From FCC Exhibit D – Power Density Calculations

1. *At an off-axis angle of 28.5 degrees, the antenna gain will be no greater than the allowable sidelobe envelope. At this angle, the off-axis gain will therefore be no greater than:*

   29 - 25log (28.5 deg) = -7.4 dBi

   For this case, the minimum antenna off-axis angle is 53.86 degrees:

   29 - 25log (53.86 deg) = -14.3 dBi

2. *The gain reduction at an off-axis angle of 28.5 degrees will be equal to the difference in on-axis and off-axis gain values, and will be at least:*

   55.0 dBi - (-7.4 dBi) = 62.4 dB

   For this case:

   49.3 dBi - (-14.3) = 63.6 dB

3. *EIRP Density (at 28.5 degrees) = EIRP Density (on-axis) - 62.4 dB*

   = 41.0 dBW/4 kHz - 62.4 dB

   = -21 dBW/4 kHz

   For this case:

   EIRP Density (at 53.86 degrees) = EIRP Density (on-axis) – 63.6 dB

   = 33.54 dBW/4 kHz – 63.6 dB

   = -30.04 dBW/4 kHz