



Test Report No.:
FCC2022-0042-H

TEST REPORT

FCC ID : 2AN5D-Y2076
Applicant : Shenzhen Yunding Information
Technology Co.,Ltd.
Product Name : Oclean Smart Sonic Electric Toothbrush
Mode No. : Y2076

CVC Testing Technology Co., Ltd.

Applicant		Name: Shenzhen Yunding Information Technology Co.,Ltd. Address: 28G,Building 3, Dachong Business Center(phase III), No.18 Dachong 1st Road, Dachong Community, Yuehai Street, Nanshan District, Shenzhen, Guangdong, China.	
Manufacturer		Name: Shenzhen Yunding Information Technology Co.,Ltd. Address: 28G,Building 3, Dachong Business Center(phase III), No.18 Dachong 1st Road, Dachong Community, Yuehai Street, Nanshan District, Shenzhen, Guangdong, China.	
Equipment Under Test		Product Name : Oclean Smart Sonic Electric Toothbrush Model No. : Y2076 Trade mark : Oclean Serial no. : — Sampling : 1-1	
Date of Receipt.	2022.07.23	Date of Testing	2022.08.15
Test Specification		Test Result	
FCC Part 2 (Section 2.1093) KDB 447498 D04 IEEE C95.1		PASS	
Evaluation of Test Result		The equipment under test was found to comply with the requirements of the standards applied. Seal of CVC Issue Date: 2022.09.23	
Tested by: <i>Xu Zhenfei</i> Xu Zhenfei		Reviewed by: <i>Liu Yonghai</i> Liu Yonghai	Approved by: <i>Chen Huawen</i> Chen Huawen
Other Aspects: NONE.			
Abbreviations:OK, Pass= passed Fail = failed N/A= not applicable EUT= equipment, sample(s) under tested			
This test report relates only to the EUT, and shall not be reproduced except in full, without written approval of CVC .			



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1. General Product Information

1.1 General information

Product Name	Oclean Smart Sonic Electric Toothbrush
Model No.	Y2076
Power Supply	DC 3.6V
Antenna Type	PCB antenna
Antenna Gain	Antenna 1: -0.49 dBi (provided by client)
Beamforming gain	Unsupported
Frequency Range	2402~2480MHz
Operate Temp.Range	+5°C to +40°C
Note: 1. The information of the EUT is declared by the manufacturer. 2. The laboratory is not responsible for the product technical specification provided by the client.	

2. Human Exposure Assessment

2.1 RF EXPOSURE DEFINE

SAR-based thresholds are derived based on frequency, power, and separation distance of the RF source. The formula defines the thresholds in general for either available maximum time-averaged power or maximum time-averaged ERP, whichever is greater.

If the ERP of a device is not easily determined, such as for a portable device with a small form factor, the applicant may use the available maximum time-averaged power exclusively if the device antenna or radiating structure does not exceed an electrical length of $\lambda/4$.

As for devices with antennas of length greater than $\lambda/4$ where the gain is not well defined, but always less than that of a half-wave dipole (length $\lambda/2$), the available maximum time-averaged power generated by the device may be used in place of the maximum time-averaged ERP, where that value is not known.

The separation distance is the smallest distance from any part of the antenna or radiating structure for all persons, during operation at the applicable ERP. In the case of mobile or portable devices, the separation distance is from the outer housing of the device where it is closest to the antenna.

The SAR-based exemption formula of § 1.1307(b)(3)(i)(B), repeated here as Formula (B.2), applies for single fixed, mobile, and portable RF sources with available maximum time-averaged power or effective radiated power (ERP), whichever is greater, of less than or equal to the threshold P_{th} (mW). This method shall only be used at separation distances from 0.5 cm to 40 cm and at frequencies from 0.3 GHz to 6 GHz (inclusive). P_{th} is given by Formula (B.2).

$$ERP_{20cm} \text{ (mW)} = \begin{cases} 2040f_{(\text{GHz})} & 0.3\text{GHz} \leq f \leq 1.5\text{GHz} \\ 3060 & 1.5\text{GHz} \leq f \leq 6\text{GHz} \end{cases} \quad (\text{B.1})$$

$$P_{th}(\text{mW}) = \begin{cases} ERP_{20cm} (d_{(\text{cm})}/20\text{cm})^x & d \leq 20\text{cm} \\ ERP_{20cm} & 20\text{cm} < d \leq 40\text{cm} \end{cases} \quad (\text{B.2})$$

Where

$$x = -\log_{10} \left(\frac{60}{ERP_{20cm} \sqrt{f_{(\text{GHz})}}} \right)$$

and f is in GHz, d is the separation distance (cm), and ERP_{20cm} is per Formula (B.1).

2.2 CLASSIFICATION

The antenna of this product, under normal use condition, is at less than 20cm away from the body of the user. So, this device is classified as Portable Device.

3. RF Output Power

The tuned conducted Average Power (declared by client)

Mode	Frequency (MHz)	Target Power (dBm)	Tolerance (dBm)	Lower Tolerance (dBm)	Upper Tolerance (dBm)
BLE_1M	2402-2480MHz	-1.00	+/-2	-3.00	1.00
BLE_2M	2402-2480MHz	-1.00	+/-2	-3.00	1.00

The conducted power turn-up tolerance reference manufacturer specification.

Test Mode	Antenna	Center Frequency [MHz]	Result [dBm]	Limit [dBm]	Verdict
BLE_1M	Ant1	2402	-0.75	<=30	PASS
		2441	-1.00	<=30	PASS
		2480	-1.46	<=30	PASS
BLE_2M	Ant1	2402	-1.93	<=30	PASS
		2441	-2.27	<=30	PASS
		2480	-2.61	<=30	PASS

Note: The relevant measured result has the offset with cable loss already.



4. Test Results

Frequency (MHz)	Maximum source-based time averaged conducted output power (dBm)	Maximum source-based time averaged conducted output power (mW)	Minimum separation distance (mm)	Limit for SAR-based Exemption (mW)	Verdict
2402-2480	1.00	1.26	5	2.76	Exempt from SAR

Therefore this device complies with FCC’s RF radiation exposure limits for general population without SAR evaluation.

