MPE Calculation for the Net2 nano access control unit
Applicant: Paxton Access Ltd
FCC ID: USE654943

The FCC requires that the calculated MPE be equal to or less than a given limit dependent on frequency at a distance of 20 cm from a device to the body of a user.

The transmitter operation for the Net2 nano covers the 2405 – 2475MHz frequency range with an internal antenna providing a maximum transmitter power of +13dBm

The equation for the MPE calculation is given in OET Bulletin 65, page 19 as:

$$S = EIRP/4 \pi R^2$$

Where　　S = Power density

EIRP = Effective Isotropically Radiated Power (EIRP = P x G)

R = distance to the centre of radiation of the antenna

Transmitter frequency range = 2405MHz to 2475MHz

Values　　Output power : +13dBm maximum with internal antenna

ie: PG = 20mW

R = 20cm

Calculation

$S = EIRP/4 \pi R^2$

$S = 20 /(12.56 \times 20^2)$

S = 0.004 mW/cm^2

Requirement

Exposure of　From table 1 (b) - Limits for General Population/ Uncontrolled

FCC Rule Part 1.1310

S = 1.0 mW/cm^2 for >1500MHz operation

Conclusion

The MPE value of the Net2 nano at 20 cm meets the RF exposure limits.