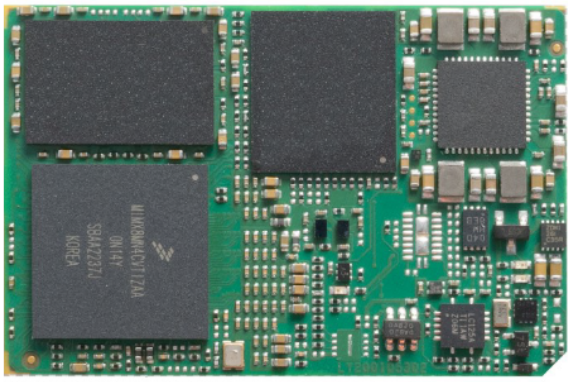
TRIA OSM-MF-IMX8MINI

NXP™ i.MX 8M Mini ARM® Cortex™-A53



30 x 45 mm

2-5 W

-40 +85

Highlights

- Single, Dual or Quad core ARM Cortex-A53
- Applications Processor up to 1.8GHz
- ARM Cortex-M4 Real Time Processor up to 400MHz
- Vivante GC NanoUltra 2D/3D Graphics Processor
- Up to 4GB LPDDR4 SDRAM
- Up to 256GB eMMC Flash
- MIPI-DSI x4
- MIPI CSI-2 (4-lane) Camera Interface
- 1x USB 2.0 Host/Device interface
- 1x USB 2.0 Host
- 1x Ethernet (RGMII)
- 2x MMC/SD/SDIO interface
- 2x I2S Audio Interface
- 32x GPIO, 4x PWM
- 4x UART, 2x SPI, 2x I2C
- 1x PCIe x1 Gen.2
- OSM-MF Compliant, 476 Pin, RM 1,25 mm

Technical Data

Technology	ARM
Formfactor	OSM-MF, 476 Contacts, RM 1,25 mm
CPU	NXP i.MX 8M Mini ARM Cortex-A53 Applications Processor • i.MX 8M Mini Solo, single-core, 1.6 - 1.8GHz • i.MX 8M Mini Dual, dual-core, 1.6 - 1.8GHz • i.MX 8M Mini Quad, quad-core, 1.6 - 1.8GHz • i.MX 8M Mini SoloLite, single-core, 1.6 - 1.8GHz • i.MX 8M Mini DualLite, dual-core, 1.6 - 1.8GHz • i.MX 8M Mini QuadLite, quad-core, 1.6 - 1.8GHz ARM Cortex-M4 Real Time Processor at 400MHz
Chipset	SOC
RAM	Up to 4GB 3000MT/s LPDDR4 SDRAM, soldered
Flash	Up to 256GB eMMC Flash QSPI NOR Flash (optional)
Storage Interfaces	2x MMC/SD/SDIO
USB	1x USB 2.0 Host/Client, 1x USB 2.0 Host
Serial Interfaces	1x UART Console with Rx, Tx only 2x UART with 2-wire hand shake 1x UART w/o hand shake
Bus Interfaces	1x PCI Express x1 Gen.2 lane 2x I2C up to 400 Kbit/s 2x SPI (with two chip selects)
Display Controller	Vivante GC NanoUlta 3D Graphics Processing Unit (GPU) 3D Graphics Acceleration, 1 shader, 6.4 GFLOPS OpenGL ES 1.0, 2.0 Video Processing Unit (not available on "Mini Lite") with hardware support for 1080p60 HEVC H.265, VP9, H.264, VP8 decode 1080p60 H.264, VP8 encode
Display Interfaces	MIPI-DSI Display Interface, 4 lanes, up to 1920x1080 @ 60fps
Network Interface	1x Ethernet (RGMII interface)
Audio Interface	2x I2S Audio
Security Device	Advanced Security, Safety, and Reliability integrated in the SOC
Miscellaneous	Watchdog Timer for system reset (programmable, 1s ... 600s) Temperature compensated RTC 24x GPIO, configurable as input or output 4x PWM MIPI CSI-2 camera interface (4 lane)
Feature Highlights	OSM, Size-M compatible
OS Support	Linux Board Support Package Android Board Support Package (on request)
Power Requirement	Power Supply +5V +/-5% Power Consumption 2-5 W typ. (depending on CPU and optional features)

Environment	Temperature Range: 0°C ... +70°C operating commercial -40°C ... +85°C operating extended -40°C ... +85°C storage Humidity: 5 ... 95% (operating, non condensing) 5 ... 95% (storage, non-condensing)
Dimensions	30 x 45 mm
Certificates	UL / CE
Carrier	TRIA SM2F-OSM-AD-001

Technical Data for TRIA OSM-MF-IMX8MINI

Order Reference

Order No.	Description	Reference	Status*
98981	OSM 1.1 module based on NXP i.MX 8M Mini DualLite, Dual-Core Cortex-A53 processor at 1.8GHz, 1GB LPDDR4, 8GB eMMC Flash, 1x USB2.0 Host/Device, 1x USB2.0 Host, commercial temperature 0...+70°C	MSC OSM-MF-IMX8MINI-DCL-03N0800C PCBFTX	PV
98982	OSM 1.1 module based on NXP i.MX 8M Mini, Quad-Core Cortex-A53 processor at 1.6GHz, 2GB LPDDR4, 8GB eMMC Flash, 1x USB2.0 Host/ Device, 1x USB2.0 Host, QSPI on GPIO, industrial temperature -40...+85°C	MSC OSM-MF-IMX8MINI-QC-13N0820I PCBFTX	PV
98983	OSM 1.1 module based on NXP i.MX 8M Mini, Quad-Core Cortex-A53 processor at 1.6GHz, 2GB LPDDR4, 16GB eMMC Flash, 1x USB2.0 Host/ Device, 1x USB2.0 Host, industrial temperature -40...+85°C	MSC OSM-MF-IMX8MINI-QC-14N0800I PCBFTX	PV
96649	OSM 1.1 module based on NXP i.MX 8M Mini Quad, Quad-Core Cortex-A53 processor at 1.6GHz, 4GB LPDDR4, 16GB eMMC Flash, 8MB QSPI NOR, soldered on SM2F-OSM-AD-001	MSC SM2F-OSM-AD-8MQ4G160-001 ES2 PCBES	OR
96648	OSM 1.1 module based on NXP i.MX 8M Mini, Quad-Core Cortex-A53 processor at 1.6GHz, 2GB LPDDR4, 8GB eMMC Flash, soldered on SM2F-OSM-AD-001	MSC SM2F-OSM-AD-8MQ2G80-001 ES2 PCBES	OR

Ordering Information for TRIA OSM-MF-IMX8MINI

*PV = Preferred variant; OR = on Request (in OEM quantities only)

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