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INDUSTRIAL PRODUCT DATASHEET

reComputer Robotics J4012 with GMSL Extension - Intelligent Edge AI Computer with NVIDIA Jetson Orin NX Super 16GB

The re Computer Robotics J 4012 with GMSL Extension is a compact, high-performance edge AI boxdesigned for advanced roboticsdevelopment. Compatible with NVIDIA® Jetson™ Orin™ NX modules in Super/MAXN mode, it delivers up to 157 TOPS of AI performance, leveraging up to 1.7 x improvement over its predecessor. Pre-installed with Jet Pack 6.2 and Linux BSP, it ensures

SKU	UPDATED	PRICE
100026552	2026-05-14 10:01:05	$1159.00(Excl. VAT)

Overview

Figure 1. 100001302 Recomputer Robotics J3011 With Gmsl Extension

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Key Features

01

Boosted AI Performance in a compact size

Delivers up to 157 TOPS AI performance by NVIDIA® Jetson™ Orin™ NX 16GB module in Super/MAXN mode.

02

Rich Interfaces for Robotics

Including dual RJ45, M.2 slots for 5G/Wi-Fi/BT modules, 6x USB 3.2, 2x CAN, GMSL2, I2C, and UART, functioning as a powerful robotic brain.

03

Industrial-Grade Power and Thermal Design

Operates reliably from –20 °C to 60 °C in 25 W mode and up to 55 °C in MAXN mode, fueled through a wide 19–54 V DC input, ensuring stable operation in mobile and industrial robot environments

04

Software-ready Ecosystem

Pre-installed with JetPack 6.2 and Linux BSP for seamless deployment. Combined with Isaac Sim, it can be used to create autonomous mobile robots (AMRs), arms and manipulators, humanoids, and more.

05

Ready-to-useGMSLExtension

Provides ready-to-useGMSLextensionthatsupportsmultipleGMSLcamerasinJetpack

06

Jetson Modules Performance with Super Mode

07

Enhanced power management

08

Improved higher frame rate processing

09

Reduced inference time

Product Gallery

Figure 1. 100001302 Recomputer Robotics J3011 With Gmsl Extension

Figure 2. 100001302 Recomputer Robotics J3011 With Gmsl Extension

Figure 3. 100001302 Recomputer Robotics J3011 With Gmsl Extension

Figure 4. 100001302 Recomputer Robotics J3011 With Gmsl Extension

Figure 5. 100001302 Recomputer Robotics J3011 With Gmsl Extension

Figure 6. 100001302 Recomputer Robotics J3011 With Gmsl Extension

Figure 7. 100001302 Recomputer Robotics J3011 With Gmsl Extension

Specification

Module:

CarrierBoard		
Storage	1x M.2 KEY M PCIe	
Networking	M.2 KEY E	1x M.2 Key E for WiFi/Bluetooth module
M.2 KEY B	1x M.2 Key B for 5G module	
Ethernet	2x RJ-45 Gigabit Ethernet	
I/O	USB	6x USB 3.2 Type-A (5Gbps)1x USB 3.0 Type-C (Host/DP 1.4)1x USB 2.0 Type-C (Device ModeOnlyforReflash/Debug)
CAN	2x CAN0 (XT30(2+2))3x CAN1 (4-Pin GH-1.25 Header)	
Display	1x DP1.4(Type C Host)	
UART	1 x UART 4-Pin GH-1.25 Header	
I2C	2x I2C 4-Pin GH-1.25 Header	
Fan	1x 4-Pin Fan Connector (5V PWM)1x 4-Pin Fan Connector (12V PWM)	
Extension Port	1x Camera Expansion Header(for GMSL2 board,included)	
RTC	1x RTC 2-pin1x RTC Socket	
LED	3x LED(PWR, ACT and User LED)	
Pinhole Button	1x PWR1x RESET	
DIP Switch	1x REC	
Antenna Hole	5x Antenna Hole	
Power	19-54V XT30(2+2) (XT30 to 5525 DC Jack Cable included)	
Jetpack Version	Jetpack 6.2	
Mechanical	Dimensions (W x D x H)	130mm x 120mm x 66mm
Weight	1100g	
Installation	Desk, Wall-mounting	

Operating Temperature	-20℃~60℃(25W Mode)-20℃~55℃(MAXN Mode)(with reComputer Robotics heat sink with fan)	
Warranty	2 Years	
Certification(Pending)	RoHS, CE, FCC, KC	

Cameras Supported in Jetpack	**SG3S-ISX031C-GMSL2F**	**Orbbec Gemini 335LG**
Manufactuer	Model	Resolution
Sensing		1920H*1536V
SG2-AR0233C-5200-G2A	1920H*1080V	
SG2-IMX390C-5200-G2A	1920H*1080V	
SG8S-AR0820C-5300-G2A	3840H*2160V	
Orbbec		3D

Visual Reference

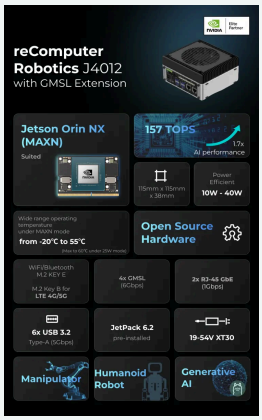

Figure 1. image robotic J4012

Jetson Commercial Modules Performance With Super Mode

	ORIN NANO 4GB	ORIN NANO 4GB (SUPER)	ORIN NANO 8GB	ORIN NANO 8GB (SUPER)	ORIN NX 8GB	ORIN NX 8GB (SUPER)	ORIN NX 16GB	ORIN NX 16GB (SUPER)
GPU CORES	512 CUDA Cores 16 Tensor Cores	512 CUDA Cores 16 Tensor Cores	1024 CUDA Cores 32 Tensor Cores	1024 CUDA Cores 32 Tensor Cores	1024 CUDA Cores 32 Tensor Cores	1024 CUDA Cores 32 Tensor Cores	1024 CUDA Cores 32 Tensor Cores	1024 CUDA Cores 32 Tensor Cores
GPU Max Frequency	625 MHz	1020 MHz	625 MHz	1020 MHz	765 MHz	1173 MHz	918 MHz	1173 MHz
PEAK AI PERF INT8	20 TOPS (Sparse) 10 TOPS (Dense)	34 TOPS (Sparse) 17 TOPS (Dense)	40 TOPS (Sparse) 20 TOPS (Dense)	67 TOPS (Sparse) 33 TOPS (Dense)	70 TOPS (Sparse) 35 TOPS (Dense)	117 TOPS (Sparse) 58 TOPS (Dense)	100 TOPS (Sparse) 50 TOPS (Dense)	157 TOPS (Sparse) 78 TOPS (Dense)
GPU Perf (S/D)	20/10 TOPs	34/17 TOPs	40/20 TOPs	67/33 TOPs	50/25 TOPs	77/38 TOPs	60/30 TOPs	77/38 TOPs
CPU	6X A78 1.5 GHz	6X A78 1.7 GHz	6X A78 1.5 GHz	6X A78 1.7 GHz	6X A78 2.0 GHz	8X A78 2.0 GHz	8X A78 2.0 GHz	8X A78 2.0 GHz
SPEC int rate	106	118	106	118	130	167	167	167
DLA Perf (S/D)	NA	NA	NA	NA	20/10 TOPs	40/20 TOPs	40/20 TOPs	80/40 TOPs
DRAM BW	34 GB/s	51 GB/s	68 GB/s	102 GB/s	102 GB/s	102 GB/s	102 GB/s	102 GB/s
MECHANICAL	70x45 mm 260 pins	70x45 mm 260 pins	70x45 mm 260 pins	70x45 mm 260 pins	70x45 mm 260 pins	70x45 mm 260 pins	70x45 mm 260 pins	70x45 mm 260 pins
MODULE POWER	7W | 10W	7W | 10W | 25W	7W | 15W	7W | 15W | 25W	10W | 15W | 20W	10W | 15W | 25W | 40W	10W | 15W | 25W	10W | 15W | 25W | 40W

Figure 2. image J4011 2

Hardware Overview

Figure 1. Image 114110308 1

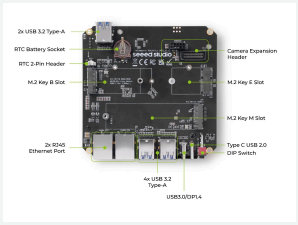

Figure 2. Image Robotic 2

Applications

Figure 1. MTY4ODg1NzU3ODgyNzc3Mw 403542 ZBsIfYDwP6YrlbL9 1765331085

Humanoid Robot & Manipulation：

Serving as a powerful brain for humanoid robots, the reComputer Robotics series delivers rich perception with precise motion control. Emulating human-like sensing, dexterity, mobility and whole-body coordination—seamlessly collaborating with people to get tasks done.

Autonomous Robots, AMRs/ AGVs/ Logistics Robots：

The CAN bus links servos or motors to drive Robotic Arms and Autonomous Robots with millisecond-level joint coordination.

Logistics Robots map in seconds via UART LiDAR, dodge on the fly and shuttle racks nonstop.

I²C weaves temperature, humidity, IMU and fuel-gauge data into a net, giving robots early-maintenance alerts.

USB cameras scan barcodes while on the move, and a USB ticket printer labels parcels in real time—zero manual labor from inbound to outbound.

Figure 7. MTY4ODg1NzU3ODgyNzc3Mw 456274 LaWWTRiTvkiCZB4I 1765331122

Dual-RJ45 link-aggregation delivers video to the Edge AI reCopmputer in <1 ms for real-time QC and remote monitoring.

Figure 8. Yolo 1

High-Performance Vision for Robotics：

Combining a GMSL 2 camera with a reComputer Robotics enables advanced vision-based robotics. Sensing 3MP GMSL 2 camera supports real-time object detection, panoramic environment awareness, and multi-camera 3D reconstruction . The high-bandwidth, low-latency GMSL 2 link supports long cable runs and multi-camera setups, while the Jetson Orin NX delivers real-time AI processing for perception, mapping, and control.

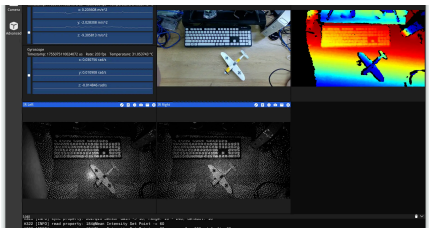

Figure 9. MTY4ODg1NTkyNTI4NTI1NA 409825 MXGaqzpcOJ4xIrg 1765250958

3D Vision and GMSL 2 Connectivity for Robotics：

The reComputer Robotics GMSL Extension supports the Orbbec Gemini 335LG Stereo Vision 3D Camera, providing accurate real-time 3D perception for advanced robotics. With the MAX96712 deserializer and mini-FAKRA connector, it ensures secure, low-latency, and reliable data transmission, ideal for AMRs, robotic arms, and collaborative robots. Precise depth sensing enables smarter navigation, robust object recognition, and reliable obstacle avoidance across mobile robots, delivery systems, and shelf-stocking applications.

Part List

Items	Quantity
Jetson Orin™ NX 16GB module	x 1
Seeed Carrier Board (reComputer Robotics J401)withGMSLExtension	x 1
128GB NVMe SSD	x 1
Aluminum Case and Heatsink with Fan	x 1
USB Cable; Type A to Type C	x 1
XT30 to DC cable	x1
User Manual	x 1

Compliance & Logistics

HSCODE	8471504090
USHSCODE	8517180050

UPC	
EUHSCODE	8471707000
COO	CHINA

CertificationInfo	links
CE	CE_link
EUDOC	EUDOC_link
FCC	FCC_link
KC	KC_link
ROHS	ROHS_link
UKDOC	UKDOC_link

Logistics	Value
ECCN	EAR99
HSCODE	8471504090
USHSCODE	8517180050
EUHSCODE	8471707000
COO	CHINA

Resource Links

- https://www.seeedstudio.com/reComputer-Robotics-J4012-with-GMSL-extension-board-p-6537.html
- User Manual&Datasheet
- Carrier Board Schematic
- Power Board Schematic
- GMSL Board Schematic
- 3D File
- Mechanical Document-reComputer Robotics PCBA
- Seeed NVIDIA Jetson Product Catalog
- Nvidia Jetson Comparison
- Seeed Nvidia Jetson Success Cases
- Seeed Jetson One Pager
- Flash BSP for Jetson

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