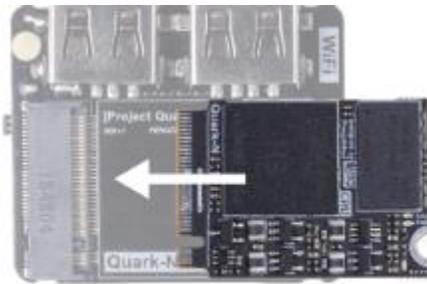## Quantum Tiny Linux Development Kit with SoM and Expansion Board
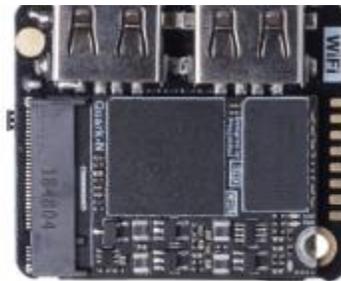
SKU 114992462

Quantum Tiny Linux Dev. Kit is the smallest Linux development board on the market, a highly integrated kit with a quad-core CPU that can run Linux at only 40mm x 35mm, which also includes network connectivity. It is suitable for scenarios such as a personal server, intelligent voice assistant, and for robotic development. And Now Quantum has updated a **new version**, which adjusts the antenna type for better wireless performance compared to the old one. In addition to this, it also optimizes the PCB layout by moving the fan solder joints to the top. The Uboot and Recovery buttons have also been removed.

The SoM is called Quark-N, based on Allwinner H3, Quad-core Cortex-A7, and ARM Mali400 MP2 GPU. The 6-layer high-density gold PCB design integrates a complete ARM-Linux system (CPU, DDR, eMMC) in a 2x3cm space. Also, most of the GPIO is led out by the board through the M.2 Key-A golden finger interface to minimize the bottom board design difficulty. You can easily design your own base plate with two-layer boards to realize your interesting ideas.

Inserting Quark-N to M.2 slot of Atom-N

Quark-N installed on to Atom-N

The carrier board is called Atom-N, and Quark-N is connected to Atom-N through the M.2 interface. Atom-N leads out a row of golden finger pins to realize I/O expansion, expand SPI, I2C, UART, GPIO, and other interfaces to facilitate the completion of your own design. Also, it is equipped with a microphone, MPU6050 motion sensor (accelerometer and gyroscope), onboard 4 buttons (GPIO-KEY, Uboot, Recovery, Reset), IPS display, Wi-Fi/Bluetooth connectivity which expands the possibilities with this product.

Features

- Ultra-small (**31mmx22mm**) and highly integrated Quad-core Cortex-A7 Linux SoM (System on Module)
- Expansion board (40mmx35mm) with rich peripherals and interfaces: Microphone, Gyroscope, Accelerometer,4 x Buttons (GPIO-KEY, Uboot, Recovery, Reset) and a TFT display
- Integrates a complete ARM-Linux system for advanced development
- Ability to design your own baseboard due to the **M.2 interface**
- Wide range of applications such as a personal server, intelligent voice assistant, and robotic development.

Specifications

Specification	Details
Quark-N SoM	
CPU	Allwinner H3, Quad-core Cortex-A7 @ 1GHz
GPU	ARM Mali400 MP2 GPU
Memory	512MB LPDDR3 RAM
Storage	16GB eMMC
Interfaces	Ethernet, SPI, I2C, UART, Reusable GPIO, MIC, LINEOUT
GPIO	2.0mm pitch 26 pin-header, include USB OTG, USB-Serial, I2C, UART, SPI, I2S, GPIO
PCB	6-layer high-density immersion gold design
Working temperature	0-80°C
Size	31mmx22mm

Atom-N Expansion Board

Slot	M.2 interface for Quark-N
USB	USB 2.0×2 USB Type-C×1
Wireless connectivity	RTL8723BU: Wi-Fi: IEEE 802.11 b/g/n @2.4GHz Bluetooth: BT V2.1/ BT V3.0/ BT V4.0
Onboard Peripherals	1 x Microphone 1 x MPU6050 motion sensor (gyroscope + accelerometer) 4 x Buttons (GPIO-KEY, Uboot, Recovery, Reset) 1 x TFT display
External Storage	Micro-SD card slot
Size	40mm*35mm

Applications

- Microcomputer
- Personal website server
- Programming learning such as Python
- Image processing
- Robotics
- Voice assistant
- Smart home hub

Hardware Overview