Radio Frequency Exposure Report

On Behalf of

SHENZHEN HAOHUITONG TECHNOLOGY LTD.

6F Jianda Building,10# Keyuan Road, Nanshan High-Tech Park, Nanshan, Shenzhen, 518053, China

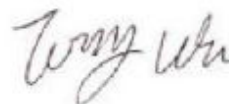|	
Product Name:	**MVOICE SPEAKERPHONE**
Model/Type No.:	**MVOICE 8000-B, MVOICE 8000 EX-B**
FCC ID:	**2AJJA-MVE8000EXB**
Prepared By:	**Shenzhen Hongcai Testing Technology Co., Ltd.**
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Tested By:	Jerry Zhao/

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1 - GENERAL INFORMATION

1.1 Product Description for Equipment Under Test (EUT)

Applicant:	**SHENZHEN HAOHUITONG TECHNOLOGY LTD.**
Address of Applicant:	6F Jianda Building,10# Keyuan Road, Nanshan High-Tech Park, Nanshan, Shenzhen, 518053, China
Manufacturer :	**SHENZHEN HAOHUITONG TECHNOLOGY LTD.**
Address of manufacturer:	6F Jianda Building,10# Keyuan Road, Nanshan High-Tech Park, Nanshan, Shenzhen, 518053, China

General Description of E.U.T

Items	Description
EUT Description:	MVOICE SPEAKERPHONE
Model No.:	MVOICE 8000 EX-B
Supplementary Model:	MVOICE 8000-B
Frequency Band:	2402~2480MHz
Number of Channels:	79
Type of Modulation:	GFSK, Pi/4 DQPSK, 8-DPSK
Antenna Gain:	2.2dBi
Antenna Type:	Internal Antenna
Rated Voltage:	Input: DC 5V/1A from micro USB

Remark: * *The test data gathered are from the production sample provided by the manufacturer.*
         * *MVOICE 8000 EX-B has EXT MIC, MVOICE 8000-B, MVOICE-8000 has no EXT MIC.*

1.2 Objective

The objective of the following report is used to demonstrate that EUT operated in a manner that ensures the public is not exposed to radio frequency energy levels in excess of the relative provisions of FCC 47CFR Part 1.1307

1.3 General Description of Test

Items	Description
EUT Frequency band	☒ FHSS: 2.400GHz ~ 2.483GHz ☐ WLAN: 2.400GHz ~ 2.483GHz ☐ WLAN: 5.18GHz ~ 5.32GHz / 5.50GHz ~ 5.70GHz ☐ WLAN: 5.745GHz ~ 5825GHz ☐ Others: _____
Device category	☐ Portable (<20cm separation) ☒ Mobile (>20cm separation) ☐ Others _____
Exposure classification	☐ Occupational/Controlled exposure (S = 5mW/cm2) ☒ General Population/Uncontrolled exposure (S=1mW/cm^2) ☐ Others: _____

Antenna diversity	☒ Single antenna
	☐ Multiple antennas:
	         ☐ Tx diversity
	         ☐ Rx diversity
	         ☐ Tx/Rx diversity

Max. output power	-8.98dBm (0.0001W)
Antenna gain (Max)	2.2dBi (Numeric gain:1.66)
Evaluation applied	☒ MPE Evaluation ☐ SAR Evaluation
Note: *1. The maximum output power is -8.98dBm (0.0001W) at 2480MHz (with 1.66 numeric antenna gain.)* *2. For mobile or fixed location transmitters, no SAR consideration applied. The minimum separation generally be used is at least 20 cm, even if the calculations indicate that the MPE distance would be lesser.*		

1.4 Human Exposure Assessment Results

Calculation

Given $E = \dfrac{\sqrt{30 \times P \times G}}{d}$ & $S = \dfrac{E^2}{3770}$

Where   E = Field Strength in Volts / meter
   P = Power in Watts
   G = Numeric antenna gain
   d = Distance in meters
   S = Power Density in milliwatts / square centimeter

Combining equations and re-arranging the terms to express the distance as a function of the remaining variables yields:

$$S = \frac{30 \times P \times G}{3770 d^2}$$

Changing to units of mW and cm, using:

P (mW) = P (W) / 1000 and
d (cm) = 100 * d (m)

Yields

$$S = \frac{30 \times (P/1000) \times G}{3770 \times (d/100)^2} = 0.0796 \times \frac{P \times G}{d^2} \qquad \textit{Equation 1}$$

Where   d = distance in cm
   P = Power in mW
   G = Numeric antenna gain
   S = Power Density in mW / cm²

EUT parameter (data from the separate report)	
Given $E = \dfrac{\sqrt{30 \times P \times G}}{d}$ & $S = \dfrac{E^2}{3770}$	Where G: numerical gain of transmitting antenna; TP: Transmitted power in watt; d: distance from the transmitting antenna in meter
Max average output power in Watt (TP)	-8.98dBm (0.0001W)
Antenna gain (G)	2.2dBi (Numeric gain:1.66)
Exposure classification	S=1mW/cm²
Minimum distance in meter (d) (from transmitting structure to the human body)	20cm (0.2m)

Yields

$$S = \frac{30xPxG}{3770d^2}, \quad \text{P=0.0001W, G=1.66, d=0.2}$$

S=0.00003mW/cm^2

Or

$$d = \sqrt{\frac{30xPxG}{3770S}}, \quad \text{S=1, P=0.0001W, G=1.66}$$

d=0.0011m

Conclusion:

S=0.00003mW/cm^2 is significant lower than the General Population Exposure Power Density Limit 1mW/cm^2 or except the distance when human body proximity to the antenna is less than 2.25cm then will reach the General Population Exposure Power Density Limit

(For mobile or fixed location transmitters, the maximum power density is 1.0 mW / cm^2 even if the calculation indicates that the power density would be larger.)