

STM32H5 MCU SERIES

High performance MCU based on Arm[®] Cortex[®]-M33



The STM32H5 series makes performance and security more accessible

Based on the Arm[®] Cortex[®]-M33, the STM32H5 MCU series runs at 250 MHz. It reaches 375 DMIPS and 1023 CoreMark scores executing from the embedded flash memory.

The STM32H5 series introduces state-of-the-art, scalable security. With STM32H5, you can choose between different security offers, from the secure hardware only, to a full security solution owned & maintained by ST over the product life cycle.

The STM32H5 series offers a large portfolio with 15 packages (from 25 to 176 pins) and supports up to 125°C ambient temperature.

This high performance series is the perfect fit for IoT and industrial applications.

KEY BENEFITS

- Most powerful Arm[®] Cortex[®]-M33 MCU
- Industry-first 32-bit MCU with Arm Cortex-M33 core running as high as 250 MHz.
- · Scalable security to address every need
 - From the most essential security building blocks to fully certified services maintained by ST.
 - PSA Certified level 3 & SESIP3 target certifications.
- Optimized cost/performance trade-off
 - Based on ST's optimized 40 nm process technology. Large choice of memory, peripherals, and package options.

KEY APPLICATIONS

- Smart homes and smart cities
- Factory automation
- Consumer devices and peripherals
- Medical applications

STM32H573 BLOCK DIAGRAM

System		Memory Interfaces
LDO, SMPS POR/PDR/PVD/BOR	Arm® Cortex®-M33 250 MHz FPU MPU TrustZone®	FMC 8-/16-bit (SDRA NOR, NAND, TFT-LCE
Xtal oscillators 32 kHz + 4 ~26 MHz		1x Octo-SPI
Internal RC oscillators		2x SD/SDI0/MMC
32 kHz + 4,48 & 64 MHz		Connectivity
RTC, 128-byte back-up registers		Connectivity 1x USB 2.0 FS, UCP
buok up registers	ETM	6x SPI (including 3x 12
Analog		2x SAI 3x I ² C. 1x MIPI-I ³ C/I ²
2x 12-bit ADC		HDMI-CEC
2x 12-bit DACs	2x GPDMA	2x FDCAN
1x digital temperature sensor	ART Accelerator™	6x UART, 6x USART
	CORDIC	1x LPUART
Crypto/Hash/Security	FMAC	DCMI/PSSI
SHA-1, SHA-2 (512-bit)	Up to 2 Mbytes of dual	Ethernet MAC 10/10 with IEEE 1588
HUK, ECDSA, TRNG, CRC	bank flash memory Data Flash	WIUI IEEE 1366
96-bit unique ID	640 Kbytes RAM	Timers
OTFDEC, HMAC	4 Kbytes of backup RAM	2x 16-bit advanced
RSA, ECC		motor control timer
AES, SAES		2x 32-bit TIM
Active tampering Secure Boot ST-iRot		6x 16-bit low power timers
		10x 16-bit TIM
Secure manufacturing SFI		2x W/D

STM32TRUST FRAMEWORK

- Secure Manager: a Trusted Execution Environment (TEE) integrating core security services.
- ST-RoT: Protect your application and IPs with a turnkey Root of Trust solution.
- ST certified and maintained solutions to customers.

STM32H5 PORTFOLIO Flash memory size / RAM size (bytes)



STM32H573I-DK Multi connectivity kit USB, Ethernet, MicroSD, Display, 512-Mblt, Octo-SPI flash, Audio, Multi-extension IFs, 176-pin MCU

HARDWARE TOOLS

mm

as well as full STM32H5 evaluation.

A full set of development boards enables flexible prototyping





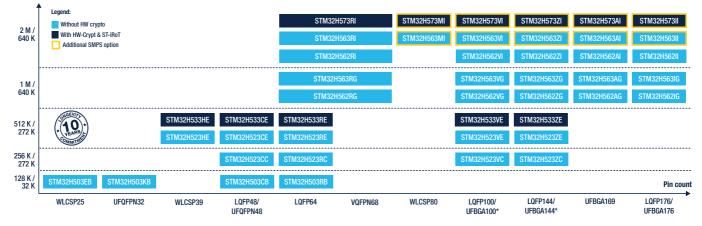


NUCLEO-H563ZI Affordable prototyping USB, Ethernet, Arduino uno IF, 144-pin MCU

SOFTWARE TOOLS

STM32H5 connects smart things to the cloud in a secure way, with STM32Cube packages. More information: www.st.com/stm32-cloud-solutions





Note: UFBGA100/UFBGA144 are available on STM32H523xx/STM32H533xx only.



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