

## **Certification Exhibit**

**FCC ID: SK9AMI7  
IC: 864G-AMI7**

**FCC Rule Part: 15.247  
IC Radio Standards Specification: RSS-210**

**ACS Project Number: 12-0261**

**Manufacturer: Itron Electricity Metering, Inc.  
Model: AMI7**

## **RF Exposure**

**General Information:**

Applicant: Itron Electricity Metering, Inc.  
 ACS Project: 12-0261  
 Device Category: Mobile  
 Environment: General Population/Uncontrolled Exposure

**Technical Information 900 MHz LAN Radio**

Antenna Type: Yagi Antenna  
 Antenna Gain: 8dBi  
 Transmitter Conducted Power: 25.21dBm, 331.9mW  
 Maximum System EIRP: 33.21dBm, 2094.1mW

**Technical Information 802.15.4 Zigbee Radio**

Antenna Type: Quarter Wave Embedded Slot Antenna  
 Antenna Gain: 3.8dBi  
 Transmitter Conducted Power: 18.13dBm, 65.01mW  
 Maximum System EIRP: 21.93dBm, 155.96mW

**MPE Calculation**

The Power Density (mW/cm<sup>2</sup>) is calculated as follows:

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

Where:

- S = power density (in appropriate units, e.g. mW/cm<sup>2</sup>)
- 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/Cm2)	Radio Power (mW)	Antenna Gain (dBi)	Antenna Gain (mW eq.)	Distance (cm)	Power Density (mW/cm^2)
927.6	25.21	0.62	331.89	8	6.310	20	0.417
2440	18.13	1.00	65.01	3.8	2.399	20	0.031

**Summation of Power Densities – Simultaneous Transmissions**

This device contains multiple transmitters which can operate simultaneously and therefore the maximum RF exposure is determined by the summation of power densities. The 900 MHz LAN and 2.4GHz Zigbee radio can operate simultaneously there it is appropriate to include both of those power density values in the summation of power densities.

The maximum power density is calculated by a summation of power densities for each simultaneous transmission combination as follows:

900MHz LAN: 0.417 (mW/cm<sup>2</sup>)  
 2.4GHz Zigbee: 0.031 (mW/cm<sup>2</sup>)  
**TOTAL: 0.448 (mW/cm<sup>2</sup>)**

**Installation Guidelines**

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

**RF Exposure**

In accordance with FCC requirements of human exposure to radio frequency fields, the radiating element shall be installed such that a minimum separation distance of 20 centimeters will be maintained.

**Conclusion**

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