

**SAR Exclusion Justification for FCC ID 2AB6OTX9601**

Test exclusion thresholds for 100 MHz to 6 GHz at test separation distances  $\leq 50$  mm

Guidance document reference: 447498 D01 General RF Exposure Guidance v05r01, page 11, paragraph 4.3.1(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:

**$[(\text{max. power of channel, including tune-up tolerance, mW})/(\text{min. test separation distance, mm})] * [vf(\text{GHz})] \leq 3.0$  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

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.

**SAR test exclusion analysis:**

Assumptions: Since the exact separation distance may vary from sensor to sensor, the minimum separation distance of 5 mm is assumed per the guidance document.

Max. power of channel: 10 mW

Min. separation distance: 5 mm

Max. frequency: 0.46775 GHz

Calculation:  $[(Pwr/Dist)*\text{Sqrt}(Freq.)] = 1.367$ , or rounded to 1.4

The result of the above SAR threshold calculation demonstrates that the result is less than the 1-g numeric threshold of 3 and the 10-g numeric threshold of 7.5.

**Conclusion: The above analysis shows that the digital transmission system transceiver with FCC ID 2AB6OTX9601 qualifies for exemption from SAR testing.**

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