

RF Exposure Evaluation

FCC ID: 2A4RO-K16

1. Client Information

Applicant	:	Shenzhen Amesra Technology Co., Ltd.
Address	:	Room 406, Building B, Enterprise Business Network Maker Center, Huarong Road, Gaofeng Community, Dalang Street, Longhua District, Shenzhen, China
Manufacturer	:	Shenzhen Amesra Technology Co., Ltd.
Address	:	Room 406, Building B, Enterprise Business Network Maker Center, Huarong Road, Gaofeng Community, Dalang Street, Longhua District, Shenzhen, China

2. General Description of EUT

EUT Name	:	Bluetooth Adapter	
Model(s) No.	:	K16, K3, K3 Pro, K5, K5 Pro, K8, D80, H6, H8, H9, H10, H16	
Model Different	:	All these models are identical in the same PCB layout and electrical circuit, the only difference is that names and appearance.	
Product Description	Operation Frequency:	Bluetooth 5.0(BT): 2402~2480 MHz	
	Number of Channel:	Bluetooth: 79 Channels	
	RF Output Power:	GFSK: -5.94dBm $\pi/4$ -DQPSK: -5.2dBm	
	Antenna Gain:	-0.58dBi PCB Antenna	
	Modulation Type:	GFSK, $\pi/4$ -DQPSK	
Power Supply	:	Input: AC 100-240V 50~60Hz 500mA Output: DC 5V 2.1A	
Software Version	:	V1.3	
Hardware Version	:	K16-V01	
Remark: 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 ≤ 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	-5.94	-6±1	-5	0.3162	0.0990	3.0	
2.441	-5.94	-6±1	-5	0.3162	0.0990	3.0	
2.480	-6.04	-6±1	-5	0.3162	0.0990	3.0	

Bluetooth Mode (π/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	-5.2	-5±1	-4	0.3981	0.1246	3.0	
2.441	-5.25	-5±1	-4	0.3981	0.1246	3.0	
2.480	-5.35	-5±1	-4	0.3981	0.1246	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.

-----END OF REPORT-----