



Certification Exhibit

FCC ID: SDBM420V00

FCC Rule Part: 47 CFR Part 2.1091

TÜV SÜD Project Number: 72181297

**Manufacturer: Sensus Metering Systems Inc.
Model: M420 with M420 PA**

RF Exposure

TÜV SÜD America
5610 West Sligh Ave., Suite 100
Tampa, FL 33634

Phone: 813-284-2715
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General Information:

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

Technical Information:

Antenna Type: Panel
 Antenna Gain: 20.1 dBi
 Maximum Transmitter Conducted Power: 48.19 dBm, 65917.3895 mW
 Maximum System EIRP: 68.29 dBm, 6745280.2770 mW
 Exposure Conditions: 931 centimeters or greater

Antenna Type: Omni
 Antenna Gain: 12.1 dBi
 Maximum Transmitter Conducted Power: 48.19 dBm, 65917.3895 mW
 Maximum System EIRP: 60.29 dBm, 1069054.8792 mW
 Exposure Conditions: 371 centimeters or greater

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)

Table 1: MPE Calculation – Panel Antenna

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)
930	48.19	0.62	65917.39	20.1	102.329	931	0.619

The calculations are performed using the highest TX output power and antenna gain configuration.

Table 2: MPE Calculation – Omni Antenna

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)
930	48.19	0.62	65917.39	12.1	16.218	371	0.618