

## Introduction

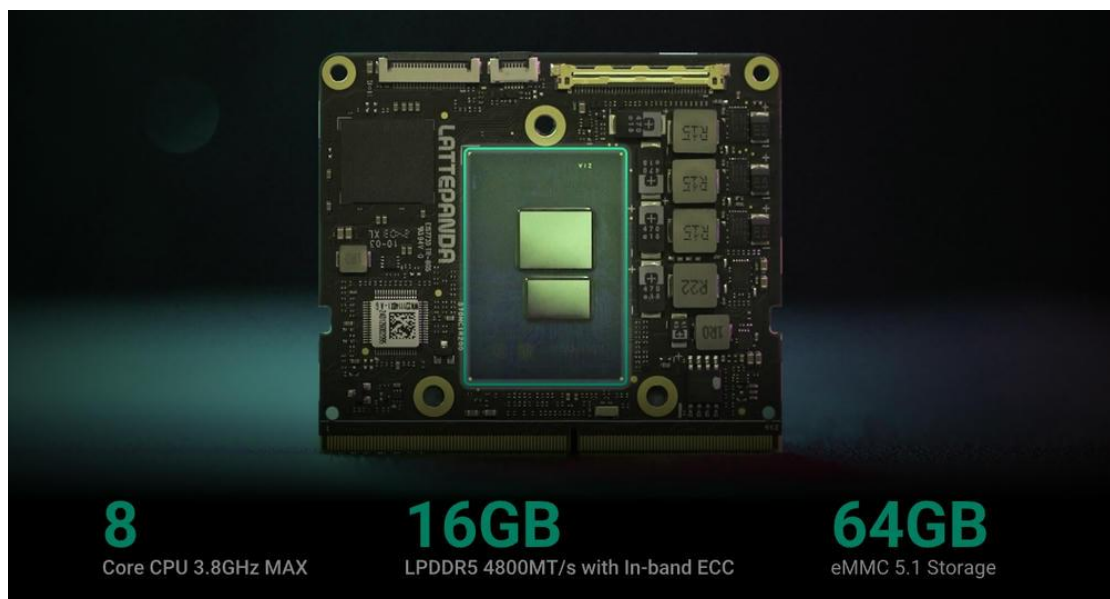
LattePanda Mu is a micro x86 compute module featuring Intel N305 octa-core processor, 16GB LPDDR5 memory and 64GB storage. LattePanda Mu exposes extensive pins, including 3 HDMI/DisplayPort, 8 USB 2.0, up to 4 USB 3.2, up to 9 PCIe 3.0 lanes. These flexible ports and open-source carrier board files enable users to effortlessly design custom carrier boards to meet their unique requirements.

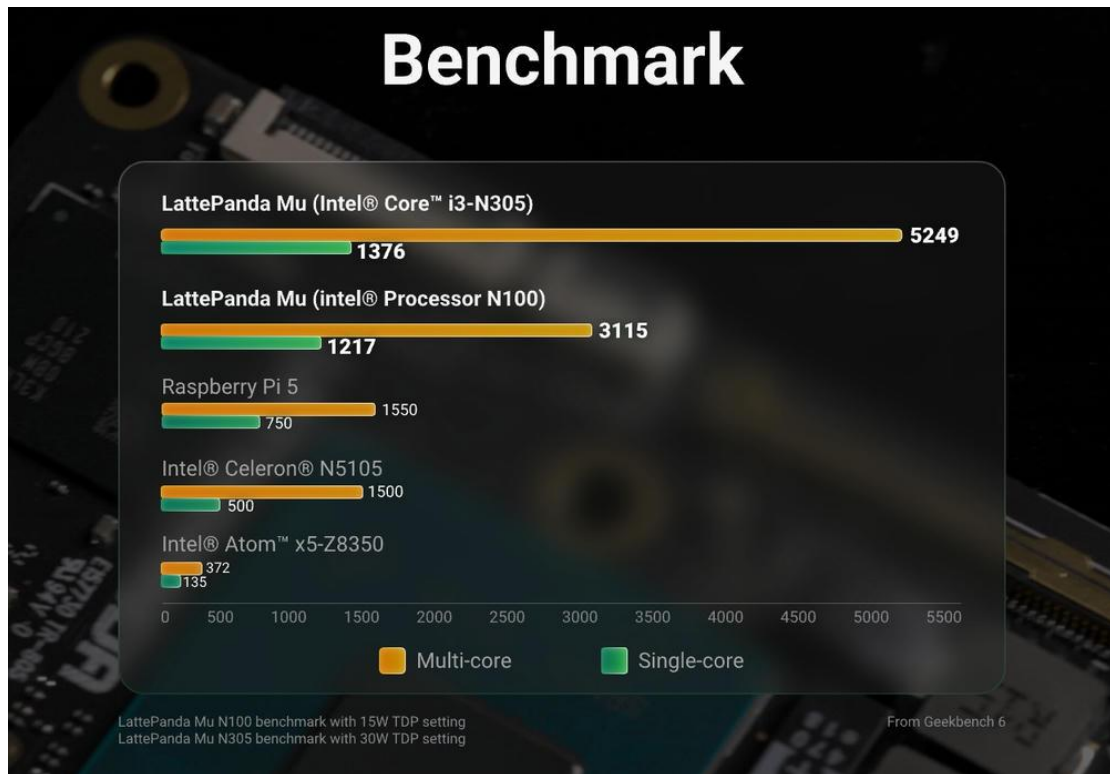


## Small but Powerful

LattePanda Mu x86 compute module features **Intel N305 octa-core processor with 3.8GHz turbo frequency**, offering ample performance and multitasking capabilities for the majority of applications.

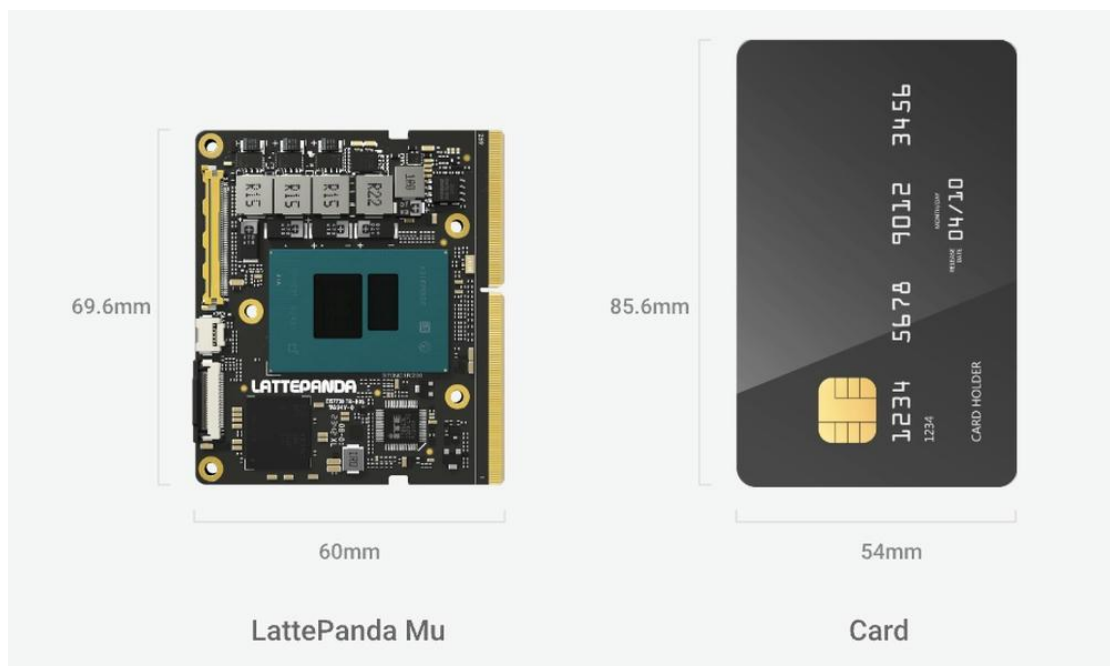
Equipped with an Intel Processor N305, LattePanda Mu compute module offers a multi-core **score of 5249 and a single-core score of 1376 on Geekbench 6**, outperforming the Raspberry Pi 5, Intel Celeron N5105, and Atom x5-Z8350. Its CPU performance doubles the Raspberry Pi 5.





## Card-Sized




Despite its small size of 69.6mm x 60mm, The pocket size of the LattePanda Mu computer-on-module allows for integration into space-constrained devices, delivering powerful computation without occupying much space.



## Flexibility in Performance and Energy

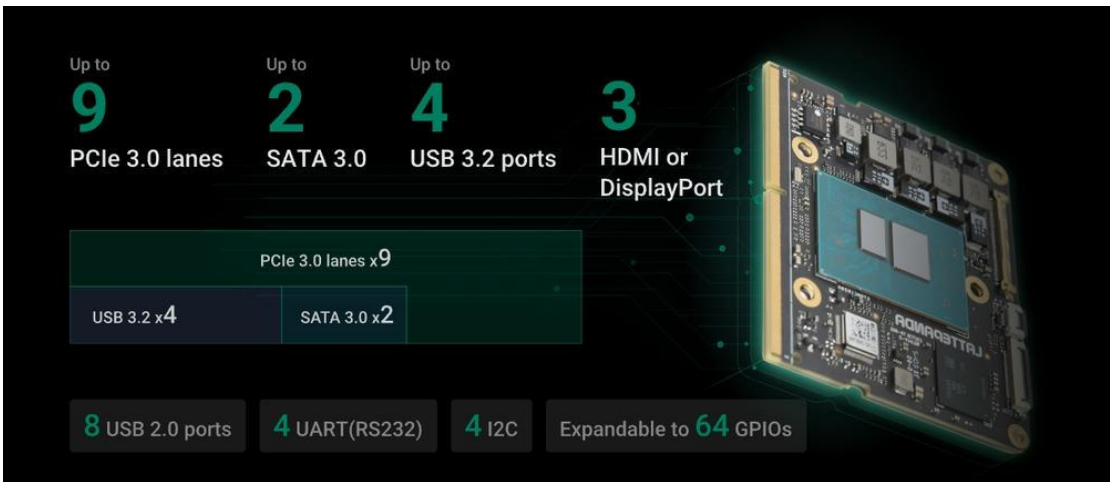
The processor's TDP can be adjusted from 9W to 35W, offering a fast development

platform with essential interfaces for efficient design verification. The 9W setting enables efficient operation with minimal heat and silent passive cooling, while the 35W setting offers robust performance but requires active cooling.

Product			
SKU	FIT0981	FIT0989	FIT0982
Heat dissipation capacity	35W	10W (Fanless) 35W (with external fan )	15W (with external fan) Must be used with an external fan
Feature	LattePanda Mu standard cooler	Huge heatsink for fanless designs	Ultra-thin heatsink for compact spaces

### Flexible Expansion Pins

LattePanda Mu compute module exposes extensive pins, such as 3 HDMI/DisplayPort, 8 USB 2.0, up to 4 USB 3.2, 9 PCIe 3.0 lanes, 2 SATA 3.0 and 64 expandable GPIOs. This offers unparalleled flexibility and expandability, allowing you to create the specific solution.



### Carrier Boards - Expanding Infinite Possibilities

DFRobot offers a [lite carrier board for the LattePanda Mu](#), providing a comprehensive development platform with various interfaces for swift design verification. Additionally, [a full-function evaluation carrier board](#) is available, exposing all pins of the LattePanda Mu for extensive hardware and software testing.

**Note:** The PCIe slot of the lite carrier is available only when using a 12V power supply.



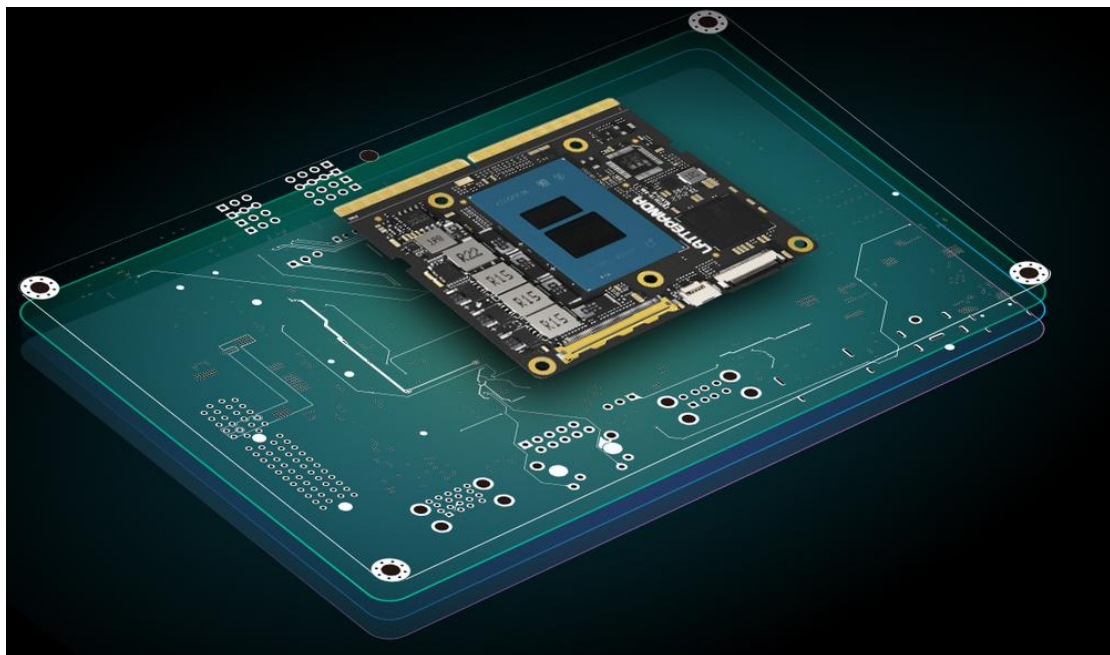
**Full Evaluation Carrier**



**Lite Carrier**

### **Making Carrier Simpler and Easier**

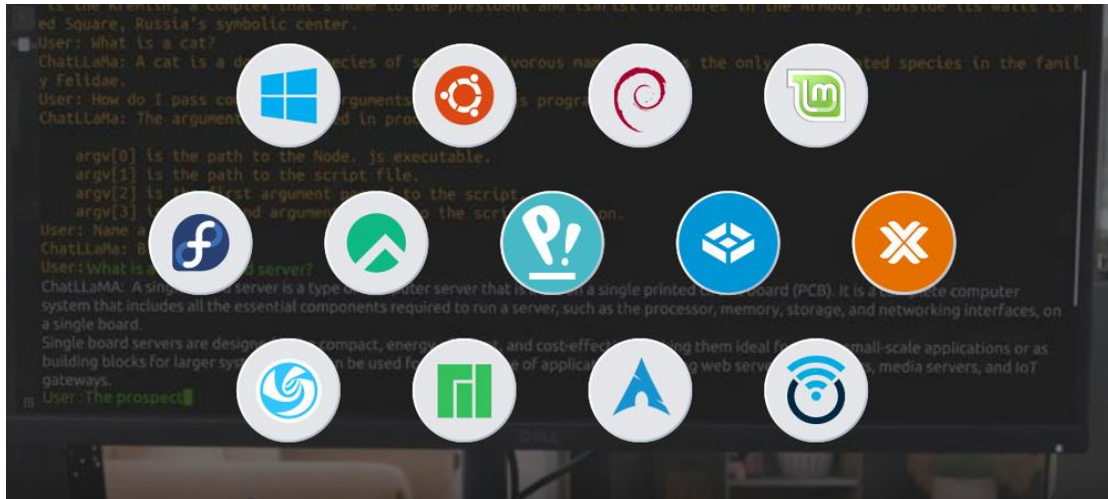
LattePanda offers [open-source carrier board files and libraries](#) as reference materials, enabling you to fine-tune the carrier board design to meet your specific needs, significantly reducing development time.



### **Multi-System Support**

LattePanda Mu x86 computer-on-module supports multiple operating systems, including Windows 10, Windows 11, Ubuntu, ensuring that there is always one that suits your needs.





## Customized Solutions

LattePanda Team offers customized services, including customized carrier boards, boot screens, BIOS functionality, operating systems, etc. If you have any specific requirements, please feel free to contact us at [solution@lattepanda.com](mailto:solution@lattepanda.com).

The LattePanda Team is dedicated to providing timely and professional support to meet your customization needs.



## Selection Guide of LattePanda Mu Series

LattePanda Mu			
SKU	DFR1146	DFR1147	DFR1149
CPU	Intel® Processor N100 4 Cores, MAX 3.4GHz Configurable TDP: 6~35W	Intel® Processor N100 4 Cores, MAX 3.4GHz Configurable TDP: 6~35W	Intel® Core™ i3-N305 8 Cores, MAX 3.8GHz Configurable TDP: 9~35W
RAM	8GB LPDDR5 4800MT/s Support IB ECC	16GB LPDDR5 4800MT/s Support IB ECC	16GB LPDDR5 4800MT/s Support IB ECC
eMMC	64GB eMMC 5.1	64GB eMMC 5.1	64GB eMMC 5.1

All LattePanda Mu feature interfaces and form factors that are compatible with each other.  
The "ENT" suffix means the product includes a Windows 11 IoT Enterprise activation code.

## Features

Intel® Core™ i3-N305 (Up to 3.8GHz, 8-core, 8-thread)

Onboard 16GB 4800MHz LPDDR5 memory with IB ECC supported

64GB eMMC 5.1 storage

Configurable TDP: 9W ~ 35W

Multiple OS Support: Windows 10, Windows 11, Ubuntu

Rich Expansion Pins, including: 3 HDMI/DisplayPort, 8 USB 2.0, up to 4 USB 3.2, 9 PCIe 3.0 lanes, 2 SATA 3.0, 64 expandable GPIOs, etc.

Open-source Design Files (KiCAD) of Carrier Boards

## Applications



Handheld Device



AI Interaction Robot

## Specification

Processor: Intel® Core™ i3-N305 8 Cores up to 3.8GHz

Memory: LPDDR5 4800MT/s 16GB with IB ECC supported

Storage: eMMC 5.1 64GB

Display: 3 Outputs; Max Resolution 4096 x 2160@60Hz

I/O

PCIe 3.0: up to 9 lanes

SATA 3.0: up to 2 ports

USB 3.2 (10Gbps): up to 4 ports

USB 2.0 (480Mbps): 8 ports

I2C, UART and GPIOs

Power: 9~20V

Operating System: Windows, Ubuntu

Environment: 0~60°C; 0~80% relative humidity

Size: 69.6 x 60mm

## **Documents**

[Official Website](#)

[Open-source Repository](#)

## **Shipping List**

LattePanda Mu Compute Module (N305 16GB) x1

Product Manual x1