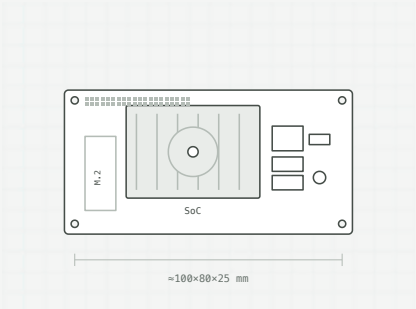
PIKHTA TECH LLC · HTTPS://FIRAI.RU · DATASHEET V0.9 DATED 3 OCT 2026

PH-J01 — Jetson board

PH-J01 — ПХ-J01 in Russian documents

Board without enclosure: NVIDIA Jetson Orin Nano 8GB (Super) module on a carrier board with 2×GbE / 4×USB 3.2 / M.2, heatsink with fan, 128 GB NVMe with system image — for embedding in your enclosure.

AVAILABILITY	LEAD TIME	MINIMUM ORDER (MOQ)	PRICE
build to order, 2–5 weeks	**2–5 weeks (module — made to order)**	**1 unit; batch — from 10 units**	**on request, RUB excl. VAT**



PH-J01
diagram; photo — after the first samples

Outline drawing; product photos are on the product page. Dimensions: ≈100×80×25 mm (board with module and fan heatsink).

- Orin Nano 8GB, Super mode: 67 TOPS sparse (≈33 dense); options Orin Nano 4GB, Orin NX 8GB / 16GB
- Carrier board ≈100×80 mm: 1×2.5GbE + 1×GbE, 4×USB 3.2 (3×Gen2), USB-C recovery, DP 1.4, CSI ×2, 40-pin, 2×M.2 M + M.2 E, RTC
- Heatsink with PWM fan, 128 GB NVMe with system image; DC 9–19 V, 5.5×2.5 jack
- No enclosure or PSU: embed in your device; aluminum enclosure and adapter — options

Typical uses: embedding in your own device · robot and AGV · test bench and development.

1. Purpose

NVIDIA Jetson Orin Nano 8GB module (Super mode) on a compact carrier board in the form factor of NVIDIA's official carrier (≈100×80 mm): 1×2.5GbE + 1×GbE, 4×USB 3.2, USB-C, DisplayPort, CSI ×2, 40-pin, 2×M.2 M + M.2 E; heatsink with PWM fan and 128 GB NVMe with our system image on JetPack 6.2. No enclosure or power supply — for embedding in your device, cabinet or robot: enclosure, DC/DC and mounting are from the options or yours. Module options: Orin Nano 4GB, Orin NX 8GB / 16GB.

> **Straight talk:** A board without enclosure is for teams building their own device: temperature and reliability depend on your enclosure and airflow, so we provide a drawing and a thermal test method rather than a "−40…+70" promise. Need a ready-to-run Jetson device — PH-J31; no CUDA needed — PH-K01.

2. Platform

SoC / accelerator	NVIDIA Jetson Orin Nano 8GB — 6×Cortex-A78AE, Ampere GPU 1024 CUDA / 32 Tensor Cores; options: Orin Nano 4GB, Orin NX 8GB / 16GB
TOPS INT8 dense	≈33 TOPS INT8 dense (NVIDIA publishes 67 sparse, Super mode); Orin NX 16GB — ≈78 dense / 157 sparse method: NVIDIA datasheet: sparse INT8 in MAXN SUPER mode (JetPack 6.2); dense = sparse / 2; Jetson Orin Nano is the baseline on our bench
Memory	8 GB LPDDR5 128-bit, 102 GB/s in Super mode (68 GB/s in the original mode); Orin NX 16GB — 16 GB, 102 GB/s

Storage	128 GB NVMe (M.2 2280) with system image; second M.2 M — for your own drive

3. Interfaces

USB	4×USB 3.2 Type-A (3×Gen 2 10 Gbps + 1×USB 2.0), 1×USB-C (recovery / device mode), 2×USB 2.0 on a header
Ethernet / PoE	1×2.5GbE + 1×GbE RJ-45
RS-485 / CAN / RS-232	debug UART; UART / I2C / SPI on the 40-pin header; RS-232 / RS-485 / CAN — adapter or USB, made to order
GPIO / relay	40-pin (NVIDIA pinout), 12-pin header for buttons / auto power-on, 4-pin PWM fan, RTC battery
M.2	2×M.2 2280 M-key (NVMe; one is the system drive), 1×M.2 2230 E-key (Wi-Fi/BT — option)
Video output	DisplayPort 1.4
Wi-Fi / BT / LTE	none base unit without radio — no FSB notification and no security questions on site; for mobile use we fit a module imported with notification

4. Power and thermal

Power input	9–19 V DC, 5.5×2.5 mm jack; power supply not included (12 V 5 A adapter — option; 9–36 V DC/DC — option)
Power consumption (typical)	≈8 W (module 15 W mode)
Power consumption (peak)	≤25 W (MAXN SUPER); Orin NX 16GB — up to 40 W
Cooling	heatsink with PWM fan on the module; final power mode — depends on airflow in your enclosure
Enclosure temperature in a closed cabinet at +40 °C ambient	measured after the first sample is tested; we publish the measurement, not a datasheet value

5. Mechanical

Dimensions	≈100×80×25 mm (board with module and fan heatsink)
Weight	≈200 g
Mounting	4 mounting holes for M3 standoffs (carrier-board drawing in the product passport); DIN-rail bracket and enclosure — options
Connectors	standard RJ-45 / USB / DP, DC 5.5×2.5, 40-pin

6. Environment and protection

Operating temperature	0…+50 °C without enclosure (carrier-board reference); in your enclosure — per thermal test, method — /en/testin
Ingress protection	none — open board

Vibration / shock	not rated; module secured with screws, board on standoffs

7. Bench measurements

Measurements are expected with the first samples. What we measure: FPS INT8 YOLOv8n; FPS INT8 YOLOv8s; FPS INT8 YOLO11n; FPS INT8 YOLO11s; FPS INT8 ResNet50; FPS INT8 OCR (PP-OCRv4 rec); 1080p streams; accuracy after quantization.

test-bench baseline: the same row as PH-J31; measured with the first samples on the test bench; method — /en/testing/

8. Configuration options

Option	Price
Orin Nano 4GB	on request
Orin Nano 8GB (Super) — base	base
Orin NX 8GB	on request
Orin NX 16GB	on request
Aluminum enclosure with fan	on request
12 V 5 A power adapter	on request

Prices for 1 / 10 / 100 units and for options — in the quotation within 2 business days, valid 30 days. The contract includes a price revision formula tied to the Bank of Russia exchange rate and the DRAM index.

9. What's included

- Jetson Orin Nano 8GB (Super) module on a carrier board, heatsink with PWM fan, 128 GB NVMe with system image on JetPack 6.2, M3 standoffs
- Ready-to-run image on JetPack 6.2: CUDA / TensorRT / DeepStream as shipped by NVIDIA, Docker, autostart, watchdog — models run without conversion
- OTA updates of the image and the model with rollback — from your network, no cloud of ours
- Connects only to the addresses you set: we keep no cloud and no keys of ours in the image; no video is stored on the device
- 1-year warranty, replacement unit or spares; product passport (Russian regulatory data sheet); EAC declaration — in progress

10. Compatibility

Cameras	PH-Cam-M (MIPI CSI) ×2; PH-Cam-K (USB, global shutter); PH-Cam-S / PH-Cam-O (PoE) — via an injector or switch
Power / PSU	12 V 5 A adapter (option); 12/24 V onboard power via 9–36 V DC/DC (option)
Runtimes	JetPack 6.2 (L4T 36.4): CUDA 12.6, TensorRT 10, cuDNN, DeepStream 7; ONNX Runtime (CUDA / TensorRT EP); Docker / containerd (nvidia-container-runtime); ROS 2 (Humble) in a container

11. Updates and support

Image updates and system-component fixes — free during the warranty (1 year), delivered from your network; afterwards — under a support contract.

12. Documents and origin

EAC declaration	in progress — declaration issued to Pikhta Tech LLC, in progress
FSB notification	not required — no radio modules
Datasheet	this document: PDF v0.9 and the web version on this website
Product passport	in progress — single template, PDF with each delivery
Vendor security questionnaire	on request — under NDA
Origin and our part	NVIDIA Jetson Orin module (country of manufacture per the batch marking: Taiwan / China); carrier board — contract manufacturer (ODM, China); system image, incoming inspection and kitting — in Russia; EAC declaration is issued to Pikhta Tech LLC.

13. Chip and sensor vendor documentation

- NVIDIA Jetson — Orin Nano / Orin NX modules: https://developer.nvidia.com/embedded/jetson-modules
- Jetson Orin Nano Super Developer Kit: https://www.nvidia.com/en-us/autonomous-machines/embedded-systems/jetson-orin/nano-super-developer-kit/
- JetPack SDK: https://developer.nvidia.com/embedded/jetpack
- Jetson documentation: https://docs.nvidia.com/jetson/
- Jetson Download Center (module data sheets and design guides — with an NVIDIA Developer account): https://developer.nvidia.com/embedded/downloads

We do not host third-party documents — links to official pages only; full chip datasheets are available from the vendor or its distributor.