

XMC4000 - ARM[®] Cortex[™]-M4 based 32-bit MCU Family for Industrial Applications

One Microcontroller Platform.
Countless Solutions. XMC.



Core 'n More

SILICA Microcontroller Solutions

XMC4500

XMC4500, the first product generation of Infineon's XMC4000 microcontroller family, is dedicated to enabling highly energy-efficient products with industrial interconnection capabilities. Infineon's in-depth microcontroller know-how, demonstrated over the past decades in a number of well-recognised CPU kernels and peripherals, guarantees the best real-time performance in the industry, now coupled with all benefits of an industry standard CPU core.

Key Features of XMC4500

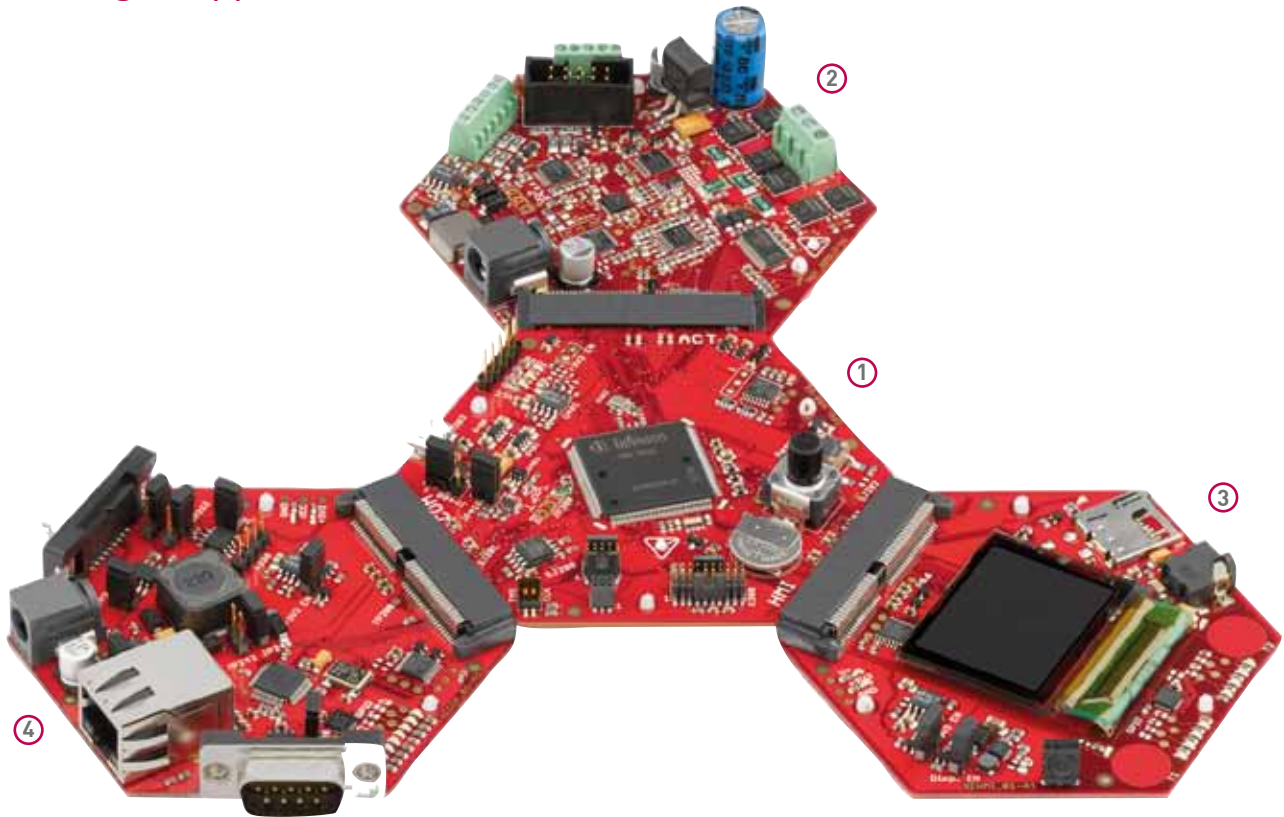
- ARM® Cortex™-M4, 120 MHz, incl. single cycle DSP MAC and Floating Point Unit (FPU)
- 1 MB eFlash including hardware ECC
- 160 KB RAM
- 12-channel DMA
- IEEE 1588 compliant Ethernet MAC
- USB 2.0 full-speed on-the-go
- Comprehensive set of timers and PWM, delta-sigma demodulator, position interface
- 4 x 12-bit ADC, 2 x 12-bit DAC
- 6 x Multi-function serial interface modules configurable to SPI, I²C, I²S, UART, LIN
- 3 x CAN nodes
- External bus interface supporting SDRAM, SRAM, NOR-/NAND-Flash and memory-mapped IO devices (e.g. LCD)
- SD/MMC interface
- Touch interface & LED Matrix
- Battery-backed realtime clock with calendar function and timebased or external wake-up capabilities
- Extended temperature range up to 125 °C



DAVE™ 3: Free IDE and Code Generator

- Free compiler, debugger, flash loader
- Extendable for commercial compiler and debuggers
- Free automatic code generator
- Operating system integration support

Hexagon Application Kit



① CPU-Board

- Holds the XMC4500 MCU
- Stand-alone powered via USB
- 2 Cortex debug connectors
- USB OTG
- Quad-SPI Flash memory
- RTC battery
- COM/ACT/HMI connector

② ACT/Satellite

- Actuator board
- Here: 3-phase motor control
- Full bridge power stage
- Resolver circuit
- Encoder interface
- Shunt current measurement

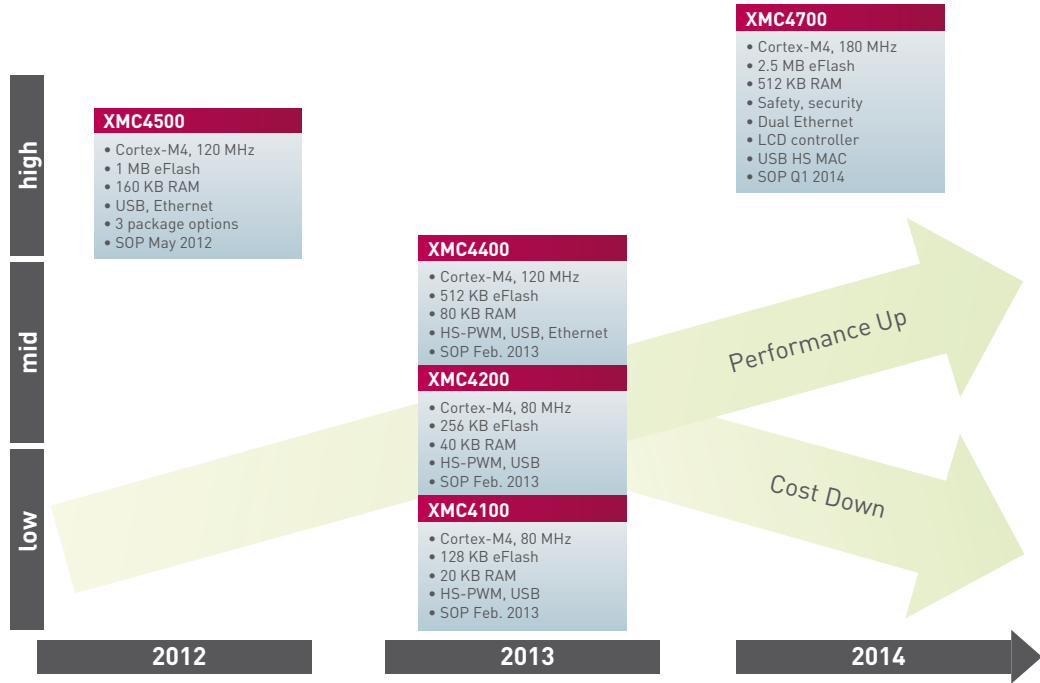
③ HMI-Satellite

- Color OLED (160 x 128)
- SD/MMC card IF
- Audio encoder (I²S)
- Touch sense buttons

④ COM-Satellite

- Communication interface
- Ethernet (RMII)
- MultiCAN
- RS485

XMC4000 Family Roadmap



SILICA Offices

AUSTRIA

Phone: +43 1 86642-300 • wien@silica.com

BELGIUM

Phone: +32 2 709 90 00 • diegem@silica.com

CZECH REPUBLIC (SLOVAKIA)

Phone: +420 2 34091031 • praha@silica.com

DENMARK

Phone: +45 43 22 80 10 • herlev@silica.com

FINLAND (ESTONIA)

Phone: +358 20 749 9200 • helsinki@silica.com

FRANCE (TUNISIA)

Phone: +33 1 64 47 29 29 • paris@silica.com

GERMANY

Phone: +49 8121 777 02 • muenchen@silica.com

HUNGARY

Phone: +36 1 43 67215 • budapest@silica.com

ITALY

Phone: +39 02 660 921 • milano@silica.com

NETHERLANDS

Phone: +31 (0)76 57 22 700 • breda@silica.com

NORWAY

Phone: +47 6677 3600 • asker@silica.com

POLAND (LATVIA/LITHUANIA)

Phone: +48 22 25 65 760 • warszawa@silica.com

PORTUGAL

Phone: +35 1 223 779 502 • porto@silica.com

RUSSIA (BELARUS, UKRAINE)

Phone: +7 495 9371268 • moscow@silica.com

SLOVENIA (BULGARIA, CROATIA, BOSNIA, MACEDONIA, SERBIA/MONTENEGRO, ROMANIA)

Phone: +386 (0)1 560 9750 • ljubljana@silica.com

SPAIN

Phone: +34 91 372 71 00 • madrid@silica.com

SWEDEN

Phone: +46 8 587 461 00 • stockholm@silica.com

SWITZERLAND

Phone: +41 62 919 55 55 • langenthal@silica.com

TURKEY (GREECE, EGYPT)

Phone: +90 216 528 83 40 • istanbul@silica.com

UNITED KINGDOM (IRELAND)

Phone: +44 (0)1438 788310 • stevenage@silica.com