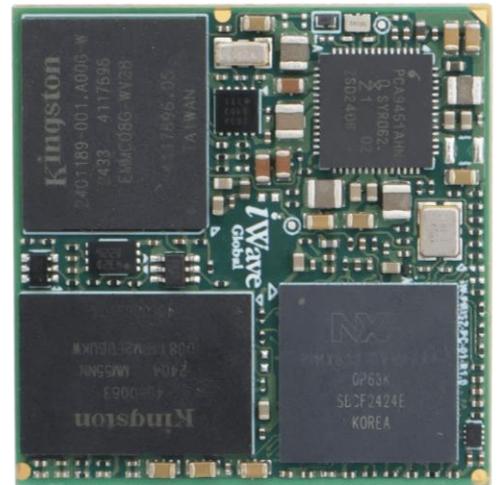


iW-RainboW- G50M

i.MX 91 Size-S OSM

System on Module

The i.MX 91 SoC based Size-S Module is designed as per the Open Standard Module™ specification (OSM) v1.2. It supports NXP's i.MX 91 single Cortex® -A55 processor operating at up to 1.4 GHz, 1GB LPDDR4, 8GB eMMC & 32Kbit EEPROM, 2 x 1Gb Ethernet. Supports external RTC controller for real time clock. The i.MX 91 SoC based Size-S Module is flexible to be operate at industrial grade temperatures.

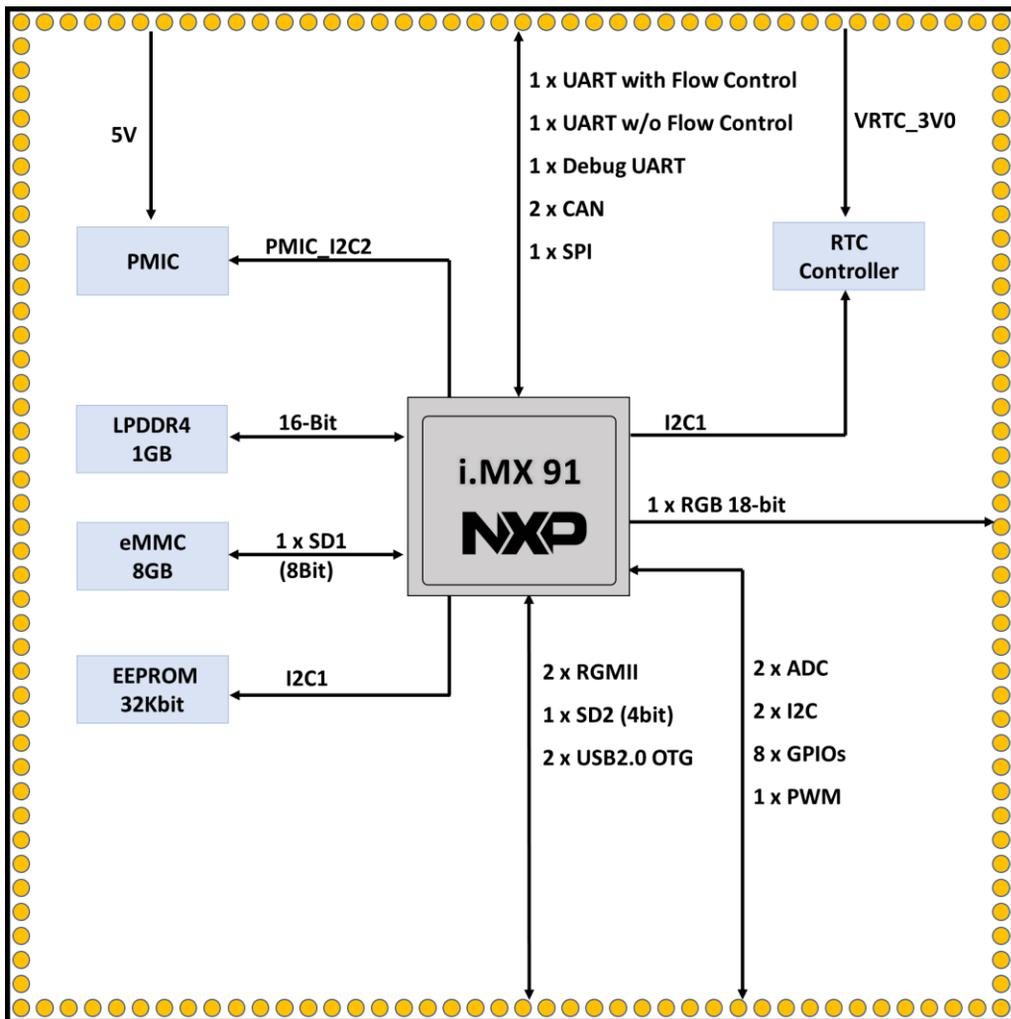


Highlights

- ❖ i.MX 91 SoC with Single core Arm Cortex-A55
- ❖ 1GB LPDDR4 expandable up to 2GB
- ❖ 8GB eMMC Flash expandable up to 32GB
- ❖ Supports 2 x 1Gb Ethernet
- ❖ Supports 32Kbit on SOM EEPROM
- ❖ Form Factor: 30mm x 30mm
- ❖ OSM v1.2 Size-SF LGA Solderable Module

Ordering Information

Block Diagram



Technical Specifications

CPU	Single core Arm® Cortex®-A55 up to 1.4GHz
Memory	1GB LPDDR4 (Expandable)
Storage	8GB eMMC Flash (Expandable) 32Kb I2C EEPROM
OSM LGA Features	<ul style="list-style-type: none"> • 2 x RGMII • 2 x USB 2.0 OTG • 1 x SD (4bit) • 1 x SPI, 2 x I2C • 1 x UART with Flow Control • 1 x UART w/o Flow Control

OSM LGA Features	<ul style="list-style-type: none"> • 1 x Debug UART • 2 x CAN • 1 x RGB (18bit) • 1 x PWM • 2 x ADC • 8 x GPIOs
Operating System	Linux 6.6.52
Operating Temp.	-40°C to +85°C (Industrial Grade)
Form Factor	30mm x 30mm
Power Input	5V input through OSM LGA
Environment Spec.	REACH & RoHS3 Compliant

Deliverables

- i.MX 91 OSM Module
- Thermal solutions
- Board Support Package

Resources

- Datasheet
- Quick Start Guide
- Linux User Manual

Product accessories



i.MX 91 SBC

The i.MX 91 SBC integrates NXP offering Single core Cortex-A55@1.4GHz, 2 x Ethernet PHY, 18-bit RGB display and Expansion Connectors.

To be Discussed

Thermal Solutions

For any highly integrated OSM Modules, thermal design is very important factor. iWave Supports Heat Sink solution i.MX91 OSM LGA Module

To be Discussed

Enclosure

The Enclosure is essential for a SBC, iWave provides rugged Aluminum and metal enclosure options which keeps the device safe whilst maintaining full access to all the major ports.

Applications

Industrial Monitoring and HMI

Enables seamless interaction between humans and machines in automation and smart systems supporting management and security.

Smart Home, Office and City

Improves energy efficiency, security, and control in smart buildings. Facilitates secure data transmission and edge computing for management.

EV Charging

This system will be used in EV charging infrastructures due to its flexibility, security, power efficiency, and capability to manage complex communication and control systems.

Building Automation and Monitoring

i.MX 91 SoC based system will be seamlessly integrated in building automation and monitoring by acting as the central control unit that manages, integrates, and optimizes various building systems.

A Global Leader in Embedded Systems Engineering and Solutions

Since 1999, we have pioneered leadership in embedded systems technology, establishing ourselves as a strategic embedded technology partner for advanced solutions. Our comprehensive portfolio encompasses ARM and FPGA System on Modules, COTS FPGA solutions, and ODM solutions which include Telematics, Gateways & HMI Solutions.

Beyond our robust product ecosystem, we provide comprehensive ODM support with specialized custom design and manufacturing capabilities, enabling customers to accelerate and optimize their product development roadmaps. With a strategic focus on industrial, automotive, medical, and avionics markets, we deliver innovative technology solutions to global clients.

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