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, T able (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/cm^2 uncontrolled exposure limit. The Friis formula used was:

$S = (P * G) / (4 * \pi * r^2)$
Where
P = 38.4mW (Maximum peak output power)
G = 0.25 Numerical Antenna gain; equal -6 dBi
r = 20.0 cm
For: HBW6597 S = 0.00191 mW/cm2

Calculated Power Density for WiFi Module: (FCC ID: COFWMNBM11)
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, T able (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/cm^2 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, T able (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/cm^2 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:

0.00191 / 0.6 + 0.595 / 1 + 0.0112 / 1 = 0.609

The total radio for all transmitters under 15.247 is 0.609 which is less than 1 therefore it is compliant.