CUSTOMER BRIEFING · 2026

EDGE10 FAMILY · MIL / SPACE VARIANT

Velox20T100

Onboard AI compute for autonomous missions in contested environments.

100 TOPS	3.8–20 W	<75 g	NDAA TAA
DENSE AI	POWER	MASS	COMPLIANCE

Mission compute is forcing trade-offs you can't afford.

Autonomy budgets are growing faster than the SWaP envelope is shrinking. Legacy compute stacks force teams to pick two of three: **performance, footprint, or supply-chain integrity.**

01 · COMPUTE HEADROOM

AI outpaces the autopilot.

Modern perception, VIO, sensor fusion, and on-device inference now demand 50–100+ TOPS. Legacy flight controllers and bolt-on accelerator stacks can't deliver it at flight-grade SWaP.

02 · SWAP BUDGETS

Every gram, every watt.

Each additional gram costs range, payload, or fuel. Each additional watt costs thermal headroom and battery life. Stacking compute, security, and I/O on separate boards multiplies the cost in all three dimensions.

03 · CONTESTED ENVIRONMENTS

GNSS-denied. EMI-rich. Audited.

Tactical and orbital platforms operate where GPS is jammed, EMI is hostile, supply chain is scrutinized, and crypto must outlast the

Velox20T100

100 TOPS · 20W · 100×130×5 mm · <75g

An **edge compute and autopilot platform** built on the Qualcomm QCS9100 SOM, with a dedicated **quad Cortex-R52 Safety Island** on a planned SIL3 path. Inline ECC plus dedicated EDAC chip, post-quantum cryptography via dedicated chip, board-level EMI shielding, and radiation mitigation — engineered to **operate through contested EM environments** across military UAS, robotics, and orbital missions.

DESIGNED AND BUILT IN THE UNITED STATES

The numbers buyers ask about first.

COMPUTE

100 TOPS

Dense AI on Hexagon NPU. 8-core Kryo Gen 6, Adreno 663 GPU, dedicated DSPs.

POWER ENVELOPE

3.8–20 W

SoC typical range. Low-power modes for mission-critical battery operation.

MASS · FOOTPRINT

<75 g

100 × 130 × 5 mm. 6-hole mount: 91.5 × 91.5 mm centered drone-standard pattern + 2 extended-end holes.

MEMORY

36 GB

LPDDR5 @ 3200 MHz with inline ECC, plus dedicated EDAC chip. UFS 3.1 onboard.

EXPANSION

M.2 ×N

Multiple M.2 M-key slots, PCIe Gen4. NVMe storage, RAID arrays, or accelerator add-ons.

OPERATING RANGE

–40 / +115 °C

Junction temperature. Designed for harsh and high-reliability environments.

One board. Not a stack of point solutions.

Heterogeneous compute, integrated.

CPU, GPU, NPU, and DSP on a single Qualcomm QCS9100 die — paired with onboard UFS 3.1 storage and inline ECC memory. The work that used to require three boards now runs on one.

Built for contested EM environments.

EW resilience by design: board-level EMI shielding, inline ECC plus dedicated EDAC, post-quantum cryptography, and a quad Cortex-R52 Safety Island. IMU + VIO for navigation when GNSS is denied. Designed to MIL-STD-461 and MIL-STD-883.

Mission-ready I/O.

Sovereign supply.

Built for autonomous platforms.

COMPUTE	QCS9100 SOM · 8-core Kryo Gen 6 (up to 2.36 GHz) Adreno 663 GPU · Hexagon NPU (100 dense TOPS)
SAFETY	Quad Cortex-R52 Safety Island (planned SIL3) Inline ECC + dedicated EDAC chip
RESILIENCE	Board-level EMI shielding · radiation mitigation PQC encryption chip · IMU + VIO (GNSS-denied nav)
CAMERAS	16 concurrent MIPI CSI-2 (4-lane) · 2× MIPI DSI (optional)
STORAGE	Onboard UFS 3.1 + dual M.2 NVMe RAID (PCIe Gen4)
NETWORK · I/O	

Procurement-ready posture.

NDAA · TAA

SECTION 848 · TRADE AGREEMENTS ACT

ITAR Restricted

EXPORT-CONTROLLED — QUALIFIED BUYERS

MIL-STD-461 / 883

DESIGN TARGETS · TEST DATA UNDER NDA

Functional Safety

SAFETY ISLAND · PLANNED SIL3

Materials

ROHS · AEC-Q100 GRADE 3

Longevity

10+ YEARS EXTENDED QUALIFICATION

Where Velox flies.

Military UAS & Autonomous Drones

Onboard perception, navigation, and decisioning for tactical UAS. SWaP-tight integration with PX4 / ArduPilot stacks.

ISR & Sensor Fusion

Multi-camera and multi-modal sensor processing onboard the platform — reducing downlink and accelerating time-to-decision.

GPS-Denied Tactical Navigation

IMU plus visual-inertial odometry running on-device. Position, velocity, and heading without GNSS dependency.

Space & Near-Space Platforms

EMI-hardened, radiation-mitigated edge compute for orbital, lunar, and near-space mission profiles.

UGVs & Ground Robotics

Real-time perception and control for autonomous ground vehicles in contested or denied environments.

Man-Portable Edge Systems

Ruggedized, low-power edge AI for body-worn perception, comms relays, and dismounted operator systems.

Three ways to start.

DESIGN PARTNER PROGRAM 01

Priority access. Co-developed integration.

Limited cohort of design partners working directly with OrbitsEdge engineering. Early access to pre-production samples, integration support, and NRE-funded customization for

Inquire about open slots →

SPEC SHEET UNDER NDA 02

Full technical detail for qualified buyers.

Complete specifications, MIL-STD design test plan, PQC implementation detail, and supply-chain attestation available under mutual NDA. Standard turnaround within five business days

Request the NDA →

ENGINEERING CONVERSATION 03

Talk architecture with the team.

30-minute call with OrbitsEdge engineering to walk your platform requirements, integration constraints, and qualification needs. We come prepared with reference architectures and

Book the call →

PRODUCTION AVAILABILITY

Q3 2027. Pre-production samples to design partners earlier — timeline by program.

VELOX20T100 · MIL / SPACE

Bring your mission. We'll bring the compute.

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Designed and built in the United States.
NDAA / TAA aligned · Export-controlled / ITAR restricted · Detailed test data available to qualified buyers under NDA.