

FCC Part 15.247 Transmitter Certification

Frequency Hopping Spread Spectrum Transmitter

Test Report

FCC ID: SK9C3A-1H

FCC Rule Part: 15.247

ACS Report Number: 06-0012-15C

Manufacturer: Itron Electricity Metering Inc.
Trade name: CENTRON® IMAGE
Model: C3A1H

RF Exposure

General Information:

Applicant: Itron Electricity Metering Inc.
 ACS Project: 06-0012
 FCC ID: SK9C3A-1H
 Device Category: Mobile
 Environment: General Population/Uncontrolled Exposure

Technical Information:

Antenna Type: PCB Slot
 Antenna Gain: 3.5dBi
 Transmitter Conducted Power: 21.36dBm
 Maximum System EIRP: 24.86dBm
 Operating Configuration: Mobile (Module)
 Exposure Conditions: Greater than 20 centimeters

MPE Calculation

The Power Density (mW/cm²) is calculated as follows:

$$S = \frac{PG}{4\pi R^2}$$

Where:

S = power density (in appropriate units, e.g. mW/cm²)

P = power input to the antenna (in appropriate units, e.g., mW)

G = power gain of the antenna in the direction of interest relative to an isotropic radiator

R = distance to the center of radiation of the antenna (appropriate units, e.g., cm)

MPE Calculator for Mobile Equipment							
Limits for General Population/Uncontrolled Exposure*							
Transmit Frequency (MHz)	Radio Power (dBm)	Power Density Limit (mW/Cm ²)	Radio Power (mW)	Antenna Gain (dBi)	Antenna Gain (mW eq.)	Distance (cm)	Power Density (mW/cm ²)
909.6	21.36	0.61	136.77	3.5	2.239	20	0.061

Installation Guidelines

The installation manual contains the following text advising how to install the equipment to maintain compliance with the FCC RF exposure requirements:

"RF Exposure (Intentional Radiators Only)"

In accordance with FCC requirements of human exposure to radiofrequency fields, the radiating element shall be installed such that a minimum separation distance of 20cm is maintained from the general population."

Conclusion

This device complies with the MPE requirements by providing adequate separation between the device, any radiating structure and the general population.