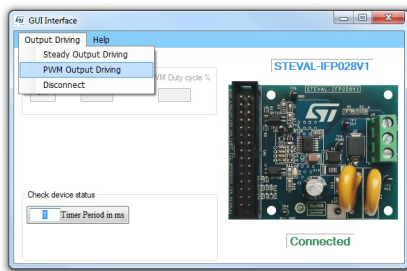# STSW-IPS16X GUI for STEVAL-IFP028V1 and STEVAL-IFP034V1

Features

- Complete software to control the evaluation board through the STEVAL-PCC009V2 (sold separately)
- Self board identification
- Steady state and PWM output driving modes
- Configurable frequency and duty cycle in PWM output driving mode
- Fault detection

Description

The STSW-IPS16X GUI is designed to facilitate control of the STEVAL-IFP028V1 and STEVAL-IFP034V1 through the STEVAL-PCC009V2 (sold separately).

The GUI offers two main driving modes: Steady State and PWM.

The Steady State driving mode allows the static setting of the output stage ON (= VCC) or OFF (= GND) of the STEVAL-IFP028V1 or STEVAL-IFP034V1.

The PWM driving mode allows the setting of the switching mode of the output stage. You can set both the switching frequency (≥ 2KHz, with 1 kHz step minimum) and the duty cycle (0% to 100%).

The GUI also signals the status (ON = RED LED active) of the diagnostic pin.

STSW-IPS16X is available free of charge from www.st.com.

Summary table	
STSW-IPS16X GUI	STSW-IPS16X
IPS160H: Single high-side switch for safety integrity level (SIL2 and SIL3) compliant systems	IPS160H
STEVAL-IFP028V1: Single high side driver based on IPS160H	STEVAL-IFP028V1
IPS161H: Single high-side switch for safety integrity level (SIL2 and SIL3) compliant systems	IPS161H
STEVAL-IFP034V1: Single high side driver based on IPS161H	STEVAL-IFP034V1
STEVAL-PCC009V2: IBU universal interface based on the STM32x	STEVAL-PCC009V2

DB3494 - Rev 1 - January 2018
For further information contact your local STMicroelectronics sales office.

www.st.com/

1   How to use the GUI

1.1   Get started

Follow this procedure to connect your hardware and get started with the GUI.

Procedure   **Step 1.**   Connect your PC or laptop to the STEVAL-PCC009V2 interface via mini-USB cable.

Step 2.   Connect your STEVAL-IFP028V1 or STEVAL-IFP034V1 high side driver to the STEVAL-PCC009V2 interface via the 30-pin flat cable.

Step 3.   Launch the GUI on your Windows computer.
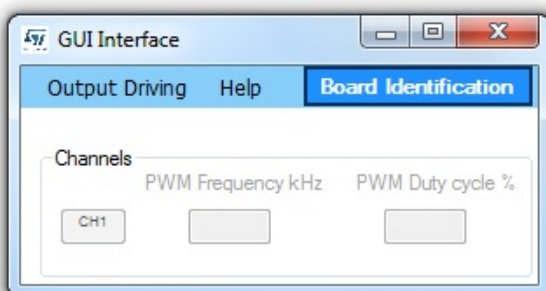
Step 4.   Select the Board Identification button

–   If the GUI detects an STEVAL-IFP028V1 or STEVAL-IFP034V1 board, it will show the window pictured below
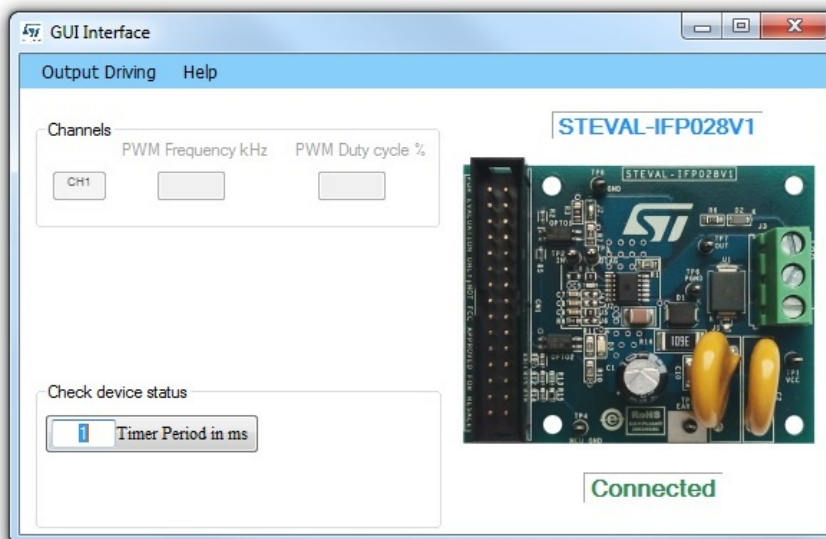
Note: *The image and label represent the STEVAL-IFP028V1 only, even if an STEVAL-IFP034V1 board is detected*

–   If the GUI does not detect an STEVAL-IFP028V1 or STEVAL-IFP034V1 board, it will show the window pictured below.

Note: *If this error occurs, try reconnecting the USB cable or use a different* STEVAL-PCC009V2 *interface board.*

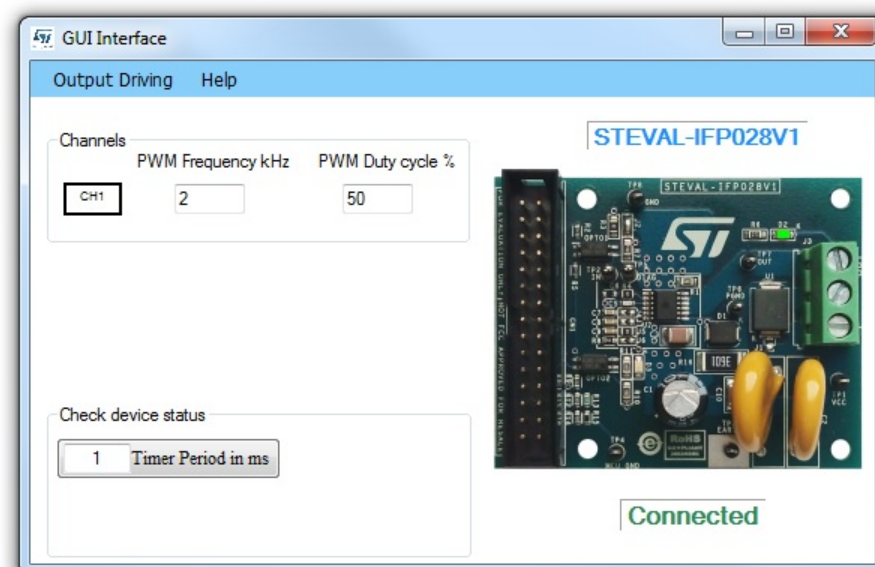## 1.2 Output driving configuration

Procedure **Step 1.** Select the Output Driving tab
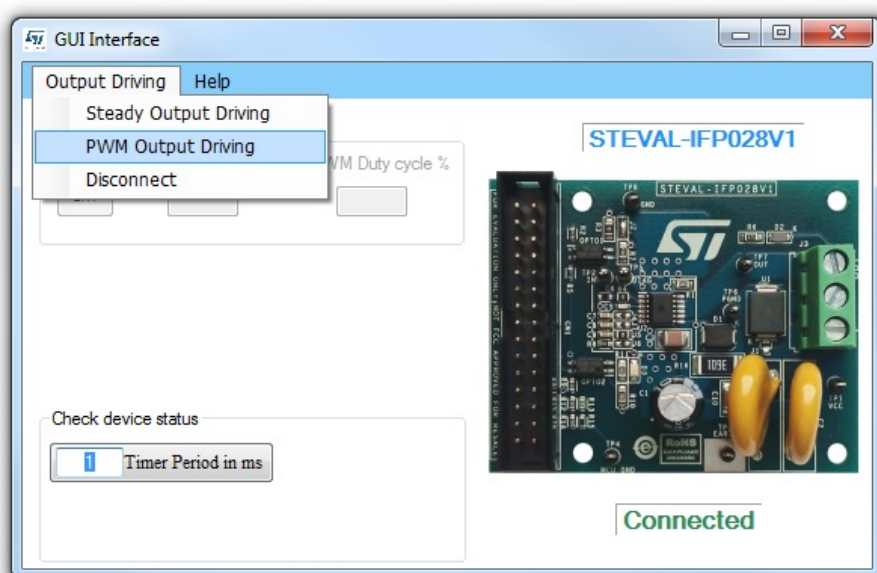
Step 2. Choose one of the following modes:

– Steady Output Driving

a. Select CH1 to statically drive the output ON or OFF

– PWM Output Driving

a. edit the values in the PWM frequency and PWM Duty cycle fields

b. select the CH1 button

The above image shows an example with 2 KHz PWM frequency and 50% PWM Duty cycle. The minimum PWM frequency selectable is 2 KHz with a minimum 1 KHz step.

A green light on the output connector indicates the channel PWM ON status.

1.3 Fault detection

The GUI signals the status of the IPS160H or IPS161H DIAG pin. The small indicator rectangles change color according to the status of the corresponding open drain:

• Red – active
• Green – not active
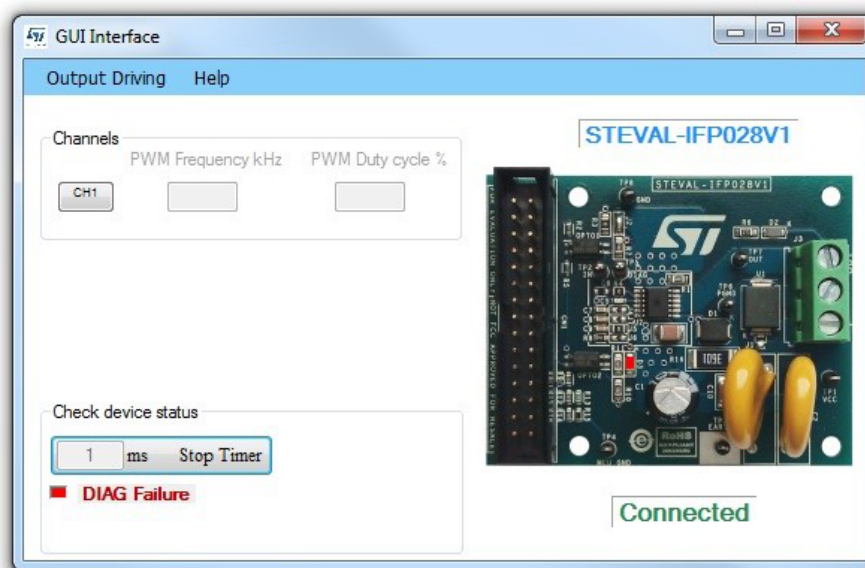
1.4 Test completion

Follow the sequence below to terminate the testing session.

Procedure **Step 1.** Disconnect the power supply from the STEVAL-IFP028V1 or STEVAL-IFP034V1 board.

Step 2. In the GUI, select the "Output Driving" → "Disconnect" menu option

Step 3. Disconnect the USB cable between your computer and the STEVAL-PCC009V2 interface board

Step 4. Close the GUI on your PC.

Revision history

Table 1. Document revision history

Date	Version	Changes
09-Jan-2018	1	Initial release.

IMPORTANT NOTICE – PLEASE READ CAREFULLY