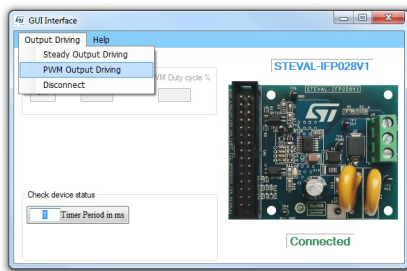


STSW-IPS16X GUI for STEVAL-IFP028V1 and STEVAL-IFP034V1



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 ($\geq 2\text{KHz}$, 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.



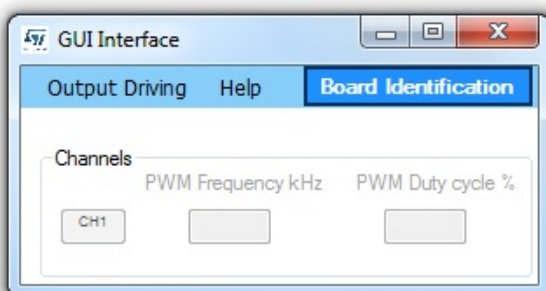
Summary table	
STSW-IPS16X GUI	STSW-IPS16X
IPS160H: Single high-side switch for safety integrity level (SIL2 and SIL3) compliant systems	IPS160H
STEVAL-IFP028V1: Single high side driver based on IPS160H	STEVAL-IFP028V1
IPS161H: Single high-side switch for safety integrity level (SIL2 and SIL3) compliant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

1 How to use the GUI

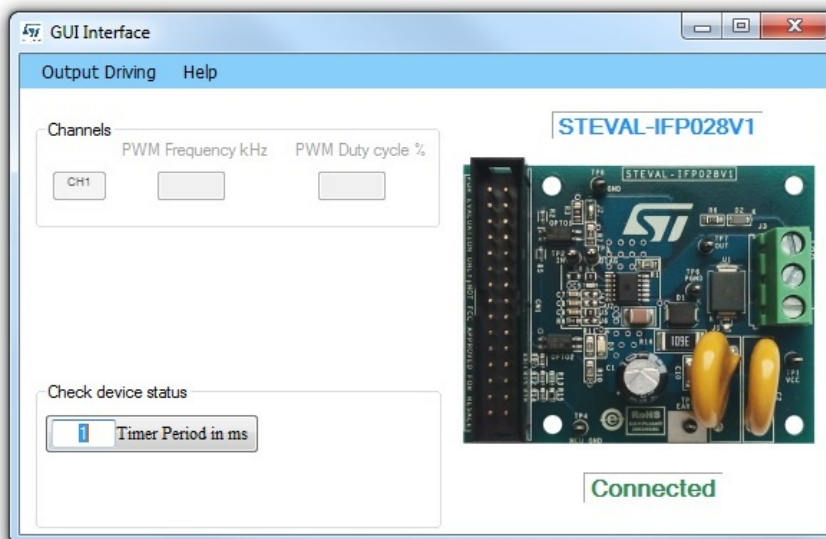
1.1 Get started

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



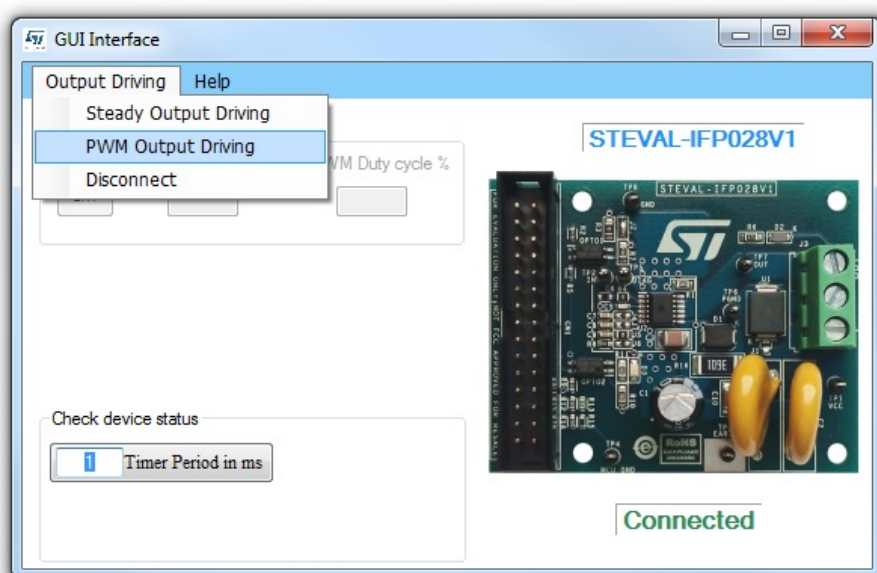
- Note:**
- The image and label represent the [STEVAL-IFP028V1](#) only, even if an [STEVAL-IFP034V1](#) board is detected
 - If the GUI does not detect an [STEVAL-IFP028V1](#) or [STEVAL-IFP034V1](#) board, it will show the window pictured below.



Note: If this error occurs, try reconnecting the USB cable or use a different [STEVAL-PCC009V2](#) interface board.

1.2 Output driving configuration

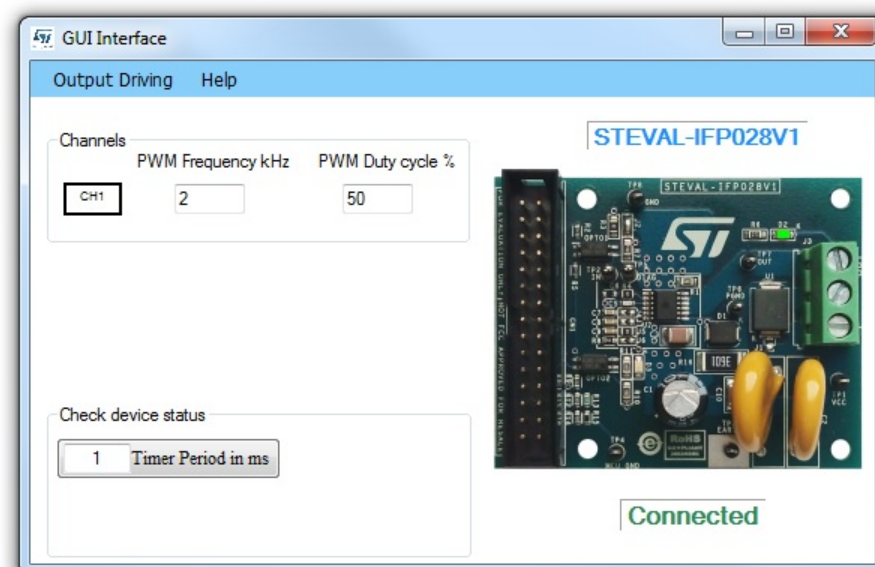
Procedure **Step 1.** Select the Output Driving tab



- 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



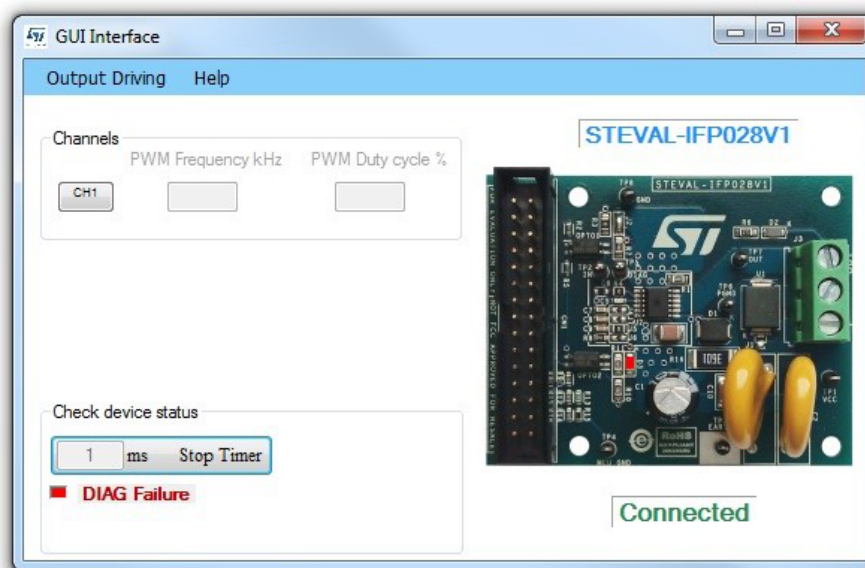
The above image shows an example with 2 KHz PWM frequency and 50% PWM Duty cycle. The minimum PWM frequency selectable is 2 KHz with a minimum 1 KHz step.

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.

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