TEST REPORT

of

FCC MPE REQUIREMENT

Product :	**Infant Oximeter Box**
Brand Name:	**AULISA**
Model:	**GA-OB0004**
Model Difference:	**N/A**
Applicant:	**Taiwan Aulisa Medical Devices Technologies, Inc**
Address:	**10F., No.3-2, YuanQu St., Nangang Dist., Taipei City, Taiwan 115**

Test Performed by:

International Standards Laboratory Corp. LT Lab.
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Report No.: **ISL-22LR0023FMPE**
Issue Date :**2022/03/22**

Testing Laboratory
0997

VERIFICATION OF COMPLIANCE

Applicant:	Taiwan Aulisa Medical Devices Technologies, Inc
Product Description:	Infant Oximeter Box
Brand Name:	AULISA
Model No.:	GA-OB0004
Model Difference:	N/A
Date of test:	2022/01/20 ~ 2022/03/18
Date of EUT Received:	2022/01/20

We hereby certify that:

All the tests in this report have been performed and recorded in accordance with the standards described above and performed by an independent electromagnetic compatibility consultant, International Standards Laboratory Corp.

The test results contained in this report accurately represent the measurements of the characteristics and the energy generated by sample equipment under test at the time of the test. The sample equipment tested as described in this report is in compliance with the limits of above standards.

Test By:	Kevin Yao	***Date:***	2022/03/22
	Kevin Yao / Senior Engineer		
Prepared By:	Gigi yeh	***Date:***	2022/03/22
	Gigi Yeh / Senior Engineer		
Approved By:	Jerry Liu	***Date:***	2022/03/22
	Jerry Liu / Technical Manager		

Table of Contents

1. Description of Equipment under Test (EUT)

General:

General Information		
Product Name:	Infant Oximeter Box	
Brand Name:	AULISA	
Model Name:	GA-OB0004	
Model Difference:	N/A	
Power Supply:	5Vdc from AC/DC adapter or 3.7V Li-ion Battery	
	Adapter:	Model: SINGOF-10U-050200; Supplier: FORTRON/SOURCE
	Battery:	Model: IP501518P; Supplier: RPC CORPORATION
Bluetooth Information		
BT Modular:	CC2652	
Bluetooth Version:	V4.0	
Frequency Range:	2402 ~ 2480MHz	
Max Output Power:	2402 ~ 2480MHz: -0.51dBm	
Channel number:	40 channels	
Modulation type:	GFSK	
BT Driver version:	N/A	
Test Software	SmartRF Studio 7	
RFpower setting:	5	
Antenna Designation:	Chip Antenna /2.5 dBi	

2. Maximum Permissible Exposure (MPE)

2.1 Standard Applicable

For The radiation source included into the device the output power is taken from a corresponding RF test report. If needed the output power is converted to source based, time – average out power. Finally the output power is compared to FCC and IC low power SAR evaluation exemption level.

According to §2.1093 this is a Portable device.

FCC SAR test exclusion:

According to KDB 447498 D01 General RF Exposure Guidance v05r02, Appendix A requirement, "The equation and threshold in section 4.3.1 must be applied to determine SAR test exclusion."

4.3.1. 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 Test Exclusion Threshold condition, listed below, is satisfied. These test exclusion conditions are based on source-based time-averaged maximum conducted output power of the RF channel requiring evaluation, adjusted for tune-up tolerance, and the minimum test separation distance required for the exposure conditions.23 The minimum test separation distance is determined by the smallest distance from the antenna and radiating structures or outer surface of the device, according to the host form factor, exposure conditions and platform requirements, to any part of the body or extremity of a user or bystander (see 5) of section 4.1). To qualify for SAR test exclusion, the test separation distances applied must be fully explained and justified by the operating configurations and exposure conditions of the transmitter and applicable host platform requirements, typically in the SAR measurement or SAR analysis report, according to the required published RF exposure KDB procedures. When no other RF exposure testing or reporting is required, a statement of justification and compliance must be included in the equipment approval, in lieu of the SAR report, to qualify for the SAR test exclusion. When required, the device specific conditions described in the other published RF exposure KDB procedures must be satisfied before applying these SAR test exclusion provisions; for example, handheld PTT two-way radios, handsets, laptops & tablets etc.24

1) 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:

[(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,25 where

• f(GHz) is the RF channel transmit frequency in GHz
• Power and distance are rounded to the nearest mW and mm before calculation26
• The result is rounded to one decimal place for comparison
• 3.0 and 7.5 are referred to as the numeric thresholds in the step 2 below

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 according to 5) in section 4.1 is applied to determine SAR test exclusion.

RSS 102 Issue 5 Mar. 2015

2.5.1 Exemption Limits for Routine Evaluation – SAR Evaluation

SAR evaluation is required if the separation distance between the user and/or bystander and the antenna and/or radiating element of the device is less than or equal to 20 cm, except when the device operates at or below the applicable output power level (adjusted for tune-up tolerance) for the specified separation distance defined in Table 1.

Table 1: SAR evaluation – Exemption limits for routine evaluation based on frequency and separation distance[4,5]

Frequency (MHz)	Exemption Limits (mW)				
	At separation distance of ≤5 mm	At separation distance of 10 mm	At separation distance of 15 mm	At separation distance of 20 mm	At separation distance of 25 mm
≤300	71 mW	101 mW	132 mW	162 mW	193 mW
450	52 mW	70 mW	88 mW	106 mW	123 mW
835	17 mW	30 mW	42 mW	55 mW	67 mW
1900	7 mW	10 mW	18 mW	34 mW	60 mW
2450	4 mW	7 mW	15 mW	30 mW	52 mW
3500	2 mW	6 mW	16 mW	32 mW	55 mW
5800	1 mW	6 mW	15 mW	27 mW	41 mW

Frequency (MHz)	Exemption Limits (mW)				
	At separation distance of 30 mm	At separation distance of 35 mm	At separation distance of 40 mm	At separation distance of 45 mm	At separation distance of ≥50 mm
≤300	223 mW	254 mW	284 mW	315 mW	345 mW
450	141 mW	159 mW	177 mW	195 mW	213 mW
835	80 mW	92 mW	105 mW	117 mW	130 mW
1900	99 mW	153 mW	225 mW	316 mW	431 mW
2450	83 mW	123 mW	173 mW	235 mW	309 mW
3500	86 mW	124 mW	170 mW	225 mW	290 mW
5800	56 mW	71 mW	85 mW	97 mW	106 mW

3. Evaluation Result:

BLE Mode:

Frequency (MHz)	Max power (dBm)	Antenna Gain(dBi)	EIRP Power (dBm)	tune-up tolerance (dB)	Max power (mW)	Min Distance (mm)	Result	Limit (3.0 @ 1g SAR)
2402	-0.51	2.50	1.99	2	2.507841	5.00	0.777	3.0
2442	-1.05	2.50	1.45	2	2.212076	5.00	0.691	3.0
2480	-1.25	2.50	1.25	2	2.111543	5.00	0.665	3.0

Max Power(mW) =10^((Max Power(dBm) + Tune-up tolerance(dB))/10)
Result = Max Power (mW) / min. distance(mm) * √f(GHz)

~ End ~