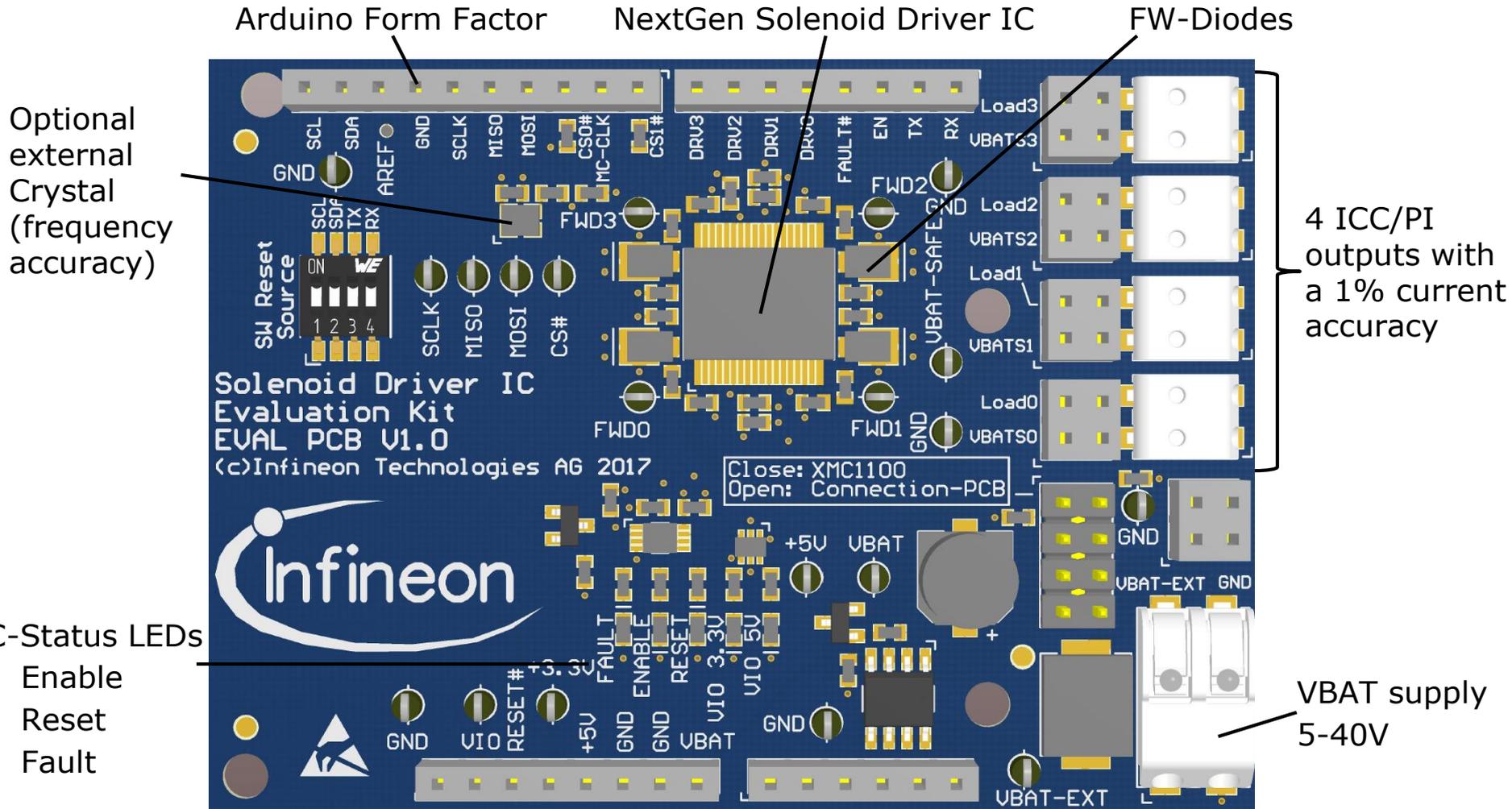


Getting started TLE92464/6ED-EvalKit GUI

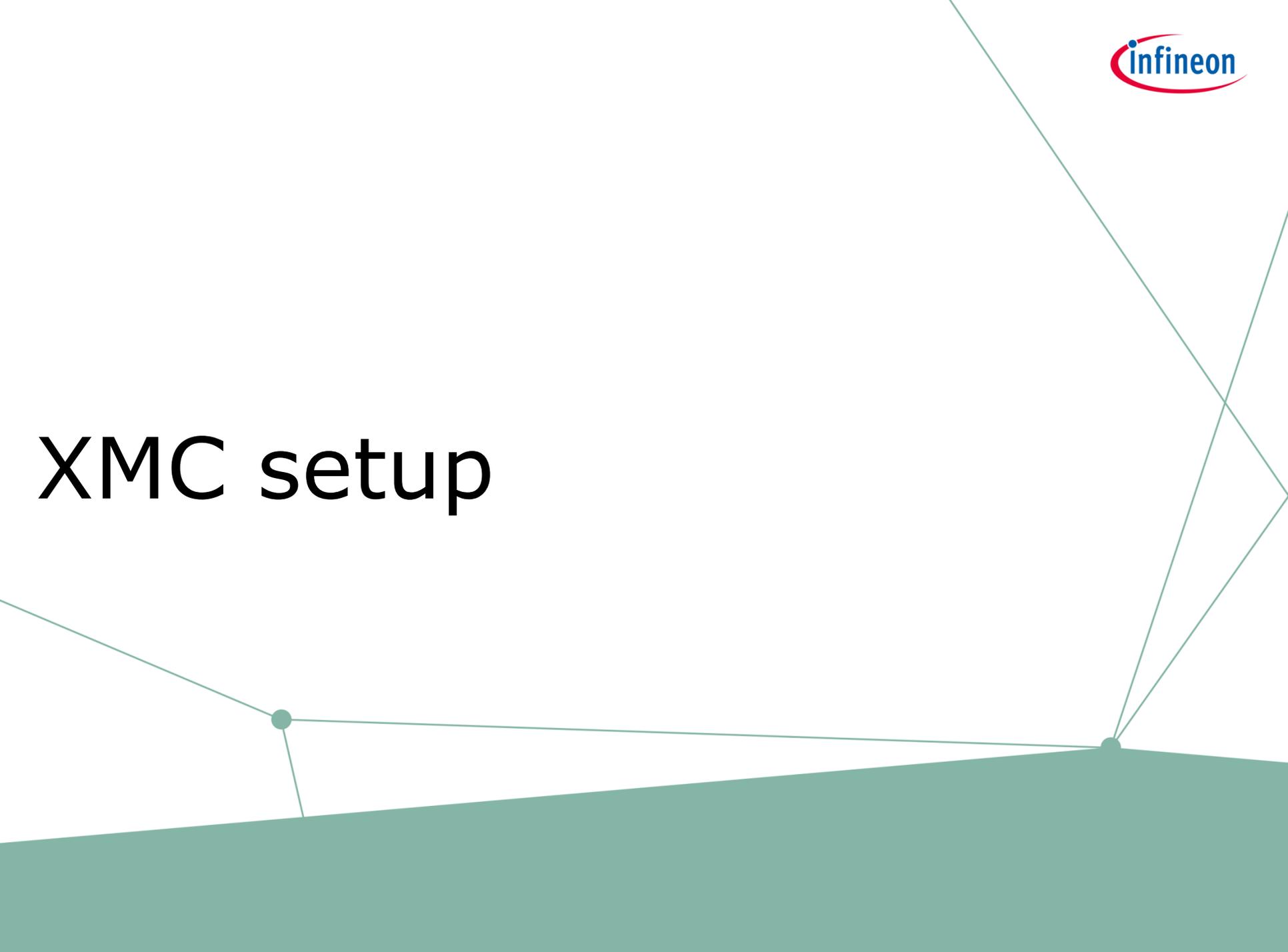


TLE92464ED Evaluation kit Evaluation Board

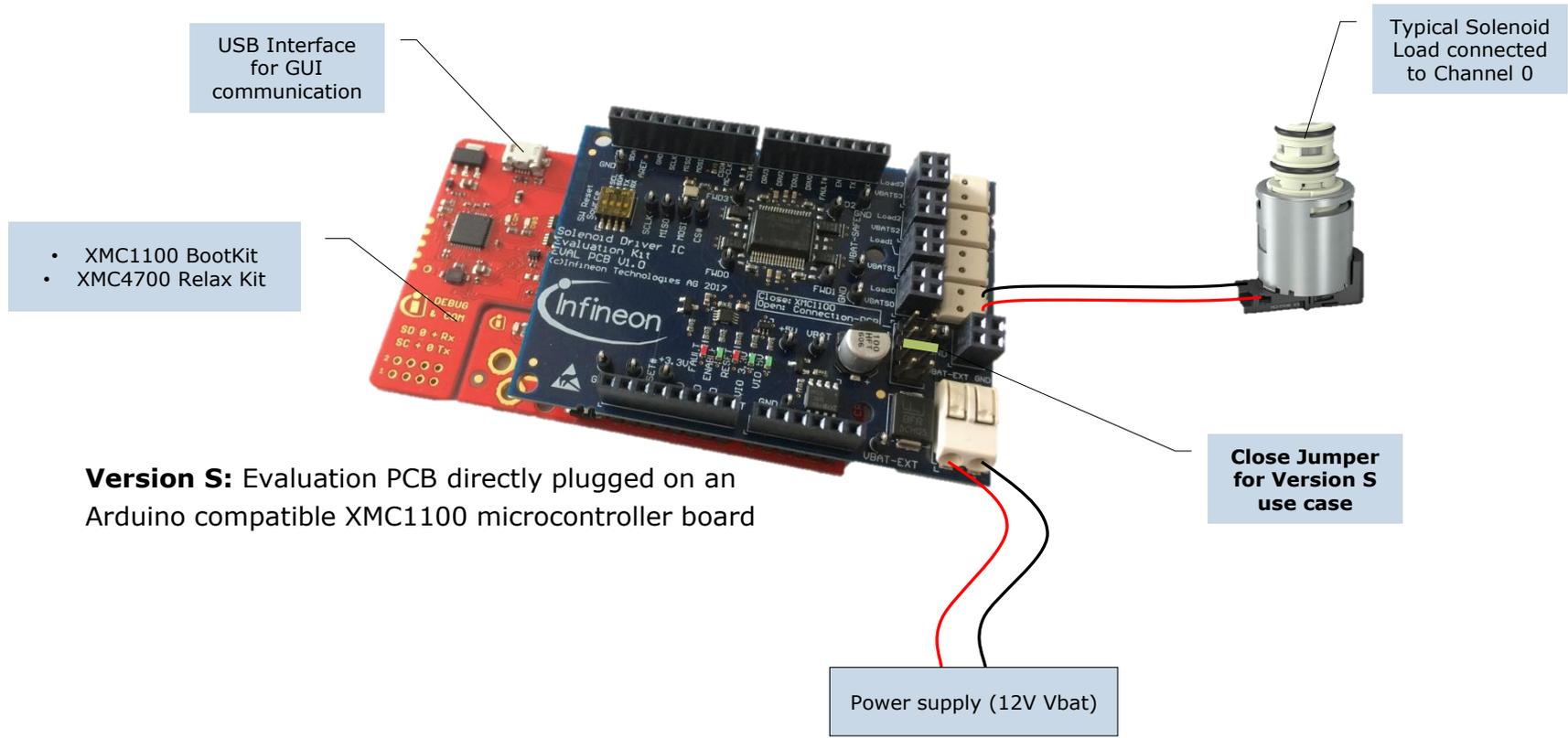


For the overview of TLE92466ED Evaluation board, please see the User Manual

XMC setup

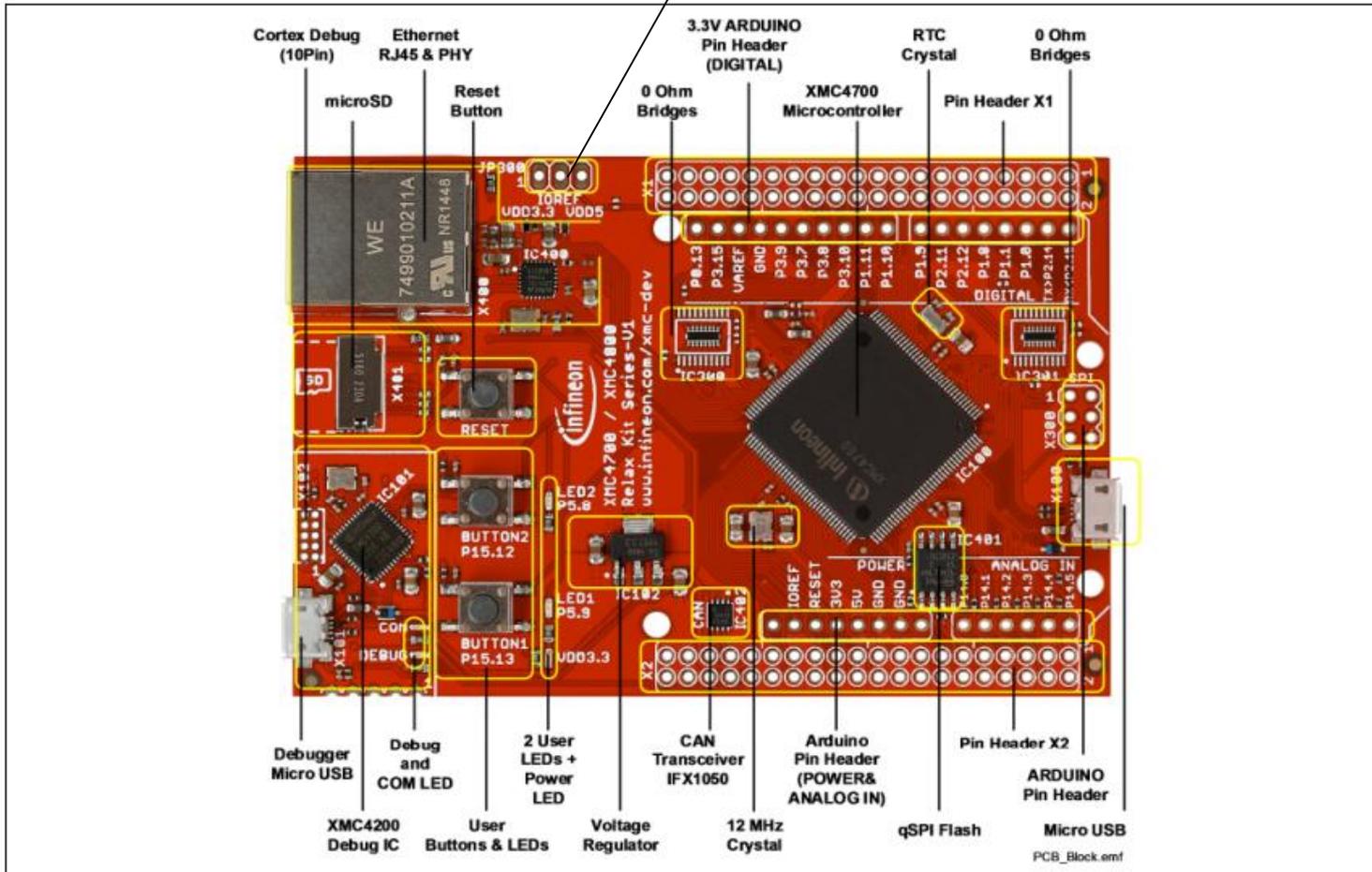


TLE92464ED Evaluation kit XMC setup (example XMC1100)



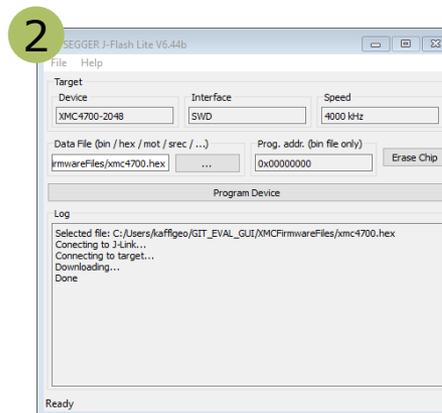
TLE92464ED Evaluation Kit XMC4700 relax kit setup

Close IOREF jumper
to VDD5



First steps

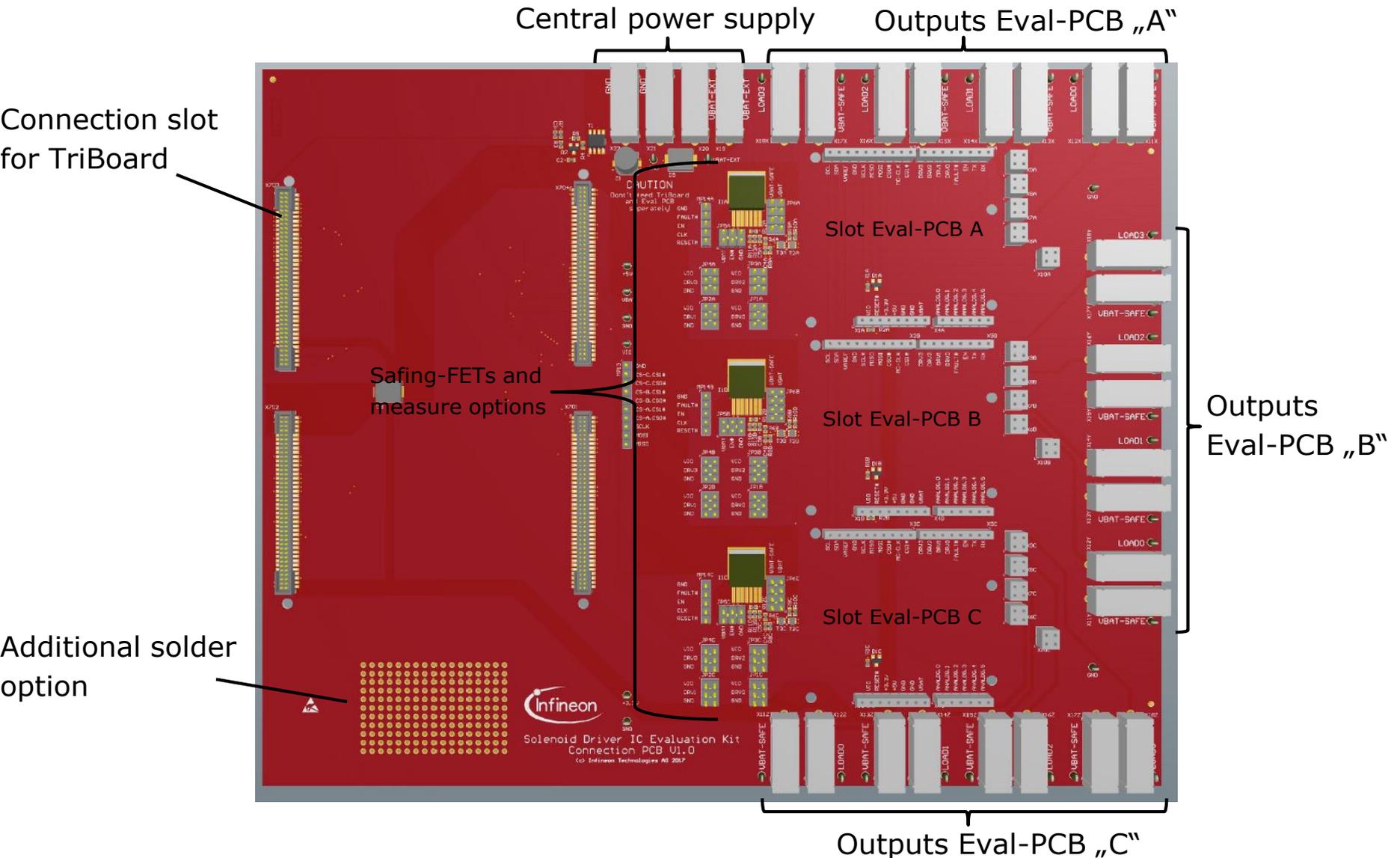
- › Install all necessary Software framework (details see User Manual Chapter "Software")
 - Install SEGGER J-Flash Lite (<https://www.segger.com/products/debug-probes/j-link/technology/flash-download/>)
 - Connect XMC™ Board and flash µC with according .hex file (located in GUI folder under "XMC firmware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

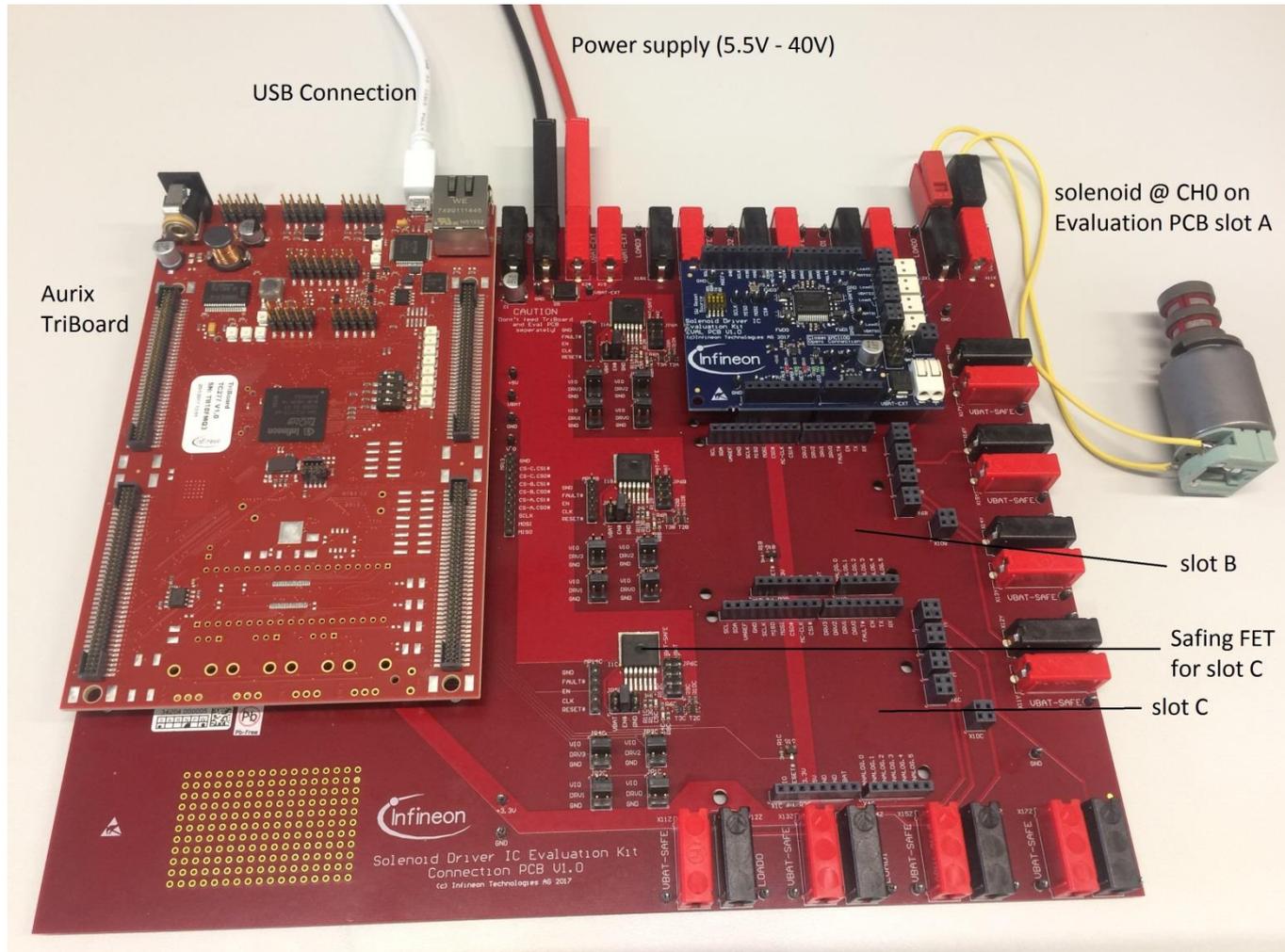
NextGen Solenoid Driver EvalKit Connection PCB for Version L



NextGen Solenoid Driver EvalKit TriBoard TC277 for Version L



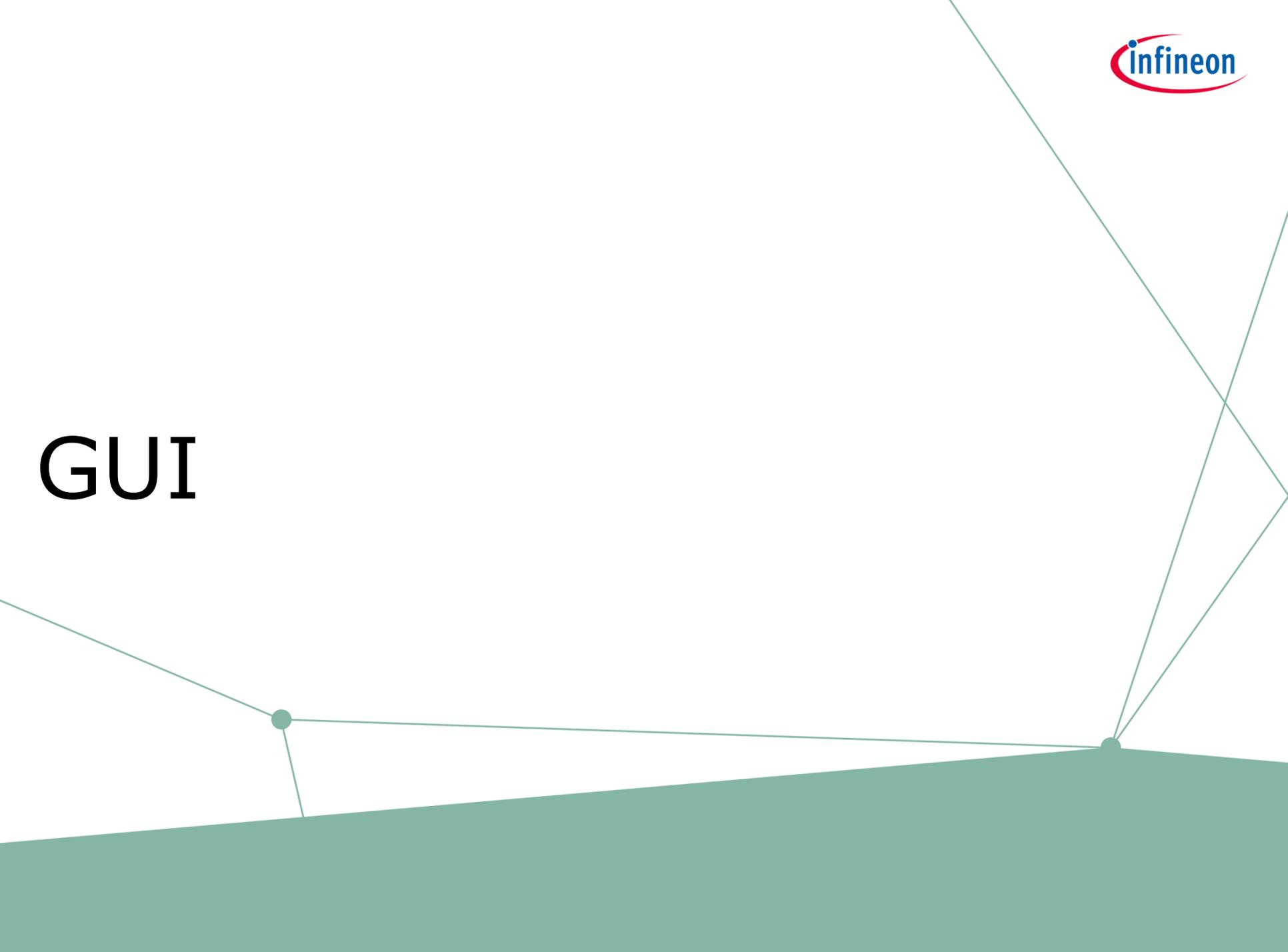
NextGen Solenoid Driver EvalKit Version L Setup



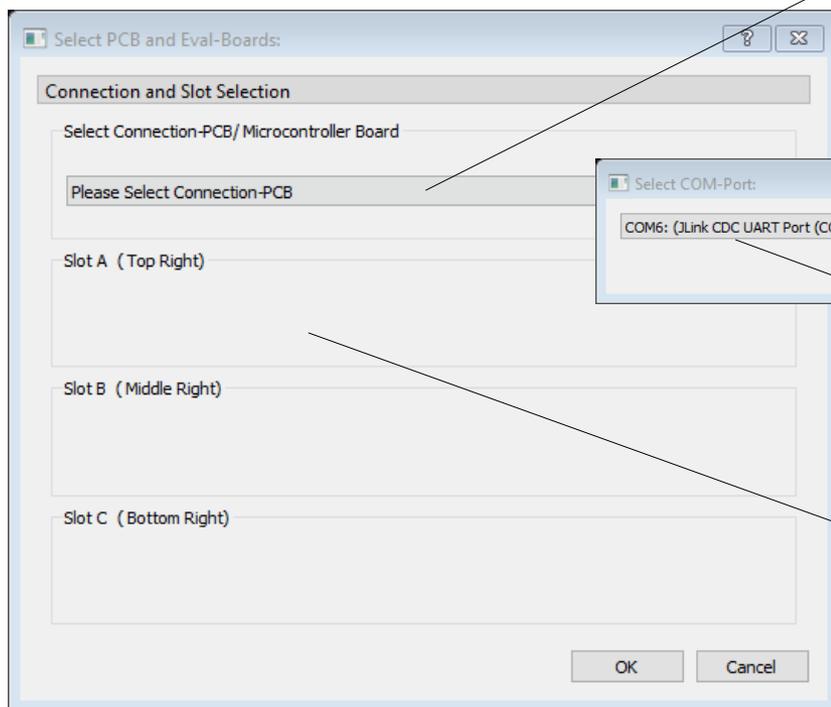
First steps

- › 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 table for SPI Register Widget with columns: Name, Addr, Decoded Value, Raw Value, R, W, R(Macro), W(Macro), and Description. It lists channels Ch0 through Ch3.
- IC channel control:** A control panel for Ch0 with sliders for SetPoint (0,00A) and DutyCycle (%), and radio buttons for DRVx Input (DD_Hi, DD_Low, PWM_DRV).
- Connection PCB Control:** A panel with checkboxes for RESN, EN, and Enable VBatSafe, and a Status section with AutoUpdate (500ms) and Enable options.
- Diagnosis Indication Bits:** A large panel showing various diagnostic bits (e.g., VBAT_UV, VDD_UV, COTWARN, VR_JREF_UV, REF_UV, REG_ECC_WARN, OTP_VIRGIN, OLSG0, OTE0, SG1) with Reset, Update, and AutoUpdate buttons.
- Macro/Scripting:** A bottom toolbar with buttons for Macro Decoder, Script, Load, Save, Options, ReadAfterWrite, View, Add, and Macro.

Register Widget

IC channel control

Connection PCB Control

Diagnosis Indication Bits

Additional Communication options of Register Widget: Macro/Scripting

Eval board slot (XMC™ only Slot A)

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

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

- 2**: Macro Recorder window showing a list of commands to be executed.
- 3**: The 'Run' button in the Macro Recorder window.
- 4**: The 'Run' button in the Macro Recorder window (repeated).
- 5**: GlobalControl panel for Channel 0, showing the 'EN' pin control.
- 6**: SetPoint control for Channel 0, set to 0.00A.

The Macro Recorder window contains the following table:

CMD	Name	Address	Value
1 Write	GLOBAL_CONFIG	0x02	0x4004
2 Write	GLOBAL_DIAG0	0x03	0x0000
3 Write	GLOBAL_DIAG1	0x04	0x0000
4 Write	GLOBAL_DIAG2	0x05	0x0000
5 Write	DIAG_ERR_CHG0	0x0a	0x0000
6 Write	DIAG_ERR_CHG1	0x0b	0x0000
7 Write	DIAG_WARN_C0	0x10	0x0000
8 Write	DIAG_WARN_C1	0x11	0x0000
9 Write	SETPOINT	0x40	0x2000
10 Write	MODE	0x4c	0x0001
11 Write	CH_CTRL	0x00	0x0001

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 shows the NextGen Solenoid Driver EvalKit GUI. The main window displays the SPI Register Widget for Slot A. The widget has a table of registers with columns for Name, Addr, Decoded Value, Raw Value, Read (R), Write (W), R(Macro), W(Macro), and Description. The 'CH_CTRL' register at address 0x00(0) is highlighted. The 'R' and 'W' columns for 'CH_CTRL' are marked with a green circle '2'. The 'R(Macro)' and 'W(Macro)' columns for 'CH_CTRL' are marked with a green circle '1'. The 'Decoded Value' column for 'CH_CTRL' is marked with a green circle '3'. Below the register table, the Macro Recorder is visible, showing a single macro entry: '1 Write CH_CTRL 0x00 0x000'. The Macro Recorder has buttons for 'AddDelay', 'Run', 'Save', and 'Load'. The bottom of the GUI shows 'Slot A', 'Slot B', and 'Slot C' tabs.

Name	Addr	Decoded Value	Raw Value	R	W	R(Macro)	W(Macro)	Description
CH_CTRL	0x00(0)	0x0000	0x0000	Read	Write	RM	WM	
EN_CH0		0x0	0x0				WM	channel enable
EN_CH1		0x0	0x0				WM	channel enable
EN_CH2		0x0	0x0				WM	channel enable
EN_CH3		0x0	0x0				WM	channel enable
OP_MODE		0x0	0x0				WM	
GLOBAL_CONFIG	0x02(2)	0x5007	0x5007	Read	Write	RM	WM	
GLOBAL_DIAG0	0x03(3)	0x01c0	0x01c0	Read	Write	RM	WM	
GLOBAL_DIAG1	0x04(4)	0x0000	0x0000	Read	Write	RM	WM	
GLOBAL_DIAG2	0x05(5)	0x0000	0x0000	Read	Write	RM	WM	
VBAT_TH	0x06(6)	0xff00	0xff00	Read	Write	RM	WM	
FB_FRZ	0x07(7)	0x0000	0x0000	Read	Write	RM	WM	
FB_UPD	0x08(8)	0x0000	0x0000	Read	Write	RM	WM	
WD_RELOAD	0x09(9)	0x0334	0x0334	Read	Write	RM	WM	
DIAG_ERR_CHGR0	0x0a(10)	0x1010	0x1010	Read	Write	RM	WM	
DIAG_ERR_CHGR1	0x0b(11)	0x1010	0x1010	Read	Write	RM	WM	
DIAG_WARN_CHGR0	0x10(16)	0x1010	0x1010	Read	Write	RM	WM	
DIAG_WARN_CHGR1	0x11(17)	0x1010	0x1010	Read	Write	RM	WM	
FAULT_MASK0	0x16(22)	0xc00f	0xc00f	Read	Write	RM	WM	
FAULT_MASK1	0x17(23)	0x700f	0x700f	Read	Write	RM	WM	
FAULT_MASK2	0x18(24)	0xc000	0xc000	Read	Write	RM	WM	
CLK_DIV	0x19(25)	0x8438	0x8438	Read	Write	RM	WM	
ICVID	0x200(512)	0xc1fc	0xc1fc	Read	Write	RM	WM	
PIN_STAT	0x201(513)	0x0000	0x0000	Read	Write	RM	WM	
PB_STAT	0x202(514)	0xc7c3	0xc7c3	Read	Write	RM	WM	
FB_VOLTAGE1	0x203(515)	0x05a6	0x05a6	Read	Write	RM	WM	
FB_VOLTAGE2	0x204(516)	0x8d09	0x8d09	Read	Write	RM	WM	

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 shows the NextGen Solenoid Driver EvalKit GUI. The top window is the 'SPI Register Widget' which displays a list of registers. The bottom window is the 'Macro Recorder' which shows a table of recorded commands.

Name	Addr	Decoded Value	Raw Value	R	W	R(Macro)	W(Macro)	Position
CH_CTRL	0x00(0)	0x0000	0x0000	Read	Write	RM	WM	
GLOBAL_CONFIG	0x02(2)	0x5007	0x5007	Read	Write	RM	WM	
GLOBAL_DIAG0	0x03(3)	0x01c0	0x01c0	Read	Write	RM	WM	
GLOBAL_DIAG1	0x04(4)	0x0000	0x0000	Read	Write	RM	WM	
GLOBAL_DIAG2	0x05(5)	0x0000	0x0000	Read	Write	RM	WM	
VBAT_TH	0x06(6)	0xff00	0xff00	Read	Write	RM	WM	
FB_FRZ	0x07(7)	0x0000	0x0000	Read	Write	RM	WM	
FB_UPD	0x08(8)	0x0000	0x0000	Read	Write	RM	WM	
WD_RELOAD	0x09(9)	0x0334	0x0334	Read	Write	RM	WM	
DIAG_ERR_CHGR0	0x0a(10)	0x1010	0x1010	Read	Write	RM	WM	
DIAG_ERR_CHGR1	0x0b(11)	0x1010	0x1010	Read	Write	RM	WM	
DIAG_WARN_CHGR0	0x10(16)	0x1010	0x1010	Read	Write	RM	WM	
DIAG_WARN_CHGR1	0x11(17)	0x1010	0x1010	Read	Write	RM	WM	
FAULT_MASK0	0x16(22)	0xc00f	0xc00f	Read	Write	RM	WM	
FAULT_MASK1	0x17(23)	0x700f	0x700f	Read	Write	RM	WM	
FAULT_MASK2	0x18(24)	0xc000	0xc000	Read	Write	RM	WM	
CLK_DIV	0x19(25)	0x8438	0x8438	Read	Write	RM	WM	
1CVID	0x200(512)	0xc1fc	0xc1fc	Read	Write	RM	WM	
PIN_STAT	0x201(513)	0x0000	0x0000	Read	Write	RM	WM	
FB_STAT	0x202(514)	0xc7c3	0xc7c3	Read	Write	RM	WM	
FB_VOLTAGE1	0x203(515)	0x05a6	0x05a6	Read	Write	RM	WM	
FB_VOLTAGE2	0x204(516)	0x8d09	0x8d09	Read	Write	RM	WM	

CMD	Name	Address	Value
1 Write	CH_CTRL	0x00	0x000



Part of your life. Part of tomorrow.



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

