



SAR Exemption Evaluation Report

Product Name : Bluetooth Headset

Model No. : G015B

FCC ID : SZGG015B

Applicant : Weifang Goertek Electronics Co., Ltd

Address : Gaoxin 2 Road, Free Trade Zone, Weifang,
Shandong, 261205, P.R. China

Date of Receipt : Aug. 18th, 2017

Test Date : Aug. 18th, 2017~ Sep. 18th, 2017

Issued Date : Oct. 05th, 2017

Report No. : 1782091R-RF-US-P20V02

Report Version : V 3.0

The test results relate only to the samples tested.

The test results shown in the test report are traceable to the national/international standard through the calibration of the equipment and evaluated measurement uncertainty herein.

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Test Report Certification

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Product Name : Bluetooth Headset
 Applicant : Weifang Goertek Electronics Co., Ltd
 Address : Gaoxin 2 Road,Free Trade Zone,Weifang,Shandong,261205,P.R.China
 Manufacturer : Weifang Goertek Electronics Co., Ltd
 Address : Gaoxin 2 Road,Free Trade Zone,Weifang,Shandong,261205,P.R.China
 Factory : Goertek Inc
 Address : No.999 Liyuan Street , High-Tech Industrial Development District , Weifang , Shandong , 261031 , P.R. China
 Model No. : G015B
 FCC ID : SZGG015B
 EUT Voltage : DC 3.3V
 Test Voltage : AC120V/60Hz
 Applicable Standard : KDB 447498D01V06
 FCC Part1.1310
 Test Result : Complied
 Performed Location : DEKRA Testing & Certification (Suzhou) Co., Ltd.
 No.99 Hongye Rd., Suzhou Industrial Park, Suzhou, 215006, Jiangsu, China
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1. RF Exposure Evaluation

1.1. Limits

According to **KDB 447498 D01 General RF Exposure Guidance v06**

4.3.1 Standalone SAR test exclusion considerations

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:

$$\left[\frac{\text{(max. power of channel, including tune-up tolerance, mW)}}{\text{(min. test separation distance, mm)}} \right] \cdot \left[\sqrt{f(\text{GHz})} \right]$$

≤ 3.0 for 1-g SAR and ≤ 7.5 for 10-g extremity SAR, where

- $f(\text{GHz})$ is the RF channel transmit frequency in GHz
- Power and distance are rounded to the nearest mW and mm before calculation
- 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.

2) At 100 MHz to 6 GHz and for test separation distances > 50 mm, the SAR test exclusion threshold is determined according to the following, and as illustrated in Appendix B:

- a) $\left[\text{Power allowed at numeric threshold for 50 mm in step 1} \right] + \left(\text{test separation distance} - 50 \text{ mm} \right) \cdot \left(\frac{f(\text{MHz})}{150} \right)$ mW, at 100 MHz to 1500 MHz
- b) $\left[\text{Power allowed at numeric threshold for 50 mm in step 1} \right] + \left(\text{test separation distance} - 50 \text{ mm} \right) \cdot 10$ mW at > 1500 MHz and ≤ 6 GHz

3) The 1-g and 10-g SAR test exclusion thresholds for below 100 MHz at test separation distances ≤ 50 mm are determined by:

- a) The power threshold at the corresponding test separation distance at 100 MHz in step 2) is multiplied by $\left[1 + \log\left(\frac{100}{f(\text{MHz})}\right) \right]$ for test separation distances > 50 mm and < 200 mm
- b) The power threshold determined by the equation in a) for 50 mm and 100 MHz is multiplied by $\frac{1}{2}$ for test separation distances ≤ 50 mm
- c) SAR measurement procedures are not established below 100 MHz. When SAR test exclusion cannot be applied, a KDB inquiry is required to determine SAR evaluation requirements for any test results to be acceptable. Note: when the minimum test separation distance is < 5 mm, a distance of 5 mm is applied to determine SAR test exclusion.

1.2. Test Procedure

Software provided by client enabled the EUT to transmit and receive data at lowest, middle and highest channel individually.

The temperature and related humidity: 18°C and 78% RH.

1.3. Test Result of RF Exposure Evaluation

Product Name	:	Bluetooth Headset
Test Item	:	RF Exposure Evaluation
Test Site	:	AC-6

● **Antenna Gain:**

Model No.	N/A		
Antenna manufacturer	N/A		
Antenna Delivery	<input checked="" type="checkbox"/> 1*TX+1*RX	<input type="checkbox"/> 2*TX+2*RX	<input type="checkbox"/> 3*TX+3*RX
Antenna technology	<input checked="" type="checkbox"/> SISO		
	<input type="checkbox"/> MIMO	<input type="checkbox"/> Basic	
		<input type="checkbox"/> CDD	
		<input type="checkbox"/> Beam-forming	
Antenna Type	<input type="checkbox"/> External	<input type="checkbox"/> Dipole	
	<input checked="" type="checkbox"/> Internal	<input type="checkbox"/> PIFA	
		<input type="checkbox"/> PCB	
		<input type="checkbox"/> Ceramic Chip Antenna	
		<input type="checkbox"/> Metal plate type F antenna	
		<input checked="" type="checkbox"/> Monopole Antenna	
Antenna Gain	-4.04dBi		

Based on The 1-g and 10-g SAR test exclusion thresholds for 100 MHz to 6 GHz at test separation distances ≤ 50 mm and the formula below:

$$\text{Estimated SAR} = \sqrt{f(\text{GHz})} * \frac{(\text{Max Power of channel, mW})}{\text{Min. Separation Distance, mm}}$$

The Maximum tune-up power is 9.5dBm.

Band	Exposure Condition	Pmax	Pmax	Distance	f(GHz)	calculation result	Stand-alone Test exclusion threshold	SAR Test
		(dBm)	(mw)	(mm)				
BT	head	9.5	8.91	5	2.480	2.81	3.0	No

Conclusion: 2402MHz-2480MHz SAR was not required.

————— The End —————