Automated Meter Reading System

Firefly transmitter in meter pit

Firefly transmitter w/meter inside property

AMR Benefits

- Near real-time data retrieval
  - Helps with handling customer complaints
- No need for estimates or adjusted billing
  - React quicker in abnormal situations to monitor demand and consumption more closely
- Improve billing efficiency
  - Reduce number of re-reads and missed readings
- Meter Service efficiency
  - Replacement of aged meters
  - Repair service of existing meters
  - OEPA backflow requirements
  - Service line repair
- No longer need to access properties for monthly meter reading
- Speed up repair response time
- Better water conservation management
- Improved leak and theft detection

RF Frequency Levels in Households

- To date, scientific studies have not identified or confirmed negative health effects from impacts of RF emissions.
- Radio Frequency is used for radio stations, cell phones, wireless internet, baby monitors, remote car starters, garage door openers and TV remotes to transmit signals.
- Wireless smart meters result in much smaller levels of radio frequency (RF) exposure than many existing common household devices, particularly cell phones and microwave ovens.
- Water meters transmit an average of 4 times per day for less than a second each time, the rest of the time they are dormant and emit no radio frequency. AMR's emit far less RF exposure than most other day-to-day devices.

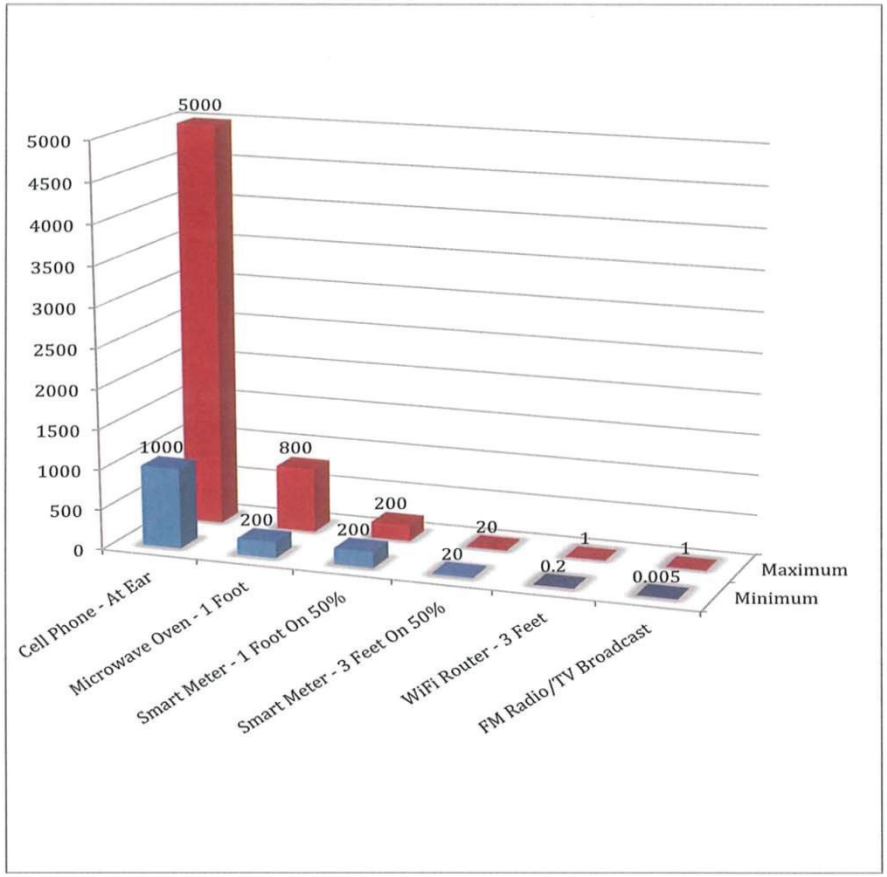

Figure 1. Instantaneous Radio Frequency Power Density Levels of Common Devices (in microWatts/cm^2)
About this figure: This figure was developed by the CCST project team. Quantities for different distances calculated using Inverse Square Law. Assumes distances in far-field, where power density reduces as the square of the distance from the source. Smart meter power scaled to obtain output for 50% duty cycle. The source for the various starting measurements came from Electric Power Research Institute (EPRI), Radio-Frequency Exposure Levels from Smart Meters: A Case Study of One Model (February 2011)