

**EXHIBIT 4A – RF EXPOSURE (MPE) REPORT - FCC**

**Prediction of MPE Limit  
 47 CFR § 2.1091/ § 2.1093**

$$S_{20} = \frac{P_A G_N}{4\pi R_{20}^2} \quad S_C = \frac{P_A G_N}{4\pi R_C^2} \quad R_C = \sqrt{\frac{P_A G_N}{4\pi S_L}}$$

$$S_L = \frac{180}{f^2} \text{ (mW/cm}^2\text{)}$$

- S<sub>20</sub>** = Power Density of the Device at 20cm
- S<sub>L</sub>** = Power Density Limit
- S<sub>C</sub>** = Power Density of the Device at the Compliance Distance R<sub>C</sub>
- R<sub>20</sub>** = 20cm
- R<sub>C</sub>** = Minimum Distance to the Radiating Element to Meet Compliance
- P<sub>T</sub>** = Power Input to Antenna
- P<sub>A</sub>** = Adjust Power
- G<sub>N</sub>** = Numeric Gain of the Antenna
- f** = Transmit Frequency

**Transmit Duty Cycle = 50%**

**Use Group = General Population**

Transmit Duty Cycle:	50.00	(%)
Tx Frequency (f):	27.41	(MHz)
RF Power at Antenna Input Port (P <sub>T</sub> ):	4000.00	(mW)
Antenna Gain:	3.00	(dBi)
Numeric Antenna Gain (G <sub>N</sub> ):	2.00	(numeric)
Cable or Other Loss:	0.00	(dB)
Duty Cycle/Loss Adjusted Power (P <sub>A</sub> ):	2000.00	(mW)

S <sub>L</sub> =	0.240	(mW/cm <sup>2</sup> )
S <sub>20</sub> at 20cm =	0.794	(mW/cm <sup>2</sup> )
R <sub>C</sub> =	36.4	(cm)
S <sub>C</sub> =	0.24	(mW/cm <sup>2</sup> )

User's Manual must indicate a minimum separation distance of: **37cm**

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