



Certification Exhibit

FCC ID: SDBCPTP100A

FCC Rule Part: 47 CFR Part 2.1091

TÜV SÜD Project Number: 0721003891

**Manufacturer: Sensus Metering Systems Inc.
Model: CPTP100A**

RF Exposure

TÜV SÜD America
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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	PCB Trace Folded Monopole
Antenna Gain (dBi)	0.00
ERP Easily Determined	YES
1-g body or 10-g extremity	Body
Conducted Power (dBm)	30.01
Conducted Power (mW)	1002.31
Duty Factor (Source-Based) %	100.0
Maximum (Source-Based) Time-Averaged Conducted Power (mW)	1002.31
Maximum (Source-Based) Time-Averaged ERP (mW)	611.16
Maximum (Source-Based) Time-Averaged EIRP (mW)	1002.31
Maximum Output (mW)	1002.31

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)	1002.305
P _{th} (mW) (For determining extremity / body)	1838.040
P _{th} (mW)	1838.040
Exemption	YES
Contribution Ratio (P / P _{th})	0.545
Distance to Limit Determination	13.216
Distance to Limit (cm)	13.216

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).