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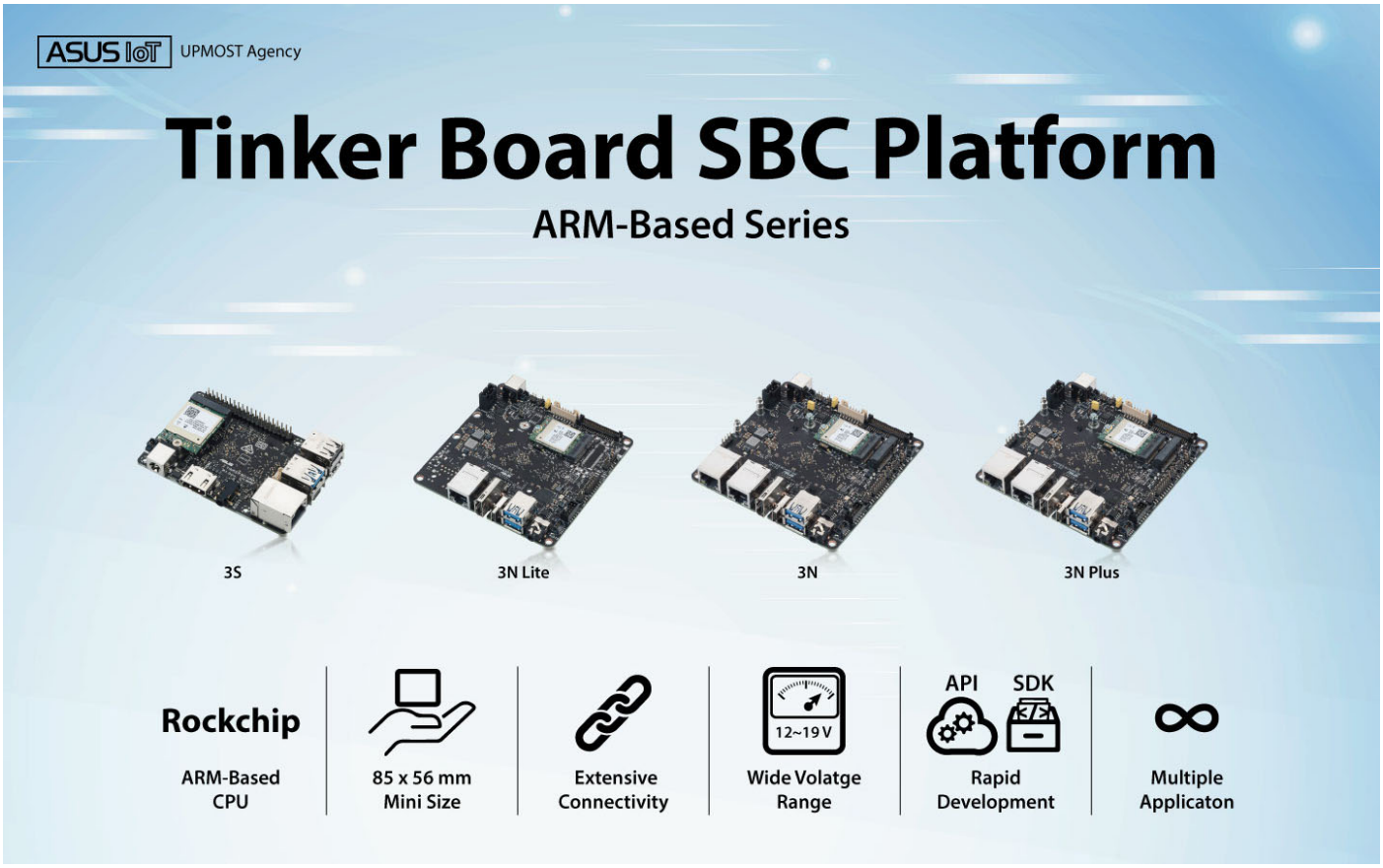
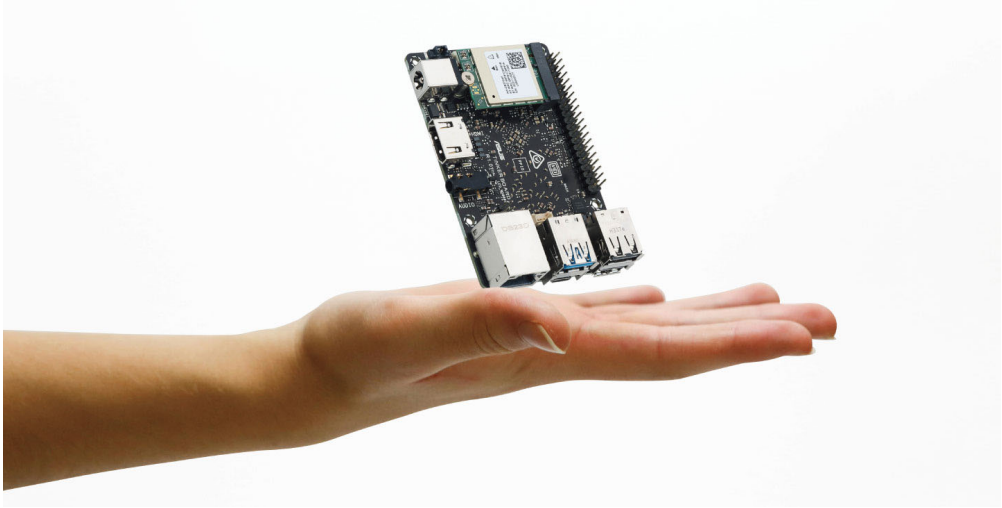


In this era of rapidly advancing technology, developers require a high-performance, stable, and flexible development platform to accelerate their projects. The Tinker Board ARM, with its exceptional performance, compact design, and extensive expandability, meets the demands of IoT, edge computing, artificial intelligence, and industrial automation, among others. It effectively enhances efficiency and caters to a wide range of development needs.

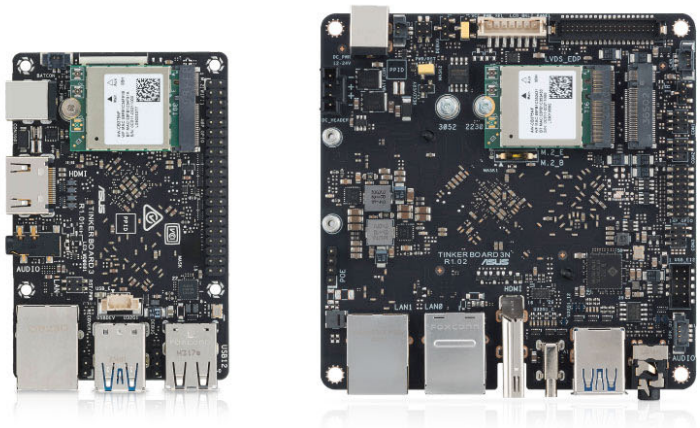
Mini Size, Powerful Performance

The Tinker Board features a mini-sized design that fits in the palm of your hand. Its compact form factor allows for greater flexibility in setup and deployment.



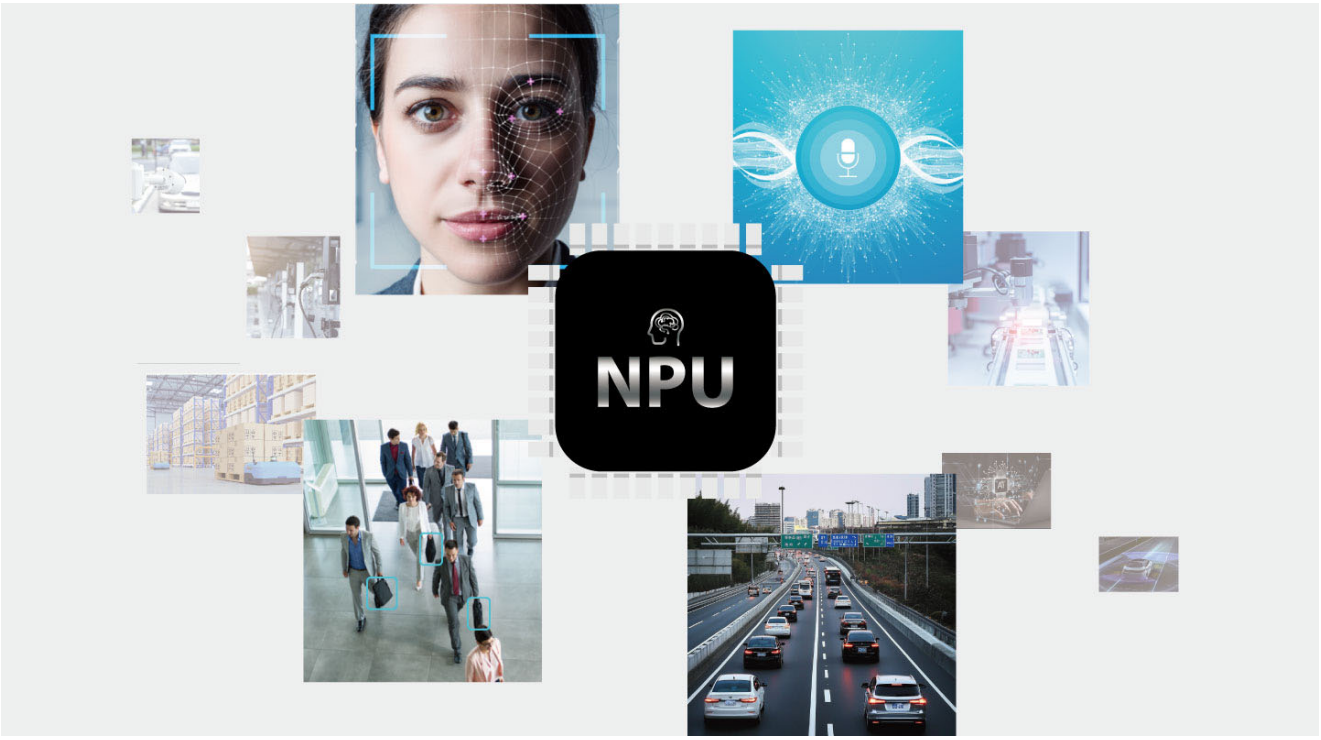
Rich I/O Ports to Meet Diverse Expansion Needs

The Tinker Board series features a variety of I/O ports, including HDMI, 3.5mm audio, USB, RS232, and other data transmission interfaces. This allows developers to quickly build customized solutions, accelerating the deployment of AI applications.



Built-in NPU to Accelerate AI Computing Tasks

The Tinker Board 3 is equipped with a built-in NPU, providing seamless AI integration capabilities. Featuring the Rockchip RKNN, it enables easy model conversion, inference, and evaluation. It enhances and integrates various solutions such as object detection, speech recognition, and facial recognition, delivering a comprehensive solution for the AI era.



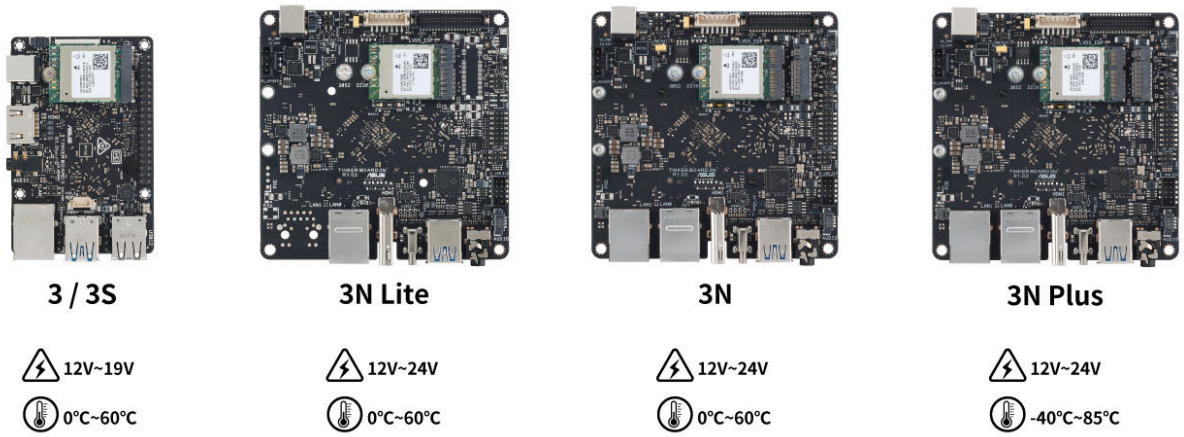
Seamless Display Panel Integration

The Tinker Board series collaborates with leading panel PC brands to offer display solutions in five different sizes. With support for both hardware and software integration, it effectively simplifies the integration process and reduces costs.

Wide Voltage & Wide Temperature Support for Various Environments

The Tinker Board 3 and 3N series feature a wide voltage and wide temperature design, supporting overvoltage protection (OVP), overcurrent protection (OCP), and electrostatic

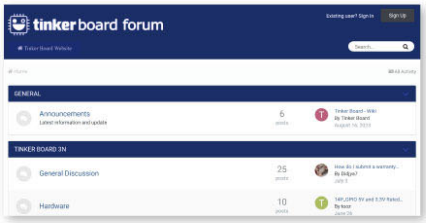
discharge protection (ESD). With an extended operating temperature range of -40°C to 85°C, they significantly enhance product durability and lifespan.



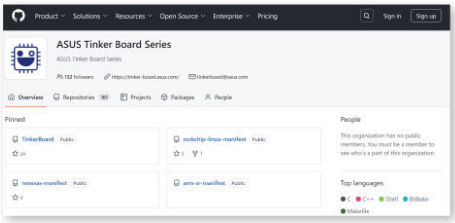
Three Platforms for Data Access and Creative Sharing

With three online resource platforms, users can easily access the information they need and collaborate with developers worldwide to share ideas and discuss development experiences.

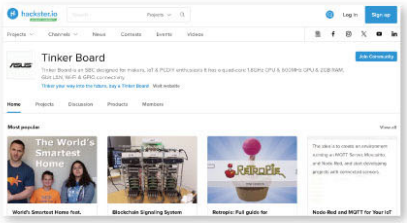
Tinker Board Forum



GitHub



hackster.io



Versatile Application Scenarios

The Tinker Board series is ideal for diverse development applications across various fields, including aviation, maritime shipping, oil and mineral extraction, and construction. It meets a wide range of application requirements with flexibility and reliability.

Space Terminals

Maritime Shipping

Oil and Mineral Extraction

Construction and Engineering

Industrial Manufacturing

Surgical and Medical Applications

Broadcasting and Education

Smart Cities

Department Stores & Retail

Data Inference

Tinker Board 3 Series Comparison

Series	3	3S	3N Lite	3N	3N Plus
Single chip	Rockchip RK3566		Rockchip RK3568		
Single chip	Quad-core ARM Cortex-A55		Quad-core ARM Cortex-A55		
GPU	Arm® Mali™-G52		Arm® Mali™-G52		
Memory	LPDDR4X 2GB / 4GB (Dual Channel)		LPDDR4X 2GB / 4GB (Dual Channel; On-board)	LPDDR4X 2GB / 4GB / 8GB (Dual Channel; On-board)	
Storage	1 x Micro SD		1 x Micro SD		
	1 x 16GB eMMC (On-board)		1 x 32GB / 64GB eMMC (On-board)		
Display Output	1 x HDMI 2.0 (Maximum 4K 60Hz Resolution)		1 x HDMI 2.0 (Maximum 4K 60Hz Resolution)		
	1 x 22-pins MIPI DSI		1 x eDP (Maximum 2K60Hz resolution)		
			1 x 40-pins LVDS (Dual-link up to 1080p60Hz resolution)		
serial port			1 x 5-Pin header COM RS232/422/485		
				2 x 5-Pin header COM RS232 (w/ flow control)	
				1 x 3-Pin header CAN Bus 2.0B	
Connectivity	1 x RJ-45 GbE Ethernet		1 x RJ-45 GbE Ethernet	2 x RJ-45 GbE Ethernet (1 port supports PoE power supply)	
	1 x Wi-Fi 802.11 a/b/g/n/ac & BT 5.0 (2T2R, replaceable antenna)		1 x Wi-Fi 802.11 a/b/g/n/ac & BT 5.0 (2T2R, replaceable antenna)		

Series	3	3S	3N Lite	3N	3N Plus
USB	1 x USB 3.2 Gen1 Type-A		2 x USB 3.2 Gen1 Type-A		
	1 x USB 2.0 Micro B		1 x USB 3.2 Gen1 Type-C OTG		
	2 x USB 2.0 Type-A		1 x 9-pin USB 2.0 Connector		
	1 x 4 Pin USB2.0				
M.2	1 x E-Key 2230 for WiFi 5/6 & Bluetooth modules (PCIe 2.0 x1, USB 2.0)		1 x E-Key 2230 for WiFi 5/6 & Bluetooth modules (PCIe 2.0 x1, USB 2.0)		
				1 x B-Key 3042/52 for 4G/5G/SSD (PCIe 3.0 x1, USB 3.0, USB2.0, SIM)	
sound	1 x 3.5mm audio jack (including microphone input)		1 x 3.5mm audio jack (including microphone input)		
	1 x S/PDIF TX pin (GPIO)		1 x S/PDIF TX pin (GPIO)		
			1 x 4-pin stereo , 4 ohm, 2x3 W		
Internal Connector	- 40-pin connector for GPIO (I2C, PWM, UART, SPI, I2S, etc)		-14-pin connector for GPIO (I2C, PWM, UART, etc)	-14-pin connector for GPIO (I2C, PWM, UART, SPI, etc)	
	- DC fan connector		- DC fan connector		
	- RTC battery connector		- RTC battery connector		
	- Power On / Reset / Recovery / Debug Connector		- Power On / Reset / Recovery / Debug Connector		
		-1 x DIP switch Maskrom (eMMC)	-1 x DIP switch Maskrom (eMMC)		
Power Connection	12V~19V DC-in (Barrel jack 5.5Ø/2.5Ø)		12V~24V DC-in (Barrel jack 5.5Ø/2.5Ø)		
System Support	Debian 11, Android 14, Yocto 4.0		Debian 11, Yocto 4.0, Android 12		
Storage Temperature	85 x 56 mm		100 × 100 mm		
Operating Temperature	0°C~60°C		0°C~60°C	0°C~60°C	-40°C~85°C