

MPE Calculator: Enter frequency, cable loss, antenna gain in dBi and output power in watts					
MPE uses EIRP for calculation. EIRP is based on TX power added to the antenna gain in dBi.					
dBi = dB gain compared to an isotropic radiator.					
S = power density in mW/cm ²					
				Antenna Gain (dBi)	9.5
Tx Frequency (MHz)	915	Output Power (Watts)	2.0000	dBd + 2.17 = dBi	dBi to dBd 2.17
Cable Loss (dB)	0.0	(dBm)	33.01	Antenna Gain (dBd)	7.33
				Antenna minus cable (dBi)	9.50
Calculated ERP (mw)	10815.086	<div style="border: 1px solid black; padding: 2px;"> Power density (S) EIRP ----- = mW/cm² 4 p r² </div>		EIRP = Po(dBm) + Gain (dB)	
Calculated EIRP (mw)	17825.019			Radiated (EIRP) dBm	42.510
				ERP = EIRP - 2.17 dB	
				Radiated (ERP) dBm	40.340
FCC	FCC radio frequency radiation exposure limits per 1.1310				
Power Density Limits					
	Frequency (MHz)	Occupational Limit	Public Limit		
	300-1,500	f/300	f/1500		
	Calculated Limits	Occupational (mW/cm ²)	General Public (mW/cm ²)		
		3.05	0.61		
		MPE Minimum Distance (cm)			
		21.6	48.2		
		MPE Minimum Distance (in)			
		8.5	19.0		
IC	IC radio frequency radiation exposure limits per RSS-102				
Power Density Limits					
	Frequency (MHz)	Controlled Env	Uncontrolled Env		
	100-6,000	0.6455f ^{0.5}			
	300-6,000		0.02619f ^{0.6834}		
	Calculated Limits	Occupational (mW/cm ²)	General Public (mW/cm ²)		
		2.43	0.877		
		MPE Minimum Distance (cm)			
		24.2	40.2		
		MPE Minimum Distance (in)			
		9.5	15.8		
OSHA	OSHA radio frequency radiation exposure limits per 1910.97				
Power Density Limits					
	Frequency (MHz)	Limit			
	10-100,000	10 mW/cm ²			
	Calculated Limits	Occupational (mW/cm ²)	General Public (mW/cm ²)		
		10.00	10.00		
		MPE Minimum Distance (cm)			
		11.9	11.9		
		MPE Minimum Distance (in)			
		4.7	4.7		