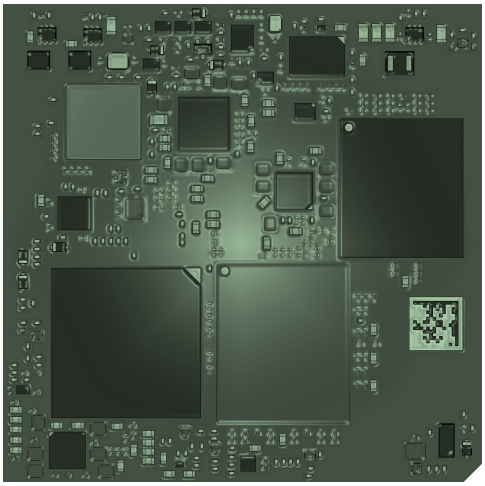
TRIA OSM-LF-Q7790

Qualcomm Q7 Series Q7790 ARM® Cortex™-A720/A520

PRELIMINARY

45 x 45 mm



xxW

-25 +85

OPEN STANDARD MODULE™

Qualcomm

Highlights

- Outstanding CPU, graphics and AI performance density in OSM Size-L format
- Powered by Qualcomm® QCS7790 octal-core processor
    - 5x Arm® Cortex®-A720 cores @ up to 2.8 GHz
    - 3x Arm® Cortex®-A520 cores @ up to 1.8 GHz
- Dedicated Qualcomm® AI Engine with up to 24 TOPS for edge AI inference workloads
- High-performance Adreno™ GPU for advanced graphics and AI workloads
- Integrated Spectra™ ISP for intelligent vision and camera applications
- Hardware-accelerated 4K video encode and decode for multimedia and video analytics
- Up to 16GB LPDDR5 SDRAM, up to 1TB UFS flash
- PCI Express®, USB 3.x and Gigabit Ethernet connectivity
- MIPI-CSI camera interfaces for multi-camera systems
- MIPI-DSI, HDMI and DP display support
- Optimized for edge AI, machine vision, robotics and intelligent edge computing
- Yocto Linux BSP available, Android on request

- OSM Size-L "Large": 45 mm x 45 mm with 662 contacts

Technical Data

Technology	ARM
Formfactor	OSM-LF, 662 Contacts, RM 1,25 mm
CPU	Octa Core CPU powered by the Qualcomm® Dragonwing™ Q-7790 Processor • 5x Arm® Cortex®-A720 up to 2.8 GHz (Kryo Prime + Gold) • 3x Arm® Cortex®-A520 up to 1.8 GHz (Kryo Silver, low-power) Dedicated Qualcomm® AI Engine (24 TOPs)
Chipset	SOC
RAM	Up to 16GB LPDDR5(x)
Flash	Up to 1TB UFS Flash
Storage Interfaces	2x SDIO
USB	1x USB 3.1, 1x USB 2.0 (in Force-Recovery)
Serial Interfaces	1x UART Console with Rx, Tx only 2x UART with Rx, Tx only 2x UART with 2-wire hand shake
Bus Interfaces	1x PCIe x1 Gen3 1x PCIe x1 Gen 3 + 1x PCIe x2 Gen3 (optional) 5x I2C 1x SPI (with two chip selects) 1x QSPI/SPI (with two chip selects)
Display Controller	Qualcomm® Adreno™ 722 GPU Qualcomm Spectra™ Triple-ISP image-processing engine Qualcomm® Adreno™ VPU for high-quality, ultra HD video encode and decode Qualcomm® Adreno™ DPU for ultra HD display support
Display Interfaces	1x MIPI-DSI (4 lanes) 1x DP (2 lanes) 1x HDMI 2.1 Up to Dual 4K support.
Network Interface	2x Gigabit Ethernet (1x RGMII up to 1 Gbit/s / 1x SGMII up to 2.5 Gbit/s) (optional)
Audio Interface	2x I2S Audio
Security Device	Qualcomm® Trusted Execution Environment (TEE) Integrated Total Memory Encryption (TME) Secure Boot Support FIPS Security Standard ready; Device Integrity Support
Miscellaneous	Watchdog Timer for system reset (programmable, 1s ... 600s) RTC 24x GPIO, configurable as input or output, interrupt capable 2x PWM 2x ADC inputs Up to 4 cameras over 3 x 4-lane MIPI CSI-2 v1.3 (D-PHY 1.2, C-PHY 1.0) Note: 3rd MIPI CSI interface on RSVD-pins
Feature Highlights	OSM, Size-L compatible
OS Support	Yocto Linux Board Support Package Android support on request
Power Requirement	Power Supply +5V +/-5% Power Consumption xxW typ.

Environment	Temperature Range: Commercial: 0° ... 70°C (operating) -20° ... 85°C (storage) Extended: -25° ... 85°C (operating) -40° ... 85°C (storage) Humidity: 5 ... 95% (operating, non condensing) 5 ... 95% (storage, non-condensing)
Dimensions	45 x 45 mm
Certificates	UL / CE
Carrier	TRIA OSM-SB-EP5

Technical Data for TRIA OSM-LF-Q7790

Order Reference

Order No.	Description	Reference	Status*
TBD			

Ordering Information for TRIA OSM-LF-Q7790

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

Tria Technologies GmbH
Industriestr. 16
76297 Stutensee
info@tria-technologies.com
tria-technologies.com

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