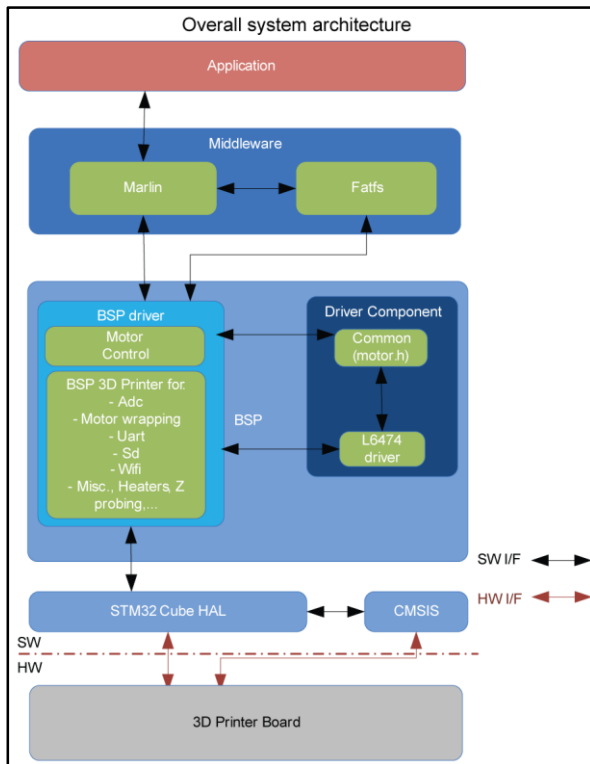


STEVAL-3DP001V1 3D printer board firmware based on SMT32Cube and Marlin firmware

Data brief



- Free, user-friendly license terms

Description

The Marlin4ST firmware is the default firmware for the STEVAL-3DP001V1 3D printer board. It runs on the STM32F401 and is fully capable of handling 3D prints from G-Codes (Marlin format). The prints can be performed via the UART, SD or Wi-Fi interfaces.

It can be interfaced with 3D printer host software like Pronterface, Repetier Host and OctoPrint via UART.

The firmware comes with the complete source code for the OpenSTM32 (free) and IAR development environments.

By default, it is configured to run on a Prusa I3 rework 5, but it can easily be set up to run on any FDM 3D printer.

The firmware is organized into a drivers section with STM32Cube microcontroller and peripheral drivers, a middleware section with STM32Cube FatFs and Marlin algorithms for motion control, G-Codes, etc., and an application section with user command entry points.

Features

- Motion control algorithms
- Digital configuration of the L6474 stepper motor drivers (torques, current control of the phases, etc.)
- Temperature monitoring of the bed and extruders
- FatFs to handle files on an SD card
- G-Code parsing
- SD, UART and Wi-Fi interfaces
- Easy portability across different MCU families, thanks to STM32Cube

1 Detailed description

What is STM32Cube?

STM32Cube™ represents the STMicroelectronics initiative to make developers' lives easier by reducing development effort, time and cost. STM32Cube covers the STM32 portfolio.

STM32Cube version 1.x includes:

- STM32CubeMX, a graphical software configuration tool that allows the generation of C initialization code using graphical wizards.
- A comprehensive embedded software platform specific to each series (such as the STM32CubeF4 for the STM32F4 series), which includes:
 - the STM32Cube HAL embedded abstraction-layer software, ensuring maximized portability across the STM32 portfolio.
 - a consistent set of middleware components such as RTOS, USB, TCP/IP and graphics.
 - all embedded software utilities with a full set of examples.

2 Revision history

Table 1: Document revision history

Date	Version	Changes
22-Apr-2016	1	Initial release.

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