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S32 SDK Product Brief

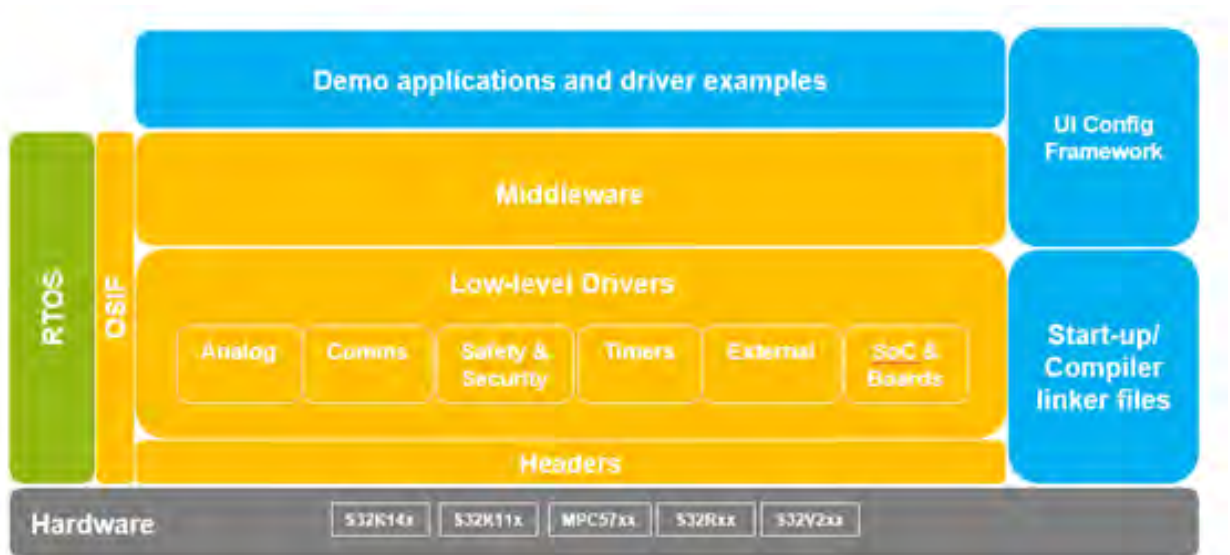
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1.0 Software Product Overview

The S32 Software Development Kit is an extensive suite of peripheral abstraction layers, peripheral drivers, RTOS, stacks and middleware designed to simplify and accelerate application development on NXP automotive microcontrollers.



2.0 Software Content

The S32 SDK supports a rich set of peripherals on the target platforms, which include:

- Communication: CAN, LIN, SPI, I2C, UART, Ethernet, FlexRay, PSI5, Zipwire, SAI, SENT_RX
- Analog: ADC, DAC, CMP, analog trigger units
- Timers, Watchdogs, PWM, Quadrature Decode modules, RTC
- Clock, Pins, Interrupts, Low power management & wake-up, error management
- External and internal Flash support
- MPU, DMA, interrupt, security
- Security & Crypto, CRC

Along side the low-level peripheral drivers, a set of Peripheral Abstraction Layers (PAL) provide faster development and increased portability across devices. These include:

- ADC
- CAN
- I2C
- I2S
- Input Capture
- MPU
- Output Compare
- PWM
- Security
- SPI

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- Timing
- UART
- Watchdog

Tightly integrated middlewares accompany the SDK, including:

- LIN
- TCP/IP
- FATFS and SDHC
- USB

The SDK also includes support for graphical configuration tools. Depending on the device, these might be:

- ProcessorExpert (PEX)
- S32 Configuration Tool (S32CT)

3.0 Supported Targets

The following table shows the supported platforms, toolchains, integrated middlewares and software, RTOS and configuration tool for each SDK

	Supported Devices	Supported Toolchains	Supported IDEs	Middleware and Stacks	Integrated NXP Software	Supported OS	Graphical Configurator
S32 SDK for S32K1xx	S32K11x S32K14x	GNU C GreenHills Multi Windriver DIAB IAR Arm Compiler	S32 Design Studio for ARM IAR Embedded Workbench GreenHills Multi IDE KEIL µVision	LIN TCP/IP	AMMCLib sCST SBC UJA113x SBC UJA1169 TJA110x	FreeRTOS	ProcessorExpert
S32 SDK for Power Architecture	MPC574xB-C-G MPC574xP MPC574xR MPC5777C MPC5775B-E S32R274 S32R372	GNU C GreenHills Multi Windriver DIAB	S32 Design Studio for Power GreenHills Multi IDE	TCP/IP FATFS SDHC USB	sBoot SBC FS65 TJA110x	FreeRTOS	ProcessorExpert
S32 SDK for S32V23x	S32V23x	GNU C GreenHills Multi Windriver DIAB	S32 Design Studio GreenHills Multi IDE	TCP/IP FATFS SDHC	TJA110x	FreeRTOS	S32 Configuration Tool
S32 SDK for S32G274	S32G274	GNU C GreenHills Multi Windriver DIAB	S32 Design Studio GreenHills Multi IDE	TCP/IP SDHC USB	TBD	FreeRTOS	S32 Configuration Tool

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4.0 Quality, Standards Compliance and Testing Approach

S32 SDK is developed according to NXP Software Development Processes that are Automotive-SPIICE, IATF 16949 and ISO9001 compliant.

5.0 Document Information

Version	Author	Date	Changes Description
0.1	Ovidiu-Marius Alexandru	05 April 2019	Initial version
0.2	Ovidiu-Marius Alexandru	30 July 2019	Minor update
0.3	Ovidiu-Marius Alexandru	30 July 2019	Add S32G
0.4	Ovidiu-Marius Alexandru	12 Aug 2020	Remove "Company Confidential" marker

Table 1 Revision History