Development Platform iW-RainboW-G33D

i.MX 8M Q/QL/D SMARC Development Kit

The i.MX 8M Quad/QuadLite/Dual SMARC Development platform combines the NXP's i.MX 8M Quad/QuadLite/Dual application processor based SMARC SOM and iWave's Generic SMARC Carrier Card to offer consumer, medical and industrial embedded computing & multimedia applications. The board is highly packed with all necessary onboard connectors to validate i.MX 8M Quad/QuadLite/Dual SoC features.

APPLICATIONS: Digital Media Adaptors, HD Digital signage, Industrial HMI, Building Automation, Imaging & Scanning, Audio/Video Streaming devices, and Machine Vision.

iW-RainboW-G33D HIGHLIGHTS

- i.MX 8M Quad/QuadLite/Dual SoC
- IEEE 802.11a/b/g/n/ac Wi-Fi & BT 5.0
- Dual Gigabit Ethernet
- 2GB LPDDR4 memory (Expandable)
- 5.5'' HD AMOLED MIPI DSI Display
- MIPI CSI Camera
- USB 3.0 TypeC Connector
- I2S Audio Codec
- SMARC V2.0 Standard

SPECIFICATIONS

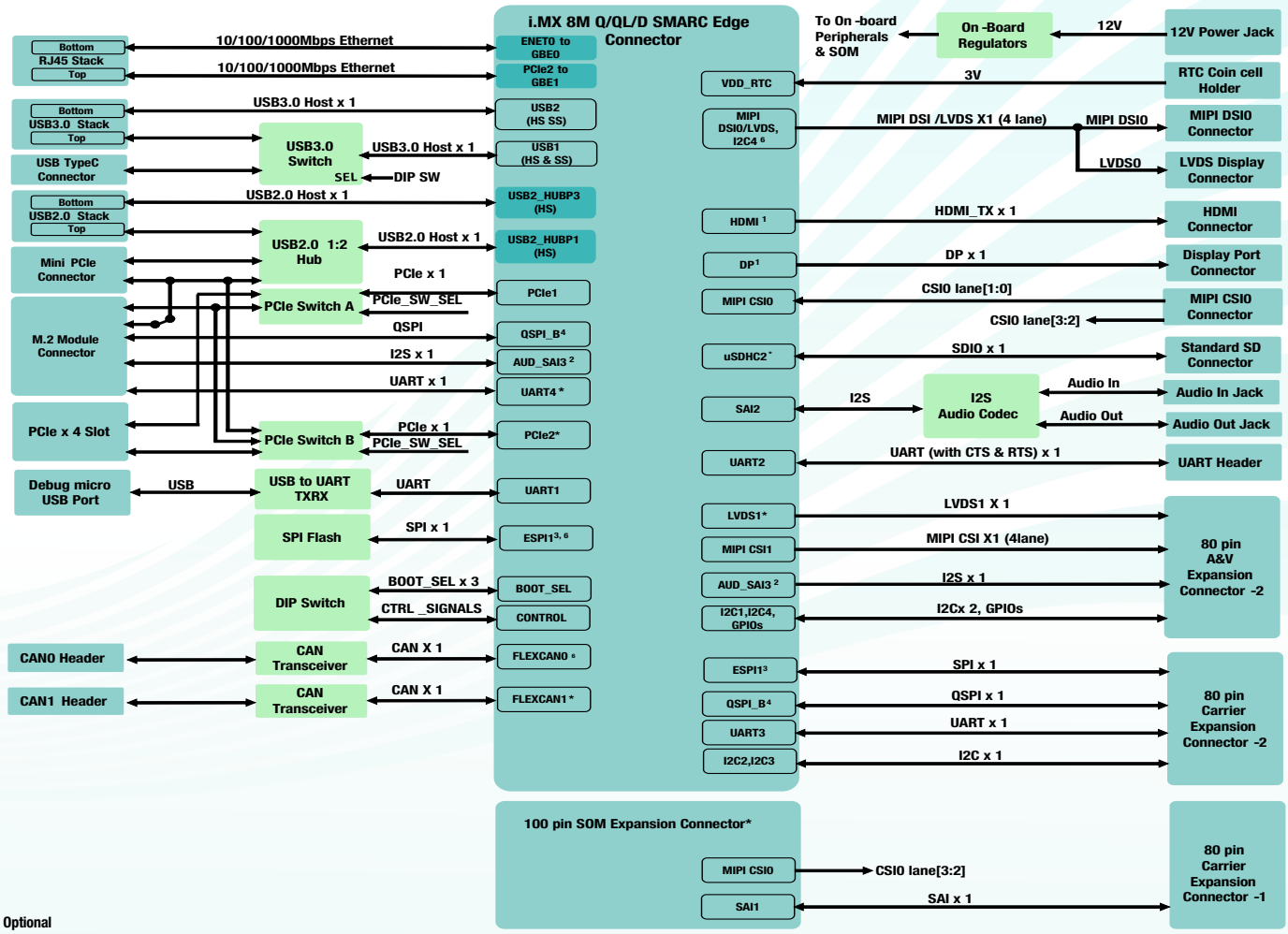
i.MX 8M SMARC SOM
Processor:
i.MX 8M Quad: 4 x Cortex-A53, 1 x Cortex-M4, GPU & VPU Decode
i.MX 8M QuadLite: 4 x Cortex-A53, 1 x Cortex-M4, & GPU
i.MX 8M Dual: 2 x Cortex-A53, 1 x Cortex-M4, GPU & VPU Decode
LPDDR4 - 2GB (Expandable)
eMMC Flash - 8GB (Expandable)
QSPI Flash (Optional)
Gigabit Ethernet PHY Transceiver x 2
USB 2.0 High Speed 4-Port Hub
IEEE 802.11a/b/g/n/ac Wi-Fi & BT 5.0
OS Support:
Linux 5.4, Android 9
SMARC Carrier Board:
Gigabit Ethernet Jack- 2 Port
PCIe x1 slot / Mini PCIe slot - 1 Port
USB 3.0 Host TypeA Connector - 1 Port
USB 3.0 OTG TypeC Connector – 1 Port
USB 2.0 Host TypeA Connector - 2 Ports
Standard SD slot - 1 Port
HDMI/DP - 1 Port
CAN - 2 Ports

5.5"HD AMOLED MIPI DSI display
Capactive Touchscreen
MIPI CSI Camera Connector
I2S codec
General Purpose I2C-1 Port
Full Function UART - 1 Port
RTC with backup battery
Debug Micro USB Port
SMARC GPIOs – 12 Nos
Expansion Connector interfaces:
QSPI x 1 port
SPI x 1 port
UART x 1 port
I2C x 2 port
SAI (8 Tx and 8 Rx channels) x 1 Port(Optional)
A&V Expansion Connector interfaces:
MIPI CSI x 1 Port (4 lane)
SAI/I2S x 1 Port
I2C x 2 Ports
GPIOs
Power Input: 12V DC
Operating Temperature: 0°C to +60°C
Form Factor:
120mmx120mm Naon ITX Size

iWave
Embedding Intelligence

Proven Partner

i.MX 8M Q/QL/D SMARC Development Board - Block Diagram



Note: * Optional

1. Either HDMI or DP can be supported on SOM, in default configuration HDMI is supported.
2. Shared between M.2 Connector and A&V Expansion Connector
3. Shared between SPI Flash and Expansion Connector - 2
4. Shared between SPI Flash and Expansion Connector - 2
5. Either MIPI_DSI or LVDS can be supported on SOM, in default configuration MIPI_DSI is supported.
6. Either SPI or CAN0 can be supported on SOM, in default configuration SPI is supported.

OS SUPPORT
Linux 5.4
Android 9

DELIVERABLES
i.MX 8M SMARC Development Kit
Hardware User Manuals

OPTIONAL KITS/Modules
SMARC 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 to Embedded Application Development.With the established certified manufacturing eco system partners from Japan and Taiwan, iWave delivers high quality CPU modules, single board computers, custom carrier boards and customised chip on board designs for the global customer requirements.

**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.

Ordering the i.MX 8M SMARC Kit

The device can be ordered online from the iWave Website
https://www.iwavesystems.com/product/i-mx-8m-quad-quadlite-dual-smarc-som/
Or from our Local Partners in your region
http://www.iwavesystems.com/about-us/business-partner.html

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