Appendix A: FCC Part 1.1307, 1.1310, 2.1091, 2.1093; IC RSS-Gen: RF Exposure

From FCC 1.1310 Table 1A, the maximum permissible RF exposure for an uncontrolled environment is f/1500 or 0.61 mW/cm^2. The electric field generated for a 1 mW/cm^2 exposure (S) is calculated as follows:

$$S = (P \times G)/(4 \times \pi \times d^2)$$

where:

S = Power density
P = Transmitter conducted power in watts
G = Numeric gain
d = distance to radiation center

Fundamental Operating Frequency: 903–927 MHz
Measured Maximum Output Power: 0.063 Watts (63 mW)
Antenna Gain = -0.7 dBi; Numeric Gain = 0.85

S = (63 x .85)/(4 x Pi x 20^2) = 0.01 mW/cm^2

Under normal operating conditions, the antenna is designed to maintain a separation distance of 20 cm from all persons. The EUT is mobile and fixed.

Calculated Power Density

Antenna Gain = -0.7 dBi Conducted Power (milli-Watt) = 63	
Separation Distance = 20 cm	
FCC Power Density Limit	Calculated Power Density at 20 cm Distance
0.61 mW/cm^2	0.01 mW/cm^2