

		Model: SAL2		Test Number: 230308																																																											
MPE Calculator		RF Exposure uses EIRP for calculation. EIRP is based on TX power added to the antenna gain in dB <sub>i</sub> .																																																													
dBi = dB gain compared to an isotropic radiator.																																																															
S = power density in mW/cm <sup>2</sup>																																																															
		Transmitter Output power (dBm)		3.62																																																											
		Transmitter Output power (mW)		2.30																																																											
Output Power for % duty Cycle operation (Watts)		100		0.0023		Antenna Gain (dB <sub>i</sub> )		1.53																																																							
		Output Power for 100% duty Cycle operation (Watts)		0.00		Antenna Gain (Numeric)		1.42																																																							
Tx Frequency (MHz)		2480		Calculation power (Watts)		dB <sub>d</sub> + 2.17 = dB <sub>i</sub>		dB <sub>d</sub> to dB <sub>i</sub>																																																							
				0.00				2.2																																																							
Cable Loss (dB)		0.0		Adjusted Power (dBm)		Antenna Gain (dBd)		-0.64																																																							
				3.62		Antenna minus cable (dB <sub>i</sub> )		1.53																																																							
		Calculated ERP (mw)		1.986		EIRP = Po(dBM) + Gain (dB)																																																									
		Calculated EIRP (mw)		3.273		Radiated (EIRP) dBm		5.150																																																							
		$\text{Power density (S) mW/cm}^2 = \frac{\text{EIRP}}{4 \pi r^2}$				ERP = EIRP - 2.17 dB																																																									
		r (cm) EIRP (mW)				Radiated (ERP) dBm		2.980																																																							
		<b>Occupational Limit</b> <table border="1"> <tr> <td colspan="2"></td><td colspan="3">FCC radio frequency radiation exposure limits per 1.1310</td></tr> <tr> <td colspan="2">5</td><td colspan="2">mW/cm<sup>2</sup></td><td>Frequency (MHz)</td><td>Occupational Limit (mW/cm<sup>2</sup>)</td><td>Public Limit (mW/cm<sup>2</sup>)</td></tr> <tr> <td colspan="2">50</td><td colspan="2">W/m<sup>2</sup></td><td>30-300</td><td>1</td><td>0.2</td></tr> <tr> <td colspan="2"></td><td colspan="2"> <b>General Public Limit</b>  <table border="1"> <tr> <td colspan="2"></td><td colspan="3">300-1,500</td></tr> <tr> <td colspan="2">1</td><td colspan="2">mW/cm<sup>2</sup></td><td>f300</td><td>f1500</td></tr> <tr> <td colspan="2">10</td><td colspan="2">W/m<sup>2</sup></td><td>1,500-10,000</td><td>5</td><td>1</td></tr> </table> </td><td colspan="2"></td></tr> </table>				FCC radio frequency radiation exposure limits per 1.1310			5		mW/cm <sup>2</sup>		Frequency (MHz)	Occupational Limit (mW/cm <sup>2</sup> )	Public Limit (mW/cm <sup>2</sup> )	50		W/m <sup>2</sup>		30-300	1	0.2			<b>General Public Limit</b> <table border="1"> <tr> <td colspan="2"></td><td colspan="3">300-1,500</td></tr> <tr> <td colspan="2">1</td><td colspan="2">mW/cm<sup>2</sup></td><td>f300</td><td>f1500</td></tr> <tr> <td colspan="2">10</td><td colspan="2">W/m<sup>2</sup></td><td>1,500-10,000</td><td>5</td><td>1</td></tr> </table>				300-1,500			1		mW/cm <sup>2</sup>		f300	f1500	10		W/m <sup>2</sup>		1,500-10,000	5	1																			
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f = Transmit Frequency (MHz)				f (MHz) =		2480 MHz																																																									
P <sub>T</sub> = Power Input to Antenna (mW)				P <sub>T</sub> (mW) =		2.3014 mW																																																									
Duty cycle (percentage of operation)				% =		100 %																																																									
P <sub>A</sub> = Adjusted Power due to Duty cycle or Cable Loss (mW)				P <sub>A</sub> (mW) =		2.30 mW																																																									
G <sub>N</sub> = Numeric Gain of the Antenna				GN (numeric) =		2.17 numeric																																																									
S <sub>20</sub> = Power Density of device at 20cm (mW/m <sup>2</sup> )				S <sub>20</sub> = (P <sub>A</sub> G <sub>N</sub> )/(4πR <sub>20</sub> ) <sup>2</sup>		S <sub>20</sub> (mW/m <sup>2</sup> ) =		0.00 mW/m <sup>2</sup>																																																							
S <sub>20</sub> = Power Density of device at 20cm (W/m <sup>2</sup> )				S <sub>20</sub> = (P <sub>A</sub> G <sub>N</sub> )/(4πR <sub>20</sub> ) <sup>2</sup>		S <sub>20</sub> (W/m <sup>2</sup> ) =		0.01 W/m <sup>2</sup>																																																							
S <sub>L</sub> = Power Density Limit (W/m <sup>2</sup> )						S <sub>L</sub> (W/m <sup>2</sup> ) =		5.469 W/m <sup>2</sup>																																																							
R <sub>C</sub> = Minimum distance to the Radiating Element for Compliance (cm)				R <sub>C</sub> = √(P <sub>A</sub> G <sub>N</sub> /4πS <sub>L</sub> )		R <sub>C</sub> (cm) =		0.9 cm																																																							
S <sub>C</sub> = Power Density of the device at the Compliance Distance R <sub>C</sub> (W/m <sup>2</sup> )				S <sub>C</sub> = (P <sub>A</sub> G <sub>N</sub> )/(4πR <sub>C</sub> ) <sup>2</sup>		S <sub>C</sub> (W/m <sup>2</sup> ) =		5.47 W/m <sup>2</sup>																																																							
R <sub>20</sub> = 20cm						R <sub>20</sub> =		20 cm																																																							
<b>Summary: Standalone MPE Calculations and Summary</b>																																																															
Tx , Band (MHz)		Tx Duty Cycle (%)		Tx Frequeny (MHz)		Power Total (mW)		Antenna Gain (dB <sub>i</sub> )																																																							
2402-2480		100		2480		2		1.53																																																							
								5.469																																																							
Tx 2, Band (MHz)		Tx Duty Cycle (%)		Tx Frequeny (MHz)		Power Total (mW)		Antenna Gain (dB <sub>i</sub> )																																																							
2402-2480		100		2480		9.21		0.00																																																							
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<b>Simultaneous MPE Calculation</b>																																																															
		Transmitter 1		Transmitter 2																																																											
Tx Frequeny (MHz)		2480		2480																																																											
S <sub>20</sub> (W/m <sup>2</sup> )		0.01		0.02																																																											
S <sub>L</sub> (W/m <sup>2</sup> )		5.469		5.469																																																											
Power Ratio (S <sub>L</sub> / S <sub>20</sub> )		0.002		0.003																																																											
Sum of Power Ratios at 20cm (Tx1 + Tx2)				0.005																																																											
Requirement = Σ of MPE Ratio ≤ 1																																																															
For Compliance with Canada General Population Limits, User Manual must indicate a minimum seperation distance of						0.9 cm																																																									
Or in Meters for Compliance with Canada General Population Limits, a minimum seperation distance of						0.01 Meters																																																									

Model: FSCBT1026		Test Number: 230308					
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 (dBm)				9.64	
		Transmitter Output power (mW)				9.21	
Duty Cycle	100	Output power (W)	0.0092		Antenna Gain (dBi)	0	
		Output Power corrected for Duty Cycle (Watts)				0.009	
Tx Frequency (MHz)	2480	Calculation power (Watts)	0.01	dBd + 2.17 = dBi	Antenna Gain (Numeric)	1.00	
Cable Loss (dB)	0.0	Adjusted Power (dBm)	9.64	dBd to dBd	dBi to dBd	2.2	
						Antenna Gain (dBd)	
						-2.17	
						Antenna minus cable (dB)	
						0.00	
		Calculated ERP (mw)				EIRP = Po(dBm) + Gain (dB)	
		Calculated EIRP (mw)				Radiated (EIRP) dBm	
		EIRP				9.643	
		Power density (S) mW/cm^2 = $\frac{EIRP}{4 \pi r^2}$				ERP = EIRP - 2.17 dB	
		r (cm) EIRP (mW)				Radiated (ERP) dBm	
						7.473	