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C.I.F. A29 507 456

Test report No:
NIE: 69704RAN.002

Assessment report
RF EXPOSURE REPORT ACCORDING TO
FCC 47 CFR Part 2.1093

(*) Identification of item under evaluation	Rechargeable wireless hearing instrument
(*) Trademark	ReSound, Beltone
(*) Model and /or type reference	CABR80
(*) Other identification of the product	HW version: PCBA,CABR80,V1.A,C6.0 SW version: Dooku2 FCC ID: X26CABR80 IC: 6941C- CABR80
(*) Features	Audio amplification, proprietary 2.4 GHz wireless functionality (Proximity), Bluetooth 5.0 and 10.667 MHz wireless magnetic induction functionality. Wireless rechargeability at 333 kHz.
(*) Manufacturer	GN HEARING A/S Lautrupbjerg 7, 2750 Ballerup Denmark
Test method requested, standard	FCC 47 CFR Part 2.1093. Radiofrequency radiation exposure evaluation: portable devices
Summary	IN COMPLIANCE
Approved by (name / position & signature)	Miguel Lacave Antennas Lab Manager  2021.12.20 13:20:29 +01'00'
Date of issue	2021-12-20
Report template No	FAN24_02 (*) "Data provided by the client"

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Data provided by the client

The following data has been provided by the client:

1. Information relating to the description of the sample ("Identification of the item tested", "Trademark", "Model and/or type reference tested", “General description of the device”).
2. Maximum output power, maximum antenna gain and use distance information.

DEKRA Testing and Certification S.A.U. declines any responsibility with respect to the information provided by the client and that may affect the validity of results.

Identification of the client

GN HEARING A/S

Lautrupbjerg 7, 2750 Ballerup, Denmark

Document history

Report number	Date	Description
69704RAN.002	2021-12-20	First release

Appendix A: FCC RF Exposure assessment result

General description of the device under evaluation

The device under evaluation consists of a rechargeable wireless hearing instrument.

According to the manufacturer, during its normal use, the separation distance between the radiating structures of the device and nearby users will be 0 cm.

The equipment specifications for each supported technology are shown in Table 1. Values corresponding to Proximity and Bluetooth Radios have been measured and stated into DEKRA Testing and Certification, S.A.U. test report num. 69074RRF.003.

Values corresponding to Mi Radio technology have been declared by the manufacturer into page 87 of the "CABR80 Operational_description" document.

Technology / Mode	Band	Frequency (MHz)	Max.Peak Conducted power (dBm)	Duty Cycle (%)	Time-Averaged Conducted Power (dBm)	Time- Averaged Conducted Power (mW)	Antenna peak gain (dBi)
Proprietary Proximity	2.4 GHz	2402-2480	3.20	6.24	-8.85	0.13	-2.50
BTLE 5.0 (1 Mbit)	2.4 GHz	2400-2483.5	3.00	13.53	-5.69	0.27	-2.50
BTLE 5.0 (2 Mbit)	2.4 GHz	2400-2483.5	3.10	7.44	-8.18	0.15	-2.50
Mi Radio	LF	10.667	-6.00	50.00	-9.01	0.13	N/A

Table 1: Equipment specifications

Assessment summary

The assessment summary according to the radiofrequency radiation exposure limits defined in FCC 47 CFR § 2.1093 is the following:

Technology / Mode	Band	Frequency (MHz)	Verdict
Proprietary Proximity	2.4 GHz	2402 - 2480	**Pass**
BTLE 5.0 (1 Mbit)	2.4 GHz	2400 - 2483.5	**Pass**
BTLE 5.0 (2 Mbit)	2.4 GHz	2400 - 2483.5	**Pass**
Mi Radio	LF	10.667	**Pass**
Simultaneous Proprietary Proximity 2.4 GHz + Mi Radio LF	-	-	**Pass**
Simultaneous BTLE 5.0 (1 Mbit) 2.4 GHz + Mi Radio LF	-	-	**Pass**
Simultaneous BTLE 5.0 (2 Mbit) 2.4 GHz + Mi Radio LF	-	-	**Pass**

Table 2: Assessment summary

Evaluation Results

The evaluation according to the minimum intended use distance of 0 mm according to KDB 447498 D01 General RF Exposure Guidance DR04-44307, section 2.1.2, will be as follow:

Technology / Mode	Band	Frequency (MHz)	Time Averaged Conducted Power (mW)	RF Exposure Test Exemption limit (mW)	Verdict
Proprietary Proximity	2.4 GHz	2402-2480	0.13	1.0	Pass
BTLE 5.0 (1 Mbit)	2.4 GHz	2402-2480	0.27	1.0	Pass
BTLE 5.0 (2 Mbit)	2.4 GHz	2402-2480	0.15	1.0	Pass
Mi Radio	LF	10.667	0.13	1.0	Pass

Table 3: FCC Evaluation Result for Bluetooth.

The computed value(s) are below the limit(s), so according to KDB 447498 D01 General RF Exposure Guidance DR04-44307, these modes qualify for 1-mW Test Exemption.

Simultaneous transmission assessment:
The device under evaluation is able to transmit simultaneously using several transmitters, therefore the most conservative approach for the evaluation of the simultaneous transmission will be:

Simultaneous technologies and modes	Result (mW)	RF Exposure Test Exemption limit (mW)	Verdict
Proprietary Proximity 2.4 GHz + Mi Radio LF	0.26	1.0	**Pass**
BTLE 5.0 (1 Mbit) 2.4 GHz + Mi Radio LF	0.40	1.0	**Pass**
BTLE 5.0 (2 Mbit) 2.4 GHz + Mi Radio LF	0.28	1.0	**Pass**

Table 2: Simultaneous Result

Appendix B: FCC RF Exposure information

FCC SAR test exclusion considerations for portable devices

Blanket 1 mW Blanket Exemption

The 1 mW Blanket Exemption of §1.1307(b)(3)(i)(A) applies for single fixed, mobile, and portable RF sources with available maximum time-averaged power of no more than 1 mW, regardless of separation distance.

The 1-mW blanket exemption applies at separation distances less than 0.5 cm, including where there is no separation. This exemption shall not be used in conjunction with other exemption criteria other than those for multiple RF sources in paragraph §1.1307(b)(3)(ii)(A).

The 1-mW exemption is independent of service type and covers the full range of 100 kHz to 100 GHz, but it shall not be used in conjunction with other exemption criteria or in devices with higher-power transmitters operating in the same time-averaging period. Exposure from such higher-power transmitters would invalidate the underlying assumption that exposure from the lower-power transmitter is the only contributor to SAR in the relevant volume of tissue.

Simultaneous transmission assessment:

When multiple sources are introduced into an environment, it becomes necessary to address the sources interdependently, since each source will contribute some percentage of the maximum exposure towards the total exposure at a fixed location. The sum of the ratios of the exposure from each source to the corresponding maximum exposure for the frequency of each source must be evaluated.

The exposure complies with the maximum permissible exposure if the sum of the ratios is less than unity:

$$\sum_{i=1}^{n} \frac{S_i}{P\max_i} < 1$$

Where
S_i is the calculated SAR tests exclusion value of each source.
$Pmax_i$ is the SAR test exclusion threshold.

1-mW Test Exemption for Multiple Sources

As discussed in § 1.1307(b)(3)(ii)(A), the 1-mW exemption intended for single transmitters may be also applied to simultaneous transmission conditions, within the same host device, according one of the following criteria:

a) When maximum available power each individual transmitting antenna within the same time averaging period is ≤ 1 mW, and the nearest parts of the antenna structures of the simultaneously operating transmitters are separated by at least 2 cm.
b) When the aggregate maximum available power of all transmitting antennas is ≤ 1 mW in the same time averaging period.

This exemption may not be combined with any other exemption.