

RF Exposure Evaluation Report

Product : wireless headphone
Trade mark : Bomaker
Model/Type reference : Dolphin I , Dolphin II , Dolphin III
Serial Number : N/A
Report Number : EED32L00383402
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Date of Issue : Feb. 17, 2020
Test Standards : 47 CFR Part 1.1307
47 CFR Part 2.1093
KDB447498D01 General RF Exposure Guidance v06
Test result : PASS

Prepared for:

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2 Version

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4 General Information

4.1 Client Information

Applicant:	GuangDong Substanbo Technology Co., Ltd.
Address of Applicant:	8F, Building D, Bantian International Center, Longgang District, Shenzhen, China
Manufacturer:	GuangDong Substanbo Technology Co., Ltd.
Address of Manufacturer:	8F, Building D, Bantian International Center, Longgang District, Shenzhen, China
Factory:	Shenzhen Vtsonic Co., LTD.
Address of Factory:	No.35, 2nd Industry Zone, Tangxiayong, Songgang Street, Bao'an District, Shenzhen, Guangdong Province, P.R.China.

4.2 General Description of EUT

Product Name:	wireless headphone
Model No.(EUT):	Dolphin I , Dolphin II , Dolphin III
Test Model No.:	Dolphin I
Trade Mark:	Bomaker
EUT Supports Radios application:	BT 4.2 Single mode, 2402MHz to 2480MHz

4.3 Product Specification subjective to this standard

Frequency Range:	2402MHz~2480MHz	
Modulation Type:	GFSK, $\pi/4$ DQPSK, 8DPSK	
Test Power Grade:	DH5:50; 2DH5:50; 3DH5:50	
Test Software of EUT:	Bluetest3	
Antenna Type:	FPC Antenna	
Antenna Gain:	1dBi	
Power Supply:	Battery	DC 3.7V/300mAh,Charge DC 5V
Max Conducted Peak Output Power:	3.833dBm	
	The Max Conducted Peak Output Power data refer to the report EED32L00383401	
Sample Received Date:	Jun. 26, 2019	
Sample tested Date:	Jun. 26, 2019 to Aug. 16, 2019	
The tested sample(s) and the sample information are provided by the client.		
Model No.: Dolphin I , Dolphin II , Dolphin III		
Only the model Dolphin I was tested, since the electrical circuit design, layout, components used and internal wiring were identical for the above models, with difference model name.		

4.4 Test Location

All tests were performed at:

Centre Testing International Group Co., Ltd

Building C, Hongwei Industrial Park Block 70, Bao'an District, Shenzhen, China

Telephone: +86 (0) 755 33683668 Fax: +86 (0) 755 33683385

No tests were sub-contracted.

FCC Designation No.: CN1164

4.5 Deviation from Standards

None.

4.6 Abnormalities from Standard Conditions

None.

4.7 Other Information Requested by the Customer

None.

5 SAR Evaluation

5.1 RF Exposure Compliance Requirement

5.1.1 Standard Requirement

According to KDB447498D01 General RF Exposure Guidance v06
Standalone SAR test exclusion considerations

Unless specifically required by the published RF exposure KDB procedures, standalone 1-g head or body and 10-g extremity SAR evaluation for general population exposure conditions, by measurement or numerical simulation, is not required when the corresponding SAR Exclusion Threshold condition, listed below, is satisfied.

5.1.2 Limits

The 1-g and 10-g SAR test exclusion thresholds for 100 MHz to 6 GHz at test separation distances ≤ 50 mm are determined by:

$[(\text{max. power of channel, including tune-up tolerance, mW})/(\text{min. test separation distance, mm})] \cdot$

$[\sqrt{f(\text{GHz})}] \leq 3.0$ for 1-g SAR and ≤ 7.5 for 10-g extremity SAR, where

$f(\text{GHz})$ is the RF channel transmit frequency in GHz

Power and distance are rounded to the nearest mW and mm before calculation¹⁷

The result is rounded to one decimal place for comparison

The test exclusions are applicable only when the minimum test separation distance is ≤ 50 mm and for transmission frequencies between 100 MHz and 6 GHz. When the minimum test separation distance is < 5 mm, a distance of 5 mm is applied to determine SAR test exclusion

5.1.3 EUT RF Exposure

The tune-up power is 2 dBm +/- 2dB, therefore the highest tune-up power is
4.0 dBm (2.51 mW) @ 2441 MHz

When the minimum test separation distance is < 5 mm, a distance of 5 mm according to 5) in section 4.1 is applied to determine SAR test exclusion.

So,

$$(2.51\text{mW} / 5\text{mm}) * (2.441\text{GHz}^{0.5}) = 0.8$$

$$[(\text{max. power of channel, including tune-up tolerance, mW}) / (\text{min. test separation distance, mm})] * [\sqrt{f(\text{GHz})}] = 0.8 < 3.0$$

Therefore, standalone SAR measurements are not required for both head and body

PHOTOGRAPHS OF EUT Constructional Details

Refer to Report No. EED32L00383401 for EUT external and internal photos.

*** End of Report ***

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