

Product brief

TC397TT – AURIX™

Enhanced performance for ADAS systems incl. TTTech software license

AURIX™ TC3xx family – TC397TT series is the successor of the AURIX™ TC297TT product, offering enhanced performances to enable new waves of autonomous driving sensor fusion applications, in cooperation with TTTech Automotive.

Focus has been put not only on increasing the ISO 26262 ASIL-D computing performance capability, but also on integrating a richer set of peripherals (such as 12 CAN-FD and Ethernet Gbit/s) and a Full-EVITA HSM, to address the increasing safety and security performance and data flow requirement of future sensor fusion systems. This product in combination with TTTech MotionWise software stack provides our customers with highly optimized solutions for safety critical applications

System benefits

- › High integration for reduced complexity and significant cost savings
- › Innovative single supply concept leads to best in class power consumption, and reduced number of external supplies
- › Diverse lockstep core concept enables reduced development effort
- › Support for ISO 26262 decisions such as emergency braking
- › High-speed trace port enables reduced requirements on integrated RAM and reduced overhead for automotive instrumentation vision
- › Easy migration from TC297TT + MotionWise solution, for a scalable sensor fusion portfolio, supported by similar architecture between AURIX™ TC2xx and AURIX™ TC3xx families

Key benefits of MotionWise

- › Shorter time to market
- › Safe and scalable platform up to automated driving level 5
- › Integration of software components by any vendor
- › Full support of AUTOSAR
- › Premium engineering services available

Main features

Application features

- › Six TriCore™ with up to 300 MHz
- › TriCore™ DSP functionality
- › Supporting floating point and fix point with all cores
- › Up to 16 MB flash w/ECC protection
- › 1024 KB EEPROM at 500 k cycles
- › Up to 6.9 MB RAM w/ECC protection
- › 4x 12-bit SAR ADC converter
- › Ethernet 1 Gbit
- › FlexRay, CAN-FD, LIN, SPI
- › Redundant and diverse timer modules (GTM, CCU6, GPT12)
- › Programmable HSM (Hardware Security Module), full-EVITA
- › External memory interface
- › High-speed serial interface for inter-processor communication (HSSL)
- › High-speed trace port 2.5 Gbit/s
- › Single voltage supply 5 V or 3.3 V

Most innovative safety

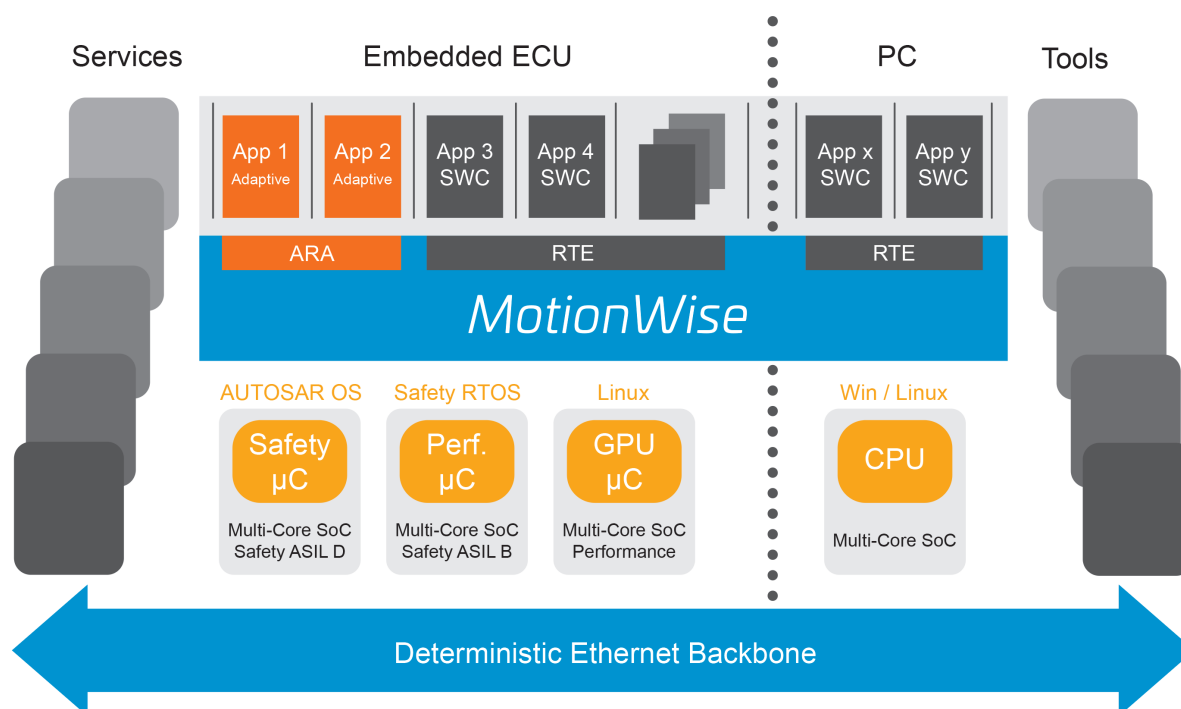
- › Diverse lockstep cores with clock delay
- › Access permission system
- › Safety management unit
- › Safe DMA
- › LBIST (Logical Built-In Self Test) and SBST (Software Based Self Test) for non-lockstep cores
- › I/O, clock, voltage monitor
- › ISO 26262 compliance to support safety requirements up to ASIL-D
- › Availability of AUTOSAR 4.x

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MotionWise

The centerpiece of TTTech's highly efficient solution is the series proven software framework MotionWise. This embedded platform software is ready to be integrated in complex safety-related multi-core multi-SoCs used for automated driving.



The MotionWise architecture eases integration and validation of applications by performing a separation of the available resources. Each application hosted by MotionWise will run encapsulated from its peers, resulting in a safe environment where applications with different safety and real-time requirements can coexist and

interact. MotionWise offers a comprehensive set of system and integration services, providing a homogeneous platform out of SoCs of different safety or performance classes.

More details: www.tttech.com/automotive

Product summary

Type	Core	Software license	eFlash [MB]	Data flash [KB]	Frequency [MHz]	SRAM [MB]	Package	Temp. range [°C]
SAX-TC397TT-256F300S	6x TriCore™	MotionWise	16	215 ¹⁾	Up to 300	6.912	LFBGA-292	-40 ... +150

1) EEPROM emulation (up to 500 k w/e cycles)

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