Supply Voltage: 1.8 to 3.6 V

- Typical sleep mode current < 0.1 µA; retains state and RAM contents over full supply range; fast wakeup of < 2 µs
- Two built-in brown-out detectors cover sleep and active modes

12-Bit Analog to Digital Converter

- Up to 75 ksps
- Up to 11 external inputs
- External pin or internal VREF (no external capacitor required)
- External conversion start input option
- External conversion start input option
- Autonomous Burst Mode with 16-bit automatic averaging accumulator
- Built-in temperature sensor

Dual Comparators

- Programmable hysteresis and response time
- Configurable as interrupt or reset source
- Low current (< 0.5 µA)

Memory

- 8 kB bytes Flash; in-system programmable in 512-byte sectors; full read/write/erase functionality over the entire supply range
- 768 bytes internal data RAM

On-Chip Debug

- On-chip debug circuitry facilitates full speed, non-intrusive in-system debug (no emulator required)

High-Speed 8051 µC Core

- Pipe-lined instruction architecture; executes 70% of instructions in 1 or 2 system clocks
- 25 MIPS peak throughput with 25 MHz clock

Development Kit: Si1010DK

Transceiver Features

- Frequency range = 240–960 MHz
- Sensitivity = –121 dBm
- FSK, GFSK, and OOK modulation
- Max output power = +13 dBm
- RF power consumption
  - 18.5 mA receive
  - 30 mA @ +13 dBm transmit
  - 18 mA @ +1 dBm transmit
- Data rate = 0.123 to 256 kbps
- Auto-frequency calibration (AFC)
- Antenna diversity and transmit/receive switch control
- Programmable packet handler
- TX and RX 64 byte FIFOs
- Frequency hopping capability
- On-chip crystal tuning

Digital Peripherals

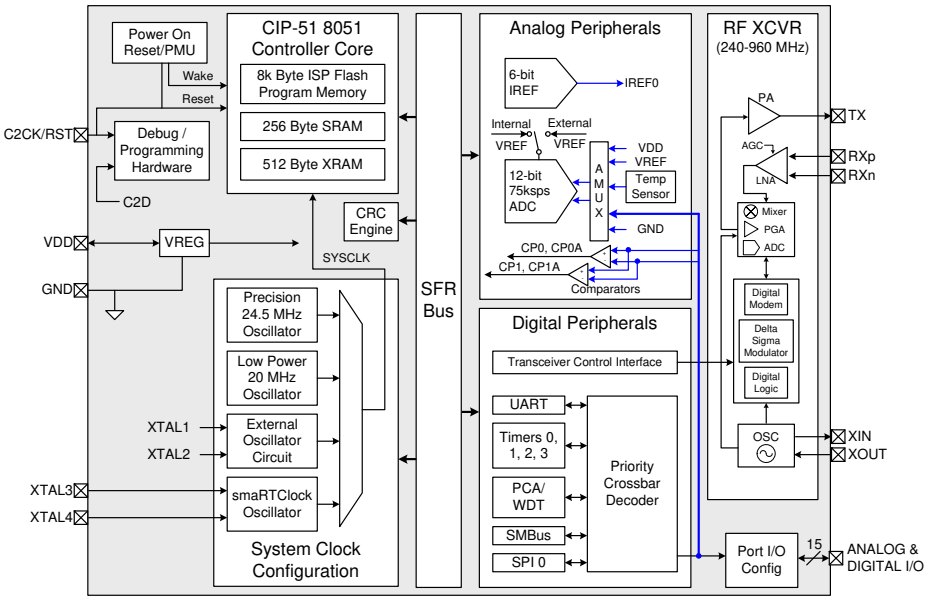
- 15 port I/O
- Hardware enhanced UART, SPI and I^2C serial ports available concurrently
- Low power 32-bit smaRTClock
- Four general purpose 16-bit counter/timers; six channel programmable counter array (PCA)

Clock Sources

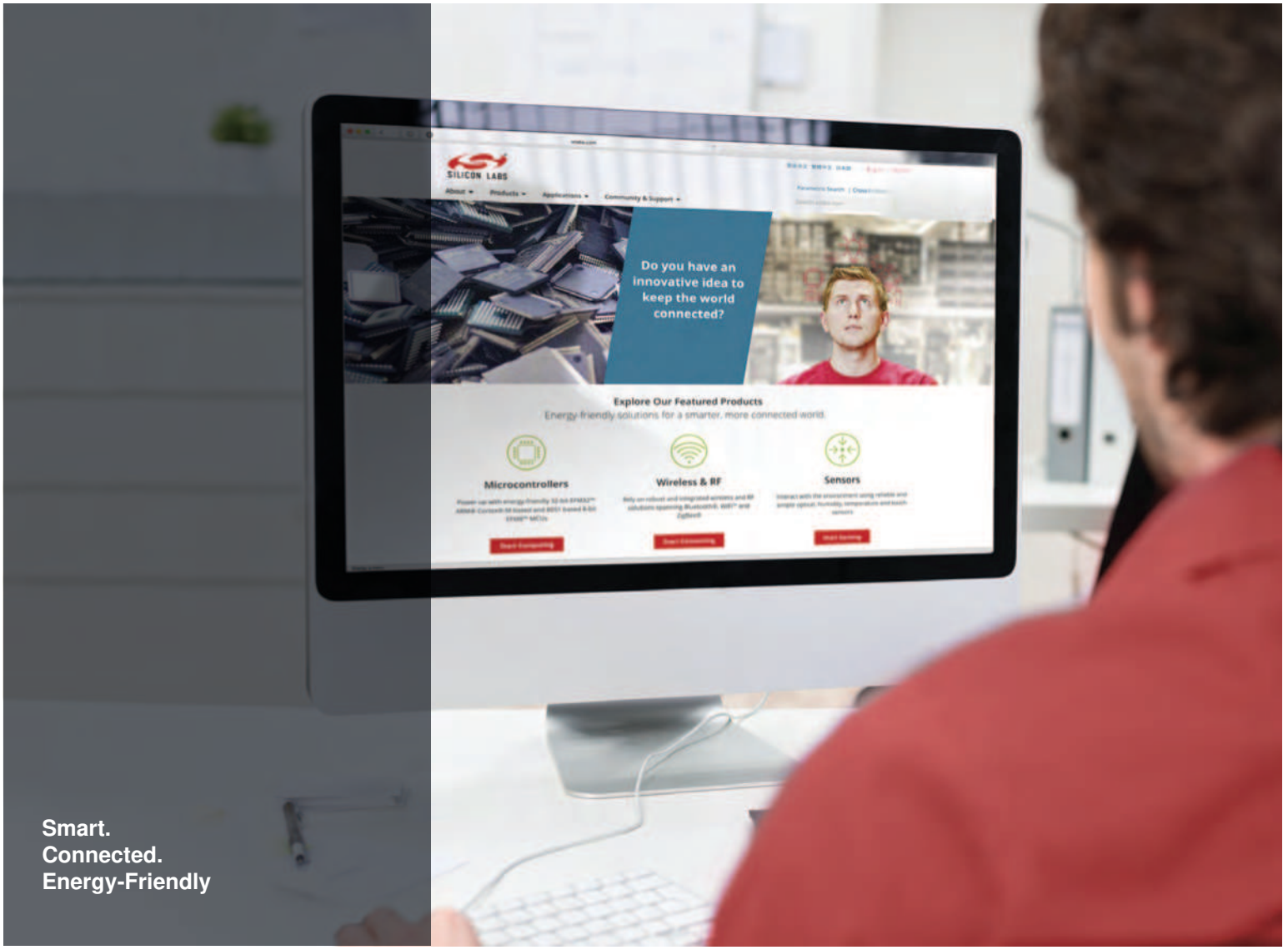
- Precision internal oscillators: 24.5 MHz with ±2% accuracy supports UART operation; spread-spectrum mode for reduced EMI
- Low power 20 MHz internal oscillator
- External oscillator: crystal, RC, C, CMOS clock
- smaRTClock oscillator: 32.768 kHz crystal or self-oscillate

Ordering Part Number

- Si1013-A-GM, 42-pin QFN, 5 x 7 mm^2



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Silicon Laboratories Inc.
400 West Cesar Chavez
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