

RF Exposure Evaluation Report

Product : Fingertip pulse oximeter
Trade mark : N/A
Model/Type reference : XM-101
Serial Number : N/A
Report Number : EED32M00333502
FCC ID : 2AQVU0009
Date of Issue : Dec. 03, 2020
Test Standards : 47 CFR Part 1.1307
47 CFR Part 1.1310
KDB447498D01 General RF Exposure
Guidance v06
Test result : PASS

Prepared for:

Microlife Corporation
9F, 431, RuiGuang Road, NeiHu Taipei 11492, Taiwan

Prepared by:

Centre Testing International Group Co., Ltd.
Hongwei Industrial Zone, Bao'an 70 District,
Shenzhen, Guangdong, China

TEL: +86-755-3368 3668

FAX: +86-755-3368 3385

Compiled by:

bill Lu

bill Lu

Reviewed by:

Tom Chen

Tom Chen

Approved by:

Aaron Ma

Aaron Ma

Date:

Dec. 03, 2020



Check No.: 4538066215

2 Version

Version No.	Date	Description
00	Dec. 03, 2020	Original

3 Contents

Page

1 COVER PAGE.....	1
2 VERSION.....	2
3 CONTENTS.....	3
4 GENERAL INFORMATION.....	4
4.1 CLIENT INFORMATION.....	4
4.2 GENERAL DESCRIPTION OF EUT.....	4
4.3 PRODUCT SPECIFICATION SUBJECTIVE TO THIS STANDARD.....	4
4.4 TEST LOCATION.....	5
4.5 DEVIATION FROM STANDARDS.....	5
4.6 ABNORMALITIES FROM STANDARD CONDITIONS.....	5
4.7 OTHER INFORMATION REQUESTED BY THE CUSTOMER.....	5
5 SAR EVALUATION.....	6
5.1 RF EXPOSURE COMPLIANCE REQUIREMENT.....	6
5.1.1 Standard Requirement.....	6
5.1.2 EUT RF Exposure.....	7
PHOTOGRAPHS OF EUT CONSTRUCTIONAL DETAILS.....	8

4 General Information

4.1 Client Information

Applicant:	JOYTECH HEALTHCARE CO., LTD.
Address of Applicant:	No.365, Wuzhou Road, Yuhang Economic Development Zone, Hangzhou city, 311100 Zhejiang,China
Manufacturer:	JOYTECH HEALTHCARE CO., LTD.
Address of Manufacturer:	No.365, Wuzhou Road, Yuhang Economic Development Zone, Hangzhou city, 311100 Zhejiang,China
Factory:	JOYTECH HEALTHCARE CO., LTD.
Address of Factory:	No.365, Wuzhou Road, Yuhang Economic Development Zone, Hangzhou city, 311100 Zhejiang,China

4.2 General Description of EUT

Product Name:	Fingertip pulse oximeter
Model No.(EUT):	XM-101
Trade Mark:	N/A
EUT Supports Radios application:	5.0(BLE)

4.3 Product Specification subjective to this standard

Frequency Range:	2402MHz~2480MHz
Modulation Type:	GFSK
Test Power Grade:	10
Test Software of EUT:	PhyPlusKit
Antenna Type:	integral Antenna
Antenna Gain:	0.5dBi
Power Supply:	DC 3.0V
Max Conducted Peak Output Power:	BT4.0: -3.959dBm The Max Conducted Peak Output Power data refer to the report EED32M00333501
Sample Received Date:	Nov. 16, 2020
Sample tested Date:	Nov. 16, 2020 to Dec. 02, 2020
Company Name and Address shown on Report, the sample(s) and sample Information was/ were provided by the applicant who should be responsible for the authenticity which CTI hasn't verified.	

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.

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:

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

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

$f(\text{GHz})$ 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

5.1.2 EUT RF Exposure

The tune-up power is -4.0 dBm +/- 0.5dB, therefore the highest tune-up power is

-3.5dBm (0.45mW) @2440 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,

$$(0.45\text{mW} / 5\text{mm}) * (2.440\text{GHz}^{0.5}) = 0.14$$

$$[(\text{max. power of channel, including tune-up tolerance, mW}) / (\text{min. test separation distance, mm})] * [\sqrt{f(\text{GHz})}] = 0.14 < 3.0$$

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

PHOTOGRAPHS OF EUT Constructional Details

Refer to Report No. EED32M00333501 for EUT external and internal photos.

The test report is effective only with both signature and specialized stamp, The result(s) shown in this report refer only to the sample(s) tested. Without written approval of CTI, this report can't be reproduced except in full.

*** End of Report ***