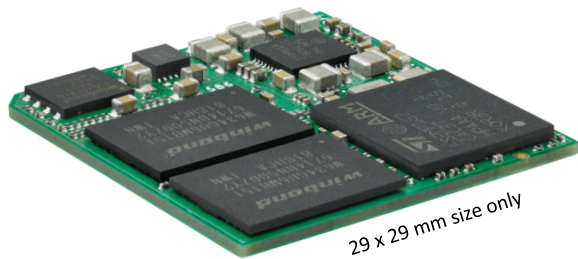


DHCOR STM32MP1

Solderable, cost-effective SOM



Cortex
Intelligent Processors by ARM

TECHNICAL DETAILS

Processor	Dual ARM Cortex®-A7 up to 650 MHz Single ARM Cortex®-M4 up to 209 MHz
Features	3D GPU OpenGL ES2.0 up to 533 MHz Absolute power efficient and cost optimized application processor
Security	Cryptographic acceleration, secure boot
DDR3 DRAM	256 / 512 / 1024 Mbyte (32 bit)
SPI NOR flash	2 Mbyte boot flash
Power Management	STPMIC1A
Supply	5.0 VDC / typ. 1 W
Temperature range	-40 to + 85 °C operating
Dimensions	29.0 x 29.0 x 3.2 mm
BSPs	Linux (Debian and Yocto support)

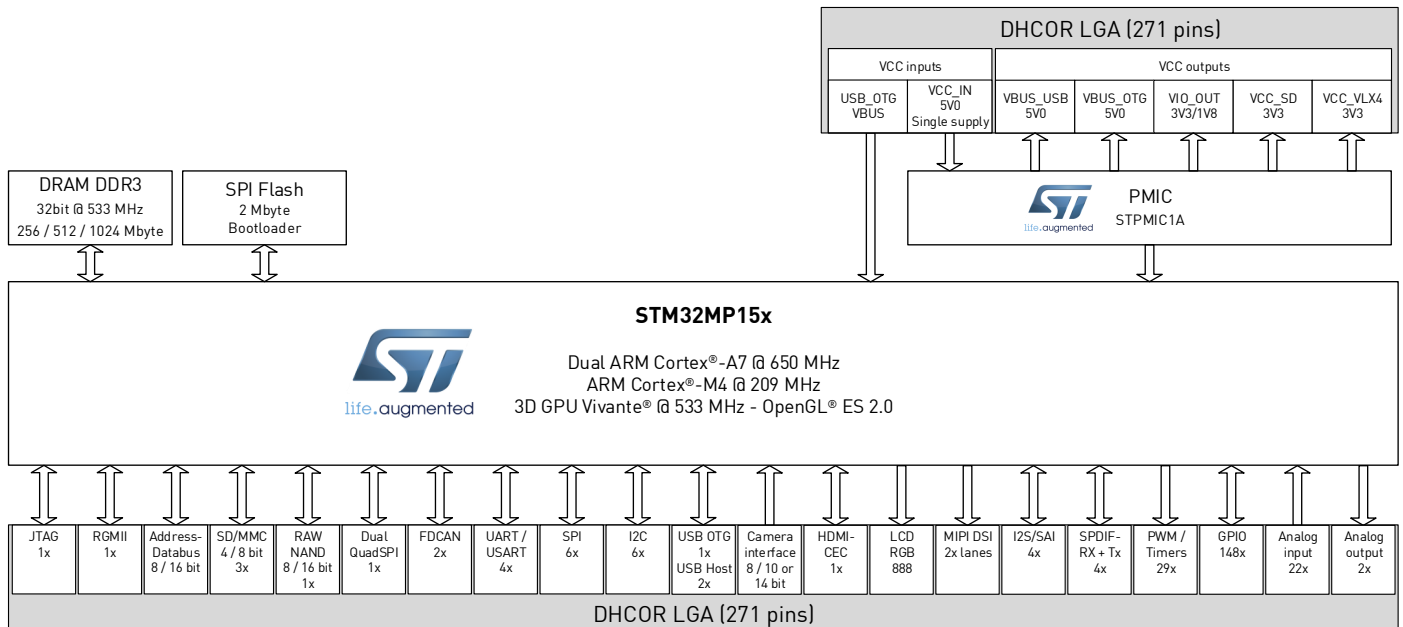
Available interfaces on LGA (271 pins)

Bus interface	8 / 16 bit address / data
Ethernet	1x Gbit, IEEE 1588, 1x MDIO
MMC / SD	3x SDIO 3.0 / SD 3.0 / eMMC 4.51
NAND	8 / 16 bit interface Raw MLC / SLC, 8 bit ECC
Quad SPI	Dual Quad SPI
CAN	2x FDCAN / TTCAN
UART	4x UART, 4x USART up to 12.5 Mbit/s
SPI	6x up to 50 Mbit/s
I2C	6x
USB Host	2x USB 2.0 HS
USB OTG	1x OTG 2.0 FS / HS
Embedded USB PHYs	2x HS + 1x FS
CSI (parallel camera)	1x 8, 10 or 14 bit / pixel data format
Display RGB	Max. 1366 x 768 pixels, 24 bit
MIPI®-DSI	2x data lanes (max. 1366 x 768 pixels)
HDMI-CEC	1x
ADC	2x 16-bit synchronized / up to 22 channels
DAC	2x 12-bit
ADC / DAC VREF	Internal 1.5 V, 1.8 V, 2.048 V, 2.5 V or VREF+ input
Temperature sensor	1x
SPDIF	4x Tx and Rx
I2S / SAI	4x
GPIOs	148x
PWM / Timer	2x 16 bit motor control PWM synchronized AC timer, 10x 16 bit timer, 5x 16 bit LP timer, 2x 32 bit timer
RTC	Secure RTC
DFSDM	1x with 8 channels / 6 filters
Debug interface	JTAG interface

DHCOR STM32MP15x

Solderable, cost-effective SOM

BLOCK DIAGRAM



ORDERING INFORMATION

Ordering Configurations: DHCR-CPU-Cxxx-Rxxx-Vxx[-SPI]-X-01LG

CPU	STM32MP157C: Dual Cortex®-A7, HW Crypto, 3D GPU, FDCAN, MIPI®-DSI STM32MP157A: Dual Cortex®-A7, 3D GPU, FDCAN, MIPI®-DSI STM32MP153C: Dual Cortex®-A7, HW Crypto, FDCAN STM32MP153A: Dual Cortex®-A7, FDCAN STM32MP151C: Single Cortex®-A7, HW Crypto STM32MP151A: Single Cortex®-A7
Cxxx	650 MHz: C065
Rxxx	256 Mbyte: R025, 512 Mbyte: R051, 1024 Mbyte: R102
Vxx	1V8 IO voltage: V18, 3V3 IO voltage: V33
X	Commercial temperature range (0 - 70 °C): C, Industrial temperature range (-40 - 85 °C): I
01LG	DHCOR Revision, LGA connection

Options

[-SPI]	2 Mbyte SPI boot flash
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Item number	Model (other configurations on request)	Product description
HS00006	DHCR-STM32MP157A-C065-R102-V18-SPI-C-01LG	DHCOR STM32MP157A 650 MHz, 1024 Mbyte DRAM, 1V8 IO voltage, 2 Mbyte SPI boot flash, commercial temperature range
HS00009	DHCR-STM32MP151A-C065-R025-V33-SPI-C-01LG	DHCOR STM32MP151A 650 MHz, 256 Mbyte DRAM, 3V3 IO v oltage, 2 Mbyte SPI boot flash, commercial temperature range
HS00010	DHCR-STM32MP151A-C065-R025-V33-SPI-I-01LG	DHCOR STM32MP151A 650 MHz, 256 Mbyte DRAM, 3V3 IO voltage, 2 Mbyte SPI boot flash, industrial temperature range
HS00011	DHCR-STM32MP157C-C065-R051-V33-SPI-C-01LG	DHCOR STM32MP157C 650 MHz, 512 Mbyte DRAM, 3V3 IO voltage, 2 Mbyte SPI boot flash, commercial temperature range
HS00012	DHCR-STM32MP157C-C065-R051-V33-SPI-I-01LG	DHCOR STM32MP157C 650 MHz, 512 Mbyte DRAM, 3V3 IO voltage, 2 Mbyte SPI boot flash, industrial temperature range