Mi.Net® & Radio Frequency Safety

The Mi.Net® – Mueller Infrastructure Network for Utilities and Radio Frequency (RF) Safety

Background

Smart water meters were developed to improve conservation of a vital natural resource, increase the operational efficiencies of utilities and give consumers more control over their water usage. This is increasingly important given recent droughts and growing demands being placed on a water distribution system that is inefficient, outdated and in need of upgrade.

While smart metering has many benefits, certain consumer groups have questioned the long-term health effects associated with radio frequency (RF) transmissions generated by smart meters. The issue has been studied by a wide variety of government, industry and scientific organizations, including the Federal Communications Commission (FCC), the Environmental Defense Fund and the Utilities Telecom Council. Their findings indicate that the RF transmissions generated by smart meters are as safe as those generated by other household appliances and devices, including microwave ovens, cellular phones and laptop computers.

According to the Environmental Defense Fund, "By making smart investments in a "smart" green grid, we can greatly reduce our use of dirty energy, improve air quality and the health of millions of Americans affected by dangerous air pollution, and advance our energy independence and economic growth."

The Mi.Net® System

The Mi.Net® Mueller Infrastructure Network for Utilities, Mueller Systems' advanced metering infrastructure system, is fully compliant with FCC guidelines governing RF transmissions. These guidelines were adopted in 1985 and are based on recommended guidelines published by the National Council on Radiation Protection and Measurements.

The Mi.Net System operates in the 900 MHz band. The 900 MHz system is a band used by multiple consumer and household electronics and the output power is closely regulated by the FCC. RF transmissions in this unlicensed band are typically far fewer than for many other devices. Additionally, the effective radiated output power of the Mi.Net System is one watt or less.

Key Points

1. RF transmissions decrease as the distance from the device increases. A cell phone placed directly against a person's ear generates 5,000 uW/cm (micro-watt per centimeter) compared to 40 uW/cm generated from three feet away from a smart meter that is always on, (California Council of Science and Technology). In other words, a cell phone's RF transmissions are 125 times more powerful than a smart meter under these parameters.

2. Radio devices transmit RFs when they are in use, and a smart meter is in use only a fraction of the time compared to other household devices. For example, the Mi.Net System transmits once a day for a fraction of a second, while a typical cell phone or laptop may be used almost continuously throughout the day.

Conclusion

RF transmissions have been and will continue to be part of our daily lives, and it is important to separate fact from rumor. We appreciate the enormous amount of third-party research that has been conducted by government, industry and scientific organizations, which indicate that the RF transmissions generated by smart meters are as safe as those generated by other household appliances and devices.

According to the World Health Organization, "From all evidence accumulated so far, no adverse short- or long-term health effects have been shown to occur from the RF signals produced by base stations. Since wireless networks produce generally lower RF signals than base stations, no adverse health effects are expected from exposure to them."

Additional Sources of Information

California Council on Science and Technology Health Impacts of Radio Frequency Exposure From Smart Meters
http://www.ccst.us/publications/2011/2011smart-final.pdf

Environmental Defense Fund What consumers need to know about the smart grid and smart meters

Federal Communications Commission Evaluating Compliance with FCC Guidelines for Human Exposure to Radiofrequency Electromagnetic Fields August
http://transition.fcc.gov/Bureaus/Engineering_Technology/Documents/bulletins/oet65/oet65.pdf

World Health Organization Electromagnetic fields and public health
http://www.who.int/mediacentre/factsheets/fs304/en/index.html