U-NII-1 Band (5180-5240 MHz)

Mikrotik	Model: R11e-5HacD					
MPE Calculator		on EIDD is bosed on TV	power added to the antenna gain in dBi.			
VIFE Calculator	dBi = dB gain compared to a		power added to the antenna gain in dbi.			
	S = power density in mW/cn					
	S = power density in niw/cn	11 2			Antenna Gain (dBi)	
		Output Power		dBd + 2.17 = dBi	dBi to dBd	2.:
Tx Frequency (MHz)	5210	Maximum (Watts)	0.069000		Antenna Gain (dBd)	6.8
1x Frequency (WITIZ)	3210	iviaxiiiiuiii (vv aus)	0.009000	,	Antenna Gan (dbd)	0.8
Cable Loss (dB)	0.0	(dBm)	18.4		Antenna minus cable (dBi)	9.0
	Calculated ERP (mw)	222 544		EIRP = Po(dBM) + Gain (dB)		
	Calculated EIRP (mw)			EIRF = FO(dBM) + Galli (dB)	Radiated (EIRP) dBm	27.38
	Calculated EIRF (IIIW)			ERP = EIRP - 2.17 dB	Radiated (EIRF) doi:	21.30
		Power density (S)		Esta Esta 2.17 ab	Radiated (ERP) dBm	25.21
		EIRP				
		= mW/cn	r^2			
		4 p r^2				
5 50		EIRP (mW), r (cm)				
	Occupational Limit		FCC radio frequency radiation exposure	limits per 1.1310		
		Frequency (MHz)	Occupational Limit (mW/cm²)	Public Limit (mW/cm ²)		
		300-1,500	f/300	f/1500		
	General Public Limit	1,500-10,000	5	1 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1		
	mW/cm ²	1,500-10,000	<u> </u>	1		
I						
10	W/m ²					
	Occupational Limit		IC radio frequency radiation exposure lin	mits per RSS-102		
$0.6455 f^{0.5}$		Frequency (MHz)	Occupational Limit (W/m²)	Public Limit (W/m²)		
46.59240		100-6,000	$0.6455 f^{0.5}$	Fublic Littit (W/III)		
40.39240	W/m General Public Limit	6,000-15,000	0.6455 <i>f</i> 50			
0.02.540.40.6834			30	1.291		
$0.02619 f^{0.6834}$		48-300				
9.08286	W/m ²	300-6,000		$0.02619f^{0.6834}$		
		6,000-15,000	50	10		
FIDD	9	G.	D' :	D' .	D' :	D' -
EIRP	S 2	S 2	Distance	Distance	Distance	Distance
milliwatts	mW/cm ²	W/m ²	cm	meter	inches	Feet
548.086	0.00436	0.044	100.00 90.00	1.00 0.90	39.37	3.28
548.086 548.086	0.00538 0.00681	0.054 0.068	80.00	0.90	35.43 31.50	2.95
548.086	0.00890	0.089	70.00	0.30	27.56	2.62
548.086	0.01212	0.121	60.00	0.60	23.62	1.97
548.086	0.01745	0.174	50.00	0.50	19.69	1.64
548.086	0.02726	0.273	40.00	0.40	15.75	1.31
548.086	0.04846	0.485	30.00	0.30	11.81	0.98
548.086	0.10904	1.090	20.00	0.20	7.87	0.66
548.086	0.19385	1.938	15.00	0.15	5.91	0.49
548.086	0.43615	4.362	10.00	0.100	3.94	0.33
548.086	0.53846	5.385	9.00	0.090	3.54	0.30
548.086	0.68149	6.815	8.00	0.080	3.15	0.26
548.086	0.89011	8.901	7.00	0.070	2.76	0.23
548.086	1.21154	12.115	6.00	0.060	2.36	0.20
548.086	1.74461	17.446	5.00	0.050	1.97	0.16
548.086	2.72596	27.260	4.00	0.040	1.57	0.13
		Frequency (MHz)	Occupational Limit minimum Distance (meters)	Public Limit minimum distance (meters)		
		47CFR 1.1310		0.20		
		RSS-102		0.20		

Rogers Labs, Inc. 4405 W. 259th Terrace Louisburg, KS 66053

Phone/Fax: (913) 837-3214

Revision 2

Mikrotikls SIA Model: R11e-5HacD Test #: 181029

Test to: 47CFR, 15.407, RSS-247 File: RFExp R11e5HacD

S/N: 8EDC0800A953/814/r2 FCC ID: TV7R11E5HAM IC: 7442A-R11E5HAM -247 Date: January 31, 2019

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U-NII-3 Band (5745-5825 MHz)

Mikrotik	Model: R11e-5HacD					
MPE Calculator		on. 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)	2
		Output Power		dBd + 2.17 = dBi	dBi to dBd	2
Tx Frequency (MHz)	5785	Maximum (Watts)	0.194389)	Antenna Gain (dBd)	21.
Cable Loss (dB)	0.0	(dBm)	22.5		Antenna minus cable (dBi)	24.0
	Calculated ERP (mw)			EIRP = Po(dBM) + Gain (dB)		
	Calculated EIRP (mw)	48828.273			Radiated (EIRP) dBm	46.88
		Power density (S)		ERP = EIRP - 2.17 dB	Radiated (ERP) dBm	44.71
		EIRP			Radiated (ERF) dBill	44.7
		= mW/cn	n^2			
		4 p r^2				
		EIRP (mW), r (cm)				
	Occupational Limit		FCC radio frequency radiation exposure	limits per 1.1310		
		Frequency (MHz)	Occupational Limit (mW/cm²)	Public Limit (mW/cm ²)		
		300-1,500	f/300	f/1500		
	General Public Limit	1,500-10,000	5	1		
1	mW/cm ²	1,500 10,000		•		
10						
10	W/III					
	Occupational Limit		IC radio frequency radiation exposure li	1		
$0.6455 f^{0.5}$		Frequency (MHz)	Occupational Limit (W/m²)	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	Distance
milliwatts	mW/cm ²	W/m^2	cm	meter	inches	Feet
48828.273	0.38856	3.886	100.00	1.00	39.37	3.28
48828.273	0.47971	4.797	90.00	0.90	35.43	2.95
48828.273	0.60713	6.071	80.00	0.80	31.50	2.62
48828.273	0.79299	7.930	70.00	0.70	27.56	2.30
48828.273	0.91968	9.197	65.00	0.65	25.59	2.13
48828.273	0.94864	9.486	64.00	0.64	25.20	2.10
48828.273 48828.273	1.07934 1.55425	10.793 15.543	60.00 50.00	0.60 0.50	23.62 19.69	1.97 1.64
48828.273	2.42852	24.285	40.00	0.40	15.75	1.31
48828.273	4.31737	43.174	30.00	0.30	11.81	0.98
48828.273	4.62025	46.203	29.00	0.290	11.42	0.95
48828.273	4.95616	49.562	28.00	0.280	11.02	0.92
48828.273	5.33008	53.301	27.00	0.270	10.63	0.89
48828.273	5.74797	57.480	26.00	0.260	10.24	0.85
48828.273	6.21701	62.170	25.00	0.250	9.84	0.82
48828.273	9.71408	97.141	20.00	0.200	7.87	0.66
48828.273	38.85631	388.563	10.00	0.100	3.94	0.33
		Frequency (MHz)	Occupational Limit minimum Distance (meters)	Public Limit minimum distance (meters)		
		47CFR 1.1310	0.29	0.64		
		RSS-102	0.29	0.64		

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Test to: 47CFR, 15.407, RSS-247 File: RFExp R11e5HacD

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