

# RF Exposure Evaluation

IC: 7362A-RADICAL7

The device contains an 802.11a/b/g and a Bluetooth radio. A separate test report for the RAD7CA documents the SAR evaluation of the 802.11a/b/g radio. This device is the RADICAL 7. Both devices are electrically and mechanically identical. The only difference is the Bluetooth portion of the WiFi-Bluetooth combo module is not enabled in the RAD7CA. The SAR report for the RAD7CA continues to be representative of the RADICAL 7

Due to its low output power, the Bluetooth radio is excluded from SAR evaluation and therefore deemed compliant with FCC RF exposure requirements as described below:

## FCC KDB 447498 D01 v05r02

### Section 4.3.1

*"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:*

*$[(\text{max. power of channel, including tune-up tolerance, mW}) / (\text{min. test separation distance, mm})] \cdot [\sqrt{f(\text{GHz})}] \leq 3.0$  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*
- *3.0 and 7.5 are referred to as the numeric thresholds in the step 2 below*

*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 according to 5) in section 4.1 is applied to determine SAR test exclusion."*

The device has a maximum conducted output power of 0.292 mW in the 2.4 GHz band. The EUT has an antenna gain of 1.1 dBi for a maximum EIRP of 0.4 mW. The closest spacing of the antenna to the user's torso is less than 5mm while transmitting.

The table below shows the results of the calculation. The value of 0.091 is well below the exclusion threshold of 3.0, therefore the unit is excluded from SAR evaluation and deemed compliant with FCC RF exposure requirements.

Output Power (mW)	Test Separation (mm)	Transmit Frequency (GHz)	Exclusion Threshold	Specification
0.292	5	2.440	0.091	$\leq 3.0$

Approved by:



Greg Kiemel, Director of Engineering

Northwest EMC, Inc.

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