

MPE Calculation page

Laird	RMB024		Test Number: 140728			
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)		5
		Output Power		dBd + 2.17 = dBi		2.2
Tx Frequency (MHz)	2437	Maximum (Watts)	0.963829	Antenna Gain (dBd)		2.83
Cable Loss (dB)	0.0	(dBm)	29.84	Antenna minus cable (dBi)		5.00
	Calculated ERP (mw)	1849.269		EIRP = Po(dBM) + Gain (dB)		
	Calculated EIRP (mw)	3047.895		Radiated (EIRP) dBm		34.840
				ERP = EIRP - 2.17 dB		
				Radiated (ERP) dBm		32.670
Occupational Limit		<div style="border: 1px solid black; padding: 5px;"> Power density (S) EIRP ----- = mW/cm² $4 \pi r^2$ r (cm) EIRP (mW) </div>				
5.00000	mW/cm ²					
50.00000	W/m ²					
General Public Limit						
1.00000	mW/cm ²					
10.00000	W/m ²					
FCC radio frequency radiation exposure limits per 1.1310 (mW/cm2)						
	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	Public Limit			
	300-1,500 (mW/cm2)	8.123333333	1.624666667			
	300-1,500 (W/m2)	81.23333333	16.24666667			
	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
3047.895	0.00097	0.00970	500.00	5.00	196.85	0.42
3047.895	0.00152	0.01516	400.00	4.00	157.48	0.33
3047.895	0.00269	0.02695	300.00	3.00	118.11	0.25
3047.895	0.00606	0.06064	200.00	2.00	78.74	0.17
3047.895	0.02425	0.24254	100.00	1.00	39.37	0.08
3047.895	0.02994	0.29944	90.00	0.90	35.43	0.08
3047.895	0.03790	0.37897	80.00	0.80	31.50	0.07
3047.895	0.04950	0.49499	70.00	0.70	27.56	0.06
3047.895	0.06737	0.67373	60.00	0.60	23.62	0.05
3047.895	0.09702	0.97018	50.00	0.50	19.69	0.04
3047.895	0.15159	1.51590	40.00	0.40	15.75	0.03
3047.895	0.26949	2.69493	30.00	0.30	11.81	0.03
3047.895	0.38807	3.88070	25.00	0.25	9.84	0.02
3047.895	0.50112	5.01124	22.00	0.22	8.66	0.02
3047.895	0.60636	6.06359	20.00	0.20	7.87	0.02
3047.895	1.07797	10.77972	15.00	0.15	5.91	0.01
3047.895	2.42544	24.25438	10.00	0.10	3.94	0.01
			Occupational Limit minimum	Occupational Limit minimum	Public Limit	Public Limit
			Distance	Distance	minimum	minimum distance
	Frequency (MHz)		(meters)	(cm / inches)	distance (meters)	(cm / inches)
	300-1,500		N/A	N/A	N/A	N/A
	1,500-10,000		0.22	22 / 9	0.50	50 / 20

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 Revision 1

Laird Technologies
 Model: RMB024
 Test #: 140728
 Test to: CFR47 (15.247), RSS-210 (DTS)
 File: RFExp RMB024

SN: PP7
 FCC ID#: SQG-RMB024
 IC: 3147A-RMB024
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