

Demonstration firmware for NUCLEO-G431RB enabling STSW-IFAPGUI on X-NUCLEO-DO40A1 and X-NUCLEO-DO41A1 expansion boards



Features

- Full control of the **X-NUCLEO-DO40A1** and **X-NUCLEO-DO41A1** expansion boards via the **STSW-IFAPGUI** graphical user interface
- Control of:
 - Output channel switching frequency and duty cycle configuration
 - Visualization of per-channel thermal shutdown diagnostic

Description

The **STSW-DO40G4** firmware runs on the **NUCLEO-G431RB** development board and allows controlling the **X-NUCLEO-DO40A1** and **X-NUCLEO-DO41A1** expansion boards using the **STSW-IFAPGUI** graphical user interface.

The **STSW-DO40G4** contains the software routines that enable the USB-based communication between the **NUCLEO-G431RB** and the system where the **STSW-IFAPGUI** runs, and the control of the **X-NUCLEO-DO40A1** or **X-NUCLEO-DO41A1** expansion board.

The firmware can control a single expansion board (**X-NUCLEO-DO40A1** or **X-NUCLEO-DO41A1**).

The **STSW-IFAPGUI** is based on a common engine and several plug-ins designed to communicate through the USB connection with the application layer running on the **NUCLEO-G431RB** development board stacked with the expansion board.

Product summary	
Demonstration firmware for NUCLEO-G431RB enabling STSW-IFAPGUI on X-NUCLEO-DO40A1 and X-NUCLEO-DO41A1 expansion boards	STSW-DO40G4
Industrial digital output expansion board based on IPS4140HQ for STM32 Nucleo	X-NUCLEO-DO40A1
Industrial digital output expansion board based on IPS4140HQ-1 for STM32 Nucleo	X-NUCLEO-DO41A1
STM32 Nucleo-64 development board with STM32G431RB MCU, supports Arduino and ST morpho connectivity	NUCLEO-G431RB
Graphical user interface for the industrial IPS evaluation boards based on STM32 Nucleo	STSW-IFAPGUI
Applications	Industrial Safety Industrial Tools

Revision history

Table 1. Document revision history

Date	Revision	Changes
17-Jan-2025	1	Initial release.

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