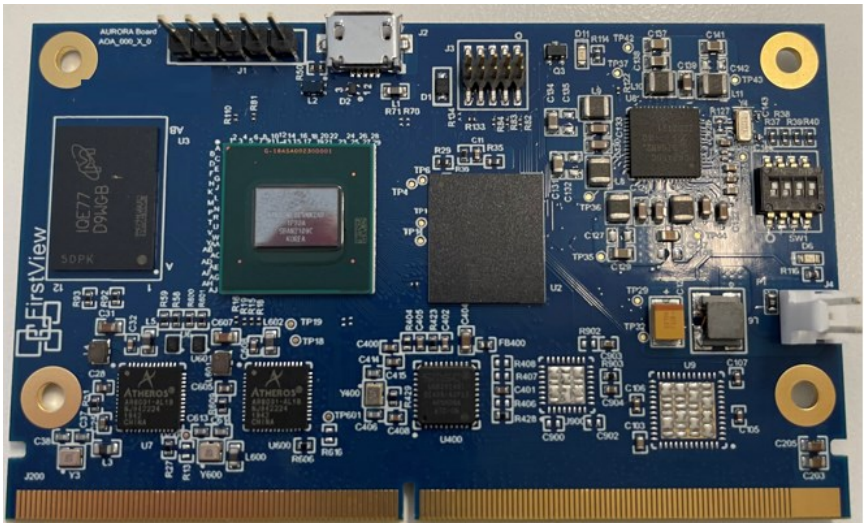
i.MX8M Plus–System on Module (SOM)



Cloud Service

Processor

Freescale iMX8M Plus Arm® Cortex®-A53

Software

Linux, Android, Yocto

FirstView follows up on the success of i.MX6 and i.MX8X Series SOM offering with a rugged, reliable and low cost i.MX8MPlus Version. The FVC-MX8MPlus-SOM is an embedded single board module optimized for performance and power with a life cycle that removes concerns for obsolescence. The board is designed to be paired with a custom carrier board to fit specific applications in a wide range of environments.

i.MX8M Plus SMARC 2.0 Module

i.MX8M Plus CPU general-purpose system on module compliant with SMARC 2.0. Designed to work in Industrial, Automotive and consumer environment

Features of the SOM module

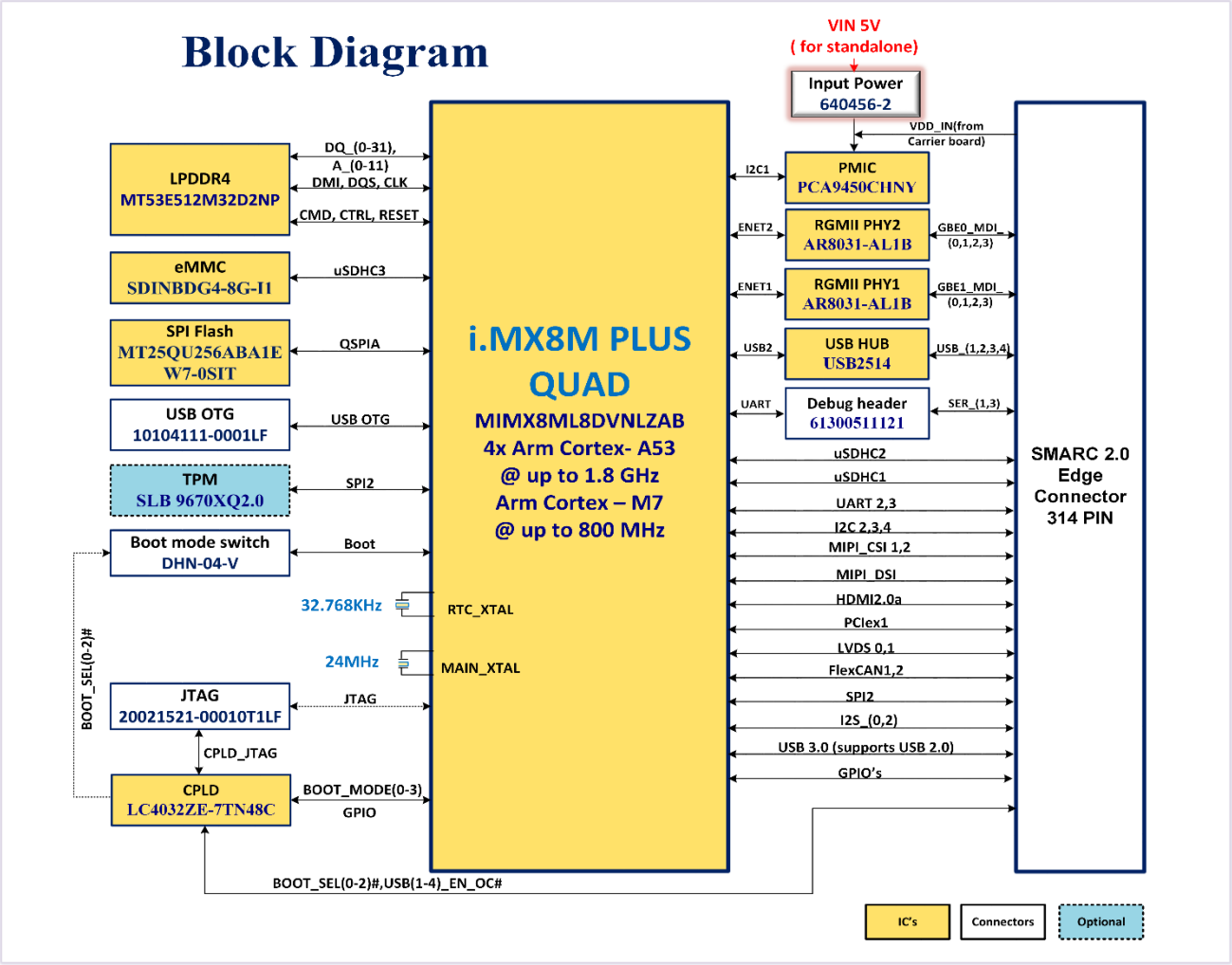
	NXP i.MX 8M Plus ARM Processor Cores			
	Commercial	**Arm Cortex®-A53**	**Arm Cortex®-M7**	**Part differentiator description**
CPU	i.MX 8M Plus Quad	4 x 1.8GHz	800 MHz	NPU1, ISP2, VPU3, HiFi4, CAN
	i.MX 8M Plus Quad Lite	4 x 1.8GHz	800 MHz	ISP, VPU, CAN
	i.MX 8M Plus Dual	2 x 1.8GHz	800 MHz	CAN
	Industrial			
	i.MX 8M Plus Quad	4 x 1.6 GHz	800 MHz	NPU, ISP, VPU, HiFi4, CAN-FD
	i.MX 8M Plus Quad	4 x 1.6 GHz	800 MHz	ISP, VPU, CAN-FD

DRAM	x16/x32 LPDDR4/DDR4(Inline ECC), Up to 6GByte onboard LPDDR4 memory @ 4000 MT/s	**I/O Interfaces**	5x USB3.0 & USB 2.0 (shared with 1x USB OTG client) 1x PCIe 3.0, 3x SDIO 3.0, 3xI²C Bus, 2x SPI, up to 3x UART (1x with handshake GPIOs), , HDMI 2.0a Tx (eARC), CAN x2
Ethernet	2 x Gigabit Ethernet	**Video Decode and Encode**	1080p60 H.265, H.264, VP9, VP8 decoder 1080p60 H.265, H.264 encoder
Storage	eMMC 5.1 up to 128 GByte with HS400 compliance, SPI flash with 32MByte	**Graphics**	Graphics GPU GC7000UL (2 shaders), 16 GFLOPs 32-bit, OpenGL ES 1.1/2.0/3.0/3.1, Open VG 1.1, Vulkan, OpenCL 1.2; GC520L (2D), 2x MIPI_CSI(Camera) with ISP supporting 375 Mega Pixel
Sound	2x I²S | Hi Res Audio | 32-bit up to 384KHz with DSD512 and TDM support	**Embedded Features**	Watchdog Timer I²C bus 320Kbps, JTAG debug interface Real Time Clock
Display	Interfaces 2 x LVDS0, LVDS1 4-Lanes, 1 x MIPI-DSI 4-lanes	**Temperature**	Industrial: Operating: -40 to +85°C Storage: -40 to +85°C Commercial: Operating: 0 to +60°C Storage: -40 to +85°C
Form factor	82 x 50 mm	**Extended longevity**	up to 15 years

i.MX8M Plus–System on Module (SOM)

Additional Features

- The i.MX 8M Plus family focuses on machine learning and vision, advanced multimedia, and industrial IoT with high reliability. High industrial reliability with DRAM inline ECC and ECC on on-chip RAM.
- A powerful and efficient upgrade path for next-generation solutions. The Cortex-A53 is Arm's first Armv8-A processor aimed at providing power efficient 64-bit processing.
- SOM can power up standalone as well as Carrier board interface.
- LPDDR4 is the mobile equivalent of DDR4 memory. Compared to DDR4, it offers reduced power consumption but does so at the cost of bandwidth. LPDDR4 has dual 16-bit channels resulting in a 32-bit total bus. The DDR4 has an 8word prefetch or a 64bit channel. Therefore, LPDDR4 RAM halves the bus but makes up for this with a measly operating voltage of 1.1-1.2V



Services

FirstView Consultants can provide full software support, custom modifications, development of carrier boards, and technical consulting for your project.

Applications

- Automotive
- Industrial
- Multimedia
- Healthcare
- Security
- Smart City and Smart Home

i.MX8M Plus–System on Module (SOM)

IMX8MPlus SOM variants						
FV SOM Part number	Processor Variants		LPDDR4 Variants		eMMC Variants	
	Part number	Description	Part number	M size	Part number	M Size
FVIMX8MPQ2G8E	MIMX8ML8DVNLZAB	i.MX 8M Plus Quad Applications Processor	MT53E512M32D2NP-046 WT: E	16 Gbit (2GB)	SDINBDG4-8G-I1	8GB
FVIMX8MPQ3G8E			MT53D768M32D2NP-046 WT: A	24 Gbit (3GB)	SDINBDG4-8G-I1	8GB
FVIMX8MPQ4G8E			MT53E1G32D2FW-046 IT: A	32 Gbit (4GB)	SDINBDG4-8G-I1	8GB
FVIMX8MPQ6G8E			MT53E1536M32D4DT-046 WT: A	48 Gbit (6GB)	SDINBDG4-8G-I1	8GB
FVIMX8MPQ8G8E			MT53E2G32D4DT-046 WT: A	64 Gbit (8GB)	SDINBDG4-8G-I1	8GB
FVIMX8MPD2G8E	MIMX8ML3DVNLZAB	i.MX 8M Plus Dual Applications Processor	MT53E512M32D2NP-046 WT: E	16 Gbit (2GB)	SDINBDG4-8G-I1	8GB
FVIMX8MPD3G8E			MT53D768M32D2NP-046 WT: A	24 Gbit (3GB)	SDINBDG4-8G-I1	8GB
FVIMX8MPD4G8E			MT53E1G32D2FW-046 IT: A	32 Gbit (4GB)	SDINBDG4-8G-I1	8GB
FVIMX8MPD6G8E			MT53E1536M32D4DT-046 WT: A	48 Gbit (6GB)	SDINBDG4-8G-I1	8GB
FVIMX8MPD8G8E			MT53E2G32D4DT-046 WT: A	64 Gbit (8GB)	SDINBDG4-8G-I1	8GB