VIM3L Specifications

Model	VIM3L
SoC	Amlogic S905D3-N0N 1.9GHz quad core Cortex-A55 CPU ARM G31 MP2 GPU up to 800MHz, OpenGL ES 3.2 Vulkan 1.0 and OpenCL 2.0 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
	1.2 TOPS Performance NPU Support max frequency of 800MHz 1 NN core with 768 INT 8 MAC 8 Tensor Processors, 1 full functionality, 7 for AI voice Supports all major deep learning frameworks including TensorFlow and Caffe
MCU [1]	STM8S003 with Programmable EEPROM
SPI Flash	16MB
LPDDR4/4X [2]	2GB
EMMC 5.1	16GB
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, eARC, 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: 2 lanes MIPI-CSI (ISP not built-in) 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
Linux	Mainline Linux (Linux 5.0+)
Bootloader	Mainline U-Boot
Linux Distros	Ubuntu 18.04+ / Armbian
O/S for HTPC	LibreELEC(Linux-5.0+) / CoreELEC(Linux-4.9)
Android	Android Pie (9.0)
Khadas Only	Khadas TST [5]
	Khadas KBI [6]
	Fenix Script [7]
Certifications	CE, 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.