

Architecture of WisKey WiFi EVB

WisKey is RAK specifically for the Maker making a series of open source hardware brand. It consists of four categories of products: WisNode (node IoT device applications), WisAP (OpenWRT AP open source hardware), WisPLC (power cat open source hardware) and WisCam (video open source hardware). WisKey brand meaning:

WisKey=Wise+Monkey

· Wise stands for focus and profession. Combined with many years of RAK development experience, WisKey focused on creating the most technical strength of open source hardware products.

· Monkey stands for vitality and high added value. Combined with global technology trends, WisKey will enrich the form itself, the establishment of open source ecology, continuous optimization and improvement.



Compatible
Arduino Board*



Can be Used as
Peripherals



Test Fast



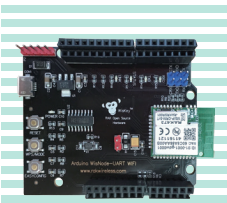
Easy to Use



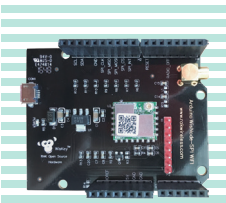
Upgradeable

* WisPLC is not compatible with Arduino development board.

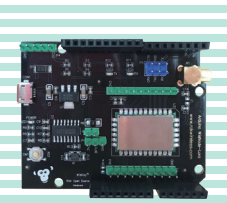
1 WisNode Node IoT Device Application



WisNode-UART

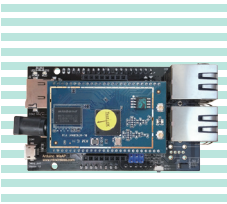


WisNode-SPI



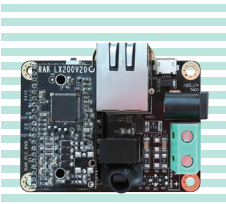
WisNode-LoRa

2 WisAP OpenWRT AP Open Source Hardware



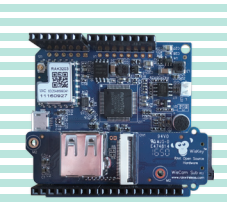
WisAP

3 WisPLC Power Cat Open Source Hardware



WisPLC

4 WisEye Video Open Source Hardware

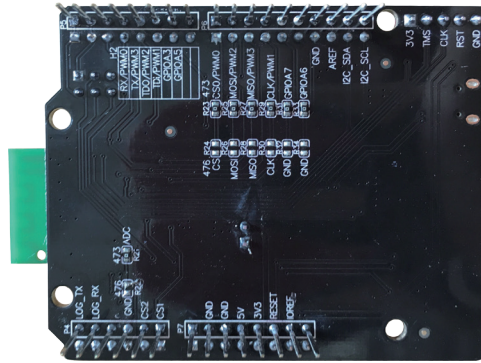
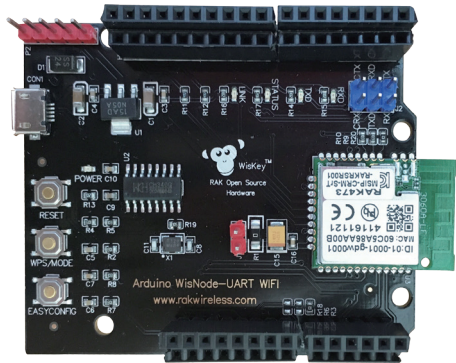


WisCam

	Model	Equipped with	Size	Document
WisNode	WisNode-UART	RAK473/RAK476	68.60mm × 55.90mm	Yes
	WisNode-SPI	RAK439	68.60mm × 53.30mm	Yes
	WisNode-LoRa	RAK811	68.60mm × 53.30mm	Yes
WisAP		RAK633	89.00mm × 53.30mm	Yes
WisPLC		LX200V20	64.00mm × 46.00mm	Yes
WisCam		RAK5281	55.90mm × 56.10mm	Yes

WisNode Node IoT Device Application

WisNode-UART



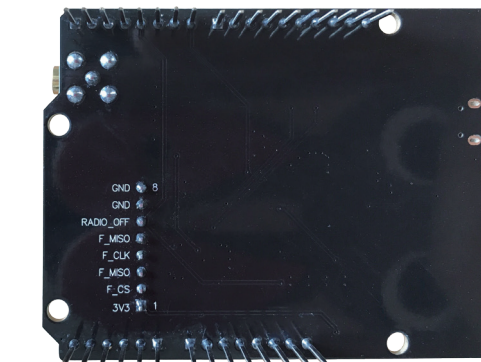
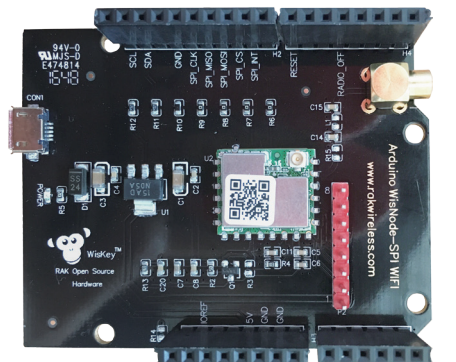
Introduction WisNode-UART WiFi EVB is based on the RAK473(476) module design of an Arduino-Compatible development board, it can be plugged into the Arduino EVB, it also can be used as a base plate plug other Arduino series peripherals. It can through the PC(C) serial debugging assistant test module's AT command function, establishment of socket communications, use the Web or App to configure the module to the designated router and so on.

Feature

- ⊙ Up to 400 meters of transmission distance with the PCB antenna.
- ⊙ Support MQTT, AWS IoT application achievable.
- ⊙ Support OTA, module code upgradable.
- ⊙ TCP/UDP protocol supported.

- ⊙ 70 AT command interface nearly, flexible management of the network, socket and status.
- ⊙ Support AP configuration and EasyConfig. Equipment discovery supported.

WisNode-SPI



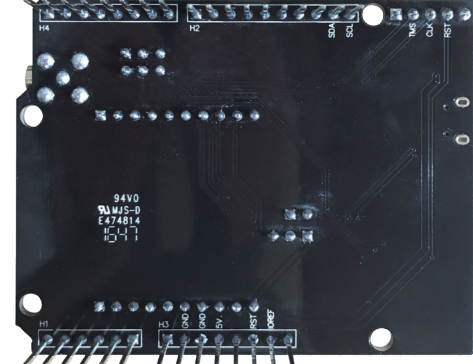
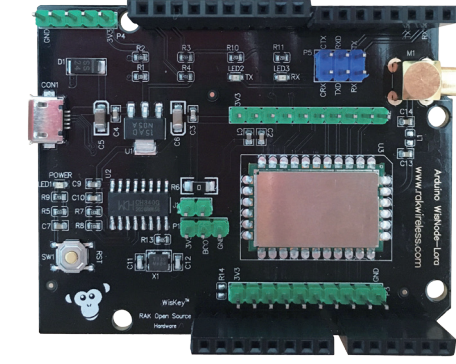
Introduction WisNode-SPI WiFi EVB is based on the RAK439 module design of an Arduino-compatible development board, which inherited the RAK439 the SPI interface, supporting STM32F4, STM32F1 chip can be the fastest to 8MB/s throughput speed, used for large data communications suitable, RAK439 low-power mode will allow the module does not need to transmit data, reduce the overall power consumption, saving electricity.

Feature

- ⊙ Ultra high speed SPI, 48MHz CPU frequency, actual throughput of 8MBps.
- ⊙ Stable transmission, no packet lost and no wrong packet data tested during one single sending of 10MBytes.
- ⊙ 8-way socket connecting communications supported, random combination of TCP or UDP.

- ⊙ PMK/EasyConfig/AP/WPS networking measures supported
- ⊙ Ultra low power consumption, 0.4mA at the lowest with a connected router
- ⊙ Different encryption protocol selections up to clients' application, SSL/TLS encryption verified.

WisNode-LoRa



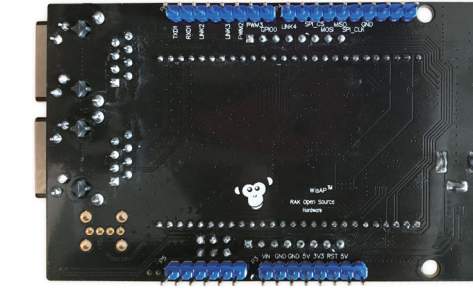
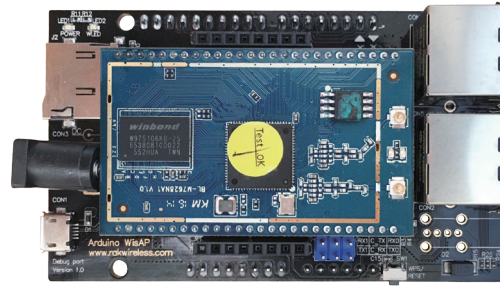
Introduction WisNode-LoRa WiFi EVB is based on the RAK811 LoRa module design. RAK811 LoRa module, transmission distance, low power consumption, ultra-low frequency, high receiver sensitivity and low cost in one. LoRa is also the most promising low-power wide area network communication technology.

Feature

- ⊙ Support for point-to-point communication and broadcasting communications.
- ⊙ Support LoRa WAN protocol, ISM band worldwide license-free.
- ⊙ Using LoRa spread spectrum technology, multi-channel communication, super strong anti-interference.

- ⊙ 3000m ultra-long distance coverage.
- ⊙ UART AT command, support online change UART baud rate and air rate, can support interface type customization.
- ⊙ Fully supports and conforms to the specifications of LW Class A&C protocol, facilitating an easy access to LWPA IoT platforms, such as the Activity.

WisAP OpenWRT AP Open Source Hardware



Introduction WisAP includes a high performance CPU and high speed USB 2.0 interface, it support IEEE 802.11n, you can use it as a simple router after burn openwrt. WisAP can compatible Arduino development board, so it's very suitable for developers. WisAP is an open source hardware brand RAK has made for IoT gateways, it's able to meet such major requirements as from simple to complex nodes, from the terminal to the convergence devices. WisAP includes MTK, Qualcomm's IoT oriented latest technologies and products. WisAP provides multi-specification module selection for transmission power, storage and interface, as well as the unequalled flexibility of WiFi related smart hardware architecture and robot related applications.

Feature

- ⊙ Support remote pickup/keywords wakeup/matrix, 360° sound source location/echo cancellation, all for a high-quality audio effect.
- ⊙ Dual system supported, Linux OpenWRT and Arduino, the baseboard has a microphone matrix.

- ⊙ WisAP and Arduino call through UART AT command supported, changing the routing module into an independent subsystem, saving developers' time.
- ⊙ Mass production of SDK version, support AVS.
- ⊙ Wireless transmission rate of up to 300MBps.