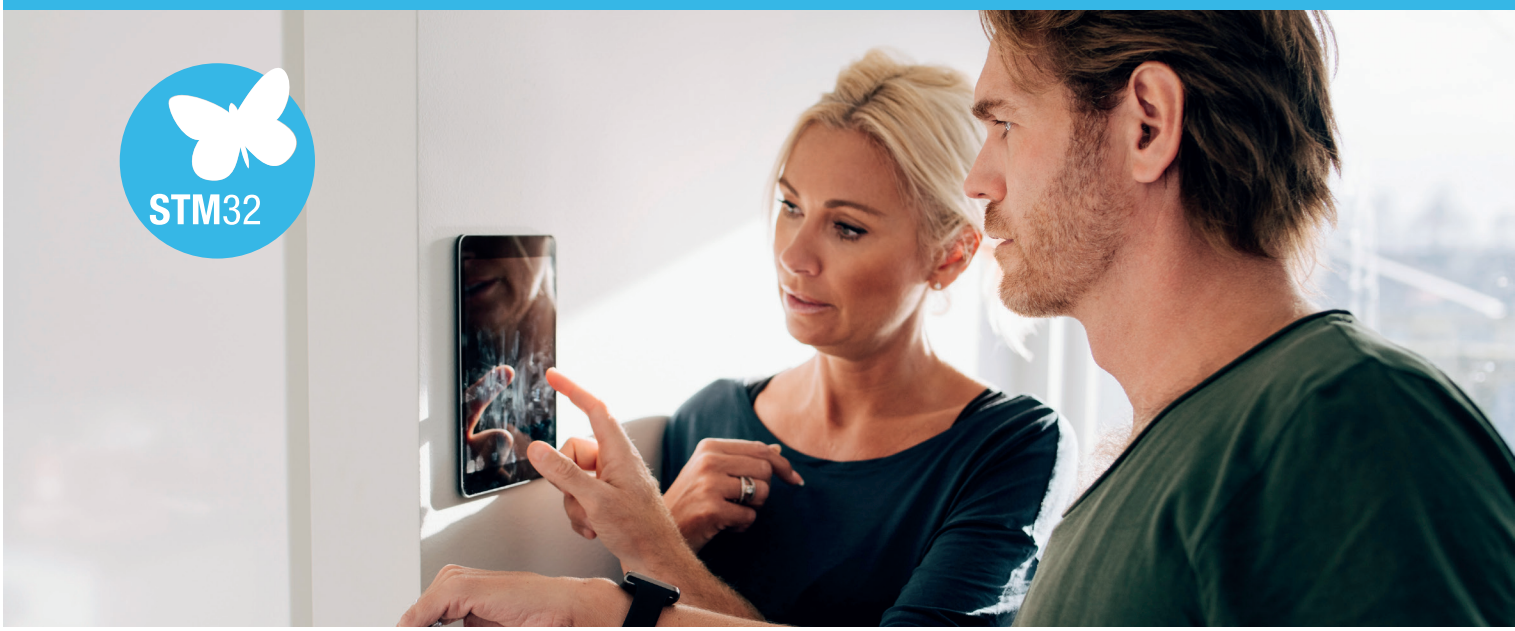
life.augmented

STM32F469/479

World's first MIPI-DSI MCU



High-performance, large memory resources, extended connectivity and advanced graphic capabilities

The STM32F469/479 product line delivers the highest ARM® Cortex®-M4 performance and offers large memory resources with rich connectivity enabling the most advanced consumer, industrial and medical applications.

Leveraging ST's proprietary Chrom-ART Accelerator™ and a smart hardware architecture, the product line brings smartphone-like graphic interfaces.

The STM32F469/479 products offer 384 Kbytes of SRAM along with 512 Kbytes to 2 Mbytes of Flash memory in packages with 168 to 216 pins.

PERFORMANCES

- Cortex-M4 running at 180 MHz
- ART-Accelerator™ allowing zero wait state execution from internal Flash
- FPU and DSP capabilities
- 225 DMIPS / 608 CoreMark

GRAPHIC USER INTERFACE

- Chrom-ART Accelerator™ for more animation and graphic effects
- Display parallel interface
- TFT-LCD controller
- MIPI digital signal interface supporting the most modern displays coming with higher pixel density, fewer pins, lower EMI and lower power consumption

CONNECTIVITY AND FEATURES

- Dual Quad-SPI and FMC with SDRAM support
- Ethernet MAC, SDMMC and USB FS and HS/FS
- Camera Interface
- I²S and serial audio interface

INTEGRATION AND POWER EFFICIENCY

- Up to 2 Mbytes of dual-bank Flash
- 384-Kbyte embedded SRAM
- Packages as small as 4.89 x 5.69 mm
- Down to 140 µA power consumption in Stop mode with full SRAM retained

www.st.com/stm32f4

STM32F479 block diagram

System
- Power supply 1.2 V internal regulator POR/PDR/PVD
- Xtal oscillators 32 kHz + 4 ~26 MHz
- Internal RC oscillators 32 kHz + 16 MHz
- 3 PLLs
- Clock control
- RTC/AWU
- 1x SysTick timer
- 2x watchdogs (independent and window)
- 114/131/161 I/Os
- Cyclic Redundancy Check (CRC)
- 96-bit unique ID
- Voltage scaling

Control
- 2x 16-bit motor-control PWM
- 10x 16-bit timers 2x 32-bit timers

Crypto/Hash processor
- 3DES, AES 256, GCM, CCM
- SHA-1, SHA-256, MD5, HMAC

- Chrom-ART Accelerator™
- ART Accelerator™

180 MHz Arm® Cortex®-M4 CPU
- Floating Point Unit (FPU)
- Nested Vector Interrupt Controller (NVIC)
- JTAG/SW debug
- Embedded Trace Macrocell (ETM)
- Memory Protection Unit (MPU)

- Mutli-AHB bus matrix
- 16-channel DMA
- True random number generator (RNG)
- Up to 2-Mbyte dual-bank Flash memory
- 384-Kbyte SRAM
- FMC/SRAM/NOR/NAND/CF/SDRAM
- Dual Quad SPI
- 80-byte + 4-Kbyte backup SRAM
- 512 OTP bytes

Connectivity
- TFT LCD controller
- MIPI-DSI interface
- 6x SPI, 2x I²S, 3x I²C
- Camera interface
- Ethernet MAC 10/100 with IEEE 1588
- 2x CAN 2.0B
- 1x USB 2.0 OTG FS/HS
- 1x USB 2.0 OTG FS
- 1x SDMMC
- 4x USART + 4 UART LIN, smartcard, IrDA, modem control
- 1x SAI (Serial audio interface)

Analog
- 2-channel 2x 12-bit DAC
- 3x 12-bit ADC/2.4 MSPS Up to 24 channels /7.2 MSPS
- Temperature sensor

Hardware tools

STM32F469I-DISCOVERY
www.st.com/stm32f4-discovery

Software tools

STM32 CubeIDE

STM32 Cube

STM32CubeIDE, all-in-one tool to accelerate your project development including MCU configuration and project generation, code edition, build and advance debug features..

IAR SYSTEMS

arm KEIL

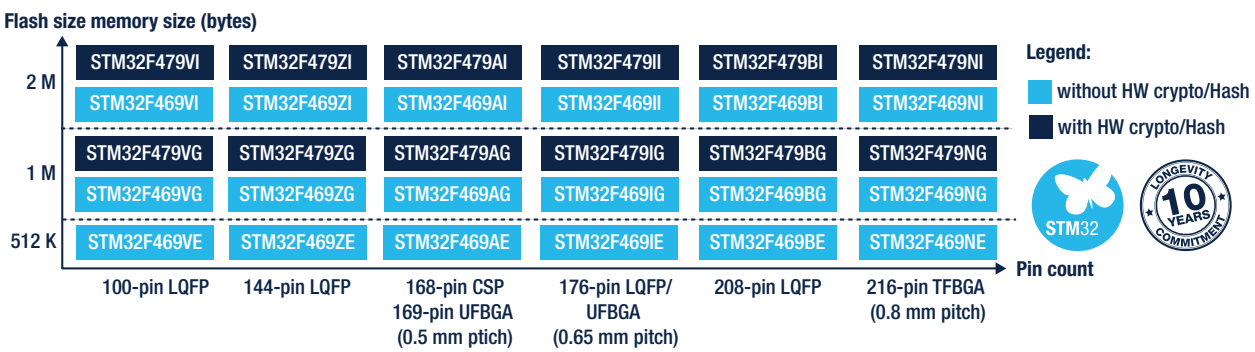
Embedded software

STM32 CubeF4

The TouchGFX solution is distributed as an STM32Cube Expansion Package (X-CUBE-TOUCH-GFX), which is includes all TouchGFX software to help users develop their UI application.

TouchGFX

STM32F469/479 portfolio



Order code: FLSTM32F4690321