



## Radio Technology for Wireless Sensors

### Industry Standard Platform:

IEEE 802.15.4; Low-Rate Wireless Personal Area Networks. This standard was developed to address low-cost and low-power design to enable applications in the fields of industrial, agricultural, vehicular, residential, and medical sensors and actuators. The most popular and well-known application of this standard platform is ZigBee, a software application targeting HVAC and home automation. ZigBee is administered by an industry association. More info at [www.zigbee.org](http://www.zigbee.org).

### Certification:

FCC certification was achieved by MeshNetics/Atmel for the transceiver radio modules. Evergreen Telemetry achieved FCC certification for the specific application of the radio modules within the Wrist Reporter and wireless sensors.

### Transceiver:

ZigBit-B0 and ZigBit-A2 radio modules from Atmel. Originally designed by MeshNetics. The radios use 16 channels between 2.400 and 2.4835 GHz in compliance with IEEE 802.15.4. These frequencies are within the ISM (Industrial, Scientific, and Medical) band that has become a world-wide standard (North America, Europe, Asia) for relatively low power radio networking applications.

### RF Characteristics

Parameters	Range	Unit
Frequency Band	2.400 to 2.4835	GHz
Number of Channels	16	
Channel Spacing	5	MHz
Transmitter Output Power (max)	6	mw
On-Air Data Rate	250	kbps