
Circuit Description

1. **88MZ100-32PIN:** 88MZ100 is the first chip from Marvell dedicated for the ZigBee application. It is a fully integrated system-on-chip that integrates 2.4GHz, IEEE802.15.4-2003/2006 compliant transceiver, 32-bit ARM Cortex-M3 microprocessor, 4 Mbits embedded Flash, 160KB configurable code/data RAM and comprehensive peripherals.
2. **IEEE802.15.4 RF Transceiver:** 88MZ100 integrates a 2.4GHz, IEEE802.15.4-2003/2006 compliant RF transceiver which fully integrates PA, LNA, LO, AGC, ADC/DAC and T/R switch on-chip. RF signal received by the antenna goes through on LC PI matching filter to the RF pin. No external ceramic BPF or Balun is required.
3. **RF filter:** Located between the antenna and 88MZ100 RF pin, RF filter acts as the matching RF circuit with LC PI to regulate the frequency feature of TX/RX RF signal.
4. **32MHz Crystal oscillator:** The 32MHz system clock is very important because the clock of almost all the function modules should come from it.
5. **Decoupled Capacitors:** One function is for the stable and pure RF power. It's needed to place the enough and appropriate decoupled capacitors in RF power pins. The other function is for stable the main power for the module.
6. **Coaxial-wire coiled Antenna:** In terms of special application field, the antenna select a coaxial-wire was selected as the main material to build the coiled antenna. After the matching with RF pin and RF filter, the gain of antenna can reach to 2.0dbi.
7. **Half holes connector:** this connector was consisted of a series half hole to facilitate the SMT of module on the base board, and guide all pin signals out for diversity application.
8. **UART TX/RX PIN:** The two UART TX/RX pins can be used as the communication port and PC to upload the programmed code and monitor the state of chip.
9. **VCC/GND PIN:** They are used as power supplier channel.