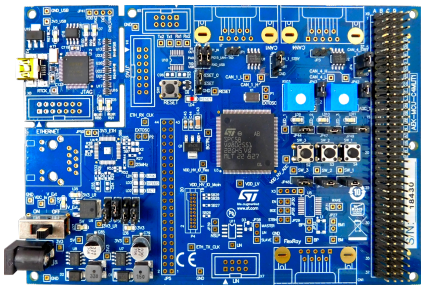
AEK-MCU-C4MLIT1

Data brief

MCU discovery board for SPC5 Chorus 4M automotive microcontroller with CAN transceivers



Features

- SPC58EC80E5 microcontroller: 32-bit Power Architecture e200z4d dual core, 4224 kB flash + 128 kB data flash) in eTQFP144 package
- Integrated programmer and debugger
- 2 integrated ISO CAN FD transceivers
- 1 USB virtual COM Port (USB cable not included)
- 3 user push buttons and 3 user LEDs
- 2 potentiometers for ADC quick evaluation
- Reset button
- All GPIOs and signals accessible by a 4x37 connector
- Board supply: 12 V_{DC} (external power supply not included)
- Board size: 150 x 101 mm
- All ST components are qualified Automotive grade
- CE certified; RoHS and China RoHS compliant
- WEEE compliant (2012/19/UE RAEE II)
- Part of the AutoDevKit™ initiative

Product summary	
MCU discovery board for SPC5 Chorus 4M automotive microcontroller with CAN transceivers	AEK-MCU-C4MLIT1
32-bit Power Architecture MCU for Automotive General Purpose Applications - Chorus family	SPC58EC80E5
code generator, quick resource configurator and Eclipse development environment for SPC5 MCUs	SPC5-STUDIO

Description

The AEK-MCU-C4MLIT1 board is designed to address Automotive and Transportation applications and other applications requiring automotive safety and security levels, also thanks to the Hardware Secure Module (HSM) embedded on the SPC58EC80E5 MCU, which renders it compliant with the EVITA Medium standard.

The board exploits the functionality of SPC58EC80E5 32-bit automotive grade ASIL-B microcontroller with 4 MB flash, full access to the two MCU cores, GPIOs and peripherals such as ISO CAN FD (with transceiver) and UART at a very competitive price.

The board hosts a PLS debugger/programmer and an extension connector (4x37 pins) for functional interaction across boards that are compatible with the AutoDevKit initiative. The PLS Universal Debug Engine (UDE) software is available for free download and includes a free perpetual 256 Kbyte debugging/programming license.

The SPC5-STUDIO software includes ready-to-run peripheral firmware examples and low-level drivers to support quick evaluation and development. This IDE is available for free download and includes visual configurable code generation engine, board support package (BSP), graphical PinMap editor, startup routines and interrupt services.

The AutoDevKit plugin extends SPC5-STUDIO with support for a set of functional boards (e.g. LED drivers, DC motor drivers, stepper motor drivers, wireless communication, digital power supplies, etc.) and libraries implementing useful functions. To install AutoDevKit, download the STSW-AUTODEVKIT plugin and follow the procedure to install the plug-in for Eclipse/SPC5-Studio.

1 System requirements, HW and SW resources

- Hardware requirements:
  - Windows PC
  - USB cable: Type A to mini-B
  - Input: 100-240 Vac (EU plug). Output: 12 V-2 A
- Software requirements:
  - SPC5-Studio for low-level drivers, code generation, system and peripherals configuration, pin configuration and firmware development
  - PLS UDE for MCU programming and debugging
  - AutoDevKit plug-in for cross-platform functional board components

Revision history

Table 1. **Document revision history**

Date	Version	Changes
16-Apr-2019	1	Initial release.

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