

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 industry's 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 to everyday objects enabling more intuitive user 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.

PERFORMANCE

Release your creativity and develop smarter applications:

- 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

Differentiate your application with advanced graphic user interfaces:

- 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

Develop richer IoT and wearable applications with the STM32F469/479 extended 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

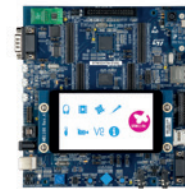
Extend battery life and optimize your design:

- 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

STM32F479 BLOCK DIAGRAM

System	Chrom-ART Accelerator™	Up to 2-Mbyte dual-bank Flash memory	Control		
	ART Accelerator™	384-Kbyte SRAM		2x 16-bit motor-control PWM	
	180 MHz ARM® Cortex®-M4 CPU	FMC/SRAM/NOR/NAND/CF/SDRAM		10x 16-bit timers 2x 32-bit timers	
		Dual Quad-SPI			
80-byte + 4-Kbyte backup SRAM					
Power supply 1.2 V internal regulator POR/PDR/PVD	Floating Point Unit (FPU)	512 OTP bytes	Analog		
Xtal oscillators 32 kHz + 4 ~26 MHz		Connectivity		3x 12-bit ADC/2.4 MSPS Up to 24 channels /7.2 MSPS	
Internal RC oscillators 32 kHz + 16 MHz					TFT LCD controller
3 PLLs					MIPI-DSI interface
Clock control	6x SPI, 2x I²S, 3x I²C				
RTC/AWU	Nested Vector Interrupt Controller (NVIC)	Camera interface	Temperature sensor		
1x SysTick timer		JTAG/SW debug		Ethernet MAC 10/100 with IEEE 1588	
2x watchdogs (independent and window)	Embedded Trace Macrocell (ETM)	2x CAN 2.0B	Crypto/Hash processor		
114/131/161 I/Os		Memory Protection Unit (MPU)		1x USB 2.0 OTG FS/HS	
Cyclic Redundancy Check (CRC)	Multi-AHB bus matrix	1x USB 2.0 OTG FS		3DES, AES 256, GCM, CCM	
96-bit unique ID		16-channel DMA			1x SDMMC
Voltage scaling	True random number generator (RNG)	4x USART + 4 UART LIN, smartcard, IrDA, modem control	SHA-1, SHA-256, MD5, HMAC		
				1x SAI (Serial audio interface)	

HARDWARE TOOLS



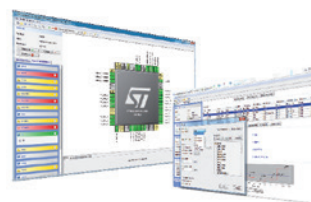
STM32469I-EVAL
STM32479I-EVAL

www.st.com/stm32evaltools



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

SOFTWARE TOOLS



STM32CubeMX enables fast development thanks to its MCU clock configurator, power consumption calculator and code

SOFTWARE TOOLS

Beyond the wide set of partners and ARM ecosystem solutions, the STM32F469/479 lines come with dedicated tools and software:

- STM32CubeF4: embedded software for STM32F4 series (HAL, USB, TCP/IP, file system, RTOS, and graphics libraries available with examples able to run on ST boards)
- STM32CubeMX: graphical software configuration tool to generate C initialization code using graphical wizard www.st.com/stm32cube
- A choice of leading graphic libraries taking the full advantage of ST's advanced accelerators and architecture and simplify the design of advanced user interfaces.



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