COR IBR900 Series Spec Sheet

Cradlepoint COR IBR900 Series mobile routers are sold as part of an all-inclusive mobile networking solution in a NetCloud Solution Package.

NetCloud Solution Packages for Mobile include:

- Ruggedized routers, purpose built for mobile applications
- Award-winning remote cloud management and network intelligence with **NetCloud Manager**
- Secure IoT networking with **NetCloud Perimeter** for perimeter-secured overlay networks
- **24x7 support and limited lifetime warranty**

WHAT TO BUY

Description	Part Numbers
North America (U.S., Canada)	
+ NetCloud Essentials for Mobile Routers (Prime) with IBR900-600M-NPS	MAx-0900600M-NNA
+ NetCloud Essentials for Mobile Routers (Prime) with IBR900 (no modem)	MAx-0900NM-0NA
U.S.	
+ NetCloud Essentials for Mobile Routers (Prime) with IBR900LPE	MAx-0900LPE-VNA
Europe (EU)	
+ NetCloud Essentials for Mobile Routers (Prime) with IBR900-600M-NPS-EU	MAx-0900600M-EWA
+ NetCloud Essentials for Mobile Routers (Prime) with IBR900-EU (no modem)	MAx-0900NM-0WA
Asia-Pacific (Australia, New Zealand, Singapore)	
+ NetCloud Essentials for Mobile Routers (Prime) with IBR900-600M-NPS-AP	MAx-0900600M-PWA
+ NetCloud Essentials for Mobile Routers (Prime) with IBR900LP5-NPS-AP	MAx-0900LP5-PWA
+ NetCloud Essentials for Mobile Routers (Prime) with IBR900-AP (no modem)	MAx-0900NM-0WA
All Regions	
+ NetCloud Advanced for Mobile Routers (Enterprise)	MAx-NCADV

x = 1, 3, or 5 years

NetCloud Essentials contains all the features and capabilities required for a broad range of mobile or in-vehicle 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/mobile-networks

For more details on the COR IBR900 mobile router, included with the NetCloud Solution Packages for mobile, see below.

WHAT'S IN THE BOX

- Ruggedized router with integrated business-class 3G/4G modem; includes integrated mounting plate
- Quick Start Guide with warranty information
- Standard product is "-NPS" SKU comes with no antennas or power supply, and includes a 2-meter locking power and GPIO cable (direct wire).
- Extra SIM door screws (2)

Some higher priced legacy SKUs included:

- 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

*-IBR900 only

KEY FEATURES

WAN

- Dual-modem capable with optional COR Extensibility Dock
- 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)
- LP6: LTE Advanced LTE/HSPA+ (SIM-based, Auto-carrier Selection for all North American and European carriers
- LP5: 300 Mbps LTE Advanced for operators in Asia Pacific and Saudi Arabia (SIM-based Auto-carrier selection)
- LPE: 4G LTE/HSPA+/EVDO (multi-carrier)
- WiFi as WAN[1], with WPA2 Enterprise Authentication for WiFi as WAN
- Failover/Failback
- Load Balancing
- Advanced Modem Failure Check
- WAN Port Speed Control
- WAN/LAN Affinity
- IP Passthrough
- Standby
- DynDNS
- QoS (DSCP and Priority Queuing)

LAN

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

WIFI[1]

- 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 Manager
- 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 & ROUTING

- IPsec Tunnel – up to ten concurrent sessions
- L2TP
- GRE Tunnel
- OSPF/BGP/RIP
- 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
- IPv6
- VRRP
- STP
- NHRP
- VTI Tunnel support
- OpenVPN support
- CP Secure VPN compatible
- Serial PAD Mode

SECURITY

- RADIUS and TACACS+ support*
- 802.1x authentication for Ethernet**
- Zscaler integration
- Certificate support
- ALGs
- MAC Address Filtering
- Advanced Security Mode (local user management only)
- FIPS 140-2 Inside version available
- 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 management

1 – WiFi-related functions are only supported on IBR900 models

SPECIFICATIONS

WAN:

- Dual-modem capable with optional COR Extensibility Dock
- Integrated 600M LTE Advanced 600 Mbps modem (with DC-HSPA+ failover)
- Integrated LP6 300Mbps LTE Advanced LTE modem (with DC-HSPA+ failover) or LP5 300Mbps 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; 2×2 MIMO "N" 2.4 GHz or 5 GHz; 802.11 a/b/g/n/ac wave 2 (IBR900 only)
- Integrated LPE 100Mbps 4G LTE/HSPA+/EVDO with 3G CDMA/EVDO fallback for Verizon and Sprint

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 55 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 = -145 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-NANPS only and standard IBR900-600M-NPS SKUs.*

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 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 IBR900-600M models include an integrated 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.

COR IBR900-600M-NA:

- Technology: LTE Advanced, HSPA+
- Downlink Rates: LTE 600 Mbps, HSPA+ 42.2 Mbps
- Uplink Rates: LTE 75 Mbps, 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, 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 (pending), Verizon, Verizon NEMO/DMNR for Primary Wireless Access

COR IBR900/IBR950 LP6 models include an integrated LTE Advanced 300 Mbps 4G LTE modem. The LP6 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.

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, 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, 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

COR IBR900/IBR950LP5 models include an integrated LTE Advanced 300 Mbps 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 (300 Mbps) 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, 18, 19, 21, 28, 38, 39, 40, 41
    - TD-SCDMA 39
- Carrier Aggregation:
    - 1 + 8/18/19/21
    - 3 + 5/7/19/28
    - 5 + 3/7
    - 7 + 3/5/7/28
    - 8 + 1
    - 18 + 1
    - 19 + 1/3/21
    - 21 + 1/19
    - 28 + 3/7
    - 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 ± 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, GCF-CC, RC Australia, others pending

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

COR IBR900-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 ± 1; HSPA+ 23 dBm ± 1; EVDO 24 dBm ± 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, AT&T, Sprint, Verizon, Verizon NEMO/DMNR for Primary Wireless Access
- SIM: two 2FF slots

SUPPORT & WARRANTY

The COR IBR900 is only sold as a component of NetCloud Solution Packages.

- NetCloud Solution 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 Solution Package subscription.

The COR IBR900 includes a minimum three-year hardware warranty when purchased from an authorized Cradlepoint Partner.

HARDWARE

LEDs

3G/4G Antenna
Connector (SMA)

SIM slots

3G/4G Antenna
Connector (SMA)

GPS Connector
(SMA)

Power Port

Reset
Button

USB 2.0
Port

10/100/1000 Ethernet
Port (Configurable: LAN
or WAN Default: WAN)

WiFi Antenna Connector*
(Reverse SMA)

Router to Dock Connector

10/100/1000 Ethernet
Port (Configurable: LAN or
WAN Default: LAN)

WiFi Antenna Connector*
(Reverse SMA)
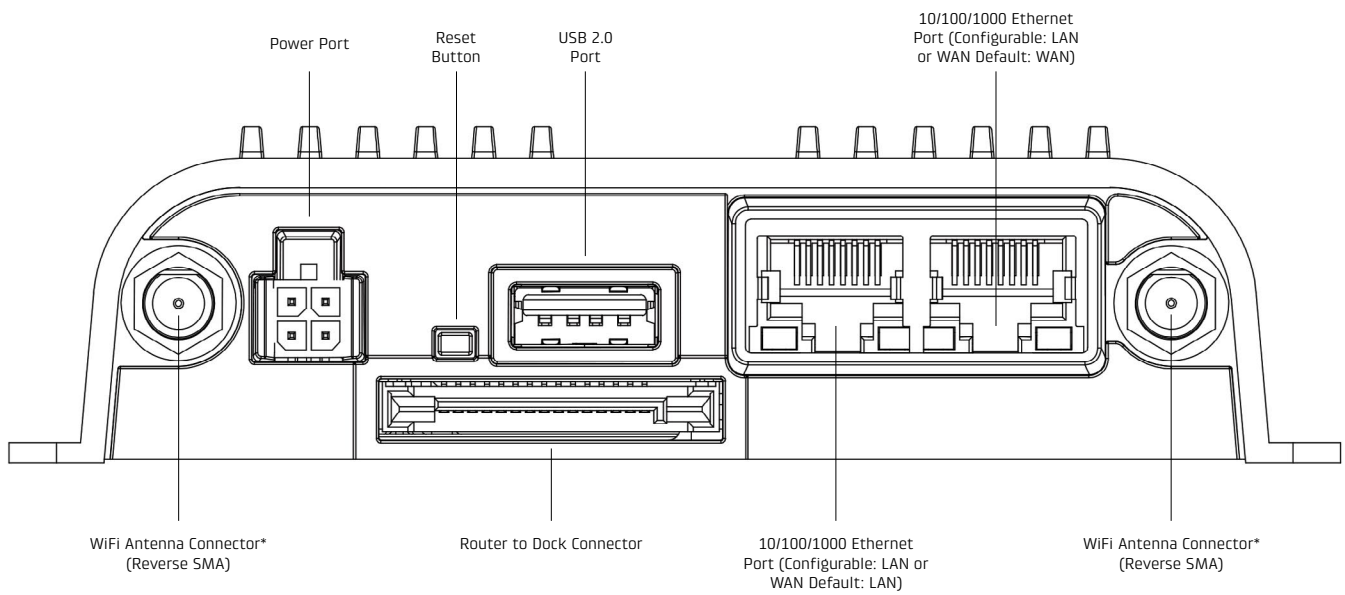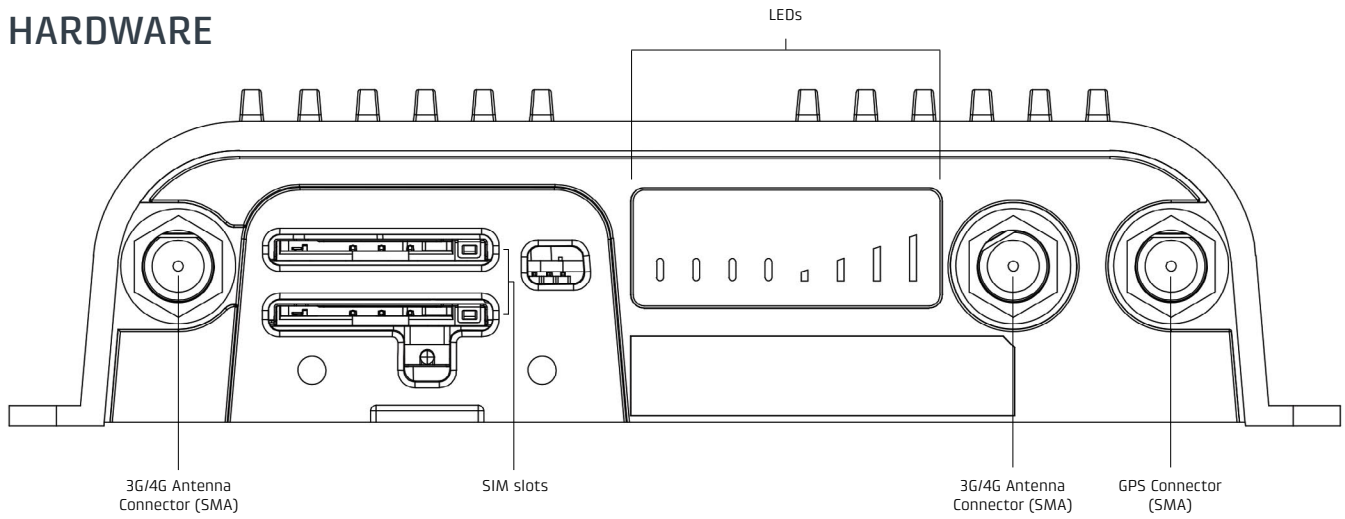
* - only on IBR900

LEDS

INDICATOR	BEHAVIOR
⏻	**POWER:** The Cradlepoint IBR900/IBR950 must be powered using an approved 9–33 V DC power source. • Green = Powered ON. • No Light = Not receiving power. Check the power switch and the power source connection.
📶	**WiFi BROADCAST:** Indicates WiFi activity (IBR900 only). • Green = On and operating normally. • Yellow = Attention.
📍	**GPS:** Indicates the status of GPS connection. • Blue = GPS locked. • Blinking Blue = Obtaining lock. • No Light = Off/no lock.
▽	**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. • No Light = Modem not connected.
📶	**SIGNAL STRENGTH:** Blue LED bars indicate the active modem's signal strength. • 4 Solid Bars = Strongest signal. • 1 Blinking Bar = Weakest signal. (A blinking bar indicates half of a bar.)
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. • 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.