

## **TTE Switch Core Board**

The TTE Switch Core Board is a highly integrated electronic module board to be used as a central element for Ethernet switches that are designed for mission and safety-critical real-time applications. The board supports 6 x Gigabit Ethernet ports and 19 x 100 Mbit/s ports and is developed according to IEC 61508 SIL 2 and aerospace RTCA DO-178 and DO-254 standards.

The switching function provides fully deterministic data transfer while performing packet processing on all 25 ports with maximum line speed (15.8 Gbit/s cross sectional bandwidth). The TTE Switch Core Board is part of TTEch's TTEthernet product line and supports several Ethernet standards. These standards include IEEE standards (IEEE 802.3, IEEE 802.1D and IEEE 802.1Q), ARINC 664 part 7 supporting rate-constrained mechanisms, and the time-triggered SAE AS6802 standard for synchronous communication.

The board has built-in mechanisms for traffic policing and fault isolation. It is suitable as core element of customized switches for industrial applications with fail-operational requirements, as well as for critical aerospace applications. The TTE Switch Core Board provides options to provide an external memory for frame buffer up to 64 Mbytes. It contains a dual-core lock-step TMS570 MCU (Hercules™) from Texas Instruments that executes a set of management functions that are developed and certified for safety-critical operation. The board has a very compact size of 70 x 74 mm and a weight of 200 g.