



Active RFID, and Beyond

Technical Description

The basic classification the device is an active RFID tag, active tags require a battery or localized power source and are capable of receiving and transmitting data through the RF Medium. The tag is considered to be continuously powered by the battery, running software applications and operating in one of three states, power saving, transmitting data onto the RF Medium and receiving data from the RF Medium.

The basic electrical structure consists of an antenna, fabricated from tracking on the electrical substrate itself, this is coupled through a matching network, which maybe single ended in construction and matched to the antenna , The transceiver modulates the datagram sent from the MCU and demodulates the datagram coming from the transceiver. A Microcontroller (MCU) which is integrated with the transceiver contains software applications for controlling the operating states of the tag. The software application(s) are stored in an EEPROM.

On connection of the battery to the tag the MCU reads the data from the memory device and begins to run the software applications. The general operation of the software application is the power saving state, where the MCU and other electronic components are placed into minimum power consumption mode and the transceiver is off. From this state it can branch into the other two states where the MCU / transceiver is transmitting data or receiving data. The data is then transferred into the Storage, which may consist of Random Access Memory (RAM) or the EEPROM

The MCU and transceiver operate from a 16MHz crystal, this serves as the clock frequency for the MCU and the base frequency for multiplication in the transceiver. The transceiver operates from 915MHz to 918MHz.



RFTRAQ Limited

Registered Office: Unit 4 Cobbett Park, 22-28 Moorfield Road, Slyfield Industrial Estate, Guildford, Surrey, GU1 1RU
Tel: +44 (0)845 410 3185 Fax: +44 (0)845 410 3145

Registered in England & Wales No: 4222785