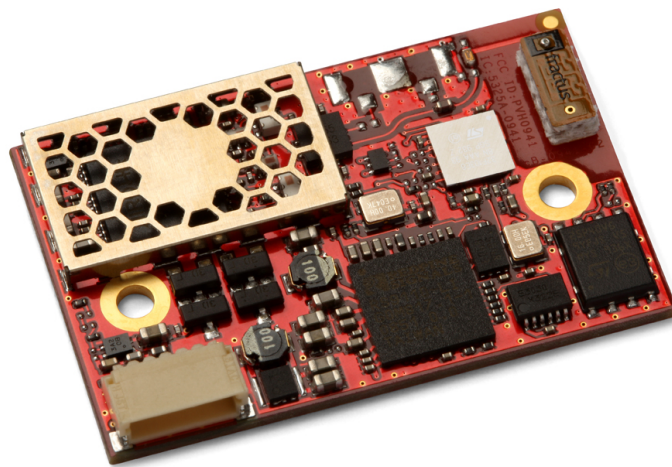


Wireless LAN UART Serial Port Module



Product Brief Wireless LAN (WLAN) UART Serial Port Module OWS451

The Wireless LAN UART Serial Port Module 451 has UART interface and fully embedded TCP/IP stack and driver. It is developed for industrial, medical and demanding 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.

- Supports 802.11a/b/g/n
- Dual-band radio, 2.4GHz and 5GHz
- 2.4GHz channels 1-13
- 5GHz channels 36-48, 52-140*
- 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

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 (channels 1-13) and 5GHz (channels 36-48 and 52-140*)
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 signaling

Connectors

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

Antennas

Single internal or dual external (receive diversity)

Power

3.3-5.5 VDC
Deep sleep mode (average): 7 mA
Sleep mode, connected (average): 26 mA
Active mode, transmitting at 1 Mbps (average): 180 mA

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

- 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 60950-1:2006

Medical Electrical Equipment

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

Article numbers

CB-OWS451i-04-B

OEM USB Wireless LAN OWS451 Starter kit. Includes:

- OEM USB Module adapter
- Wireless LAN module OWS451i-04
- USB extension cable
- Configuration software and documentation

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.

* In progress



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