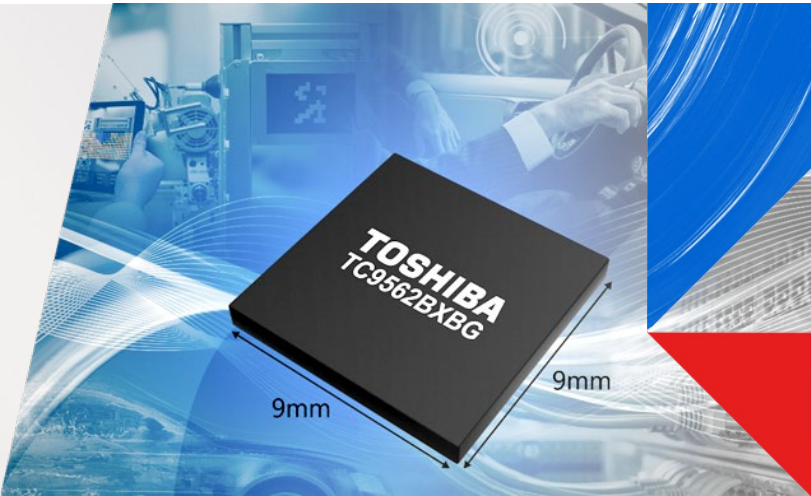


Ethernet-AVB/TSN Connectivity Solution

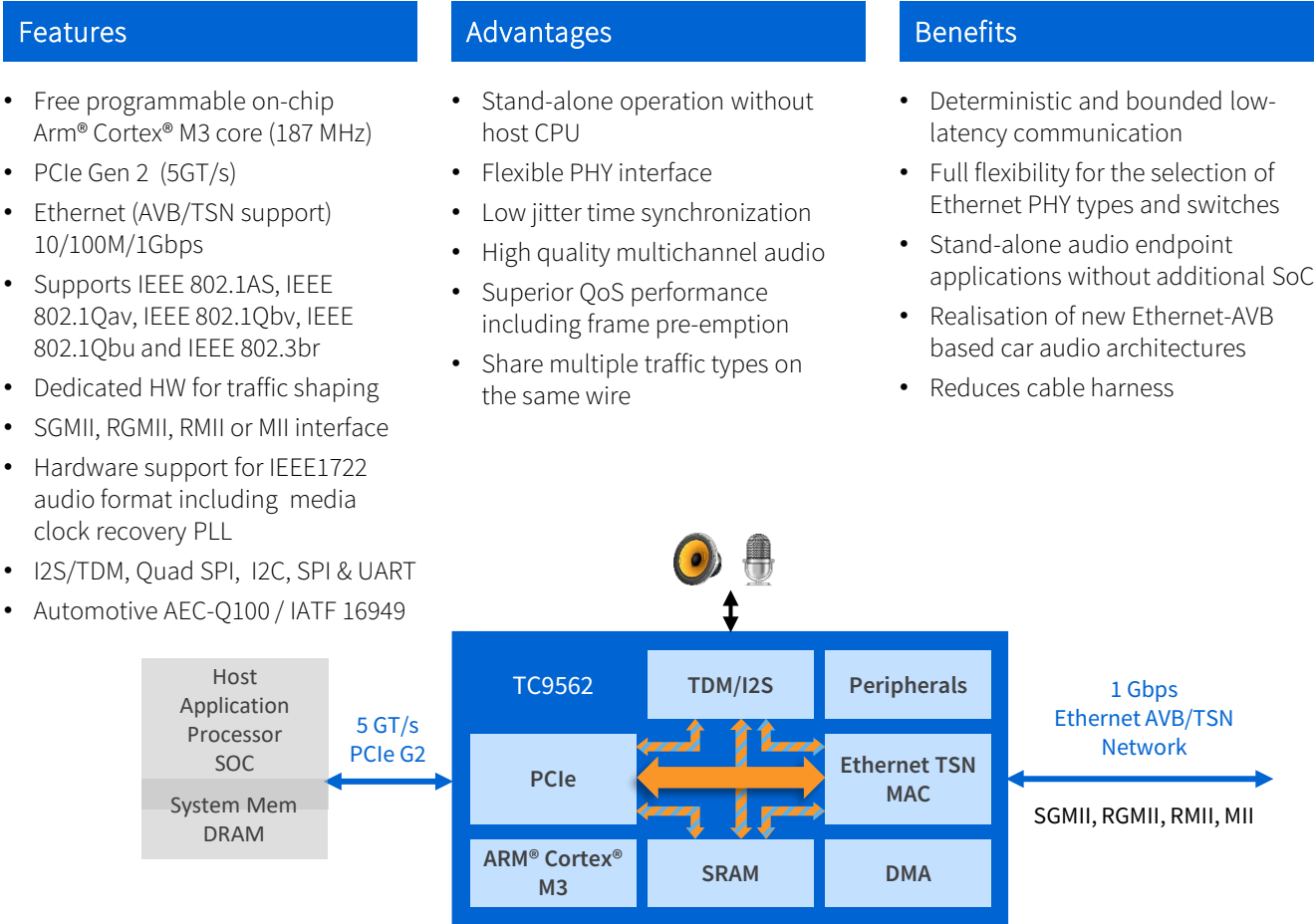


Delivers Performance and Flexibility

TC9562 complements Toshiba’s Ethernet connectivity IC line-up and provides advanced Ethernet capability for automotive and industrial applications. It enables deterministic real-time performance up to 1 Gbps Ethernet transfer rates and supports Time Sensitive Networking (TSN) protocol. The optimized hardware is supported by a programmable ARM® Cortex®-M3 core which can be used to implement additional features off-loading the host CPU or to enable stand alone operation for customized audio endpoints.

Applications

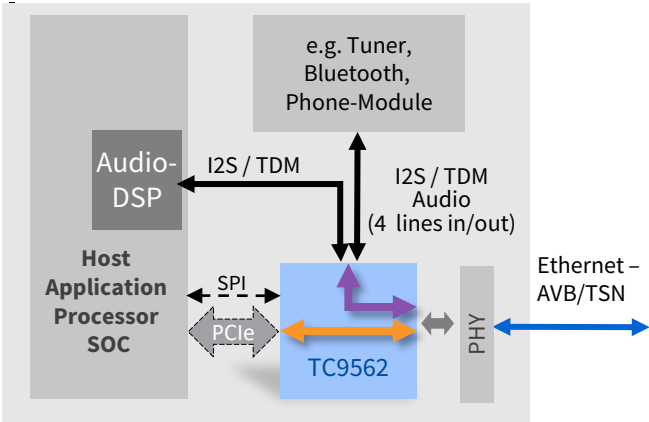
- Automotive applications, e.g. telematics, IVI, ADAS, car audio systems
- Industrial applications, e.g. factory automation
- Professional AV



TC9562 application examples

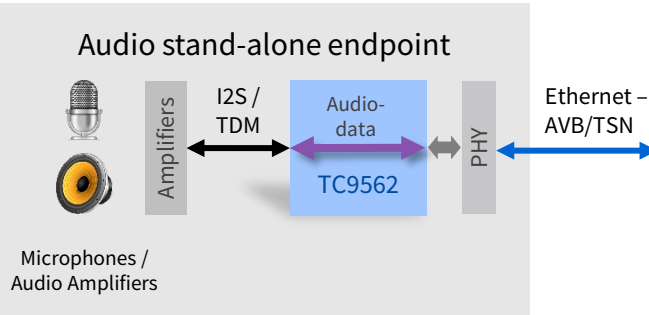
Automotive – realize new Ethernet-AVB based car audio architectures

Audio transfers into Ethernet-AVB in parallel to PCIe host Ethernet traffic



- Audio in and out, transfer of audio into and from Ethernet-AVB without host load
- Audio-AVB traffic + standard & TSN traffic transfer on the same Ethernet wire.
- No separate audio cable harness needed, reduce cable harness cost in the car.
- Audio path between SoC and TDM port possible, stream separation inside TC9562

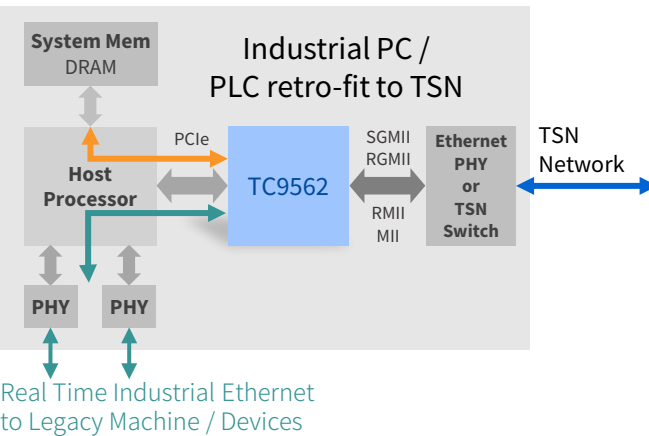
Standalone car audio node, Ethernet-AVB connected (amplifier, microphones)



- TC9562 works stand-alone with integrated Arm® CPU
- Software library (source code) available for programming of individual audio solutions
- 4 x TDM/I2S data lines
- Up to 32 audio channels in TDM mode
- High quality audio: 16/20/24-bit, 32–192kHz
- Media clock recovery with own audio PLL
- Support for IEEE 1722, IEC 61883-6 and AAF

Industrial automation – add TSN into existing solutions

Brownfield device adaptation to Greenfield TSN network



- PCIe for a direct communication between host and TSN MAC
- Preserves QoS for real-time legacy traffic in TSN networks
- Time synchronization
- Traffic shaping
- Time aware shaper with flexible queue management
- Frame pre-emption