

# Philips Oral Healthcare LLC

## RF Exposure Exhibit

### SCOPE OF WORK

EMC TESTING – Rechargeable Electric Toothbrush Handle, Model: HX999C

### REPORT NUMBER

104498238MPK-015

### ISSUE DATE

March 11, 2021

### REVISED DATE

N/A

### PAGES

8

### DOCUMENT CONTROL NUMBER

Non-Specific Radio Report Shell Rev. December 2017 MPK  
© 2017 INTERTEK



**RF Exposure Exhibit  
(Portable devices)**

**Report Number: 104498238MPK-015**

**Project Number: G104498238**

**Report Issue Date: March 11, 2021**

**Product Designation: Rechargeable Electric Toothbrush Handle**

**Model Tested: HX999C**

**FCC ID: 2ADZNHX999**

**IC: 20109-HX999**

**to**

**47CFR 2.1093**

**RSS-102 Issue 5**

**for**

**Philips Oral Healthcare LLC**

**Tested by:**

Intertek  
1365 Adams Court  
Menlo Park, CA 94025 USA

**Client:**

Philips Oral Healthcare LLC  
22100 Bothell Everett Highway  
Bothell, WA 98021 USA

**Report prepared by:**



**Aaron Chang / Project Engineer**

**Report reviewed by:**



**Krishna Vemuri / EMC Manager**

*This report is for the exclusive use of Intertek's Client and is provided pursuant to the agreement between Intertek and its Client. Intertek's responsibility and liability are limited to the terms and conditions of the agreement. Intertek assumes no liability to any party, other than to the Client in accordance with the agreement, for any loss, expense or damage occasioned by the use of this report. Only the Client is authorized to permit copying or distribution of this report and then only in its entirety. Any use of the Intertek name or one of its marks for the sale or advertisement of the tested material, product or service must first be approved in writing by Intertek. The observations and test results in this report are relevant only to the sample tested. This report by itself does not imply that the material, product, or service is or has ever been under an Intertek certification program.*

Report No. 104498238MPK-015	
<b>Equipment Under Test:</b>	Rechargeable Electric Toothbrush Handle
<b>Trade Name:</b>	Philips Oral Healthcare LLC
<b>Model(s) Tested:</b>	HX999C
<b>Applicant:</b>	Philips Oral Healthcare LLC
<b>Contact:</b>	Cathy Burton
<b>Address:</b>	Philips Oral Healthcare LLC. 22100 Bothell Everett Highway Bothell, WA 98021 USA
<b>Country:</b>	USA
<b>Tel. Number:</b>	(425) 487-7000
<b>Email:</b>	cathy.burton@philips.com
<b>Applicable Regulation:</b>	47CFR 2.1093 RSS-102 Issue 5

## TABLE OF CONTENTS

<b>1.0</b>	<b><i>RF Exposure Summary.....</i></b>	<b>5</b>
<b>2.0</b>	<b><i>RF Exposure Limits .....</i></b>	<b>5</b>
<b>3.0</b>	<b><i>Test Results (Portable Configuration) .....</i></b>	<b>6</b>
<b>4.0</b>	<b><i>Document History .....</i></b>	<b>8</b>

## 1.0 RF Exposure Summary

Test	Reference FCC	Reference Industry Canada	Result
Radio frequency Radiation Exposure Evaluation	47 CFR§2.1093	RSS-102 Issue 5	Complies

## 2.0 RF Exposure Limits

### 2.1 FCC Limits

According to FCC KDB 447498 D01 v06 Appendix A, at frequency 2450 MHz and separation distance of  $\leq 5$  mm SAR Exemption limit is  $\leq 10$  mW.

Note: 10-g Extremity SAR Test Exclusion Power Thresholds are 2.5 times higher than the 1-g SAR Test Exclusion Thresholds indicated above.

### 2.2 Industry Canada Limits

According to RSS-102 sec. 2.5.1 table 1, at frequency 2450 MHz and separation distance of  $\leq 5$  mm SAR Exemption limit is  $\leq 4$  mW.

Note: For limb-worn devices where the 10 gram value applies, the exemption limits for routine evaluation in Table 1 of RSS-102 are multiplied by a factor of 2.5.

### 3.0 Test Results (Portable Configuration)

#### 3.1 Classification

For purposes of this section, a portable device is defined as a transmitting device designed to be used so that the radiating structure(s) of the device is/are within 20 centimeters of the body of the user. Per the applicant, the Rechargeable Electric Toothbrush Handle is intended to be worn at the knees.

#### 3.2 EIRP calculations

The Rechargeable Electric Toothbrush Handle consists of Bluetooth Low Energy radio.

#### 3.3 Maximum RF Power

Frequency Range (MHz)	RF Output (dBm)	Antenna Gain <sup>1</sup> (dBi)	Note
2402-2480	0.60	-5.0	Conducted power measurements were taken from Report # 104498238MPK-001.

<sup>1</sup>As declared by the manufacturer.

### 3.4 RF Exposure Calculation for Rechargeable Electric Toothbrush Handle

#### 3.4.1 RF Exposure calculation for FCC KDB 447498 D01 v06

According to FCC KDB 447498 D01 v06 Appendix A, at frequency 2450 MHz and separation distance of  $\leq 5$  mm SAR Exemption limit is  $\leq 10$  mW.

Max Peak Conducted Power measured = 0.60 dBm or 1.148 mW

No duty cycle was considered.

Therefore, the Maximum EIRP calculated is 0.60 dBm (RF Conducted Power) + 0 dBi (Antenna Gain) = 0.60 dBm or 1.148 mW.

***Results: SAR evaluation is not required since the higher of the maximum conducted or equivalent isotopically radiated power (EIRP) source-based, time averaged output power is below the exemption limit.***

Note: Antenna gains below 0 are considered as 0dBi.

#### 3.4.2 RF Exposure calculation for RSS-102 Issue 5

According to RSS-102 sec. 2.5.1, at frequency 2450 MHz and separation distance of  $\leq 5$  mm SAR Exemption limit is  $\leq 4$  mW.

Max Peak Conducted Power measured = 0.60 dBm or 1.148 mW

No duty cycle was considered.

Therefore, the Maximum EIRP calculated is 0.60 dBm (RF Conducted Power) + 0 dBi (Antenna Gain) = 0.60 dBm or 1.148 mW.

***Results: SAR evaluation is not required since the higher of the maximum conducted or equivalent isotopically radiated power (EIRP) source-based, time averaged output power is below the exemption limit.***

Note: Antenna gains below 0 are considered as 0dBi.

#### 4.0 Document History

Revision/ Job Number	Writer Initials	Reviewers Initials	Date	Change
1.0/ G104498238	AC	KV	March 11, 2021	Original document