

TEST REPORT

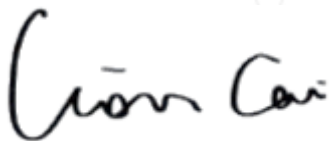
Application No.: BTEK240603003AE
Applicant: Orca Technologies AS
Address of Applicant: Tordenskiold gate 3, 0160 Oslo, Norway
Manufacturer: Cre8tek (Shenzhen) Company Limited
Address of Manufacturer: F4, Building A2, Xin Jian Xing Industry City, Guangqiao Road, Guangming New District, Shenzhen, 518132, P.R China

Equipment Under Test (EUT):
EUT Name: Orca core V6.0
Test Model.: 180000060111FFFF
Adding Model(s): /
Trade Mark: Orca
FCC ID: 2A799-CORE-V6
Standard(s) : 47 CFR Part 2 Subpart J Section 2.1091
447498 D01 General RF Exposure Guidance v06

Date of Receipt: 2024-05-09
Date of Test: 2024-06-03 to 2024-06-19
Date of Issue: 2024-06-19

Test Result:	Pass*
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* In the configuration tested, the EUT complied with the standards specified above.



Lion Cai/ Approved & Authorized
EMC Laboratory Manager



Revision Record				
Version	Chapter	Date	Modifier	Remark
V0		2024-06-18		Original

Authorized for issue by			
		<i>Zora . Huang</i>	
		Zora Huang/Project Engineer	
		<i>June Li</i>	
		June Li/Reviewer	

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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General Information

3.1 Details of E.U.T.

Power supply:	DC12V,1300mA
WIFI	
Support Standards:	802.11b, 802.11g, 802.11n-HT20
Frequency Range:	2412-2462MHz for 802.11b/g/n(HT20)
Type of Modulation:	802.11b: DSSS; 802.11g/n: OFDM
Quantity of Channels	11 for 802.11b/g/n(HT20)
Channel Separation:	5MHz
Type of Antenna:	PIFA Antenna
Antenna Gain:	2.5dBi
BT-BLE	
Frequency Range:	2402MHz to 2480MHz
Bluetooth Version:	Bluetooth V4.2 BLE
Modulation Type:	GFSK
Number of Channels:	40
Antenna Type:	PIFA Antenna
Antenna Gain:	2.5dBi
Sample No.:	BTEK240509008AE-01
Remark: The information in this section is provided by the applicant or manufacturer, BANTEK is not liable to the accuracy, suitability, reliability or/and integrity of the information.	

3.2 Description of Support Units

Description	Manufacturer	Model No.	Serial No.
/	/	/	/

3.3 Test Location

All tests were performed at:

Shenzhen BANTEK Testing Co., Ltd.,

A5&A6, Building B1&B2, No.45 Gangtuo Road, Bogang Community, Shajing Street, Bao'an District, Shenzhen, Guangdong, China 518103

Tel:0755-2334 4200

Fax: 0755-2334 4200

FCC Registration Number: 264293

Designation Number: CN1356

No tests were sub-contracted.

3.4 Deviation from Standards

None

3.5 Abnormalities from Standard Conditions

None



4 Test Requirement

According to §1.1307(b)(1) and KDB 447498 D01 General RF Exposure Guidance v06, system operating under the provisions of this section shall be operating in a manner that the public is not exposed to radio frequency energy level in excess limit for maximum permissible exposure.

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

Friis transmission formula: $Pd = (Pout \cdot G) / (4 \cdot \pi \cdot r^2)$

Where

Pd = power density in mW/cm², **Pout** = output power to antenna in mW;

G = gain of antenna in linear scale, **Pi** = 3.1416;

R = distance between observation point and center of the radiator in cm

Pd is the limit of MPE, 1 mW/cm². If we know the maximum gain of the antenna and the total power input to the antenna, through the calculation, we will know the distance r where the MPE limit is reached.

4.1 Assessment Result

☒ Passed ☐ Not Applicable

Frequency (MHz)	Type	Conducted Power (dBm)	Maximum Tune-up (dBm)	Power Density (mW/cm ²)	Limit (mW/cm ²)	Result
2440	2.4G-BLE	5.69	5.70	0.0013	1.0000	Pass

Frequency (MHz)	Type	Conducted Power (dBm)	Maximum Tune-up (dBm)	Power Density (mW/cm ²)	Limit (mW/cm ²)	Result
2462	2.4G-Wi-Fi	17.80	18.00	0.0223	1.0000	Pass

Note: 1. The exposure evaluation safety distance is 20cm.

2. Only show the worst case in the test report.

- End of the Report -

