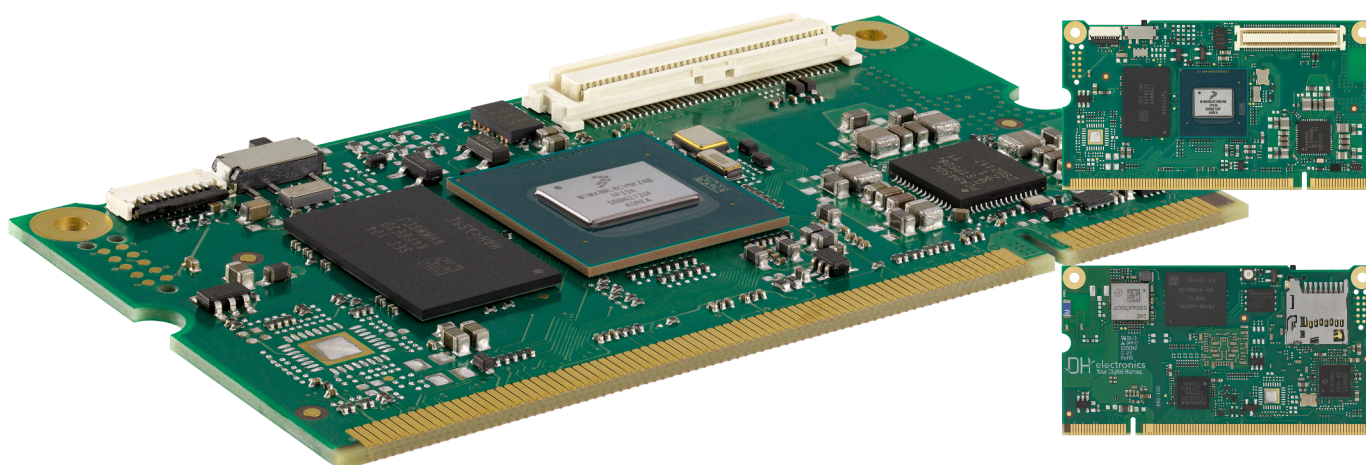


DHCOM i.MX8M Plus



Powerful dual or quad Cortex-A53 processor with Neural Processing Unit.

- ▶ Real-time control, machine learning, AI, advanced multimedia, industrial automation.
- ▶ NPU with up to 2.3 TOPS enables matrix calculations e.g. for pattern, speech, object recognition
- ▶ Advanced image and video processing via video encoding and decoding
- ▶ Compatible with other modules from the DHCOM family (SODIMM-200 socket)
- ▶ No heat sink necessary thanks to 5-Cent Cooling Solution
- ▶ Guaranteed long-term availability of 10+ years

Technical Data

Board type	Pluggable SOM
5-Cent Cooling available	✓
CPU details	Quad ARM Cortex-A53 up to 1.6 GHz Single ARM Cortex-M7 up to 800 MHz
CPU vendor	NXP
CPU type	Cortex-A53 Cortex-M7

Co-processor available	✓
Number of cores	5
GPU available	✓
GPU type	2D / 3D graphics accelerator
PMIC	PCA9450CHN
Features	Neuronal Processing Unit (NPU) with 2.3 TOPS to accelerate machine learning inferences, two camera inputs and HDR ISP, enhanced multimedia capabilities (encode and decode H.265 and H.264 at 1080p 60fps)
Security	Widevine and PlayReady DRM content protection, public Key Cryptography with RSA and ECC algorithms, TrustZone, Resource Domain Controller with 4 domains and 8 regions, Secure Boot / High Assurance Boot (HAS)
LPDDR4 DRAM 1	1 / 2 / 4 / 8 (on request) GB
E2Prom	256 Byte
microSD available	✓
External RTC available	✓
Bluetooth available	✓
Bluetooth version	Bluetooth® v5.0 (BR/EDR/BLE) with chip antenna or U.FL connector
WiFi available	✓
WiFi version	WiFi IEEE 802.11 a/b/g/n/ac with dual band (2.4 and 5 GHz)
BSP	Linux (Debian, Yocto)
Debug interface	JTAG interface on module

Power supply	3.3 or 5.0 VDC
Typ. power consumption	2.0 to 4.0 W
Operating temperature	-40 to +85 °C
Storage temperature	-40 to +85 °C
Dimensions	67.6 x 36.7 x 8.1 mm

SODIMM-200 socket

Dual Ethernet available	✓
Ethernet 1	Gbit Ethernet or 100 Mbit Ethernet with support for Time Sensitive Networking (TSN)
Ethernet 2	100 Mbit Ethernet
MMC/SD	4 Bit mode
CAN 1	V2.0B and CAN FD
CAN 2	V2.0B and CAN FD
UART 1	Rx / Tx / Rts / Cts, up to 4.0 Mbit/s
UART 2	Rx / Tx / Rts / Cts, up to 4.0 Mbit/s
UART 3	Rx / Tx, up to 4.0 Mbit/s
SPI 1	52 Mbit/s
SPI 2	52 Mbit/s
I2C 1	320 kbit/s
I2C 2	320 kbit/s
USB host 1	High-speed
USB host 2	-

USB OTG	High-speed
MIPI®-CSI 2	4-lanes up to 1.5 Gbit/s and HDR ISP
Display RGB	24 Bit
Display LVDS 1	4-lane LVDS fps
Touch	4-wire
I2S	1
Number of GPIOs	12
PWM output	1 PWM out, 16 Bit
Analog inputs	4x 12 Bit ADC with internal voltage reference

High-speed socket

RGMII (Gbit Ethernet)	IEEE 1588, ENET AVB, Energy efficient ethernet (EEE)
PCIe	1-lane PCI Express Gen 3
MIPI CSI-2	2-lanes up to 1.5 Gbit/s and HDR ISP
Display LVDS 2	4-lane LVDS
HDMI	HDMI 2.0 up to 1080 px @ 60 fps DHCP 2.2 and 1.4
USB 3.0	Support for USB type C

Configurations

Item Number	Model (other configurations on request)	Product description
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HI00104	DHCM-iMX8ML8-C160-R409-F1638-SPI16-GE-CAN2-SD-RTC-WBTA-ADC-T-RGB-CSI2-HS-I-01D2	DHCOM i.MX8M Plus Quad with VPU, NPU, ISP, HiFi4, 1.6 GHz, 4096 MByte DRAM, 16384 MByte eMMC flash, 16 MByte SPI boot flash, 1x Gbit ethernet + RGMII on Highspeed socket, second CAN port, microSD socket, RTC, WiFi and BT module with chip antenna, 4x ADC inputs, resistive touch, RGB interface, MIPI-CSI2 interface connected to parallel camera SODIMM200 connections, Highspeed interface connector, -25 to +85 °C, DHCOM revision, SODIMM200 socket
HI00105	DHCM-iMX8ML8-C160-R204-F1638-SPI16-E-SD-RTC-T-RGB-CSI2-I-01D2	DHCOM i.MX8M Plus Quad with VPU, NPU, ISP, HiFi4, 1.6 GHz, 2048 MByte DRAM, 16384 MByte eMMC flash, 16 MByte SPI boot flash, 1x100 Mbit ethernet + RGMII on Highspeed socket, microSD socket, RTC, resistive touch, RGB interface, MIPI-CSI2 interface connected to parallel camera SODIMM200 connections, -25 to +85 °C, DHCOM revision, SODIMM200 socket
HI00106	DHCM-iMX8ML8-C160-R204-F1638-SPI16-E2-CAN2-RTC-CSI2-I-01D2	DHCOM i.MX8M Plus Quad with VPU, NPU, ISP, HiFi4, 1.6 GHz, 2048 MByte DRAM, 16384 MByte eMMC flash, 16 MByte SPI boot flash, 1x Gbit ethernet + RGMII on Highspeed socket, second CAN port, RTC, MIPI-CSI2 interface connected to parallel camera SODIMM200 connections, -25 to +85 °C, DHCOM revision, SODIMM200 socket

* Other configurations on request

Block Diagrams

DHCOM i.MX8M Plus

