

# RF Exposure Calculations

Mikrotik	Model: Net Metal 5	Test Number:	170206		
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>				
		Output Power	dBd + 2.17 = dBi	Antenna Gain (dBi)	36.7
		Maximum (Watts)	0.170000	dBi to dBd	2.2
Tx Frequency (MHz)	5785			Antenna Gain (dBd)	34.53
Cable Loss (dB)	0.0	(dBm)	22.3	Antenna minus cable (dBi)	36.70
	Calculated ERP (mw)	482446.235	EIRP = Po(dBm) + Gain (dB)		
	Calculated EIRP (mw)	795149.740	ERP = EIRP - 2.17 dB	Radiated (EIRP) dBm	59.004
		Power density (S)		Radiated (ERP) dBm	56.834
		EIRP ----- = mW/cm <sup>2</sup> 4 π r <sup>2</sup> EIRP (mW), r (cm)			
	<b>Occupational Limit</b>	FCC radio frequency radiation exposure limits per 1.1310			
5	mW/cm <sup>2</sup>	Frequency (MHz)	Occupational Limit (mW/cm <sup>2</sup> )	Public Limit (mW/cm <sup>2</sup> )	
50	W/m <sup>2</sup>	300-1,500	ƒ/300	ƒ/1500	
	<b>General Public Limit</b>	1,500-10,000	5	1	
1	mW/cm <sup>2</sup>				
10	W/m <sup>2</sup>				
	<b>Occupational Limit</b>	IC radio frequency radiation exposure limits per RSS-102			
0.6455ƒ <sup>0.5</sup>	W/m <sup>2</sup>	Frequency (MHz)	Occupational Limit (W/m <sup>2</sup> )	Public Limit (W/m <sup>2</sup> )	
49.09621	W/m <sup>2</sup>	100-6,000	0.6455ƒ <sup>0.5</sup>		
	<b>General Public Limit</b>	6,000-15,000	50		
0.02619ƒ <sup>0.6834</sup>	W/m <sup>2</sup>	48-300		1.291	
9.75649	W/m <sup>2</sup>	300-6,000		0.02619ƒ <sup>0.6834</sup>	
		6,000-15,000	50	10	
EIRP	S	S	Distance	Distance	Distance
milliwatts	mW/cm <sup>2</sup>	W/m <sup>2</sup>	cm	meter	inches
795149.740	0.25310	2.531	500.00	5.00	196.85
795149.740	0.39548	3.955	400.00	4.00	157.48
795149.740	0.70307	7.031	300.00	3.00	118.11
795149.740	0.97310	9.731	255.00	2.55	100.39
795149.740	0.99641	9.964	252.00	2.52	99.21
795149.740	1.01242	10.124	250.00	2.50	98.43
795149.740	1.24990	12.499	225.00	2.25	88.58
795149.740	1.58190	15.819	200.00	2.00	78.74
795149.740	2.06616	20.662	175.00	1.75	68.90
795149.740	2.81227	28.123	150.00	1.50	59.06
795149.740	4.04966	40.497	125.00	1.250	49.21
795149.740	4.39417	43.942	120.00	1.200	47.24
795149.740	4.86888	48.689	114.00	1.140	44.88
795149.740	4.95544	49.554	113.00	1.130	44.49
795149.740	5.22942	52.294	110.00	1.100	43.31
795149.740	6.32760	63.276	100.00	1.000	39.37
795149.740	7.81185	78.119	90.00	0.900	35.43
		Frequency (MHz)	Occupational Limit minimum Distance (meters)	Public Limit minimum distance (meters)	
		47CFR 1.1310	1.13	2.52	
		RSS-102	1.14	2.55	

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Revision 1

Mikrotik SIA  
Model: RB921UAGS5SHPacTNMUS  
Test #: 170206  
Test to: CFR47 15 and RSS-247  
File: RB921UAGS5SHPacTNMUS RFE

S/N: 6208042288DF  
FCC ID: TV7RB921-5SHPACT  
IC: 7442A-5SHPACT  
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