

RF Exposure Calculations

Model: V06S2118		Test Number: 200911	
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 maximum Output power operating at 100% (Watts)	1.0000	
	Percent Duty Cycle operation (%)	100.0	Antenna Gain (dBi) 41.2
	Output Power for 100% duty Cycle operation (Watts)	1.0000	Antenna Gain (Numeric) 13182.57
Tx Frequency (MHz)	5740	Calculation power (Watts) 1.0000	dBd + 2.17 = dBi dBi to dBd 2.2
			Antenna Gain (dBd) 39.03
Cable Loss (dB)	0.0	Adjusted Power (dBm) 30.00	Antenna minus cable (dBi) 41.20
	Calculated ERP (mw) 7,998,342.55	7,998.34	EIRP = Po(dBm) + Gain (dB)
	Calculated EIRP (mw) 13,182,567.39	13,182.57	Radiated (EIRP) dBm 71.200
			ERP = EIRP - 2.17 dB
			Radiated (ERP) dBm 69.030
	<div style="border: 1px solid black; padding: 5px; width: fit-content;"> $\text{Power density (S) mW/cm}^2 = \frac{\text{EIRP}}{4 \pi r^2}$ <p>r (cm) EIRP (mW)</p> </div>		
	Occupational Limit	FCC radio frequency radiation exposure limits per 1.1310	
5	mW/cm ²	Frequency (MHz)	Occupational Limit (mW/cm ²)
50	W/m ²	30-300	1
	General Public Limit	300-1,500	f/300
1	mW/cm ²	1,500-10,000	5
10	W/m ²		1
	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)
60.9	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
30.75	W/m ²	300-6,000	$0.02619f^{0.6834}$
		6,000-15,000	10
			Canada
f = Transmit Frequency (MHz)		f (MHz) =	5,740.0
P _T = Power Input to Antenna (mW)		P _T (mW) =	1,000.0000
Duty cycle (percentage of operation)		% =	100.0
P _A = Adjusted Power due to Duty cycle or Cable Loss (mW)		P _A (mW) =	1,000.00
G _N = Numeric Gain of the Antenna		GN (numeric) =	13182.57
S ₂₀ = Power Density of device at 20cm (W/m ²)		S ₂₀ (W/m ²) =	26225.88
S _L = Power Density Limit (W/m ²)		S _L (W/m ²) =	30.746
R _C = Minimum distance to the Radiating Element for Compliance (cm)		R _C (cm) =	584.1
S _C = Power Density of the device at the Compliance Distance R _C (W/m ²)		S _C (W/m ²) =	30.75
R ₂₀ = 20cm		R ₂₀ =	20
			FCC
		f (MHz) =	5,740.0
		P _T (mW) =	1,000.0000
		% =	100.0
		P _A (mW) =	1,000.00
		GN (numeric) =	13182.57
		S ₂₀ (W/m ²) =	26225.88
		S _L (W/m ²) =	10.000
		R _C (cm) =	1,024.2
		S _C (W/m ²) =	10.00
		R ₂₀ =	20
	For Compliance with Canada General Population Limits, User Manual must indicate a minimum separation distance of		584.1 cm
	Or in Meters for Compliance with Canada General Population Limits, a minimum separation distance of		5.8 Meters
	For Compliance with FCC General Population Limits, User Manual must indicate a minimum separation distance of		1024.2 cm
	Or in Meters for Compliance with FCC General Population Limits, a minimum separation distance of		10.2 Meters
Occupational Distances			
	For Compliance with Canada Occupational Limits, User Manual must indicate a minimum separation distance of		415.1 cm
	Or in Meters for Compliance with Canada Occupational Limits, a minimum separation distance of		4.2 Meters
	For Compliance with FCC Occupational Limits, User Manual must indicate a minimum separation distance of		458.0 cm
	Or in Meters for Compliance with FCC Occupational Limits, a minimum separation distance of		4.6 Meters

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 Revision 1

SAF Tehnika AS
 PMN: CFL Sprint MXM Repeater Mk2S
 Test: 200911
 Test to: 47CFR, 15.407, RSS-247
 File: 58F2DMXMR2S RFExp

S/N's: 331670100442/ 331680100443
 FCC ID: W9Z-58F2DMXMR2S
 IC: 8855A-58F2DMXMR2S
 Date: January 15, 2021
 Page 1 of 2

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