

Description of the circuit functions ground system and antenna of the Point Six, WOW Wireless temperature transmitter:

The WOW wireless temperature sensor is a lithium battery operated microprocessor based 418 MHz. transmitters that transmit both digital temperature data and a unique 64-bit serial number. The microprocessor is brought up from a power down state every 4 seconds by a DS2417 time of day clock interrupt output. The temperature is measured with a DS18B20 digital temperature sensor, which has a unique 64-bit serial number that can be read by the microprocessor. The microprocessor counts the 4-second interrupt cycles from the DS2417 clock until the transmit period has expired. The microprocessor then reads the temperature from the previous temperature conversion, combines it with the serial number data and transmits the entire data packet serially with a Linx Technologies TXM-418-LC-R 418 MHz. Transmitter module. The microprocessor then starts another temperature conversion cycle and powers down into a quiescent state to wait for the next interrupt from the DS2417 clock.

The PC board bottom layer is a ground plane and the antenna is a 1/4-wave loop that has been hot upset into the ABS cover to form a spiral. The entire electronics is coated with a rubber conformal coating to protect it from condensation. The ground plane (bottom layer) is not coated.