

RF Exposure Calculation

Mikrotik	Model: R52HnD	Test Number:	160720		
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				
		Output Power	dBd + 2.17 = dBi	Antenna Gain (dBi)	35
		Maximum (Watts)	0.103	dBi to dBd	2.2
Tx Frequency (MHz)	5785			Antenna Gain (dBd)	32.83
Cable Loss (dB)	0.0	(dBm)	20.1	Antenna minus cable (dBi)	35.00
	Calculated ERP (mw)	197622.880	EIRP = Po(dBm) + Gain (dB)		
	Calculated EIRP (mw)	325714.599	ERP = EIRP - 2.17 dB	Radiated (EIRP) dBm	55.128
		Power density (S)		Radiated (ERP) dBm	52.958
		EIRP ----- = mW/cm ² 4 π r ²			
		EIRP (mW), r (cm)			
	Occupational Limit	FCC radio frequency radiation exposure limits per 1.1310			
5	mW/cm ²	Frequency (MHz)	Occupational Limit (mW/cm ²)	Public Limit (mW/cm ²)	
50	W/m ²	300-1,500	5	1	
	General Public Limit	1,500-10,000			
1	mW/cm ²				
10	W/m ²				
	Occupational Limit	IC radio frequency radiation exposure limits per RSS-102			
0.6455f ^{0.5}	W/m ²	Frequency (MHz)	Occupational Limit (W/m ²)	Public Limit (W/m ²)	
49.09621	W/m ²	100-6,000	0.6455f ^{0.5}		
	General Public Limit	6,000-15,000	50		
0.02619f ^{0.6834}	W/m ²	48-300		1.291	
9.75649	W/m ²	300-6,000		0.02619f ^{0.6834}	
		6,000-15,000	50	10	
EIRP	S	S	Distance	Distance	Distance
milliwatts	mW/cm ²	W/m ²	cm	meter	inches
325714.599	0.64799	6.47989	200.00	2.00	78.74
325714.599	0.84635	8.46352	175.00	1.75	68.90
325714.599	0.95205	9.52049	165.00	1.65	64.96
325714.599	0.99994	9.99944	161.00	1.61	63.39
325714.599	1.92624	19.26244	116.00	1.16	45.67
325714.599	1.99442	19.94425	114.00	1.14	44.88
325714.599	2.14211	21.42111	110.00	1.10	43.31
325714.599	2.59195	25.91954	100.00	1.00	39.37
325714.599	3.19994	31.99944	90.00	0.90	35.43
325714.599	4.04993	40.49929	80.00	0.80	31.50
325714.599	4.86387	48.63866	73.00	0.730	28.74
325714.599	4.99991	49.99912	72.00	0.720	28.35
325714.599	8.56844	85.68444	55.00	0.550	21.65
325714.599	9.58563	95.85630	52.00	0.520	20.47
325714.599	9.96522	99.65223	51.00	0.510	20.08
325714.599	10.36782	103.67818	50.00	0.500	19.69
325714.599	16.19972	161.99715	40.00	0.400	15.75
		Frequency (MHz)	Occupational Limit minimum Distance (meters)	Public Limit minimum distance (meters)	
		47CFR 1.1310	0.72	1.61	
		RSS-102	0.73	1.65	

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

Mikrotiks SIA
Model: R52HnD
Test #: 160720
Test to: 47CFR, 15.247, 15.407, RSS-247
File: R52HnD RFExp

S/N: 26114
FCC: TV7R52HND
IC: 7442A-R52HND
Date: August 30, 2016
Page 1 of 1