Config Wizard Tool for MOTIX™ multi half-bridge ICs

About this document

Scope and purpose

Config Wizard for MOTIX™ multi half-bridge ICs allows easy configuration of the MOTIX™ multi half-bridge IC products.

Intended audience

This document is intended for developers who intend to evaluate the MOTIX™ multi half-bridge IC products.

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1 Introduction to Config Wizard for MOTIX™ multi half-bridge ICs

1.1 Tool overview

The Config Wizard for MOTIX™ multi half-bridge ICs is a tool within Infineon Developer Center and allows easy configuration of Automotive multi half-bridge IC products.

The download link and installation instructions can be found here.

This tool consists of:

- one graphical user interface (GUI) to control Infineon's MOTIX™ multi half-bridge ICs for TLE94103 Evalboard
- one graphical user interface (GUI) to control Infineon's MOTIX™ multi half-bridge ICs for TLE94104 Evalboard
- one graphical user interface (GUI) to control Infineon's MOTIX™ multi half-bridge ICs for TLE94106 Evalboard
- one graphical user interface (GUI) to control Infineon's MOTIX™ multi half-bridge ICs for TLE94108 Evalboard
- one graphical user interface (GUI) to control Infineon's MOTIX™ multi half-bridge ICs for TLE94110 Evalboard
- one graphical user interface (GUI) to control Infineon's MOTIX™ multi half-bridge ICs for TLE94112 Evalboard

1.2 Starting the tool

After the installation of the Config Wizard for MOTIX™ multi half-bridge ICs, the installed tool can be found in the Infineon Developer Center Launcher. Click on the corresponding "Start" button to launch the tool.

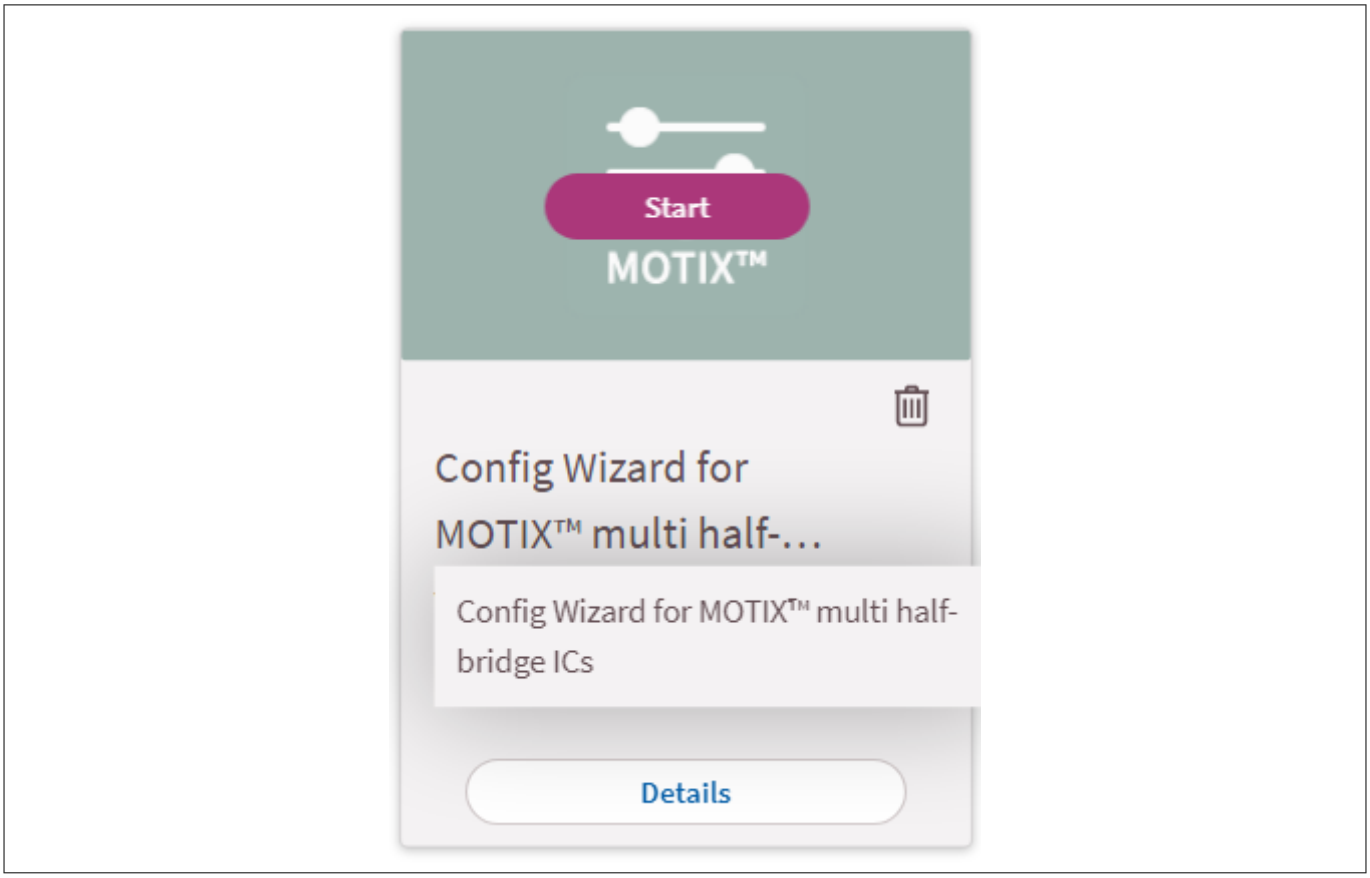

Figure 1 Starting the Config Wizard for MOTIX™ multi half-bridge ICs

Select the product or calculation view you want to configure.

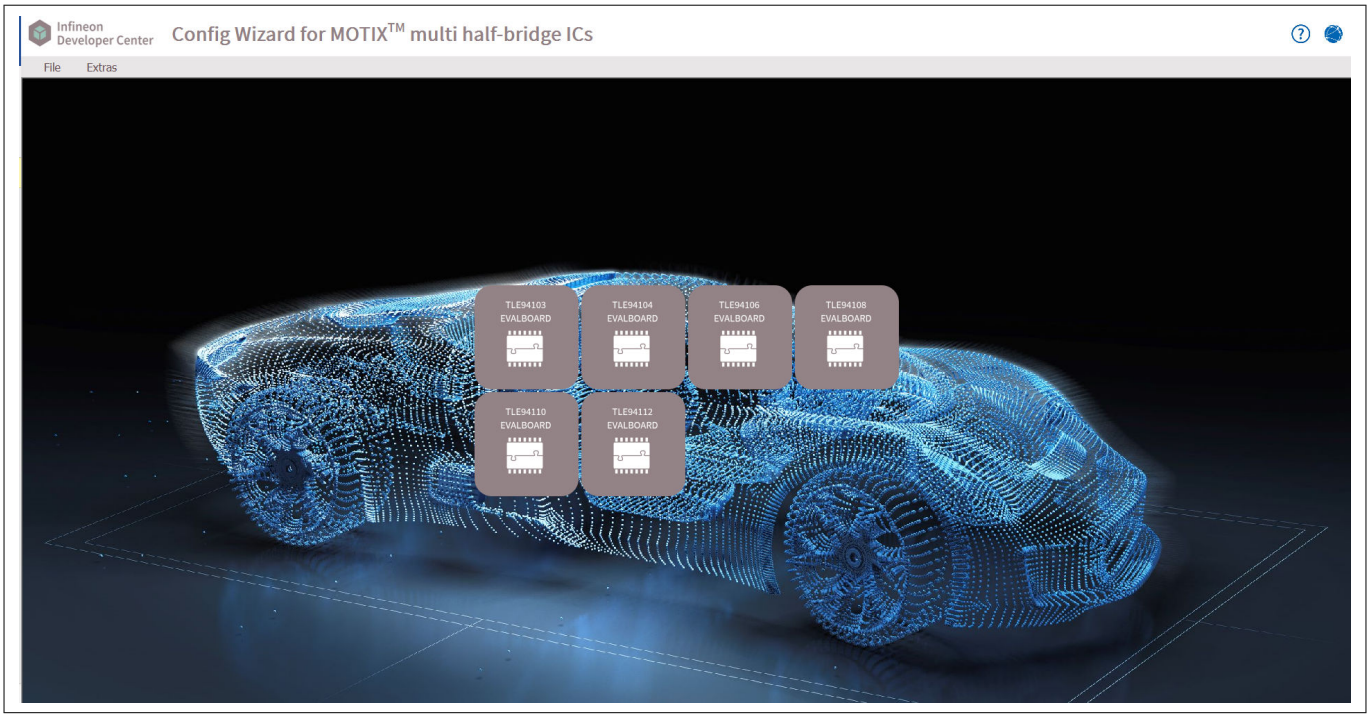

Figure 2 Product selection in the Config Wizard for MOTIX™ multi half-bridge ICs

1.3 User guide and forum

Click on the question mark icon to open the user guide to find a GUI explanation, configuration examples, general information, and recommendations.

Figure 3 Opening the user guide

Click on the world icon to open the forum for MOTIX™ Bridge. In the forum you can find discussions on the products, gain access to the community, as well as further information.

Figure 4 Accessing the forum

2 Config Wizard for MOTIX™ multi half-bridge ICs for TLE94103

2.1 Open Config Wizard for MOTIX™ multi half-bridge ICs for TLE94103 Evalboard

Select icon below to open the product view.

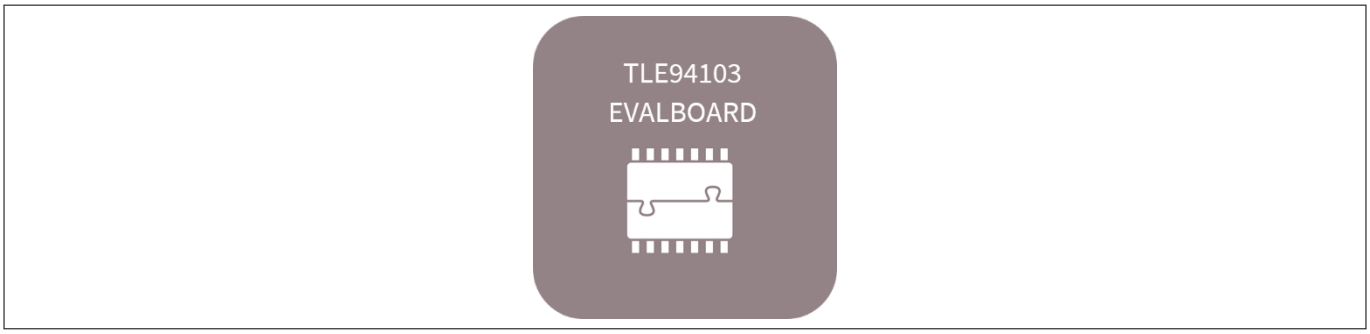

Figure 5 Starting the GUI for the TLE94103 Evalboard

The following view will be displayed.

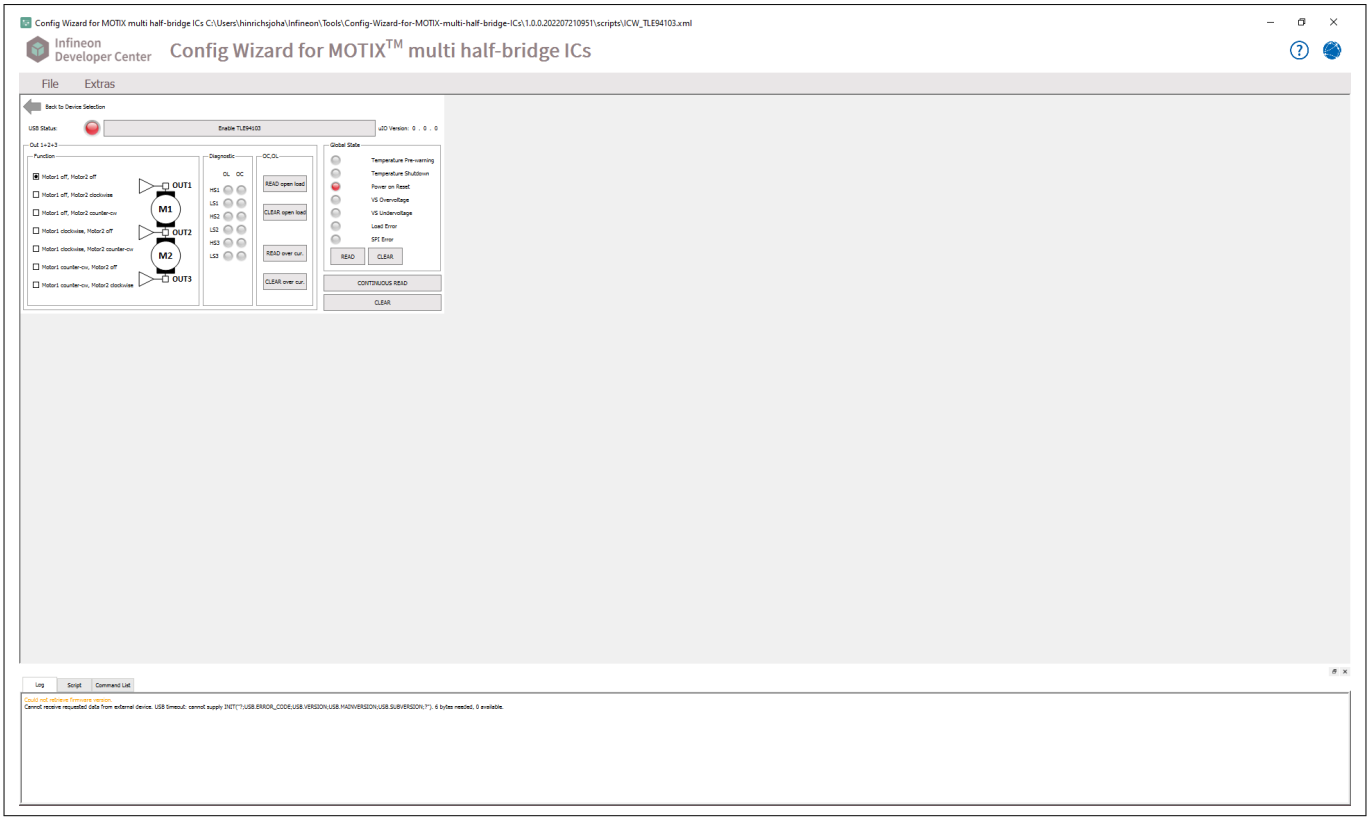

Figure 6 Starting view of the GUI for the TLE94103 Evalboard

2.2 Introduction

The TLE94103 evaluation board is intended to provide a simple and easy-to-use tool for getting familiar with the device features and for first application tests.

Refer to the corresponding product page for more details: Link.

2 Config Wizard for MOTIX™ multi half-bridge ICs for TLE94103

The uIO-stick is the interface between the PC and the TLE94103 evaluation board.
The SPI communication is emulated by the uIO-stick, which is controlled by the PC software.
The TLE94103 evaluation board has:

- A connector for the uIO-stick
- Connectors for the power supply
- Connectors for the motor output
- An active reverse battery protection

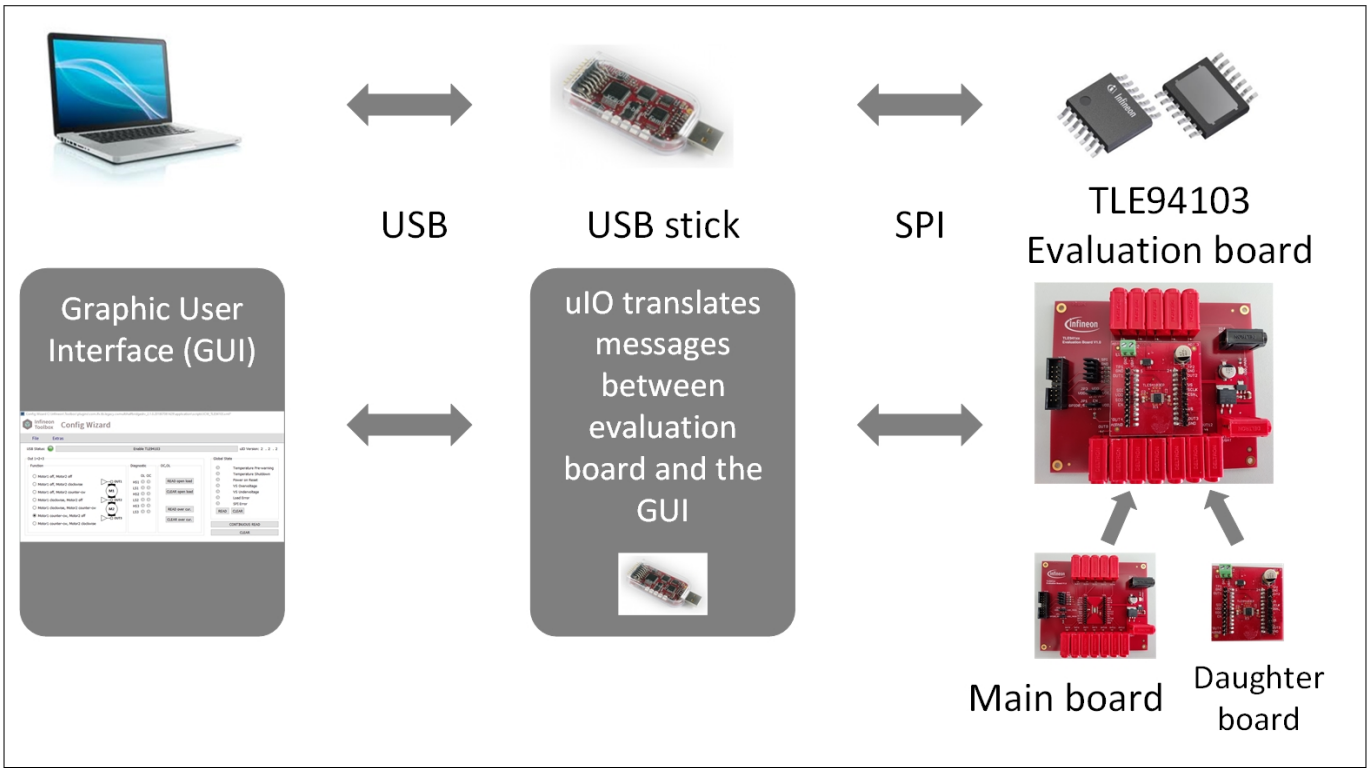

Figure 7 TLE94103 evaluation board concept

Controlling the TLE94103 evaluation board with the GUI requires:

- The main board: TLE941xx Evaluation Board
- The TLE94103 daughter board
- The uIO stick
- 12 V DC power supply, which is able to provide sufficient current for the motor load. For evaluation purpose motor loads which less than 1 A current consumption are recommended

The uIO stick must be ordered separately.
Details about the uIO stick can be found here.

2.3 Hardware

Operating the GUI for the TLE94103 evaluation board requires:

- The main board: TLE941xx evaluation board
- The TLE94103 daughter board
- The uIO stick
- 12 V DC power supply, which is able to provide sufficient current for the motor load. For evaluation purpose motor loads which less than 1 A current consumption are recommended

2.3.1 Hardware description

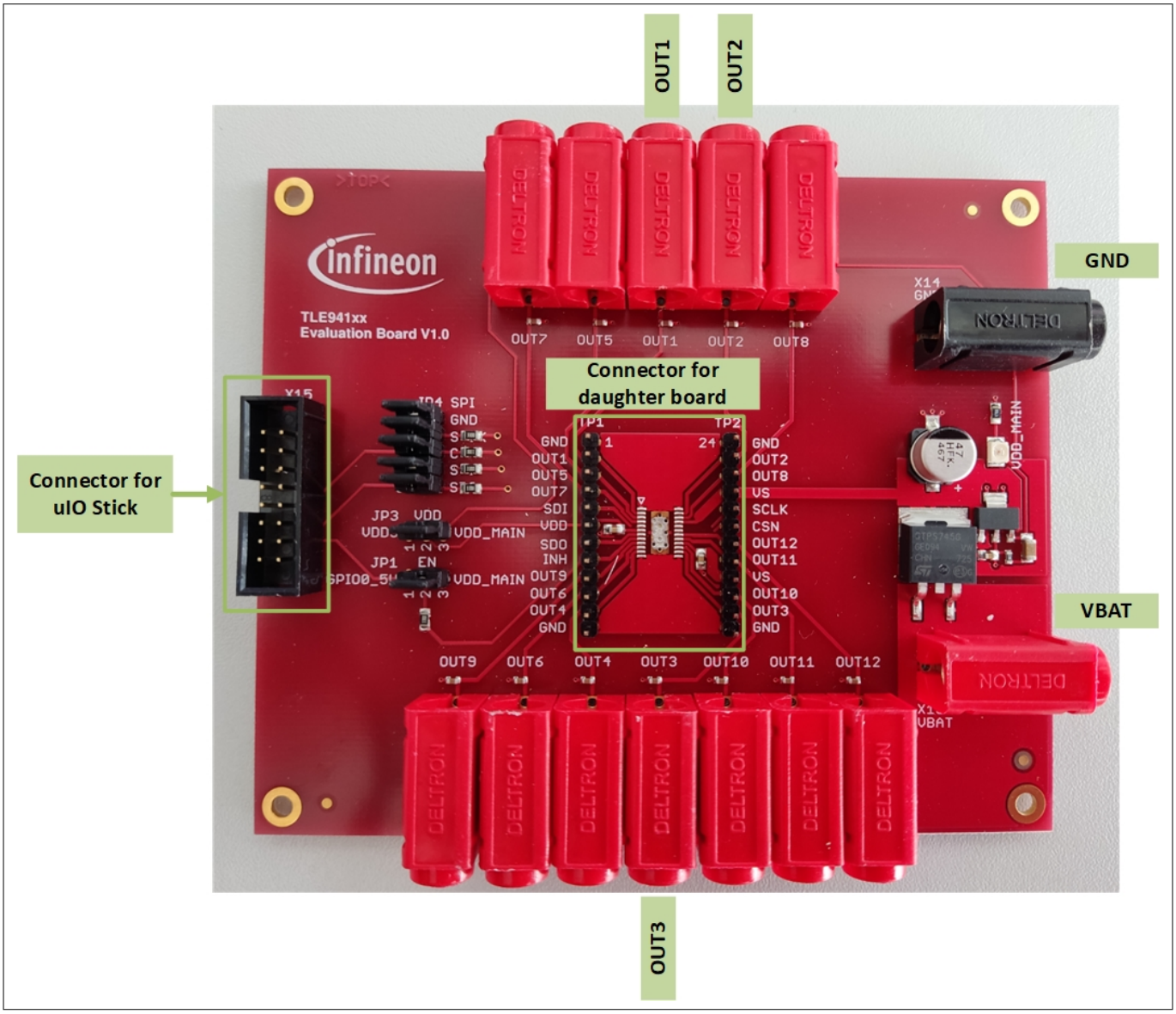

Figure 8 TLE94103 evaluation board – main board

2 Config Wizard for MOTIX™ multi half-bridge ICs for TLE94103

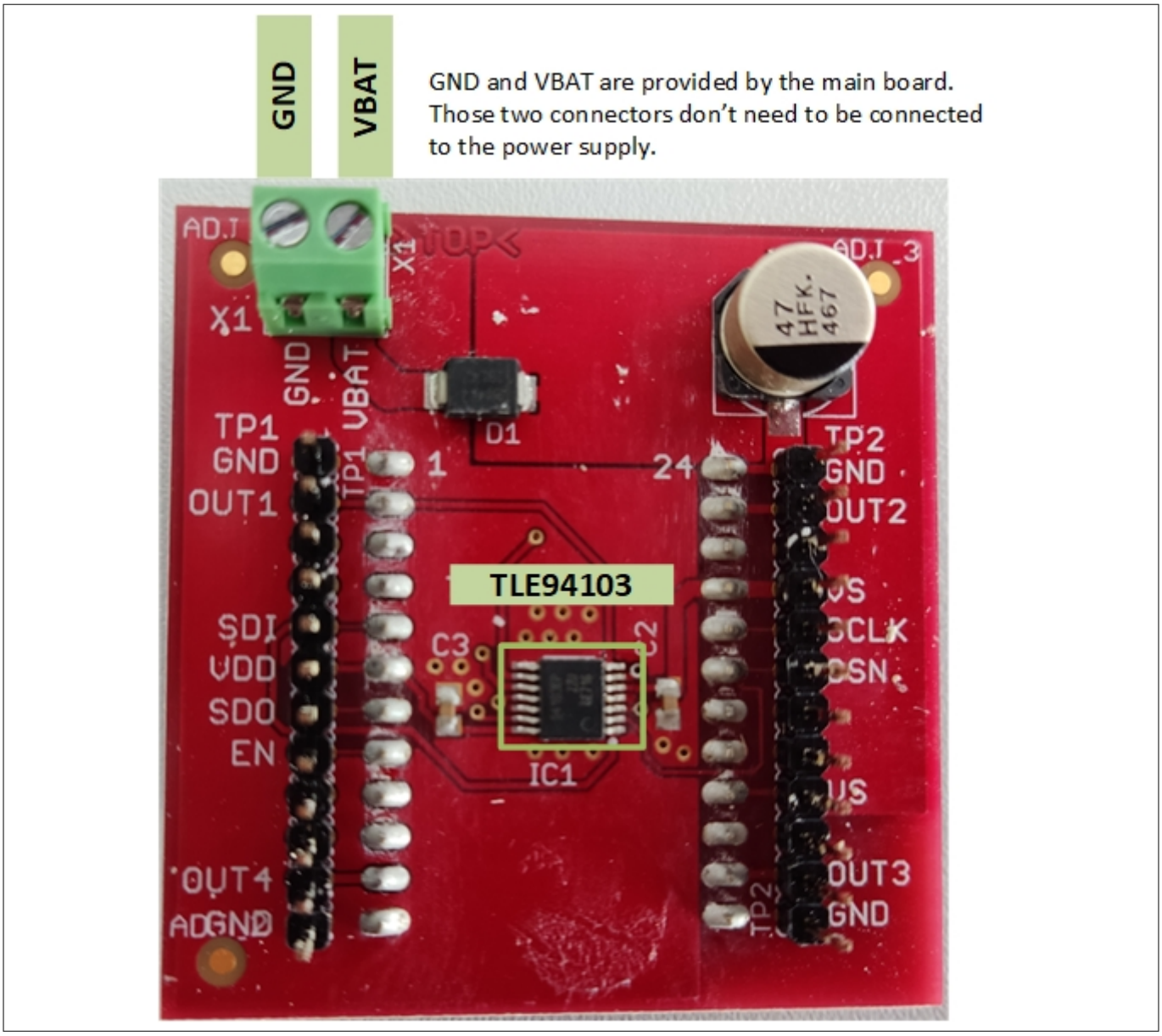

Figure 9 **TLE94103 evaluation board – daughter board**

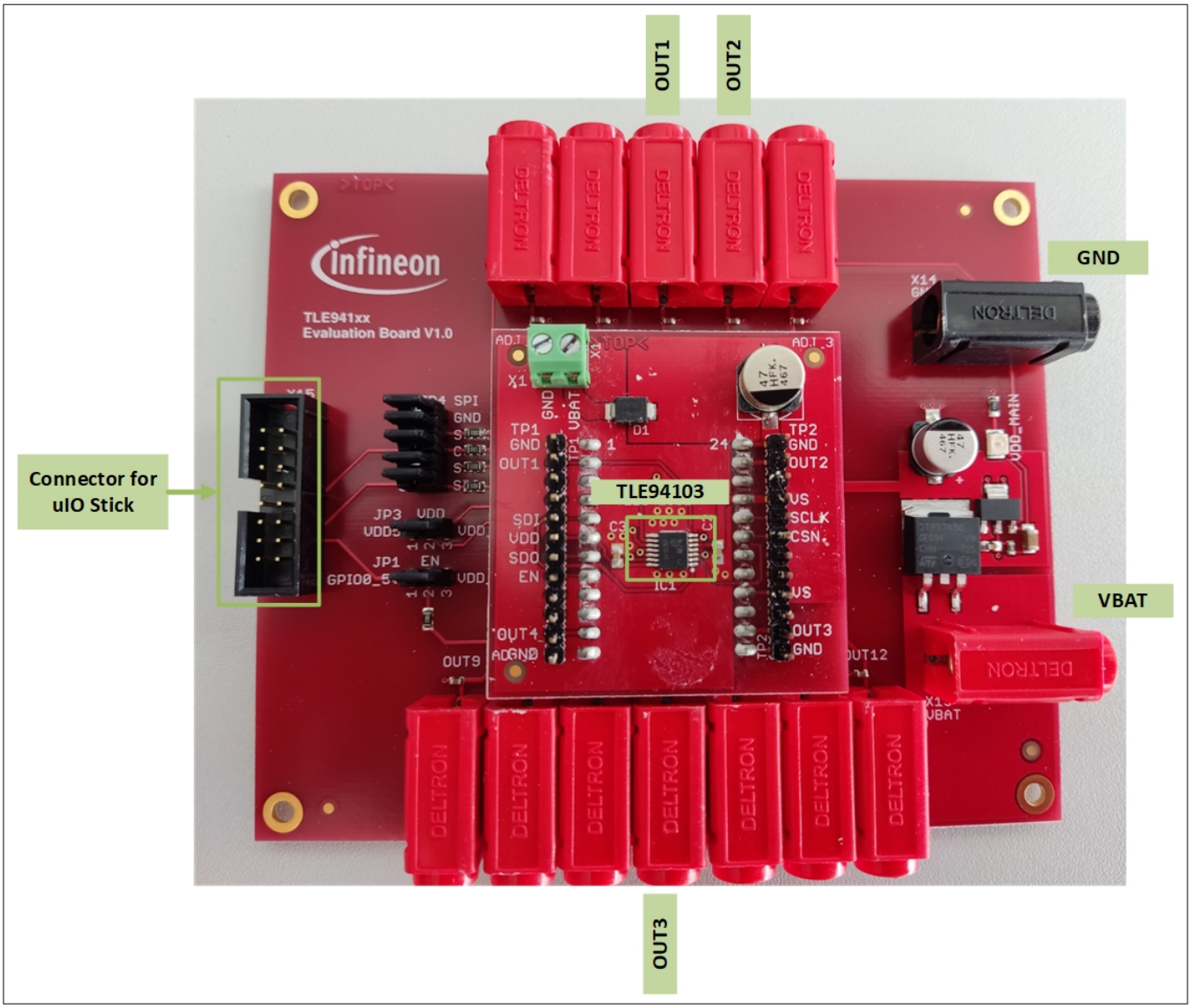

Figure 10 TLE94103 evaluation board – main board with daughter board

2.4 Getting started

1. Plug in the TLE94103 daughter board
2. Connect the motors
3. Connect the uIO stick to the TLE94103 evaluation board and to the PC
4. Connect the 12 V supply
5. Turn on the 12 V supply
6. Start the TLE94103 GUI
7. To operate the motors:
   - **a.** Enable TLE94103
   - **b.** Select the function
   - **c.** If required:
     1. Clear the error flag for open load detection
     2. Clear the error flag for over current detection
     3. Clear the global status flags

2.5 Description of the GUI

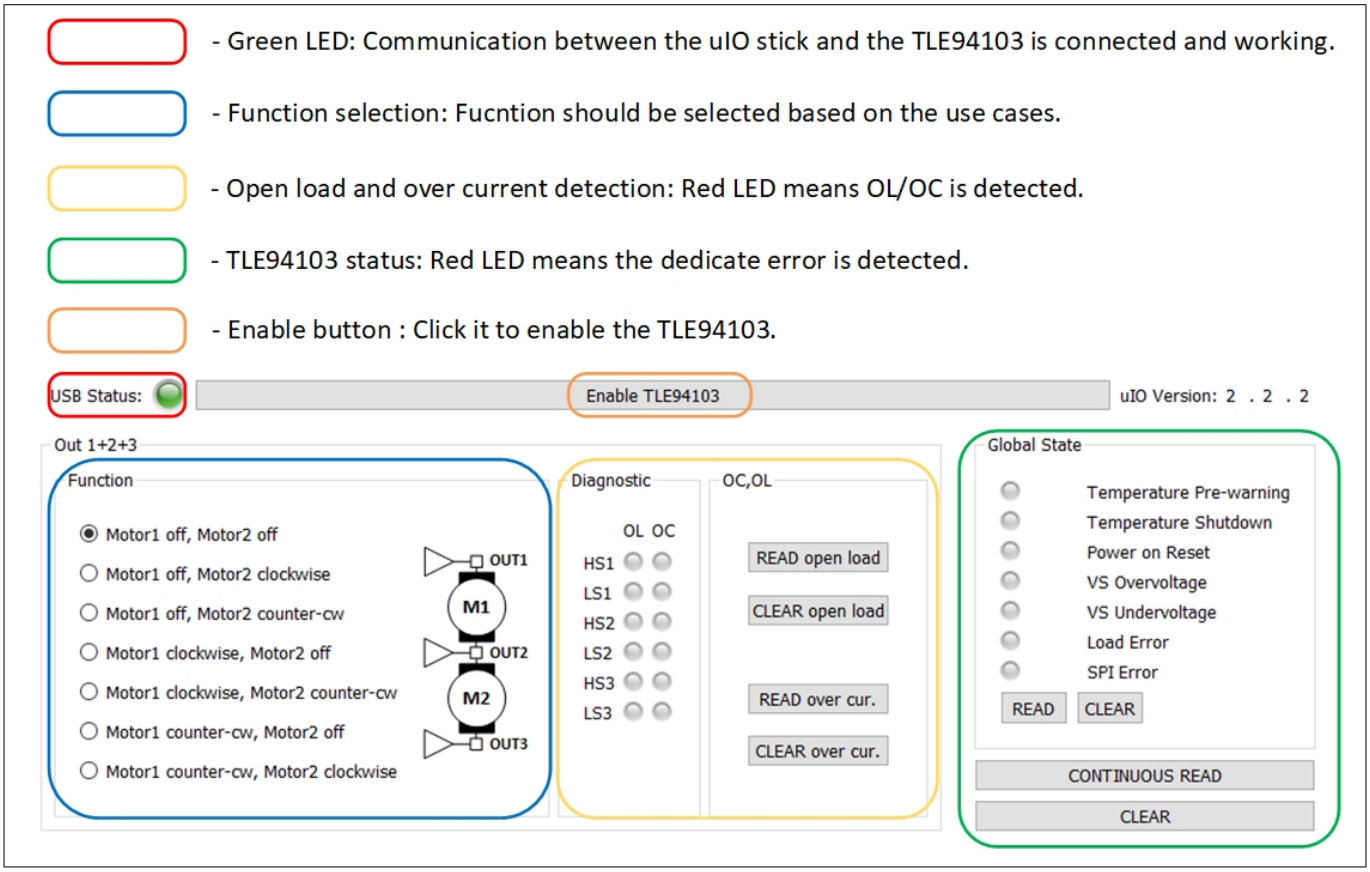

Figure 11 GUI for the TLE94103 evaluation board

3 Config Wizard for MOTIX™ multi half-bridge ICs for TLE94104

3.1 Open Config Wizard for MOTIX™ multi half-bridge ICs for TLE94104 Evalboard

Select icon below to open the product view.

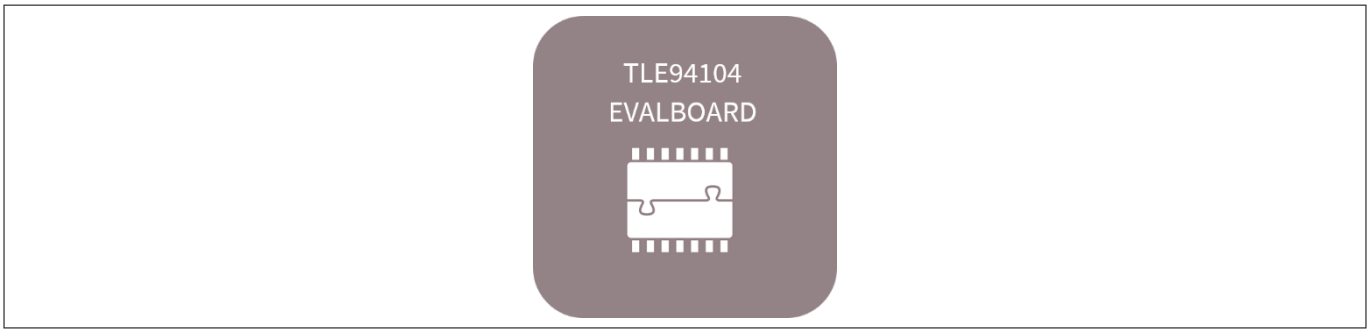

Figure 12 Starting the GUI for the TLE94104 Evalboard

The following view will be displayed.

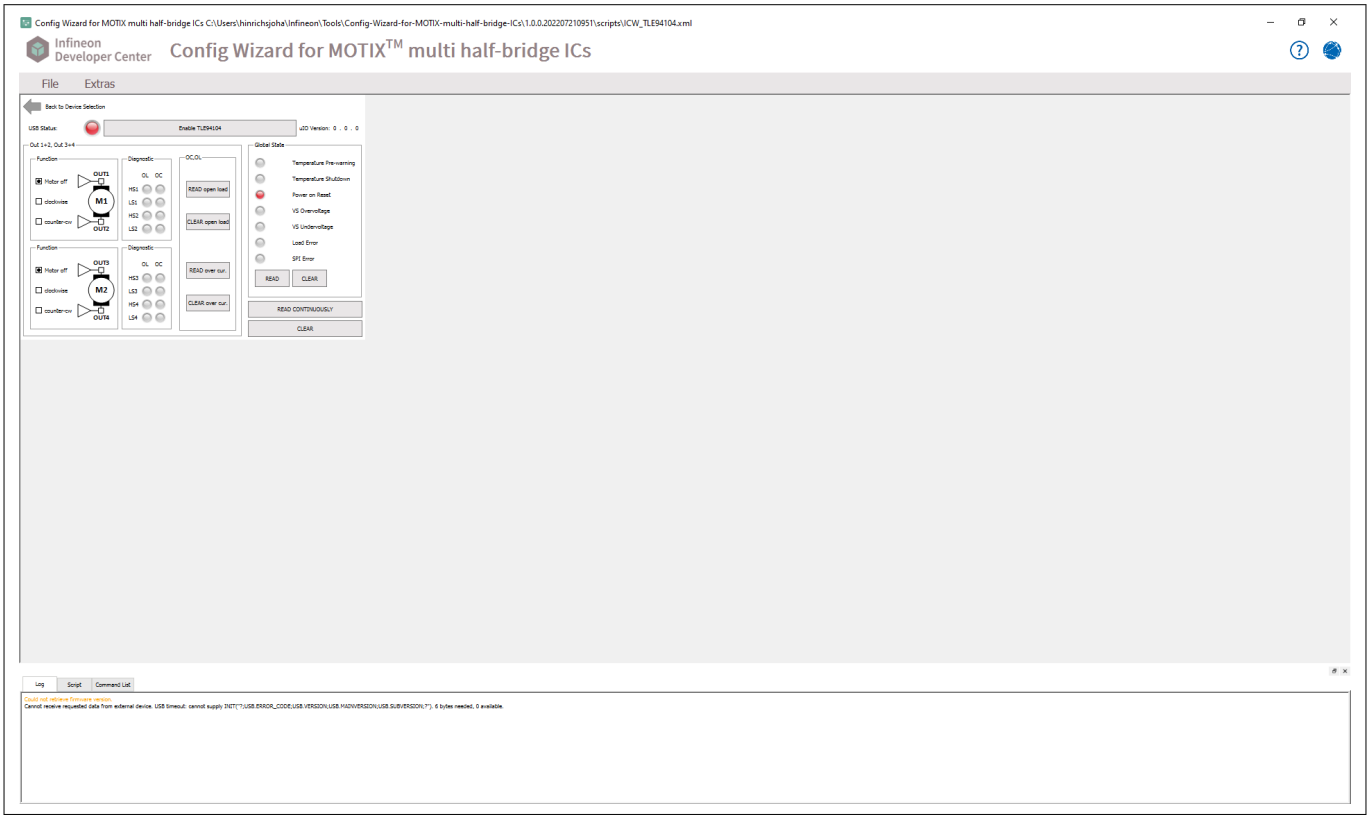

Figure 13 Starting the GUI for the TLE94104 Evalboard

3.2 Introduction

The TLE94104 evaluation board is intended to provide a simple and easy-to-use tool for getting familiar with the device features and for first application tests.

Refer to the corresponding product page for more details: Link.

3 Config Wizard for MOTIX™ multi half-bridge ICs for TLE94104

The uIO-stick is the interface between the PC and the TLE94104 evaluation board.
The SPI communication is emulated by the uIO-stick, which is controlled by the PC software.
The TLE94104 evaluation board has:

- A connector for the uIO-stick
- Connectors for the power supply
- Connectors for the motor output
- An active reverse battery protection

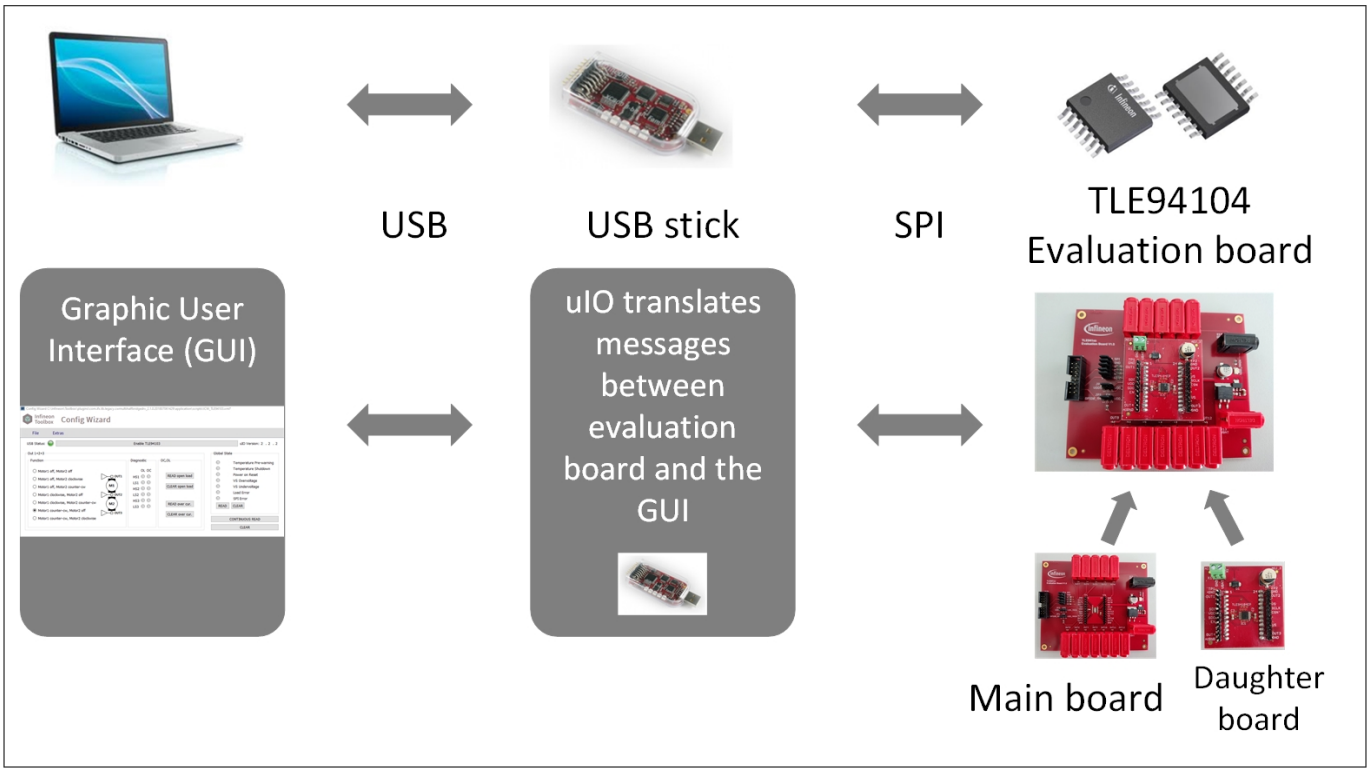

Figure 14 TLE94104 evaluation board concept

Controlling the TLE94104 evaluation board with the GUI requires:

- The main board: TLE941xx Evaluation Board
- The TLE94104 daughter board
- The uIO stick
- 12 V DC power supply, which is able to provide sufficient current for the motor load. For evaluation purpose motor loads which less than 1 A current consumption are recommended

The uIO stick must be ordered separately.
Details about the uIO stick can be found here.

3.3 Hardware

Operating the GUI for the TLE94104 evaluation board requires:

- The main board: TLE941xx Evaluation Board
- The TLE94104 daughter board
- The uIO stick
- 12 V DC power supply, which is able to provide sufficient current for the motor load. For evaluation purpose motor loads which less than 1 A current consumption are recommended

3.3.1 Hardware description

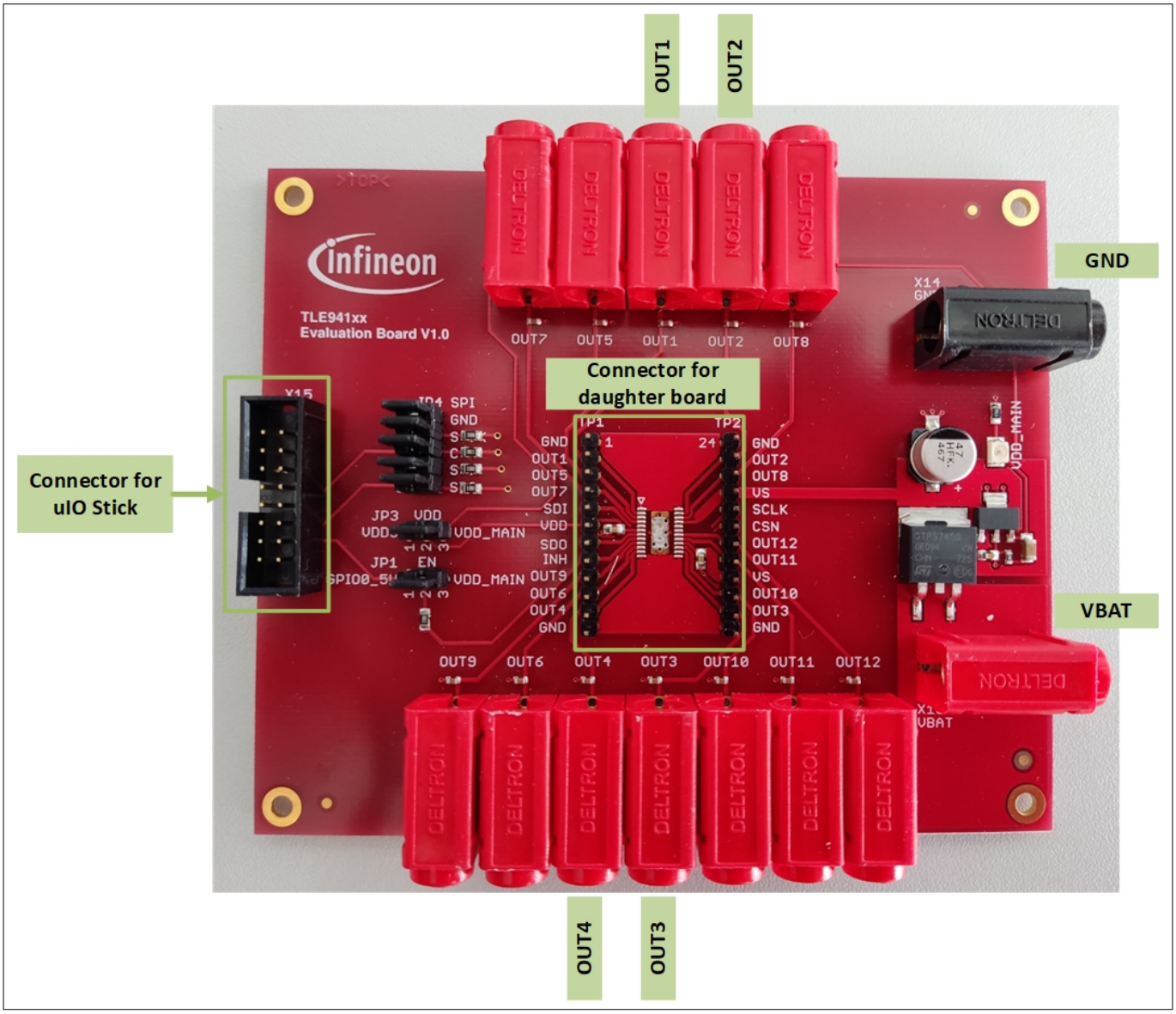

Figure 15 TLE94104 evaluation board – main board

3 Config Wizard for MOTIX™ multi half-bridge ICs for TLE94104

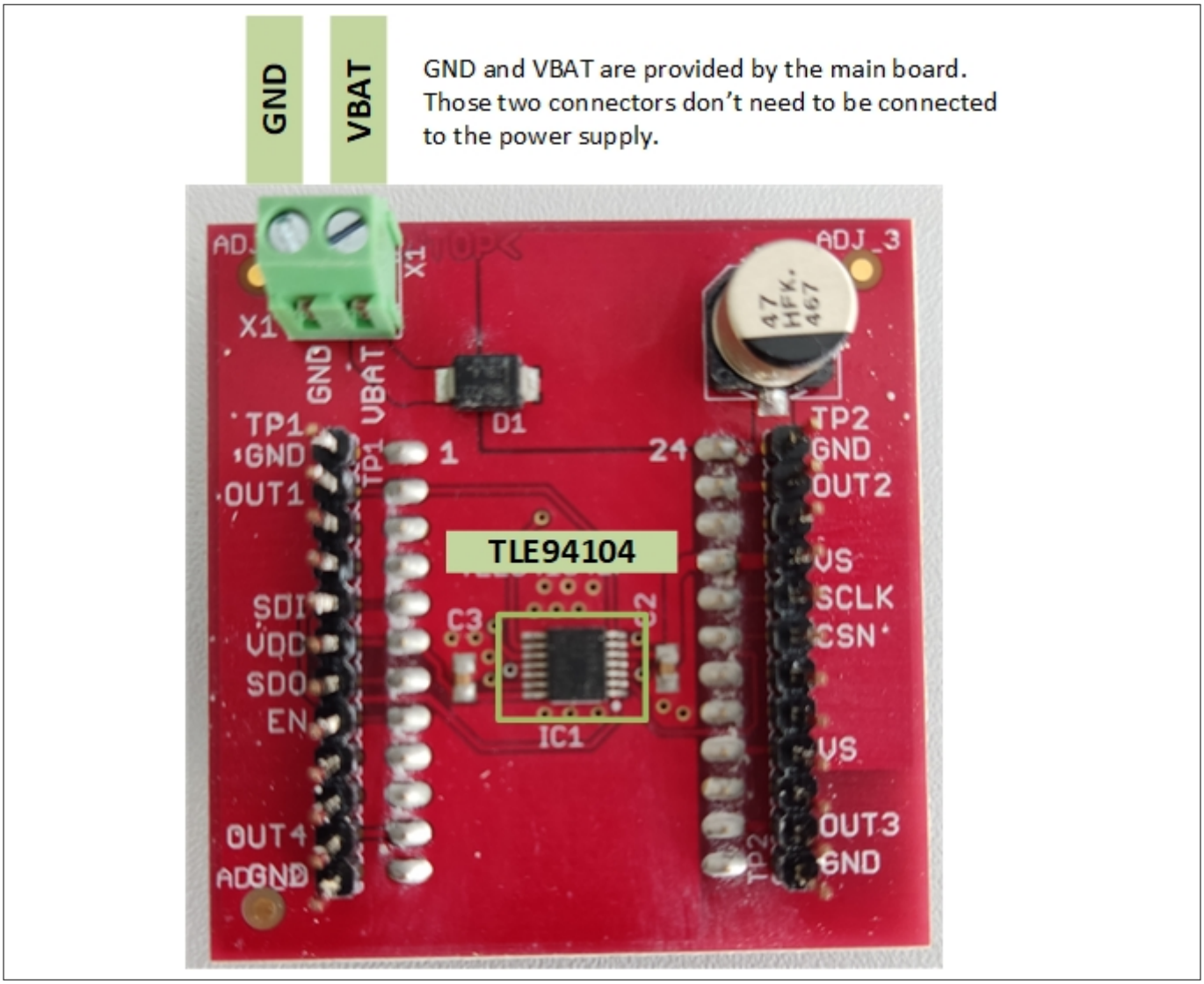

Figure 16 **TLE94104 evaluation board – daughter board**

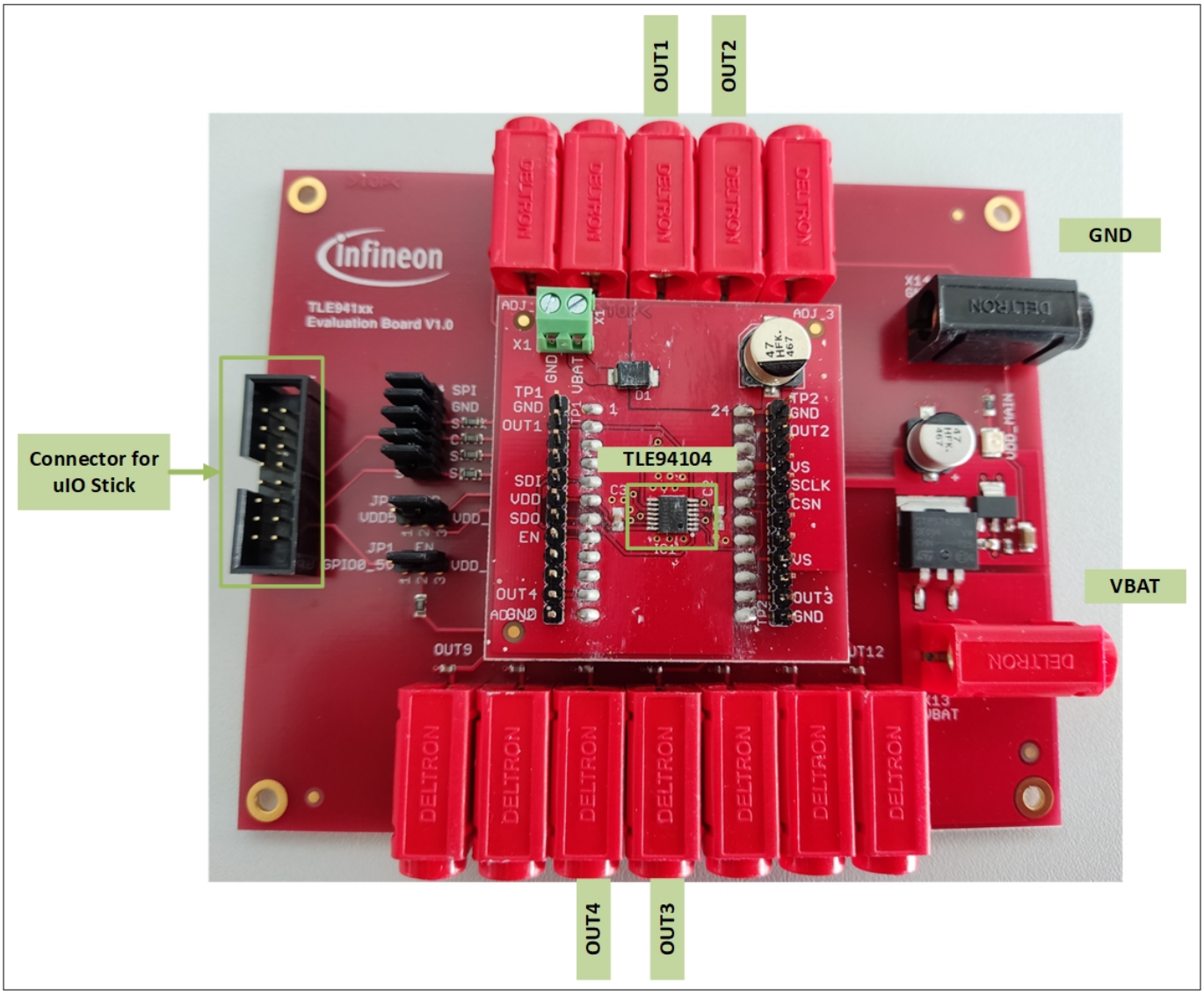

Figure 17 TLE94104 evaluation board – main board with daughter board

3.4 Getting started

1. Plug in the TLE94104 daughter board
2. Connect the motors
3. Connect the uIO stick to the TLE94104 evaluation board and to the PC
4. Connect the 12 V supply
5. Turn on the 12 V supply
6. Start the TLE94104 GUI
7. To operate the motors:
   a. Enable TLE94104
   b. Select the function
   c. If required:
      1. Clear the error flag for open load detection
      2. Clear the error flag for over current detection
      3. Clear the global status flags

3.5 Description of the GUI

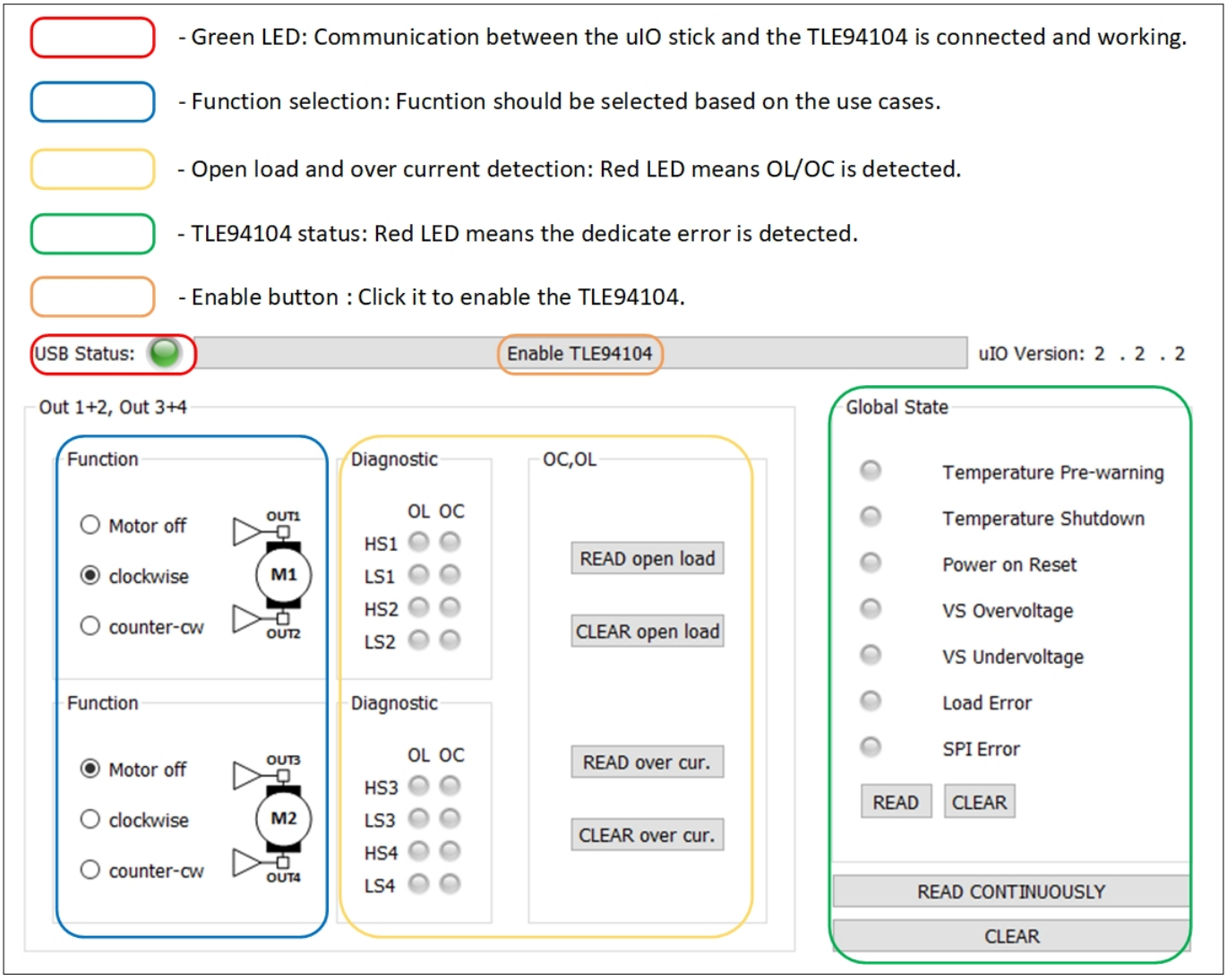

Figure 18 GUI for the TLE94104 evaluation board

4 Config Wizard for MOTIX™ multi half-bridge ICs for TLE94106

4.1 Open Config Wizard for MOTIX™ multi half-bridge ICs for TLE94106 Evalboard

Select icon below to open the product view.

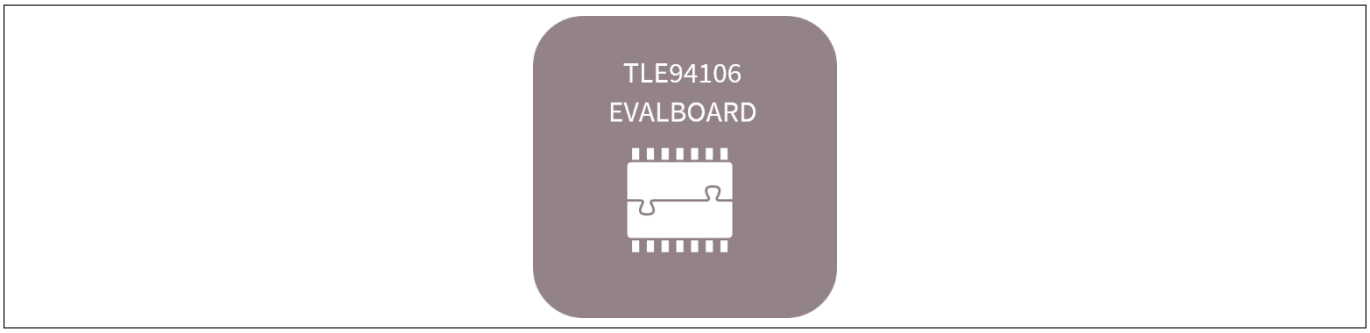

Figure 19 Starting the GUI for the TLE94106 Evalboard

The following view will be displayed.

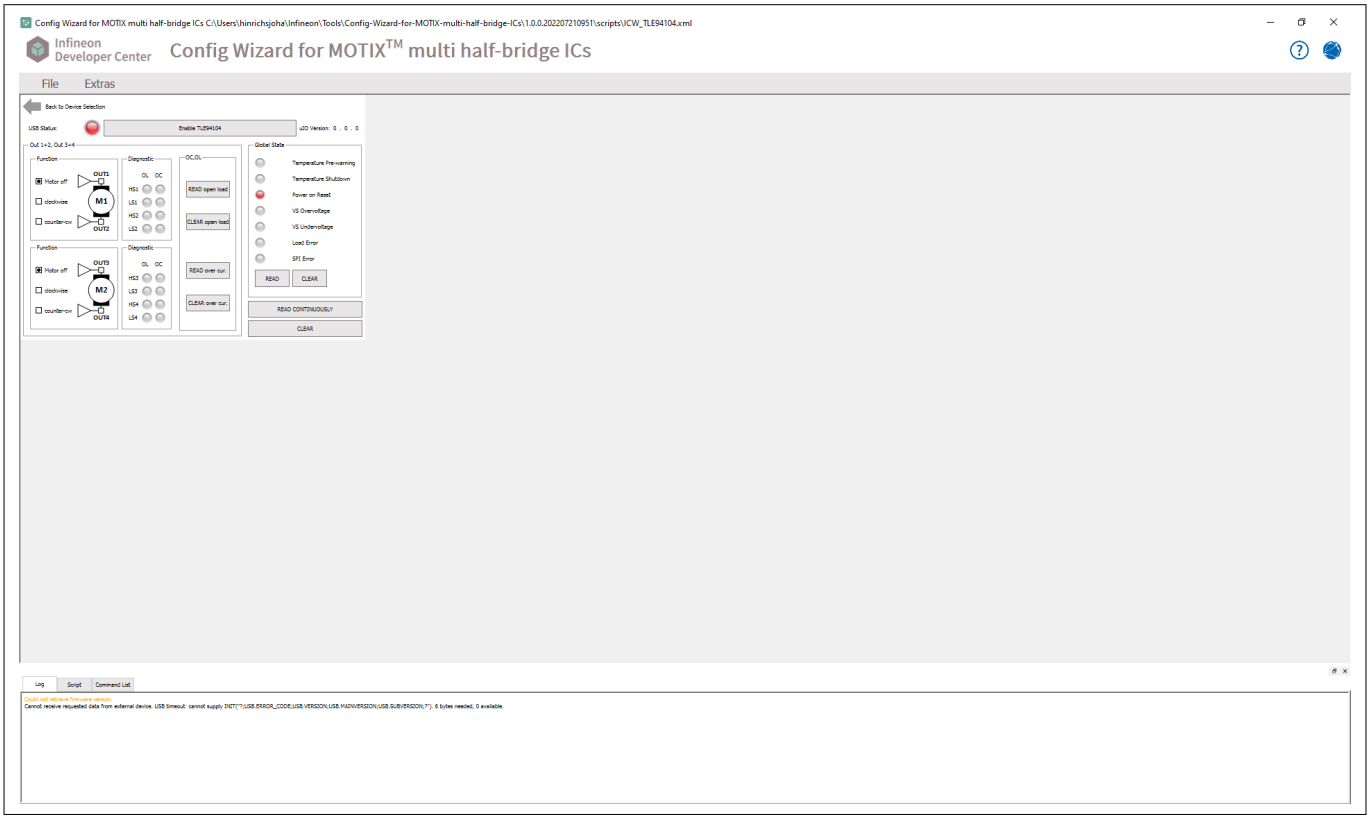

Figure 20 Starting view of the GUI for the TLE94106 Evalboard

4.2 Introduction

The TLE94106 evaluation board is intended to provide a simple and easy-to-use tool for getting familiar with the device features and for first application tests.

Refer to the corresponding product page for more details: Link.

4 Config Wizard for MOTIX™ multi half-bridge ICs for TLE94106

The uIO-stick is the interface between the PC and the TLE94106 evaluation board.
The SPI communication is emulated by the uIO-stick, which is controlled by the PC software.
The TLE94106 evaluation board has:

- A connector for the uIO-stick
- Connectors for the power supply
- Connectors for the motor output
- An active reverse battery protection

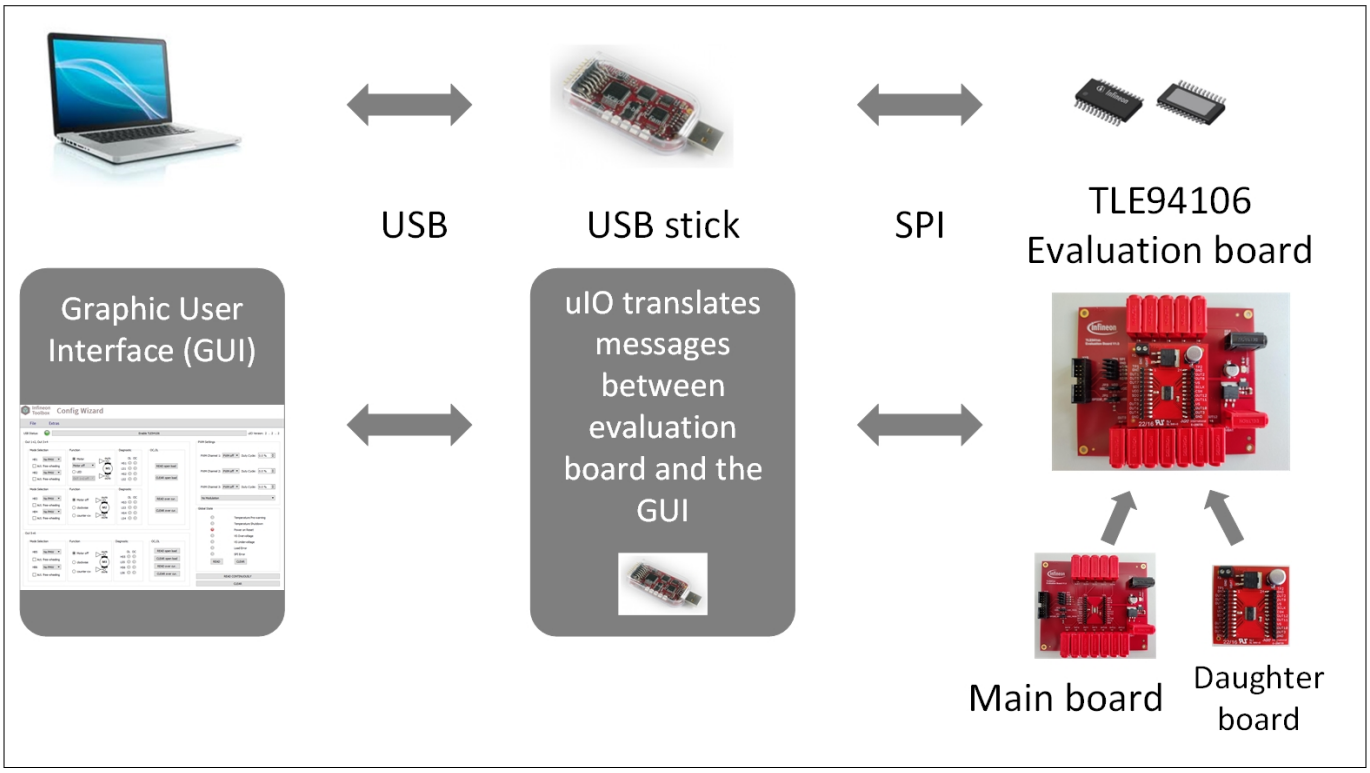

Figure 21 TLE94106 evaluation board concept

Controlling the TLE94106 evaluation board with the GUI requires:

- The main board: TLE941xx Evaluation Board
- The TLE94106 daughter board
- The uIO stick
- 12 V DC power supply, which is able to provide sufficient current for the motor load. For evaluation purpose motor loads which less than 1 A current consumption are recommended

The uIO stick must be ordered separately.
Details about the uIO stick can be found here.

4.3 Hardware

Operating the GUI for the TLE94106 evaluation board requires:

- The main board: TLE941xx Evaluation Board
- The TLE94106 daughter board
- The uIO stick
- 12 V DC power supply, which is able to provide sufficient current for the motor load. For evaluation purpose motor loads which less than 1 A current consumption are recommended

4.3.1 Hardware description

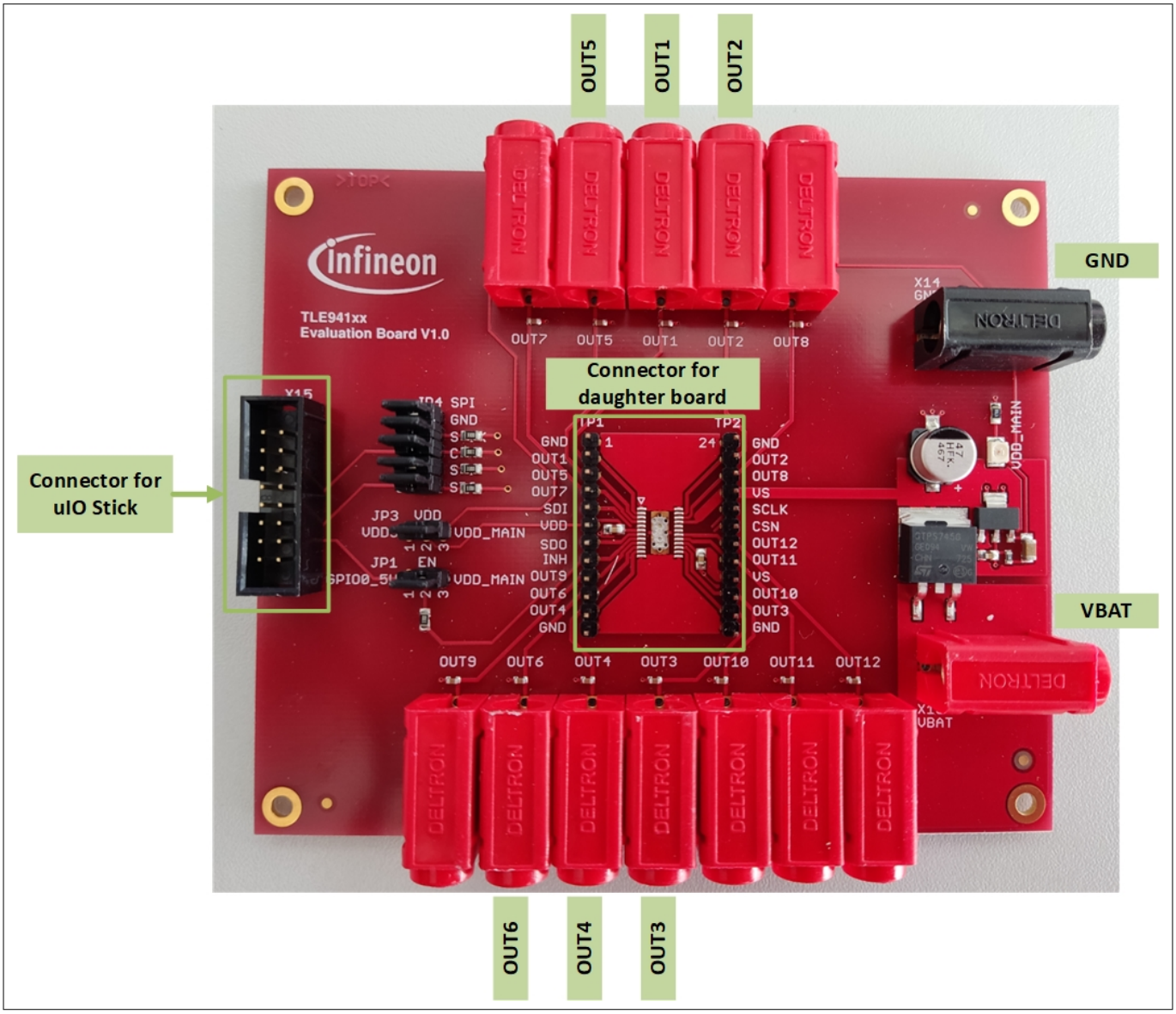

Figure 22 TLE94106 evaluation board – main board

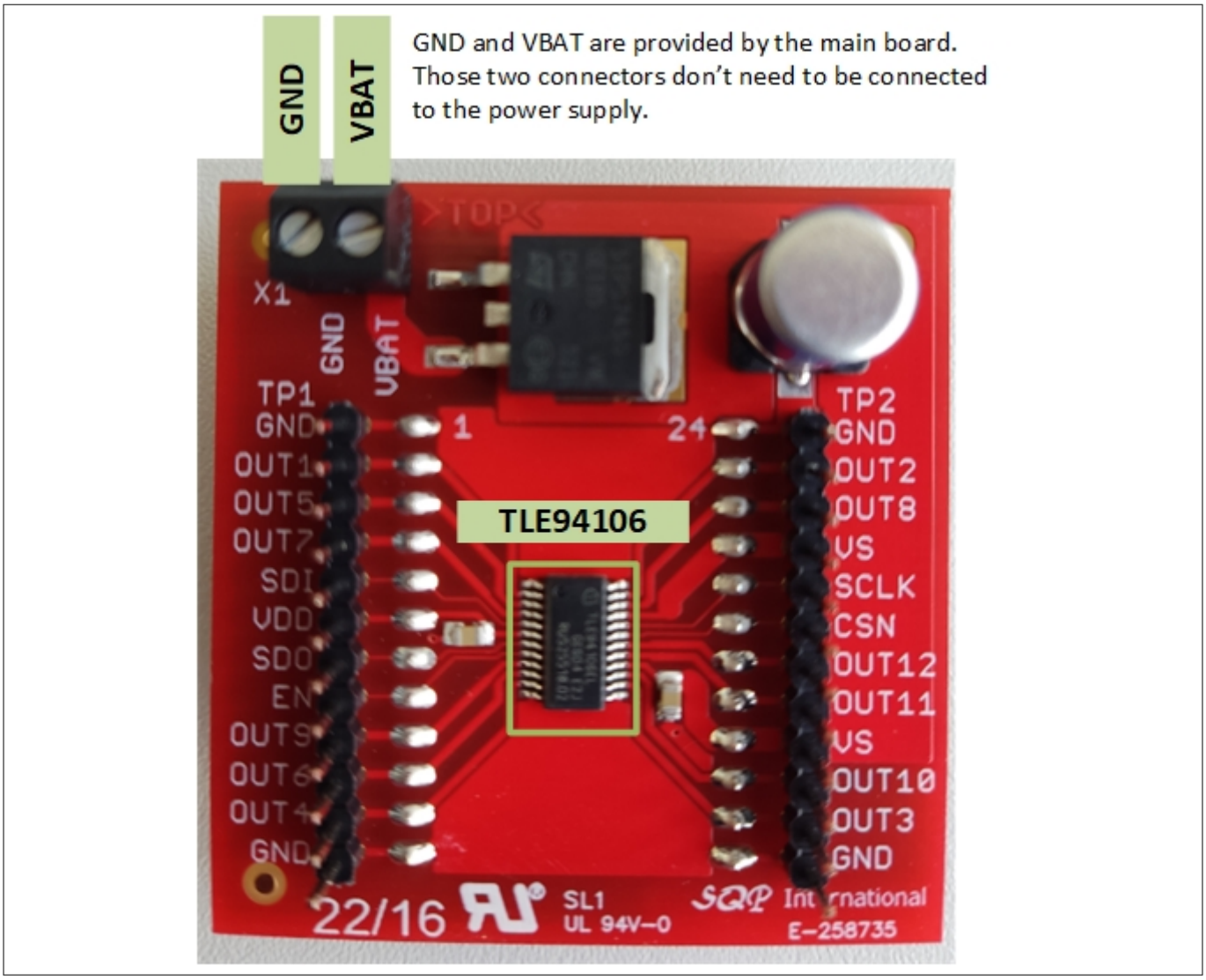

Figure 23 **TLE94106 evaluation board – daughter board**

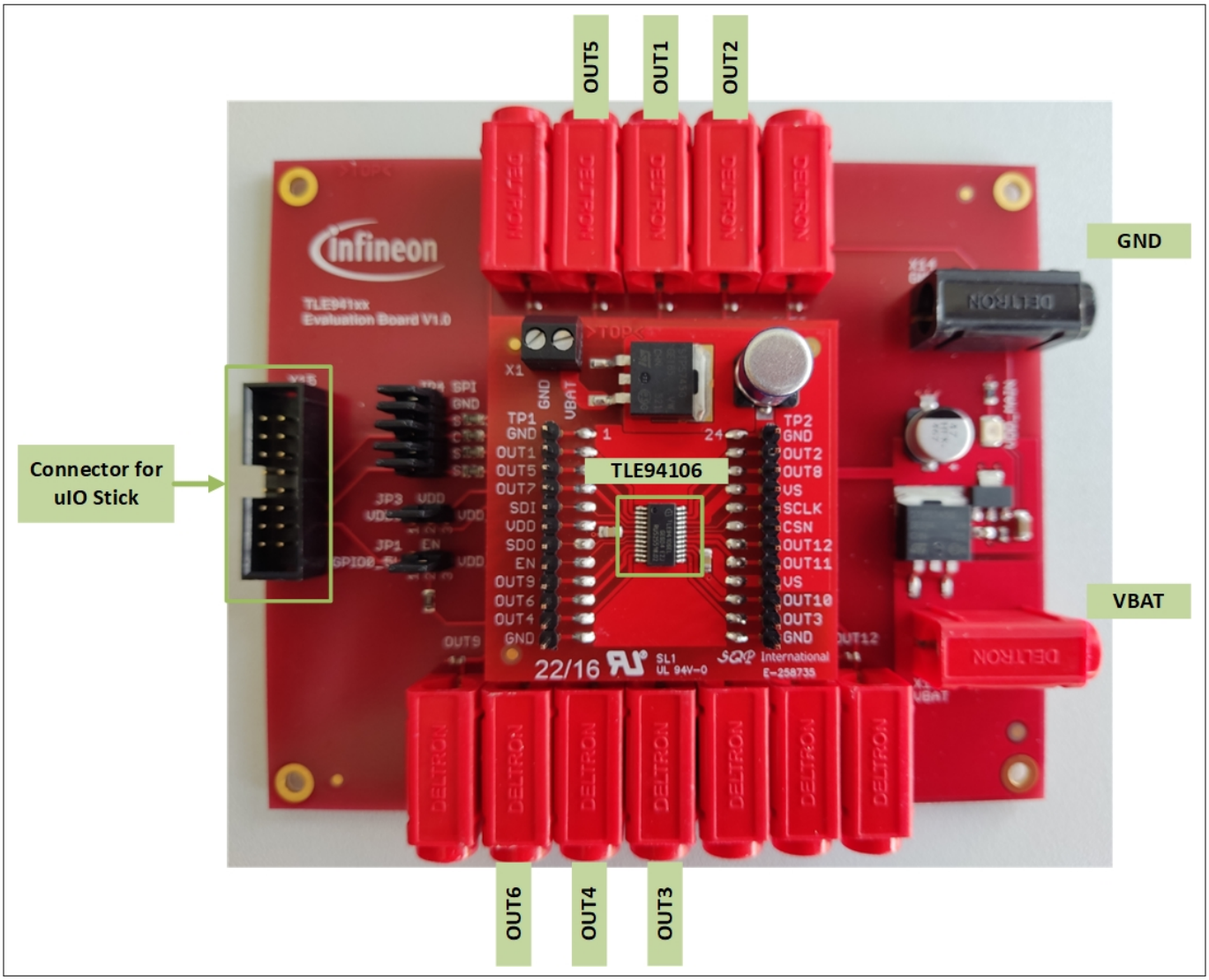

Figure 24 TLE94106 evaluation board – main board with daughter board

4.4 Getting started

1. Plug in the TLE94106 daughter board
2. Connect the motors
3. Connect the uIO stick to the TLE94106 evaluation board and to the PC
4. Connect the 12 V supply
5. Turn on the 12 V supply
6. Start the TLE94106 GUI
7. To operate the motors:
   a. Enable TLE94106
   b. Select the function
   c. If required:
      1. Clear the error flag for open load detection
      2. Clear the error flag for over current detection
      3. Clear the global status flags

4.5 Description of the GUI

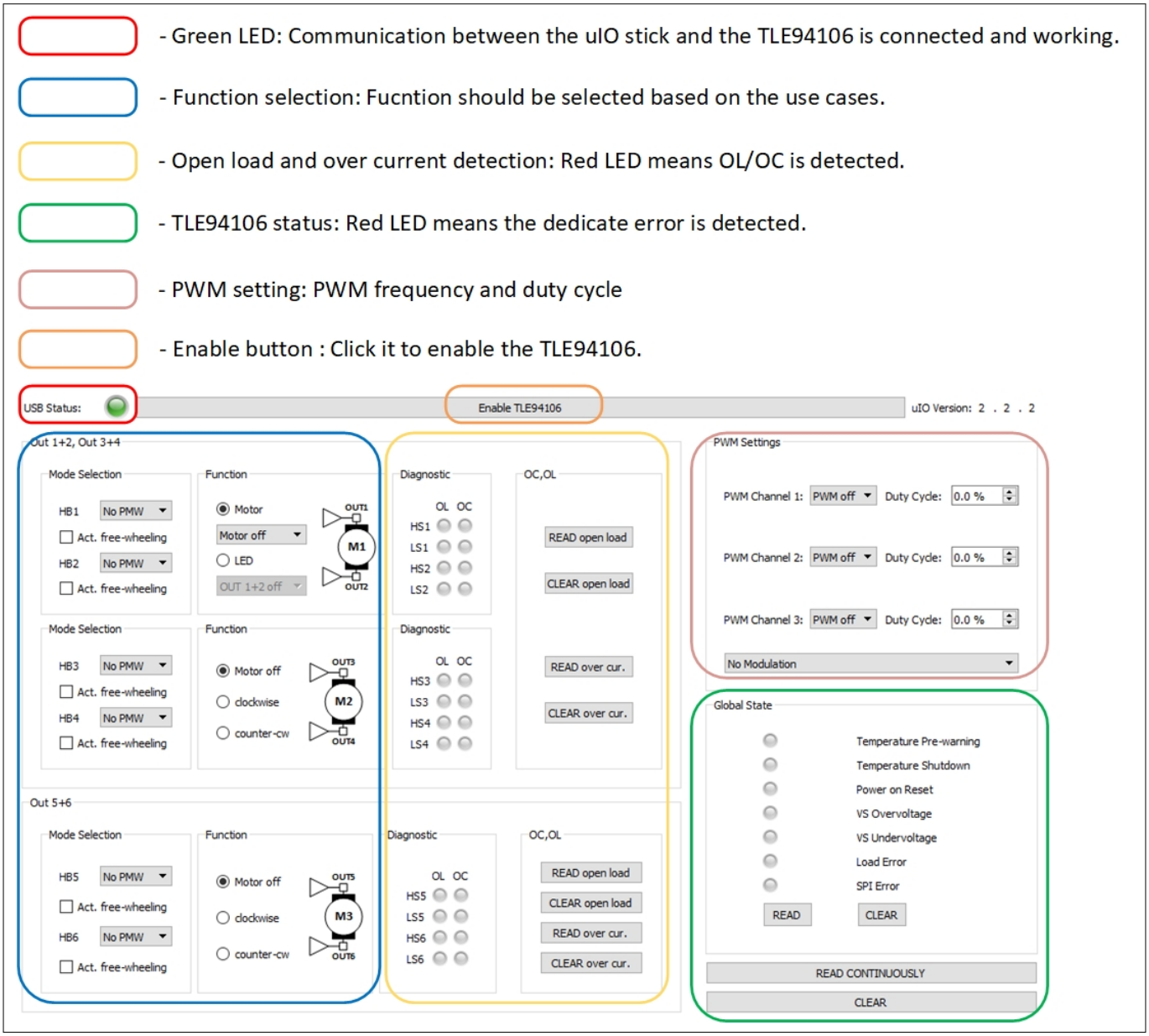

Figure 25 GUI overview for the TLE94106 evaluation board

4 Config Wizard for MOTIX™ multi half-bridge ICs for TLE94106

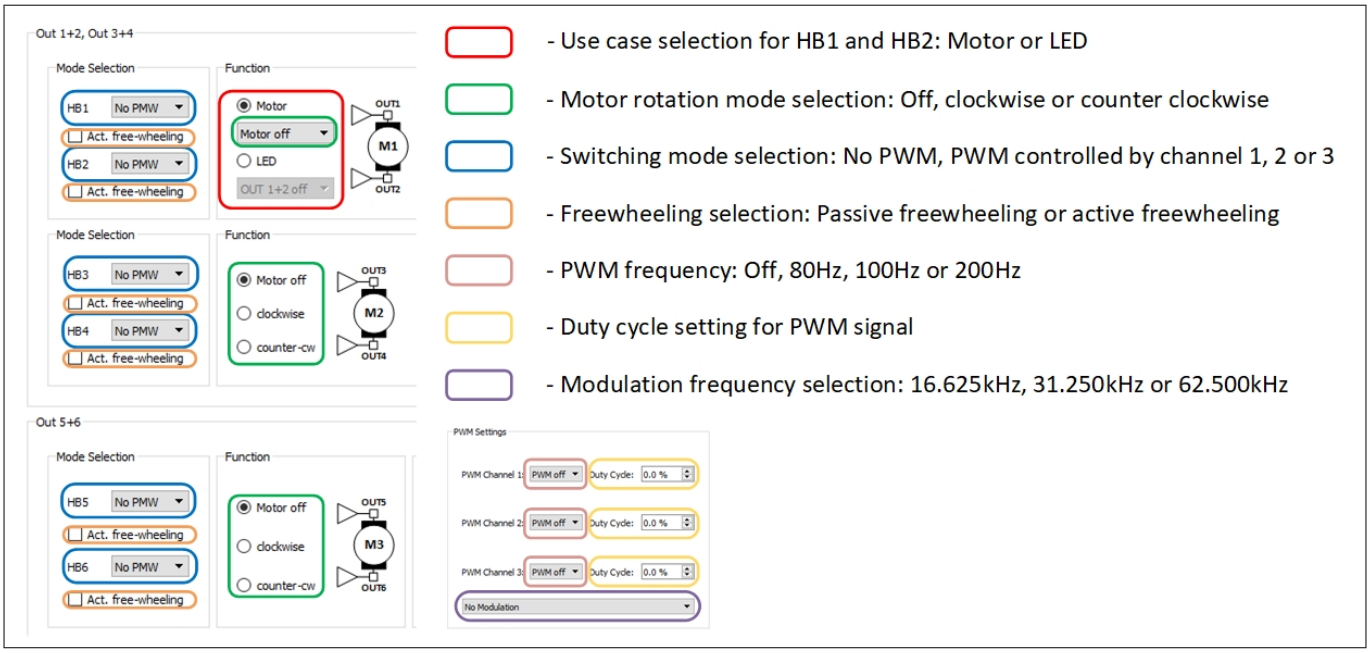

Figure 26 Function selection for the TLE94106 evaluation board

5 Config Wizard for MOTIX™ multi half-bridge ICs for TLE94108

5.1 Open Config Wizard for MOTIX™ multi half-bridge ICs for TLE94108 Evalboard

Select icon below to open the product view.

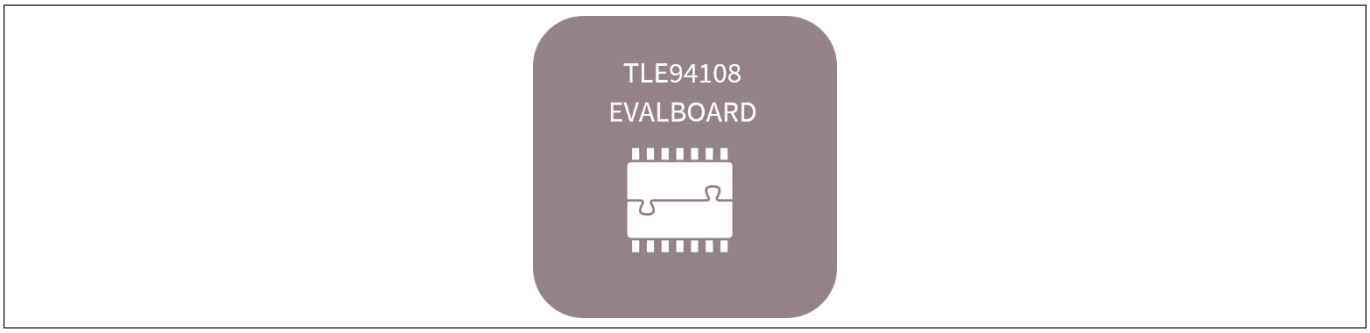

Figure 27 Starting the GUI for the TLE94108 Evalboard

The following view will be displayed.

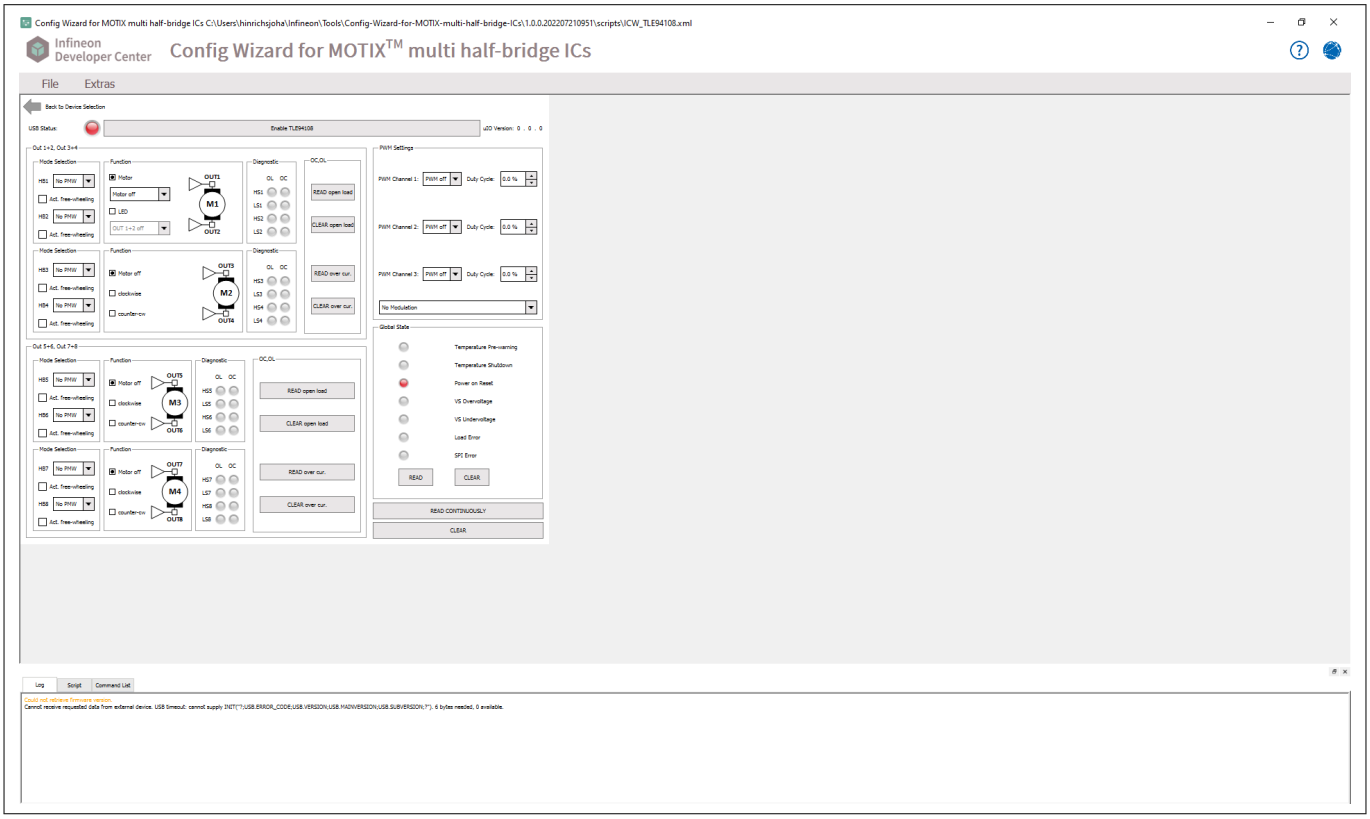

Figure 28 Starting view of the GUI for the TLE94108 Evalboard

5.2 Introduction

The TLE94108 evaluation board is intended to provide a simple and easy-to-use tool for getting familiar with the device features and for first application tests.

Refer to the corresponding product page for more details: Link.

5 Config Wizard for MOTIX™ multi half-bridge ICs for TLE94108

The uIO-stick is the interface between the PC and the TLE94108 evaluation board.
The SPI communication is emulated by the uIO-stick, which is controlled by the PC software.
The TLE94108 evaluation board has:

- A connector for the uIO-stick
- Connectors for the power supply
- Connectors for the motor output
- An active reverse battery protection

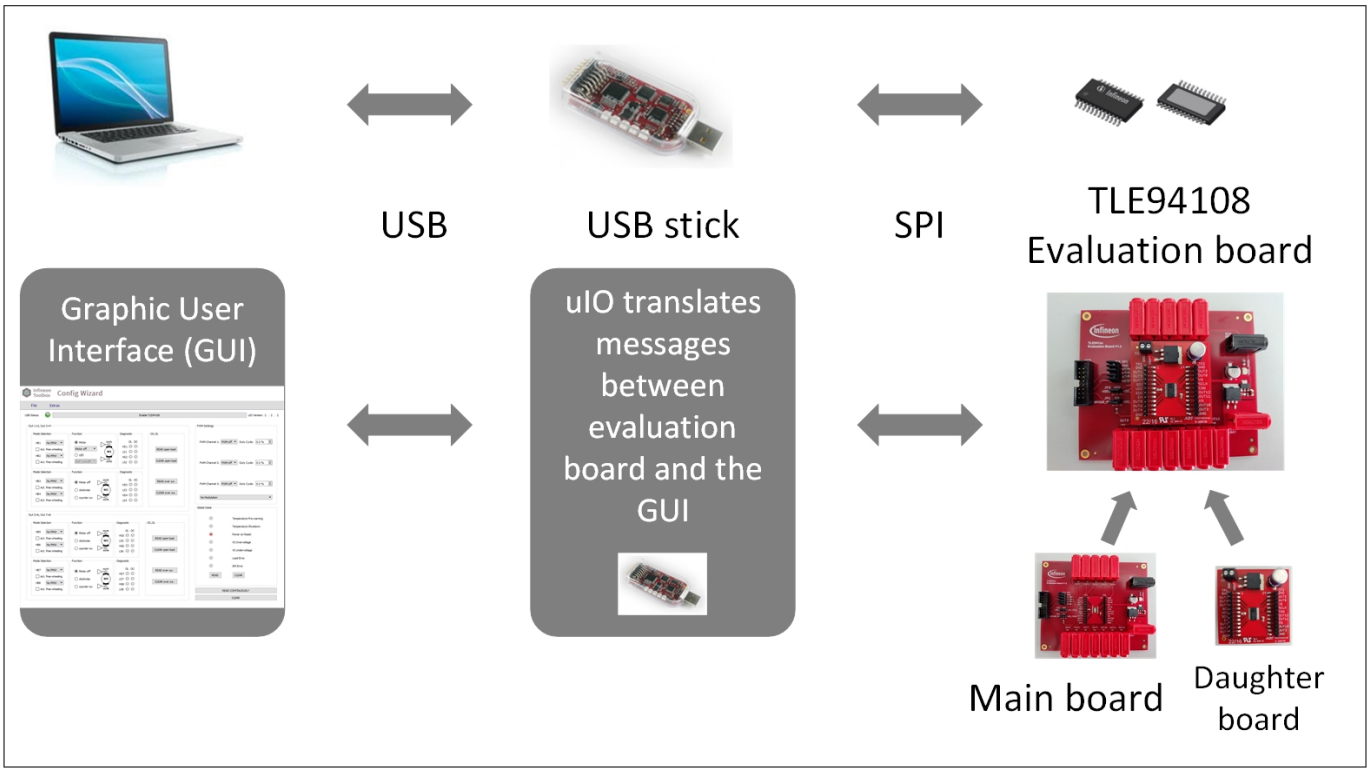

Figure 29 TLE94108 evaluation board concept

Controlling the TLE94108 evaluation board with the GUI requires:

- The main board: TLE941xx Evaluation Board
- The TLE94108 daughter board
- The uIO stick
- 12 V DC power supply, which is able to provide sufficient current for the motor load. For evaluation purpose motor loads which less than 1 A current consumption are recommended

The uIO stick must be ordered separately.
Details about the uIO stick can be found here.

5.3 Hardware

Operating the GUI for the TLE94108 evaluation board requires:

- The main board: TLE941xx Evaluation Board
- The TLE94108 daughter board
- The uIO stick
- 12 V DC power supply, which is able to provide sufficient current for the motor load. For evaluation purpose motor loads which less than 1 A current consumption are recommended

5.3.1 Hardware description

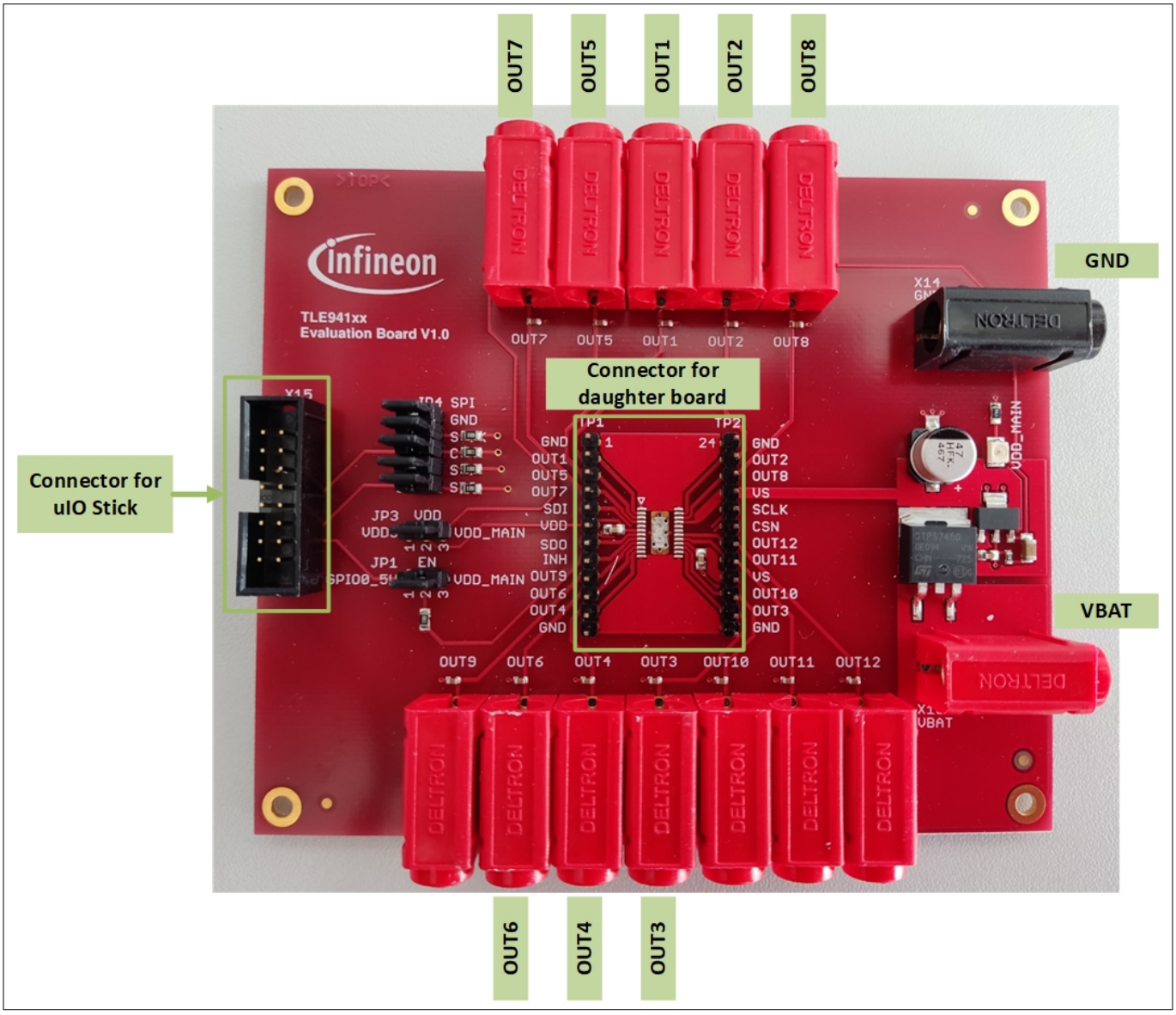

Figure 30 TLE94108 evaluation board – main board

5 Config Wizard for MOTIX™ multi half-bridge ICs for TLE94108

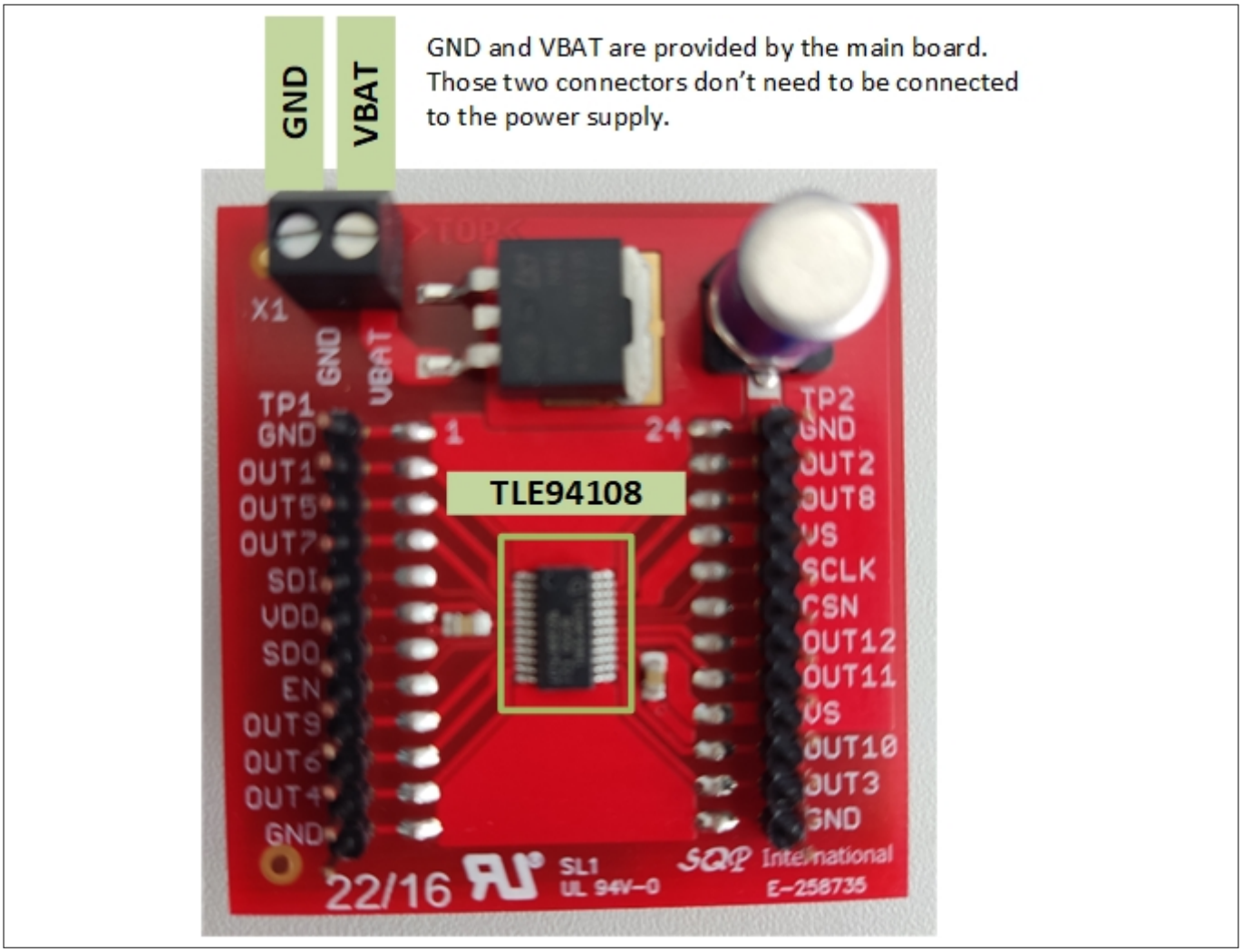

Figure 31 TLE94108 evaluation board – daughter board

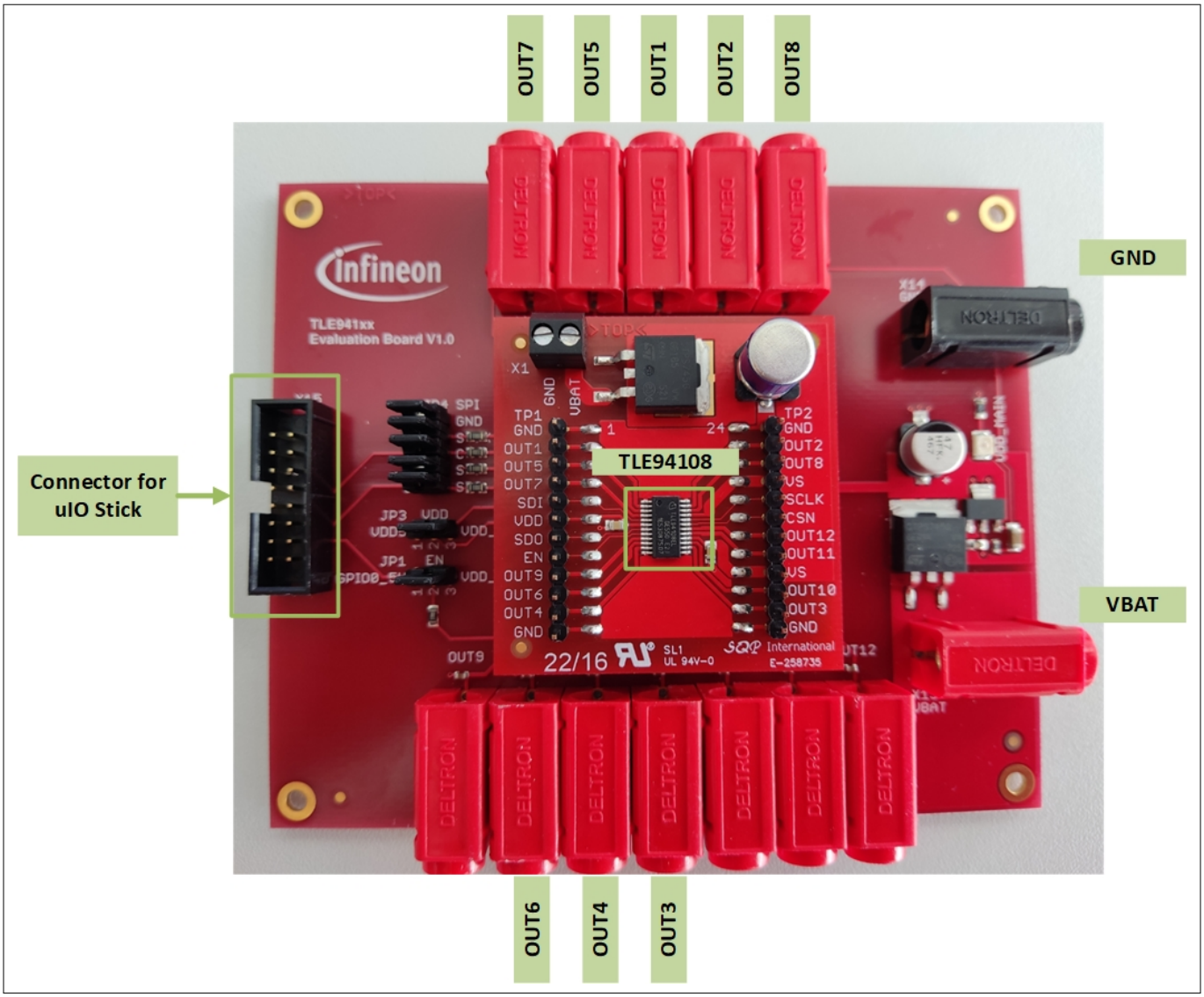

Figure 32 TLE94108 evaluation board – main board with daughter board

5.4 Getting started

1. Plug in the TLE94108 daughter board
2. Connect the motors
3. Connect the uIO stick to the TLE94108 evaluation board and to the PC
4. Connect the 12 V supply
5. Turn on the 12 V supply
6. Start the TLE94108 GUI
7. To operate the motors:
8. Enable TLE94108
9. Select the function
10. If required:
    a. Clear the error flag for open load detection
    b. Clear the error flag for over current detection
    c. Clear the global status flags

5.5 Description of the GUI

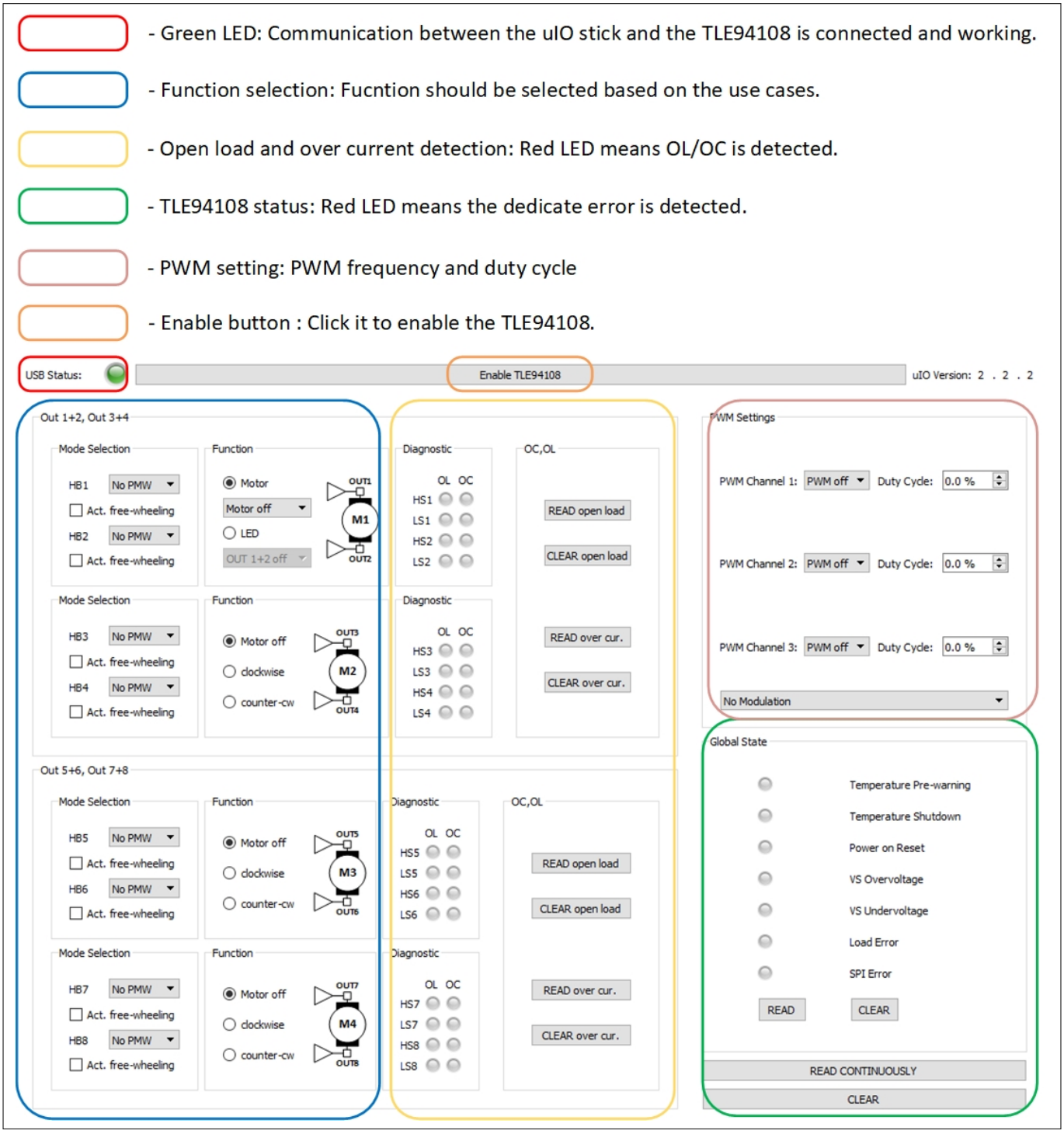

Figure 33 GUI overview for the TLE94108 evaluation board

5 Config Wizard for MOTIX™ multi half-bridge ICs for TLE94108

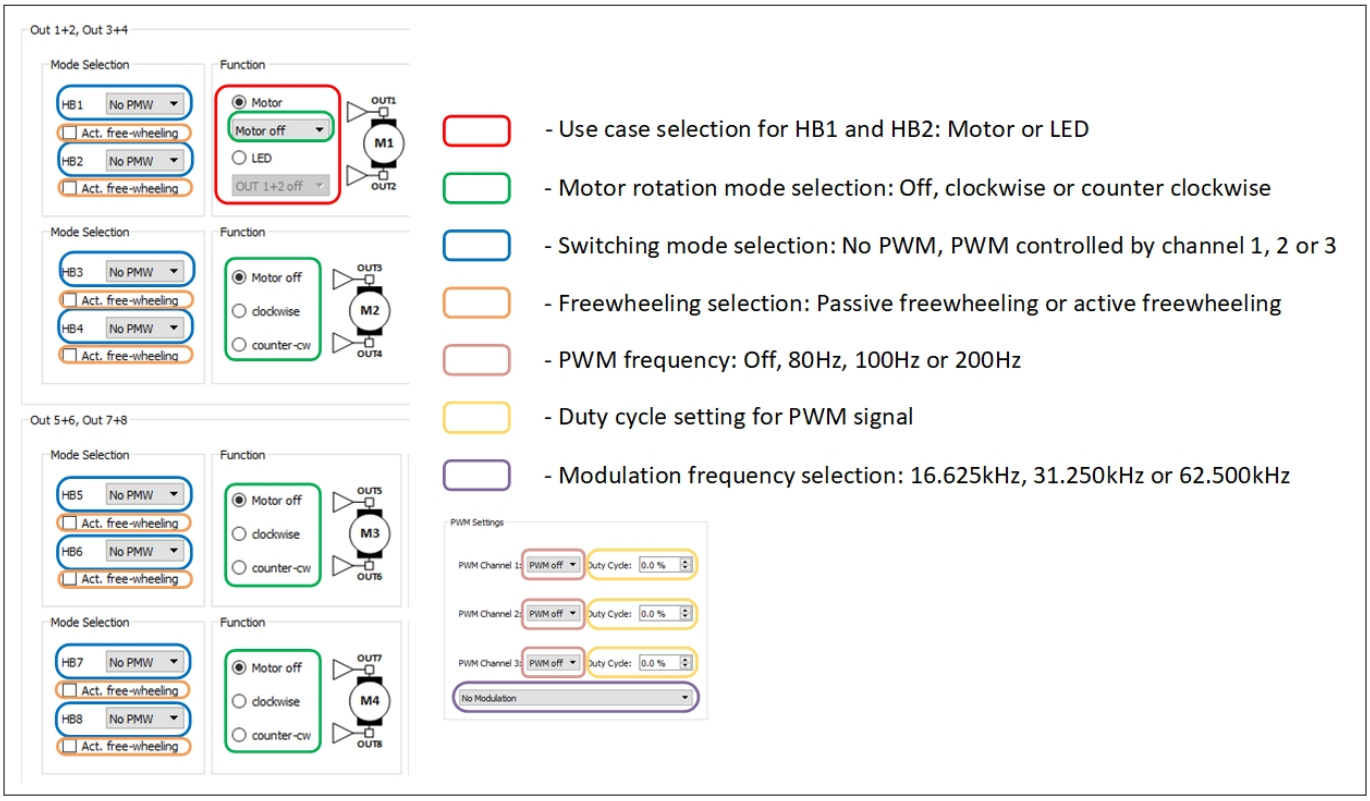

Figure 34 Function selection for the TLE94108 evaluation board

6 Config Wizard for MOTIX™ multi half-bridge ICs for TLE94110

6.1 Open Config Wizard for MOTIX™ multi half-bridge ICs for TLE94110 Evalboard

Select icon below to open the product view.

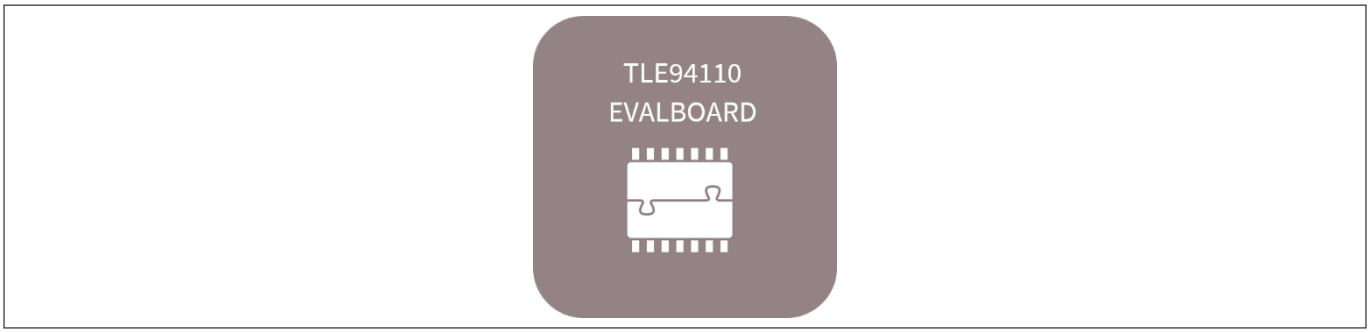

Figure 35 Starting the GUI for the TLE94110 Evalboard

The following view will be displayed.

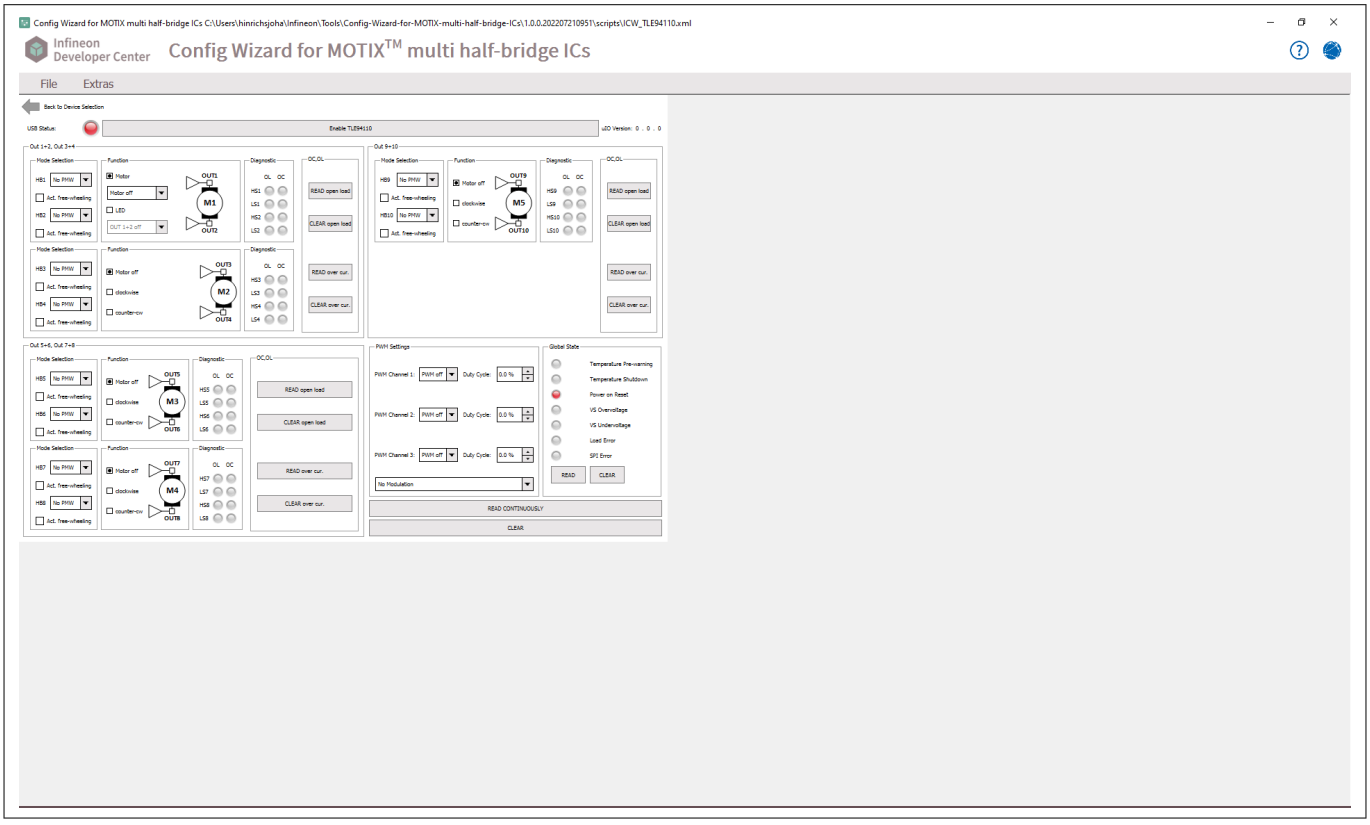

Figure 36 Starting view of the GUI for the TLE94110 Evalboard

6.2 Introduction

The TLE94110 evaluation board is intended to provide a simple and easy-to-use tool for getting familiar with the device features and for first application tests.

Refer to the corresponding product page for more details: Link.

The uIO-stick is the interface between the PC and the TLE94110 evaluation board.
The SPI communication is emulated by the uIO-stick, which is controlled by the PC software.
The TLE94110 evaluation board has:

- A connector for the uIO-stick
- Connectors for the power supply
- Connectors for the motor output
- An active reverse battery protection

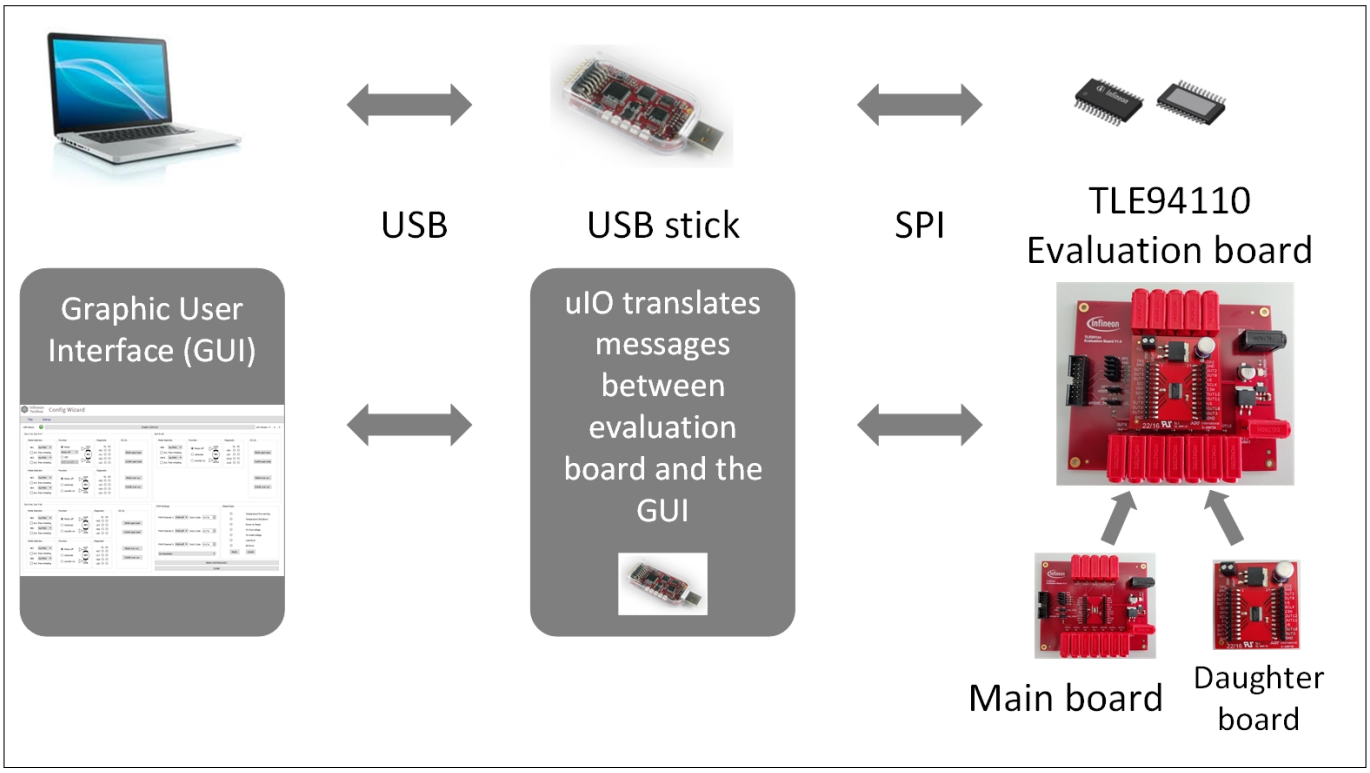

Figure 37 TLE94110 evaluation board concept

Controlling the TLE94110 evaluation board with the GUI requires:

- The main board: TLE941xx Evaluation Board
- The TLE94110 daughter board
- The uIO stick
- 12 V DC power supply, which is able to provide sufficient current for the motor load. For evaluation purpose motor loads which less than 1 A current consumption are recommended

The uIO stick must be ordered separately.
Details about the uIO stick can be found here.

6.3 Hardware

Operating the GUI for the TLE94110 evaluation board requires:

- The main board: TLE941xx Evaluation Board
- The TLE94110 daughter board
- The uIO stick
- 12 V DC power supply, which is able to provide sufficient current for the motor load. For evaluation purpose motor loads which less than 1 A current consumption are recommended

6.3.1 Hardware description

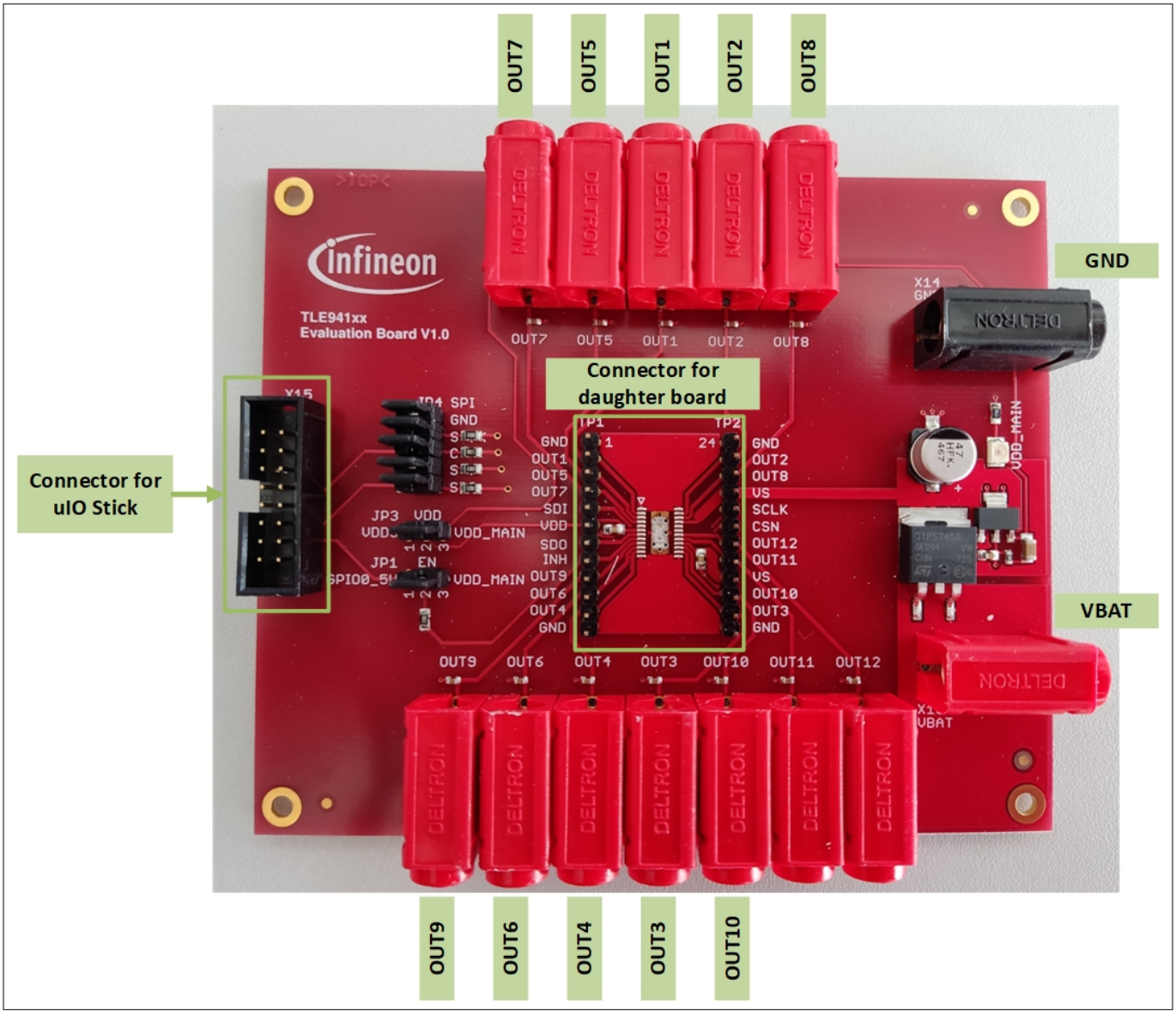

Figure 38 TLE94110 evaluation board – main board

6 Config Wizard for MOTIX™ multi half-bridge ICs for TLE94110

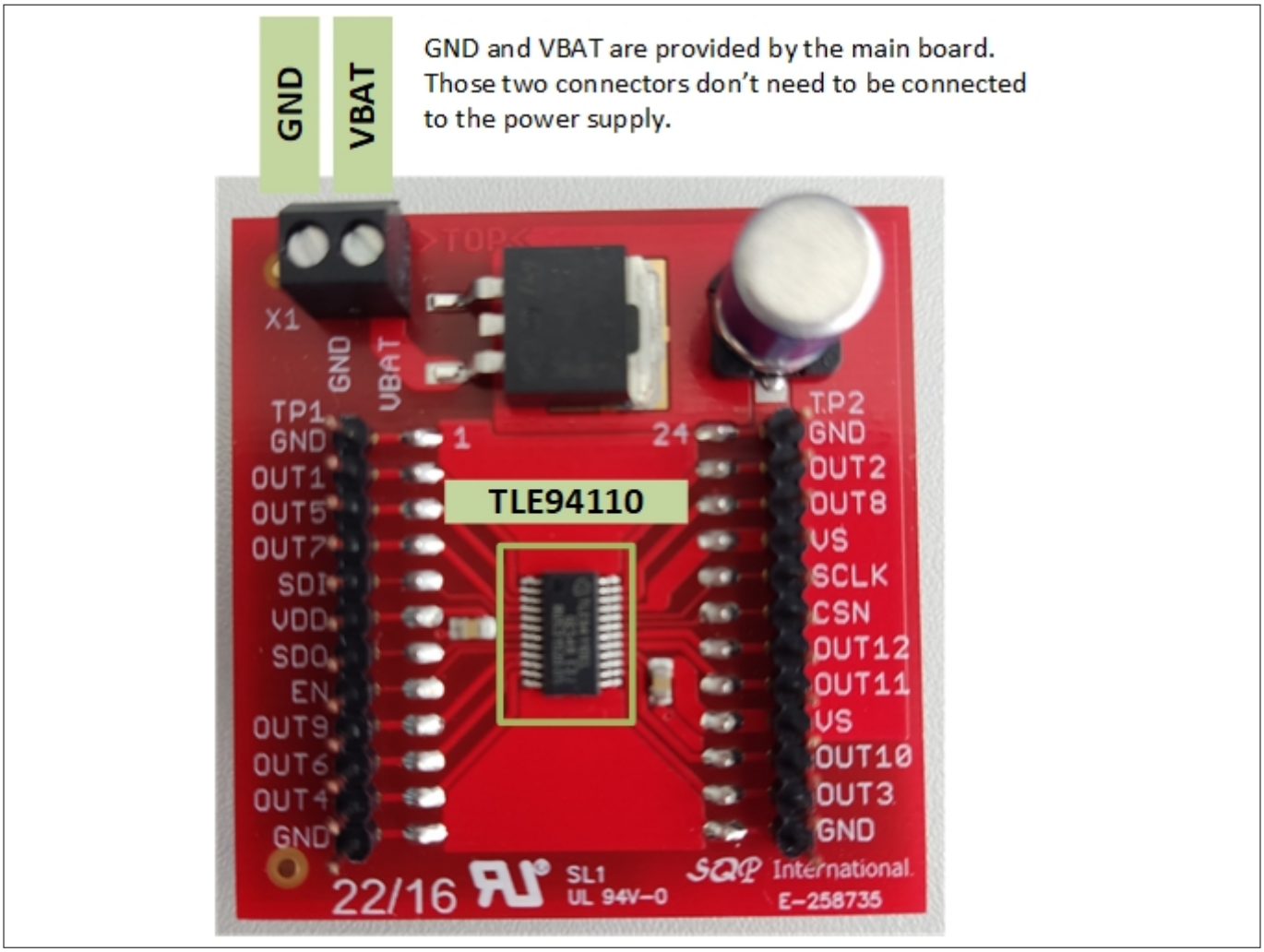

Figure 39 TLE94110 evaluation board – daughter board

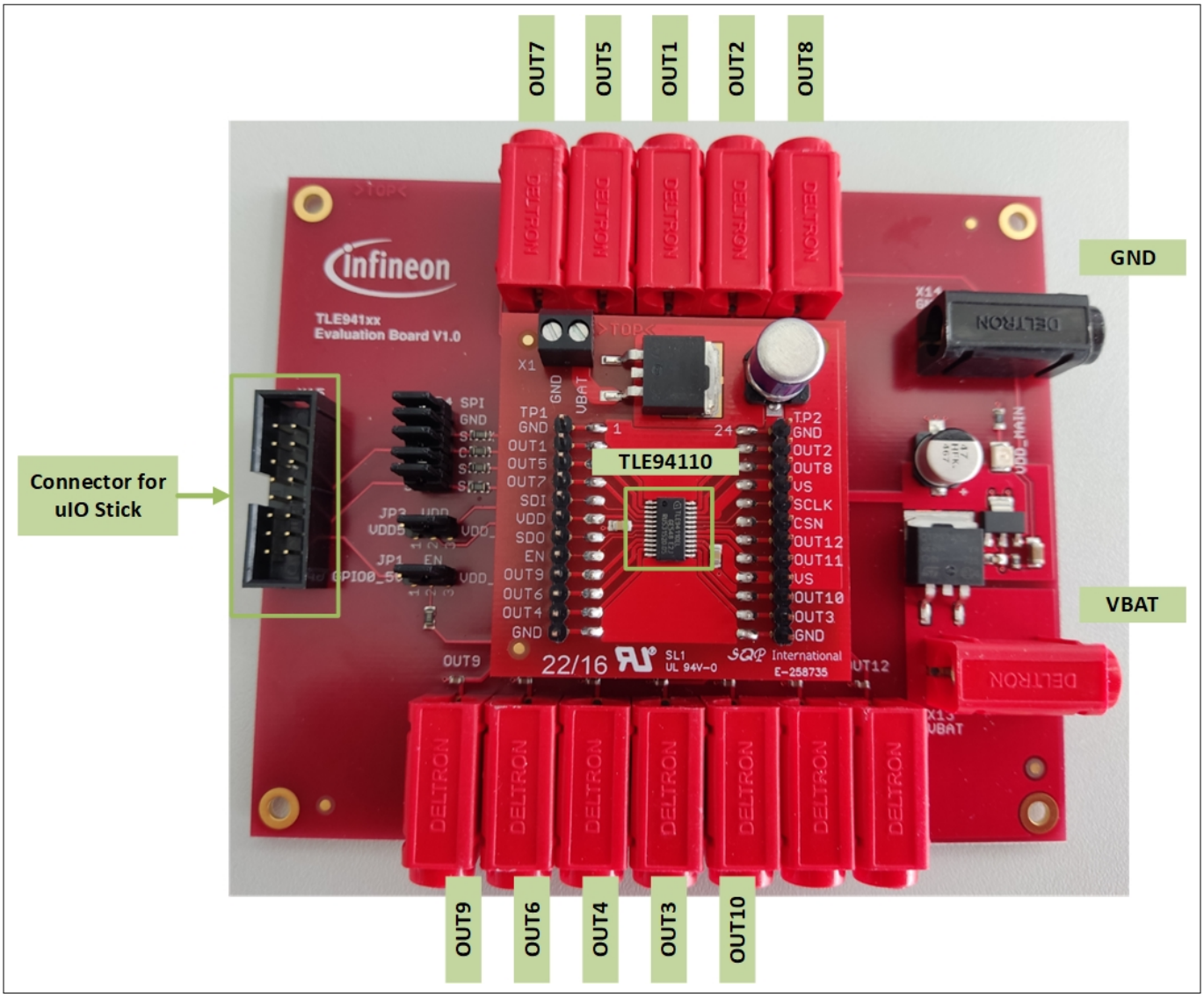

Figure 40 TLE94110 evaluation board – main board with daughter board

6.4 Getting started

1. Plug in the TLE94110 daughter board
2. Connect the motors
3. Connect the uIO stick to the TLE94110 evaluation board and to the PC
4. Connect the 12 V supply
5. Turn on the 12 V supply
6. Start the TLE94110 GUI
7. To operate the motors:
   a. Enable TLE94110
   b. Select the function
   c. If required:
      1. Clear the error flag for open load detection
      2. Clear the error flag for over current detection
      3. Clear the global status flags

6.5 Description of the GUI

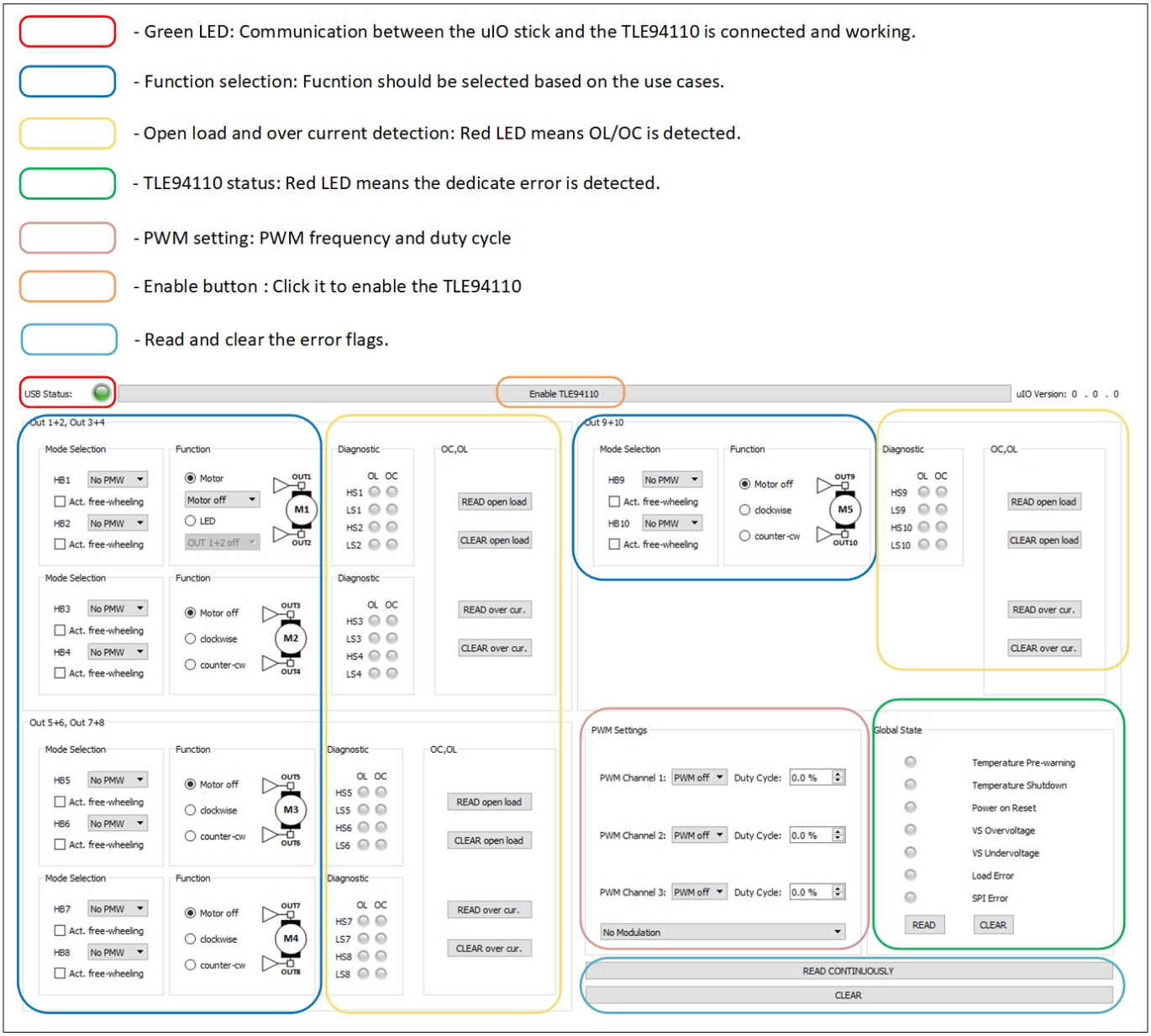

Figure 41 GUI overview for the TLE94110 evaluation board

6 Config Wizard for MOTIX™ multi half-bridge ICs for TLE94110

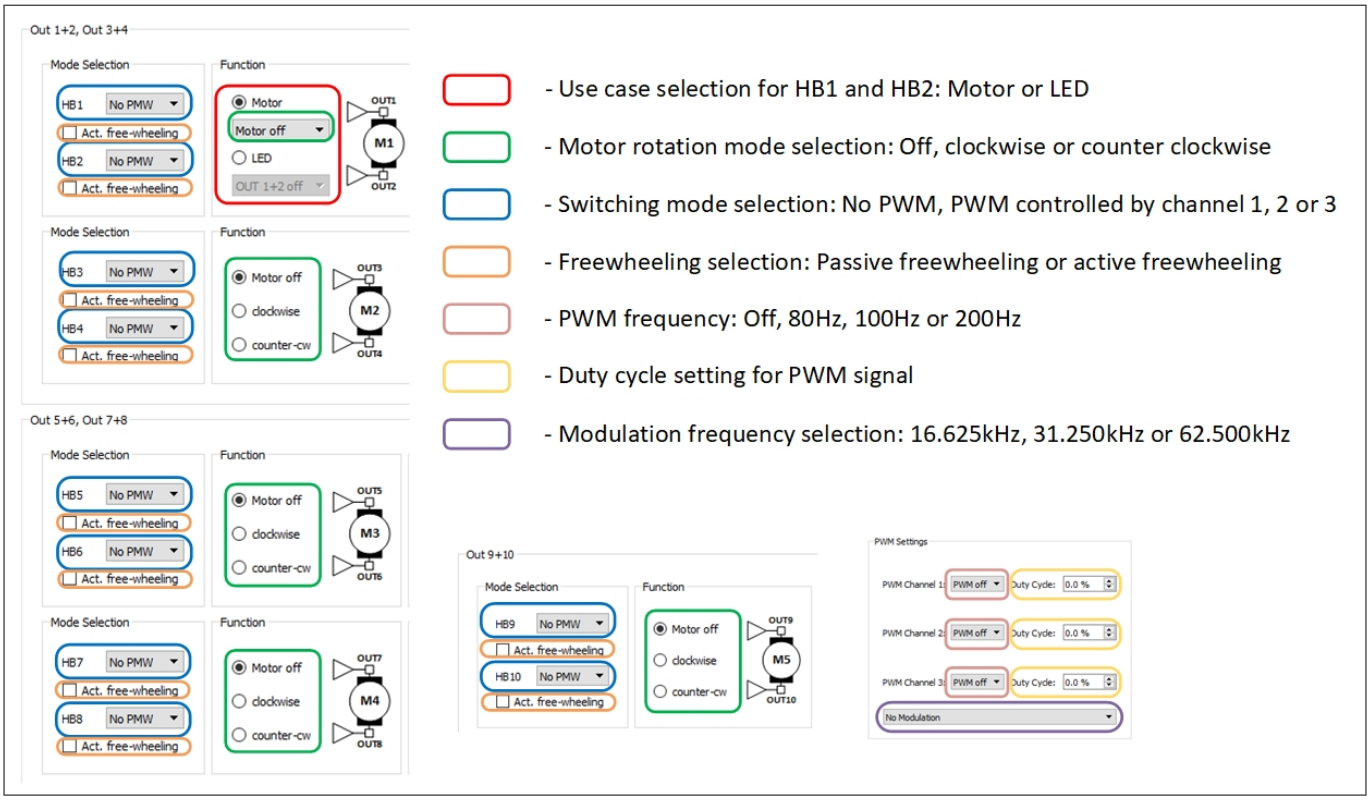

Figure 42 Function selection for the TLE94110 evaluation board

7 Config Wizard for MOTIX™ multi half-bridge ICs for TLE94112

7.1 Open Config Wizard for MOTIX™ multi half-bridge ICs for TLE94112 Evalboard

Select icon below to open the product view.

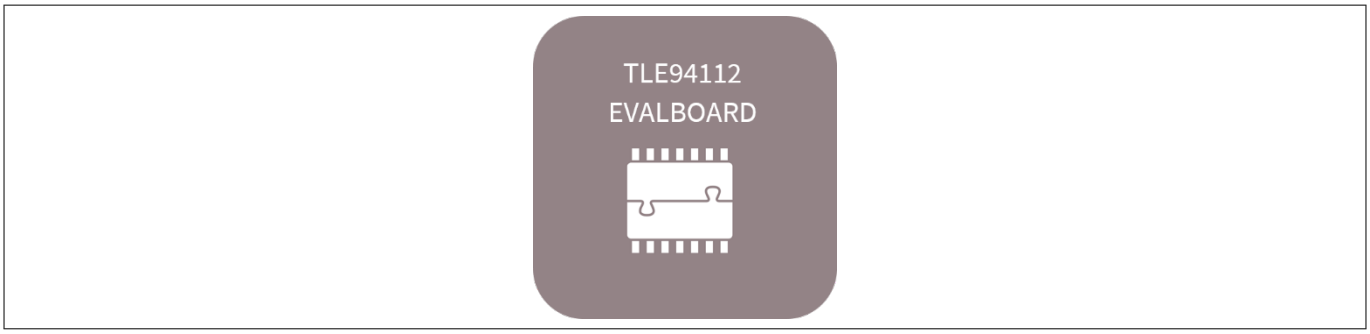

Figure 43 Starting the GUI for the TLE94112 Evalboard

The following view will be displayed.

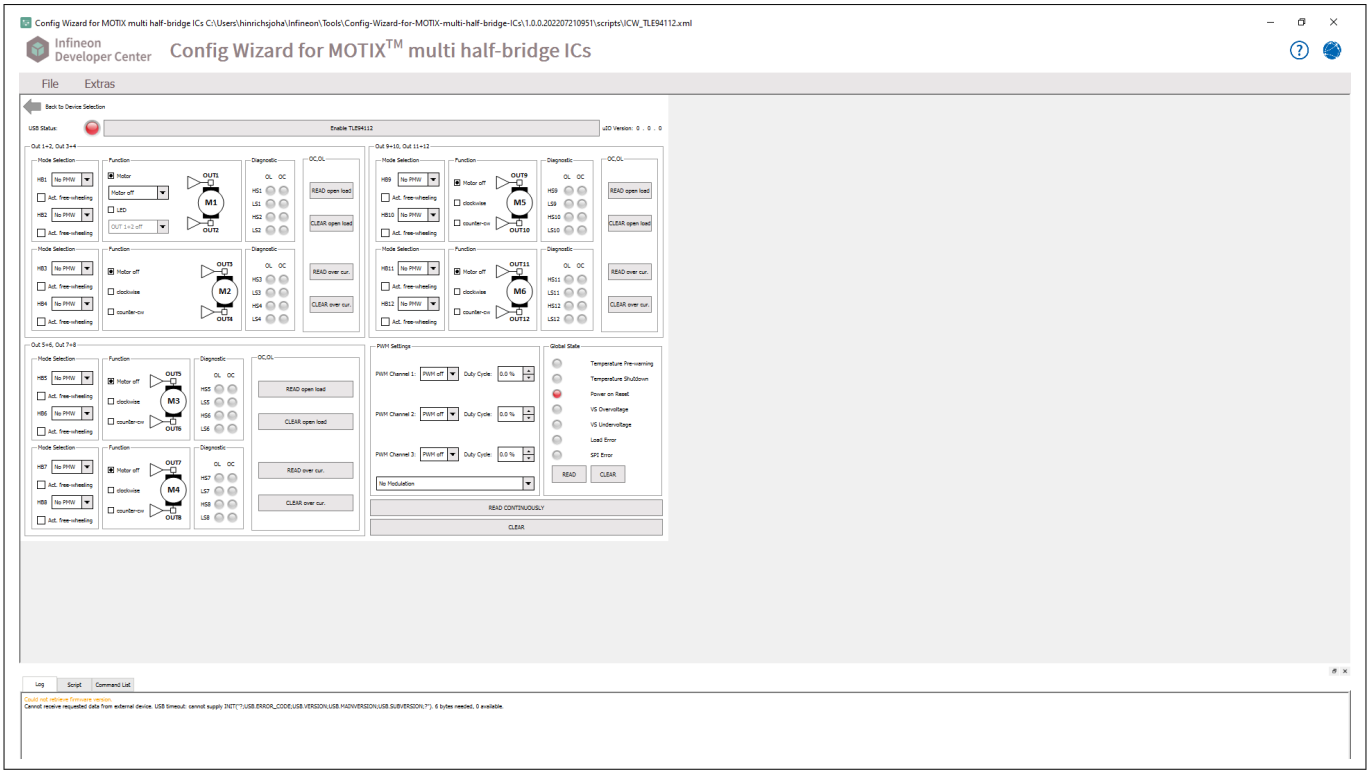

Figure 44 Starting view of the GUI for the TLE94112 Evalboard

7.2 Introduction

The TLE94112 evaluation board is intended to provide a simple and easy-to-use tool for getting familiar with the device features and for first application tests.

Refer to the corresponding product page for more details: Link.

The uIO-stick is the interface between the PC and the TLE94112 evaluation board.

The SPI communication is emulated by the uIO-stick, which is controlled by the PC software.

The TLE94112 evaluation board has:

- A connector for the uIO-stick
- Connectors for the power supply
- Connectors for the motor output
- An active reverse battery protection

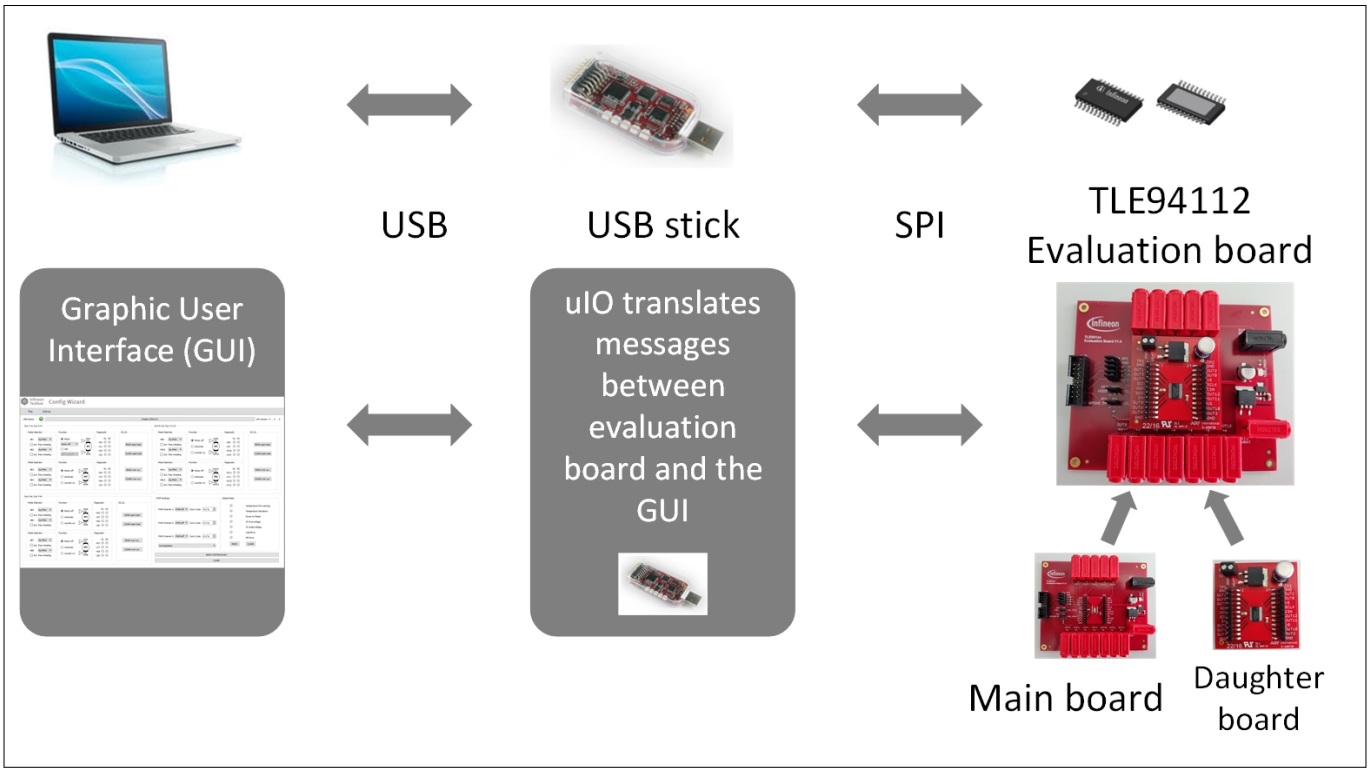

Figure 45 TLE94112 evaluation board concept

Controlling the TLE94112 evaluation board with the GUI requires:

- The main board: TLE941xx Evaluation Board
- The TLE94112 daughter board
- The uIO stick
- 12 V DC power supply, which is able to provide sufficient current for the motor load. For evaluation purpose motor loads which less than 1 A current consumption are recommended

The uIO stick must be ordered separately.

Details about the uIO stick can be found here.

7.3 Hardware

Operating the GUI for the TLE94112 evaluation board requires:

- The main board: TLE941xx Evaluation Board
- The TLE94112 daughter board
- The uIO stick
- 12 V DC power supply, which is able to provide sufficient current for the motor load. For evaluation purpose motor loads which less than 1 A current consumption are recommended

7.3.1 Hardware description

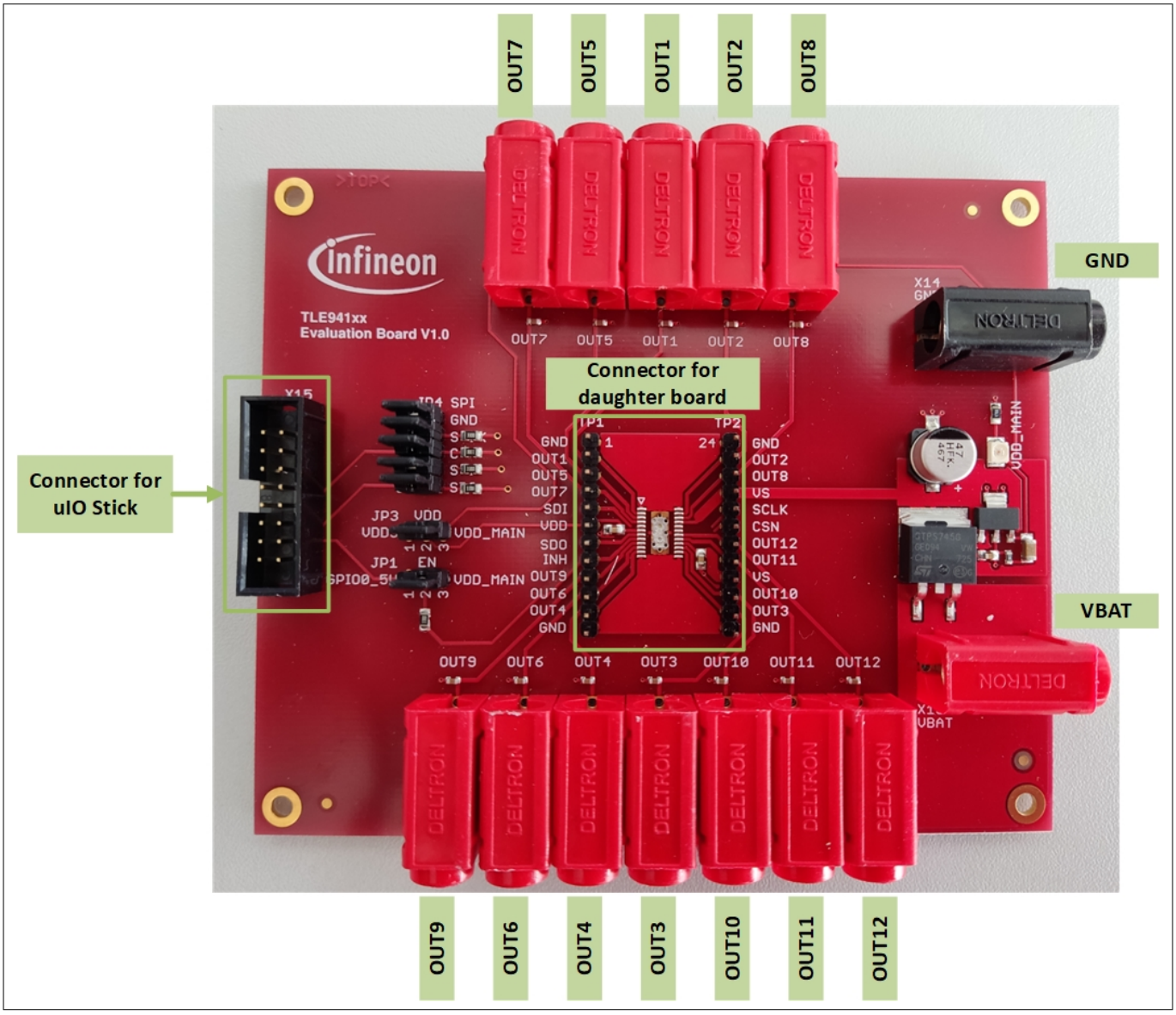

Figure 46 TLE94112 evaluation board – main board

7 Config Wizard for MOTIX™ multi half-bridge ICs for TLE94112

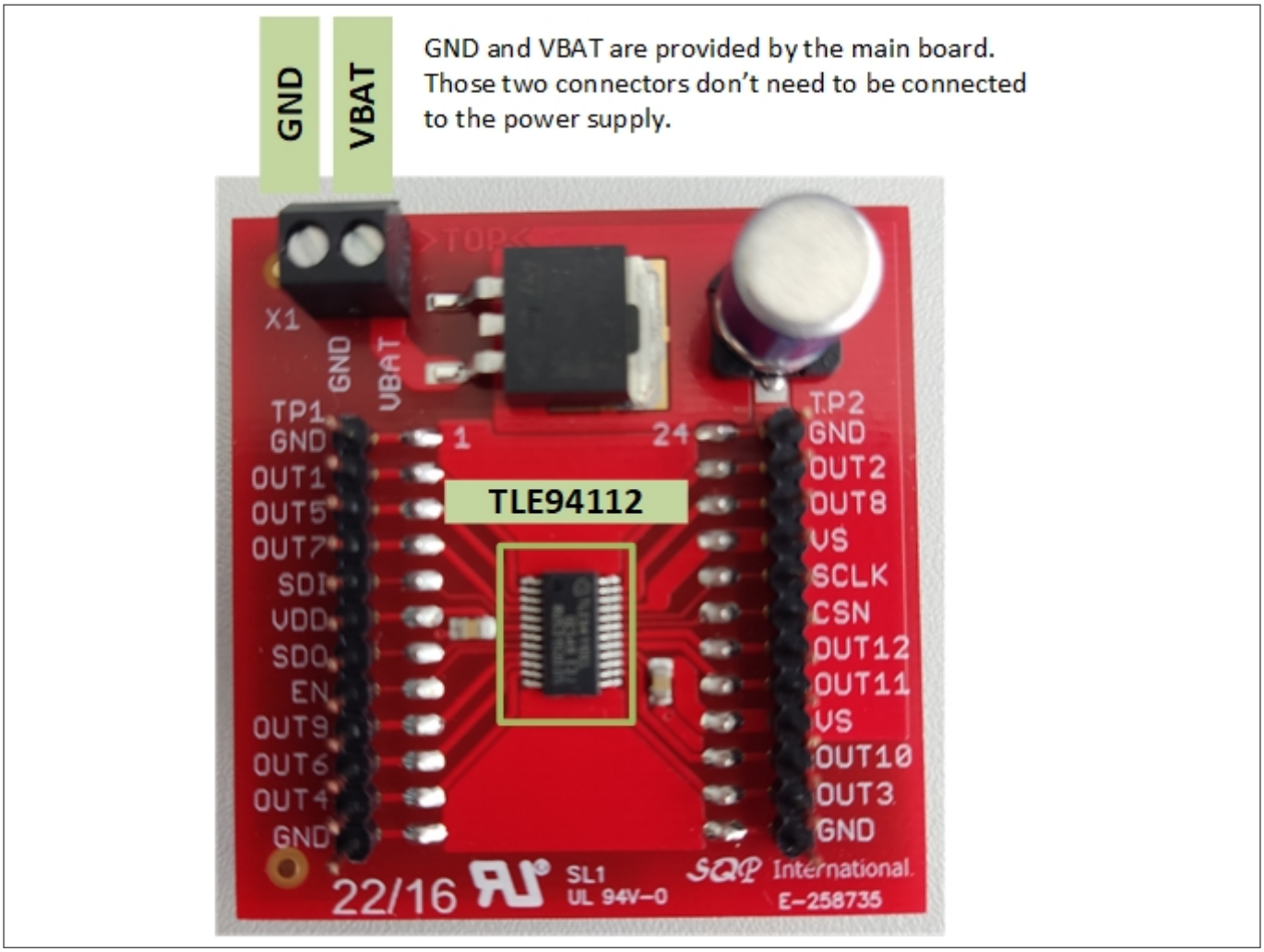

Figure 47 TLE94112 evaluation board – daughter board

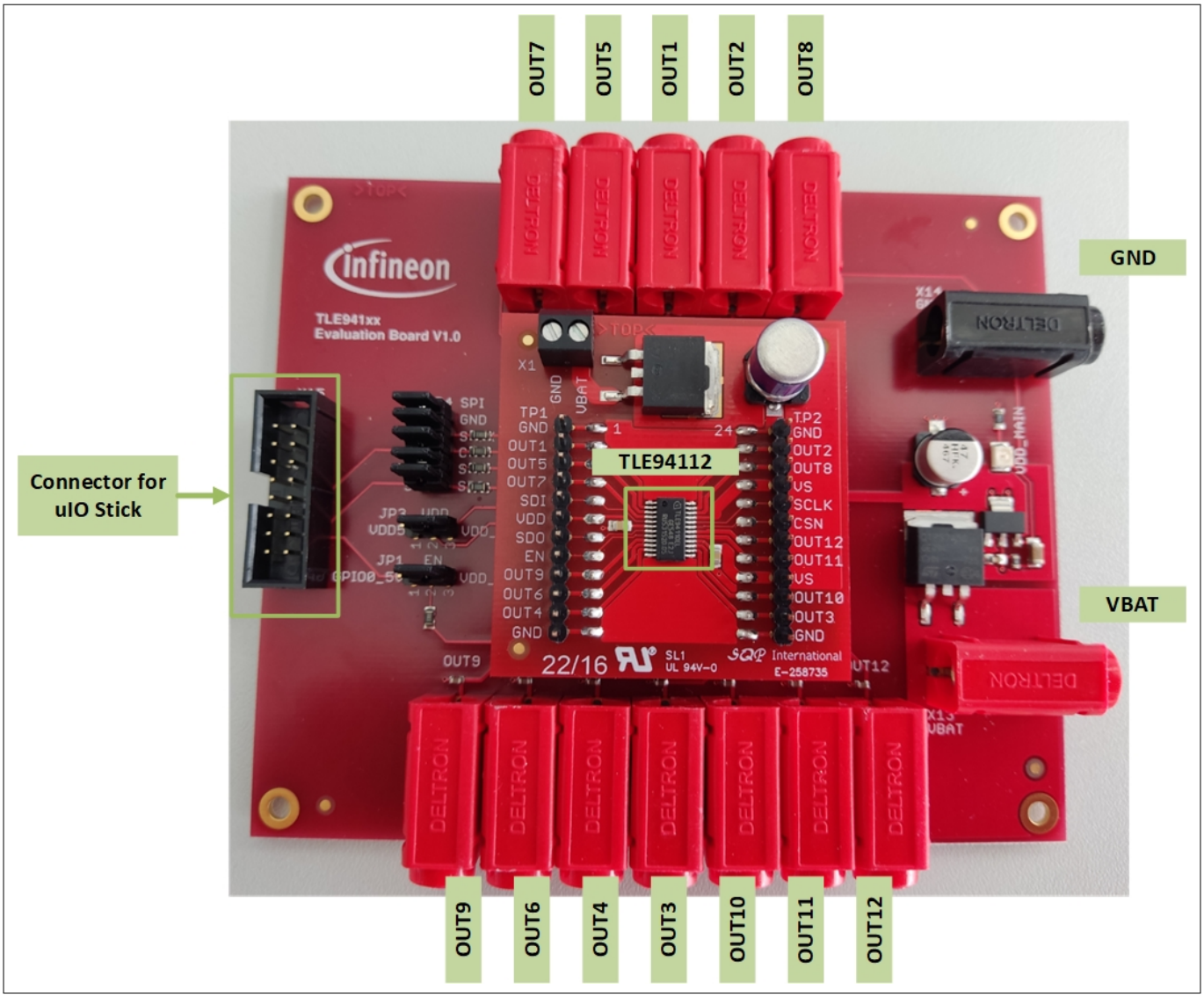

Figure 48 TLE94112 evaluation board – main board with daughter board

7.4 Getting started

1. Plug in the TLE94112 daughter board
2. Connect the motors
3. Connect the uIO stick to the TLE94112 evaluation board and to the PC
4. Connect the 12 V supply
5. Turn on the 12 V supply
6. Start the TLE94112 GUI
7. To operate the motors:
   a. Enable TLE94112
   b. Select the function
   c. If required:
      1. Clear the error flag for open load detection
      2. Clear the error flag for over current detection
      3. Clear the global status flags

7.5 Description of the GUI

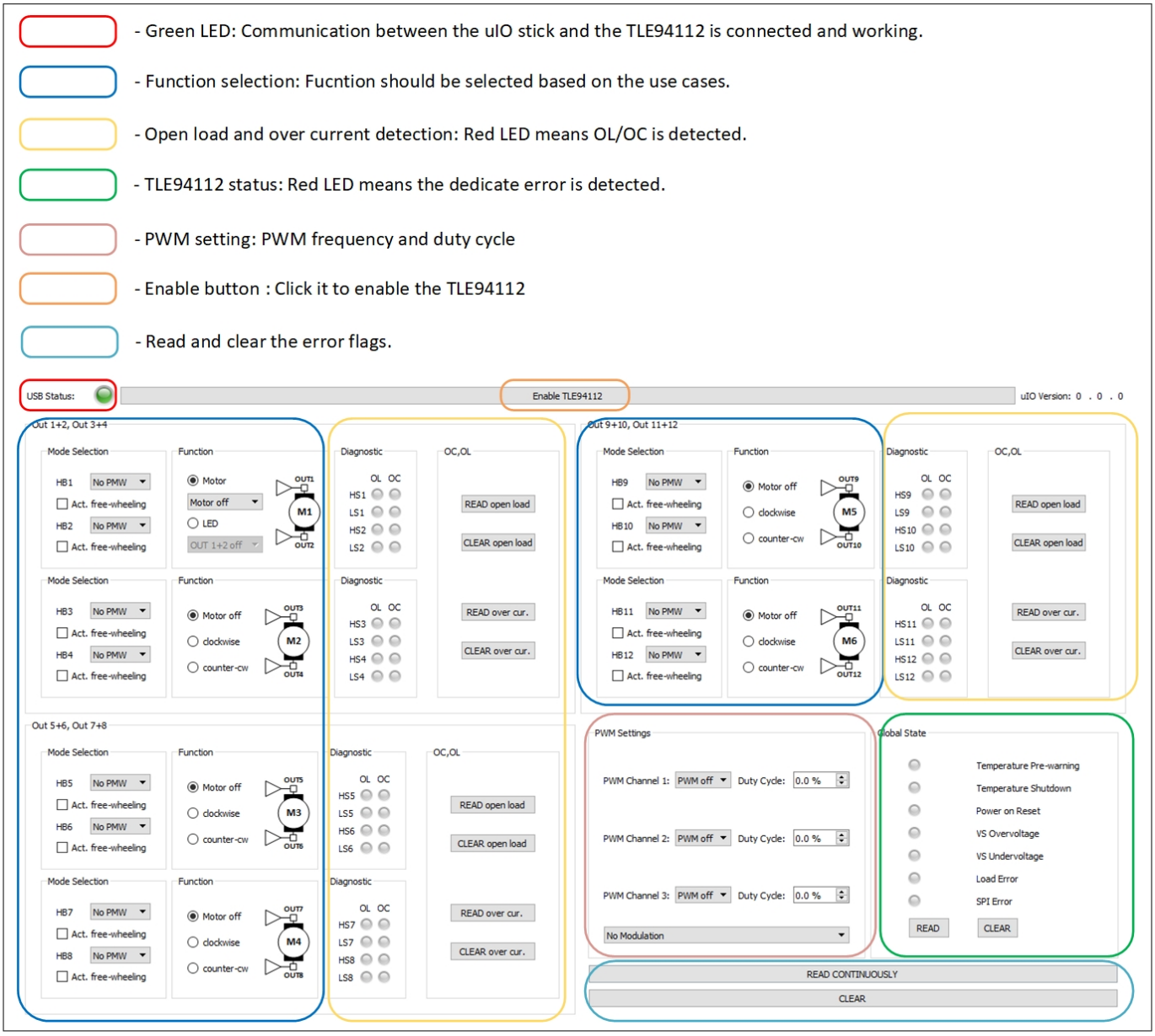

Figure 49 GUI overview for the TLE94112 evaluation board

7 Config Wizard for MOTIX™ multi half-bridge ICs for TLE94112

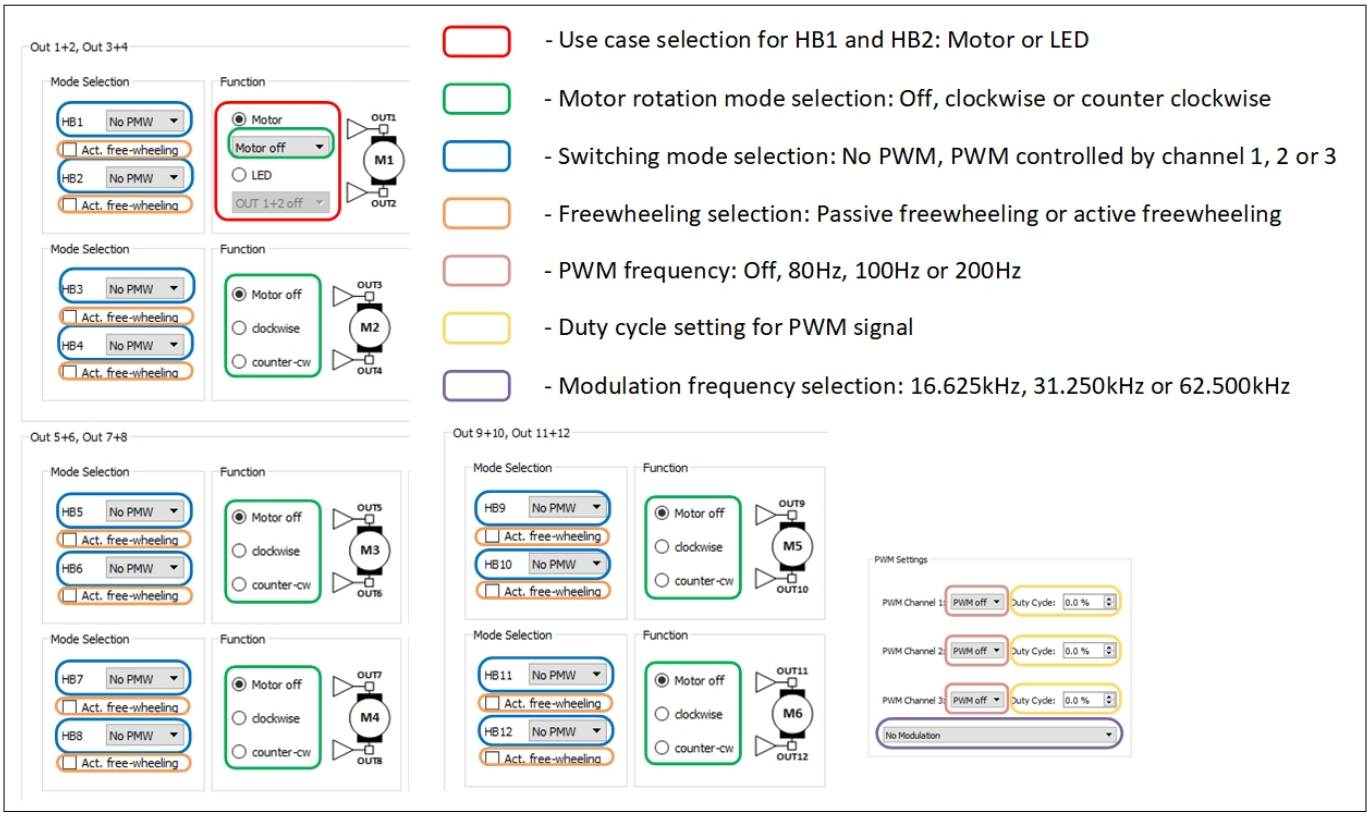

Figure 50 Function selection for the TLE94112 evaluation board

8 Tool disclaimer

Config Wizard for MOTIX™ multi half-bridge ICs is based in part on the work of the Qwt project (http://qwt.sf.net).

The following LGPL/GPLv3 are used in our software and can be found in the license folder:

- QuaZip
- qt 5.12.2
- libiconv 1.14
- PythonQt

Revision history

Document version	Date of release	Description of changes
01.00	2022-10-27	• Initial document release

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