

## STSW-AUTODEVKIT - AutoDevKit library release 1.3.0

### Introduction

This document is updated periodically to record [STSW-AUTODEVKIT](#) updates, known problems and limitations.

**Important:** From next release SPC5Studio version 5.8.1 will be deprecated. For new projects please use version 6.0.0.

- Note:**
1. AutoDevKit versions antecedent 1.2.0 are NOT compatible with SPC5-Studio version 6.0.0
  2. All AutoDevKit versions up to 1.3.0 can be used with SPC5-Studio version 5.8.1
  3. SPC5Studio 5.8.1 CANNOT be upgraded with Eclipse to version 6.0.0. Latest version 6.0.0 shall be downloaded with its new executable file. Both version 5.8.1 and 6.0.0 can co-exist on the same machine

To install the AutoDevKit:

- Select [help]>[Install new Software]
- Choose the right components
- Pick your component list

**Note:** Make sure you unzip the STSW-AUTODEVKIT package file before you proceed with installation.

**Table 1. STSW-AUTODEVKIT release summary**

Type	Summary
Minor release (version 1.3.0)	<p>Components updated:</p> <ul style="list-style-type: none"> <li>• AEK-POW-L5964V1 - fixed bug in driver</li> <li>• AEK-LED-21DISM1 - fixed bug in driver</li> </ul> <p>Demos updated:</p> <ul style="list-style-type: none"> <li>• AEK-AUD-D903V1 - Bugfix in the Demo example code</li> <li>• AEK-POW-L5964V1 - Bugfix in the Demo example code</li> <li>• Adaptive Front-Lighting Demo - Bug fixed</li> </ul> <p>Micro-controller supported:</p> <ul style="list-style-type: none"> <li>• SPC58EC80E5 Chorus line, dual core 180MHz, 4Mb flash,HSM</li> <li>• SPC584B70E5 Chorus line, single core 120MHz, 2Mb flash,HSM</li> <li>• SPC582B Chorus line, single core 80MHz, 1Mbflash</li> </ul> <p>New component released:</p> <ul style="list-style-type: none"> <li>• <b>AEK-POW-100W4V1</b> The AEK-POW-100W4V1 expansion board is designed for power car or truck body applications requiring different voltages, such as USB-PD or infotainment. The two buck converters available from the L5964 device are combined to achieve up to 5A of current with 20V to reach 100W power in a single and compact device. The output channel can deliver a fixed or variable output voltage via MCU control.</li> <li>• <b>AEK-MOT-2DCxxx</b> The AEK-MOT-2DC70S1 and AEK-MOT-2DC40Y1 are very compact solutions for multi DC motor driving applications embedding all the driver and signal decoding functions on the same board. Together with current sensing capability, the AEK-MOT-2DCxxx boards have three independent encoder inputs. The DC motor drivers have separated half-bridging driving thus allowing up to three separated motors with only two devices. Clearly, proper driving sequence have to be generated to avoid undesired activation of specific motors. For each motor 15A can be provided with AEK-MOT-2DC70S1 while 35A can be provided with AEK-MOT-2DC40Y1. On the boards, two additional high side drivers are available featuring 85A and 25A output currents.</li> </ul> <p>New demo released:</p> <ul style="list-style-type: none"> <li>• None</li> </ul>

## Customer support

For more information or help concerning AutoDevKit, contact the STMicroelectronics nearest sales office or visit AutoDevKit community under [community.st.com](https://community.st.com). For a complete list of STMicroelectronics offices and distributors, refer to the [www.st.com](https://www.st.com) webpage.

*Note: STMicroelectronics declines any responsibility regarding third-party components included in the library. No support is provided by STMicroelectronics. Please, contact the specific third-party component makers for relevant enquiries.*

## Software updates

Software updates and all the latest documentation can be downloaded from the STMicroelectronics website [www.st.com](https://www.st.com):

- For integrated development system download SPC5-Studio
- For flasher and debugger download SPC5-UDESTK-SW
- For AutoDevKit plugin download STSW-AUTODEVKIT



## 1 General information

AutoDevKit library contains software components for functional boards. Each component has a specific API able to control the specific functional board. The API consists of a set of “methods”. Some of these are very high-end and simple to use even to the hardware inexperienced user. Other methods access more specific low-level board/chip functionalities able to exploit more advanced configurations and features.

As per any other SPC5-Studio component, AutoDevKit components are provided with a graphical user interface for easy configuration and set-up. The peripherals and pins configuration and allocation is automatically performed with a simple button-press action.

In the same library, simple demo examples of component usage are provided.

All components have online help available with details related to usage and available APIs.

### 1.1 System requirements

- SPC5-Studio version 6.0.0 or higher [www.st.com/spc5studio](http://www.st.com/spc5studio)
- SPC5-UDESTK Debugging Software for Windows <https://www.pls-mc.com/download-spc5-udestk/downloads-a-1626.html>
- Microcontroller board(s)
- Functional board(s)
- Connector board(s) – if required by the project

### 1.2 License

Software is provided for free “as is”. The code provided is only to demonstrate functionalities and it is not industrialized. STMicroelectronics shall not hold any responsibility for the usage and misuse of the code provided. STMicroelectronics bears no liabilities in case the code (or part of it) is used for demonstrators or prototypes or commercial products. STMicroelectronics bears no liabilities in case the code contains bugs that could impact developers and/or final customers. STMicroelectronics bears no liabilities for third party code included in the library.

## 2 Recent AutoDevKit Updates

### 2.1 Known limitations

- AEK-USB-2TYPEC1 pinout is fixed and configuration is compatible only with AEK-MCU-C4MLIT1 and SPC58EC-DISP boards.
- AEK-USB-2TYPEC1 component is not available.
- USB-PD version 2.0 demo is employing free RTOS and customized SPI low-level driver.
- Demo for AEK-POW-L5964V1 for USB-PD is pinout fixed and configuration is compatible only with AEK-MCU-C4MLIT1 and SPC58EC-DISP boards.
- Demo for AEK-POW-L5964V1 for Adjustable DC-DC pinout is not fixed but API functionalities are limited.

### 2.2 Supported microcontroller boards

- AEK-MCU-C4MLIT1 – Light version of SPC58EC-DISP
- AEK-MCU-C1MLIT1 – Light version of SPC582B-DIS
- SPC58EC-DISP - Discovery board for SPC58EC MCU with extended connectivity
- SPC584B-DISP – Discovery board for SPC584B MCU with extended connectivity
- SPC582B-DIS – Discovery board for SPC582B MCU with Arduino™ connector
- SPC584B-DIS - Discovery board for SPC584B MCU with Arduino™ connector

### 2.3 Supported connector boards

- AEK-CON-AFLVIP2 – Adaptive Front-Lighting connector board with EV-VNx7x slot
- AEK-CON-5SLOTS1 – Connector board for discovery boards with 4x37 connector allowing pin re-arranging and re-ordering
- AEK-CON-BSPOTV1 – Connector dedicated to detection in Blind-spot application educational tool

### 2.4 Bug fixed

As shown in [Table 1. STSW-AUTODEVKIT release summary](#).

### 3 Previous version

**Table 2. STSW-AUTODEVKIT release summary**

Type	Summary
Minor release (version 1.2.0)	Components updated: <ul style="list-style-type: none"> <li>All components have been updated to comply with SPC5-Studio 6.0.0</li> <li>AEK-AUD-D903V1 – added monitoring of I2S test signal for real-time current monitoring</li> </ul> Demos updated: <ul style="list-style-type: none"> <li>Demo for AVAS with sound generated by mathematical function</li> </ul> Micro-controller supported: <ul style="list-style-type: none"> <li>SPC58EC80E5 Chorus line, dual core 180MHz, 4Mb flash, HSM</li> <li>SPC584B70E5 Chorus line, single core 120MHz, 2Mb flash, HSM</li> <li>SPC582B Chorus line, single core 80MHz, 1Mbflash</li> </ul> New component released: <ul style="list-style-type: none"> <li>None</li> </ul> New demo released: <ul style="list-style-type: none"> <li>None</li> </ul>
Bug fix release (version 1.1.1)	Components updated: <ul style="list-style-type: none"> <li>EV-VNx7x (added methods for current sensing and output current; ADC can now be user defined at 3.3V or 5V)</li> <li>EV-VNHx7xx (added methods for current sensing and output current; ADC can now be user defined at 3.3V or 5V)</li> <li>AEK-POW-L5964V1 (removed warnings, driver optimization, changed picture)</li> <li>Linear-Hall-Effect-Sensor (ADC can now be user defined at 3.3V or 5V)</li> </ul> Demos updated: <ul style="list-style-type: none"> <li>Adaptive Front Lighting (AFL) Demo - updated EV-VNx7xxx component</li> </ul> Micro-controller supported: <ul style="list-style-type: none"> <li>SPC58EC80E5 Chorus line, dual core 180MHz, 4Mb flash, HSM</li> <li>SPC584B70E5 Chorus line, single core 120MHz, 2Mb flash, HSM</li> <li>SPC582B Chorus line, single core 80MHz, 1Mb flash</li> </ul> New component released: <ul style="list-style-type: none"> <li>None</li> </ul> New demo released: <ul style="list-style-type: none"> <li>None</li> </ul>
Minor release (version 1.1.0)	Components updated: <ul style="list-style-type: none"> <li>AEK-LED-21DISM1 (removed warnings and driver optimization)</li> <li>AEK-MOT-SM81M1 (removed warnings and driver optimization)</li> <li>EV-VNx7x (removed warnings and driver optimization)</li> <li>EV-VNHx7xx (removed warnings and driver optimization)</li> <li>AEK-POW-L5964V1 (removed warnings, driver optimization, changed picture)</li> <li>AEK-SNS-LIDA1M8 (removed warnings and driver optimization)</li> <li>Linear-Hall-Effect-Sensor (removed warnings and driver optimization)</li> </ul> Demos updated: <ul style="list-style-type: none"> <li>Adaptive Front Lighting (AFL) Demo - code optimized</li> </ul> Micro-controller supported: <ul style="list-style-type: none"> <li>SPC58EC80E5 Chorus line, dual core 180MHz, 4Mb flash, HSM</li> <li>SPC584B70E5 Chorus line, single core 120MHz, 2Mb flash, HSM</li> <li>SPC582B Chorus line, single core 80MHz, 1Mb flash</li> </ul>

Type	Summary
	<p>New component released:</p> <ul style="list-style-type: none"> <li>• <b>AEK-COM-BLEV1</b> The AEK-COM-BLEV1 evaluation platform is based on the BlueNRG-1, low power Bluetooth® smart system on chip, compliant with the Bluetooth® specification and supporting master, slave and simultaneous master-and-slave roles.</li> <li>• <b>AEK-COM-GNSST31</b> It represents an affordable, easy-to-use, global navigation satellite system (GNSS) module, embedding a TeseoIII single die standalone positioning receiver IC, usable in different configurations in your SPC5-Studio project.</li> <li>• <b>AEK-AUD-D903V1</b> It is a flexible class D audio amp with I2S interface for sound and I2C interface for programming. It features superb protection and status reporting.</li> </ul> <p>New demo released:</p> <ul style="list-style-type: none"> <li>• Demo for AEK-COM-GNSST31</li> <li>• Demo for AEK-COM-BLEV1</li> <li>• Demo for AEKD-BLINDSPOTx1</li> <li>• Demo for AVAS mono</li> <li>• Demo for AVAS stereo</li> <li>• Demo for AVAS engine sound simulator</li> </ul>

## Revision history

**Table 3. Document revision history**

Date	Version	Changes
13-Sep-2019	1	Initial release.
08-Nov-2019	2	Added details regarding STSW-AUTODEVKIT minor release version 1.0.1
19-Feb-2020	3	Added details regarding STSW-AUTODEVKIT version 1.1.0
30-Mar-2020	4	Added details regarding STSW-AUTODEVKIT version 1.1.1
22-Jun-2020	5	Added details regarding STSW-AUTODEVKIT version 1.2.0
08-Oct-2020	6	Added details regarding STSW-AUTODEVKIT version 1.3.0

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