

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)	24	
		Output Power	dBd + 2.17 = dBi	dBi to dBd	2.2	
Tx Frequency (MHz)	2437	Maximum (Watts)	0.530000	Antenna Gain (dBd)	21.83	
Cable Loss (dB)	0.0	(dBm)	27.24	Antenna minus cable (dBi)	24.00	
	Calculated ERP (mw)	80774.796		EIRP = Po(dBm) + Gain (dB)		
	Calculated EIRP (mw)	133129.981		Radiated (EIRP) dBm	51.243	
				ERP = EIRP - 2.17 dB		
	Occupational Limit			Radiated (ERP) dBm	49.073	
	5.00000 mW/cm ²					
	50.00000 W/m ²					
	General Public Limit					
	1.00000 mW/cm ²					
	10.00000 W/m ²					
	<div style="border: 1px solid black; padding: 5px; width: fit-content;"> Power density (S) EIRP ----- = mW/cm² 4 p r² r (cm) EIRP (mW) </div>					
	FCC radio frequency radiation exposure limits per 1.1310 (mW/cm2)					
	Frequency (MHz)	Occupational Limit	Public Limit			
	300-1,500	f300	f1500			
	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
133129.981	0.04238	0.42377	500.00	5.00	196.85	0.42
133129.981	0.06621	0.66213	400.00	4.00	157.48	0.33
133129.981	0.11771	1.17713	300.00	3.00	118.11	0.25
133129.981	0.26485	2.64854	200.00	2.00	78.74	0.17
133129.981	0.34593	3.45931	175.00	1.75	68.90	0.15
133129.981	0.47085	4.70851	150.00	1.50	59.06	0.13
133129.981	0.52540	5.25399	142.00	1.42	55.91	0.12
133129.981	0.73570	7.35705	120.00	1.20	47.24	0.10
133129.981	0.87555	8.75549	110.00	1.10	43.31	0.09
133129.981	0.90828	9.08277	108.00	1.08	42.52	0.09
133129.981	0.96092	9.60920	105.00	1.05	41.34	0.09
133129.981	0.99860	9.98600	103.00	1.03	40.55	0.09
133129.981	1.05941	10.59415	100.00	1.00	39.37	0.08
133129.981	1.88340	18.83404	75.00	0.75	29.53	0.06
133129.981	4.23766	42.37659	50.00	0.50	19.69	0.04
133129.981	5.00669	50.06686	46.00	0.46	18.11	0.04
133129.981	5.23168	52.31678	45.00	0.45	17.72	0.04
			Occupational Limit minimum Distance (meters)	Occupational Limit minimum Distance (cm / inches)	Public Limit minimum distance (meters)	Public Limit minimum distance (cm / inches)
		Frequency (MHz)				
		300-1,500	N/A	N/A	N/A	N/A
		1,500-10,000	0.46	46 / 18	1.03	103 / 41

Rogers Labs, Inc.
 4405 W. 259th Terrace
 Louisburg, KS 66053
 Phone/Fax: (913) 837-3214
 Revision 1

Mikrotikls SIA
 Model: RBGrooveA 52HPn
 Test #: 130318
 Test to: CFR47 (15.247)
 File: RFExp RBGroove52HPn

SN: 2BAB015524CB
 FCC ID#: TV7GRV-A52HPN
 Date: September 4, 2013
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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)	32	
		Output Power	dBd + 2.17 = dBi	dBi to dBd	2.2	
Tx Frequency (MHz)	5785	Maximum (Watts)	0.520000	Antenna Gain (dBd)	29.83	
Cable Loss (dB)	0.0	(dBm)	27.16	Antenna minus cable (dBi)	32.00	
	Calculated ERP (mw)	500038.385		EIRP = Po(dBm) + Gain (dB)		
	Calculated EIRP (mw)	824144.460		Radiated (EIRP) dBm	59.160	
				ERP = EIRP - 2.17 dB		
	Occupational Limit			Radiated (ERP) dBm	56.990	
	5.00000 mW/cm ²					
	50.00000 W/m ²					
	General Public Limit					
	1.00000 mW/cm ²					
	10.00000 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 (mW/cm2)					
	Frequency (MHz)	Occupational Limit	Public Limit			
	300-1,500	f300	f1500			
	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)	19.28333333	3.856666667			
	300-1,500 (W/m2)	192.8333333	38.56666667			
	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
824144.460	0.26233	2.62333	500.00	5.00	196.85	0.42
824144.460	0.40990	4.09896	400.00	4.00	157.48	0.33
824144.460	0.72870	7.28704	300.00	3.00	118.11	0.25
824144.460	0.86722	8.67218	275.00	2.75	108.27	0.23
824144.460	1.00859	10.08586	255.00	2.55	100.39	0.21
824144.460	1.04933	10.49333	250.00	2.50	98.43	0.21
824144.460	1.29547	12.95473	225.00	2.25	88.58	0.19
824144.460	1.63958	16.39583	200.00	2.00	78.74	0.17
824144.460	2.14150	21.41497	175.00	1.75	68.90	0.15
824144.460	2.91481	29.14815	150.00	1.50	59.06	0.13
824144.460	4.19733	41.97333	125.00	1.25	49.21	0.10
824144.460	4.55440	45.54398	120.00	1.20	47.24	0.10
824144.460	4.95904	49.59042	115.00	1.15	45.28	0.10
824144.460	5.42011	54.20110	110.00	1.10	43.31	0.09
824144.460	6.55833	65.58333	100.00	1.00	39.37	0.08
824144.460	11.65926	116.59259	75.00	0.75	29.53	0.06
824144.460	26.23333	262.33333	50.00	0.50	19.69	0.04
			Occupational Limit minimum Distance (meters)	Occupational Limit minimum Distance (cm / inches)	Public Limit minimum distance (meters)	Public Limit minimum distance (cm / inches)
		Frequency (MHz)				
		300-1,500	N/A	N/A	N/A	N/A
		1,500-10,000	1.20	115 / 45	2.55	255 / 100

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