

Tinker Edge R

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 nový převratný digitální zážitek
Nyd en hel ny digital oplevelse
Geniet innovatief van een volledig nieuwe digitale ervaring
Naudi innovativselt kogu uut digitaalselt kogemust
Nauti innovativisesta, aivan uudesta digitaalisesta kokemuksesta
Genießen Sie ein rundum neues Digitalerlebnis
Καινοτομική απόλαυση μιας εξολοκλήρου νέας εμπειρίας
Vadonattj digitális élmény
Menikmati pengalaman digital yang benar-benar baru secara inovatif.
Топығымен жаңа сандық тәжірибеге инновациялық түрде қол жеткізіңіз
완전히 새로운 디지털 세계를 획기적으로 즐겨보세요.
Göstiet pilnīgi jaunu digitālo baudījumu inovatīvā veidā
Mégaukites visiškai naujais skaitmeniniai 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 vychutnávejte úplne nový digitálny zážitek
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

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استمتع بتجربة رقمية جديدة تمامًا وبشكل مبتكر

Thank you for purchasing ASUS Tinker Edge R!

Tinker Edge R is more than a dream for the DIY-obsessed: it's a gateway to new ideas and new relationships. Experienced makers will love Tinker Edge R'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 Edge R package for the following items:
- 1 x Tinker Edge R
 - 2 x Wi-Fi/BT antenna cable
 - 1 x Standoff set (4 x Screw + 4 x Hex)
 - 2 x Camera MIPI Convert cable (22P to 15P)
 - 1 x Shielding bag
 - 1 x Quick start guide

Safety Information

- Power supply used with the Tinker Edge R 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).

ASUS TINKER EDGE R specifications summary

SoC	Rockchip RK3399Pro
CPU	Dual-core Arm® Cortex®-A72 @ 1.8 GHz Quad-core Arm® Cortex®-A53 @ 1.4 GHz* * The CPU will operate at full capacity, take note of heat dissipation and AC adaptor stability.
GPU	Arm® Mali™-T860 MP4 GPU @ 800 MHz
NN Processor	Rockchip NPU
Display	1 x HDMI™ with CEC hardware ready 1 x USB Type-C® (DP) 1 x 22-pin MIPI DSI (4 lane) supports up to FHD
Memory Size	Dual-CH LPDDR4 4GB (SYSTEM) + LPDDR3 2GB (NPU) 16GB eMMC
Storage	Micro SD(TF) card slot (push/pull)
Connectivity	RTL8211F-CG Gb LAN M.2 - 802.11 a/b/g/n/ac wireless & BT 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) * Supports audio jack plug-in detection
USB	3 x USB 3.2 Gen 1 Type-A 1 x USB 3.2 Gen 1 Type-C™ OTG
Camera Interface	1 x 22-pin MIPI CSI-2 (4 lane) 1 x 22-pin MIPI CSI-2/DSI (4 lane)
Internal Headers	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 PCMCIA2S - 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 1 x 2-pin NPU UART header
Power Connector	1 x 12-19V DC Power Input 1 x 12-19V 4-pin DC Power Input Header
OS Support	Debian 9 / Android 8.1
Dimension	3.9" x 2.8" (100 x 72 mm)

Getting Started

- Requirements**
- 1 x USB Type-C® cable with data transfer function (to connect your PC to the board's data port)
 - 1 x 12-19V Power supply*
 - 1 x Monitor with HDMI™ cable or USB Type-C® (DP) cable
 - 1 x Keyboard and Mouse set
 - The Power Supply is purchased separately.**

Before you begin the flashing procedure, please ensure of the following:

- The board is completely powered off, and the power cord and cables connecting the board to your computer are all disconnected.
- Make sure the driver is installed if the host computer is equipped with Windows.

For Windows, you can find the **DriverAssitant** zip package in this directory. Please unzip it and execute **DriverInstall.exe** to install the driver.

Initiating Recovery Mode

- Connect the USB Type-C® cable to the USB Type-C® ports on the Tinker Edge R and your host computer.
- Use a metal object or a jumper cap to short-circuit Recovery header (J3), and keep it shorted until the Tinker Edge R is powered on.

Please refer to the Top View illustration for the location of the Recovery header (J3).

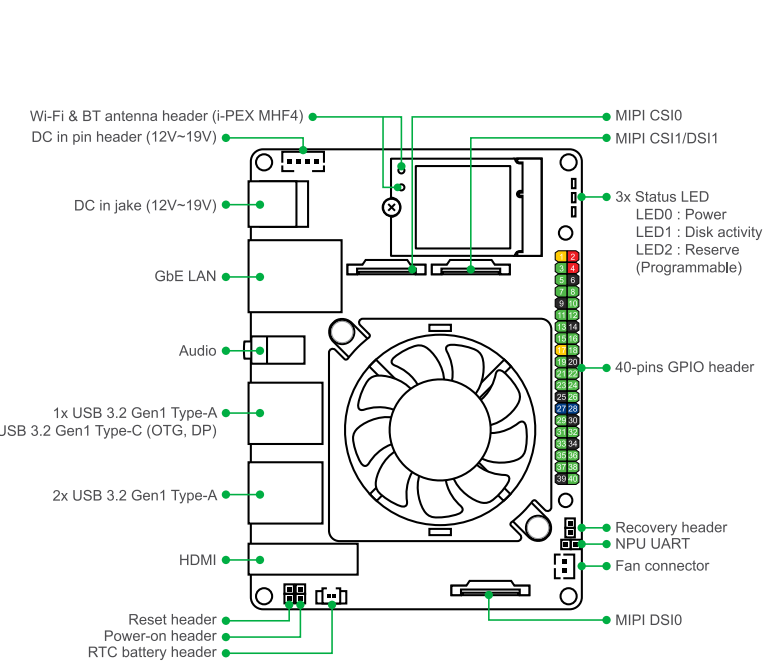
Please note that you will only be booted into MASKROM mode when booting up the Tinker Edge R whilst the Recovery header is being shorted. Please refer to steps 2 and 3 mentioned above.

Please refer to the readme file in the unzipped folder for more details.

Executing the flash script

- Download the OS image from the Tinker Edge R website, then unzip the image files.
- Make sure Recovery header (J3) is no longer being shorted.
- Run the flash script **flash.cmd** for Windows or **flash.sh** for Linux to start the flash process. The flash process should take a few minutes. Once the flash is completed, you can reboot the Tinker Edge R and you should be booted to the OS.

Top view



1 VCC3.3V_IO	2 VCC5V
3 GPIO2_B1/I2C6_SDA	4 VCC5V
5 GPIO2_B2/I2C6_SCL	6 GND
7 GPIO2_D1/CLKOUT	8 GPIO2_C1/UART0_TX
9 GND	10 GPIO2_C0/UART0_RX
11 GPIO2_C3/UART0_RTSN	12 GPIO3_D0/I2S0_SCLK
13 GPIO2_C5/SPI5_TXD	14 GND
15 GPIO2_C4/SPI5_RXD	16 GPIO2_C6/SPI5_CLK
17 VCC3.3_IO	18 GPIO2_C7/SPI5_CSNO
19 GPIO1_B0/SPI1_TXD/UART4_TX	20 GND
21 GPIO1_A7/SPI1_RXD/UART4_RX	22 GPIO3_D4/I2S0_SDI1/SDO3
23 GPIO1_B1/SPI1_CLK	24 GPIO1_B2/SPI1_CSNO
25 GND	26 GPIO0_A6/PWM3A_IR
27 GPIO2_A7/I2C7_SDA	28 GPIO2_B0/I2C7_SCL
29 GPIO3_D6/I2S0_SDI3/SDO1	30 GND
31 GPIO3_D5/I2S0_SDI2/SDO2	32 GPIO4_C2/PWM0
33 GPIO4_C6/PWM1	34 GND
35 GPIO3_D1/I2S0_LRCK	36 GPIO2_C2/UART0_CTSN
37 GPIO4_C5/SPDIF_TX	38 GPIO3_D3/I2S0_SDI0
39 GND	40 GPIO3_D7/I2S0_SDO0

Bottom view

