MPE calculations

Garmin	Model: GDL 88		Test Number:	111107		
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^2					
					Antenna Gain (dBi)	1
		Output Power		dBd + 2.17 = dBi	dBi to dBd	2.2
Tx Frequency (MHz)	978	Maximum (Watts)	40.0000		Antenna Gain (dBd)	-1.17
Cable Loss (dB)	0.0	(dBm)	46.02		Antenna minus cable (dBi)	1.00
	Calculated ERP (mw)	30553.431		EIRP = Po(dBM) + Gain (dB)		
	Calculated EIRP (mw)	50357.016			Radiated (EIRP) dBm	47.021
				ERP = EIRP - 2.17 dB		
	Occupational Limit				Radiated (ERP) dBm	44.851
3.26000	mW/cm^2					
32.60000	W/m^2					
	General Public Limit					
0.65200	mW/cm^2					
6.52000	W/m^2					

Power density (S)
EIRP
------- = mW/cm^2
4 p r^2
r (cm) EIRP (mW)

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/cm2)	3.26	0.652
300-1,500 (W/m2)	32.6	6.52
1,500-10,000 (mW/cm2)	5	1
1,500-10,000 (W/m2)	50	10

EIRP	S	S	Distance	Distance	Distance	Distance
milliwatts	mW/cm^2	W/m^2	cm	meter	inches	Feet
50357.016	0.40073	4.00728	100.00	1.00	39.37	0.08
50357.016	0.49473	4.94726	90.00	0.90	35.43	0.08
50357.016	0.55464	5.54641	85.00	0.85	33.46	0.07
50357.016	0.62614	6.26138	80.00	0.80	31.50	0.07
50357.016	0.71241	7.12406	75.00	0.75	29.53	0.06
50357.016	0.81781	8.17813	70.00	0.70	27.56	0.06
50357.016	0.94847	9.48470	65.00	0.65	25.59	0.05
50357.016	1.11313	11.13134	60.00	0.60	23.62	0.05
50357.016	1.32472	13.24722	55.00	0.55	21.65	0.05
50357.016	1.60291	16.02914	50.00	0.50	19.69	0.04
50357.016	1.97891	19.78906	45.00	0.45	17.72	0.04
50357.016	2.50455	25.04553	40.00	0.40	15.75	0.03
50357.016	2.92716	29.27161	37.00	0.37	14.57	0.03
50357.016	3.09204	30.92040	36.00	0.36	14.17	0.03
50357.016	3.27125	32.71252	35.00	0.35	13.78	0.03
50357.016	10.01821	100.18210	20.00	0.20	7.87	0.02
50357.016	40.07284	400.72840	10.00	0.10	3.94	0.01

Frequency (MHz)	Occupational Limit minimum Distance (meters)	Occupational Limit minimum Distance (cm / inches)	Public Limit minimum distance (meters)	Public Limit minimum distance (cm / inches)
300-1,500	0.36	36 / 14.2	0.80	80 / 31.5
1,500-10,000	N/A	N/A	N/A	N/A