MPE calculations

Garmin	Model: GTS Processor		Test Number:	111109		
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)	1030	Maximum (Watts)	374.0000		Antenna Gain (dBd)	-1.17
Cable Loss (dB)	0.0	(dBm)	55.73		Antenna minus cable (dBi)	1.00
	Calculated ERP (mw)	285674.583		EIRP = Po(dBM) + Gain (dB)		
	Calculated EIRP (mw)	470838.104			Radiated (EIRP) dBm	56.729
				ERP = EIRP - 2.17 dB		
	Occupational Limit				Radiated (ERP) dBm	54.559
3.43333	mW/cm^2					
34.33333	W/m^2					
	General Public Limit					
0.68667	mW/cm^2					
6.86667	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 (mW/cm^2)
300-1,500 (mW/cm2)	3.433333333	0.686666667
300-1,500 (W/m2)	34.33333333	6.866666667
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
470838.104	0.00937	0.09367	2000.00	20.00	787.40	1.67
470838.104	0.03747	0.37468	1000.00	10.00	393.70	0.83
470838.104	0.14987	1.49872	500.00	5.00	196.85	0.42
470838.104	0.23418	2.34176	400.00	4.00	157.48	0.33
470838.104	0.41631	4.16312	300.00	3.00	118.11	0.25
470838.104	0.59949	5.99490	250.00	2.50	98.43	0.21
470838.104	0.67846	6.78463	235.00	2.35	92.52	0.20
470838.104	0.74011	7.40111	225.00	2.25	88.58	0.19
470838.104	0.93670	9.36703	200.00	2.00	78.74	0.17
470838.104	1.22345	12.23448	175.00	1.75	68.90	0.15
470838.104	1.66525	16.65249	150.00	1.50	59.06	0.13
470838.104	2.39796	23.97959	125.00	1.25	49.21	0.10
470838.104	2.60195	26.01952	120.00	1.20	47.24	0.10
470838.104	2.83313	28.33127	115.00	1.15	45.28	0.10
470838.104	3.09654	30.96538	110.00	1.10	43.31	0.09
470838.104	3.39847	33.98468	105.00	1.05	41.34	0.09
470838.104	3.74681	37.46811	100.00	1.00	39.37	0.08

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	1.05	105 / 41.3	2.35	235 / 92.5
1,500-10,000	N/A	N/A	N/A	N/A