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)	2.100000		
Transmitter Output power (W)	0.002		
Output Power for % duty Cycle operation (Watts) 100	0.002	Antenna Gain (dBi)	0
Output Power for 100% duty Cycle operation (Watts)	0.002	Antenna Gain (Numeric)	1.00

Tx Frequency (MHz) **915**   Calculation power (Watts) **0.002**   dBd + 2.17 = dBi   dBi to dBd 2.17

Antenna Gain (dBd) **-2.17**

Cable Loss (dB) **0.0**   Adjusted Power (dBm) 3.22   Antenna minus cable (dBi) 0.00
Antenna Gain (Numeric) 1.00

Calculated ERP (mw) 1.274   EIRP = Po(dBm) + Gain (dB)
Calculated EIRP (mw) 2.100   Radiated (EIRP) dBm 3.222
ERP = EIRP - 2.17 dB
Radiated (ERP) dBm 1.052

$$\text{Power density (S) mW/cm}^2 = \frac{EIRP}{4\,p\,r^2}$$

r (cm)   EIRP (mW)

	Occupational Limit	FCC radio frequency radiation exposure limits per 1.1310	
3.05	mW/cm^2	Frequency (MHz)	Occupational Limit (mW/cm^2)	Public Limit (mW/cm^2)
30.5	W/m^2	30-300	1	0.2
	General Public Limit	300-1,500	f/300	f/1500
0.61	mW/cm^2	1,500-10,000	5	1
6.1	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)
19.5	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
2.77	W/m^2	300-6,000		$0.02619f^{0.6834}$
		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) =	2.1000	2.1000 mW
Duty cycle (percentage of operation)		% =	100	100 %
P_A = Adjusted Power due to Duty cycle or Cable Loss (mW)		P_A (mW) =	2.10	2.10 mW
G_N = Numeric Gain of the Antenna		GN (numeric) =	1.00	1.00 numeric
S_{20} = Power Density of device at 20cm (mW/m^2)	$S_{20}=(P_A G_N)/(4\pi R_{20})^2$	S_{20} (mW/m^2) =	0.00	0.00 mW/m^2
S_{20} = Power Density of device at 20cm (W/m^2)	$S_{20}=(P_A G_N)/(4\pi R_{20})^2$	S_{20} (W/m^2) =	0.00	0.00 W/m^2
S_L = Power Density Limit (W/m^2) FCC		S_L (W/m^2)=	6.100	30.500 W/m^2
S_L = Power Density Limit (W/m^2) Canada		S_L (W/m^2)=	2.767	19.526 W/m^2
R_C = Minimum distance to the Radiating Element for Compliance (cm) FCC	$R_C=\sqrt{(P_A G_N/4\pi s_L)}$	R_C (cm) =	0.5	0.2 cm
R_C = Minimum distance to the Radiating Element for Compliance (cm) Canada	$R_C=\sqrt{(P_A G_N/4\pi s_L)}$	R_C (cm) =	0.8	0.3 cm
S_C = Power Density of the device at the Compliance Distance R_C (W/m^2) FCC	$S_C=(P_A G_N)/(4\pi R_C)^2$	S_C (W/m^2) =	6.10	30.50 W/m^2
S_C = Power Density of the device at the Compliance Distance R_C (W/m^2) Canada	$S_C=(P_A G_N)/(4\pi R_C)^2$	S_C (W/m^2) =	2.77	19.53 W/m^2
R_{20} = 20cm		R20=	20	20 cm

For Compliance with Canada General Population Limits, User Manual must indicate a minimum separation distance of   0.8 cm
Or in Meters for Compliance with Canada General Population Limits, a minimum separation distance of   0.01 Meters

Summary: Standalone MPE Calculations and Summary				Public Limit		Public	
	Tx Duty Cycle (%)	Tx Frequency (MHz)	Power Total (mW)	Antenna Gain (numeric)	S_L (W/m^2)	S_{20} (W/m^2)	R_C (cm)	S_C (W/m^2)
FCC	100	915	2	1.00	6.100	0.00	0.5	6.10
Canada	100	915	2	1.00	2.767	0.00	0.8	2.77

	Limit		Overall Minimum (cm)	Overall Minimum (inches)
	Public	Occupational		
FCC (cm)	0.5	0.2		
FCC (inches)	1.0	1.0		
Canada (cm)	0.8	0.3		
Canada (inches)	1.0	1.0		

Overall Minimum Limit Public	Overall Minumu Limit Occuppational
1 cm	1 cm
1 inches	1 inches