

Mikrotik	Model: CRS109-8G-1S-2HnE		Test Number: 140423				
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 <sup>2</sup>						
				Antenna Gain (dBi)	2		
		Output Power		dBd + 2.17 = dBi	dBd to dBd	2.2	
Tx Frequency (MHz)	2437	Maximum (Watts)	1.000000		Antenna Gain (dBd)	-0.17	
Cable Loss (dB)	0.0	(dBm)	30.00		Antenna minus cable (dBi)	2.00	
	Calculated ERP (mw)	961.612		EIRP = Po(dBm) + Gain (dB)			
	Calculated EIRP (mw)	1584.893			Radiated (EIRP) dBm	32.000	
				EIRP = EIRP - 2.17 dB			
	<b>Occupational Limit</b>				Radiated (ERP) dBm	29.830	
	5.00000 mW/cm <sup>2</sup>	<div style="border: 1px solid black; padding: 5px;">           Power density (S)            EIRP            ----- = mW/cm<sup>2</sup>  <math>4 \pi r^2</math>            r (cm) EIRP (mW)         </div>					
	50.00000 W/m <sup>2</sup>						
	<b>General Public Limit</b>						
	1.00000 mW/cm <sup>2</sup>						
	10.00000 W/m <sup>2</sup>						
FCC radio frequency radiation exposure limits per 1.1310 (mW/cm <sup>2</sup> )							
	Frequency (MHz)	Occupational Limit	Public Limit				
	300-1,500	ƒ/300	ƒ/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/cm <sup>2</sup> )	8.123333333	1.624666667				
	300-1,500 (W/m <sup>2</sup> )	81.23333333	16.24666667				
	1,500-10,000 (mW/cm <sup>2</sup> )	5	1				
	1,500-10,000 (W/m <sup>2</sup> )	50	10				
EIRP	S	S	Distance	Distance	Distance	Distance	
milliwatts	mW/cm <sup>2</sup>	W/m <sup>2</sup>	cm	meter	inches	Feet	
1584.893	0.00050	0.00504	500.00	5.00	196.85	0.42	
1584.893	0.00079	0.00788	400.00	4.00	157.48	0.33	
1584.893	0.00140	0.01401	300.00	3.00	118.11	0.25	
1584.893	0.00315	0.03153	200.00	2.00	78.74	0.17	
1584.893	0.00412	0.04118	175.00	1.75	68.90	0.15	
1584.893	0.00561	0.05605	150.00	1.50	59.06	0.13	
1584.893	0.00807	0.08072	125.00	1.25	49.21	0.10	
1584.893	0.01261	0.12612	100.00	1.00	39.37	0.08	
1584.893	0.02242	0.22422	75.00	0.75	29.53	0.06	
1584.893	0.05045	0.50449	50.00	0.50	19.69	0.04	
1584.893	0.07883	0.78826	40.00	0.40	15.75	0.03	
1584.893	0.14014	1.40135	30.00	0.30	11.81	0.03	
1584.893	0.31530	3.15304	20.00	0.20	7.87	0.02	
1584.893	0.56054	5.60541	15.00	0.15	5.91	0.01	
1584.893	1.04233	10.42329	11.00	0.11	4.33	0.01	
1584.893	1.26122	12.61218	10.00	0.10	3.94	0.01	
1584.893	5.04487	50.44872	5.00	0.05	1.97	0.00	
			Occupational Limit minimum	Occupational Limit minimum	Public Limit	Public Limit	
	Frequency (MHz)		Distance	Distance	minimum	minimum distance	
	300-1,500		(meters)	(cm / inches)	distance (meters)	(cm / inches)	
	1,500-10,000		N/A	N/A	N/A	N/A	
			0.05	5 / 2	0.11	11 / 4.3	

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 Revision 1

Mikrotik SIA  
 Model: CRS109-8G-1S-2HnE  
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 File: RFExp CRS109 8G2HnD

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