OEM Bluetooth Low Energy Platform Module OLP425
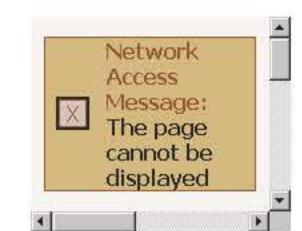
Downloads

Visit the OLP425 product support page for software downloads and technical documentation.

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Bluetooth low energy demo video

View the Bluetooth low energy demo video that shows an iPhone and Bluetooth low energy demo with connectBlue Bluetooth low energy platform module OLP425.

Network Access Message:
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Key features

The OLP425 is a Bluetooth low energy single-mode platform module. The mounting options of a battery holder, temperature sensor, accelerometers and other sensors makes the OLP425 a complete stand-alone product, with no additional hardware required. The OLP425 is based on the Bluetooth low energy SoC TI CC2540 and is open for implementation of your own software application and Bluetooth low energy profiles, embedded in the module. The module is fully radio type approved for Europe, US and Canada. connectBlue is introducing a new smaller connectBlue module standard with the Bluetooth low energy platform module OLP425.

- Bluetooth v4.0 low energy single-mode (Bluetooth Smart) - qualified as Controller Subsystem
- Mounting options: battery holder, temperature sensor, accelerometers, etc
- Platform for customer developed applications and profiles/attributes
- GPIO/SPI/I2C/UART interface
- Analog inputs
- Battery life 1-10 years on coin cell battery
- Solder castellations for visual inspection
- Radio type approved for Europe, US and Canada (R&TTE, FCC, IC)
- Compliant with EMC, Safety and Medical standards
- Internal or external antenna
- Industrial and Automotive operating temperature range -40°C to +85°C**
- Small size, 15x22 mm

Technical data

Wireless Standard

Bluetooth low energy technology (Bluetooth Smart)

Standard Specification

Bluetooth v4.0 low energy single-mode (Bluetooth Smart) - qualified as Controller Subsystem
Customer implemented Bluetooth low energy profiles/services/attributes
Supports peripheral and central roles

Radio, Chipset and Stack

Internal antenna (range & max output power incl. antenna): 150m & 3dBm
External antenna (range & max output power incl. antenna): 200m & 6dBm
2.4 GHz channels: 1-39
Radio: Texas Instruments CC2540

The platform module OLP425 is a hardware platform based on the TI CC2540 system-on-chip.

The chip runs both application and Bluetooth low energy protocol stack. The TI Bluetooth low energy software stack and tools includes object code with the latest BLE protocol stack supporting multiple connections, sample projects and applications covering an extensive set of profiles with source code.

The connectBlue OLP425 sample code package includes sample projects for accessing the LEDs, temperature sensor and accelerometers.

The embedded software is developed using IAR Embedded Workbench for 8051.

Type Approvals

Europe (R&TTE)
US (FCC/CFR 47 part 15 unlicensed modular transmitter approval)
Canada (IC)

Interface

GPIO/SPI/I2C/UART
Max baud rate: 115.2 kbit/s
Support for non-standard baud rates
Flow control: CTS/RTS (hardware) or none
18 digital I/O pins
4 ADC channels
2 LEDs (Red and Green)
Function switch (optional)

Features

Maximum number of slaves: 3 (point-to-point, point-to-multipoint)
Simple Pairing
Android connectivity

iPhone/iPod touch/iPad connectivity:

- Supports Bluetooth low energy connection with iOS devices (no MFi approval required)

Temperature sensor TI TMP112 (optional):

- Accuracy 0.5°C (max) from 0°C to +65°C
- Accuracy 1.0°C (max) from -40°C to +125°C

Accelerometer ST LIS3DH (optional):

- ±2g/±4g/±8g/±16g dynamically selectable fullscale
- 2 independent programmable interrupt generators for free-fall and motion detection
- 6D/4D orientation detection

Other sensors:

- 4 pcs through hole solder points for mounting of other sensors (2 digital I/Os or 1 analog input and controllable voltage supply for max 20mA)

Power

Power supply voltage: 2.0 - 3.6 VDC
Current consumption (minimum): TBD

Connectors

Solder land pads
JST connector (optional)

Mechanical

Operating temperature: -40°C to +85°C
Machine mountable
Mounting holes
Dimensions: 15x22x3 mm (without battery holder)
Weight: 1.5 g (without battery holder)

Certifications and Compliance

R&TTE Directive 1999/5/EC:

- Effective use of frequency spectrum: EN 300 328
- EMC: EN 301 489-1, EN 301 489-17, EN 61000-6-2
- Health and safety: EN 50371, EN 60950-1 (EN 60950-1) and/or IEC 60950-1

Medical Electrical Equipment:

- IEC 60601-1-2

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Article numbers

Starter kits:

cB-OLP425i-26-A
Development kit

- cB-OLP425i-26-0 module
- cB-ACC-71 (OLP425 to CC debugger adapter cable)

NOTE: To get started you also need additional hardware and software. See the cB-OLP425 Development Kit Getting Started document.

Modules:

cB-OLP425i-26
Max equipped, internal antenna

- Internal antenna
- Temperature sensor
- Accelerometers
- 2 LEDs
- JST connector
- Battery holder for CR1632

cB-OLP425x-26
Max equipped, external antenna

- U.fl. connector for external antenna
- Temperature sensor
- Accelerometers
- 2 LEDs
- JST connector
- Battery holder for CR1632

cB-OLP425i-04
Min equipped, internal antenna

- Internal antenna
- No sensors or battery holder
- No LEDs
- No JST connector

cB-OLP425x-04
Min equipped, external antenna

- U.fl. connector for external antenna
- No sensors or battery holder
- No LEDs
- No JST connector

Accessories:

cB-ACC-71
OLP425 to CC debugger adapter cable

- JST 6-poles to IDC 10-poles adapter cable for connecting the cB-OLP425 module to the TI CC debugger for programming/debugging. NOTE: JST connector required on the OLP425 module.

For other mounting options please contact us

** JST version limited to -25°C to +85°C