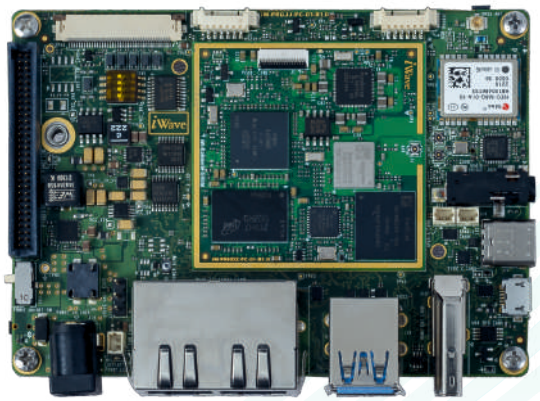
iWave
Embedding Intelligence

Single Board Computer iW-RainboW-G50S

i.MX 93 Pico ITX SBC



The i.MX 93 Pico ITX SBC integrates NXP's i.MX 93 offerings Dual Cortex A55 @ 1.7GHz, NPU with up to 0.5 TOP/s, IEEE 802.11 a/b/g/n/ac/ax Wi Fi + Bluetooth 5.3+ IEEE802.15.4 module, 10/100/1000 Mbps Ethernet PHY, MIPI-DSI, LVDS, MIPI CSI Camera support and GNSS Module.

The i.MX 93 SBC is aimed to offer for applications mainly focusing on Machine Learning, NPU and vision system, advanced multimedia and industrial automation with high performance. With the 100mm x 72mm Pico-ITX form factor, the SBC is packed with all the necessary on-board connectors.

iW-RainboW-G50S HIGHLIGHTS

i.MX 93 Dual with 64-bit ARM v8.2-A architecture

NPU with up to 0.5 TOP/s Neural Network performance

Up to 2GB LPDDR4X Memory

IEEE 802.11a/b/g/n/ac/ax+ Bluetooth 5.3+ IEEE802.15.4

Dual 1000/100/10 Mbps Ethernet

10+ years of Product Longevity Program

SPECIFICATIONS

SoC
i.MX 9352: 2x Cortex®-A55, NPU, MIPI DSI, LVDS, MIPI CSI, Parallel camera, Parallel display, 2x Ethernet, 2x USB 2.0, 7x I2S TDM
i.MX 9351: 1 x Cortex-A55, NPU, MIPI DSI, LVDS, MIPI CSI, Parallel camera, Parallel display, 2x Ethernet, 2x USB 2.0, 7x I2S TDM
i.MX 9332: 2x Cortex®-A55, MIPI DSI, LVDS, MIPI CSI, Parallel camera, Parallel display, 2x Ethernet, 2x USB 2.0, 7x I2S TDM
i.MX 9331: 1x Cortex®-A55, MIPI DSI, LVDS, MIPI CSI, Parallel camera, Parallel display, 2x Ethernet, 2x USB 2.0, 7x I2S TDM
Memory & Storage
LPDDR4 -2GB
eMMC Flash - 8GB (Expandable)
Micro SD Slot
16Mb SPI NOR Flash
Network & Communication
IEEE 802.11a/b/g/n/ac/ax+ Bluetooth 5.3+ IEEE802.15.4
Gigabit Ethernet x2 (Dual RJ45 Mag-jack Connector)
USB 2.0 OTG (microAB Receptacle Connector)
USB 2.0 x2 (Dual-stack Type-A Connector)
USB Type-C Connector (muxed with top port of Dual-stack Type-A Connector)
GNSS receiver Module -GPS/GLONASS/Galileo/ BeiDou
Rs232 Header x 1
USB Header x 1
CAN Header x 1

Audio/Video Features
LVDS Display Connector x 1
4-Lane MIPI_DSI Display Connector x 1
2-Lane MIPI_DSI Display Connector x 1 (Optional)
MIPI CSI Camera Connector
3.5mm Audio IN/OUT Jack
Speaker Out Header
Expansion Connector Features
CAN x 1
I2C x 1
PWM x 1
Tamper x 2
ADC x 2 (Optional)
UART x 1 (Optional)
Miscellaneous Interfaces
Debug UART Connector
RTC Battery Connector
JTAG Header (Optional)
M.2 Connector Key B
USB 2.0 x 1 (Muxed with USB 2.0 OTG)
General Features
OS Support
Linux 5.4.7 (or higher)
Power Input:
12V,2A input through External Adaptor[1]
Form Factor:
100mm x 72mm
Operating Temperature:
-40°C to +85°C
Environment Specification:
REACH & RoHS3 Compliant

Note:
[1] *The i.MX 93 Pico ITX SBC can support input power 7V to 24V. By default, it is designed to support 12V.*

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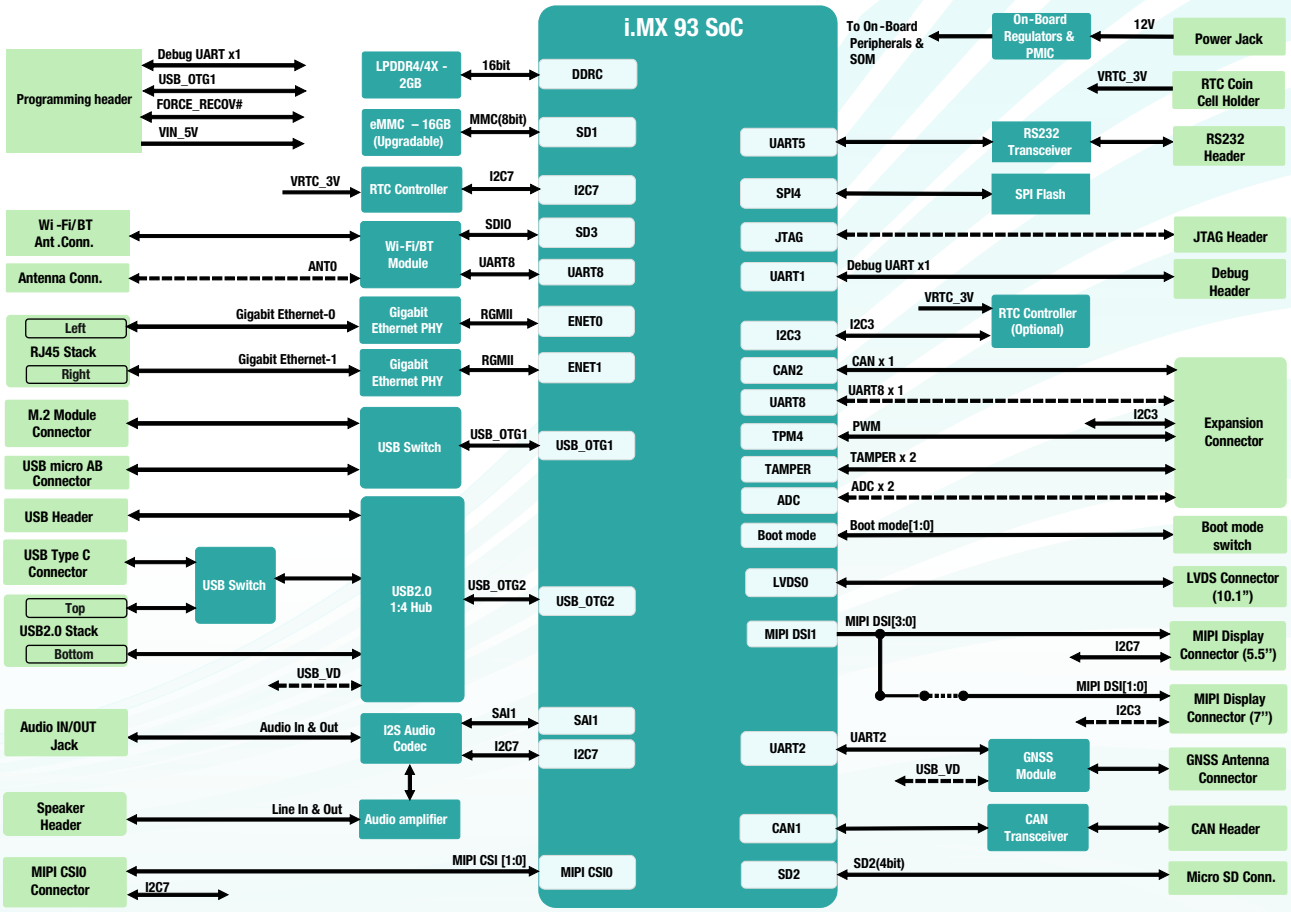
Proven Partner
NXP

i.MX 93 Pico ITX SBC Block Diagram



OS SUPPORT
Linux 5.4.7

DELIVERABLES
i.MX 93 Pico ITX SBC
Board Support Package
User Manual

OPTIONAL KITS/Modules
Heat Sink
Enclosure
Camera Module

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, head quartered in Bangalore India established in the year 1999. The company focuses on providing embedded solution and services for Industrial, Medical, Automotive and various other Embedded Computing applications. iWave Systems offers wide range of System On Modules and Single Board Computers built using 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.

i.MX 93 Pico ITX SBC

The device can be ordered online from the iWave Website
https://www.iwavesystems.com/product/i-mx-93-pico-itx-sbc/
Or from our Local Partners in your region
http://www.iwavesystems.https://www.iwavesystems.com/

iW-G50S-BR-R1.0

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