

MAXIMUM PERMISSIVE EXPOSURE, MPE CALCULATOR

2450 MHz Bluetooth Radio, Intermec MN C30XX

MPE Calculator

					dBi 2.17
				dBd + 2.17 = dBi	dBi to dBd 2.17
TX Frequency (MHz)	2450	Watts	0.0267	Antenna Gain dBd	0

Cable Losses dB **0** dBm 14.265113

Calculated ERP (mW)	26.700000	radiated (ERP) dBm	14.265
Calculated EIRP (mW)	44.005936	radiated (EIRP) dBm	16.435

Occupational Limit
5.0 mW/cm²

General Public Limit
1.0 mW/cm²

$$\frac{\text{EIRP}}{4 \pi d^2} = \text{mW/cm}^2$$

d = cm EIRP=mW

TX Frequency (MHz)	
wavelength	
meters	cm
0.12244898	12.245

FCC radiofrequency radiation exposure limits 1.1310			
Freq. MHz	occ.limit		public limit
300-1,500	f/300		f/1500
1,500-10,000	5		1

MPE uses EIRP for calculations. EIRP is based on TX power added to the antenna gain in dBi.
dBi = dB gain compared to an isotropic radiator

	EIRP (watts)	Distance (cm)	Distance (Meters)	Distance (inches)		mW/cm ²
	44.00594	100.0	1.000	39.37		0.00035
	44.00594	75.0	0.750	29.53		0.00062
	44.00594	50.0	0.500	19.69		0.00140
	44.00594	40.0	0.400	15.75		0.00219
	44.00594	30.0	0.300	11.81		0.00389
*	44.00594	20.0	0.200	7.87		0.00875
	44.00594	18.8	0.188	7.38		0.00996
	44.00594	17.5	0.175	6.89		0.01143
	44.00594	16.3	0.163	6.40		0.01326
	44.00594	15.0	0.150	5.91		0.01556
	44.00594	13.8	0.138	5.41		0.01852
	44.00594	12.5	0.125	4.92		0.02241
	44.00594	11.3	0.113	4.43		0.02767
	44.00594	10.0	0.100	3.94		0.03502
	44.00594	8.8	0.088	3.44		0.04574
	44.00594	7.5	0.075	2.95		0.06226
	44.00594	6.3	0.063	2.46		0.08965
	44.00594	5.0	0.050	1.97		0.14008
	44.00594	3.8	0.038	1.48		0.24902
	44.00594	2.5	0.025	0.98		0.56030
	44.00594	1.3	0.013	0.49		2.24120