

Federal Communications Commission  
7345 Oakland Mills Road  
Columbia, MD 21046

Class II Permissive Change for IEEE 802.15.4 Module:

Module setup:

Module FCC ID:	2AXC8RAV13
Operating channel:	13 (CH 0x0C)
Maximum power (sending):	97.7 mW
Frequency:	2.4 GHz
Duty cycle (normal operation):	2.0%
Duty cycle (worst case, measured):	7.737%
Minimum test separation distance:	10 mm (picture attached)

Duty cycle is worse-case source-based, set by firmware and cannot be changed by the user.  
Assume maximum possible resend of information

Calculating the average power:

$$\text{Avg power} = 7.737\% \cdot 97.7 \text{ mW} = 7.56 \text{ mW}$$

*For 100 MHz to 6 GHz and test separation distances  $\leq 50$  mm, the 1-g and 10-g SAR test exclusion thresholds are determined by the following:*

*$[(\text{max. power of channel, including tune-up tolerance, mW}) / (\text{min. test separation distance, mm})] \cdot [\sqrt{f(\text{GHz})}] \leq 3.0$  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*
- The result is rounded to one decimal place for comparison*

Calculating the numeric result for 1-g SAR (body):

$$(8\text{mW}/10 \text{ mm}) \cdot \sqrt{2.48 \text{ GHz}} = 1.3 < 3$$

Power and distance are rounded to the nearest mW and mm before calculation and The result is rounded to one decimal place for comparison.

This numeric result is well below the 3.0 test exclusion threshold for 1-g SAR (body).  
Therefore, at this power level, a SAR test would not be required

Sincerely,

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Minimum test separation distance:

