

OEM Bluetooth Serial Port Module OBS411



Downloads

Visit the [OBS411 product support page](#) for software downloads and technical documentation.

- Open PDF (A4 format)
- Open PDF (Letter format)
- Print PDF (A4 format)
- Print PDF (Letter format)

Getting Started Video

View the [Getting Started tutorial video](#) that shows a connectBlue wireless module using a Starter Kit & Configuration PC-program.



Key features

The Bluetooth Serial Port Module 411 supports the Serial Port Profile (SPP) for fast and secure transparent serial data transmissions. The module has a small form factor, low build height, and supports Bluetooth v2.1+EDR (Bluetooth v3.0 prepared via firmware upgrade). With the Bluetooth stack embedded you can be up and running quickly as there is no need for a driver or stack in your host. The module is fully Bluetooth qualified and radio type approved for Europe, Japan, US and Canada. It also has the connectBlue standard interface for compatibility over time and radio technologies.

- Embedded Bluetooth stack (SPP, DUN, PAN)
- Android support and iPhone / iPad / iPod touch support*
- Customer developed applications can be embedded
- Bluetooth v2.1+EDR Qualified as End Product (Bluetooth v3.0 prepared via firmware upgrade)
- High Speed UART
- Very high throughput and low latency
- Easy configuration by AT commands
- Radio type approved for Canada, Europe, Japan and US
- Compliant with EMC, Safety and Medical standards
- connectBlue Low Emission Mode™
- Wireless Multidrop™ with up to 3 slaves
- Extended Data Mode™ for separated multipoint data channels
- Internal or external antenna
- Industrial and Automotive temperature range -30°C to +85°C**
- Possible to load customer specific configuration in production
- Individually tested in production

Technical data

Wireless Standard

Classic Bluetooth technology

Standard Specification

Bluetooth v2.1+EDR (Qualified and Listed as Product)
Bluetooth v3.0 prepared via firmware upgrade
Supported Bluetooth Profiles:

- Serial Port Profile (SPP)
- Dial-up networking Profile (DUN GW, DUN DT)
- Personal Area Networking Profile (PAN) roles PANU & NAP

Radio, Chipset and Stack

Internal antenna (range & max output power incl. antenna): 75m & 5dBm
External antenna (range & max output power incl. antenna): 150m & 6dBm
2.4 GHz channels: 1-79
Radio: ST-Ericsson STLC2500DB
Microprocessor: ST STM32F
Stack: connectBlue Embedded Bluetooth Stack

Type Approvals

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

Interface

UART Logic-level
Via external transceiver, RS232 and RS422/485 option
Max baud rate: 1.25 Mbit/s
Support for non-standard baud rates
Flow control: CTS/RTS (hardware) or none
9 digital I/O pins

Features

Throughput: 950 kbps
All software embedded in the module (Bluetooth stack and application)
Configurable via AT commands (via Bluetooth or serial port)
Maximum number of slaves: 3 (point-to-point, point-to-multipoint)
connectBlue Low Emission Mode™ for not disrupting other 2.4GHz radios
Extended Data Mode™ for separated multipoint data channels (different data can be sent to / received from each slave)
Simple Pairing
Quality of Service (QoS)
Customer developed applications can be embedded
Repeater functionality for extended range
iPhone/iPod touch/iPad and Android support:

- Supports SPP/PAN Bluetooth connection with iOS devices* and Google Android OS devices
- Support for connecting Apple Authentication co-processor directly to the OBS411 module
- Apple iPod Accessory Protocol support

Power

Power supply voltage: 3.0 - 6.0 VDC
Current consumption (minimum): 0.6 mA @3.0V
Current consumption (average Tx): 25 mA @3.0V

Connectors

Board-to-board connector
Solder land pads
JST 6-pin connector (optional)
U.fl. antenna connector (external antenna version only)

Mechanical

Operating temperature: -30°C to +85°C
Machine mountable
Mounting holes
Dimensions: 16x36x3 mm (2 mm height on request)
Weight: 2 g

Certifications and Compliance

R&TTE Directive 1999/5/EC:

- Effective use of frequency spectrum: EN 300 328 V1.7.1 (2006-10)
- EMC: EN 301 489-1 V1.8.1 (2008-04), EN 301 489-17 V2.1.1 (2009-05), EN 61000-6-2 (2005)
- Health and safety: EN 50371:2002, EN 60950-1:2006 +A11:2009 +A1:2010 (EN 60950-1:2011-01) and/or IEC 60950-1:2005 (2nd Edition) + A1:2009

Medical Electrical Equipment:

- IEC 60601-1-2 (2007)

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Article numbers

Starter kits:

- cB-OBS411i-04-A**
OBS411i-04 Starter Kit with RS232/9-pin Dsub
- OBS411i-04 module
 - OEM Module Adapter 3 with 9-pin Dsub
 - Serial cable
 - USB Power cable
 - Configuration software
- cB-OBS411i-04-B**
OBS411i-04 Starter Kit with USB
- OBS411i-04 module
 - USB Module Adapter (installs virtual COM-port)
 - USB extension cable
 - Configuration software.

Modules without iAP support:

- cB-OBS411i-04**
- Internal antenna
 - Board-to-board connector
 - Solder pads
- cB-OBS411x-04**
- U.fl. connector for external antenna
 - Board-to-board connector
 - Solder pads

- cB-OBS411i-06**
- Internal antenna
 - JST wire connector
 - Board-to-board connector
 - Solder pads
- cB-OBS411x-06**
- U.fl. connector for external antenna
 - JST wire connector
 - Board-to-board connector
 - Solder pads

Modules with iAP support (requires Apple MFi approval):

- cB-OBS411i-i4**
- Internal antenna
 - Board-to-board connector
 - Solder pads
- cB-OBS411x-i4**
- U.fl. connector for external antenna
 - Board-to-board connector
 - Solder pads
- cB-OBS411i-i6**
- Internal antenna
 - JST wire connector
 - Board-to-board connector
 - Solder pads
- cB-OBS411x-i6**
- U.fl. connector for external antenna
 - JST wire connector
 - Board-to-board connector
 - Solder pads

Accessory kits for evaluation, to be combined with an OBS411 module:

- cB-ACC-26 (RS232/9-pin Dsub kit):**
OEM Module Adapter 3 with 9-pin Dsub, Serial RS232 cable, USB Power cable, configuration software.
- cB-ACC-41 (USB kit):**
USB Module Adapter (installs virtual COM-port), USB extension cable, configuration software.

* Requires external Apple Authentication co-processor connected to the host or the OBS411 and Apple MFi approval.

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

Where to buy

