

TABLE 7-9 EXAMPLE RADAR FREQUENCY TRADE-OFFS FOR FIXED BEAMWIDTH

CM	GHZ	BAND	ANTENNA SIZE (M)	ANTENNA MASS ² (kg)	PEAK POWER (kW)	AVERAGE POWER (W)	S/C POWER ¹ (W)
10	3	S	14.3	2200	0.10	2.0	7
5	6	C	7.16	550	0.39	7.8	26
2	15	Ku	2.86	88	2.44	48.8	163
1	30	Ka	1.43	22	10.0	200	700
0.5	60	MM	0.716	5.5	39.0	781	2.6 K
0.2	150		0.286	0.88	244	4.88 K	16.3 K

- (1) DC to RF efficiency = 30%
(2) Antenna Density = $10.7 \text{ kg} \times \text{m}^{-2}$