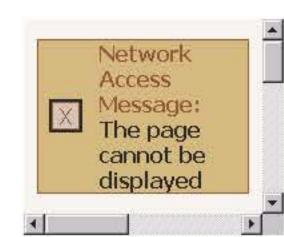# OEM Bluetooth Serial Port Module OBS433

Downloads

Visit the OBS433 product support page for software downloads and technical documentation.

📄 Open PDF (A4 format)
📄 Open PDF (Letter format)
🖨 Print PDF (A4 format)
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Getting Started Video

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

Network Access Message:
The page cannot be displayed

Key features

The Bluetooth Serial Port Module 433 supports the Serial Port Profile (SPP) for fast and secure transparent serial data transmissions, and the Personal Area Networking Profile (PAN) for transmission of Ethernet packages over Bluetooth. The high receiver sensitivity and output power enables a range of 1000m. The module supports Bluetooth v2.1+EDR (Bluetooth v3.0 prepared via firmware upgrade). With the Bluetooth stack embedded you get going quickly as you don't need a driver or stack in the host. The module is Bluetooth qualified and radio type approved for Europe, Japan, US and Canada. It also has the connectBlue interface for compatibility over time and radio technologies.

- Embedded Bluetooth stack (SPP, DUN, PAN profiles)
- Extreme range of 1000m
- Bluetooth v2.1+EDR qualified (v3.0 prepared)
- High Speed UART Logic Level & RS232
- Very high throughput and low latency
- Android support and iPhone / iPad / iPod touch support*
- 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 7 channels
- Extended Data Mode™ for individual control of up to 7 channels
- Repeater functionality
- Digital I/Os over Bluetooth
- Internal or external antenna
- Industrial and Automotive temperature range

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): 800m & 17dBm
External antenna (range & max output power incl. antenna): 1000m & 17dBm
2.4 GHz channels: 1-79
Radio: ST-Ericsson STLC2500DB
Microprocessor: ST STM32F103RC
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 or RS232
Via external transceiver, RS422/485 option
Max baud rate: 1.5 Mbit/s
Support for non-standard baud rates
Flow control: CTS/RTS (hardware) or none
9 digital I/O pins

Features

Throughput: 1.4 Mbps
All software embedded in the module (Bluetooth stack and application)
Configurable via AT commands (via Bluetooth or serial port)
Maximum number of slaves: 7 (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*
- Supports SPP/PAN Bluetooth connection with Google Android OS devices

Power

Power supply voltage: 3.3 - 6.0 VDC
Current consumption (minimum): 0.5 mA @3.3V
Current consumption (average Tx): 50 mA @3.3V

Connectors

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

Mechanical

Operating temperature: -40°C to +85°C
Machine mountable
Mounting holes
Dimensions: 23x36x4 mm
Weight: 5 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)

Article numbers

cB-OBS433i-02:
OBS433 module with internal antenna, board-to-board and 20-pin header connector.

cB-OBS433x-02:
OBS433 module with u.fl. connector for external antenna, board-to-board and 20-pin header connector.

cB-OBS433i-04:
OBS433 module with internal antenna, board-to-board connector and solder pads.

cB-OBS433x-04:
OBS433 module with u.fl. connector for external antenna, board-to-board connector and solder pads.

cB-OBS433i-06:
OBS433 module with internal antenna, JST wire connector, board-to-board connector and solder pads.

cB-OBS433x-06:
OBS433 module with u.fl. connector for external antenna, JST wire connector, board-to-board connector and solder pads.

Accessory kits for evaluation, to be combined with an OBS433 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 Apple Authentication co-processor connected to host

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

Where to buy

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