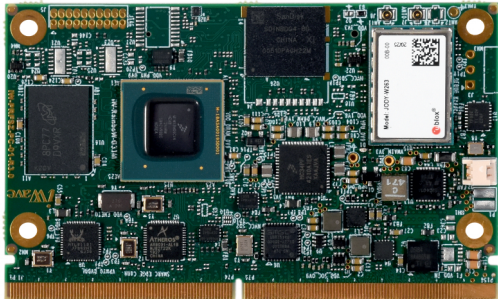


System On Module iW-RainboW-G33M

i.MX 8M Q/QL/D SMARC Module



The i.MX 8M Quad, Quad Lite, Dual based SMARC System On Module integrates Quad/Dual Cortex A53 @ up to 1.5GHz, H.265 4K60 decode, GC7000 Lite GPU, MIPI CSI, MIPI DSI/Dual LVDS, HDMI2.0 TX, USB3.0, PCIe2.0 with on SOM 10/100/1000 Mbps Ethernet PHY and IEEE 802.11 a/b/g/n/ac/ax* Wi-Fi & BT 5.0 Module. The i.MX 8M SMARC System On Module is aimed to offer applications such as Digital Media Adaptors, HD Digital signage, Industrial HMI, Building Automation, Imaging & Scanning, Audio/Video Streaming devices and Machine Vision.

iW-RainboW-G33M

HIGHLIGHTS

4 x Cortex-A53 @ upto 1.5 GHz

1 x Cortex-M4F @ 266 MHZ

64-bit Armv8-A architecture

4Kp60(h.265,VP9),4Kp30(h.264),
1080p60(MPEG2,MPEG4p2, Vc1,Vp8, Rv9,
AVS/AVS+, h.263, DivX) VPU decoder

OpenGL®/ES 3.1, OpenGL® 3.0, Vulkan® 1.0,

OpenCL™ 1.2 (via GPU)

IEEE 802.11 a/b/g/n/ac/ax* Wi-Fi & BT 5.0
Module

Dual 1000/100/10 Mbps Ethernet (AVB
support on one port)

2GB LPDDR4 memory (Expandable)

SMARC V2.1.1 Standard

SPECIFICATIONS

SOC: i.MX 8M Q/QL/D

SOC: i.MX 8M Quad,QuadLite,Dual

i.MX 8M Quad: 4 x Cortex-A53,1 x Cortex-M4, GPU &
VPU Decode

i.MX 8M QuadLite:4 x Cortex-A53 & 1 x Cortex-M4 &
GPU

i.MX 8M Dual: 2 x Cortex-A53, 1 x Cortex-M4, GPU & VPU
Decode

1xCortex-M4F @ 266 MHz for advanced system control

64-bit Armv8-A architecture

4Kp60 (h.265, VP9), 4Kp30 (h.264), 1080p60 (MPEG2,
MPEG4p2, Vc1, VP8, RV9, AVS/AVS+, h.263, DivX) VPU decoder

OpenGL®/ES 3.1, OpenGL® 3.0, Vulkan® 1.0 &
OpenCL™ 1.2 (via GPU)

Memory:

LPDDR4 - 2GB (Expandable)

eMMC Flash - 8GB (Expandable)

Micro SD slot (Optional)

QSPI Flash - 256MB (Optional)

Communication:

Gigabit Ethernet PHY Transceiver x 1

PCIe to Ethernet controller with PHY x 1

USB 2.0 High-Speed 4-Port Hub

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

SMARC Edge Connector Interfaces:

Gigabit Ethernet x 2 Ports (AVB support on one port)

USB3.0 OTG x 1 Port (including 2.0 OTG)

USB3.0 Host x 1 Port

USB 2.0 Host x 4 Port

PCIe x 2 Ports (1 Port optional)

SD (4bit) x 1 Port (Optional)

MIPI DSI x 1 Port

Dual LVDS x 1 Port(Optional)

HDMI/DP Transmitter x 1 Port

MIPI CSI0 (2lane) x 1 Port

MIPI CSI1 (4lane) x 1 Port

I2S (Audio Interface) x 2 Ports

Debug UART

Data UART (with CTS & RTS) x 1 Port

Data UART (without CTS & RTS) x 1 Port

SPI to CAN x 2 Port(Optional)

I2C x 4 Ports

PWM x 3 Ports

SPI x 1 Port

QSPI x 1 Port

12 GPIO's Control & Status Signals

Expansion Connector Interfaces (Optional):

SAI x 1 port

MIPI CSI0 (2nd 2lane)

GPIOs

Power Supply:

5V through SOM edge connector

Form Factor:

82mm x 50mm (SMARC V2.1.1 standard)

Temperature Support: Industrial: -40°C to +85°C

OS Support:

Linux 4.14.98 (or higher), Android
Pie 9.0.0 (or higher)

REACH & RoHS Compliant

- 1.JODY-W2 Wi-Fi is supported by using uSDHC2 interface, hence SMARC SD will be an optional feature.PCIE based Wi-Fi can be supported only with JODY-W3 Modules.
- 2.Either eMMC or MicroSD can be supported. In default configuration eMMC supported.
- 3.In default Configuration UART4 interface of i.MX 8 is connected to on SOM Bluetooth module, hence SMARC SER2 will be an optional feature and also UART4 can be configure as eCSPI2 by software change to CAN1.
- 4.Either HDMI or Display Port can be supported. In default configuration HDMI is supported.
- 5.In default configuration PCIe2 interface of i.MX 8M SoC is connected to on SOM Ethernet controller, hence Wi-Fi PCIe or SMARC PCIe_B will be an optional feature.
6. Either SMARC SPI0 or CAN0 can be supported. In default configuration SMARC SPI0 supported.

Linux 4.14.98 (or higher)
Android Pie 9.0.0 (or higher)

i.MX 8M SMARC Module
Board Support Package
User Manual

i.MX 8M Development Kit
5.5" Cap touch Display
Heat Sink
Camera Module

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

<https://www.iwavesystems.com/product/i-mx-8m-quad-quadlite-dual-smarc-som/>
Or from our Local Partners in your region

Mouser Electronics

Authorized Distributor

Click to View Pricing, Inventory, Delivery & Lifecycle Information:

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