

## INTRODUCTION - LattePanda Sigma

LattePanda Sigmaは、強力なパワーを備えたハック可能なx86 Windows / Linuxシングルボードサーバーです。インテル Core i5-1340P プロセッサにインテル Iris Xe グラフィックス、最大32GBのデュアルチャネルLPDDR5メモリを特長としています。この強力なシングルボードコンピュータは、ホームサーバー、ストリーミングサーバー、ゲームサーバー、IoT、AI推論、エッジコンピューティングなど、さまざまな用途に使用することができます。

## ITEM NAME

## SPECIFICATION

### 1)LattePanda Sigma - x86 Windows / Linux Single Board Computer Server (32GB RAM, 500GB SSD, WiFi 6E)



**\*Processor**  
CPU: Intel® Core™ i5-1340P  
Cores / Threads: 12C(4P+8E) / 16T  
Max Turbo Frequency: 4.60 GHz(Performance-core), 3.4 GHz(Efficient-core)  
L2 Cache: 12 MB  
Base Power: 28 W  
Graphics: Intel® Iris® Xe Graphics  
Max Dynamic Frequency: 1.45 GHz  
Execution Units: 80  
Co-processor: Microchip® ATmega32U4-MU  
**\*Memory**  
Dual-Channel 16GB LPDDR5-6400  
Dual-Channel 32GB LPDDR5-6000  
**\*Storage**  
Drive Form Factor: M.2 SSD (NVMe/SATA), SATA Drive  
**\*Wireless**  
Wireless Form Factor: M.2 Wireless Module (PCIe/CNVio)  
**\*Display**  
HDMI Port: HDMI 2.1, Up to 4096 x 2304 @ 60Hz  
USB Type-C Port: DP 1.4a, Up to 7680 x 4320 @ 60Hz (One Monitor)  
Embedded Display Port: eDP 1.4b, Up to 4096 x 2304 @ 120Hz

### 2)LattePanda Sigma - x86 Windows / Linux Single Board Computer Server (32GB RAM)



**\*Processor**  
CPU: Intel® Core™ i5-1340P  
Cores / Threads: 12C(4P+8E) / 16T  
Max Turbo Frequency: 4.60 GHz(Performance-core), 3.4 GHz(Efficient-core)  
L2 Cache: 12 MB  
Base Power: 28 W  
Graphics: Intel® Iris® Xe Graphics  
Max Dynamic Frequency: 1.45 GHz  
Execution Units: 80  
Co-processor: Microchip® ATmega32U4-MU  
**\*Memory**  
Dual-Channel 16GB LPDDR5-6400  
Dual-Channel 32GB LPDDR5-6000  
**\*Storage**  
Drive Form Factor: M.2 SSD (NVMe/SATA), SATA Drive  
Wireless  
Wireless Form Factor: M.2 Wireless Module (PCIe/CNVio)  
**\*Display**  
HDMI Port: HDMI 2.1, Up to 4096 x 2304 @ 60Hz  
USB Type-C Port: DP 1.4a, Up to 7680 x 4320 @ 60Hz (One Monitor)  
Embedded Display Port: eDP 1.4b, Up to 4096 x 2304 @ 120Hz

## PRODUCT No

### SKU:DFR1091

**\*External I/O**  
USB Type-A: 2 x USB2.0 (480Mbps)  
2 x USB3.2 Gen 2 (10Gbps)  
USB Type-C: 2 x Thunderbolt™ 4 (40Gbps)  
HDMI: HDMI 2.1  
Ethernet: 2 x 2.5GbE RJ45 Ports (Intel® i225-V Gigabit Ethernet Controller, Supports 10/100/1000/2500 Mbps, WOL)  
Power: 5.5mm x 2.5mm DC Jack  
Audio: 3.5mm Microphone Headphone Combo Connector  
Sim Card: Micro Sim Card Slot  
**\*Internal I/O**  
USB 2.0: 2.0mm Pitch 4-Pin Connector, 480Mbps  
Fan: 1.27mm Pitch, 12V 4-Wire Fan Connector, PWM Control  
SATA: SATA 6.0 Gb/s Data Connector, 2.0mm Pitch 4-Pin Power Connector  
Front Panel: 2.54mm Pitch 9-Pin Header, Supports Power, Reset, Power LED, HDD LED  
Front Audio Panel: 2.54mm Pitch 9-Pin Header, Supports High Definition Audio (HD), Line-Out, Mic-in  
COM: 2.54mm Pitch 9-Pin Header, Supports RS232, RS485  
GPIO: 2.54mm Pitch 34-Pin Header, Including ATmega32U4 I/O Pins, 5V Power Pins, S0/S3/S4 State Pins  
eDP: 0.5mm Pitch 40-Pin Connector, 4 Lanes

**\*Expansion Slot**  
M.2 M Key: Type 2280, Supports PCIe 3.0 x4  
Type 2280, Supports PCIe 4.0 x4  
M.2 B Key: Type 2242/2252/2280, Supports SATA III/PCIe 3.0 x1, USB2.0, USB3.0, SIM  
M.2 E Key: Type 2230, Supports PCIe 3.0 x1, USB2.0, Intel CNVio  
**\*Security**  
TPM: Built-in TPM (2.0)  
**\*Power**  
Power Input: 5.5mm x 2.1mm DC Jack: DC 12~20V  
USB Type C: PD 20V  
Power Adapter: 19V DC, 4.74A, 90W  
RTC Battery: CR1220 Battery Holder: 3V  
1.27mm Pitch 2-Pin Connector: 3V  
**\*Operating System**  
Microsoft Windows: Windows 10, Windows 11  
Linux: Ubuntu 22.04  
**\*Environment**  
Operating Temperature: 0~45°C  
Relative Humidity: 0%~80%  
**\*Dimension**  
Form Factor: 3.5", 146 x 102 mm

### SKU:DFR1090

**\*External I/O**  
USB Type-A: 2 x USB2.0 (480Mbps)  
2 x USB3.2 Gen 2 (10Gbps)  
USB Type-C: 2 x Thunderbolt™ 4 (40Gbps)  
HDMI: HDMI 2.1  
Ethernet: 2 x 2.5GbE RJ45 Ports (Intel® i225-V Gigabit Ethernet Controller, Supports 10/100/1000/2500 Mbps, WOL)  
Power: 5.5mm x 2.5mm DC Jack  
Audio: 3.5mm Microphone Headphone Combo Connector  
Sim Card: Micro Sim Card Slot  
**\*Internal I/O**  
USB 2.0: 2.0mm Pitch 4-Pin Connector, 480Mbps  
Fan: 1.27mm Pitch, 12V 4-Wire Fan Connector, PWM Control  
SATA: SATA 6.0 Gb/s Data Connector, 2.0mm Pitch 4-Pin Power Connector  
Front Panel: 2.54mm Pitch 9-Pin Header, Supports Power, Reset, Power LED, HDD LED  
Front Audio Panel: 2.54mm Pitch 9-Pin Header, Supports High Definition Audio (HD), Line-Out, Mic-in  
COM: 2.54mm Pitch 9-Pin Header, Supports RS232, RS485  
GPIO: 2.54mm Pitch 34-Pin Header, Including ATmega32U4 I/O Pins, 5V Power Pins, S0/S3/S4 State Pins  
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M.2 M Key: Type 2280, Supports PCIe 3.0 x4  
Type 2280, Supports PCIe 4.0 x4  
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M.2 E Key: Type 2230, Supports PCIe 3.0 x1, USB2.0, Intel CNVio  
**\*Security**  
TPM: Built-in TPM (2.0)  
**\*Power**  
Power Input: 5.5mm x 2.1mm DC Jack: DC 12~20V  
USB Type C: PD 20V  
Power Adapter: 19V DC, 4.74A, 90W  
RTC Battery: CR1220 Battery Holder: 3V  
1.27mm Pitch 2-Pin Connector: 3V  
**\*Operating System**  
Microsoft Windows: Windows 10, Windows 11  
Linux: Ubuntu 22.04  
Environment  
Operating Temperature: 0~45°C  
Relative Humidity: 0%~80%  
**\*Dimension**  
Form Factor: 3.5", 146 x 102 mm

### 3) LattePanda Sigma - The Small Hackable x86 Windows/Linux Single Board Computer Server (16GB RAM)



- \*Processor**
  - CPU: Intel® Core™ i5-1340P
  - Cores / Threads: 12C(4P+8E) / 16T
  - Max Turbo Frequency: 4.60 GHz(Performance-core), 3.4 GHz(Efficient-core)
  - L2 Cache: 12 MB
  - Base Power: 28 W
  - Graphics: Intel® Iris® Xe Graphics
  - Max Dynamic Frequency: 1.45 GHz
  - Execution Units: 80
  - Co-processor: Microchip® ATmega32U4-MU
- \*Memory**
  - Dual-Channel 16GB LPDDR5-6400
- \*Storage**
  - Drive Form Factor: M.2 SSD (NVMe/SATA), SATA Drive
- \*Wireless**
  - Wireless Form Factor: M.2 Wireless Module (PCIe/CNVio)
- \*Display**
  - HDMI Port: HDMI 2.1, Up to 4096 x 2304 @ 60Hz
  - USB Type-C Port: DP 1.4a, Up to 7680 x 4320 @ 60Hz (One Monitor)
  - Embedded Display Port: eDP 1.4b, Up to 4096 x 2304 @ 120Hz

### 4) LattePanda Sigma - The Small Hackable x86 Windows/Linux Single Board Computer Server (16GB RAM/500GB SSD and WiFi 6E Module)



- \*Processor**
  - CPU: Intel® Core™ i5-1340P
  - Cores / Threads: 12C(4P+8E) / 16T
  - Max Turbo Frequency: 4.60 GHz(Performance-core), 3.4 GHz(Efficient-core)
  - L2 Cache: 12 MB
  - Base Power: 28 W
  - Graphics: Intel® Iris® Xe Graphics
  - Max Dynamic Frequency: 1.45 GHz
  - Execution Units: 80
  - Co-processor: Microchip® ATmega32U4-MU
- \*Memory**
  - Dual-Channel 16GB LPDDR5-6400
- \*Storage**
  - Drive Form Factor: M.2 SSD (NVMe/SATA), SATA Drive
- \*Wireless**
  - Wireless Form Factor: M.2 Wireless Module (PCIe/CNVio)
- \*Display**
  - HDMI Port: HDMI 2.1, Up to 4096 x 2304 @ 60Hz
  - USB Type-C Port: DP 1.4a, Up to 7680 x 4320 @ 60Hz (One Monitor)
  - Embedded Display Port: eDP 1.4b, Up to 4096 x 2304 @ 120Hz

### SKU:DFR1080

- \*External I/O**
  - USB Type-A: 2 x USB2.0 (480Mbps)  
2 x USB3.2 Gen 2 (10Gbps)
  - USB Type-C: 2 x Thunderbolt™ 4 (40Gbps)
  - HDMI: HDMI 2.1
  - Ethernet: 2 x 2.5GbE RJ45 Ports (Intel® i225-V Gigabit Ethernet Controller, Supports 10/100/1000/2500 Mbps, WOL)
  - Power: 5.5mm x 2.5mm DC Jack
  - Audio: 3.5mm Microphone Headphone Combo Connector
  - Sim Card: Micro Sim Card Slot
- \*Internal I/O**
  - USB 2.0: 2.0mm Pitch 4-Pin Connector, 480Mbps
  - Fan: 1.27mm Pitch, 12V 4-Wire Fan Connector, PWM Control
  - SATA: SATA 6.0 Gb/s Data Connector, 2.0mm Pitch 4-Pin Power Connector
  - Front Panel: 2.54mm Pitch 9-Pin Header, Supports Power, Reset, Power LED, HDD LED
  - Front Audio Panel: 2.54mm Pitch 9-Pin Header, Supports High Definition Audio (HD), Line-Out, Mic-in
  - COM: 2.54mm Pitch 9-Pin Header, Supports RS232, RS485
  - GPIO: 2.54mm Pitch 34-Pin Header, Including ATmega32U4 I/O Pins, 5V Power Pins, S0/S3/S4 State Pins
  - eDP: 0.5mm Pitch 40-Pin Connector, 4 Lanes

- \*Expansion Slot**
  - M.2 M Key: Type 2280, Supports PCIe 3.0 x4  
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- \*Security**
  - TPM: Built-in TPM (2.0)
- \*Power**
  - Power Input: 5.5mm x 2.1mm DC Jack: DC 12~20V  
USB Type C: PD 20V
  - Power Adapter: 19V DC, 4.74A, 90W
  - RTC Battery: CR1220 Battery Holder: 3V
  - 1.27mm Pitch 2-Pin Connector: 3V
- \*Operating System**
  - Microsoft Windows: Windows 10, Windows 11
  - Linux: Ubuntu 22.04
- \*Environment**
  - Operating Temperature: 0~45°C
  - Relative Humidity: 0%~80%
- \*Dimension**
  - Form Factor: 3.5", 146 x 102 mm

### SKU:DFR1081

- \*External I/O**
  - USB Type-A: 2 x USB2.0 (480Mbps)  
2 x USB3.2 Gen 2 (10Gbps)
  - USB Type-C: 2 x Thunderbolt™ 4 (40Gbps)
  - HDMI: HDMI 2.1
  - Ethernet: 2 x 2.5GbE RJ45 Ports (Intel® i225-V Gigabit Ethernet Controller, Supports 10/100/1000/2500 Mbps, WOL)
  - Power: 5.5mm x 2.5mm DC Jack
  - Audio: 3.5mm Microphone Headphone Combo Connector
  - Sim Card: Micro Sim Card Slot
- \*Internal I/O**
  - USB 2.0: 2.0mm Pitch 4-Pin Connector, 480Mbps
  - Fan: 1.27mm Pitch, 12V 4-Wire Fan Connector, PWM Control
  - SATA: SATA 6.0 Gb/s Data Connector, 2.0mm Pitch 4-Pin Power Connector
  - Front Panel: 2.54mm Pitch 9-Pin Header, Supports Power, Reset, Power LED, HDD LED
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  - COM: 2.54mm Pitch 9-Pin Header, Supports RS232, RS485
  - GPIO: 2.54mm Pitch 34-Pin Header, Including ATmega32U4 I/O Pins, 5V Power Pins, S0/S3/S4 State Pins
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