

SOM Evaluation Kits

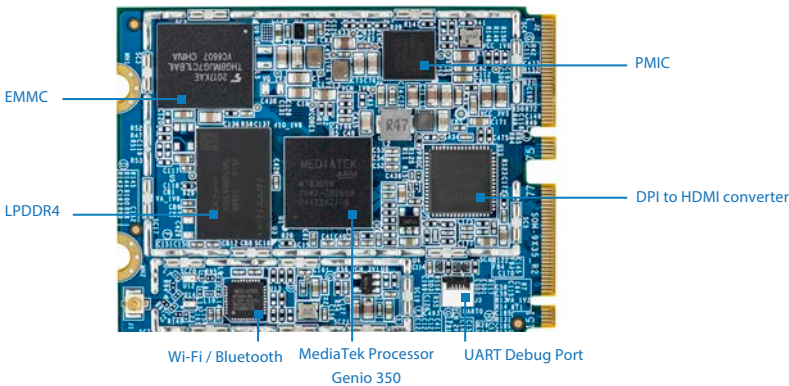
VIA  
SOM-3000

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
- Dual-band 802.11ac Wi-Fi with Bluetooth 5.0
- Dual MIPI camera and display support
- Optional 4G LTE mobile broadband support with onboard miniPCle and SIM card slots

Board Placement

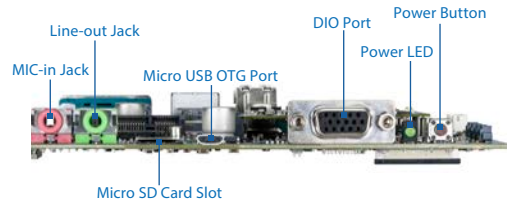


Specifications

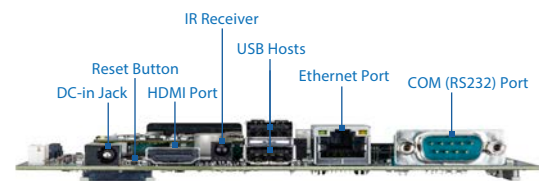
|                                           |                                                                                                                                                                                                                                                                                                                       |
|-------------------------------------------|-----------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|
| 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<br>3D graphics accelerator capable of processing 1600M pixel/sec @ 800MHz<br>Graphics engine supporting OpenGL® ES 3.2, OpenCL ES 2.0, and Vulkan 1.1 hardware acceleration<br>Supports H.265 and H.264 video decoding up to 1080p @ 60fps<br>Supports Cadence Tensilica Vision P6 and HiFi4 |
| Wireless Connectivity                     | MediaTek MT6631<br>Dual band (2.4GHz & 5GHz) single stream Wi-Fi 802.11 a/b/g/n/ac RF<br>Bluetooth 5.0                                                                                                                                                                                                                |
| 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<br>2 4-Lane MIPI CSI<br>1 HDMI 1.4<br>1 USB 2.0 Host<br>1 USB 2.0 OTG<br>1 SPI<br>3 I2C<br>2 UART<br>2 MIC-in<br>1 Line-out<br>1 ADC<br>1 SDIO 3.0<br>6 GPIO<br>2 PWM<br>1 Battery Gas Gauge<br>1 3.4 ~ 4.2V DC-in                                                                                  |
| Onboard I/O                               | 1 RF I-PEX (for RF antenna for Wi-Fi and Bluetooth)<br>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                                                                                                                                                                                                                                                                                                           |
| Top heat spreader size                    | 50mm x 32mm                                                                                                                                                                                                                                                                                                           |
| Bottom heat spreader size                 | 48mm x 43mm                                                                                                                                                                                                                                                                                                           |
| Dimensions (with two-sided heat spreader) | 60mm x 45mm x 6.8mm (W x D x H)                                                                                                                                                                                                                                                                                       |
| Compliance                                | CE, FCC, TELEC, UKCA                                                                                                                                                                                                                                                                                                  |



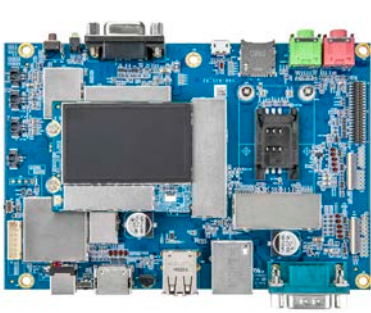
VAB-935 Carrier Board Front Panel I/O



VAB-935 Carrier Board Back Panel 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           | 2 4-lane MIPI CSI connectors<br>1 4-lane MIPI DSI connector<br>1 Capacitive touch panel connector<br>1 RTC battery connector<br>1 Battery charger connector<br>1 miniPCle slot for 4G with GNSS<br>1 SIM card slot<br>1 Download button<br>1 MIC connector<br>2 Speaker connectors<br>1 MCU upgrade connector<br>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)<br>2 M.2 connectors for VIA SOM-3000 module |
| Front Panel I/O       | 1 Micro USB 2.0 OTG port<br>1 DIO port supporting 10 GPIO with 3.3V power<br>1 Micro SD card slot<br>2 Audio jacks : Line-out and MIC-in<br>1 Power LED<br>1 Power button                                                                                                                                                                                                                                                                                                                           |
| Back Panel I/O        | 1 HDMI port (supports 720p @ 60Hz)<br>2 USB 2.0 ports<br>1 COM port for RS232 (TX/RX)<br>1 10/100Mbps Ethernet port<br>1 DC-in jack<br>1 Reset Button<br>1 IR Receiver                                                                                                                                                                                                                                                                                                                              |
| Power Supply          | 12V DC-in (support 9V~15V)<br>2-cell 8.4V Lion battery (optional)                                                                                                                                                                                                                                                                                                                                                                                                                                   |
| Operation System      | Android 12, Yocto 3.1                                                                                                                                                                                                                                                                                                                                                                                                                                                                               |
| 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")                                                                                                                                                                                                                                                                                                                                                                                                                                                           |

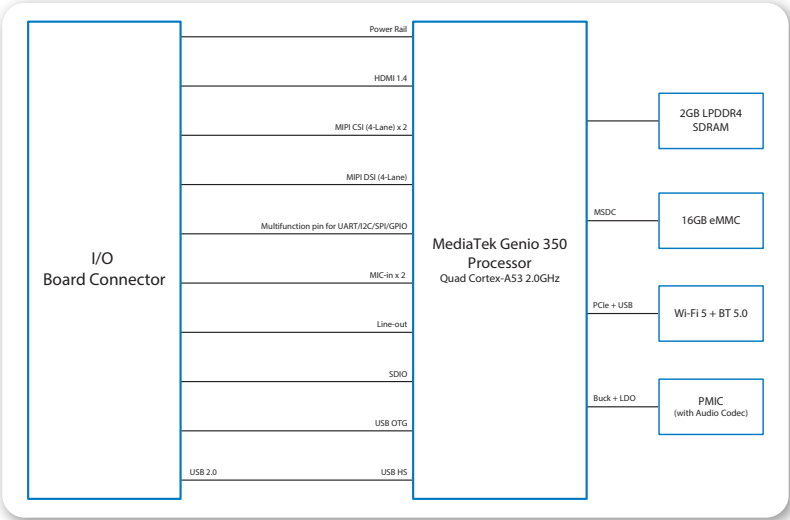
Ordering Information

| 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           |



\* All product specifications are subject to change without notice. Update: May 02, 2024.

# Mouser Electronics

Authorized Distributor

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[VIA Technologies:](#)

[STK-SOM935-00A0](#)