Prototyping has never been easier – XENSIV™ sensor evaluation tools

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Sensor+Test 2019, Nuremberg
Keep it simple and be fast!
## XENSIV™ Evaluation Tool Environment

### 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
# XENSIV™ Evaluation Tool Environment

## 2GO Kits and Shield2Go

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![2GO Kit Image]

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![Shield2Go Image]

### Software
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### Add on components
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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

- **Information**
- **Labelling of Pins in Datasheet**
- **Pin Number in Datasheet**
- **Physical Pin Number**
- **Warning**
- **Additional Information**
- **NC** Not connected

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

<table>
<thead>
<tr>
<th>Shield2Go</th>
</tr>
</thead>
<tbody>
<tr>
<td>1. Shield2Go + Infineon XMC 2Go</td>
</tr>
<tr>
<td>2. Shield2Go + My IoT Adapter + Arduino Uno</td>
</tr>
<tr>
<td>3. Shield2Go + Microcontroller of your choice</td>
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Sensor+Test 2019

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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
XENSIV™ Getting Started Box IoT
Unleash your creativity – what's inside

Product Picture

Product Information

› 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
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)

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

<table>
<thead>
<tr>
<th><strong>TLx493D 3D Magnetic sensor</strong></th>
<th>![Image of TLx493D 3D Magnetic Sensor]</th>
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<td>TLE493D-A2B6 3D Magnetic Sensor AEC-Q100</td>
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<td>TLE493D-W2B6 3D Magnetic Sensor AEC-Q100 with wake up</td>
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| **TLI4970-D050T4 Current Sensor** | ![Image of TLI4970-D050T4 Current Sensor] |

| **TLE4922 Magnetic Speed Sensor** | ![Image of TLE4922 Magnetic Speed Sensor] |

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<th><strong>TLE5012 Magnetic Angle Sensor</strong></th>
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<td>TLE5012B E1000 automotive predefined variant with SSC &amp; IIF</td>
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<td>TLE5012B E5000 automotive predefined variant with SSC &amp; PWM</td>
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<td>TLE5012B E9000 automotive predefined variant with SSC &amp; SPC</td>
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**XENSIV™ Evaluation Tool Environment**

**2GO Kits and Shield2Go**

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**Software**

- Graphical User interface (GUI)
- Arduino library

**Add on components**

- Joystick – Rotation knob – Linear slider – out of shaft adapter
Add ons and its usecases – be fast!

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<tr>
<th>Usecase</th>
<th>Sensor type</th>
<th>Add on</th>
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<td>3D Position</td>
<td>3D Magnetic Sensor</td>
<td>Joystick</td>
</tr>
<tr>
<td>Linear Position</td>
<td>3D Magnetic Sensor</td>
<td>Linear Slider</td>
</tr>
<tr>
<td>Angular Position</td>
<td>Angle Sensor, 3D Magnetic Sensor</td>
<td>Rotate knob, Out of shaft</td>
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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

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

Infineon account on GitHub

› Hub to share, distribute and download open source software
› Infineon Account for distribution of Open source Software (e.g. Arduino)
Summary – Keep it simple and be fast!
Part of your life. Part of tomorrow.