

Radio Frequency and Safety Compliance

We live in a world where RF energy is all around us. It plays a critical role in the communications systems that we depend on every day, such as police and fire radio systems and pagers, radio and television broadcasts, and cellular telephones. Many of the conveniences we've grown accustomed to in our homes, such as cordless phones, wireless LAN (WiFi) and microwave ovens also utilize and emit RF energy.

This same technology is used by utilities to team with consumers to make the distribution and measure of water more efficient and reliable, and to optimize our use of precious water resources.

It is important to recognize the relative amounts of RF energy that water communication modules contribute to the existing RF environment. The diagram below provides an approximate comparison of the various sources found in and around typical households.



Communication Module Operations

Itron's water communication modules utilize wireless communications to transmit and receive data between the module and a neighborhood collection device. These modules are advanced, highly-efficient devices. They are able to communicate a large amount of metering data in very short transmissions over a 24-hour period.

- *Limited time on the air:* Itron's communication modules transmit for very short intervals spread throughout the day and thus have a very small duty cycle. The total transmission time during a 24-hour period averages less than a minute. The RF energy levels of the communication modules are a fraction of the exposure limits specified by regulatory agencies
- *Low power:* Itron's communication modules are extremely low power; less than one watt. Their low level of RF exposure is insignificant, generating far less RF energy than a cellular network
- *Limited proximity to humans:* Itron's communication modules are typically installed outside the home or in a basement; compare that to a cell phone, which is held directly to the side of the head

Itron consistently evaluates key factors for exposure risk from our products including the frequency of the emission, the power output and the distance from the public.

Regulatory Compliance

Since 1996, the Federal Communications Commission (FCC) has required all wireless communications devices sold in the United States meet minimum guidelines for safe human exposure to radio frequency energy. In addition, federal health and safety agencies including the EPA, FDA, National Institute for Occupational Safety and Health (NIOSH) and the Occupational Safety and Health Administration (OSHA) consistently monitor and regulate RF safety. Itron's products are stringently evaluated for RF safety and meet all exposure limits and standards specified by these agencies.

Health Impacts of RF

According to several reputable industry and health research organizations, there is no demonstrated cause and effect relationship between low levels of RF exposure and adverse human health effects. Still, Itron continually monitors regulations and performs extensive RF testing to actively minimize RF emission levels by all means possible. For more information, visit Itron's Consumer Resource Center at www.itron.com/consumers.