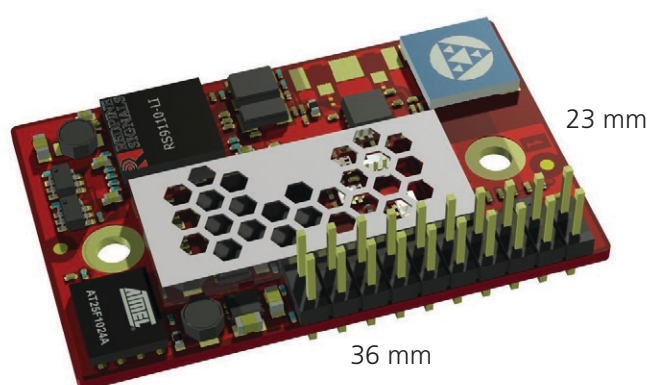


OEM Wireless LAN Module



Product Brief OWL221a (SPI interface)

The OEM WIRELESS LAN MODULE™ 221a from connectBlue has been developed for integration in industrial devices providing state of the art low power features. The accompanying software driver works as the interface between the TCP/IP stack in the device and the module. 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. It is developed for reliable, high demanding industrial devices and applications. The driver is available for Linux, WinCE and embedded systems and may be adapted for any micro controller.

KEY FEATURES

- Supports 802.11a/b/g/n
- 802.11n single-stream
- 802.11n space time block code for extended range and throughput
- SPI Host interface
- Software driver available or adaptable for any device
- Radio type approved for Europe, US and Canada*
- Compliant with EMC standards*
- Industrial temperature range -30 to +85°C
- Low power requirements
- Supports security WEP64, WEP128, WPA, WPA2
- Quality of Service: 802.11e and WMM
- Ad-hoc and infrastructure mode
- Internal or dual external antennas

Technical Data – OWL221a (SPI interface)

IEEE 802.11 SPECIFICATIONS

Comforms to 802.11a/b/g/e/i/h/j, drafts 802.11k/r/s, and single-stream 802.11n standards
Quality of Service: Supports 802.11e and WMM
Security: Supports 802.11e & WPA/WPA2 (802.11i)

PHY/MAC

Integrated baseband and MAC processing
Advanced power management
802.11a/b/g
Single stream draft 802.11n
802.11n space time block code support
Regulatory domain support
Antenna Diversity
Fast roaming
WPS (WiFi Protected Setup)
Dynamic Transmit Power Adaptation

OPERATIONAL MODES

BSS (infrastructure)
IBSS (ad-hoc)

SECURITY

WEP64/128
TKIP
AES (CCMP)
WPA-EAP-TLS, WPA-PSK
WPA2-EAP-TLS, WPA2-PSK

QUALITY OF SERVICE

802.11e
WMM

ADDITIONAL FEATURES

Zero host load
Link adaptation
Fragmentation
DTIM based power management
Pre-authentication

HOST INTERFACE

SPI up to 80 MHz

CONNECTORS

20 pin header connector
Board to board connector

ANTENNAS

Single internal or dual external (diversity)

BLUETOOTH CO-LOCATION

Supports IEEE 802.15.2 Packet Traffic Arbitration (PTA)

HOST REFERENCE DRIVER

Linux 2.4/2.6
WinCE 5.0/6.0
Embedded
Other systems available on request

POWER

3.3-5.5 VDC
Sleep mode: 500 μ W (typ.)
Power Save Mode: 2 mW
802.11b:
Rx: 350 mW (typ.)
Tx: 550 mW (typ.)
802.11g:
Rx: 400 mW (typ.)
Tx: 650 mW (typ.)
Max output power: +17dBm

DIMENSIONS

23 x 36 x 3.2 mm

TYPE APPROVAL*

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

ENVIRONMENTAL*

Maximum operating temperature: -30 to +85 °C
Storage temperature: -40 to +85°C
Humidity RH 5-90% non-condensing
Shock and vibration: IEC 61131-2

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 V1.2.1 (2002-08)
EN 61000-6-2 (2005)

Safety Compliance

EN 60950-1:2001 and/or IEC 60950-1:2001 (1st Edition)
EN 60950-1/A11:2004 + Corrigendum:2004

ARTICLE NUMBERS

cB-OWL221ai-02
OEM Wireless LAN module 221a with integrated antenna, board-to-board connector and 20-pin header connector.

cB-OWL221ai-04
OEM Wireless LAN module 221a with integrated antenna and board-to-board connector.

cB-OWL221ax-02
OEM Wireless LAN module 221a with connector for external antenna, board-to-board connector and 20-pin header connector.

cB-OWL221ax-04
OEM Wireless LAN module 221a with connector for external antenna and board-to-board connector.

* In progress

connectBlue™

The strongest connection in a wireless world

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