

OEM Bluetooth I/O Module OBI411



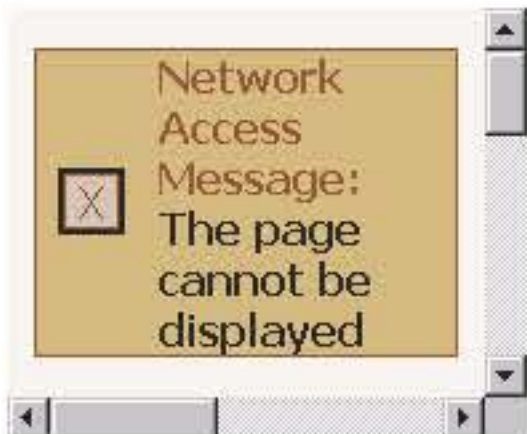
Downloads

Visit the [OBI411 product support page](#) for software downloads and technical documentation.

-  [Open PDF \(A4 format\)](#)
-  [Open PDF \(Letter format\)](#)
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Medical demo video

View the [Bluetooth medical demo video](#) that shows a small, battery-powered medical monitor with Bluetooth I/O Module OBI411.



Key features

The Bluetooth I/O Module OBI411 implements wireless I/O functionality and supports 16 digital I/Os and 4 AD converters, which can be controlled via either I/O signals or via a serial IO protocol, for example using an Android phone and application. 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.

- 16 digital I/Os
- 4 AD converters
- Embedded Bluetooth stack
- Android support
- Bluetooth v2.1+EDR
- Qualified as End Product
- Very 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)

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
I/O support:

- 16 digital I/O pins
- 4 ADC channels
- ADC input levels: 0-2.85V
- ADC resolution: 10 bits
- Sampling rate: Up to 500 Hz

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)
Fail-Safe Support
iPhone/iPod touch/iPad and Android support:

- Please contact connectBlue for more information about iPhone/iPod touch/iPad support
- Supports SPP Bluetooth connection with Google Android OS devices

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
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

cB-OBI411i-04-A:
OEM Bluetooth IO Module 411 Starter Kit
Includes: Module OBI411i-04, Platform Development Board ACC-56, USB cable (USB-A to USB-mini), documentation and configuration software for download.

cB-OBI411i-04:
OEM Bluetooth IO Module 411 with internal antenna, board-to-board and solder pads.

cB-OBI411x-04:
OEM Bluetooth IO Module 411 with u.fl. connector for external antenna, board-to-board and solder pads.

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

Where to buy

