

Product brief

TC297TT – AURIX™ family

Dedicated to advanced driver assistance systems with MotionWise license included

AURIX™ family – TC297TT series is dedicated autonomous driving sensor fusion application supporting systems up to SAE level 5, developed in cooperation with TTTech Auto.

Innovation has been focused on system partitioning in order to further integrate system functionality and consequently reduce the complexity and area, providing our customers with highly optimized solutions including MotionWise software stack.

All AURIX™ devices have been designed in accordance with the ISO 26262 safety methodology, meaning that they can be involved in automatic decisions to assist drivers, such as emergency braking.

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

Key benefits of MotionWise safety software platform

- › Shorter time to market
- › Scalable safety software platform for automated driving up to level 5
- › Seamless integration of software components by any vendor
- › Full support of AUTOSAR
- › Premium engineering services available

Main features

Application features

- › Triple TriCore™ with up to 300 MHz
- › TriCore™ DSP functionality
- › Supporting floating point and fix point with all cores
- › Up to 8 MB flash w/ECC protection
- › 128 KB EEPROM at 500 k cycles
- › Up to 2.7 MB RAM w/ECC protection
- › 4x 12-bit SAR ADC converter
- › Ethernet 100 Mbit
- › FlexRay, CAN, LIN, SPI including data rate enhanced CAN FD
- › Redundant and diverse timer modules (GTM, CCU6, GPT12)
- › Programmable HSM (Hardware Security Module)
- › External memory interface
- › High-speed serial interface for inter-processor communication
- › High-speed trace port 2.5 GHz for real time vision and radar data tracking
- › Single voltage supply 5 V or 3.3 V

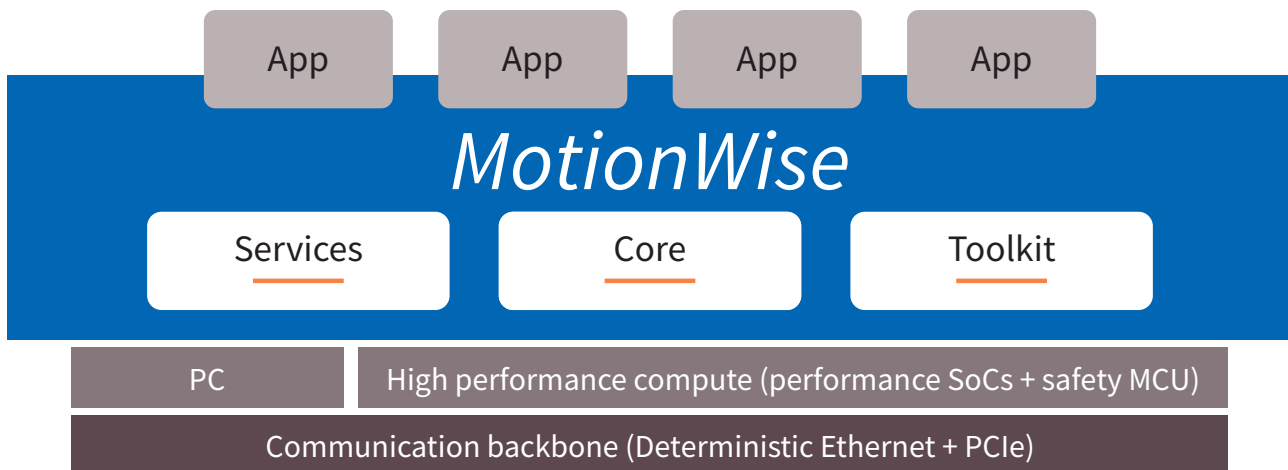
Most innovative safety

- › Diverse lockstep core with clock delay
- › Access permission system
- › Safety management unit
- › Safe DMA
- › I/O, clock, voltage monitor
- › ISO 26262 compliance to support safety requirements up to ASIL-D
- › Availability of AUTOSAR 4.x



What is MotionWise?

MotionWise is a series-proven safety software platform for automated driving. It acts as the safety mastermind for automated driving within a vehicle architecture, handling the high complexity of such systems. 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 comprises in-house developed core modules as well as an extensive toolkit and a comprehensive set of system services, providing a homogeneous platform out of SoCs of different safety or performance classes

MotionWise is:

› Safe

Safety is the centerpiece of MotionWise: the in-house developed communication and scheduling cores are the basis for the software's safety concept that adheres to highest safety standards.

› Scalable

Thanks to its architecture and design, MotionWise is a modular platform that can be used to realize projects from level 2 to level 5 automated driving.

› Series-proven

Customers benefit from our safety know-how gained in previous automotive series productions projects as well as the cross-industry experience available within the TTTech Group.

MotionWise is compliant with standards in various areas, such as safety, operating systems and standards used by application suppliers, much like AUTOSAR Classic and AUTOSAR Adaptive, TSN etc.

More details: www.tttech-auto.com

Product summary

Type	Core	Software IP	eFlash [MB]	Data flash [KB]	Frequency [MHz]	SRAM [MB]	Package	Temp. range [°C]
SAX-TC297TT-128F300	3x TriCore™	MotionWise	up to 8	128 ¹⁾	up to 300	2.75	LFBGA-292	-40 ... +125

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

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