

# Velox20T100

AT A GLANCE

Mil / Space · Edge10 family — flagship board

100 TOPS · 3.8–20 W · &lt;75 g · 100×130×5 mm



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 a 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

## SPECIFICATIONS

## COMPUTE

**100 TOPS**

Dense AI on Hexagon NPU. 8-core Kryo Gen 6, Adreno 663 GPU + 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 drone-standard pattern + 2 extended-end holes.

## MEMORY · STORAGE

**36 GB**

LPDDR5 @ 3200 MHz, inline ECC + dedicated EDAC. Onboard UFS 3.1.

## EXPANSION

**2× M.2**

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

## OPERATING RANGE

**–40/+115 °C**

Junction temperature. Built for harsh, high-reliability environments.

## ARCHITECTURE &amp; I/O

## 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

1–2× 2.5 GbE with TSN · Wi-Fi 6E/7 / BT / cellular via M.2  
CAN-FD · UART · SPI · I<sup>2</sup>C · GPIO

## SOFTWARE

Linux (Yocto / Ubuntu / RHEL) · ROS 2 · PX4 / ArduPilot · Secure Boot

## WHY IT WINS

**One board, not a stack**

CPU, GPU, NPU and DSP on a single die, paired with onboard UFS 3.1 and inline ECC. Work that took three boards now runs on one.

**Built for contested EM**

EW resilience by design: EMI shielding, ECC + EDAC, PQC, and a quad Cortex-R52 Safety Island. IMU + VIO for GNSS-denied nav. Designed to MIL-STD-461 and MIL-STD-883.

**Mission-ready I/O**

16 MIPI CSI ports, dual 2.5 GbE TSN, multi-CAN-FD, M.2 RAID expansion. The integration work that usually happens off-board is already on it.

## CONFIGURATIONS

## THIS SHEET

**Velox20T100 · Mil / Space**

100×130×5 mm · 6-hole drone-standard mount · full resilience stack (EMI / rad / PQC / SIL3 path). ITAR-restricted.

## ALSO AVAILABLE

**Velox20T100 · Civil**

Smaller 60×65 mm footprint for commercial UAS and robotics. Same QCS9100 / 100 TOPS core; reduced compliance overhead.

## FAMILY

**Edge10 → Edge1000**

One architecture across power classes. Edge10 (this board) ships first; Edge50 / Edge100 funded; Edge1000 & orbital Cloud tier on the roadmap.

**PROCUREMENT POSTURE** • NDAA §848 / TAA aligned • Export-controlled / ITAR restricted  
• MIL-STD-461 & 883 design path • Built in the USA

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Specifications subject to change; planned/target values where noted (SIL3, MIL-STD). Full spec sheet, test plan, and supply-chain attestation available to qualified buyers under NDA.