

Spoločnosť Atmel Corp. predstavila nový procesor AVR - **ATmega128RFA1**, ktorý obsahuje blok s RF 2,4 GHz komunikáciou (IEEE802.15-4 kompatibilnou).

Možné aplikácie pre tento MCU:

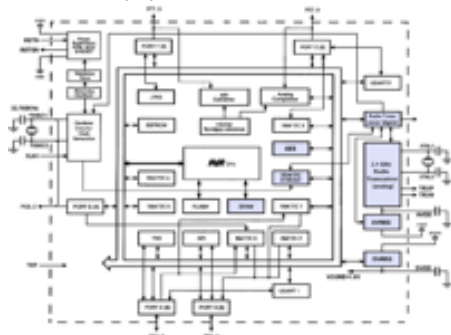
- ZigBee®/IEEE 802.15.4-2006/2003™ - Full And Reduced Function Device (FFD/RFD)
- General Purpose 2.4GHz ISM Band Transceiver with Microcontroller
- [RF4CE](#), SP100, WirelessHART™, ISM Applications and IPv6 / 6LoWPAN

Vlastnosti

- High Performance, Low Power AVR® 8-Bit Microcontroller
 - Advanced RISC Architecture
 - 135 Powerful Instructions - Most Single Clock Cycle Execution
 - 32x8 General Purpose Working Registers
 - Fully Static Operation
 - Up to 16 MIPS Throughput at 16 MHz and 1.8V
 - On-Chip 2-cycle Multiplier
 - Non-volatile Program and Data Memories
 - 128K Bytes of In-System Self-Programmable Flash
 - Endurance: 2000 Write/Erase Cycles @ 85°C
 - 4K Bytes EEPROM
 - Endurance: 2000 Write/Erase Cycles @ 85°C
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- 16K Bytes Internal SRAM
 - JTAG (IEEE std. 1149.1 compliant) Interface
 - Boundary-scan Capabilities According to the JTAG Standard
 - Extensive On-chip Debug Support
 - Programming of Flash EEPROM, Fuses and Lock Bits through the JTAG interface
 - Peripheral Features
 - Multiple Timer/Counter & PWM channels
 - Real Time Counter with Separate Oscillator
 - 10-bit, 330 ks/s A/D Converter; Analog Comparator; On-chip Temperature Sensor
 - Master/Slave SPI Serial Interface
 - Two Programmable Serial USART
 - Byte Oriented 2-wire Serial Interface
 - Advanced Interrupt Handler
 - Watchdog Timer with Separate On-Chip Oscillator
 - Power-on Reset and Low Current Brown-Out Detector
 - Advanced Power Save Modes
 - Fully integrated Low Power Transceiver for 2.4 GHz ISM Band
 - Supported Data Rates: 250 kb/s and 500 kb/s, 1 Mb/s, 2 Mb/s
 - -100 dBm RX Sensitivity; TX Output Power up to 3.5 dBm

- Hardware Assisted MAC (Auto-Acknowledge, Auto-Retry)
- 32 Bit IEEE 802.15.4 Symbol Counter
- Baseband Signal Processing
- SFR-Detection, Spreading; De-Spreading; Framing ; CRC-16 Computation
- Antenna Diversity and TX/RX control
- TX/RX 128 Byte Frame Buffer
- Hardware Security (AES, True Random Generator)
- Integrated Crystal Oscillators (32.768 kHz & 16 MHz)
- I/O and Package
 - 38 Programmable I/O Lines
 - 64-pad QFN (RoHS/Fully Green)
- Temperature Range: -40°C to 85°C Industrial
- Supply voltage range 1.8V to 3.6V with integrated voltage regulators
- Ultra Low Power consumption (1.8 to 3.6V) for Rx/Tx & AVR: <18.6 mA
 - CPU Active Mode (16MHz): 4.1 mA
 - 2.4GHz Transceiver: RX_ON 12.5 mA / TX 14.5 mA (maximum TX output power)
 - Deep Sleep Mode: <250nA @ 25°C
- Speed Grade: 0 – 16 MHz @ 1.8 – 3.6V

Blokové zapojenie



Vývojové nástroje

Procesor je podporovaný AVRStudiom od verzie [4.17 \(build 666\)](#).

K dispozícii bude aj evaluation kit - **ATmega128RFA1-EK1**, obsahujúci dvojicu DPS s ATmega128RFA1



Odkazy

[ATmega128RFA1 Homepage](#)

Cena

Cena ATmega128RFA1 začína od 4,78 USD (@10k ks)

Distribúcia

[viď. Adresár](#) *vstup iba pre registrovaných členov