	HVIN: 051168		Test Number: 230511	
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)	2.1		
	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)	0.00	$dBd + 2.17 = dBi$	dBi to dBd	2.17
				Antenna Gain (dBd)	-2.17
Cable Loss (dB)	0.0	Adjusted Power (dBm)	3.20	Antenna minus cable (dBi)	0.00
				Antenna Gain (Numeric)	1.00
	Calculated ERP (mw) 1.268			$EIRP = Po(dBm) + Gain (dB)$	
	Calculated EIRP (mw) 2.090			Radiated (EIRP) dBm	3.201
				$ERP = EIRP - 2.17\ dB$	
				Radiated (ERP) dBm	1.031

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

r (cm)   EIRP (mW)

FCC Occupational Limit	FCC radio frequency radiation exposure limits per 1.1310		
3.05 mW/cm²	Frequency (MHz)	Occupational Limit (mW/cm²)	Public Limit (mW/cm²)
30.5 W/m²	30-300	1	0.2
FCC General Public Limit	300-1,500	f/300	f/1500
0.61 mW/cm²	1,500-10,000	5	1
6.1 W/m²			

ISED Occupational Limit Canada	IC radio frequency radiation exposure limits per RSS-102		
$0.6455 f^{0.5}$ W/m²	Frequency (MHz)	Occupational Limit (W/m²)	Public Limit (W/m²)
19.5 W/m²	100-6,000	$0.6455 f^{0.5}$	
ISED General Public Limit Canada	6,000-15,000	50	
$0.02619 f^{0.6834}$ W/m²	48-300		1.291
2.77 W/m²	300-6,000		$0.02619 f^{0.6834}$
	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) =	2.0900	2.0900	mW
Duty cycle (percentage of operation)		% =	100	100	%
P_A = Adjusted Power due to Duty cycle or Cable Loss (mW)		P_A (mW) =	2.09	2.09	mW
G_N = Numeric Gain of the Antenna		GN (numeric) =	1.00	1.00	numeric
S_{20} = Power Density of device at 20cm (mW/m²)	$S_{20}=(P_A G_N)/(4\pi R_{20})^2$	S_{20} (mW/m²) =	0.00	0.00	mW/m²
S_{20} = Power Density of device at 20cm (W/m²)	$S_{20}=(P_A G_N)/(4\pi R_{20})^2$	S_{20} (W/m²) =	0.00	0.00	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	$R_C=\sqrt{(P_A G_N/4\pi S_L)}$	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/m²) FCC	$S_C=(P_A G_N)/(4\pi R_C)^2$	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	$S_C=(P_A G_N)/(4\pi R_C)^2$	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	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/m²)	S_{20} (W/m²)	R_C (cm)	S_C (W/m²)
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		

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Revision 1

Transcore
HVIN: 051168
Test: 230511
Test to: 47CFR Parts 2, 90 and RSS-137
File: 051168 RFExp

SN: ENG1
FCC ID: FIH051168
IC: 1584A-051168
Date: May 24, 2023
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