



@ANY900-1 RF MODULE

Made in



Germany

Sub-1 GHz Modules for IEEE 802.15.4/ZigBee® Wireless Mesh Networking Applications

@ANY900-1 is an ultra-low power 802.15.4/ZigBee RF module for Sub-1 GHz ISM band. The tiny module features an exceptional sensitivity of -110 dBm that results in the line-of-sight range of up to 500 m*. Featuring the built-in chip antenna, @ANY900-1 module presents a fully integrated solution for the system integrators and OEMs. The module eliminates the need for costly and time-consuming RF development, and shortens time to market for a wide range of standards based wireless products.



Key Features	Benefits
Outdoor range: up to 500 m*	Best-in-class range
European Sub-1 GHz ISM band	Excellent wall penetration
Battery lifetime: up to 10 years**	Software architecture optimized for low power
Data rate: up to 1 Mbit/s	Avoid data rate penalty for Sub-1 GHz band operation
Scalable network topology: Point-to-Point, Star, Tree, Mesh	Flexible network options for every application
Serial AT-commands for easy prototyping and quick setup	No need to program the module
Fully matched built-in ceramic chip antenna	Rapid design-in using minimal PCB real estate
256 kByte data storage capacity with build-in flash memory	Easy-to-manage firmware is scalable for large networks & features Over-The-Air-Update functionality

* Line of sight (LOS), based on simulation and range measurements

** TX/RX every 5 minutes with 2500 mAh battery

Development Tools

Easy-to-use 802.15.4/ZigBee USB Dongles for Sub-1GHz

@ANY900 Dongle is a convenient USB extension for easy access to mobile & portable devices for the monitoring & control of wireless network systems. @ANY Dongle makes the integration easy, while the built-in chip antennas enable rapid design-in, with no RF knowledge required, and with the added benefit of ubiquitous USB interface.

Versatile Development Board with Sensors

BRICK Development Board is based on @ANY 900/2400 RF modules. Each board contains JTAG connector for on-board programming, status LED's for indicating different function stages, switches for reset and individual programming, as well as integrated temperature sensor. The BRICK development board provides ultimate flexibility throughout the evaluation & development process, up to the final product design phase. The board can be powered by batteries or mains power.

Embedded Software

A.N. Solutions applies the same modular approach in software, as it does in hardware. The various embedded software components are designed to interoperate seamlessly and can be easily mixed-and- matched depending on the exact needs of a client. The following @ANY software components are to be available:

- **@ANY Smart MAC Suite ("SMS")** offers easy control of @ANY platform's functionality via AT commands supporting all IEEE 802.15.4-based functions, as well as facilitates the addition of numerous custom features. The software suite is provided in 2 different versions, **SMS Base** and **SMS Pro**:
 - **@ANY SMS Base** version provides some basic functionality designed for simple network topologies and evaluation purposes. It can be used to set up Coordinator - End device (star, peer-to-peer) topologies.
 - **@ANY SMS Pro** version facilitates development of complex applications and supports additional Tree topologies with static routing, based on IEEE 802.15.4 MAC layer. This allows a large number of versatile example applications. **SMS Pro** also provides additional features like data broadcasting and full function device functionality. The data redirect feature enables users to set up tree network topologies. Finally, **SMS Pro** is designated to be a code base for customer requested extensions.
 - Both version will be complemented by **@ANY SMS Monitor**, a simple, user-friendly and customizable GUI for network monitoring and application- driven extensions.
- Mesh networking topologies supporting dynamic routing schemes, based on IEEE 802.15.4 that are compliant to **ZigBee™ PRO**, **6LoWPAN**, as well as **Wireless HART**, can be implemented and customized on request.



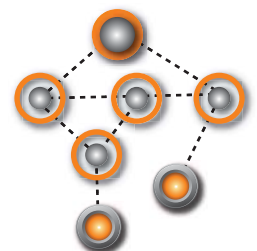
Building Automation



Automated Meter Reading



Industrial Automation





Module Operating Conditions

Supply Voltage (Vcc)	1.8 V to 3.6 V
Current Consumption, RX/TX Mode	11 mA / 26 mA
Current Consumption	< 11 µA

RF Characteristics

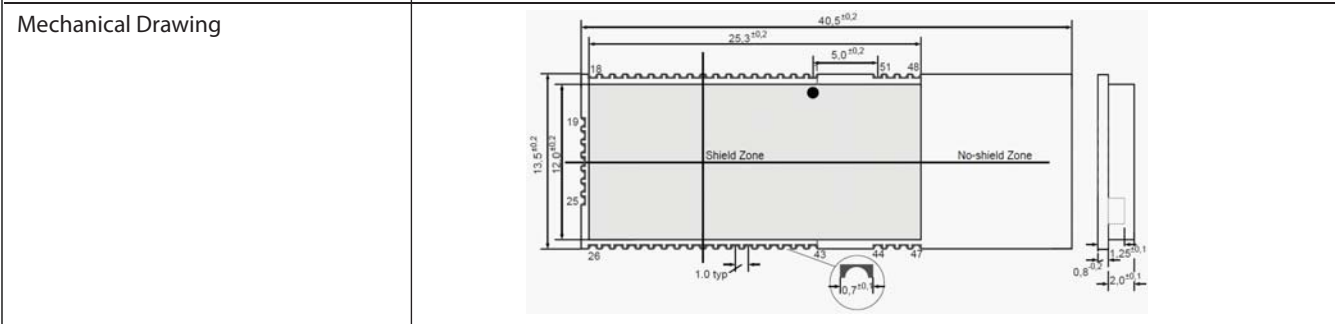
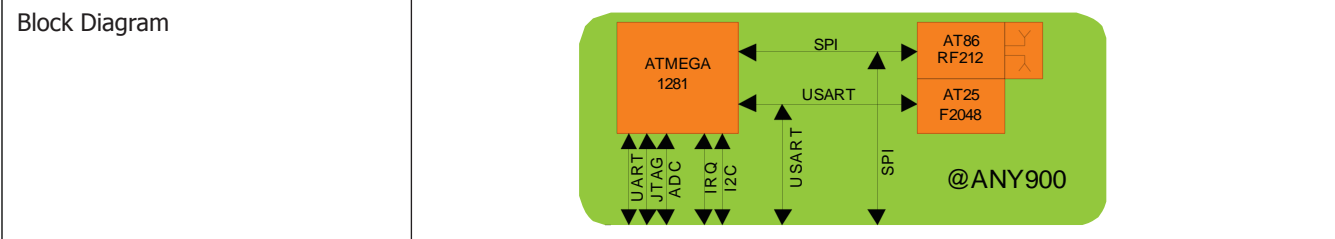
Max Output Power	up to -10 dBm
Receiver Sensitivity (PER 1%)	up to -110 dBm
Data Rate	up to 1 Mb/s
Frequency	matched to 868 MHz
Data Encryption	AES128

Microcontroller Characteristics (AVR ATmega)

On-Chip Flash Memory Size	128 kBytes
On-Chip RAM Size	8 kBytes
On-Chip EEPROM Size	4 kBytes
On-Module Data Memory	256 kBytes (optional)

Physical/Environmental Characteristics

Size	40 x 13.5 x 2 mm
Weight	2 g
Operating Temperature Range	-40°C to +85°C



Part Number	AT-ANY900-1
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Availability	In production. CE certified.
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IMPORTANT NOTE: All data contained herewith are preliminary data only.

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