



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**

	FLEXNET	Zigbee
Frequency Bands (MHz) & Conducted Power (dBm)	901 to 960 MHz Conducted Power = 31.6 dBm	2405 to 2480 MHz Conducted Power = 16.97 dBm
Antenna Gain (dBi)	2.77 dBi	2.24 dBi

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 2: MPE Calculation (Including Collocated Devices)

Transmit Frequency (MHz)	Radio Power (dBm)	Power Density Limit (mW/Cm ²)	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