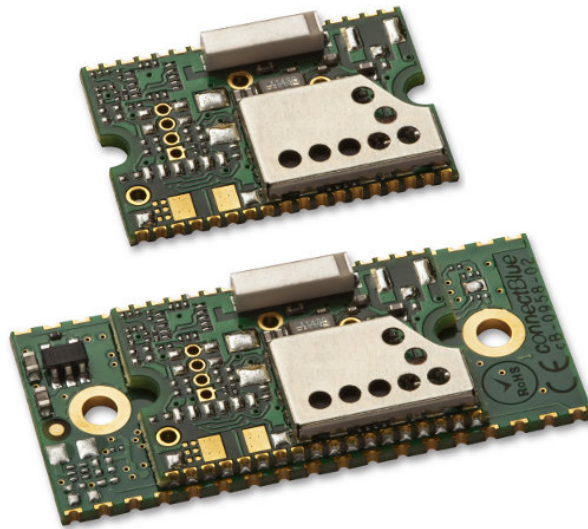# Bluetooth Low Energy Module

Product Brief OEM Bluetooth Low Energy Serial Port Module

OLS425/OLS426

The Bluetooth low energy Serial Port Module OLS425/OLS426 is a complete Bluetooth Smart OEM product with UART logic level interface. The module embeds firmware with the connectBlue Low Energy Serial Port Service for replacing serial cables or accessing UART devices using Bluetooth low energy technology. The module is fully Bluetooth qualified and radio type approved for US, Europe, Japan and Canada. It also has the connectBlue standard interface for compatibility over time and radio technologies.

- Bluetooth v4.0 featuring Bluetooth low energy technology (Bluetooth Smart)
- Serial Port Module firmware for UART serial data
- connectBlue Low Energy Serial Port Service
- UART logic level interface
- Easy configuration via AT commands

- Solder castellations for visual inspection
- Radio type approved for US, Europe, Japan and Canada (FCC, R&TTE, MIC, IC)
- Compliant with EMC, Safety and Medical standards
- Internal or u.fl. connector for external antenna
- Industrial and Automotive operating temperature range -40°C to +85°C
- Two form factors:
  - cB-OLS425: 15x22 mm with solder pads
  - cB-OLS426: 16x36 mm with solder pads and Board-to-Board connector

Bluetooth Support
Bluetooth version v4.0 featuring Bluetooth low energy technology (Bluetooth Smart)
GATT based service: connectBlue Low Energy Serial Port Service
Profile roles: Peripheral
Output power: Class 1 +4 dBm (excluding antenna gain)
Receive sensitive level: -91 dBm
Range: 200 m (approximate, line-of-sight, external antenna)

NOTE:
A device with Peripheral Role cannot communicate with another Peripheral Role device, but must communicate with a device with Central Role. The connectBlue dual-mode module OBS421 supports Central role and the connectBlue Low Energy Serial Port Service. This means that an OLS425/OLS426 can communicate with an OBS421, but two OLS425/OLS426 modules cannot communicate with each other.

Bluetooth Chipset and Stack
Radio: Texas Instruments CC2540
Stack: Texas Instruments

iPhone/iPod touch/iPad support
 • Supports Bluetooth low energy connection with iOS devices

Software
All software embedded in the module (Bluetooth stack and application)
Configurable via AT commands

Hardware Interface
UART Logic-level
Supported baud rates: 1200 bit/s - 115.2 kbit/s
Flow control: CTS/RTS (hardware) or none
11 GPIOs

Connectors
Solder edge pads with castellations (visually inspectable)
Board-to-board connector (cB-OLS426 only)
U.fl. antenna connector (external antenna version only)

Power Supply
cB-OLS425: 2.0 - 3.6 VDC (3.0 - 6.0 VDC on request)
cB-OLS426: 3.0 - 6.0 VDC

Current Consumption
cB-OLS425:
 • Minimum: 0.4 µA @2.0V
 • Average Tx: 10 mA @2.0V
cB-OLS426:
 • Minimum: 6.7 µA @3.0V
 • Average Tx: 10 mA @3.0V

Dimension/Size
cB-OLS425:
 • Size: 22.3x14.8 mm
 • Weight: 1.5 g
cB-OLS426:
 • Size: 16.0x36.0 mm
 • Weight: 3 g

Type Approval
Europe (ETSI R&TTE)
US (FCC/CFR 47 part 15 unlicensed modular transmitter approval)
Japan (MIC - Formerly TELEC)
Canada (IC RSS)

Environmental
Operating temperature: -40°C to +85°C
Storage temperature: -40°C to +125°C
Humidity RH 5-90% non-condensing

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 and/or IEC 60950-1

Medical Electrical Equipment:
 • IEC 60601-1-2

Article numbers
For article number descriptions, please see www.connectblue.com

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