

RF EXPOSURE EVALUATION

1. PRODUCT INFORMATION

Product Description	Dual Band Wireless USB Adapter
Model Name	Techkey-6B06, Techkey-6B08
FCC ID	2AU6EDNS-6B06

2. EVALUATION METHOD

According to 447498 D01 General RF Exposure Guidance v05

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

According to the follow transmitter output power (P_t) formula:

$$P_t = (E \times d)^2 / (30 \times g_t)$$

P_t =transmitter output power in watts

g_t =numeric gain of the transmitting antenna (unitless)

E =electric field strength in V/m

d =measurement distance in meters (m)

For 2.4G WIFI

$$P_t = 9.84\text{dBm} = 9.64\text{mW}$$

The result for RF exposure evaluation

$$\text{SAR} = (9.64\text{mW} / 5\text{mm}) \cdot [\sqrt{2.412(\text{GHz})}] = 2.99 < 3.0 \text{ for 1-g SAR}$$

For 5G WIFI

$$P_t = 7.86\text{dBm} = 6.11\text{mW}$$

The result for RF exposure evaluation

$$\text{SAR} = (6.11\text{mW} / 5\text{mm}) \cdot [\sqrt{5.745(\text{GHz})}] = 2.93 < 3.0 \text{ for 1-g SAR}$$

Note: The 2.4G and 5G WIFI can not transmit simultaneously.

4. CONCLUSION

The SAR evaluation is not required.