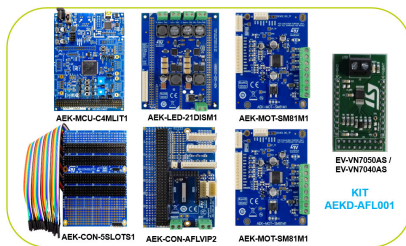


Flash image for Adaptive Front Light Demo for SPC58EC80 microcontroller



Features

- MCU flash image of adaptive front light demo for **SPC58EC80** automotive microcontroller
- Demo code runs a continuous loop that actuates all the loads in the **AEKD-AFLIGHT1** kit:
 - four LED strings
 - two stepper motors
 - one fan
- Each actuation step includes a final CAN message to identify the performed action to the BMC/Cluster ECU
- The source code is available in **SPC5-STUDIO** development environment with **STSW-AUTODEVKIT** plugin
- Compatible with **AEK-MCU-C4MLIT1** MCU board, available individually or in following kits:
 - **AEKD-AFLPANEL1** adaptive front lighting kit assembly
 - **AEKD-AFL001** adaptive front lighting set of boards
 Part of the AutoDevKit initiative

Description

The **STSW-AFL001** software for the **SPC58EC80** automotive MCU contains executable code for a demonstration sequence of typical actions in an adaptive front light application based on the AutoDevKit initiative.

The code is packaged as a Flash image that can be directly downloaded on the microcontroller using the **SPC5-UDESTK** software available for download from the PLS website. The UDE tool, which also includes a very powerful debugger, requires a license for professional use, but can be used free of charge for limited evaluation purposes.

Control boards not belonging to the AutoDevKit initiative may require an external JTAG debugger, such as the **SPC5-UDESTK** debugger available from the ST website.

The code actuates typical loads in an AFL scenario in a continuous loop through dedicated LED (**AEK-LED-21DISM1**), motor control (**AEK-MOT-SM81M1**) and fan switch (**EV-VN7050AS**) functional boards.

To better simulate the behavior of an adaptive light ECU, the MCU sends a corresponding CAN message after every actuation performed in the demonstration sequence. The CAN messages only consist of simple payloads for each actuation performed to demonstrate the functionality and timing constraints of the transmissions.

The code is built using components belonging to the AutoDevKit library: there is a specific component in **SPC5-STUDIO** for each board, which can be configured to the peripherals of the chosen microcontroller, and a simple API is provided to simplify control of the specific functional boards.

To access the source code, download and install **SPC5-STUDIO** and the **STSW-AUTODEVKIT** AutoDevKit plugin extension.

Product summary	
AutoDevKit adaptive front lighting kit	AEKD-AFL001
AutoDevKit adaptive front lighting kit firmware	STSW-AFL001
MCU discovery board for SPC5 Chorus 4M automotive microcontroller with CAN transceivers	AEK-MCU-C4MLIT1
AutoDevKit stepper motor driver board for automotive applications	AEK-MOT-SM81M1
AutoDevKit digitally controlled LED driver board	AEK-LED-21DISM1
5 slot AutoDevKit connector board	AEK-CON-5SLOTS1
AutoDevKit connector board	AEK-CON-AFLVIP2

Product summary	
code generator, quick resource configurator and Eclipse development environment for SPC5 MCUs	SPC5-STUDIO
Applications	Adaptive front lighting systems for vehicles Car chassis lighting

Revision history

Table 1. Document revision history

Date	Version	Changes
01-Oct-2019	1	Initial release.

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