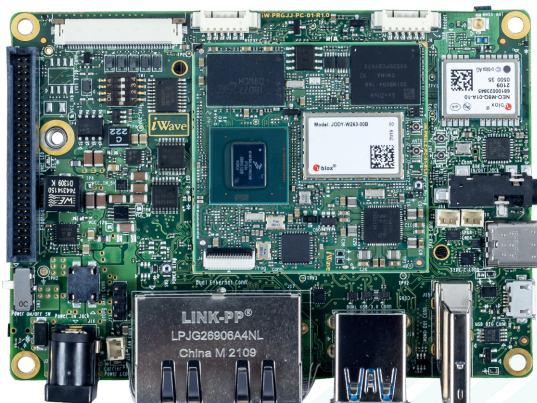# i.MX 8M Plus Pico ITX SBC

The i.MX 8M Plus Pico ITX SBC integrates NXP's i.MX 8M Plus offerings Quad/ QuadLite /Dual Cortex A53 @ up to 1.8GHz, NPU with up to 2.3 TOP/s, HDR capable Image Signal Processor (ISP) with IEEE 802.11 a/b/g/n/ac/ax Wi Fi & BT 5.0 module (ax is Optional), 10/100/1000 Mbps Ethernet PHY, MIPI-DSI, LVDS and HDMI Display support, MIPI CSI Camera support and GNSS Module. The i.MX 8M Plus 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-G40S
HIGHLIGHTS

i.MX 8M Plus Q/QL/D CPU with 64-bit ARMv8 Architecture

NPU with up to 2.3 TOP/s Neural Network performance

Up to 8GB LPDDR4 Memory

Multi-OS Platform Support

10+ years of Product Longevity Program

IEEE 802.11a/b/g/n/ac/ax Wi-Fi (ax is optional) & Bluetooth 5.0

Dual 1000/100/10 Mbps Ethernet

+40°C to +85°C Operation

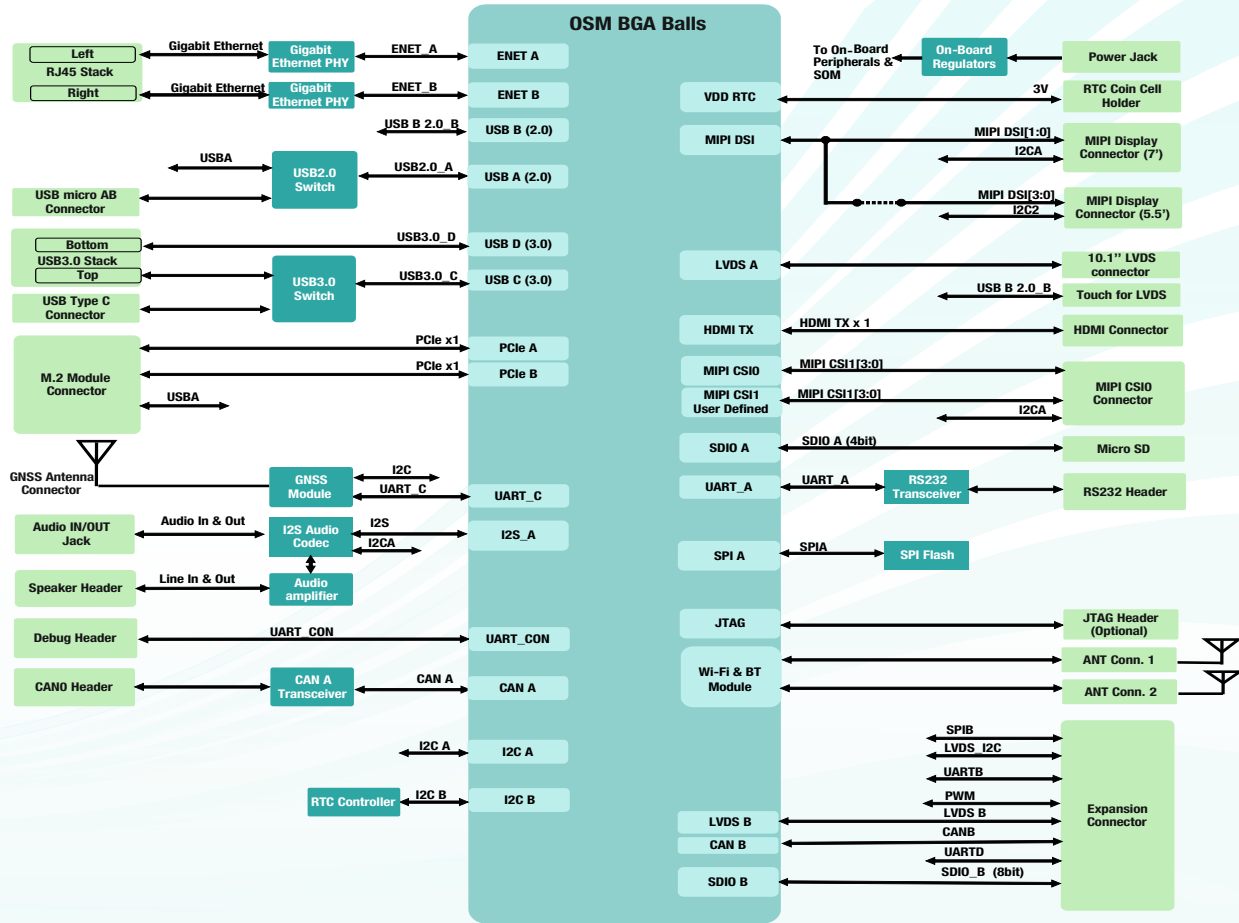## SPECIFICATIONS

CPU
i.MX 8M Plus Quad : 4 x Cortex-A53, 1 x Cortex-M7, GPU, VPU
i.MX 8M Plus Quad Lite : 4 x Cortex-A53, 1 x Cortex-M7 & GPU
I .MX 8M Plus Dual : 2 x Cortex-A53, 1 x Cortex-M7, GPU, VPU

Memory & Storage
LPDDR4 -2GB (Expandable up to 8GB)
eMMC Flash - 16GB (Expandable up to 256GB)
Micro SD Slot

Network & Communication
Gigabit Ethernet x2 (Dual RJ45 Mag-jack Connector)
USB 3.0 x2 (Dual-stack Type-A Connector)
USB 2.0 OTG (micro AB Receptacle Connector)
IEEE 802.11 a/b/g/n/ac/ax Wi-Fi & BT 5.0 (ax is optional)
GNSS receiver Module -GPS/GLONASS/Galileo/BeiDou
RS232 Header x 1
USB Header x 1
CAN Header x 1

Audio/Video Features
HDMI Output through HDMI (Type A)
LVDS Display Connector x 1
3.5mm Audio IN/OUT Jack
Speaker Out Header
5.5inch MIPI DSI Display

2 Lane MIPI DSI Display (Optional)
MIPI CSI Camera Connector

Miscellaneous Interfaces
Debug UART Connector
RTC Battery Connector
JTAG Header
M.2 Connector Key B
PCIe 3.0 x 1
USB 2.0 x 1
Nano SIM Connecter

Expansion Connector Features
4 lane MIPI DSI x 1
UART x 1
8 bit SD (optional)
4 lane LVDS x 1 Channel
SPI x 1 Port
PWM x 1
CAN x1 Port

OS Support
Linux 5.4.70

General Features
Power Input:
7V to 24V
Form Factor:
100mm x 72mm
Operating Temperature:
-40°C to +85°C
Environment Specification:
REACH & RoHS3 Compliant

Note:
Optional features are not supported in default configuration.

i.MX 8M Plus Pico ITX SBC Block Diagram

Note:
*Supported through Vendor Defined pins.

OS SUPPORT

Linux 5.4.70

DELIVERABLES

i.MX 8M Plus Plus Pico ITX SBC
Board Support Package
User Manual
Quick Start Guide

OPTIONAL KITS/Modules

i.MX 8M Plus OSM Development Kit
Heat Sink
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 8M Plus Pico ITX SBC

The device can be ordered online from the iWave Website
https://www.iwavesystems.com/product/i-mx-8m-plus-osm-lga-module/
Or from our Local Partners in your region
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IW-G40S-BR-R1.0

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