

Cradlepoint AER 2100 - Specifications

The All-in-One, Cloud-Managed Networking Platform for the Distributed Enterprise



Figure 1: front view

The Cradlepoint AER 2100 is the first in a new generation of cloud-managed 4G networking solutions that helps enterprises increase bandwidth and achieve five-nines reliability in a secure, flexible, and open-architecture platform. As a cloud-managed solution, the Cradlepoint AER is designed for the distributed enterprise to intelligently manage wired and 4G wireless connectivity for a more reliable “connected experience” at the edge. Network administrators can extend applications and services to remote branches with a solution that is customizable through the real-time deployment of cloud-enabled services, applications, and analytics. This all-in-one solution combined with Cradlepoint’s Enterprise Class Support is defining a new standard for networking in the distributed enterprise.

A Cradlepoint MC400 integrated 4G LTE modem comes standard with the AER 2100. Add a second integrated MC400 modem for a complete “cut-the-wire” 4G LTE solution, fusing enterprise reliability with unparalleled agility.



Figure 2: left view

Key Features

WAN

- Integrated 4G LTE (with 3G failover)
 - Verizon, AT&T, Sprint, Europe, and generic models available
 - Dual integrated modem option
 - Dual SIM slot in each modem
 - Most models include support for active GPS
- WiFi as WAN
- Failover/Failback
- Load Balancing
- Advance Modem Failure Check
- WAN Port Speed Control
- WAN/LAN Affinity
- IP Passthrough

LAN

- VLAN 802.1Q
- DHCP Server, Client, Relay
- DNS and DNS Proxy
- DynDNS
- UPnP
- DMZ
- Multicast/Multicast Proxy
- QoS (DSCP and Priority Queuing)
- MAC Address Filtering

WiFi

- Dual-Band Dual-Concurrent (3x3 MIMO)
- 802.11ac (a, b, g, n, ac)
- Up to 256 connected devices (128 per channel – 2.4 GHz and 5 GHz)
- WPA2 Enterprise (WiFi)
- Hotspot/Captive Portal
- SSID-based Priority

Management

- Cradlepoint Enterprise Cloud Manager²
- Web UI, API, CLI
- GPS Location

- Data Usage Alerts (router and per client)
- Advanced Troubleshooting (support)
- Device Alerts
- SNMP
- SMS control
- Serial Redirector

VPN and Routing

- IPsec Tunnel – up to 20 concurrent sessions
- OpenVPN (SSL VPN)¹
- L2TP¹
- GRE Tunnel
- OSPF/BGP/RIP¹
- Per-Interface Routing
- Routing Rules
- NAT-less Routing
- Virtual Server/Port Forwarding
- NEMO/DMNR¹
- IPv6
- VRRP¹
- STP¹
- NHRP¹

Security

- RADIUS and TACACS+
- 802.1x authentication for Ethernet
- Zscaler integration¹
- Certificate support
- ALGs
- MAC Address Filtering
- Advanced Security Mode (local user management only)
- Per-Client Web Filtering
- IP Filtering
- Content Filtering (basic)
- Website Filtering

Cloud Optimized IP Communications

- Automated WAN Failover/Failback support
- WAN Affinity and QoS allow prioritization of VoIP services
- Advanced VPN connectivity options to HQ

- SIP ALG and NAT to allow VoIP and UC communications to traverse firewall
- MAC Address Filtering
- 802.1p/q for LAN QoS segmentation and treatment of VoIP on LAN
- Private Network support (wired and 4G WAN)
- Cloud-based management²

- 1 – Requires an [Extended Enterprise License](#)
2 – [Enterprise Cloud Manager](#) requires a subscription
3 – Requires a [CP Secure Threat Management](#) license



Figure 3: front view



Figure 4: back view

Specifications

- **WAN:** Integrated 4G LTE (one modem included; dual-modem option), 10/100/1000 Ethernet ports (cable/DSL/T1/satellite/Metro Ethernet), WiFi (as WAN; Metro WiFi) 3x3 MIMO 2.4 GHz or 5 GHz (802.11 a/b/g/n/ac)
- **LAN:** Dual-band dual-concurrent WiFi (802.11 a/b/g/n/ac), five 10/100/1000 Ethernet ports (WAN/LAN switchable), serial console support w/ USB-to-serial adapter
- **TEMPERATURE:**
 - 0°C to 50°C (32°F to 122°F) operating
 - -20°C to 70°C (-4°F to 158°F) storage
- **HUMIDITY (non-condensing):**
 - 10% to 85% operating
 - 5% to 90% storage
- **MEMORY:** 256 MB DRAM; 16MB SPI Flash; 256 MB NAND Flash

- **SIZE:** 10.25x8.5x1.75 in (260x214x45 mm)
- **WEIGHT:** 6 lb
- **CERTIFICATIONS:** FCC, WiFi Alliance, CE, IC, carrier certifications
- **LAN TO WAN:** 940 Mbps
- **WAN TO LAN:** 940 Mbps
- **Stateful Throughput:** 940 Mbps
- **WIFI POWER:** FCC maximum power reported:
 - 2.4 GHz band: 24.47 dBm
 - Lower 5 GHz band: 16.9 dBm
 - Upper 5 GHz band: 27.77 dBm

What's In The Box

- AER 2100 with integrated MC400 4G LTE modem
- External 3G/4G mobile broadband modem antennas (2) (SMA) w/ multiplexing for GPS; finger tighten only
- External dual-band high-gain WiFi antennas (3) reverse SMA (5 dBi, 2.4 GHz, 5 dBi 5 GHz, VSWR 2); finger tighten only
- 12V 3A AC/DC power adapter
- Multipurpose Retaining Tool
- Ethernet cable
- Quick Start Guide with warranty information

Feature Details

- **WAN Security** – IPS/IDS & Application Identification (subscription required), NAT, SPI, ALG, inbound filtering of IP addresses, port blocking, service filtering (FTP, SMTP, HTTP, RPL, SNMP, DNS, ICMP, NNTP, POP3, SSH), protocol filtering, WAN ping (allow/ignore)
- **Redundancy and Load Balancing** – Failover/failback on all WAN connections with rule selection; advanced load balancing options (round robin, spillover, data usage, rate); WAN failure detection; VRRP (subscription required)
- **Intelligent Routing** – UPnP, DMZ, virtual server/port forwarding, routing rules, NAT-less routing, wired or wireless WAN-to-LAN IP passthrough, route management, per-interface routing, content filtering, IP filtering, website filtering, per-client Web filtering, local DHCP server, DHCP client, DHCP relay, DNS, DNS proxy; ALGs: PPTP, L2TP, PP-PoE passthrough, IPsec passthrough, FTP (passive), FTP (active), SIP, TFTP, IRC, MAC address filtering, Dynamic DNS, LAN/WAN affinity, VLAN support (802.1Q), STP, enterprise routing protocols: BGP/OSPF/RIP (subscription required), multicast proxy support, IP setting overrides, IPv6 support
- **Management** – Enterprise Cloud Manager: cloud-enabled management and application platform (subscription required); web-based GUI (local management), optional RADIUS or TACACS+ username/password; remote WAN web-based management w/ access control (HTTP, HTTPS); SNMP v1, v2c, & v3; CLI over SSH, SSH to serial, SSH

to telnet; API; one-button firmware upgrade; modem configuration, update, and management; modem data usage w/ alerts, per-client data usage; custom AT scripting to modems; SMS for device recovery

- **Performance & Health Monitoring** – Advanced QoS with traffic shaping, with DSCP/DiffServe QoS, Modem Health Management (MHM) improves connectivity of modem, SSID-based priority, WAN port speed control, several levels of basic and advanced logging for troubleshooting
- **VPN** (IPsec) – Tunnel, NAT-T, and transport modes; connect to Cradlepoint, Cisco/Linksys, CheckPoint, Watchguard, Juniper, SonicWall, Adtran and others; certificate support; Hash (MD5, SHA128, SHA256, SHA384, SHA512), Cipher (AES, 3DES, DES); support for 20 concurrent connections; GRE tunneling; L2TP support (subscription required); multiple networks supported in a single tunnel; OpenVPN/SSL VPN (subscription required); site-to-site dynamic VPN with NHRP (subscription required)
- **GPS** – Active GPS supported on most models (see attached); GUI mapping as well as local or remote server logging

Support and Warranty

- CradleCare Support available with technical support, software upgrades, and advanced hardware exchange – 1, 3, and 5 year options
- One-year limited hardware warranty available in the US and Canada; two-year limited hardware warranty for integrated EU products when purchased from an authorized EU distributor – extend warranty to 2, 3, or 5 years

Accessories

- Second integrated 4G LTE modem
 - MC400LPE-VZ (Verizon)
 - MC400LPE-AT (AT&T)
 - MC400LPE-SP (Sprint)
 - MC400LPE-GN (generic – for use on T-Mobile in the U.S. and Rogers, Bell, & TELUS in Canada)
 - MC400LP3-EU (Europe)
- Standard rack mount with modem and WiFi cables (Part # 170629-000)
- 12V 3A wall power adapter (Part # 170623-000)
- 12V 4A wall power adapter (Part # 170624-000)
- Directional Patch antennas for external (outside) mounting (Part # 170587-000)
- Directional Yagi (Log-Periodic) antennas for external (outside) mounting (Part # 170588-000)
- Omni-directional antennas for external (outside) mounting (Part # 170586-000)
- 12” Mag-mount antenna (Part # 170605-000)
- 4” Mini mag-mount antenna (Part # 170606-000)

Business-Grade Modem Specifications

AER 2100 models include an integrated 4G LTE modem (MC400); specific model names include a specific modem (e.g., the AER 2100LPE-VZ includes an MC400LPE-VZ modem for Verizon).

Please note that LPE models are flexible and support bands for multiple cellular providers; however, only the frequency bands in **bold** below are supported by the listed provider.

AER 2100LPE-VZ - 4G LTE/HSPA+/EVDO for Verizon

- **Technology:** LTE, HSPA+, EVDO Rev A
- **Downlink Rates:** LTE 100 Mbps, HSPA+ 21.1 Mbps, EVDO 3.1 Mbps (theoretical)
- **Uplink Rates:** LTE 50 Mbps, HSPA+ 5.76 Mbps, EVDO 1.8 Mbps (theoretical)
- **Frequency Bands:**
 - LTE Band 2 (1900 MHz), **Band 4 - AWS (1700/2100 MHz)**, Band 5 (850 MHz), **Band 13 (700 MHz)**, Band 17 (700 MHz), Band 25 (1900 MHz)
 - HSPA+/UMTS (850/900/1900/2100 MHz, AWS)
 - GSM/GPRS/EDGE (850/900/1800/1900 MHz)
 - **CDMA EVDO Rev A/1xRTT (800/1900 MHz)**
- **Power:** LTE 23 dBm +/- 1, HSPA+ 23 dBm +/- 1, EVDO 24 dBm +0.5/-1 (typical conducted)
- **Antennas:** two SMA male (plug), 1 dBi (LTE), 2 dBi (Cellular/PCS) gain; finger tighten only (maximum torque spec is 7 kgf-cm)
- **GPS:** active GPS support
- **Industry Standards & Certs:** FCC, Verizon
- **Modem Part Number:** MC400LPE

AER 2100LPE-AT - 4G LTE/HSPA+/EVDO for AT&T

- **Technology:** LTE, HSPA+, EVDO Rev A
- **Downlink Rates:** LTE 100 Mbps, HSPA+ 21.1 Mbps, EVDO 3.1 Mbps (theoretical)
- **Uplink Rates:** LTE 50 Mbps, HSPA+ 5.76 Mbps, EVDO 1.8 Mbps (theoretical)
- **Frequency Bands:**
 - LTE **Band 2 (1900 MHz)**, **Band 4 - AWS (1700/2100 MHz)**, **Band 5 (850 MHz)**, Band 13 (700 MHz), **Band 17 (700 MHz)**, Band 25 (1900 MHz)
 - **HSPA+/UMTS (850/900/1900/2100 MHz, AWS)**
 - **GSM/GPRS/EDGE (850/900/1800/1900 MHz)**
 - CDMA EVDO Rev A/1xRTT (800/1900 MHz)
- **Power:** LTE 23 dBm +/- 1, HSPA+ 23 dBm +/- 1, EVDO 24 dBm +0.5/-1 (typical conducted)
- **Antennas:** two SMA male (plug), 1 dBi (LTE), 2 dBi (Cellular/PCS) gain; finger tighten only (maximum torque spec is 7 kgf-cm)
- **GPS:** active GPS support

- **Industry Standards & Certs:** PTCRB, FCC, IC, AT&T
- **Modem Part Number:** MC400LPE

AER 2100LPE-SP - 4G LTE/HSPA+/EVDO for AT&T

- **Technology:** LTE, HSPA+, EVDO Rev A
- **Downlink Rates:** LTE 100 Mbps, HSPA+ 21.1 Mbps, EVDO 3.1 Mbps (theoretical)
- **Uplink Rates:** LTE 50 Mbps, HSPA+ 5.76 Mbps, EVDO 1.8 Mbps (theoretical)
- **Frequency Bands:**
 - **LTE Band 2 (1900 MHz), Band 4 – AWS (1700/2100 MHz), Band 5 (850 MHz), Band 13 (700 MHz), Band 17 (700 MHz), Band 25 (1900 MHz)**
 - HSPA+/UMTS (850/900/1900/2100 MHz, AWS)
 - GSM/GPRS/EDGE (850/900/1800/1900 MHz)
 - **CDMA EVDO Rev A/1xRTT (800/1900 MHz)**
- **Power:** LTE 23 dBm +/- 1, HSPA+ 23 dBm +/- 1, EVDO 24 dBm +0.5/-1 (typical conducted)
- **Antennas:** two SMA male (plug), 1 dBi (LTE), 2 dBi (Cellular/PCS) gain; finger tighten only (maximum torque spec is 7 kgf-cm)
- **GPS:** active GPS support
- **Industry Standards & Certs:** FCC, Sprint
- **Modem Part Number:** MC400LPE

AER 2100LP3-EU (2100LP3-UK*) - 4G LTE/HSPA+ for Europe (United Kingdom)

- **Technology:** LTE, HSPA+
- **Downlink Rates:** LTE 100 Mbps, HSPA+ 21.1 Mbps (theoretical)
- **Uplink Rates:** LTE 50 Mbps, HSPA+ 5.76 Mbps (theoretical)
- **Frequency Bands:**
 - **LTE Band 1 (2100 MHz), Band 3 (1800 MHz), Band 7 (2600 MHz), Band 8 (900 MHz), Band 20 (800 MHz)**
 - **HSPA+/UMTS (800/850/900/1900/2100 MHz)**
 - **GSM/GPRS/EDGE Quad-Band (850/900/1800/1900 MHz)**
- **Power:** LTE Band 1/3/8/20 – 23 dBm +/- 1; LTE Band 7 – 22 dBm +/- 1, HSPA+ 23 dBm +/- 1 (typical conducted)
- **Antennas:** two SMA male (plug), 1 dBi (LTE), 2 dBi (Cellular/PCS) gain; finger tighten only
- **GPS:** active GPS support
- **Industry Standards & Certs:** CE, GCF-CC
- **Modem Part Number:** MC400LP3

*The 2100LP3-EU and 2100LP3-UK models are equivalent except for the line cord.

AER 2100LPE-GN - 4G LTE/HSPA+/EVDO (generic - for use on T-Mobile in the U.S. and Rogers, Bell, & TELUS in Canada)

- **Technology:** LTE, HSPA+, EVDO Rev A
- **Downlink Rates:** LTE 100 Mbps, HSPA+ 21.1 Mbps, EVDO 3.1 Mbps (theoretical)
- **Uplink Rates:** LTE 50 Mbps, HSPA+ 5.76 Mbps, EVDO 1.8 Mbps (theoretical)
- **Frequency Bands:**
 - **LTE Band 2 (1900 MHz), Band 4 (AWS), Band 5 (850 MHz), Band 13 (700 MHz), Band 17 (700 MHz), Band 25 (1900 MHz)**
 - **HSPA+/UMTS (850/900/1900/2100 MHz, AWS)**
 - **GSM/GPRS/EDGE (850/900/1800/1900 MHz)**
 - CDMA EVDO Rev A/1xRTT (800/1900 MHz)
- **Power:** LTE 23 dBm +/- 1, HSPA+ 23 dBm +/- 1, EVDO 24 dBm +0.5/-1 (typical conducted)
- **Antennas:** two SMA male (plug), 1 dBi (LTE), 2 dBi (Cellular/PCS) gain; finger tighten only (maximum torque spec is 7 kgf-cm)
- **GPS:** active GPS support
- **Industry Standards & Certs:** PTCRB, FCC, IC
- **Modem Part Number:** MC400LPE