



Federal Communications Commission
Authorization and Evaluation Division

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The purpose of this letter is to request limited modular approval of the Elster Electricity LLC, Energy Axis Model RX2EAI, printed circuit board assembly, which operates as a frequency-hopping spread-spectrum transceiver for automatic meter reading in the 902-928 MHz ISM band under the provisions of FCC Part 15.247.

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

1. The RX2EAI board incorporates two shields, one over the wireless transceiver IC and one over the RF power amplifier, both 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 RX2EAI transmitter incorporates digital buffers on the data inputs, which are part of the transceiver IC. The peak modulation is set by the program that is stored within the transceiver IC. The data rate is set by the same stored program. For this reason, over-driving the modulation input, or applying excessive data rates to the data input cannot produce over-modulation.
3. The RX2EAI has its own power supply regulation. It receives unregulated power from the 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 RX2EAI cannot vary the transmitter power, which is set and measured at the time of manufacture.
4. Antennas. The internal antenna supplied with the RX2EAI is fully integrated into the printed circuit board, being constructed of copper patterns etched in the board during its fabrication.
5. The RX2EAI module is intended to be installed in Rex2 electricity meters and metering equipment supplied by Elster Electricity LLC. The module has been tested in representative configurations.
6. The RX2EAI has a label to identify the module's FCC ID. This label is silkscreen printed on the RX2EAI printed circuit board assembly and is thus permanent. Additionally, the FCC ID appears on the front-panel nameplate of Elster Electricity LLC meters and devices that contain the RX2EAI module.
7. The RX2EAI complies and is certified for compliance with all of the applicable provisions of FCC Part 15.247 for frequency-hopping spread-spectrum devices.
8. The RX2EAI is a low-power (199 mW) device and operates with a low duty cycle. The RX2EAI 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,

John Holt

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