STM32 32-bit MCU family
ST, leading supplier of ARM Cortex™-M microcontrollers

STM32

High-performance

STM32 F4 STM32 F2

STM32 F4 SERIES WITH DSP AND FPU (CORTEX-M4)

- 608 CoreMark at 180 MHz from Flash, up to 2-Mbyte dual-bank Flash, 256-Kbyte SRAM
- SDRAM, TFT LCD controller with graphics acceleration and serial audio interface

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Ultra-low-power

STM32 L1 STM32 L0

STM32 L0 SERIES (CORTEX-M0+) - NEW

- Down to 87 µA/MHz (from Flash)
- 440 nA Stop mode + Full RAM with 3.5µs Wakeup

STM32 L1 SERIES (CORTEX-M3)

- From 32- to 512-Kbyte* embedded Flash
- 0.9 µA in Standby mode +RTC

Mainstream

STM32 F0 STM32 F1 STM32 F3

STM32 F0 ENTRY LEVEL SERIES (CORTEX-M0)

- From 16- to 128-Kbyte embedded Flash, including STM32F030 Value line : 32 bits at 32 cents
- New STM32F072 USB line is available

STM32 F3 ENTRY LEVEL DSP/FPU SERIES (CORTEX-M4)

- From 16- to 512-Kbyte* embedded Flash, fast 12-bit ADC, 5 MSPS and precise 16-bit ADC $\sum\Delta$
- Fast comparators (50 ns), programmable gain amplifiers (4 gains, 1% accuracy), 12-bit DACs

Note: *STM32F30x 16- to 64-Kbyte devices are in sampling phase and first sample of STM32F3 512-Kbyte will be available in Q1/2014

STM32 - THE LEADING CORTEX-M PORTFOLIO

Common core peripherals and architecture:

| Communication peripherals: USART, SPI, I²C |
| Multiple general-purpose timers |
| Integrated reset and brown-out warning |
| Multiple DMA |
| 2x watchdogs Real-time clock |
| Integrated regulator PLL and clock circuit |
| Up to 19x 12-bit DAC |
| Up to 4x 12-bit ADC (Up to 5 MSPS) |
| Main oscillator and 32 kHz oscillator |
| Low-speed and high-speed internal RC oscillators |
| -40 to +85 °C and up to 105 °C operating temperature range |
| Low voltage 2.0 to 3.6 V or 1.65/1.7 to 3.6 V (depending on series) |
| Temperature sensor |

+

STM32 F4 series – High performance with DSP (STM32F401/405/415/407/417/427/437/429/439)

| Up to 180 MHz Cortex-M4 DSP/FPU | Up to 2-Mbyte Flash | Up to 256-Kbyte SRAM | 2x USB 2.0 OTG FS/HS | 1x 12-bit AMC timer | 2x CAN 2.0B | SDIO 2x I²S audio Camera IF | Ethernet IEEE 1588 | LCD-TFT SDRAM I/F |

STM32 F4

STM32 F3 series – Mixed-signal with DSP (STM32F301/302/303/373/x8)

| 72 MHz Cortex-M4 with DSP and FPU | Up to 512-Kbyte Flash | Up to 64-Kbyte SRAM CCM-SRAM | USB 2.0 FS | 3x 16-bit AMC timer (144 MHz) | CAN 2.0B | Up to 7x comparator 4x 12-bit DAC 4x PGA | HDMI CEC | 3x 16-bit ΣΔ ADC |

STM32 F3

STM32 F2 series – High performance (STM32F205/215/207/217)

| 120 MHz Cortex-M3 CPU | Up to 1-Mbyte Flash | Up to 128-Kbyte SRAM | 2x USB 2.0 OTG FS/HS | 1x 12-bit AMC timer | 2x CAN 2.0B | SDIO 2x I²S audio Camera IF | Ethernet IEEE 1588 | Crypto |

STM32 F2

STM32 F1 series – Mainstream – 5 product lines (STM32F100/101/102/103 and 105/107)

| Up to 72 MHz Cortex-M3 CPU | Up to 1-Mbyte Flash | Up to 96-Kbyte SRAM | USB 2.0 OTG FS | 1x 12-bit AMC timer | Up to 2x CAN 2.0B | SDIO 2x I²S audio | Ethernet IEEE 1588 | |

STM32 F1

STM32 F0 series – Entry-level (STM32F030/x1/x2/x8)

| 48 MHz Cortex-M0 CPU | Up to 128-Kbyte Flash | Up to 16-Kbyte SRAM 20-byte backup data | USB clock free | USB 2.0 FS Crystal less | CAN 2.0B | DAC Comparator | CEC | |

STM32 F0

STM32 L1 series – Ultra-low-power (STM32L100/151/152/162)

| 32 MHz Cortex-M3 CPU | Up to 512-Kbyte Flash | Up to 80-Kbyte SRAM | Up to 16-Kbyte EEPROM | USB 2.0 FS device | LCD 8x40 4x44 | Op-amps comparator | BOR MSI VScal | AES 128-bit |

STM32 L1

STM32 L0 series – Ultra-low-power (STM32L0x1/x2/x3)

| 32 MHz Cortex-M0+ CPU | Up to 64-Kbyte Flash | Up to 8-Kbyte SRAM | Up to 2-Kbyte EEPROM | USB 2.0 FS Crystal less | LCD 8x28 4x32 | True RNG | BOR MSI VScal | AES 128-bit |

STM32 L0

STM32 ECOSYSTEM

STM32 Nucleo development board

STM32 Nucleo

mbed Enabled

www.st.com/stm32nucleo
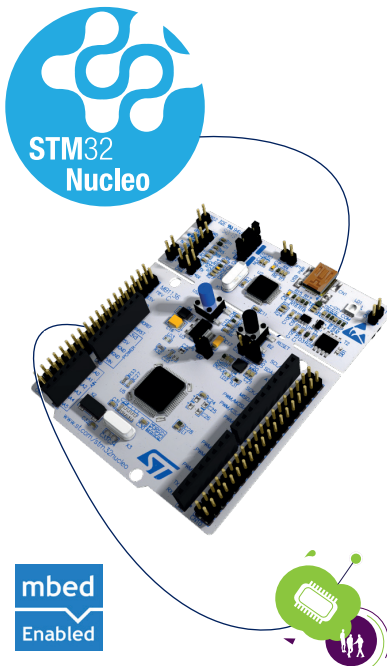
STM32Cube

STM32CubeMX Configuration tool on PC

STM32 Cube

C code generation for initialization, depending on user choices

User code

STM32Cube Embedded software

Middleware
RTOS, USB, TCP/IP, graphics

Hardware abstraction layer

www.st.com/stm32cube
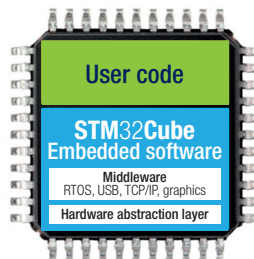
STM32 selector guide

Download "ST MCU Finder" free app to find the right STM32 product.

Available on Android tablet and smartphone

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