

AT-ANY900ARM-SC-Pro Series Modules

Full featured IEEE 802.15.4 wireless scalable long-range networking module for European and North American Sub-1 GHz ISM band. Embedded ARM technology and advanced radio frontend design in a compact integrable form factor provides ultimate flexibility for ruggedized application design.

This intuitive module combines an exceptional receiving sensitivity and scalable output power level in a compact integrable form factor. AT-ANY900ARM-SC-Pro is a fully integrated solution that contains all the digital and analog circuitry, required for a ruggedized wireless application design. Embedded ARM core supplemented by 256 kB Flash, 40 kB SRAM and additional 512 kB data flash create maximum space to implement various type of wireless networking techniques.

The embedded advanced radio frontend optimizes development flexibility to cope with mostly all design requirements to achieve maximum performance figures. Integrated RF bandpass filtering improve coexistence with other competing wireless technologies, supported antenna diversity allow maximum adjustment to environmental conditions while scalable output power allow a focused design on targeted key applications performance figures.

Relying on these features, designing ambitious wireless IoT structures becomes a breeze.



Mechanical module size 40 x 13.5 x 3 mm

Key Features

- Full compliant IEEE 802.15.4 Sub-1-GHz module with scalable long-range capabilities up to +25 dBm or starting at 2V voltage supply
- Leading-edge design with excellent receiver sensitivity (-110 dBm) and embedded radio frontend providing up to +25 dBm output power
- Support of antenna diversity
- Integrated RF bandpass filtering to improve coexistence with other competing wireless technologies
- Outdoor range (line of sight): ≥ 10 km
- Supporting European and North American Sub-1 GHz ISM band
- Extra 512 kB On-Board Data Flash for storing firmware images
- Data rate: up to 1 Mbit/s, e.g. Zigbee[®]: 250kbit/s gross

Benefits

- ✓ Stamp-shaped soldering pattern, visually controllable, high mechanical strengths
- ✓ Versatile network topology support such as P2P, P2MP, Star, Tree, Mesh (IEEE802.15.4 and Zigbee Pro[®])
- ✓ EN300220, FCC 47 CFR Part 15, RoHS and REACH compliant design
- ✓ Fast prototyping with preprogrammed firmware (SMS or other common stacks especially preconfigured for modules, e.g. Zigbee[®])
- ✓ Best-in-class scalable range gaining maximum design flexibility
- ✓ Easy firmware handling using off-the-shelf tools, AT-command interface and SWD interface, OTAU or serial flashing via bootloader applicable
- ✓ Accelerate project bring-up and testing with @ANY900ARM-SC-Pro Brick or AT-ANY900ARM-SC-Pro DESIGN Development Kit

Applications



Specifications

RF Characteristics

Max. Transceiver Output Power	up to 25 dBm for AT-ANY900ARM-SC-Pro
Receiver Sensitivity (per 1%)	up to -110 dBm
Data Rate	up to 1 Mbit/s (proprietary), e.g. 250 kbit/s @ Zigbee®
Frequency	European SRD Band (868 MHz) North American ISM Band (915 MHz)
Data Encryption	AES 128 supported
Modulation	O-QPSK / BPSK (IEEE 802.15.4 compliant)
Applicable Network Topologies	P2P, P2MP, Tree, Star, Mesh and other IEEE 802.15.4 based topologies

Hardware Characteristics

Temperature Range	-40°C to +85°C
Platform	SAMR30G18 SoC
On-Chip Flash	256 kB
On-Board Data Flash	512 kB
On-Chip RAM	40 kB
On-Chip EEPROM	8 kB
Interfaces	SWD, SPI, TWI/I2C, UART, 1-Wire

Interfaces

ADC	2 ADC lines
GPIOs	up to 17 configurable GPIO
IRQs	2 IRQ lines

Electrical Characteristics

Voltage	2.0 V up to 3.6 V
Current Figures at 25°C	TX: <400 mA @ 25 dBm RX: <22 mA Idle: 7 mA Sleep: <2.5 µA

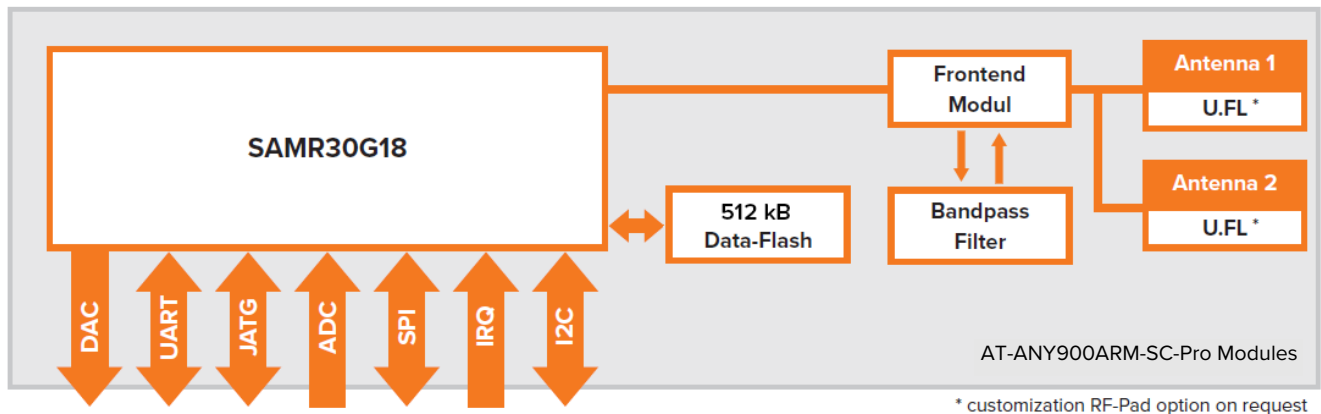
Certification

Radio compliance	EN300220, FCC 47 CFR Part 15
Manufacturing	RoHS & REACH

Ordering Options

Packing	Tape & Reel 13"
MOQ	500 pcs. @ Reel

Block Diagram



Further Information

For additional information or support, see www.an-solutions.de or contact us at support@an-solutions.de
For more product details and ordering information, see the product data sheet.

