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## **Certification Exhibit**

**FCC ID: SDBFXZIG210**

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

**TÜV SÜD Project Number: 72127191**

Manufacturer: Sensus metering Systems, Inc.  
Model: FXZIG210

## **RF Exposure**

**General Information:**

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

The FXZIG210 is a transceiver module that incorporates a Sensus FLEXNET 900MHz transceiver and a Zigbee 2.4GHz transceiver.

The Zigbee transceiver is collocated and transmits simultaneously with the Flexnet transceiver.

**Technical Information:**

**Table 1: Technical Information**

|  | <b>FLEXNET</b>                               | <b>Zigbee</b>                                   |
|--|--|---|
| <b>Frequency Bands (MHz) &amp; Conducted Power (dBm)</b> | 901 to 960 MHz<br>Conducted Power = 31.6 dBm | 2405 to 2480 MHz<br>Conducted Power = 16.97 dBm |
| <b>Antenna Gain (dBi)</b>                                | 2.77 dBi                                     | 2.24 dBi  |

**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)

**Table 2: MPE Calculation (Including Collocated Devices)**

| 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) | Radio |
|--------------------------|-------------------|------------------------------|------------------|--------------------|-----------------------|---------------|-------------------------|-------|
| 901.5                    | 31.6              | 0.60                         | 1445.44          | 2.77               | 1.892                 | 20            | 0.544                   | A     |
| 2405                     | 16.97             | 1.00                         | 49.77            | 2.24               | 1.675                 | 20            | 0.017                   | B     |

**Summation of MPE ratios – Simultaneous Transmissions**

This device contains multiple transmitters which can operate simultaneously; therefore the maximum RF exposure is determined by the summation of MPE ratios. The limit is such that the summation of MPE ratios is ≤ 1.0.

**Table 3: Summation of MPE Ratios**

|                      | Scenario 1  |
|----------------------|-------------|
| Radio A (FlexNet)    | x           |
| Radio B (Zigbee)     | x           |
| Radio A MPE Ratio    | 0.905431652 |
| Radio B MPE Ratio    | 0.01658556  |
| MPE Ratio Summation: | 0.922017213 |