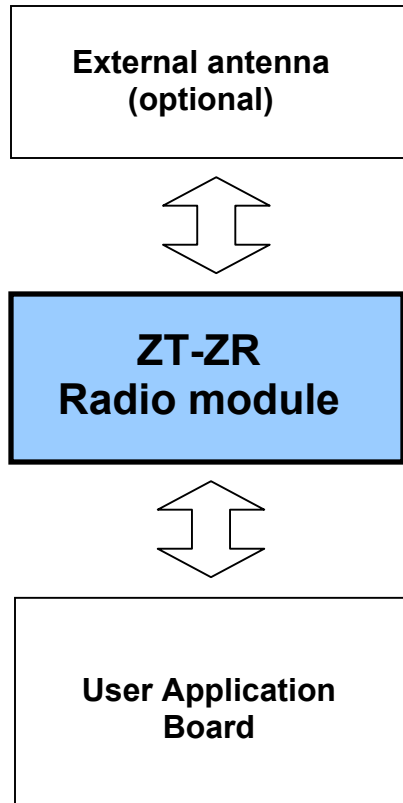




ZT-ZR
Active RFID Module
Brief Technical Description

Basic Functional Specification



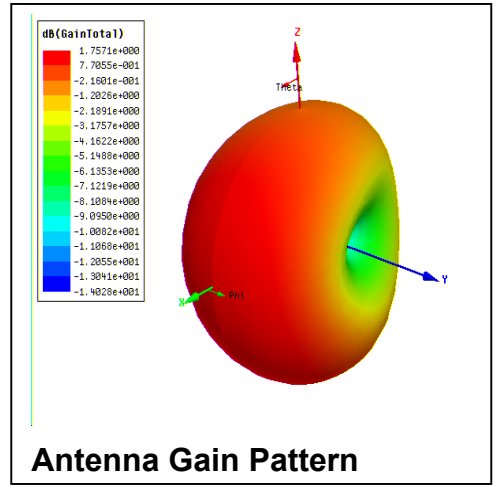
The ZT-ZR module is a general-purpose radio module that can be used as a stand-alone RFID tag or it can be connected to an external circuit board for additional sensor functionality and control. In some configurations, an external antenna is provided as an option.

Mechanical Specs

- Size: 1.25 X 1.25 X0.25 in
- Operating Temperature: -10C – 80C
- humidity 0-90% (non condensing)

Power Specifications

- Battery: CR2032
- Battery Capacity: 220 mAh
- Battery life: approx 2 million transmissions per battery.
- Operating Voltage: 2.2 - 3 V
- Current consumption:
 - <2uA when idle
- < 20 mA when communicating



Features and Configurations



Features of ZT-ZR:

- Integrated Real-Time Clock and data logger
- Bi-directional communication (tag<->reader)
- All RFID settings are completely programmable via the wireless protocol
- Industry standard IEEE 802.15.4 (Zigbee-ready) air interface protocol
- Operating frequency range – from 2.405 to 2.480 GHz (DSS spread spectrum)
- 250 Kbps data rate with CSMA anti-collision protocol
- Does not interfere with Wi-Fi Networks (WLAN)
- Support for 128 bit AES-CCM security suite for high data security
- Very low current consumption (<20 mA for communications <2 uA in sleep mode)

Configurations:

The ZT-ZR module shall be sold under several different product names depending on how it is programmed. The following is a list of the different configurations and the allowable antennas to be used:

- **ZR-232** – this module is programmed as receiver and uses a 5 dBi external antenna (Model Hyperlink HG2405RD-RTP)
- **ZT-Link/ZT-50** – this module is programmed as a tag and uses the internal 1 dBi antenna
- **ZT-50-mini** – this module is programmed as a tag and uses the 1.4 dBi small external antenna (Model Antenna Factor ANT-2.4-JJB)