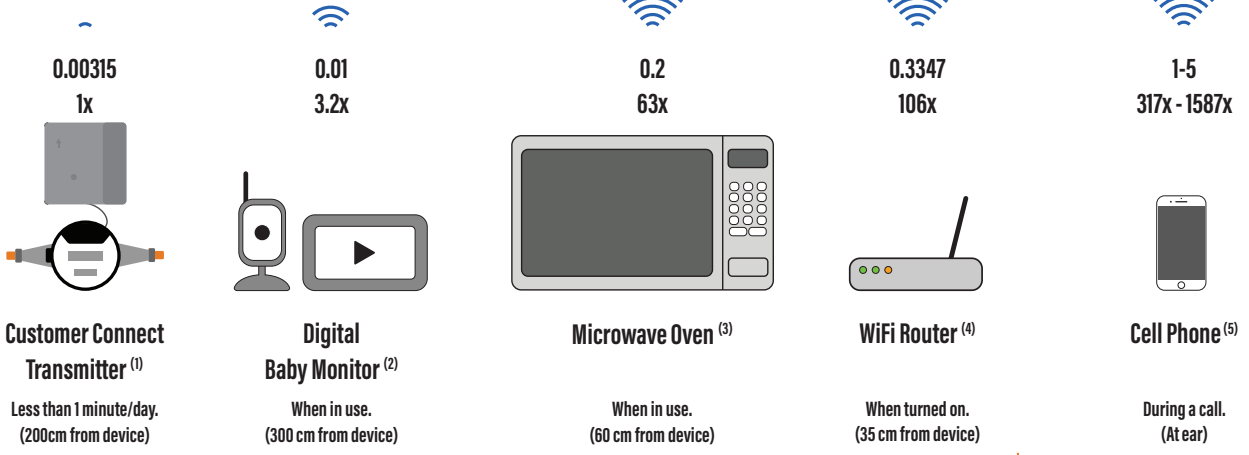


Household Device Radio Frequency Comparison

Avg. RF Level (mW/cm²):
Avg. Times Higher:



Customer Connect Transmitter ⁽¹⁾

Less than 1 minute/day, (200cm from device)

Digital Baby Monitor ⁽²⁾

When in use, (300 cm from device)

Microwave Oven ⁽³⁾

When in use, (60 cm from device)

WiFi Router ⁽⁴⁾

When turned on, (35 cm from device)

Cell Phone ⁽⁵⁾

During a call, (At ear)

Radio Frequency (RF) Information

What is RF?

A radio frequency signal is an electromagnetic wave that communications systems use to transport information through air from one point to another.

What kind of devices use RF?

Radio broadcasting, television broadcasting, cellphones, wi-fi internet routers, baby monitors, laptops, cordless telephones, wireless video game controllers, radio communications for police and fire departments, and satellite communications are just a few of the many telecommunications applications of RF energy.

Do the new water meters from Halifax Water and Neptune Technology use RF?

The new water meters being installed by Neptune Technology Group on behalf of Halifax Water are connected to a transmitter using a cable. The meter itself does not emit RF. The transmitter is typically mounted outside the home or building. Depending on the type of transmitter used, RF technology may be used to transfer the meter readings to Halifax Water.

If a transmitter uses RF technology, it operates between 902MHz and 928MHz. The transmitter is not constantly on like wi-fi or FM radio signals. The transmitter sends information for less than one minute total per day, for seven milliseconds at a time. Information is sent securely, as it is encrypted. No personal information is transmitted.

What standards do these transmitters meet?

The transmitters being installed as part of Customer Connect have been certified by Industry Canada who has adopted Health Canada's "Safety Code 6: Limits of Human Exposure to Radio Frequency Electromagnetic Fields in the Frequency Range of 3KHz to 300GHz."

If you have any questions, visit customerconnect.halifaxwater.ca or call 902.420.9287.

References:

- (1) Itron. "101242MP-03-ChoiceConnect100SeriesRadioFrequencyFAQ-WEB." Itron, 2015, <https://www.itron.com/na/support/consumer-resource-center/radio-frequency-resource-center> Data converted for 200cm distance to better reflect a probable customer distance.
- (2) Innovation, Science and Economic Development Canada. "Radio Equipment List (REL) - Details for: SCD620." Innovation, Science and Economic Development Canada Radio Equipment List, Innovation, Science and Economic Development Canada, 7 Mar. 2016, sms-sgs.ic.gc.ca/equipmentSearch/searchRadioEquipments?execution=e1s6&index=0.
- (3) ICNIRP. 2009. "Exposure to high frequency electromagnetic fields, biological effects and health consequences (100 kHz-300GHz)." International Commission on Non-Ionizing Radiation Protection, Oberschleißheim, Germany, page 21.
- (4) Innovation, Science and Economic Development Canada. "Radio Equipment List (REL) - Details for: AC2400 ." Innovation, Science and Economic Development Canada Radio Equipment List, Innovation, Science and Economic Development Canada, 28 Oct. 2018, sms-sgs.ic.gc.ca/equipmentSearch/searchRadioEquipments?execution=e1s3&index=0.
- (5) Based on a 3-inch, 250 mW antenna emitting a cylindrical wavefront.

Note:

FCC & Innovation, Science and Economic Development Canada Rule: From 300 MHz to 1500 MHz $MPE = 0.2 \times f/300$ mW/cm² (f is frequency in MHz); for 1500 MHz and greater, $MPE = 1$ mW/cm². For example, at 900 MHz $MPE = 0.2 \times (900/300)$ mW/cm². Note: Compliance for cell phones is provided by manufacturers, and expressed in terms of SAR, which cannot exceed 1.6 W/kg for any single gram of tissue.