Electric / Gas / Water
Information collection, analysis and application

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RF Exposure Assessment

Model: HHSR3 with FC300 WLAN Module
FCC ID: EO9HHSR3 and KDZLXE4830P

General Information

Applicant: Itron, Inc.
Device Category: Mobile
Environment: General / Uncontrolled population

Technical Information

Device 1 – HHSR3
There are two transmitters in this device, but they cannot transmit simultaneously. The licensed MAS transmitter is the higher power of the two, so it will be used to assess worst case.

Transmitter	Output Power	Max Frequency
ISM Transmitter	138 mW	924MHz
MAS Transmitter	234 mW	960MHz

Limit for device 1: $f/1500$ = 0.64mW/cm^2

Device 2 – FC300 WLAN module
Antenna type: 0dBi
Transmitter Conducted Power: 64 mW
Max Frequency: 2462MHz

Limit for device 2 = 1 mW/cm^2

MPE Calculation

Assume lower limit of the 2 devices, or 0.616mW/cm^2

Power Density: P_d = (mW/cm^2) = $[(P_1 x G_1)+(P_2 x G_2)]/ 4\pi r^2$

P_1 = 234 mW
G_1 = 2.1 dBi = 1.62 Numeric
P_2 = 64mW
G_2 = 0dBi = 1 Numeric
r = 20cm

Solving for P_d = .088 mW/cm^2, which is less than the lowest limit of 0.64 mW/cm^2.

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Use Guidelines

The installation manual contains the following text about compliance with the FCC RF exposure requirements:

RF EXPOSURE

To comply with FCC requirements, maintain a separation distance of at least 20 cm between the antenna and all persons.

Conclusion

When operated per the manufacturer's instructions, this device complies with the MPE requirements by providing adequate separation between the radiating structure of the device and the Occupational / Controlled Population.