



NetCloud Services for Mobile



COR IBR900 Series Spec Sheet



Shown: COR IBR900-1200M

Cradlepoint COR IBR900 Series mobile routers are sold as part of an all-inclusive mobile networking package.

NetCloud Packages for Mobile include:

- Ruggedized routers, purpose built for mobile applications
- A NetCloud Service Plan tailored for branch networking and set for a specific term
- 24x7 support and limited lifetime warranty

What to Buy

Description	Part Numbers
North America (U.S., Canada)	
— NetCloud Essentials for Mobile Routers with IBR900-1200M	MAx-09001200-NNA
— NetCloud Essentials for Mobile Routers with IBR900-600M-NPS	MAx-0900600M-NNA
— NetCloud Essentials for Mobile Routers with IBR900 (no modem)	MAx-0900NM-ONA
Europe (EU)	
— NetCloud Essentials for Mobile Routers with IBR900-600M-NPS-EU	MAx-0900600M-EWA
— NetCloud Essentials for Mobile Routers with IBR900-EU (no modem)	MAx-0900NM-OWA
Asia-Pacific (Australia, New Zealand, Singapore)	
— NetCloud Essentials for Mobile Routers with IBR900-600M-NPS-AP	MAx-0900600M-PWA
— NetCloud Essentials for Mobile Routers with IBR900LP5-NPS-AP	MAx-0900LP5-PWA
— NetCloud Essentials for Mobile Routers with IBR900-AP (no modem)	MAx-0900NM-OWA
All Regions	
— NetCloud Advanced for Mobile Routers	MAx-NCADV

x = 1, 3, or 5 years

NetCloud Essentials packages and plans contain 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/netcloud-manager

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

What's in the Box

- Ruggedized high-performance router with embedded business-class LTE modem; includes integrated mounting plate
- Safety, Regulatory, and Warranty Guide
- A 4-wire power/GPIO cable (3 meters)
- Two extra SIM door screws (2)

Required Accessories

- 3G/4G universal cellular antennas (Qty. 2)
- 2.4/5GHz Dual Band WiFi antennas (Qty. 2)
- An active-powered GPS antenna

Key Features

Models

- COR IBR900-1200M: LTE Advanced Pro 1 Gbps LTE/HSPA+ (SIM-based, Auto-carrier Selection)
 - The IBR900-1200M is FirstNet Ready™; includes support for Band 14
- COR IBR900-600M: 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)
 - The IBR900-600M is FirstNet Capable.
 - The IBR900LP6 is FirstNet Capable.
- COR IBR900LP5: 300 Mbps LTE Advanced for operators in Asia Pacific and Saudi Arabia (SIM-based Auto-carrier selection)

WAN

- Dual-modem capable with optional COR Extensibility Dock
- WiFi-as-WAN, with WPA2 Enterprise Authentication for WiFi-as-WAN
- Failover/Failback
- Load Balancing
- Advanced Modem Failure Check
- WAN Port Speed Control
- WAN/LAN Traffic Steering
- IP Passthrough
- Standby
- DynDNS
- QoS (DSCP and Priority Queuing)

LAN

- VLAN 802.1Q
- DHCP Server, Client, Relay²
- DNS and DNS Proxy
- UPnP
- DMZ
- Multicast/Multicast Proxy
- 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
- Frequencies supported:
 - 2.4 GHz (2412 – 2472 MHz)
 - 5 GHz
 - U-NII-1 (5.150-5.250 GHz)
 - U-NII- 2a (5.250-5.350 GHz) North America IBR900-600M Only
 - U-NII-2c (5.470-5.725 GHz) North America IBR900-600M Only
 - U-NII-3 (5.7225-5.825 MHz) North America Only

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

2 — DHCP Relay across a wide area network (WAN) only available on the LP3 and LP5 models. All other models require a VPN tunnel present for DHCP Relay to function properly.

Specifications

The following features are delivered through the NetCloud Service.

WAN:

- Dual-modem capable with optional COR Extensibility Dock
- Integrated 1200M LTE Advanced Pro modem (with DC-HSPA+ failover), delivering 1 Gbps**
- Integrated 600M LTE Advanced 600 Mbps 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:

- 4-Wire power/GPIO
- Add more GPIO ports with optional 9-wire power/GPIO cable or COR Extensibility Dock with 2x10-wire power/GPIO cable
- USB 2.0
- Two Ethernet LAN/WAN
- Two cellular antenna connectors (SMA)
- One active GPS antenna connector (SMA)
- Two WiFi antenna connectors (RP-SMA)
- 15-pin dock port for COR Extensibility Dock, 9-wire GPIO cable, or COR Extensibility Port to Serial 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: 4W
 - LTE Tx/Tx: 6.25W
 - WiFi Tx/Rx: 9W
 - 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:

- WiFi Alliance (IBR900 only) – 802.11a/b/g/n/ac wave 2 certified
- Safety: UL/CUL, CB Scheme, EN60950-1
- Hazardous Locations: Class1, Div 2. IBR900-600M-NA only.
- 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, S5A843A, S5A848A
- 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)

Router Performance

- Max Throughput (Default Configuration*): 900 Mbps
- Max Concurrent TCP Sessions: 16,000
- Recommended Max Client Count: 30**
- Performance testing was conducted based off requirements as defined in RFC2544 using a mix of 64, 256, and 1500-byte packet sizes. Throughput is shown as bi-directional TCP traffic with less than a 1% packet loss using four wired clients.
- Specifications and information in this datasheet are subject to change without notice.

*Cradlepoint defines client as any network connected device utilizing resources, such as bandwidth, on the local network.

**Default configuration shipped with hardware including NAT and basic stateful/zone firewall configuration.

Accessories

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

Second Integrated LTE Modem with MC400

- MC400-1200M
- MC400LP6 (North America or EU)
- MC400LP5 (Asia Pacific or Saudi Arabia)
- MC400LP4 (AT&T, Verizon, T-Mobile and Canada)

Extensibility

- COR Extensibility Dock (Part # 170700-000)
- 9-wire power/GPIO cable (Part # 170680-000)
- COR Extensibility Port to Serial Cable (Part # 170767-000)

Power

Vehicle Options

- Vehicle locking power adapter for COR (Part # 170635-000)
- Two-meter 4-wire power/GPIO cable, direct wire (Part # 170585-000)

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
- Cradlepoint Certified Antennas for Mobile

See the [Cradlepoint Certified Antennas for Mobile](#) for more information about antennas. Also see the [Antenna Ordering and Installation Guide](#), also available in the Resources section of antenna and router product pages.

Enterprise-Class Modem Specifications

COR IBR900-1200M-NA

COR IBR900-1200M models include an embedded LTE Advanced Pro 4G LTE modem. The 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.

- Technology: Category 18 LTE Advanced Pro, DC-HSPA+
- Downlink Rates: LTE 1 Gbps, DC-HSPA+ 42.2 Mbps*
- Uplink Rates: LTE 150 Mbps, DC-HSPA+ 5.76 Mbps*
- MIMO: 2x2 MIMO
- 256 QAM support
- Frequency Bands:
 - LTE Bands
 - LTE FDD 1, 2(25), 3, 4(66), 5(26/18/19), 8, 12(17), 13, 14, 20, 28, 29, 71
 - LTE TDD 39
- Carrier Aggregation: Up to 5CA. [] indicates 4x4 MIMO
 - AT&T: 2,4,5,12,14,29,66; 3G 2, 5
 - 2CA DL carrier aggregation combinations:
CA_2A-2A, CA_2A-4A, CA_2A-5A, CA_2A-12A, CA_2A-14A, CA_2A29A, CA_2A-66A, CA_2C, CA_4A-4A, CA_4A-5A, CA_4A-12A, CA_4A-29A, CA_5A-66A, CA_5B, CA_12A-66A, CA_12B, CA_14A-66A, CA_29A-66A, CA_66^a-66A, CA_66B, CA_66C
 - 3CA DL carrier aggregation combinations:
CA_2A-2A-5A, CA_2A-2A-12A, CA_2A-2A-14A, CA_2A2A-66A, CA_2A-4A-4A, CA_2A-4A-4A, CA_2A-4A-5A, CA_2A-4A-5A, CA_2A-4A-12A, CA_2A-4A-12A, CA_2A-5A-66A, CA_2A-5A-66A, CA_2A-12A-66A, CA_2A-12A-66A, CA_2A-14A-66A, CA_2A-66A-66A, CA_4A-4A-5A, CA_4^a-4A-12A, CA_4A-12B, CA_5A-66A-66A, CA_5A-66C, CA_12A-66A-66A, CA_14A-66A-66A, CA_29A-66A-66A
 - 4CA DL carrier aggregation combinations:
CA_2A-2A-5A-66^a, CA_2A-2A12A-66A, CA_2A-2A-14A-66A, CA_2A-2A-66A-66A, CA_2A-4A-4A-12A, CA_2A-5A-66A-66A, CA_2A-5B-66A, CA_2A-12A-66A-66A, CA_2A-14A66A-66A, CA_5B-66A-66A
 - 5CA DL carrier aggregation combinations:
CA_2A-5B-66A-66A

- 2CA UL carrier aggregation combinations:
CA_2A-12A, CA_2A-5A, CA_4A-12A, CA_5A-66A, CA_5B, CA_12A-66A
 - Verizon (Pending): 2,4,5,13,66
 - Fallback: WCDMA/DC-HSPA+ (42/5.76 Mbps): Bands 1, 2, 4, 5(19), 8
 - Power: LTE 23 dBm ± 1, DC-HSPA+ 23 dBm ± 1
 - Antennas: SMA & RP-SMA male plugs, torque not to exceed 4 in-lbs
 - GPS: Active GPS support
 - SMS: SMS support
 - Industry Standards & Certs: FCC, PTCRB, AT&T, FirstNet. PENDING: IC, Verizon
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COR IBR900-600M-NA / -EU

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.

- Technology: Category 11 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: SMA & RP-SMA male plugs, torque not to exceed 4 in-lbs
 - GPS: Active GPS support
 - SMS: SMS support

- Industry Standards & Certs: CE, FCC, GCF-CC, IC, PTCRB, AT&T, Sprint, Verizon, Verizon NEMO/DMNR for Primary Wireless Access, AS, NZS, SGP (IMDA)
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COR IBR900LP5-AP, COR IBR950LP5-AP

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.

- 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: SMA & RP-SMA male plugs, torque not to exceed 4 in-lbs
 - GPS: Active GPS support
 - SMS: SMS support
 - Industry Standards & Certs: CE, GCF-CC, RC Australia, others pending
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*Theoretical

**Theoretical max speed with 2 LTE antennas

FirstNet and FirstNet Ready are registered trademarks and service marks of the First Responder Network Authority, an independent authority within the U.S. Department of Commerce.

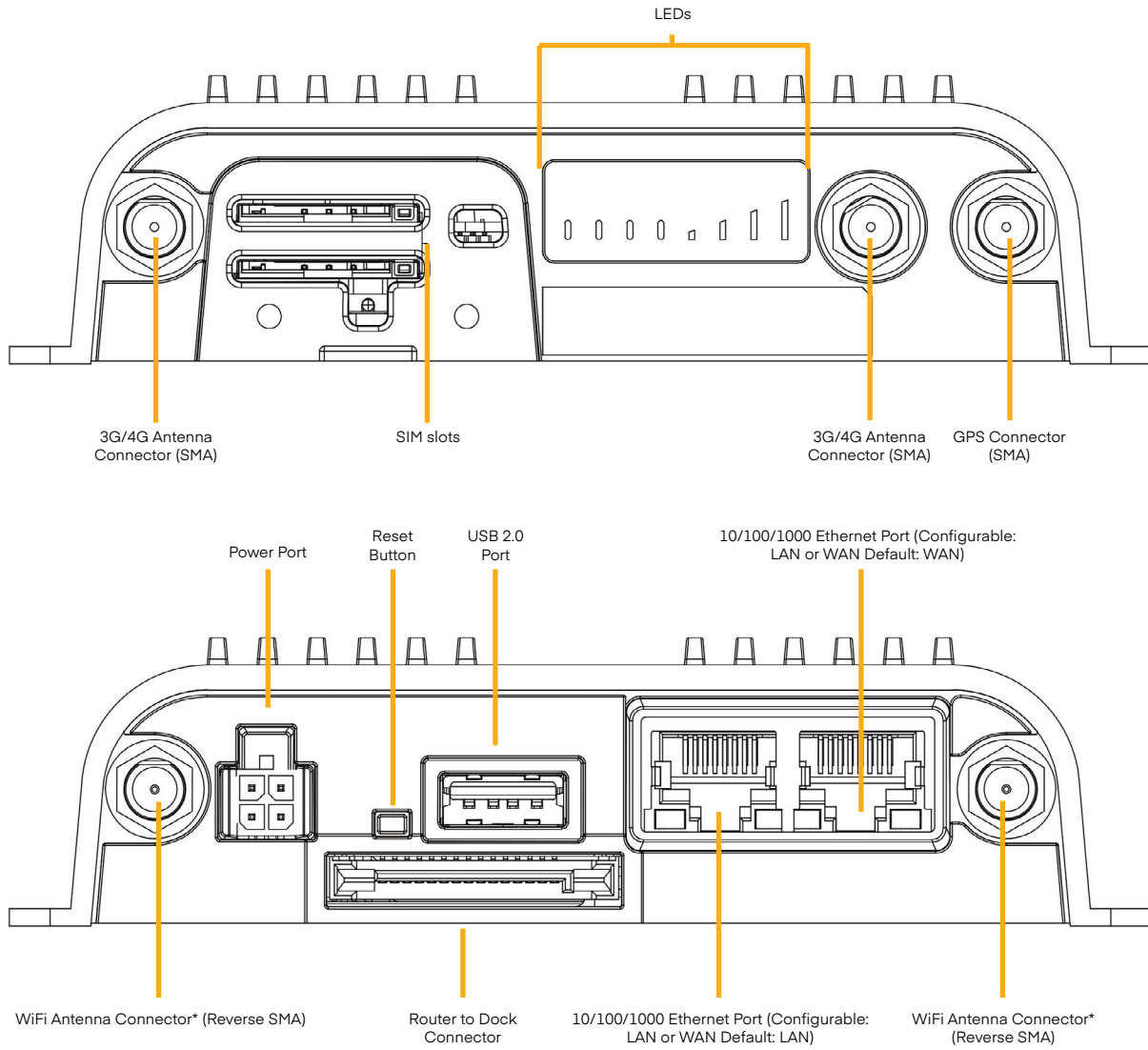
Support & Warranty

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

- NetCloud 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 Service Plan.






Hardware

COR IBR900-1200M & 600M



* 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 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.)
<p>Other</p>	<p>Additional LED Indicators:</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.