MPE Calculation page

Trig Avionics	Model: TY91		Test Number:	120820		
MPE Calculator	MPE uses EIR	P for calculation. EIRP is based	on TX power added to the antenna	gain in dBi.		
	dBi = dB gain o	compared to an isotropic radiato	r.			
	S = power den	sity in mW/cm^2				
Transmitter max	imum Output po	wer operating at 100% (Watts)	7.4473		Antenna Gain (dBi)	1
Outpo	ut Power for 509	% duty Cycle operation (Watts)	3.7237	dBd + 2.17 = dBi	dBi to dBd	2.2
Tx Frequency (MHz)	127	Calcualtion power (Watts)	3.7237		Antenna Gain (dBd)	-1.17
Cable Loss (dB)	0.0	(dBm)	35.71	I I	Antenna minus cable (dBi)	1.00
Calcu	ulated ERP (mw)	2844.265		EIRP	= Po(dBM) + Gain(dB)	
Calculated EIRP (mw)		4687.810		Radiated (EIRP) dBm		36.710
			_		ERP = EIRP - 2.17 dB	
Occupational Limit		Power density (S)			Radiated (ERP) dBm	34.540
1.00000	mW/cm ²	EIRP				
10.00000		= mW/cm^2				
	w/m	4 p r^2				
General Public Limit		1912				
	mW/cm ²	r (cm) EIRP (mW)				
2.00000	W/m^2					
		FCC radio frequency radiation exposure limits per 1.1310				
		Frequency (MHz)	Occupational Limit	Public Limit		
		30-300 (mW/cm^2)	1	0.2		
		300-1,500 (mW/cm^2)	f/300	f/1500		
		1,500-10,000 (mW/cm^2)	5	1		
		2,500 20,000 (11.11.01.1.2)		-		
		ECC radi	o frequency radiation exposure limits	s per 1 1310		
		Frequency (MHz)	Occupational Limit @ Tx Freq	Public Limit @ Tx Freq		
		30-300 (mW/cm2)	1	0.2		
		30-300 (mw/cm2)	10	2		
		300-1,500 (mW/cm2)	0.423333333	0.084666667		
		300-1,500 (W/m2)	4.233333333	0.84666667		
		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
4687.810	0.00933	0.09326	200.00	2.00	78.74	0.17
4687.810	0.01033	0.10334	190.00	1.90	74.80	0.16
4687.810	0.01151	0.11514	180.00	1.80	70.87	0.15
4687.810	0.01291	0.12908	170.00	1.70	66.93	0.14
4687.810	0.01457	0.14572	160.00	1.60	62.99	0.13
4687.810	0.01658	0.16580	150.00	1.50	59.06	0.13
4687.810	0.01903	0.19033	140.00	1.40	55.12	0.12
4687.810	0.02387	0.23875	125.00	1.25	49.21	0.10
4687.810	0.03730	0.37304	100.00	1.00	39.37	0.08
4687.810	0.14922	1.49218	50.00	0.50	19.69	0.04
4687.810	0.19269	1.92688	44.00	0.44	17.32	0.04
4687.810	0.23315	2.33153	40.00	0.40	15.75	0.03
4687.810	0.41449	4.14493	30.00	0.30	11.81	0.03
4687.810	0.93261	9.32610	20.00	0.20	7.87	0.02
4687.810	1.65797	16.57974	15.00	0.15	5.91	0.01
4687.810	3.73044	37.30441	10.00	0.10	3.94	0.01
4687.810	14.92176	149.21763	5.00	0.05	1.97	0.00
		Fraguency (MII-)	Occupational Limit minimum	Occupational Limit minimum	Public Limit minimum	Public Limit minimum
		Frequency (MHz)	Distance (meters)	Distance (cm / inches)	distance (meters)	distance (cm / inches)
		30-300	0.20	20 / 8	N/A	N/A
		300-1,500	N/A	N/A	N/A	N/A
		1,500-10,000	N/A	N/A	N/A	N/A
		1,500-10,000	IN/M	IV/A	IN/PL	14/PA

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Trig Avionics Limited Model: TY91
Test #: 120820

Test to: CFR47 Parts 2, 87 and RSS-141

File RFExp VZI00882

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