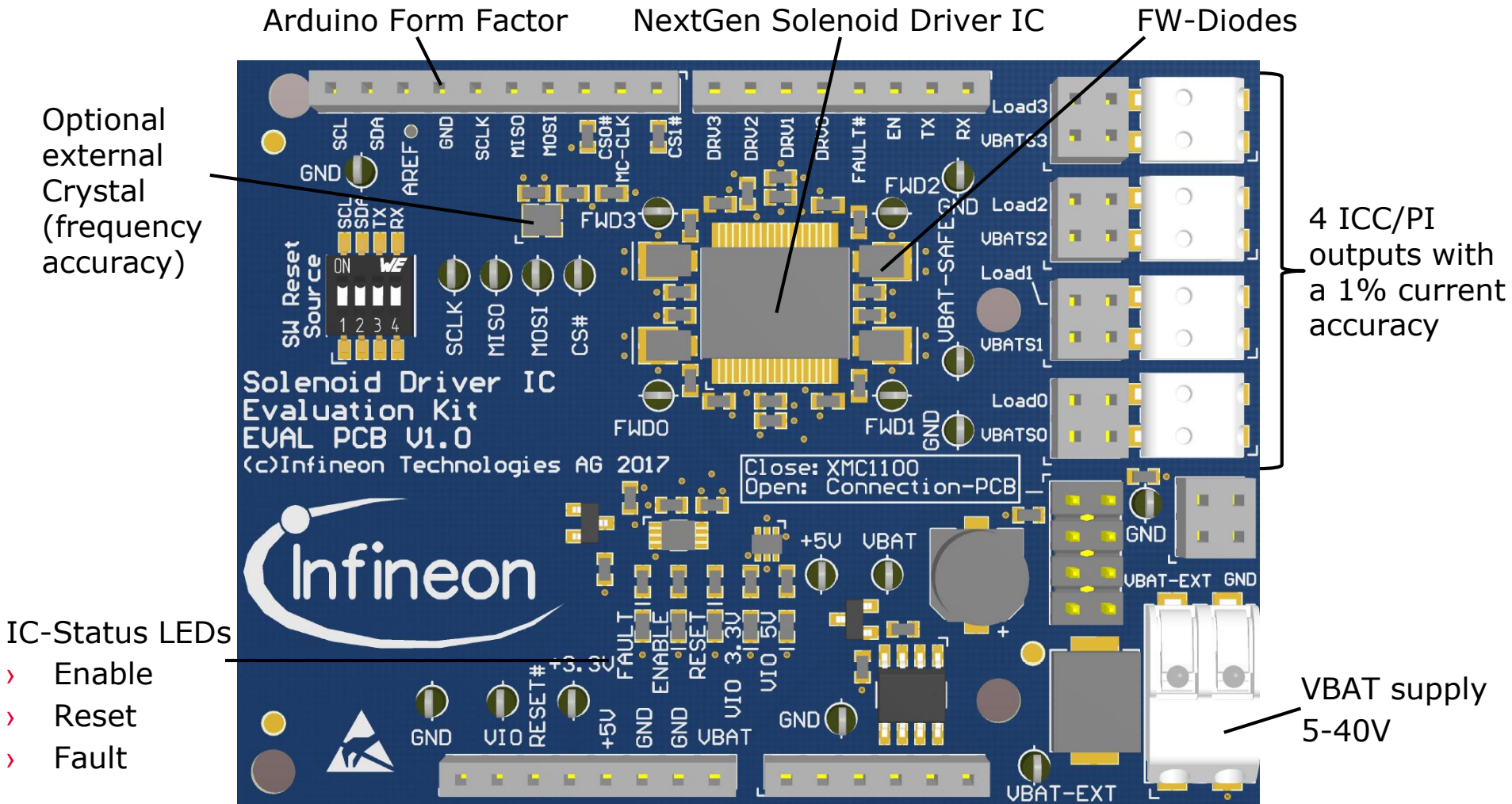


Getting started

TLE92464/6ED-EvalKit GUI



TLE92464ED Evaluation kit Evaluation Board

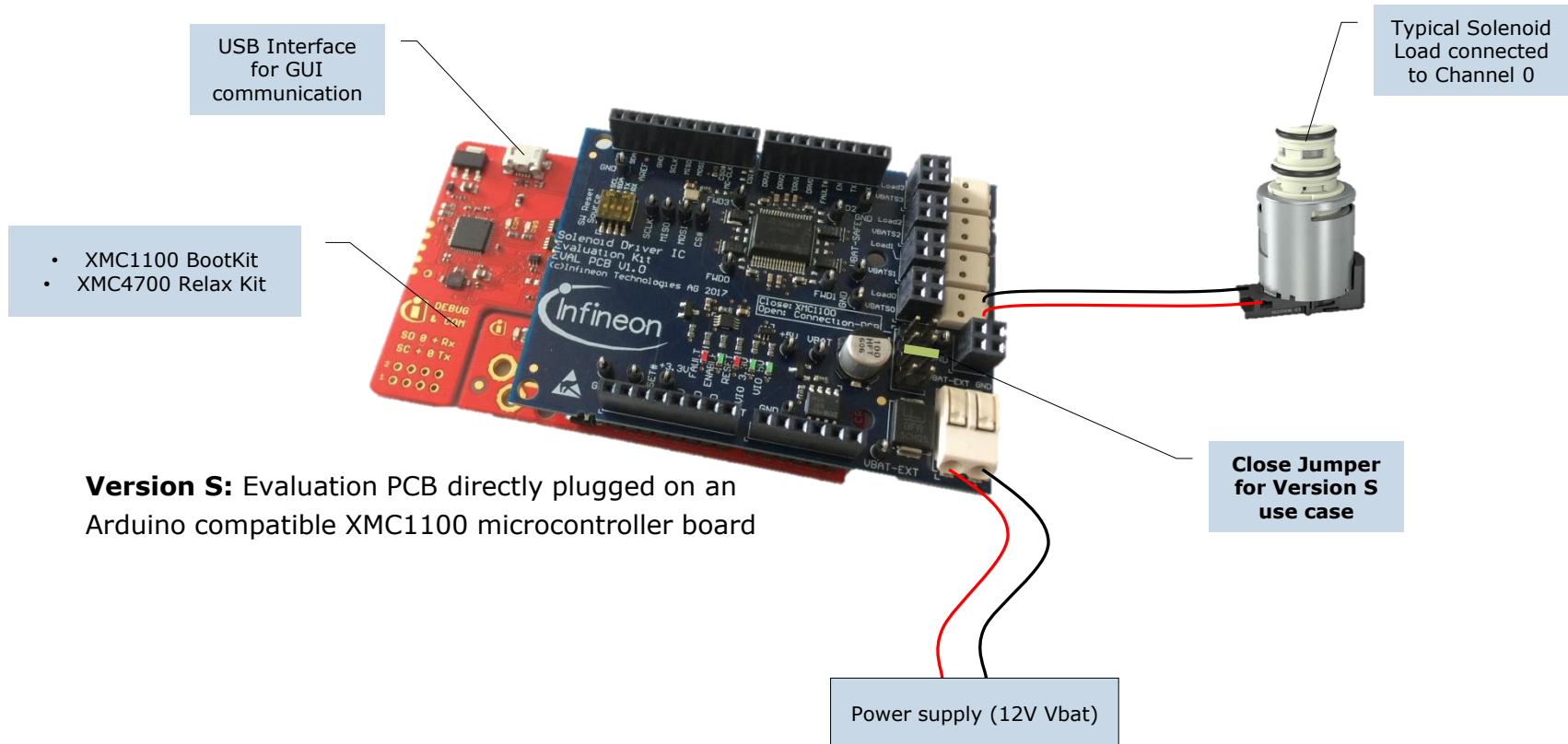


For the overview of TLE92466ED Evaluation board, please see the User Manual

XMC setup

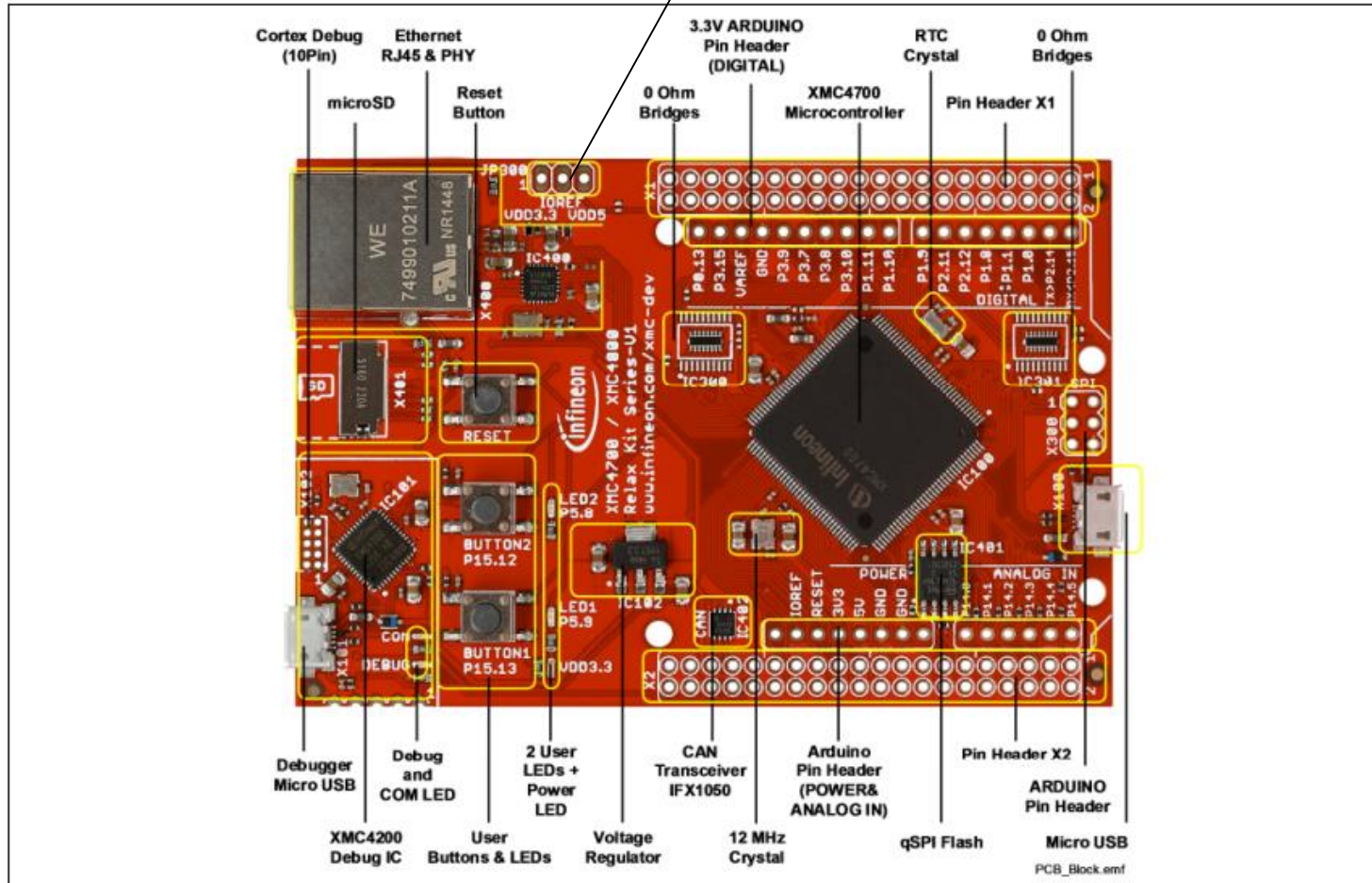
TLE92464ED Evaluation kit

XMC setup (example XMC1100)



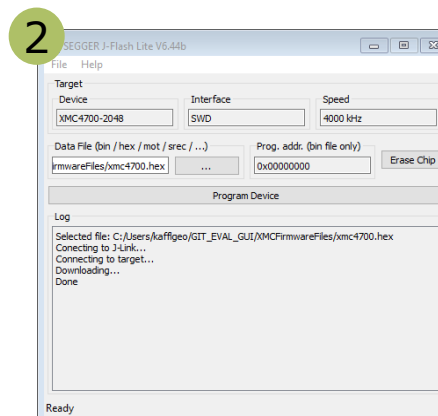
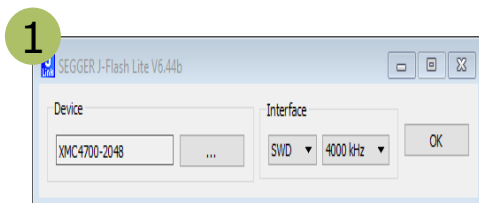
TLE92464ED Evaluation Kit XMC4700 relax kit setup

Close IOREF jumper
to VDD5



First steps

- › Install all necessary Software framework (details see User Manual Chapter "Software")
 - Install SEGGER J-Flash Lite (<https://www.segger.com/products/debug-probes/j-link/technology/flash-download/>)
 - Connect XMC™ Board and flash μ C with according .hex file (located in GUI folder under "XMC firmware files")

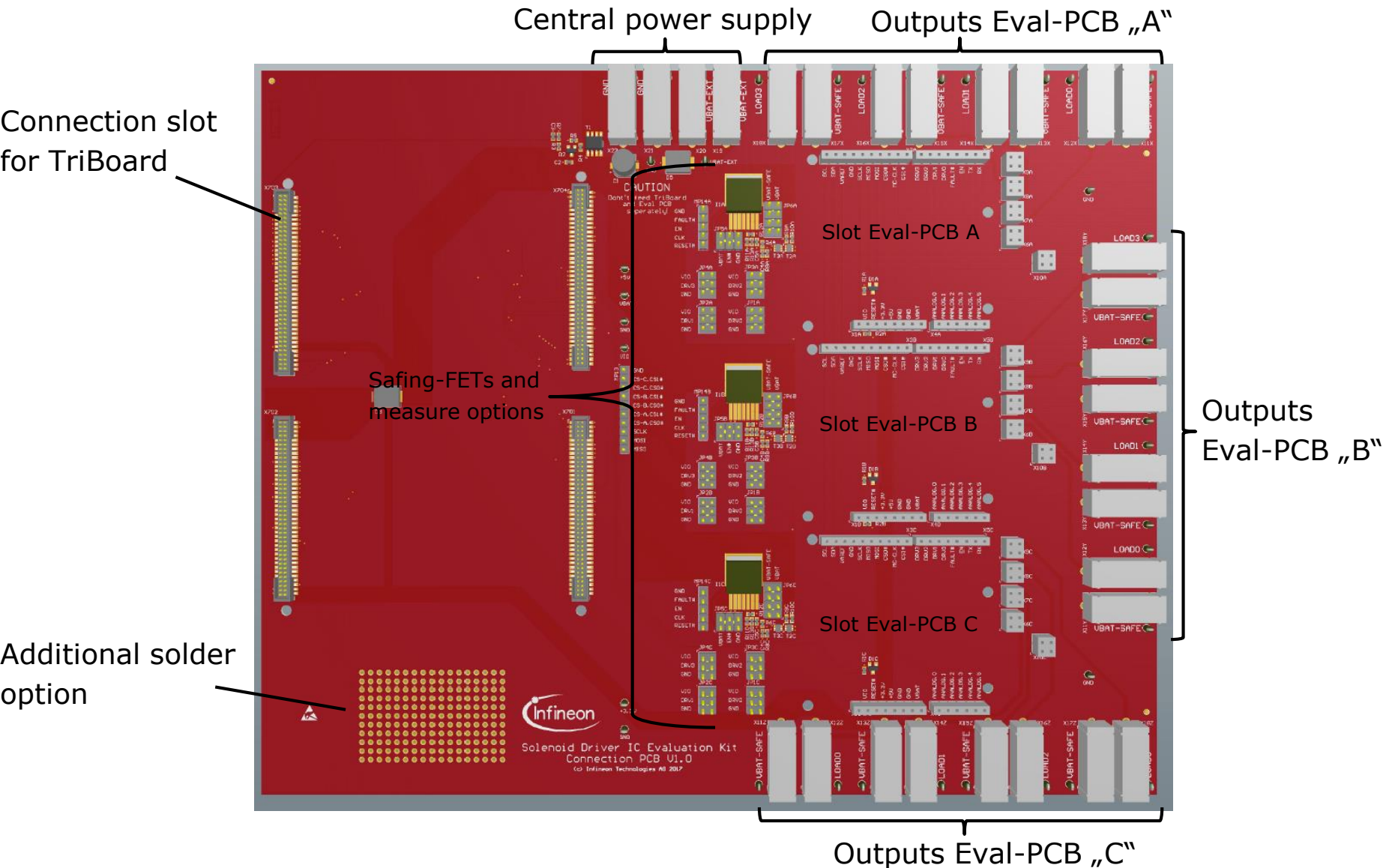


- › Setup Hardware (see prior slides)
- › Supply the output stages with Vbat (12V)
- › Start GUI by executing the IFX EvalKit GUI.exe in the "GUI" folder
- › Follow the next steps

TriBoard TC277 setup

NextGen Solenoid Driver EvalKit

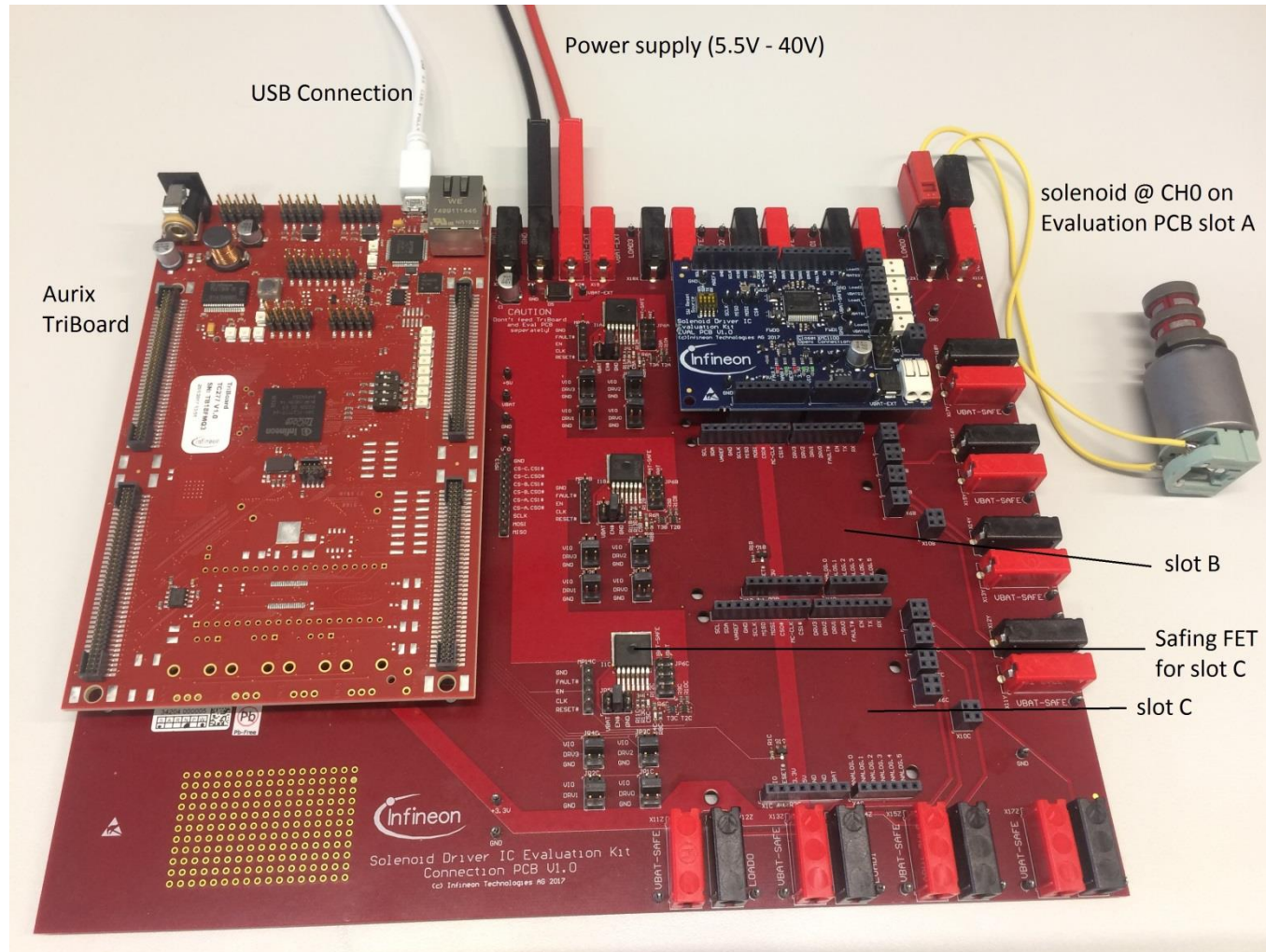
Connection PCB for Version L



NextGen Solenoid Driver EvalKit TriBoard TC277 for Version L



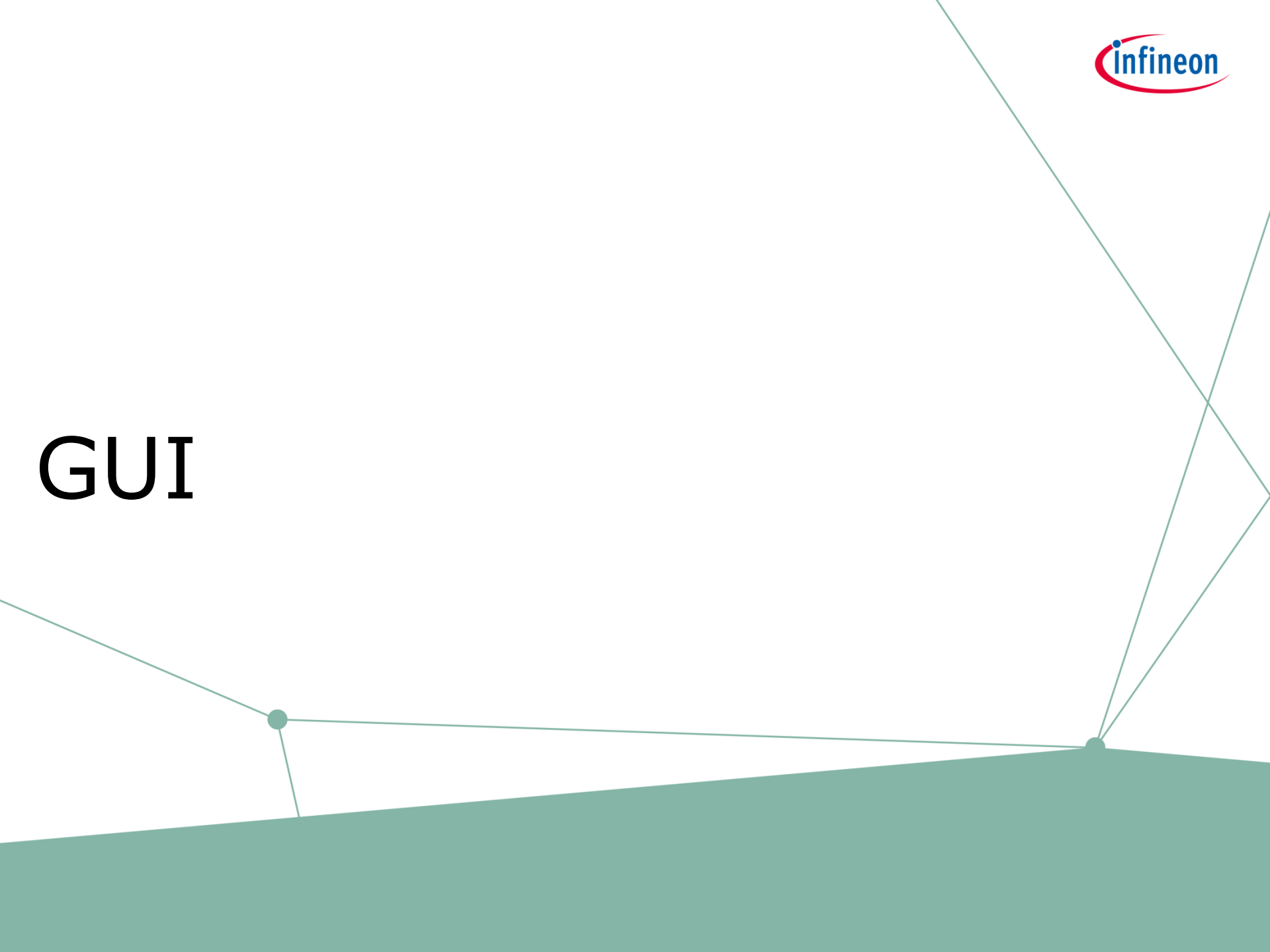
NextGen Solenoid Driver EvalKit Version L Setup



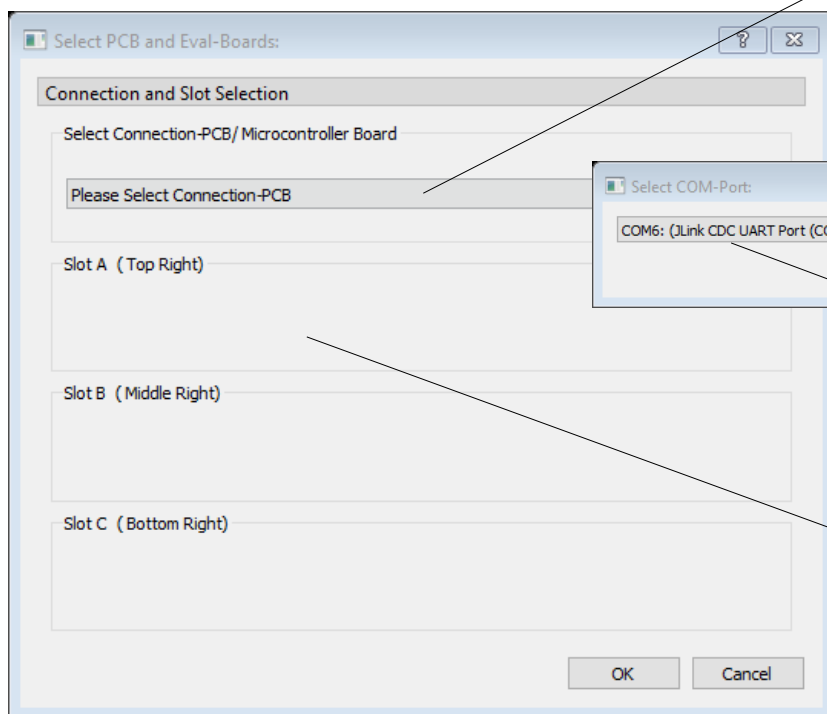
First steps

- › Install all necessary Software framework (details see User Manual Chapter “Software”)
 - Install Infineon DAS tool
<https://www.infineon.com/cms/en/product/promopages/das/>
 - Install Infineon Memtool
<https://www.infineon.com/cms/en/product/microcontroller/32-bit-tricore-microcontroller/#!tools>
 - Connect TriBoard and flash μ C with according .hex file (located in GUI folder under “XMC firmware files”)
- › Setup Hardware according to used Version (see prior slides)
- › Supply the Hardware setup with Vbat (12V)
- › Start GUI by executing the Solenoid Driver GUI.exe in the “GUI” folder
- › Follow the next steps

GUI



GUI start up



1
Select write Setup:
Version S: XMC1100/XMC4700
Version L: NGSD-Connection PCB + TriBoard

2
Select the right COM port (pops up after
Connection PCB selection)

3
Select EvalPCB for Slot x
NOTE: XMC™ setup only supports Slot A

GUI Overview

The screenshot displays the Solenoid Driver GUI with several key components highlighted:

- Register Widget:** A large panel on the left showing a table of registers with columns for Name, Addr, Decoded Value, Raw Value, R, W, R(Macro), W(Macro), and Description. It includes buttons for ReadAll, ReadSelected, Write Selected, SelectAll, Clear Selection, and ExpandGroups.
- IC channel control:** A panel in the center showing settings for Ch0, including SetPoint, Drive PWM, and DutyCycle (%).
- Connection PCB Control:** A panel on the right showing status indicators for RESN, EN, and Enable VBatSafe, along with AutoUpdate and Fault PIN settings.
- Diagnosis Indication Bits:** A panel at the bottom right showing various error and status bits (e.g., VBAT_UV, VDD_UV, COTWARN, VR_REF_UV, REF_UV, REG_ECC_WARN, OTP_VIRGIN, OLSG0, OTE0, SG1) with Reset, Update, AutoUpdate, and AutoReset buttons.
- Additional Communication options of Register Widget: Macro/Scripting:** A panel at the bottom left showing options for MacroDecoder, Script, Load, Save, Options, ReadAfterWrite, View, Add, and Macro.

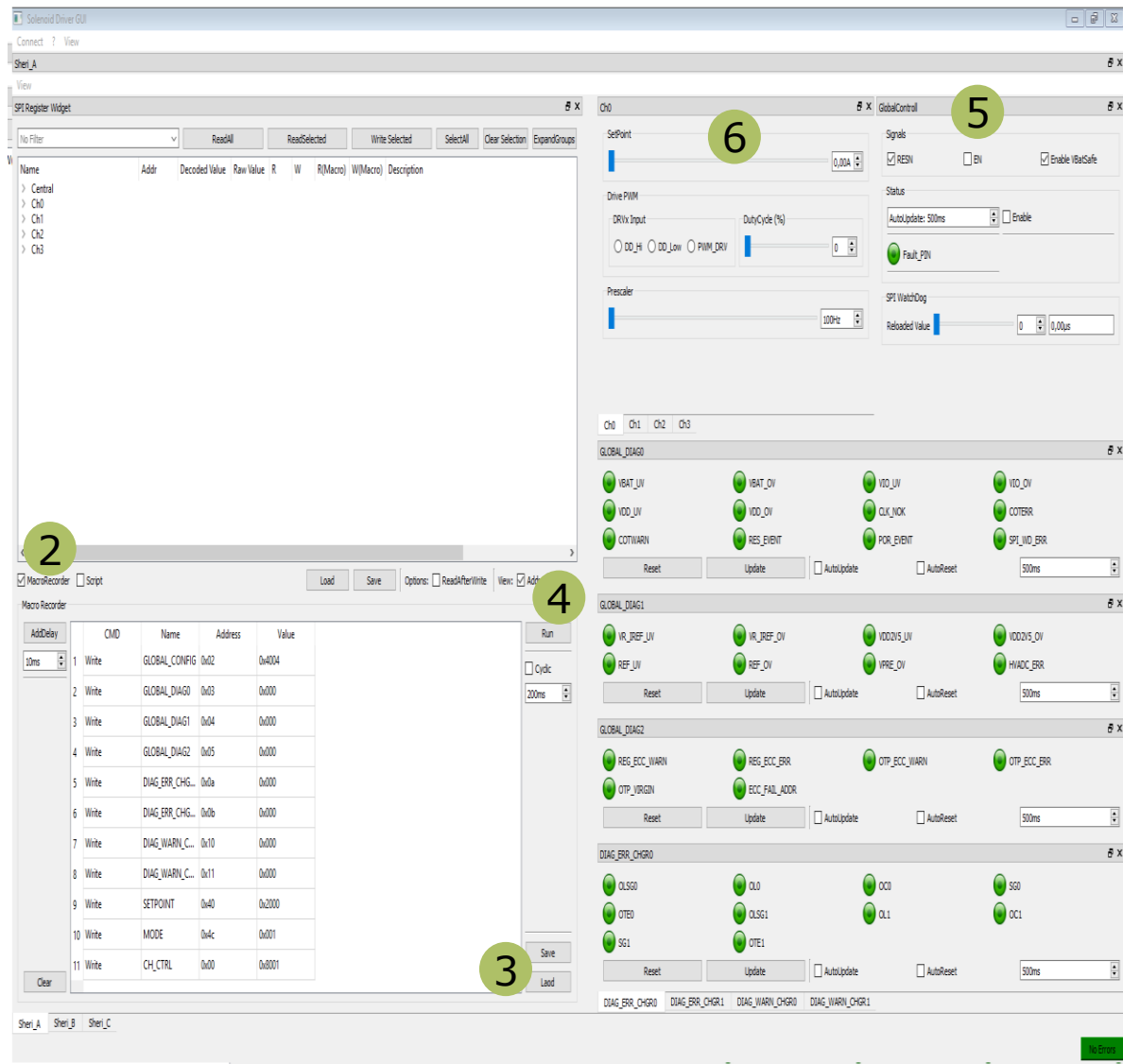
Eval board slot (XMC™ only Slot A)

Additional Communication options of Register Widget: Macro/Scripting

Quickstart

Activate ICC controlling on Channel 0

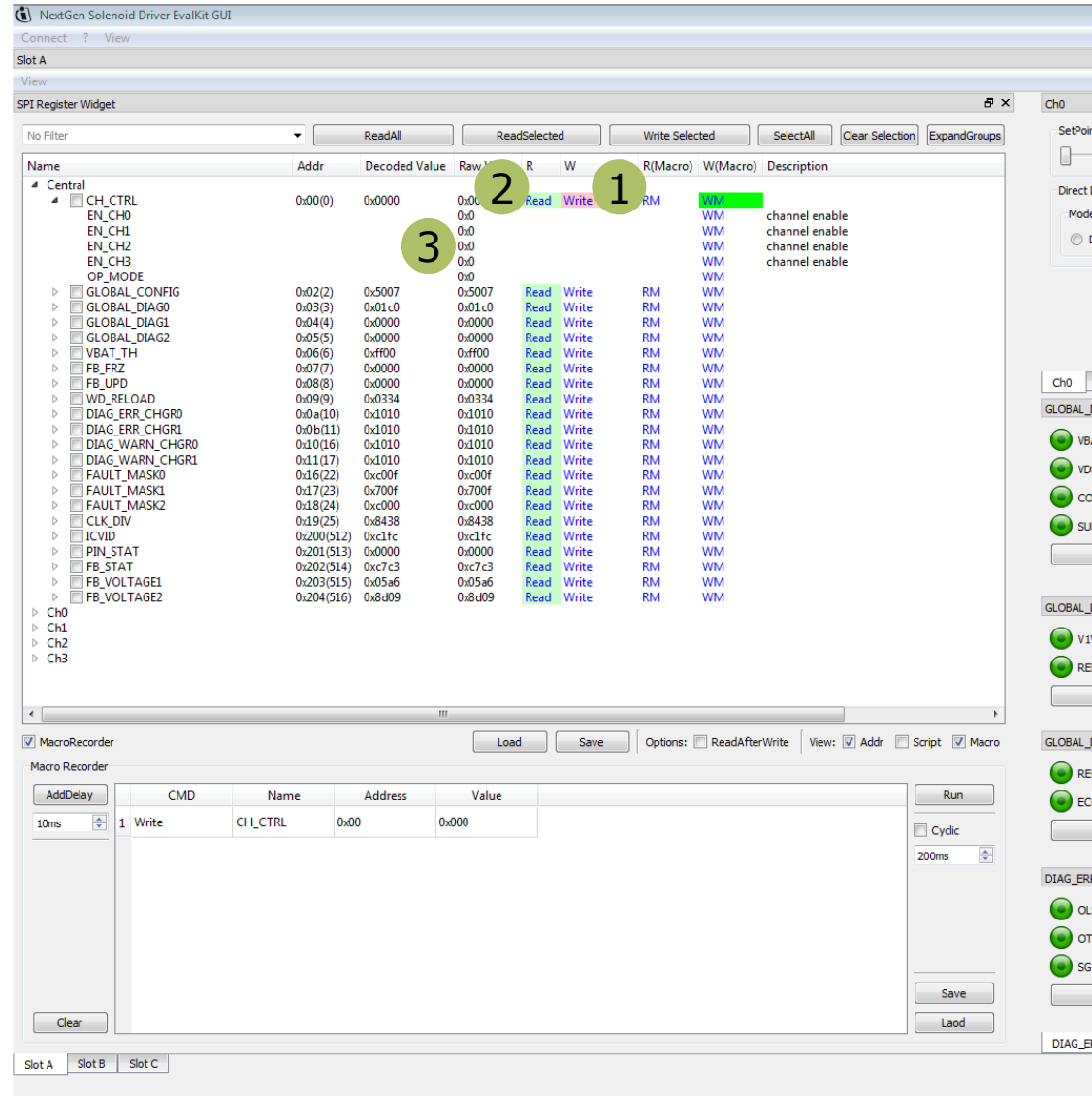
1. Connect a inductive load to Channel 0
2. Open Macro Recorder
3. Load Macro located in Macro Folder "ICC_CH0_EvalBoard.csv"
4. Run Macro
5. Enable the Powerstages (set EN-pin)
6. Set a Setpoint



General Handling of SPI Register Widget

Read/Write a Register/Bitfield

1. Write Data to Register
2. Read Data from Register
3. Configure Bitfield Data



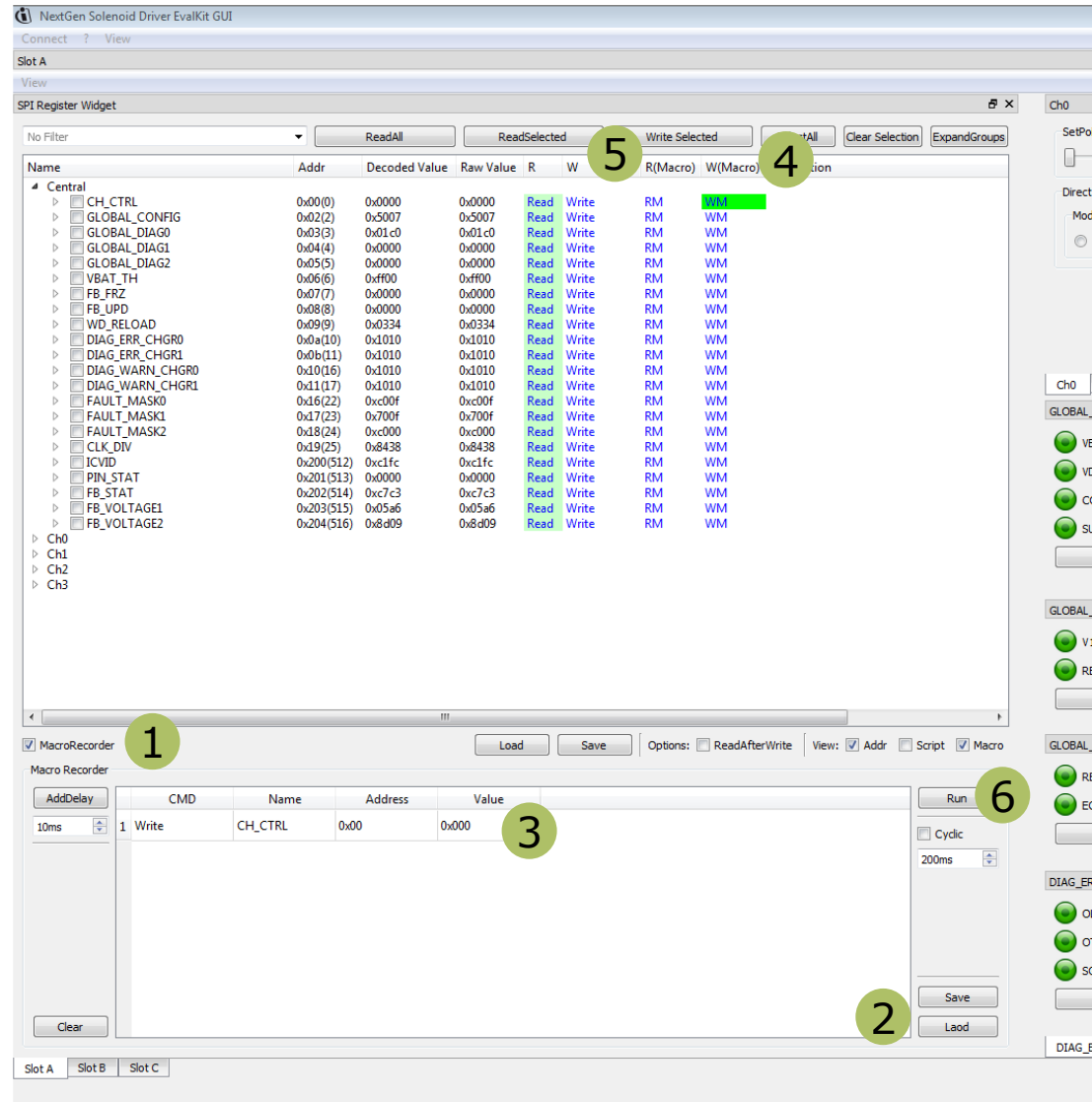
The screenshot displays the NextGen Solenoid Driver EvalKit GUI. The main window shows the SPI Register Widget with a table of registers. The table has columns for Name, Addr, Decoded Value, Raw Value, R (Read), W (Write), R(Macro), W(Macro), and Description. The registers are listed under a 'Central' group, including CH_CTRL, EN_CH0, EN_CH1, EN_CH2, EN_CH3, OP_MODE, GLOBAL_CONFIG, GLOBAL_DIAG0, GLOBAL_DIAG1, GLOBAL_DIAG2, VBAT_TH, FB_FRZ, FB_UPD, WD_RELOAD, DIAG_ERR_CHGR0, DIAG_ERR_CHGR1, DIAG_WARN_CHGR0, DIAG_WARN_CHGR1, FAULT_MASK0, FAULT_MASK1, FAULT_MASK2, CLK_DIV, ICVID, PIN_STAT, FB_STAT, FB_VOLTAGE1, and FB_VOLTAGE2. The 'R' and 'W' columns are highlighted in green, and the 'R(Macro)' and 'W(Macro)' columns are highlighted in blue. The 'Description' column for EN_CH0, EN_CH1, EN_CH2, and EN_CH3 indicates 'channel enable'.

Below the register table, the Macro Recorder is visible. It shows a table with columns for CMD, Name, Address, and Value. The first entry is '1 Write CH_CTRL 0x00 0x000'. The Macro Recorder also includes buttons for 'AddDelay', 'Run', 'Save', 'Load', and 'Clear'.

On the right side of the GUI, there are several status indicators and buttons, including 'Ch0', 'GLOBAL_F', 'VBAT', 'VDC', 'CO', 'SUP', 'GLOBAL_F', 'V1V', 'REF', 'GLOBAL_F', 'REK', 'ECK', 'DIAG_ERR', 'OLS', 'OTE', 'SG', and 'DIAG_ER'.

Write/Save/Load your own SPI sequence Macro Recorder

1. Enable Macro Recorder
2. Load a Macro or
3. Create own Macro with
4. Write or
5. Read commands
6. Execute the commands listed in the Macro Recorder



The screenshot displays the NextGen Solenoid Driver EvalKit GUI. The top section, 'SPI Register Widget', shows a list of registers with columns for Name, Addr, Decoded Value, Raw Value, R (Read), W (Write), R(Macro), and W(Macro). The 'CH_CTRL' register is highlighted. The bottom section, 'Macro Recorder', shows a table with columns for CMD, Name, Address, and Value. A single entry is visible: '1 Write CH_CTRL 0x00 0x000'. The 'Run' button is highlighted.

Numbered callouts indicate the steps:

1. Macro Recorder checkbox
2. Load button
3. Value field in Macro Recorder table
4. Write Selected button
5. Read Selected button
6. Run button



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Reset behaviour

- › A RESET of the microcontroller and TLE92464/6 Evalboard can be triggered by a push on the XMC board reset button (low level on the RESET pin (Pin 3 at X1 Pin header))
- › A RESET of the TLE92464/6 Evalboard only, can be triggered by the GUI. Therefore the SW-RESET-Source switch must be selecting the SDA-line as SW-RESET-Source

- Reset signal to reset the TLE92464/6 Evalboard only
- Switch on slider 2 (SDA-line) to enable a reset via the GUI
- Reset signal to reset both XMC and TLE92464/6 Evalboard
- trigger by RESET button of XMC board

