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Report No.: 2408TWT501-U4
Report Version: 1.0
Issue Date: 2024-09-10

RF Exposure Evaluation Declaration

FCC ID: 2A58O-MBE002
APPLICANT: NTT Sonority, Inc.
Application Type: Certification
Product: Open-ear TWS
Model No.: MBE002
Trademark: *nwr*
FCC Rule Part(s): Part 2.1093 (Portable)
Test Procedure(s): KDB 447498 D01v06
Received Date: July 30, 2024

Reviewed By :

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Testing Laboratory
3261

The test results relate only to the samples tested.

This equipment has been shown to be capable of compliance with the applicable technical standards as indicated in the measurement report. Test results reported herein relate only to the item(s) tested.

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Revision History

Report No.	Version	Description	Issue Date	Note
2408TWT501-U4	1.0	Original Report	2024-09-10	

1. PRODUCT INFORMATION

1.1. Equipment Description

Product Name	Open-ear TWS
Model No.	MBE002
Supports Radios Spec.	WPAN: Bluetooth Dual Mode
Operating Frequency	2402~2480MHz

1.2. Antenna Description

No.	Manufacturer	Part No.	Antenna Type	Peak Gain
1	TYMPHANY	Cactus DVT Antenna	PCB	-4.47dBi

2. MAXIMUM PERMISSIBLE EXPOSURE (MPE)

2.1. FCC Limits

According to FCC KDB 447498 Section 4.3 - General SAR test exclusion guidance

For 100 MHz to 6 GHz and test separation distances ≤ 50 mm, the 1-g and 10-g SAR test exclusion thresholds are determined by the following:

$$[(\text{max. power of channel, including tune-up tolerance, mW}) / (\text{min. test separation distance, mm})] \cdot [\sqrt{f(\text{GHz})}] \leq 3.0 \text{ for 1-g SAR, and } \leq 7.5 \text{ for 10-g extremity SAR,}$$

where

1. $f(\text{GHz})$ is the RF channel transmit frequency in GHz
2. Power and distance are rounded to the nearest mW and mm before calculation
3. The result is rounded to one decimal place for comparison
4. The values 3.0 and 7.5 are referred to as numeric thresholds in step b) 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 4.1 f) is applied to determine SAR test exclusion.

2.2. IC Limits

Output power level shall be the higher of the maximum conducted or equivalent isotropically radiated power (e.i.r.p.) source-based, time-averaged output power. For controlled use devices where the 8 W/kg for 1 gram of tissue applies, the exemption limits for routine evaluation in Table 1 are multiplied by a factor of 5. For limb-worn devices where the 10 gram value applies, the exemption limits for routine evaluation in Table 1 are multiplied by a factor of 2.5. If the operating frequency of the device is between two frequencies located in Table 1, linear interpolation shall be applied for the applicable separation distance. For test separation distance less than 5 mm, the exemption limits for a separation distance of 5 mm can be applied to determine if a routine evaluation is required.

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	45 mW	116 mW	139 mW	163 mW	189 mW
450	32 mW	71 mW	87 mW	104 mW	124 mW
835	21 mW	32 mW	41 mW	54 mW	72 mW
1900	6 mW	10 mW	18 mW	33 mW	57 mW
2450	3 mW	7 mW	16 mW	32 mW	56 mW
3500	2 mW	6 mW	15 mW	29 mW	50 mW
5800	1 mW	5 mW	13 mW	23 mW	32 mW
Frequency (MHz)	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	216 mW	246 mW	280 mW	319 mW	362 mW
450	147 mW	175 mW	208 mW	248 mW	296 mW
835	96 mW	129 mW	172 mW	228 mW	298 mW
1900	92 mW	138 mW	194 mW	257 mW	323 mW
2450	89 mW	128 mW	170 mW	209 mW	245 mW
3500	72 mW	94 mW	114 mW	134 mW	158 mW
5800	41 mW	54 mW	74 mW	102 mW	128 mW

Table 1: SAR evaluation – Exemption limits for routine evaluation based on frequency and separation distance.

2.3. Test Result

Mode	Frequency Band (MHz)	Average Output Power (dBm)	Output Power (mW)	FCC SAR Test Exclusion Threshold (mW)
BT / BLE	2402~2480	4.56	2.86	3

So, this device can complies the SAR test exclusion.

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