

SOM Evaluation Kits

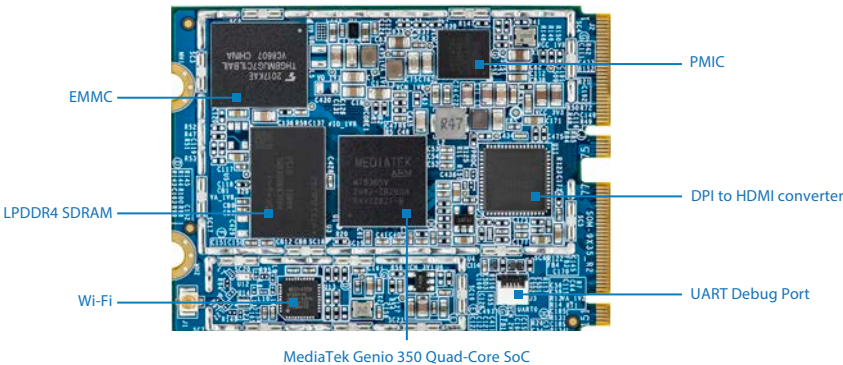
VIA SOM-3000

Fanless low-power platform
for Edge AI applications with
Quad-Core MediaTek Genio
350 SoC

Features

- High-performance MediaTek Genio 350 Quad-Core SoC
- Integrated AI processor for Edge AI applications supporting up to 0.3 TOPS
- Dual-band 802.11ac Wi-Fi
- Dual MIPI DSI display and CSI camera support
- Optional 4G LTE mobile broadband support with onboard miniPCIe and SIM card slots

Board Placement

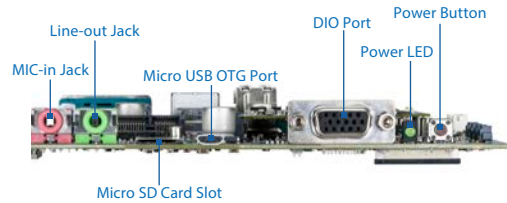


Specifications

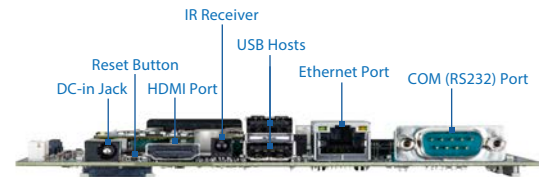
Model Name	SOM-3000
Processor	2.0GHz MediaTek Genio 350 Cortex-A53 Quad-Core SoC
System Memory	2GB LPDDR4 SDRAM
Storage	16GB eMMC Flash Memory
Graphics	ARM Mali-G52 3EE MC1 GPU 3D graphics accelerator capable of processing 1600M pixel/sec @ 800MHz Graphics engine supporting OpenGL® ES 3.2, OpenCL ES 2.0, and Vulkan 1.1 hardware acceleration Supports H.265 and H.264 video encoding and decoding up to 1080p @ 60fps
AI Processor	Cadence® Tensilica® Vision P6 NPU (supports up to 0.3 TOPS)
Audio DSP	Cadence® Tensilica® HiFi 4
Wireless Connectivity	MediaTek MT6631 - Dual band (2.4GHz & 5GHz) single stream Wi-Fi 802.11 a/b/g/n/ac RF
PMIC/Audio Codec	MediaTek MT6357/MT6390
HDMI	Lontium LT8618SXB Digital Parallel Interface to HDMI 1.4 transmitter
Supported I/O through Golden Finger	1 4-Lane MIPI DSI 1 HDMI 1.4 2 4-Lane MIPI CSI 1 USB 2.0 Host 1 USB 2.0 OTG 1 SPI 3 I2C 2 UART 2 MIC-in 1 Line-out 1 ADC 1 SDIO 3.0 6 GPIO 2 PWM 1 Battery Gas Gauge 1 3.4 ~ 4.2V DC-in
Onboard I/O	1 Wi-Fi RF I-PEX 1 Debug UART (for USB to UART debug board)
Operating System	Android 12, Yocto 3.1
Operating Temperature	0°C ~ 60°C
Operating Humidity	0% ~ 95% (relative humidity ; non-condensing)
PCBA Form Factor	60mm x 45mm (2.36" x 1.77")
Top heat spreader size	50mm x 32mm (1.97" x 1.26")
Bottom heat spreader size	48mm x 43mm (1.89" x 1.69")
Dimensions (with two-sided heat spreader)	60mm (W) x 45mm (D) x 6.8mm (H) (2.36" x 1.77" x 0.27")
Compliance	CE, FCC, TELEC, UKCA



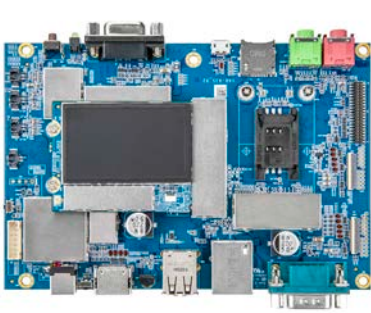
VAB-935 Carrier Board Front I/O



VAB-935 Carrier Board Back I/O



VAB-935 Carrier Board



Specifications

Model Name	VAB-935 Carrier Board
USB	Genesys GL852GT-MNG USB 2.0 MTT HUB
LAN	Realtek RTL8152BNI-VB-CG USB 2.0 to 10/100M Ethernet controller
Onboard I/O	1 4-lane MIPI DSI connector 2 4-lane MIPI CSI connectors 1 Capacitive touch panel connector 1 RTC battery connector 1 Battery charger connector 1 miniPCle slot for 4G with GNSS 1 SIM card slot 1 Download button 1 MIC connector 2 Speaker connectors 1 MCU upgrade connector 1 I/O expansion connector (supports GPIO x 5, I2C x1, UART x1, SPI x1, PWM x 2, ADC x 1 from SOM-3000, and GPIO x 11 from Expander IC) 2 M.2 connectors for VIA SOM-3000 module
Front I/O	1 Micro USB 2.0 OTG port 1 DIO port supporting 10 GPIO with 3.3V power 1 Micro SD card slot 2 Audio jacks : Line-out and MIC-in 1 Power LED 1 Power button
Back I/O	1 HDMI port (supports 720p @ 60Hz) 2 USB 2.0 ports 1 COM port for RS232 (TX/RX) 1 10/100Mbps Ethernet port 1 DC-in jack 1 Reset Button 1 IR Receiver
Power Supply	12V DC-in (support 9V~15V) 2-cell 8.4V Lion battery (optional)
Operating Temperature	0°C ~ 60°C
Operating Humidity	0% ~ 95% (relative humidity ; non-condensing)
Form Factor	3.5" SBC, 14.6cm x 10.2cm (5.75" x 4.02")

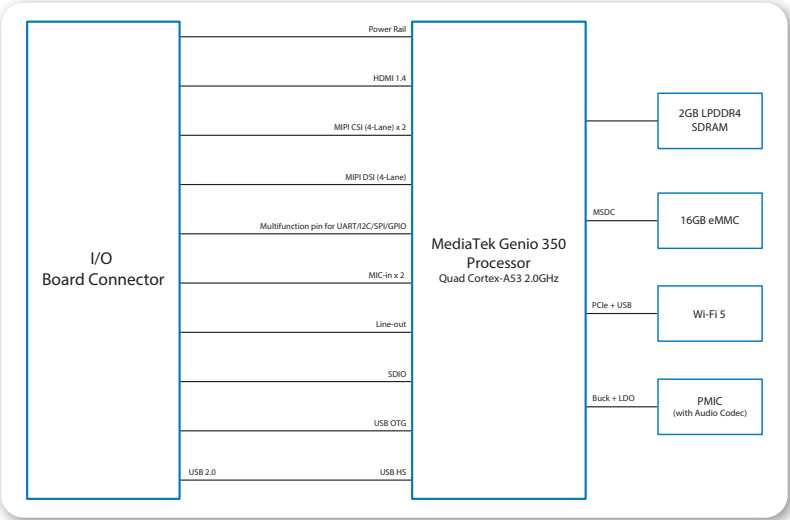
Ordering Information

Part Number	SoC Frequency	Description
STK-SOM935-00A0	MediaTek Genio 350 Quad-Core SoC @ 2.0GHz	VIA SOM-3000 Evaluation Kit with VIA SOM-3000 module, VIA VAB-935 carrier board and accessory kit

Optional Accessories

Wireless Module Options	
Part Number	Description
EMIO-2573-00A0	4G LTE mobile broadband miniPCIe module with two antennas and assembly (USA and Canada)

Block Diagram



Evaluation Kit Packing List

Items
VIA SOM-3000 module
VIA VAB-935 carrier board
7" MIPI LCD and touch panel
2.4G/5G Wi-Fi antenna
4 PIN FFC cable
13MP CMOS sensor camera module
2 x 2W Speakers
Microphone
3V, 240mAh RTC battery
USB to UART debug board
12V AC power adapter

