

TEST REPORT

Reference No...... : WTH24D12303194W004
FCC ID : 2BM6V-SWOBBEEONE
Applicant..... : Swobbee US Corp.
Address..... : C/O NEWLAB, 19 MORRIS AVENUE, BROOKLYN, New York,
United States, 11205
Manufacturer : Swobbee US Corp.
Address..... : C/O NEWLAB, 19 MORRIS AVENUE, BROOKLYN, New York,
United States, 11205
Product..... : Rechargeable Li-ion Battery
Model(s) : Swobbee ONE
Standards..... : FCC 47CFR Part 2 Subpart J Section 2.1091
Date of Receipt sample : 2025-01-21
Date of Test : 2025-02-25 to 2025-02-26
Date of Issue..... : 2025-03-11
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.

Prepared By:

Waltek Testing Group Co., Ltd.

Address: No. 77, Houjie Section, Guantai Road, Houjie Town, Dongguan City, Guangdong, China

Tel: +86-769-2267 6998

Fax: +86-769-2267 6828

Compiled by:


James Cheng / Project Engineer

Approved by:


Deval Qin / Designated Reviewer

2. Contents

	Page
1 COVER PAGE.....	1
2. CONTENTS.....	2
3. REVISION HISTORY.....	3
4. GENERAL INFORMATION.....	4
4.1. GENERAL DESCRIPTION OF E.U.T.....	4
4.2. DETAILS OF E.U.T.	4
4.3. TEST FACILITY	5
4.4. SUBCONTRACTED	5
4.5. ABNORMALITIES FROM STANDARD CONDITIONS	5
5. TEST SUMMARY	6
6. RF EXPOSURE.....	7
6.1. REQUIREMENTS	7
6.2. THE PROCEDURES / LIMIT	7
6.3. MPE CALCULATION METHOD.....	8
6.4. RADIO FREQUENCY RADIATION EXPOSURE EVALUATION.....	8

3. Revision History

Test Report No.	Date of Receipt Sample	Date of Test	Date of Issue	Purpose	Comment	Approved
WTH24D12303194W004	2025-01-21	2025-02-20 to 2025-02-26	2025-03-11	Original	-	Valid

4. General Information

4.1. General Description of E.U.T.

Product:	Rechargeable Li-ion Battery
Model(s):	Swobbee ONE
Model Description:	N/A
Test Sample No.:	1-1/1
Bluetooth Version:	4.2
Hardware Version:	V1.2
Software Version:	V1.12(Test_V1.04)

4.2. Details of E.U.T.

Operation Frequency:	BLE: 2402~2480MHz LTE Band 2: 1850~1910MHz LTE Band 4: 1710~1755MHz LTE Band 5: 824~849MHz LTE Band 12: 699~716MHz LTE Band 13: 777~787MHz LTE Band 14: 788~798MHz LTE Band 66: 1710~1780MHz LTE Band 71: 663~698MHz
Max. RF output power:	BLE:1M: 0.06dBm, 2M: 0.02dBm LTE Band 2: 25.5dBm LTE Band 4: 24.5dBm LTE Band 5: 24.5dBm LTE Band 12: 25dBm LTE Band 13: 24.5dBm LTE Band 14: 24.5dBm LTE Band 66: 24.5dBm LTE Band 71: 25.0dBm
Type of Modulation:	BLE: GFSK LTE: QPSK, 16QAM
Antenna installation:	BLE :PCB Antenna LTE: FPC ANT
Antenna Gain:	BLE: -0.89dBi LTE Band 2: 3dBi LTE Band 4: 3dBi LTE Band 5: 3dBi LTE Band 12: 3dBi LTE Band 13: 3dBi LTE Band 14: 3dBi LTE Band 66: 3dBi LTE Band 71: 3dBi

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: 48V, 15Ah, 720Wh

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)
BLE(1MHz)	-0.89	0.81	0.06	1.01	0.000164	1.0
BLE(2MHz)	-0.89	0.81	0.02	1.00	0.000163	1.0

Band	Antenna Gain (dBi)	Antenna Gain (numeric)	Max. average Output Power (dBm)	average Output Power (mW)	Power Density (mW/cm ²)	Limit (mW/cm ²)
LTE B2	3.0	2.00	25.5	354.81	0.140823	1.0
LTE B4	3.0	2.00	24.5	281.84	0.111860	1.0
LTE B5	3.0	2.00	24.5	281.84	0.111860	0.55
LTE B12	3.0	2.00	25.0	316.23	0.125509	0.47
LTE B13	3.0	2.00	24.5	281.84	0.111860	0.52
LTE B14	3.0	2.00	24.5	281.84	0.111860	0.53
LTE B66	3.0	2.00	24.5	281.84	0.111860	1.0
LTE B71	3.0	2.00	25.0	316.23	0.125509	0.44

Simultaneous Transmission

Mode	Power Density (mW/cm ²)	Limit (mW/cm ²)
BLE+LTE	0.140987	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.

Conclusion:

RF Exposure is FCC compliant.

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