# Technical Description of Purpletooth™ ZcoRE3-2400 OEM Modem

This document is to describe the technical aspects of Purpletooth™ ZcoRE3-2400 OEM modem.

The key components of Purpletooth™ ZcoRE3-2400 OEM modem can be categorized into following groups:

- MCU & Digital parts
  - MCU (ATMEGA128L-8MU)
  - Crystal 8M
- Transceiver
  - Transceiver (EM2420)

The detail operations of each part are described as follows:

MCU & Digital part:
The core part is Atmel MCU which embeds the SRAM and Flash memory. Its serial port provides the serial communication with other device. The SPI port provides the capacity to configure the RF transceiver.

Transceiver:
The Transceiver is responsible for the data modulation and demodulation.

The transceiver is set or programmed by MCU via SPI serial port. The transceiver's RF output provides the 2400M RF signal to chip antenna, and receive the 2400M RF signal from chip antenna.

RF part:
The RF parts are matching and RF TX/RX common path.

The TX packets send by MCU will be modulated by transceiver, and this RF output of transceiver will be directly transmitted through the chip antenna.

The RF input through the chip antenna will be demodulated by transceiver. The transceiver will send the RX packets to MCU after demodulation.

The RF common path includes a RF matching circuits and chip antenna.