Attention: Reviewing Engineer

The HZB-US5358-GX1 radio is designed for fixed-mount point-to-point applications.

The maximum EIRP allowed to meet the power density limit of 1 mW/cm^2 (10 W/m^2) for General Population/ Uncontrolled Exposure as specified in rule 1.1310 can be calculated as below:

With far field, the worst case is when power density is at the limit of 1mW/cm^2 at 1.5m away from the center of the antenna. The EIRP at the limit is:

$$EIRP= 10 \lg (S \times 4\pi R^2) =10 \log (10 \times 12.56 \times 2.25) = 24.5 \text{ dBW} = 54.5 \text{ dBm}$$

Where: S = Power density
R = distance to the center of radiation of the antenna

The near field power density is : $S_{nf} = 16\eta P/\pi D^2$. The worst case of near-field power density is when the radio output at the maximum level of 316mW (25dBm), $\eta=1$, and antenna dimension is the smallest (1 foot panel, with 1.414 foot diagonal distance)

$$S_{nf} max = 16 \times 0.316/\pi (1.414 \times 0.3048)^2 = 8.7 \text{ W/m}^2 = 0.87 \text{ mW/cm}^2 <1 \text{ mW/cm}^2$$

Where: S_{nf} = maximum near –field power density
P = power fed to the antenna
η = aperture efficiency
D = antenna diameter

With the UNII models of the product family, when the maximum EIRP limits of +30dBm and 5.25-5.35 GH and +53dBm at 5.725-5.825GHz is observed, the .RF exposure level is in compliance with 1.1310.

With the spread spectrum models of the product family, as long as the EIRP level does not exceed 54.5dBm, the RF exposure level is in compliance with 1.1310.

If you should have any questions regarding this submission, please feel free to contact the undersigned.

Yours truly,

Caroline Yu

Homologation Manager
Proxim Corporation