



FCC - SAR Exemption Calculations & Limits

Catapult Sports Pty Ltd Smart Football transmitter operates in the 2 frequency bands indicated. 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 Band (MHz)	Maximum Antenna Gain (dBi)	Maximum Power (dBm)	EIRP (dBm)	EIRP (mW)
2400.0 - 2483.5 (BLE)	1.0	1.43	1.43	1.39
3993.6 (UWB)	2.0	0.03	0.06	1.014

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	

The transmitter and antennas are placed in the geometric center of the football.

Conclusion

The Catapult Sports Pty Ltd Smart Football transmitter meets the Exposure Guidance requirements per FCC KDB 447498 D01 v06 general population exposure conditions based on the minimum separation distance of 5mm between the transmitter antenna and user during normal operation.