



# COR IBR600C Series Spec Sheet



Cradlepoint COR IBR600C Series IoT routers are sold as part of an all-inclusive IoT networking solution in a NetCloud Solution Package.

**NetCloud Solution Packages for IoT include:**

- Compact routers, for IoT and M2M 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
<b>U.S.</b>	
+ NetCloud Essentials for IoT Routers (Standard) with IBR600C-LPE for VZ	TAX-600CLPE-VNN
+ NetCloud Essentials for IoT Routers (Standard) with IBR600C-LPE for AT	TAX-600CLPE-BNN
+ NetCloud Essentials for IoT Routers (Standard) with IBR600C-LPE for SP	TAX-600CLPE-SNN
+ NetCloud Essentials for IoT Routers (Standard) with IBR600C-LPE for GN	TAX-600CLPE-GNN
+ NetCloud Essentials for IoT Routers (Standard) with IBR650C-LPE for VZ	TAX-650CLPE-VON
+ NetCloud Essentials for IoT Routers (Standard) with IBR650C-LPE for AT	TAX-650CLPE-BON
+ NetCloud Essentials for IoT Routers (Standard) with IBR650C-LPE for SP	TAX-650CLPE-SON
+ NetCloud Essentials for IoT Routers (Standard) with IBR650C-LPE for GN	TAX-650CLPE-GON
<b>Europe (EU)</b>	
+ NetCloud Essentials for IoT Routers (Standard) with IBR600C-150M-EU	TAX-600C150M-EWM
<b>Asia-Pacific (Australia, New Zealand)</b>	
+ NetCloud Essentials for IoT Routers (Standard) with IBR600C-150M-AP	TAX-600C150M-PWM
<b>All Regions</b>	
+ NetCloud Advanced for Mobile Routers (Enterprise)	TAX-NCADV

*x = 1, 3, or 5 years*

**NetCloud Essentials** contains all the features and capabilities required for a broad range of IoT 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/iot-networks](http://cradlepoint.com/iot-networks)

For more details on the COR IBR600C IoT router, included with the NetCloud Solution Packages for IoT, 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
- IBR600C-LPE, IBR600C-150M-B (no 650) IBR600C-150M-C (no 650); finger tighten only
- External WiFi antennas (2) (reverse SMA\*), < 5 dBi gain
- 12 V / 2 A power supply w/ locking connector; DC GPIO/power cable available
- Extra SIM door screws (2)

\*-IBR600C only

## KEY FEATURES

### WAN

- Dual-modem capable with optional COR Extensibility Dock
- LPE: 100/50 Mbps DL/UL FDD LTE w/EVDO & HSPA+ fallback
- 150M-B: 150/50 Mbps DL/UL FDD LTE w/HSPA+ fallback
- 150M-C: 150/50 Mbps DL/UL FDD LTE w/HSPA+ fallback
- WiFi as WAN<sup>1</sup>, 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

### LAN

- VLAN 802.1Q
- DHCP Server, Client, Relay
- DNS and DNS Proxy
- DynDNS
- DMZ
- Multicast/Multicast Proxy
- QoS (DSCP and Priority Queuing)
- MAC Address Filtering

### WiFi<sup>1</sup>

- 802.11 b/g/n
- Up to 64 connected devices
- Multiple SSIDs
- WPA2 Enterprise (WiFi)
- Hotspot/Captive Portal
- SSID-based Priority
- Client Mode for faster data offload

## MANAGEMENT

- Cradlepoint NetCloud Manager
- Web UI, API, CLI
- 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 five 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<sup>3</sup>
- STP<sup>3</sup>
- NHRP<sup>3</sup>
- VTI Tunnel support
- OpenVPN support
- CP Secure VPN compatible

## 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)
- 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.

## 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
- 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 IBR600C-XXX models (no WiFi on IBR650C-XXX models)

## SPECIFICATIONS

### WAN:

- Dual-modem capable with optional COR Extensibility Dock
- Integrated LPE, 150M-B, or 150M-C modem
- Two LAN/WAN switchable Ethernet ports (one 10/100/1000 and one 10/100) – one default WAN (cable/DSL/T1/satellite/Metro Ethernet)
- WiFi as WAN, Metro WiFi; 2×2 MIMO “N” 2.4 GHz; 802.11 b/g/n (IBR600C only)

### LAN:

- 2×2 MIMO “N” 2.4 GHz WiFi; 802.11 b/g/n (IBR600C only)
- Two LAN/WAN switchable Ethernet ports (one 10/100/1000 and one 10/100) – 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)
- Two WiFi antenna connectors (R-SMA; IBR600C only)
- One GPS connector (SMA) (150M-B, 150M-C only. LPE GPS is muxed on LTE)
- 15-pin dock port for COR Extensibility Dock or 9-wire GPIO cable

**TEMPERATURE:** -20 °C to 60 °C (-4 °F to 140 °F) operating

### 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

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

**WEIGHT:** 14 oz (400 g)

**CERTIFICATIONS:**

- FCC, IC, CE, RCM
- WiFi Alliance (IBR600C only) – 802.11 b/g/n certified
- Safety: UL/CUL, CB Scheme, EN60950-1
- Shock/Vibration/Humidity: compliant with MIL STD 810G and SAEJ1455
- Materials: WEEE, RoHS, RoHS-2, California Prop 65
- Telecom: PTCRB/CTIA

## ACCESSORIES

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

**EXTENSIBILITY:**

- COR Extensibility Dock (Part # 170675-000)
- 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)

**Power Supplies/Adapters**

- North America COR IBR600C-LPE/IBR650C-LPE power supply (Part # 170716-000)
- Barrel to 4-pin power adapter (Part # 170665-000)

**ANTENNAS – 3G/4G Modem, WiFi:**

- 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
- Universal 3G/4G/LTE Modem Antenna Part #: 170649-000
- 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)

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 IBR600C-LPE/IBR650C-LPE models** include an integrated 4G LTE/HSPA+/EVDO modem – specific model names include a specific modem (e.g., the COR IBR650C-LPE-VZ includes a Verizon LTE modem) but is software configurable for Sprint, AT&T, T-Mobile or Canada.

### **COR IBR600C-LPE-AT/GN/SP/VZ; COR IBR650C-LPE-AT/GN/SP/VZ (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/cm<sup>2</sup>)
- GPS: passive, muxed on aux port
- Industry Standards & Certs: FCC, WiFi Alliance (IBR600C only), AT&T, Sprint, Verizon, Verizon NEMO/DMNR for Primary Wireless Access
- SIM: two 2FF slots

### **COR IBR600C-150M-B-EU (Europe):**

- Technology: LTE, DC-HSPA+
- Downlink Rates: LTE 150 Mbps, HSPA+ 42 Mbps, (theoretical)
- Uplink Rates: LTE 50 Mbps, HSPA+ 5.76 Mbps (theoretical)
- Frequency Bands: LTE FDD: B1/ B3/ B5/ B7/ B8/ B20
- LTE TDD: B38/ B40 /B41
- DC-HSPA+/UMTS: B1/ B5/ B8
- GSM/EDGE: B3/ B8
- Power: LTE 23 dBm  $\pm$  2; HSPA+ 23 dBm  $\pm$  1; (typical conducted)
- Antennas: two SMA male (plug), (maximum torque spec is 7 kgf/cm<sup>2</sup>)
- GPS: passive standalone (dedicated SMA port)
- Industry Standards & Certs: CE, WiFi Alliance
- SIM: two 2FF slots

### **COR IBR600C-150M-C-AU (Australia):**

- Technology: LTE, DC-HSPA+
- Downlink Rates: LTE 150 Mbps, HSPA+ 42 Mbps, (theoretical)
- Uplink Rates: LTE 50 Mbps, HSPA+ 5.76 Mbps (theoretical)
- Frequency Bands: LTE FDD: B1/ B3/ B5/ B7/ B28
- DC-HSPA+/UMTS: B1/ B5
- Power: LTE 23 dBm  $\pm$  2; HSPA+ 23 dBm  $\pm$  1; (typical conducted)
- Antennas: two SMA male (plug), (maximum torque spec is 7 kgf/cm<sup>2</sup>)
- GPS: passive standalone (dedicated SMA port)
- Industry Standards & Certs: RCM, WiFi Alliance
- SIM: two 2FF slots

## SUPPORT & WARRANTY

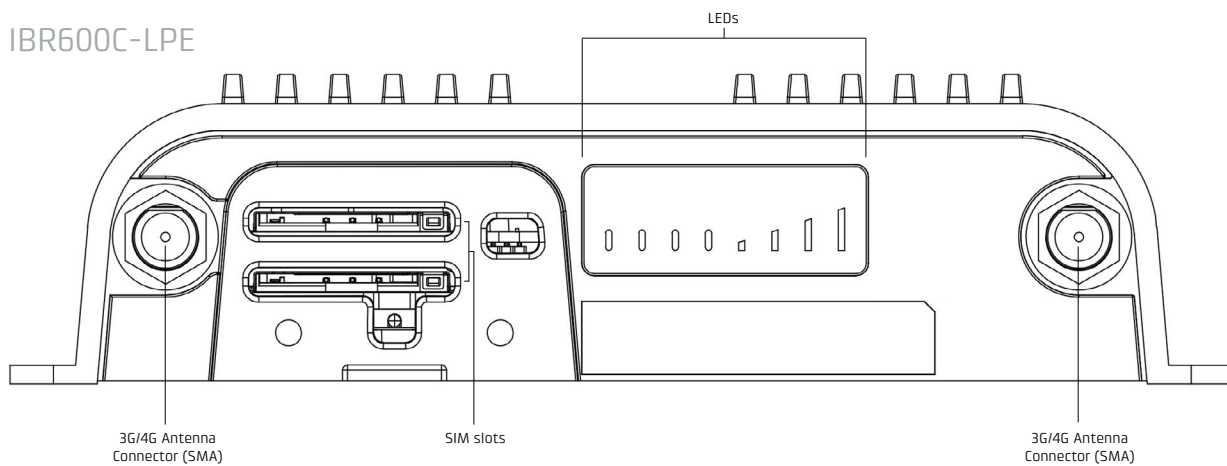
The COR IBR600C Series is only sold as a component of NetCloud Solution Packages.

- 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.

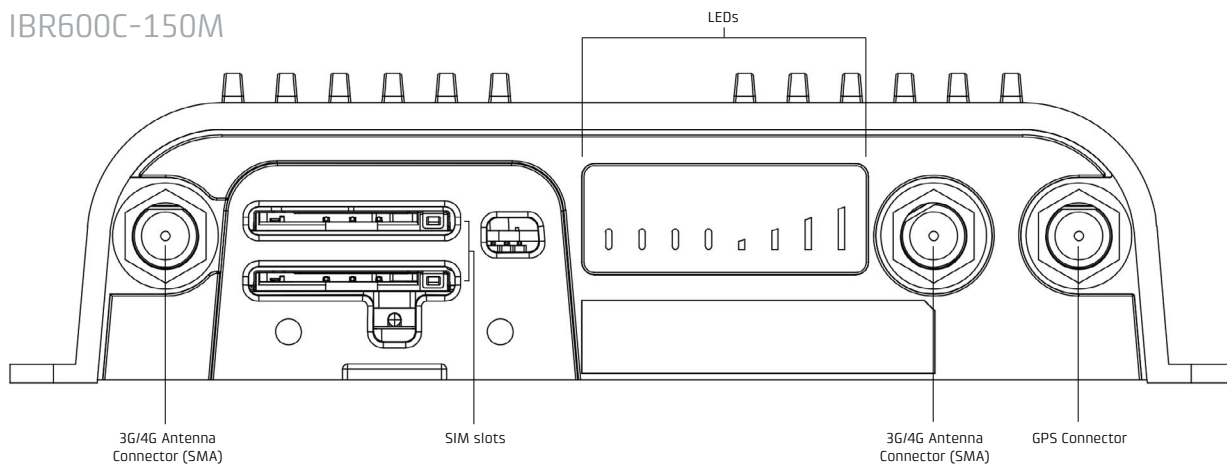
The COR IBR600C Series includes a minimum three-year hardware warranty when purchased from an authorized Cradlepoint Partner.

## HARDWARE

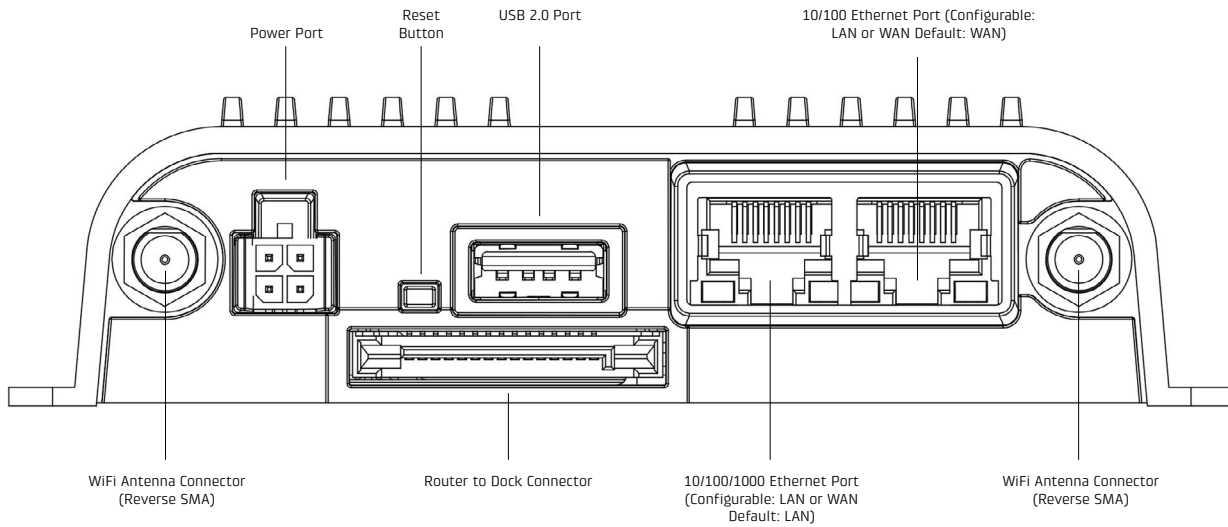
### IBR600C-LPE



### IBR600C-150M



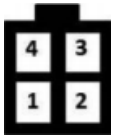




### POWER/GPIO CONNECTOR





This connector has four pin slots: power, ground, input, and output.

Connector pinout – view into router (rear view of cable connector):



Pin	Definition	Details	Wire Color
1	Ground	-	Black
2	Power	9-33 V DC	Red
3	Input	3.4 V input high threshold (33 V tolerant)	Orange
4	Output	capable of sinking 250 mA	Blue

## LEDS

INDICATOR	BEHAVIOR
	<p><b>POWER</b> The Cradlepoint IBR600C-LPE/IBR650C-LPE must be powered using an approved 12 V DC power source.</p> <ul style="list-style-type: none"> <li>• Blue = Powered ON.</li> <li>• No Light = Not receiving power. Check the power switch and the power source connection.</li> </ul>
	<p><b>WiFi BROADCAST</b> Indicates WiFi activity (IBR600C-LPE only).</p> <ul style="list-style-type: none"> <li>• Green = WiFi is on and operating normally.</li> <li>• Amber = Attention. Open the administration pages and check the router status.</li> </ul>
	<p><b>INTEGRATED OR USB MODEM</b> Indicates information about the integrated modem or attached USB modem.</p> <ul style="list-style-type: none"> <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> </ul>
	<p><b>SIGNAL STRENGTH</b> Blue LED bars indicate the active modem's signal strength.</p> <ul style="list-style-type: none"> <li>• 4 Solid Bars = Strongest signal.</li> <li>• 1 Blinking Bar = Weakest signal. (A blinking bar indicates half of a bar.)</li> </ul>
<p><b>Other</b></p>	<p><b>ADDITIONAL LED INDICATIONS</b></p> <ul style="list-style-type: none"> <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> </ul>