



NetCloud Services for Mobile



COR IBR1700 Spec Sheet



Shown: COR IBR1700-1200M

Cradlepoint COR IBR1700 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 IBR1700-1200M	MAx-17001200-NNA
— NetCloud Essentials for Mobile Routers with IBR1700-600M	MAx-1700600M-NNA
Europe (EU)	
— NetCloud Essentials for Mobile Routers with IBR1700-600M-EU	MAx-1700600M-EWA
Asia-Pacific (Australia, New Zealand, Singapore)	
— NetCloud Essentials for Mobile Routers with IBR1700-600M-AP	MAx-1700600M-PWA
All Regions	
— NetCloud Advanced for Mobile Routers	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

- Ruggedized high-performance router with embedded business-class LTE modem featuring an integrated mounting plate.
- Safety, Regulatory, and Warranty Guide
- 4-Wire Power/GPIO Cable (3-meters)

Required Accessories

- 3G/4G universal cellular antennas (qty. 2 or 4)
- 2.4/5GHz Dual-Band WiFi antennas (qty. 6)
- An Active-power GPS antenna

Key Features

Models

- COR IBR1700-1200M: LTE Advanced Pro 1.2 Gbps LTE/HSPA+ (SIM-based, Auto-carrier Selection)
 - 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
- STP²
- GPS broadcast to LAN

WiFi

- Dual-Band, Simultaneous Tri Band 2x2 2.4GHz + 2x2 5GHz + 4x4 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)
- Per-Interface Routing
- Policy-based Routing
- NAT
- NAT-less Routing
- Traffic Steering
- 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

* Native support for authentication. Authorization and accounting support through hotspot/captive portal services.

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

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)
- 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
- -40 °C to 85 °C (-40 °F to 185 °F) storage

Humidity (non-condensing):

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

Power:

- DC input steady state voltage range: 9–36VDC (requires 3A 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 $\pm 0.5\%$, Maximum $\pm 1\%$
 - 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 × 7.5 × 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%)
 - Velocity: < 0.1 m/s
- Acquisition (measured with signal strength = -130 dBm):
 - Hot start: < 1.3 seconds
 - 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

Performance

- Max Throughput (Default Configuration*): 950 Mbps
- Max Concurrent TCP Sessions: 32,000
- 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)

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 supports 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**(CBRS 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-12A-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_2A12A-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_5A-30A-66A-66A, CA_5B-30A-66A, CA_5B-66A-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: 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: CE, GCF-CC, IC, Sprint, Verizon, Verizon NEMO/DMNR for Primary Wireless Access, AS, NZS, SGP
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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+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

* 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.

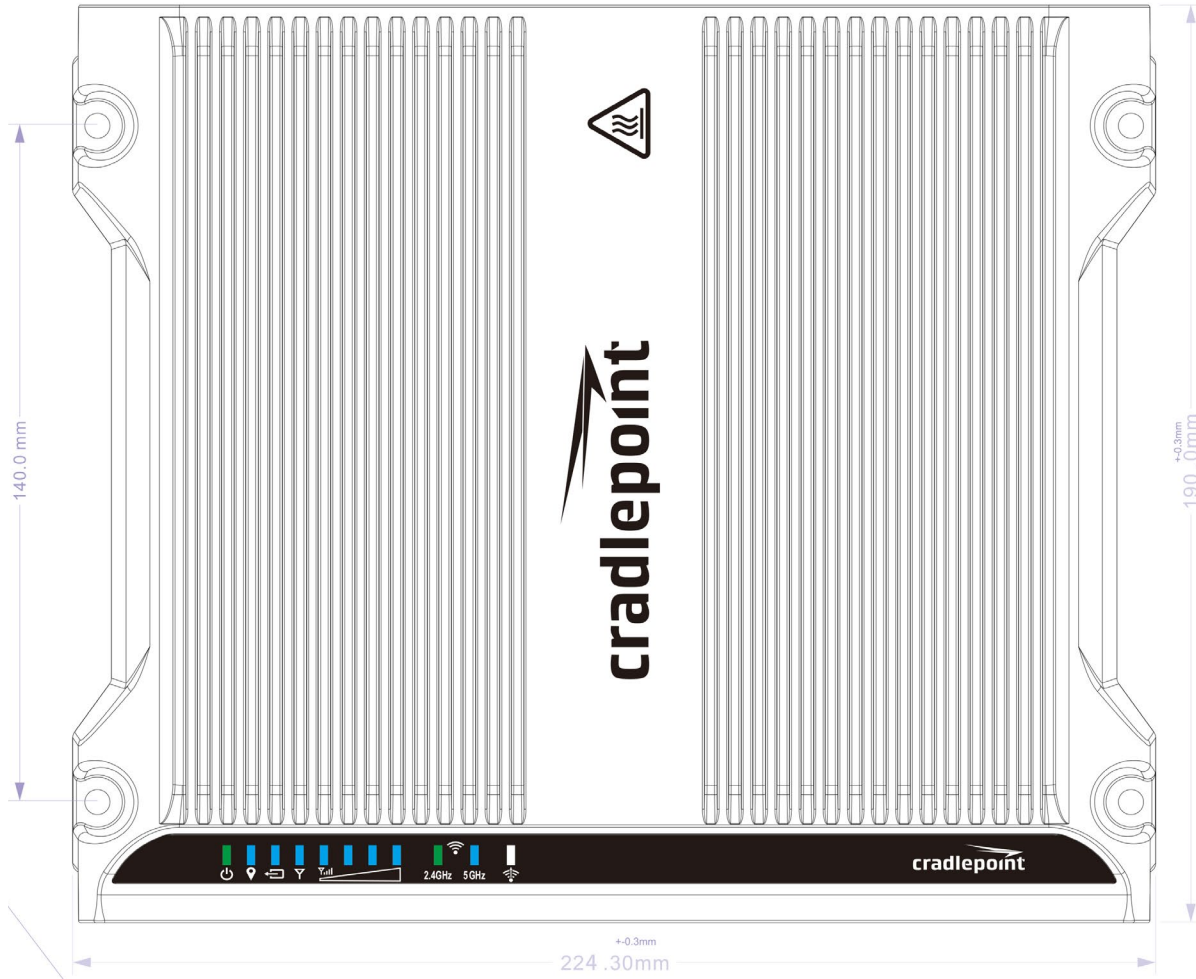
Support & Warranty

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

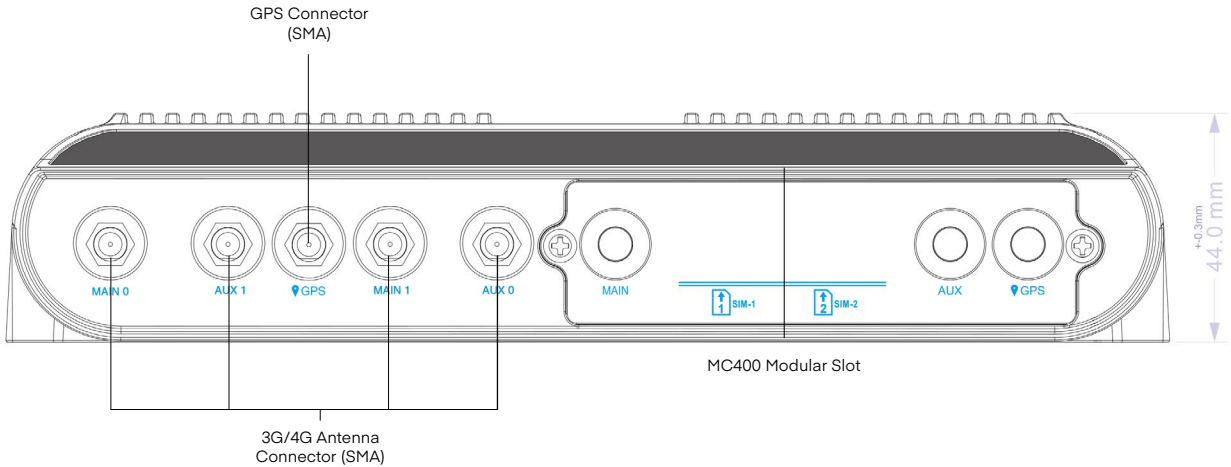
Top



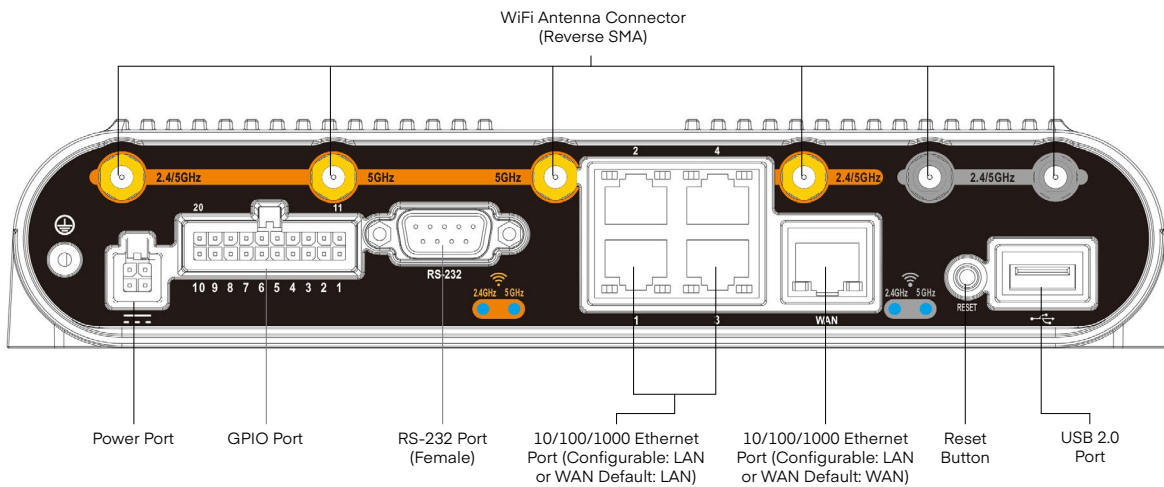
Front

(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
	<p>Power: The Cradlepoint IBR1700 must be powered using an approved 9–36 V DC power source.</p> <ul style="list-style-type: none"> — Green = Powered ON. — Yellow = Attention is required. — No Light = Not receiving power. Check the power source connection.
	<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>MC400 Modem: Indicates information about the optional MC400 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>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. — Blinking Red with Signal Strength LEDs = SIM door is not installed, modem is off. — 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.) — 4 Blinking Bars = SIM door is not installed, modem is off
<p>2.4GHz 5GHz</p>	<p>WiFi Status Indicates information about WiFi channels.</p> <ul style="list-style-type: none"> — 2.4 GHz Green = Activity on 2.4 GHz WiFi band. — 5 GHz Blue = Activity on 5 GHz WiFi band.
	<p>WiFi as WAN: Indicates WiFi as WAN status.</p> <ul style="list-style-type: none"> — White = WiFi as WAN active.
<p>Other</p>	<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. — When an external USB modem is plugged in, only the Signal Strength LEDs will light up.