RF EXPOSURE REPORT

Report No.: DDT-B24022310-2E16

Applicant	**:**	Sublue Underwater AI Co., Ltd.
Address	**:**	No1, Quanzhou Road, Zhongguancun Science And Tech. Park, Binhai Tianjin China
Equipment under Test	**:**	Sublue Underwater Scooter
Model No.	**:**	Vapor Floater
Trade Mark	**:**	SUBLUE
FCC ID	**:**	2ASEE-AP8001-1
Manufacturer	**:**	Sublue Underwater AI Co., Ltd.
Address	**:**	No1, Quanzhou Road, Zhongguancun Science And Tech. Park, Binhai Tianjin China

Issued By: Tianjin Dongdian Testing Service Co., Ltd.

Address: Building D-1, No. 19, Weisi Road, Microelectronics Industrial Park Development Area, Tianjin, China.

Tel: +86-22-58038033, E-mail: ddt@dgddt.com, http://www.ddttest.com

REPORT

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TEST REPORT DECLARE

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Standard Used: KDB447498 D01 General RF Exposure Guidance v06

We Declare:
The equipment described above is assessed by Tianjin Dongdian Testing Service Co., Ltd and in the configuration assessed the equipment complied with the standards specified above. The assessed results are contained in this report and Tianjin Dongdian Testing Service Co., Ltd is assumed of full responsibility for the accuracy and completeness of these assess.

After evaluation, our opinion is that the equipment In Accordance with above standard.

Report No:	DDT-B24022310-2E16		
Date of Receipt:	Feb. 23, 2024	**Date of Test:**	Feb. 23, 2024 ~ Apr. 23, 2024

Prepared By: ***Approved By:***

_____ _____

Sunny Zhang/Engineer ***Aaron Zhang/Manager***

Note: This report applies to above tested sample only. This report shall not be reproduced in parts without written approval of Tianjin Dongdian Testing Service Co., Ltd.

The report must not be used by the client to claim product certification, approval, or endorsement by NVLAP, NIST, or any agency of the U.S. Government.

Revision History

Rev.	Revisions	Issue Date	Revised By
---	Initial issue	Apr. 23, 2024	

1. General information

1.1. Description of Equipment

EUT* Name	:	Sublue Underwater Scooter
Model Number	:	Vapor Floater
EUT function description	:	Please reference user manual of this device
Power Supply	:	DC 3.7V by Polymer Li-ion built-in battery
Radio Specification	:	IEEE 802.11b/g/n/
Operation frequency	:	IEEE 802.11b: 2412MHz-2462MHz IEEE 802.11g: 2412MHz-2462MHz IEEE 802.11n HT20: 2412MHz-2462MHz IEEE 802.11n HT40: 2422MHz-2452MHz
Modulation	:	IEEE 802.11b: DSSS (CCK, DQPSK, DBPSK) IEEE 802.11g: OFDM (64QAM, 16QAM, QPSK, BPSK) IEEE 802.11n: OFDM (64QAM, 16QAM, QPSK, BPSK)
Data rate	:	IEEE 802.11b: 1, 2, 5.5, 11 Mbps IEEE 802.11g: 6, 9, 12, 18, 24, 36, 48, 54 Mbps IEEE 802.11n: MCS0~MCS7
Antenna Type	:	FPC antenna, maximum PK gain: 1.25 dBi
Exposure category	:	General population/uncontrolled environment
Device Type	:	Mobile Device
Target power and tolerance	:	BLE -4±2dBm, 2.4G WIFI 20±2dBm

EUT* Name	:	Sublue Underwater Scooter
Model Number	:	Vapor Floater
EUT Function Description	:	Please reference user manual of this device
Power Supply	:	DC 3.7V by Polymer Li-ion built-in battery
Radio Specification	:	Bluetooth (LE)
Operation Frequency	:	2402 MHz - 2480 MHz
Modulation	:	GFSK
Data Rate	:	1 Mbps
Antenna Type	:	FPC antenna, maximum PK gain: 1.25 dBi

1.2. Assess laboratory

Tianjin Dongdian Testing Service Co., Ltd.
Address: Building D-1, No. 19, Weisi Road, Microelectronics Industrial Park Development Area, Tianjin, China.
Tel: +86-22-58038033, http://www.ddttest.com, Email: ddt@dgddt.com
NVLAP (National Voluntary Laboratory Accreditation Program) CODE: 500036-0
CNAS (China National Accreditation Service for Conformity Assessment) CODE: L13402
FCC Designation Number: CN5004; FCC Test Firm Registration Number: 368676
ISED (Innovation, Science and Economic Development Canada) Company Number: 27768
Conformity Assessment Body Identifier: CN0125
VCCI Facility Registration Number: C-20089, T-20093, R-20125, G-20122

2. RF Exposure Evaluation

2.1. Requirement

According to 447498 D01 General RF Exposure Guidance v06

The 1-g and 10-g SAR test exclusion thresholds for 100 MHz to 6 GHz are determined by:

a) For 100 MHz to 6 GHz and test separation distances ≤ 50 mm, the 1-g and 10-g SAR test exclusion thresholds are determined by the following:

[(max. power of channel, including tune-up tolerance, mW) / (min. test separation distance, mm)] · [√f(GHz)] ≤ 3.0 for 1-g SAR, and ≤ 7.5 for 10-g extremity SAR, where

f(GHz) is the RF channel transmit frequency in GHz

Power and distance are rounded to the nearest mW and mm before calculation31

The result is rounded to one decimal place for comparison

The values 3.0 and 7.5 are referred to as numeric thresholds in step b) below

b) For 100 MHz to 6 GHz and test separation distances > 50 mm, the 1-g and 10-g SAR test exclusion thresholds are determined by the following (also illustrated in Appendix B):

1) {[Power allowed at numeric threshold for 50 mm in step a)] + [(test separation distance – 50 mm)·(f(MHz)/150)]} mW, for 100 MHz to 1500 MHz

2) {[Power allowed at numeric threshold for 50 mm in step a)] + [(test separation distance – 50 mm)·10]} mW, for > 1500 MHz and ≤ 6 GHz

Appendix B

***SAR Test Exclusion Thresholds* for 100 MHz – 6 GHz and > 50 mm**

Approximate SAR test exclusion power thresholds at selected frequencies and test separation distances are illustrated in the following table. The equation and threshold in 4.3.1 must be applied to determine SAR test exclusion.

MHz	50	60	70	80	90	100	110	120	130	140	150	160	170	180	190	mm
100	474	481	487	494	501	507	514	521	527	534	541	547	554	561	567	
150	387	397	407	417	427	437	447	457	467	477	487	497	507	517	527	
300	274	294	314	334	354	374	394	414	434	454	474	494	514	534	554	
450	224	254	284	314	344	374	404	434	464	494	524	554	584	614	644	
835	164	220	275	331	387	442	498	554	609	665	721	776	832	888	943	
900	158	218	278	338	398	458	518	578	638	698	758	818	878	938	998	
1500	122	222	322	422	522	622	722	822	922	1022	1122	1222	1322	1422	1522	mW
1900	109	209	309	409	509	609	709	809	909	1009	1109	1209	1309	1409	1509	
2450	96	196	296	396	496	596	696	796	896	996	1096	1196	1296	1396	1496	
3600	79	179	279	379	479	579	679	779	879	979	1079	1179	1279	1379	1479	
5200	66	166	266	366	466	566	666	766	866	966	1066	1166	1266	1366	1466	
5400	65	165	265	365	465	565	665	765	865	965	1065	1165	1265	1365	1465	
5800	62	162	262	362	462	562	662	762	862	962	1062	1162	1262	1362	1462	

2.2. Estimation result

Worst Mode	Max. Tune Up power (dBm)	Output power (mW)	SAR Test Exclusion Thresholds (mW)
BLE	-2.00	0.631	1196
2.4G WiFi	22.00	158.489	1196

Note: The minimum distance between the handheld part and the antenna is 160mm when the user operates the device.

Conclusion: The measurement results comply with the FCC Limit per 47 CFR 2.1093 for the uncontrolled RF Exposure of portable devices.

END OF REPORT