



Certification Exhibit

FCC ID: SDBIDTB007

FCC Rule Part: 47 CFR Part 2.1091

TÜV SÜD Project Number: 0721006662

**Manufacturer: Sensus Metering Systems Inc.
Model: IDTB007**

RF Exposure

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

Phone: 813-284-2715
www.tuv-sud-america.com

General Information:

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

RF Exposure Evaluation:

Device Characteristics:	
Technical Parameters	Device 1
Frequency (GHz)	0.901
Frequency (MHz)	901
Separation Distance (cm)	20.00
Separation Distance (m)	0.2000
Antenna Type	Printed Monopole Antenna
Antenna Gain (dBi)	2.00
ERP Easily Determined	YES
1-g body or 10-g extremity	Body
Conducted Power (dBm)	30.16
Conducted Power (mW)	1037.53
Duty Factor (Source-Based) %	100.0
Maximum (Source-Based) Time-Averaged Conducted Power (mW)	1037.53
Maximum (Source-Based) Time-Averaged ERP (mW)	1002.67
Maximum (Source-Based) Time-Averaged EIRP (mW)	1644.37
Maximum Output (mW)	1037.53

Determination of Exemption:	
47 CFR 1.1307(b)(3)(i)(B)	
Technical Parameters	Device 1
x	1.46
ERP _{20cm} (mW)	1838.04
Maximum Output (mW)	1037.528
P _{th} (mW)	1838.040
Exemption	YES
Contribution Ratio (P / P _{th})	0.564
Distance to Limit (cm)	13.531

The threshold P_{th} is given by:

$$P_{th} = \begin{cases} ERP_{20\text{ cm}} \left(\frac{d}{20\text{ cm}} \right)^x & d \leq 20\text{ cm} \\ ERP_{20\text{ cm}} & 20\text{ cm} < d \leq 40\text{ cm} \end{cases}$$

Where

$$x = -\log_{10} \left(\frac{60}{ERP_{20\text{ cm}} \sqrt{f}} \right) \quad \text{and } f \text{ is in GHz;}$$

And

$$ERP_{20\text{ cm}}(\text{mw}) = \begin{cases} 2040f & 0.3\text{ GHz} \leq f < 1.5\text{ GHz} \\ 3060 & 1.5\text{ GHz} \leq f < 6\text{ GHz} \end{cases}$$

d = the separation distance (cm)

Conclusion:

The maximum output power (mW) meets the threshold P_{th} (mW) requirements for exemption from routine environmental evaluation per FCC 47 CFR 1.1307(b)(3)(i)(B).