



Excellence in Compliance Testing

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## **Certification Exhibit**

**FCC ID: SDBR100NA**

**FCC Rule Part: 47 CFR Part 2.1091**

**ACS Project Number: 16-3084**

Applicant: Sensus Metering Systems, Inc.  
Model: R100NA

**General Information:**

Applicant: Sensus Metering Systems, Inc.  
 Device Category: Fixed/ Mobile  
 Environment: General Population/Uncontrolled Exposure

**Technical Information:**

Antenna Type: J-pole antenna  
 Antenna Gain: 5.15 dBi  
 Maximum Transmitter Conducted Power: 35.8 dBm, 3802 mW  
 Maximum System EIRP: 40.95 dBm, 12445 mW  
 Exposure Conditions: Greater than 20 centimeters

**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 <sup>2</sup> )
901	35.8	0.60	3801.89	5.15	3.273	41	0.589

**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 41 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.