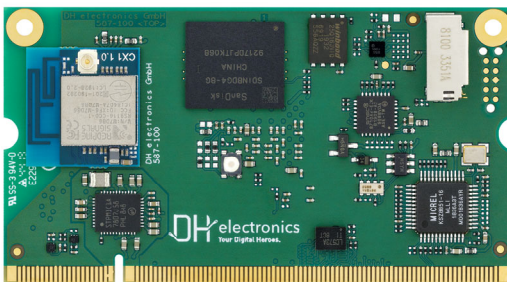
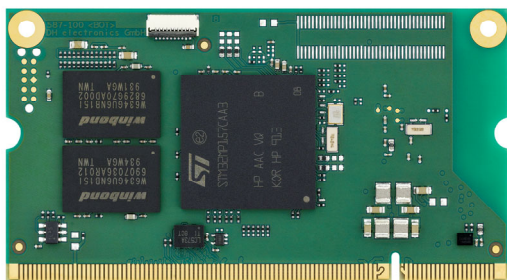
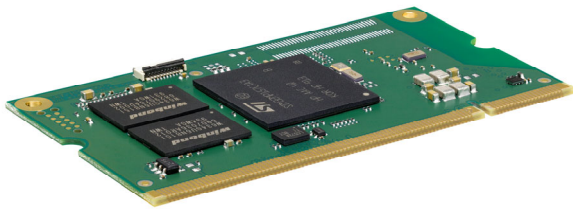


DHCOM STM32MP1

Pluggable, compatible SOM



Cortex
Intelligent Processors by ARM

HIGH SPEED SOCKET

RGMII (Gbit Ethernet) ^[2]	1, IEEE 1588v2
Sata	-
PCIe	-
MIPI CSI-2 (camera)	-
Display LVDS 2 ^[1]	-
HDMI	Only HDMI CEC

^[1] DHCOM MMC/SD is only available if WiFi/BT is not mounted. ^[2] Either Ethernet 1 or RGMII ^[3] CAN 2 port is shared with UART 1 Cts and Rts. With option CAN2 the UART 1 signals Cts and Rts are not available. ^[4] 14 GPIOs shared with parallel camera interface ^[5] Either 4x ADC or 2x ADC and 2x DAC. Attention: Please pay attention to the lifetime.

TECHNICAL DETAILS

Processor	Dual ARM Cortex®-A7 up to 800 MHz Single ARM Cortex®-M4 up to 209 MHz
Features	3D GPU OpenGL® ES2.0 up to 533 MHz Power Management: STPMIC1A
Security	TrustZone, cryptography, hash, secure boot
DDR3 DRAM	256 / 512 / 1024 Mbyte (32 bit)
eMMC flash	4 / 8 / 16 GB
SPI NOR flash	2 Mbyte boot flash
E2Prom	256 byte
WiFi / Bluetooth ^[1]	WiFi IEEE 802.11 a/b/g/n, 802.11j (hosted mode) with dual band (2.4 and 5 GHz) Bluetooth® v5.0 (BR/EDR/BLE) with LE 1 Mbps and 2 Mbps and Long Range mode support. PCB antenna and U.FL antenna connector
microSD socket	Available on module
Real-time clock RTC	With temperature compensation ± 3.0 ppm between -40 to +85°C
Supply	3.3 or 5.0 VDC / typ. 1 W-1.5 W (without WiFi/BT)
Temperature range	-40 to +85 °C operating
Dimensions	67.6 x 36.7 x 8.1 mm
Debug interface	JTAG interface on module
BSPs	Linux (Debian and Yocto support)

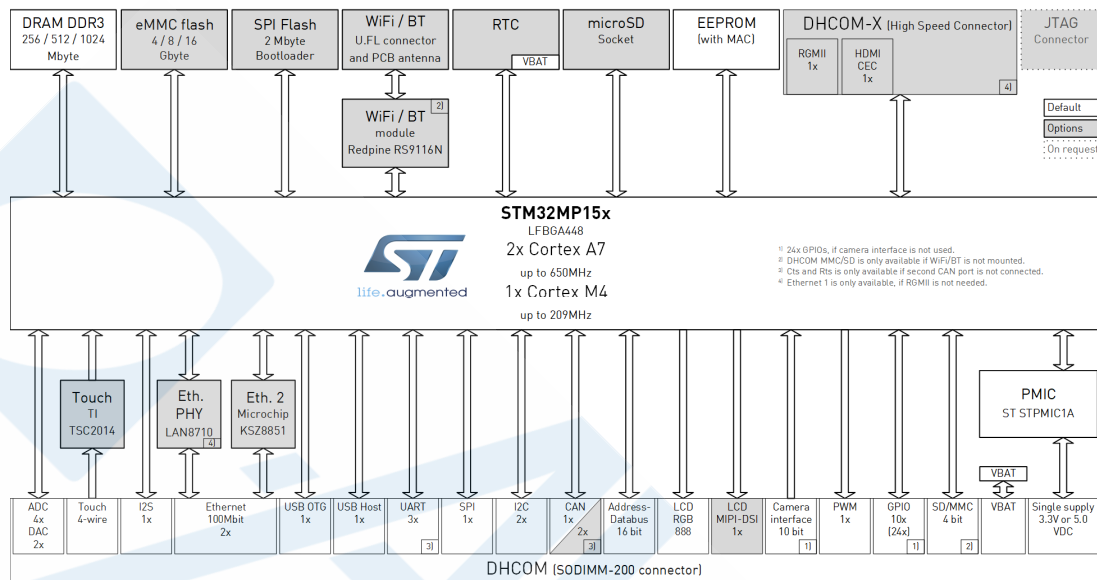
SODIMM-200 SOCKET

Bus interface	16 bit asynchron address/data bus, 1 CS
Ethernet 1 ^[2]	10 / 100 Mbit, IEEE 1588v2
Ethernet 2	10 / 100 Mbit
MMC/SD interface ^[1]	4 bit mode
CAN 1	V2.0B and CAN FD V1.0, TTCAN (time triggered)
CAN 2 ^[3]	V2.0B and CAN FD V1.0
UART 1 ^[3]	Rx / Tx / Rts / Cts, up to 12.5 Mbit/s
UART 2	Rx / Tx / Rts / Cts, up to 12.5 Mbit/s
UART 3	Rx / Tx, up to 12.5 Mbit/s
SPI 1	max. 50 Mbit/s
SPI 2	-
I2C 1	max. 1 Mbit/s
I2C 2	max. 1 Mbit/s
USB host 1	High-Speed
USB host 2	-
USB OTG	High-Speed
CSI (parallel camera) ^[4]	10 bit interface up to 140 Mbytes/s
Display RGB	Max. 1366 x 768 pixels, 24 bit
MIPI®-DSI	MIPI®-DSI 2 data lanes up to 1 GHz each
Touch	4-wire
I2S	1
GPIOs ^[4]	24 IOs
PWM	1x 16 bit
Analog ^[5]	4x 16 bit ADC and 2x 12 bit DAC

DHCOM STM32MP1

Pluggable, compatible SOM

BLOCK DIAGRAM



ORDERING INFORMATION

Ordering Configuration: DHCM-CPU-Cxxx-Rxxx[-Fxxxx][-SPI][-E/E2][-CAN2][-SD/SDR104][-RTC][-WBT][-T][-DSI][-HS]-X-01D2

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, 800 MHz: C080
Rxxx	256 Mbyte: R025, 512 Mbyte: R051, 1024 Mbyte: R102
X	Commercial temperature range [0 to +70 °C]: C, Industrial temperature range [-40 to +85 °C]: I Industrial temp. range is -25 to +85 °C for eMMC. Please contact us for -40 to +85 °C version. Industrial temp. range is -20 to +85 °C for 800 MHz version.
01D2	DHCOM Revision, SODIMM200 socket

Options

[-Fxxxx]	4096 Mbyte eMMC: F0409, 8192 Mbyte eMMC: F0819, 16384 Mbyte eMMC: F1638
[-SPI]	2 Mbyte SPI boot flash
[-E] or [-E2]	1x 100 Mbit Ethernet: E 2x 100 Mbit Ethernet: E2
[-CAN2]	Second CAN port available
[-SD]	microSD socket with high speed connection: SD
[-RTC]	Low power temperature compensated real time clock (instead of CPU internal RTC)
[-WBT]	WiFi and Bluetooth® via Redpine RS9116N module with U.FL connector and PCB antenna: WBT
[-T]	Resistive touch controller
[-DSI]	MIPI-DSI interface connected to LVDS SODIMM-200 connections

Info: RGMII and CEC on request

Item number	Model [other configurations on request]
HS00014	DHCM-STM32MP157C-C065-R102-F0819-SPI-E2-CAN2-SD-RTC-WBT-T-DSI-I-01D2
HS00015	DHCM-STM32MP157C-C065-R102-F0819-SPI-E-CAN2-SD-RTC-T-DSI-I-01D2
HS00016	DHCM-STM32MP153C-C065-R102-F0819-SPI-E2-CAN2-RTC-I-01D2
HS00017	DHCM-STM32MP153C-C065-R051-F0819-SPI-E-CAN2-I-01D2

Suggested versions are for -25 to +85 °C.
Temperature range -40 to +85 °C and other configurations are available on request!