

RF Exposure Evaluation

FCC ID: 2AFHP-EP-B67

1. Client Information

Applicant : SHENZHEN AUKEY E BUSINESS CO., LTD.
Address : Room 102, Bld P09, Huanan International Zone, No.1 Huanan Rd, PinghuTownLonggang District, Shenzhen, China
Manufacturer : Dongguan Tenji Industrial Co.,Ltd
Address : 7 Hai Yi Road, Yongtuo Community, Chang an Town, Dongguan City, Guangdong Province, China

2. General Description of EUT

EUT Name	Bluetooth Earbuds	
Models No.	EP-B67, EP-B65, EP-B66, EP-B67, EP-B68, EP-B69, EP-B36, EP-B32	
Model Difference	All these models are identical in the same PCB, layout and electrical circuit, the only difference is model name for commercial.	
Product Description	Operation Frequency:	Bluetooth V4.1: 2402~2480 MHz
	RF Output Power:	Bluetooth: 5.417dBm(GFSK)
	Antenna Gain:	2dBi Ceramic Antenna
Power Supply	: DC Voltage Supply from USB Port. DC Supply by the Li-ion Battery.	
Power Rating	: DC 5.0 V from the USB Cable. DC 3.7V by 60mAh*2 Li-ion Battery.	
Software Version	: V07	
Hardware Version	: V01	
Connecting I/O Port(S)	: Please refer to the User's Manual	

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 ≤ 5 mm are determined by:

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

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

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	3.612	3±1	4	2.512	0.779	3.0
2.441	5.417	5±1	6	3.981	1.244	3.0
2.480	5.260	5±1	6	3.981	1.254	3.0
Bluetooth Mode (π/4-QPSK)						
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	-0.254	0±1	1	1.259	0.390	3.0
2.441	3.551	3±1	4	2.512	0.785	3.0
2.480	3.904	3±1	4	2.512	0.791	3.0
Bluetooth Mode (8-DPSK)						
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	1.336	1±1	2	1.585	0.491	3.0
2.441	3.761	3±1	4	2.512	0.785	3.0
2.480	4.401	4±1	5	3.162	0.996	3.0

So standalone SAR measurements are not required.

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