NetCloud Services for Branch

cradlepoint

AER2200
Spec Sheet

Shown: AER2200-1200M

cradlepoint

Cradlepoint AER2200 branch routers are sold as part of an all-inclusive branch networking packages.

NetCloud Solution Packages for Branch Routers Include:

— LTE routers, purpose built for branch applications

— A NetCloud Service Plan tailored for branch networking and set for a specific term

— 24x7 support and limited lifetime warranty

What to Buy

Description	Part Numbers
North America (U.S., Canada)	
— NetCloud Essentials for Branch Routers with AER2200-1200M	BAx-22001200-NNN
— NetCloud Essentials for Branch Routers with AER2200-600M	BAx-2200600M-NNN
Europe (EU)	
— NetCloud Essentials for Branch Routers with AER2200-600M-EU	BAx-2200600M-EWE
— NetCloud Essentials for Branch Routers with AER2200-600M-UK	BAx-2200600M-EWU
Asia-Pacific (Australia, New Zealand, Singapore)	
— NetCloud Essentials for Branch Routers with AER2200-600M-AU	BAx-2200600M-PWP
All Regions	
— NetCloud Advanced Upgrade for Branch Routers	BAx-NCADV

x = 1, 3, or 5 years

NetCloud Essentials packages and plans contain all the features and capabilities required for small to mid-sized branch applications. Essentials Packages include 24x7 support (phone support: 24 hour weekdays with emergency response on weekends, web: 24x7, chat: 24x5) and a limited lifetime warranty.

For additional capabilities, a **NetCloud Advanced** upgrade can be added to the NetCloud Essentials Package at any time.

See additional details of what is included in the Essential and Advanced NetCloud software: cradlepoint.com/netcloud-manager

For more details on the AER2200 branch routers, included with the NetCloud Packages for branch, see below.

What's in the Box

— AER2200 with embedded LTE Advanced or LTE Advanced Pro modem

— Universal 3G/4G/LTE antennas with dedicated active GPS antenna port; torque not to exceed 4 in-lbs

— External dual-band high-gain WiFi antennas (4) RP-SMA (5 dBi, 2.4 GHz, 5 dBi 5 GHz, VSWR ← 2); torque not to exceed 4 in-lbs

— 54 V, 1.2 A (65 W) AC/DC power adapter, 30 W PoE budget, C8 line cord

— Ethernet cable

— Warranty information

— Rubber feet (4) for desk mounting

Key Features

Models

— AER2200-1200M: LTE Advanced Pro 1.2 Gbps LTE/HSPA+ (with SIM-based, Auto-carrier Selection for AT&T/FirstNet and Verizon)

    — The AER2200-1200M is FirstNet Ready™; includes support for Band 14

— AER2200-600M: LTE Advanced 600 Mbps LTE/HSPA+ (SIM-based, Auto-carrier Selection for all North American, European, and Asia Pacific carriers; includes support for 700 MHz Band 28 in Asia Pacific)

WAN

— One embedded modem

— One MC400 slot for 2nd modem

— Dual SIM slot in each modem

— Active GPS

— 10 10/100/1000 Ethernet ports (WAN/LAN switchable)

— WiFi as WAN

— Smart WAN Selection

— Multi-PDN

— Failover/Failback

— Load Balancing

— Advance Modem Failure Check

— WAN Port Speed Control

— WAN/LAN Affinity

— IP Passthrough

— Standby

— DynDNS

— Auto QoS

— QoS (DSCP and Priority Queuing)

LAN

— 10 10/100/1000 Ethernet ports (WAN/LAN switchable); Supports four ports of PoE (1–4) for class I, II, III, or IV devices (default 30 W power budget, up to 120 W with accessory power supply)

— LLDP support

— VLAN 802.1Q

— DHCP Server, Client, Relay

— DNS and DNS Proxy

— Split DNS

— STP[1]

— Multicast/Multicast Proxy

WiFi

— Dual-Band Dual-Concurrent (2×2 2.4 GHz MU-MIMO and 4×4 5 GHz MU-MIMO)

— 802.11 (a/b/g/n/ac) wave 2

— Up to 248 connected devices (124 per channel – 2.4 GHz and 5 GHz)

— WPA/WPA2 Personal, WPA2 Enterprise (WiFi), WEP Auto

— Hotspot/Captive Portal

— SSID-based Priority

— 802.11k – Radio Resource Management - Client load balancing

— 802.11r – Fast Roaming

— 802.11v – Wireless Network Management

Management

— Cradlepoint NetCloud Manager (NCM)

— Real-time diagnostics/troubleshooting

— Remote connect / OOBM

— Secure remote cloud configuration

— GeoView location services

— Web UI, API, CLI

— NetCloud Perimeter gateway support

— Client and Traffic Visibility and Control

— SDK support

— GPS Location

— Data Usage Alerts

— Advanced Troubleshooting (support)

— Device Alerts

— SNMP

— SMS control

— Console Port for OOBM

VPN & Routing

— IPsec Tunnel – up to 20 concurrent sessions

— IKEv2 support (includes MOBIKE)

— OpenVPN (SSL VPN)

— L2TP1

— GRE Tunnel

— OSPF/BGP/RIP

— Route Filters (Access Control Lists, Prefix Filters, Route Maps, Communities for BGP)

— Policy-based Routing

— Per-Interface Routing

— Static Routing

— NAT

— NAT-less Routing

— WAN Affinity

— Virtual Server/Port Forwarding

— VTI Tunnel Support

— NEMO/DMNR

— IPv6

— VRRP

— STP

— NHRP

Security

— RADIUS and TACACS+ support*

— 802.1x authentication for Wireless and Wired Networks

— Zscaler Internet Security[2]

— Certificate support

— Application-level gateways

— MAC Address Filtering

— CP Secure Threat Management[1]

— Advanced Security Mode (local user management only)

— IP Filtering

— Content Filtering

— FIPS 140-2 Inside version available

* Native support for authentication. Authorization and accounting support through hotspot/captive portal services

1 Requires a CP Secure Threat Management license

2 Requires Zscaler Internet Security License

Specifications

The following features are delivered through the NetCloud Service.

WAN:

— Embedded 1200M LTE Advanced Pro modem or embedded 600M LTE Advanced modem (both with DC-HSPA+ failover)

— MC400 slot for optional 2nd modem

— 10 10/100/1000 Ethernet ports (cable/DSL/T1/satellite/Metro Ethernet; WAN/LAN switchable)

— WiFi (as WAN; Metro WiFi) 2×2 MIMO 2.4 GHz and 4×4 MIMO 5 GHz (802.11 a/b/g/n/ac)

LAN:

— Dual-band dual-concurrent WiFi (802.11 a/b/g/n/ac wave 2)

— 10 10/100/1000 Ethernet ports (WAN/LAN switchable)

— Serial console

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):

— 5% to 95% operating

— 5% to 95% storage

Memeory: 512 MB DRAM; 8 GB eMMC

Size:

— 7.3 × 8.3 × 1.7 in (185 × 210 × 44 mm)

— 1U height for rack mount

Weight: 3 lb 5 oz (1.5 kg)

Certifications:

— WiFi Alliance – 802.11a/b/g/n/ac wave 2 certified

— Safety: UL/CUL, CB Scheme, EN60950-1

— Materials: WEEE, RoHS, RoHS-2, California Prop 65

— Telecom: PTCRB/CTIA, GCF-CC

— FIPS 140-2 Inside versions available

WIFI Power (FCC):

— 2402–2483.5 MHz (2.4 GHz band): 28.3 dBm conducted

— 5150–5250 MHz (5 GHz band 1): 29.1 dBm conducted

— 5725–5850 MHz (5 GHz band 3): 30.0 dBm conducted

WIFI Power (Europe/Rest of World):

— 2.4 GHz band: 19.88 dBm EIRP

— 5150-5250 MHz: 22.96 dBm EIRP

GPS: Modem-based GPS

Performance

— Max Throughout (Default Configuration*): 950 Mbps

— Max Concurrent TCP Sessions: 32,000

— Recommended Max Client Count: 100**

* Default configuration shipped with hardware including NAT and basic stateful/zone firewall configuration.

** Cradlepoint defines client as any network connected device utilizing resources, such as bandwidth, on the local network.

— Performance testing was conducted based off requirements as defined in RFC2544 using a mix of 64, 256, and 1500-byte packet sizes. Throughput is shown as bi-directional TCP traffic with less than a 1% packet loss using four wired clients.

— Specifications and information in this datasheet are subject to change without notice

Accessories

— Second integrated 4G LTE modem

    — MC400-1200M

    — MC400LP6 (North America or EU)

    — MC400LP5 (Asia Pacific or Saudi Arabia)

    — MC400LP4 (AT&T, Verizon, T-Mobile and Canada)

    — 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)

— Black, Universal 600MHz-6GHz 3G/4G/LTE 2dBi/3dBi 6" antenna with SMA connector (1x) Part # 170760-000

— AER2200 high power supply for up to 4 ports of PoE+ .at (30W) power (120W PoE budget) (C14 line cord not included) Part # 170751-000

— AER2200, 54V 2.22A (60W PoE budget) power supply (C14 line cord not included) Part # 170671-000

— AER2200 Rack-Mount Brackets Part # 170749-000

— 2.4/5 GHz Dual-band Dual-concurrent WiFi Antenna Part # 170628-000

— Cradlepoint Certified Antennas for Fixed Sites

Enterprise-Class Modem Specifications

AER2200-1200M-NA

AER2200-1200M models include an embedded LTE Advanced Pro 1.2 Gbps 4G LTE modem. The 1200M modems supports SIM-based (with Auto-carrier Selection for AT&T/FirstNet and Verizon). Simply insert the SIM and wait for the router to automatically detect the SIM and establish a connection.

— Technology: Category 18 LTE Advanced Pro, DC-HSPA+

— Downlink Rates: LTE 1.2 Gbps, DC-HSPA+ 42.2 Mbps*

— Uplink Rates: LTE 150 Mbps, DC-HSPA+ 5.76 Mbps*

— MIMO: 2x2 or 4x4 MIMO

— 256 QAM support

— Frequency Bands:

    — LTE Bands

        — LTE FDD: 2, 4(66), 5, 12, 13, 14, 29, 30

        — LTE TDD: 46,48

— Carrier Aggregation: Up to 5CA. [ ] indicates 4x4 MIMO

    — AT&T: 2,4,5,12,14,29,30,66,46; 3G 2, 5

        — 2CA DL carrier aggregation combinations:
CA_[2A]-[2A], CA_[2A]-[4A], CA_2A-5A, CA_2A-12A, CA_2A-14A, CA_2A29A, CA_2A-30A, CA_[2A]-46A, CA_[2A]-[66A], CA_2C, CA_[4A]-[4A], CA_4A-5A, CA_4A-12A, CA_4A-29A, CA_4A-30A, CA_[4A]-46A, CA_5A30A , CA_5A-66A, CA_5B, CA_12A-30A, CA_12A-66A, CA_12B, CA_14A30A, CA_14A-66A, CA_29A-30A, CA_29A-66A, CA_30A-66A, CA_[66A][66A], CA_66B, CA_66C

        — 3CA DL carrier aggregation combinations:
CA_2A-2A-5A, CA_[2A]-2A-12A, CA_2A-2A-14A, CA_2A-2A-30A, CA_2A2A-66A, CA_[2A]-4A-4A, CA_2A-[4A]-[4A], CA_[2A]-4A-5A, CA_2A-[4A]-5A, CA_[2A]-4A-12A, CA_2A-[4A]-12A, CA_2A-4A-30A, CA_2A-5A-30A, CA_[2A]-5A-66A, CA_2A-5A-[66A], CA_2A-12A-30A, CA_[2A]-12A-66A, CA_2A-12A-[66A], CA_2A-14A-30A, CA_2A-14A-66A, CA_2A-29A-30A, CA_2A-30A-66A, CA_2A-46C, CA_2A-66A-66A, CA_[4A]-4A-5A, CA_[4A]4A-12A, CA_4A-4A-30A, CA_4A-5A-30A, CA_4A-12A-30A, CA_4A-12B, CA_4A-29A-30A, CA_5A-30A-66A, CA_5A-66A-66A, CA_5A-66C, CA_12A30A-66A, CA_12A-[66A]-66A, CA_14A-30A-66A, CA_14A-66A-66A, CA_29A-30A-66A, CA_29A-66A-66A, CA_30A-66A-66A

        — 4CA DL carrier aggregation combinations:
CA_2A-2A-5A-30A, CA_2A-2A-5A-66A, CA_2A-2A-12A-30A, CA_2A-2A12A-66A, CA_2A-2A-14A-66A, CA_2A-2A-29A-30A, CA_2A-2A-66A-66A, CA_2A-4A-4A-12A, CA_2A-4A-5A-30A, CA_2A-4A-12A-30A, CA_2A-5A30A-66A, CA_2A-5A-66A-66A, CA_2A-5B-30A, CA_2A-5B-66A, CA_2A12A-30A-66A, CA_2A-12A-66A-66A, CA_2A-14A-30A-66A, CA_2A-14A66A-66A, CA_2A-29A-30A-66A, CA_[2A]-46D, CA_[4A]-46D, CA_4A-4A12A-30A, CA_5A-30A-66A-66A, CA_5B-30A-66A, CA_5B-66A-66A, CA_12A-30A-66A-66A, , CA_14A-30A-66A-66A, CA_29A-30A-66A-66A, CA_46D-[66A]

- 5CA DL carrier aggregation combinations:
  CA_2A-2A-46D, CA_2A-5B-30A-66A, CA_2A-5B-66A-66A, CA_2A-46D66A, CA_5B-30A-66A-66A, CA_46D-66A-66A

- 2CA UL carrier aggregation combinations:
  CA_2A-12A, CA_2A-5A, CA_4A-12A, CA_5A-66A, CA_5B, CA_12A-66A

- Verizon: 2, 4, 5, 13, 66, 48; 3G (roaming): 1, 2, 4, 5, 8

- 2CA DL carrier aggregation combinations:

- CA_[2A]-[2A], CA_[2A]-[4A], CA_[2A]-5A, CA_[2A]-13A, CA_[2A]-[66A], CA_[4A]-[4A], CA_[4A]-5A, CA_[4A]-13A, CA_5A-[66A], CA_5B, CA_13A[66A], CA_[66A]-[66A], CA_[66B], CA_[66C], CA_[2A]-48A, CA_13A-48A, CA_48A-[66A]

- 3CA DL carrier aggregation combinations:

- CA_[2A]-2A-5A, CA_[2A]-2A-13A, CA_[2A]-2A-66A, CA_2A-2A-[66A], CA_[2A]-4A-5A, CA_2A-[4A]-5A, CA_[2A]-4A-13A, CA_2A-[4A]-13A, CA_[2A]-5A-66A, CA_2A-5A-[66A], CA_[2A]-13A-66A, CA_2A-13A-[66A], CA_[2A]-66A-66A, CA_2A-[66A]-66A, CA_[2A]-[66B], CA_[2A]-[66C], CA_[4A]-4A-5A, CA_[4A]-4A-13A, CA_5A-[66A]-66A, CA_5A-[66B], CA_5A[66C], CA_13A-[66A]-66A, CA_13A-[66B], CA_13A-[66C], CA_[66A]-[66C], CA_[66D], CA_[2A]-48A-48A, CA_[2A]-48A-66A, CA_2A-48A-[66A], CA_[2A]-48C, CA_13A-48A-48A, CA_13A-48A-[66A], CA_13A-48C, CA_48A-48A-[66A], CA_48A-[66A]66A, CA_48A-[66B], CA_48C-[66A]

- 4CA DL carrier aggregation combinations:

- CA_2A-48A-48A-66A, CA_[2A]-48D, CA_13A-48A-48A-66A, CA_13A-48A-48C, CA_13A-48C-[66A], CA_13A-48D, CA_48A-48A-66A-66A, CA_48A-48A-[66B], CA_48A-48A-[66C], CA_48A-48C-[66A], CA_48D-[66A]

- 5CA DL carrier aggregation combinations:

- CA_2A-48E, CA_13A-48A-48C-66A, CA_13A-48C-48C, CA_13A-48D-66A, CA_13A-48E, CA_48A-48C-66B, CA_48A-48C-66C, CA_48C-48C-66A,CA_48E-66A

- Fallback: WCDMA/DC-HSPA+ (42/5.76 Mbps): Bands 1, 2, 4, 5(19), 8

- Power: LTE 23 dBm ± 1, DC-HSPA+ 23 dBm ± 1

- Antennas: SMA & RP-SMA male plugs, torque not to exceed 4 in-lbs

- GPS: active GPS support

- SMS: SMS support

- Industry Standards & Certs: FCC, PTCRB, AT&T, FirstNet, Verizon.

AER2200-600M-NA, -EU, -AP

AER2200-600M models include an embedded LTE Advanced 600 Mbps 4G LTE modem. The 600M modems support worldwide, SIM-based, Auto-carrier selection. Simply insert the SIM and wait for the router to automatically detect the SIM and establish a connection.

The LTE bands certified for each carrier are listed below.

- Technology: LTE Advanced, DC-HSPA+

- Downlink Rates: LTE 600 Mbps, DC-HSPA+ 42.2 Mbps*

- Uplink Rates: LTE 75 Mbps, DC-HSPA+ 5.76 Mbps*

— Frequency Bands:

  — LTE Bands

    — LTE FDD: 1–5, 7–8, 12–13, 17, 20, 25–26, 28–30, 66

    — LTE TDD: 38, 40–41

    — HSPA+: 1–2, 4–5, 8

— LTE 2DL Carrier Aggregation Combinations:

  — B2+B2, B2+B4, B2+B5, B2+B12, B2+B13, B2+B17, B2+B29, B2+B30, B4+B4, B4+B5, B4+B7, B4+B12, B4+B13, B4+B17, B4+B29, B4+B30, B5+B30, B12+B12, B12+B30, B25+B25, B25+B26, B25+B41, B26+B41, B29+B30, B41+B41, B1+B20, B3+B3, B3+B7, B3+B20, B3+B38, B7+B7, B7+B8, B7+B20, B38+B38, B1+B3, B1+B7, B1+B28, B3+B8, B3+B28, B5+B7, B5+B40, B7+B8, B7+B20

— LTE 3DL Carrier Aggregation Combinations:

  — B2+B2+B12/17, B2+B2+B13, B2+B2+B4, B2+B4+B5, B2+B4+B12, B2+B4+B13, B2+B4+B29,B2+B5+B30, B2+B12+B12, B2+B12+B30, B2+B29+B30, B4+B4+B5, B4+B4+B7, B4+B4+B12, B4+B4+B13, B4+B5+B30, B4+B12+B12, B4+B12+B30, B4+B29+B30, B25+B26+B41, B25+B41+B41, B26+B41+B41, B41+B41+B41, B1+B3+B20, B1+B7+B20, B3+B3+B7, B3+B3+B20, B3+B7+B20, B3+B7+B7, B3+B20+B38, B3+B38+B38, B3+B3+B5, B3+B3+B8, B3+B7+B7, B3+B7+B28, B7+B7+B28, B28+B40+B40, B40+B40+B40

— Fallback: WCDMA/DC-HSPA+ (42/5.76 Mbps): Bands 1, 2, 4, 5, 8

— Power: LTE: 23 dBm ±1; DC-HSPA+: 23 dBm ±1

— Antennas: SMA & RP-SMA male plugs, torque not to exceed 4 in-lbs

— GPS: active GPS support

— SMS: SMS support

— Industry Standards & Certs: CE, FCC, GCF-CC, IC, PTCRB, AT&T, Sprint, Verizon, Verizon NEMO/DMNR for Primary Wireless Access

* Theoretical

** To be enabled with a future modem software update.

FirstNet and FirstNet Ready are registered trademarks and service marks of the First Responder Network Authority, an independent authority within the U.S. Department of Commerce.
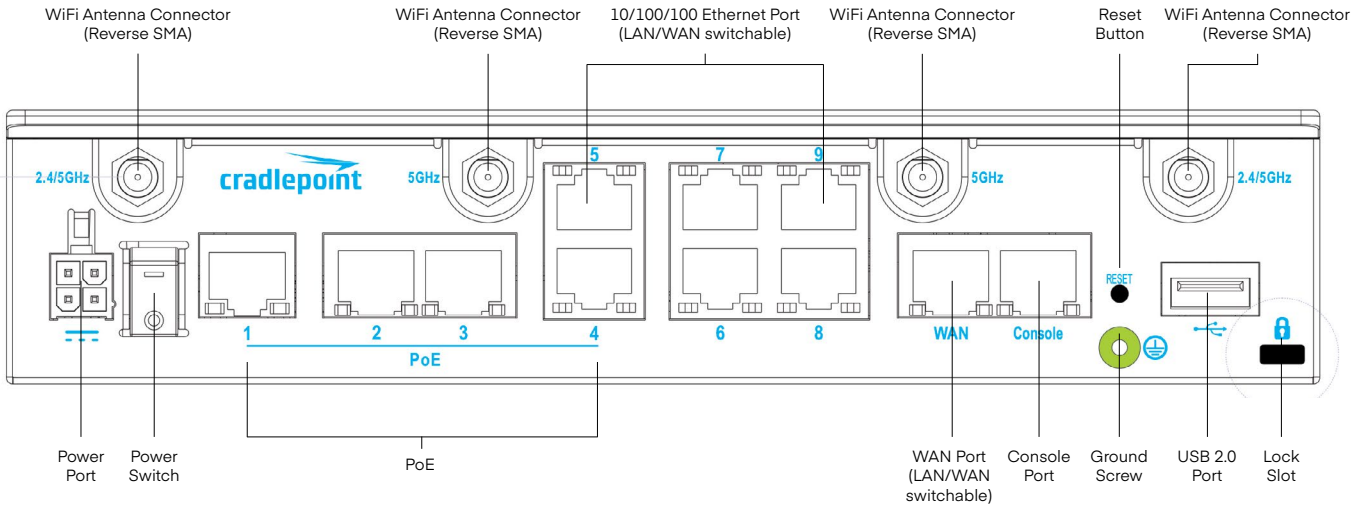
Support & Warranty

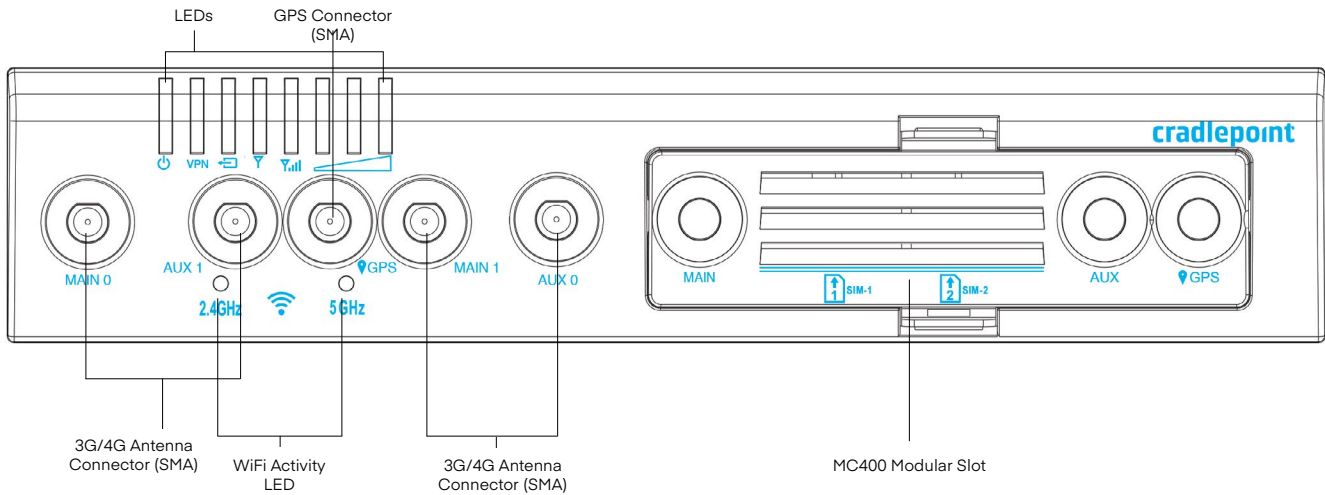The AER2200 is only sold as a component of NetCloud Packages.

— NetCloud Packages include support for the full subscription term.

— All Cradlepoint hardware products are covered by a limited lifetime warranty for as long as they are under a NetCloud Service Plan.

Hardware

Back

WiFi Antenna Connector (Reverse SMA)
WiFi Antenna Connector (Reverse SMA)
10/100/100 Ethernet Port (LAN/WAN switchable)
WiFi Antenna Connector (Reverse SMA)
Reset Button
WiFi Antenna Connector (Reverse SMA)

2.4/5GHz
5GHz
5GHz
2.4/5GHz

Power Port
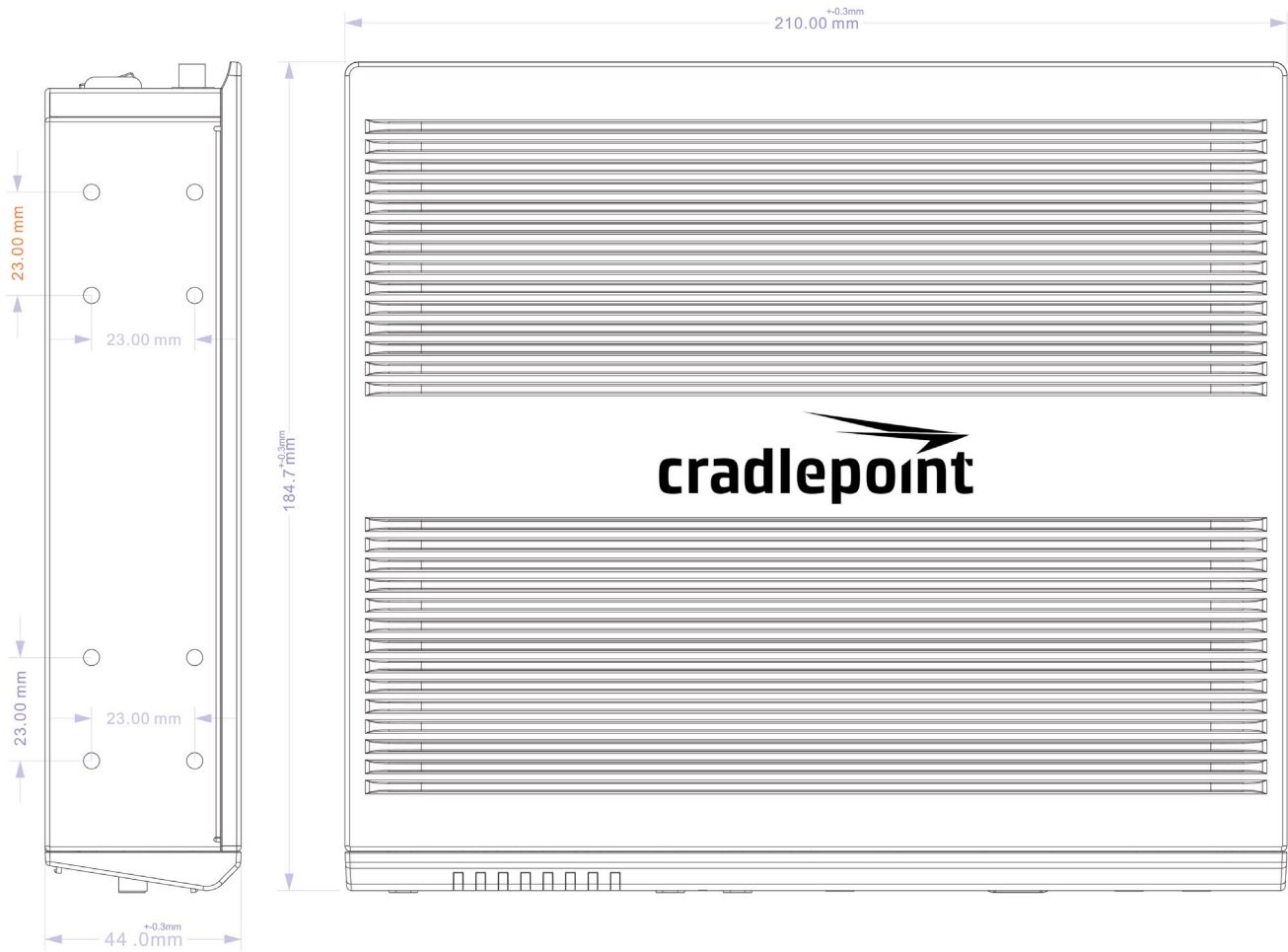Power Switch
PoE
WAN Port (LAN/WAN switchable)
Console Port
Ground Screw
USB 2.0 Port
Lock Slot

Front: AER2200-1200M Shown

LEDs
GPS Connector (SMA)

3G/4G Antenna Connector (SMA)
WiFi Activity LED
3G/4G Antenna Connector (SMA)
MC400 Modular Slot

1200M model = 2 MAIN, 2 AUX | 600M model = 1 MAIN, 1 AUX

Top & Side View

210.00 mm
+-0.3mm

23.00 mm

23.00 mm

184.7$^{+0.3}_{}$mm

23.00 mm

23.00 mm

44 .0mm
+-0.3mm

cradlepoint

LEDs

Indicator	Behavior
⏻	**Power:** The Cradlepoint AER2200 must be powered using an approved 54 V DC power source. — Green = Powered ON. — No Light = Not receiving power. Check the power switch and the power source connection. — Amber = Attention. Open the administration pages and check the router status.
VPN	**VPN:** Indicates status of VPN connection. — Blue = Connected to an active VPN.
⏏	**Removable Modem:** Indicates the status of removable modem(s). — Green = Modem has established an active connection. — Blinking Green = Modem is connecting. — Blinking Amber = Data connection error. No modem connection possible. — Blinking Red = Modem is in the process of resetting.
⟁	**Integrated Modem:** Indicates information about the integrated modem. — Green = Modem has established an active connection. — Blinking Green = Modem is connecting. — Amber = Modem is not active. — Blinking Amber = Data connection error. No modem connection possible. — Blinking Red = Modem is in the process of resetting. — Blinking Red with Signal Strength LEDs = SIM door is not installed, modem is off. — No Light = Modem not connected.
📶	**Signal Strength:** Blue LED bars indicate the active modem's signal strength (only for integrated and removable modems). — 4 Solid Bars = Strongest signal. — 1 Blinking Bar = Weakest signal. (A blinking bar indicates half of a bar.) — 4 Blinking Bars = SIM door is not installed, modem is off.
2.4GHz 5GHz	**WiFi Broadcast:** These two LEDs indicate activity on the WiFi broadcast for both the 2.4 GHz and 5 GHz bands. — 2.4 GHz (green) = 2.4 GHz WiFi is on and operating normally. — 5 GHz (blue) = 5 GHz WiFi is on and operating normally.
Other	**Additional LED Indications** — Several different LEDs blink when the factory reset button is detected. — Two of the modem LEDs blink red in unison for 10 seconds when there is an error during NCOS upgrade.