

MAXIMUM PERMISSIBLE EXPOSURE CALCULATIONS

Per §1.1310 of the FCC Rules, the maximum power density for general population and uncontrolled exposure for a device operating in the frequency range of 902 - 928 MHz is given by the equation:

$$S_{limit} = \frac{f_{MHz}}{1500}$$

Using this equation, the limit at the center of the operating band (915 MHz) is computed as 0.61 mW/cm².

Using the power measurements given in the test report for the EUT, the power density at a distance of 20 cm from the EUT can be calculated. It is expected that due to the nature of the EUT, the user will be located at least 20 cm from the EUT.

The power density at a distance d from an antenna can be calculated from the following equation:

$$s = \frac{P_{inc} G}{4\pi d^2}$$

where P_{inc} is the power incident to the antenna and G is the gain of the transmit antenna. From the conducted RF power measurements reported, the maximum for all modes of operation is 29.55 dBm (901.57 mW). Given the gain of the antenna to be -9.6 dBi (0.331), the power density at a distance of 20 cm is given by:

$$s = \frac{(901.57mW)(0.331)}{4\pi(20cm)^2} = \frac{0.05937mW}{cm^2}$$

These results indicate that the power spectral density generated by the EUT at a distance of 20 cm or greater is well below the limits specified in §1.1310 of the FCC Rules.