



## RF EXPOSURE EVALUATION

### 1. PRODUCT INFORMATION

<b>FCC ID</b>	2AKC6-AX3010
<b>Product Description</b>	Wireless USB Adapter
<b>Model Name</b>	AX3010, AX3008
<b>Frequency Band (Operating)</b>	<input checked="" type="checkbox"/> WLAN: 2.412GHz ~ 2.462GHz <input checked="" type="checkbox"/> WLAN: 5.18GHz ~ 5.32GHz / <input checked="" type="checkbox"/> WLAN: 5.745GHz ~ 5825GHz <input type="checkbox"/> Bluetooth: 2.402GHz ~ 2.480GHz <input type="checkbox"/> Others (NFC:13.56MHz)
<b>Device Category</b>	<input checked="" type="checkbox"/> Portable (<20cm separation) <input type="checkbox"/> Mobile (>20cm separation) <input type="checkbox"/> Others:
<b>Antenna Diversity</b>	<input type="checkbox"/> Single antenna <input checked="" type="checkbox"/> Multiple antennas <input type="checkbox"/> Tx diversity <input type="checkbox"/> Rx diversity <input type="checkbox"/> Tx/Rx diversity
<b>Antenna Gain</b>	2.4GWIFI: ANT 1: 1.34dBi; ANT 2: 2.11dBi 5GWIFI: Ant 1: 4.44dBi; Ant 2: 5.46dBi
<b>Minimum Assessment Distance</b>	5mm
<b>Evaluation Applied</b>	<input type="checkbox"/> MPE Evaluation <input checked="" type="checkbox"/> SAR Evaluation
<b>Evaluation Result</b>	Pass

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## 2. PORTABLE DEVICE EVALUATION METHOD AND LIMIT

Following FCC KDB 447498 D01 “General SAR test exclusion guidance” The corresponding SAR Exclusion Threshold condition, listed below:

- 1) 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:  
$$\frac{[(\text{max. power of channel, including tune-up tolerance, mW}) / (\text{min. test separation distance, mm})] [\sqrt{f(\text{GHz})}]}{\leq 3.0 \text{ for 1-g SAR, and } \leq 7.5 \text{ for 10-g extremity SAR, where}}$$
  - $f(\text{GHz})$  is the RF channel transmit frequency in GHz.
  - Power and distance are rounded to the nearest mW and mm before calculation.
  - The result is rounded to one decimal place for comparison. The test exclusions are applicable only when the minimum test separation distance is  $\leq 50$  mm and for transmission frequencies between 100 MHz and 6 GHz. When the minimum test separation distance is  $< 5$  mm, a distance of 5 mm is applied to determine SAR test exclusion.
  
- 2) At 100 MHz to 6 GHz and for test separation distances  $> 50$  mm, the SAR test exclusion threshold is determined according to the following:
  - a) [Threshold at 50 mm in step 1) + (test separation distance - 50mm) ( f(MHz)/150)] mW, at 100MHz to 1500 MHz;
  - b) [Threshold at 50 mm in step 1) + (test separation distance - 50 mm)-10] mW at  $> 1500$  MHz and  $\leq 6$  GHz;
  
- 3) At frequencies below 100 MHz, the following may be considered for SAR test exclusion.
  - a) The threshold at the corresponding test separation distance at 100 MHz in step 2) is multiplied by  $[1 + \log(100/f(\text{MHz}))]$  for test separation distances  $> 50$  mm and  $< 200$  mm.
  - b) The threshold determined by the equation in a) for 50 mm and 100 MHz is multiplied by 1/2 for test separation distances  $\leq 50$  mm.
  - c) SAR measurement procedures are not established below 100 MHz. When SAR test exclusion cannot be applied, a KDB inquiry is required to determine SAR evaluation requirements for any test results to be acceptable.

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### 3. MEASUREMENT RESULT

Test Mode	Channel Frequency (MHz)	Max Output power (dBm)	Max Output power (mW)	Calculation Value (Note 1)	Limit Value
OFDM					
2.4G WLAN ANT 1	2422	6.48	4.446	1.384	3.0
5G WLAN ANT 2	5200	5.00	3.162	1.442	3.0
5G MIMO	5200	8.01	6.324	2.884	3.0
DSSS					
2.4G WLAN ANT 2	2412	6.13	4.102	1.274	3.0
OFDMA					
2.4G WLAN MIMO	2422	9.23	8.375	2.607	3.0
5G WLAN ANT 1	5210	5.49	3.540	1.616	3.0

Note 1: Calculation Value = [(max. power of channel, mW)/(min. test separation distance, mm)] · [√f(GHz)].

Fox example:  $6.324/5 \cdot \sqrt{5.200} = 2.884 \leq 3.0$

### 4. CONCLUSION

Since Source-base time average power is below SAR test exclusion power thresholds, the SAR evaluation is not required.

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