



FCC - SAR Exemption Calculations & Limits

Ambystoma Labs Inc. Cat Tailer has a BLE transmitter operating in 2400 – 2483.5 MHz band. The EUT meets the limit grayed out in the table below for 5 mm distance.

Reference - FCC KDB 447498 D01 General RF Exposure Guidance v06 Appendix A

The highest power level measured is used in the following calculations

Frequency (MHz)	Maximum Power (dBm)	Maximum Antenna Gain (dBi)	EIRP (dBm)	EIRP (mW)
2440.0	9.64	0.0	9.64	9.20

Duty cycle = 0.1128% = 0.001128. Correction Factor = $10 \cdot \log_{10}(0.001128) = -29.47$ dB

Calculation; 9.20 mW = 9.64 dBm + (-29.47dB) = -19.83 dBm = 0.0104 mW

Frequency (MHz)	distance (mm)	Maximum power+ Tune-up tolerance+ antenna gain (mW)	Time Averaged Duty Factor	Time-averaged effective radiated power (mW)	FCC Limit @ 5mm (mW)	Meets SAR Exclusion
2440.0	5	9.20	0.001128	0.0104	10	Yes

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.

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	
3600	8	16	24	32	40	
5200	7	13	20	26	33	
5400	6	13	19	26	32	
5800	6	12	19	25	31	

Conclusion

Ambystoma Labs Inc. Cat Tailer meets the Exposure Guidance requirements per FCC KDB 447498 D01 v06 based on the minimum separation distance of 5mm between the transmitter antenna of the **Cat Tailer** and user during normal operation, attached to pet cat collar as declared by the manufacturer in the User Manual.