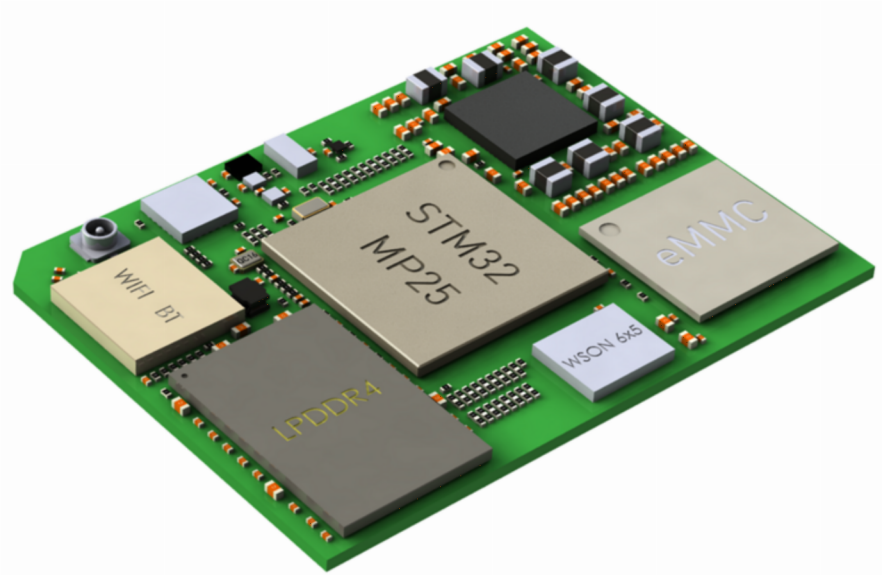
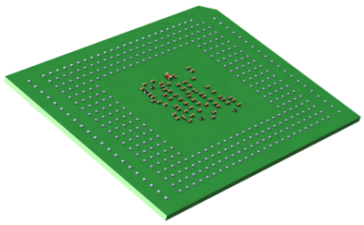
DHCOS STM32MP2





Based on STM32MP25x

- NEW: pin-compatible family standard for solder modules from DH
- Highlights: LPDDR4 RAM, SPI boot flash, eMMC flash, GBit Ethernet, WiFi/BT
- Dual Cortex-A35 @1.2 GHz and Cortex-M33 @400 MHz
- Multimedia support with 3D GPU, display, video, camera
- STPMIC1 supports low power modes
- Mainline Linux support (also for Vivante GPU)
- Space-saving with only 30 x 40 mm
- Guaranteed long-term availability of 10+ years

Technical Data

Board type	Solderable SOM
5-Cent Cooling available	✕
CPU details	2x ARM Cortex-A35 up to 1.5 GHz 1x ARM Cortex-M33 up to 400 MHz 1x ARM Cortex-M0+ up to 200 MHz"
CPU vendor	ST

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CPU type	Cortex-A35 Cortex-M33 Cortex-M0+
Co-processor available	✓
Number of cores	4, 2
GPU available	✓
GPU type	3D GPU: VeriSilicon® - Up to 150 Mtriangle/s, 900 Mpixel/s with OpenGL® ES 3.1 - Vulkan 1.3 and OpenCL™ 3.0, OpenVX™ 1.3 support
PMIC	STPMIC25APQR
Features	Neuronal Processing Unit (NPU) VeriSilicon® with up to 900 MHz and 1.35 TOPS | Video decode / encode H264 up to 1080p60
Security	"Secure boot | TrustZone® peripherals | active tamper | environmental monitors | display secure layers | hardware accelerators | Complete resource isolation framework | “On-the-fly” DDR encryption/decryption (AES-128)"
LPDDR4 DRAM	1 / 2 / 4 GB
DRAM details	LPDDR4-2400 32-bit
eMMC flash	4 / 8 / 16 GB
eMMC details	8-bit eMMC with HS200 support
SPI NOR flash	4 MB
E2Prom	4 kB
microSD available	✗
External RTC available	✓
Bluetooth available	✓

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WiFi available	✓
BSP	Linux (Yocto)
Debug interface	JTAG interface on module
Power supply	5.0 VDC
Typ. power consumption	1.5 to 3.5 W
Operating temperature	-40 to +85 °C
Storage temperature	-40 to +85 °C
Dimensions	39.0 x 29.0 x 3.2 mm
Dual Ethernet available	✓
Ethernet 0 - 1	2x Gbit Ethernet, TSN, IEEE 1588v2 hardware, MII/RMII/RGMII
SDIO 0	1x 4 bit mode, SDIO 4.0 / SD 3.01 / eMMC 5.1, 1V8 voltage transition for UHS-1 modes of SD card supported
SDIO 1	1x 4 bit mode, SDIO 4.0 / SD 3.01 / eMMC 5.1
CAN 0 - 1	2x FDCAN / TTCAN
UART 0	1x Rx / Tx for Linux and bootloader console connection
UART 1 - 3	3x Rx / Tx / Rts / Cts, up to 10.0 Mbit/s
SPI	1x 50 Mbit/s
QuadSPI	1x Single, dual and quad communication
I2C 0 - 1	2x Up to 1 Mbit/s
USB 0	1x USB 3.0 with 5Gbps | Operation mode USB 3.2 Gen 1x1 | Interfaces: USB-A, USB-C and microUSB
USB 1	1x USB 2.0 Host

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MIPI-CSI2	1x 2-lanes up to 2.5 Gbit/s | 5 Mpixels @30 fps
Display RGB	1x 18-bit RGB666 | up to FHD (1920 × 1080) @60 fps
MIPI-DSI	1x 4-lanes up to 2.5 Gbit/s | Up to QXGA (2048 × 1536) @60 fps
LVDS	1x Dual Link, 2x 4-lane LVDS | Up to 1.1 Gbit/s per lane | Up to QXGA (2048 × 1536) @60 fps"
PCIe	1x 1-lane PCI Express Gen2 up to 5 Gbit/s
PWM	2x PWM out, 16 Bit
Analog	2x 12 Bit ADC with internal or external voltage reference
I2S	1x
Number of GPIOs	15x
Boot mode	4x, UART/USB, Serial NOR, eMMC, SD-Card, Development boot
Supervisor signals	Reset_in, Reset_out, Power_good, Power_button, Interrupt_highest_priority
Power inputs	4x VCC_IN, VRTC, VBAT, ADC_VREF
Power outputs	5x VRGMII, VOUT, VSDIO0, VSDIO1, VRGB
USB CC	1x USB Type-C® Power Delivery control with two CC lines PHY
RTC EVI	1x Real Time Clock event input
WiFi / BT host wake	2x WiFi and Bluetooth Host wake inputs
Ethernet 2	1x Optionally Gbit Ethernet switch providing third external PHY interface

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Configurations

Item Number	Model (other configurations on request)	Product description
HS00046	DHCS-STM32MP255C-C120-R102-EE-F0819-SPI4-USB3-I-01LG	DHCOS STM32MP255C, 1.2 GHz, 1024 MByte LPDDR4 RAM, 256 kbit EEPROM, 8192 MByte eMMC flash, 4 MByte SPI boot flash, USB3, Industrial temp. -25 to +85 °C, DHCOS revision, LGA connection9-SPI4-USB3-I-01LG
HS00045	DHCS-STM32MP255C-C120-R204-EE-F0819-SPI4-RTC-USB3-I-01LG	DHCOS STM32MP255C, 1.2 GHz, 2048 MByte LPDDR4 RAM, 256 kbit EEPROM, 8192 MByte eMMC flash, 4 MByte SPI boot flash, temp. compensated RTC (instead of CPU internal RTC), USB3, Industrial te
HS00044	DHCS-STM32MP255C-C120-R204-EE-F0819-SPI4-RTC-WBT-USB3-I-01LG	DHCOS STM32MP255C, 1.2 GHz, 2048 MByte LPDDR4 RAM, 256 kbit EEPROM, 8192 MByte eMMC flash, 4 MByte SPI boot flash, temp. compensated RTC (instead of CPU internal RTC), WiFi/BT via Murata 2FY, USB3, Industrial temp. -25 to +85 °C, DHCOS revision, LGA connection
HS00043	DHCS-STM32MP255C-C120-R409-EE-F1638-SPI4-RTC-WBT-USB3-I-01LG	DHCOS STM32MP255C, 1.2 GHz, 4096 MByte LPDDR4 RAM, 256 kbit EEPROM, 16384 MByte eMMC flash, 4 MByte SPI boot flash, temp. compensated RTC (instead of CPU internal RTC), WiFi/BT via Murata 2FY, USB3, Industrial temp. -25 to +85 °C, DHCOS revision, LGA connection

* Other configurations on request

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