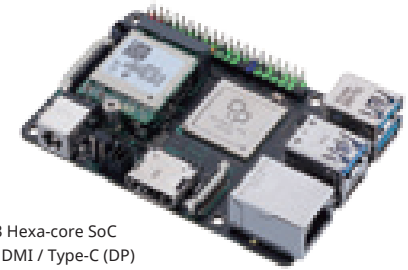
TINKER BOARD SERIES

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

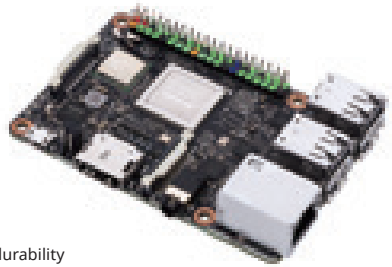
Microsoft Azure Certified

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	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 I²C bus - up to 2 x UART - up to 3 x PWM - up to 1 x PCM/I2S - up to 1 x S/PDIF TX - 2 x 5V 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 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	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)

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™-T860 MP4 GPU @ 800 MHz
Memory	Dual-CH LPDDR4 2/4GB
Storage	16/32GB 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 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 28 x GPIO pins - up to 2 x SPI bus - up to 2 x I²C bus - up to 2 x UART - up to 3 x PWM - up to 1 x PCM/I2S - up to 1 x S/PDIF TX - 2 x 5V 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 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	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)

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

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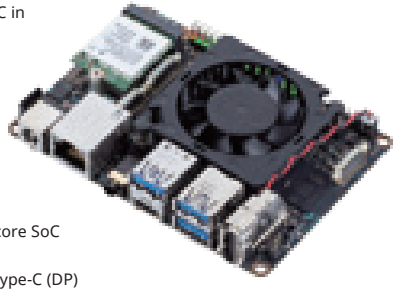
Microsoft Azure Certified

Specifications

SoC	NXP i.MX 8M
CPU	Quad-core Arm® Cortex®-A53 @ 1.5GHz, Coretex-M4
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)
Display	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
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 28 x GPIO pins - up to 1 x SPI bus - up to 2 x I²C 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 - 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	0~50°C
Non-Operation Temperature	-40~85°C
Relative Humidity	0%~85%
Operating System Support	Mendel
Form Factor	3.37" x 2.125" (85 × 56 mm)

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)
- 40-pin GPIOs & mPCIe for multiple expansions
- 12V~19V DC-in offers stable power delivery
- Linux & Android supported

Microsoft Azure Certified

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: - up to 28 x GPIO pins - up to 2 x SPI bus - up to 2 x I²C bus - up to 2 x UART - up to 3 x PWM - up to 1 x PCM/I2S - up to 1 x S/PDIF TX - 2 x 5V 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 Reset header 1 x 2-pin DC Fan header 1 x 2-pin RTC Battery header
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)