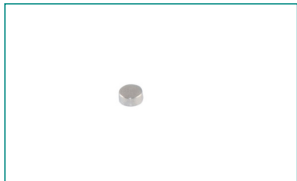
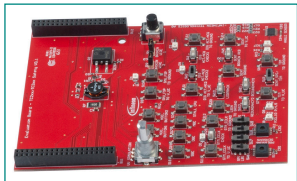
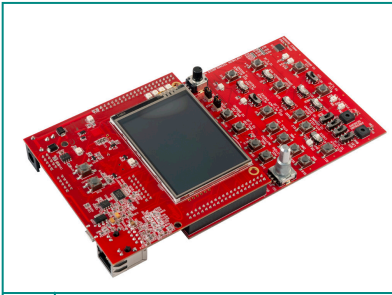


Evaluation Board – AURIX™ TC3xx Safety

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)





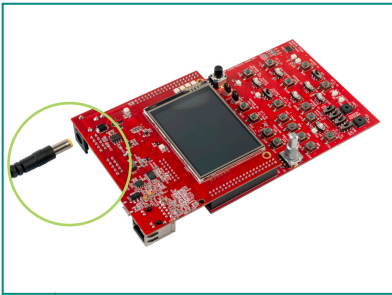
1 Connect the two boards

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

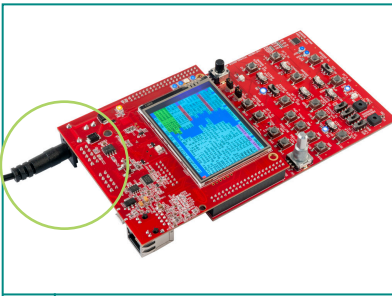
1. Connect Application kit – AURIX™ TC397 TFT 5V to Evaluation Board – AURIX™ TC3xx Safety in the correct order (as shown in the figure)



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

SafetyKit IC397 ADS SW 3U1 HW 3U1	
Higher DIE Temp.: 54.1°C	MONBIST: passed
Angle Sens1: 266.1 °C	FW CHECK: passed
Angle Sens2: 270.0 °C	MBIST: passed
UE1T Voltage: 4.990	UV limit: 4.500
UDDP3 Voltage: 3.280	UV limit: 3.020
CORE Voltage: 1.250	UV limit: 1.180
Class: Emergency	Light: on
Lockstep error injection	TIMCCUG in
Run safe ADC capturing	CCUG6GPT12 in
Stop safe ADC capturing	TOMIOM out
QSPI ClockPlaus: 100.15us	CCUG6IOM out
DMA inject EGC error	TOMIIM out
DMA inject CRC error	CCUG6GPT12 out
DMA inject Dest error	EDSADC+EDSADC
DMA inject TS error	EDSADC+EDSADC
SRI inject error	EUADC+EDSADC
Reset SMU alarms	2 EUADC 1 PIN
iMENU	STDOUT0
STDOUT1	GRAPH0
OFF	
4	Lockstep error injection

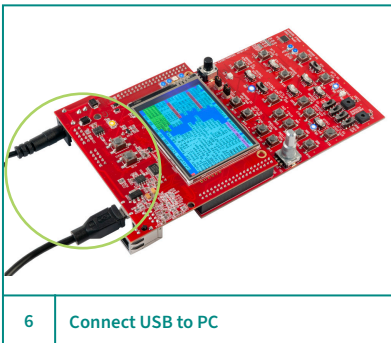
Error or fault injection

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

SafetyKit IC397 ADS SW 3U1 HW 3U1	
Higher DIE Temp.: 55.0°C	MONBIST: passed
Angle Sens1: 266.1 °C	FW CHECK: passed
Angle Sens2: 270.0 °C	MBIST: passed
UE1T	4.500
UDDP3	3.020
CORE	1.180
Clear	
ICGS1 SMU Alarm!	
CPU1_Lockstep_Error	
Total alarms pending: 2	
RESET ALM	IGNORE
RESET SMU	RESET SYS
Reset SMU alarms	2 EUADC 1 PIN
iMENU	STDOUT0
STDOUT1	GRAPH0
OFF	
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

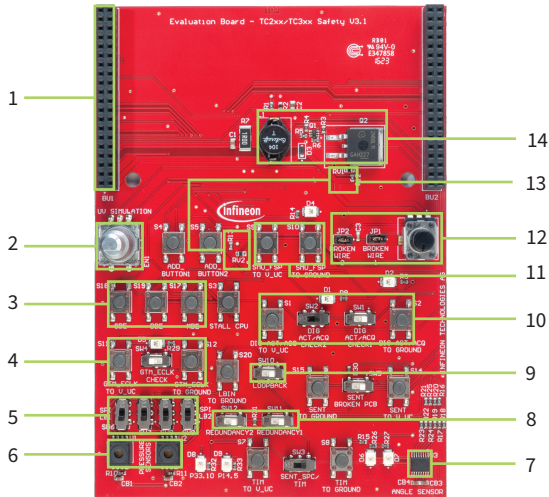


Connect USB to PC

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

6	Connect USB to PC
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Evaluation Board – AURIX™ TC3xx Safety pinout details



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

Additional resources

AURIX™ Application Kit – TC3xx Safety:

– <https://www.infineon.com/aurixsafetykit>

AURIX™ Code examples:

– https://github.com/Infineon/AURIX_code_examples

AURIX™ Development Studio:

– <https://www.infineon.com/aurixdevelopmentstudio>

AURIX™ Forum for questions and support:

– <https://community.infineon.com>