Summary
Have you ever wondered what the temperature was in your garage, attic, porch, or anywhere in your home? A small, energy efficient wireless temperature sensor enables the consumer to better understand their environment and adjust their environmental controls accordingly. This reference design can help kick-start your own connected home, smart appliances, or smart energy designs.

The Wireless Temperature Sensor reference design is part of Microchip’s Connected Home platform. At the heart of the design is a low-power nanoWatt XLP 16-bit PIC® Microcontroller, the PIC24F32KA302. The MCP9808 temperature sensor has an operation range from −40°C to +125°C. The temperature data is transmitted via the MRF89XAM8A/9A Sub-GHz wireless module. Two AA batteries provide power to the board.

Microchip Products
- 16-bit MCU PIC24F32KA302
- Sub-GHz module
  - MRF89XAM8A: 868 MHz
  - MRF89XAM9A: 915 MHz
- Temperature sensor MCP9808
- DC/DC converter MCP1640C

Key Features
- Low power nanoWatt XLP 16-bit PIC Microcontroller
  - 20 nA in sleep mode
  - 500 nA RTCC operation in sleep mode
- Long battery life
- −40°C to +125°C Temperature Range
  - ±0.25°C Accuracy
  - 0.1 μA sleep current
- RF Module Agency Certifications for Europe, US, Canada, Australia & New Zealand

Available Reference Material
- Circuit schematics
- Gerber files
- Bill of materials

For information on the Wireless Temperature Sensor, please email appliance@microchip.com.
Support

Microchip is committed to supporting its customers in developing products faster and more efficiently. We maintain a worldwide network of field applications engineers and technical support ready to provide product and system assistance. In addition, the following service areas are available at www.microchip.com:

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### Important Links

Visit the Home Appliance web site at www.microchip.com/homeappliance for:

- More Home Appliance development tools
- Human Interface design information
- Home Appliance application notes
- Videos relating to Home Appliance

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