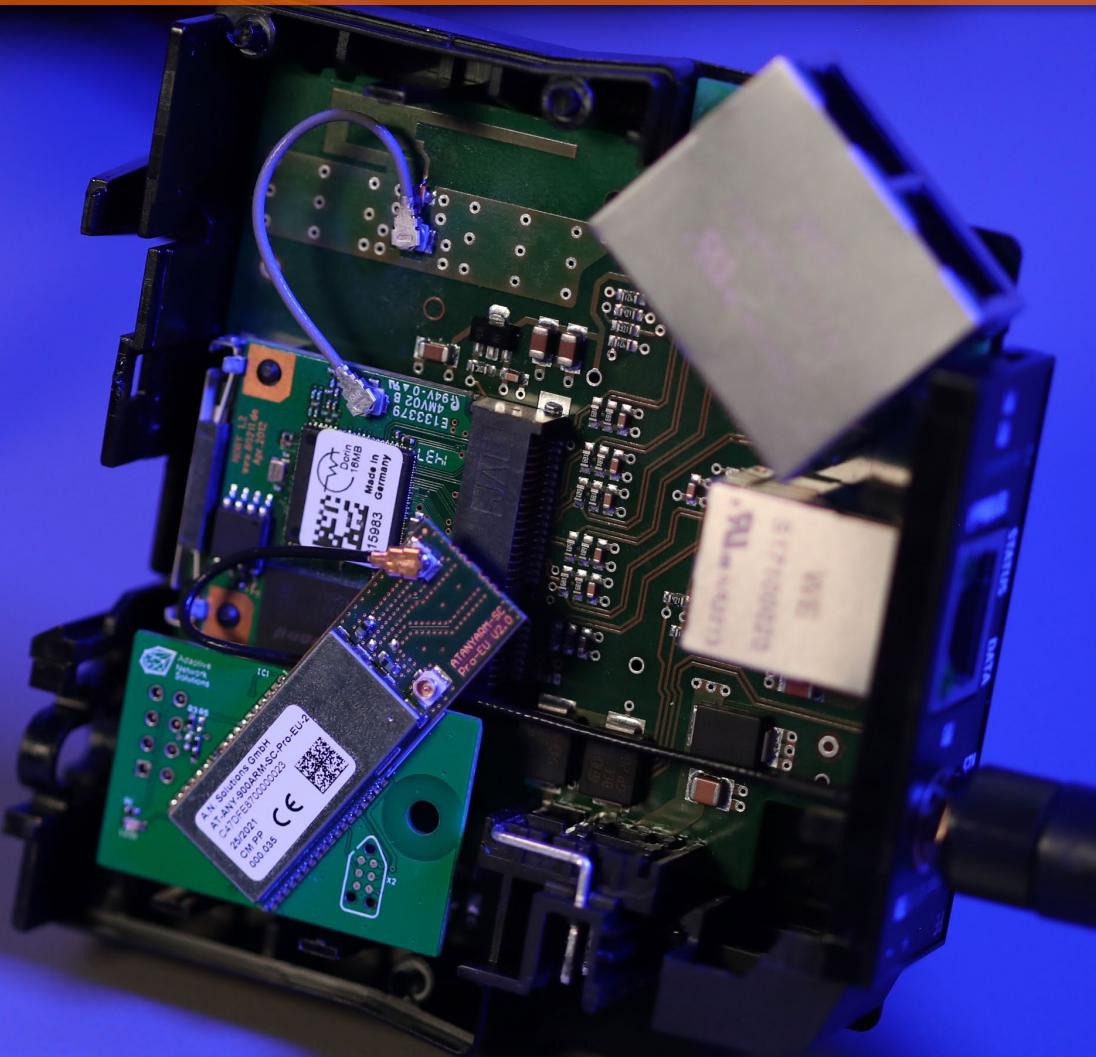


Product Presentation

Project "Spider"



Inhalt



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Total Network

The product at a glance

Basic structure and functionality

The components

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Application

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Introduction



Company: A.N. Solutions, founded in 2009, headquartered in Dresden

Specialization: Wireless sensor solutions in the frequency range from 169 MHz to 2.4 GHz ISM

Services: System design, architecture, development, manufacturing and certification for wireless applications



Company: embedded wireless, founded in 2002, based in Ulm

Specialization: Wireless LAN and Bluetooth technologies up to Wi-Fi 7 in the 2.4 GHz and 5/6/7 GHz ISM frequency bands

Services: Custom development, manufacturing and software integration, manufacturing of standard products

Example topology of the entire network



The product at a glance



Sensor network "Spider"

Is equipped
with the
following 2
components

WLAN CPU Dorin Modul

- The powerful Linux "Low Power" module ensures data acquisition, data preparation and data forwarding via CoAP, REST, MQTT etc.
- The sensor data is stored both in a database in the customer's LAN and, if required, in almost any cloud on the Internet.
- This gives the customer's MDE, PDA or ERP system quick and easy access to the data.



The collected measurement data from the
sensor nodes is forwarded to the CPU module.

Funkmodul AT-ANY900ARM-SC-Pro

- The powerful wireless module organizes and manages communication with the individual sensors in the network.
- The sub-1 GHz sensor nodes record precise temperature, humidity and dew point values.

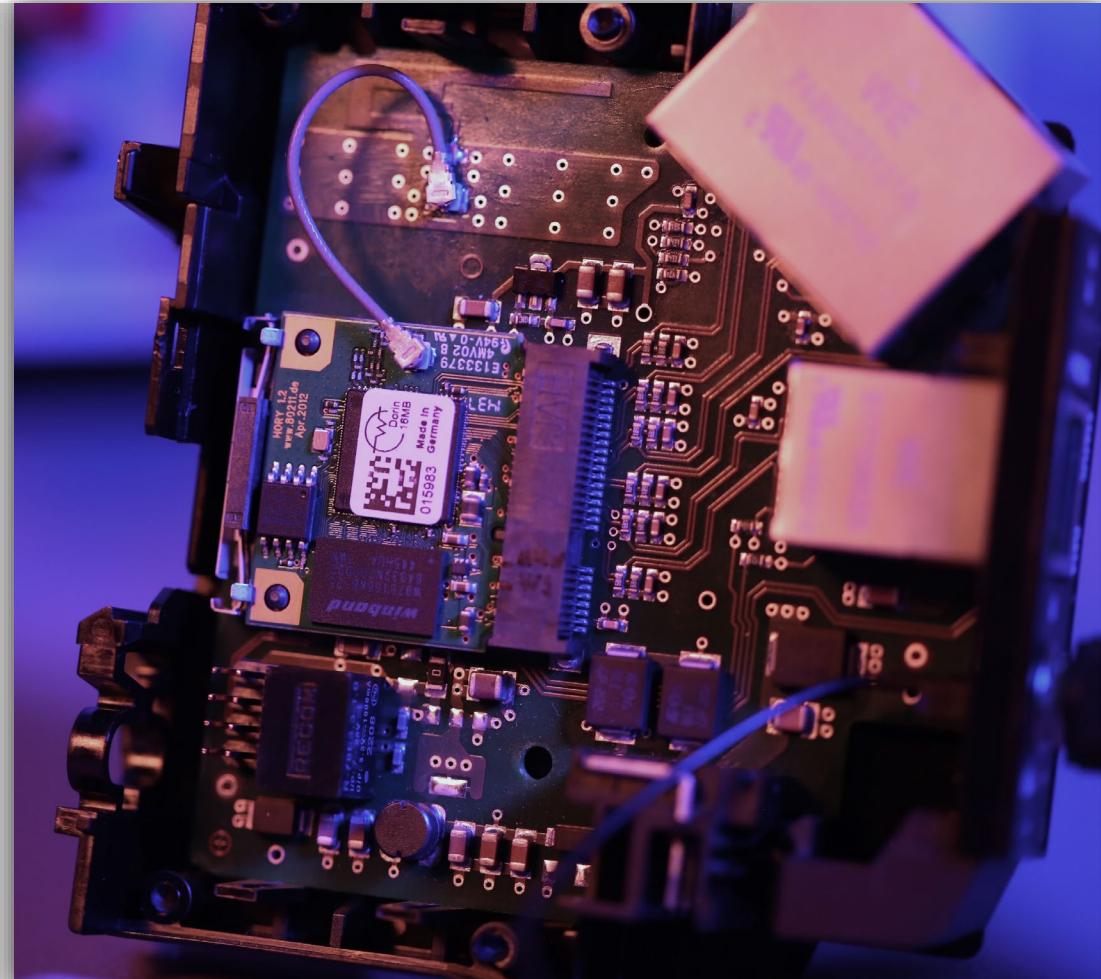
The components

WLAN CPU Dorin Modul

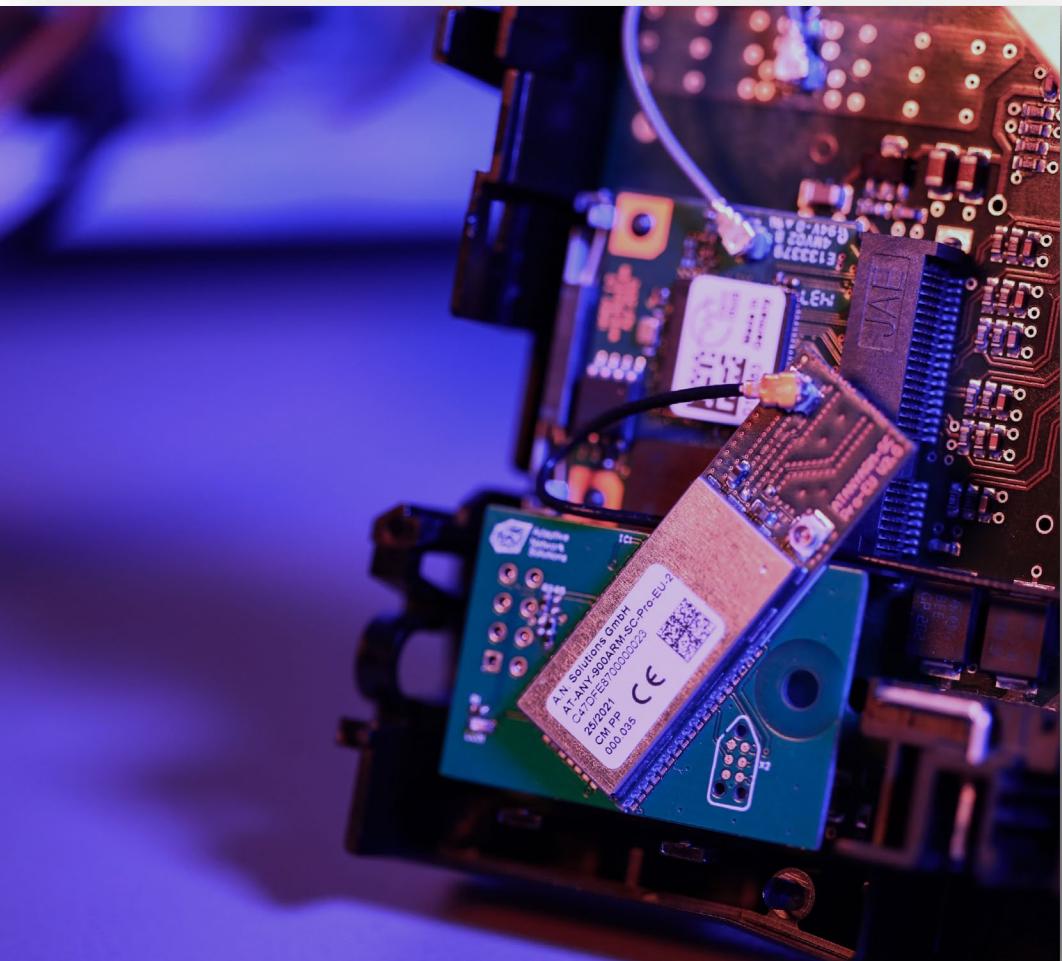
Specifications

- WLAN 802.11b/g/n
- 64 MB RAM 16MB Flash
- 400 MHz Qualcomm Processor Low Power ca. 500mW
- 3 x Fast-Ethernet
- USB 2.0 Host
- GPIOs, UART, JTAG, I2S/SPDIF Digital Audio
- Free Linux OpenWrt Operating System
- Over 3000 free software extensions available

- Suitable for many applications
- Seamless local data storage or/and external cloud integration
- Low costs due to Linux/OpenWrt open-source software
- Customer-specific software extensions can be integrated



The components



Radio module AT-ANY900ARM-SC-Pro

Specifications

- IEEE 802.15.4 Sub-1 GHz Module
- +26 dBm output power
- Up to 10 km range
- 256 kB of flash memory, 40 kB SRAM, 8 kB EEPROM
- 17x GPIO, SPI, I2C, 2x UART
- 2x UFL with antenna diversity
- Data rate up to 1 Mbit/s
- AT command based firmware

- **High range**
- **Flexible areas of application**
- **Versatile network topologies (P2P, P2MP, star, tree, mesh)**
- **Easy firmware handling**

Sub 1 GHz sensor node



- Long service life due to battery operation
- Small form factor
- Low-power sensor for precise measurement data acquisition (temperature, humidity and dew point)
- Continuous, application-specific customizable data exchange with the Base Station

Application

IoT-Gateway:

Enables the collection of sensor data and the control of devices via narrowband radio.

Serves as a central hub for collecting, processing, and routing data from a variety of IoT devices to the cloud.

The flexible use of the integrated WLAN or LAN interfaces ensures seamless integration into the network infrastructure.

Continuous monitoring of critical characteristics in buildings. (temperature, humidity, dew point)