



Excellence in Compliance Testing

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## **Certification Exhibit**

**FCC ID: SDB520Q**

**FCC Rule Part: Part 90 Subpart I**

**ACS Project Number: 12-2066**

Manufacturer: Sensus Metering Systems, Inc.  
Model: 520Q

## **RF Exposure**

**General Information:**

Applicant: Sensus Metering Systems, Inc.  
 ACS Project: 12-2066  
 Device Category: Mobile  
 Environment: General Population/Uncontrolled Exposure

**Technical Information:**

Antenna Type: Dipole  
 Antenna Gain: -2 dBi  
 Maximum Transmitter Conducted Power: 28.87 dBm  
 Maximum System EIRP: 26.87 dBm, 486.41 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^2)
451.0375	28.87	0.30	770.90	-2	0.631	20	0.097

**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.