

1 Overview

Thundercomm AI KIT aims to help developers to evaluate, verify and develop their on-device AI products with SDA845 AI platform, providing AI algorithm SDK, demo applications, tools and cloud service support.



2 Thundercomm AI KITProduct Specification

2.1 Hardware Specification

Module	Item	Spec
Computing	CPU	Qualcomm Snapdragon 845, 8x Qualcomm® Kryo™ 385 @ 2.8GHz
	GPU	Adreno 630 GPU
	DSP	Hexagon 685 DSP
	ISP	Qualcomm Spectra™ 280 image sensor processor
Memory	RAM	8GB LPDDR4X
	ROM	64GB UFS2.1
	SD Card	Support MicroSD Card
Camera	Built in Camera	8MP, FOV 120 degree;
	external Camera	USB3.0 camera
Display	HDMI	1x Micro HDMI, 4k Ultra HD
	Type C	4k Ultra HD
Video	VPU	Support for HDR10, HLG, and H.265 (HEVC) 4k@60fps video capture
Audio	Speaker	1x speaker
	Audio out	1x Headset out, only support line out.
	Microphone	1x microphone

Wireless Connectivity	WIFI	2.4G/5G,802.11 a/b/g/n/ac 2x2 MIMO
Wired Connectivity	USB	3x USB3.0 host, 1x 3.0 Type C
	Ethernet	1x GbE.
Debug Port	Micro USB	1x Micro USB
Indicator	LED	RGB Led: Power status, WIFI status, Ethernet status;
Input	Buttons	Power key/ Volume up/down key/Camera snapshot key
Power	Power charging	12v DC

Table 2.1-1

2.2 Software Specification

Module	Feature
OS	Android O
AI Framework	Tensorflow, Tensorflow Lite, Caffe/Caffe2, ONNX,SNPE, Android NN
AI Algorithm SDK	Face Detection & Face Recognition & Emotion Detection & Age Detection & Gender Detection algorithm
	Object Detection algorithm
AI Sample Application	Face Recognition & Emotion Detection & Age Detection & Gender Detection algorithm demo
	Objection Detection algorithm demo
Camera	Support USB Camera, UVC2.0,4k@30fps

	Ultra HD camera preview, recording and snapshot
	RTSP Client
Graphic	OpenGL3.2, OpenCL2.0 full

Table 2.2-1

3 Thundercomm AI KIT Basic Setup

3.1 Hardware Setup

- I Plug in your 12V power supply into a wall outlet and then connect the power supply to your AI Kit. Your AI Kit should be powered down at this point.
- I This AI Kit's preinstalled OS is android, there are two method to show AI Kit's android UI.

Method 1:

- 1) Plug in your micro HDMI cable to your AI Kit and then connect the micro HDMI cable to your display screen with HDMI in interface. Note: Micro HDMI cable is not included in the AI kit but can be purchased separately.
- 2) Press power button for about five or six seconds and release. Then AI Kit will be powered on and start Android.
- 3) Then you can see Android UI from your display screen.

Method 2:

- 1) A terminal program is required on your computer.

If Ubuntu is on your computer, the terminal program "Vysor" can be used. Please download the latest version from Chrome application store or from the website

<http://www.vysor.io/download/?return=http%3A%2F%2Fwww.vysor.io%2F>

If Windows is on your computer, the terminal program "Total Control" can be used. You can download it from the website <http://tc.sigma-rt.com.cn/>

Install Vysor/Total Control or another terminal program of your choice.

- 2) Plug in your type C to USB cable to your AI Kit and then connect the typeC to USB cable to your computer.
 - 3) Then AI Kit will be powered on automatically and start Android.
 - 4) Start your terminal program on your computer. After android start on AI Kit is completed, Android UI can be showed on your terminal program.
- I Connect usb mouse to your AI Kit and you can operate your AI Kit with the mouse. Note: USB mouse is not included in the AI kit but can be purchased separately.

3.2 Software Setup

WiFi Connection

Method of WiFi configure as android's phone:

After entering android's launcher UI, open "settings" to configure WIFI to connect wireless router.

You can try to access internet with browser to make sure wifi connection works well.

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FCC Caution:

Any Changes or modifications not expressly approved by the party responsible for compliance could void the user's authority to operate the equipment.

This device complies with part 15 of the FCC Rules. Operation is subject to the following two conditions: (1) This device may not cause harmful interference, and (2) this device must accept any interference received, including interference that may cause undesired operation.

FCC Radiation Exposure Statement:

This equipment complies with FCC radiation exposure limits set forth for an uncontrolled environment. This equipment should be installed and operated with minimum distance 20cm between the radiator & your body.

This transmitter must not be co-located or operating in conjunction with any other antenna or transmitter.

Note: This equipment has been tested and found to comply with the limits for a Class B digital device, pursuant to part 15 of the FCC Rules. These limits are designed to provide reasonable protection against harmful interference in a residential installation. This equipment generates, uses and can radiate radio frequency energy and, if not installed and used in accordance with the instructions, may cause harmful interference to radio communications. However, there is no guarantee that interference will not occur in a particular installation. If this equipment does cause harmful interference to radio or television reception, which can be determined by turning the equipment off and on, the user is encouraged to try to correct the interference by one or more of the following measures:

—Reorient or relocate the receiving antenna.

—Increase the separation between the equipment and receiver.

—Connect the equipment into an outlet on a circuit different from that to which the receiver is connected.

—Consult the dealer or an experienced radio/TV technician for help.