



Federal Communications Commission
Authorization and Evaluation Division

Re: FCC ID: QZC-EA2W

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The purpose of this letter is to request limited modular approval of the Elster Solutions Energy Axis Water Module 2.0, Model EA2W, 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. The EA2W is designed to be used with AMCO and other water meters.

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

1. The EA2W board incorporates a single shield over the wireless transceiver IC and RF Front End module. The shield frame is soldered to the printed-circuit board and a snap-on shield lid is applied. The bottom of the shield is enclosed by a copper plane that is part of the printed-circuit board.
2. The EA2W transmitter incorporates digital buffers on the data inputs, which are part of the transceiver IC. The peak modulation is set by the firmware that is stored within the transceiver IC. 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 EA2W has no power supply regulation, per se. It receives unregulated power from an internal source, a 3.6 volt Lithium Thionyl Chloride battery. The battery and printed circuit board assembly are potted in the module housing and therefore the EA2W transmitter power cannot be varied once it is set and measured at the time of manufacture.
4. Antennas. The EA2W has an integrated printed circuit board antenna that is inaccessible from outside the module housing due to the potting compound encapsulate with which it is filled.
5. The EA2W module is intended to be installed with or on Elster AMCO water meters and other metering equipment supplied by Elster Solutions. The module has been tested in representative configurations.
6. The EA2W has a label to identify the module's FCC ID. This label is silkscreen printed on the EA2W printed circuit board assembly and is thus permanent. Additionally, the FCC ID appears on the front-panel nameplate of Elster Solutions water meters and devices that contain the EA2W module.
7. The EA2W 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 EA2W is a low-power (250 mW) device and operates with a low duty cycle. The EA2W 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 water meters.

Respectfully,

John Holt

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