

RADIO FREQUENCY: WHAT TO KNOW



**Hawaiian
Electric**



How radio frequency helps us every day

Radio frequency (RF) is part of a large electromagnetic energy spectrum. It is made up of waves of electric and magnetic energy that move together. RF helps us stay connected through everyday devices, including:

- Radio and television broadcasting
- Cell phone transmissions
- Advanced meters
- Wi-Fi
- Common household appliances like microwaves and baby monitors

Is it safe?

Yes. The Federal Communication Commission (FCC) mandates that all RF services and wireless devices meet an established safety exposure standard developed by the Institute of Electrical and Electronics Engineers and the National Council on Radiation Protection.



About advanced meters

Advanced meters are modern electric meters that use RF and a secure wireless network to enable two-way data sharing between your home or business and Hawaiian Electric.

Advanced meters have a digital display, are similar in size to analog electric meters, and contribute to our grid modernization efforts.



The benefits

- View your daily energy usage data from your phone or computer
- Manage your energy use to reduce your bill
Help to improve restoration times during power outages
- Help Hawaii reach a 100% clean energy future

A person's exposure to RF signals depends upon three factors



1. How far the person is from the device:

An advanced meter's signal strength diminishes significantly with distance from the meter.



2. How often and how long the RF signals are transmitted:

Advanced meters transmit data several times a day – the total average transmission time is less than one second in a 24-hour period.



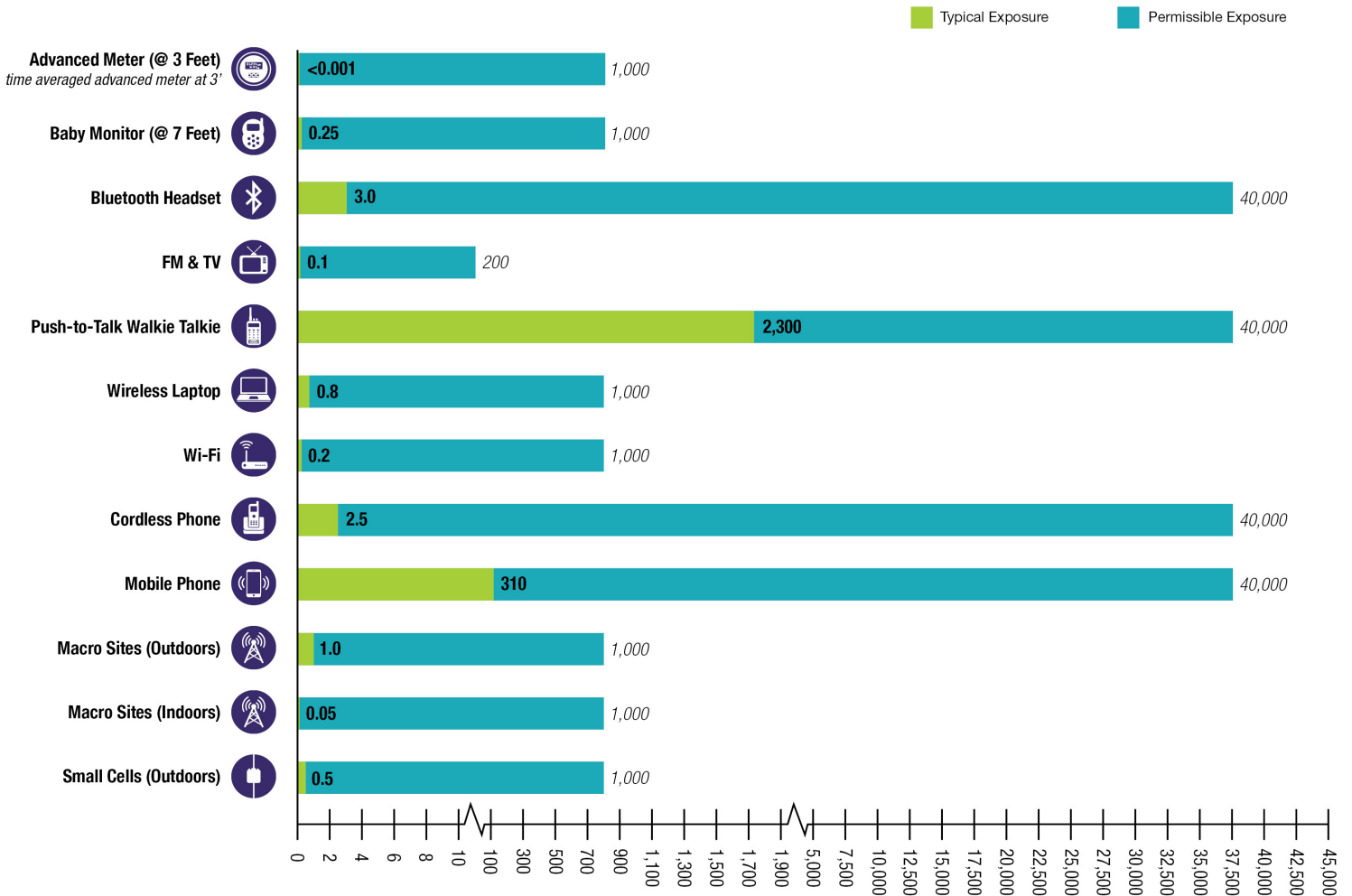
3. The power level of the device:

Typical advanced meters operate at power levels similar to or lower than most common household devices, such as cordless phones, baby monitors or Wi-Fi routers.

Comparing radio frequency levels

Common Radiofrequency Exposures ($\mu\text{W}/\text{cm}^2$)

($\mu\text{W}/\text{cm}^2$) = microwatts per centimeter squared



Source: Andrew H. Thatcher, Board Certified Health Physicist © 2020



Safety first

According to the FCC, the Electric Power Research Institute and the World Health Organization, no adverse health effects have been shown to occur from the RF signals produced by advanced meters or other wireless networks.¹

Wireless advanced meters result in much smaller levels of RF exposure than many common household electronic devices, particularly cell phones and microwave ovens.²

Will an advanced meter interfere with a pacemaker and other medical devices?

The Food and Drug Administration requires pacemaker manufacturers to test their devices for susceptibility to electromagnetic interference. Electromagnetic shielding is also incorporated into the design of modern pacemakers to prevent interference from RF signals. If you have additional concerns, we encourage you to speak with your health care provider.

1. *Silver Spring Networks. Radio Frequency Emissions: Analysis of Radio Frequency Exposure Associated with Silver Spring Networks' Advanced Metering Devices. 2011 – White Paper.*
2. *California Council on Science Technology. Health Impacts of Radio Frequency Exposure from Smart Meters. April 2011 – Final Report.*



Security and privacy

At Hawaiian Electric, we take our customers' privacy very seriously. To protect customer privacy, we have rules and safeguards in place, including rules specific to advanced meter data.

For more information about our company's privacy policies, please visit hawaiianelectric.com/privacy



Our commitment to you

Hawaiian Electric's top priority is the health and safety of customers, employees and the general public. To address concerns about RF, we are doing the following:

- Supporting national research and studies, including research from the Electric Power Research Institute and the Edison Electric Institute.
- Conducting business operations in a manner that will minimize RF where technically feasible and economically reasonable.
- Installing advanced meter devices, modules and RF communications equipment that has been tested and found to comply with the U.S. Code of Federal Regulations.
- Sharing updated RF and safety information with customers and employees at [hawaiianelectric.com/advancedmeters](https://www.hawaiianelectric.com/advancedmeters)
- For more information call **808-543-7511**.

