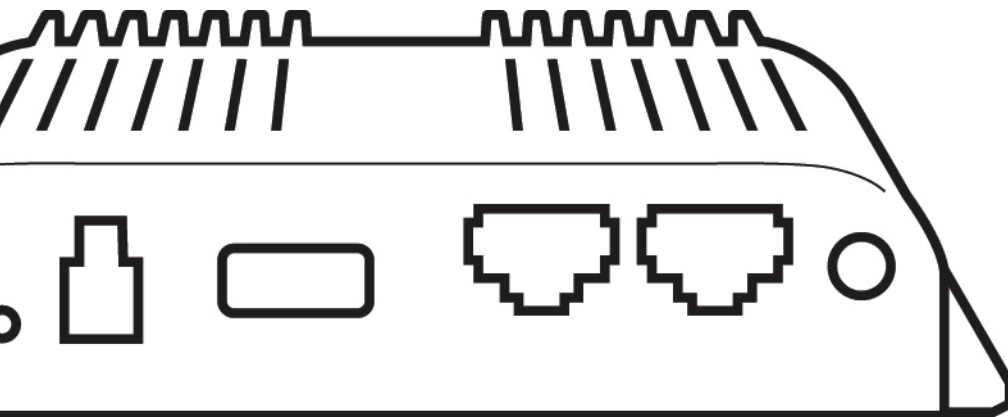




COR Series Router

IBR900 / IBR950

Spec Sheet



cradlepoint.com

INTRODUCTION

WHAT'S IN THE BOX

- Ruggedized router with integrated business-class 3G/4G modem; includes integrated mounting plate
- Quick Start Guide with warranty information
- External 3G/4G mobile broadband modem antennas (2) (SMA), finger tighten only
- External WiFi antennas (2) (reverse SMA*), < 5 dBi gain, finger tighten only
- 12 V / 2 A power supply w/ locking connector; DC GPIO/power cable available
- Extra SIM door screws (2)

NOTE: -NPS SKU** comes with no antennas or power supply, and includes a 2-meter locking power and GPIO cable (direct wire).

*-IBR900 only

**-NPS SKU available in North America only

KEY FEATURES

WAN

- Dual-modem capable with optional COR Extensibility Dock
- LP6: LTE Advanced 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)
- LP5: Cat 6 LTE Advanced for operators in Asia Pacific and Saudi Arabia (SIM-based Auto-carrier selection)
- LPE: 4G LTE/HSPA+/EVDO (multi-carrier)
- WiFi as WAN¹, with WPA2 Enterprise Authentication for WiFi as WAN³
- 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

WIFI¹

- Dual-Band, dual-concurrent
- 802.11 a/b/g/n/ac wave 2
 - MU-MIMO and 256 QAM support

- 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 for faster data offload

MANAGEMENT

- Cradlepoint NetCloud Manager²
- 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
- Syslog

VPN AND ROUTING

- IPsec Tunnel – up to ten concurrent sessions
- L2TP³
- GRE Tunnel
- OSPF/BGP/RIP³
- 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/DMNR³
- IPv6
- VRRP³
- STP³
- NHRP³
- VTI Tunnel support³
- OpenVPN support³
- CP Secure VPN compatible
- Serial PAD Mode

SECURITY

- RADIUS and TACACS+ support*
- 802.1x authentication for Ethernet**
- Zscaler integration³
- Certificate support
- ALGs
- MAC Address Filtering
- Advanced Security Mode (local user management only)

- FIPS 140-2 Inside⁴
- 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.

**-802.1x Authentication for Ethernet not available for FIPS SKUs.

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 – WiFi-related functions are only supported on IBR900 models

2 – **NetCloud Manager** requires a subscription

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

4 – FIPS 140-2 Inside SKUs are designated with an “F” prefix

SPECIFICATIONS

WAN:

- Dual-modem capable with optional COR Extensibility Dock
- Integrated LP6 Category 6 LTE Advanced LTE modem (with DC-HSPA+ failover) or LP5 Category 6 LTE Advanced LTE modem (with DC-HSPA+ failover)
- Two LAN/WAN switchable 10/100/1000 Gigabit 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 wave 2 (IBR900 only)

LAN:

- Dual-band, dual-concurrent WiFi; 802.11 a/b/g/n/ac wave 2 (IBR900 only)
- Two LAN/WAN switchable 10/100/1000 Gigabit Ethernet ports – one default LAN
- Serial console support for Out-of-Band Management of a connected device

PORTS:

- Power
- 2-wire GPIO
- Add more GPIO ports with optional 9-wire GPIO cable or COR Extensibility Dock (see Accessories section below)
- USB 2.0
- Two Ethernet LAN/WAN
- Two cellular antenna connectors (SMA)
- One active GPS antenna connector (SMA)
- Two WiFi antenna connectors (R-SMA)
- 15-pin dock port for COR Extensibility Dock or 9-wire GPIO cable

TEMPERATURE:

- -30 °C to 70 °C (-22 °F to 158 °F) operating with optional* 9-wire power and GPIO cable (Part #170680-000)
- -30 °C to 70 °C (-22 °F to 158 °F) operating with optional extended temperature AC power supply (Part #170648-000; see [this page](#) for line cord details)
- -20 °C to 60 °C (-4 °F to 140 °F) operating with included† standard AC power supply
- -40 °C to 85 °C (-40 °F to 185 °F) storage

* - included with “-NPS” version

† - not included with “-NPS” version

HUMIDITY (non-condensing):

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

POWER:

- DC input steady state voltage range: 9–33 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: 4 W
 - WiFi Tx/Rx: 9 W
 - LTE Tx/Tx: 6.25 W
 - 12 VDC / 2 A adapter recommended

WIFI POWER:

- 2.4 GHz: 18 dBm conducted
- 5 GHz VHT20: 17.5 dBm conducted
- 5 GHz VHT40: 17 dBm conducted
- 5 GHz VHT80: 16.5 dBm conducted

SIZE: 4.6 × 4.5 × 1.2 in (118 × 113.5 × 29.3 mm)

WEIGHT: 14 oz (400 g)

CERTIFICATIONS:

- FCC, CE, IC
- AS, NZS, SGP (IMDA)
- WiFi Alliance (IBR900 only) – 802.11a/b/g/n/ac wave 2 certified
- Safety: UL/CUL, CB Scheme, EN60950-1
- Shock/Vibration/Humidity: compliant with MIL STD 810G and SAEJ1455
- Ingress Protection: compliant with IP54 (includes protection from dust and splashing water)
- Materials: WEEE, RoHS, RoHS-2, California Prop 65
- Telecom: PTCRB/CTIA, GCF-CC
- Regulatory Models: S5A643A, S5A644A, S5A648A, S5A701A, S5A706A
- FIPS 140-2 Inside

GPS

- GPS Protocols: TAIP and NMEA 0183 V3.0
- Satellite channels: Maximum 40 channels, simultaneous tracking
- Concurrent standalone GPS, GLONASS, BeiDou and Galileo
- 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

Cradlepoint offers several accessory options for extensibility, power and antennas:

EXTENSIBILITY

- COR Extensibility Dock (Part # 170700-000)
- 9-wire power & GPIO cable (Part #170680-000)

POWER

Vehicle options

- Vehicle locking power adapter for COR (Part # 170635-000)
- Two meter locking power and GPIO cable (direct wire) (Part # 170585-000) – *included by default on IBR900LP6-NA-NPS only*

Power Supplies/Adapters

- North America COR IBR900/IBR950 power supply (Part # 170716-000)
- International power supply -- includes adapters for US, EU, UK, AU (Part # 170717-000)
- Barrel to 4-pin power adapter (Part # 170665-000)
- Extended temperature AC power supply (Part #170648-001; see [this page](#) for line cord details)

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
- Universal LTE/4G/3G / 2dBi/3dBi antenna with SMA connector for all AER, ARC, COR, and MC400 products (Part # 170704-001)

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 (2.4/5 GHz), & 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 IBR900/IBR950 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 IBR900LP6-NA, COR IBR950LP6-NA, COR IBR900LP6-EU

- **Technology:** LTE Advanced, HSPA+
- **Downlink Rates:** LTE 300 Mbps, HSPA+ 42.2 Mbps
- **Uplink Rates:** LTE 50 Mbps, HSPA+ 5.76 Mbps
- **Frequency Bands:**
 - **LTE Bands 1-5, 7, 8, 12, 13, 17, 20, 25, 26, 29, 30, 41**
 - **Verizon:** 2, 4, 5, 13 (XLTE support w/carrier aggregation)
 - **AT&T:** 2, 4, 5, 12/17, 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 (17 w/MFBI)/13/29
 - 3+ 7/20
 - 4+ 4/5/12 (17 w/MFBI)/13/29
 - 5+ 2/4/30
 - 7+ 3/7/20
 - 8+ 1
 - 12 (17 w/MFBI) + 2/4/30
 - 13+ 2/4
 - 20+ 3/7
 - 30+ 5/12 (17 w/MFBI)
 - 41+ 41
- **Fallback:** WCDMA/DC-HSPA+ (42/5.76 Mbps): Bands 1, 2, 3, 4, 5, 8
- **Power:** LTE 23 dBm \pm 1, 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, FCC, GCF-CC, IC, PTCRB, AT&T, Sprint, Verizon

COR IBR900/IBR950LP5 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.

COR IBR900LP5-AP, COR IBR950LP5-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

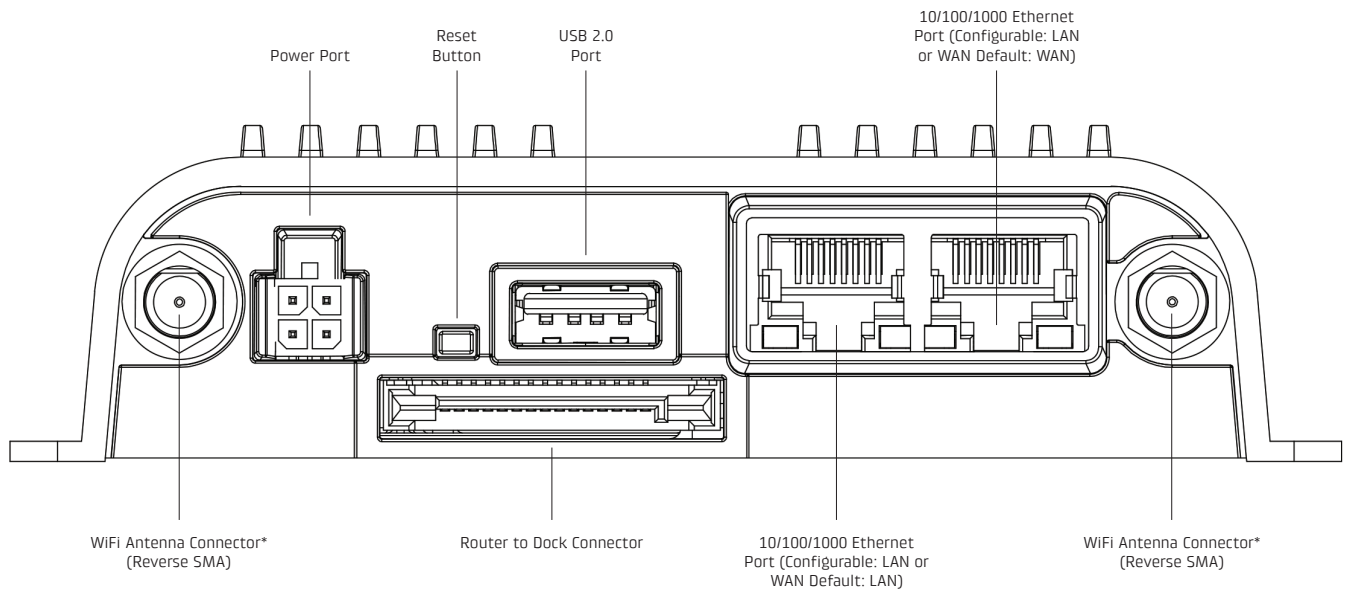
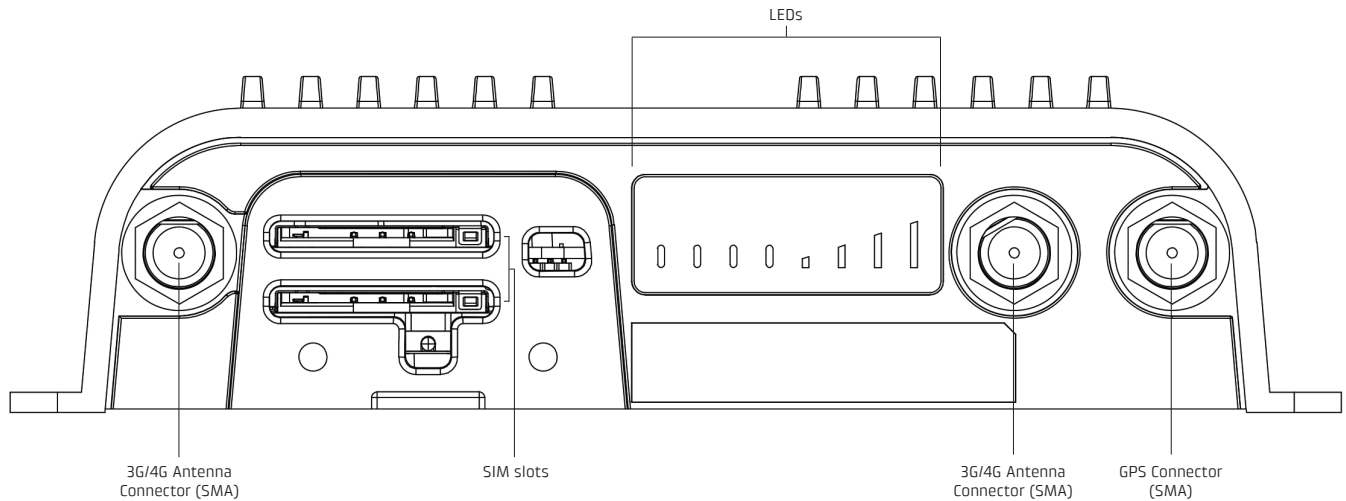
- **Frequency Bands:**
 - LTE Bands: 1, 3, 5, 7, 8, 11, 18, 19, 21, 28, 38, 39, 40, 41
 - TD-SCDMA 39
- **Carrier Aggregation:**
 - 1+ (8, 18, 19, 21)
 - 3+ (5, 7, 19, 28)
 - 7+ (5, 7, 28)
 - 19+ 21
 - 38+ 38
 - 39+ 39
 - 40+ 40
 - 41+ 41
- **Fallback:** WCDMA/DC-HSPA+ (42/5.76 Mbps): Bands 1, 5, 6, 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

COR IBR900-LPE/IBR950-LPE models include an integrated 4G LTE/HSPA+/EVDO modem – specific model names include a specific modem (e.g., the COR IBR950-LPE-VZ includes a Verizon LTE modem).

COR IBR900-LPE, COR IBR950-LPE (North America)






- **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 \pm 1; HSPA+ 23 dBm \pm 1; EVDO 24 dBm \pm 1 (typical conducted)
- **Antennas:** two SMA male (plug), finger tighten only (maximum torque spec is 7 kgf/cm²)
- **GPS:** Active GPS support
- **Industry Standards & Certs:** FCC, WiFi Alliance (IBR900 only), AT&T, Sprint, Verizon, Verizon NEMO/DMNR for Primary Wireless Access
- **SIM:** two 2FF slots

HARDWARE



* - only on IBR900

LEDS

INDICATOR	BEHAVIOR
	<p>POWER The Cradlepoint IBR900/IBR950 must be powered using an approved 9–33 V DC power source.</p> <ul style="list-style-type: none"> • Green = Powered ON. • No Light = Not receiving power. Check the power switch and the power source connection.
	<p>WiFi BROADCAST Indicates WiFi activity (IBR900 only).</p> <ul style="list-style-type: none"> • Green = On and operating normally. • Yellow = Attention.
	<p>GPS Indicates the status of GPS connection.</p> <ul style="list-style-type: none"> • Blue = GPS locked. • Blinking Blue = Obtaining lock. • No Light = Off/no lock.
	<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. • No Light = Modem not connected.
	<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.)
Other	<p>ADDITIONAL LED INDICATIONS</p> <ul style="list-style-type: none"> • 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. • Dock Ethernet LEDs: only right LED will light up and/or blink with data. • When an external USB modem is plugged in, only the Signal Strength LEDs will light up.

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 worldwide on IBR900/IBR950 series products when purchased from an approved Cradlepoint Partner or Distributor – extend warranty to five years.