



- Extremely small half-size Mini PCIe module format
- Standard encryption and authentication protocols
- Industrial temp. (-40° to +85°C) operation
- MIL-STD-202G shock/vibe

Highlights

Mini PCIe Module Format

Small and flexible.

Network Support

Wireless networking supports Wi-Fi 802.11 a/b/g/n.

Industrial Temperature Operation

-40° to +85°C operation for harsh environments.

MIL-STD-202G

Qualified for high shock/vibration environments.

Overview

The VL-MPEe-W2 is an extremely small and rugged Wi-Fi module based on the industry-standard Mini PCIe module half-size format. Unlike typical I/O expansion boards, Mini PCIe allows additional I/O functions to be added to a system with almost no increase in overall system/package size. Mini PCIe modules provide a simple, economical, and standardized way to add I/O functions to embedded computer products.

Details

In a very small package, this Wi-Fi board enables high speed wireless networking.

This Wi-Fi module delivers premium Wi-Fi performance. This dual-stream (2x2), dual-band, 802.11 a/b/g/n Wi-Fi product with Wi-Fi Direct combines faster speeds (up to 300 Mbps), greater range, and more reliability. Intel® Wireless Display enables display output over a simple wireless connection. Intel® My Wi-Fi Dashboard enables data sharing directly with other Wi-Fi devices without WLAN or hotspot access. Supports Intel® vPro Technology, Intel® Active Management Technology, and Intel® PROSet/Wireless Enterprise Software for enterprise Wi-Fi client manageability, improved security, and streamlined deployment.

This rugged product is designed and tested for full industrial temperature operation (-40° to +85°C). It also meets MIL-STD-202G specifications for shock and vibration, making it at home in harsh environments.

This Wi-Fi board is compatible with a variety of popular x86 operating systems including Windows, Windows Embedded, and Linux.

The module utilizes PCIe signaling and can be used in any system that supports PCIe signaling at the Mini PCIe socket.



Ordering Information

| Model | Function | Operating Temp. |
|-------------|----------------------|-----------------|
| VL-MPEe-W2E | Wi-Fi 802.11 a/b/g/n | -40° to +85°C |

Accessories

| Part Number | Description |
|-----------------|--|
| Cables | |
| VL-CBR-0201 | 12" Wi-Fi antenna adapter cable |
| VL-CBR-ANT01 | Wi-Fi (802.11n) antenna |
| Hardware | |
| VL-HDW-108 | Mini PCIe module hold-down screws (10) for use with 2.5 mm standoffs |
| VL-HDW-110 | Mini PCIe module hold-down screws (10) for use with 2.0 mm standoffs |
| VL-HDW-111 | Half-sized hardware kit. Half- to full-sized metal adapter and screws (2). |

Specifications

| General | Board Size | Mini PCIe module (half size): 30 mm x 26.8 mm x 4.31 mm |
|---------------|-------------------------------|---|
| | Power Requirements | 3.3V @ 0.83W (supplied from the Mini PCIe socket) |
| | Regulatory Compliance | RoHS |
| | Mini PCIe Signal Type | PCIe |
| Environmental | Operating Temperature | -40° to +85°C |
| | Storage Temperature | -40° to +85°C |
| | Altitude * | Operating To 15,000 ft. (4,570m) Storage To 40,000 ft. (12,000m) |
| | Cooling | None (fanless) |
| | Airflow Requirements | None (free air) |
| | Thermal Shock | 5°C/min. over operating temperature |
| | Humidity | Less than 90%, noncondensing |
| | Vibration, Sinusoidal Sweep † | MIL-STD-202G, Method 204, Modified Condition A: 2g constant acceleration from 5 to 500 Hz, 20 min. per axis |
| | Vibration, Random † | MIL-STD-202G, Method 214A, Condition A: 5.35g rms, 5 min. per axis |
| | Mechanical Shock † | MIL-STD-202G, Method 213B, Condition G: 20g half-sine, 11 msec. duration per axis |
| Device I/O | Wi-Fi Certification | 802.11a, 802.11b, 802.11g, 802.11n, WMM, WPA, WPA2, and WPS Wi-Fi Direct for peer-to-peer device connections |
| | IEEE WLAN Standard | IEEE 802.11 a/b/g/n, 802.11d, 802.11e, 802.11i, 802.11h |
| | Roaming | Supports seamless roaming between respective access points (802.11b, 802.11g, 802.11a/b/g, and 802.11a/b/g/n) |
| | Authentication Protocols | PAP, CHAP, TLS, GTC, MS-CHAP, MS-CHAPv2 |
| | Encryption | 64-bit and 128-bit WEP, AES-CCMP, TKIP |
| | Compliance | PCI, CISP, FIPS, FISMA |
| Software | Operating Systems | Compatible with most x86 operating systems including Windows, Windows Embedded, and Linux |

* Extended altitude specifications available upon request

† MIL-STD-202G shock and vibrate levels are used to illustrate the ruggedness of this product in general. Testing to higher levels and/or different types of shock or vibration methods can be accommodated per the specific requirements of the application. Contact a VersaLogic Sales Engineer for further information.

Specifications are subject to change without notification. PCI Express is a registered trademark of the PCI-SIG. All other trademarks are the property of their respective owners.



- Falcon EPU
- VL-MPEe-U2 Module

Other VersaLogic Mini PCIe Modules

| Model | Function | Signaling |
|-------------|---------------------------------------|-----------|
| VL-MPEe-A1E | Analog input (12-bit resolution) | PCIe |
| VL-MPEe-A2E | Analog input (16-bit resolution) | PCIe |
| VL-MPEe-E3E | Gigabit Ethernet adapter | PCIe |
| VL-MPEe-U2E | Quad serial plus twelve GPIOs | PCIe |
| VL-MPEs-F1E | mSATA drive (4/16/32 GB) | SATA |
| VL-MPEs-S3E | SATA adapter | SATA |
| VL-MPEu-G2E | GPS receiver | USB |
| VL-MPEu-K1E | Encrypted solid-state drive (8/32 GB) | USB |