

# RF Exposure Evaluation

## FCC ID: 2A365-Q1

### 1. Client Information

<b>Applicant</b>	:	Guangzhou Qiangle Electronics Co., Ltd.
<b>Address</b>	:	1512, Zhongjiaohuitong Center (Building C2), No.4 Huitong 2nd Street, Hengli Town, Nansha District, Guangzhou City, Guangdong, China
<b>Manufacturer</b>	:	Guangzhou Qiangle Electronics Co., Ltd.
<b>Address</b>	:	1512, Zhongjiaohuitong Center (Building C2), No.4 Huitong 2nd Street, Hengli Town, Nansha District, Guangzhou City, Guangdong, China

### 2. General Description of EUT

<b>EUT Name</b>	:	Bluetooth headset
<b>Model(s) No.</b>	:	Q1, V1, V2, V3, V5, V6, V7, V8, V9, V10, S1, S2, S3, S5, S6
<b>Model Different</b>	:	All these models are identical in the same PCB layout and electrical circuit, the only difference is that names and appearance.
<b>Product Description</b>	Operation Frequency:	Bluetooth V5.3: 2402MHz~2480MHz
	Number of Channel:	Bluetooth 5.3(BDR+EDR): 79 channels
	RF Output Power:	-0.51dBm (Max)
	Antenna Gain:	0 dBi ceramic Antenna
	Modulation Type:	GFSK, $\pi/4$ -DQPSK
	Bit Rate of Transmitter:	1/2Mbps
<b>Power Supply</b>	:	Input: DC 5V DC 3.7V by 40mAh Li-ion battery in the headphone compartment DC 3.7V by 500mAh Li-ion battery in the battery compartment
<b>Software Version</b>	:	6983D/Jerry 6983D
<b>Hardware Version</b>	:	N/A
<b>Remark:</b> The antenna gain provided by the applicant, the adapter and verified for the RF conduction test and adapter provided by TOBY test lab.		

**Note:** More test information about the EUT please refer the RF Test Report.

## SAR Test Exclusion Calculations

1. FCC: According to KDB 447498 D01 Mobile and Portable Devices RF Exposure Procedures and Equipment Authorization Policies v06.

- (1) Clause 4.3: General SAR test reduction and exclusion guidance

- Sub clause 4.31: Standalone SAR test exclusion considerations

- 1) The 1-g and 10-g SAR test exclusion thresholds for 100 MHz to 6GHz at test separation distance  $\leq 5$  mm are determined by:

$$[(\text{max. power of channel, including tune-up tolerance, mW}) / (\text{min. test separation, mm})] * [\sqrt{f_{(\text{GHz})}}] \leq 3.0 \text{ for 1-g SAR}$$
$$[(\text{max. power of channel, including tune-up tolerance, mW}) / (\text{min. test separation, mm})] * [\sqrt{f_{(\text{GHz})}}] \leq 7.5.0 \text{ for 10-g SAR}$$

**2. Calculation:**

Test separation: 5mm							
Bluetooth Mode (GFSK)							
Frequency (GHz)	Conducted Power (dBm)	Turn-up Power Tolerance (dB)	Max power of tune up tolerance (dBm)	Max power of tune up tolerance (mw)	Calculation Value	Threshold Value	
2.402	-1.472	-1±1	0	1.00	0.3130	3.0	
2.441	-1.655	-1±1	0	1.00	0.3130	3.0	
2.480	-2.006	-2±1	-1.0	0.79	0.2487	3.0	

  

Bluetooth Mode ( $\pi/4$ -DQPSK)							
Frequency (GHz)	Conducted Power (dBm)	Turn-up Power Tolerance (dB)	Max power of tune up tolerance (dBm)	Max power of tune up tolerance (mw)	Calculation Value	Threshold Value	
2.402	-0.51	0±1	1.0	1.26	0.3941	3.0	
2.441	-0.809	0±1	1.0	1.26	0.3941	3.0	
2.480	-1.159	-1±1	0	1.00	0.3130	3.0	

**Conclusion:**

The measurement results comply with the FCC Limit per 47 CFR 2.1093 for the uncontrolled RF Exposure and SAR Exclusion Threshold per KDB 447498 v06.

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