

Description:

HLK-B20 is a new low-consumption Bluetooth BLE 4.2 control module made by Hi-Link. This product is a Bluetooth-compliant module based on universal serial interface. It has built-in BLE 4.2 protocol stack, which can realize data conversion between user serial port and Bluetooth interface.

Features:

- High-speed ARM9E core MCU
- 2.4G/1T1R, BLE 4.2
- 160k programming space, 20KB RAM
- Power supply voltage 0.9-3.6v
- Ultra-low supply voltage, low power consumption
- Built-in crystal, high stability
- Small chip package 4x4
- Rich peripheral interface, SPI, I2C, ADC, UART, PWM, GPIO
- Widely used in the Internet of Things
- High-speed 10-bit multi-channel ADC with internal filtering
- Easy to connect, fast speed

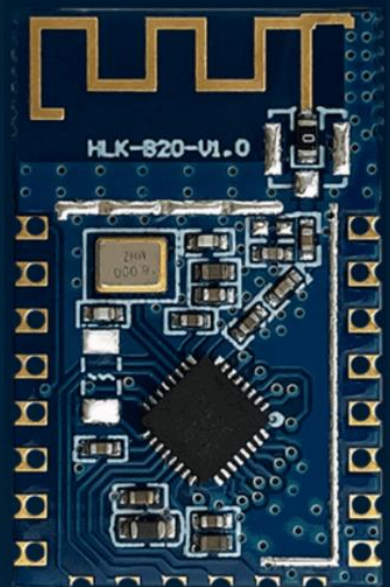
Specifications:

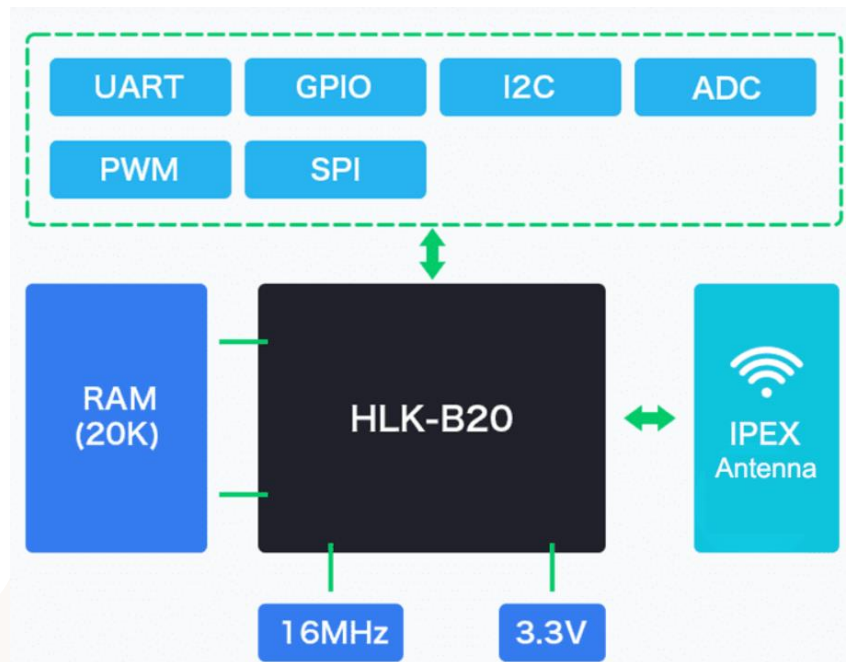
- Chip :- BKXXX
- Working frequency :- 2.402 – 2.480GHz
- Protocol standard :- BLE4.2
- Transmit power :- 3-4dBm
- Power consumption :- Not low power consumption
- Reference distance :- 10-30m
- Dimension :- 25*16mm
- Package :- SMD/Pin
- Antenna :- External/Onboard Antenna
- Working model :- Slave model

BLE 4.2 Serial Port/Bluetooth Transparent Transmission

Ultra small/lower power consumption/Easy connect/ Fast transmission

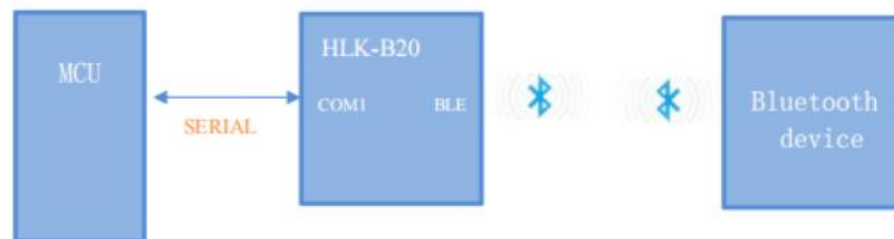
- ◆ TTL to bluetooth two-way transparent transmission
- ◆ Wide supply voltage range 0.9-3.6V
- ◆ Support transparent transmission and AT command model
- ◆ No pairing required, using after connect
- ◆ Provide test tool, product docs and test APP





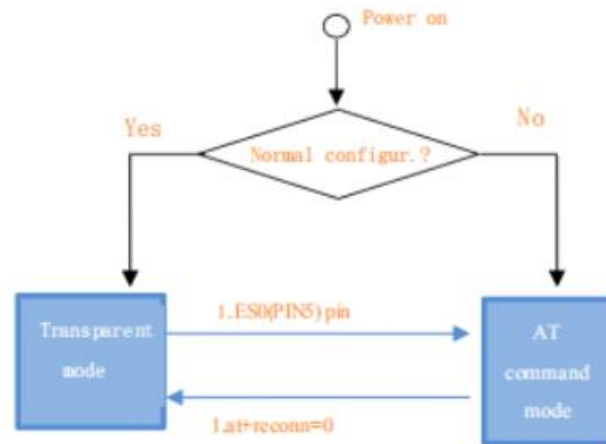
Function description:

The module function is mainly to realize the mutual conversion of Bluetooth data and serial data.



In this mode, the BLE Bluetooth device transmits the data to the HLK-B20 module via Bluetooth, and the HLK-B20 module sends the received data from the serial port. When the serial port gets data, the HLK- B20 sends the serial port data from the Bluetooth terminal to realize the conversion of serial data and Bluetooth data. When the HLK-B20 has a Bluetooth device connected, the HLK-B20 will turn off the broadcast of the Bluetooth name, and other Bluetooth devices will no longer be able to connect to the HLK- B20.

Serial port working state conversion



The module defines the working state of the serial port as two modes: transparent transmission mode and AT command mode.

After normal power-on, the module directly enters the transparent mode. If Bluetooth is not connected, the data will not be sent out from Bluetooth. If Bluetooth is connected, the data will be sent out from Bluetooth. In any state, keeping the ES0 pin low for longer than T_{es} and less than T_{rst} will immediately enter the AT command mode.

Application:

- **Smart home/home appliances**
Control smart sockets, smart lights, smart door locks, etc. via mobile phones
- **IOT**
Mobile phone and device, wireless data transmission between device and device
- **Instrumentation**
Read data, configure parameters, etc. wirelessly via Bluetooth
- **Industrial and Agricultural Control**
Connect various control or sensing devices wirelessly via Bluetooth for reading and control, etc.
- **Medical and health**
Health data monitoring, wireless nursing equipment, etc.

- **Automotive Electronics**
Wireless detection and control, etc.
Toy entertainment
Bluetooth remote control, wireless control and transmission

