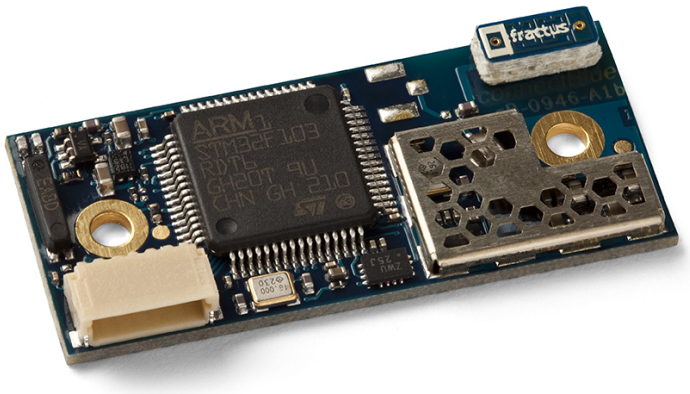
Bluetooth Dual-mode System-on-Module



Product Brief Bluetooth Dual-mode System-on-Module OBP421

The Bluetooth Dual-mode System-on-Module OBP421 is a Bluetooth v4.0 module open for executing customer developed applications embedded in the module. This opens up the possibility to remove the external host processor, saving on the bill of material and PCB space. Since the module is a dual-mode module applications can be developed for both Classic Bluetooth technology and Bluetooth low energy technology. The module comes complete with embedded Bluetooth stack and middleware with easy to use interfaces to speed up and simplify the customer application development. The module is fully Bluetooth qualified and radio type approved. It also has the connectBlue standard hardware interface for compatibility over time and radio technologies.

- Module for customer developed embedded applications
- 72 MHz, ARM 32-bit Cortex M3 processor with 64 kB RAM and 384 kB flash
- Based on the connectBlue OBS421 module
- Bluetooth v4.0 with low energy and Classic Bluetooth (dual-mode)
- Embedded Bluetooth dual-mode stack (SPP, DUN, GAP, GATT)
- connectBlue Low Energy Serial Port Service
- Easy configuration via AT commands
- Range up to 300m
- Radio type approved for US, Europe, Japan and Canada (FCC, R&TTE, MIC, IC)
- Android support
- iPhone support (Bluetooth low energy only)
- Internal or external antenna
- Industrial and Automotive temperature range -30°C to +85°C*

Technical Data - Bluetooth Dual-mode System-on-Module OBP421

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
- Generic Bluetooth low energy GATT based services
- Serial Port Profile (SPP)
- Dial-up networking Profile (DUN GW, DUN DT)

Radio, Chipset and Stack
Internal antenna (range & max output power incl. antenna): 300m & 11dBm (Classic Bluetooth)
External antenna (range & max output power incl. antenna): 300m & 13dBm (Classic Bluetooth)
2.4 GHz channels: 1-79 (Classic Bluetooth)
Radio: Texas Instruments CC2564
Microprocessor: ST STM32F103RD (72 MHz, 32-bit ARM Cortex M3 with 64 kB RAM and 384 kB flash)
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/USART
SPI
I2C
JTAG
A/D converters
Digital I/O pins
WLAN co-existence pins

Embedded application development
Module for customer developed embedded applications
MCU supported by GNU ARM toolchain
Simple Bluetooth handling
Ready-to-use AT commands
Easy to add customer specific AT commands to the existing AT parser

Features
Throughput: 1.3 Mbps (Classic Bluetooth)
All software embedded in the module (Bluetooth stack and application)
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
Simple Pairing
Quality of Service (QoS)
iPhone/iPod touch/iPad and Android support:
- Supports SPP Classic Bluetooth and Bluetooth low energy connection with Google Android OS devices
- Supports Bluetooth low energy connection with iOS 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

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

CE 0678 !

RoHS Pb

connectBlue® *The strongest connection in a wireless world*

HEAD OFFICE: connectBlue AB | Norra Vallgatan 64 3V | SE-211 22 Malmö | Sweden | Phone +46 40-6307100 | Fax +46 40-237137
US OFFICE: connectBlue Inc. | 8201 164th Ave NE, Suite 200 | Redmond, WA 98052 | USA | Phone +1 312 450 4135 | Fax +1 312 277 3209
GERMAN OFFICE: connectBlue GmbH | Raiffeisenstrasse 19 | DE-85276 Pfaffenhofen | Germany | Phone +49 8441 786 4160 | Fax +49 8441 786 4161
info@connectblue.com | us-info@connectblue.com | www.connectblue.com