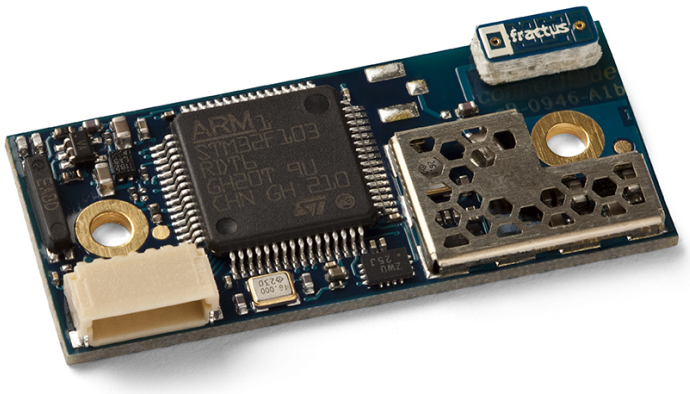
Bluetooth Serial Port Module



Product Brief Bluetooth Dual-mode Serial Port Module OBS421

The Bluetooth Serial Port Module OBS421 is a unique Bluetooth v4.0 module with UART interface for transparent serial data transmissions. Since the module is a dual-mode module the serial data can be sent both using Classic Bluetooth technology via SPP and using Bluetooth low energy technology via the connectBlue Low Energy Serial Port Service. 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.

- Bluetooth v4.0 with low energy* and Classic Bluetooth
- Dual-mode (Bluetooth Smart Ready)*
- Embedded Bluetooth dual-mode stack (SPP, DUN, PAN)
- connectBlue Low Energy Serial Port Service*
- GATT support for Bluetooth Smart*
- Android support
- iPhone support (Bluetooth low energy only)*
- Range up to 300m
- High Speed UART
- Throughput up to 1.3 Mbps (Classic Bluetooth)
- Easy configuration by AT commands
- Radio type approved for US, Europe, Japan and Canada
- Compliant with EMC, Safety and Medical standards
- Wireless Multidrop™ with simultaneous connections to both Bluetooth low energy and Classic Bluetooth devices
- Extended Data Mode™ for separated multipoint data channels
- Internal or external antenna
- Industrial and Automotive temperature range -30°C to +85°C**

Technical Data - Bluetooth Dual-mode Serial Port Module OBS421

Wireless Standard
Bluetooth low energy technology and Classic Bluetooth

Standard Specification
Bluetooth v4.0 with low energy* and Classic Bluetooth (Qualified and Listed as Product)
Supported Bluetooth profiles and services:
- connectBlue Low Energy Serial Port Service*
- 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): 300m & 11dBm
External antenna (range & max output power incl. antenna): 300m & 13dBm
2.4 GHz channels: 1-79
Radio: Texas Instruments CC2564
Microprocessor: ST STM32F
Stack: connectBlue Embedded Bluetooth Stack

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

Interface
UART Logic-level
Via external transceiver, RS232 and 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: 1.3 Mbps (Classic Bluetooth)
All software embedded in the module (Bluetooth stack and application)
Configurable via AT commands (via Bluetooth or serial port)
Maximum number of simultaneous slaves: 7 using Classic Bluetooth only, 3 using Classic Bluetooth and Bluetooth low energy
GATT support for Bluetooth Smart/Bluetooth Low Energy
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 Bluetooth low energy connection with iOS devices*
- Supports SPP/PAN Classic Bluetooth and Bluetooth low energy* 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): 44 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
- 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

** Bluetooth low energy (Bluetooth v4.0) not supported by OBS421i-04, OBS421x-04, OBS421i-06, OBS421x-06*

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

CE 0678 !

RoHS Pb

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