

# @ANY900ARM-SC USB Dongle

A high security plug-and-play USB gateway for IEEE 802.15.4 wireless networks. Based on @ANY900ARM-SC-3 module for European, Chinese, Japanese, and North American Sub-1 GHz band, the gateway boasts exceptional transmission characteristics and out-of-the-box infrastructure connectivity to IEEE 802.15.4 based networks.

@ANY900ARM-SC USB dongles are reliable, host-powered gateway solutions based on the @ANY900ARM-SC-3 modules. Using the state-of-the-art ARM Cortex controller and the robust and popular Microchip/Atmel hardware platform, optimal RF characteristics go along with a maximum of computing power. SMA antenna connector ensure maximum flexibility of external antenna adaptations for a wide range of use cases. Optionally, a special ECDH crypto module can be used to realize asymmetric key agreement and provide highly secure AES data encryption on demand. The on-board UART chip facilitates easy serial connection setup via USB interface. Supported with off-the-shelf drivers by the commercially maintained FTDI Driver Suite, the USB 2.0 compliant interface ensures a seamless integration to various operating systems.

Ensure quick setup by ordering the product preprogrammed with either our AT-command-based Smart MAC Suite firmware, your own firmware, or common stacks such as 6LoWPAN, Zigbee PRO or Lightweight Mesh.

Thanks to @ANY USB dongle's impressive feature set, designing ambitious wireless IoT structures becomes a breeze.



Mechanical module size 56.5 x 17 x 5 mm

## Key Features

- Full compliance to IEEE 802.15.4-2006, Zigbee PRO and more
- Software adjustable support of European, US, Japanese, and Chinese Sub-1 GHz ISM bands
- Outdoor range (line of sight)  $\leq 2.5$  km
- Built using cutting-edge Microchip SAMR30G platform with excellent receiver sensitivity (-110 dBm) and transmitter output power ( $\leq +11$  dBm)
- Network topology:
  - P2P, P2MP, Star, Tree, Mesh (IEEE802.15.4 and Zigbee PRO)
- Extra 512 kB on-board DataFlash for storing firmware images, application data and OTA support
- Commercially maintained FTDI Driver Suite ensures a seamless OS integration and support
- Complementary enclosure packs available

## Benefits

- ✓ Self-contained, host-powered infrastructure solution to accelerate bring up, testing, monitoring and controlling of your IEEE 802.15.4 based wireless network
- ✓ Easy development with ready-to-use AT-command-based Smart MAC Suite firmware, app examples, Development Kits and full technical support
- ✓ Compact USB Dongle design for fast and easy infrastructure development, setup and deployment
- ✓ Full EN300220, FCC CFR Part 15, RoHS and REACH compliance
- ✓ Optional ECDH crypto chip support for adapting asymmetric key agreement is available on demand
- ✓ Fast prototyping with preprogrammed firmware (SMS or other common stacks specifically preconfigured for modules, e.g. Zigbee)
- ✓ Easy firmware management using off-the-shelf tools and SWD interface, OTA or serial flashing via bootloader

## 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-3
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

USB Interface	FT234 USB
Optical Elements	Status LED (programmable)
Connectivity	USB Type-A plug

## Electrical Characteristics

Voltage	5.0 V USB-powered
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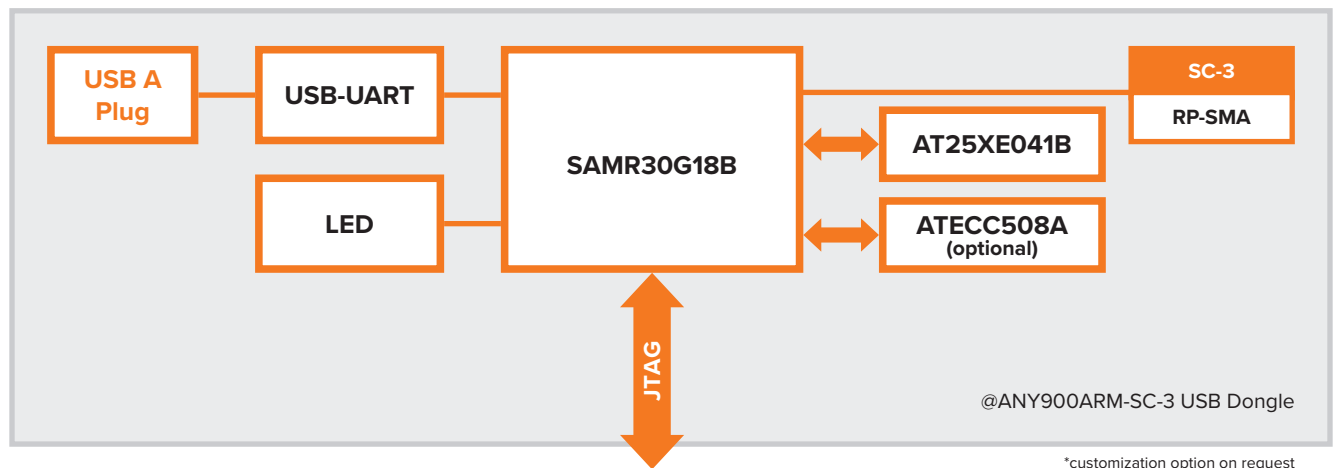
## Certification

Radio Compliance	EN300220, FCC CFR Part 15
Manufacturing	RoHS & REACH

## Ordering Information

Order Number	ANY900ARM-SC USB Dongle
	ANY900-USB Enclosure Pack (white enclosure and cap)

## Block Diagram



## Further Information

For additional information or support, see [www.an-solutions.de](http://www.an-solutions.de) or contact us at [support@an-solutions.de](mailto:support@an-solutions.de).  
For more product details and ordering information, see the product data sheet.

