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

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**SUPPORTED DEVICES**

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<th>Device support</th>
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<th>Trace</th>
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<tr>
<td>S32V23x</td>
<td>Arm Cortex-A53, Cortex-M4, Cortex-M0+</td>
<td>Cortext-A53</td>
<td>QSPI Flash: S26KL512S</td>
<td>S32 Debug Probe</td>
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<tr>
<td></td>
<td>Accelerator cores: APEX, ISP</td>
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<tr>
<td>S32S247</td>
<td>Arm Cortex-R52</td>
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<td>Embedded Flash: C55_AE</td>
<td>S32 Debug Probe GreenBox II on-board CMSIS-DAP</td>
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<tr>
<td></td>
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<td>QSPI Flash: MX25UW12A45G</td>
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<tr>
<td>S32 Platform Devices</td>
<td>Arm cores and Accelerator cores</td>
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<td>External Flash Supported</td>
<td>S32 Debug Probe</td>
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**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.
|-------------------|-----------------------------|---------------------|---------------------------------|----------------------|
| S32V23x  
S32S247  
S32 Platform Devices | S32K1xx  
KEA  
MAC57D54H | MPC56xx  
MPC57xx  
S32R2xx/S32R3xx | S32V234 |

| Integrated NXP Tools | S32 Flash Tool  
DDR stress tool | Processor Expert Configuration Tool  
Pins Wizard  
Peripheral/Drivers configuration  
DDR configuration tool | Processor Expert Configuration Tool  
Pins Wizard  
Peripheral/Drivers configuration | DDR configuration tool |

| Integrated Configuration Tools | 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 |

| Integrated NXP Software | S32 SDK  
FreeRTOS  
AMMCLib for S32V23x  
Vision SDK  
Linux BSP | S32K1 SDK  
FreeRTOS  
AMMCLib for KEA and S32K  
KEA SDK  
MQL OS/MQX Drivers for MAC57D54H | S32 SDK  
FreeRTOS  
AMMCLib for MPC56xx  
and MPC57xx MCUs  
Radar SDK | Vision SDK  
Linux BSP |

| Compilers | 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* |

| DEBUGGERS Built-in GDB interface | 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 |

| DEBUGGERS supported | Lauterbach  
iSystem  
IAR | Lauterbach  
iSystem  
IAR | Lauterbach  
iSystem  
PLS | Lauterbach |

| Host Operating Systems: | Microsoft Windows 7/8/10 64-bit OS (with 32-bit binaries)  
• Ubuntu 14.04, 16.04 (64-bit)  
• Debian 8 (64-bit)  
• CentOS 7 (64-bit) | Microsoft Windows 7/8/10 32/64-bit OS (with 3-bit binaries)  
• Ubuntu 14.04, 16.04 (64-bit)  
• Debian 8 (64-bit)  
• CentOS 7 (64-bit) | Microsoft Windows 7/8/10 32/64-bit OS (with 32-bit binaries)  
• Ubuntu 14.04, 16.04 (64-bit)  
• Debian 8 (64-bit)  
• CentOS 7 (64-bit) | Microsoft Windows 7/8/10 32/64-bit OS (with 32-bit binaries)  
• Ubuntu 14.04, 16.04 (64-bit)  
• Debian 8 (64-bit)  
• CentOS 7 (64-bit) |

| Vision specific tools | NXP APU Compiler  
ISP assembler  
ISP and APEX graph tools | SPT assembler  
SPT Explorer/ SPT graph tool | NXP APU Compiler  
ISP assembler  
ISP and APEX graph tools |

| Radar specific tools | SPT assembler  
SPT Explorer/ SPT graph tool | SPT assembler  
SPT Explorer/ SPT graph tool | SPT assembler  
SPT Explorer/ SPT graph tool |

GET STARTED
Download it now: www.nxp.com/S32DS
Join the S32DS community: https://community.nxp.com/community/s32/s32ds