REPORT No.：XM19050004W02

RF EXPOSURE EVALUATION REPORT

APPLICANT	:	Xiamen Retone Hearing Technology Co.,Ltd
PRODUCT NAME	:	Hearing Aid
MODEL NAME	:	VB20, Vigor, Vigor U, Vigor X, VB SERIES, Gio, Bro, Eggo
BRAND NAME	:	Retone
FCC ID	:	2AGPFVB20
STANDARD(S)		KDB 447498 D01v06 47 CFR§2.1093
TEST DATE	:	2019-05-17
ISSUE DATE	:	2019-05-18

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Lion Xiao(Project engineer)

Approved by:

Anne Liu(Supervisor)

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DIRECTORY

Change History		
Version	**Date**	**Reason for change**
1.0	2019-05-18	First edition

1. Technical Information

Note: Provide by manufacturer.

1.1. Applicant and manufacturer information

Applicant:	Xiamen Retone Hearing Technology Co.,Ltd
Applicant Address:	ROOM 103,NO.320 SOUTH TONGJI ROAD,JIMEI DISTRICT, XIAMEN,CHINA
Manufacturer:	Xiamen Retone Hearing Technology Co.,Ltd
Manufacturer Address:	ROOM 103,NO.320 SOUTH TONGJI ROAD,JIMEI DISTRICT, XIAMEN,CHINA

1.2. Equipment under test (EUT) description

EUT Type:	Hearing Aid
Hardware Version:	V1.0
Software Version:	V1.0
Frequency Bands:	Bluetooth LE : 2402-2480MHz;
Modulation Mode:	GFSK
Antenna type:	Ceramic Antenna

Note 4: Hearing Aid, model: VB20, Vigor, Vigor U, Vigor X, VB SERIES, Gio, Bro, Eggo, have the same circuit diagram, PCB layout, software, RF module and functionality. The differences are the shape of plastic case. We selected VB20 for fully conducted testing, the differences details was explained in the declaration letter.

1.3. Applied reference documents

Leading reference documents for testing:

No.	Identity	Document Title
1	**47 CFR§2.1093**	Radiofrequency Radiation Exposure Evaluation: portable devices
2	**KDB 447498 D01v06**	General RF Exposure Guidance

2. Device category and RF exposure limit

Per user manual, this device is a Hearing Aid. Based on 47CFR 2.1093, this device belongs to portable device category with General Population/Uncontrolled exposure.

Portable Devices:

47CFR 2.1093(b)

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.

GENERAL POPULATION / UNCONTROLLED EXPOSURE

47CFR 2.1093(d) (2)

Limits for General Population/Uncontrolled exposure: 0.08 W/kg as averaged over the whole-body and spatial peak SAR not exceeding 1.6 W/kg as averaged over any 1 gram of tissue (defined as a tissue volume in the shape of a cube). Exceptions are the hands, wrists, feet and ankles where the spatial peak SAR shall not exceed 4 W/kg, as averaged over any 10 grams of tissue (defined as a tissue volume in the shape of a cube). General Population/Uncontrolled limits apply when the general public may be exposed, or when persons that are exposed as a consequence of their employment may not be fully aware of the potential for exposure or do not exercise control over their exposure. Warning labels placed on consumer devices such as cellular telephones will not be sufficient reason to allow these devices to be evaluated subject to limits for occupational/controlled exposure in paragraph (d)(1) of this section.

3. Measurement of conducted peak output power

Bluetooth LE peak output power

Band	Channel	Frequency	Measured Output Peak Power
		MHz	dBm
Bluetooth LE	0	2402	-8.960
	19	2440	-9.351
	39	2480	-9.001
Maximum tune-up limit power: -8.5 dBm			

4. RF exposure evaluation

The device only incorporates a Bluetooth transmitter, so standalone SAR evaluation is required for Bluetooth and simultaneous SAR is not required.

Standalone transmission SAR evaluation

According to KDB 447498 section 4.3.1, the 1-g SAR test exclusion thresholds 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
The maximum tune-up limit power is **-8.5dBm (0.14mW) @ 2.402GHz**
When Bluetooth Headset is used on the head, so use **5mm** as the most conservative minimum test separation distance,
[(max. power of channel, including tune-up tolerance, mW)/(min. test separation distance, mm)]·[√f(GHz)] **=0.043** ≤ 3.0
So SAR measurement is not required for this device.

Annex A General Information

1. Identification of the Responsible Testing Laboratory

Company Name:	Kehu-Morlab Test Laboratory
Address:	Unit 101, No.1732 Gangzhong Road, Xiamen Area, Pilot Free Trade Zone (Fujian), P. R. China
Responsible Test Lab Manager:	Mr. Di Dehai
Telephone:	+86 592 5612050
Facsimile:	+86 592 5612095

2. Identification of the Responsible Testing Location

Name:	Kehu-Morlab Test Laboratory
Address:	Unit 101, No.1732 Gangzhong Road, Xiamen Area, Pilot Free Trade Zone (Fujian), P. R. China

END OF REPORT