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RF Exposure Considerations for the Hypervsn Model M

FCC ID: 2ANPD20110204

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 Hypervsn Model M utilises IEEE802.11b/g/n 2.4 GHz WLAN RF technology

The following FCC Rule Parts and procedures are applicable:

Part 1.1310 – Radiofrequency radiation exposure limits

Part 2.1091 – Radiofrequency radiation exposure evaluation: mobile devices

KDB447498 D01 v06
Mobile and Portable Devices RF Exposure Procedures and Equipment Authorisation Policies

MPE CALCULATION

The MPE calculation used to calculate the safe operating distance for the user is:

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

Where
S = Power density
EIRP = Effective Isotropic Radiated Power (EIRP = P x G)
P = Conducted Transmitter Power
G = Antenna Gain (relative to an isotropic radiator)
R = distance to the centre of radiation of the antenna (safe operating distance)

For 2.4 GHz WLAN

Values:

Transmitter frequency range = 2402 MHz to 2462 MHz

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P = 10 mW (10.0 dBm) max.

G = 3.0 dBi (x2.0)

R = 20 cm

Power Density Requirement

From table 1 (b) - Limits for General Population/ Uncontrolled Exposure of FCC Rule Part 1.1310 for 2.4 GHz

S_{req} = 1.0 mW/cm^2

Calculation:

$S = 10 \times 2.0 / 4 \pi R^2$

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

$S = 20 / (5024)$

S = 0.004 mW/cm^2

(Equivalent to 1.3 cm safe operating distance)

Conclusion

The required 20 cm RF exposure limits for General Population/ Uncontrolled Exposure will not be exceeded for the Hypervsn Model M using an antenna having a maximum gain of 3.0 dBi.

Yours faithfully,

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