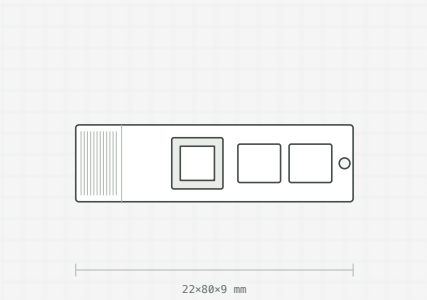
PIKHTA TECH LLC · HTTPS://FIRAI.RU · DATASHEET V0.9 DATED 3 OCT 2026

PH-M24 — M.2 accelerator 24 TOPS

PH-M24 — ПХ-M24 in Russian documents

M.2 M-key 2280 card with the Axera AX8850 NPU: 24 TOPS INT8, 8 GB on the card, ≤7 W, hardware decode of 16×1080p — for the PH-K40 / PH-K01 slot or an x86 PC you already have.

AVAILABILITY	LEAD TIME	MINIMUM ORDER (MOQ)	PRICE
build to order, 2–4 weeks	**2–4 weeks**	**1 unit; batch — from 10 units**	**on request, RUB excl. VAT**



PH-M24
diagram; photo — after the first samples

Outline drawing; product photos are on the product page. Dimensions: 22×80×9 mm (M.2 2280, with heatsink).

- Axera AX8850: 24 TOPS INT8 dense, 8 GB LPDDR4x on the card, 16×1080p / 8K decode
- M.2 M-key 2280, PCIe; ≤7 W, passive heatsink — fits the thermal budget of the box and a compact PC
- Hosts: PH-K40 / PH-K01 (RK3588) and x86 PCs on Linux; driver and runtime in the system image
- VLMs and LLMs at the edge: models up to 7B in the card's 8 GB of memory

Typical uses: heavy model on the PH-K40 / PH-K01 · x86 PC on site: kiosk, industrial PC, operator workstation · VLM / LLM at the edge · test bench and development.

1. Purpose

When the host NPU is not enough — a heavy backbone, several models in a pipeline, a VLM — we add a card instead of replacing the device. The Axera AX8850 on an M.2 2280 card delivers 24 TOPS INT8 with 8 GB of its own memory, decodes up to 16 1080p streams by itself and stays within 7 W with a passive heatsink. It fits the PH-K40 (as a box option) and the PH-K01 (in place of the NVMe drive, with the system image on microSD), as well as an x86 PC with a free M.2 slot — a kiosk, an industrial PC, an operator workstation — running Linux. The model is converted to the card's format; the driver and runtime are already in the system image.

> **Straight talk:** This is a second stack alongside RKNN: the model is converted for the card separately, and some operators may not map onto its NPU — we check on your model before the batch. In x86 PCs — Linux only; we keep a list of verified PC models as tests progress.

2. Platform

SoC / accelerator	Axera AX8850 — 24 TOPS INT8 NPU, 8 Cortex-A55 cores on the card, 16×1080p video decoder

TOPS INT8 dense	24 TOPS INT8 dense method: Axera datasheet; FPS measured in the PH-K40 and in a compact PC enclosure — test bench
Memory	8 GB LPDDR4x on the card
Storage	not applicable — uses the host's storage

3. Interfaces

USB	not applicable — cameras connect to the host (USB / MIPI / IP)
Ethernet / PoE	not applicable — host network
RS-485 / CAN / RS-232	not applicable
GPIO / relay	none
M.2	M.2 M-key 2280, PCIe 2.0 ×2 (works in PCIe 3.0 ×4 slots; in the PH-K40 — PCIe 2.1 ×1); 2242 form factor for the PH-K40 slot — made to order
Video output	none
Wi-Fi / BT / LTE	none card without radio modules — no FSB notification required

4. Power and thermal

Power input	3.3 V from the M.2 slot
Power consumption (typical)	≈4 W
Power consumption (peak)	≤7 W
Cooling	passive heatsink; in the PH-K40 — thermal contact with the enclosure, in a PC — the PC's own airflow
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	22×80×9 mm (M.2 2280, with heatsink)
Weight	≈20 g
Mounting	standard M.2 screw
Connectors	M.2 M-key connector

6. Environment and protection

Operating temperature	0…+60 °C (card datasheet); in a closed enclosure at +40 °C — test-bench measurement
Ingress protection	not applicable (inside the device or PC)
Vibration / shock	not applicable; in the PH-K40 — screw-mounted

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.

measured with the first samples on the test bench; method — /en/testing/

8. Configuration options

Option	Price
AX8850, 8 GB, heatsink — base	base
Installed and tested in the PH-K40 when ordering the box ordered as a PH-K40 box option	no surcharge
2242 form factor / low-profile heatsink for the PH-K40 slot made to order	made to order, price in the quotation
Installation in the PH-K01 (in place of NVMe, system image on microSD) made to order	made to order, price in the quotation

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

- Card with heatsink, M.2 screw, installation guide
- Card driver and runtime — in the PH-K40 / PH-K01 image; for x86 PCs on Linux — a driver package and a container
- Driver and runtime updates — together with the host image, from your network
- 1-year warranty, replacement card or spares; product passport (Russian regulatory data sheet); EAC declaration — in progress

10. Compatibility

Cameras	host cameras: PH-Cam-K (USB) — on the PH-K40 and PH-K01, PH-Cam-M (MIPI CSI) — on the PH-K01; IP cameras (PH-Cam-S / PH-Cam-O) — the card itself decodes up to 16 1080p streams
Power / PSU	M.2 M-key slot with ≥7 W of power (in a PC — checked per model)

Runtimes	AXCL (Axera): runtime and the Pulsar2 converter; ONNX → card format; Docker / containerd

11. Updates and support

The card's driver and runtime are updated together with the host image (free during the warranty, from your network); on x86 PCs — as a package.

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	SoC — Axera (China); card — contract manufacturer (ODM, China) under the Pikhta part number; drivers, incoming inspection and verification in the hosts — in Russia; EAC declaration is being issued to Pikhta Tech LLC.

13. Chip and sensor vendor documentation

- Axera AX8850 — product page: https://www.axera-tech.com/en/product/2896.html
- AX8850 Product Brief (PDF, Axera): https://www.axera-tech.com/sites/default/files/2026-01/AX8850%20Product%20Brief_V0.1.pdf
- AXCL — runtime documentation (in Chinese): https://axcl-docs.readthedocs.io/
- AXERA-TECH on GitHub (SDK, examples, Pulsar2 converter): https://github.com/AXERA-TECH

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