

## Tinker Board 3

Compact fanless Arm®-based SBC, seamlessly integrates into systems, with versatile software suite ensures swift market readiness, offering FOTA, advanced controls and SDKs, with comprehensive technical support.

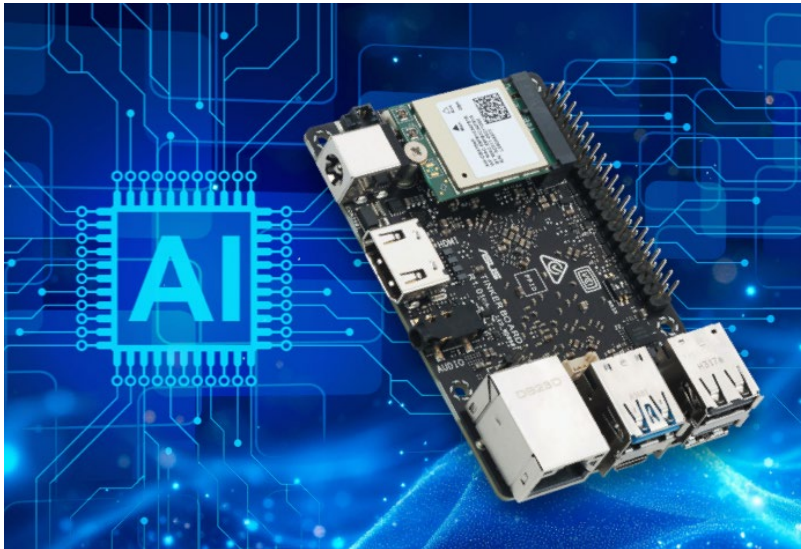
- 64-bit, quad-core Arm Cortex-A55 processor, built on the Arm v8 architecture
- Multi-display with HDMI and MIPI DSI, 4K full HD support
- 802.11 a/b/g/n/ac wireless & BT 5.0 (2T2R) 12-19V DC power input
- Ready-to-deploy panel solution with extensive technical support
- Developer-friendly SDK for integration



### Elevating IoT Solutions

Innovate Smartly, Integrate Seamlessly

ASUS IoT Tinker Board 3, powered by a 64-bit quad-core Arm® Cortex-A55 processor (Rockchip RK3566) and an Arm-based Mali™-G52 GPU, delivers exceptional graphics processing and robust data security. This compact, fanless single-board computer (SBC) is designed for seamless integration and featuring a versatile software suite for quick market deployment with support for FOTA, advanced controls and SDKs to provide complete solution for smart retail and healthcare applications. It supports IoT gateways, digital signage, self-service kiosks, medical devices and more.



### Quad-core ARM Cortex-A55

up to 1.6GHz

### NPU supported and LPDDR4X

2GB/4GB

## ARM G52-2EE GPU Supports

OpenGL ES 1.1/2.0/3.2  
OpenCL 2.0, Vulkan 1.1

## Tightly-integrated

hardware and software

## Enhanced smart retail solution with comprehensive SDK integration

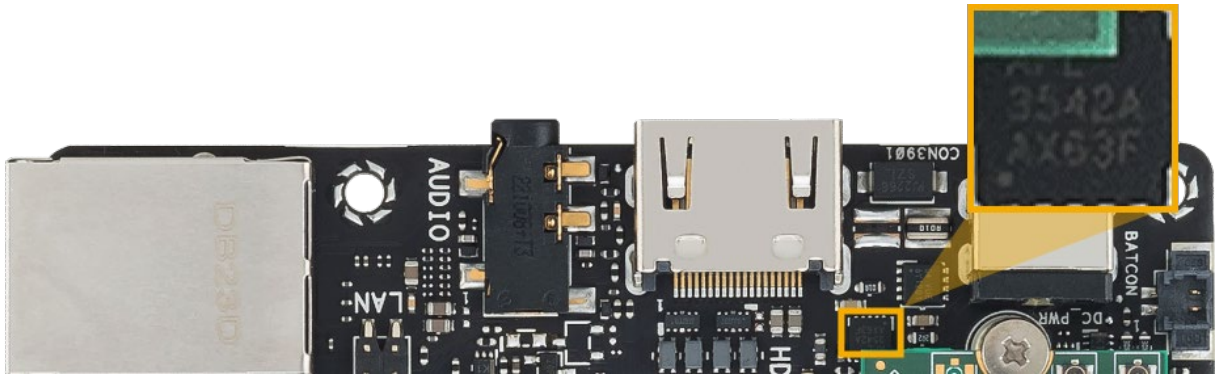
Tinker Board 3 benefits from a software development kit (SDK) that simplifies development and maintenance, reduces costs and optimizes efficiency. It includes a GPIO API, automatic power-off during idle periods, software-based USB control and OTA updates for hardware maintenance. The tight integration of ASUS hardware and software makes Tinker Board 3 ideal for smart retail solutions.



- Utilize easy-to-use GPIO API for development.
- Supports kiosk mode and software development for diverse kiosk applications.

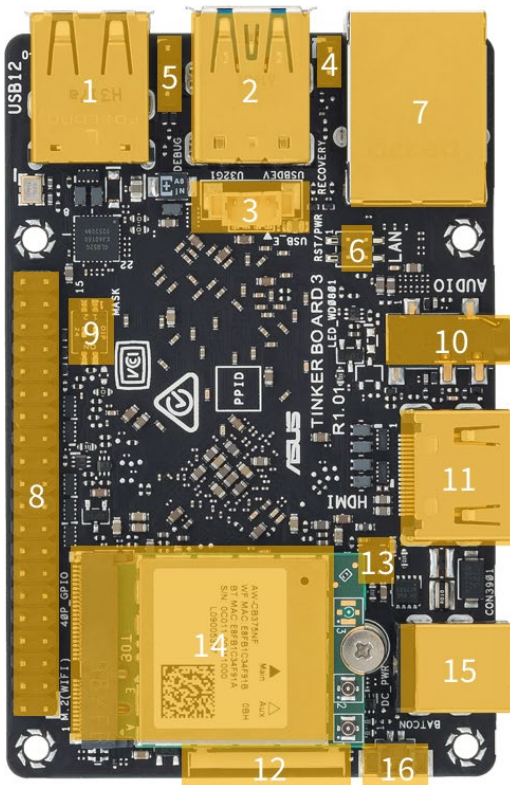
## Advanced power protection and efficiency

Tinker Board 3 ensures long-term product sustainability and cost reduction through comprehensive power protection. Its 12V-19V voltage range ensures stability across diverse applications. Features include overvoltage protection (OVP), overcurrent protection (OCP), and electrostatic discharge (ESD) for extended lifespan. Smaller, faster-switching transistors promote lower power consumption, supporting broader green initiatives.



## Upgraded Connectivity and Versatility

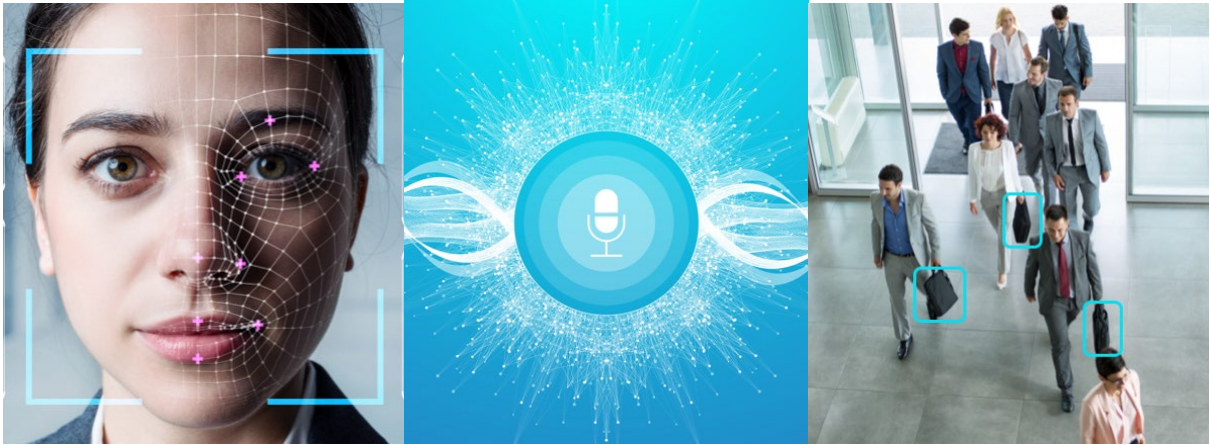
Tinker Board 3 features extensive connectivity options for superior system expandability. It introduces new interfaces like M.2 E-Key for WiFi 5/6E, USB 2.0 pin headers, 12-19V power jack, and USB 3.2 Type-A, plus enhanced computing power, power solutions and cooling design. This versatile SBC integrates seamlessly into IoT gateways, digital signage, self-service kiosks, medical devices, and more.



- |  |                       |
|--|-----------------------|
| 1 USB 2.0 Type-A x 2                     | 12 MIPI DSI           |
| 2 USB 3.2 Gen1 Type-A<br>USB 2.0 Micro B | 13 OVP<br>OCP<br>ESD  |
| 3 4 pin USB                              | 14 M.2 E Key          |
| 4 Recovery Header                        | 15 Power Input        |
| 5 Debug UART Header                      | 16 RTC Battery Header |
| 6 Reset<br>Power-on Header               |                       |
| 7 Speed Controller                       |                       |
| 8 40-pin GPIO Header                     |                       |
| 9 Mask ROM DIP Switch                    |                       |
| 10 3.5 Phone Jack                        |                       |
| 11 HDMI                                  |                       |

## Advanced AI Capabilities with Built-in NPU

Tinker Board 3 features a built-in NPU with 1 TOPS, designed for seamless AI integration, with Rockchip RKNN to effortlessly convert, infer, and evaluate models. This capability enhances and integrates diverse solutions, including object detection, speech recognition, face recognition, extending the possibilities for AI applications – providing a comprehensive for solution for the burgeoning era of AI.



## Revolutionizing retail connectivity with WiFi 5 and 6E

Tinker Board 3 features both WiFi 5 and 6E technology, enhancing retail connectivity in crowded environments like malls or offices. It ensures seamless communication in remote areas without signal degradation, with robust security protocols for authorized user encryption, protecting against unauthorized access and data breaches.



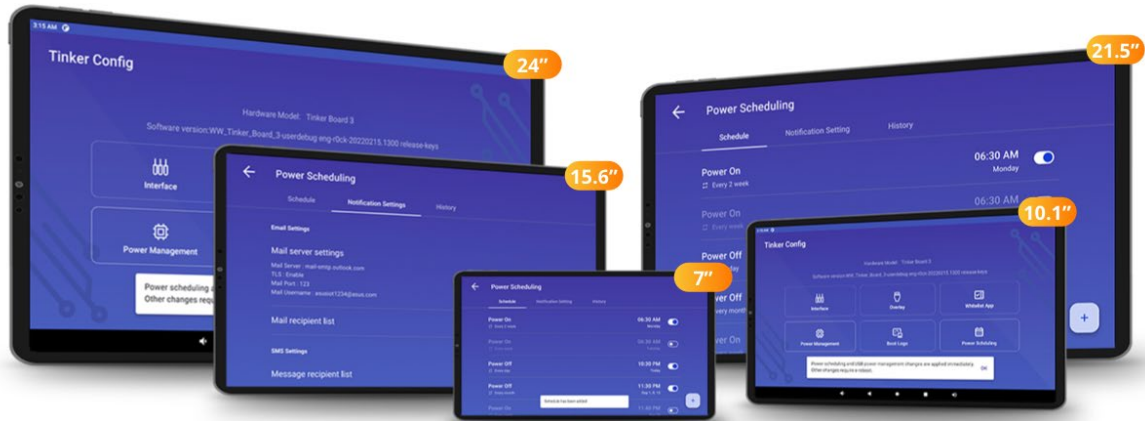
## Secure critical IoT infrastructure

Ensure long-term support with extended OS and security patches, accelerate deployment with remote monitoring, device rebooting, and over-the-air (OTA) updates, prioritizing security. Offer backward compatibility with IoT infrastructures and seamless integration of certified security measures.



## Ready-to-deploy panel solution

In collaboration with leading panel PC brands, ASUS IoT's Tinker Board range offers enhanced panel solutions in sizes ranging from 7" to 24". Our support includes hardware and software assistance, streamlining porting efforts and reducing costs.



## Tailored thermal solutions for diverse environments

Crafted for embedded systems, the thermal solutions of Tinker Board 3 are tailored to meet diverse configurations and requirements, ensuring efficient thermal management for seamless operation in any environment.

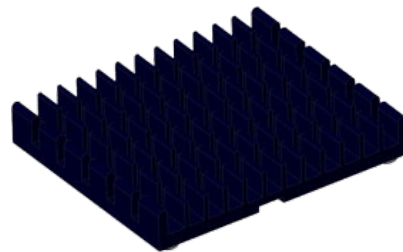
### Default Heatsink

- Suitable for embedded design
- 20 x 20 x 10 mm



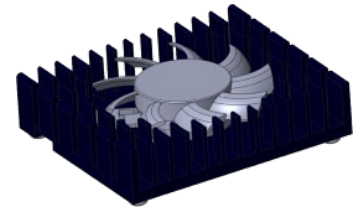
### 5W Heatsink

- Suitable harsh environment and cooling concern
- 60 x 53 x 10 mm



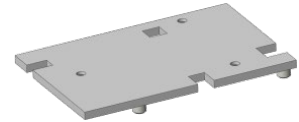
### Fansink

- Suitable for stable frequency and cooling concerns
- 60 x 53 x 16 mm



### Heatspreader

- Suitable for space strain for thin design
- 60 x 53 x 3 mm



## IT management software



### ASUS IoT Cloud Console

AICC is a unified platform for managing and analyzing big data collected by IoT devices running different operating systems.

- Quick troubleshooting
- Remote restart or updates
- Dashboard and analysis

### ASUS Industrial Android and Linux FOTA

Tinker Board 3 supports firmware over-the-air (FOTA) roll-out, enabling embedded systems developers using the board to be updated remotely with the mainstream and latest Android and Linux\* firmware, operating system and drivers.

- Worldwide content-delivery network
- Easy deployment and maintenance
- FOTA progress report