Prototyping has never been easier – XENSIV™ sensor evaluation tools

Tobias Bukowski (IFAG ATV SC M)
Sensor+Test 2019, Nuremberg
Keep it simple and be fast!
# XENSIV™ Evaluation Tool Environment

## 2GO Kits and Shield2Go

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<th>2GO Kits</th>
<th>Shield2Go</th>
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### Software

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### Add on components

| Joystick – Rotation knob – Linear slider – out of shaft adapter          |                                                                         |
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### Software

- Graphical User interface (GUI)
- Arduino library

### Add on components

- Joystick
- Rotation knob
- Linear slider
- out of shaft adapter
The backbone of Shield2Go
Unleash your creativity

1. Reusable blocks with our HW

- PCBs in standardized formfactor for our sensors
- Standardized footprints and pin order

2. Combine blocks to systems

3. Flexible evaluation boards compatible with existing solutions

4. Arduino software
# XENSIV™ Shield2Go – Portfolio overview

## Sensors
- DPS310 Barometric Pressure Sensor
- MEMS Microphone IM69D130
- TLI4970-D050T4 Current Sensor
- TLV493D-A1B6 3D Magnetic Sensor

## Security ICs
- OPTIGA™ Trust E Security Controller
- OPTIGA™ Trust X Security Controller

## Microcontroller
- XMC™ 2Go

## Adapter for Arduino Uno
- My IoT Adapter
Example – Evaluation Board PCB Details for the DPS310 Pressure Shield2Go

The DPS310 Pressure Shield2Go

Legend
- Yellow: Information
- Blue: Labelling of Pins in Datasheet
- Green: Pin Number in Datasheet
- Gray: Physical Pin Number
- Exclamation Mark: Warning
- Question Mark: Additional Information
- NC: Not connected

- Ground pins on board connected with each other
- 10.16 mm (0.4"

Switch I2C and SPI
Power LED Red

Switch I2C/SPI
Configuration for I2C
Configuration for SPI

The board can be switched from I2C mode to SPI mode by moving 0 Ohm resistors

The maximum voltage to any pin is 4 V

Solder Bridge J1 enables pull-down resistor on interrupt pin and changes I2C address from 0x77 to 0x76

Solder Bridge J2 connects the interrupt pin to the INT/GPIO3 pin

www.infineon.com
Customized Prototyping
The world of Shield2Go
Unlimited options for customer applications

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- [Image of Shield2Go]  +  [Image of Infineon XMC 2Go]
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- [Image of Shield2Go]  +  [Image of Microcontroller of your choice]  +  ?
Unleash your creativity – How is that looking like?

Shield2Go + Infineon XMC™ 2Go

XMC™ 2Go stacked with the TLV493D 3DSense Shield2Go and rotate knob

Shield2Go + My IoT Adapter + XMC bootkit

Stacked XMC1100 Boot Kit with My IoT Adapter and Shield2Go
Ingredients: Selection of sensors, microcontrollers and security ICs
- Add-ons Solderless connectors, Joystick and rotation knob
- Based on Shield2Go and My IoT Adapter
- Fast, flexible and easy prototyping
- Free Arduino libraries
XENSIV™ Evaluation Tool Environment
2GO Kits and Shield2Go

2GO Kits

› One Infineon sensor IC combined with an ARM® Cortex™-M0 CPU
› USB connection for fast evaluation
› On board debugging

Shield2Go

› Comprise one board with one single Infineon IC
› Comes with solderless connectors
› The Software for the Shield2Go is based on Arduino

Software

Graphical User interface (GUI)      Arduino library

Add on components

Joystick – Rotation knob – Linear slider – out of shaft adapter
The world of 2GO kits
Fast evaluation within minutes

1. All in one hardware concept
   PCBs with one sensor IC + Microcontroller
   USB connection on board

2. Download GUI

3. Connect to your PC

4. Start evaluation
XENSIV™ 2GO kits – Portfolio overview

**TLx493D 3D Magnetic sensor**
- TLV493D-A1B6 3D Magnetic Sensor
- TLE493D-A2B6 3D Magnetic Sensor AEC-Q100
- TLE493D-W2B6 3D Magnetic Sensor AEC-Q100 with wake up

**TLI4970-D050T4 Current Sensor**

**TLE4922 Magnetic Speed Sensor**

**TLE5012 Magnetic Angle Sensor**
- TLE5012B E1000 automotive predefined variant with SSC & IIF
- TLE5012B E5000 automotive predefined variant with SSC & PWM
- TLE5012B E9000 automotive predefined variant with SSC & SPC
- TLI5012B E1000 industrial predefined variant with SSC & IIF
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### Software
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- Rotation knob
- Linear slider
- out of shaft adapter
Add ons and its usecases – be fast!

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<td>3D Magnetic Sensor</td>
<td>Joystick</td>
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<tr>
<td>Linear Position</td>
<td>3D Magnetic Sensor</td>
<td>Linear Slider</td>
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<tr>
<td>Angular Position</td>
<td>Angle Sensor</td>
<td>Rotate knob</td>
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Out of shaft
Our add ons fit on 2GO kits and Shield2Go

**Shield2Go + add on**

XMC™ 2GO stacked with the TLV493D 3DSense Shield2Go and rotate knob

**2GO kit + add on**

3D magnetic sensor 2GO kit stacked with a linear slider
Software – be fast!
GUI and Arduino libraries

GUI – Infineon.com/sensor2go

- Hub to share, distribute and download open source software
- Infineon Account for distribution of Open source Software (e.g. Arduino)

- Page to share, distribute and download the graphical user interface (GUI)
- App notes
- 3D printing files
- Videos

Infineon account on GitHub
Summary – Keep it simple and be fast!
Part of your life. Part of tomorrow.