



# @ANY2400SC-3 RF Modules



## 2.4 GHz Modules for IEEE 802.15.4/ZigBee® Wireless Mesh Networking Applications

@ANY2400SC-3-1 and @ANY2400SC-3-2 are the ultra-compact IEEE802.15.4/ZigBee RF modules for worldwide 2.4 GHz ISM band. The @ANY2400SC modules are based on Atmel's industry-leading hardware platform, complemented by RFMD's leading edge integrated FEM design supporting LNA, Power amplifier and antenna diversity, plus 256kByte built-in flash memory. The @ANY2400SC-3-1 module combines an integrated chip antenna and a U.FL connector for use with a variety of external antennas. The @ANY2400SC-3-2 module features two U.FL connectors. The modules are fully compatible and interoperable with all other 2.4 GHz modules available from A.N. Solutions.



Key Features	Benefits
Outdoor range: up to 2500 m (depending on selected external antenna)	Unique combination of ultra-small size and industry-leading performance
Fully integrated FEM supporting LNA & power amplifier with SW scalable output power	Cutting edge RF performance figures in transmit and receive states by design
Support of multiple antenna diversity setups by fully matched U.FL connector and integrated chip antenna	Allowing application adjusted designs for reaching best in class connectivity figures
Scalable network topology SW stack, incl. AT-based API	Ultimate design flexibility and upgradeability
Ultra low-power consumption in all operation modes	Optimized system battery lifetime
256kByte built-in Flash memory	Local data capturing and Over-the-Air-Updates (OTAU)
CE, FCC and RoHS compliance	Simplified product manufacturing

### Development Tools

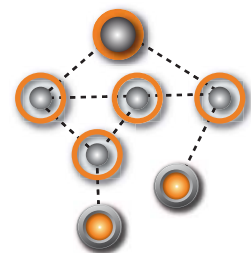
@ANY DESIGN 2400SC Development Kit is a comprehensive toolset enabling easy bring-up, validation and design of @ANY2400SC-3 module-based wireless prototypes. The kit features support of third party applications, reference implementations and example application utilizing various interfaces. Each kit contains a @ANY2400-1 USB Dongle and three of @ANY2400SC-3 BRICK boards (shown on the picture below). The versatile boards feature:

- Integrated USB interface, m-JTAG programming & debugging interface, reset button and programmable push button
- Integrated UID chip
- Full support of adaptable sensors
  - Sensirion SHT21, ultra-small fully calibrated moisture and temperature sensor
  - 3D accelerator sensor BMA145 by Bosch Sensortec (incl. reference applications)
- Full access to all module interfaces by PIN-connector
- Autonomous operation because of 2 AAA battery support
- Pre-programmed with SMS Base examples
- Comprehensive collaterals

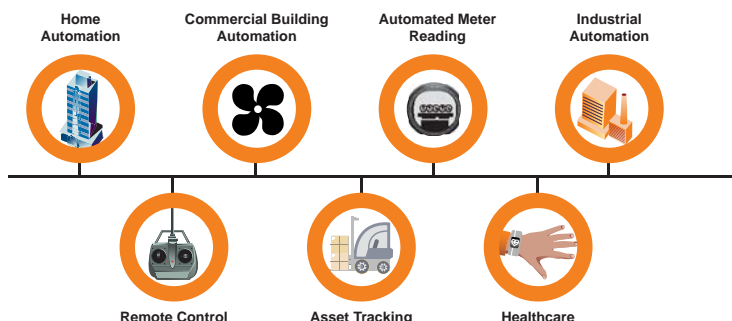


### Embedded Software

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. Our @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 two different versions, **SMS Base** and **SMS Pro**.



Please visit [http://www.an-solutions.de/products/mesh\\_software.html](http://www.an-solutions.de/products/mesh_software.html) to learn more.





Module Operating Conditions	
Supply Voltage (Vcc)	1.8 V to 3.6 V
Current Consumption, RX/TX Mode	<22mA/<85mA
Current Consumption	<10 $\mu$ A
RF Characteristics	
Max Output Power	up to 18 dBm (scalable)
Receiver Sensitivity (PER 1%)	up to - 121 dBm (RFA + LNA)
Data Rate / Frequency	up to 2 MBit/s
Data Encryption	AES 128
On-Chip Flash Memory Size	128 or 256 kBytes
On-Chip RAM Size	16 kBytes
On-Chip EEPROM Size	4 kBytes
Physical/Environmental Characteristics	
Size	41 x 13.5 x 3 mm
Weight	< 2 g
Operating Temperature Range	-20°C to +70°C
Block Diagram	
Mechanical Drawing	<p>All dimensions are in millimeters</p>
Part Number	@ANY2400SC-3-1 (chip antenna+U.FL connector), @ANY2400SC-3-2 (two U.FL connectors)
Availability	Samples available on request

**IMPORTANT NOTE:** All data contained herewith are preliminary data only.

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