

Development Platform iW-RainboW-G34D i.MX8M Mini SODIMM Development Board



iWave's i.MX8M Mini SODIMM Development Board incorporates i.MX8M Mini SODIMM SOM which is based on NXP's power efficient i.MX8M Mini ARM Cortex A53 processor and M4F MCU and the carrier board with 5.5'' HD AMOLED MIPI DSI display Kit. The development board can be used for quick prototyping of various applications targeted by the i.MX8M Mini processor. With the 100mmx72mm Pico ITX size, the kit is highly packed with all the necessary on-board connectors to validate the i.MX8M Mini CPU features.

APPLICATIONS: Industrial HMI & Access Control, Mobile POS & Secure e-commerce, Energy Management & IOT gateway, Industrial control & automation, Medical & Healthcare equipment and White goods & Smart appliances.

iW-RainboW-G34D-SODIMM HIGHLIGHTS

i.MX8M Mini SoC

Dual Band WiFi -IEEE 802.11 a/b/g/n/ac with Bluetooth 5.0

5.5" HD AMOLED MIPI DSI Display

GBE, PCIe, 2x USB, 4x UART, 3x ECSPI, GPIOs

Ultra-compact form size 100mm x 72mm

SPECIFICATIONS

i.MX 8M Mini SODIMM SOM: **Processor:** i.MX 8M Mini Quad: 4 x Cortex- A53, 1 x Cortex-M4, GPU & VPU Decode i.MX 8M Mini Quad Lite: 4 x Cortex- A53, 1 x Cortex-M4 & GPU i.MX 8M Mini Dual: 2 x Cortex- A53, 1 x Cortex-M4, GPU & VPU Decode i.MX 8M Mini Dual Lite: 2 x Cortex- A53, 1 x Cortex-M4 & GPU i.MX 8M Mini Solo: 1 x Cortex- A53, 1 x Cortex-M4, GPU & VPU Decode i.MX 8M Mini Solo Lite: 1 x Cortex- A53, 1 x Cortex-M4 & GPU LPDDR4 - 1GB (Expandable) eMMC Flash - 8GB (Expandable) Micro SD slot (Optional) QSPI Flash - 2MB (Optional) Gigabit Ethernet PHY Transceiverx2(1 is Optional)

Wi-Fi 802.11 a/b/g/n/ac & BT 5.0

Linux 4.14.98, Android Pie 9.0.0

OS Support:

SODIMM Carrier board:

Gigabit Ethernet - 2 Port (One is Optional) USB 2.0 host - 2 Ports USB2.0 device - 1 Port MicroSD Slot - 1 Port I2S Audio Codec-Audio In/Out Jack Mini PCle slot – 1 Port General Purpose I2C-2 Port ECSPI x 3 Port (One is Optional) RTC with backup battery Debug Micro USB Port Data UART- 1 Port Data UART(with CTS, RTS) - 1 Port **Control switches** 20-Pin JTAG Connector **GPIOs SODIMM MIPI Daughter board:** 5.5" HD AMOLED MIPI DSI display **MIPI CSI Camera** Power Input: 5V@2.5A DC Input **Operating Temperature:** 0°C to +60°C Form Factor: Pico ITX : 100mm x 72mm





i.MX8M Mini SODIMM DEVELOPMENT BOARD BLOCK DIAGRAM

		Mini SODIMM nnector	To On-Board Power Circuit & Peripherals	
RTC Battery	RTC	3.3V Power IN	3.3V Power Regulator	Power Jack (5V)
Control Switches	Boot Mode, ONOFF,RST		2C I2S Audio Codec	Audio In/Out Connector
JTAG Header	JTAG	UART2 -	UART X 1	UART Header
Micro SD SDIO X 1	µSDHC2	ECSPI2	ECSPI X 1*	
RJ45 Mag Jack1	ENET to GBEO	GPIO - Uart1*,uart3	UART X 2	20 Pin Expansion
USB TypeA Connector1 USB_HUBP2 USB_HUBP2 USB_HUBP2	USB0TG2	PWM2	PWM X 1	Header
USB TypeA Connector2		ECSPI1	ECSPI1 MISO,CS	
RJ45 Mag Jack2* 10/100/1000Mbps Ethernet	PCIe to GBE1 ¹	ECSPI3	ECSPI1 X 1 ECSPI1 MOSI,CLK	20 Pin GPIO Header
Mini PCIe CAN2	PCle ¹	GPI0	GPIO X 4	
USB Micro AB Connector	USBOTG1	I2C3 ² MIPI CSI ²	I2C X 1 40 pin IPI CSI X 1 Connector	Daughter Board MIPI CSI Conn.
Debug USB Micro AB Connector USB USB to UART Transceiver	UART4	MIPI DSI ²	IPI DSI X 1 Connector	MIPI DSI Conn.

Note:

1.IMX 8M Mini PCle interface is shared with Mini PCle Connector and on-SOM PCle to Ethernet PHY.By default Mini PCle is supported and RJ45 Mag Jack2 is optional. 2.I2C3,MIPI CSI and DSI interface can be validated only with an add on board-SODIMM MIPI daughter board.

2.12C3,MIPI CSI and DSI Interface can be validated only with an add on board-Sodimim MIPI daughter d *Optional

OS SUPPORT

Linux 4.14.98 Android Pie 9.0.0

DELIVERABLES

i.MX8M Mini SODIMM Dev-Kit Kit Board Support Packages 5V AC-DC Adapter HW/SW User Manual

OPTIONAL KITS

SODIMM Heatsink Camera Module

CUSTOM DEVELOPMENT

BSP Development/OS Porting Custom SOM/Carrier development Custom application/GUI development Design review and support

iWave Systems Technologies, established in 1999, focuses on Product Engineering Services involving Embedded Hardware, Software & FPGA. The company designs and develops cutting edge products and solutions. iWave has been an innovator in the development of highly integrated, high performance, low power and low cost System On Modules and Development Platforms. iWave's expertise has brought out multiple SOMs based on ARM, Freescale, Intel Atom, Marvell and TI Processors.

iWave Systems has won the confidence of its customers over the years by being a reliable partner in developing innovative products. Our engineers combine outstanding System design experience to deliver Quality Solutions. iWave specializes across Industrial, Automotive and Medical domains. We support our customers by being time efficient, which in turn helps our customers accelerate time to market their products. iWave is a Windows embedded Silver partner and a winner of the Partner Excellence Award.

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*Optional items not included in the standard deliverables

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The board can be ordered online from the iWave Website http://www.iwavesystems.com/webforms

Ordering the i.MX8M Mini SODIMM Dev Kit

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