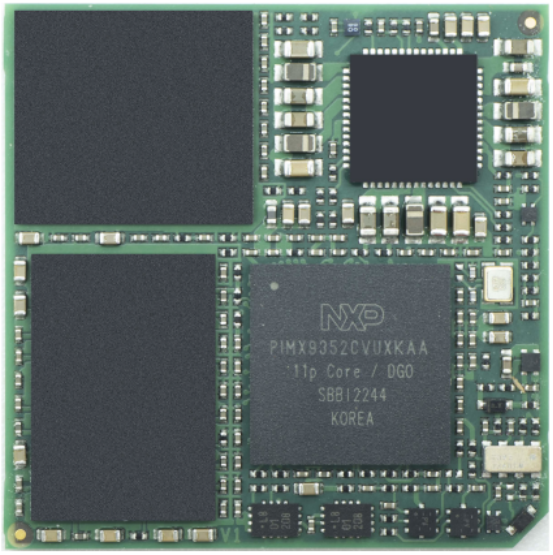
TRIA OSM-SF-IMX91

NXP™ i.MX 91 ARM® Cortex™-A55



30 x 30 mm

500mW -2W

-40 +85

OPEN STANDARD MODULE™

NXP

Highlights

- Single core ARM Cortex-A55 Application Processor up to 1.4GHz
- Media Processing Engine (MPE) with Arm Neon™ technology
- Up to 2GB LPDDR4 SDRAM with inline ECC
- Up to 256GB eMMC Flash
- 1x USB 2.0 Host interface
- 1x USB 2.0 Host/Device interface
- 2x Gigabit Ethernet (RGMII)
- 2x SD/SDIO interface
- 2x CAN-FD interfaces
- 1x I2S Audio interface
- 4x UART, 2x SPI, 4x I2C
- 20x GPIO
- 2x ADC inputs (12-bit)
- Optimized design for low power applications
- OSM 1.1 (SF) Compliant, 322 Pin, RM 1,25 mm

Technical Data

Technology	ARM
Formfactor	OSM-SF, 322 Pin, RM 1,25 mm
CPU	NXP i.MX 91 Arm Cortex-A55 Application Processors - i.MX 9131, single-core, 1.4GHz - i.MX 9121, single-core, 0.8GHz consumer and industrial grade
Chipset	SOC
RAM	Up to 2GB 2400MT/s LPDDR4 SDRAM, soldered, inline ECC support
Flash	Up to 256GB eMMC Flash
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 1x UART with 2-wire hand shake 2x UART w/o hand shake
Bus Interfaces	2x I2C up to 400 Kbit/s 2x SPI (with two chip selects) 2x CAN-FD /CAN 2.0B
Display Controller	not available
Display Interfaces	not available
Network Interface	2x Ethernet, (RGMII interface)
Audio Interface	1x I2S Audio
Security Device	Advanced Security, Safety, and Reliability integrated in the SOC Integrated EdgeLock secure enclave enables autonomous management of security functions, including runtime attestation, silicon root of trust, reusable certifications, trust provisioning, and fine-grain key management augmented by extensive crypto services for advanced attack resistance
Miscellaneous	Watchdog Timer for system reset (programmable, 1s ... 600s) RTC 20x GPIO, configurable as input or output, interrupt capable 2x PWM 2x ADC inputs (12-bit) Camera interface not available
Feature Highlights	OSM, Size-S compatible
Firmware	uboot
OS Support	Linux Board Support Package Android Board Support Package (on request)
Power Requirement	Power Supply +5V +/-5% Power Consumption 500mW - 2W typ. (depending on CPU)
Environment	Temperature Range: Commercial: 0° ... 70°C (operating) -20° ... 85°C (storage) Extended: -25° ... 85°C (operating) -40° ... 85°C (storage) Industrial: -40° ... 85°C (operating) -40° ... 85°C (storage) Humidity: 5 ... 95% (operating, non condensing) 5 ... 95% (storage, non-condensing)

OSM

Dimensions	30 x 30 mm
Certificates	UL / CE
Carrier	TRIA SM2F-OSM-AD-001

Technical Data for TRIA OSM-SF-IMX91

Order Reference

Order No.	Description	Reference	Status*
115534	OSM 1.1 module based on NXP i.MX 9131, Single Core Cortex-A55 processor at 1.4GHz, 1GB LPDDR4, 16GB eMMC Flash, 2x GbE (RGMII), 1x USB2.0 Host, 1x USB2.0 Host/Device, 2x CAN-FD, industrial temperature -40...+85°C (Engineering Sample - get in touch with your sales representative)	MSC OSM-SF-IMX91-SC-04N0A00I ES1 PCBES	OR
116113	OSM 1.1 module based on NXP i.MX 9131, Single Core Cortex-A55 processor at 1.4GHz, 1GB LPDDR4, 16GB eMMC Flash, soldered on SM2F-OSM-AD-001 (Engineering Sample - get in touch with your sales representative)	MSC SM2F-OSM-AD-91D1G160-001 ES3 PCBES	OR

Ordering Information for TRIA OSM-SF-IMX91

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

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