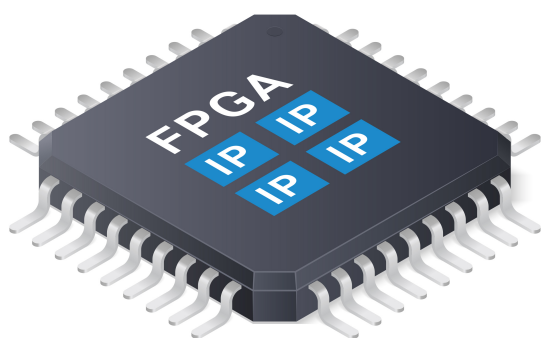


## TTEnd System A664 Core IP

DO-254 certifiable IP solution for TTEthernet end systems



### Key Benefits

- ✓ RTCA DO-254 DAL A certifiable end system core IP
- ✓ Fully compliant with IEEE 802.3, ARINC 664 part 7 and SAE AS6802 standards
- ✓ Full certification and integration package
- ✓ Support of 10/100/1,000 Mbit/s on both network and host interface

TTEnd System A664 Core IP is a RTCA DO-254 DAL A certifiable solution which can be used in integrated modular avionics systems. Modern host interfaces together with a state-of-the-art hardware platform allow the transmission of safety-critical data with up to 1 Gbit/s speeds over avionics data networks, while at the same time optimizing size, weight and power of the system.

### Three Traffic Classes on One Chip

The TTEnd System A664 Core IP supports three traffic classes:

- IEEE 802.3 Ethernet traffic
- ARINC 664 part 7 traffic
- Time-triggered SAE AS6802 traffic with hard real-time guarantee and transport delay jitter in sub-microsecond range

### Up to 1 Gbit/s of safety-critical traffic

3xGMII network interface together with the high-speed host interface (AXI4) allows the transmission all three traffic classes over the network with up to 1 Gbit/s speeds in a deterministic way. Additionally, the SAE AS6802 traffic class provides fixed transmission latency and jitter in the sub-microsecond range and unmatched bandwidth efficiency while maintaining full determinism (up to 95% utilization of available network bandwidth). GMII interfaces (in possible triplcation mode) allow the

integration of TTEnd System A664 Core IP in dual fault-tolerant networks.

### Diagnostic and Health Monitoring

The TTEnd System A664 Core IP contains self-diagnostic and health monitoring capabilities such as configuration and frame memory protection mechanisms, configurable scrubbing rates, continuous build-in-tests, etc. All these allow the use of the IP in different environmental and radiation conditions.

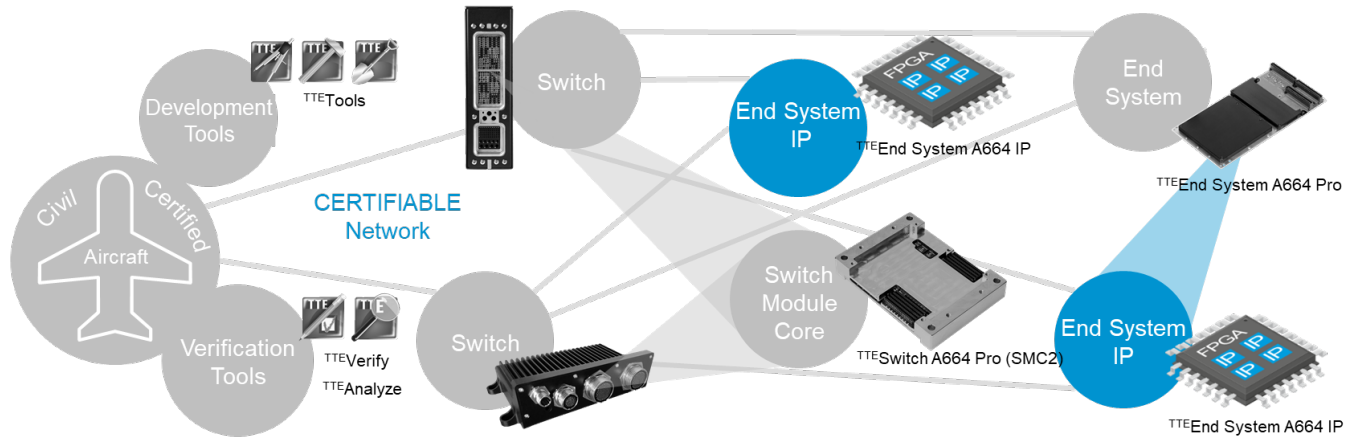
### SWaP Optimization

The possibility to utilize MPSoC platforms allows the integration of the TTEnd System A664 Core IP solution on high circuitry density PCBs. This provides flexibility in the hardware design and leads to significant SWaP improvements.



### Application Fields

- Technology evaluation
- Architecture development
- Flight programs



<p><b>General Product Features</b></p>	<ul style="list-style-type: none"> <li>- IP size is 45,000 LUTs (Xilinx US+ Device Family)</li> <li>- 256 Tx VLs</li> <li>- 512 Rx VLs</li> <li>- 2,048 Tx ports</li> <li>- 4,096 Rx ports</li> <li>- Host interface: AXI4, 32-bit at 125 MHz</li> <li>- Network interface: supports three GMII channels with flexible configurable periods</li> </ul>
<p><b>Standards Compliance</b></p>	<ul style="list-style-type: none"> <li>- IEEE 802.3</li> <li>- ARINC 664 part 7</li> <li>- SAE AS6802</li> </ul>
<p><b>Documentation</b></p>	<ul style="list-style-type: none"> <li>- TTEnd System A664 Core IP user manual</li> <li>- Errata sheet</li> <li>- Release notes</li> <li>- Programmers manual</li> <li>- IP design and integration guide</li> <li>- DO-254 certification package (optional)                         <ul style="list-style-type: none"> <li>o TTEnd System Core IP PHAC</li> <li>o TTEnd System Core IP HRD</li> <li>o TTEnd System Core IP HDD</li> <li>o TTEnd System Core IP HCI</li> <li>o TTEnd System Core IP HECI</li> <li>o TTEnd System Core IP HTI</li> <li>o TTEnd System Core IP HVCP</li> <li>o TTEnd System Core IP HVR</li> <li>o TTEnd System Core IP HAS</li> </ul> </li> </ul>
<p><b>Drivers (non-certified)</b></p>	<ul style="list-style-type: none"> <li>- BareMetal driver</li> <li>- Other drivers based on special request</li> </ul>
<p><b>Order Number</b></p>	<ul style="list-style-type: none"> <li>- 13868 - TTEnd System A664 Core IP (Pro)</li> </ul>
<p><b>Supplementary Products</b></p>	<ul style="list-style-type: none"> <li>- 13519 - TTEnd System A664 Peripheral IP (RTL) – RTL package of the TTEnd System A664 wrappers</li> <li>- 13867- TTEnd System A664 Core IP (Pro), CDP – DO-254 certification data package</li> </ul>



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