

Multi-Gigabit, Safe and Secure

SJA1110x TSN Ethernet Switch

The SJA1110 automotive Ethernet switch family offers innovative and dedicated safety and security features designed for optimal integration in auto ECUs. The four switch variants enable modular ECU design and platforms and support different automotive applications such as gateways, ADAS boxes, and infotainment ECUs.

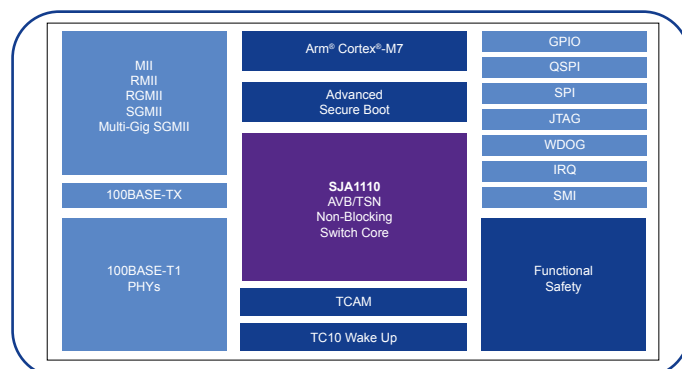
KEY FEATURES

- ▶ Integrated 100BASE-T1 and 100BASE-TX PHYs
- ▶ Integrated Arm® Cortex®-M7 based core
- ▶ Packet inspection and DoS prevention capabilities
- ▶ Advanced secure boot capabilities
- ▶ Purpose built functional safety features
- ▶ Support for Wake-over-Ethernet (OPEN TC10)
- ▶ Rich set of Time-Sensitive Networking (TSN) standards
- ▶ Rich set of NXP original AVB and AUTOSAR® software
- ▶ System solution with S32G Vehicle Networking Processor and VR5510 power management unit

ENABLEMENT

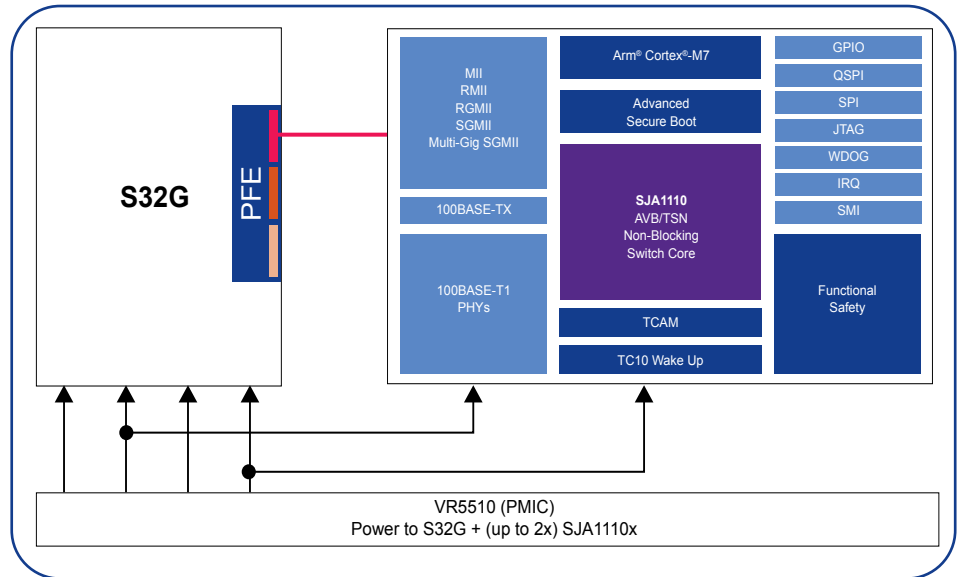
- ▶ Production-grade Software Development Kit (SDK)
- ▶ Native integration with NXP Design Studio IDE
- ▶ Production grade AUTOSAR drivers
- ▶ Production grade AVB/802.1AS synchronization protocol middleware
- ▶ Evaluation board compatible with NXP's Smart Application Blueprint for Rapid Engineering (SABRE)
- ▶ Linux® Drivers
- ▶ More will be announced soon

SJA1110 ETHERNET SWITCH BLOCK DIAGRAM



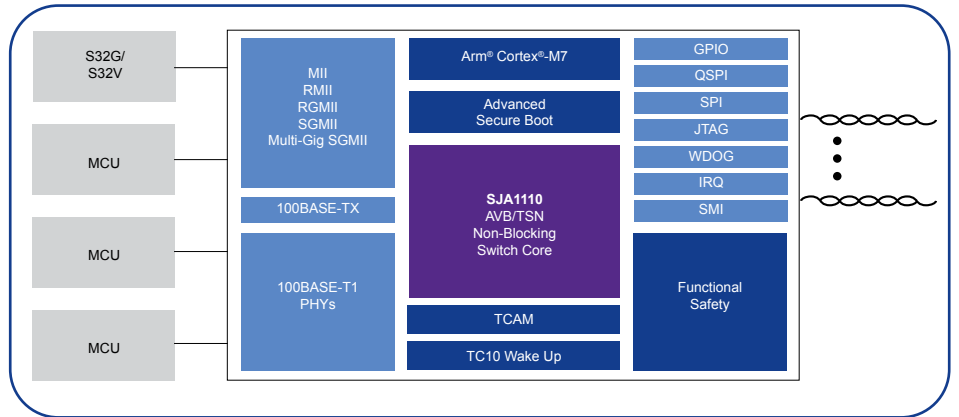
NETWORKING APPLICATIONS

- ▶ Optimized NXP chipset solution with S32G processor enables unmatched routing, firewalling, intrusion/detection/prevention capabilities
- ▶ TCAM-based frame inspection for IDPS support, DOS prevention and advanced frames management
- ▶ BOM optimization features include compatibility with VR5510 PMIC, four pin-compatible variants and optimized cascaded configuration



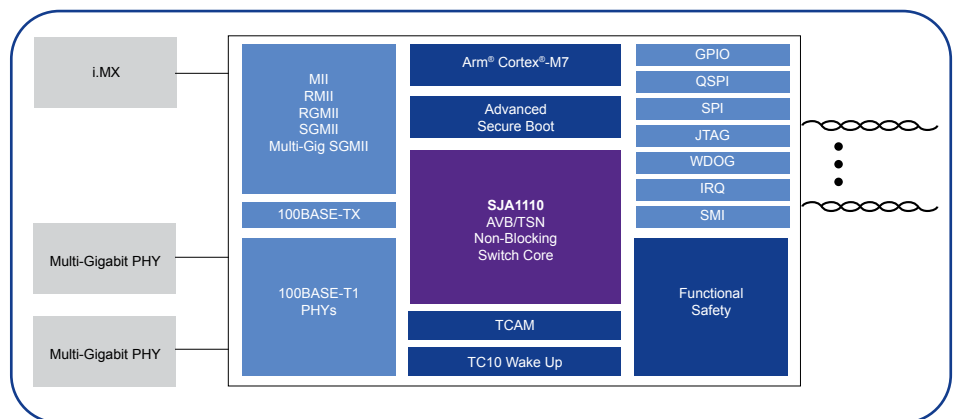
ADAS APPLICATIONS

- ▶ Functional safety-dedicated features improving ECU safety design
- ▶ Safety manual enable optimized safety design up to ASIL-D ECUs
- ▶ Automotive Grade 1 (-40 / +125° C) capability for optimized PCB design
- ▶ High-SGMII count for EMC friendly design
- ▶ Production-grade AUTOSAR drivers
- ▶ Compatible with TTTEch® MotionWise® middleware



INFOTAINMENT/CLUSTER APPLICATIONS

- ▶ Multi-gigabit SGMII for external Gigabit and Multi-Gigabit PHYs
- ▶ Autonomous operation support avoids dependency from untrusted external host
- ▶ Avnu®-Certified* AVB/gPTP stack for integrated controller
- ▶ Support for Wake over Ethernet (OPEN TC10)
- ▶ Integrated controller with programmable GPIOs



www.nxp.com/SJA1110

NXP and the NXP logo are trademarks of NXP B.V. All other product or service names are the property of their respective owners. Arm and Cortex are trademarks or registered trademarks of Arm Limited (or its subsidiaries) in the US and/or elsewhere. The related technology may be protected by any or all of patents, copyrights, designs and trade secrets. All rights reserved. © 2020 NXP B.V.

Document Number: SJA1110AUTESFS CC REV 1