

PWM resolution enhancement through a dithering technique with software expansion for STM32Cube

Data brief

Features

- Provides a reference implementation of the PWM resolution enhancement technique as described by the AN4507 application note document
- Demonstrates the boosting of the STM32 general-purpose timer hardware capabilities through the generating of a 9-bit resolution instead of 6-bit resolution (hardware limit) PWM signal at 1.25 MHz PWM frequency
- Demonstration example designed in a way that makes easy the perception of the added resolution bits using standard lab equipment (a low-pass filter and an oscilloscope)
- Demonstration software readily runs on the NUCLEO-F302R8 Nucleo board populated with an STM32F302R8T6 microcontroller
- Software easily migrated to any other microcontroller in the STM32 family
- Software source-code template generated by the STM32CubeMx software tool
- Easily tailorable for any other toolchain provided by the STM32 ecosystem
- Software's source-code well commented and highly readable making most of its sub-routines easily integrable into source-code snippet libraries

Description

X-CUBE-PWM-DITHR is an STM32 Cube embedded software expansion package. It provides a demonstration firmware for implementing the PWM resolution enhancement technique for the STM32 general-purpose timers.

For more details, please refer to the application note *PWM resolution enhancement through a dithering technique for STM32 advanced-configuration, general-purpose and lite timers* (AN4507).

Revision history

Table 1. Document revision history

Date	Revision	Changes
17-Jan-2017	1	Initial version.

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