



**Federal Communications Commission**  
Authorization and Evaluation Division

Aug. 08, 2012

Re: FCC ID: QZC-REXU

Elster Solutions  
208 S Rogers Lane  
Raleigh, NC 27610-2144  
United States

T +1 919 212 4800  
F +1 919 212 4801

[www.elster.com](http://www.elster.com)

The purpose of this letter is to request single modular approval of the Elster Solutions Energy Axis Model REXU, printed circuit board assembly, which operates as a frequency-hopping spread-spectrum transceiver for automatic meter reading in the 902-928 MHz ISM band and a digital modulated transceiver in the 2.4-2.483.5 GHz band under the provisions of FCC Part 15.247.

To address the specific numbered items of Public Notice DA 00-1407:

1. The REXU board incorporates three shields, two over the wireless 900 MHz and 2.4 GHz transceiver ICs and one over the communications processor, all attached (soldered) to the printed-circuit board. The bottoms of the shields are enclosed by a copper plane that is part of the printed-circuit board.
2. The REXU transmitter incorporates digital buffers on the data inputs, which are part of the transceiver ICs. The peak modulation is set by firmware that is stored within the transceiver ICs. The data rate is set by the same stored firmware. For this reason, over-driving the modulation input, or applying excessive data rates to the data input cannot produce over-modulation.
3. The REXU has its own power supply regulation. It receives unregulated power from the host metering devices and this is applied to a switching regulator which is followed by a linear regulator to supply the lower voltage sections of the device. For this reason, varying the supply voltage to the REXU cannot vary the transmitter power, which is set and measured at the time of manufacture.
4. The REXU is configured to operate with two internal printed circuit board antennas that are integral to the module itself. One antenna is used for the 900 MHz radio and the other is for the 2.4 GHz radio.
5. The REXU module was tested in a stand-alone configuration for compliance with the FCC Part 15 requirements. The module also complies with the AC line conducted requirements found in FCC Part 15.207. The REXU module is intended to be installed in REXU electricity meters and metering equipment supplied by Elster Solutions.
6. The REXU has a label to identify the module's FCC ID. This label is silkscreen printed on the REXU printed circuit board assembly and is thus permanent. Additionally, the FCC ID appears on the front-panel nameplate of Elster Solutions meters and devices that contain the REXU module.
7. The REXU complies and is certified for compliance with all of the applicable provisions of FCC Part 15.247 for frequency-hopping spread-spectrum devices for the 900 MHz radio and for digital modulation devices for the 2.4 GHz radio.
8. The REXU is a low-power (1 W) device and operates with a low duty cycle. The REXU has been demonstrated and certified to comply with the MPE RF

exposure requirements for mobile devices. Installation and operating instructions specify the required minimum distance from humans for installed electricity meters.

Respectfully,

A handwritten signature in black ink that reads "John Holt". The signature is written in a cursive, slightly slanted style.

John Holt  
RF Engineer  
Telephone 919-250-5557  
e-mail: [John.Holt@us.elster.com](mailto:John.Holt@us.elster.com)