

MPE Calculation page

Zebo Technologies		Model: Sensor SV1.1	Test Number: 110518T			
MPE Calculator		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 <sup>2</sup>				
				Antenna Gain (dBi)	1	
		Output Power		dBd + 2.17 = dBi	dBi to dBd	2.2
Tx Frequency (MHz)	315	Maximum (Watts)	0.0017	Antenna Gain (dBd)	-1.17	
Cable Loss (dB)	0.0	(dBm)	2.37	Antenna minus cable (dBi)		1.00
	Calculated ERP (mw)	1.319		EIRP = Po(dBm) + Gain (dB)		
	Calculated EIRP (mw)	2.173		Radiated (EIRP) dBm		3.371
				ERP = EIRP - 2.17 dB		
	<b>Occupational Limit</b>			Radiated (ERP) dBm		1.201
	1.05000 mW/cm <sup>2</sup>	<div style="border: 1px solid black; padding: 5px;">                     Power density (S)                      EIRP                      ----- = mW/cm<sup>2</sup>                      4 π r<sup>2</sup>                      r (cm) EIRP (mW)                 </div>				
	10.50000 W/m <sup>2</sup>					
	<b>General Public Limit</b>					
	0.21000 mW/cm <sup>2</sup>					
	2.10000 W/m <sup>2</sup>					
FCC radio frequency radiation exposure limits per 1.1310						
	Frequency (MHz)	Occupational Limit	Public Limit			
	300-1,500	f/300	f/1500			
	1,500-10,000	5	1			
FCC radio frequency radiation exposure limits per 1.1310						
	Frequency (MHz)	Occupational Limit @ Tx Freq	Public Limit @ Tx Freq			
	300-1,500 (mW/cm <sup>2</sup> )	1.05	0.21			
	300-1,500 (W/m <sup>2</sup> )	10.5	2.1			
	1,500-10,000 (mW/cm <sup>2</sup> )	5	1			
	1,500-10,000 (W/m <sup>2</sup> )	50	10			
EIRP	S	S	Distance	Distance	Distance	Distance
milliwatts	mW/cm <sup>2</sup>	W/m <sup>2</sup>	cm	meter	inches	Feet
2.173	0.00002	0.00017	100.00	1.00	39.37	0.08
2.173	0.00007	0.00069	50.00	0.50	19.69	0.04
2.173	0.00011	0.00108	40.00	0.40	15.75	0.03
2.173	0.00019	0.00192	30.00	0.30	11.81	0.03
2.173	0.00043	0.00432	20.00	0.20	7.87	0.02
2.173	0.00053	0.00534	18.00	0.18	7.09	0.02
2.173	0.00077	0.00769	15.00	0.15	5.91	0.01
2.173	0.00088	0.00882	14.00	0.14	5.51	0.01
2.173	0.00102	0.01023	13.00	0.13	5.12	0.01
2.173	0.00120	0.01201	12.00	0.12	4.72	0.01
2.173	0.00173	0.01729	10.00	0.10	3.94	0.01
2.173	0.00214	0.02135	9.00	0.09	3.54	0.01
2.173	0.00228	0.02285	8.70	0.09	3.43	0.01
2.173	0.00692	0.06918	5.00	0.05	1.97	0.00
2.173	0.01081	0.10809	4.00	0.04	1.57	0.00
2.173	0.01922	0.19216	3.00	0.03	1.18	0.00
2.173	0.21351	2.13514	0.90	0.01	0.35	0.00
			Occupational Limit minimum Distance (meters)	Occupational Limit minimum Distance (cm / inches)	Public Limit minimum distance (meters)	Public Limit minimum distance (cm / inches)
		Frequency (MHz)				
		300-1,500	N/A	N/A	0.01	0.9 / 0.35
		1,500-10,000	N/A	N/A	N/A	N/A