The IoT Gateway & Edge Computing Platform —— WiiSA64

Collect, relay and "analyze" sensor data at the edge of your IoT network with the intelligent WiiSA64 Gateway for richer business insights.

Features

- Hundreds of sensors accessed from a single gateway;
- Multi-radio interfaces and extensible network connectivities;
- Remote device configuration and OTA (Over-The-Air) capability;
- Provide programmability to enable edge computing applications;
- Linux OS with built-in support for Docker, Python, Node.js & Java;
- AC power supply (DC/POE version also available);

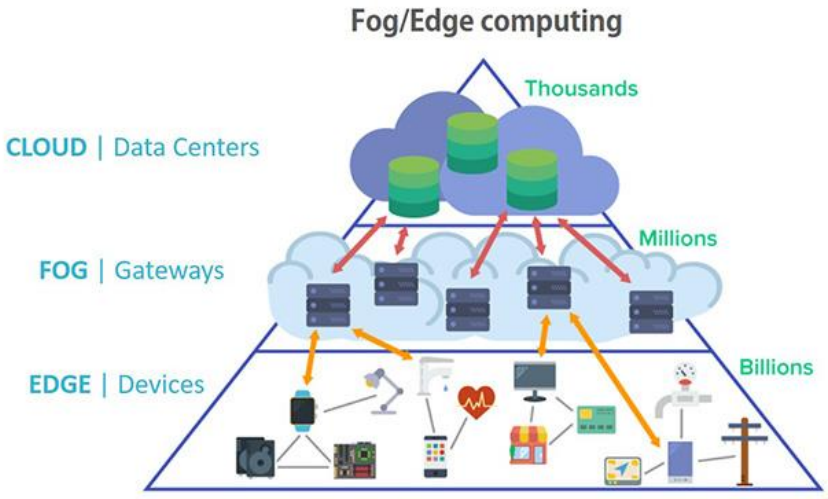
Applications

- Industrial grade wireless gateway;
- Transmit sensor data to the WiiHey's online sensor monitoring platform;
- Perform IoT solution with specific edge computing applications;

Overview

As more IoT devices are being deployed, data will be generated faster and in greater volume than ever before. Since IoT devices attempt to send every bit of data to the cloud or data center for analysis, many enterprises now are faced with challenges of network latency and bandwidth problem.

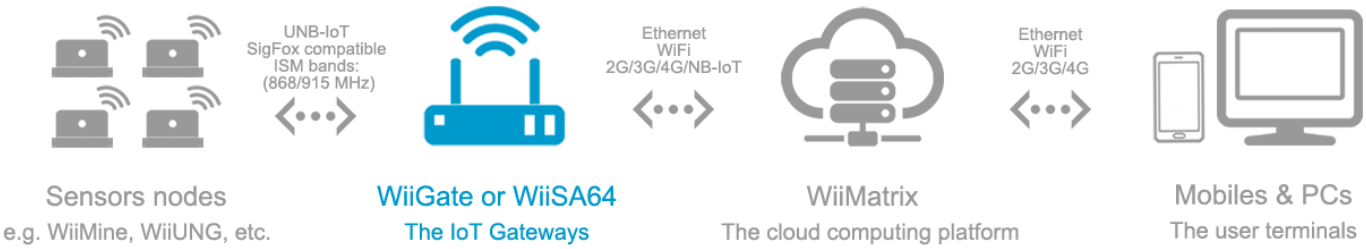
New and smarter gateways are developed to meet these situations, providing capacity to perform analytics at local or edge of IoT network (e.g. buildings, factories, zones), so that only meaningful information is sent to the next level. This minimizes consumption of expensive network bandwidth and reduces overall system latency.



WiiSA64 is an edge gateway, besides its flexible IoT connectivity abilities, integrating a powerful quad-core 64-bit ARM CPU and big memory, connecting varied wireless devices, aggregating and analyzing the sensor data locally, empowering the edge computing platform.

Topology

Acting as the coordinator in the network, WiiSA64 schedules communication among remote sensor nodes, performs edge computing and presents meaningful results to the cloud server.

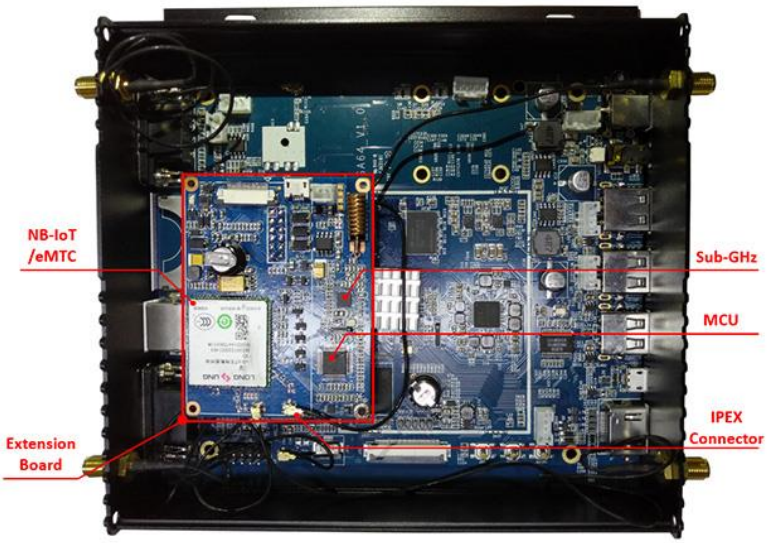


Tech Specifications

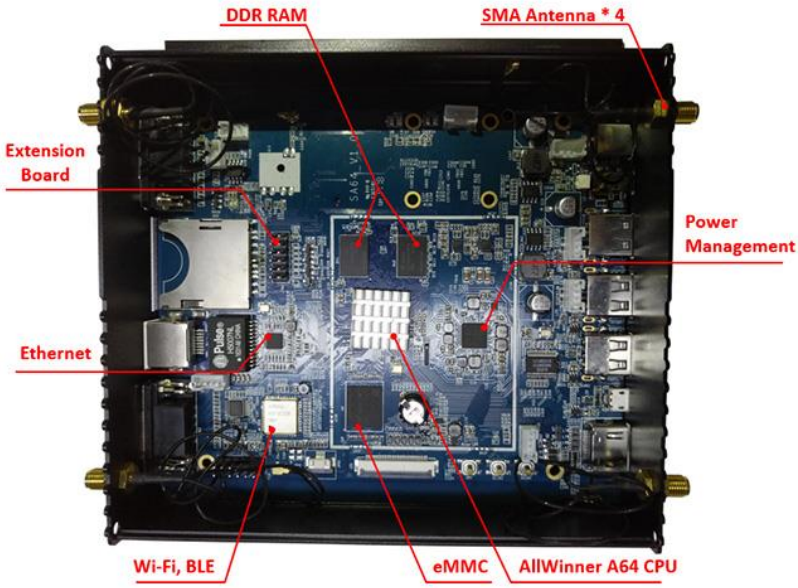
(See table below)

Hardware	
CPU	AllWinner A64 @64bit Quad Core ARM A53 1.2GHz
GPU	AllWinner A64 @Dual Core Mali 400-MP2 GPU
RAM	1GB/2GB DDR3 SDRAM
SD Card	MicroSD Slot, up to 256GB
USB	3 USB Host Port, 1 MicroUSB Port
Ethernet	10/ 100/1000MB Ethernet RJ45 Port
Video/ Audio	4K * 2K HDMI port/ 3.5mm Stereo Output
Interface	RS-232, RS-485, I2C, SPI, multiple GPIOs, etc.
Software	
OS	Linux
Programmability	Docker, Python, Node.js, Java
Protocols	TCP/IP, HTTP, HTTPS, MQTT, SSH, etc.
Database	Time Series Database
Sampling	
Sensor sampling mode	Synchronized, low duty cycle, continuous, periodic burst, event-triggered
Network capacity	1000 nodes per gateway depending on sampling settings
Connectivity	
Radio	a WiFi 2.4 GHz (Access Point), a Bluetooth Smart 2.4 GHz, a Sub-1GHz (868/915 MHz, SigFox compatible), a GSM/GPRS/3G/4G/NB-IoT;
Range	WiFi/Bluetooth: 20 m line-of-sight; Sub-1GHz: 1~2 km;
Antenna	SMA Type
Power	
Power supply	110-240 V AC 50/60 Hz; 9 to 36 V DC; POE (Power Over Ethernet);
Battery life	Built-in backup battery for 24 hours operating
Mechanical	
Dimensions	154mm * 168 mm * 40 mm without antennas or cables
Weight	0.68 kg
Enclosure material	Black anodized aluminum
Environmental	
Operating temperature	-20 °C to 70 °C
Operating humidity	80% max, relative humidity, non-condensing

Gallery



Internal look: extension board



Internal look: bottom board

Angled view 1

Angled view 2