VIM3 Specifications

Model	Basic	Pro
SoC	Amlogic A311D 2.2GHz Quad core ARM Cortex-A73 and 1.8GHz dual core Cortex-A53 CPU ARM G52 MP4 GPU up to 800MHz HW UHD 4K H.265 75fps 10-bit video decoder & low latency 1080p H.265/H.264 60fps encoder Support multi-video decoder up to 4Kx2K@60fps+1x1080P@60fps Dolby Vision and HDR10, HDR10+, HLG and PRIME HDR video processing Build-in Cortex-M4 core for always on processing TrustZone based security for DRM video streaming	
	5 TOPS Performance NPU INT8 inference up to 1536 MAC Supports all major deep learning frameworks including TensorFlow and Caffe	
MCU [1]	STM8S003 with Programmable EEPROM	
SPI Flash	16MB	
LPDDR4/4X [2]	2GB	4GB
EMMC 5.1	16GB	32GB
Wi-Fi	AP6398S Module 802.11a/b/g/n/ac, 2X2 MIMO with RSDB [3]	
Bluetooth	Bluetooth 5.0	
LAN	10/100 / 1000M	
WOL [4]	Wake on Lan	
TF Card	Molex Slot, Spec Version 2.x/3.x/4.x(SDSC/SDHC/SDXC)	
USB HOST	x2 (900mA & 500mA Load)	
USB Type-C	USB2.0 OTG & USB PD	
VIN Connector	System Power Input	
Wide Input Voltage	Range from 5V to 20V	
HDMI	Type-A Female HDMI2.1 transmitter with 3D, Dynamic HDR, CEC and HDCP 2.2 support	
MIPI-DSI	4 lanes Interface, resolution up to 1920*1080 30 Pin 0.5mm Pitch FPC Connector	
Touch Panel	10 Pin 0.5mm Pitch FPC Connector	
Camera	Interface: 4 lanes MIPI-CSI Supports Dual Cameras Up to 8 MP ISP 30 Pin 0.5mm Pitch FPC Connector	
Sensor	KXTJ3-1057 Tri-axis Digital Accelerometer	
M.2 Socket	PCIe 2.0 (one lane) M.2 2280 NVMe SSD Supported USB 2.0, I2S, I2C, ADC, 100M Ethernet PHY interface, GPIO	
IR Receiver	2 Channels	
RTC & Battery Header	0.8mm Pitch Header	
Cooling Fan Header	4-Pins 0.8mm Pitch Header, with PWM Speed Control	
LEDs	Blue LED x1, White LED x1, Red LED x1	
40-Pins Header(2.54mm)	CPU: USB, I2C, I2S, SPDIF, UART, PWM, ADC MCU: SWIM, NRST, PA1	
Buttons	x3 (Power / Func / Reset)	
XPWR Pads	For External Power Button	

Mounting Holes	Size M2 x 4
Board Dimensions	82.0 x 58.0 x 11.5 mm
Board Weight	28.5g
Bootloader	Mainline U-Boot
Linux Kernel	Mainline Linux
Linux Distros	Ubuntu 20.04
Android	Android 9.0
Officially supported by	Google AOSP Google Fuchsia OS Armbian
Khadas Only	Khadas TST [5]
	Khadas KBI [6]
	Fenix Script [7]
Compliance	CE, FCC, TELC(Japan), RoHS

[1] MCU: Power management, EEPROM for customization, and boot media(SPI Flash or eMMC) setup.

[2] LPDDR4 or LPDDR4X RAM will be selected randomly during manufacturing.

[3] RSDB: Real Simultaneous Dual Band, which lets VIM3 and other devices transmit and receive data over two bands at the same time.

[4] WOL: Power on or wake up VIM3 remotely over Lan through APP or webpage.

[5] The Khadas TST feature enables developers to enter upgrade mode easily: simply press the function key 3 times within 2 seconds, and it works even if the boot loader is damaged.

[6] Khadas KBI: Switch the "combo interface" between PCIe and USB 3.0.

[7] Fenix Script: One-click script for building of Linux Distributions.