



MR-VMU-RT1176 Real-Time Vehicle Management Unit (VMU)

VEHICLE-MANAGEMENT-UNIT

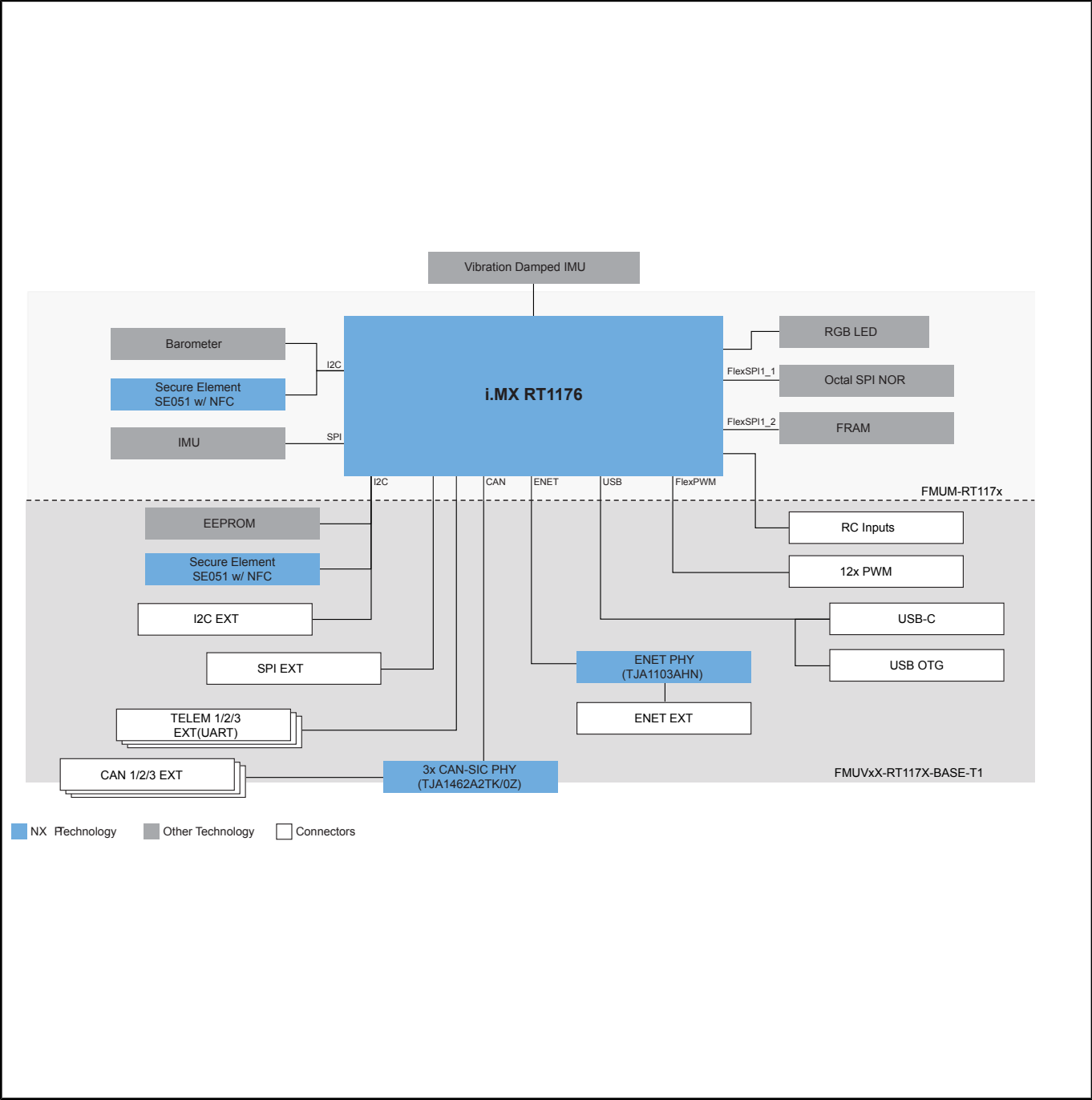
Active

Last Updated: Feb 4, 2026

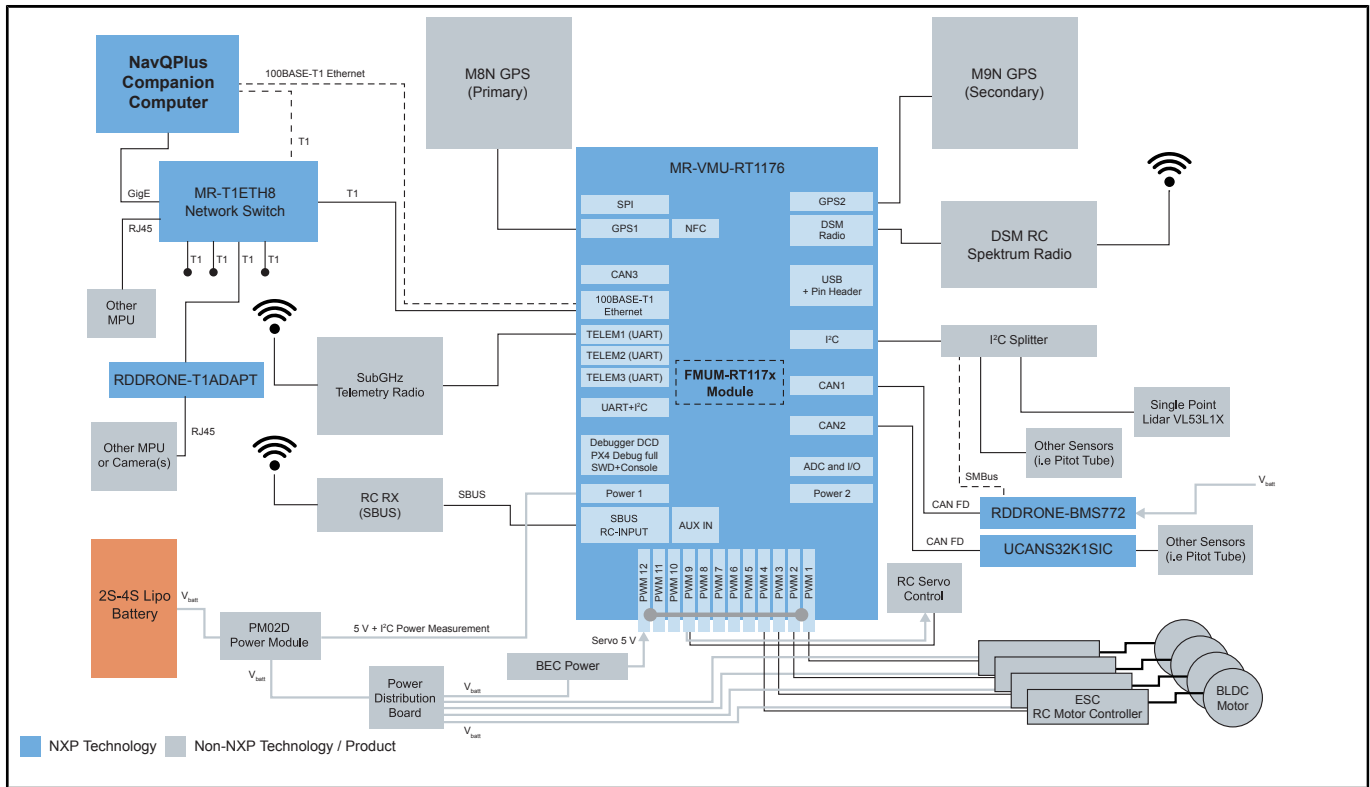
The MR-VMU-RT1176 is a compact, lightweight vehicle management controller solution designed for mobile robotics. It features an integrated inertial measurement unit (IMU), control and networking interfaces and a PX4 V6X standard-compliant form factor. The controller is extensible through the NXP mobile robotics ecosystem, offering robust compatibility.

- Open-source support via Zephyr RTOS, Cognipilot, NuttX, and PX4
- Modular architecture with a compute module and carrier board
- High-performance dual-core 1-GHz Cortex-M7/M4 processor ([i.MX RT1176 crossover MCU](#))

Real-Time Vehicle Management Unit Block Diagram Block Diagram



Drone System Block Diagram Block Diagram



View additional information for [MR-VMU-RT1176 Real-Time Vehicle Management Unit \(VMU\)](#).

Note: The information on this document is subject to change without notice.

www.nxp.com

NXP and the NXP logo are trademarks of NXP B.V. All other product or service names are the property of their respective owners. The related technology may be protected by any or all of patents, copyrights, designs and trade secrets. All rights reserved. © 2026 NXP B.V.