



# Designing with STM32MP1 SoC

STM32MP1 is general-purpose microprocessor portfolio enabling easy development for a broad range of applications, the STM32MP1 series is based on a heterogeneous single or dual Arm Cortex-A7 and Cortex-M4 cores architecture, strengthening its ability to support multiple and flexible applications, achieving the best performance and power figures at any time.

ACCELERATION	STM32 MP1	Cortex®-A7	f <sub>max</sub>	Cortex®-M4	f <sub>max</sub>	3D GPU	f <sub>max</sub>	HW	FB-CAM	MIP®-DSI
		core	(MHz)	core	(MHz)		(MHz)	Crypto		
<b>Arm® Cortex®-A7 – 650 MHz</b> • Dual core Arm® Cortex®-A7 processor • L1 and L2 caches • 3D Graphic Processing Unit* • Floating Point Unit + Arm® Neon™ • Arm® Cortex®-M4 209 MHz coprocessor • MDMA + DMA • LPDDR2/LPDDR3 16/32**-bit 533 MHz • DDR3/DDR3L 16/32**-bit 533 MHz <b>CONNECTIVITY</b> • 2 x USB2.0 HS Host • USB2.0 OTG FS/HS • 3 x SDMMC/ASDIO • USART, UART, SPI, I2C • 2 x (TT)FD-CAN2.0*** • Gigabit Ethernet IEEE 1588*** • FMC (NAND Flash) • Camera VF • Dual mode Quad-SPI • DSI 2 Gbit/s*	Product lines									
	STM32MP151A	1	650	1	209	-	-	-	-	-
	STM32MP151C							•		
	STM32MP153A	2	650	1	209	-	-	-	2	-
	STM32MP153C							•		
	STM32MP157A	2	650	1	209	•	533	-	2	•
STM32MP157C							•		•	

Notes:  
 \* Not available in all product lines  
 \*\* 16/32-bit for LFBGA448 and TFBGA361 packages, 16-bit only for LFBGA354 and TFBGA257 packages  
 \*\*\* 10/100M Ethernet only for LFBGA354 and TFBGA257 packages

## Course Description

This 1-day workshop aims to introduce STM32MP1 series. It blends both, technical data overview and practical lab. During lab work, you'll take an active part in coding and building a functional use-case, both on Cortex M4 (bare-metal) and Cortex A7 (Linux). STM32MP157C-DK2 Discovery Board, is used as the development platform for the hands-on.



When innovation meets expertise...



## Course Duration

1 day

## Goals

- Introduce the STM32MP1 series portfolio and its architecture
- Introduce Cortex A7 and Cortex M4 heterogenous system
- Introduce the inter processor communication channel
- Introduce the memory and connectivity features
- Introduce graphics and multimedia features
- Introduce STM32MP157C security features
- Introduce the developments tools, used to the develop software on both micro-processors

## Target Audience

- Clients who consider integrating STM32MP1 in new products
- Engineers who would like to learn to take advantage on heterogenous systems such as STM32MP1

## Prerequisites

- C programming language Knowledge
- Familiarity with embedded systems is an advantage
- Familiarity with Linux is an advantage



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