M8500

The **MIPS® M8500** real-time compute subsystem is a turnkey enabler for physical AI platforms that need precise control. MIPS developed the M8500 real-time compute subsystems product line, offering low-latency, functionally safe, reliable processing for a variety of applications:

Automotive

- Traction Inverter
- On-Board Charger (OBC)
- High-Voltage to Low-Voltage DC/DC
- Converter (HVLV DCDC)
- Battery Management Systems (BMS)

Industrial

- Motor Drives
- Servo Drives
- Robotics
- AC Inverters
- Brushless DC Motors (BLDC)
- String Inverters
- Grid Infrastructure
- Electric Vehicle Chargers
- Power Conversion
- Wall Chargers
- Solar Energy Storage

Physical AI platforms need precise control of motors and manipulators to increase the flexibility and adaptability of robots to the human world. Innovative new real-time multithreaded architecture is capable of rapid event-driven processing and sub-10µs loops with determinism, safety, and real-time performance features built in.

The MIPS M8500 combines the real-time performance of a proprietary architecture with the ease-of-use of a general-purpose core. This leads to better performance, lower power, and increased area efficiency, while being easy to adopt and use. Engineered on the open foundation of RISC-V, all this can be achieved while using a general-purpose programming model.

Customers can rely on MIPS expertise in low-latency control loop problems to help deliver the right solution, whether it's integrated into their next SoC design, a chip based on MIPS reference silicon, or their own custom-tailored solution.

The MIPS M8500 real-time compute subsystem will be open for select customer evaluation via MIPS Atlas™ Explorer mid-2025, with evaluation boards in 4Q25 and reference design availability in 1H26.

Reach out to MIPS today to learn more about the Atlas portfolio of compute subsystem solutions for physical AI and autonomous platforms in industrial and automotive applications.

Contact us to learn more.