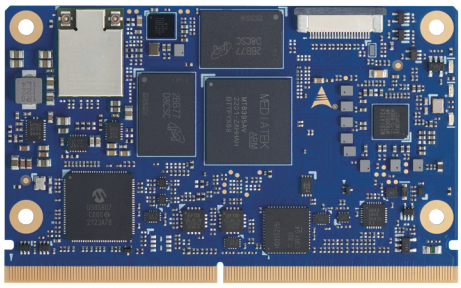
LEC-MTK-I1200

SMARC 2.1 Short Size Module with
MediaTek MediaTek MT8195 SoC



Features

- 8-core Arm Cortex -A78 x4 + Cortex-A55 x4
- 5 TOPS APU
- SMARC revision 2.1.1 compliant
- Up to 8GB LPDDR4X
- DSI up to 1080P
- HDMI up to 4K/60Hz
- 1x onboard UFS up to 256 GB
- Dual GbE Ethernet ports
- 3x CSI interfaces
- USB3/USB2 interfaces
- 10 year product availability

Specifications

Processor & System	CPU	MT8195 Octa-core CPU: 4x A78 @ 2.2GHz + 4x A55 @ 2.0GHz
	Memory	4 or 8 GB POP LPDDR4X
	Cache	256KB L2 per CPU core (2MB unified L3)
	Security	TPM 2.0 module
Video	GPU Core	Five-core Arm Mali-G57 GPU – Dual 4K @ 60 fps
	GPU Feature Support	3D graphic accelerator capable of processing 17600M pixel/sec @ 880MHz
		Support for OpenGL ES 3.2/2.0/1.1, Vulkan 1.1/1.0, OpenCL 2.2
	HDMI/DP	HDMI 2.0b 4K @ 60Hz or DisplayPort
	eDP	4 Lane eDP
	DSI	2x 4 Lane DSI, maximum resolution 4K p60 with 24-bit RGB

Note: “Build option””indicates an alternative BOM configuration to support additional or alternative functions that are not available on the standard product. Be aware that these “build option” part numbers will need to be newly created and this will result in production lead times.

Specifications

Camera	CSI	3x MIPI CS, 1x 2Lane, 2x 4 lane
System Storage	SDIO	1x SDIO (4-bit) compatible with SD/SDIO standard, up to version 3.0
	UFS	32, 64, 128, or 256 GB (build option)
		Compatible with UFS gear 2.1
Debug Header		30-pin multipurpose flat cable connector for use with optional DB-30 debug module. Provides JTAG, UART, boot select
Audio	Audio Codec	I²S audio codec located on the carrier
Dual Ethernet	Primary LAN	10/100/1000 Gbps Ethernet
	Secondary LAN	10/100/1000 Gbps Ethernet
Wireless	Wi-Fi	IEEE 802.11 2X2 MU-MIMO ac/a/b/g/n
	Bluetooth	Bluetooth 5.0
Extension Busses	USB	2x USB 3.0, 4x USB 2.0
	UART	Three UART interfaces: SER1 and SER 3 (CTS/RTS), and SER0 (TX/RX/CTS/RTS)
	CAN	1x CAN2.0B only or mixed CAN2.0B data bit rate up to 8Mbps
	SPI	2x SPI
	I^2S	1x I²S interface with audio resolution from 16-bits to 32-bits and sample rate up to 192kHz (see Audio Codec support)
	I^2C	4x I²C interfaces
	GPIO	14x GPIO with interrupt, one GPIO with PWM
	PCIe	1x PCIe x2 Gen3, 1x PCIe Gen 2
Power	Input	5Vdc +/- 5%
Mechanical and Environmental	Form Factor	SGET SMARC Specifications 2.1.1
	Dimension	SMARC short size module 82 mm x 50 mm
	Operating Temperature	Standard: 0°C to 60°C
		Rugged: -40°C to 85°C (optional)
	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	Canonical Ubuntu, Yocto Linux

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Ordering Information

Part name	Description/Configuration
LEC-MTK-I1200-2G-32G-CT	SMARC 2.1 Short Size Module with MediaTek Genio 1200 platform, 2 GB LPDDR4, 32 GB eMMC, 0°C to 60°C
LEC-MTK-I1200-4G-32G-CT	SMARC 2.1 Short Size Module with MediaTek Genio 1200 platform, 4 GB LPDDR4, 32 GB eMMC, 0°C to 60°C
LEC-MTK-I1200-8G-64G-CT	SMARC 2.1 Short Size Module with MediaTek Genio 1200 platform, 8 GB LPDDR4, 64 GB eMMC, 0°C to 60°C
LEC-MTK-I1200-2G-32G-ER	SMARC 2.1 Short Size Module with MediaTek Genio 1200 platform, 2 GB LPDDR4, 32 GB eMMC, -40°C to 85°C
LEC-MTK-I1200-4G-32G-ER	SMARC 2.1 Short Size Module with MediaTek Genio 1200 platform, 4 GB LPDDR4, 32 GB eMMC, -40°C to 85°C
LEC-MTK-I1200-8G-64G-ER	SMARC 2.1 Short Size Module with MediaTek Genio 1200 platform, 8 GB LPDDR4, 64 GB eMMC, -40°C to 85°C
LEC-MTK-I1200-2G-32G-BW-CT	SMARC 2.1 Short Size Module with MediaTek Genio 1200 platform, 2 GB LPDDR4, 32 GB eMMC, AC Wi-Fi BT 5.1, 0°C to 60°C
LEC-MTK-I1200-4G-32G-BW-CT	SMARC 2.1 Short Size Module with MediaTek Genio 1200 platform, 4 GB LPDDR4, 32 GB eMMC, AC Wi-Fi BT 5.1, 0°C to 60°C
LEC-MTK-I1200-8G-64G-BW-CT	SMARC 2.1 Short Size Module with MediaTek Genio 1200 platform, 8 GB LPDDR4, 64 GB eMMC, AC Wi-Fi BT 5.1, 0°C to 60°C
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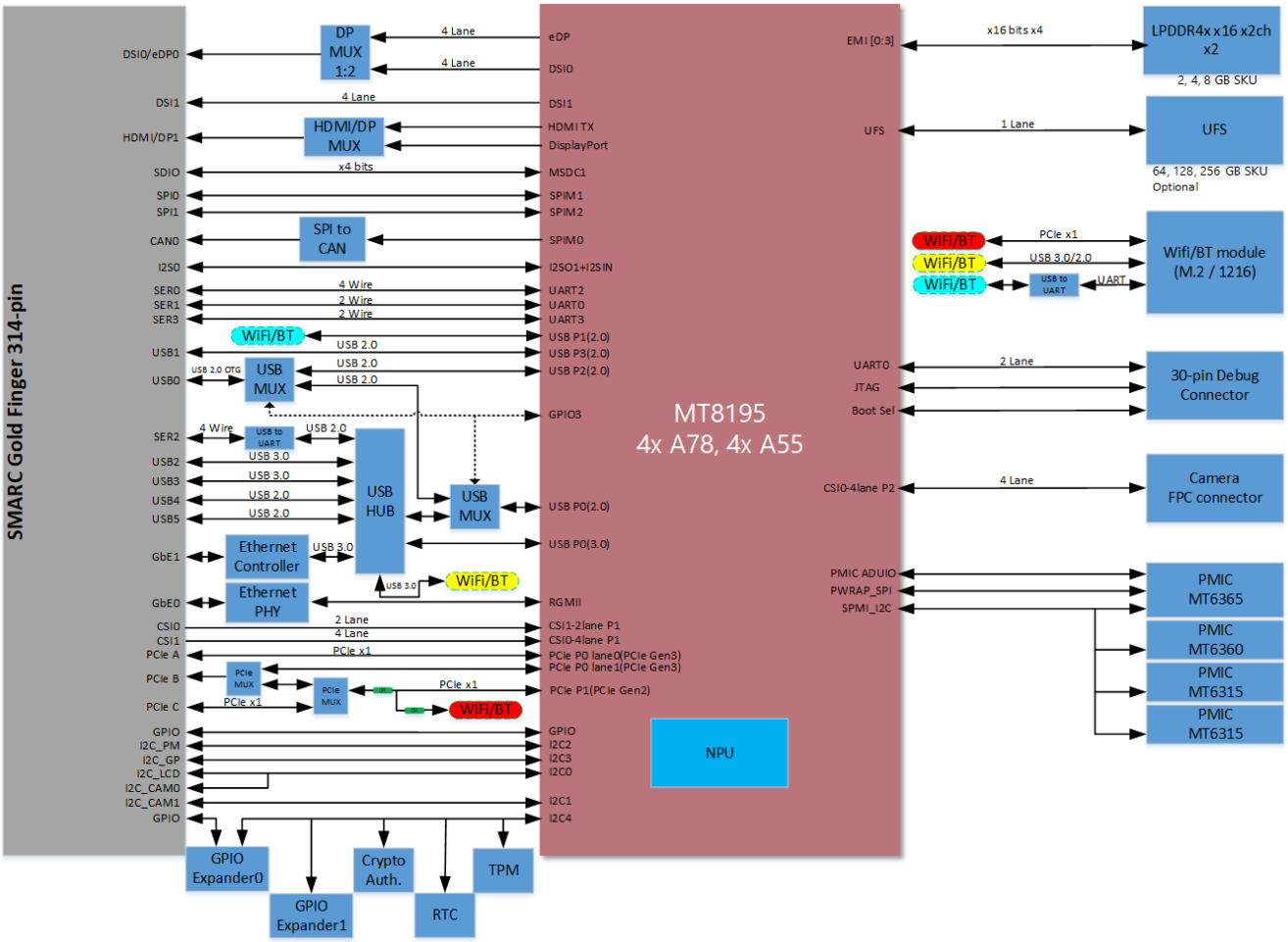
Block Diagram



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