

System On Module iW-Rainbow-G61M

i.MX 95 SMARC System On Module



The i.MX 95 SoC based SMARC System On Module is designed as per SMARC specification v2.1.1. It integrates NXP's i.MX 95 offerings, 6x Arm Cortex A55 @ 1.8GHz, 1x Arm Cortex-M33, 1x Arm Cortex-M7, NPU with up to 2.0 TOP/s and IEEE 802.11 a/b/g/n/ac/ax Wi Fi + Bluetooth 5.3 module.

The i.MX 95 SMARC System On Module is aimed to offer for applications mainly focusing on Machine Learning, NPU and vision system, advanced multimedia and industrial automation with high reliability.

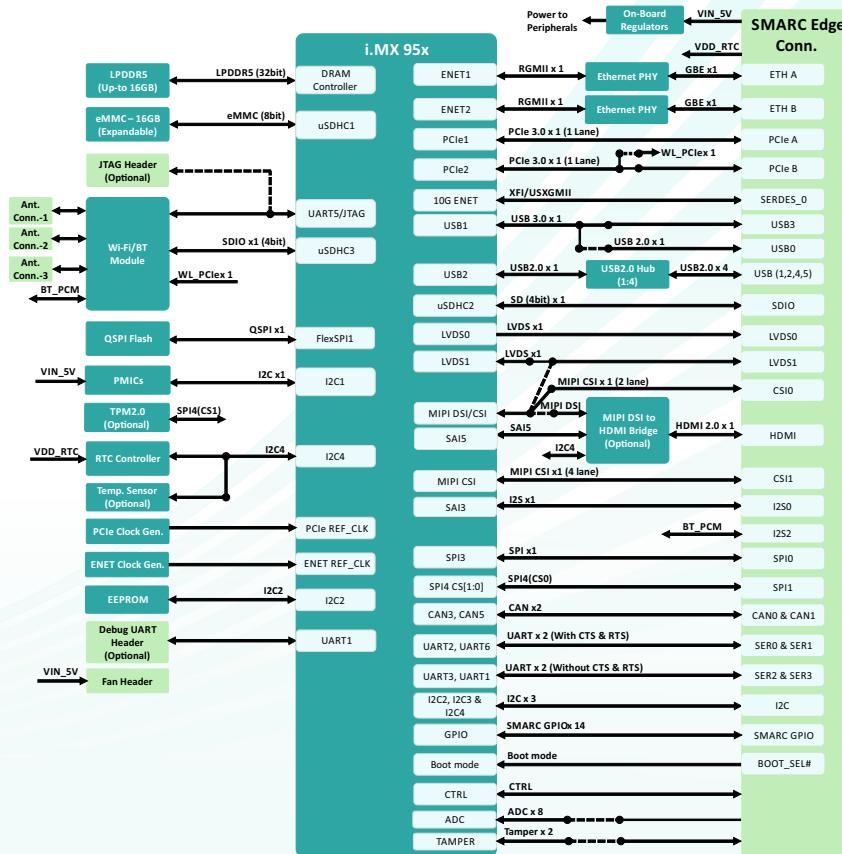
iW-Rainbow-G61M HIGHLIGHTS

- i.MX 95 with 6 Cortex®-A55 cores operating up to 1.8 GHz
- NPU with up to 2.0 TOPS Neural Network performance
- Up to 16GB LPDDR5 Memory
- IEEE 802.11 a/b/g/n/ac/ax+ Bluetooth 5.3 module
- SMARC v2.1.1 Compatible SOM with 82mm x 50mm form factor
- 10+ years of Product Longevity Program

SPECIFICATIONS

SoC	USB2.0 Host x 4 (through On-SOM USB Hub)
i.MX 95 Processor	SAI/I2S (Audio Interface) x 2
i.MX 95: 6 x Cortex-A55 @1.8GHz ,1 x M33 core @333MHz, 1 x M7 core @800MHz	SPI x 2
Memory & Storage	Data UART with flow control x 2
LPDDR5 -16GB	Data UART without flow control x 1
eMMC Flash - 16GB (Expandable)	Debug UART x 1
EEPROM	GPIOs x 14
QSPI Flash- 16Mb	HDMI x 1 Port (Optional)
Other	PCIe 3.0 x 2 Ports (1Lane)
IEEE 802.11 a/b/g/n/ac/ax+ Bluetooth 5.3	MIPI_CSI(2lane) x 1
USB2.0 1:4 Hub	MIPI_CSI(4lane) x 1
Gigabit Ethernet PHY Transceiver x 2	LVDS x 2
RTC Controller	I2C x 3
TPM2.0 (Optional)	CAN x 2
Debug UART header (Optional)	PWM x 1
MIPI DSI to HDMI Controller (Optional)	OS Support
JTAG Header (Optional)	Linux 6.1.55
Temperature Sensor (Optional)	Power Input
SMARC PCB Edge Interfaces	5V, 2.5A through SMARC Edge Connector
Gigabit Ethernet x 2 Ports (through On-SOM Gigabit Ethernet PHY transceivers)	Form Factor
10G Ethernet x 1 Port	82mm x 50mm
SD (4bit) x 1 Port	Operating Temperature
USB3.0 OTG x 1	-40°C to +85°C (Industrial)
	Environment Specification
	REACH & RoHS3 Compliant

i.MX 95 SMARC System On Module Block Diagram



OS SUPPORT

Linux 6.1.55

DELIVERABLES

i.MX 95 SMARC SoM
Board Support Package
User Manual

OPTIONAL KITS/Modules

i.MX 95 SMARC Development Kit
Heat Sink

CUSTOM DEVELOPMENT

BSP Development/OS Porting
Custom SOM/Carrier Development
Custom Application/GUI Development
Design Review and Support

iWave Systems Technologies is an ISO 9001:2015 certified company, headquartered in Bangalore, India, established in the year 1999. The company focuses on providing embedded solutions and services for Industrial, Medical, Automotive, and various other Embedded Computing applications. iWave Systems offers a wide range of System On Modules and Single Board Computers built using a wide range of CPU and FPGA SoC platforms with different form factors such as Qseven, SMARC, SODIMM, and HPC by closely working with Tier-1 silicon companies such as NXP, Xilinx, Intel, etc.

iWave Systems offers various state-of-art ready ODM solutions such as Connected Telematic Control Unit / OBD II devices for the automotive edge analytics, Comprehensive ARINC818 solutions for the low latency Aerospace applications and Rugged IP rated performance scalable HMI solutions for Industrial applications.

iWave Systems also provides comprehensive Engineering design services involving Embedded Hardware, FPGA and Software development. iWave offers carrier board and custom hardware development with manufacturing and certification services. iWave's hardware expertise spans complex board design up to 30 layers; Analog, Digital & RF Designs; FPGA Development up to 3+ million gates and VHDL / Verilog RTL Development & Verification. Our software expertise ranges from OS Porting, Firmware & Device Drivers Development and Wireless & Protocol Stacks.

**Optional items not included in the standard deliverables.*

Note: iWave reserves the right to change these specifications without notice as part of iWave's continuous effort to meet the best in breed specification. The registered trademarks are proprietary of their respective owners.

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The device can be ordered online from the [iWave Website](http://www.iwavesystems.com/product/i-mx-95-smarc-system-on-module/)
<https://www.iwavesystems.com/product/i-mx-95-smarc-system-on-module/>
 Or from our Local Partners in your region
<http://www.iwavesystems.com/about-us/business-partner.html>

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