SR5E1HSP

SR5 E1 line–Model-based design hardware support package (HSP)

13 IP Simulink libraries, 53 Simulink blocks

Control problem
Solution
Model the real system and the control algorithm
Connect your Simulink model with the real MCU (external mode/PIL)
Test and validation
Connect MCU IPs blocks to the control algorithm
Deploy on target
Generate code

Development time cut by 50%
@MathWorks
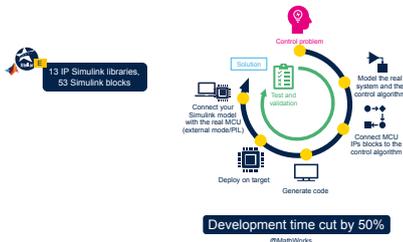
Stellar

Product status link
SR5E1HSP

Product summary	
Stellar automotive MCU	**HSP software product**
SR5E1E3, SR5E1E5, SR5E1E7	SR5E1HSP

Features

- Designed for automotive applications
- General
  - Support for SR5E1x
  - PIL (processor-in-the-loop) support for performance and execution-time analysis
  - Monitor and tune (external mode) for real-time parameter tuning from Simulink®
  - Multicore support with independent code generation for core0 and core1 with NEON options
  - Automatic embedded C code generation based on StellarSDK libraries
  - Simulink® blocksets for SR5E1x and device configuration modules
  - Deployment and debugging utilities supporting SEGGER J-Link, Ozone, and StellarStudio
- Supported drivers and Simulink® libraries
  - I/O
  - MCU (configured via model configuration parameters)
  - SDADC
  - SARADC
  - SIUL2
  - PWM (GTM)
  - UART
  - SPIQ
  - CAN
  - COMP
  - DAC
  - EXTI
  - HRTIM
  - I2C
  - TIM
  - LIN
  - SENT
  - MSC
- Compiler and tool support
  - MATLAB® and Simulink® R2024b
  - Embedded coder, MATLAB® Coder™, Simulink® Coder™
  - Arm® Cortex®-R embedded coder support
  - Debug: SEGGER Ozone, StellarStudio 8.0
  - Windows 10/11

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For further information, contact your local STMicroelectronics sales office.

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Description

The model-based design hardware support package (HSP) enables the development of embedded applications targeting Stellar E/P/G microcontrollers within the Simulink® environment. The delivery provides high-level Simulink® components for peripheral configuration and code generation, hardware configuration modules for code generation targeting Stellar E/P/G MCUs. It also includes tools to deploy and debug directly on evaluation boards using SEGGER or ST environments. HSP allows developers to configure microcontroller IPs, generate optimized C code, run PIL and external mode sessions, build multicore applications with separate binaries, and rapidly deploy and test applications on hardware. This package supports evaluation and development for SR5E1x devices and integrates with MATLAB®/Simulink® R2024b and the embedded Coder™ toolchain from partner MathWorks®.

1   General information

Stellar SR5 devices embed the Arm® Cortex®-M7+ and Cortex®-M0+ cores.

For information on the Arm® Cortex®-M7+ and Cortex®-M0+ cores, refer to the technical reference manuals, available from the www.arm.com website.

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arm

Revision history

Table 1. Document revision history

Date	Revision	Changes
12-Feb-2026	1	Initial release.

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