

ESP32-H2-MINI-1 Circuit Description

ESP32-H2-MINI-1 is a powerful, generic Bluetooth® Low Energy and IEEE 802.15.4 combo module that has a rich set of peripherals. This module is an ideal choice for a wide variety of application scenarios related to Internet of Things (IoT), such as embedded systems, smart home, wearable electronics, etc.

This is a small sized SMD Module with 2.4 GHz PCB antenna on board. It reserves π tuning circuit for antenna impedance matching. The module's working voltage can be range from 3.0 V to 3.6 V. Bluetooth operates in the center channel frequency range of 2402 MHz to 2480 MHz while 802.15.4 operates in the center channel frequency range of 2405 MHz to 2480 MHz. External 32 MHz crystal is used as clock source for system. Built-in 4 MB SPI flash for storing users' programs and data.

Following is the specification of the module:

1. Power supply: DC 3.0 V to 3.6 V;
2. Working Current: Bluetooth TX mode: 26 mA to 112 mA, RX mode: 25 mA;
802.15.4 TX mode: 28 mA ~ 123 mA, RX mode: 29 mA;
3. Operation Temperature: -40 °C to 105 °C;
4. PCB Material: FR4;
5. Dimension: $(13.2 \pm 0.15) \times (16.6 \pm 0.15) \times (2.4 \pm 0.15)$ mm (including metallic shield);
6. Bluetooth center frequency range of operating channel: 2402 MHz ~ 2480 MHz;
802.15.4 center frequency range of operating channel: 2405 MHz ~ 2480 MHz;