Test Approach Justification

The RF circuitry and antenna tested in this report are utilized in three Luna iMonitoring products: the *i*EFM, *i*TLM-1, *i*WPM-T. Though portions of the digital circuitry of the three products is different, the RF circuitry (including control circuitry) and layout is identical across the three products. But, because the RF circuitry and digital circuitry reside on the same PCB in each device, a modular approval approach would not be applicable. The conducted power of the three products was investigated on three frequencies each to see if any aspect of the digital circuitry influenced the intentional emissions. No significant power variation was found. The *i*TLM-1 was chosen for the remaining testing because of the present of the ultrasonic transducer, and the physical length of the transducer housing.

The digital portions of the *i*EFM, *i*TLM-1, *i*WPM-T are subject to verification under FCC Part 15. Additionally, the *i*TLM-1 has an ultrasonic section that meets the definition of 18.107(f) and is subject to verification under FCC Part 18 as a non-consumer ISM device. Verification testing was performed on all three devices, and verification reports exist for each.

Two antennas were tested and can be used with the devices: (Nearson S467AH-915S whip antenna and Bluewave EDY9432 Yagi). A reduced power setting must be used with the Bluewave EDY9432 Yagi for compliance. The manufacturer will pre-program the appropriate maximum power before shipment and insure that end users cannot use the Yagi antenna with a device programmed for use with the whip antenna.

Sincerely,

Richard B. McMurray, P.E.