

Edge AI Platforms

VIA
AI Transforma Model 1

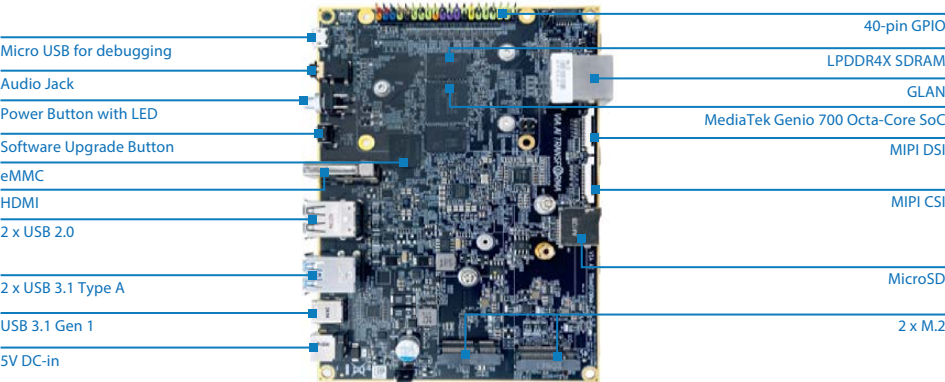
Fanless low-power platform for Edge AI applications with MediaTek Genio 700 Octa-Core processor

Features

- High-performance MediaTek Genio 700 Octa-Core SoC
- MediaTek Deep Learning Accelerator (MDLA) 3.0 and Cadence® Tensilica® Vision P6 NPU supporting up to 4 TOPS
- 4K hardware accelerated H.265/H.264 video encoding and decoding
- 40-pin GPIO, MIPI DSI and CSI connectors for displays, cameras, LEDs, actuators, motors, sensors, buttons and other accessories
- Optional Wi-Fi and 4G/5G wireless networking support with onboard M.2 and Nano SIM card slots



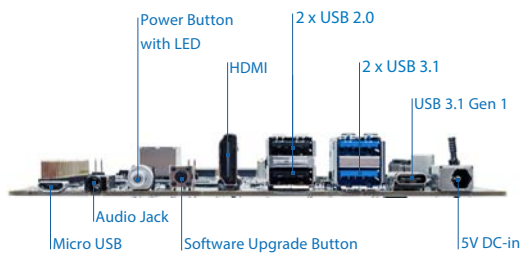
Board Placement



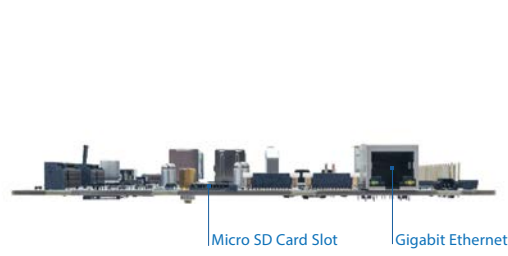
Specifications

Model Name	AI Transforma Model 1
Processor	MediaTek Genio 700 Octa-Core Processor - Two Cortex-A78 @ 2.2GHz - Six Cortex-A55 @ 2.0GHz
System Memory	8GB LPDDR4X SDRAM
Storage	16GB eMMC Flash Memory
Graphics	ARM Mali-G57 MC3 High Performance GPU Graphics engine supporting OpenGL® ES 1.1/2.0/3.2, OpenCL ES 2.2, and Vulkan 1.0/1.1 hardware acceleration Supports H.265 and H.264 video decoding up to 4K@75fps and video encoding up to 4K@30fps
AI Processor	MediaTek Deep Learning Accelerator (MDLA) 3.0 and Cadence® Tensilica® Vision P6 NPU (supports up to 4 TOPS)
Audio DSP	Cadence® Tensilica® HiFi 5
Ethernet	Realtek RTL8211F(I)-CG Gigabit Ethernet Transceiver
PMIC	MediaTek MT6365 (with Audio Codec) MediaTek MT6319
Video	Integrated HDMI 2.0b and DisplayPort 1.4 Transmitters
USB	VL817-Q7 (C0) USB3.1 Hub Controller VL211-Q4 (A0) SuperSpeed USB 5Gbps Hub Controller
MCU	Integrated to support Watchdog and RTC functions
Onboard I/O	1 4-lane MIPI DSI connector 1 4-lane MIPI CSI connector 1 40-pin GPIO header (supports GPIO, SPI, I2C, UART TX/RX, 5V power input, 5V/3.3V power output, GND, PWM and PCM) 2 M.2 slots 1 Nano SIM card slot 1 2-pin RTC battery connector 1 3-pin Auto power ON pin header 1 2-pin Watchdog pin header
Front I/O	1 HDMI port 2 USB 2.0 ports 2 USB 3.1 Type A ports 1 USB 3.1 Gen 1 port (supports maximum 15W output, OTG and DisplayPort Alt mode) 1 Micro USB port for debugging 1 3.5mm audio jack (supports line-out and MIC-in) 1 Power-ON button with LED 1 Software upgrade button 1 5V DC-in power connector
Back I/O	1 Gigabit Ethernet port 1 MicroSD Card slot
Power Supply	5V DC-in
Operating System	Debian 12
Operating Temperature	0°C ~ 60°C

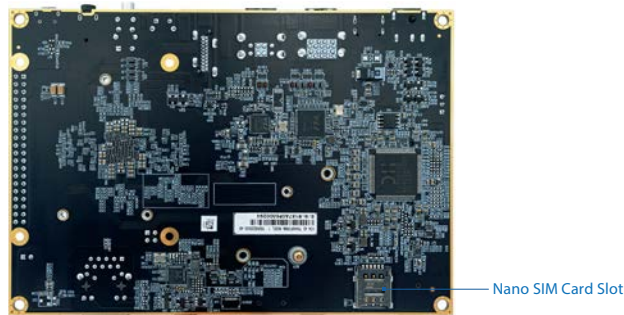
AI Transforma Model 1 Front I/O



AI Transforma Model 1 Back I/O



AI Transforma Model 1 Bottom I/O



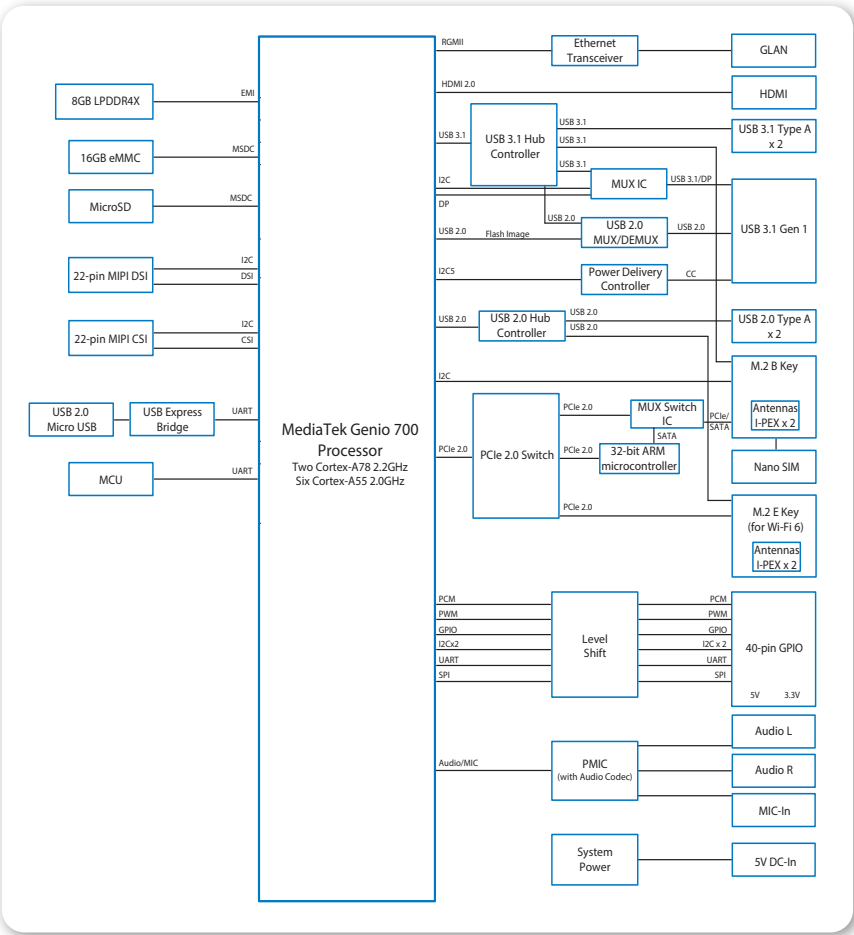
Specifications

Model Name	AI Transforma Model 1
Operating Humidity	0% ~ 95% (relative humidity ; non-condensing)
Form Factor	14.6cm x 10.2cm (5.75" x 4.02")
Compliance	CE, FCC, BSMI, UKCA

Ordering Information

Part Number	SoC Frequency	Description
10GRK22S000A0	MediaTek Genio 700 Octa-Core SoC @ 2.2GHz/2.0GHz	AI Transforma Model 1 board with 2.2GHz/2.0GHz MediaTek Genio 700 Octa-Core SoC, 16GB eMMC, 8GB LPDDR4X SDRAM, MIPI DSI, MIPI CSI, HDMI, 2 USB 3.1 Type-A, USB 3.1 Gen 1, 2 USB 2.0, Micro USB for debugging, Gigabit Ethernet, 40-pin GPIO, Audio Jack, 2 M.2 slots, MicroSD card slot, Nano SIM card slot, 5V DC-in

Block Diagram



Packing List

- Items**
- VIA AI Transforma Model 1 board with heatsink
 - 4 plastic spacers
 - 5V 8A AC-to-DC power adapter and cable for US and EU



* All product specifications are subject to change without notice. Update: Oct. 17, 2024.