



Ebyte - Internet of Things application expert



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Ebyte - Internet of Things application expert



Communication equipment  
and product manuals





## STATUS INDUSTRY

### ◆ Industry position

Ebyte is committed to providing professional communication solutions for customers in artificial intelligence, industrial control, energy conservation and environmental protection, rail transit and other industries. With wireless data transmission and industrial Internet of Things technology, it has become an enterprise with large scale, strong technology research and development strength and strong core competitiveness in the southwest area, and its comprehensive strength ranks in the forefront of the country.

### ◆ At present, the company has developed into:

National high-tech enterprise

Chengdu Technology Center enterprise

A number of invention patent certification enterprises

Southwest Top 10 IoT Gazelle Enterprises

Chengdu High-tech Zone gradient cultivation enterprise

National ISO quality management system certification enterprise

Chengdu Internet of Things Industry Development Alliance - Executive Chairman Unit

### ◆ And has been built:

Wireless Module R&D Center

Communication Equipment R&D Center

Integrated production center

Product User Experience Pavilion

OEM automatic production line

ODM original design manufacturer

Radio Equipment Testing Laboratory

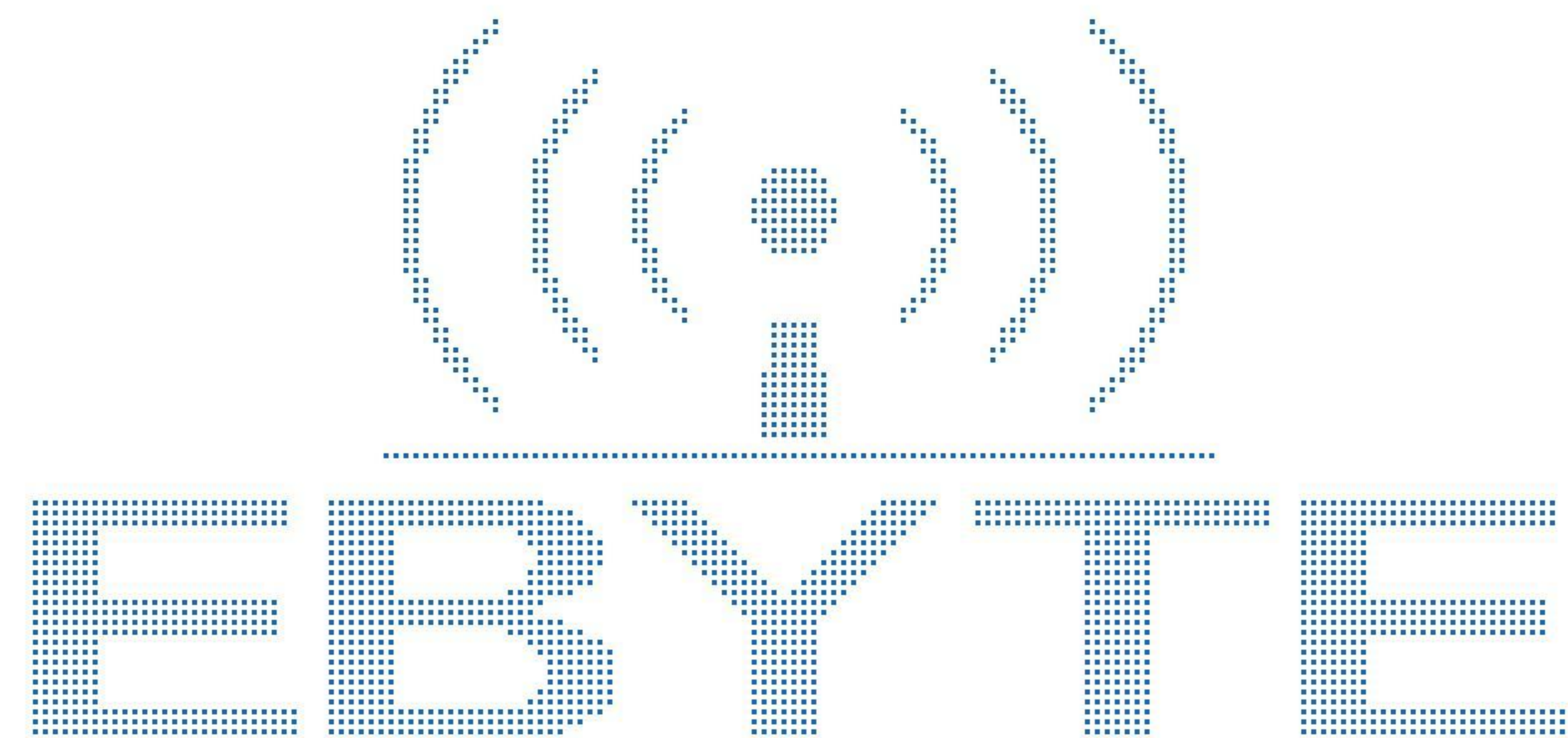
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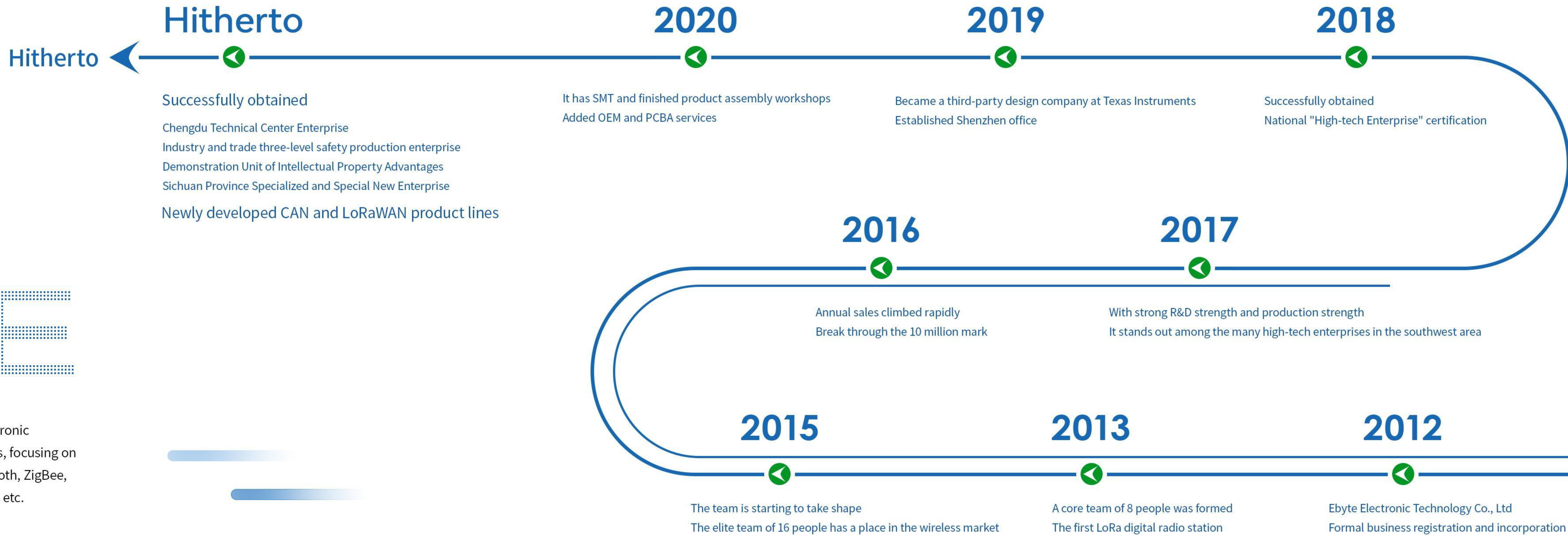
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# History Development History



Founded in 2012, with an office area of more than 6,000 square meters, Ebyte Electronic Technology Co., Ltd. is a high-tech enterprise integrating R&D, production and sales, focusing on Internet of Things communication applications. Products cover LoRa, Wi-Fi, Bluetooth, ZigBee, 4G/5G/NB/GPRS wireless modules and devices, wireless sensing devices, antennas, etc.





# Product system

Ebyte provides customized wireless data transmission solutions, standing at the forefront of technology to provide you with the best products and services

## Wireless module

Wireless module

- SPI RF module
- SoC system-on-chip
- UART serial port module
- ZigBee module
- BLE Bluetooth module
- Wi-Fi module
- NB-IoT/GPS
- Aided development and testing
- CAN module
- Ethernet module

## Communication equipment

Communication devices

- Industrial routers
- LoRaWAN
- Remote control switch
- Serial device server
- Wireless telemetry radio
- CAN bus
- Wireless gateway
- Remote I/O module
- Cloud IO/Cloud hardware
- 4G/cat1/NB/GPRS DTU

# PRODUCT APPLICATIONS



### Smart Agriculture

- Smart irrigation
- Thermostatic greenhouse
- Intelligent breeding

### Smart City

- Smart transportation
- Smart security
- Smart Buildings

### Smart Industry

- Smart devices
- Industrial automation
- Remote industrial control

### Smart Home

- Smart contexts
- Smart appliances
- Smart doors and windows

### Intelligent Medical

- Pharmaceutical cold chain
- Smart care
- Remote consultation



# Exported to the world Main business



## 10 Years

With many years of practical experience and technology  
Accumulate and overcome a number of technical problems  
10 years of practical experience

## 50+

Ebyte products are exported to more than 50 countries around the world  
The country is trusted by customers  
Exported to many countries in the world

## 100+

The company currently has more than 100 invention patents and utility model patents  
Invention patent & utility model patent

## Billions

Trade with a number of large enterprises  
Cooperation: Global export trade volume reaches 100 million  
Export sales volume of 100 million

# World Exhibit Main business



IFA Berlin



communic ASIA



CES 2019



SVIAZ Russia



Convergence India



CES ASIA



IOTE 2021



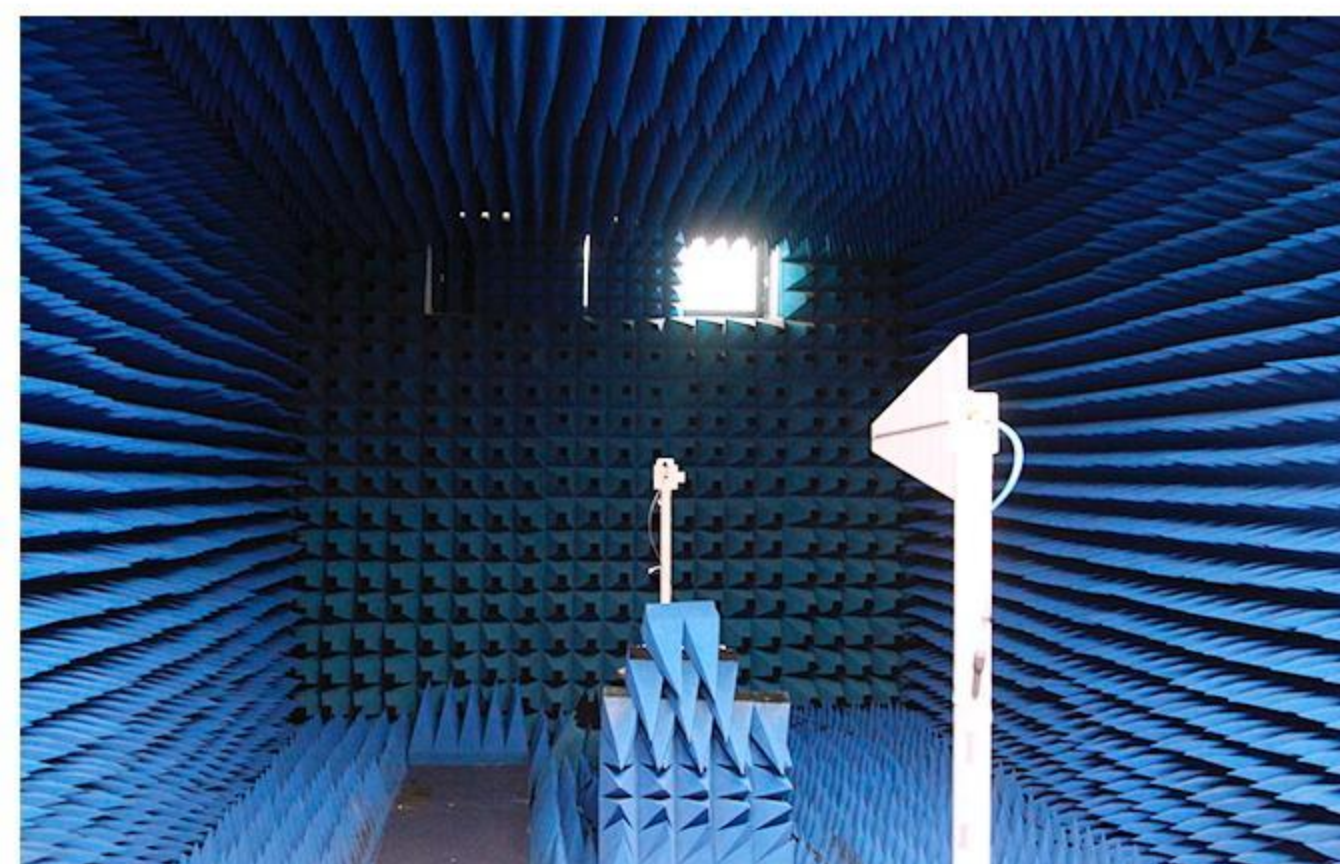
HKTDC

Ebyte maintains long-term in-depth cooperation with many well-known enterprises at home and abroad, and its products are widely used in Internet of Things, consumer electronics, industrial control medical, smart home, security alarm, environmental monitoring, artificial intelligence and other application scenarios, focusing on IoT, making the Internet of Everything more intelligent. Relying on the advantages of wireless communication technology, it solves many pain points in industrial sites and derives industrial Internet of Things solutions based on wireless technology.



# R&D and production

Ebyte has SMT and finished product assembly workshops to ensure the stability of production and supply. Strict IQC incoming inspection, IPQC process inspection and OQA factory inspection, each Ebyte product It must pass rigorous inspections such as material inspection, welding inspection, wireless performance test and aging test before it is allowed to leave the factory.



# Brand cooperation

Ebyte provides customized wireless data transmission solutions, standing at the forefront of technology to provide you with the best products and services.



With IoT communication technology as the core, Ebyte has cooperated with a number of large enterprises and institutions to launch a variety of industrial communication, IoT modules and wireless data radio communication equipment. The products have industrial-grade quality, excellent performance and stability and reliability, and have been unanimously recognized by customers at home and abroad.



# IoT application specialist

- ◆ National high-tech enterprise
- ◆ Gazelle Enterprises
- ◆ Chengdu Internet of Things Industry Development Alliance
- ◆ National invention patent
- ◆ Standardization of safe production

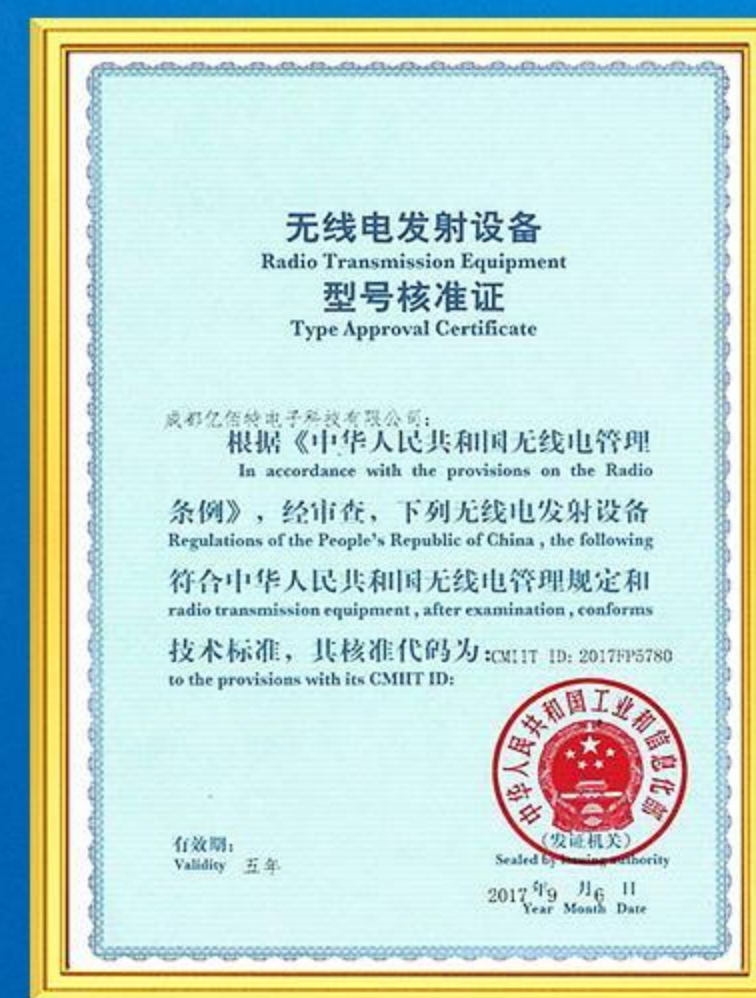
- ◆ Standing Chairman Unit of Chengdu Internet of Things Industry Development Alliance
- ◆ Chengdu Enterprise Technology Center
- ◆ Sichuan Province "specialized, specialized and new" enterprises



## ◆ More honors



Utility model patents



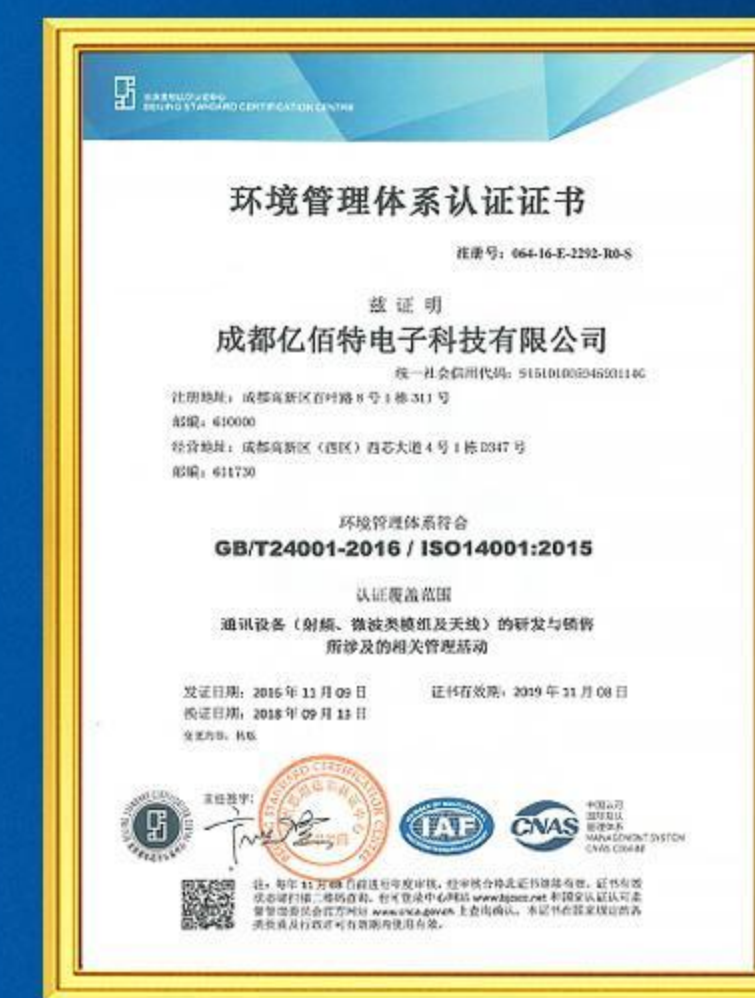
Radio type approval certificate



Explosion-proof certificate



Quality management system certification



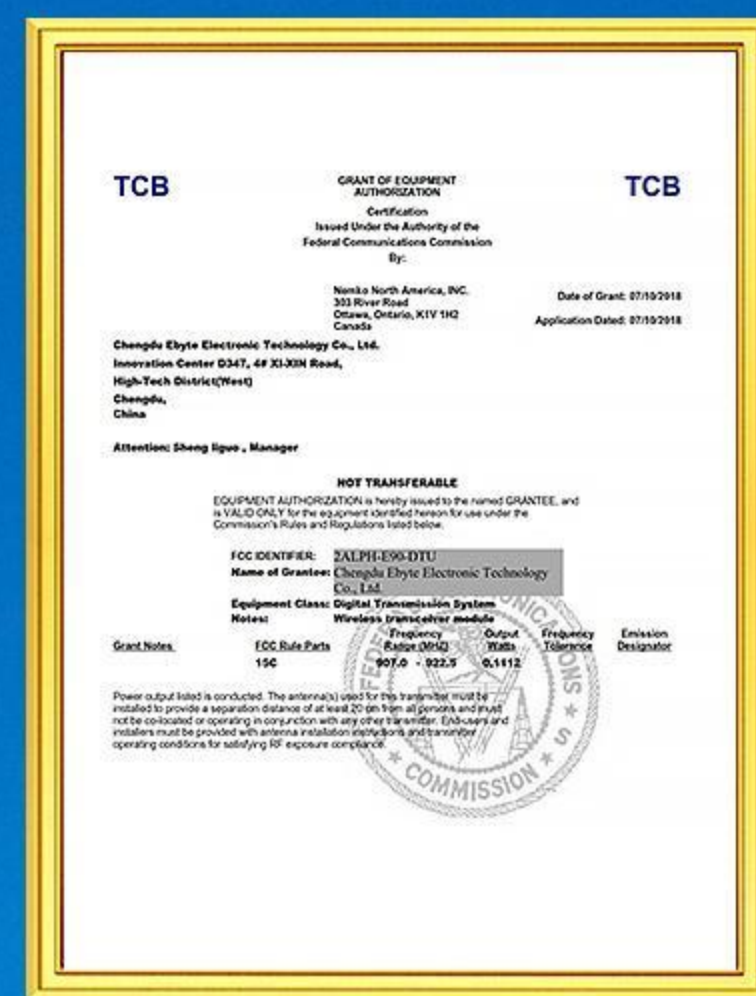
Environmental management system certification



SRTC test report



CE certification



FCC certified



RoHS certified

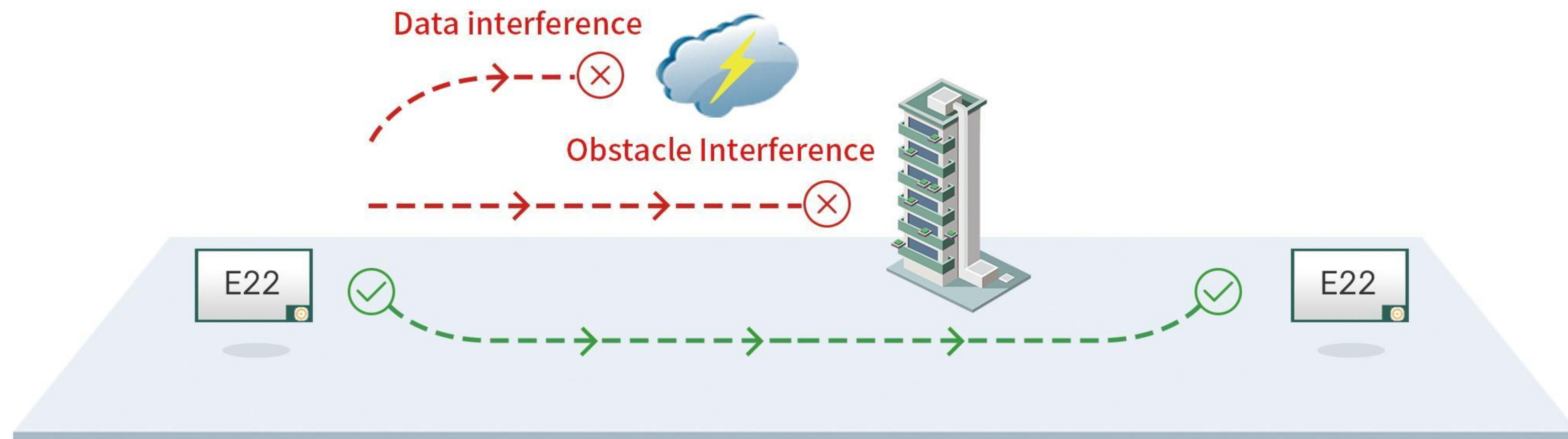


Design patents



# LoRa Module

LoRa spread-spectrum technology makes the transmission distance farther than other wireless methods under the same power consumption conditions, realizing the unity of low power consumption and long-distance, which is 3-5 times longer than the traditional wireless rf communication distance. LoRaWAN is a set of communication protocol and system architecture based on LoRa communication network design. It is widely used in applications with small data volume, low speed, and long-distance transmission.



Anti-interference, longer transmission distance, ensuring stable communication

# LoRa



## E22 SERIES

- RF Chipset: SX1262/SX1268
- Frequency Band: 160~930MHz
- Transmitting Power: 22~37dBm
- Communication distance: 5~25km

Using SEMTECH's "SX1262/1268" new generation of LoRa spread spectrum technology, the distance is longer, the power consumption is lower, and the volume is smaller; integrated industrial-grade crystal oscillator, support air wake-up, wireless configuration, carrier monitoring, relay networking, RSSI Deep sleep; greatly improve the communication success rate of the module in harsh environments.



## E32 SERIES

- RF Chipset: SX1276/SX1278
- Frequency Band: 160~931MHz
- Transmitting Power: 22~37dBm
- Communication distance: 3~25km

Using SEMTECH's "SX1276/1278" LoRa spread spectrum technology, it has FEC forward error correction, strong anti-interference ability, long communication distance and low power consumption. It is a milestone in the field of low-speed communication and is widely favored by the industry.



# LoRa



## E78 SERIES

- RF Chipset: ASR6601
- Frequency Band: 410~925MHz
- Transmitting Power: 22dBm
- Communication distance: 7km

Using ASR's "ASR6601" chip, ultra-small size, ultra-low power consumption, supports LoRaWAN, LinkWAN multiple protocol standards, suitable for a variety of IoT application scenarios.



## E106 SERIES

- RF Chipset: SX1302
- Frequency Band: 433/868/915MHz
- Transmitting Power: 27dBm
- Communication distance: 5km

The cost-effective LoRa gateway module designed by SEMTECH "SX1302", standard LoRaWAN gateway, PCI-e interface and 52Pin pins, small size and easy integration, communicates with the host through the SPI interface, and provides 10 programmable parallel demodulation paths.

# LoRa



## E220 SERIES

- RF Chipset: LLCC68
- Frequency Band: 410~930MHz
- Transmitting Power: 20~30dBm
- Communication distance: 5~10km

Using SEMTECH's "LLCC68" new generation LoRa spread spectrum technology, the distance is longer, the power consumption is lower, and the volume is smaller. It integrates industrial-grade crystal oscillator, supports air wake-up, carrier monitoring, communication key and other functions, and is more cost-effective. Provide custom development services.



## E280 SERIES

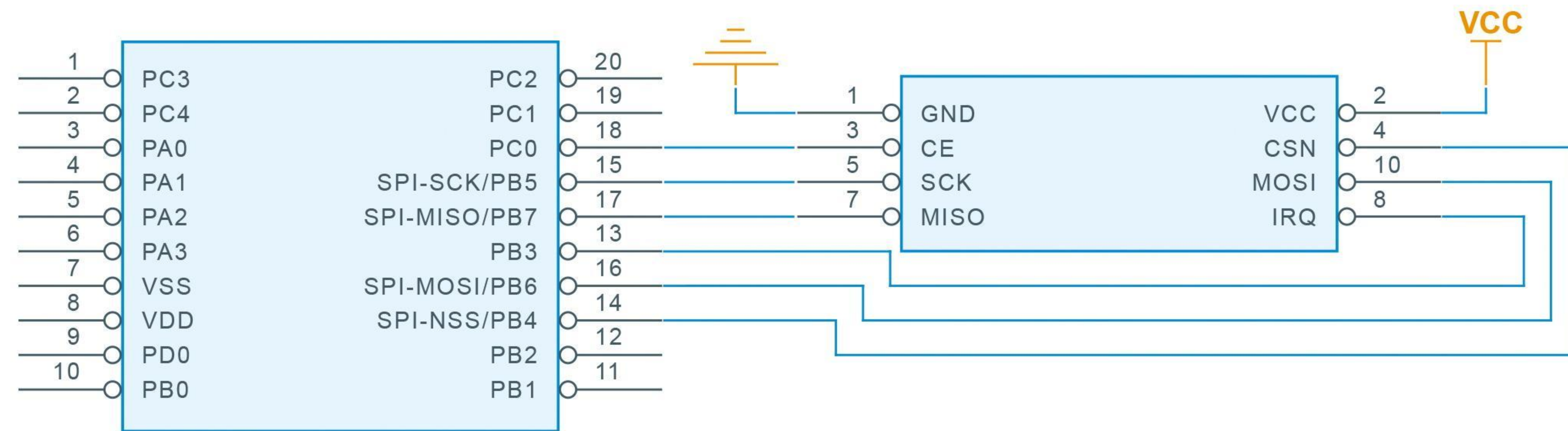
- RF Chipset: SX1280
- Frequency Band: 2400~2500MHz
- Transmitting Power: 12dBm
- Communication distance: 3km

The wireless serial port module (UART) adopts SEMTECH's "SX1280" rf chip, supports wireless distance measurement, transparent transmission mode, works in the 2.4GHz frequency band, has three modulation and demodulation technologies of LoRa, FLRC and GFSK, TTL level output, compatible 3.3V and 5V IO port voltage.

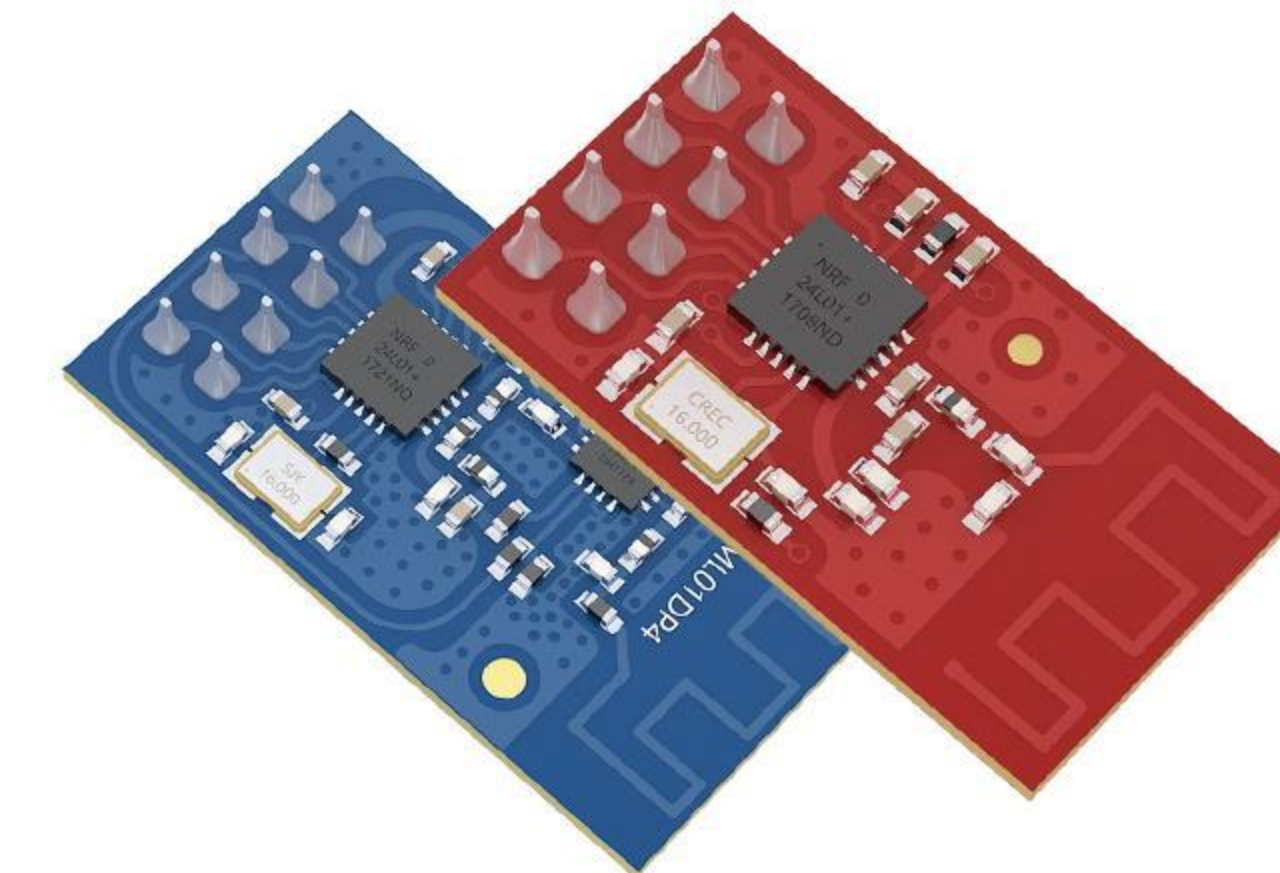


# SPI hardware module

The SPI wireless module is a pure hardware wireless module. Its interface adopts the SPI communication mode. It needs an external MCU to program the MCU and configure the register parameters of the module to complete the data communication. Small size and easy integration.



# SPI



## E01 SERIES

- RF Chipset: nRF24L01P
- Frequency Band: 2.4~2.525GHz
- Transmitting Power: 0~27dBm
- Communication distance: 0.1~5km

Adopting the RF chip "nRF24L01P/ nRF24L01" from Nordic Corporation of Norway as the core, integrating industrial-grade high-precision 16MHz crystal oscillator, enhanced ShockBurst, fully compatible with all Nordic nRF24L series, nRF24E series, nRF24U series, 125 communication channels, to meet multi-point communication, Grouping, frequency hopping and other application requirements.



## E01C SERIES

- RF Chipset: SI24R1/Ci24R1
- Frequency Band: 2.4~2.525GHz
- Transmitting Power: 7~27dBm
- Communication distance: 0.3~5km

It adopts domestic "SI24R1" chip, integrates industrial-grade high-precision 16MHz crystal oscillator, and is fully compatible with E01 series products of the same model, with the same size, pins, and functions, and can be replaced.



# SPI



## E07 SERIES

- RF Chipset: CC1101
- Frequency Band: 387~925MHz
- Transmitting Power: 10~20dBm
- Communication distance: 1~2km

Adopt Texas Instruments "CC1101" rf chip as the core, integrate industrial-grade high-precision 26MHz crystal oscillator, support multiple modulation modes (OOK\ASK\GFSK\2-FSK\4-FSK and MSK), and have an independent 64-byte RX FIFO and TX FIFO, RSSI, LQI and other functions have obtained FCC, CE, RoHS and other international authoritative certification reports.



## E22 SERIES

- RF Chipset: SX1262/SX1268
- Frequency Band: 220~930MHz
- Transmitting Power: 22~33dBm
- Communication distance: 7~14km

Using the new generation of LoRa spread spectrum technology of SEMTECH "SX1262/1268", compared with SX1278, it has a longer distance and lower power consumption; it supports backward compatibility with the same series of RF transceivers, relay networking, FIFO large capacity and other functions ; Greatly improve the communication success rate of the module in harsh environments.

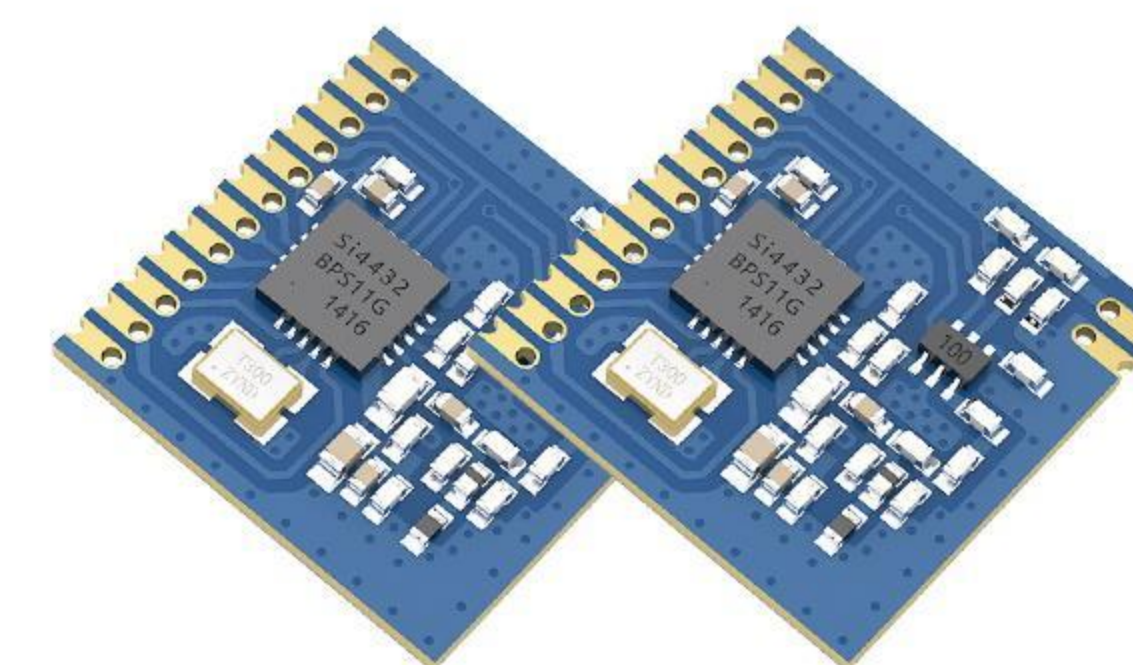
# SPI



## E23 SERIES

- RF Chipset: SX1212
- Frequency Band: 410~438MHz
- Transmitting Power: 13dBm
- Communication distance: 0.8km

It adopts SEMTECH's "SX1212" radio frequency chip, integrated transceiver, adopts industrial-grade high-precision low-temperature drift active crystal oscillator, all imported components, lead-free technology, and stable performance. Ultra-low receiving current, ultra-small size, supports data transmission rate of 0.78k-150kbps, independent 64-byte RX/TX FIFO.



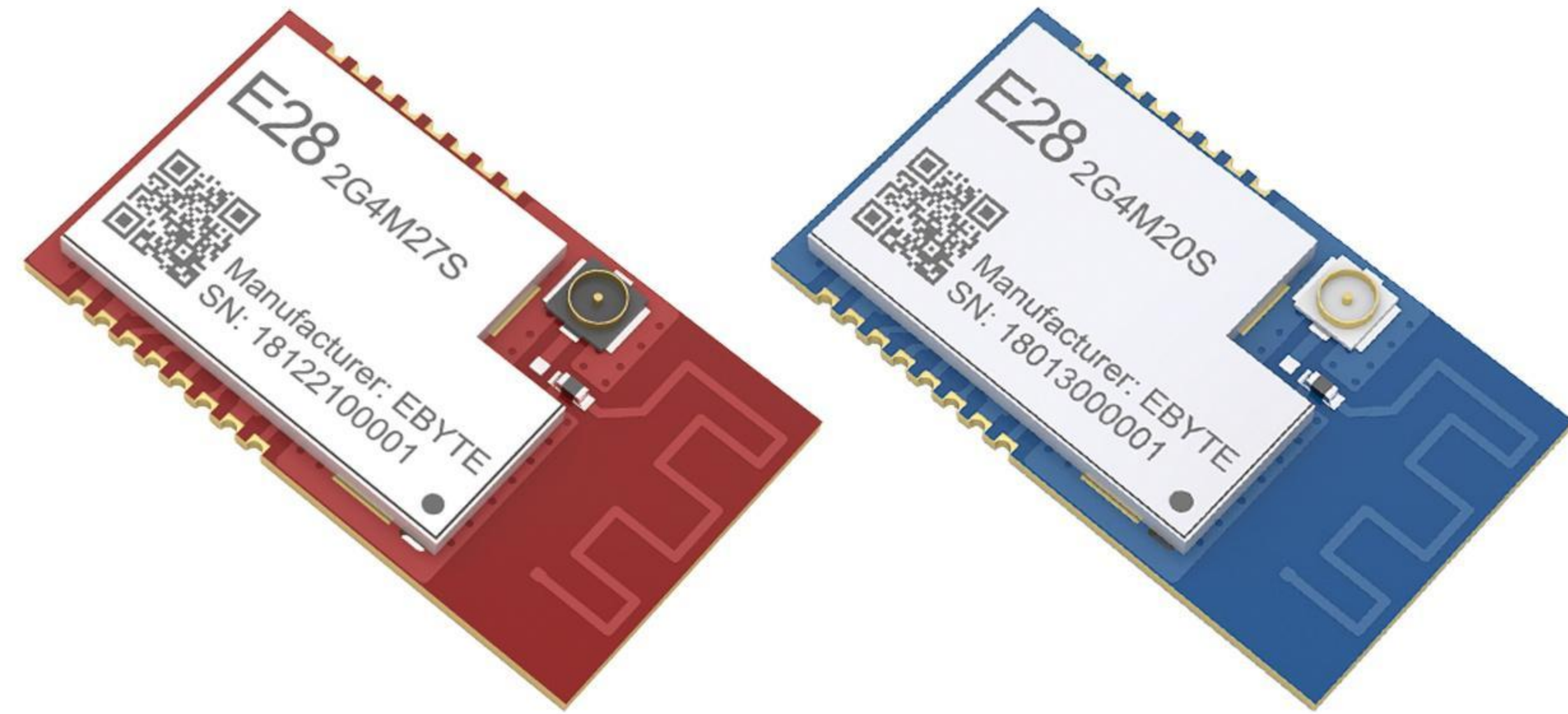
## E27 SERIES

- RF Chipset: SI4432
- Frequency Band: 425~525MHz
- Transmitting Power: 20dBm
- Communication distance: 1.6km

Adopt Silicon Labs "SI4432" radio frequency chip, the chip supports frequency hopping, adopts industrial-grade high-precision low-temperature drift active crystal oscillator; ensures its stability and has excellent anti-interference performance. Internally integrated automatic wake-up timer, low battery detector, 64-byte transmit/receive, automatic packet processing, integrated temperature sensor, etc.



# SPI



## E28 SERIES

- RF Chipset: SX1280
- Frequency Band: 2.4GHz
- Transmitting Power: 12/20/27dBm
- Communication distance: 3~8km

Using SEMTECH's "SX1280" rf chip, integrated 52MHz industrial-grade high-precision low-temperature drift active crystal oscillator and compatible with BLE protocol, supports multiple modulation modes (GFSK Mode, FLRC Mode, LoRa Mode), with ranging, Time-of-flight function, with excellent anti-blocking properties.

# SPI



## E32 SERIES

- RF Chipset: SX1276/1278
- Frequency Band: 400/900MHz
- Transmitting Power: 20~30dBm
- Communication distance: 5~10km

Using SEMTECH's "SX1280" rf chip, integrated industrial-grade 32MHz crystal oscillator, and advanced LoRa modulation technology, the anti-interference performance and communication distance are far beyond the products of FSK and GFSK modulation methods. The module is mainly aimed at the needs of smart home, wireless meter reading, scientific research and medical treatment, and medium and long-distance wireless communication. Industrial-grade standard, has obtained FCC, CE, RoHS and other international authoritative certification reports.



## E49 SERIES

- RF Chipset: CMT2300A
- Frequency Band: 400/900MHz
- Transmitting Power: 20~30dBm
- Communication distance: 2.5~5.5km

It adopts domestic "CMT2300A" rf chip and integrates industrial-grade high-precision 26MHz crystal oscillator. It has the characteristics of small size, low power consumption, and high cost performance. It has a wide range of applications and can replace E27 series SI4432 solutions, E30 series SI4463/SI4438 solutions, and E07 series application of the C1101 solution.



# SPI



## E106 SERIES

- RF Chipset: SX1302
- Frequency Band: 433~510MHz
- Transmitting Power: 27dBm
- Communication distance: 5km

The cost-effective LoRa gateway module designed by SEMTECH "SX1302", standard LoRa Wan gateway, PCI-e interface and 52Pin pins, small size and easy integration, communicates with the host through the SPI interface, and provides 10 programmable parallel demodulation paths.



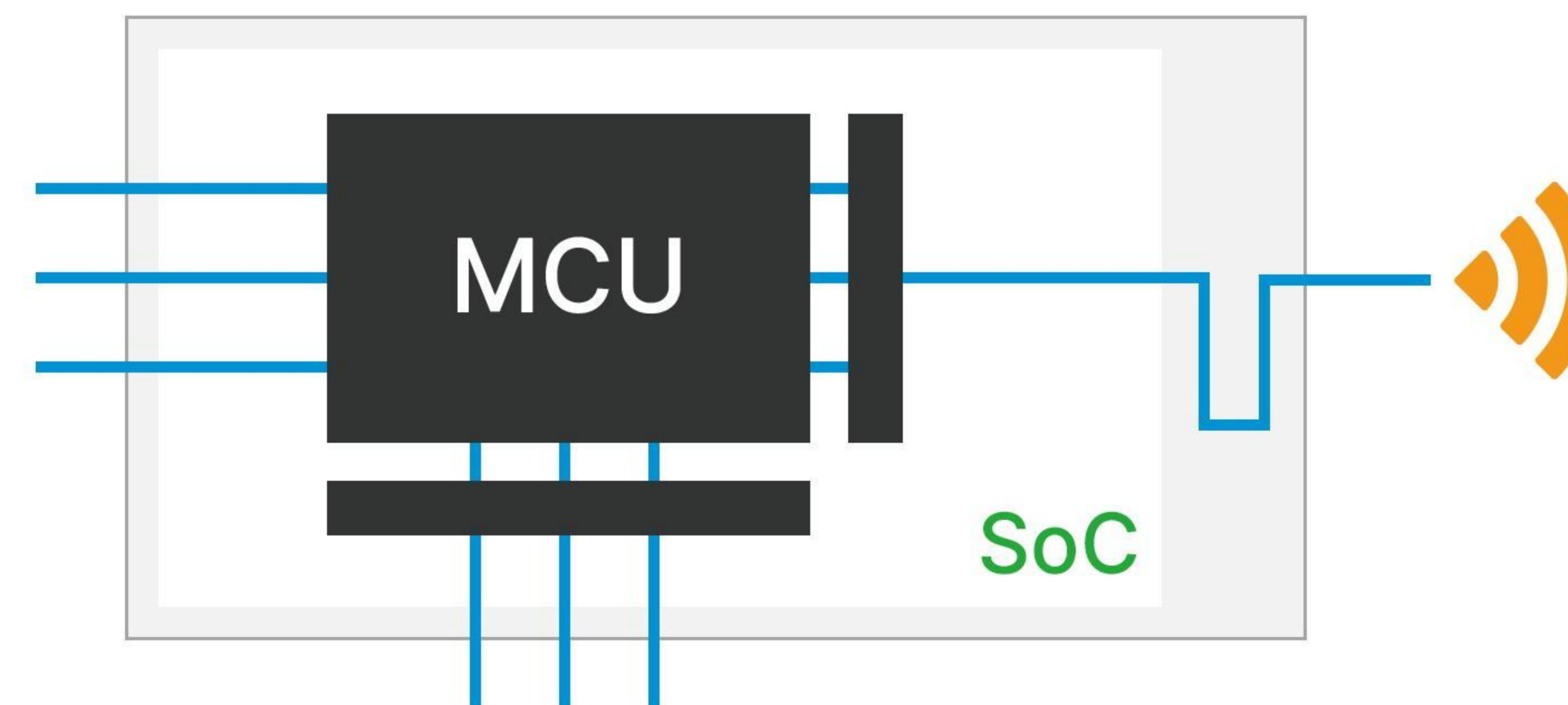
## E220 SERIES

- RF Chipset: LLCC68
- Frequency Band: 400MHz/900MHz
- Transmitting Power: 22~30dBm
- Communication distance: 6~12km

Using SEMTECH's "LLCC68" new generation LoRa spread spectrum technology, integrated industrial-grade 32MHz crystal oscillator, this module is mainly aimed at smart home, wireless meter reading, scientific research and medical treatment, and medium and long-distance wireless communication equipment.

# SoC hardware module

The SoC hardware module is embedded with a high-speed single-chip microcomputer and a high-performance rf chip. It is necessary to program the MCU in the module and configure the register parameters of the module to complete data communication. The module is small in size and leads to the IO of the internal microcontroller, which is convenient for customers to do secondary development.





# SoC



## E07 SERIES

- RF chip: MSP430FR2433/CC1101
- Transmission power: 10dBm
- Communication distance: 1500m

Using the "MSP430FR2433" and "CC1101" produced by Texas Instruments as the core, the self-developed SMD wireless module supports secondary development by users. Using industrial-grade high-precision 26MHz crystal oscillator, it is widely used in smart home, industry, scientific research, medical and short-distance wireless communication equipment.

# SoC

ZigBee

## E72 SERIES

- RF chip: CC2630/2652P
- Frequency Band: 2.4GHz
- Transmission power: 5~23dBm
- Communication distance: 0.5~1.5km

As the core SoC radio frequency module, it uses Texas Instruments CC2630/2652P" with built-in high performance Low-power Cortex-M3 and Cortex-M0 dual-core processors, integrated 24MHz industrial-grade high-precision low-temperature drift active crystal oscillator Adaptable to ZigBee, 6LoWPAN protocol stack for secondary development, built-in 32.768kHz clock crystal oscillator.

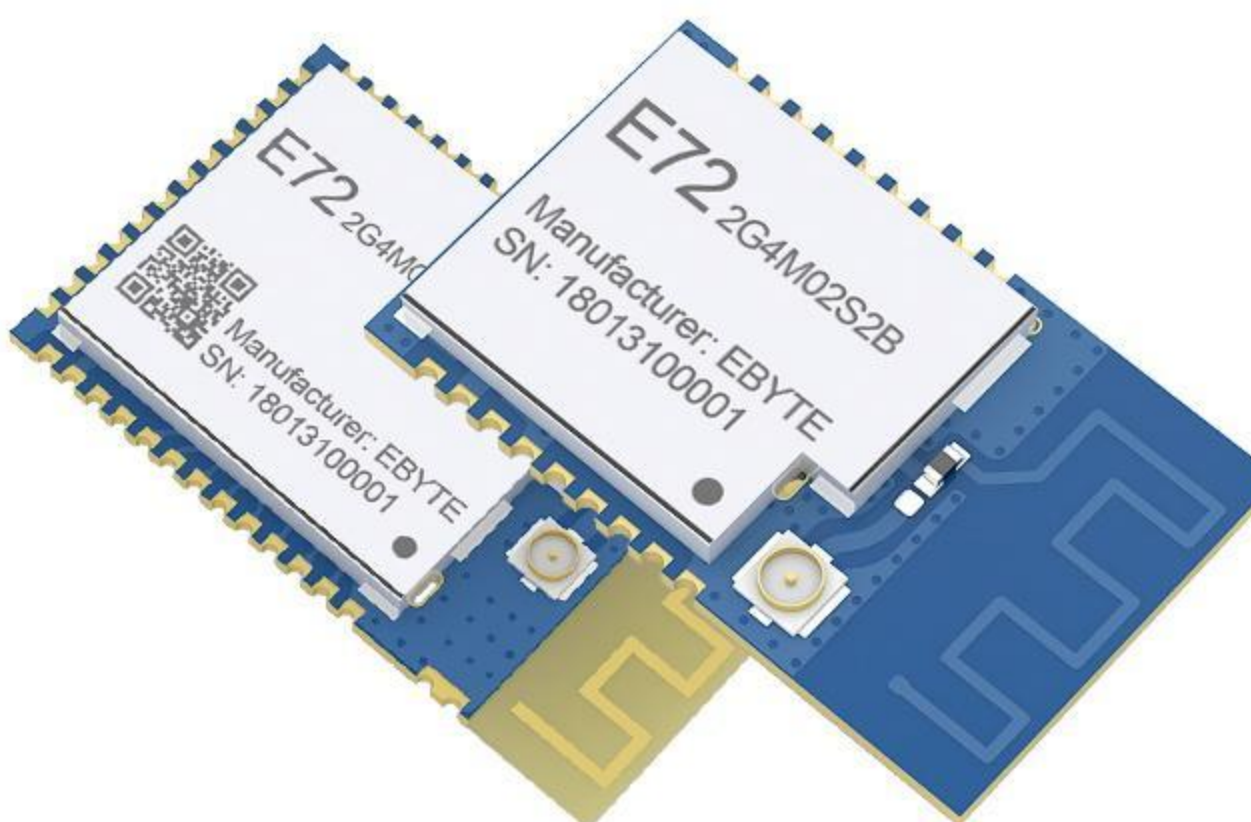


Bluetooth

## E72 SERIES

- RF chip: CC2640/2642R/CC2652P/CC2652RB
- Transmission power: 2~5dBm
- Communication distance: 200~500m

Using Texas Instruments "CC264x" as the core BLE5.1/5.2 Bluetooth wireless module, built-in high-performance low-power Cortex-M3 and Cortex-M0 dual-core processors, integrated 24MHz industrial-grade high-precision low-temperature drift active crystal oscillator.



## E73 SERIES

- RF chip: nRF52810/32/40/51822
- Frequency Band: 2.4GHz
- Transmission power: 4dBm
- Communication distance: 100~500m

The Bluetooth wireless module adopts NORDIC's "nRF528xx/51822" rf chip, contains a high-performance ARM Cortex-M4 core, supports BLE4.2 and BLE5.0, and has a built-in 32.768kHz clock crystal oscillator.





## SoC



## E75

SERIES

- RF chip: JN5168/5169
- Frequency Band: 2.4GHz
- Transmission power: 20dBm
- Communication distance: 1km

Adopt NXP's "JN5168/5169" chip, built-in 32-bit high-performance low-power processor, support FastZigBee, ZNET, JenNet-IP, ZigBee-PRO, RF4CE and other protocols.



## E77

SERIES

- RF chip: STM32WLE5CCU6
- Transmission power: 22dBm
- Frequency Band: 410~510/850~930MHz
- Communication distance: 5.6km

Using STMicroelectronics' new "STM32WLE5CCU6" chip, built-in high-performance ARM Cortex-M4 and LoRa radio frequency core, with long-distance communication, low standby power consumption, strong anti-interference ability, rich interface resources, strong processing ability, small size and other characteristics. It is suitable for LoRa spread spectrum/LoRaWAN long-distance wireless communication applications.

## SoC



## E78

SERIES

- RF chip: ASR6601
- Frequency Band: 410~925MHz
- Transmission power: 22dBm
- Communication distance: 5.5~7km

It is developed using the first domestic LoRa-supporting LPWAN wireless communication SoC chip "ASR6601" launched by ASR. It supports LoRaWAN and LinkWAN multiple protocol standards, and is suitable for various IoT application scenarios. It is currently the best choice for domestic chips for LPWAN applications.



## E83

SERIES

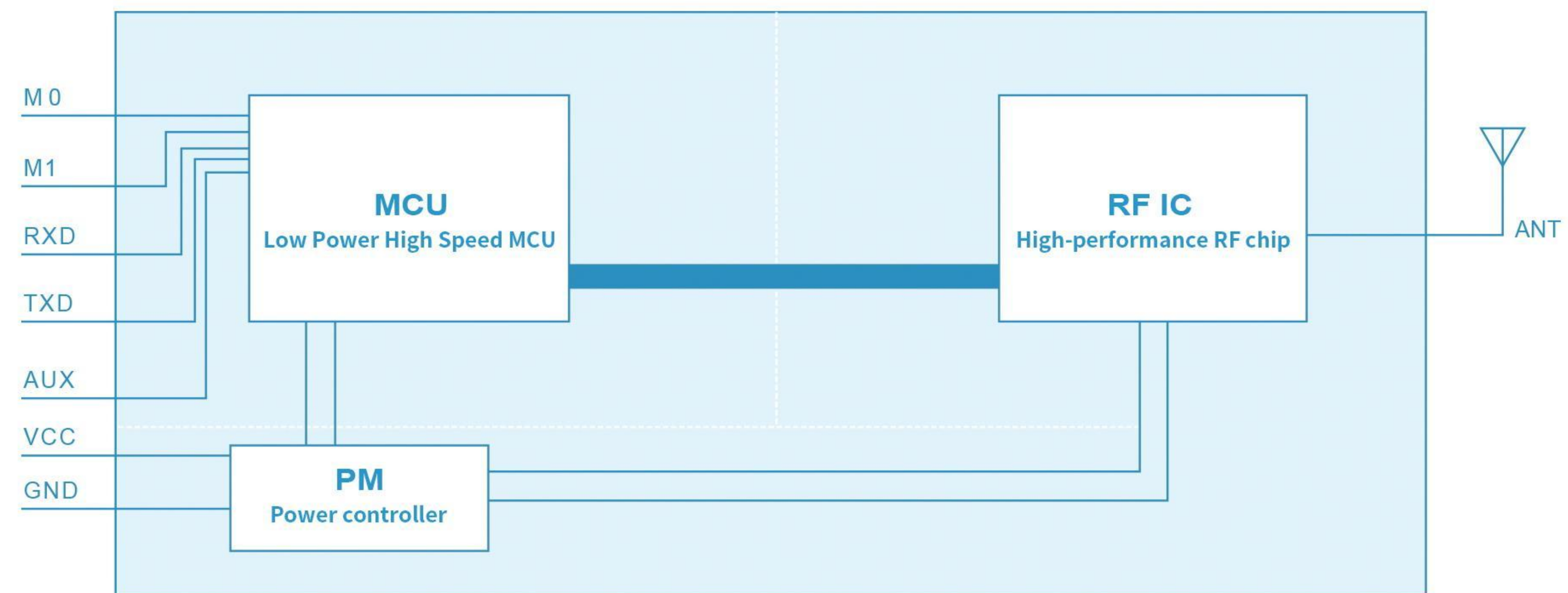
- RF chip: nRF5340
- Frequency Band: 2.4GHz
- Transmission power: 3dBm
- Communication distance: 170m

Adopt NORDIC's "nRF5340" chip solution, the chip has a built-in dual-core high-performance "Arm Cortex-M33" processor, which has the characteristics of small size, low power consumption, and high performance. Protocols such as Bluetooth 5.2, BLE Audio, Bluetooth Mesh, Thread, ZigBee are supported, making it ideal for professional lighting, wearables, and other IoT applications.



# UART wireless serial port module

The wireless UART module is embedded with a high-speed single-chip microcomputer and a high-performance RF chip, and provides a standard TTL level UART serial port. It supports multiple serial port baud rates and verification methods. The external interface of the module adopts transparent data transmission mode, which can adapt to standard or non-standard user protocols and realize wireless communication between the module and the customer's microcontroller. R&D engineers don't need to care about the complex underlying wireless communication technology. Thereby reducing the difficulty of development and shortening the development cycle.



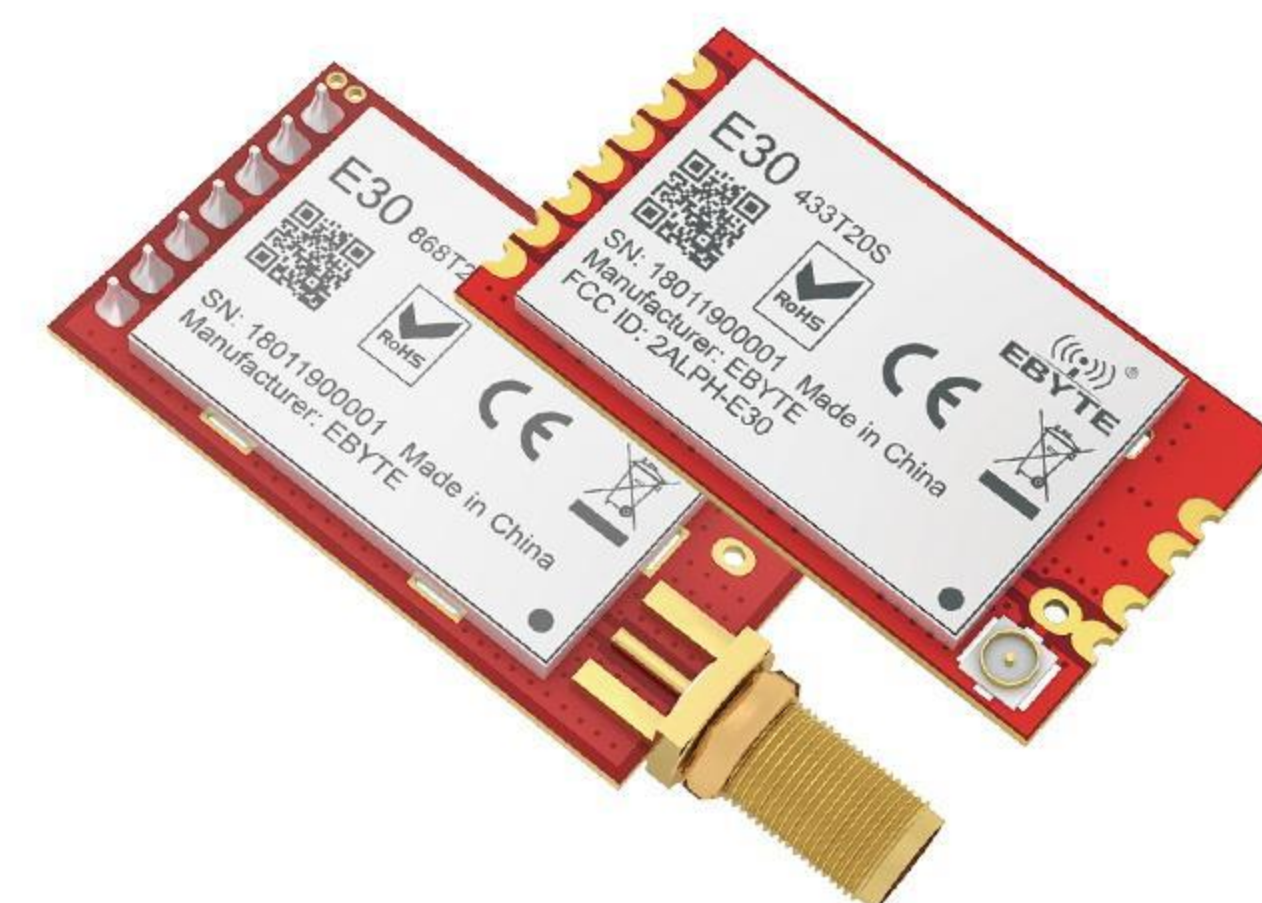
# UART



## E22 SERIES

- RF Chipset: SX1262/SX1268
- Frequency Band: 160~930MHz
- Transmitting Power: 22~37dBm
- Communication distance: 7~25km

Using SEMTECH's "SX1262/1268" new generation LoRa technology, the distance is longer, the power consumption is lower, the volume is smaller, and it supports air wake-up, wireless configuration, carrier monitoring, relay networking, RSSI and deep sleep; Greatly improve the communication success rate of the module in harsh environments.



## E30 SERIES

- RF Chipset: SI4438/SI4463
- Frequency Band: 148~880MHz
- Transmitting Power: 10~20dBm
- Communication distance: 2km

Using Silicon Labs' "SI4438/4463" RF chip, it supports wake-up over the air, low power consumption and hardware FEC forward error correction algorithm, the coding efficiency is high, stable and reliable.



## UART



### High temperature resistance

## E30T

SERIES

- Antenna form: IPEX
- Carrier frequency: 425~450.5MHz
- Transmitting power: 20dBm
- Communication distance: 3.5km

Using temperature difference wireless communication algorithm, self-developed high temperature resistant wireless UART module, wireless data transparent transmission, integrated transceiver, SMD type, serial port TTL level output, working frequency range is 425 ~ 450.5MHz, transmission power 100mW, working at -40 ~ +150°C environment, especially suitable for application in high temperature environment scenarios, such as: metallurgy, chemical industry, exploration, mine, etc.

## UART



## E32

SERIES

- RF Chipset: SX1276/SX1278
- Carrier frequency: 160~931MHz
- Transmitting power: 20~37dBm
- Communication distance: 3~25km

Adopting SEMTECH's "SX1276/1278" LoRa technology and integrating high-precision industrial-grade crystal oscillators, it has strong anti-interference ability, long communication distance and low power consumption. It is a milestone in the field of low-speed communication and is widely accepted and appreciated by the wireless communication industry.



# UART



## E33 SERIES

- RF Chipset: SX1212
- Frequency Band: 425~440MHz
- Transmitting Power: 13dBm
- Communication distance: 800m

Adopting SEMTECH's "SX1212" RF chip, it has functions such as ultra-low power consumption, single point wake-up, ultra narrow band GFSK modulation, fixed point transmission, and free networking.



## E34 SERIES

- RF Chipset: nRF24L01+
- Frequency Band: 2.4GHz
- Transmitting Power: 10~27dBm
- Communication distance: 2~5km

Using NORDIC's "nRF24L01+" wireless data transmission module, the H series has functions such as automatic frequency hopping, automatic packet loss and retransmission for fixed-frequency communication. The transmission speed is fast, the delay is small, and the communication anti-interference ability is greatly improved. The D series has full-duplex characteristics at a high baud rate of 57600 (two-way simultaneous transmission and reception), ultra-narrowband GFSK modulation and low power consumption.

# UART



## E49 SERIES

- RF Chipset: CMT2300A
- Frequency Band: 400MHz/900MHz
- Transmitting Power: 20~30dBm
- Communication distance: 2.5~5.5km

Adopt "CMT2300A" chip, narrow-band transmission, support data encryption, low power consumption, different airspeed configuration and other functions, with super high cost performance, can be widely used in smart home, industrial applications, and wireless remote control, etc.



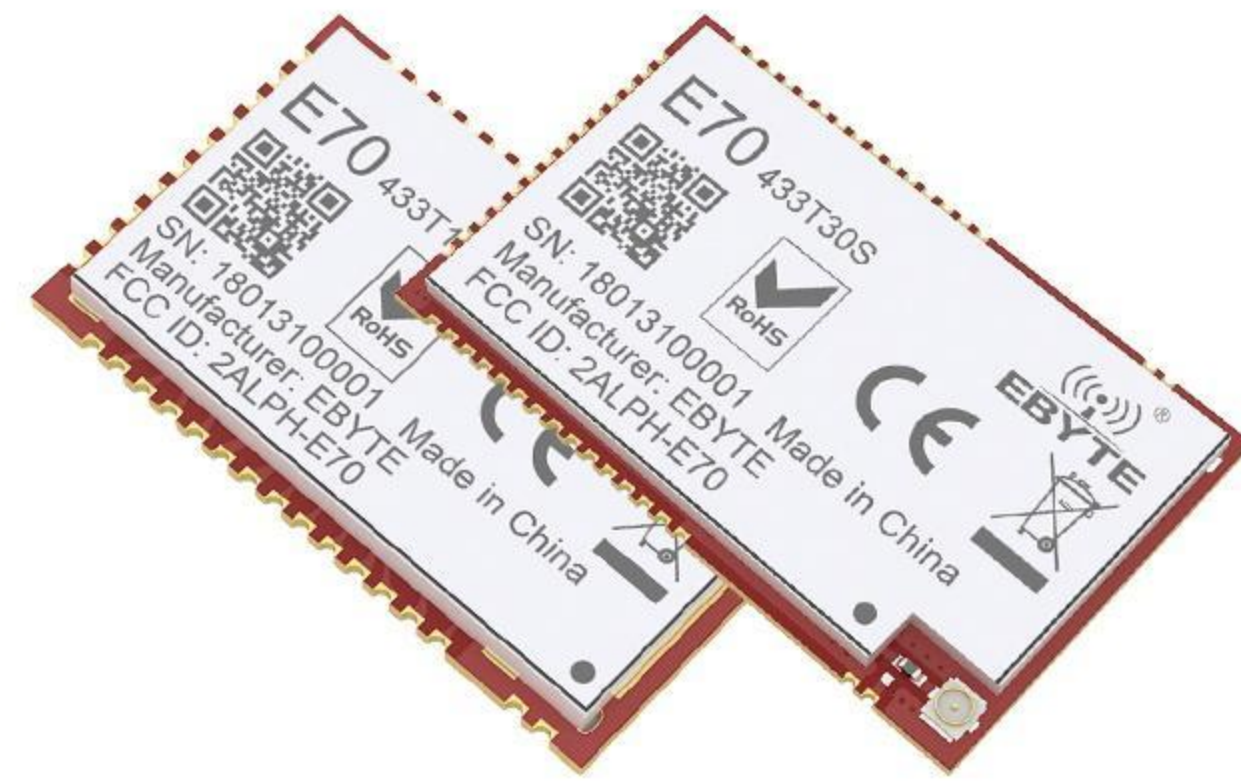
## E62 SERIES

- RF Chipset: -
- Frequency Band: 425~450MHz
- Transmitting Power: 10~30dBm
- Communication distance: 1~3km

It has functions such as time division full duplex (TDD), frequency hopping spread spectrum (FHSS), FEC forward error correction, etc., which greatly improves the anti-interference ability of the communication module.



# UART



UART

## E70 SERIES

Adopt Texas Instruments "CC1310" RF chip, built-in dual-core ARM, integrated 24MHz industrial-grade crystal oscillator, support high-speed continuous transmission and low power consumption, data does not drop frames, does not divide packets, and it supports ModBus protocol.

- RF Chipset: CC1310
- Frequency Band: 425~922MHz
- Transmitting Power: 10~30dBm
- Communication distance: 1.5~6km

# UART

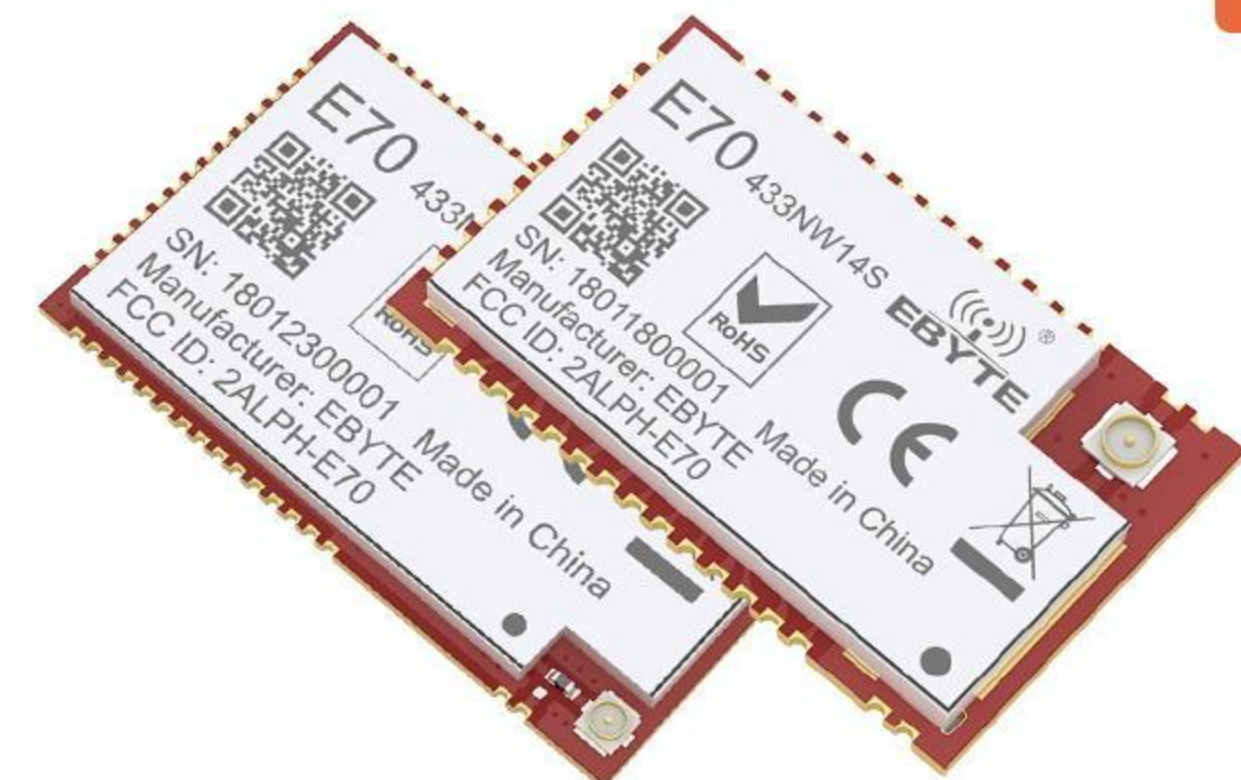


## E150 SERIES

The module integrates functions such as digital input DI, digital output DO, digital-to-analog converter ADC, analog-to-digital converter DAC, pulse width modulation PWM, and remote radio LoRa. Users can send Modbus RTU commands through serial ports or remote LoRa networking devices control while also supporting low-power modes.

- RF Chipset: 30dBm
- Frequency Band: 410/493MHz
- Communication distance: 10km
- Data protocol: Modbus RTU

Star shaped ad hoc network



## E70 SERIES

It adopts star networking module, supports multi-node concurrency, and has functions such as CSMA/CA, AES128 data encryption, DSSS spread spectrum technology, and low power consumption.

- RF Chipset: CC1310
- Frequency Band: 433/915MHz
- Transmitting Power: 14~30dBm
- Communication distance: 2.5~6.5km



## E220 SERIES

Using SEMTECH's "LLCC68" new generation LoRa spread spectrum technology, the distance is longer, the power consumption is lower, and the volume is smaller. It integrates industrial-grade crystal oscillator, supports air wake-up, carrier monitoring, communication key and other functions, and is more cost-effective. Provide custom development services.

- RF Chipset: LLCC68
- Frequency Band: 400/900MHz
- Transmitting Power: 22~30dBm
- Communication distance: 5~10km



# UART



## E280 SERIES

- RF Chipset: SX1280
- Frequency Band: 2400~2500MHz
- Transmitting Power: 12dBm
- Communication distance: 3km

Adopt SEMTECH's "SX1280" radio frequency chip solution, serial port transparent transmission mode, work in the 2.4GHz frequency band, with LoRa, FLRC and GFSK three modulation and demodulation technologies, TTL level output, compatible with 3.3V and 5V IO port voltage, with Features such as high-speed continuous transmission, support for wireless ranging, and air wake-up.

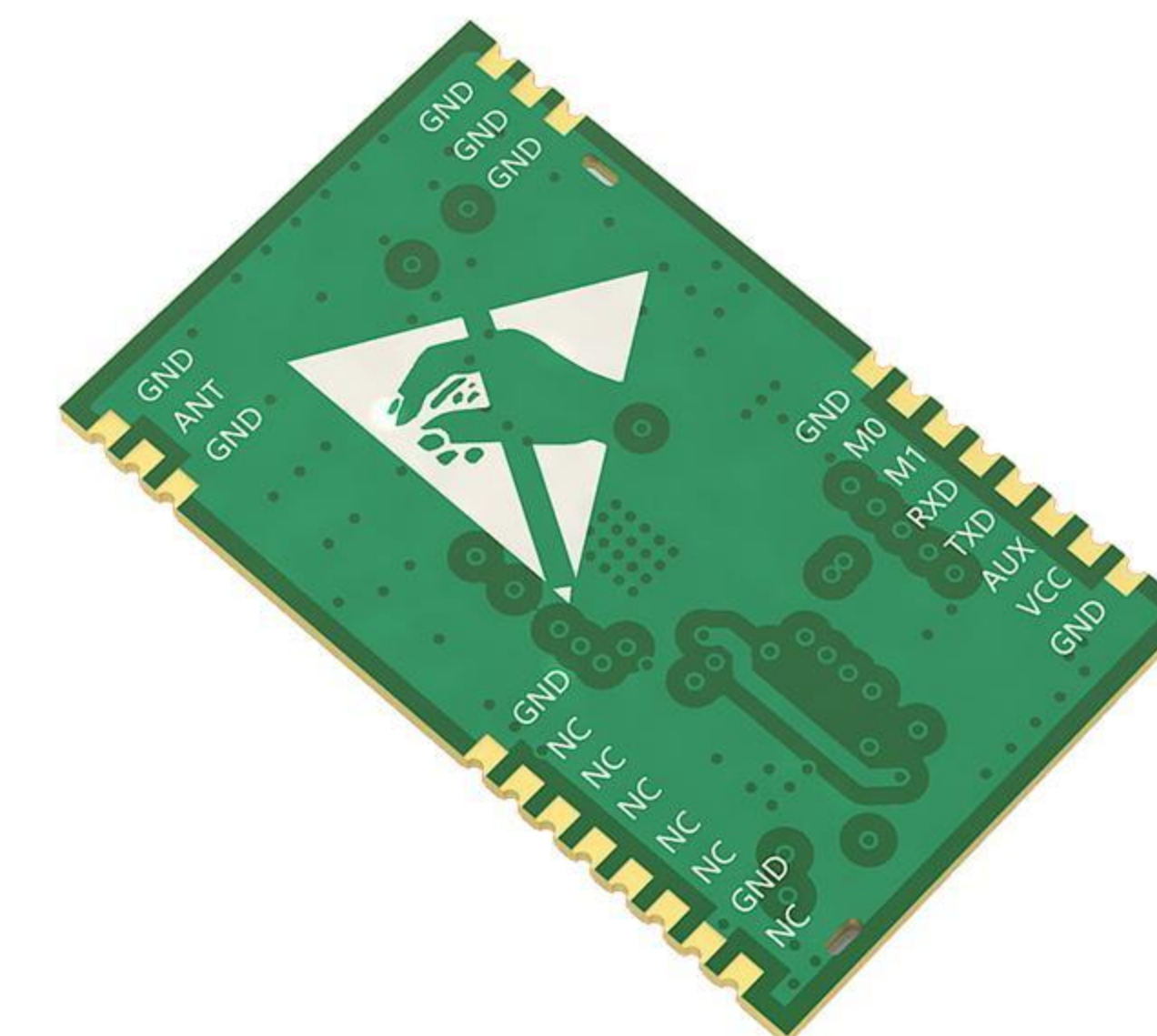


## E310 SERIES

- RF Chipset: AX5045
- Frequency Band: 433/900MHz
- Transmitting Power: 23dBm
- Communication distance: 5.6km

Serial port transparent transmission mode, working in the 433MHz frequency band or 900MHz frequency band, with half-duplex transparent transmission, air wake-up (ultra-low power consumption), data relay forwarding (distance extension) and other functions.

# UART



## E330 SERIES

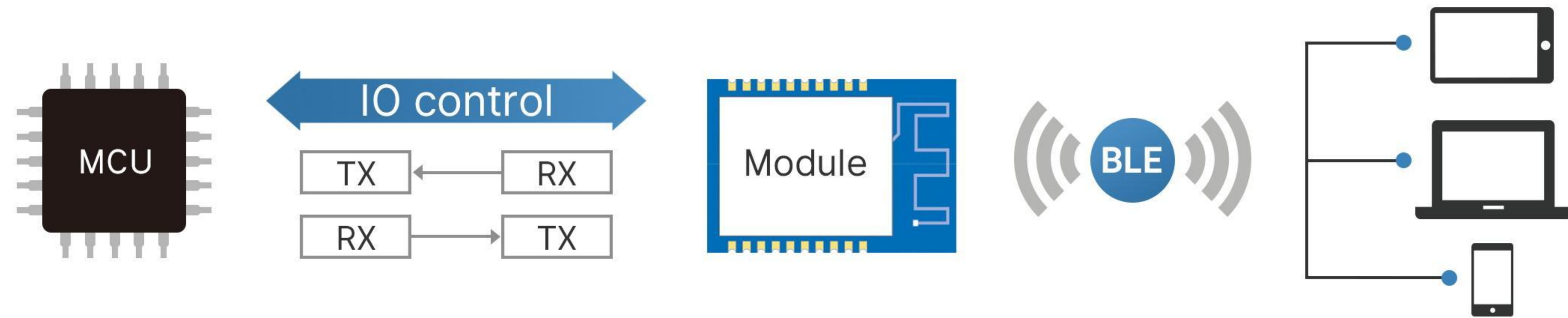
- Transmitting Power: 13dBm
- Frequency Band: 410.125~493.125MHz
- Communication distance: 2.5km

The E330 series is a small-sized, low-power, low-cost ultra-high cost-effective serial port module independently developed by Ebyte. It integrates transceivers and covers 433MHz and 470MHz frequency bands. The module supports transparent transmission, fixed-point transmission mode, supports LDC single-point wake-up, software multi-level airspeed adjustable, and can be applied to a variety of wireless transmission applications. At the same time, the module is simple and easy to use, and you can get started quickly without complicated configuration, so that it can be used out of the box.



# Bluetooth module

The bluetooth module is a set of chips and basic circuits integrated with bluetooth functions, suitable for wireless network communication. Ebyte Bluetooth products mainly include BLE series, BLE MESH series, classic Bluetooth series, audio Bluetooth series, dual-mode Bluetooth series, BLE 5.0 series, etc., which fully cover common applications.

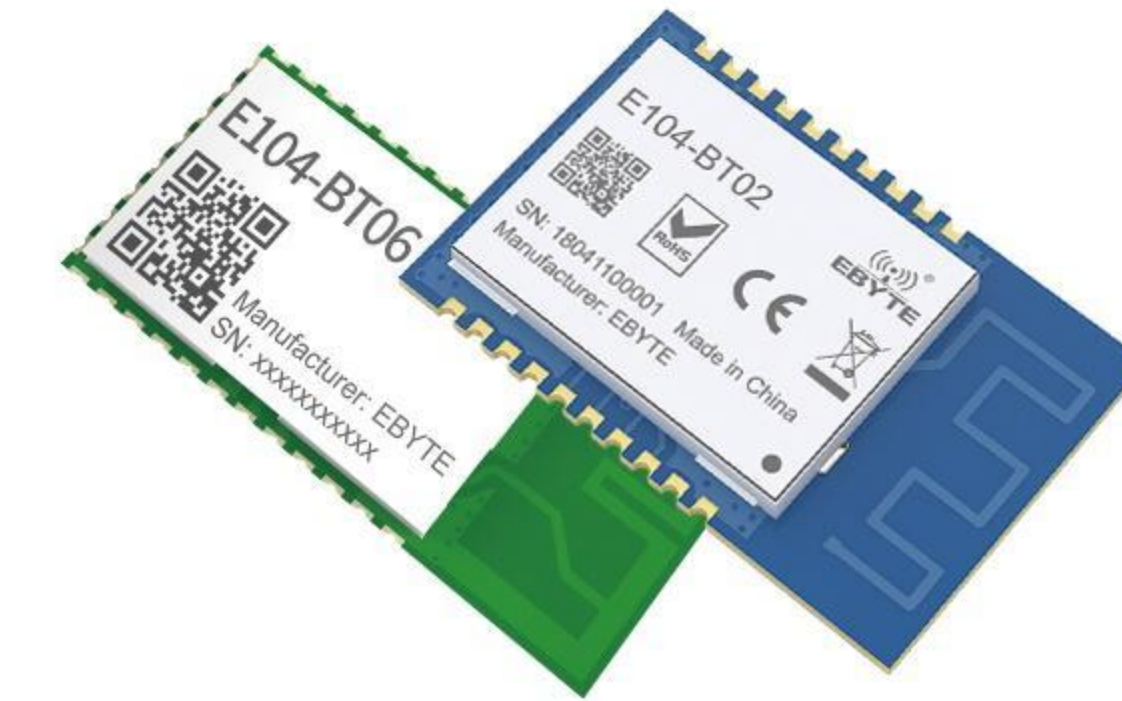


# Bluetooth

## BLE4.0/4.2 Series

### E104 BT0X SERIES

- RF Chipset: DA14580
- Frequency Band: 2.4GHz
- Transmitting Power: 0~8dBm
- Communication distance: 50~70m



It adopts CC2541/DA14580/TSLR8266 and other chip solutions and supports Bluetooth 4.0/4.2; it has rich functions such as data indication, iBeacon broadcast, broadcast sniffing, air configuration, automatic connection, and adjustable Bluetooth packet length. The module integrates transparent transmission function, master-slave integration, leads to all io ports, and supports secondary development.

## BLE MESH Series

### E104 BT1X SERIES

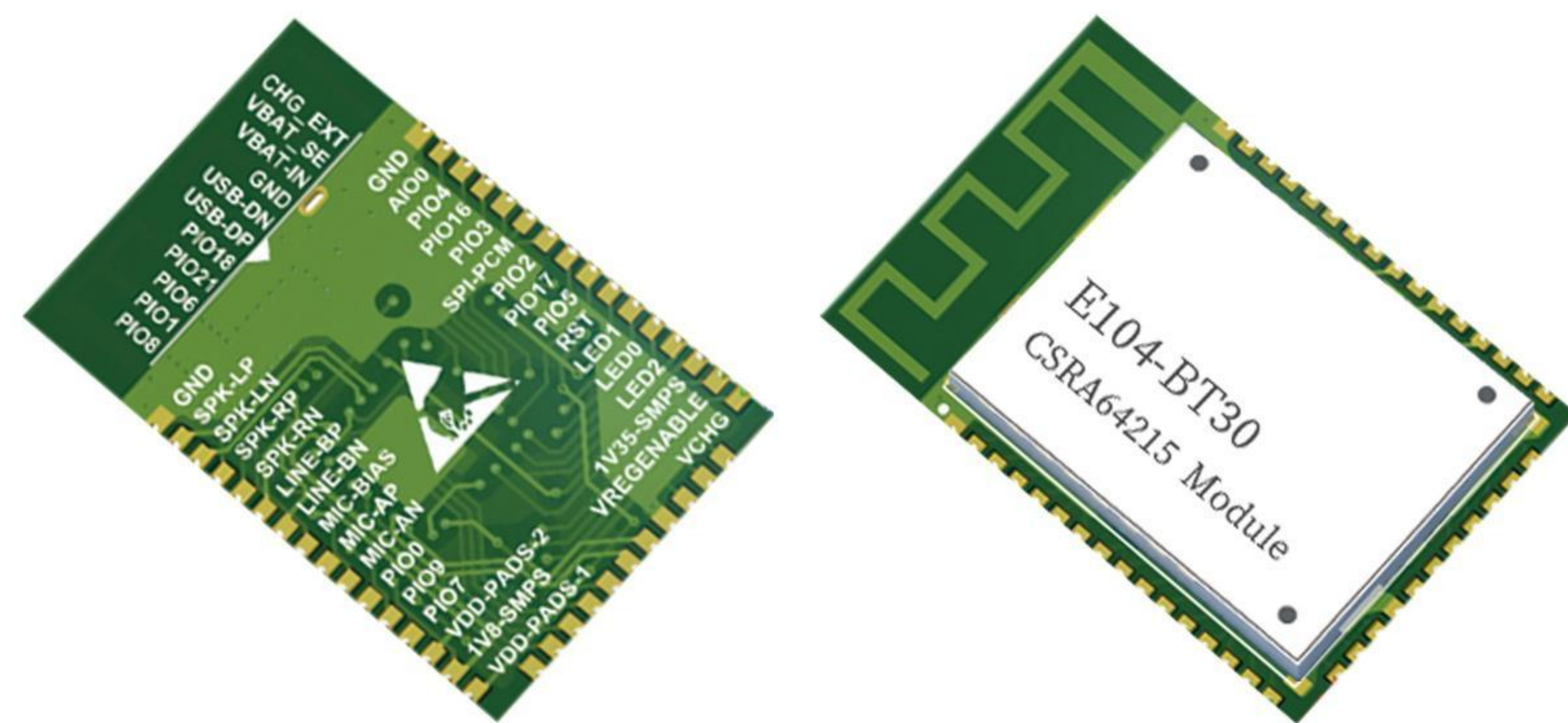
- RF Chipset: TSLR8253/EFR32MG21
- Frequency Band: 2.4GHz
- Transmitting Power: 10~20dBm
- Communication distance: 60~300m



Adopt TSLR8253/EFR32MG21 chip solution, Bluetooth mesh ad hoc network module that conforms to the sig mesh V1.0 standard, a single network theory can accommodate up to 32767 node devices; after the device is connected to the network, it will automatically remember the network information, and the network connection time will be completed within 1 second; the mobile phone APP Any node can proxy into the network to realize remote control of the mesh network.



# Bluetooth



## Audio Bluetooth Series

**E104** BT3X SERIES

- RF Chipset: CSRA64215
- Frequency Band: 2.4GHz
- Bluetooth protocol: V4.2+EDR
- Communication distance: 50m

Using Qualcomm's "CSRA64215" chip, the sixth-generation CVC voice enhancement technology implements noise reduction and echo cancellation. The driver-free method provides high-quality sound quality and compatibility for the module, and supports APTX, APTXLL, ACC and other high-quality sound effects. Bluetooth V4.2+EDR standard specification, support TWS, automatic reconnection, MIC input and other functions.

# Bluetooth



## Dual Mode Bluetooth Series

**E104** BT4X SERIES

- RF Chipset: -
- Frequency Band: 2.4GHz
- Bluetooth protocol: SPP/BLE
- Communication distance: 30m

Low-cost dual-mode Bluetooth module using domestic chip solution, supports SPP communication and BLE communication, equipped with PCB onboard antenna, supports serial port rate of 9600bps-115200bps, ultra-small size, supports serial port AT command configuration parameter mode, supports serial port flow control, setting Query name, query and set MAC, set query pairing code and Bluetooth disconnection function.



## BLE5.0 Series

**E104** BT5X SERIES

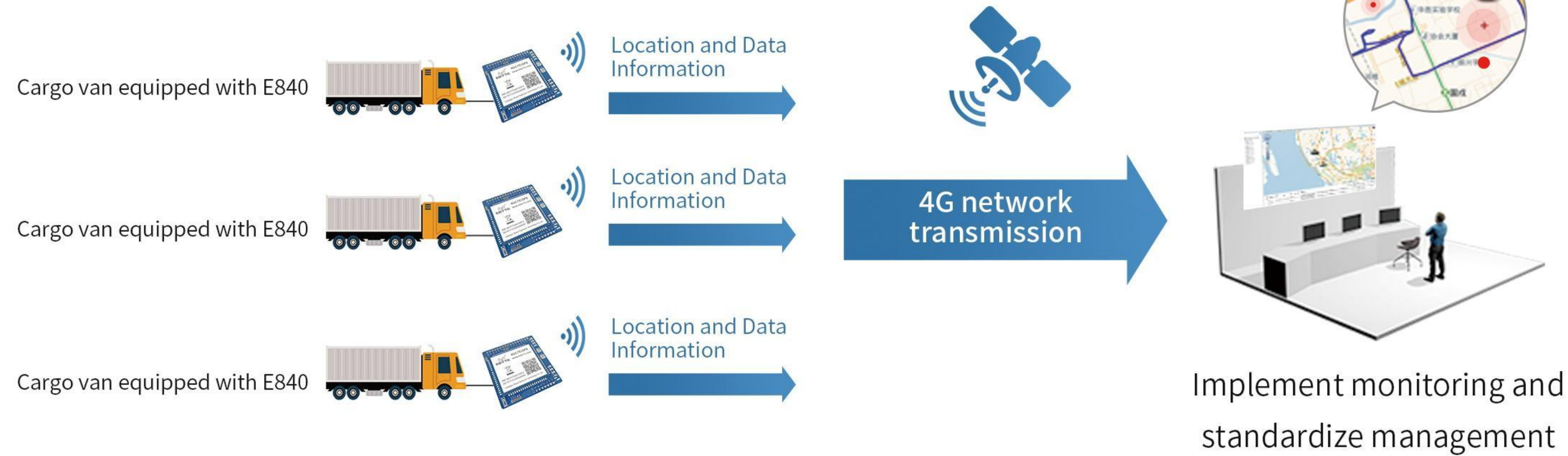
- RF Chipset: nRF52810/32
- Frequency Band: 2.4GHz
- Bluetooth protocol: BLE5.0/5.1/5.2/5.3
- Communication distance: 50~300m

Adopt CC2340/EFR32BG22/nRF52810/nRF52805/nRF52832/CC2640R2F/DA14531 and other chip solution modules to support Bluetooth host, slave and observer modes, support low-power broadcasting, switching between iBeacon and ordinary broadcasting, data transparent transmission, air configuration, serial port wake-up, sniffing function, high-speed continuous transmission and other functions.



# 4G/GPRS/NB-IoT/Ethernet

The GPRS/4G/NB-IoT series is a wireless data transmission terminal for the Internet of Things. It uses the public operator network to realize two-way transparent transmission of serial port data with the network or remote server without Ethernet. Widely used in air quality monitoring, remote monitoring of oil fields, smart agriculture, industrial Internet of Things and other fields.



# 4G



Cat-4

## E840 SERIES

- Transmission type: cat-4
- Interface Type: UART
- Baud rate: 1200~921600bps
- Operator: Netcom

Support mobile, China Unicom, China Telecom 4G full Netcom, Qualcomm solutions. Support TCP, UDP, MQTT, HTTP protocol, with registration package, heartbeat package function, support GPS/Beidou positioning, support 4-way socket connection at the same time.

# 4G



Cat-1

## EC03 SERIES

- Transmission type: cat-1
- Interface Type: UART
- Baud rate: 1200~921600bps
- Operator: Netcom

Support mobile, China Unicom, China Telecom 4G full Netcom, support TCP, UDP, MQTT, HTTP protocols, have registration package, heartbeat package function, support 2-way socket connection at the same time.



# 4G



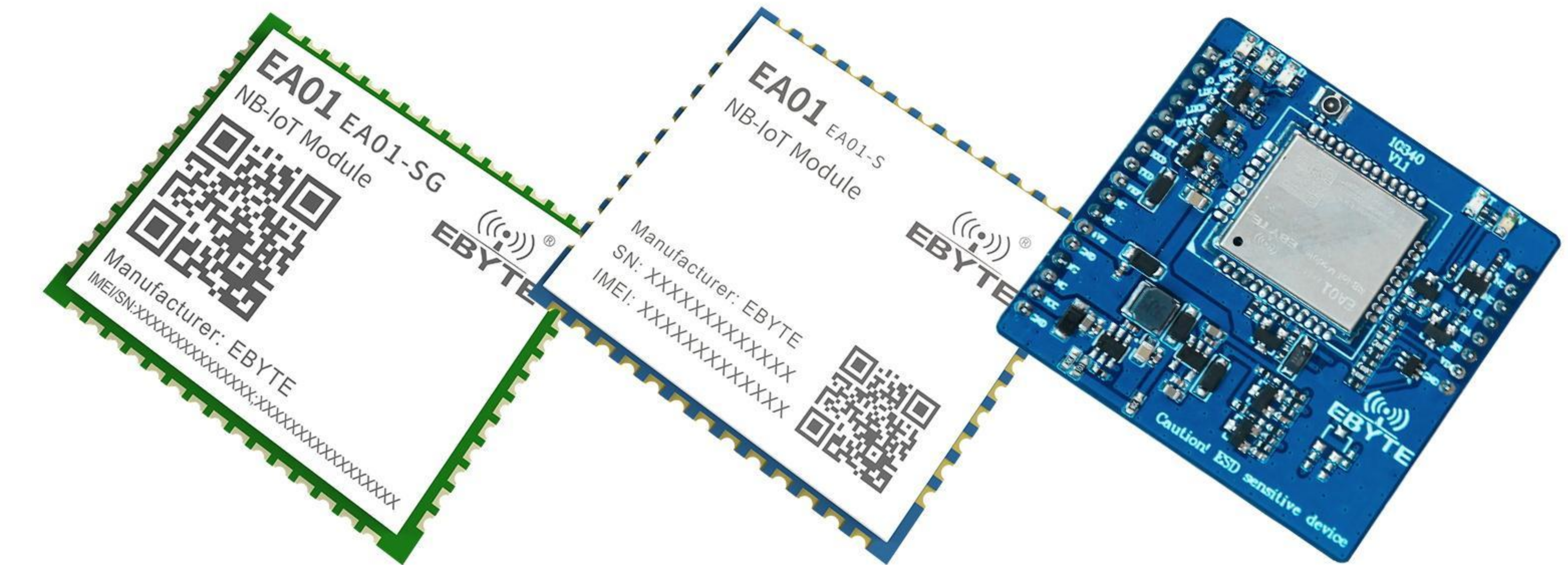
Cat-1

## EC04 SERIES

- Transmission type: cat-1
- Interface Type: UART
- Baud rate: 1200~460800bps
- Operator: Netcom

Support mobile, China Unicom, China Telecom 4G full Netcom, support TCP, UDP, MQTT, HTTP protocols, have registration package, heartbeat package function, support GPS and Beidou positioning. Support 4-way socket connection at the same time, with a 4x20K large buffer design, and two options for patch and pin.

# NB-IoT



## EA01 SERIES

- Transmission type: NB-IoT
- Interface Type: TTL
- Baud rate: 1200~460800bps
- Antenna interface: stamp hole

The data transmission module for data transmission through the operator's NB-IoT network, industrial-grade quality, has the characteristics of low cost, low power consumption, strong link, and high coverage. Support B3 B5 B8 frequency band; support TCP, UDP, MQTT, COAP, LwM2M and other protocols; support telecom cloud CTWING, Unicom Cloud, China Mobile onenet cloud platform, Alibaba Cloud, Baidu Cloud.



# Ethernet



Single Serial Ethernet Module

## NS1/NT1 SERIES

- Interface signal: Ethernet
- Serial port standard: 1200~921600bps
- Network port specifications: RJ45
- Interface Type: UART

The serial-to-Ethernet module supports TCP/IP network protocol, provides four working modes of TCP Server, TPC Client, UDP Server, and UDP Client, supports 6-way SOCKET work, and can be configured through web pages.



Single Serial Ethernet Chip

## EBT3001 SERIES

- Interface signal: Ethernet
- Interface Type: UART
- Network port specifications: RJ45
- Package size: QNF48

Built-in PHY, supports TCP/IP protocol, provides automatic polling modes such as ModBus protocol conversion, storage gateway, configuration gateway, etc. Support configuration methods such as host computer, web page, AT command, etc.

# Ethernet



Multi-serial Ethernet module

## NS2/NS4/NS8 SERIES

- Interface signal: Ethernet
- Interface Type: UART
- Network Interface: 1.27Stamp hole
- Serial port standard: 2400~115200

Serial port to Ethernet module supporting TCP/IP network protocol, optional 2/4/8 serial port, supports ModBus gateway, adapts to TCP/UDP/MQTT/HTTP communication protocol, and supports up to 16 client connections in server mode.



8 Serial Port Ethernet Chip

## EBT3002 SERIES

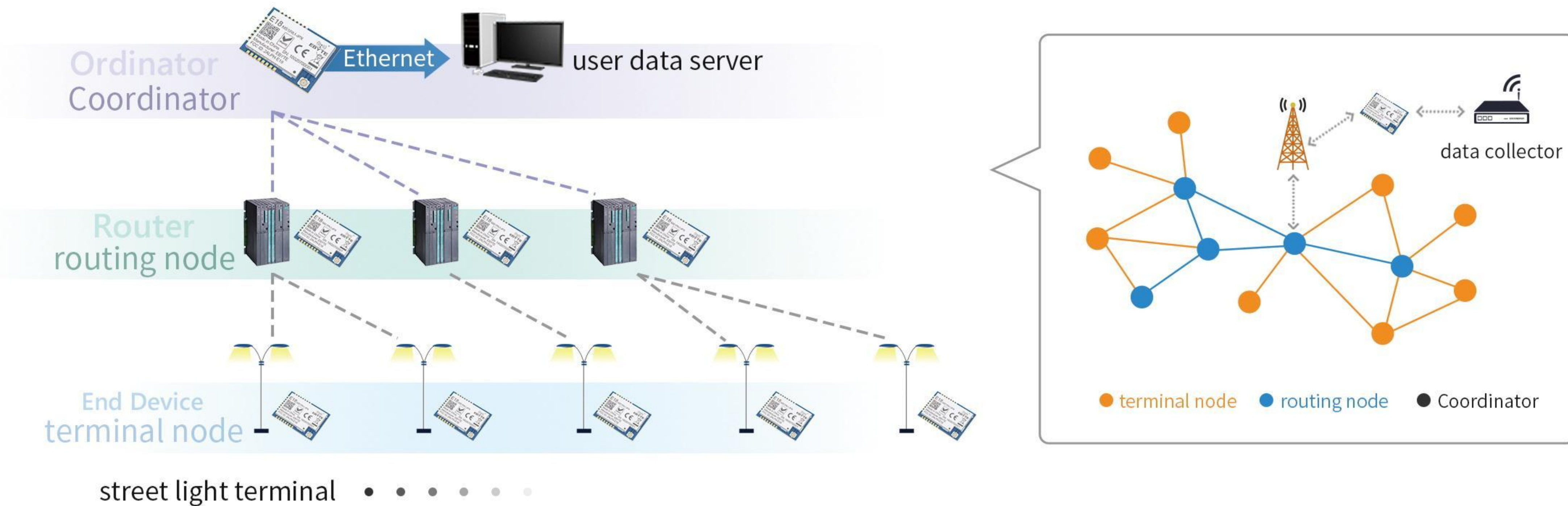
- Interface signal: Ethernet
- Interface Type: UART
- Serial port standard: 2400~115200
- Package size: LQFP100

Built-in PHY, serial port to Ethernet module that supports TCP/IP network protocol, ModBus edge acquisition gateway, adapts to TCP/UDP/MQTT/HTTP communication protocol, and supports up to 16 client connections in server mode. Support host computer, web page, AT command light configuration.

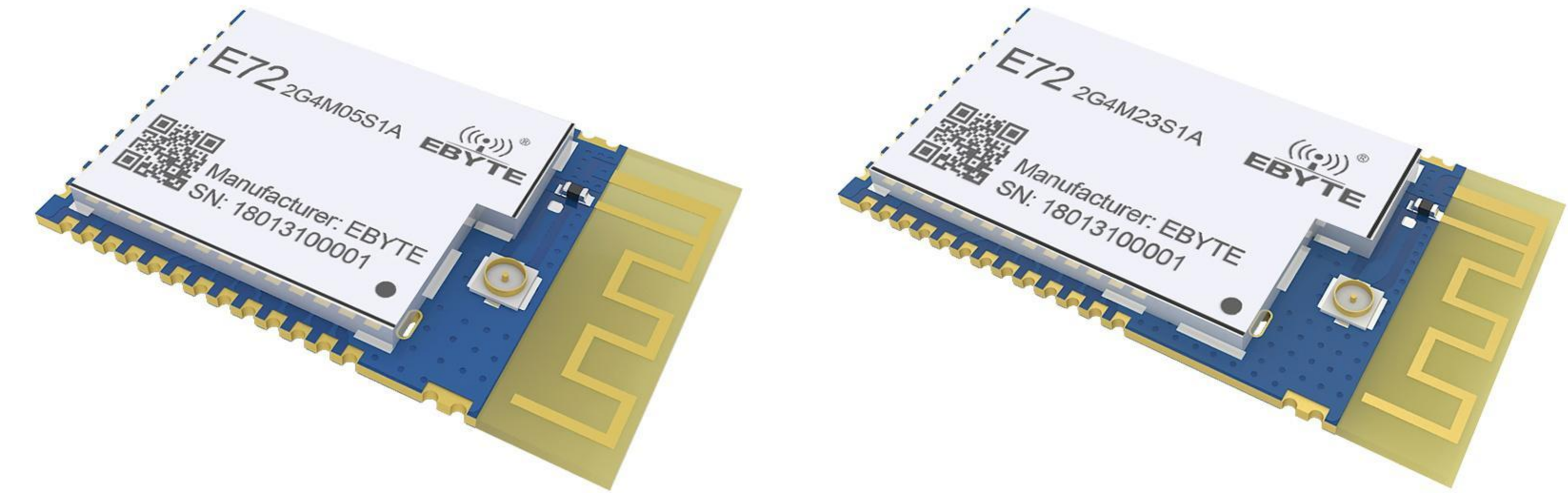


# ZigBee module

ZigBee is suitable for wireless communication technology between electronic devices with short transmission range and low data transmission rate. It can also be applied to small-scale control and automation based on wireless communication, which can save computer equipment and wired cables between a series of digital devices, and can realize wireless networking among various digital devices to achieve mutual communication, or access the Internet. The ZigBee module has the characteristics of low power consumption, low cost, low speed, short distance, short delay, high capacity, and high security.



# ZigBee



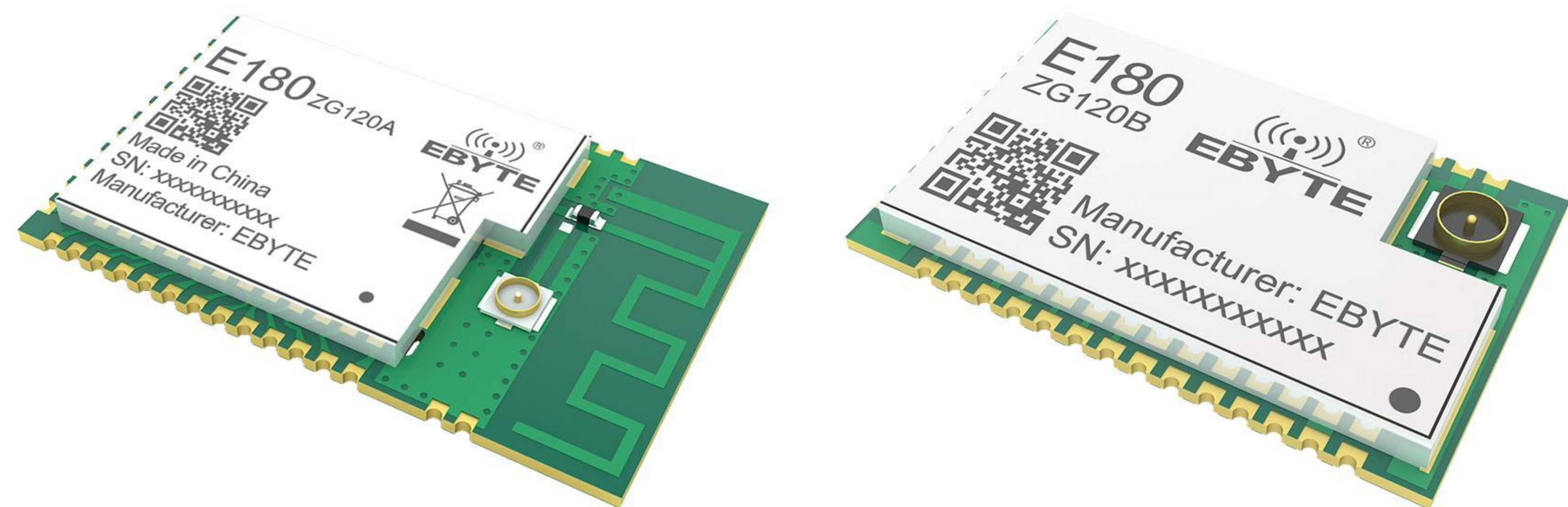
## E72 SERIES

- RF Chipset: CC2630/CC2652P
- Frequency Band: 2.4GHz
- Transmitting Power: 5~23dBm
- Communication distance: 0.5~1.5km

Using Texas Instruments' "CC2630/2652P" radio frequency chip as the core self-developed small-volume patch type ZigBee, 6LoWPAN wireless module, using 24MHz industrial-grade high-precision low-temperature drift active crystal oscillator, embedded 32-bit ARM Cortex-M3 high-performance processing device, which is convenient for customers to do secondary development.



# ZigBee



## E180

SERIES

- RF Chipset: EFR32/TLSR8258/8269/JN5189
- Transmitting Power: 7~20dBm
- Communication distance: 0.13~1.3km

It adopts EFR32MG1B/TLSR8269/TLSR8258 series modules, complies with ZigBee 3.0 standard network mechanism, and can support network protocols such as ZHA and ZLL. Supports various network topologies such as point-to-point, star network, and MESH networking. It has rich functions such as network self-healing, automatic routing, security key, and air configuration.

# ZigBee



### IPX interface

## E18

SERIES

- RF Chipset: CC2530
- Frequency Band: 2.4GHz
- Transmitting Power: 4~27dBm
- Communication distance: 0.24~2.5km

Using Texas Instruments "CC2530" radio frequency chip, the chip integrates 8051 single-chip microcomputer and wireless transceiver, built-in ZigBee protocol stack, supports direct drive of ADC, GPIO and other peripherals, supports UART transparent transmission, easy to use, and has the function of ad hoc network Function.



### PCB antenna

## E18

SERIES

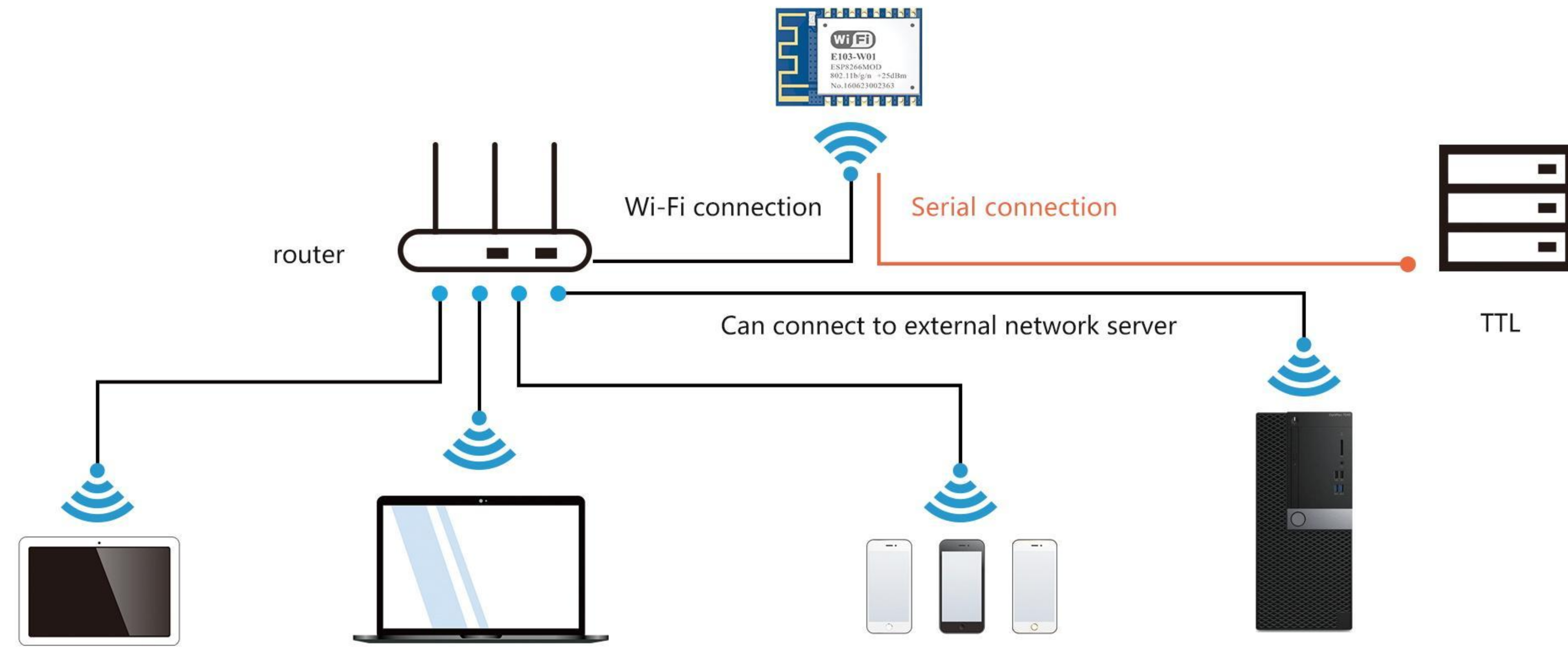
- RF Chipset: CC2530
- Frequency Band: 2.4GHz
- Transmitting Power: 4~27dBm
- Communication distance: 200~800m

Using Texas Instruments "CC2530" radio frequency chip, the chip integrates 8051 single-chip microcomputer and wireless transceiver, built-in ZigBee protocol stack, supports direct drive of ADC, GPIO and other peripherals, supports UART transparent transmission, easy to use, and has the function of ad hoc network Function.



# Wi-Fi module

The serial port to Wi-Fi module is a new generation of embedded Wi-Fi module with small size and low power consumption. Using UART interface, built-in IEEE802.11 protocol stack and TCP/IP protocol stack, it can realize the conversion between user serial port data and wireless network.



# Wi-Fi



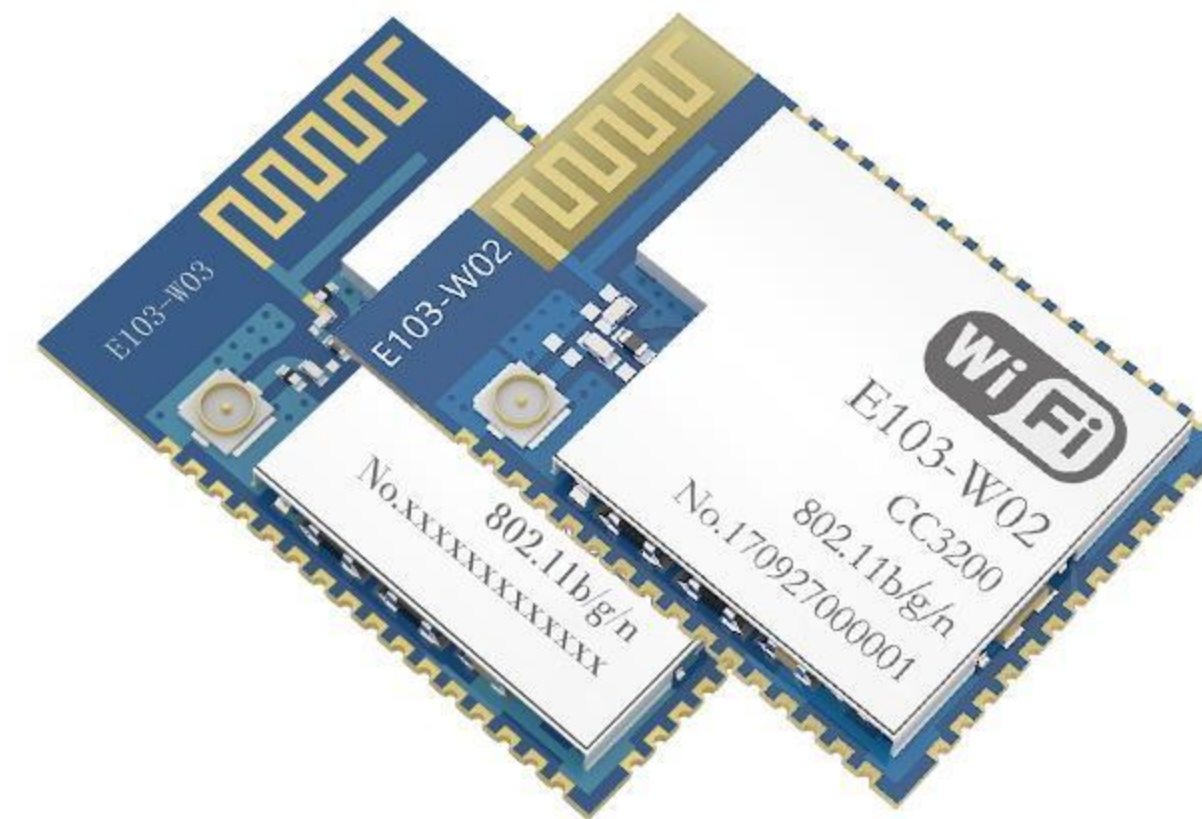
W01

## E103

SERIES

- RF Chipset: ESP8266EX
- Frequency Band: 2.4GHz
- Transmitting Power: 20dBm
- Communication distance: 100m

Adopt Espressif company "ESP8266EX" chip solution. The module integrates the transparent transmission function, which can be used immediately. It supports serial port AT command set and server AT command set. Users can use the network access function through the serial port. The antenna form PCB/IPEX is optional.



W02/W03

## E103

SERIES

- RF Chipset: CC3200/3220R
- Frequency Band: 2.4GHz
- Transmitting Power: 20dBm
- Wireless interface: PCB/IPEX



Adopt Texas Instruments company "CC3200/3220R" radio frequency chip. The module integrates the transparent transmission function, which can be used out of the box. It supports serial AT command set users to use the network access function through the serial port. It is widely used in wearable devices, home automation, home security, personal health care, smart home appliances, accessories and remote controls. , automotive, lighting, industrial Internet and other fields.



## Wi-Fi



## W04/W04B

## E103

## SERIES

Gateway type WiFi serial port server module, the module is small in size, with onboard PCB antenna or IPEX antenna interface, works in the 2.4GHz frequency band, has the characteristics of low power consumption and fast transmission, and supports AT commands and host computer configuration.

- RF Chipset: W600
- Transmitting Power: 20dBm
- Communication distance: 80~120m
- working frequency: 2.4GHz



## W05/W05A/W05B/W05C

## E103

## SERIES

Low-cost, cost-effective 100mW (20dBm) Wi-Fi data transmission module, small size, onboard PCB antenna, working in the 2.4~2.483GHz frequency band, low power consumption, fast data stream transmission, the module can use the serial port for data transmission and reception and AT command related parameter setting, secondly, E103-W05 AT command is mostly compatible with E103-W01 module.

- RF Chipset: W600
- Transmitting Power: 20dBm
- Communication distance: 120~400m
- working frequency: 2.4~2.4835GHz

## Wi-Fi



## W06

## E103

## SERIES

Based on TI's third-generation Wi-Fi chip CC3235S, the CC3235MODSF is a high-performance, highly reliable dual-band Wi-Fi module with a built-in high-performance ARM Cortex-M4 processor in a hardware package compatible with the original CC3235MODS and CC3235MODSF supporting IEEE802.11 a/b/g/n standards, operating in 2.4G and 5.8 G bands.

- RF Chipset: CC3235S
- Frequency Band: 2.4GHz/5.8GHz
- Transmitting Power: 18dBm
- Wi-Fi version: 802.11a/b/g/n



## W07

## E103

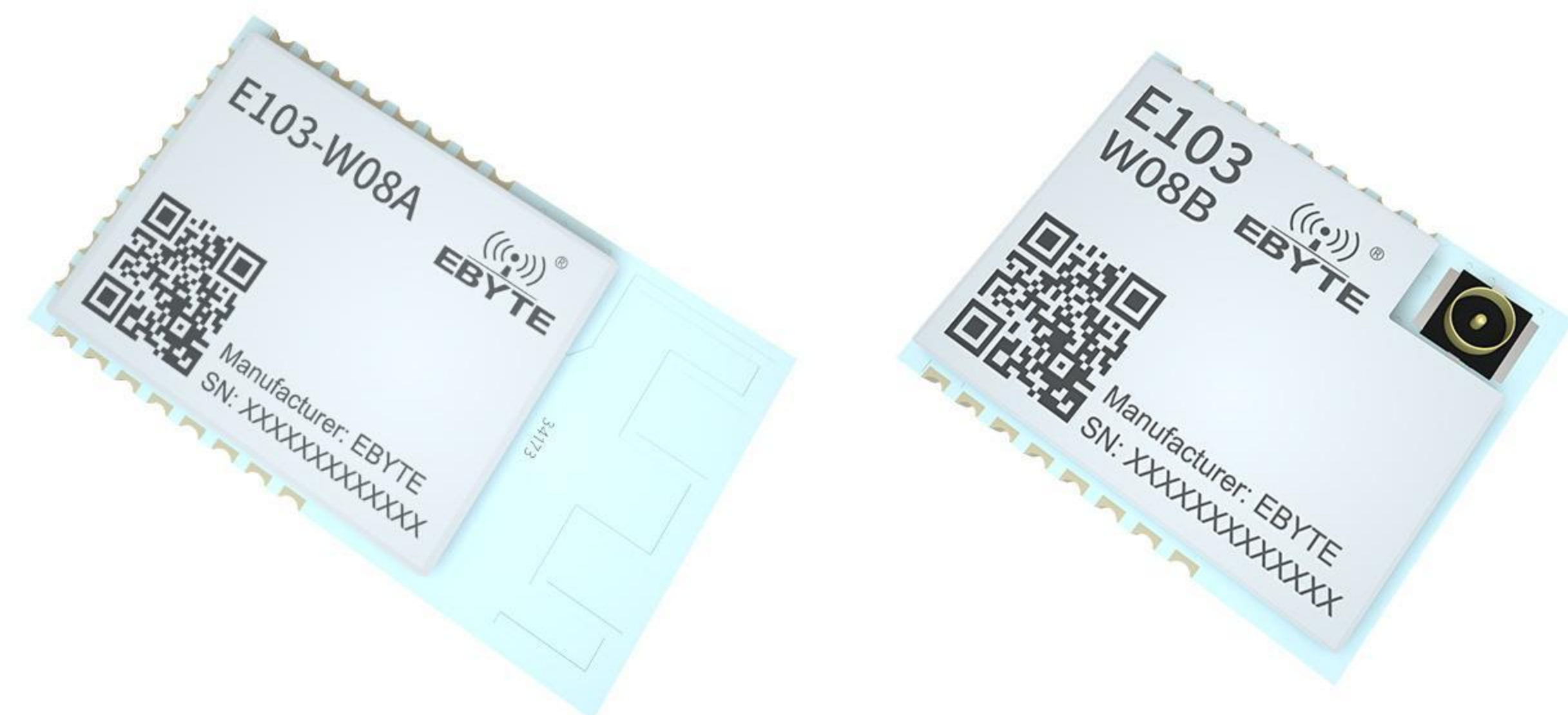
## SERIES

E103-W07 is a set of network protocols built on top of the Wi-Fi protocol. ESP-MESH allows a large number of devices (hereafter referred to as nodes) distributed over a large area (indoor and outdoor) to connect to each other in the same WLAN (wireless local area network). It is self-organizing and self-healing, meaning that mesh networks can be built and maintained autonomously.

- Antenna type: PCB/IPEX
- Frequency Band: 2.4GHz
- Transmitting Power: 20dBm
- Communication distance: 100m



## Wi-Fi



W08

E103

SERIES

- RF Chipset: Wi-Fi+BLE
- Frequency Band: 2.4GHz
- Transmitting Power: 12dBm
- Antenna interface: PCB/IPEX

E103-W08 is a 2.4G based Wi-Fi to serial module developed by Ebyte, the maximum Wi-Fi transmit power can reach 12dBm, the module has built-in ARM® Cortex®-M3 Application Processor and ARM® Cortex®-M0 Link Controller, realizing the separate management of application layer and connection layer. The performance is stable and reliable.

## Wi-Fi



W11

E103

SERIES

- RF Chipset: BLE5.1+Wi-Fi6
- Frequency Band: 2400~2483 MHz
- Transmitting Power: 20dBm
- Communication distance: 300m

E103-W11 is a super cost effective serial to WiFi module in a SMD small size package that works in 2.4~2.4835GHz band. The module is a low power Bluetooth BLE5.1 and Wi-Fi version 6 IEEE 802.11 b/g/n/ax WiFi module. The module can use serial port for data sending and receiving, which lowers the threshold of wireless applications.



Product Selection Table **UART**

Product Model	Chip Solution	Frequency(MHz)	Power(dBm)	Distance (km)	Package Size(mm)	Antenna Method	Product Features
E07-400T10S	CC1101	410~493	10	1.5	16*26	IPEX/stamp hole	CC1101+MSP430FR2433, secondary development
E07-900T10S	CC1101	850.125~930.125	10	1.5	16*26	IPEX/stamp hole	CC1101+MSP430FR2433, secondary development
E150-400T30S	/	410.125~493.125	30	8	40.5*25.0	IPEX	LoRa spread spectrum, anti-interference, PA+LNA, Modbus support
E220-400R30D	LLCC68	410.125~493.125	30	10	DIP 26*48	SMA-K	LoRa spread spectrum, over-the-air wake-up, RSSI, communication secret key
E220-400T22D	LLCC68	410.125~493.125	22	5	DIP 21*36	SMA-K	LoRa spread spectrum, over-the-air wake-up, RSSI, power-down protection, pass-through
E220-400T22S	LLCC68	410.125~493.125	22	5	SMD 16*26	IPEX/stamp hole	LoRa spread spectrum, over-the-air wake-up, RSSI, power-down protection, pass-through
E220-400T30D	LLCC68	410.125~493.125	30	10	DIP 24*43	SMA-K	LoRa spread spectrum, over-the-air wake-up, RSSI, power-down protection, pass-through
E220-400T30S	LLCC68	410.125~493.125	30	10	SMD 25*40.5	IPEX/stamp hole	LoRa spread spectrum, over-the-air wake-up, RSSI, power-down protection, pass-through
E220-900T22D	LLCC68	850.125~930.125	22	5	DIP 21*36	SMA-K	LoRa spread spectrum, over-the-air wake-up, RSSI, power-down protection, pass-through
E220-900T22S	LLCC68	850.125~930.125	22	5	SMD 16*26	IPEX/stamp hole	LoRa spread spectrum, over-the-air wake-up, RSSI, power-down protection, pass-through
E220-900T30D	LLCC68	850.125~930.125	30	10	DIP 24*43	SMA-K	LoRa spread spectrum, over-the-air wake-up, RSSI, power-down protection, pass-through
E220-900T30S	LLCC68	850.125~930.125	30	10	SMD 25*40.5	IPEX/stamp hole	High power, over-the-air wake-up, RSSI, communication secret key, watchdog
E220P-400T22S	LLCC68	410.125~493.125	22	7	SMA 21*26	IPEX/stamp hole	Built-in LNA and receiving ESD device, active crystal development
E22-170T37S	SX1268	148~173.5	37	25	50*30.9*1.0	IPEX/stamp hole	LoRa spread spectrum, auto-relay networking, low power consumption, LBT
E22-230T22D	SX1262	230	22	5	DIP 16*26	SMA-K	New generation LoRa spread spectrum, automatic relay networking, low power consumption
E22-230T22S	SX1262	230	22	5	SMD 16*26	IPEX/stamp hole	Next Generation LoRa Spread Spectrum, Wake-on-Air, RSSI, LBT

Product Model	Chip Solution	Frequency(MHz)	Power(dBm)	Distance (km)	Package Size(mm)	Antenna Method	Product Features
E22-230T22U	SX1262	230	22	5	USB 45.3*27.8*11.2	SMA-K	New generation LoRa spread spectrum, automatic relay networking, low power consumption
E22-230T30D	SX1262	230	30	10	DIP 25*40.5	SMA-K	New generation LoRa spread spectrum, automatic relay networking, remote configuration
E22-230T30E	SX1262	230	30	10	DIP 30*51	IPEX	New generation LoRa spread spectrum with low power consumption, long range and RSSI
E22-230T30S	SX1262	230	30	10	SMD 25*40	IPEX/stamp hole	Next Generation LoRa Spread Spectrum, Wake-on-Air, RSSI, LBT
E22-230T33E	SX1262	230	30	16	DIP 30*51	IPEX	Next Generation LoRa Spread Spectrum, Low Power, Remote Configuration, Watchdog
E22-230T33S	SX1262	230	33	12	SMD25*40.5	IPEX/stamp hole	Next Generation LoRa Spread Spectrum, Over-the-Air Wakeup, Carrier Monitoring
E22-230T37S	SX1268	230	37	25	50*30.9*1.0	IPEX/stamp hole	Next Generation LoRa Spread Spectrum, Auto Relay Networking, Watchdog
E22-400T22DC	SX1262	410.125~493.125	22	5	DIP 21*36	SMA-K	Next Generation LoRa Spread Spectrum, Auto Relay Networking, LBT
E22-400T22S	SX1262	410.125~493.125	22	5	SMD 16*26	IPEX/stamp hole	Next Generation LoRa Spread Spectrum, Auto Relay Networking, RSSI
E22-400T22U	SX1268	410.125~493.125	22	5	USB 45.3*27.8*11.2	SMA-K	New generation LoRa spread spectrum with low power consumption, longer range and RSSI
E22-400T30D	SX1268	410.125~493.125	30	10	DIP 24*43	SMA-K	New generation LoRa spread spectrum with low power consumption, longer range and LBT
E22-400T30E	SX1268	410.125~493.125	33	10	DIP 30*51	IPEX	New generation LoRa spread spectrum, automatic relay networking, remote configuration
E22-400T30S	SX1262	410.125~493.125	30	10	SMD 25*40.5	IPEX/stamp hole	Next Generation LoRa Spread Spectrum, Auto Relay Networking, Watchdog
E22-400T33D	SX1262	410.125~493.125	33	16	DIP 37*60	SMA-K	New generation LoRa spread spectrum, automatic relay networking, remote configuration
E22-400T33E	SX1268	410.125~493.125	33	16	DIP 30*51	IPEX	New Generation LoRa Spread Spectrum, Longer Distance, Over the Air Wakeup
E22-400T33S	SX1262	410.125~493.125	33	16	SMD 25*40.3	IPEX/stamp hole	Next Generation LoRa Spread Spectrum, Communication Key, LBT, Fixed Point Transmission



Product Model	Chip Solution	Frequency(MHz)	Power(dBm)	Distance (km)	Package Size(mm)	Antenna Method	Product Features
E22-400T37S	SX1268	410~493	37	25	50*30.9*1.0	IPEX/stamp hole	New generation LoRa spread spectrum, automatic relay networking, high power
E22-900T22D	SX1262	850.125~930.125	22	5	DIP 21*36	SMA-K	New generation LoRa spread spectrum, automatic relay networking, low power consumption
E22-900T22S	SX1262	850.125~930.125	22	5	SMD 16*26	IPEX/stamp hole	New generation LoRa spread spectrum, automatic relay networking, over-the-air wake-up
E22-900T22U	SX1262	850.125~930.125	22	5	USB 45.3*27.8*11.2	SMA-K	Next generation LoRa spread spectrum, auto-relay networking, RSSI, LBT
E22-900T30D	SX1262	850.125~930.125	30	10	DIP 24*43	SMA-K	New generation LoRa spread spectrum with low power consumption, longer range and RSSI
E22-900T30S	SX1262	850.125~930.125	30	10	SMD 25*40.5	IPEX/stamp hole	New generation LoRa spread spectrum, long range, over-the-air wake-up, LBT
E280-2G4T12S	SX1280	2400~2500	12	3	SMD 17.5*28.7	IPEX/PCB	High-speed continuous transmission, RSSI, wireless ranging function, multiple modulation
E28-2G4T12S	SX1280	2400~2500	12.5	3	SMD 28.7*17.5	IPEX/PCB	Transceiver, transparent transmission, over-the-air wake-up, RSSI
E28-2G4T27SX	SX1281	2400~2500	27	7	SMD 40.5*25	IPEX/PCB	Transceiver, transparent transmission, high-speed transmission, RSSI
E29-400T22D	PAN3031	410.125~493.125	22	5	DIP 36*21	SMA-K	New ChirpLoTTM modulation, anti-jamming, AT command
E29-400T22S	PAN3031	410.125~493.125	22	5	SMD 20*16	IPEX/stamp hole	New ChirpLoTTM modulation, anti-jamming, AT command
E30-170T20D	SI4463	148~173.5	10~20	2.5	DIP 21*36	SMA-K	Spare shot, ultra-low receive power consumption, over-the-air wake-up, cryptographic error correction
E30-170T27D	SI4463	148~173.5	18~27	5	DIP 24*43	SMA-K	Spare shot, ultra-low receive power consumption, over-the-air wake-up, cryptographic error correction
E30-433T20D	SI4438	425~450.5	10~20	2.5	DIP 21*36	SMA-K	Transceiver, transparent transmission, over-the-air wake-up, forward error correction
E30-433T20S3	SI4438	425~450.5	10~20	2.5	SMD 16*26	IPEX/External	Transceiver, transparent transmission, over-the-air wake-up, forward error correction
E30T-433T20S	/	425~450	20	3.5	16*26	IPEX/stamp hole	High temperature resistant, fixed point transmission / broadcast propagation / RSSI channel monitoring

Product Model	Chip Solution	Frequency(MHz)	Power(dBm)	Distance (km)	Package Size(mm)	Antenna Method	Product Features
E310-433T23D	AX5045	425~450	23	5.6	DIP 16*26	IPEX/stamp hole	Narrowband transmission, half-duplex, over-the-air wake-up, data relay forwarding
E310-433T23S	AX5045	425~450	23	5.6	SMD 16*26	IPEX/stamp hole	Narrowband transmission, half-duplex, over-the-air wake-up, data relay forwarding
E310-900T23D	AX5045	900~915	23	5.6	DIP 16*26	IPEX/stamp hole	Narrowband transmission, half-duplex, over-the-air wake-up, data relay forwarding
E310-900T23S	AX5045	425~459	23	5.6	SMD 16*26	IPEX/stamp hole	Narrowband transmission, half-duplex, over-the-air wake-up, data relay forwarding
E32-170T30D	SX1278	160~173.5	21~30	8	DIP 24*43	SMA-K	LoRa spread spectrum communication, high power, over-the-air wake-up, transmissions
E32-433T20D	SX1278	410~441	20	5	DIP 21*36	SMA-K	LoRa Spread Spectrum Communication, Low Power, Wake-on-Air, Watchdog
E32-433T20S	SX1278	410~441	20	5	SMD 16*26	IPEX/stamp hole	LoRa Spread Spectrum Communication, Low Power, Wake-on-Air, Watchdog
E32-433T30D	SX1278	410~441	21~30	10	DIP 24*43	SMA-K	LoRa spread spectrum communication, high power, over-the-air wake-up, transmissions
E32-433T30S	SX1278	410~441	21~30	10	SMD 25*40.3	IPEX/stamp hole	LoRa spread spectrum communication, high power, over-the-air wake-up, transmissions
E32-433T33D	SX1278	410~441	33	12	DIP 37*60	SMA-K	LoRa spread spectrum communication, high power, over-the-air wake-up, transmissions
E32-433T33S	SX1278	410~441	33	12	SMD 25*40.3	IPEX/stamp hole	LoRa spread spectrum communication, high power, over-the-air wake-up, transmissions
E32-433T37S	SX1278	425~450	37	25	50*30.9*1.0	IPEX/stamp hole	LoRa spread spectrum communication, high power, over-the-air wake-up, transmissions
E32-900T20D	SX1276	862~930	20	5.5	DIP 21*36	SMA-K	LoRa Spread Spectrum Communication, Low Power, Wake-on-Air, Watchdog
E32-900T20S	SX1276	862~930	20	5	SMD 26*16	IPEX/stamp hole	LoRa Spread Spectrum Communication, Low Power, Wake-on-Air, Watchdog
E32-900T30D	SX1276	862~930	30	10	DIP 24*43	SMA-K	LoRa spread spectrum communication, high power, over-the-air wake-up, transmissions
E32-900T30S	SX1276	862~930	30	10	SMD 25*40.5	IPEX/stamp hole	LoRa spread spectrum communication, high power, over-the-air wake-up, transmissions



Product Model	Chip Solution	Frequency(MHz)	Power(dBm)	Distance (km)	Package Size(mm)	Antenna Method	Product Features
E330-400T13S	-	410.125~493.125	13	2.5	SMD 16*26	IPEX/stamp hole	Small size, low power consumption, transceiver integration, LDC single point wake-up
E33-433T13D	SX1212	425~440.5	13	1	DIP 21*36	SMA-K	Ultra-low receive current, single-point wake-up, FEC forward error correction
E34-2G4D11S	CI24R1	2400~2518	11	0.13	SMD12*19	IPEX/stamp hole	Full duplex, high speed transmission, data encryption and compression
E34-2G4D20D	nRF24L01+	2400~2518	20	2	DIP 21*36	SMA-K	2.4G, high speed transmission, full duplex, uninterrupted transmission
E34-2G4D27D	nRF24L01+	2400~2518	27	5	DIP 21*36	SMA-K	2.4G, high speed transmission, full duplex, unlimited packet length
E34-2G4H11S	Si24R1	2400~2518	11	0.13	SMD12*19	IPEX/stamp hole	Half-duplex, automatic frequency hopping, strong anti-interference ability, high rate
E34-2G4H20D	nRF24L01+	2400~2518	20	2.5	DIP 21*36	SMA-K	2.4G, high speed, automatic frequency hopping, automatic retransmission of lost packets, fixed point
E34-2G4H27D	nRF24L01+	2400~2518	27	5	DIP 21*36	SMA-K	2.4G, high speed, automatic frequency hopping, automatic retransmission of lost packets, pass-through
E43-433T13S	-	425~441	3~13	0.65	SMD 18.5*13	IPEX/stamp hole	Small size, high cost performance, RSSI mode, transmissive, low power consumption
E43-433T13S3	-	425~440.75	12~13	1	SMD 16*26	IPEX/stamp hole	Small size, high cost performance, RSSI mode, transmissive, low power consumption
E43-900T13S3	-	855~931.5	13	1.5	SMD 16*26	IPEX/stamp hole	Small size, high cost performance, RSSI mode, transmissive, low power consumption
E49-400T20D	-	410~510	20	2.5	DIP 36*21	IPEX/stamp hole	Narrowband transmission, data encryption, low power consumption, TTL level output
E49-400T20S	-	410~510	20	2.5	SMD 26*16	IPEX/stamp hole	Narrowband transmission, data encryption, low power consumption, TTL level output
E49-400T30D	-	410~510	30	5.6	DIP25*40.5	IPEX/stamp hole	Narrowband transmission, data encryption, low power consumption, TTL level output
E49-400T30S	-	410~510	30	5.6	SMD 26*16	IPEX/stamp hole	Narrowband transmission, data encryption, low power consumption, TTL level output
E49-900T20D	-	868-915	20	2.5	DIP 36*21	SMA-K	Narrowband transmission, data encryption, low power consumption, TTL level output
E49-900T20S	-	850~940	20	2.5	SMD 26*16	IPEX/stamp hole	Narrowband transmission, data encryption, low power consumption, TTL level output

Product Model	Chip Solution	Frequency(MHz)	Power(dBm)	Distance (km)	Package Size(mm)	Antenna Method	Product Features
E610-433T30S	-	425~450	30	2	SMD 40.5*25.0*3.9	IPEX/stamp hole	Wireless module, unlimited high-speed continuous transmission, 433MHz, low latency
E62-433T20D	-	425~450.5	10~20	10	DIP 21*36	SMA-K	Full duplex, automatic frequency hopping, transmissions, flight control
E62-433T30D	-	425~450.5	21~30	1	DIP 37*60	SMA-K	Full duplex, automatic frequency hopping, transmissions, flight control
E65-2G4T12S	-	2400~2480	12	3	SMD 28.7*17.5	IPEX/stamp hole	Point-to-point, high-speed continuous transmission, full duplex communication, frequency hopping anti-interference
E70-433MT14S	CC1310	431-446.5	14	0.8	SMD 10*10	IPEX/stamp hole	Built-in dual-core ARM, high-speed continuous transmission, ModBus protocol
E70-433NW14S	-	433.3~434.5	14	1.5	SMD 16*26	IPEX/stamp hole	Star self-organizing network, master-slave integration, multi-node concurrency, DSSS
E70-433NW30S	-	433.3 ~434.5	30	2.5	SMD 24*38.5	IPEX/stamp hole	Star self-organizing network, master-slave integration, multi-node concurrency, DSSS
E70-433T14S	CC1310	425~450.5	14	6.5	SMD 16*26	IPEX/stamp hole	High Speed Transmission, ModBus, Wake-on-Air, RSSI, Low Power
E70-433T14S2	CC1310	431-446	14	1.5	SMD 14*20	IPEX/stamp hole	High Speed Transmission, ModBus, Wake-on-Air, RSSI, Low Power
E70-433T30S	CC1310	425~450.5	30	1.5	SMD 24*38.5	IPEX/stamp hole	High Speed Transmission, ModBus, Wake-on-Air, RSSI, Low Power
E70-900MT14S	cc1310	861~922.5	14	6	SMD 10*10	IPEX/stamp hole	Built-in dual-core ARM, supporting high-speed continuous transmission, ModBus
E70-900T14S	CC1310	861~876.5, 907~922.5	14	1.5	SMD 16*26	IPEX/stamp hole	High-speed transmission, ModBus, over-the-air wake-up, RSSI, pass-through
E70-900T14S2	CC1310	861~922.5	14	1.5	SMD 14*20	IPEX/stamp hole	High-speed transmission, ModBus protocol, RSSI signal strength reading
E70-900T30S	CC1310	861~876.5, 907~922.5	30	1.5	SMD 24*38.5	IPEX/stamp hole	High Speed Transmission, ModBus, Wake-on-Air, RSSI, Low Power
E70-915NW14S	-	915	14	6	SMD 16*26	IPEX/stamp hole	Star self-organizing network, master-slave integration, multi-node concurrency, DSSS
E70-915NW30S	-	915	30	2.5	SMD 24*38.5	IPEX/stamp hole	Star self-organizing network, master-slave integration, multi-node concurrency, DSSS



Product Selection Table **SPI**

Product Model	Chip Solution	Frequency(MHz)	Power(dBm)	Distance (km)	Package Size(mm)	Antenna Method	Product Features
E01-2G4M01S1B	-	2400	4.5~5.5	0.2	SMD 12*19	PCB	1.27 SMD type with shield compatible with E01-ML01S
E01-2G4M13S	nRF24L01P	2400	13	0.8	SMD 23*14	PCB	Low Power Module, SMD, 13dBm, PCB Antenna
E01-2G4M20S1B	nRF24L01	2400	19~20	1	SMD 23*14	PCB	Medium Power Module, SMD, 20dBm, PCB Antenna
E01-2G4M27D	nRF24L01P	2400	27	5	SMD 23*14	SMA-K	High Power Module, 2.54 In-Line, 27dBm (Industrial Grade)
E01-2G4M27S	nRF24L01P	2400	27	2.2	SMD 23*14	PCB	High power module, SMD, PCB antenna
E01-2G4M27SX	nRF24L01P	2400	27	5	SMD 18*14.5	IPEX	High power module, chip type, 27dB, IPEX interface
E01-ML01D	nRF24L01P	2400	0	0.1	DIP 12.6*22.6	PCB	Low Power Module, 2.54 In-Line, 0dBm
E01-ML01DP4	nRF24L01P	2400	20	1.8	DIP 15*27	PCB	Medium power module, 2.54 inline, PCB on board antenna
E01-ML01DP5	nRF24L01P	2400	20	2.5	DIP 18*33.4	SMA-K	Medium Power Module, 2.54 In-Line, 20dBm (Industrial Grade)
E01-ML01PX	nRF24L01P	2400	0	0.2	SMD 12*19	IPEX	Low Power Module, 1.27 SMD, 0dBm, IPX Interface
E01-ML01S	nRF24L01P	2400	0	0.1	SMD 12*19	PCB	Low Power Module, 1.27 SMD, 0dBm
E01-ML01SP2	nRF24L01P	2400	20	1.8	SMD 12.8*25	PCB/IPEX	1.27 SMD, 20dBm, PCB antenna/IPX interface
E01-ML01SP4	nRF24L01P	2400	20	2	SMD 14.5*18	IPEX	Small power module, 1.27 SMD, 20dBm, IPX interface
E01C-2G4M11S	Si24R1	2400~2525	11	100	SMD 19*12	IPEX/stamp hole	11dBm power module, small size, built-in PCB, patch type
E01C-2G4M27D	-	2400~2525	27	4	SMD 18*33.4	SMA-K	27dBm power module, small size, built-in PA and LNA
E01C-2G4M27SX	-	2400~2525	27	4	SMD 18*14.5	IPEX/stamp hole	27dBm power module, small size, built-in PA and LNA
E01C-ML01D	Si24R1	2400~2525	7	0.3	DIP 12.6*22.6	IPEX/stamp hole	Small power module, in-line, domestic version 24L01P

Product Model	Chip Solution	Frequency(MHz)	Power(dBm)	Distance (km)	Package Size(mm)	Antenna Method	Product Features
E01C-ML01DP4	Si24R1	2400~2525	20	1.8	SMD 15*27	PCB	Domestic Si24R1 medium power module, patch type/ in-line multiple antenna interfaces are optional, with shielding cover for anti-interference
E01C-ML01DP5	Si24R1	2400~2525	20	2.5	SMD 18*33.4	SMA-K	
E01C-ML01S	Si24R1	2400~2525	7	0.3	SMD 12*19	PCB	
E01C-ML01SP2	Si24R1	2400~2525	20	1.8	SMD 12.8*25	PCB/IPEX	
E01C-ML01SP4	Si24R1	2400~2525	20	2	SMD 14.5*18	IPEX	
E04-400M16S	S2-LP	413~479	16	1	SMD 20*14	IPEX/stamp hole	S2-LP based SPI module with low emission current
E07-400M10S	CC1101	410-450	10	1.5	14*20	IPEX/stamp hole	Provide RSSI, CCA, link quality indicator and WOR support
E07-400MM10S	CC1101	431-446.5	10	1.5	SMD 10*10	stamp hole	SMD type, ultra-low power consumption, supports multiple modulation modes
E07-433M20S	CC1101	425~450.5	20	2	SMD 18*32	IPEX/stamp hole	CC1101 module, with PA power amplifier, SMD version/ 20dBm
E07-900M10S	CC1101	855-925	10	1.5	14*20	IPEX/stamp hole	Provide RSSI, CCA, link quality indicator and WOR support
E07-900MM10S	CC1101	855-925	10	1.5	SMD 10*10	stamp hole	Ultra-low power consumption and ultra-small package size, multiple modulation modes
E07-M1101D-SMA	CC1101	387~464	10	0.6	DIP 15*30	SMA-K	CC1101 module, 2.54 in-line/10dBm, SMA antenna
E07-M1101D-TH	CC1101	387~464	10	0.5	DIP 15*30	Spring antenna	CC1101 module, 2.54 in-line/10dBm, spring antenna
E106-470G27P2	SX1302	470~510	27	5	50.95*30*4.5	IPX	Pure RF board, need secondary development
E106-868G27P2	SX1302	868	27	5	50.95*30*4.5	IPX	Pure RF board, need secondary development
E106-915G27P2	SX1302	915	27	5	50.95*30*4.5	IPX	Pure RF board, need secondary development



Product Model	Chip Solution	Frequency(MHz)	Power(dBm)	Distance (km)	Package Size(mm)	Antenna Method	Product Features
E220-400M22S	LLCC68	410.125~493.125	22	6	SMD 20*14*2.8	IPEX/stamp hole	LLCC68 module, new generation LoRa spread spectrum, 22dBm
E220-400M30S	LLCC68	410~493	30	10	SMD 38.5*24	IPEX/stamp hole	SPI interface module, new generation LoRa spread spectrum, 30dBm
E220-400MM22S	LLCC68	410.125~493.125	22	6	SMD 10*10	stamp hole	SMD type, low power consumption, ultra-small size package, long communication distance
E220-900M22S	LLCC68	850~930	22	6	SMD 20*14*2.8	IPEX/stamp hole	SPI interface module, new generation LoRa spread spectrum, 22dBm
E220-900M30S	LLCC68	850~930	30	10	SMD 38.5*24	IPEX/stamp hole	SPI interface module, new generation LoRa spread spectrum, 30dBm
E220-900MM22S	LLCC68	850~930	22	6	SMD 10*10	stamp hole	SMD type, low power consumption, ultra-small size package, long communication distance
E22-400M22S	SX1268	410~493	22	7	SMD 20*14	IPEX/stamp hole	SMD type, SX1268, new generation LoRa spread spectrum, 22dBm
E22-400M30S	SX1268	410~493	30	12	SMD 24*38.5	IPEX/stamp hole	SMD type, SX1268, new generation LoRa spread spectrum, 30dBm
E22-400M33S	SX1268	410~493	33	16	SMD 38.5*24	IPEX/stamp hole	A new generation of LoRa, built-in PA+LNA, multi-level adjustable software
E22-400MM22S	SX1268	410~493	22	7	SMD 10*10*2.5	IPEX/stamp hole	A new generation of LoRa, pure radio frequency module, multi-level adjustable software
E22-900M22S	SX1262	850~930	22	7	SMD 20*14	IPEX/stamp hole	SMD type, SX1268, new generation LoRa spread spectrum, 22dBm
E22-900M30S	SX1262	850~930	30	12	SMD 24*38.5	IPEX/stamp hole	SMD type, SX1262, new generation LoRa spread spectrum, 30dBm
E22-900MM22S	SX1262	850~930	22	7	SMD 10*10*2.5	IPEX/stamp hole	A new generation of LoRa, pure radio frequency module, multi-level adjustable software
E23-433M13S	SX1212	410~438	13	0.8	SMD 16*22.4	IPEX/stamp hole	SMD type, SX1212, 13dBm, ultra-low receiving current
E27-433M20S	SI4432	425~525	20	1.6	SMD 16*16	stamp hole	20dBm, SMD type, SI4432, SPI interface, 30M crystal oscillator
E28-2G4M12S	SX1280	2.4~2.5	12.5	3	SMD 24*15	IPEX/PCB	SMD type, SX1280, LoRa spread spectrum communication, 12dBm
E28-2G4M20S	SX1280	2.4~2.5	20	6	SMD 26.5*15	IPEX/PCB	SMD type, SX1280, LoRa spread spectrum communication, 20dBm
E28-2G4M27S	SX1280	2.4~2.5	27	8	SMD 26.5*15	IPEX/PCB	SMD type, SX1280, LoRa spread spectrum communication, 27dBm
E28-2G4M27SX	SX1280	2.4~2.5	27	8	SMA 15*20	IPEX	SMD type, SX1280, LoRa spread spectrum communication, 27dBm

Product Model	Chip Solution	Frequency(MHz)	Power(dBm)	Distance (km)	Package Size(mm)	Antenna Method	Product Features
E29-400M22S	PAN3031	433~470	22	5	SMD 20*14	IPEX/stamp hole	Brand new ChirpLoTTM modulation, long-distance communication anti-jamming
E30-400M20S(4438)	SI4438	425-525	20	2.5	20*14	IPEX/stamp hole	Integrated transceiver, SMD type, high receiving sensitivity, strong anti-interference
E30-400M20S(4463)	SI4463	425-525	20	2.5	SMD 20*14	IPEX/stamp hole	Integrated transceiver, SMD type, stable performance, penetration diffraction capability
E30-400M30S(4438)	SI4438	425-525	30	5.6	SMD 38.5*24	IPEX/stamp hole	Integrated transceiver, SMD type, strong anti-interference, support development
E30-400M30S(4463)	SI4463	425-525	30	5.6	SMD 38.5*24	IPEX/stamp hole	Integrated transceiver, patch type, high receiving sensitivity, strong anti-interference
E30-900M20S	SI4463	855-925	20	2.5	20*14	IPEX/stamp hole	Integrated transceiver, patch type, high receiving sensitivity, support development
E30-900M30S	SI4463	855-925	30	5.6	38.5*24	IPEX/stamp hole	LoRa pure radio frequency module, low power consumption, long distance, anti-interference
E32-400M20S	SX1278	410~493	20	5	SMD 14*20	IPEX/stamp hole	LoRa pure radio frequency module, low power consumption, long distance, anti-interference
E32-400M30S	SX1278	410~493	30	10	SMD 24*38.5	IPEX/stamp hole	Built-in Power Amplifier (PA) and Low Noise Amplifier (LNA)
E32-900M20S	SX1276	850~930	20	5	SMD 17.6*25.2	IPEX/stamp hole	LoRa pure radio frequency module, low power consumption, long distance, anti-interference
E32-900M30S	SX1276	850~930	30	10	SMD 24*38.5	IPEX/stamp hole	Built-in Power Amplifier (PA) and Low Noise Amplifier (LNA)
E41-400M20S	A7139	425~470	20	2	SMD 20*14	IPEX/stamp hole	A7139, receiving current is very low, 20dbm, SMD package
E49-400M20S	CMT2300A	410~510	20	2.5	SMD 20*14	IPEX/stamp hole	CMT2300A, cost-effective, 20dbm, with shield
E49-400M20S4	CMT2300A	410~510	20	2.5	SMD 16*16	stamp hole	CMT2300A, cost-effective, 20dbm, with shield
E49-400M30S	CMT2300A	410~510	30	5.5	SMD 24*38.5	IPEX/stamp hole	CMT2300A, cost-effective, 30dbm, with shield
E49-900M20S	CMT2300A	850~930	20	3	SMD 20*14	IPEX/stamp hole	CMT2300A, SMD package, 20dbm, SMD package



## Product Selection Table SoC

Product Model	Chip Solution	Frequency(MHz)	Power(dBm)	Distance (m)	Package Size(mm)	Antenna Method	Product Features
E03-2G4M10S	TLSR8359	2380~2500	10	600	SMD 13*25	PCB	Wireless SoC, secondary development, can also customize development software
E70-900M14S1B	CC1312R	850~930	14	1500	SMD 16*26	IPEX/stamp hole	CC1312R, size pin compatible: E70-433T14S
E77-400M22S	STM32WLE5CCU6	410~510	21.5	5600	SMD 14*20	IPEX/stamp hole	With remote communication, low standby power consumption and strong anti-interference ability
E77-900M22S	STM32WLE5CCU6	850~930	21.5	5600	SMD 14*20	IPEX/stamp hole	SoC wireless communication module, long-distance communication, low standby power consumption
E72-2G4M02S2B	CC2640	2402~2480	2	250	SMD 14*23	PCB / IPEX	CC2640, 2dBm, UART, support Bluetooth 4.2
E72-2G4M05S1A	CC2630	2402~2480	5	500	SMD 17.5*28.7	PCB / IPEX	SMD wireless module, 5dBm, support ZigBee
E72-2G4M05S1B	CC2640	2402~2480	5	150/500	SMD 17.5*28.7	PCB / IPEX	CC2640, 5dBm, support Bluetooth 4.2
E72-2G4M05S1F	CC2652RB	2400~2480	5	350	SMD 26*16	PCB / IPEX	CC2652RB, supports Bluetooth 5 and ZB3.0 dual-mode
E72-2G4M05S1G	CC2642	2402~2480	5	150/500	SMD 17.5*28.7	PCB / IPEX	FLASH: 352KB; RAM: 88KB; Bluetooth 5.2
E72-2G4M20S1E	CC2652P	2400~2480	20	700	SMD 28.7*17.5	PCB	CC2652P, supports Bluetooth 5 and ZB3.0 dual-mode
E72-2G4M23S1A	CC2630	2402~2480	23	1500	SMD 17.5*33.5	PCB / IPEX	SMD type CC2630 wireless module, CC2592 power amplifier
E73-2G4M04S1A	nRF52810	2379~2496	4	110	SMD 17.5*28.7	PCB	nRF52810, 4dBm, support Bluetooth 5.0
E73-2G4M04S1AX	nRF52810	2379~2496	4	110	SMD 17.5*23.5	IPEX	nRF52810, 4dBm, support Bluetooth 5.0
E73-2G4M04S1B	nRF52832	2379~2496	4	100	SMD 17.5*28.7	PCB	nRF52832, 4dBm, support Bluetooth 5.0
E73-2G4M04S1BX	nRF52832	2379~2496	4	100	SMD 17.5*23.5	IPEX	nRF52832, 4dBm, support Bluetooth 5.0
E73-2G4M04S1D	nRF51822	2379~2496	4	110	SMD 17.5*28.7	PCB / IPEX	nRF51822, 4dBm, support Bluetooth 4.2

Product Model	Chip Solution	Frequency(MHz)	Power(dBm)	Distance (m)	Package Size(mm)	Antenna Method	Product Features
E73-2G4M04S1F	nRF52811	2379~2496	4	120	SMD 17.5*28.7	PCB	Bluetooth 5 capability, Thread, ZigBee, ANT and proprietary 2.4GHz
E73-2G4M04S1FX	nRF52811	2379~2496	4	120	SMD 17.5*23.5	IPEX	Bluetooth 5 capability, Thread, ZigBee, ANT and proprietary 2.4GHz
E73-2G4M08S1C	nRF52840	2360~2500	8	120	SMD 13.0*18.0	ceramic antenna	nRF52840, 8dBm, support Bluetooth 4.0/4.1/4.2/5.0
E73-2G4M08S1CX	nRF52840	2360~2500	8	120	SMD 13.0*18.0	IPEX	nRF52840, 8dBm, support Bluetooth 4.0/4.1/4.2/5.0
E73-2G4M08S1E	nRF52833	2360~2500	8	120	SMD 13.0*18.0	ceramic antenna	nRF52833, 8dBm, support Bluetooth 4.0/4.1/4.2/5.2
E73-2G4M08S1EX	nRF52833	2360~2500	8	120	SMD 13.0*18.0	IPEX	Bluetooth 5.1 direction finding, Thread, ZigBee and 2.4 GHz
E75-2G4M10S	JN5169	2405~2480	10	500	SMD 16*26	PCB / IPEX	Support FastZigBee, ZNET, JenNet-IP, RF4CE and other protocols
E75-2G4M20S	JN5168	2405~2480	20	1000	SMD 16*30	PCB/ IPEX	Support FastZigBee, ZNET, JenNet-IP, RF4CE and other protocols
E76-433M20S	EFR32	420~450	20	2500	SMD 16*26	IPEX/stamp hole	EFR32FG1P131F256GM48 module, IPEX interface, 433M
E78-400M22S1C	ASR6601	410~490	21	6000	SMD 26*16*2.8	IPEX/stamp hole	ASR6601, 21dBm, IPEX interface, LoRa spread spectrum communication
E78-470LN22S(6601)	ASR6601	470~510	22	5500	SMD 20*14	IPEX/stamp hole	ASR6601, IPEX interface, with firmware, LoRaWAN node
E78-868LN22S(6601)	ASR6601	850~925	22	5500	SMD 20*14	IPEX/stamp hole	ASR6601, IPEX interface, with firmware, LoRaWAN node
E78-900M22S1A	ASR6505	850~925	22	5500	SMD 26*16	IPEX/stamp hole	ASR6505, 22dBm, IPEX interface, LoRa spread spectrum communication
E78-915LN22S(6601)	ASR6601	850~925	21	5600	SMD 20*14	IPEX/stamp hole	ASR6601, IPEX interface, low power consumption, LoRaWAN node
E79-400DM2005S	CC1352	431~500/2360~2500	20/5	1500/120	SMD 32*20	PCB/IPEX	433MHz+2.4G dual frequency, IPEX+PCB dual frequency antenna
E79-900DM2005S	CC1352P	861~941/2360~2500	19/5	1500/120	SMD 32*20	PCB/IPEX	433MHz+2.4G dual frequency, IPEX+PCB dual frequency antenna
E83-2G4M03S	nRF5340	2360~2500	3	170	SMD 16*16	IPEX	BLE5.2, ZigBee, Thread, NFC, ANT, 2.4GHz protocols
E104-BT55SP	CC2340	2402~2480	8	170	SMD 10*14.5	PCB	CC2340R5, 8dBm, BLE 5.3, ZigBee and other protocols



Product Selection Table **4G/GPRS/NB-IoT**

Product number	Interface type	Power supply range (V)	Transmission type	Features
E840-TTL-4G02	TTL	DC 5~18	4G	4G full Netcom, small size plug-in module, high-speed continuous transmission, TCP/UDP, MQTT, HTTP protocol, Qualcomm solution
E840-TTL-4G02E	TTL	DC 5~18	4G	4G full Netcom, small size plug-in module, high-speed continuous transmission, TCP/UDP, MQTT, HTTP protocol, Qualcomm solution, European frequency band
E840-TTL-4G04	TTL	DC 5~18	4G	4G full Netcom, small size plug-in module, high-speed continuous transmission, TCP/UDP, MQTT, HTTP protocol, high cost performance
E840-TTL-4G05	TTL	DC 5~18	4G	4G full Netcom, small size plug-in module, high-speed continuous transmission, TCP/UDP, MQTT, HTTP protocol, Qualcomm solution, GPS positioning
EC03-DNC	TTL	DC 5~18	Cat1	4G full Netcom, small size plug-in module, support TCP/UDP, MQTT, HTTP protocol, support APN
EC04-DGC	TTL	DC 5~18	Cat1	4G full Netcom, small size plug-in module, support TCP/UDP, MQTT, HTTP protocol, support APN, high-speed continuous transmission, 4x20k large cache, GPS positioning
EC04-DNC	TTL	DC 5~18	Cat1	4G full Netcom, small size plug-in module, support TCP/UDP, MQTT, HTTP protocol, support APN, high-speed continuous transmission, 4x20k large cache
EC04-SGC	TTL	DC 3.4~4.2	Cat1	4G full Netcom, small size plug-in module, support TCP/UDP, MQTT, HTTP protocol, support APN, high-speed continuous transmission, 4x20k large cache, GPS positioning
EC04-SNC	TTL	DC 3.4~4.2	Cat1	4G full Netcom, small size plug-in module, support TCP/UDP, MQTT, HTTP protocol, support APN, high-speed continuous transmission, 4x20k large cache
EA01-S	TTL	DC 3.1~4.2	NB-IoT	NB module, support TCP, UDP, MQTT, COAP, LwM2M and other protocols
EA01-SG	TTL	DC 3.1~4.2	NB-IoT	NB+GPS/Beidou positioning module, support TCP, UDP, MQTT, COAP, LwM2M and other protocols
EA01-D	TTL	DC 5~18	NB-IoT	NB module, support TCP, UDP, MQTT, COAP, LwM2M and other protocols
EA01-S-TB	TTL	DC 5	NB-IoT	NB module test board, support TCP, UDP, MQTT, COAP, LwM2M and other protocols

Product Selection Table **Ethernet**

Product number	Interface type	Power supply range (V)	Transmission type	Features
NS1	UART	DC 3~5.5	SMD	Single serial port patch module, edge computing gateway, ModBus protocol conversion, multi-host gateway, storage gateway, configuration gateway
NT1	UART	DC 3~5.5	Pin	Single serial pin module, edge computing gateway, ModBus protocol conversion, multi-host gateway, storage gateway, configuration gateway
NT1-B	UART	DC 3~5.5	Pin	Single serial pin module, edge computing gateway, ModBus protocol conversion, multi-host gateway, storage gateway, configuration gateway
NS2	UART	DC 3~5.5	SMD	2 serial patch modules, edge computing gateways, ModBus protocol conversion, multi-host gateways, storage gateways, configuration gateways
NS4	UART	DC 3~5.5	SMD	4 serial SMT modules, edge computing gateways, ModBus protocol conversion, multi-host gateways, storage gateways, configuration gateways
NS8	UART	DC 3~5.5	SMD	8 serial port patch module, edge computing gateway, ModBus protocol conversion, multi-host gateway, storage gateway, configuration gateway
NS1-TB	UART	DC 5	test backplane	NS1 test backplane, edge computing gateway, ModBus protocol conversion, multi-host gateway, storage gateway, configuration gateway
NS8-TB	UART	DC 5	test backplane	NS8 test backplane, edge computing gateway, ModBus protocol conversion, multi-host gateway, storage gateway, configuration gateway
EBT3001	UART	DC 2.1~3.6	chip	Single serial Ethernet chip, built-in PHY, edge computing gateway, ModBus protocol conversion, multi-host gateway, storage gateway, configuration gateway, QFN48(5×5)
EBT3002	UART	DC 2.4~3.6	chip	8 serial Ethernet chips, built-in PHY, edge computing gateway, ModBus protocol conversion, multi-host gateway, storage gateway, configuration gateway, LQFP100



Product Selection Table **Wi-Fi**

Product Model	Chip Solution	Frequency (GHz)	Power(dBm)	Distance(m)	Package Size(mm)	Antenna Method	Product Features
E103-W01	ESP8266EX	2.4	20	100	SMD 16*24	PCB	Wi-Fi serial port module of ESP8266 chip solution, cost-effective, 20dBm, ceramic, IPEX and PCB antenna
E103-W01-IPX	ESP8266EX	2.4	20	100	SMD 16*24	ceramic antenna/IPEX	
E103-W02	CC3200	2.4	20	300	SMD 19*27	PCB/IPEX	Commonly used in industry, high reliability, low power consumption
E103-W03	CC3220R	2.4	18	160~180	SMD19 * 2.7	PCB/IPX	Ultra-low power consumption; serial port to Wi-Fi; support ModBus protocol
E103-W04	-	2.4	20	80	SMD 19*13*2.5	PCB	Gateway type Wi-Fi serial port server module, low power consumption, fast transmission
E103-W04B	-	2.4	20	120	SMD 16*17	IPEX	Gateway type Wi-Fi serial port server module, low power consumption, fast transmission
E103-W05	W600	2.4	20	120	SMD 19*13*2.5	PCB	Completely replace ESP8266, fully compatible with instructions, small size
E103-W05A	W600	2.4	20	130	SMD 14.4*24.7	PCB	Compatible with Espressif ESP01S, more cost-effective
E103-W05B	W600	2.4	20	400	SMD 16*17	IPEX	Compatible with Espressif ESP07S, more cost-effective
E103-W05C	W600	2.4	20	150	SMD 16*24	PCB	Compatible with Espressif ESP12S, more cost-effective
E103-W06	CC3235S	2.4+5.8	18	-	SMD 20.5*25 Compatible with original package	Pad	High-performance dual-band Wi-Fi, 2.4G/5.8G dual-band 3M baud rate
E103-W07	-	2.4	20	-	SMD 18*31*3.3 Compatible with original package	PCB	Wi-Fi Mesh, support up to 1000 Mesh nodes
E103-W08A	-	2.4	12	-	SMD 22*13*3	PCB	BLE + Wi-Fi, support BLE distribution network, you can use the corresponding APP to directly connect the module to the target AP module, the industry's lowest power consumption
E103-W08B	-	2.4	12	-	SMD 16*13*3	IPEX	
E103-W10	ESP8285N08	2.4	20	250	SMD 12.3*15	IPEX	ESP8285, cost-effective, 20dBm, IPEX antenna

Product Model	Chip Solution	Frequency (GHz)	Power(dBm)	Distance(m)	Package Size(mm)	Antenna Method	Product Features
E103-W11	-	2.4	20	300	SMD 16*24	IPEX	Wi-Fi 6+BLE 5.1, OTA upgrade, MIMO technology
E103-W20 (7688)	MT7688AN	2.4	20	200	34.1*18.7*2.77	IPEX	OpenWrt operating system with rich peripheral interfaces
E103-W20 (7628)	MT7628AN	2.4	20	200	36.1*18.7*2.7	IPEX	OpenWrt operating system with rich peripheral interfaces
ESP32-C3-MINI-1	ESP32-C3	2.4	20	200	SMD 13.2*16.6	PCB	ESP32-C3 chip solution, cost-effective, PCB antenna
ESP32-C3-MINI-1U	ESP32-C3	2.4	20	300	SMD 13.2*12.5	IPEX	ESP32-C3 chip solution, cost-effective, IPEX antenna
ESP32-WROOM-32	ESP32	2.4	22	300	SMD 18 *25.2	PCB	Wi-Fi and Bluetooth 4.2 dual-mode, 22dBm, PCB antenna
ESP32-WROOM-32E	ESP32-D0WD-V3	2.4	20	400	SMD 18*25.5	IPEX	ESP32-D0WD-V3 chip solution, IPEX antenna
ESP32-WROOM-32UE	ESP32-D0WD-V3	2.4	20	400	SMD 18*19.2	IPEX	ESP32-D0WD-V3 chip solution, IPEX antenna
ESP32-WROVER	ESP32	2.4	22	300	SMD 18*31.4	PCB IPEX	Wi-Fi and Bluetooth 4.2 dual-mode, 22dBm, PCB antenna
ESP32-WROVER-IE	ESP32-D0WD-V3	2.4	20	400	SMD 18*31.4	IPEX	ESP32-D0WD-V3 chip solution, IPEX antenna
ESP-WROOM-02D	ESP8266EX	2.4	20	300	SMD 18*20	PCB	ESP8266EX chip solution, cost-effective, PCB antenna



Product Selection Table **Bluetooth**

Product Model	Chip Solution	Power(dBm)	Distance(m)	Package Size (mm)	Antenna Method	Product Features
E104-2G4U04A	CC2540	4	60	SMD 18*59	PCB board	Based on CC2540 development tools, protocol analyzer, USB interface
E104-BT01	CC2541	0	50	SMD 14*22	PCB board	CC2541 Bluetooth module, cost-effective, 0dBm, PCB antenna
E104-BT02	DA14580	0	70	SMD 14*22	PCB board	DA14580 Bluetooth module, transparent continuous transmission, ultra-low power consumption, 0dBm, PCB antenna
E104-BT05	TLSR8266	8	70	SMD 10*14.5	ceramic antenna	TLSR8266 Bluetooth module, transparent continuous transmission, ultra-low power consumption, 0dBm, PCB antenna
E104-BT06	-	3	80	SMD 13*27	PCB board	Bluetooth BLE4.2 protocol, slave transparent transmission module, support small program, low cost
E104-BT11G-IPX	EFR32MG21	20	300	SMD 13*16	IPEX	EFR32 Bluetooth MESH module, N is node, G is host, IPEX version
E104-BT11N-IPX	EFR32MG21	20	300	SMD 13*16	IPEX	
E104-BT11G-PCB	EFR32MG21	20	200	SMD 13*19	PCB board	EFR32 Bluetooth MESH module, N is node, G is host, PCB version
E104-BT11N-PCB	EFR32MG21	20	200	SMD 13*19	PCB board	
E104-BT12LSP	TLSR8253F512	10	60	SMD 13*19	PCB board	Sig mesh standard module LSP: support low power consumption Based on TLSR8253 chip
E104-BT12NSP	TLSR8253F512	10	60	SMD 13*19	PCB board	Sig mesh standard module NSP: support mesh based on TLSR8253 chip
E104-BT30	CSRA64215	9	50	SMD 16*25	PCB board	Bluetooth audio free card BT4.2+EDR, slave receiving module without adapter board

Product Model	Chip Solution	Power(dBm)	Distance(m)	Package Size (mm)	Antenna Method	Product Features
E104-BT40	-	3	30	SMD 13*21	PCB board	Support Bluetooth Specification V4.2+SPP 3.0; support BLE;
E104-BT5005A	nRF52805	4	70	SMD 9*9	ceramic antenna	Bluetooth 5.0 module based on NRF5805, serial port transparent transmission, factory with software
E104-BT5010A	nRF52810	4	55	SMD 11.5*16	ceramic antenna	Bluetooth 5.0 module based on NRF52810, transparent transmission, factory with software, compatible with 32A
E104-BT5011A	nRF52811	4	70	SMD 11.5*16	ceramic antenna	Bluetooth 5.0 module based on NRF52811, compatible with 32A, supports long range
E104-BT5032A	nRF52832	4	60	SMD 11.5*16	ceramic antenna	Bluetooth 5.0 module based on nRF52832, serial port transparent transmission, factory with software
E104-BT5032U	nRF52832	4	80	USB 18*59	PCB board	Bluetooth wireless packet capture tool based on nRF52832 Bluetooth 5.0 USB interface
E104-BT5040U	nRF52840	8	250	USB 18*59	PCB board	nRF52840 module with USB interface, with plastic shell, 52840 direct USB
E104-BT5040UA	nRF52840	8	250	USB 18*59	PCB board	nRF52840 module with USB interface, with plastic case, 52840+USB chip
E104-BT51	CC2640R2F	5	75	SMD 17.5*28.7	PCB board	Bluetooth 5.0 module based on CC2640R2F, serial port transparent transmission, factory with software
E104-BT51A	CC2640R2L	5	50	SMD 11.5*16	ceramic antenna	Bluetooth 5.0 module based on CC2640R2L, serial port transparent transmission, factory with software
E104-BT52	DA14531	0	90	SMD 10*14.5	PCB board	Bluetooth 5.0 module based on DA14531, serial port transparent transmission, factory with software, small size
E104-BT52X	DA14531	0	130	SMD 10*10mm	Third generation IPEX	Bluetooth 5.0 module based on DA14531, serial port transparent transmission, factory with software, small size



## Product Selection Table ZigBee

Product Model	Chip Solution	Power(dBm)	Distance(m)	Package Size(mm)	Antenna Method	Product Features
E180-Z5812SP	TLSR8258	12	200	SMD 11.5*22	PCB	ZigBee3.0 module based on TLSR8258, fully compatible with E180-Z6907A, Can only be a node but not a router or coordinator
E180-Z5812SX	TLSR8258	12	500	SMD 11.5*22	IPEX	ZigBee3.0 module based on TLSR8258, hardware compatible with E180-ZG120B, can only be a node but not a router or coordinator
E180-Z6907A	TLSR8269	7	130	SMD 11.5*22	PCB	TLSR8269, 2.4GHz, ZigBee3.0 networking module, small size, compatible with E180-ZG120B size, can only be used as a node but not as a router or coordinator
E180-Z8910SP	JN5189	11	500	11.5*22.7	PCB	Compatible with E180-Z6907, E180-Z5812 and other products, The minimum power consumption of cycle sleep reaches 1.1uA
E180-Z8910SX	JN5189	11	500	11.5*18.0	IPEX	Compatible with E180-Z6907, E180-Z5812 and other products, The minimum power consumption of cycle sleep reaches 1.1uA
E180-ZG120A	EFR32	20	1000	SMD 17.5*28.7	PCB/IPEX	EFR32MG1B, 2.4GHz, ZigBee3.0 networking module, small size
E180-ZG120B	EFR32	20	1300	SMD 11.5*18	IPEX/stamp hole	EFR32MG1B, 2.4GHz, ZigBee3.0 networking module, small size

Product Model	Chip Solution	Power(dBm)	Distance(m)	Package Size(mm)	Antenna Method	Product Features
E18-2G4U04B	CC2531	4	200	59 * 18	PCB	The factory firmware supports TI Packet Sniffer packet capture software and supports secondary development
E18-2G4Z27SI	CC2530	27	2.5	SMD 16*22.5	IPEX	SMD CC2530 module, 27dBm, ad hoc network, IPEX antenna
E18-2G4Z27SP	CC2530	27	800	SMD 16*27	PCB	SMD CC2530 module, 27dBm, ad hoc network
E18-MS1-IPX	CC2530	4	240	SMD 14.1*20.8	IPEX	SMD CC2530 module, 4dBm, ad hoc network, IPEX antenna
E18-MS1PA2-IPX	CC2530	20	1.2	SMD 16*22.5	IPEX	SMD CC2530 module, 20dBm, ad hoc network, IPEX antenna (new solution, compatible with E18-MS1PA1-IPX)
E18-MS1PA2-PCB	CC2530	20	800	SMD 16*27	PCB	SMD CC2530 module, 20dBm, ad hoc network, PCB antenna (new solution, compatible with E18-MS1PA1-PCB)
E18-MS1-PCB	CC2530	4	200	SMD 14.1*23	PCB	SMD CC2530 module, 4dBm, ad hoc network, PCB antenna
E72-2G4M20S1E/Link72	CC2652P	20	700	SMD 17.5*28.7	PCB	SMD CC2652P module, 20dBm, ZigBee3.0 ad hoc network, PCB antenna



## Test kits

Product Model	Type	Product Features
CC Debugger small programming simulator	small programming simulator	USB/SPI interface, CC2511F32, data transmission
E103-W01-BF	test board	ESP8266 Wi-Fi module to USB
E103-W06-TB	test board	E103-W06 (CC3235 module) test base
E104-BT02-TB	test board	DA14580 Bluetooth module to USB, including module
E104-BT05-TB	test board	USB Backplane for E104-BT05, Test Board, with Module
E104-BT12LSP-TB	test board	Sig Mesh standard module LSP: support low power consumption based on TLSR8253 chip
E104-BT12NSP-TB	test board	Sig Mesh standard module NSP: support mesh based on TLSR8253 chip
E104-BT12USP-TB	test board	Sig Mesh standard module USP: support gateway based on TLSR8253 chip
E104-BT30-TB	test board	E104-BT30 test board, supports audio transceiver, with module
E104-BT30-TB1	test board	Adapter board for E104-BT30, all pins are connected, with module
E104-BT40-TB	test board	Test board for E104-BT40, USB interface, with module
E104-BT5010A-TB	test board	Test board for E104-BT5010A, USB interface, with module
E104-BT5011A-TB	test board	Test board for E104-BT5011A, USB interface, with module
E104-BT5032A-TB	test board	Test board for E104-BT5032A, USB interface, with module

Product Model	Type	Product Features
E108-GN01-TB	test board	E108-GN01 test base, USB interface, with module
E15-USB-T2	Adapter board	USB to TTL
E180-ZG120B-TB	test board	E180-ZG120B test board, USB interface, with module
E18-TBH-01	test board	Test board, including E18-MS1PA1-PCB module, USB interface (without antenna)
E18-TBH-27	test board	Test board, including E18-2G4Z27SI module, USB interface (excluding antenna and adapter wire)
E18-TBL-01	test board	Test board, including E18-MS1-PCB module, USB interface (without antenna)
E200-470A17S-TB	test board	Demonstration board based on E200-470A17S, convenient for users to quickly test
E220-400MBL-01	Development Evaluation Kit	Users quickly evaluate Ebyte's new generation of package-compatible wireless modules, providing complete software application examples
E220-400TBH-01	test board	Test board, including E220-400T30S module, USB cable (including antenna)
E220-400TBL-01	test board	Test board, including E220-400T22S module, USB cable (including antenna)
E220-900MBL-01	Development Evaluation Kit	Users quickly evaluate Ebyte's new generation of package-compatible wireless modules, providing complete software application examples
E220-900TBH-01	test board	Test board, including E220-400T30S module, USB cable (including antenna)
E220-900TBL-01	test board	Test board, including E220-400T22S module, USB cable (including antenna)
E22-230TBH-01	test board	Test board, including E22-230T30S module, USB cable (including antenna)



## Test kits

Product Model	Type	Product Features
E22-230TBL-01	test board	Test board, including E22-230T22S module, USB cable (including antenna)
E22-400MBL-01	development test suite	Help users quickly evaluate Ebyte's new generation of package-compatible wireless modules, and provide complete software application examples
E22-400TBH-01	test board	Test board, including E22-400T30S module, USB cable (including antenna)
E22-400TBL-01	test board	Test board, including E22-400T22S module, USB cable (including antenna)
E22-900MBL-01	development test suite	Help users quickly evaluate Ebyte's new generation of package-compatible wireless modules, and provide complete software application examples
E22-900TBH-01	test board	Test board, including E22-900T30S module, USB cable (including antenna)
E22-900TBL-01	test board	Test board, including E22-900T22S module, USB cable (including antenna)
E30-400MBL-01	development test suite	Help users quickly evaluate Ebyte's new generation of package-compatible wireless modules, and provide complete software application examples
E30-433TBL-01	test board	Test board, including E30-433T20S3 module, USB cable (including small suction cup antenna)
E30-900MBL-01	development test suite	Help users quickly evaluate Ebyte's new generation of package-compatible wireless modules, and provide complete software application examples
E31-433TBH-01	test board	Test board, including E31-433T30S module, USB cable (including small suction cup antenna)
E31-433TBL-01	test board	Test board, including E31-433T17S3 module, USB cable (including small suction cup antenna)
E32-400MBL-01	development test suite	Help users quickly evaluate Ebyte's new generation of package-compatible wireless modules, and provide complete software application examples
E32-400TBL-01	test board	Test board, including E32-400T20S module, USB cable (including small suction cup antenna)
E32-433TBH-01	test suite	E32-433T30S test kit (including SMD module + base plate + antenna + USB cable)
E32-433TBL-01	test suite	E32-433T20S test kit (including SMD module + base plate + antenna + USB cable)

Product Model	Type	Product Features
E32-900MBL-01	development test suite	Help users quickly evaluate Ebyte's new generation of package-compatible wireless modules, and provide complete software application examples
E32-900TBH-01	test suite	E32-900T30S test kit (including SMD module + bottom plate + antenna + USB cable)
E32-900TBL-01	test suite	E32-900T20S test kit (including SMD module + bottom plate + antenna + USB cable)
E43-433TB-01	test board	Test board, including E43-433T13S3 module, USB cable (including glue stick antenna)
E43-900TB-01	test board	Test board, including E43-900T13S3 module, USB cable (including glue stick antenna)
E49-400TBL-01	test board	Test board, including E49-400T20S module, USB cable (including glue stick antenna)
E70-433TBL-01	test board	Test board, including E70-433T14S module, USB cable (including small suction cup antenna)
E70-433TBL-NW01	test board	Test board, including E70-433NW14S module, USB cable (including small suction cup antenna)
E73-TBA	test board	Test board, including E73-2G4M04S1A module (nRF52810), USB cable
E73-TBB	test board	Test board, including E73-2G4M04S1B module (nRF52832), USB cable
E78-400TBL-01	test board	Test board, including E78 module (ASR6501 solution), USB cable, glue stick antenna
E78-400TBL-01A	test board	Test board, including E78 module (ASR6505 solution), USB cable, glue stick antenna
E78-400TBL-02	test board	Test board, including E78 module (ASR6601 solution), USB cable, glue stick antenna
E78-868TBL-02	test board	Test board, including E78 module (ASR6601 solution), USB cable, glue stick antenna
E78-900TBL-01A	test board	Test board, including E78 module (ASR6505 solution), USB cable, glue stick antenna
EA01-S-TB	test board	Test kit for EA01-S modules, USB interface