

MPE Calculation

Applicant : Chamberlain Group

Type of Equipment : Frequency Hopper

Model No. : 821LM

FCC ID : HBW1D7991

RF Exposure Calculations:

FCC 2.1091

The following information provides the minimum separation distance for the highest gain antenna provided with the as calculated from FCC OET Bulletin 65 Appendix A, Table (B) Limits for General Population / Uncontrolled Exposure. This calculation is based on the highest EIRP possible from the system, considering maximum power and antenna gain, and considering a 0.6mW/cm² uncontrolled exposure limit. The Friis formula used was:

$$S = (P * G) / (4 * \pi * r^2)$$

Where

P = 16.285mW (Maximum peak output power)

G = 0.63 Numerical Antenna gain; equal -2 dBi

r = 20.0 cm

For: HBW1D8088-1 S = 0.00204 mW/cm²

Calculated Power Density for WiFi Module: (FCC ID: COFWMNB11)

The following information provides the minimum separation distance for the highest gain antenna provided with the as calculated from FCC OET Bulletin 65 Appendix A, Table (B) Limits for General Population / Uncontrolled Exposure. This calculation is based on the highest EIRP possible from the system, considering maximum power and antenna gain, and considering a 1.0mW/cm² uncontrolled exposure limit. The Friis formula used was:

$$S = (P * G) / (4 * \pi * r^2)$$

Where

P = 237mW (Maximum peak output power)

G = 0.631 Numerical Antenna gain; equal -2 dBi

r = 20.0 cm

For: WiFi Module S = 0.595 mW/cm²

Calculated Power Density for BT Module: (FCC ID: COFBMGPBR65)

The following information provides the minimum separation distance for the highest gain antenna provided with the as calculated from FCC OET Bulletin 65 Appendix A, Table (B) Limits for General Population / Uncontrolled Exposure. This calculation is based on the highest EIRP possible from the system, considering maximum power and antenna gain, and considering a 1.0mW/cm² uncontrolled exposure limit. The Friis formula used was:

$$S = (P * G) / (4 * \pi * r^2)$$

Where

P = 5mW (Maximum peak output power)

G = 0.562 Numerical Antenna gain; equal -2.5 dBi

r = 20.0 cm

For: BT Module S = 0.0112 mW/cm²

Calculated Ratio for all transmitters:

$$0.00204 / 0.6 + 0.595 / 1 + 0.0112 / 1 = 0.609$$

The total radio for all transmitters under 15.247 is 0.60654 which is less than 1 therefore it is compliant.