# EC25N

## 802.11n ExpressCard with Integrated Antenna


## A PACKAGED SOLUTION FOR THE HARSHEST ENVIRONMENTS.

The EC25N ExpressCard radio card from Laird combines a high-performance, dual-band 802.11n radio with software, both designed for business-critical mobile devices that operate in harsh environments. No other Wi-Fi® radio card can match the range, robust security, seamless mobility, and manageability of the EC25N card.

The EC25N ExpressCard contains **superior hardware** for a complete solution, with a maximal radio range, flexible power saving options, and broad operating temperature range. **Laird software** guarantees enterprise-level security, fast and reliable roaming, and easy administration. And all Laird Wi-Fi radios carry **certifications and approvals** that you may use to expedite your design to market.

### SUPERIOR HARDWARE BRINGS CONNECTIVITY ANYWHERE

The EC25N card is designed for business-critical mobile devices and challenging radio environments, with **significantly greater performance and range** than Wi-Fi designed for office / consumer applications. **802.11n protocol** with **2x MIMO** allows coexistence with 802.11a/b/g networks and devices. Our optimally-designed integrated antenna supports **Tx / Rx Diversity** for robust connections in tough environments. And Laird's quality manufacturing enables extended **operating temperatures from -30°C to +75°C**, far exceeding the range of most devices.

### ENTERPRISE-GRADE SECURITY AND DEVICE MANAGEMENT

Laird software leverages our hardware's unique strengths for the greatest possible connectivity, security, and strength. Laird's drivers, supplicant, and fully featured Laird Connection Manager enable **802.1X support for WPA2 Enterprise security** and a **broad range of EAP types**. The CF10G operates on **Windows Embedded, Windows Mobile, and Windows XP Professional and Embedded.** Laird software also enables the **fastest roaming in the industry** for constant connection and standalone manufacturing and regulatory applications to help **rapidly deploy your device to market**.

### PERSONAL SUPPORT FROM DESIGN TO MANUFACTURE.

Laird's support team is always standing by to provide integration support, analysis, and troubleshooting for all currently supported hardware. Working in the same offices as Laird engineering, Embedded Wireless Support is your personal bridge to all of Laird's software, experience, and expertise. Laird guarantees a fast response and is **dedicated to seeing your product through design to manufacturing**. And our online support center serves as an archive of many common questions, as well as **hundreds of support documents and software files.**

## Features at a Glance

- **Unparalleled connectivity** provided by antenna diversity, market-leading transmit and receive power control, dual spatial streams, and purpose-built integrated antenna
- **Enterprise security** with 802.1X support (WPA2 Enterprise) and a broad variety of EAP types for authentication
- **Certifications and approvals** to speed your device to market, leveraging Laird's testing and regulatory efforts.

## Application Areas

- Connected Hospital / Medical Devices
- Cable Replacement
- Industrial / AIDC

## SPECIFICATIONS

| Category | Feature | Specification | | |
|---|---|---|---|---|
| **Interfaces** | **System Interface** | 32-bit ExpressCard card with xx-pin connector | | |
| | **Antenna interface** | Integrated 0-dBi gain dual-band omnidirectional with diversity | | |
| **Chipset** | | Broadcom BCM4322 | | |
| **Power** | **Input Power** | 3.3 VDC +/- 10% | | |
| | **Power Consumption (at max. transmit power setting)** | Transmit: 600 mA (1980 mW)<br>Receive: 450 mA (1485 mW)<br>Standby: TBD mA (TBD mW) | | |
| **Environment** | **Operating Temperature** | -30° to 75°C (-22° to 167°F) | | |
| | **Operating Humidity** | 10 to 90% (non-condensing) | | |
| **Physical** | **Length x Width x Height** | 3.9” x 1.3” x .2” (99.4mm x 33.6mm x 4.8mm) | | |
| | **Weight** | .529oz (15g) | | |
| | **Mounting** | ExpressCard slot | | |
| **Wi-Fi** | **Network Standards** | IEEE 802.11a/b/g/n, 802.11d, 802.11h, 802.11i | | |
| | **Architecture Types** | Infrastructure and ad hoc | | |
| | **2.4GHz Frequencies** | **FCC**<br>2.412-2.473 GHz | **ETSI and KCC**<br>2.412-2.483 GHz | **TELEC**<br>2.412-2.495 GHz |
| | **5GHz Frequencies** | **FCC and KCC**<br>5.15-5.35 GHz<br>5.47-5.725 GHz<br>5.725-5.82 GHz | **ETSI**<br>5.15-5.35 GHz<br>5.47-5.725 GHz | **TELEC**<br>5.15-5.25 GHz |
| | **Wireless Media** | Direct Sequence-Spread Spectrum (DSSS)<br>Orthogonal Frequency Divisional Multiplexing (OFDM) | | |
| | **Media Access Protocol** | Carrier sense multiple access with collision avoidance (CSMA/CA) | | |
| **Security** | **Standards** | WEP, WPA, WPA2 | | |
| | **Encryption** | Wireless Equivalent Privacy (WEP, RC4 Algorithm)<br>Temporal Key Integrity Protocol (TKIP, RC4 Algorithm)<br>Advanced Encryption Standard (AES, Rijndael Algorithm) | | |
| | **Encryption Key Provisioning** | Static (40-bit and 128-bit lengths), Pre-Shared (PSK), Dynamic | | |
| | **802.1X Extensible Auth. Types** | EAP-FAST, EAP-TLS, EAP-TTLS, PEAP-GTC, PEAP-MSCHAPv2, PEAP-TLS, LEAP | | |
| | **Operating Systems Supported** | Windows 7, 8, and 8.1 | | |
| **Regulatory** | **Domain Support** | FCC, ETSI, IC | | |
| | **Certifications** | **Wi-Fi Alliance**<br>802.11b, 802.11g<br>WPA Enterprise<br>WPA2 Enterprise<br>**Cisco Compatible Extensions (CCX)**<br>Version 4 | | |
| **Warranty** | | **Limited Lifetime** | | |



| Version | Date | Notes | Approver |
|---|---|---|---|
| 1.0 | 10/8/15 | Initial Release | Andrew Chen |