MPE calculations

Garmin	Model: A02546		Test Number:	161114		
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)	29
		Output Power		dBd + 2.17 = dBi	dBi to dBd	2.2
Tx Frequency (MHz)	9400	Maximum (Watts)	4.500000		Antenna Gain (dBd)	26.83
Cable Loss (dB)	0.0	(dBm)	36.5		Antenna minus cable (dBi)	29.00
	Calculated ERP (mw)	2168765.089		EIRP = Po(dBM) + Gain (dB)		
	Calculated EIRP (mw)	3574477.056			Radiated (EIRP) dBm	65.532
				ERP = EIRP - 2.17 dB		
					Radiated (ERP) dBm	63.362

Power density (S)

EIRP
------- = mW/cm^2
4 p r^2

	Occupational Limit	FCC radio frequency radiation exposure limits per 1.1310		
5	mW/cm^2	Frequency (MHz)	Occupational Limit (mW/cm^2)	Public Limit (mW/cm^2)
50	W/m^2	300-1,500	f/300	f/1500
	General Public Limit	1,500-10,000	5	1
1	mW/cm^2			
10	W/m^2			

	Occupational Limit	IC radio frequency radiation exposure limits per RSS-102		
50	W/m^2	Frequency (MHz)	Occupational Limit (W/m^2)	Public Limit (W/m^2)
50.00000	W/m^2	100-6,000	$0.6455f^{0.5}$	
	General Public Limit	6,000-15,000	50	
10	W/m^2	48-300		1.291
10.00000	W/m^2	300-6,000		$0.02619f^{0.6834}$
		6,000-15,000	50	10

EIRP	S	S	Distance	Distance	Distance	Distance
milliwatts	mW/cm^2	W/m^2	cm	meter	inches	Feet
3574477.056	0.28445	2.844	1000.00	10.00	393.70	32.81
3574477.056	0.35117	3.512	900.00	9.00	354.33	29.53
3574477.056	0.44445	4.444	800.00	8.00	314.96	26.25
3574477.056	0.58051	5.805	700.00	7.00	275.59	22.97
3574477.056	0.79013	7.901	600.00	6.00	236.22	19.69
3574477.056	0.94032	9.403	550.00	5.50	216.54	18.04
3574477.056	0.99379	9.938	535.00	5.35	210.63	17.55
3574477.056	1.13779	11.378	500.00	5.00	196.85	16.40
3574477.056	1.77780	17.778	400.00	4.00	157.48	13.12
3574477.056	3.16053	31.605	300.00	3.00	118.11	9.84
3574477.056	3.76129	37.613	275.00	2.750	108.27	9.02
3574477.056	4.55117	45.512	250.00	2.500	98.43	8.20
3574477.056	4.93833	49.383	240.00	2.400	94.49	7.87
3574477.056	5.61872	56.187	225.00	2.250	88.58	7.38
3574477.056	7.11120	71.112	200.00	2.000	78.74	6.56
3574477.056	9.28809	92.881	175.00	1.750	68.90	5.74
3574477.056	12.64213	126.421	150.00	1.500	59.06	4.92

Frequency (MHz)	Occupational Limit minimum Distance (meters)	Public Limit minimum distance (meters)
47CFR 1.1310	2.40	5.35
RSS-102	2.40	5.35