VOSM350 Evaluation Kit

A comprehensive tool kit for development of embedded products to implement industrial IoT applications

Overview

VOSM350 evaluation kit is designed for programmers or developers who seek to reduce the time-to-market of embedded products with a comprehensive tool kit. The evaluation kit features a VOSM350 evaluation board and a TMO070 open-frame touchscreen monitor.

The VOSM350 evaluation board is powered by MediaTek G350 chipset, which integrates a quad-core Arm Cortex-A53 processor, a Mali-G52 GPU, a VP6 APU for AI and computer vision algorithms and a HiFi4 audio engine DSP to fit for edge AI applications that require voice and vision processing. Its support for Wi-Fi and Bluetooth wireless connectivity functions increases its versatility for IoT scenarios. Additionally, it offers rich interfaces to allow connection of diverse peripherals for debugging the module and the device itself.

The TMO070 open-frame touchscreen monitor applies a 7-inch multi-point PCAP touch screen and features quick response time, large visible area and viewing angle. It is designed to deliver excellent visual experience and improve human-machine interaction accuracy.

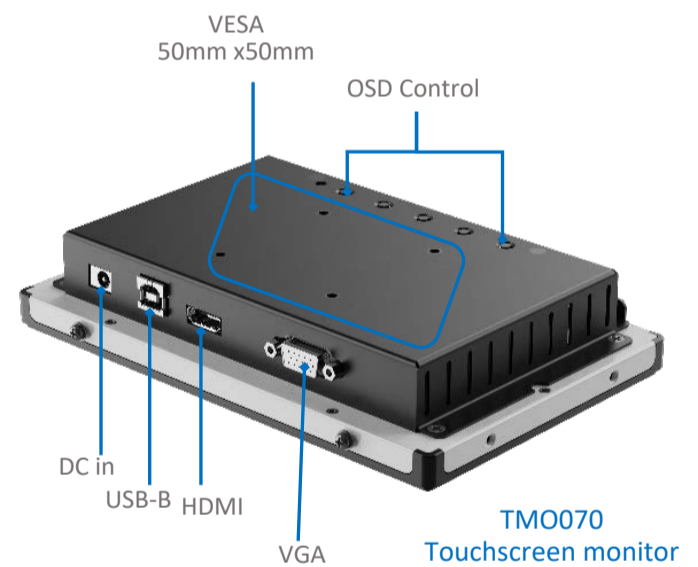## Accessories available in the kit

- VOSM350 evaluation board (carrier board + SOM)
- TMO070 open-frame touchscreen monitor
- Power adapters (5V DC for the board[1], 12V DC for the touchscreen monitor)
- Touch USB cable
- HDMI cable
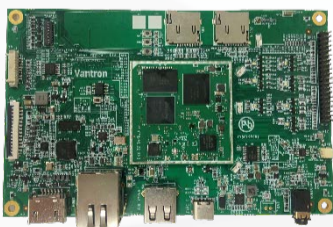
Exterior
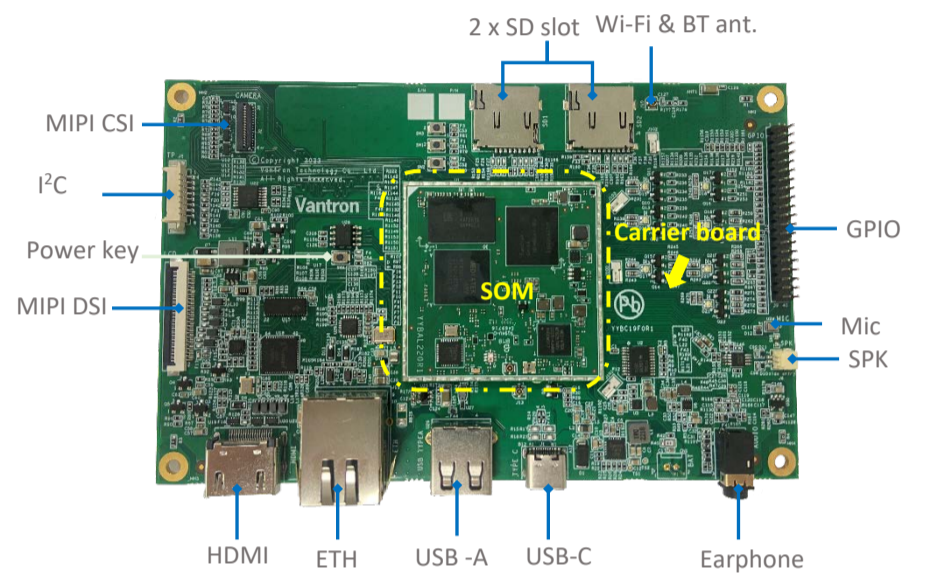
VOSM350 evaluation board

TMO070
Touchscreen monitor

Features and benefits

- Rich interfaces on the evaluation board for diverse peripherals
- Android and Linux systems supported
- Extended service life (7+ years)
- 7" TFT LCD, 300 nits, 1024 x 600
- Scalable platform

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[1] A USB-C to dual USB-A male extension cable is used to connect both the power adapter and host PC for supplying power and debugging the board, respectively.

Evaluation Kit Datasheet

VOSM350 Evaluation Board			
System	CPU	MTK G350, ARM Cortex-A53, Quad-Core Low Power Processor, Max 2.0GHz Mali-G52 GPU,600MHz	
	Memory	4GB LPDDR4	
	Storage	32GB eMMC 5.1	
	EEPROM	2Kb (for hardware configuration information)	
	PMIC	MT6390	
Communication	Ethernet	1 x RJ45, 10M/100Mbps	
	Wi-Fi & Bluetooth	802.11 a/b/g/n/ac + Bluetooth 5.0	
Media	Video processing	Dual displays, FHD60/HD60, 1080p60, H.265/H.264/VP9	
	Audio DSP	HiFi-4	
	Camera	2 x Camera (Max.)	
I/Os	Display	1 x 4-lane MIPI DSI / 1 x HDMI	
	MIPI CSI	1 x 4-lane MIPI CSI / 2 x 2-lane MIPI CSI	
	Audio	1 x Earphone jack	1 x Speaker connector
		1 x DMIC	
	USB	1 x USB Type-A	1 x USB Type-C (USB 2.0 OTG supported)
	I²C	2 x I²C	
	UART	1 x Debug UART (1.8V level)	2 x Communication UART (TTL)
	GPIO	25 x GPIO (max.)	
	SD slot	2 x SD slot	
	Key	1 x Power key	
	JTAG	Supported	
	PWM	Supported	
Power	Input	5V/1A DC input	
Software	Operating system	Android 10+	Optional: Yocto
	Device management	BlueSphere MDM (Android version only)	
	Upgrade tool	BlueSphere OTA	
Mechanical	Dimensions	142mm x 90mm x 18.84mm (EVB)	45mm x 45mm x 1.2mm (SOM)
Environment Condition	Temperature	Operating: -20℃ ~ +60℃	Storage: -30℃ ~ +70℃
	Humidity	≤95% RH (Non-condensing)	
	Certification	CE, FCC, CCC	

TMO070 Open-frame Touchscreen Monitor			
Display	Diagonal size	7" TFT LCD with LED backlight	
	Aspect ratio	16:9	
	Resolution	1024 x 600	
	Brightness	300 nits	
	Active area	154.21mm × 85.92mm	
	Contrast ratio	800:1	
	Number of colors	16.7M	
	Response time	25ms	
	Viewing angle	Horizontal: 150°	Vertical: 140°
Touch panel	Touch point	5-point PCAP touchscreen	
	Touch control	Finger, stylus pen	
	Cover lens thickness	1.1mm	
	Surface treatment	Anti-fingerprint, tempered glass	Optional: Anti-glare / Anti-reflection
	Light transmittance ratio	>85%	
	Touch communication interface	USB 2.0 Type-B	
Video	Video interface	1 x VGA	1 x HDMI
Mechanical	Dimensions	186.2mm x 119.9mm x 35.7mm (without brackets)	
	Weight	0.9kg	
	Installation	VESA mounting (50mm x 50mm)	Side bracket mounting
	OSD	Built-in OSD (set up with OSD keys)	Controls: Menu, Up, Down, Back, Power
Software	Power input	12V DC	
	Power consumption	<6W	
	Adjustment of brightness, contrast, color temp.	Supported	
Environment Condition	Temperature	Operating: 0℃ ~ +40℃	Storage: -20℃ ~ +60℃
	Humidity	10%~90% RH (non-condensing)	
	MTBF	50,000 hours	
	Warranty	3 years	
	ESD	ESD: ±4KV (contact) and ±8KV (air)	
	Certificate	CCC, FCC, CE, UL	

Wiring

1. Use the HDMI cable and touch USB cable to connect the touchscreen monitor and the evaluation board for display and touch purposes, respectively;
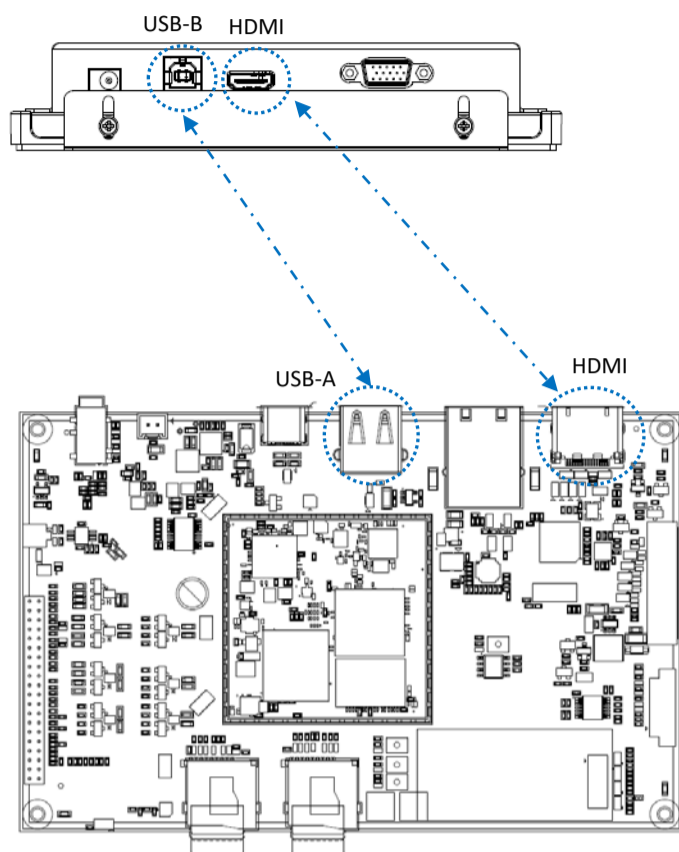
2. Connect the 12V DC power supply to the touchscreen monitor. Plug the main USB-A port of the USB-C to dual USB-A male extension cable into the host PC (if necessary), the auxiliary USB-A port to the 5V DC adapter, and the USB-C into the evaluation board for debugging and charging purposes;
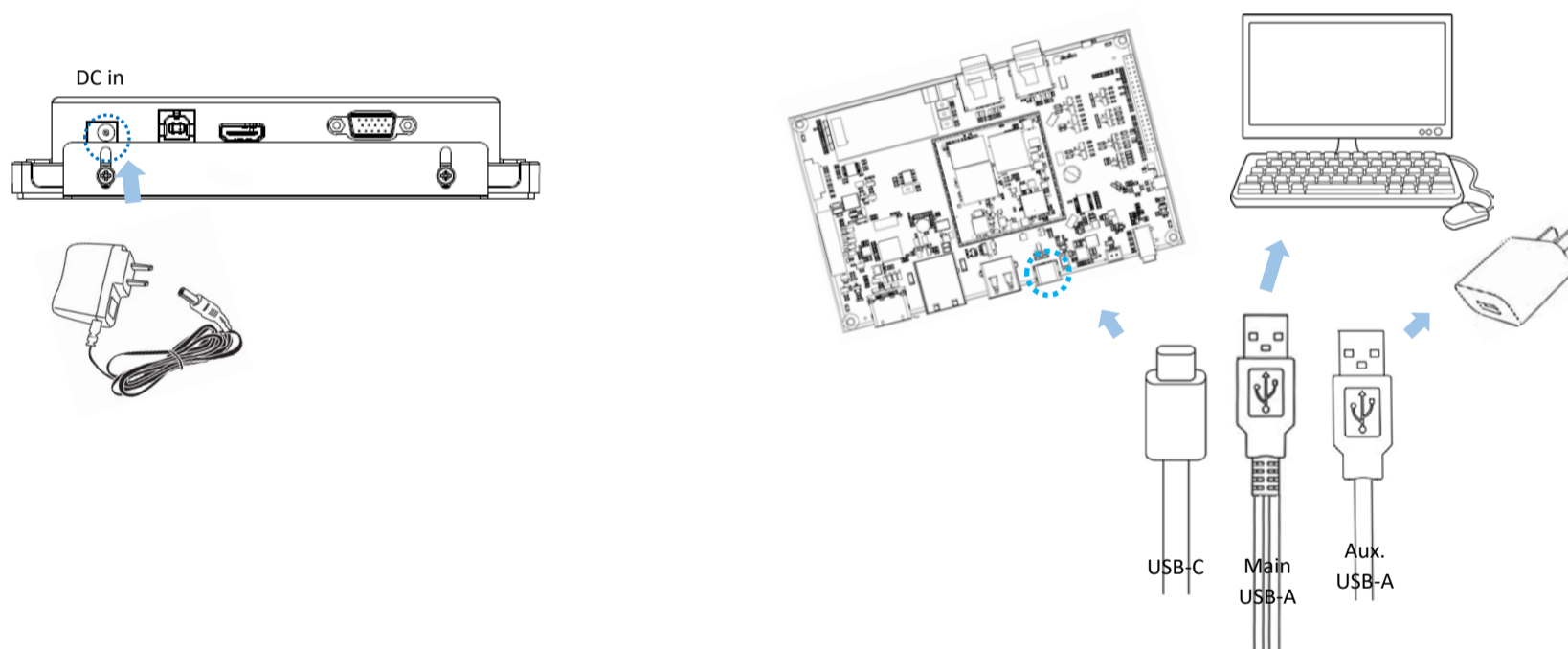
3. Plug the adapters separately into proper outlets to power on the devices.

Company Profile

Since its establishment in 2002 by two Silicon Valley entrepreneurs, Vantron Technology has been at the forefront of the connected IoT devices and IoT platform solutions. Today, Vantron boasts a global customer base that includes several Fortune 500 companies. Its product lines cover intelligent edge hardware, IoT communication devices, industrial displays and BlueSphere cloud device management platforms.

With over 20 years of experience in R&D of intelligent edge hardware, Vantron has provided users with diverse embedded solutions featuring ARM and X86 architectures. Its offerings range from Linux to Windows, from embedded level to desktop level, and from gateways to servers. In addition, it provides users with system clipping, driver transplantation and other related services.