

## **Maximum Public Exposure to RF (MPE) CFR 15.247 (i), CFR 1.1310 (e) & RSS-102, 2.5.2**

The maximum exposure level to the public from the RF power of the EUT shall not exceed a power density, **S**, of 1 mW/cm<sup>2</sup> at a distance, **d**, of 20 cm from the EUT.

Therefore, for:

Peak Power (dBm) = 28.3 dBm  
Peak Power (Watts) = 0.647 W  
Gain of Transmit Antenna = 1.6 dBi = 1.45, numeric  
**d** = Distance = 20 cm = 0.2 m

$$\begin{aligned} \mathbf{S} &= (\mathbf{PG} / 4\pi\mathbf{d}^2) = \mathbf{EIRP} / 4\mathbf{A} = 0.647(1.45) / 4 * \pi * 0.2^2 \\ &= 0.9382 / 0.5030 = 1.8652 \text{ W/m}^2 \\ &= (1.8652 \text{ W/m}^2) (1\text{m}^2/\text{W}) (0.1 \text{ mW/cm}^2) \\ &= 0.1865 \text{ mW/cm}^2 \end{aligned}$$

which is << less than 0.6100 mW/cm<sup>2</sup>

## **RSS-102, 2.5.2 Compliance for 902 MHz – 928 MHz band:**

At or above 300 MHz and below 6 GHz and the source based time averaged maximum e.i.r.p. of the device is equal to or less than  $1.31 \times 10^{-2} f^{0.6834}$  in Watts (adjusted for tune-up tolerance where applicable), where **f** = frequency in MHz.

$$1.31 * 10^{-2} * 915^{0.6834} = 1.39 \text{ W}$$

EUT max ERP = 28.3 dBm (0.676W) + 1.6 dBi (0.001W) = 0.677 Watts << 1.39 Watts

**The MPE limits are below the threshold as stated in KDB447498 D01 V06 in Section 4.3. The calculations above are presented to show that the EUT meets the exclusion requirements.**