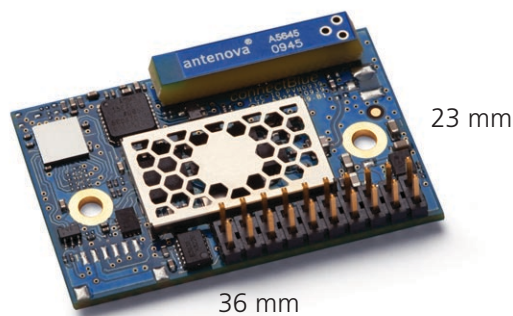# Bluetooth OEM Serial Port Adapter

23 mm

36 mm

Product Brief OBS433

The OEM SERIAL PORT ADAPTER™ 433 series is a long range Bluetooth module with support for 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 very high receiver sensitivity and output power enables an extreme range of 1200 m. For highest throughput the module supports Bluetooth 2.1+EDR (Bluetooth 3.0 prepared via firmware upgrade). Since the Bluetooth stack is embedded in the module it does not require any driver or stack in your host so that you can be up and running in the shortest possible time. It is fully Bluetooth qualified and radio type approved for Europe, US and Canada, and has the connectBlue™ standard interface for compatibility over time and radio technologies.

KEY FEATURES

- Embedded Bluetooth stack (SPP, DUN, PAN)
- Extreme range of 1200m
- Bluetooth 2.1+EDR qualified (3.0 prepared)
- High Speed UART Logic Level and RS232
- Very high throughput and low latency
- Easy configuration by AT commands
- Radio type approved for Europe, US and Canada (R&TTE, FCC, IC)*
- Compliant with EMC, Safety and Medical standards*
- Wireless Multidrop™ with up to 7 channels
- Extended Data Mode™ for individual control of up to 7 channels
- Repeater functionality
- Analog & digital I/Os over Bluetooth (special firmware)
- Internal or external antenna
- Industrial & Automotive temperature range

BLUETOOTH SUPPORT

Bluetooth version 2.1+EDR (Qualified and Listed as Product)
Bluetooth version 3.0 prepared via firmware upgrade
Supported Bluetooth Profiles:
  Generic Access Profile (GAP)
  Serial Port Profile (SPP)
  Dial-up networking Profile (DUN GW, DUN DT)
  Personal Area Networking Profile (PAN) roles PANU & NAP
  File Transfer Profile (FTP)*
  Object push Profile (OPP)*
Output power: Class 1 +20 dBm (including antenna gain)
Receive sensitive level: -91 dBm
Range: 1200 m (approximate, line-of-sight)
Multipoint connections: Up to 7 active channels/slaves

BLUETOOTH CHIPSET AND STACK

Radio: ST-Ericsson STLC2500DB
Microprocessor: ST STM32F103RC
Stack: connectBlue Embedded Bluetooth Stack

SOFTWARE

All software embedded in the module (Bluetooth stack and
  application)
Configurable via AT commands (via Bluetooth or serial port)
connectBlue Low Emission Mode™ for not disrupting other
  2.4GHz radios
Extended Data Mode™ for individually controlled multipoint
  data channels (different data can be sent to / received
  from each slave)
Repeater functionality for extended range

HARDWARE INTERFACE

UART Logic-level or RS232
  Supported baud rates: 1200 bit/s - 1.8 Mbit/s
  Support for non-standard baud rates
  Flow control: CTS/RTS (hardware) or none
12 digital IOs (firmware option)
4 A/D-converter channels (10-bit) (firmware option)

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)

POWER SUPPLY

3.3-6.0 VDC

CURRENT CONSUMPTION

Power save mode (stop mode): TBD
Connected, not transmitting: TBD
Transmitting @115.2 kbps (average): TBD

DIMENSIONS

Size: 23x36x4 mm
Weight: 5 g

In progress, please contact us for details

TYPE APPROVALS*

R&TTE (Europe)
FCC/CFR 47 part 15
IC (Industrie Canada)

ENVIRONMENTAL*

Operating temperature: -40°C to +85°C
Storage temperature: -40°C to +125°C
Humidity RH 5-90% non-condensing

CERTIFICATIONS AND COMPLIANCE*

R&TTE Directive 1999/5/EC:

Effective use of frequency spectrum
EN 300 328 V1.7.1 (2006-05)

EMC
EN 301 489-1 V1.8.1 (2008-04)
EN 301 489-17 V1.3.2 (2008-04)
EN 61000-6-2 (2005)

Health and safety
EN 50371:2002
EN 60950-1:2006 and/or IEC 60950-1:2005 (2nd Edition)

Medical Electrical Equipment
IEC 60601-1-2 (2007)

ARTICLE NUMBERS

cB–OBS433i–02
OEM Serial Port Adapter 433 with internal antenna, board-
to-board and 20-pin header connector.

cB–OBS433x–02
OEM Serial Port Adapter 433 with u.fl. connector for exter-
nal antenna, board-to-board and 20-pin header connector.

cB–OBS433i–04
OEM Serial Port Adapter 433 with internal antenna, board-
to-board connector and solder pads.

cB–OBS433x–04
OEM Serial Port Adapter 433 with u.fl. connector for exter-
nal antenna, board-to-board connector and solder pads.

cB–OBS433i–06
OEM Serial Port Adapter 433 with internal antenna, JST
wire connector, board-to-board connector and solder pads.

cB–OBS433x–06
OEM Serial Port Adapter 433 with u.fl. connector for exter-
nal antenna, JST wire connector, board-to-board connector
and solder pads.

connectBlue™

The strongest connection in a wireless world