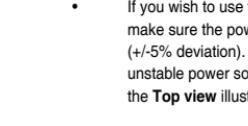




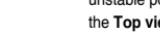
E17574
Revised Edition V3
November 2020

TINKER BOARD S

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, наслаждавате се на изцяло ново цифрово изживяване
Zcela nový převratný digitální zážitek
Ny en hel ny digital oplevelse
Geniet innovatief van een volledig nieuwe digitale ervaring
Naudi innovatiivselt kogu uut digitaalset kogemust
Nauti innovatiivisesta, avian uudesta digitaalisesta kokemuksesta
Genießen Sie ein rundum neues Digitalerlebnis
Καινοτομική απόλυτη μιας εξολοκήρου νέας εμπειρίας
Vadonatúj digitális élmény
Menikmati pengalaman digital yang benar-benar baru secara inovatif
Толығызың жаңа сандық тәжірибелегі инновациялық түрде көл жеткізінгіz
완전히 새로운 디지털 세계를 획기적으로 즐겨보세요.
Güstet pilnigi jaunu digitālo baudījumu inovatīvā veidā
Mégaunkits visiškai naujas skaitmeniniais 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
Bucură-ți-va în cel mai inovator mod de noua experiență digitală
Inovativno užívajte s celom, novom, digitalnom iskustvu
Inovativne si vychutnávajte úplne nový digitálny zážitok
Sea el primero en disfrutar de una nueva experiencia digital total
Innovativ njutning en av helt ny digital opplevelse
Tamamen yeni yaratıcı bir digital deneyim yaşayın
Tận hưởng trải nghiệm số hoàn toàn mới theo cách cài tiến
ເພີ້ມເພີ້ນການສ່ວນສ່ວນການດີຈິກລາຍໄມ້ທຳນັດ
اسمع تجربة رقمية جديدة تماماً وبنك مبتكر



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Thank you for purchasing ASUS Tinker Board S!

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 S package for the following items:
1 x Tinker Board S/2G 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 value 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 S specifications summary

| | |
|-------------------------|--|
| Processor | Rockchip RK3288 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 |
| Display | 1 x HDMI™* supports up to 4K 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 2GB |
| Storage | Micro SD(TF) card slot 16GB eMMC |
| Connectivity | RTL8211E-VB-CG GB LAN AW-NB177NF 802.11 b/g/n wireless & BT 4.0 + EDR |
| Audio | RTL ALC4040 Codec with 1 x 3.5mm audio jack * Hardware ready for audio jack plug detection. |
| USB | 4 x USB 2.0 ports |
| Camera Interface | 1 x 15-pin MIPI CSI slot for camera |
| Internal Headers | 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 - up to 1 x PCM/I2S - 2 x 5V power pins - 2 x 3.3V power pins - 8 x ground pins 1 x 4-pin header includes: - 1 x 2-pin Power On - 1 x 2-pin eMMC Recovery 1 x 2-pin contact point includes: - 1 x PWM signal - 1 x S/PDIF signal Micro USB |
| Power Connector | * Supports low power voltage detection. ** We recommend using the Tinker Power Supply or a qualified 5V/3A power supply. |
| OS Support | Debian / Android |
| 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 separately.

** Ensure that the cable is able to deliver up to 3A of power current.

- 1 Connect the Tinker Board S to a PC using a Micro USB cable, then wait for the PC to recognize the device.
- 2 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.
- 3 Connect the power supply, keyboard, mouse, and monitor to your Tinker Board S 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

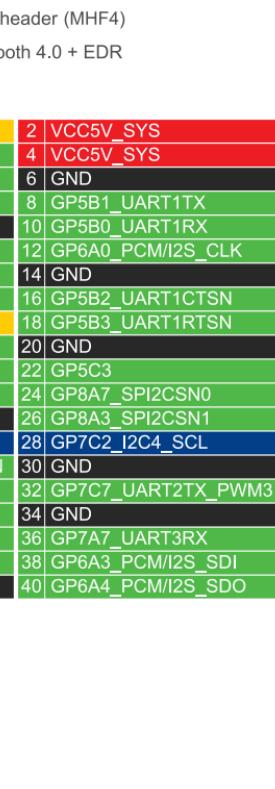
* The Tinker Power Supply is purchased separately.

** Ensure that the cable is able to deliver up to 3A of power current.

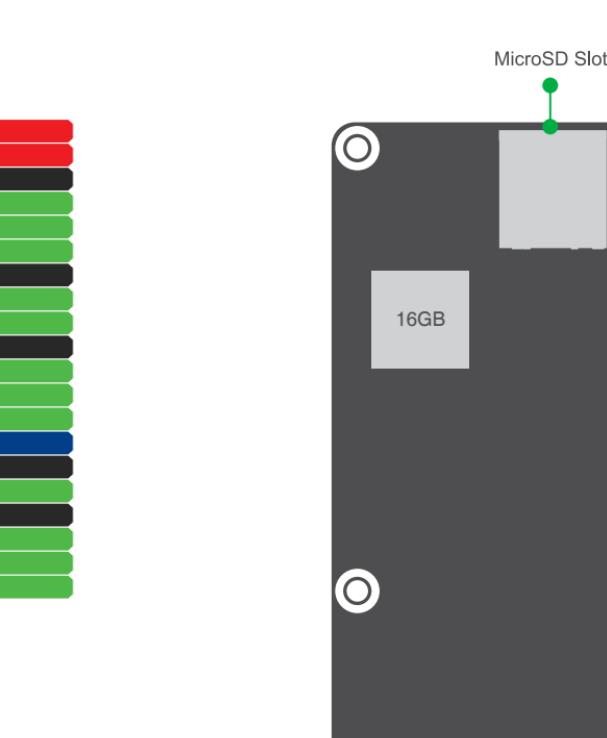
- 1 Insert the micro SD card into a Windows® PC
- 2 Download the TinkerOS image from the Tinker Board website and burn it into the micro SD card using a third-party ISO software, such as Win32DiskImager or Etcher.
- 3 Insert the bootable micro SD card into your Tinker Board, then connect the power supply, 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



Notices

Federal Communications Commission Interference Statement

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 to 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.



Any changes or modifications not expressly approved by the grantee of this device could void the user's authority to operate the equipment.

Compliance Statement of Innovation, Science and Economic Development

Canada (ISED)

This device complies with Innovation, Science and Economic Development Canada licence exempt RSS standard(s). Operation is subject to the following two conditions: (1) this device may not cause interference, and (2) this device must accept any interference, including interference that may cause undesired operation of the device.

CAN ICES-3(B)/NMB-3(B)

Déclaration de conformité de Innovation, Sciences et Développement économique Canada (ISED)

Le présent appareil est conforme aux CNR d'Innovation, Sciences et Développement économique Canada applicables aux appareils radio exempts de licence. L'exploitation est autorisée aux deux conditions suivantes : (1) l'appareil ne doit pas produire de brouillage, et (2) l'utilisateur de l'appareil doit accepter tout brouillage radioélectrique subi, même si le brouillage est susceptible d'en compromettre le fonctionnement.

CAN ICES-3(B)/NMB-3(B)

End Product Labeling

This transmitter module is authorized only for use in device where the antenna may be installed such that 20cm may be maintained between the antenna and users. The final end product must be labeled in a visible area with the following:

Contains FCC ID: TX2-RTL8723BS and Contains IC: 6317A-RTL8723BS

Précautions d'emploi de l'appareil :

- Soyez particulièrement vigilant quant à votre sécurité lors de l'utilisation de cet appareil dans certains lieux (les avions, les aéroports, les hôpitaux, les stations-service et les garages professionnels).
- Évitez d'utiliser cet appareil à proximité de dispositifs médicaux implantés. Si vous portez un implant électronique (stimulateurs cardiaques, pompes à insuline, neurostimulateurs...), veuillez impérativement respecter une distance minimale de 15 centimètres entre cet appareil et l'implant pour réduire les risques d'interférence.
- Utilisez cet appareil dans de bonnes conditions de réception pour minimiser le niveau de rayonnement. Ce n'est pas toujours le cas dans certaines zones ou situations, notamment dans les parkings souterrains, dans les ascenseurs, en train ou en voiture ou tout simplement dans un secteur mal couvert par le réseau.
- Tenez cet appareil à distance du ventre des femmes enceintes et du bas-ventre des adolescents.

RF exposure warning

This equipment must be installed and operated in accordance with provided instructions and the antenna(s) used for this transmitter must be installed to provide a separation distance of at least 20 cm from all persons and must not be co-located or operating in conjunction with any other antenna or transmitter. End-users and installers must be provide with antenna installation instructions and transmitter operating conditions for satisfying RF exposure compliance.

Regional notice for Singapore

Complies with IMDA Standards DB103778

This ASUS product complies with IMDA Standards.

Radio Frequency (RF) Exposure Information

The radiated output power of the Wireless Device is below the Industry Canada (IC) radio frequency exposure limits. The Wireless Device should be used in such a manner such that the potential for human contact during normal operation is minimized.

This device has also been evaluated and shown compliant with the IC RF Exposure limits under mobile exposure conditions. (antennas are greater than 20cm from a person's body).

Informations concernant l'exposition aux fréquences radio (RF)

La puissance de sortie émise par l'appareil de sans fil est inférieure à la limite d'exposition aux fréquences radio d'Industry Canada (IC). Utilisez l'appareil de sans fil de façon à minimiser les contacts humains lors du fonctionnement normal.

Ce périphérique a également été évalué et démontré conforme aux limites d'exposition aux RF d'IC dans des conditions d'exposition à des appareils mobiles (antennes sont supérieures à 20 cm à partir du corps d'une personne).

VCC I - B

Mexico Notice

RCPERT14-1098

Contains module RCPERT14-1098
ASUSTek Computer Inc. ar šo pazino, kaši ierice atbilst Direktīvi 2014/53/EU. De volledige tekst van de bepalingen van Richtlijn 2014/53/EU. De volledige tekst van de EU-conformiteitsverklaring is beschikbaar op de website van de leverancier. Pls ES atbilstības pazinojuma teksts pieejams šeit: <https://www.asus.com/support/>

Supraprinta ES atbilstības deklarācija

Declaración de conformidad simplificada para la UE
Siame dokumente bērīgākā, ASUSTek Computer Inc. deklarē, ka šis prietais attīkums pagrindīgi reikalavīm ir kuras sūtījumi Direktīvos 2014/53/EU. Pielikums ES atbilstības deklarācijas teksts pateikiamas šeit: <https://www.asus.com/support/>

HDMI Compliance Statement

The terms HDMI, HDMI High-Definition Multimedia Interface, and the HDMI Logo are trademarks or registered trademarks of HDMI Licensing Administrator, Inc.

Egyptian Warning Statement

انه ينصح بالبعد عن هذا الجهاز بقدر ما هو ممكن
Anasit al-awqaf min al-aklam al-ākheri fadā al-taqwīf 'an yajib
التنبّه إلى الأحكام الأخرى ذات الصلة الخاصة بتجويف
البعض عن الأجهزة. ينصح بالبعد عن هذا الجهاز بقدر ما هو ممكن

Armenian Warning Statement

2014/53/EU

on the EU

https://www.asus.com/support/

Oprotsena deklaracija za sъответствие на EC

ASUSTek Computer Inc. deklarirat hāmed att denna enheten är i samsvar med hovedskalige krav och andra relevante bestämmelser i direktiv 2014/53/EU. Fullständig text för EU-samsvarserklärningen finns på: <https://www.asus.com/support/>

Uproszczona deklaracja zgodności UE

UE

https://www.asus.com/support/

Declaración de Conformidad UE Simplificada

Firma ASUSTek Computer Inc. niniejszym oświadczyc, że urządzenie to jest zgodne z zasadniczymi wymogami i innymi właściwymi postanowieniami dyrektywy 2014/53/EU. Pełny tekst deklaracji zgodności UE jest dostępny pod adresem <https://www.asus.com/support/>

Basitleştirilmiş AB Uyumluluk Bildirimi

EE

https://www.asus.com/support/

Supplementary Information:

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.

CE

https://www.asus.com/support/

DECLARATION OF CONFORMITY

Per FCC Part 2 Section 2. 1077(a)

Items

Address:

Phone/Fax No:

Product Name :

Model Number :

Contains module

Conforms to the following specifications:

FCC Part 15, Subpart B, Unintentional Radiators

ANATEL

Barcode

Modelo: RTL8723BS

2381-14-4076

(01) 0788281341239

Conforms to the following specifications:

Aplopoiménē Δήλωση Συμμόρφωσης

ΕΕ

https://www.asus.com/support/

Pojednostavljeni EU izjava o skladnosti

EU

https://www.asus.com/support/

Z jednodušené prohlášení o shodě EU

EU

https://www.asus.com/support/

Egyesített EU megfelelőségi nyilatkozat

EU

https://www.asus.com/support/

Vereinfachte EU-Konformitätserklärung

EU

https://www.asus.com/support/

Pojednostavljeni Declaracijsa o usaglašenosti EU

EU

https://www.asus.com/support/

Declaración simplificada de conformidad de l'UE

EU

https://www.asus.com/support/

Dichiarazione di conformità UE semplificata

EU

https://www.asus.com/support/

Vereenvoudigd EU-conformiteitsverklaring

EU

https://www.asus.com/support/

Verenouwde uitklapbare EU-conformiteitsverklaring

EU

https://www.asus.com/support/

Упрощенное заявление о соответствии европейской директиве

EU

https://www.asus.com/support/

Vienskrītoša ES atbilstības pazinojums

EU

https://www.asus.com/support/

Poenostavljena izjava EU o skladnosti

EU

https://www.asus.com/support/

DECLARATION OF CONFORMITY

Per FCC Part 2 Section 2. 1077(a)

