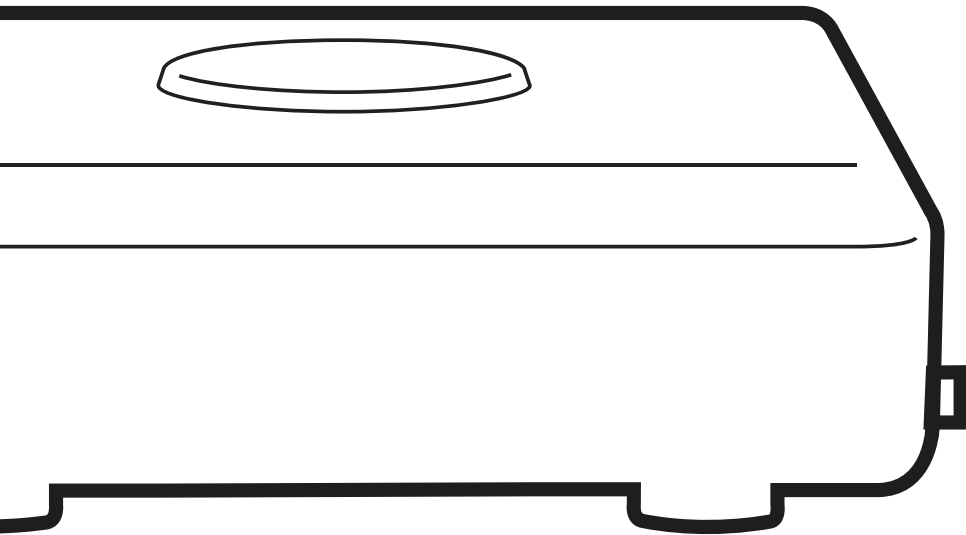




ARC Series Router

CBA850

Spec Sheet



cradlepoint.com

INTRODUCTION

WHAT'S IN THE BOX

- CBA850 with integrated MC400 Multi-Carrier Software-Defined Radio modem
- Universal 3G/4G/LTE antennas with dedicated active GPS antenna port
- 12 V DC / 1.5 A power adapter (1.5 meter cord)
- Ethernet cable
- Quick Start Guide
- Mounting hardware
- Warranty and regulatory information

KEY FEATURES

WAN

- LP6: LTE Advanced LTE/DC-HSPA+ (SIM-based Auto-Carrier Selection for all North American carriers and European operators)
- LP5: Cat 6 LTE Advanced for operators in Asia Pacific and Saudi Arabia (SIM-based Auto-Carrier selection)
- LP4: LTE/DC-HSPA+ for AT&T, Verizon, T-Mobile and Canadian carriers (SIM-based Auto-Carrier Selection)
- LPE: 4G LTE/HSPA+/EVDO (multi-carrier, North America)
- LP3: 4G LTE/HSPA+ (Europe, EMEA, and Australia/New Zealand)
- Advanced Modem Failure Check
- IP Passthrough
- Standby
- Ethernet WAN for inline failover

LAN

- VLAN 802.1Q
- DHCP Server, Client, Relay
- DNS and DNS Proxy
- DynDNS
- UPnP
- DMZ
- MAC Address Filtering

MANAGEMENT

- Cradlepoint NetCloud Manager¹
- Web UI, API, CLI, SSH
- Data Usage Alerts (router and per client)
- Advanced Troubleshooting (support)
- Device Alerts
- SNMP
- SMS control

ROUTING

- Routing Rules
- NAT-less Routing
- Virtual Server/Port Forwarding
- IPv6

SECURITY

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

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

1 – **NetCloud Manager** requires a subscription

SPECIFICATIONS

WAN: Integrated LP6 Category 6 LTE Advanced LTE modem (with DC-HSPA+ failover), LP5 Category 6 LTE Advanced LTE modem (with DC-HSPA+ failover), LP4 Category 4 LTE modem (with DC-HSPA+ failover), LPE 4G LTE modem (with HSPA+/EVDO/3G and 2G failover) or LP3 4G LTE modem (with HSPA+ and 2G failover)

LAN:

- Two LAN 10/100/1000 Ethernet ports (default one NAT, one IP Passthrough)
- RJ45 Serial Port for console access or out-of-band management

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

POWER:

- 12 V DC / 1.5 A adapter
- 802.3af (15 W) or 802.3at (30 W) PoE capable

POWER CONSUMPTION (Typical)

- Idle: 4.0 W
- Single Modem: 6.0 W

SIZE: 4.8 × 4.8 × 1.7 in (122 × 122 × 42 mm)

HOUSING:

- White plastic, locking compatible
- Wall, desk, or DIN Rail mounting

CERTIFICATIONS:

- FCC, CE, IC
- Safety: UL/CUL/CB Scheme
- Materials: WEEE, RoHS, RoHS-2, California Prop 65

ACCESSORIES

- 700 MHz – 2700 MHz Wide Band Directional Antenna (Yagi/Log- Periodic) (Part #: 170588-000)
- 12" Mag-Mount Antenna with SMA Male Connector (Part #: 170605-000)

- 4" Mini Mag-Mount Antenna with SMA Male Connector (Part #: 170606-000)
- Universal 3G/4G/LTE Modem Antenna (Part #: 170649-000)
- GPS Screw-Mount Antenna (Part #: 170651-000)
- GPS Mag-Mount Antenna (Part #: 170652-000)
- Universal 3G/4G multi-band cellular modem antenna (white) – 2 dBi / 3 dBi (Part # 170659-000)
- Multi-Band Omni-Directional Antenna (Part #: 170668-000)
- Indoor/Outdoor Panel Patch (Part #: 170669-000)
- DIN Rail Mounting Bracket (Part # 170656-000)
- Wall/Ceiling Mounting Bracket (Part # 170666-000)
- Rollover Adapter for RJ45 Ethernet cable M/F (Part # 170662-000)
- RJ45 Rollover serial console cable 7 ft (Part # 170663-000)
- RJ45 Rollover serial console cable 14 ft (Part # 170663-001)

See the Cradlepoint [antenna accessories page](#) for more information about antennas. Also see the Antenna Ordering and Installation Guide, available as a PDF in the Resources section of antenna and router product pages.

BUSINESS-GRADE MODEM SPECIFICATIONS

ARC CBA850 LP6 models include an integrated LTE Advanced Category 6 4G LTE modem. The LP6 modems support SIM-Based Auto-Carrier selection so there is only one model for all of North America. 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.

ARC CBA850LP6-NA, CBA850LP6-EU

- **Technology:** LTE Advanced, DC-HSPA+
- **Downlink Rates:** LTE 300 Mbps, DC-HSPA+ 42.2 Mbps
- **Uplink Rates:** LTE 50 Mbps, DC-HSPA+ 5.76 Mbps
- **Frequency Bands:**
 - **LTE Bands 1–5, 7, 8, 12, 13, 20, 25, 26, 29, 30, 41**
 - **Verizon:** 2, 4, 5, 13 (XLTE support w/carrier aggregation)
 - **AT&T:** 2, 4, 5, 12, 29, 30
 - **Sprint:** 25, 26, 41 (LTE Plus Support)
 - **T-Mobile:** 2, 4, 12 (T-Mobile Wideband LTE Support)
 - **Generic:** all
- **Carrier Aggregation:**
 - 1+ 8
 - 2+ 2/5/12/13/29
 - 3+ 7/20
 - 4+ 4/5/12/13/29
 - 5+ 2/4/30
 - 7+ 3/7/20
 - 8+ 1
 - 12+ 2/4/30
 - 13+ 2/4
 - 20+ 3/7
 - 30+ 5/12
 - 41+ 41
- **Fallback:** WCDMA/DC-HSPA+ (42/5.76 Mbps): Bands 1–5, 8
- **Power:** LTE: 23 dBm ± 1; DC-HSPA+: 23 dBm ± 1
- **Antennas:** two SMA male (plug), finger tighten only (maximum torque spec is 7 kgf/cm²)
- **GPS:** active GPS support

- **SMS:** SMS support
- **Industry Standards & Certs:** CE, FCC, GCF-CC, IC, PTCRB, AT&T, Sprint, Verizon
- **Modem Part Number:** MC400LP6

ARC CBA850 LP5 models include an integrated LTE Advanced Category 6 4G LTE modem, and support Asia Pacific and Saudi Arabia. The LP5 modems support SIM-Based Auto-Carrier selection. Simply insert the SIM and wait for the router to automatically detect the SIM and establish a connection.

CBA850LP5-AP

- **Technology:** FDD/TDD (Category 6) LTE Advanced, DC-HSPA+
- **Downlink Rates:** LTE 300 Mbps, DC-HSPA+ 42.2 Mbps
- **Uplink Rates:** LTE 50 Mbps, DC-HSPA+ 5.76 Mbps
- **Frequency Bands:**
 - LTE Bands: 1, 3, 5, 7, 8, 11, 18, 19, 21, 28, 38, 39, 40, 41
 - TD-SCDMA 39
- **Carrier Aggregation:**
 - 1+ (8, 18, 19, 21)
 - 3+ (5, 7, 19, 28)
 - 7+ (5, 7, 28)
 - 19+ 21
 - 38+ 38
 - 39+ 39
 - 40+ 40
 - 41+ 41
- **Fallback:** WCDMA/DC-HSPA+ (42/5.76 Mbps): Bands 1, 5, 6, 8, 9, 19
- **Power:** LTE: 23 dBm \pm 1; DC-HSPA+: 23 dBm \pm 1
- **Antennas:** two SMA male (plug), finger tighten only (maximum torque spec is 7 kgf/cm²)
- **GPS:** active GPS support
- **SMS:** SMS support
- **Industry Standards & Certs:** CE, GCF-CC, RC Australia, others pending
- **Modem Part Number:** MC400LP5

ARC CBA850 LP4 models include an embedded LTE Advanced Category 4 4G LTE modem. The LP4 modems support SIM-Based Auto-Carrier selection so there is only one model for North America. Simply insert the SIM and wait for the router to automatically detect the SIM and establish a connection.

CBA850LP4

- **Technology:** Category 4 LTE, DC-HSPA+
- **Downlink Rates:** LTE 150 Mbps, DC-HSPA+ 42.2 Mbps
- **Uplink Rates:** LTE 50 Mbps, DC-HSPA+ 5.76 Mbps
- **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)
 - DC-HSPA+/UMTS Rel. 9, Cat 24: Bands 5 and 2 (850/1900 MHz)
- **Power:** LTE: 23 dBm \pm 1; DC-HSPA+: 23 dBm \pm 1
- **Antennas:** two SMA male (plug), finger tighten only (maximum torque spec is 7 kgf/cm²)
- **Industry Standards & Certs:** FCC, Verizon, AT&T, PTCRB, carrier Private Networks, IC
- **SIM:** two 2FF slots (secured)
- **Modem Part Number:** MC400LP4

ARC CBA850LPE models include an integrated 4G LTE modem – specific model names include a specific modem (e.g., the ARC CBA850LPE-VZ includes a Verizon LTE modem).

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.

ARC CBA850LPE-VZ – 4G LTE/EVDO for Verizon

- **Technology:** LTE, EVDO Rev A
- **Downlink Rates:** LTE 100 Mbps, EVDO 3.1 Mbps (theoretical)
- **Uplink Rates:** LTE 50 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)
 - **GSM/GPRS/EDGE:** (850/900/1800/1900 MHz)
 - **CDMA: EVDO Rev A/1xRTT (800/1900 MHz)**
- **Power:** LTE: 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/cm²)
- **GPS:** active GPS support
- **Industry Standards & Certs:** FCC, Verizon
- **Modem Part Number:** MC400LPE-VZ
- **SIM:** two 2FF SIM slots

ARC CBA850LPE-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/cm²)
- **GPS:** active GPS support
- **Industry Standards & Certs:** FCC, PTCRB, AT&T
- **Modem Part Number:** MC400LPE-AT
- **SIM:** two 2FF SIM slots

ARC CBA850LPE-SP – 4G LTE/HSPA+/EVDO for Sprint

- **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/cm²)
- **GPS:** active GPS support
- **Industry Standards & Certs:** FCC, Sprint
- **Modem Part Number:** MC400LPE-SP
- **SIM:** two 2FF SIM slots

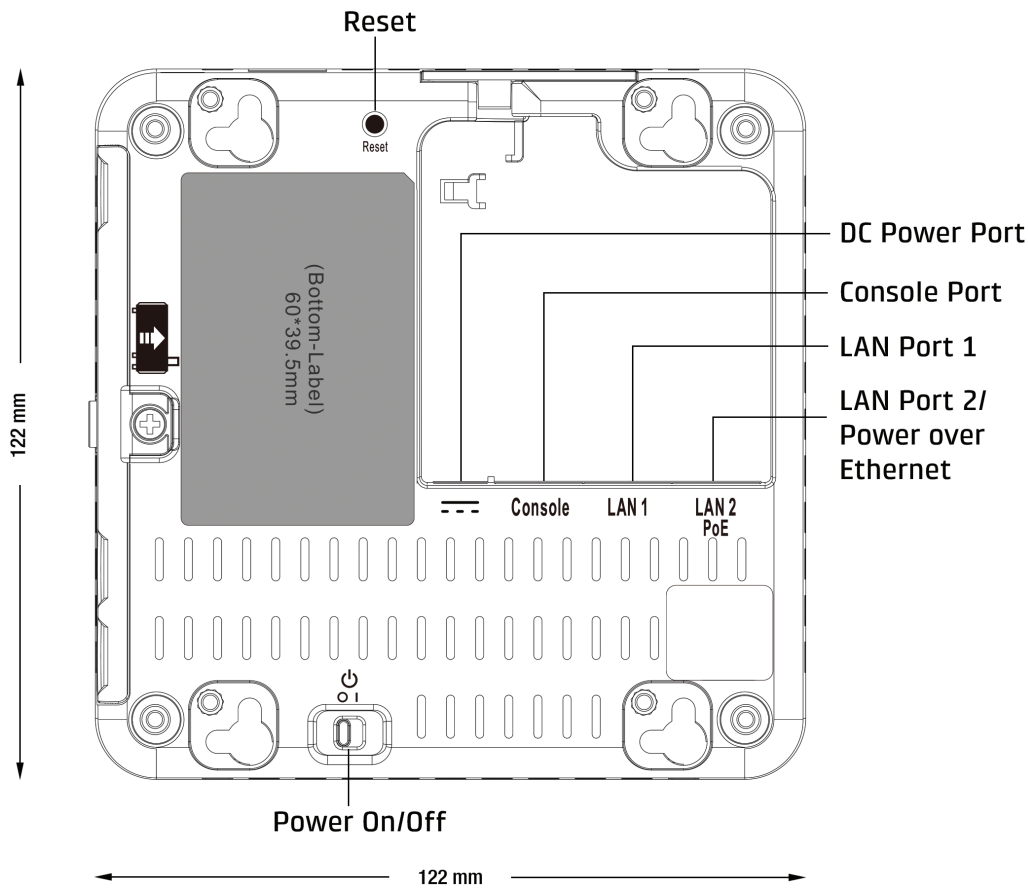
ARC CBA850LP3-EU – 4G LTE/HSPA+ for Europe

- **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 (maximum torque spec is 7 kgf/cm²)
- **GPS:** active GPS support
- **Industry Standards & Certs:** CE, GCF-CC
- **Modem Part Number:** MC400LP3-EU
- **SIM:** two 2FF SIM slots

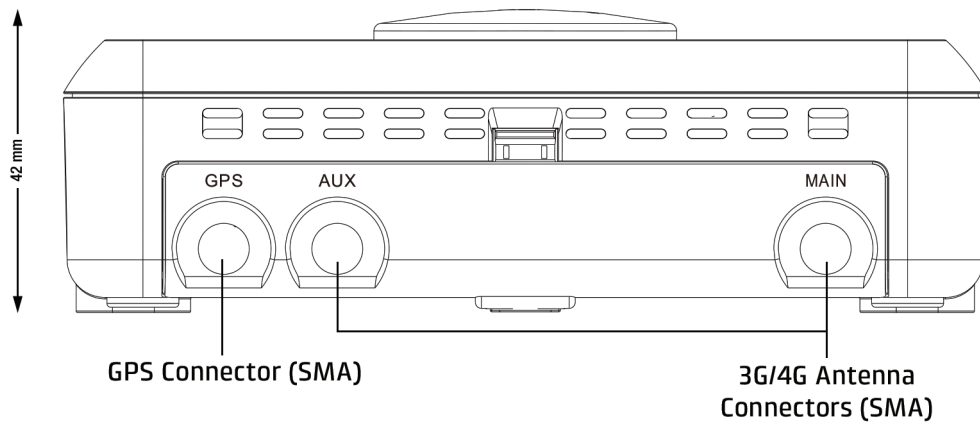
ARC CBA850LPE-GN – 4G LTE/HSPA+/EVDO for Canada and T-Mobile and US Cellular in the U.S.

- **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/cm²)
- **GPS:** active GPS support
- **Industry Standards & Certs:** FCC, IC, PTCRB
- **Modem Part Number:** MC400LPE-GN
- **SIM:** two 2FF SIM slots

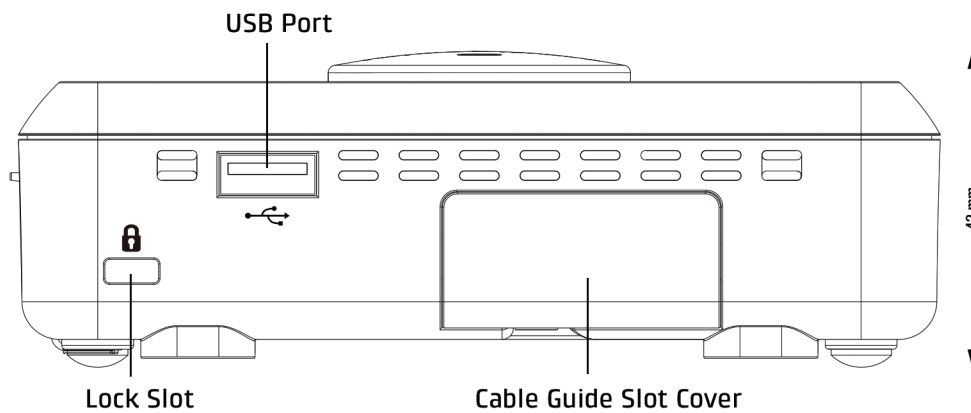
HARDWARE



BOTTOM VIEW



RIGHT VIEW



REAR VIEW

LEDS

INDICATOR	BEHAVIOR
On top of router	<p>POWER The Cradlepoint CBA850 must be powered using an approved 12 V DC power source.</p> <ul style="list-style-type: none"> • Blue = Powered ON: 4G. • Green = Powered ON: 3G. • Amber = Attention. • No Light = Not receiving power. Check the power switch and the power source connection.
	<p>INTEGRATED MODEM Indicates information about the integrated modem.</p> <ul style="list-style-type: none"> • 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.
	<p>EXTERNAL USB MODEM Indicates information about an attached USB modem.</p> <ul style="list-style-type: none"> • 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.
	<p>SIGNAL STRENGTH Blue LED bars indicate the active modem's signal strength.</p> <ul style="list-style-type: none"> • 4 Solid Bars = Strongest signal. • 1 Blinking Bar = Weakest signal. (A blinking bar indicates half of a bar.)

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.