



uepm d-board

Diving Technologies Development Platform



**Design the future
of diving technology**

INNOVASUB

Simplifying Diving Technology

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Product Overview

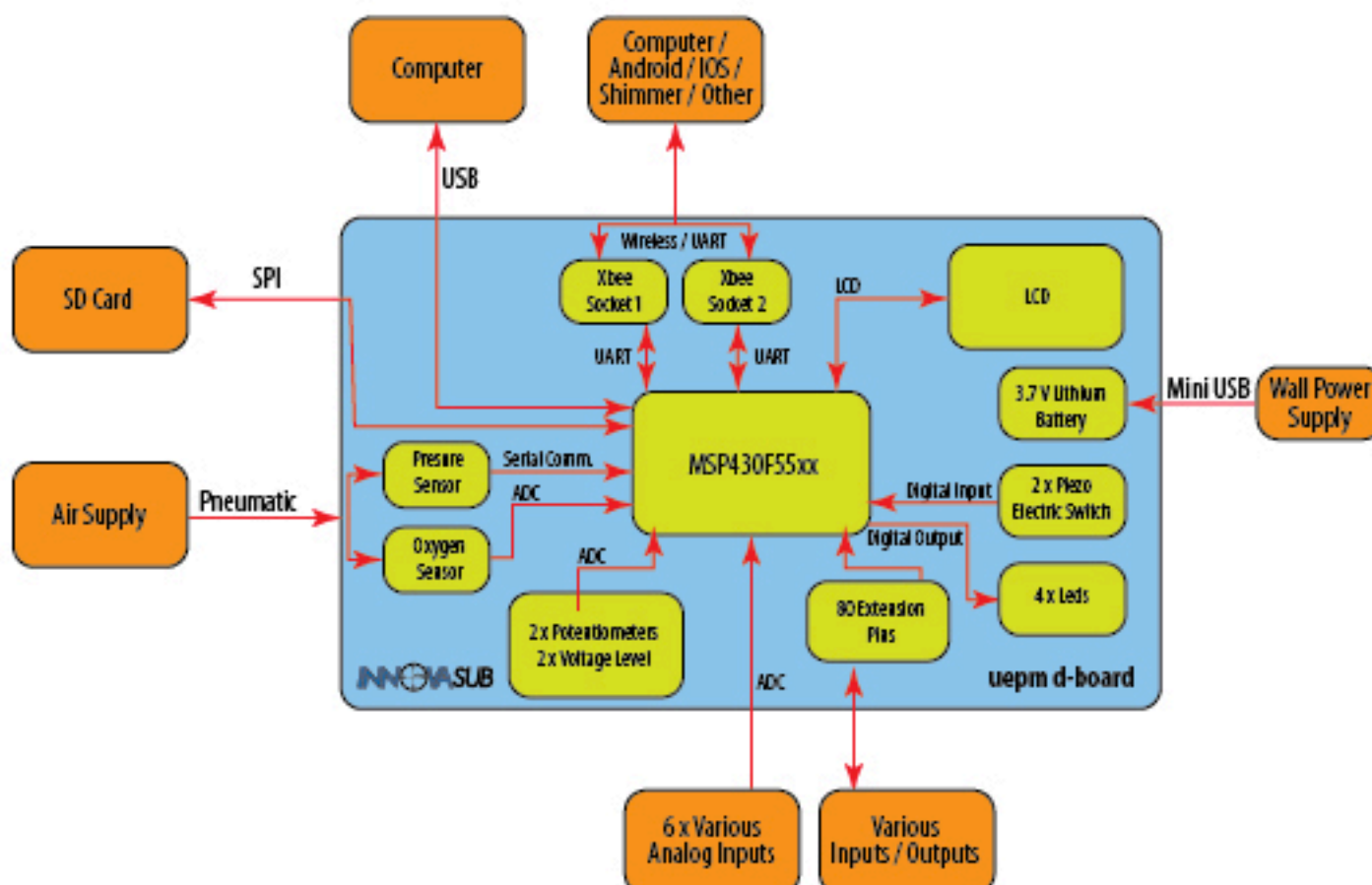
The **INNOVASUB UEPM DevelopmentBoard** assists with the electronic design and code development for MSP430 microcontroller-based underwater equipment.

It comes with all the tools required to start developing immediately: programmer, drivers, sample code and schematics.

Based on Texas Instruments' microcontroller MSP430F5529, the UEPM DevelopmentBoard combines the powerful functions for underwater physiological monitoring with ultra-low power consumption for long battery life.

The UEPM DevelopmentBoard is equipped with many features for underwater application: oxygen sensor, 3 x pressure sensors, up to 2 wireless communication modules, LCD display, Micro SD card and USB interface.

The UEPM DevelopmentBoard supports the use of multiple wireless modules to connect both Android (Bluetooth) and iOS (Wi-Fi) devices. In addition, the Bluetooth module allows you to receive data from Shimmer's* sensors.

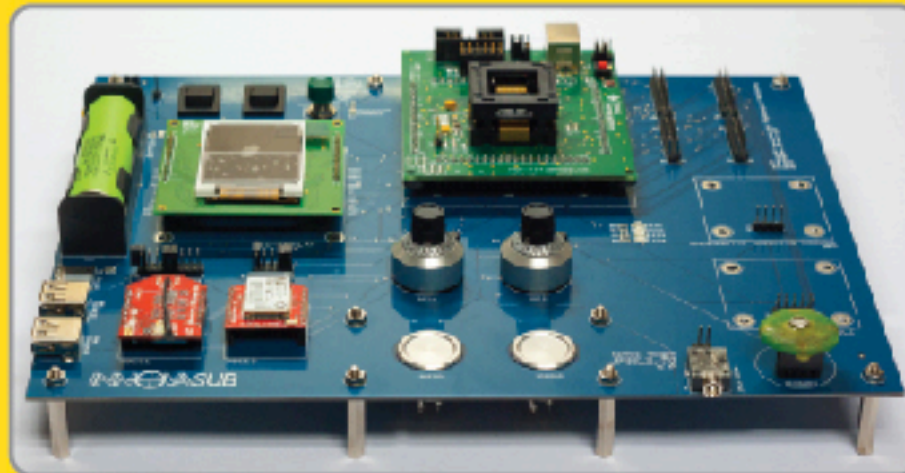


* **Shimmer Unit** is a wearable sensor module by which you can capture and send physiological data.
See INNOVASUB DecoPlus+ Brochure for more details.



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Features

- Target Board MSP-TS430PN80USB & MSP430F5529. Processor replaceable.
Target Board supports any other MSP430 in 80-pin LQFP package.
- 32.768 KHz crystal oscillator for precise time measurements.
- 1 x Oxygen sensor.
- 2 x INNOVASUB Digital Pressure Sensors.
- 1 x MS5541C Digital Pressure Sensor.
- Up to 2 wireless communication modules in XBee footprint, if pressure sensors through UART not used.
1 module (Wi-Fi or Bluetooth) loaded with configuration to connect with Android or iOS included in package.
Second module in option. Supports any XBee footprint module.
- 1 x Wired UART port accessible if Digital Pressure Sensor and XBee module not used.
- LCD display.
- SD Card: Micro-SD Card supported via SPI interface.
- USB support, sample code included.
- Battery: Lithium-Ion, rechargeable, single-cell, 2000mAh, package 18650. Circuit integrated on UEPM DevelopmentBoard to recharge the battery. Power supplied by wall charger with Mini-USB connection.
- Battery and regulated 3.3V line voltages monitored through 12-bit ADC.
- 2 x precision multi-turn potentiometers (12-bit ADC).
- 6 x additional 12-bit analog input connector (12-bit ADC).
- 2 x Piezo switches: piezo-electric switch can be used underwater.
- 4 x Programmable LEDs.
- Expansion of the 80 pins of the MSP430 into standard 2x10 0.1"-pitch connectors for modular design.

Package Includes

- UEPM DevelopmentBoard.
- MSP-TS430PN80USB Target Board.
- MSP-FET430UIF: USB to JTAG programmer for MSP430.
- 1 x Oxygen sensor.
- 1 x Wireless module (Bluetooth or Wi-Fi)
- 2 x Pressure sensors with connection ports to decompression chamber.
- 1 x MS5541C pressure sensor soldered on breakout PCB.
- Battery: Lithium-Ion, rechargeable, single-cell, 2000mAh, package 18650.
- Wall charger.
- USB Cables.
- MicroSD memory card.
- CD containing: sample code for MSP430F5529 & UEPM DevelopmentBoard, schematics and manual.

Wireless Module Option

Additional wireless module with features below can be purchased separately:

- RN-171XV: Wi-Fi module, XBee footprint, configured by INNOVASUB to connect with iOS devices.
- RN-43XV: Bluetooth module, XBee footprint, configured by INNOVASUB to connect with Android devices.
- Underwater RF Transceiver.

Order References & Options

Reference	Product
UEPM-DVT-BT	UEPM DevelopmentBoard with Bluetooth Module
UEPM-DVT-WF	UEPM DevelopmentBoard with Wi-Fi Module
UEPM-BT	Bluetooth module, XBee footprint, configured by INNOVASUB to connect with Android devices
UEPM-WF	Wi-Fi module, XBee footprint, configured by INNOVASUB to connect with iOS devices
UEPM-RF	Underwater RF Transceiver
UEPM-SUPPORT	UEPM Support Package
UEPM-SITE-SP	UEPM Support on Site



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