



life.augmented

STM32H730, STM32H750 & STM32H7B0 High-performance value lines



EXTRA FLEXIBILITY TO CREATE AFFORDABLE PERFORMANCE-ORIENTED SYSTEMS

Focusing on real-time performance and scalability, ST's new Value lines lower the barrier to access STM32H7 microcontrollers with products keeping just the essential Flash memory.

With execution performance up to 2778 CoreMark at the heart of a secure, power-efficient architecture, the new Value line microcontrollers are the entry point to IoT innovation in medical, industrial and consumer applications.

STM32H730, STM32H750 & STM32H7B0 devices embed 128-Kbyte Flash memory to accommodate the most critical and secure code, while supporting external memory extension using NOR, NAND, SDRAM, dual-mode Quad SPI or Octal-SPI Flash memory.

Notes:

1. Tightly Coupled Memories
2. Digital Filters for Sigma Delta Modulator



CORE, MEMORIES

- Arm® Cortex®-M7 core up to 550 MHz
- Up to 32-Kbyte data and 32-Kbyte instruction cache
- Up to 4 DMA controllers
- 128-Kbyte Flash memory and up to 1.4-Mbyte RAM
- ITCM/DTCM1: 64-Kbyte ITCM RAM + 128-Kbyte DTCM RAM for time-critical routines

CONNECTIVITY

- Up to 2 x USB 2.0 OTG FS/HS with embedded FS PHY
- USART, UART, SPI, and I²C
- Up to 3 x CAN FD
- Ethernet MAC
- FMC supporting SDRAM in 32-bit mode, PSRAM, NOR and NAND
- Dual-mode Quad-SPI or dual Octal-SPI supporting Octal Flash and HyperRAM™
- 2 x SDMMC

EMBEDDED FLASH

- Secure Boot for customer Root of Trust
- Fast boot time
- High-execution speed from ultra fast embedded memory

ENERGY EFFICIENT

- Flexible power mode
- Gated power domains
- On-chip power management

AUDIO

- 3 x I²S + audio PLL
- Up to 4 x SAI
- 2 x 12-bit DAC
- SPDIF-RX

GRAPHICS

- LCD TFT controller
- JPEG Codec
- Chrom-ART Accelerator™
- Chrom-GRC™

OTHER

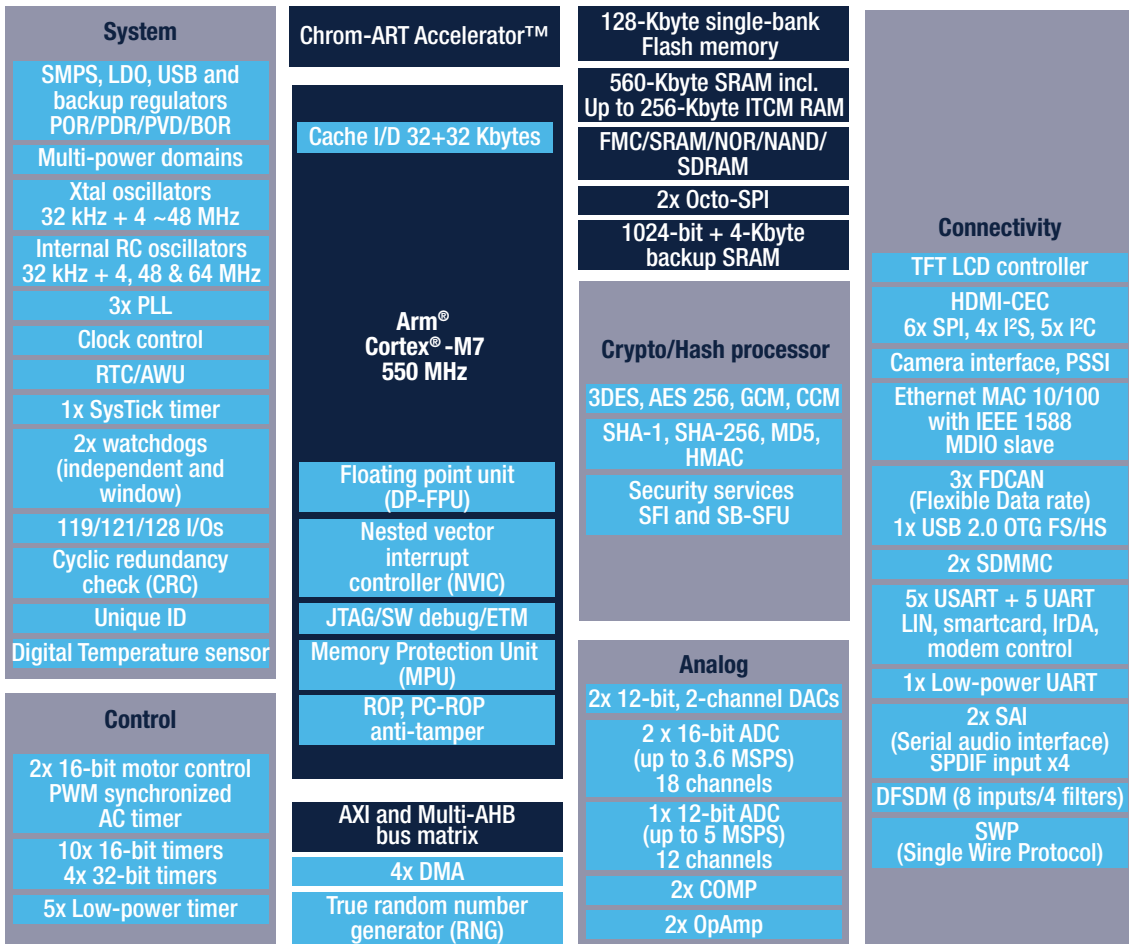
- 8- to 14-bit Camera interface
- Crypto and Hash hardware acceleration
- DFSDM interface to connect microphone MEMs or sigma delta ADC front ends
- 16- and 32-bit timers
- Up to 3 x ADCs with up to 16-bit resolution (up to 3.6 MSPS)
- 1 x 12 bit ADC (up to 5 MSPS)
- Analog (comparators and Op amps)
- Power supply down to 1.62 V
- Security services option

STM32 HIGH-PERFORMANCE VALUE LINES

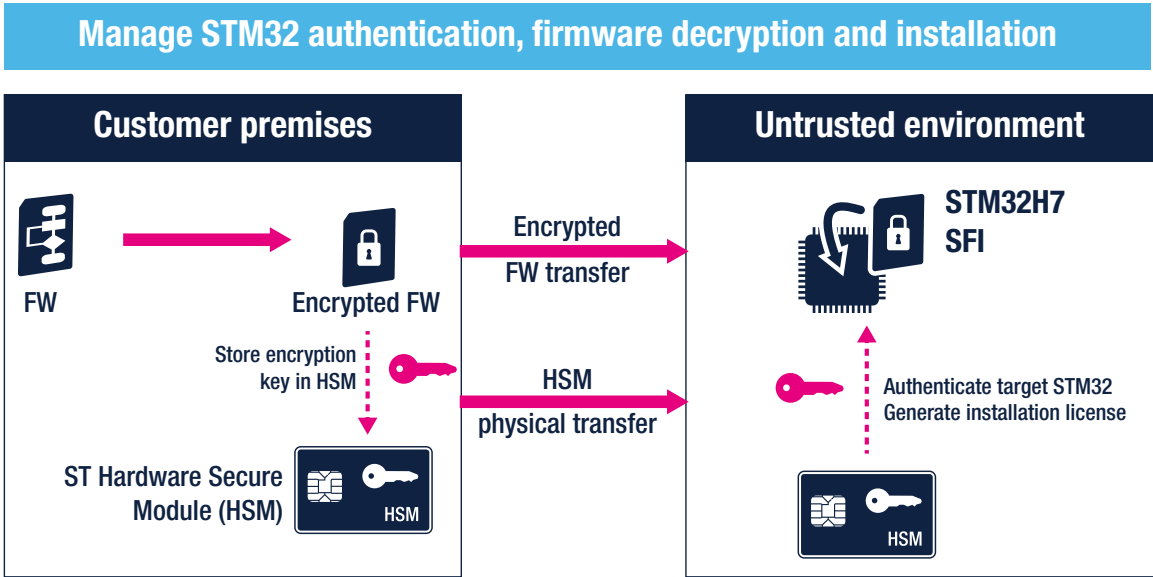
Product lines	Core	f _{CPU} (MHz)	ID cache (KB)	ITCM/ DTCM (KB)	Flash memory (KB)	Total RAM (KB)	Graphic	Advanced analog	USB OTG	Ethernet	Camera I/F	CAN	Security & Crypto/Hash acceleration	Packages	
STM32H730	CM7	550	32 + 32	64/ 128	128	564	TFT-LCD Chrom-ART Accelerator™	1x 12-bit ADCs (up to 5 MSPS), 2x 16-bit ADCs (up to 3.6 MSPS) 2x Opamps, 2x Comparators, 2x 12-bit DACs	1	1	1	1 TTFD CAN, 2 FDCAN	Hardware crypto accelerators, PCROP ¹ , SFI ² , Secure Access Mode	LQFP100, TFBGA100 ⁴ , LQFP144, UFBGA144 ⁵ , UFBGA169 ⁵ , LQFP176, UFBGA176 ³	
STM32H750		480	16+16				1060	Chrom-ART Accelerator™ TFT-LCD JPEG Codec	3x 16-bit ADCs (3.6 MSPS), 2x Opamps, 2x Comparators, 2x 12-bit DACs	2	1	1		1 TTFD CAN, 1 FDCAN	LQFP100, LQFP144, LQFP176, UFBGA176 ³ , TFBGA240 ⁴
STM32H7B0		280					1 376	Chrom-GRC™ TFT-LCD JPEG codec		1	-			LQFP64, LQFP100, LQFP144, UFBGA169 ⁵ , LQFP176, UFBGA176 ³	

1. PCROP: Proprietary Code Read Out Protection (protects part of the Flash memory to execution access only)
2. SFI: Secure Firmware Install. Security service and keys available on standard parts to securely install a Root of Trust (RoT)
3. (0.65 mm pitch)
4. (0.8 mm pitch)
5. (0.5 mm pitch)

STM32H730 VALUE LINE BLOCK DIAGRAM



SECURE YOUR PRODUCTION FLOW WITH SECURE FIRWARE INSTALL (SFI)



The STM32Trust ecosystem combines knowledge, design tools, and ready-to-use original ST software to build strong cyber-protection into new IoT devices, leveraging industry best-practices. www.st.com/stm32trust

HARDWARE TOOLS

All existing STM32H7 hardware development tools are fully compatible with the new Value lines. Dedicated tools are also available for the Value lines. <http://www.st.com/stm32evaltools>

Evaluation boards

Full feature STM32H7 evaluation



Discovery kits

Flexible prototyping & demo



Order code: **BRSTM32H7VL1020**

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