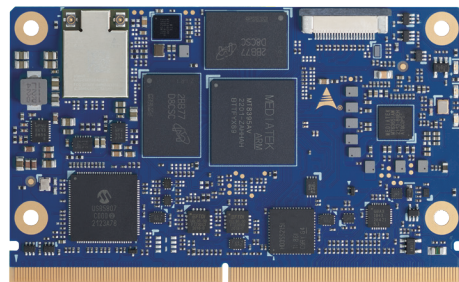


# LEC-MTK-I1200

SMARC 2.1 Short Size Module with  
MediaTek Genio 1200 Platform

Preliminary



## Features

- 8-core MediaTek MT8395 (Arm Cortex-A78 x4 + Cortex-A55 x4)
- 5 TOPS APU system (see Block Diagram)
- SMARC revision 2.1.1 compliant
- Up to 8GB LPDDR4X
- DSI up to 1080P
- HDMI up to 4K/60
- 1x onboard UFS up to 256 GB
- Dual GbE ports
- 3x CSI interfaces
- USB3/USB2 interfaces
- 10 year product availability

## Specifications

Processor & System	CPU	MT8395 Octa-core CPU: 4x A78 @ 2.2GHz + 4x A55 @ 2.0GHz
	Memory	4 or 8 GB discrete LPDDR4X
	Cache	256KB L2 per core (2MB unified L3)
	Security	TPM 2.0 module (optional)
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	HDMI 2.0b 4K @ 60Hz
	LVDS	Dual channel LVDS
	DSI	2x 4 Lane DSI, maximum resolution 4K p60 with 24-bit RGB

## Specifications

Camera	CSI	3x MIPI CSI 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	
SEMA® Board Controller	Supports: Voltage/Current monitoring, Power sequencing, Logistics/Forensic information, I <sup>2</sup> C bus control, GPIO control, Watchdog timer		
Debug Header	30-pin multipurpose flat cable connector for use with optional DB-30 debug module Provides JTAG, BMC access; UART, power testpoints; diagnostic LEDs, Power, Reset, Boot configuration		
Audio	Audio Codec	I <sup>2</sup> S audio codec located on carrier	
Dual Ethernet	Primary LAN	10/100/1000 Mbit Ethernet	
	Secondary LAN	10/100/1000 Mbit 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	Four UART interfaces SER1 and SER 2 (CTS/RTS) / SER0 and SER3 (TX/RX/CTS/RTS)	
	CAN	1x CAN2.0B only or mixed CAN2.0B and CAN FD mode, data bit rate up to 8Mbps	
	SPI	2x SPI	
	I <sup>2</sup> S	1x I <sup>2</sup> S interface with audio resolution from 16-bits to 32-bits and sample rate up to 192kHz (see Audio Codec support)	
	I <sup>2</sup> C	Four I <sup>2</sup> C interfaces - Support for 7-bit and 10-bit address mode - 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 x2 Gen3	
Power	Input	5Vdc +/- 5%	
Mechanical and Environmental	Form Factor	SGET SMARC Specifications 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 (optional)
	Humidity	Operating:	5-90% RH operating, non-condensing
		Storage:	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	

## Ordering Information

Part name	Description/Configuration
LEC-MTK-11200-4G-32G-CT	SMARC 2.1 Short Size Module with MediaTek Genio 1200 platform, 4 GB LPDDR4X, 32 GB UFS, 0°C to 60°C
LEC-MTK-11200-8G-64G-CT	SMARC 2.1 Short Size Module with MediaTek Genio 1200 platform, 8 GB LPDDR4X, 64 GB UFS, 0°C to 60°C
LEC-MTK-11200-4G-32G-ER	SMARC 2.1 Short Size Module with MediaTek Genio 1200 platform, 4 GB LPDDR4X, 32 GB UFS, -40°C to 85°C
LEC-MTK-11200-8G-64G-ER	SMARC 2.1 Short Size Module with MediaTek Genio 1200 platform, 8 GB LPDDR4X, 64 GB UFS, -40°C to 85°C
LEC-MTK-11200-4G-32G-BW-CT	SMARC 2.1 Short Size Module with MediaTek Genio 1200 platform, 4 GB LPDDR4X, 32 GB UFS, AC wifi BT 5.1, 0°C to 60°C
LEC-MTK-11200-8G-64G-BW-CT	SMARC 2.1 Short Size Module with MediaTek Genio 1200 platform, 8 GB LPDDR4X, 64 GB UFS, AC wifi BT 5.1, 0°C to 60°C
LEC-MTK-11200-4G-32G-BW-ER	SMARC 2.1 Short Size Module with MediaTek Genio 1200 platform, 4 GB LPDDR4X, 32 GB UFS, AC wifi BT 5.1, -40°C to 85°C
LEC-MTK-11200-8G-64G-BW-ER	SMARC 2.1 Short Size Module with MediaTek Genio 1200 platform, 8 GB LPDDR4X, 64 GB UFS, AC wifi BT 5.1, -40°C to 85°C

## Block Diagram

