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U-Force.D Module
2.4GHz Transceiver

The U-Force module is an IEEE 802.15.4 compliant solution that satisfies the requirements of low-cost, low-power wireless sensor networks. Its small form factor saves RF tuning work and valuable board space.

The U-Force module operates within the ISM 2.4 to 2.5 GHz frequency band. It consists of UBEC's UZ2400.D chip and components such as crystal, inductors and capacitors.

The transceiver module within the UZ2400.D chip features a maximum of 5 MHz serial interface SPI bus for control and data transfer. It is a SPI interface slave device. The SPI interface consists of 4-wired bus: SCLK, SI, SO, and SEN.

Additionally, it provides access to various storage units: MAC/BB/RF control/status registers, TXFIFOs, RXFIFOs and security key table.

General Features

- ISM band 2.405 ~ 2.480 GHz operation
- IEEE 802.15.4-2006 specification and ZigBee compliant
- EN 300 328 V1.9.1 specification compliant
- 1.8V to 3.6V Operation
- Sleep Current: 4µA
- Communication range : typical 100m (Environment dependent)
- PCB Antenna
    - External 50Ω antenna possible (ground-Signal-ground design)
- Receiver sensitivity: -95dBm
- Data rate: 250kbps/1Mbps/2Mbps
- TX Power: 0dBm
- Tx Current consumption: DCDC OFF 23.2mA, typical (3.3V operation)
                          DCDC ON   17.5mA, typical (2.4V operation)
- Rx Current consumption: DCDC OFF 20.4mA, typical (3.3V operation)
                          DCDC ON   16.2mA, typical (2.4V operation)
- SPI interface
- Size: 32mmx14mm^2

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U-Power500.D Module
2.4GHz Transceiver

The U-Power500.D module is an IEEE 802.15.4 compliant solution that satisfies the requirements of low-cost, low-power wireless sensor networks. Its small form factor saves RF tuning and board space.

The U-Power500.D module operates within the ISM 2.4 to 2.5 GHz frequency band. It consists of UBEC's UZ2400.D chip and components such as crystal, inductors and capacitors. The U-Power 500.D module is derived from UBEC's U-Force module. It additionally integrates the RF-front-end IC UP2268.

The UP2268 can be used in both weak and strong signal environments while maintaining the very low current consumption and a high 1 dB compression point (P1dB). Also, the UP2268 has independent control pins for transmit/receive (TX/RX) mode selection.

The transceiver module within the UZ2400.D chip features a maximum of 5 MHz serial interface SPI bus for control and data transfer. It is a SPI interface slave device. The SPI interface consists of 4-wired bus: SCLK, SI, SO, and SEN.

Additionally, it provides access to various storage units: MAC/BB/RF control/status registers, TXFIFOs, RXFIFOs and security key table.

General Features

- ISM band 2.405 ~ 2.480 GHz operation
- IEEE 802.15.4-2006 specification and ZigBee compliant
- EN 300 328 V1.9.1 specification compliant
- 3.0 to 3.6V Operation
- Sleep Current: 4µA
- Communication range : typical 500m (Environment dependent)
- PCB Antenna
  - External 50Ω antenna possible (ground-Signal-ground design)
- Receiver sensitivity: -101dBm
- Data rate: 250kbps/1Mbps/2Mbps
- TX Power: 11dBm
- Tx Current consumption: 50mA, typical
- Rx Current consumption: 29mA, typical
- SPI interface
- Size: 48.3mmx14mm^2