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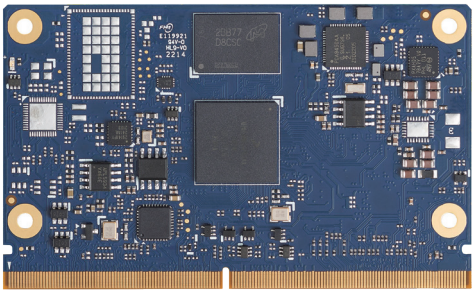
LEADING EDGE COMPUTING

LEC-IMX8MM

SMARC 2.1 Short Size Module with
NXP i.MX 8M Mini series



Features

- NXP® i.MX 8M Mini series with Dual/Quad-core ARM Cortex-A53
- SMARC revision 2.1 compliant
- LVDS, DSI graphic output interfaces
- -40°C to 85°C rugged operating temperature (standard SKU consumer temp, option)
- 10-year product availability
- CAN bus
- USB 2.0 interfaces
- Dual GbE ports (LAN 2 occupying PCIe)
- i2s audio codec interface

Specifications

Processor & System	SoC	NXP® i.MX 8M Mini series with Dual/Quad-core ARM Cortex-A53 TrustZone technology for ARMv8 security extensions
	Memory	1,2,4GB LPDDR4
	L2 Cache	512KB system L2 cache (ECC)
	Security	Arm® TrustZone® (TZ) architecture: Cortex®-A53 MPCore TrustZone® support High Assurance Boot (HAB) Cryptographic Acceleration and Assurance Module (CAAM) Widevine and PlayReady content protection support
Video	GPU Core	Vivante GC NanoUltra
	GPU Feature Support	GC NanoUltra OpenGL ES 2.0 Vulkan, OpenCL 1.2; GC320 (2D)
	VPU Feature Support	1080p60 VP9, H.264, H.265 Video encoding includes: 1080p60 AVC/H.264 Encoder 1080p60 HEVC/H.264 Encoder 1080p60 VP8 Encoder

Specifications

Video	MIPI DSI	1x MIPI DSI 4 lanes
	LVDS	Dual Channel LVDS port 18/24 bit over SN65DSI84ZXHR bridge
	Camera	MIPI CSI RX Interface Compatible with MIPI Alliance Interface specification v1.2 Up to 4 data lanes (1.0Gbps per lane) MIPI-HS, MIPI-LP mode support
System Storage	SDIO	1x SDIO (4-bit) compatible with SD/SDIO standard, up to version 3.0
	eMMC	16 — 128 GB (build option) Compatible with eMMC specification 4.41, 4.51, 5.0, and 5.1
Debug Header	30-pin multipurpose flat cable connector for DB-30 debug module (option) Provides JTAG, BMC access; UART, power testpoints; diagnostic LEDs, Power, Reset, Boot configuration	
Audio	Audio Codec	I^2S audio codec (on carrier)
Dual Ethernet	Primary LAN	MAC 10/100/1000 Ethernet Controller on SoC
	Secondary LAN	PCIe 10/100/1000 Ethernet Controller (option)
Wireless Communication	WIFI	IEEE 802.11 2X2 MIMO ac/a/b/g/n Wireless LAN (option)
	Bluetooth	Bluetooth 5.0, complaint with Bluetooth 2.1 + Enhanced Data Rate (EDR) (option)
Extension Busses	USB	1x USB 2.0, 1x USB 2.0, OTG (optional 4-port USB hub, USB2514B-I/M2)
	UART	4 UART interfaces: SER1 and SER 2 (CTS/RTS) / SER0 and SER4 (TX/RX/CTS/RTS)
	CAN	1x CAN2.0B only or mixed CAN2.0B and CAN FD mode; data bit rate up to 8 Mbps (option)
	SPI	2x SPI
	I^2S	1x I^2S interface with audio resolution from 16 to 32 bits and sample rate up to 192kHz (see Audio Codec support)
	I^2C	4x I^2C interfaces - 7-bit and 10-bit address mode support - Software programmable clock frequency of 100 kbit/s in Standard-mode, 400 kbit/s in Fast-mode or 1 Mbit/s in Fast-mode Plus
	GPIO	14x GPIO with interrupt, one GPIO with PWM
	PCIe	1x PCIe x1 Gen2
Power	Input	5Vdc +/- 5%
Mechanical and Environmental	Form Factor	SGET SMARC Specification 2.1
	Dimension	SMARC short size module 82 mm x 50 mm
	Operating Temperature	Standard: 0°C to 60°C Rugged: -40°C to 85°C (option)
	Humidity	5-90% RH operating, non-condensing 5-95% RH storage (and operating with conformal coating)
	Shock and Vibration	IEC 60068-2-64 and IEC-60068-2-27, MIL-STD-202 F, Method 213B, Table 213-I, Condition A and Method 214A, Table 214-I, Condition D
	HALT	Thermal Stress, Vibration Stress, Thermal Shock and Combined Test
Operating systems	Standard Support	Yocto Linux BSP, Android
	Extended Support (BSP)	Vxworks