



MPE/RF EXPOSURE EVALUATION

FCC CFR 47 Part 1.1310

Report No.: MIKO120-U2A Rev A FCC MPE

Company: Mikrotiks SIA

Evaluation of: RBOmniTikPG-5HacD-US

MPE/RF EXPOSURE EVALUATION

FROM



Evaluation of: Mikrotikls SIA RBOmniTikPG-5HacD-US

To: FCC CFR 47 Part 1.1310

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Calculations for RF Exposure Evaluation

Power Density = Pd (W/m²) = EIRP/(4*π*d²)

EIRP = P * G

P = Peak output power (W)

G = Antenna numeric gain (numeric)

d = Separation distance (m)

Numeric Gain = 10 ^ (G (dBi)/10)

Because the EUT belongs to the General Population/Uncontrolled Exposure the limit of power density is 1.0 mW/cm²

Freq. Band (MHz)	Ant Gain (dBi)	Numeric Gain (numeric)	Peak Output Power (dBm)	Peak Output Power (mW)	Calculated Power Density (mW/cm ²) @ 20cm	Power Density Limit (mW/cm ²)	Min Calculated safe distance for Limit (cm)
5150.0 - 5250.0	7.50	5.62	15.44	34.99	0.04	1.00	1.77
5250.0 – 5350.0	7.50	5.62	15.67	36.90	0.04	1.00	1.82
5470.0 – 5725.0	7.50	5.62	15.25	33.50	0.04	1.00	1.73
5725.0 - 5850.0	7.50	5.62	25.99	397.19	0.44	1.00	13.33

Note: for mobile or fixed location transmitters the minimum separation distance is 20 cm, even if calculations indicate the MPE distance to be less.

Specification - RF Exposure Evaluation Limits

The Limit is defined in Table 1 of FCC §1.1310.

Specification - Maximum Permissible Exposure Limits

TABLE 1—LIMITS FOR MAXIMUM PERMISSIBLE EXPOSURE (MPE)

Frequency range (MHz)	Electric field strength (V/m)	Magnetic field strength (A/m)	Power density (mW/cm ²)	Averaging time (minutes)
(A) Limits for Occupational/Controlled Exposure				
0.3-3.0	614	1.63	*100	6
3.0-30	1842/f	4.89/f	*900/f ²	6
30-300	61.4	0.163	1.0	6
300-1,500	--	--	f/300	6
1,500-100,000	--	--	5	6
(B) Limits for General Population/Uncontrolled Exposure				
0.3-1.34	614	1.63	*100	30
1.34-30	824/f	2.19/f	*180/f ²	30
30-300	27.5	0.073	0.2	30
300-1,500	--	--	f/1500	30
1,500-100,000	--	--	1.0	30

f = frequency in MHz * = Plane-wave equivalent power density



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