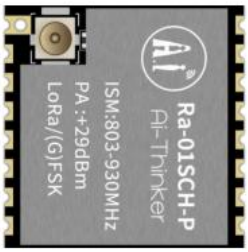
10km! Ra-01SCH-P with Ultra-Long-Distance Transmission

Product Introduction

The Ra-01SCH-P LoRa module, designed and developed by Ai-Thinker, uses the LLCC68+ RF chip for ultra-long distance spread spectrum communication. The chip features strong anti-interference capabilities and low current consumption.



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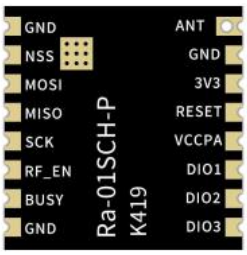

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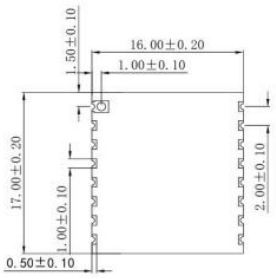

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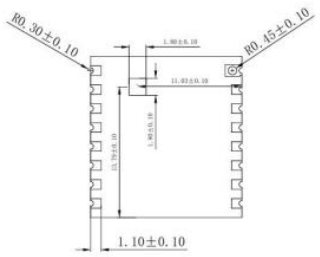

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Product Features

（1）**Small Size**: The module has a compact size of 17*16*3.2(±0.2)mm and uses a dual - row postage stamp SMD package.

（2）**Low Power Consumption**: The module has low power consumption in receive mode, with a receive current as low as 16mA.

（3）**High Sensitivity**: The module has a high sensitivity of up to -137dBm@SF10 125KHz.

（4）**Multiple Modulation Methods**: It supports FSK, GFSK, and LoRa® modulation methods.

（5）**Wide Frequency Band**: The module supports a frequency band of 803MHz to 930MHz.

（6）**High Transmission Power**: The maximum transmission power can be configured (for configuration methods, please refer to the product documentation).

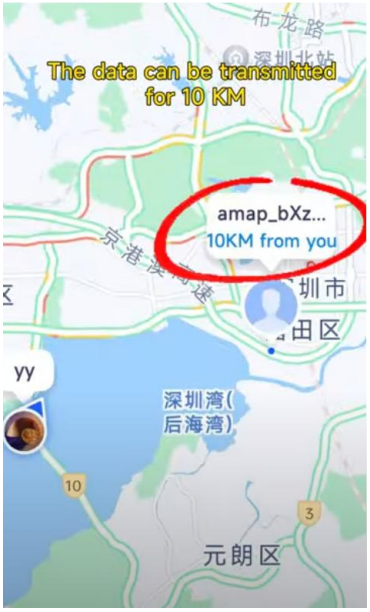
- Default configuration: Internal PA is powered by 3.3V, with a maximum Tx Power of +29dBm and a working current of 750mA.
- Optional configuration: Internal PA is powered by 5V, with a maximum Tx Power of +31dBm and a working current of 1A.

（7）**Supports Multiple Spreading Factors**: SF5/SF6/SF7/SF8/SF9/SF10/SF11.

（8）**SPI Interface**: The module uses an SPI interface with half - duplex communication, featuring CRC and a data packet engine of up to 256 bytes.

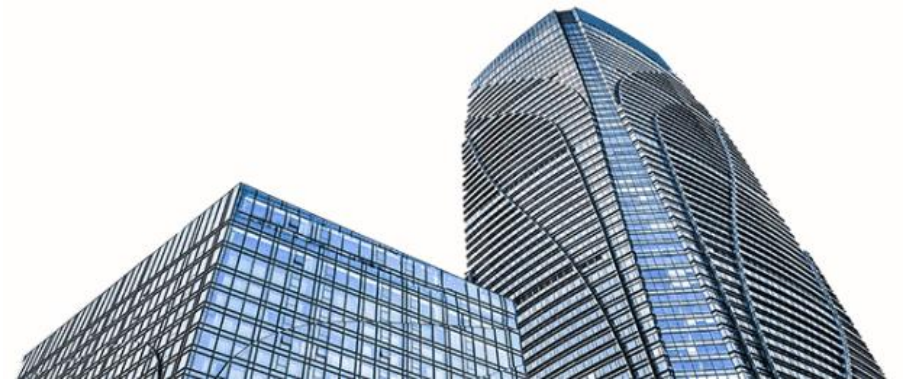
（9）**Multiple Antenna Installation Methods**: The module supports various antenna installation methods, including half - hole pads, through - hole pads, and IPEX connectors.

Long - Distance Transmission: Up to 10km (tested in Shenzhen Bay Mangrove, clear weather, 28 - 33℃). https://www.youtube.com/watch?v=FbFzZYETW0s



Application Scenarios

Building Automation



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