

RF Exposure Evaluation

FCC ID: 2A3FL-SA-201

1. Client Information

Applicant	:	SHENZHEN SADES INTELLIGENT TECHNOLOGY CO., LTD.
Address	:	9F, RUN CHUANGXING TIMES BLDG., LIPU ST., BULONG RD., LONGGANG DISTRICT, SHENZHEN, China
Manufacturer	:	SHENZHEN SADES INTELLIGENT TECHNOLOGY CO., LTD.
Address	:	9F, RUN CHUANGXING TIMES BLDG., LIPU ST., BULONG RD., LONGGANG DISTRICT, SHENZHEN, China

2. General Description of EUT

EUT Name	:	Bluetooth headset
Model(s) No.	:	SA-201, SA-202, SA-203, SA-204, SA-205, B130, B13, B132, B133, B134, L12, L13, L15, L60, L61
Model Different	:	All these models are identical in the same PCB, layout and electrical circuit, the only difference is the colors and model name.
Product Description	:	Operation Frequency: Bluetooth V5.0(BT): 2402~2480 MHz
		Number of Channel: Bluetooth: 79 Channels
		Max Peak Output Power: Bluetooth: 3.645 dBm(π /4-DQPSK)
		Antenna Gain: 0.5 dBi PCB Antenna
		Modulation Type: GFSK(1Mbps) π /4-DQPSK(2Mbps) 8-DPSK(3Mbps)
Power Supply	:	Input: Output DC 5V DC 3.7V by 1000mAh Li-ion battery
Software Version	:	V2.7
Hardware Version	:	V1.3

Remark: The antenna gain and adapter provided by the applicant, the adapter and verified for the RF conduction test 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 ≤ 5 mm are determined by:

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

$$\left[\frac{\text{max. power of channel, including tune-up tolerance, mW}}{\text{min. test separation, mm}} \right] * \left[\sqrt{f_{\text{(GHz)}}} \right] \leq 7.5.0$$
 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	3.182	3±1	4	2.512	0.779	3.0
2.441	1.387	1±1	2	1.585	0.495	3.0
2.480	1.319	1±1	2	1.585	0.499	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	3.267	3±1	4	2.512	0.779	3.0
2.441	1.655	1±1	2	1.585	0.495	3.0
2.480	1.855	1±1	2	1.585	0.499	3.0
Bluetooth Mode (8-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	3.645	3±1	4	2.512	0.779	3.0
2.441	2.095	2±1	3	1.995	0.623	3.0
2.480	2.357	2±1	3	1.995	0.628	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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