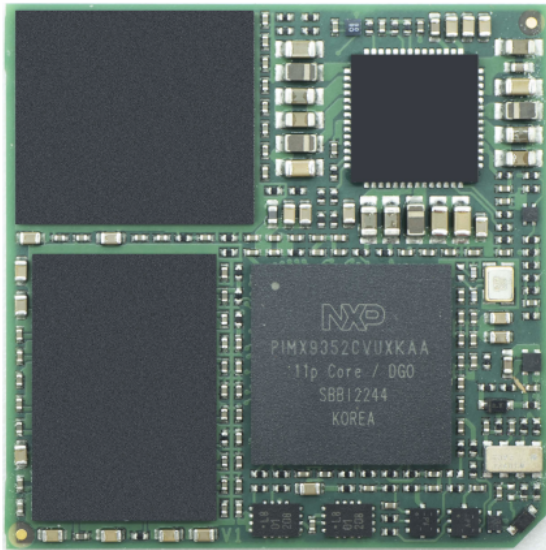


## TRIA OSM-SF-IMX91

NXP™ i.MX 91 ARM® Cortex™-A55

30 x 30 mm



500mW -2W

-40 +85



## 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

<b>Technology</b>	ARM
<b>Formfactor</b>	OSM-SF, 332 Contacts, RM 1,25 mm
<b>CPU</b>	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
<b>Chipset</b>	SOC
<b>RAM</b>	Up to 2GB 2400MT/s LPDDR4 SDRAM, soldered, inline ECC support
<b>Flash</b>	Up to 256GB eMMC Flash
<b>Storage Interfaces</b>	2x MMC/SD/SDIO
<b>USB</b>	1x USB 2.0 Host/Client, 1x USB 2.0 Host
<b>Serial Interfaces</b>	1x UART Console with Rx, Tx only 1x UART with 2-wire hand shake 2x UART w/o hand shake
<b>Bus Interfaces</b>	2x I2C up to 400 Kbit/s 2x SPI (with two chip selects) 2x CAN-FD /CAN 2.0B
<b>Display Controller</b>	not available
<b>Display Interfaces</b>	not available
<b>Network Interface</b>	2x Ethernet, (RGMII interface)
<b>Audio Interface</b>	1x I2S Audio
<b>Security Device</b>	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
<b>Miscellaneous</b>	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
<b>Feature Highlights</b>	OSM, Size-S compatible
<b>Firmware</b>	uboot
<b>OS Support</b>	Linux Board Support Package Android Board Support Package (on request)
<b>Power Requirement</b>	Power Supply +5V +/-5% Power Consumption 500mW - 2W typ. (depending on CPU)
<b>Environment</b>	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)

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

Technical Data for TRIA OSM-SF-IMX91

## Order Reference

Order No.	Description	Reference	Status*
120915	OSM module Size S (30x30 mm) with i.MX9131 (Single Core, Ind., 1.4 GHz), 1GB LPDDR4, 8GB eMMC, no graphics (headless), 2x GbE (RGMII), 1x USB2.0 Host, 1x USB2.0 Host/Device, 2x CAN-FD, Industrial Temperature (-40..+85°C)	MSC OSM-SF-IMX91-SC-03N0N00I PCBFTX	PV
120916	OSM module Size S (30x30 mm) with i.MX9131 (Single Core, Ind., 1.4 GHz), 1GB LPDDR4, 8GB eMMC, no graphics (headless), 2x GbE (RGMII), 1x USB2.0 Host, 1x USB2.0 Host/Device, 2x CAN-FD, Industrial Temperature (-40..+85°C), Tape&Reel packaging, PU: 240 pcs.	MSC OSM-SF-IMX91-SC-03N0N00I-RN PCBFTX	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 E53 PCBES	OR

Ordering Information for TRIA OSM-SF-IMX91

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

# OSM



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