



ATSAMR30M18A Status: In Production

Device Overview

Summary

The ATSAMR30M18A is the world's most compact 802.15.4 Sub-GHz module for the IoT. It operates in the 780 MHz (China), 868 MHz (Europe) and 915 MHz (North America) Sub-GHz frequency bands, and is optimized for low power applications such as wireless sensors, building and home automation devices, alarms and industrial networks. The module combines the ATSAMR30E18A SiP (System-in Package) with Cortex M0+ MCU with 256KB Flash, 40KB RAM and a Sub-GHz radio, all in a compact, regulatory-certified 12.7mm x 11.0mm design. It supports IEEE 802.15.4 PHY based protocols such as 6LoWPAN, zigbee, and Microchip's own MiWi Networking protocols for self-healing Point-to-point, Star and Mesh networking. For ease of development, the ATSAMR30M18A is available in a fully-certified Xplained Pro development board. There is also a free MiWi Networking protocol stack, and community support for 6LoWPAN.

Additional Features

- **ATSAMR30M18A system in package**
- **ARM Cortex-M0+ CPU running at up to 48 MHz**
- **Integrated Ultra Low Power Transceiver for 700/800/900MHz ISM band**
- **256 KB Flash**
- **16 Input/Output pins**
- **Maximum operating frequency 48 MHz**
- **128-bit Advanced Encryption Standard (AES) crypto engine**
- **32-bit Medium Access Control (MAC) symbol counter**
- **Automatic retransmission modes**
- **Single 1.8V - 3.6V supply**
- **FCC / ETSI compliant RF front end with harmonic filter**
- **Two Serial Communication interface (SERCOM) units left for external applications**
- **High precision 16 MHz crystal oscillator**

- 12-bit, 350 ksps Analog-to-Digital Converter (ADC)
- I2C up to 3.4 MHz
- Full-speed (12 Mbps) Universal Serial Bus (USB) 2.0 interface
- 16 External General Purpose Input/Output (GPIO) lines

Parametrics

Name	Value
Type	Sub-GHz
Pin Count	16
Package	Module
RF Module	Yes
RF Transceiver	Yes
Operating Temperature Range	to
Frequency Range	700/800/900 MHz
Encryption	128-bit AES
Operating Voltage Range	1.8V to 3.6V
Flash	256 KB
Max Operating Frequency	48 MHz

RoHS Information

Part Number	Device Weight (g)	Shipping Weight (Kg)	Lead Count	Package Type	Package Width	Solder Composition	JEDEC Indicator	RoHS	China EFUP
ATSAMR30M18...	0.000364	1.625000	25	MODULE	12.7x11mm	Au	b4		
ATSAMR30M18...	0.000364	0.000000	25	MODULE	12.7x11mm	Au	b4		

To see a complete listing of RoHS data for this device, please [Click here](#)

Shipping Weight = Device Weight + Packing Material weight. Please [contact sales](#) office if device weight is not available.

<https://www.microchip.com/wwwproducts/en/ATSAMR30M18A/2-1-19>