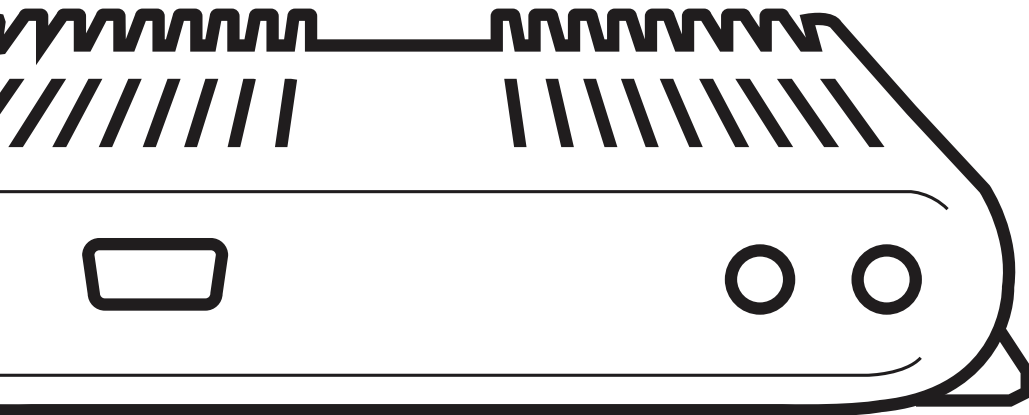




# COR Series Router

**IBR1100 / IBR1150**

Spec Sheet



[cradlepoint.com](http://cradlepoint.com)

# INTRODUCTION

## WHAT'S IN THE BOX

- Ruggedized router with integrated business-class 3G/4G modem; includes integrated mounting plate
- Two meter locking power and GPIO cable (direct wire)
- Quick Start Guide with warranty information

**NOTE:** Due to the diverse needs of customers, the COR IBR1100/IBR1150 package does not include a power adapter or antennas. See the Accessories section below for several power and antenna options.

## KEY FEATURES

### WAN

- Dual-modem capable with optional IBR1100/IBR1150 Dual-Modem Dock
- LP6: LTE Advanced LTE/HSPA+ (SIM-based Auto-Carrier Selection for all North American and European carriers)
- LPE: 4G LTE/HSPA+/EVDO (multi-carrier)
- LP3: 4G LTE/HSPA+ (Europe, EMEA, and Australia/New Zealand)
- WiFi as WAN<sup>1</sup>, with WPA2 Enterprise Authentication for WiFi-as-WAN<sup>3</sup>
- Failover/Failback
- Load Balancing
- Advanced Modem Failure Check
- WAN Port Speed Control
- WAN/LAN Affinity
- IP Passthrough
- Standby

### 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<sup>1</sup>

- Dual-Band Dual-Concurrent
- 802.11 a/b/g/n/ac
- Up to 128 connected devices (64 per radio – 2.4 GHz and 5 GHz)
- Multiple SSIDs: 2 per radio (4 total)
- WPA2 Enterprise (WiFi)
- Hotspot/Captive Portal
- SSID-based Priority
- Client Mode (5 GHz only) for faster data offload

### MANAGEMENT

- Cradlepoint NetCloud Manager<sup>2</sup>
- Web UI, API, CLI
- Active GPS support on all models
- Data Usage Alerts (router and per client)
- Advanced Troubleshooting (support)
- Device Alerts
- SNMP
- SMS control
- Serial Redirector
- Auto APN Recovery

## VPN AND ROUTING

- IPsec Tunnel – up to five concurrent sessions
- L2TP<sup>3</sup>
- GRE Tunnel
- OSPF/BGP/RIP<sup>3</sup>
- Route Filters (Access Control Lists, Prefix Filters, Route Maps, Communities for BGP)
- Per-Interface Routing
- Routing Rules
- Policy-based Routing
- NAT-less Routing
- Virtual Server/Port Forwarding
- NEMO/DMNR<sup>3</sup>
- IPv6
- VRRP<sup>3</sup>
- STP<sup>3</sup>
- NHRP<sup>3</sup>
- VTI Tunnel support<sup>3</sup>
- OpenVPN support<sup>3</sup>
- CP Secure VPN compatible
- Serial PAD Mode

## SECURITY

- RADIUS and TACACS+ support\*
- 802.1x authentication for Ethernet
- Zscaler integration<sup>3</sup>
- Certificate support
- ALGs
- MAC Address Filtering
- Advanced Security Mode (local user management only)
- Per-Client Web Filtering
- IP Filtering
- Content Filtering (basic)
- Website Filtering
- Zone-Based Object Firewall with host address (IP or FQDN), port, and mac address

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

## 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 management<sup>2</sup>

1 – WiFi-related functions are only supported on IBR1100 models

2 – **NetCloud Manager** requires a subscription

3 – Requires an **Extended Enterprise License** or **NetCloud Manager PRIME**

## SPECIFICATIONS

### WAN:

- Dual-modem capable with optional IBR1100/IBR1150 Dual-Modem Dock
- Integrated LP6 Category 6 LTE Advanced LTE modem (with DC-HSPA+ failover) or LPE 4G LTE modem (with HSPA+/EVDO/3G and 2G failover) or LP3 4G LTE modem (with HSPA+ and 2G failover)
- Three LAN/WAN switchable 10/100 Ethernet ports – one default WAN (cable/DSL/T1/satellite/Metro Ethernet)
- WiFi as WAN, Metro WiFi; 2x2 MIMO “N” 2.4 GHz or 5 GHz; 802.11 a/b/g/n/ac (IBR1100 only)

### LAN:

- Dual-band dual-concurrent WiFi; 802.11 a/b/g/n/ac (IBR1100 only)
- Three LAN/WAN switchable 10/100 Ethernet ports – two default LAN
- Serial console support for out-of-band management of a connected device

### PORTS:

- Power
- 2-wire GPIO
- Add three more GPIO ports with optional Serial-to-GPIO cable (see Accessories section below)
- USB 2.0
- Three Ethernet LAN/WAN
- Two cellular antenna connectors (SMA)
- One active GPS antenna connector (SMA)
- Two WiFi antenna connectors (R-SMA)
- Serial DE-9 (commonly called “DB-9”) connector – RS-232 (out-of-band management of an external device requires a null modem adapter/cable)

### TEMPERATURE:

- All models: -30 °C to 70 °C (-22 °F to 158 °F) ambient air operating
- All models: -40 °C to 85 °C (-40 °F to 185 °F) storage
- Includes temperature sensor with options for alerts and automatic shutoff

### HUMIDITY (non-condensing):

- 5% to 95% operating
- 5% to 95% storage

### POWER:

- DC input steady state voltage range: 9–36 VDC (requires inline fuse for vehicle installations)
  - For 9–24 VDC installations, use a 3 A fuse
  - For > 24 VDC installations, use a 2.5 A fuse
- Reverse polarity and transient voltage protection per ISO 7637-2
- Ignition sensing (automatic ON and time-delay OFF)
- Power consumption:
  - Idle: typical = 400 mA @ 12 VDC (4.8 W); worst case = 800 mA @ 12 VDC (9.6 W)

- Tx/Rx: typical = 650 mA @ 12 VDC (7.8 W); worst case = 1300 mA @ 12 VDC (15.6 W)
- 12VDC 2A adapter recommended

**WIFI POWER:**

- 2.4 GHz band: 17 dBm conducted
- 5 GHz band: 15 dBm conducted

**SIZE:** 5.3 × 4.4 × 1.4 in (134 × 112 × 35 mm)

**WEIGHT:** 16.1 oz (457 g)

**CERTIFICATIONS:**

- FCC, CE, IC
- WiFi Alliance (IBR1100 only) – 802.11a/b/g/n certified, 802.11ac supported
- Safety: UL/CUL, CB Scheme, EN60950-1
- Hazardous Locations: Class I, Div. 2
- Shock/Vibration/Humidity: compliant with MIL STD 810G and SAEJ1455
- Ingress Protection: compliant with IP64 (includes protection from dust and splashing water)
- Materials: WEEE, RoHS, RoHS-2, California Prop 65
- Vehicle: E-Mark, compliant with ISO 7637-2
- Telecom: PTCRB/CTIA, GCF-CC

**GPS**

- GPS Protocols: TAIP and NMEA 0183 V3.0
- Satellite channels: Maximum 30 channels (16 GPS, 14 GLONASS), simultaneous tracking
- Concurrent standalone GPS, GLONASS, BeiDou and Galileo (LP6 models only)
- 1 Hz refresh rate
- Accuracy:
  - < 2 m: 50%
  - < 5 m: 90%
  - Horizontal: < 2 m (50%); < 5 m (90%)
  - Altitude: < 4 m (50%); < 8 m (90%)
  - Velocity: < 0.2 m/s
- Acquisition (measured with signal strength = -135 dBm):
  - Hot start: 1 second
  - Warm start: 29 seconds
  - Cold start: 32 seconds
- Sensitivity
  - Tracking: -160 dBm (tracking sensitivity is the lowest GNSS signal level for which the device can still detect an in-view satellite 50% of the time when in sequential tracking mode)
  - Acquisition (standalone): -145 dBm (acquisition sensitivity is the lowest GNSS signal level for which the device can still detect an in-view satellite 50% of the time)
- Operational limits: altitude < 6000 m or velocity < 100 m/s (either limit may be exceeded, but not both)

## ACCESSORIES

Because of the diversity of customer needs, the COR IBR1100/IBR1150 does NOT include a power adapter or antennas in the box (it does include a direct wire power/GPIO cable for vehicle installation). Cradlepoint offers several accessory options for dual-modem capability, power and antennas:

**DUAL-MODEM DOCK**

IBR1100/IBR1150 Dual-Modem Dock (Part # 170675-000), FirstNet/Band 14 ready integrated 4G LTE modem:

- MC400L2 (FirstNet/Band 14 LTE modem)

- MC400LP6 (North America, Europe)
- 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)

## POWER

### Wall options

- COR IBR1100/IBR1150 extended temperature (-30 °C to 70 °C) 12VDC 2A locking power adapter – requires separate line cord (Part # 170648-001)
  - Line cord for North America (Part # 170623-001)
  - Line cord for EU (Part # 170623-002)
  - Line cord for UK (Part # 170623-003)
- COR 12VDC 2A locking power adapter with 0 °C to 40 °C temperature range – includes US, EU, and UK plugs (Part # 170584-002)

**NOTE:** *Cradlepoint primarily recommends the extended temperature adapter because it covers the COR IBR1100/IBR1150 full temperature range of -30 °C to 70 °C. Cost-sensitive customers that intend to use the IBR1100/IBR1150 in temperature-controlled office environments can order the 170584-002 adapter, but it limits the operating temperature range to 0 °C to 40 °C.*

### Vehicle options

- Vehicle locking power adapter for COR (Part # 170635-000)
- Two meter locking power and GPIO cable (direct wire) for replacement – included by default (Part # 170585-000)

### Adapters

- Barrel to 4-pin power adapter (Part # 170665-000)
- Serial-to-GPIO cable (Part # 170676-000)

## ANTENNAS – 3G/4G Modem, WiFi, & GPS

- 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
- 2.4/5 GHz Dual-band Dual-concurrent WiFi Antenna Part #: 170628-000 (WiFi models only)
- Universal 3G/4G/LTE Modem Antenna Part #: 170649-000
- GPS Screw-Mount Antenna Part #: 170651-000
- GPS Mag-Mount Antenna Part #: 170652-000
- Multi-Band Omni-Directional Antenna Part #: 170668-000
- Indoor/Outdoor Panel Patch Part #: 170669-000

### Vehicle Antennas

- 3-in-1 GPS & Modem Screw-Mount Part #: 170653-000
- 3-in-1 Adhesive-Mount Antenna Part #: 170653-001
- 5-in-1 GPS, Modem & WiFi Screw-mount Part #: 170654-000
- Low Profile 5-in-1 MIMO LTE, MIMO WiFi (2.4/5GHz), & GPS Screw Mount Antenna with 5M Cables Part #: 170654-001

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

**COR IBR1100/IBR1150 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.

### **COR IBR1100LP6-NA, COR IBR1150LP6-NA, COR IBR1100LP6-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)
- **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, 2, 3, 4, 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/cm<sup>2</sup>)
- **GPS:** active GPS support
- **SMS:** SMS support
- **Industry Standards & Certs:** CE, FCC, GCF-CC, IC, PTCRB, AT&T, Sprint, Verizon

**COR IBR1100/IBR1150 LPE models** include an integrated 4G LTE modem – specific model names include a specific modem (e.g., the COR IBR1100LPE-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.

### **COR IBR1100LPE-VZ, COR IBR1150LPE-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), finger tighten only (maximum torque spec is 7 kgf/cm<sup>2</sup>)
- **GPS:** active GPS support
- **Industry Standards & Certs:** FCC, Verizon

#### **COR IBR1100LPE-AT, COR IBR1150LPE-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), finger tighten only (maximum torque spec is 7 kgf/cm<sup>2</sup>)
- **GPS:** active GPS support
- **Industry Standards & Certs:** PTCRB, FCC, IC, AT&T

#### **COR IBR1100LPE-SP, COR IBR1150LPE-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), finger tighten only (maximum torque spec is 7 kgf/cm<sup>2</sup>)
- **GPS:** active GPS support
- **Industry Standards & Certs:** FCC, Sprint

#### **COR IBR1100LP3-EU, COR IBR1150LP3-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), finger tighten only (maximum torque spec is 7 kgf/cm<sup>2</sup>)
- **GPS:** active GPS support
- **Industry Standards & Certs:** CE, GCF-CC

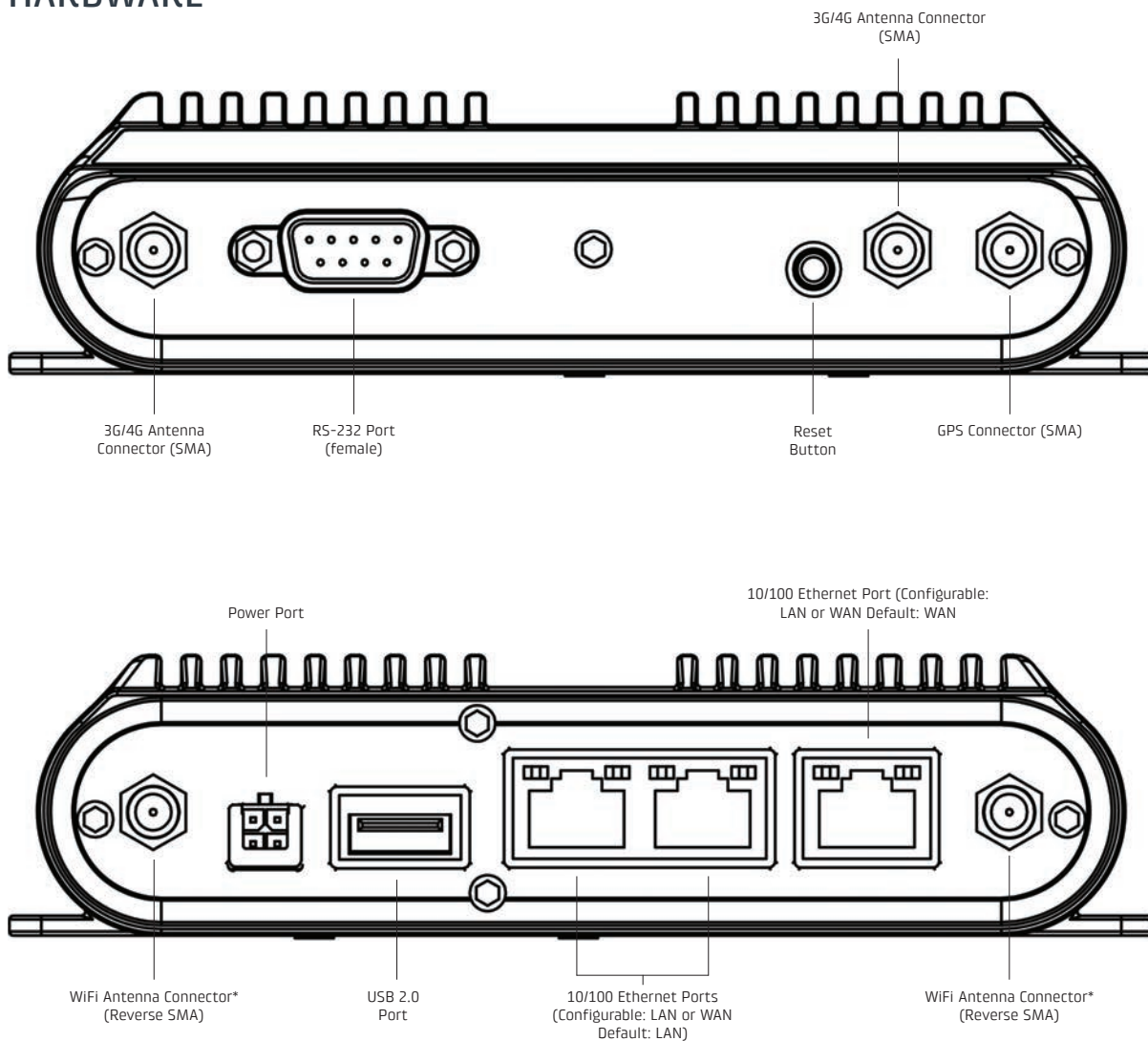
#### **COR IBR1100LPE-GN, COR IBR1150LPE-GN – 4G LTE/HSPA+/EVDO (generic – for use on T-Mobile and U.S. Cellular in the U.S. and Rogers, Bell, & TELUS in Canada)**

- **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), finger tighten only (maximum torque spec is 7 kgf/cm<sup>2</sup>)
- **GPS:** active GPS support
- **Industry Standards & Certs:** PTCRB, FCC, IC

## HARDWARE



\* - only on IBR1100

## LEDS

| INDICATOR   | BEHAVIOR  |
|---|---|
|    | <p><b>POWER</b> The Cradlepoint IBR1100/IBR1150 must be powered using an approved 9–36 V DC power source.</p> <ul style="list-style-type: none"> <li>• Blue = Powered ON.</li> <li>• No Light = Not receiving power. Check the power switch and the power source connection.</li> <li>• Amber = Attention. Open the administration pages and check the router status.</li> </ul>  |
| <b>2.4GHz<br/>5GHz</b>  | <p><b>WiFi BROADCAST</b> These two LEDs indicate activity on the WiFi broadcast for both the 2.4 GHz and 5 GHz bands (IBR1100 only).</p> <ul style="list-style-type: none"> <li>• 2.4 GHz (green) = 2.4 GHz WiFi is on and operating normally.</li> <li>• 5 GHz (blue) = 5 GHz WiFi is on and operating normally.</li> </ul>  |
|    | <p><b>EXTERNAL USB MODEM</b> Indicates the status of external USB modem. Both internal and external USB modems have the following LED indicators:</p> <ul style="list-style-type: none"> <li>• Green = Modem has established an active connection.</li> <li>• Blinking Green = Modem is connecting.</li> <li>• Amber = Modem is not active.</li> <li>• Blinking Amber = Data connection error. No modem connection possible.</li> <li>• Blinking Red = Modem is in the process of resetting.</li> </ul> |
|   | <p><b>INTEGRATED MODEM</b> Indicates information about the integrated modem.</p> <ul style="list-style-type: none"> <li>• Green = Modem has established an active connection.</li> <li>• Blinking Green = Modem is connecting.</li> <li>• Amber = Modem is not active.</li> <li>• Blinking Amber = Data connection error. No modem connection possible.</li> <li>• Blinking Red = Modem is in the process of resetting.</li> </ul>  |
|  | <p><b>SIGNAL STRENGTH</b> Blue LED bars indicate the active modem's signal strength.</p> <ul style="list-style-type: none"> <li>• 4 Solid Bars = Strongest signal.</li> <li>• 1 Blinking Bar = Weakest signal. (A blinking bar indicates half of a bar.)</li> </ul>   |
| <b>Other</b>  | <p><b>ADDITIONAL LED INDICATIONS</b></p> <ul style="list-style-type: none"> <li>• Several different LEDs blink when the factory reset button is detected.</li> <li>• Two of the modem LEDs blink red in unison for 10 seconds when there is an error during NCOS upgrade.</li> </ul>  |

## SUPPORT AND WARRANTY

CradleCare Support available in the US and Canada with technical support, software upgrades, and advanced hardware exchange – 1-, 3-, and 5-year options.

Three-year limited hardware warranty available world-wide on IBR1100/IBR1150 series products when purchased from an approved Cradlepoint Partner or Distributor – extend warranty to 5 years.