



Comprehensive enablement environment for automotive and industrial applications

# S32 Design Studio Integrated Development Platform For Automotive and Ultra-Reliable Microcontrollers

## OVERVIEW

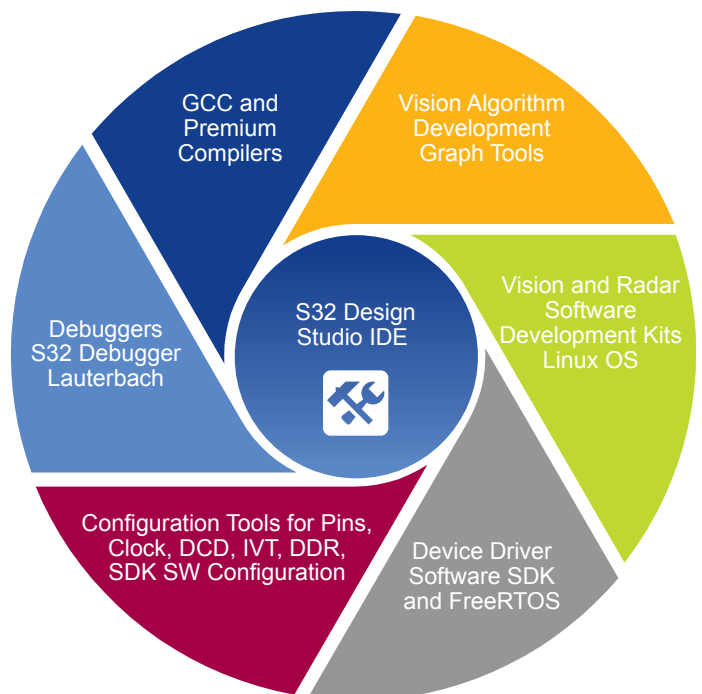
The complimentary S32 Design Studio IDE for Automotive and Ultra-Reliable MCUs enables editing, compiling and debugging of designs. Based on open-source software, including Eclipse IDE, GNU Compiler Collection (GCC) and GNU Debugger (GDB), the S32 Design Studio IDE offers software developers a straightforward development tool with no code-size limitations. NXP software included along with the S32 Design Studio IDE completes the comprehensive enablement environment and reduces development time.

## KEY FEATURES

- ▶ Configuration tool for pin functions, clocks, peripheral drivers and FreeRTOS
- ▶ New S32 Debugger for S32 Platform / S32 Debug Probe
- ▶ New Project wizard to create bare metal or Software Development Kit (SDK) projects
- ▶ Integrated runtime software – S32 SDK, Vision SDK, Radar SDK
- ▶ Getting started page with convenient access to documentation, tutorials, video materials and many example projects
- ▶ Advanced FreeRTOS kernel aware debug support
- ▶ Peripherals register view
- ▶ Languages supported:
  - Assembly, C and C++
- ▶ Supports Eclipse plug-ins from the Eclipse ecosystem or from partners

## ▶ Supported host operating systems:

- Microsoft Windows® 7/8/10 with 32-bit binaries running on 32-bit and 64-bit OS
- Ubuntu 14.04, 16.04 (64-bit)
- Debian 8 (64-bit)
- CentOS 7 (64-bit)



## S32 DEBUGGER

The S32 Debugger provides all of the standard debugging features critical for testing and locating bugs in your application. It is dedicated to NXP microprocessors and accelerators and is available at the first customer silicon samples. The S32 Debugger, as an essential part of the S32 Design Studio, is designed to work in conjunction with the S32 Debug Probe and NXP Automotive processors to accelerate all phases of project development.

## KEY FEATURES

- ▶ Full integration within S32 Design Studio using GDB Interface in Eclipse supporting all standard debug features
- ▶ Support for all Arm® cores and accelerator cores
- ▶ Support for concurrent multicore debugging
- ▶ Integrated Flash programmer for Flash over JTAG
- ▶ Access to core and peripheral registers through IDE views
- ▶ Low level command line interface, GDB python scripting
- ▶ Trace Support on Arm Cores with Trace/Profiling Views
- ▶ OS aware debugging for FreeRTOS and AUTOSAR/OSEK OS
- ▶ Supported host operating systems:
  - Microsoft Windows® 7/8/10 with 32-bit binaries running on 32- and 64-bit systems
  - Ubuntu 14.04, 16.04 (64 bit)
  - Debian 8 (64-bit)
  - CentOS 7 (64-bit) JTAG

## SUPPORTED DEVICES

Device support	Cores	Trace	Flash	Debug HW
S32V23x	Arm Cortex-A53, Cortex-M4, Cortex-M0+ Accelerator cores: APEX, ISP	Cortex-A53 cores	QSPI Flash: S26KL512S	S32 Debug Probe
S32S247	Arm Cortex-R52	-	Embedded Flash: C55_AE QSPI Flash: MX25UW12A45G	S32 Debug Probe GreenBox II on-board CMSIS-DAP
S32 Platform Devices	Arm cores and Accelerator cores	-	External Flash Supported	S32 Debug Probe

## S32 DEBUG PROBE

S32 Debug Probe can be ordered at [nxp.com](http://nxp.com) or from an authorized NXP distributor.

Part number: S32DBGPROBE

Visit [nxp.com/S32DebugProbe](http://nxp.com/S32DebugProbe) for more information.

## S32 DEBUG PROBE



## S32 DESIGN STUDIO DIFFERENCES TABLE

	S32DS IDE for S32 Platform	S32DS IDE for Arm®	S32DS IDE for Power Architecture®	S32DS IDE for Vision
<b>Devices Supported</b>	S32V23x S32S247 S32 Platform Devices	S32K1xx KEA MAC57D54H	MPC56xx MPC57xx S32R2xx/S32R3xx	S32V234
<b>Integrated NXP Tools</b>	S32 Flash Tool DDR stress tool	FreeMASTER	FreeMASTER	DDR stress tool
<b>Integrated Configuration Tools</b>	S32 Configuration Tools Pins Wizard Clocks configuration Peripheral/Drivers configuration DCD/IVT configuration DDR configuration tool	Processor Expert Configuration Tool Pins Wizard Peripheral/Drivers configuration	Processor Expert Configuration Tool Pins Wizard Peripheral/Drivers configuration	DDR configuration tool
<b>Integrated NXP Software</b>	S32 SDK FreeRTOS AMMCLib for S32V23x Vision SDK Linux BSP	S32K1 SDK FreeRTOS AMMCLib for KEA and S32K KEA SDK MQX OS/MQX Drivers for MAC57D54H	S32 SDK FreeRTOS AMMCLib for MPC56xx and MPC57xx MCUs Radar SDK	Vision SDK Linux BSP
<b>Compilers</b>	NXP GCC 6.3.1* Green Hills IAR	NXP GCC 6.3.1* Green Hills IAR GCC 4.9*	NXP GCC 4.9* Green Hills Diab	NXP GCC 6.3.1*
<b>DEBUGGERS Built-in GDB interface</b>	S32 Debugger/S32 Debug Probe P&E Multilink/Cyclone/OpenSDA	P&E Multilink/Cyclone/OpenSDA Segger J-Link	P&E Multilink/Cyclone/OpenSDA	S32 Debugger/S32 Debug Probe P&E Multilink/Cyclone/OpenSDA
<b>DEBUGGERS supported</b>	Lauterbach	Lauterbach iSystem IAR	Lauterbach iSystem PLS	Lauterbach
<b>Host Operating Systems:</b>	Microsoft Windows 7/8/10 64-bit OS (with 32-bit binaries) <ul style="list-style-type: none"> <li>• Ubuntu 14.04, 16.04 (64-bit)</li> <li>• Debian 8 (64-bit)</li> <li>• CentOS 7 (64-bit)</li> </ul>	Microsoft Windows 7/8/10 32/64-bit OS (with 32-bit binaries) <ul style="list-style-type: none"> <li>• Ubuntu 14.04, 16.04 (64-bit)</li> <li>• Debian 8 (64-bit)</li> <li>• CentOS 7 (64-bit)</li> </ul>	Microsoft Windows 7/8/10 32/64-bit OS (with 32-bit binaries) <ul style="list-style-type: none"> <li>• Ubuntu 14.04, 16.04 (64-bit)</li> <li>• Debian 8 (64-bit)</li> <li>• CentOS 7 (64-bit)</li> </ul>	Microsoft Windows 7/8/10 32/64-bit OS (with 32-bit binaries) <ul style="list-style-type: none"> <li>• Ubuntu 14.04, 16.04 (64-bit)</li> <li>• Debian 8 (64-bit)</li> <li>• CentOS 7 (64-bit)</li> </ul>
<b>Vision specific tools</b>	NXP APU Compiler ISP assembler ISP and APEX graph tools			NXP APU Compiler ISP assembler ISP and APEX graph tools
<b>Radar specific tools</b>			SPT assembler SPT Explorer/ SPT graph tool	

## GET STARTED

Download it now: [www.nxp.com/S32DS](http://www.nxp.com/S32DS)

Join the S32DS community:

<https://community.nxp.com/community/s32/s32ds>

[www.nxp.com/S32DS](http://www.nxp.com/S32DS)

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