CradlePoint COR IBR1100/IBR1150 Specifications

Highly Available, Cloud-Managed Networking for Extreme Conditions

The CradlePoint COR IBR1100 Series is a compact, ruggedized 3G/4G/LTE networking solution designed for mission critical connectivity in the most challenging environments.

Ideal for in-vehicle networks including police cars, ambulances, and mass transit, this cloud-managed solution provides organizations the ability to scale deployments quickly and manage their vehicle networks easily in real-time.

With an extensive list of safety and hardening certifications, the COR IBR1100 is engineered to protect against extreme temperatures, humidity, shocks, vibrations, dust, water splash, reverse polarity and transient voltage.

Key Features

- Cloud-managed for zero-touch deployment and intelligent management
- Internal 3G/4G modem with secured SIM card access and dual SIM slots
- LTE support for all major U.S. carriers and Europe/international operators (failover to HSPA+ or EVDO)
- Software-defined radio supports multiple carriers (Gobi)
- WiFi (IBR1100) and non-WiFi versions (IBR1150) available: IBR1100 includes dual-band dual-concurrent 2.4/5 GHz 802.11 a/b/g/n/ac WiFi; 2 x 2 MIMO with two external dual-band antenna connectors
- Ignition sensing
- Ruggedized: protects against vibration, shock, dust, splash, & humidity
- Built-in transient and reverse polarity voltage protection; 9–36 DC voltage input range
- Integrated temperature sensor

- Three 10/100 Ethernet ports (LAN/WAN configurable)
- Antenna connectors for external cellular modem (two) and active GPS (one)
- RS-232 serial port

Features

WAN

- WiFi as WAN[1]
- 4G LTE/HSPA+/EVDO (multi-carrier)
- Failover/Failback
- Load Balancing
- Advanced Modem Failure Check
- WAN Port Speed Control
- WAN/LAN Affinity
- IP Passthrough

LAN

- VLAN 802.1Q (coming Q4)
- DHCP Server, Client, Relay
- DNS and DNS Proxy
- DynDNS
- UPnP
- DMZ
- Multicast/Multicast Proxy
- QoS (DSCP and Priority Queuing)
- MAC Address Filtering

WiFi[1]

- Dual-Band Dual-Concurrent
- 802.11 a/b/g/n/ac
- Up to 128 connected devices (64 per channel – 2.4 GHz and 5 GHz)
- WPA2 Enterprise (WiFi)
- Hotspot/Captive Portal
- SSID-based Priority

Management

- CradlePoint Enterprise Cloud Manager[2]
- 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

VPN and Routing

- IPsec Tunnel – up to 5 concurrent sessions
- L2TP[3]
- GRE Tunnel
- OSPF/BGP/RIP[3]
- Per-Interface Routing
- Routing Rules
- NAT-less Routing
- Virtual Server/Port Forwarding
- NEMO/DMNR[3]
- IPv6
- VRRP[3]
- STP[3]
- NHRP[3]

Security

- RADIUS and TACACS+
- 802.1x authentication for Ethernet
- Zscaler integration[3]
- 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 management[2]

1 – WiFi-related functions are only supported on IBR1100 models
2 – Enterprise Cloud Manager requires a subscription
3 – Requires an Extended Enterprise License

Specifications

WAN

- Integrated 4G LTE modem (with 3G 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
- USB 2.0
- 3 Ethernet LAN/WAN

- 2 cellular antenna connectors (SMA)
- 1 active GPS antenna connector (SMA)
- 2 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

- –30° C to 70° C (–22 °F to +158 °F) operating
- –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=400mA@12VDC (4.8W); worst case=800mA@12VDC (9.6W)
  - Tx/Rx: typical=650mA@12VDC (7.8W); worst case=1300mA@12VDC (15.6W)
  - 12VDC 2A adapter recommended

SIZE – 5.3 in x 4.4 in x 1.4 in (134 mm x 112 mm x 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 (pending)
- 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
- Accuracy:
  - < 2m: 50%
  - < 5m: 90%
- Acquisition:
  - Hot start: 1 second
  - Warm start: 29 seconds
  - Cold start: 32 seconds
- Sensitivity
  - Tracking: −161 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)

What's In The Box

- Ruggedized router with integrated business-class 3G/4G modem; includes integrated mounting holes
- 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.*

Feature Details

- **WAN Security** – 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 with 4G, 3G, Ethernet with rule selection, advanced load balancing options (round robin, spillover, data usage, rate), WAN failure detection, VRRP
- **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, SIP, TFTP, FTP, IRC; MAC address filtering, Dynamic DNS, LAN/WAN affinity, VLAN 802.1Q (coming Q4), STP, enterprise routing protocols: BGP/OSPF/RIP, multicast proxy support, IP setting overrides, IPv6 support
- **Management** – Enterprise Cloud Manager: cloud-enabled management and application platform (subscription-based); 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

- **Performance & Health Monitoring** – WiPipe™ 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, Check-Point, Watchguard, Juniper, SonicWall, Adtran and others; certificate support; Hash (MD5, SHA128, SHA256, SHA384, SHA512), Cipher (AES, 3DES, DES); support for 5 concurrent connections, GRE tunneling, L2TP support, multiple networks supported in a single tunnel, site-to-site dynamic VPN with NHRP
- **GPS** – Active GPS antenna port; GUI mapping; multiple server reporting (coming Q4) with LAN and WAN options; TAIP and NMEA; custom intervals based on time and/or velocity (coming Q4)

Services, Support, and Warranty

- CradleCare Support Agreement 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
- CradleCare Site Survey and Installation services available to increase speed to deployment

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 both power and antennas:

Power

Wall options

- COR IBR1100/IBR1150 extended temperature (–30 °C to 70 °C) 12VDC 2A locking power adapter – requires separate line cord (Part # 170648-000)
  - 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)

Antennas – 3G/4G Modem, WiFi, & GPS

- Universal 3G/4G multi-band cellular modem antenna – 2dBi/3dBi (Part # 170649-000)
- 2.4 GHz and 5 GHz dual-band dual-concurrent WiFi antenna (Part # 170628-000)
- 5-in-1 – 3G/4G modem, GPS-GLONASS, and WiFi – screw-mount antenna with 3m cables (Part # 170654-000)
- 3-in-1 – 3G/4G modem and GPS-GLONASS – screw-mount antenna with 3m cables (Part # 170653-000)
- GPS-GLONASS screw-mount antenna with 3m cable (Part # 170651-000)
- GPS-GLONASS magnetic-mount antenna with 3m cable (Part # 170652-000)
- 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)

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 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)
- **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)
- **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)
- **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)
- **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 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)
- **GPS**: active GPS support
- **Industry Standards & Certs**: PTCRB, FCC, IC