



# COR IBR1700 Spec Sheet





Shown: COR IBR1700-1200M



Cradlepoint COR IBR1700 Series mobile routers is 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)	
<ul> <li>NetCloud Essentials for Mobile Routers with IBR1700-1200M</li> </ul>	MAx-17001200-NNA
<ul> <li>NetCloud Essentials for Mobile Routers with IBR1700-600M</li> </ul>	MAx-1700600M-NNA
Europe (EU)	
<ul> <li>NetCloud Essentials for Mobile Routers with IBR1700-600M-EU</li> </ul>	MAx-1700600M-EWA
Asia-Pacific (Australia, New Zealand, Singapore)	
<ul> <li>NetCloud Essentials for Mobile Routers with IBR1700-600M-AP</li> </ul>	MAx-1700600M-PWA
All Regions	
<ul> <li>NetCloud Advanced for Mobile Routers</li> </ul>	MAx-N

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 IBR1700 mobile router, included with the NetCloud Packages for mobile, see below.

## What's in the Box

- High-performance hardened metal router with integrated business-class 3G/4G modem; includes integrated mounting plate
- Quick Start Guide with warranty information
- DC GPIO/power cable



# **Key Features**

## Models

- COR IBR1700-1200M: LTE Advanced Pro 1.2 Gbps LTE/HSPA+ (SIM-based, Auto-carrier Selection for all North American, European, and Asia Pacific carriers)—Pending
  - The IBR1700-1200M is FirstNet Ready™; includes support for Band 14
- COR IBR1700-600M: 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)

#### WAN

- Dual-modem capable with MC400 modem slot for 2nd modem
- WiFi-as-WAN, with WPA2 Enterprise Authentication for WiFi-as-WAN
- 3rd radio for dedicated back haul
- WiFi client mode
- Failover/Failback
- Load Balancing
- Advanced Modem Failure Check
- WAN Port Speed Control
- WAN/LAN Traffic Steering
- IP Passthrough
- Standby
- Multi-PDN
- Smart WAN Selection
- Serial PAD mode
- DynDNS
- AutoQoS
- QoS (DSCP and Priority Queuing)

#### LAN

- VLAN 802.1Q
- DHCP Server, Client, Relay
- DNS and DNS Proxy
- DMZ
- Multicast/Multicast Proxy
- MAC Address Filtering
- STP<sup>2</sup>
- GPS broadcast to LAN



## WiFi

- Dual-Band, Simultaneous Tri Band 2×2 2.4GHz + 2×2 5GHz + 4×4 5GHz WiFi
- 802.11 a/b/g/n/ac wave 2 MU-MIMO and 256 QAM support
- Up to 192 connected devices (64 per radio one @ 2.4 GHz and two @ 5 GHz)
- Multiple SSIDs: 2 per radio (6 total)
- WPA2 Enterprise (WiFi)
- Hotspot/Captive Portal
- SSID-based Priority
- Client Mode for faster data offload

## Management

- Cradlepoint NetCloud Manager
  - Secure remote cloud configuration
  - Real-time diagnostics/troubleshooting
  - Remote connect / Out-of-Band Management
  - Geoview location services
  - Pool data alerts
- Client and Traffic Visibility and Control
- Web UI, API, CLI
- Active GPS support
- Data usage alerts
- Advanced troubleshooting (support)
- Device alerts
- SDK support
- SNMP
- SMS control
- Serial redirector
- Auto APN Recovery
- Syslog

## **VPN & Routing**

- IPsec Tunnel up to ten concurrent sessions
- IKEv2 support (includes MOBIKE)
- L2TP
- GRE Tunnel
- OSPF/BGP/RIP
- Route Filters (Access Control Lists, Prefix Filters, Route Maps, Communities for BGP)



#### **SPEC SHEET •** COR IBR1700

- Per-Interface Routing
- Policy-based Routing
- NAT
- NAT-less Routing
- WAN Affinity
- Virtual Server/Port Forwarding
- NEMO/DMNR
- IPv6
- VRRP
- NHRP
- VTI Tunnel support
- OpenVPN support

## Security

- NetCloud Perimeter compatible
- RADIUS and TACACS+ support\*
- 802.1x authentication for Ethernet\*\*
- Zscaler Internet Security Compatible
- Certificate support
- Application-level gateways
- MAC Address Filtering
- Advanced Security Mode (local user management only)
- FIPS 140-2 Inside version available
- Application-aware firewall
- IP Filtering
- Content Filtering
- Zone-Based Object Firewall with host address (IP or FQDN), port, and MAC address

# **Specifications**

The following features are delivered through the NetCloud Service.

#### WAN:

- Dual-modem capable with MC400 slot
- Integrated 1200M LTE Advanced Pro 1.2 Gbps modem (with DC-HSPA+ failover)
- Integrated 600M LTE Advanced 600 Mbps modem (with DC-HSPA+ failover)



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

<sup>\*\* 802.1</sup>x Authentication for Ethernet not available for FIPS SKUs.

- Five LAN/WAN switchable 10/100/1000 Ethernet ports one default WAN (cable/DSL/T1/satellite/Metro Ethernet)
- WiFi as WAN, Metro WiFi; 2×2 MIMO "N" 2.4 GHz or 4×4 5 GHz; 802.11 a/b/g/n/ac wave 2

#### LAN:

- Simultaneous Tri-Band WiFi; 802.11 a/b/g/n/ac wave 2
- Five LAN/WAN switchable 10/100/1000 Ethernet ports four default LAN
- Serial console support for out-of-band management of a connected device

#### Ports:

- Power + GPIO (1 input / ignition sense input, 1 output)
- 20-pin power + GPIO port:
  - Alternate DC power input
  - Two analog inputs
  - One input / ignition sense input
  - Four configurable input/output
  - One low current 5V output (50mA max)
- USB 2.0
- Five Ethernet LAN/WAN
- Two cellular antenna connectors (SMA)
- One active GPS antenna connector (SMA)
- Six 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

#### Humidity (non-condensing):

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

#### Power:

- DC input steady state voltage range: 9–36VDC (requires 5.0A inline fuse for vehicle installations)
- Reverse polarity and transient voltage protection per ISO 7637-2
- Ignition sensing (automatic ON and time-delay OFF)
- Power consumption:
  - Conditions: 12V input, room temperature
  - Sleep: 10 mW
  - Idle: 8 W
  - Typical: 14 W
  - Heavy Usage: 24 W



- Analog to Digital Converter:
  - Port 1: Selectable 0.5-36 V or 0.1-5 V ranges
  - Port 2: 0.5–36 V range
  - Accuracy: Typical ± 0.5%, Maximum ± 1%
  - Configurable low and high voltage alerts
  - Low voltage router shutoff

#### WiFi Power (FCC):

- 2402–2483.5 MHz (2.4 GHz band): 29.2 dBm conducted
- 5150–5250 MHz (5 GHz band 1): 29.0 dBm conducted
- 5725-5850 MHz (5 GHz band 3): 30.0 dBm conducted

#### WiFi Power (Europe/Rest of World):

- 2.4 GHz band: 19.81 dBm EIRP
- 5150-5250 MHz: 22.80 dBm EIRP

**Size:**  $8.8 \times 7.5 \times 1.7$  in (224.3 × 190 × 44 mm)

Weight: 3 lb 7 oz (1.7 kg)

Material: metal

#### **Certifications:**

- WiFi Alliance 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 IP64 (includes protection from dust and splashing water)
- Materials: WEEE, RoHS, RoHS-2, California Prop 65
- Telecom: PTCRB/CTIA, GCF-CC
- Regulatory Models: S5A803A, S5A804A, S5A808A, S5A809A, S5A844A
- FIPS 140-2 Inside

#### GPS:

- GPS Protocols: NMEA 0183 V3.1
- Satellite channels: Maximum 48 channels, simultaneous tracking
- Concurrent standalone GPS, GLONASS, BeiDou, and Galileo
- 1 Hz refresh rate
- Accuracy:
  - Horizontal: < 1.7 m (50%)</p>
  - Velocity: < 0.1 m/s
- Acquisition (measured with signal strength = -130 dBm):
  - Hot start: < 1.3 seconds</p>



- Warm start: < 31 seconds
- Cold start: < 32 seconds
- Sensitivity
  - Tracking: -163 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): -147 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 <18000 m and velocity <515 m/s</li>

## **Performance**

- Max Throughout (Default Configuration\*): 950 Mbps
- Max Concurrent TCP Sessions: 32,000
- Recommended Max Client Count: 30\*
- \* 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.
- 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

## Accessories

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

#### Second Integrated LTE Modem with MC400:

- MC400-1200M (worldwide)
- MC400LP6 (North America or EU)
- MC400LP5 (Asia Pacific or Saudi Arabia)
- 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 & Mounting:

- Two meter locking power and GPIO cable (direct wire) (Part # 170585-000)
- COR extended temperature (-30C to 70C) power supply (line cord not included) Part #: 170648-001
- US line cord Part #: 170623-001



- EU line cord Part #: 170623-002
- UK line cord Part #: 170623-003
- AU line cord Part #: 170623-004
- IBR1700 Rack-Mount Brackets Part #: 170750-000

#### Adapters:

- 2x10 GPIO (Part #: 170712-000)
- OBD-II Adapter Kit (Part #: 170758-000)

#### 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
- 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
- 9-in-1 Dome GPS, Modem & WiFi Screw-mount Part #: CP-1019-1-PAN Black, CP-1020-1-PAN, White
- Cradlepoint Certified Antennas for Mobile

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.

# **Enterprise-Class Modem Specifications**

#### COR IBR1700-1200M

COR IBR1700-1200M models include an embedded LTE Advanced Pro 1.2 Gbps 4G LTE modem. The 1200M 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 18 LTE Advanced Pro, DC-HSPA+
- Downlink Rates: LTE 1.2 Gbps, DC-HSPA+ 42.2 Mbps\*



- Uplink Rates: LTE 150 Mbps, DC-HSPA+ 5.76 Mbps\*
- MIMO: 2x2 or 4x4 MIMO
- 256 QAM support
- Frequency Bands:
  - LTE Bands
    - LTE FDD 1, 2(25), 3, 4(66), 5(26/18/19), 7, 8, 12(17), 13, 14, 20, 28, 29, 30, 32, 71
    - LTE TDD 38, 39, 40, 41, 42, 43, 46(LAA 5GHz), 48\*\*(CBR5 3.5GHz)
- Carrier Aggregation: Up to 5CA. [] indicates 4x4 MIMO
  - AT&T: 2,4,5,12,14,29,30,66,46; 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-30A, CA\_[2A]-46A, CA\_[2A]-[66A],
      CA\_2C, CA\_[4A]-[4A], CA\_4A-5A, CA\_4A-12A, CA\_4A-29A, CA\_4A-30A, CA\_[4A]-46A, CA\_5A30A, CA\_5A-66A, CA\_5B,
      CA\_12A-30A, CA\_12A-66A, CA\_12B, CA\_14A30A, CA\_14A-66A, CA\_29A-30A, CA\_29A-66A, CA\_30A-66A, CA\_[66A]
      [66A], CA\_66B, CA\_66C
    - 3CA DL carrier aggregation combinations:

      CA\_2A-2A-5A, CA\_[2A]-2A-12A, CA\_2A-2A-14A, CA\_2A-2A-30A, 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-4A-30A, CA\_2A-5A-30A, CA\_[2A]-5A-66A,

      CA\_2A-5A-[66A], CA\_2A-12A-30A, CA\_[2A]-12A-66A, CA\_2A-12A-[66A], CA\_2A-14A-30A, CA\_2A-14A-66A, CA\_2A-29A-30A, CA\_2A-30A-66A, CA\_2A-46C, CA\_2A-66A-66A, CA\_[4A]-4A-5A, CA\_[4A]-4A-12A, CA\_4A-4A-30A, CA\_4A-5A-30A, CA\_4A-12B, CA\_4A-29A-30A, CA\_5A-30A-66A, CA\_5A-66A-66A, CA\_5A-66C, CA\_12A30A-66A,

      CA\_12A-[66A]-66A, CA\_14A-30A-66A, CA\_14A-66A-66A, CA\_29A-30A-66A, CA\_29A-66A-66A, CA\_30A-66A-66A
    - 4CA DL carrier aggregation combinations:
      CA\_2A-2A-5A-30A, CA\_2A-2A-5A-66A, CA\_2A-2A-12A-30A, CA\_2A-2A12A-66A, CA\_2A-2A-14A-66A, CA\_2A-2A-29A-30A, CA\_2A-2A-66A-66A, CA\_2A-4A-4A-12A, CA\_2A-4A-5A-30A, CA\_2A-4A-12A-30A, CA\_2A-5A30A-66A, CA\_2A-5A-66A-66A, CA\_2A-5B-30A, CA\_2A-5B-66A, CA\_2A-12A-30A-66A, CA\_2A-12A-66A-66A, CA\_2A-14A-30A-66A, CA\_2A-14A66A-66A, CA\_2A-29A-30A-66A, CA\_[2A]-46D, CA\_[4A]-46D, CA\_4A-4A12A-30A, CA\_5B-30A-66A, CA\_12A-30A-66A-66A, CA\_14A-30A-66A-66A, CA\_29A-30A-66A-66A, CA\_46D-[66A]
    - 5CA DL carrier aggregation combinations:
       CA\_2A-2A-46D, CA\_2A-5B-30A-66A, CA\_2A-5B-66A-66A, CA\_2A-46D66A, CA\_5B-30A-66A-66A, CA\_46D-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): 2,4,5,13,66,48
  - Sprint (Pending): 2,4,5,12,25,26,41
  - T-Mobile, Canada, International, Generic (Pending):
    - LTE FDD 1, 2(25), 3, 4(66), 5(26/18/19), 7, 8, 12(17), 13, 14, 20, 28, 29, 30, 32, 71
    - LTE TDD 38, 39, 40, 41, 42, 46, 48
- 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: four SMA male (plug), finger tighten only (maximum torque spec is 7 kgf/cm2)
- GPS: active GPS support
- SMS: SMS support



 Industry Standards & Certs: FCC, PTCRB, AT&T, FirstNet. PENDING: CE, GCF-CC, IC, Sprint, Verizon, Verizon NEMO/DMNR for Primary Wireless Access, AS, NZS, SGP

#### COR IBR1700-600M

COR IBR1700-600M models include an embedded 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.

The LTE bands certified for each carrier are listed below.

- 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+B3+B7, B3+B3+B20, B3+B7+B20, B3+B7+B7, B3+B20+B38, B3+B3+B3, 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, Verizon, Verizon NEMO/DMNR for Primary Wireless Access
- \* Theoretical
- \*\* To be enabled with a future modem software update.

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.



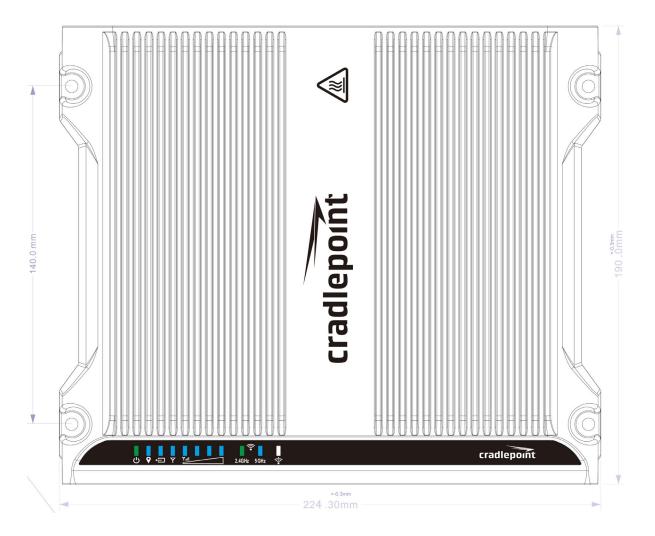
# **Support & Warranty**

The COR IBR1700 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.

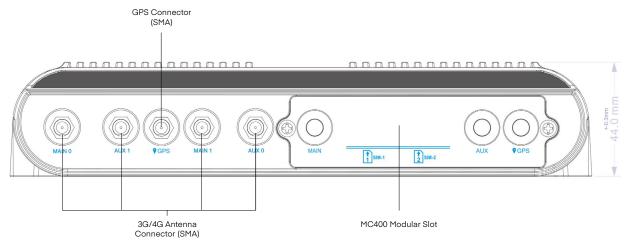
# Hardware

# Top



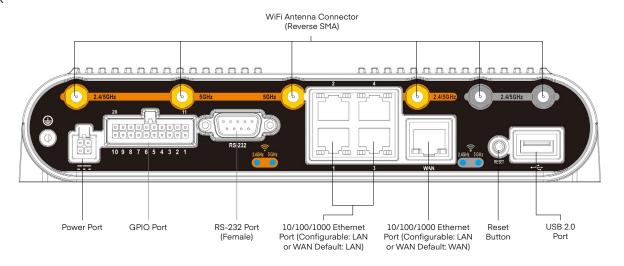


# Front: COR IBR1700-1200M Shown



1200M model = 2 MAIN, 2 AUX 600M model = 1 MAIN, 1 AUX

# Back



IBR1700 2x10 Connector			
PIN	Bottom Row	6	GPIO1
1	Router Voltage Input	7	GPIO2
2	Router Voltage Input	8	GPIO3
3	ADC Channel 1	9	GPIO4
4	ADC Channel 2	10	Low Current 5V Output (50mA max)
5	GPI / Ignition Sense	11-20	GND Top Row



# **LEDs**

Indicator	Behavior
O	Power: The Cradlepoint IBR1700 must be powered using an approved 9–36 V DC power source.  — Green = Powered ON.  — Yellow = Attention is required.  — No Light = Not receiving power. Check the power source connection.
•	<ul> <li>GPS: Indicates the status of GPS connection.</li> <li>Blue = GPS locked.</li> <li>Blinking Blue = Obtaining lock.</li> <li>No Light = Off/no lock.</li> </ul>
Ð	<ul> <li>MC400 Modem: Indicates information about the optional MC400 modem.</li> <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> <li>No Light = Modem not connected.</li> </ul>
Y	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.  — Blinking Red with Signal Strength LEDs = SIM door is not installed, modem is off.  — No Light = Modem not connected.
Yull	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.)  — 4 Blinking Bars = SIM door is not installed, modem is off
2.4GHz 5GHz	<ul> <li>WiFi Status Indicates information about WiFi channels.</li> <li>2.4 GHz Green = Activity on 2.4 GHz WiFi band.</li> <li>5 GHz Blue = Activity on 5 GHz WiFi band.</li> </ul>
•	<ul><li>WiFi as WAN: Indicates WiFi as WAN status.</li><li>White = WiFi as WAN active.</li></ul>
Other	<ul> <li>Additional LED Indications:</li> <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> <li>When an external USB modem is plugged in, only the Signal Strength LEDs will light up.</li> </ul>

