SAR Exclusion for 2024 Midmark Badge

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First: Transmitter power < 9 dBm at 433.92 MHz, 3.0V (8 mW) Per Data Sheet

Second: Max TX Duty Cycle = 46.2 % (per Elite ETR 2401216-01 Nov 1,2024)

So, Avg Power: < 4 mW

Third: Product antenna separation: Potentially < 5 mm

When separation could be < 5mm. We may revert to 5 mm. See excerpt below...

- Power and distance are rounded to the nearest mW and mm before calculation[31]
- The result is rounded to one decimal place for comparison
- The values 3.0 and 7.5 are referred to as *numeric thresholds* in step b) below

The test exclusions are applicable only when the minimum *test separation distance* is ≤ 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 4.1 f) is applied to determine SAR test exclusion.

So, we fall under the SAR exclusion limit…

Appendix A

SAR Test Exclusion Thresholds for 100 MHz – 6 GHz and ≤ 50 mm

Approximate SAR Test Exclusion Power Thresholds at Selected Frequencies and Test Separation Distances are illustrated in the following Table. The equation and threshold in 4.3.1 must be applied to determine SAR test exclusion.

MHz	5	10	15	20	25	mm
150	39	77	116	155	194	*SAR Test Exclusion Threshold* (mW)
300	27	55	82	110	137	
450	22	45	67	89	112	
835	16	33	49	66	82	
900	16	32	47	63	79	
1500	12	24	37	49	61	
1900	11	22	33	44	54	
2450	10	19	29	38	48	