



RF EXPOSURE EVALUATION

1. PRODUCT INFORMATION

Product Description	Wireless USB Adapter
Test Model	AX1808
Series Model	AX1806, AX1803
FCC ID	2AKC6-AX1808

2. EVALUATION METHOD

According to 447498 D01 General RF Exposure Guidance v06

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:

$[(\text{max. power of channel, including tune-up tolerance, mW}) / (\text{min. test separation distance, mm})] \cdot [\sqrt{f(\text{GHz})}] \leq 3.0$ 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

3. CALCULATION

Single antenna transmission:

2.4GHz $P_t=7.57\text{dBm}=5.71\text{mW}$

The value of the Maximum output power P_t is referred to the test report of the CFR47 §15.247.

The result for RF exposure evaluation $\text{SAR}=(5.71\text{mW} / 5\text{mm}) \cdot [\sqrt{2.412(\text{GHz})}] = 1.775 \leq 7.5$ for 10-g extremity SAR.

5GHz $P_t=5.52\text{dBm}=3.56\text{mW}$

The value of the Maximum output power P_t is referred to the test report of the CFR47 §15.247.

The result for RF exposure evaluation $\text{SAR}=(3.56\text{mW} / 5\text{mm}) \cdot [\sqrt{5.180(\text{GHz})}] = 1.623 \leq 7.5$ for 10-g extremity SAR.

Multi-antenna transmission:

2.4GHz $P_t=10.44\text{dBm}=11.07\text{mW}$

The value of the Maximum output power P_t is referred to the test report of the CFR47 §15.247.

The result for RF exposure evaluation $\text{SAR}=(11.07\text{mW} / 5\text{mm}) \cdot [\sqrt{2.412(\text{GHz})}] = 3.437 \leq 7.5$ for 10-g extremity SAR.

5GHz $P_t=8.23\text{dBm}=6.65\text{mW}$

The value of the Maximum output power P_t is referred to the test report of the CFR47 §15.247.

The result for RF exposure evaluation $\text{SAR}=(6.65\text{mW} / 5\text{mm}) \cdot [\sqrt{5.825(\text{GHz})}] = 3.211 \leq 7.5$ for 10-g extremity SAR.

Note: The typical working state and environment of the device meet the requirements of limb SAR, and the antenna distance is less than 5mm from the human body, so the exemption requirement is the exemption limit of 10 g-SAR.

4. CONCLUSION

The SAR evaluation is not required.

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