

iG-61M®

i.MX 95 SMARC System on Module

iWave's i.MX 95 SMARC System on Module is a high-performance, compact embedded platform built on the SMARC v2.1.1 standard. Powered by the NXP i.MX 95 processor, it delivers a balance of high compute performance, real-time processing, and low-power operation, making it ideal for next-generation edge and AI-enabled applications.

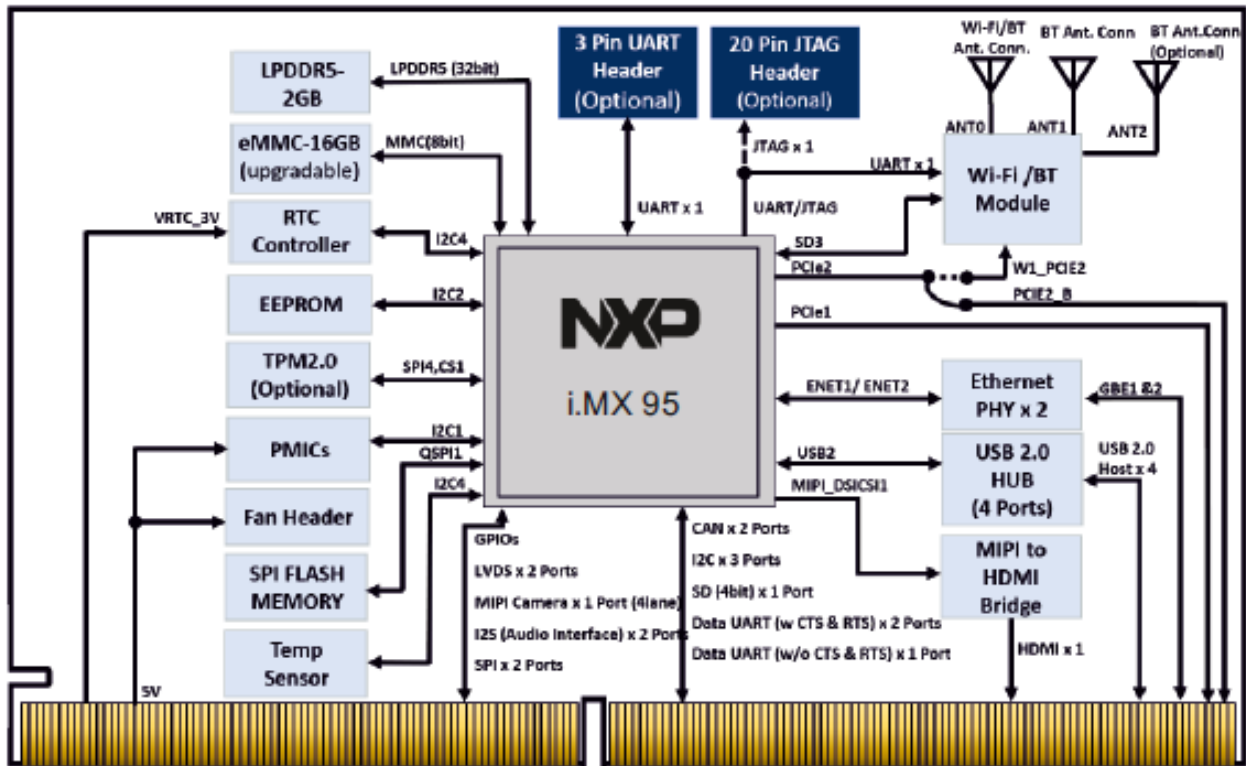


The module integrates multi-core Arm processing, high-speed connectivity, and advanced multimedia capabilities in a compact 82 × 50 mm form factor. With support for modern interfaces and scalable memory, it enables faster product development and seamless integration across industrial, automotive, and intelligent edge systems.

Highlights

- ❖ i.MX 95 CPU with 6 Arm Cortex-A55 @2.0 GHz, 1 x Cortex-M33 @333MHz, 1 x Cortex-M7 @800MHz
- ❖ NPU with up to 2.0 TOPS Neural Network performance
- ❖ Up to 16GB LPDDR5, 16GB eMMC Flash (Expandable) & 16Mb QSPI Flash
- ❖ Wi-Fi 6 & Bluetooth 5.3 Connectivity
- ❖ SMARC v2.1.1 compatible SOM

Block Diagram



Technical Specifications

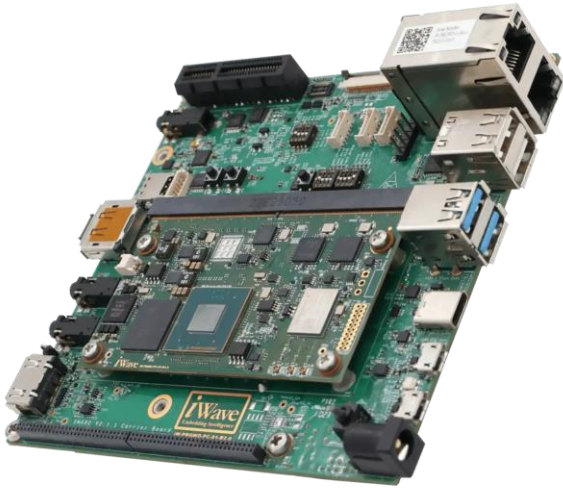
CPU	i.MX 95: 6 x Cortex-A55 @2.0 GHz, 1 x M33 core @333MHz, 1 x M7 core @800MHz	Edge Connector Features	- Gigabit Ethernet x 2 10G Ethernet x 1 - PCIe 3.0 x 2 (1Lane) - USB2.0 Host x 4 (through On-SOM USB Hub) - USB 3.0 OTG, SD (4bit) x 1 - LVDS x 2, HDMI x 1 (Optional) - MIPI Camera x 2 (1 x 4lane, 1 x 2lane) - I2S (Audio Interface), SPI, CAN x 2 - Data UART (with CTS, RTS) x 2 - Data UART (without CTS, RTS) x 1 - Debug UART x 1 - I2C x 3, 14 GPIOs
Memory & Storage	- Up to 16GB LPDDR5 16GB eMMC Flash (Expandable) - EEPROM - QSPI Flash- 16Mb	Power Input	5V, 2.5A through SMARC Edge Conn.
Other	- Gigabit Ethernet PHY Transceiver x 2 - USB 2.0 4-Port Hub - RTC Controller - MIPI DSI to HDMI Controller (Optional) - Wi-Fi 6 & Bluetooth V5.3 (Optional) - TPM2.0 (Optional) - Temperature Sensor (Optional) - Clock Generator - JTAG Header (Optional)	Operating Temp.	-40°C to +85°C (Industrial Grade)
		Form Factor	82mm x 50mm
		OS Support	Linux 6.12.2 BSP, Android 15.2.0.0

Ordering Information

iG61M-SC9596-5L008G-E016G-IBA-ES

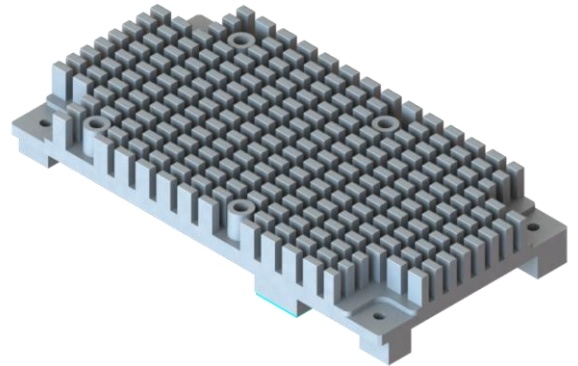
System on Module 800MHz 2/6 Core 16GB RAM ARM® Cortex®-A55, Cortex®-M33, Cortex®-M7

Product accessories



Development Kit

i.MX 95 SMARC Development Kit offers Gigabit Ethernet, PCIe, USB, HDMI, MIPI, Audio In & Out Jack, RTC with a backup battery, CAN Header



Thermal Solutions

Thermal design plays a crucial role in highly integrated System on Modules. iWave provides an efficient Heat Sink solution for the i.MX 95 SMARC SOM

Applications

Automotive

Connectivity domain controller, in-vehicle infotainment, cockpit, software-defined radio, occupant monitoring system, blindspot monitoring system, multi-camera monitoring.

Aviation

Communication and navigation systems, real-time network airborne systems, passenger seatback entertainment

Industrial

Gateway, scanner, printer, ruggedized Human-Machine Interfaces (HMI), factory automation, robotic controller, machine visual inspection, digital kiosk, digital signage, vision payment systems, industrial PCs

Medical

Pumps/respirator/clinical monitoring

IoT

Smart appliances, video/audio conferencing, IP phones, smart shopping carts, home automation control gateway

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.

mktg@iwave-global.com

iWave Global

Bangalore, India

iWave USA

Campbell, California

iWave Global East Coast LLC

New Jersey, USA

iWave Global

Ras Al Khaimah, UAE

iWave Global GmbH

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