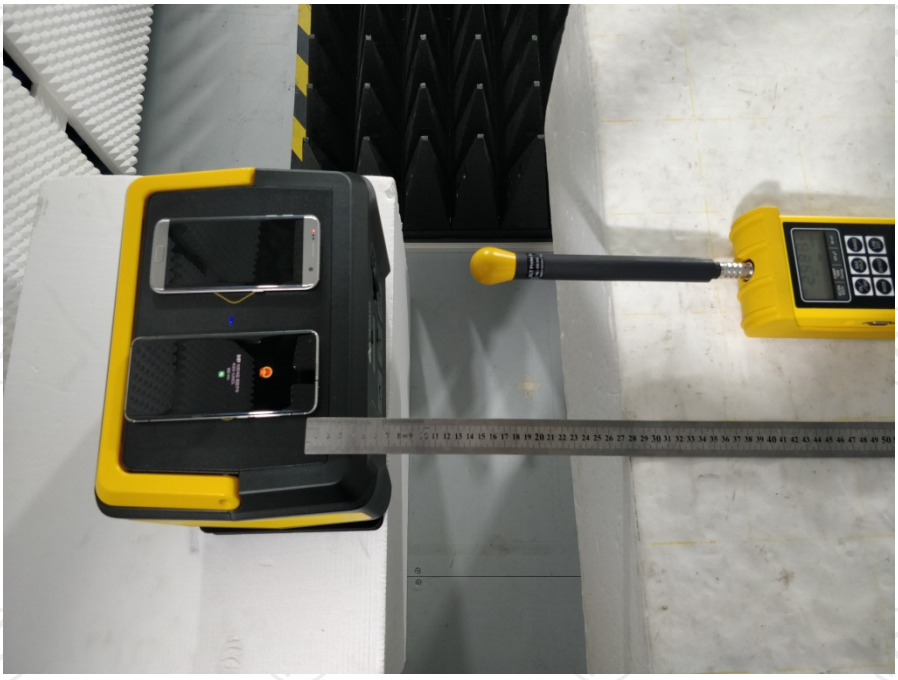
3.6. Test Set-up Photo

Front

Back



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Left

Right

TOP

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

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