	HVIN: E6V2			Test Number: 240416		

MPE Calculator — RF Exposure 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

Transmitter Output power (mW)	1977.0		Antenna Gain (dBi)	14
Transmitter Output power (W)	1.98			
Output Power for % duty Cycle operation (Watts)	100	1.98	Antenna Gain (Numeric)	25.12
Output Power for 100% duty Cycle operation (Watts)	1.98			
Tx Frequency (MHz)	915	Calculation power (Watts)	1.98	dBd + 2.17 = dBi	dBi to dBd	2.17
					Antenna Gain (dBd)	11.83
Cable Loss (dB)	0.0	Adjusted Power (dBm)	32.96	Antenna minus cable (dBi)	14.00
				Antenna Gain (Numeric)	25.12
		Calculated ERP (mw)	30130.060	EIRP = Po(dBm) + Gain (dB)	
		Calculated EIRP (mw)	49659.232	Radiated (EIRP) dBm	46.960
				ERP = EIRP - 2.17 dB	
				Radiated (ERP) dBm	44.790

Power density (S) mW/cm² = EIRP / (4 p r^2)

r (cm)   EIRP (mW)

FCC radio frequency radiation exposure limits per 1.1310

Occupational Limit		Frequency (MHz)	Occupational Limit (mW/cm²)	Public Limit (mW/cm²)
3.05	mW/cm²	30-300	1	0.2
30.5	W/m²	300-1,500	f/300	f/1500
General Public Limit		1,500-10,000	5	1
0.61	mW/cm²			
6.1	W/m²			

IC radio frequency radiation exposure limits per RSS-102

Occupational Limit		Frequency (MHz)	Occupational Limit (W/m²)	Public Limit (W/m²)
$0.6455f^{0.5}$	W/m²	100-6,000	$0.6455f^{0.5}$	
19.5	W/m²	6,000-15,000	50	
General Public Limit		48-300		1.291
$0.02619f^{0.6834}$	W/m²	300-6,000		$0.02619f^{0.6834}$
2.77	W/m²	6,000-15,000	50	10

					General Public	Occupational	
f = Transmit Frequency (MHz)				f (MHz) =	915	915	MHz
P_T = Power Input to Antenna (mW)				P_T (mW) =	1,976.9696	1,976.9696	mW
Duty cycle (percentage of operation)				% =	100	100	%
P_A = Adjusted Power due to Duty cycle or Cable Loss (mW)				P_A (mW) =	1,976.97	1,976.97	mW
G_N = Numeric Gain of the Antenna				GN (numeric) =	25.12	25.12	numeric
S_20 = Power Density of device at 20cm (mW/m²)		$S_{20}=(P_AG_N)/(4\pi R_{20})^2$		S_{20} (mW/m²) =	9.88	9.88	mW/m²
S_20 = Power Density of device at 20cm (W/m²)		$S_{20}=(P_AG_N)/(4\pi R_{20})^2$		S_{20} (W/m²) =	98.79	98.79	W/m²
S_L = Power Density Limit (W/m²) FCC				S_L (W/m²)=	6.100	30.500	W/m²
S_L = Power Density Limit (W/m²) Canada				S_L (W/m²)=	2.767	19.526	W/m²
R_C = Minimum distance to the Radiating Element for Compliance (cm) FCC		$R_C=\sqrt{(P_AG_N/4\pi s_L)}$		R_C (cm) =	80.5	36.0	cm
R_C = Minimum distance to the Radiating Element for Compliance (cm) Canada		$R_C=\sqrt{(P_AG_N/4\pi s_L)}$		R_C (cm) =	119.5	45.0	cm
S_C = Power Density of the device at the Compliance Distance R_C (W/m²) FCC		$S_C=(P_AG_N)/(4\pi R_C)^2$		S_C (W/m²) =	6.10	30.50	W/m²
S_C = Power Density of the device at the Compliance Distance R_C (W/m²) Canada		$S_C=(P_AG_N)/(4\pi R_C)^2$		S_C (W/m²) =	2.77	19.53	W/m²
R_20 = 20cm				R20=	20	20	cm

For Compliance with Canada General Population Limits, User Manual must indicate a minimum separation distance of	119.5	cm
Or in Meters for Compliance with Canada General Population Limits, a minimum separation distance of	1.20	Meters

Summary: Standalone MPE Calculations and Summary

	Tx Duty Cycle (%)	Tx Frequency (MHz)	Power Total (mW)	Antenna Gain (numeric)	Public Limit S_L (W/m²)	S_{20} (W/m²)	Public R_C (cm)	S_C (W/m²)
FCC	100	915	1,977	25.12	6.100	98.79	80.5	6.10
Canada	100	915	1,977	25.12	2.767	98.79	119.5	2.77

	Limit		Overall Minimum (cm)	Overall Minimum (inches)
	Public	Occupational		
FCC (cm)	80.5	36.0		
FCC (inches)	32.0	15.0		
Canada (cm)	119.5	45.0		
Canada (inches)	48.0	18.0		

Overall Minimum Limit Public	Overall Minumu Limit Occupational
120 cm	45 cm
48 inches	18 inches