iW-RainboW-G34S/G37S

HIGHLIGHTS

- i.MX 8M Mini or i.MX 8M Nano Q/QL/D/DL/S/SL CPU
- 64-bit ARMv8 Architecture
- 10+ years of Product Longevity Program
- IEEE 802.11a/b/g/n/ac Wi-Fi & Bluetooth 5.0
- 1000/100/10 Mbps Ethernet

SPECIFICATIONS

**SOC: i.MX 8M Mini**
- Quad: 4 x Cortex-A53, 1 x Cortex-M4, GPU & VPU
- QuadLite: 4 x Cortex-A53, 1 x Cortex-M4 & GPU
- Dual: 2 x Cortex-A53, 1 x Cortex-M4 & GPU
- Dual Lite: 2 x Cortex-A53, 1 x Cortex-M4
- Solo: 1 x Cortex-A53, 1 x Cortex-M4 & GPU
- Solo Lite: 1 x Cortex-A53, 1 x Cortex-M4

**SOC: i.MX 8M Nano**
- Quad: 4 x Cortex-A53, 1 x Cortex-M7 & GPU
- QuadLite: 4 x Cortex-A53, 1 x Cortex-M7
- Dual: 2 x Cortex-A53, 1 x Cortex-M7 & GPU
- Dual Lite: 2 x Cortex-A53, 1 x Cortex-M7
- Solo: 1 x Cortex-A53, 1 x Cortex-M7 & GPU
- Solo Lite: 1 x Cortex-A53, 1 x Cortex-M7

**Memory & Storage**
- LPDDR4 - 1GB (Expandable Up to 4GB (Mini) / 2GB (Nano))
- eMMC Flash - 8GB (Expandable upto 128GB)
- Micro SD slot

**Network & Communication**
- WiFi 802.11a/b/g/n/ac + Bluetooth 5.0 Module
- Gigabit Ethernet PHY Transceiver x 1
- PCIe to Gigabit Ethernet PHY Transceivers x 1
- USB 2.0 Hub through dual stack Type - A Connector
- USB 2.0 OTG port through - micro AB Receptacle Connector
- GNSS Module

**Power Supply**
- 12V,2A input through External Adaptor

**Form Factor**
- 100mm X 72mm

**Operating Temperature**
- -40°C to +85°C

**Environmental Specification**
- RoHS2 and REACH Compliance

**Audio/Video Features**
- HDMI Output through HDMI (Type A) Connector
- 10.1" LVDS Display
- 2 Lane MIPI DSI Display (Optional)

**Expansion Connector Interfaces**
- SPI x 1 Port
- I2C x 1 Port
- SAI x 1 Port
- Debug UART x 1 Port
- PWM x 1 Port

**Miscellaneous Interfaces**
- Debug UART Connector (Optional)
- JTAG Header
- RTC Battery Connector
- M.2 Connector Key B
- PCIe x 1 (Optional)
- USB 2.0 x 1
- I2S x 1
- I2C x 1
- Nano SIM Connector

**Note:**
1. There are six configurations of i.MX 8M Mini or i.MX 8M Nano SoC supported by NXP, hence in this document i.MX 8M Mini or i.MX 8M Nano Q/QL/D/DL/S/SL is used to represent either of one based on SBC Part Number.
2. The i.MX 8M CPU can support up to 8GB RAM but considering the available LPDDR4 Chips, SBC can support upto 4GB (32 GB) RAM.
3. Memory Size will differ based on iWave’s SBC Product Part Number.
4. PCIe is NC in i.MX 8M Nano SoC.
5. Since USB2 is NC in i.MX 8M Nano SoC, USB2.0 lines are supported through a switch.
6. The i.MX 8M Mini or i.MX 8M Nano SoC can support input power 4.5V to 27V By default it is designed to support 12V.

This board is aimed to offer applications such as Industrial HMI, Audio/Video Streaming devices, Digital Signage, Home Automation, and General Embedded applications. With the 100mm x 72mm Pico-ITX form factor, the SBC is packed with all the necessary on-board connectors.
**OS SUPPORT**
Linux 5.4.24
Android Pie 9.0.0

**OPTIONAL KITS/Modules**
- Heat Sink
- Camera Module

**CUSTOM DEVELOPMENT**
- BSP Development/OS Porting
- Custom SOM/Carrier Development
- Custom Application/GUI Development
- Design Review and Support

**DEliverables**
- i.MX 8M Mini or i.MX 8M Nano Pico ITX SBC
- Board Support Package
- User Manual

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*Optional items not included in the standard deliverables.

**Notes:**
- 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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**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 solutions 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 20 layers; and System Integration.

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**i.MX 8M Mini or i.MX 8M Nano Pico ITX SBC**
The device can be ordered online from the iWave Website
https://www.iwavesystems.com/product/i-mx-8m-mini-nano-pico-itx-sbc/
Or from our Local Partners in your region