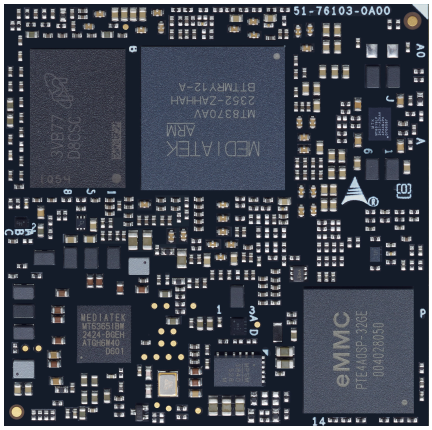
OSM-MTK510

OSM Size-L Module with MediaTek Genio 510 Series



Features

- MediaTek Genio 510 with dual core Arm Cortex-A78 and quad-core Cortex-A55
- MediaTek 5th Gen NPU, up to 3.2 TOPS
- OSM revision 1.1 compliant
- HDMI/DP, eDP, DSI graphic output interfaces
- Rugged operating temperature option : -40°C to +85°C (standard SKU, consumer temperature)
- 10 year product availability
- USB 3.0 / 2.0 interfaces
- Gigabit RGMii Ethernet
- eMMC
- ADC: 2-channel, 12-bit

Specifications

Core System	SoC	Genio 510 with dual-core Cortex-A78 and quad-core Cortex-A55
		Ethos™ U-VP6 AI processing unit
	Memory	2/4/8 GB LPDDR4L
	L2 Cache	256KB L2 cache per core
	Security	•Arm® TrustZone® •Security Boot (RSA4096) •Crypto Engine •True random number generation RNG

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.

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Specifications

Video	GPU Core	Arm Mali-G57 MC2 GPU
	HDMI	HDMI 2.0b
	MIPI DSI	1x MIPI DSI 4 lanes
	eDP	Single-channel, eDP V1.4, 2 lanes
	Camera	• Compatible with the MIPI D-PHY specification v2.1 • Up to 4 data lanes, with a maximum data rate of 2.5 Gbps per lane • Supports MIPI-HS, MIPI-LP modes
System Storage	SDIO	2x SDIO (4-bit), compatible with SD/SDIO standard, up to version 3.0
	eMMC	32,64,128, or 256 GB (build option) Compatible with eMMC specifications 4.41, 4.51, 5.0, and 5.1
Audio	Audio Codec	I²S audio codec (located on the carrier)
Ethernet	Primary LAN	MAC 10/100/1000 RGMii interface
Extension Busses	USB	1x USB 3.0, 2x USB 2.0
	UART	4x UART interfaces (A: TX/RX/CTS/RTS; C & D: TX/RX; 1× console: TX/RX)
	SPI	3x SPI interfaces
	I²S	1x I²S interfaces with audio resolution from 16-bits to 32-bits and sample rate up to 192kHz (see Audio Codec support)
	I²C	6x I²C interfaces
	GPIO	19x GPIOs with interrupts
Power	Input	5Vdc +/-5%
Mechanical and Environmental	Form Factor	SGeT OSM revision 1.1
	Dimensions	OSM Size-L 45x45 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-202F, 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 (by project), Ubuntu (by project)
	Extended Support	Foundries.IO Linux microPlatform (LMP)

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.

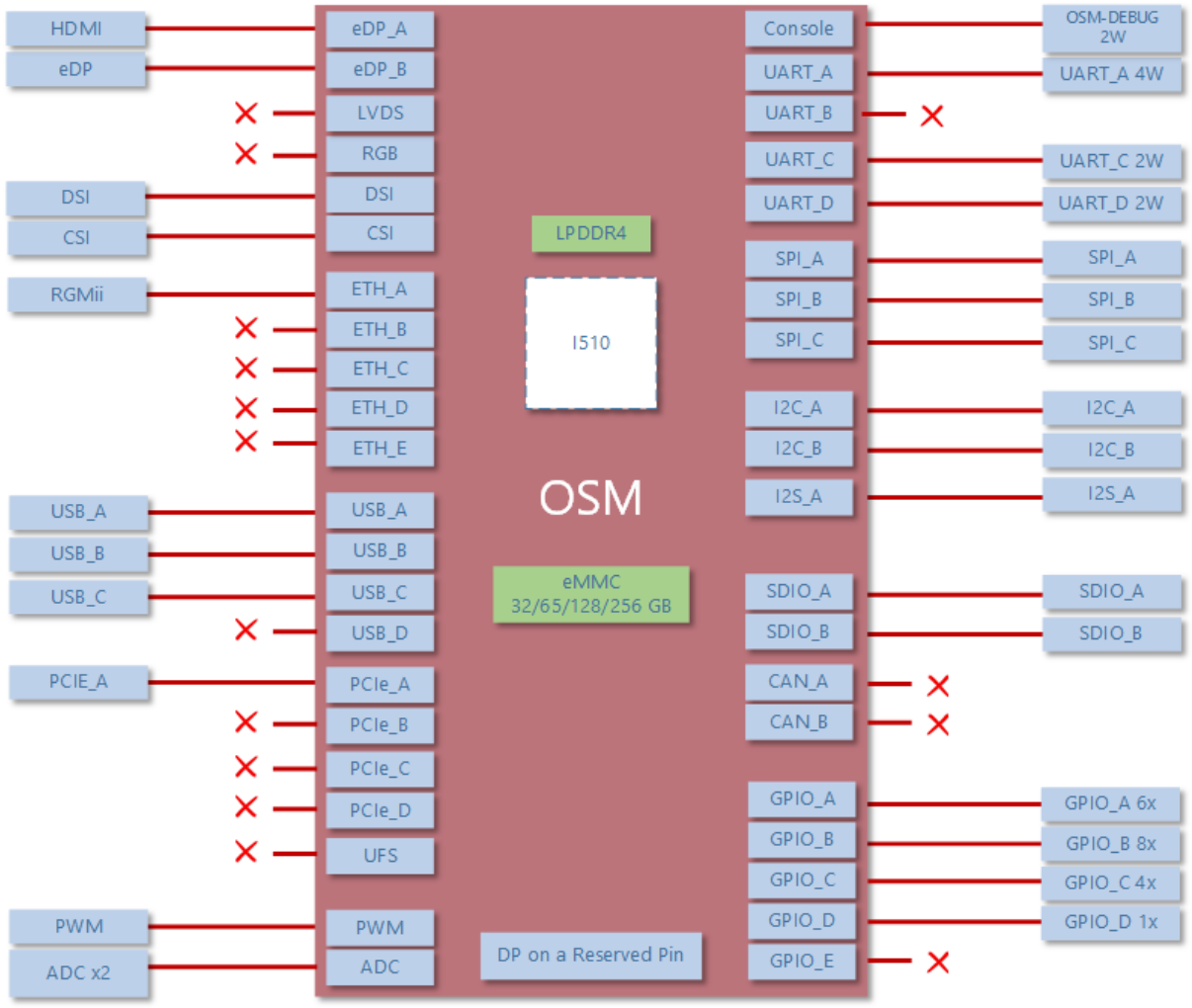
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Ordering Information

Part name	Description/Configuration
OSM-MTK510-2G-32G-CT	OSM Size-L module with Genio 510 SOC , NPU , 2 GB LPDDR4, 32 GB eMMC, 0°C to 70°C
OSM-MTK510-4G-32G-ER	OSM Size-L module with Genio 510 SOC , NPU , 4 GB LPDDR4, 32 GB eMMC, -40°C to 85°

Note: Non-listed configurations are available upon request.

Block diagram



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.

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