seeed studio

INDUSTRIAL PRODUCT DATASHEET

reComputer J401B & optional accessories

reComputer J401B: a powerful, long-life embedded AI platform with up to 100 TOPS, rich I/O, and wireless connectivity for smart city and EV applications.

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Overview



The reComputer J401B is an embedded AI platform compatible with Jetson Orin Nano and NX modules, delivering up to 100 TOPS for demanding edge AI workloads. It features a rich I/O suite including USB 3.2, HDMI, M.2 Key M/E, mini-PCIe, and 40-pin GPIO, along with pre-installed JetPack 5.1.3 and certifications, making it ideal for smart lampposts, EV battery swapping/charging systems, and smart recycling centers.

Key Features

- **Build the Most Powerful Embedded AI Platform**

Compatible with the Jetson Orin Nano and Orin NX module, offering up to 100 TOPS.

- **Design for Both Development and Production**

Equip with rich set of I/Os: 2x USB3.2, HDMI, Ethernet, M.2 Key M, M.2 Key E, mini-PCIe, 40-pin GPIO, etc

Support multiple wired and wireless commnucation including Wi-Fi and LTE

- **Immediately Go-to-Market**

Pre-installed JetPack5.1.3, Linux OS BSP ready

Certification includes ROHS, CE, FCC, KC, UKCA, REACH

- **Long Life Time Supply**

Production Lifetime: until at least 2032

Product Gallery

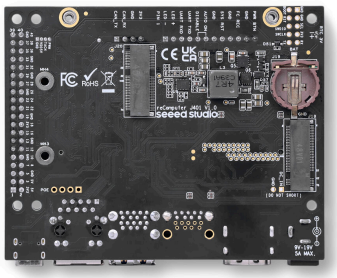






Note: LTE module is not included.















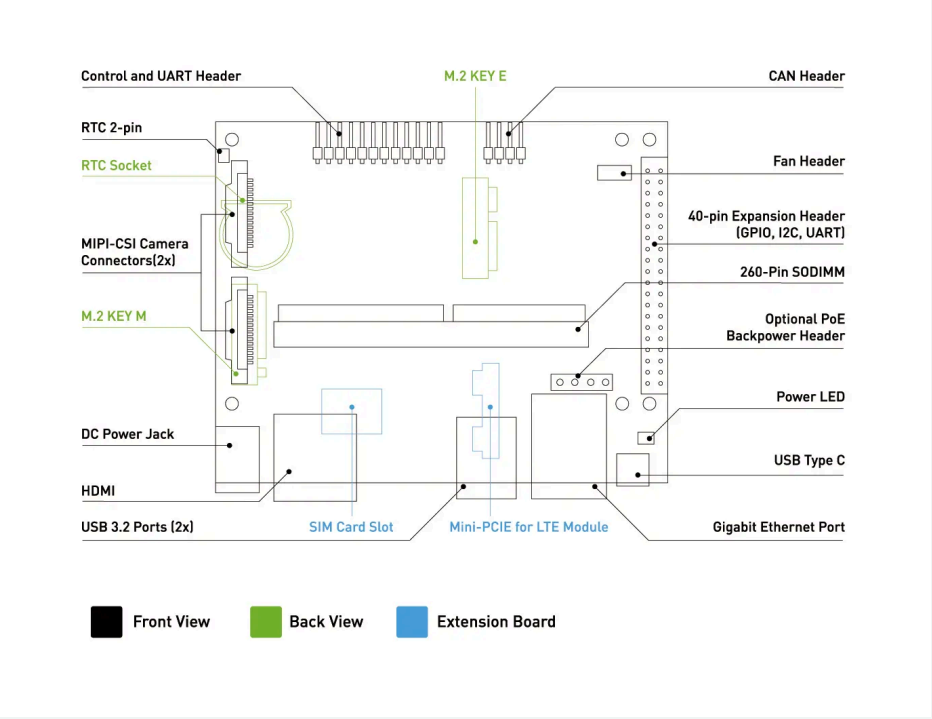


Specification

Jetson Orin System on Module		
AI Performance	reComputer J4012B - Orin NX 16GB, 100 TOPS	reComputer J3011B - Orin Nano 8GB – 40 TOPS(super: 67 TOPS)
GPU	1024-core NVIDIA Ampere architecture GPU with 32 Tensor Cores	
CPU	8-core Arm® Cortex®-A78AE v8.2 64-bit CPU (Orin NX 16GB)	6-core Arm® Cortex®-A78AE (Orin Nano 8GB)
Memory	16GB 128-bit LPDDR5 (Orin NX 16GB)	8GB 128-bit LPDDR5 (Orin NX 8GB)

Video Encode	1x 8K30 (H.265) | 2x 4K60 (H.265) | 4x 4K30 (H.265) | 9x 1080p60 (H.265) | 18x 1080p30 (H.265)	1080p30 supported by 1-2 CPU cores
Video Decode	1x 8K30 (H.265) 2x 4K60 (H.265) 4x 4K30 (H.265) 9x 1080p60 (H.265) 18x 1080p30 (H.265)	1x 4K60 (H.265) 2x 4K30 (H.265) 5x 1080p60 (H.265) 11x 1080p30 (H.265)
DL Accelerator	2x NVDLA v2	/
Carrier Board		
Storage	1x M.2 Key M PCIe (M.2 NVMe 2242 SSD 128G included)	
Networking	M.2 KEY E	1x M.2 Key E for WiFi/Bluetooth module
		1x mini-PCIe for LTE 4G module
		1x RJ45 Gigabit Ethernet
	USB	2x USB 3.2 Type-A (10Gbps); 1x USB 3.2 Type-C (Device Mode);
I/O	Camera	2x CSI(2-lane 15pin)
	CAN	1 x JST CAN
	Display	1x HDMI 2.1
	Fan	1x 4 pin Fan Connector (5V PWM)
	Extension Port	1x 40-pin extension header 1x 12-pin control and UART header
	RTC	1x RTC 2-pin
Power	9-19V DC jack	
Jetpack Version	JP5.1.3	JP5.1.3(support 6.2)
Mechanical	Dimensions (W x D x H)	130mm x 120mm x 58.5mm
	Installation	Desk, Wall-mounting
Operating Temperature	-10℃~60℃	
Certification	CE, FCC, KC,TELEC	
	UKCA, REACH,RoHS	
Operating Temperature	-10~60 °C	
Others		
Dimension	130mm x120mm x 58.5mm	
Weight	451.9g	
Warranty	2 years	
Production Lifetime	Until 2032	
Statement	Options marked with * require additional purchase	

Hardware Overview



Applications

- **Smart Lamppost:** Smart lampposts monitor traffic with sensors and transmit data for better traffic control. They integrate solar power, store energy for night use, and may feed excess power to the grid.
- **EV Battery Swapping/Charging System:** Battery swapping eases EV range anxiety. Charging stations, connected to the smart grid, optimize charging times. Some EVs can also supply power to the grid.
- **Smart Recycling Center:** Sensors in recycling bins reduce waste collection trips. Energy - efficient equipment runs during off - peak hours, and recycled materials are used for smart grid and EV components.

Part List

NVIDIA Jetson Orin™ module	x1
Seeed carrier board (reComputer J401B)	x1
128GB NVMe SSD	x1
Aluminum heatsink with fan	x1
Aluminum case (black)	x1
Power Adapter (12V/5A)	x1

Resource Links

- https://www.seeedstudio.com/reComputer-J401B-optional-accessories.html
- Datasheet
- Carrier Board Schematic
- LTE board Schematics
- Seeed NVIDIA Jetson Product Catalog
- NVIDIA Jetson Product Comparison
- Seeed NVIDIA Jetson Success Cases
- Seeed Jetson One Pager

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