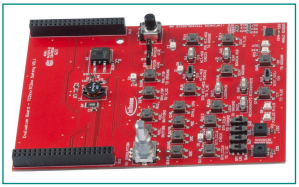
QUICK START GUIDE

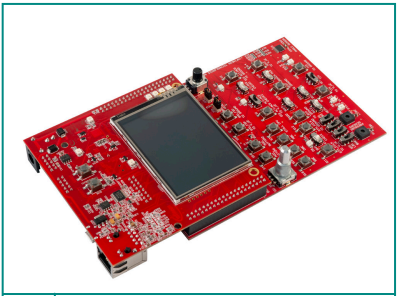
Evaluation Board – AURIX™ TC3xx Safety

Kit contents

1. Evaluation Board – AURIX™ TC3xx Safety V3.1
2. Power supply 12 V
3. USB standard-A to USB Micro-B cable
4. Magnet for GMR sensor
5. Quick start guide (this document)



www.infineon.com/aurixsafetykit



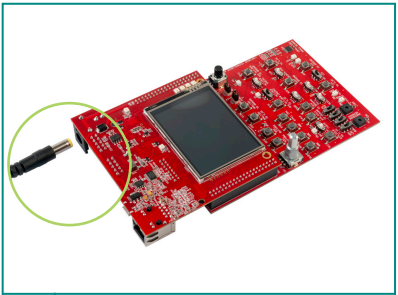
1 Connect the two boards

Before you start

1. Ensure that you have the following:
   - Application kit – AURIX™ TC397 TFT 5V
   - Evaluation Board – AURIX™ TC3xx Safety
   - Power supply
   - USB connector
   - Magnet
2. Visit kit webpage to download and install the required software

Connect the two boards

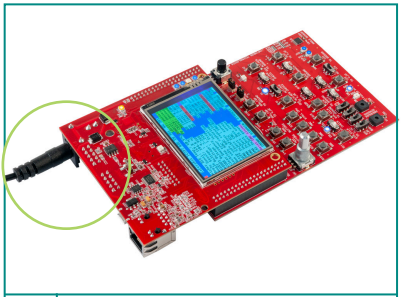
1. Connect Application kit – AURIX™ TC397 TFT 5V to Evaluation Board – AURIX™ TC3xx Safety in the correct order (as shown in the figure)



2 Connect the power supply to the board

Connect and power up the board

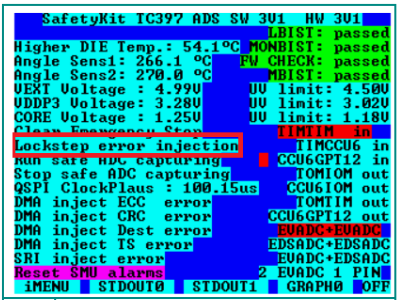
1. Connect the power adapter provided with the kit to the board (as shown in the figure)
2. Power up the board



3 Default state after power up

After powering up the board

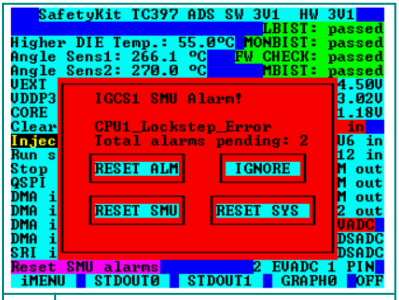
1. The board will startup
2. LEDs will be blinking
3. Real time data is displayed
4. Confirm correct version of HW and SW



4	Lockstep error injection

Error or fault injection

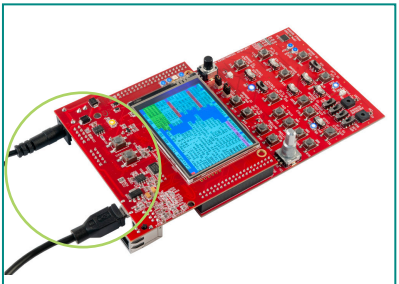
1. Use the touch display, buttons, and switches to inject different errors. For example, by using the touch display, a lockstep error can be injected
   - Touch the “Lockstep error injection”, highlighted red, to inject error



5	Alarm window pop up

Lockstep error injection

1. As result of “Lockstep error injection” the **CPU1_Lockstep_Error** window will pop up
   - **RESET ALM:** You can reset the shown alarm on the alarm window
   - **IGNORE:** You can ignore the alarm
   - **RESET SMU:** You can reset the SMU which will reset all alarms
   - **RESET SYS:** You can reset the whole system and the board will be reset to default condition

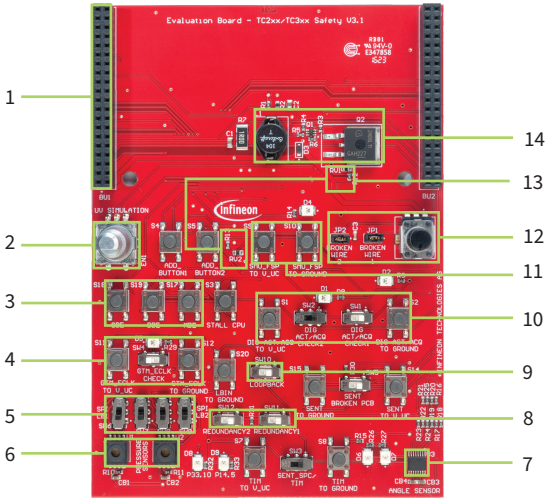


6	Connect USB to PC

Connect USB to PC

1. Connect the provided USB cabled with kit to PC
2. It is used for the following purposes
   - Software flashing
   - UART Terminal window software
   - Debugging the Software

Evaluation Board – AURIX™ TC3xx Safety pinout details



1 AURIX™ connector
2 Encoder knob to control PWM
3 NVM error injection buttons
4 GTM clock error injection
5 QSPI loopback switches
6 Pressure sensors QSPI redundancy
7 GMR angle sensor's SENT redundancy
8 Port redundancy switches
9 Port loopback switch
10 GTM, CCU6, and GPT12 error injection
11 Fault signaling protocol test
12 Broken wire detection simulation
13 Analog temperature sensors
14 Undervoltage simulation circuitry

Additional resources

AURIX™ Application Kit – TC3xx Safety:
– https://www.infineon.com/aurixsafetykit

AURIX™ Development Studio:
– https://www.infineon.com/aurixdevelopmentstudio

AURIX™ Code examples:
– https://github.com/Infineon/AURIX_code_examples

AURIX™ Forum for questions and support:
– https://community.infineon.com

Document number: 002-38847 Rev. **
Date: 10 / 2023

Published by Infineon Technologies AG
81726 Munich, Germany