# TINKER BOARD SERIES

Tinker Board Series is a Single Board Computer (SBC) in a small form factor that offers class-leading performance, greater durability, better stability and overall improved user experience for developers.

For those in search of tailor-made solutions, ASUS IoT offers custom design services such as changing your existing hardware, or creating a completely new solution according to your specific requirements. With the right skills to design, manufacture, test and support, ASUS IoT provides a one-stop service to help you manage your business in an effective, cost-saving manner.



# Tinker Board 2 / Tinker Board 2S

ARM SBC, Rockchip RK3399 Hexa-core, LPDDR4 RAM, eMMC, HDMI, MIPI-DSI, MIPI-CSI, 12-19V DC in



**Features** 

- · Arm® big.LITTLE™ A72+A53 Hexa-core SoC
- · Multiple MIPI-CSI & DSI / HDMI / Type-C (DP)
- · USB 3.0 / Wi-Fi 802.11ac / BT 5.0 / GPIO
- 12V~19V DC-in offers stable power delivery Linux & Android supported



## **Specifications**

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SoC	Rockchip RK3399
CPU	Dual-core Arm® Cortex®-A72 @ 2.0 GHz + Quad-core Arm® Cortex®-A53 @ 1.5 GH
GPU	Arm® Mali™-T860 MP4 GPU @ 800 MHz
Memory	Dual-CH LPDDR4 2/4GB
Storage	16GB eMMC* (* Only available on S model) 1 x Micro SD (TF) card slot (push & push)
Display	1 x HDMI with CEC hardware ready 1 x Type-C (DP) 1 x 22-pin MIPI DSI (4 lane)
USB	3 x USB3.2 Gen1 Type-A ports 1 x USB3.2 Gen1 Type-C OTG port
Camera Interface	1 x 15-pin MIPI CSI-2 (2 lane)
Connectivity	1 x RTL8211E/F GbE LAN 1 x 802.11 a/b/g/n/ac & Bluetooth 5.0 (2T2R)
Audio	1 x HDMI audio, 1 x I2S (40-pin), 1 x S/PDIF (40-pin)
Internal I/O	1 x 40-pin header includes: - up to 28 x GPIO pins - up to 2 x SPI bus - up to 2 x IPC bus - up to 2 x UART - up to 3 x PWM - up to 1 x PCM/12S - up to 1 x SPDIF TX - 2 x 5V power pins - 2 x 3.3V power pins - 2 x 3.3V power pins - 8 x ground pins 1 x 2-pin Recovery header 1 x 2-pin Power-on header 1 x 2-pin Debug UART header 1 x 2-pin DC Fan header 1 x 2-pin RTC Battery header
Power requirement	1 x 12~19V DC input (5.5/2.5 mm)
Operation Temperature	0~60°C
Non-Operation Temperature	-40~85°C
Relative Humidity	0%~85%
Operating System Support	Debian 10 / Android 11
Form Factor	3.37" x 2.125" (85 × 56 mm)

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ASUS IOT ASUS IOT

# **Tinker Board R2.0/ Tinker Board S R2.0**

Card size SBC, Quad-core Arm processor, 2/4GB onboard memory & 16/32GB eMMC, HDMI, GbE LAN, Multiple USB



#### **Features**

- · Ultra-small form factor
- · Onboard 16/32G eMMC for durability
- · 40-pin GPIOs for multiple purposes
- · Linux & Android supported

## **Specifications**

SoC         Rockchip RK3288-CG.W           CPU         Dual-core Arm® Cortex®-A72 @ 2.0 GHz + Quad-core Arm® Cortex®-A53 @ 1.5 GHz           GPU         Arm® Mali™-1860 MP4 GPU @ 800 MHz           Memory         Dual-CH LPDDR4 2/4GB           Storage         16/32GB eMMC           1 x Micro SD (TF) card slot (push & pull)           1 x FDDMI with CEC hardware ready 1 x Type-C (DP) 1 x 22-pin MIPI DSI (4 lane)           USB         3 x USB3.2 Gen1 Type-A ports 1 x USB3.2 Gen1 Type-C OTG port           Camera Interface         1 x FTL8211E-VB-CG 1 x 802.11 b/g/n & BT 4.2 + EDR (extendable antenna header)           Audio         1 x RTL8211E-VB-CG 1 x 802.11 b/g/n & BT 4.2 + EDR (extendable antenna header)           Audio         1 x RTL8211E-VB-CG           Internal I/O         1 x 40-pin header includes: - up to 2 x SPI bus - up to 2 x SPI bus - up to 2 x YE bus - up to 2 x YE bus - up to 3 x PWM - up to 3 x PWM - up to 3 x PWM - up to 1 x S/PDIF TX - 2 x SV power pins - 2 x 3.3V power pins - 2 x 9 pin Reset header 1 x 2-pin Recovery header 1 x 2-pin Power-on header 1 x 2-pin DUF an header 1 x 2-pin DUF an header 1 x 2-pin RTC Battery header           Power requirement         1 x 12~19V DC input (5.5/2.5 mm)           Operation Temperature         40°85°C           Portion Factor         20°60°C		
GPU  Arm® Mali™-T860 MP4 GPU @ 800 MHz  Memory  Dual-CH LPDDR4 2/4GB  Storage  16/32GB eMMC 1 x Micro SD (TF) card slot (push & pull)  1 x HDMI with CEC hardware ready 1 x Type-C (DP) 1 x 22-pin MIPI DSI (4 lane)  USB  3 x USB3.2 Gen1 Type-A ports 1 x USB3.2 Gen1 Type-C OTG port  Camera Interface  1 x 15-pin MIPI CSI-2 (2 lane)  Connectivity  1 x RTL8211E-VB-CG 1 x 802.11 b/g/n & BT 4.2 + EDR (extendable antenna header)  Audio  1 x RTL ALC4030U codec with 3.5mm audio jack (with Mic & plug-in detecton)  Internal I/O  1 x 40-pin header includes: - up to 2 x SPI bus - up to 2 x SPI bus - up to 2 x SPI bus - up to 2 x VART - up to 3 x PWM - up to 1 x PCM/12S - up to 1 x S/PDIF TX - 2 x 5V power pins - 2 x 3.3V power pins - 2 x 2.5Pin Recovery header 1 x 2-pin Recovery header 1 x 2-pin Recovery header 1 x 2-pin Power-on header 1 x 2-pin Power-on header 1 x 2-pin Betage UART header 1 x 2-pin Betage UART header 1 x 2-pin BCT Battery header 1 x 2-pin RC Battery header 1 x 2-pin RTC Battery header 1 x 2-pin RTC Battery header 1 x 2-pin RTC Battery header 1 x 2-pin Rerower Se C  Power requirement  Operation Temperature Relative Humidity  Oy~85%  Debian 10/ Android 11	SoC	Rockchip RK3288-CG.W
Nemory   Dual-CH LPDDR4 2/4GB	CPU	Dual-core Arm® Cortex®-A72 @ 2.0 GHz + Quad-core Arm® Cortex®-A53 @ 1.5 GHz
16/32GB eMMC	GPU	Arm® Mali™-T860 MP4 GPU @ 800 MHz
1 x Micro SD (TF) card slot (push & pull)  1 x HDMI with CEC hardware ready 1 x Type-C (DP) 1 x 22-pin MIPI DSI (4 lane)  3 x USB3.2 Gen1 Type-A ports 1 x USB3.2 Gen1 Type-C OTG port  Camera Interface 1 x 15-pin MIPI CSI-2 (2 lane)  1 x RTL8211E-VB-CG 1 x 802.11 b/g/n & BT 4.2 + EDR (extendable antenna header)  1 x RTL ALC4030U codec with 3.5mm audio jack (with Mic & plug-in detecton)  Internal I/O  1 x 40-pin header includes: - up to 2 x SPI bus - up to 2 x SPI bus - up to 2 x SPI bus - up to 2 x DVM - up to 1 x S/PDIF TX - 2 x 5V power pins - 2 x 3.3V power on header 1 x 2-pin Recovery header 1 x 2-pin Reset header 1 x 2-pin Reset header 1 x 2-pin Reset header 1 x 2-pin BC Fan header 1 x 2-pin Reset head	Memory	Dual-CH LPDDR4 2/4GB
1 x Type-C (DP) 1 x 22-pin MIPI DSI (4 lane)  3 x USB3.2 Gen1 Type-A ports 1 x USB3.2 Gen1 Type-C OTG port  Camera Interface 1 x 15-pin MIPI CSI-2 (2 lane)  Connectivity 1 x RTL8211E-VB-CG 1 x 802.11 b/g/n & BT 4.2 + EDR (extendable antenna header)  Audio 1 x RTL ALC4030U codec with 3.5mm audio jack (with Mic & plug-in detecton)  Internal I/O 1 x 40-pin header includes: - up to 2 x SPI bus - up to 2 x SPI bus - up to 2 x VPC bus - up to 2 x VPC bus - up to 3 x PWM - up to 1 x PCM/12S - up to 1 x S/PDIF TX - 2 x 5V power pins - 2 x 3.3V power pins - 2 x 3.3V power pins - 2 x 3.3V power pins - 1 x 2-pin Recovery header 1 x 2-pin Pewer-on header 1 x 2-pin Pewer-on header 1 x 2-pin Recovery header 1 x 2-pin Debug UART header 1 x 2-pin Recovery header 1 x 2-pin Recov	Storage	.,
1 x USB3.2 Gen1 Type-C OTG port  Camera Interface  1 x 15-pin MIPI CSI-2 (2 lane)  1 x RTL8211E-VB-CG 1 x 802.11 b/g/n & BT 4.2 + EDR (extendable antenna header)  1 x RTL ALC4030U codec with 3.5mm audio jack (with Mic & plug-in detecton)  Internal I/O  1 x 40-pin header includes: - up to 2 x SPI bus - up to 2 x SPI bus - up to 2 x VLART - up to 3 x PWM - up to 1 x S/PDIF TX - 2 x 5V power pins - 2 x 3.3V power pins - 2 x 3.3V power pins - 8 x ground pins 1 x 2-pin Recovery header 1 x 2-pin Power-on header 1 x 2-pin Debug UART header 1 x 2-pin Debug UART header 1 x 2-pin Recovery header 1 x 2-pin Recovery header 1 x 2-pin Recovery header 1 x 2-pin Def Fan header 1 x 2-pin Recovery header 1 x 2-pin Def Fan header 1 x 2-pin Recovery header 1 x 2-pin Def Fan header 1 x 2-pin Def Fan header 1 x 2-pin Recovery header 1 x 2-pin PO Fan header 1 x 2-pin RC Battery header 1 x 2-pin TC Battery header 1 x 2-pin TC Battery header 0 % 60 °C  Non-Operation Temperature Relative Humidity 0 % 85% Debian 10/ Android 11	Display	
1 x RTL8211E-VB-CG	USB	
1 x 802.11 b/g/n & BT 4.2 + EDR (extendable antenna header)   Audio	Camera Interface	1 x 15-pin MIPI CSI-2 (2 lane)
Audio	Connectivity	1 x RTL8211E-VB-CG
1 x 40-pin header includes: - up to 28 K GPIO pins - up to 2 x SPI bus - up to 2 x IPC bus - up to 2 x VART - up to 3 x PWM - up to 1 x PCM/12S - up to 1 x S/PDIF TX - 2 x 5V power pins - 2 x 3.3V power pins - 2 x 3.3V power pins 1 x 2-pin Recovery header 1 x 2-pin Recovery header 1 x 2-pin Power-on header 1 x 2-pin Power header 1 x 2-pin Power header 1 x 2-pin Debug UART header 1 x 2-pin NC Fan header 1 x 2-pin RTC Battery header 1 x 2-pin RTC Battery header 1 x 12"-19V DC input (5.5/2.5 mm)  Operation Temperature  Non-Operation Temperature  Relative Humidity O%"85%  Debian 10/ Android 11	A 11	
- up to 28 x GPIO pins - up to 2 x SPI bus - up to 2 x SPI bus - up to 2 x Dus - up to 2 x Dus - up to 2 x Dus - up to 3 x PWM - up to 1 x S/PDIF TX - 2 x SV power pins - 2 x 3.3V power pins - 2 x 3.3V power pins - 8 x ground pins 1 x 2-pin Recovery header 1 x 2-pin Power-on header 1 x 2-pin Debug UART header 1 x 2-pin Debug UART header 1 x 2-pin BC Fan header 1 x 2-pin RC Fan header 1 x 2-pin RC Fan header 1 x 2-pin BC Fan Header 1 x 2-pin Fa	riadio	
Operation Temperature Non-Operation Temperature Relative Humidity Operating System Support Operation -40~85°C -40~85°C Debian 10/ Android 11	internal I/O	- up to 28 x GPIO pins - up to 2 x PP bus - up to 2 x PC bus - up to 2 x PC bus - up to 3 x PWM - up to 1 x PCM/12S - up to 1 x S/PDIF TX - 2 x 5V power pins - 2 x 3.3V power pins - 2 x 3.3V power pins - 8 x ground pins 1 x 2-pin Recovery header 1 x 2-pin Recovery header 1 x 2-pin Reset header 1 x 2-pin Debug UART header 1 x 2-pin DE Fan header 1 x 2-pin DF Fan header
Non-Operation Temperature Relative Humidity Operating System Support  A0~85°C  -40~85°C  Debian 10/ Android 11	Power requirement	1 x 12~19V DC input (5.5/2.5 mm)
Temperature Relative Humidity Operating System Support Operating System Support Operating System Support Operating System Support Operating System Operating Sy	Operation Temperature	0~60°C
Operating System Support  Debian 10/ Android 11	•	-40~85°C
Support Debian 10/ Android 11	Relative Humidity	0%~85%
<b>Form Factor</b> 3.37" x 2.125" (85 × 56 mm)	, , ,	Debian 10/ Android 11
	Form Factor	3.37" x 2.125" (85 × 56 mm)

# **Tinker Edge T**

Card size SBC, NXP i.MX 8M Quad-core SoC, Google Edge TPU, 1GB RAM, 8GB eMMC, HDMI, MIPI-DSI, MIPI-CSI, 12-19V DC in



## **Features**

- · ML capability with Google Edge TPU
- · 2 x MIPI-CSI / MIPI-DSI / HDMI
- · 40-pin GPIOs for multiple purposes
- · 12V~19V DC-in offers stable power delivery





## **Specifications**

SoC  ONTP i.MX 8M  CPU  Quad-core Arm® Cortex®-A53 @ 1.5GHz, Coretex-M4  GPU  GC7000 Lite  NN Processor  Memory  LPDDR4 1GB  Storage  8GB eMMC  1 x Micro SD (TF) card slot (push & pull)  1 x HDMI with CEC hardware ready 1 x 22-pin MIPI DSI  USB  2 x USB3.2 Gen1 Type-A ports 1 x USB3.2 Gen1 Type-C OTG port  2 x 24-pin MIPI CSI-2  Internet  1 x RTL8211F-CG GBE LAN 1 x 802.11 a/b/g/n/ac & Bluetooth 4.2  Internal I/O  1 x 40-pin headers includes: - up to 2 x x GPIO pins - up to 1 x SPI bus - up to 2 x VART - up to 3 x PVM - up to 1 x PCM/L2S - 2 x 3-3V power pins - 2 x 3.3V power pins - 2 x 3.5V power pins - 2 x 5.5V power pins - 3 x ground pins - 40~85°C  Non-Operation - 40~85°C  Mendel  Operating System Support  Mendel		
GPU         GC7000 Lite           NN Processor         Google Edge TPU ML accelerator coprocessor           Memory         LPDDR4 1GB           Storage         8GB eMMC 1 x Micro SD (TF) card slot (push & pull)           1 x HIND with CEC hardware ready 1 x 22-pin MIPI DSI           USB         2 x USB3.2 Gen1 Type-A ports 1 x VSB3.2 Gen1 Type-C OTG port           Camera Interface         2 x 24-pin MIPI CSI-2           Internet         1 x RTL8211F-GG GbE LAN 1 x 802.11 a/b/g/n/ac & Bluetooth 4.2           Internal I/O         1 x 47-pin headers includes: - up to 2 x VG bus - up to 2 x VG bus - up to 2 x UART - up to 3 x PWM - up to 1 x PCM/I2S - 2 x 5V power pins - 2 x 3.3V power pins - 2 x 5V power pins - 2 x 3.5V power pins - 2 x 5V power pins - 2 x 5V power pins - 2 x 5V power pins - 3 x power pins - 2 x 5V power pins - 3 x power pins - 3 x power pins - 4 x 90 x power pins - 4 x 90 x power pins - 5 x 90 x power pins - 7 x 90 x power pins - 7 x 90 x power pins - 7 x 90 x power pins - 8 x 90 x power pins - 9 x 9	SoC	NXP i.MX 8M
NN Processor Memory  LPDDR4 1GB  Storage  8GB eMMC 1 x Micro SD (TF) card slot (push & pull)  1 x HDMI with CEC hardware ready 1 x 22-pin MIPI DSI 2 x USB3.2 Gen1 Type-A ports 1 x USB3.2 Gen1 Type-C OTG port  Camera Interface 2 x 24-pin MIPI CSI-2  Internet 1 x RTL8211F-CG GbE LAN 1 x 802.11 a/b/g/n/ac & Bluetooth 4.2  Internal I/O 1 x 40-pin headers includes: - up to 2 x I*C bus - up to 2 x I*C bus - up to 2 x I*C bus - up to 2 x VART - up to 3 x PWM - up to 1 x PCM/I2S - 2 x 3 3V power pins - 2 x 3 3V y power pins - 2 x 3 3V y power pins - 2 x 3 3V power pins - 3 x pround pins - 4 x Boot mode switch - 1 x 2-pin Beset header - 1 x 2-pin DC Fan header - 1 x 2-pin DC Fan header - 2 y 2V DC input (5.5/2.5 mm)  Operation Temperature  Non-Operation - 40°-85°C  Mendel  Mendel	CPU	Quad-core Arm® Cortex®-A53 @ 1.5GHz, Coretex-M4
Memory	GPU	GC7000 Lite
Storage	NN Processor	Google Edge TPU ML accelerator coprocessor
1 x Micro SD (TF) card slot (push & pull)   Display	Memory	LPDDR4 1GB
1 x 22-pin MIPI DSI 2 x USB3.2 Gen1 Type-A ports 1 x USB3.2 Gen1 Type-C OTG port  Camera Interface 1 x RTL8211F-CG GbE LAN 1 x R02.11 a/b/g/n/ac & Bluetooth 4.2  Internal I/O 1 x AP-pin headers includes: - up to 2 x PC bus - up to 2 x PC bus - up to 2 x VBRT - up to 3 x PWM - up to 1 x PCM/12S - 2 x 5V power pins - 2 x 3.3V power pins - 2 x 3.3V power pins - 3 x ground pins 1 x Boot mode switch 1 x 2-pin Reset header 1 x 2-pin DC Fan header  Power requirement 12~19V DC input (5.5/2.5 mm)  Operation Temperature  Non-Operation Temperature Relative Humidity  Mendel  Mendel	Storage	1 x Micro SD (TF) card slot (push & pull)
1 x USB3.2 Gen1 Type-C OTG port  Camera Interface  1 x RTL8211F-CG GBE LAN 1 x 802.11 a/b/g/n/ac & Bluetooth 4.2  Internal I/O  1 x 40-pin headers includes: - up to 1 x SPI bus - up to 1 x SPI bus - up to 2 x 1 C bus - up to 3 x PWM - up to 3 x PWM - up to 1 x PCM/I2S - 2 x SV power pins - 2 x 3.3V power pins - 8 x ground pins 1 x Boot mode switch 1 x 2-pin Reset header 1 x 2-pin DC Fan header  Power requirement  12~19V DC input (5.5/2.5 mm)  Operation Temperature  Non-Operation Temperature  Relative Humidity  Mendel	Display	1 x 22-pin MIPI DSI
Internet	USB	
1 x 802.11 a/b/g/n/ac & Bluetooth 4.2	Camera Interface	r · · · ·
- up to 2.8 x GPIO pins - up to 1 x SPI bus - up to 2 x I*C bus - up to 2 x UART - up to 3 x PWM - up to 1 x PCM/I2S - 2 x 5V power pins - 2 x 3.3V power pins - 2 x 3.3V power pins 1 x Boot mode switch 1 x 2-pin Reset header 1 x 2-pin DC Fan header Power requirement 12~19V DC input (5.5/2.5 mm)  Operation Temperature Non-Operation Temperature Relative Humidity 0%~85%  Operating System Support  Mendel	Internet	
Operation Temperature 0°50°C  Non-Operation Temperature -40°85°C  Relative Humidity 0%°85%  Operating System Support Mendel	Internal I/O	- up to 28 x GPIO pins - up to 1 x SPI bus - up to 2 x I <sup>2</sup> C bus - up to 2 x I <sup>2</sup> C bus - up to 3 x PWM - up to 1 x PCM/I2S - 2 x 5V power pins - 2 x 3.3V power pins - 8 x ground pins 1 x Boot mode switch 1 x 2-pin Reset header
Non-Operation Temperature  Relative Humidity  Operating System Support  -40~85°C  Mendel	Power requirement	12~19V DC input (5.5/2.5 mm)
Temperature Relative Humidity 0%*85% Operating System Support Mendel	Operation Temperature	0~50°C
Operating System Support  Mendel	•	-40~85°C
Support	Relative Humidity	0%~85%
		Mendel
Form Factor 3.37" x 2.125" (85 × 56 mm)	Form Factor	3.37" x 2.125" (85 × 56 mm)

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# **Tinker Edge R**

Pico-ITX SBC, Rockchip RK3399Pro Hexa-core, NPU for AI, 4GB SYS & 2GB NPU RAM, 16GB eMMC, HDMI, MIPI-DSI, MIPI-CSI, 12-19V DC in



#### **Features**

- · Arm® big.LITTLE™ A72+A53 Hexa-core SoC
- · ML capability with Rockchip NPU
- · Multiple MIPI-CSI & DSI / HDMI / Type-C (DP)
- $\cdot$  40-pin GPIOs & mPCIe for multiple expansions
- · 12V~19V DC-in offers stable power delivery
- · Linux & Android supported



## **Specifications**

SoC	Rockchip RK3399Pro
CPU	Dual-core Arm® Cortex®-A72 @ 1.8 GHz + Quad-core Arm® Cortex®-A53 @ 1.4 GHz
GPU	Arm® Mali™-T860 MP4 GPU @ 800 MHz
NN Processor	Rockchip NPU
Memory	Dual-CH LPDDR4 4GB (SYSTEM) + LDPPR3 2GB (NPU) or Dual-CH LPDDR4 2GB (SYSTEM) + LDPPR3 1GB (NPU)Memory
Storage	16GB eMMC 1 x Micro SD (TF) card slot (push & pull)
Display	1 x HDMI with CEC hardware ready 1 x Type-C (DP) 1 x 22-pin MIPI DSI (4 lane)
USB	3 x USB3.2 Gen1 Type-A ports 1 x USB3.2 Gen1 Type-C OTG port
Camera Interface	1 x 22-pin MIPI CSI-2 (4 lane) 1 x 22-pin MIPI CSI-2/DSI (4 lane)
Connectivity	1 x RTL8211F-CG GbE LAN 1 x 802.11 a/b/g/n/ac & Bluetooth 5.0 (2T2R)
Expansions	1 x Mini PCIe slot (Full-Length, nano-SIM socket, for 4G/LTE)
Audio	1 x 3.5mm audio jack (with Mic & plug-in detection)
Internal I/O	1 x 40-pin headers includes:
Power requirement	Dual 12-19V DC input (5.5/2.5 mm Barrel jack, 4-Pin header)
Operation Temperature	0~60°C
Non-Operation Temperature	-40~85°C
Relative Humidity	0%~85%
Operating System Support	Debian 10 / Android 9
Form Factor	Pico-ITX, 3.9" x 2.8" (100 × 72 mm)

# **Tinker System 2**

Arm SBC with Aluminum Case, Rockchip RK3399 Hexa-core, LPDDR4 RAM, eMMC, HDMI, 12-19V DC in



#### **Features**

- · Fanless design: Great heat conductive with fanless support
- · Certified with RF Regulation: Wi-Fi (CE, FCC, VCCI, BSMI)
- High peripheral extensibility: Reserved I/O for antenna and accessory extension
- · +12-19.5V DC-in offers stable power delivery
- · Linux & Android supported

## **Specifications**

SoC	Rockchip RK3399
CPU	Dual-core Arm® Cortex®-A72 @ 2.0 GHz + Quad-core Arm® Cortex®-A53 @ 1.5 GHz
GPU	Arm® Mali™-T860 MP4 GPU @ 800 MHz
Memory	Dual-CH LPDDR4 2/4GB
Storage	16/32GB eMMC
Display	1 x HDMI with CEC hardware ready 1 x Type-C (DP) 1 x 22-pin MIPI DSI (4 lane)
USB	3 x USB3.2 Gen1 Type-A ports 1 x USB3.2 Gen1 Type-C OTG port
Camera Interface	1 x 15-pin MIPI CSI-2 (2 lane)
Connectivity	1 x RTL8211F-CG GbE LAN 1 x 802.11 a/b/g/n/ac & Bluetooth 5.0 (2T2R)
Audio	1 x HDMI audio, 1 x I2S (40-pin), 1 x S/PDIF (40-pin)
Internal I/O	1 x 2-pin Recovery header
	1 x 2-pin Power-on header
	1 x 2-pin Reset header
	1 x 2-pin Debug UART header
	1 x 2-pin DC Fan header
	1 x 2-pin RTC Battery header
Power requirement	12V~19.5V DC input (5.5/2.5 mm)
Operation Temperature	0~40°C
Non-Operation Temperature	-40~85°C
Relative Humidity	0%~85%
Operating System Support	Debian 10 / Android 11
Form Factor	3.583" x 2.638" x 1.772" (91 x 67 x 45 mm)

