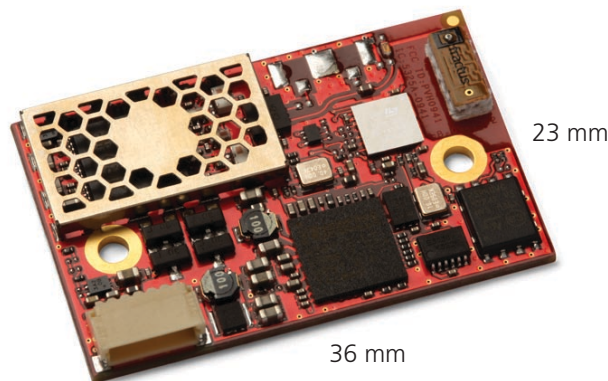


# Wireless LAN OEM Serial Port Adapter



## Product Brief OWS451 (UART interface)

The OEM WIRELESS LAN SERIAL PORT ADAPTER™ 451 series from connectBlue is a module with UART interface and fully embedded TCP/IP stack and driver. It is developed for reliable, high demanding industrial devices and applications providing state of the art low power features and dual-band support for both 2.4GHz and 5GHz radio bands. The module is presented as a serial port/UART to the host. Raw serial data is sent to the module, which will package the data into TCP/UDP packages and transmit via Wireless LAN. The module minimizes the work needed to implement Wireless LAN (IEEE 802.11a/b/g/n) in a device as it provides all hardware, type approval, EMC certification etc.

### KEY FEATURES

- Supports 802.11a/b/g/n
- Dual-band radio, 2.4GHz and 5GHz
- 802.11n space time block code for extended range and throughput
- High Speed UART interface up to 1.8Mbps
- Radio type approved for Europe, US and Canada (R&TTE, FCC, IC)\*
- Compliant with EMC standards\*
- Industrial temperature range -40 to +85°C\*
- Low power consumption
- Security support: Enterprise, WPA2-PSK, WPA-PSK, PEAP, LEAP, WEP64/128
- Quality of Service: 802.11e and WMM\*
- Ad-hoc and infrastructure mode
- Extended Data Mode™ for individual control of up to 7 channels\*
- Internal or dual external antennas

# Technical Data – OWS451 (UART interface)

## IEEE 802.11 SPECIFICATIONS

Conforms to 802.11a/b/g/e/i/h/j, drafts 802.11k/r/s, single-stream 802.11n standards and WMM

## PHY/MAC

802.11a/b/g/n (single stream n)  
Dual-band radio, 2.4GHz and 5GHz  
Max output power: +17dBm  
Integrated baseband and MAC processing  
Advanced power management  
802.11n space time block code support  
Regulatory domain support  
Antenna receive diversity

## SOFTWARE

All software embedded in the module (TCP/IP stack and serial port adapter application)  
Configurable via AT commands (via Wireless LAN or serial port)  
Extended Data Mode™ for individually controlled multipoint data channels\* (different data can be sent to / received from each slave)

## OPERATIONAL MODES

BSS (infrastructure) and IBSS (ad-hoc)

## SECURITY

Enterprise modes  
WPA-PSK, WPA2-PSK  
PEAP, LEAP  
802.11i  
WEP64/128  
TKIP, AES (CCMP)

## QUALITY OF SERVICE\*

802.11e  
WMM

## ADDITIONAL FEATURES

TCP/UDP protocol support  
TX Power calibration  
Link adaptation  
Fragmentation  
DTIM based power management  
DHCP server and client  
DNS-resolver  
Fast roaming  
LLDP

## HOST INTERFACE

UART Logic Level  
Supported baud rates: 1200 bps - 1.8 Mbps  
Support for non-standard baud rates  
Flow control: CTS/RTS or none  
Full modem signalling

## CONNECTORS

Board-to-board connector  
Solder pads  
6-pin JST connector (optional)

\* *In progress*

## ANTENNAS

Single internal or dual external (receive diversity)

## POWER

3.3-5.5 VDC  
Deep sleep mode (average): TBA  
Sleep mode, connected (average): TBA  
Active mode, transmitting at 115 kbps (average): TBA

## DIMENSIONS / WEIGHT

Dimensions: 23 x 36 x 3.2 mm  
Weight: 3.7g

## TYPE APPROVAL\*

R&TTE (Europe)  
FCC/CFR 47 part 15 unlicensed modular transmitter approval  
IC (Industrie Canada)

## ENVIRONMENTAL\*

Operating temperature: -40 to +85 °C  
Storage temperature: -40 to +85 °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 (2006-10)

*EMC Directive: 89/336/EEC*

EN 301 489-1 V1.8.1 (2008-04)

EN 301 489-17 V1.3.2 (2007-06)

EN 61000-6-2 (2005)

*Safety Compliance*

EN 50371:2002

EN 60950-1:2006 and/or IEC 60950-1:2006

*Medical Electrical Equipment*

IEC 60601-1-2 (2007) (for single antenna configurations)

## ARTICLE NUMBERS

*cB-OWS451i-04*

OEM Wireless LAN SPA 451 with integrated antenna, board-to-board connector and solder pads.

*cB-OWS451i-06*

OEM Wireless LAN SPA 451 with integrated antenna, board-to-board connector, solder pads and JST connector.

*cB-OWS451x-04*

OEM Wireless LAN SPA 451 with connector for external antenna, board-to-board connector and solder pads.

*cB-OWS451x-06*

OEM Wireless LAN SPA 451 with connector for external antenna, board-to-board connector, solder pads and JST connector.

**connectBlue™**

*The strongest connection in a wireless world*

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