LPC5411X

Low Power 32-bit Microcontroller based on ARM® Cortex®-M4

EBV ELEKTRONIK presents the LPC5411x processor family based on ARM® M4F with an optional M0+ core. Designed with power and peripheral flexibility in mind it can run in active mode down to 80 µA/MHz.

This new series increases RAM density up to a maximum of 192KB RAM, adds an on-chip dual/stereo Digital Microphone Interface (DMIC), and full speed crystal-less USB. The DMIC subsystem delivers the industry's most power-efficient voice trigger/voice recognition functionality at an average current of < 50 µA. The LPC5411x has a variety of comprehensive enablement solutions ranging from LPCOpen, to a variety of IDEs such as IAR, Keil, and LPCXpresso.

Targeted for Internet of Things (IoT) applications, the usage of the DMIC subsystem in combination with FlexComm, a flexible interface that can support up to eight peripherals, allow for a voice triggered end node that can support up to 8 peripherals through UART/SPI/I2C/I2S interfaces. In addition, the LPC5411x provides a free running oscillator (FRO) with selectable frequencies of 12, 48, or 96 MHz. The FRO is trimmed to ±1% accuracy over the entire voltage and temperature range.

KEY FEATURES

Performance: Up to 100MHz of performance with 193KB of RAM
Flexible I/O: Flexcomm can support up to 8 peripherals through UART/SPI/I2C/I2S interfaces

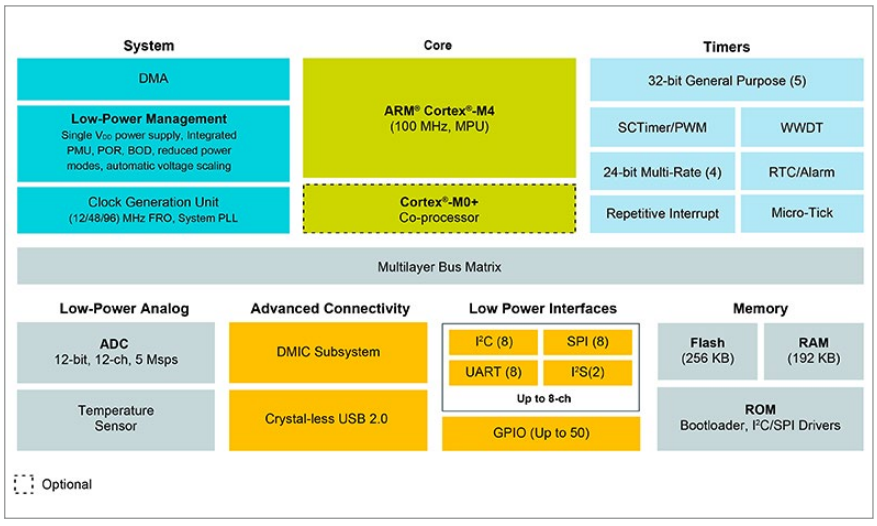
Power efficient: 80 µA/MHz on ARM Cortex-M4F core @ 48 MHz

Integrated DMIC: Delivers the industry's most power-efficient voice trigger/voice recognition functionality at an average current of < 50 µA

Robust ecosystem: LPC XPresso tool chain and LPCOpen drivers and firmware

APPLICATION EXAMPLES

- Portable fitness and activity trackers
- Health and wellness monitoring
- Intelligent sensing and motion tracking
- Home and building automation
- Industrial/commercial sensor nodes
- Fleet management and asset tracking
- Gaming and USB accessories



LPC5411X Block Diagram