

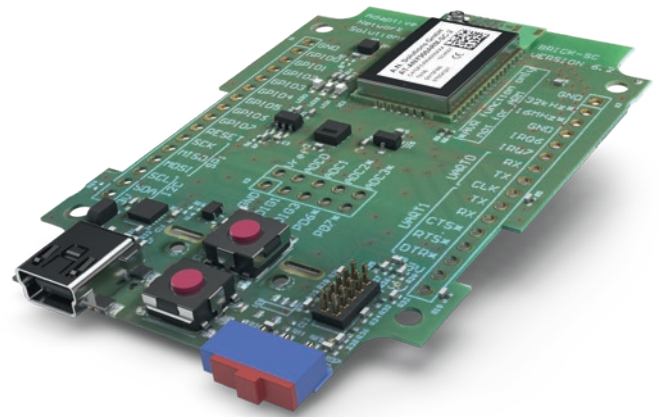
@ANY900ARM-SC BRICK Board

Extended development board for easy application development using IEEE 802.15.4 Sub-1-GHz @ANY900ARM-SC modules. Featuring integrated sensors, battery- and USB-powered operation, programmable buttons, and full module interfaces, the board serves as a reference design for @ANY900ARM-SC modules and offers a complete toolset for developing a wireless application.

@ANY900ARM-SC BRICKs are reliable standalone nodes based on the @ANY900 modules. Powered by USB, a battery pack (2 x AAA) or via 2.54 mm pin socket, they encompass a wide range of use cases. Thanks to the on-board UART chip, a serial connection to a host or other device is easily set up either via the USB interface or by using the corresponding pins. Supported with off-the-shelf drivers by the commercially maintained FTDI Driver Suite, the USB interface ensures maximum interconnectivity and seamless integration to various operating systems.

In addition to the integrated on-board temperature, humidity, dewpoint, acceleration, and battery voltage sensors, external devices can be easily attached to various interfaces such as TWI/I2C or SPI via the pin socket. Customized BRICK nodes with robust ABS enclosure, RF pigtail connector, and optional external antenna, enable seamless product infrastructure setup.

Our Smart MAC Suite AT-command-based firmware and the included application examples guarantee a quick bring-up.



Mechanical module size 68.5 x 46.5 x 5 mm

Key Features

- USB 2.0 compliant IEEE 802.15.4 -2006 based development hardware platform within compact design form factor
- Supports European, US, Japanese, and Chinese Sub-1 GHz software adjustable ISM bands
- Complete @ANY900ARM-SC module interface accessible via 2.54 mm pin sockets for application development
- Versatile integrated temperature, humidity, dewpoint, acceleration, and battery voltage sensors
- Power options incl. USB interface, battery holder (AAA) or pin socket
- Programmable push-buttons and status LEDs
- Commercially maintained FTDI Driver Suite ensure a seamless OS integration and support
- Outdoor range (line of sight) ≤ 2.5 km
- Integrated power supply monitoring for battery operation
- Built upon cutting-edge Microchip SAMR30G platform with excellent receiver sensitivity (-110 dBm) and transmitter output power ($\leq +11$ dBm)

Benefits

- ✓ Self-contained design with versatile powering options and full interface access to @ANY900ARM-SC modules for building tailored IEEE 802.15.4 based applications
- ✓ Easy development with ready-to-use AT-command-based Smart MAC Suite firmware, app examples, Development Kits and full technical support
- ✓ Full EN300220, FCC CFR Part 15, RoHS and REACH compliance
- ✓ Seamless USB connectivity via commercially maintained FTDI driver suite ensures easy infrastructure bring up and customization
- ✓ Simple data exchange via human readable console output to accelerate system design
- ✓ Best-in-class range and excellent wall penetration for indoor usage
- ✓ Easy firmware management using off-the-shelf tools and SWD interface, OTAU or serial flashing via bootloader
- ✓ Customized BRICK Nodes with ABS enclosure and collaterals are available to facilitate the productization process

Applications



Smart Buildings



Smart Energy & Metering



Industrial Automation



Healthcare & Fitness



Retail



Agriculture



Automotive & Transport



Smart Cities & Environment



Event Management

Specifications

RF Characteristics

Max. Transceiver Output Power	≤ 11 dBm for @ANY900ARM-SC-2 BRICK
Receiver Sensitivity (per 1%)	≤ -110 dBm
Data Rate	≤ 1 Mbps (proprietary), e.g. 250 kbps @ Zigbee
Frequency	European SRD band (868 MHz), North American ISM band (915 MHz), Japanese band (928 MHz), Chinese WPAN band (780 MHz)
Data Encryption	AES 128 supported
Modulation	O-QPSK (IEEE 802.15.4 compliant), BPSK
Applicable Network Topologies	P2P, P2MP, Tree, Star, Mesh and other IEEE 802.15.4 based topologies

Hardware Characteristics

Operating Temperature Range	-40°C to +85°C
Platform	SAMR30G18 SoC (ARM Cortex μC/AT86RF212B)
On-Chip Flash	256 kB
On-Board DataFlash	512 kB
On-Chip RAM	40 kB
On-Chip EEPROM	8 kB
Interfaces	SWD, USB 2.0

Extensions

Optical Elements	3 Status LEDs (programmable)
Supported Sensors	Temperature (LM73) Humidity & Dewpoint (SHT21) Acceleration (BMA253)
Connectivity	mini USB Plug (optional micro USB)
Others	2x AAA battery holder ON/OFF switch 2x Push Button

Electrical Characteristics

Voltage	5.0 V USB-powered Battery Power 2 x AAA GPIO powered 3.3 V or 5.0 V
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Interfaces

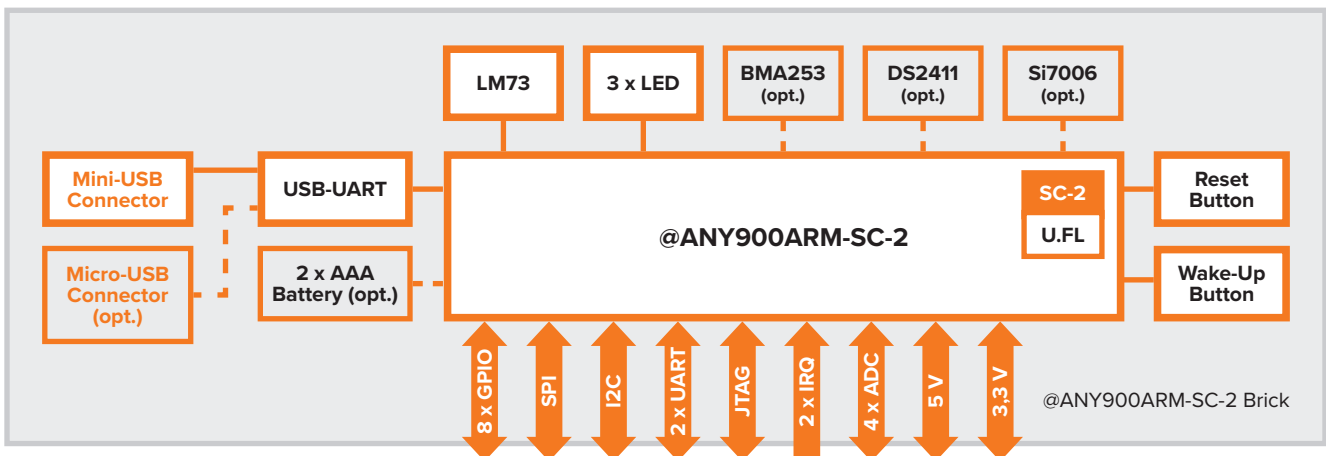
GPIOs	up to 12 configurable GPIOs (4 ADC lines, TWI/I2C, 2 UART, 1-Wire, SPI, 2 IRQ lines)
USB Interface	FT234 USB

Ordering Information

Order Number	ANY900ARM-SC-2 BRICK ANY900ARM-SC-2 BRICK Node*
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* ANY900ARM-SC-2 BRICK completed with ABS enclosure and required antenna collaterals

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.

