



Certification Exhibit

**FCC ID: SDBFLXI2102
IC: 2220A-FLXI2102**

**FCC Rule Part: 24 Subpart D, Part 101 Subpart C
ISED Canada's Radio Standards Specification: RSS-119, RSS-134**

Project: 72171706

**Manufacturer: Sensus Metering Systems Inc.
Model: FLXI2102**

Reference EMC Test Data

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Introduction

FCC KDB publication 484596 D01 Referencing Test Data v01 (3) (a)

The objective of this document is to provide justification for referencing radio test data in accordance with the FCC KDB publication 484596 D01 Referencing Test Data v01, Guidance for Referencing EMC and Radio Parameter Data in Equipment Authorization Applications for the Model FLXI2102 (FCC ID: SDBFLXI2102, ISED Canada IC: 2220A-FLXI2102).

Limited testing has been performed on the FCC ID SDBFLXI2102 / IC:2220A-FLXI2102 to verify the compliance of a depopulated variant of the Model FXZIG210 (FCC ID: SDBFXZIG210 . IC: 2220A-FXZIG210) in the test reports RD72162913.102, TP72171706.202.

The applicant takes full responsibility that the test data referenced in the RD72127191.100, RD72144961.100 test reports as described in this document are representative of compliance of the FCC ID: SDBFLXI2102 / IC: 2220A-FLXI2102.

Technical Details per the Manufacturer

The FLXI2102 is meant as an endpoint state-of-the-art supporting communications WAN and HAN communication. The electronics package is designed to be installed in the Aclara I210+c meter. The Aclara I210+c meter is Aclara’s flagship residential meter product supporting Demand, TOU, LP as well as a service switch.

Mode of Operation: FLEXNET 900 MHz
 Frequency Range: 901 MHz - 960 MHz
 Antenna Type/Gain: ¼ wave printed monopole, 2.77 dBi
 Input Power: 4 VDC
 Equipment Class PCS Licensed Transmitter

The FLXI2102 transmitters produce 14 distinct modulation formats. The emissions designators for the modulation types used by the FLXI2102 transmitters are as follows:

EMISSIONS DESIGNATORS:

Mode	Emission Designator	Modulation
Normal	9K60F2D	7-FSK
Double Density	9K60F2D	13-FSK
C & I (Half Baud)	4K80F2D	7-FSK
Priority	4K80F2D	13-FSK
MPass (5 kbps)	5K90F1D	2-GFSK
MPass (10 kbps)	11K8F1D	2-GFSK
2SFSK (Half Baud)	5K00F1D	2-SFSK
4SFSK (Half Baud)	5K60F1D	4-SFSK
8SFSK (Half Baud)	5K90F1D	8-SFSK
2SFSK	10K0F1D	2-SFSK
4SFSK	11K3F1D	4-SFSK
8SFSK	11K9F1D	8-SFSK
m4Pass (10k)	4K70F1D	4-GFSK
m4Pass (20k)	9K30F1D	4-GFSK

The EUT is designed to operate in multiple bands under the requirements of CFR 47 Parts 24 and 101. The following is a list of the frequency bands of operation sorted based on the FCC rule parts in which the band is associated.

CFR Title 47 Rule Part	Frequency Band of Operation (MHz)
24D	901.0 - 902.0
24D	930.0 - 931.0
24D	940.0 - 941.0
101	928.85 - 929.0
101	932.0 - 932.5
101	941.0 - 941.5
101	952.0 – 953.0
101	959.85 - 960.0

A full description and detailed product specification details are available from the manufacturer.

Description of the Differences

FCC KDB publication 484596 D01 Referencing Test Data v01 (3) (b)

The FCC ID: SDBFLXI2102 / IC: 2220A-FLXI2102 is a depopulated version of the FCC ID: SDBFXZIG210 / ISED: 2220A-FXZIG210 where the radio components of the Zigbee radio equipment class Digital Transmission System have been depopulated.

The new FCC ID: SDBFLXI2102, IC 2220A-FLXI2102 only supports the Flexnet radio PCS Licensed Transmitter which transmits in the 900 MHz band.

The changes only affect the Zigbee radio and there are no changes implemented on the Flexnet radio.

Spot Check Verification

FCC KDB publication 484596 D01 Referencing Test Data v01 (3)(c)

The EUT has been evaluated for compliance of the FlexNet Radio PCS Licensed Transmitter equipment class.

A combination of full and limited evaluations was performed on the FCC ID: SDBFLXI2102 / IC: 2220A-FLXI2102 for the parameters listed below to cover the worst-case test results from the fully populated model variant.

FCC Rules Part Sections	ISED Canada	Test Parameters
2.1046; 24.132; 101.113(a)	RSS-119 5.4; RSS-134 4.3(a),(b)	RF Output Power
2.1053; 24.133 a(1), a(2); 101.111 a(5), 101.111 a(6)	RSS-119 5.8.3, RSS-119 5.8.6; RSS-134 4.4	Out of Band Unwanted Emissions
2.1049	RSS-GEN 6.7	99% Bandwidth
2.1053; 24.133 a(1), a(2); 101.111 a(5), 101.111 a(6)	RSS-119 5.8.3, RSS-119 5.8.6; RSS-134 4.4	Spurious Emissions at Antenna Terminal
2.1053; 24.133 a(1), a(2); 101.111 a(6)	RSS-119 5.8.6; RSS-134 4.4	Field Strength of Spurious Emissions

Compliance to the remaining parameters are documented in the original test reports as listed below and are deemed representative of the FCC ID: SDBFLXI2102 / IC: 2220A-FLXI2102

Reference

FCC KDB publication 484596 D01 Referencing Test Data v01 (3) (d)

The spot check and full test reports are referenced below

FCC Rules Part Sections	ISED Canada	Test Parameters	Evaluation Description	Test Report Description	Test Report	Report Section
2.1046; 24.132; 101.113(a)	RSS-119 5.4; RSS-134 4.3(a),(b)	RF Output Power	Full Test	New FCC ID	TP72171706.202	2.1
2.1053; 24.133 a(1), a(2); 101.111 a(5), 101.111 a(6)	RSS-119 5.8.3, RSS-119 5.8.6; RSS-134 4.4	Out of Band Unwanted Emissions	Spot Check	New FCC ID	TP72171706.202	2.2
			Full Test	Original FCC ID	RD72127191.100	7.2
			Full Test	C2PC on Original FCC ID	RD72144961.100	7.2
2.1049	RSS-GEN 6.7	99% Bandwidth	Spot Check	New FCC ID	RD72162913.102	2.1
			Full Test	Original FCC ID	RD72127191.100	7.3
			Full Test	C2PC on Original FCC ID	RD72144961.100	7.3
2.1053; 24.133 a(1), a(2); 101.111 a(5), 101.111 a(6)	RSS-119 5.8.3, RSS-119 5.8.6; RSS-134 4.4	Spurious Emissions at Antenna Terminal	Full Test	New FCC ID	RD72162913.102	2.2
2.1053; 24.133 a(1), a(2); 101.111 a(6)	RSS-119 5.8.6; RSS-134 4.4	Field Strength of Spurious Emissions	Full Test	New FCC ID	RD72162913.102	2.3
2.1055; 24.135; 101.107	RSS-Gen 6.11; RSS-119 5.3; RSS-134 4.5	Frequency Stability	Full Test	Original FCC ID	RD72127191.100	7.6