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First Edition
October 2021

TINKER BOARD R2.0 Series

Innovatively enjoy a whole new digital experience
享受創新的數位體驗
享受创新的数字体验

Profitez d'une toute nouvelle expérience numérique et innovante
Наслаждайтесь новыми инновационными технологиями
いまだかつてない新感覚のデジタル体験を提供します。

Sperimentate un'esperienza di interazione digitale completamente nuova!
Иновативно, наслаждавайте се на изцяло ново цифрово изживяване
Zcela novú převratnú digitálnu zážitok
Nyd en hel ny digital oplevelse

Geniet innovatief van een volledig nieuwe digitale ervaring
Naudi innovatiivseit kogu uut digitaalset kogemust
Nauti innovatiivisesta, aivan uudesta digitaalisesta kokemuksesta
Genießen Sie ein rundum neues Digitalerlebnis
Καινοτομική απόλαυση μιας εξολοκλήρου νέας εμπειρίας
Vadonatúj digitális élmény

Menikmati pengalaman digital yang benar-benar baru secara inovatif
Толыгмыен жаңа сандык тәжірибеге инновациялык түрдө кол жеткізіңиз
완전히 새로운 디지털 세계를 획기적으로 즐겨보세요.
Güstiet pilnīgi jaunu digitālo baudījumu inovatīvā veidā
Mégaukítás visískai naujais skaitmeniaiis potyriais
Få glede av en helt ny, innovativ digital opplevelse
Korzystaj z zupełnie nowego cyfrowego rozwiązania
Desfrute de uma nova experiência digital de forma inovadora
Bucurați-vă în cel mai inovator mod de noua experiență digitală
Inovativno uživajte u celom, novom, digitalnom iskustvu
Inovativne si vychutnávajte úplne nový digitálny zážitok
Sea el primero en disfrutar de una nueva experiencia digital total
Innovativ njutning av en helt ny digital upplevelse
Tamamen yeni yaratıcı bir dijital deneyim yaşayın
Tận hưởng trải nghiệm số hoàn toàn mới theo cách cải tiến
ເພີດເພີນກັບການສ້າງສະຖະສະການເຕັກໂນໂລຢີໃໝ່ທັງໝົດ
استمتع بتجربة رقمية جديدة تمامًا وبشكل مبتكر

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Thank you for purchasing ASUS Tinker Board R2.0 Series!

Tinker Board is more than a dream for the DIY-obsessed: it's a gateway to new ideas and new relationships. Experienced makers will love Tinker Board's performance-to-price ratio and strong brand heritage, while novices and younger users will appreciate its accessibility and ease of use. But all will come together to create — Together We Make!

Package contents

Check your Tinker Board R2.0 or Tinker Board S R2.0 package for the following items:

- 1 x Tinker Board R2.0 or Tinker Board S R2.0
- 1 x Heatsink*
- 1 x Shielding bag
- 1 x Quick start guide

* Beware of high temperatures when only using the bundled heat sink.

Safety Information

- Power supply used with the Tinker shall comply with relevant regulations and applicable standards.
- DO NOT overclock the board, as this may cause damage to the board.
- Ensure that the board is placed in a well ventilated environment.
- The board should be placed on a flat, stable, non-conductive surface.
- Avoid handling the board while powered. Handle the board by the edges to minimize risk of Electronic Static Damage (ESD).
- Do not use both the system Micro USB power-in jack and the 40-pin GPIO +5V pins (pin 2 and 4, red) for power input at the same time. Please refer to the **Top view** illustration for the location of the pins.
- If you wish to use the 40-pin GPIO +5V (pin 2 and 4, red) as a power input source, please make sure the power input rating for each pin complies with the standard of +5V / 3A (+/-5% deviation). A power rating value that exceeds the rating valued mentioned, or an unstable power source may result in damage to your system or hardware. Please refer to the **Top view** illustration for the location of the pins.

ASUS Tinker Board R2.0 Series specifications summary

	Tinker Board R2.0	Tinker Board S R2.0
Processor	Rockchip RK3288-CG.W Arm® Cortex®-A17 Quad-core SoC * The CPU will operate at full capacity, take note of heat dissipation and AC adaptor stability.	
GPU	ARM® Mali™-T760 MP4 GPU 1 x HDMI™ supports up to 4K	
Display	1 x 15-pin MIPI DSI supports up to HD * HDMI™ supports a maximum resolution of up to 4K, and the iGPU only supports H.264/H.265 4K hardware decoders.	
Memory Size	Dual-CH LPDDR3 2/4GB	
Storage	Micro SD(TF) card slot	Micro SD(TF) card slot 16/32 GB eMMC
Connectivity (optional)	Realtek RTL8211E-VB-CG (A version) or Realtek RTL8211F-CG (B version) GB LAN 802.11 b/g/n wireless & BT 4.2 + EDR	
Audio	1 x HDMI audio output Realtek ALC4030U Codec with 1 x 3.5mm audio jack (with Mic & plug-in detection) 1 x S/PDIF TX pin 1 x PCM/I2S pins (from GPIO)	
USB	4 x USB 2.0 ports	
Camera Interface	1 x 15-pin MIPI CSI-2 (2lane) 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 4 x UART - up to 2 x PWM 1 x 2-pin Power-on header 1 x 2-pin eMMC recovery header 1 x 2-pin contact points includes: - 1 x PWM signal - 1 x S/PDIF signal	
Power Connector	5V/2.5-3A Micro USB power input * Supports low power voltage detection.	
OS Support	Debian 10 (32-bit) Android 11 or latest version available (32-bit)	
Dimension	3.37" x 2.125" (85 x 56 mm)	

Getting Started

Booting from onboard eMMC

Requirement:

- 1 x Micro USB cable with data transfer function
- 1 x Tinker Power Supply* or other qualified 5V/3A power supply**
- 1 x Monitor with HDMI cable
- 1 x Keyboard and Mouse set

* **The Tinker Power Supply is purchased seperately.**
** **Ensure that the cable is able to deliver up to 3A of power current.**

- Connect the Tinker Board R2.0 to a PC using a Micro USB cable, then wait for the PC to recognize the device.
- Download the TinkerOS image from the Tinker Board website and burn it into the Tinker Board S using a third-party ISO software, such as *Win32DiskImager* or *Etcher*.
- Connect the power supply, keyboard, mouse, and monitor to your Tinker Board R2.0 to boot up.

Booting from external Micro SD card

Requirement:

- 1 x Micro SD card with at least 8GB capacity
- 1 x Tinker Power Supply* or other qualified 5V/3A power supply**
- 1 x Monitor with HDMI cable
- 1 x Keyboard and Mouse set

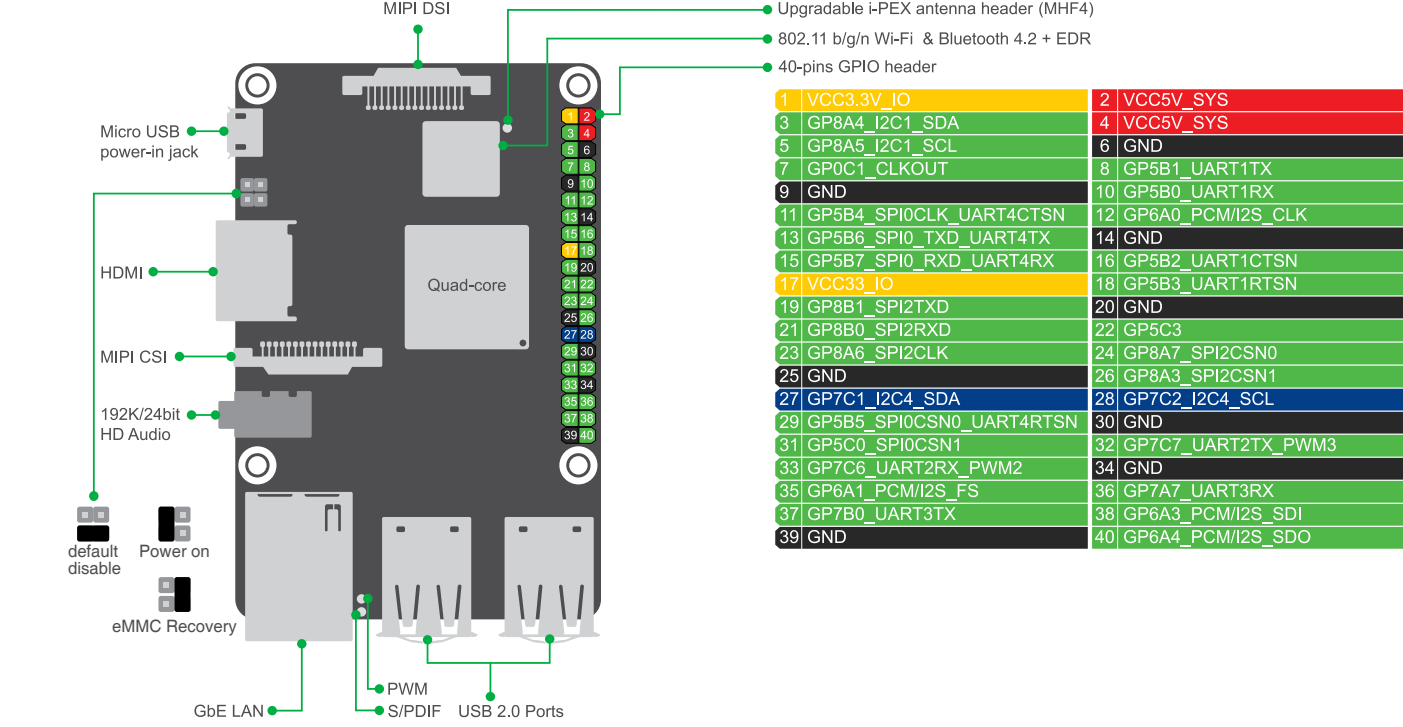
* **The Tinker Power Supply is purchased seperately.**
** **Ensure that the cable is able to deliver up to 3A of power current.**

- Insert the micro SD card into a Windows® PC
- Download the TinkerOS image from the Tinker Board website and burn it into the micro SD card using a third-party ISO software, such as *Win32DiskImager* or *Etcher*.
- Insert the bootable micro SD card into your Tinker Board R2.0, then connect the power supply, keyboard, mouse, and monitor to boot up.



If the eMMC cannot be recognized, please refer to www.asus.com for more details on eMMC Recovery.

Top view



Bottom view

