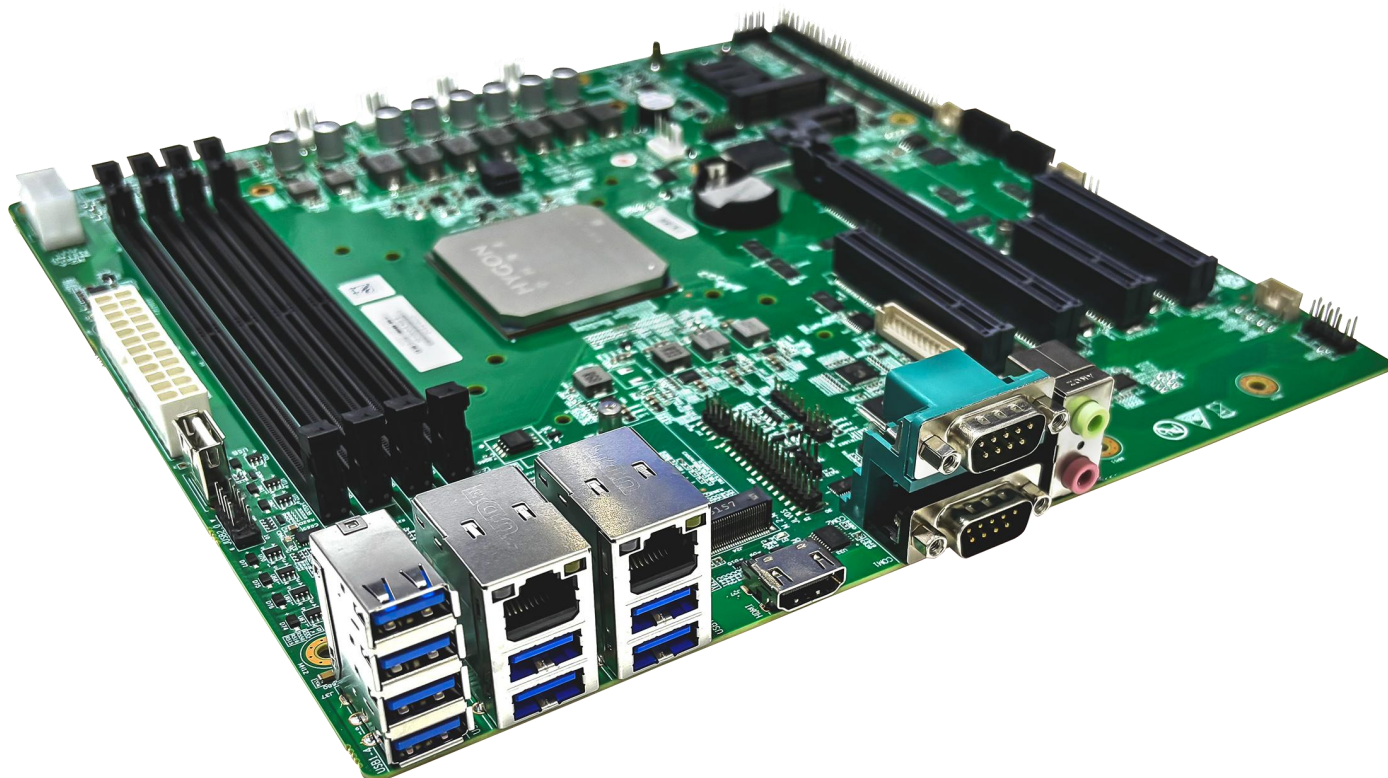


OTM-F312

海光 HG3490 Micro ATX Motherboard



Features

- **CPU:** HG3490 Processor
- **Memory:** Dual Channel UDIMM DDR5 up to 128GB
- **Display:** Expansion GPU
- **Ethernet:** 2 x RJ45, Intel® Ethernet I210AT or RTL8111H/YT8601
- **Storage:** M.2_2280 support NVMe & SATA, SATA 3.0
- **Expansion:** PCIe 16X, 2x PCIe 8X, PCIe 4X, Mini PCIe, M.2_2242
- **I/O:** 8x USB3.1, 3x USB2.0, 8bit GPIO, 1x LPC, 1x RS232/485, 7x RS232
- **System:** KOS, UOS, Linux
- **Power:** 24-pin ATX + 12V 2*4 Pin ATX

HYGON
中科海光

Introduction

Maxtang® OTM-F312 是一款基于国产 HG3490 处理器打造的 Micro-ATX 主板，支持双通道 DDR5 内存，最大可扩展至 128GB，适配多种高性能工业应用场景。主板配备多达 8 个串口（(1x RS-232/485, 7x RS-232)、11 个 USB 接口以及丰富的 PCIe 插槽（含 X16/X8/X4），为设备控制、图像采集、工业通讯等应用提供强大支持。

主板提供 M.2 插槽与 SATA 3.0 接口，可灵活配置 NVMe 或 SATA 协议固态硬盘，满足不同存储需求。同时，主板集成看门狗定时器，支持可选配的 TCM 安全加密模块，并兼容银河麒麟、统信 UOS 及 Linux 操作系统，能够满足信创项目与开放系统环境的多样化要求。

OTM-F312 采用工业级耐温设计（-10°C ~ 60°C），适配复杂环境下长时间稳定运行，广泛适用于工业自动化、轨道交通、网络安全及智慧制造等领域。

The Maxtang® OTM-F312 is a Micro-ATX motherboard built around the domestic HG3490 processor. It supports dual-channel DDR5 memory with a maximum capacity of 128GB, making it suited for various high-performance industrial applications.

The board is equipped with extensive connectivity options, including 8 COM ports (1x RS-232/485, 7x RS-232), 11 USB ports, and multiple PCIe slots (x16/x8/x4), providing robust support for device control, image acquisition, and industrial communication.

The board integrates M.2 and SATA 3.0 interfaces, offering flexible storage options for both NVMe and SATA SSDs. With an integrated watchdog timer and optional TCM security module, it maintains compatibility with KOS, UOS, and Linux—suitable for both trusted computing initiatives and open-system environments.

Designed with industrial-grade temperature tolerance (-10°C to 60°C), the OTM-F312 ensures long-term stable operation in complex environments. It is widely applicable in fields including industrial automation, rail transportation, cybersecurity, and smart manufacturing.



GPIO

Industrial Vision

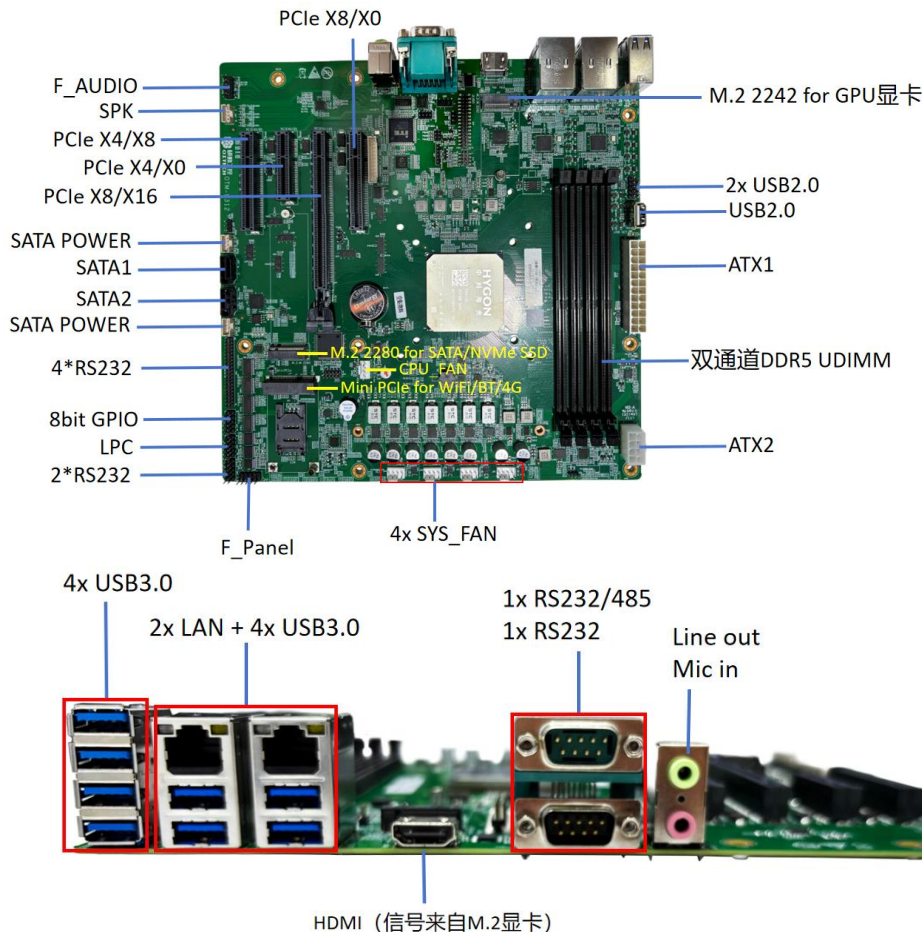


GPIO



Watchdog

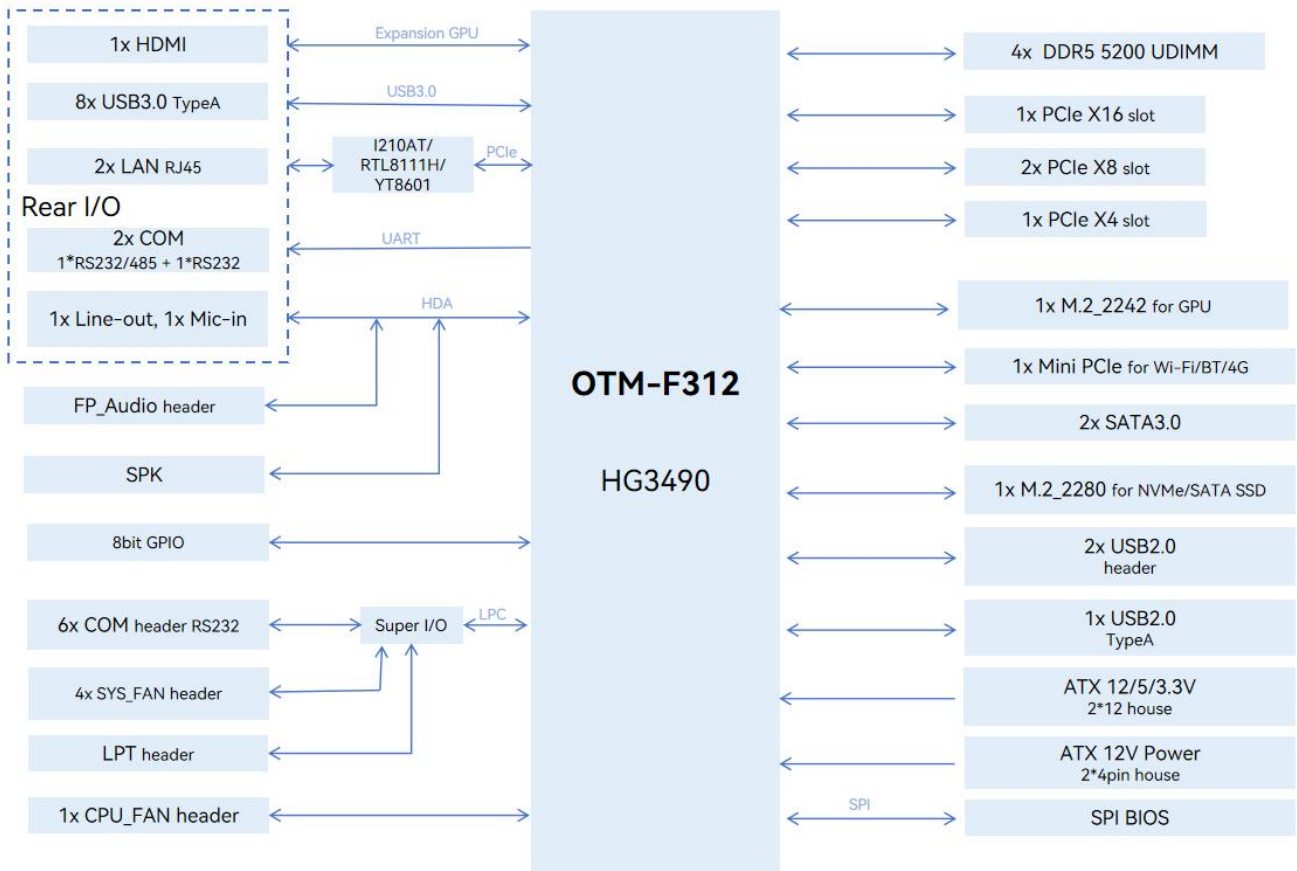
I/O Interfaces



Introduction

Processor	CPU	HG3490	
	Socket	BGA	
	Chipset	/	
	CPU TDP	130W	
	Technology	Dual channel DDR5 5200 MHz	
Memory	Max capacity	128GB	
	Socket	4x UDIMM 288Pin	
	GPU	Expansion GPU, M.2 or PCIe slot	
Graphics	Controller	LAN 1: Intel® Ethernet I210AT or RTL8111H/YT8601 LAN 2: Intel® Ethernet I210AT or RTL8111H/YT8601	
	Speed	LAN 1: 10/100/1000 Mbps	LAN 2: 10/100/1000 Mbps
	Expansion Slot	Mini PCIe	
Ethernet	Mini PCIe	1x Mini PCIe slot for Wi-Fi/BT/4G	
	M.2	1x M.2 2242 slot for GPU	
	PCIe	Slot 1:1x PCIe X8/NA (X8 slot) Slot 2:1x PCIe X8/X16 (X16 slot) Slot 3:1x PCIe X4/NA (X4 slot) Slot 4:1x PCIe X4/X8 (X8 slot)	
Storage	M.2	1x M.2_2280 slot for NVMe/SATA SSD	
	SATA3.0	2	
	Display	1x HDMI (via Expansion GPU)	
Rear I/O	RJ-45	2	
	Serial	1x RS-232/485, 1x RS-232	
	USB3.0	8	
	USB2.0	/	
	Audio	1x Line-out, 1x Mic-in	
	Display	/	
	Internal Connector	USB2.0	3
Power Requirement	LPC	1	
	Serial	6x RS-232	
	GPIO	8 bit	
	Other	1x CPU_FAN, 4x SYS_FAN, SIM slot	
	TCM	可选	
	看门狗定时器	可编程超时中断或系统复位, 1到255秒	
	Input Mode	ATX	
Environment	Standard Port	24-pin ATX + 2*4 Pin ATX	
	output socket	1x 4Pin CPU_FAN, 4x 4Pin SYS_FAN	
	Operating Temp.	-10°C ~ 60°C (14°F ~ 140°F)	
Other	Storage Temp.	-20°C ~ 70°C (-4°F ~ 158°F)	
	OS	KOS, UOS, Linux	

Functional Block Diagram



Order Information

* For customization, please contact your regional sales representative. Confirm model details before purchase, as they may vary.

Order Number	Model Name	Description
	OTM-F312	M-ATX 海光3490 OTM-F312 4DDR5 UDIMM 2LAN 8COM 1*PCIE16X+2*PCIE8X+1*PCIE4X

SHENZHEN MAXTANG COMPUTER CO. LTD.

303, 3/F, Building 2, Runzhi R&D Center, Xin'an Street, Bao'an District, Shenzhen, 518133 China
Tel: +86 755 86143003 | Fax: +86 755 86143003 | sales@datangpc.com

www.maxtangpc.com