

# RF EXPOSURE EVALUATION

## 1. PRODUCT INFORMATION

Product Description	WIRELESS USB ADAPTER
Model Name	6B24, 6B23
FCC ID	2AKC6XHT-6B24

## 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  $\leq 50$  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  $\leq 7.5$  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

$$P_t = 8.26\text{dBm} = 6.70\text{mW}$$

The result for RF exposure evaluation

$$\text{SAR} = (6.70\text{mW} / 5\text{mm}) \cdot [\sqrt{2.462(\text{GHz})}] = 2.10 < 3.0 \text{ for 1-g SAR}$$

For 5G WIFI

$$P_t = 7.11\text{dBm} = 5.14\text{mW}$$

The result for RF exposure evaluation

$$\text{SAR} = (5.14\text{mW} / 5\text{mm}) \cdot [\sqrt{5.24(\text{GHz})}] = 2.35 < 3.0 \text{ for 1-g SAR}$$

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

## 4. CONCLUSION

The SAR evaluation is not required.