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COR IBR600C Series Spec Sheet

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Cradlepoint COR IBR600C Series IoT routers are sold as part of an all-inclusive IoT networking package.

NetCloud IoT Essentials Packages include:

— Compact endpoints, purpose-built for IoT and M2M applications

— A NetCloud Service Plan tailored for IoT 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 IoT Essentials with IBR600C-150M-D	TAx-600C150M-NNN TBx-600C150M-NNN
— NetCloud IoT Essentials with IBR650C-150M-D	TAx-650C150M-N0N TBx-650C150M-N0N
Europe (EU)	
— NetCloud IoT Essentials with IBR600C-150M-B-EU	TAx-600C150M-EWM TBx-600C150M-EWM
Asia-Pacific (Australia, New Zealand)	
— NetCloud IoT Essentials with IBR600C-150M-C-AP	TAx-600C150M-PWM TBx-600C150M-PWM
All Regions	
— NetCloud IoT Advanced Plan	TAx-NCADV TBx-NCADV

x = 3 or 5 years

NetCloud IoT Essentials packages and plans contain 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 IoT Advanced Plan** can be added to the NetCloud IoT Essentials Package at any time.

See additional details of what is included in the Essential and Advanced NetCloud software: cradlepoint.com/iot-networks

For more details on the COR IBR600C IoT router, included with the NetCloud IoT Packages, refer to the following information.

What's in the Box

— Ruggedized IBR600C series router with an embedded, enterprise-class LTE modem; includes integrated mounting plate

— Two (2) External LTE antennas (SMA)

— Two (2) WiFi antennas (RP-SMA) for IBR600C only

— 12V / 2A power supply w/ locking connector

— Two (2) Extra SIM door screws

— Safety, Regulatory, and Warranty guide

Key Features

WAN

— Dual-modem capable with optional COR Extensibility Dock

— 150M-B: 150/50 Mbps DL/UL FDD LTE w/HSPA+ fallback for EU

— 150M-C: 150/50 Mbps DL/UL FDD LTE w/HSPA+ fallback for APAC

— 150M-D: 150/50 Mbps DL/UL FDD LTE w/HSPA+ fallback for North America (USA/Canada)

— 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

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[1]

— 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

— VTI Tunnel support

— OpenVPN support

— CP Secure VPN compatible

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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

IoT Connector

— NetCloud Edge Connector for Microsoft® Azure IoT Central

[1]*WiFi-related functions are only supported on IBR600C-XXX models (no WiFi on IBR650C-XXX models)*

Specifications

The following features are delivered through the hardware.

WAN:

— Dual-modem capable with optional COR Extensibility Dock

— Embedded 150M-B, 150M-C, or 150M-D modem

— Two LAN/WAN switchable Ethernet ports (one 10/100/1000 and one 10/100) — one default WAN

— 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, 150M-D only. LPE GPS is muxed on LTE)

— 15-pin dock port for COR Extensibiliity 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

WIFI POWER (FCC): 2.4 GHz band: 28.1 dBm conducted

WIFI POWER (Europe/Rest of World):

— 2.4 GHz band: 15 dBm conducted

— 2.4 GHz band: 20 dBm EIRP

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

WEIGHT: 14 oz (400 g)

CERTIFICATIONS:

— Regulatory: FCC, IC, CE, RCM (Austrailia/New Zealand), ICASA (South Africa)

— 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 # 170700-000) with compatible MC400 modular modem

    — MC400-1200M-B (Part # MA-MC400-1200M-B)

    — MC400-1200M (Part # MA-MC400-1200M)

    — MC400-600M-C-AT (Part # MC400-C-AT)

    — MC400LP6 (Part # MC400LP6)

    — MC400LP4 (Part # MC400LP4)

— 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 IBR6x0C power supply (Part # 170716-000)

        — WARNING: This product (part # 170716-000) can expose you to chemicals including Carbon Black Extracts, which are known to the State of California to cause cancer. For more information go to www.P65Warnings.ca.gov.

    — Barrel to 4-pin power adapter (Part # 170665-000)

ANTENNAS:

See the Cradlepoint Certified Antennas for Fixed Sites 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 IBR600C-150M

COR IBR6X0-150M models include an embedded LTE Category 4 LTE modem. The 150M modems support worldwide SIM-based, auto carrier selection. Simply insert the SIM and wait for the router to automatically detect and establish a connection.

COR IBR600C-150M-D-NA; COR IBR650C-150M-D-NA (North America):

— Technology: LTE Cat 4 (3GPP Rel 11), DC-HSPA+

— Downlink Rates: LTE 150 Mbps, HSPA+ 42.2 Mbps*

— Uplink Rates: LTE 50 Mbps, HSPA+ 5.76 Mbps*

— Frequency Bands:

　— LTE: Band 2 (1900 MHz), Band 4 – AWS (1700/2100 MHz), Band 5 (850 MHz), Band 12 (700 MHz), Band 13 (700 MHz), Band 14 (700 MHz), Band 66 – AWS 3 (1700/2100 MHz), Band 71 (600 MHz)

　— WCDMA/HSPA+/UMTS: Band 2, Band 4, Band 5

— Power: LTE 23 dBm ± 1; HSPA+ 23 dBm ± 1; (typical conducted)

— Antennas: SMA and RP-SMA male plugs, maximum torque not to exceed 4 in-lbs

— GPS/GNSS: Passive, dedicated SMA port (multi-constellation - GPS, GLONASS)

— Industry Standards & Certs: FCC, IC, PTCRB, WiFi Alliance (IBR600C only), AT&T, FirstNet Ready™, Verizon, Verizon NEMO/DMNR for Primary Wireless Access

— SIM: Two 2FF slots

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

— 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

— Technology: LTE, DC-HSPA+

— Downlink Rates: LTE 150 Mbps, HSPA+ 42 Mbps*

— Uplink Rates: LTE 50 Mbps, HSPA+ 5.76 Mbps*

— Power: LTE 23 dBm ± 2; HSPA+ 23 dBm ± 1; (typical conducted)

— Antennas: SMA and RP-SMA male plugs, maximum torque not to exceed 4 in-lbs

— GPS: Passive standalone (dedicated SMA port)

— Industry Standards & Certs: CE, WiFi Alliance

— SIM: Two 2FF slots

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

— Frequency Bands:

— LTE FDD:B1/ B3/ B5/ B7/ B28

— DC-HSPA+/UMTS: B1/ B5

— Technology: LTE, DC-HSPA+

— Downlink Rates: LTE 150 Mbps, HSPA+ 42 Mbps*

— Uplink Rates: LTE 50 Mbps, HSPA+ 5.76 Mbps*

— Power: LTE 23 dBm ± 2; HSPA+ 23 dBm ± 1; (typical conducted)

— Antennas: SMA and RP-SMA male plugs, maximum torque not to exceed 4 in-lbs

— GPS: Passive standalone (dedicated SMA port)

— Industry Standards & Certs: RCM, WiFi Alliance

— SIM: Two 2FF slots

COR IBR600C-LPE[†]

COR IBR600C-LPE/IBR650C-LPE models include an embedded 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):

— 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)

— Technology: LTE, HSPA+, EVDO Rev A

— Downlink Rates: LTE 100 Mbps, HSPA+ 21.1 Mbps, EVDO 3.1 Mbps*

— Uplink Rates: LTE 50 Mbps, HSPA+ 5.76 Mbps, EVDO 1.8 Mbps*

— Power: LTE 23 dBm ± 1; HSPA+ 23 dBm ± 1; EVDO 24 dBm ± 1 (typical conducted)

— Antennas: SMA and RP-SMA male plugs, maximum torque not to exceed 4 in-lbs

— 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

*[†]LPE versions no longer available, *Theoretical speeds*

Support & Warranty

The COR IBR600C series are only sold as a components 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 have a subscription license to an active NetCloud Service Plan.
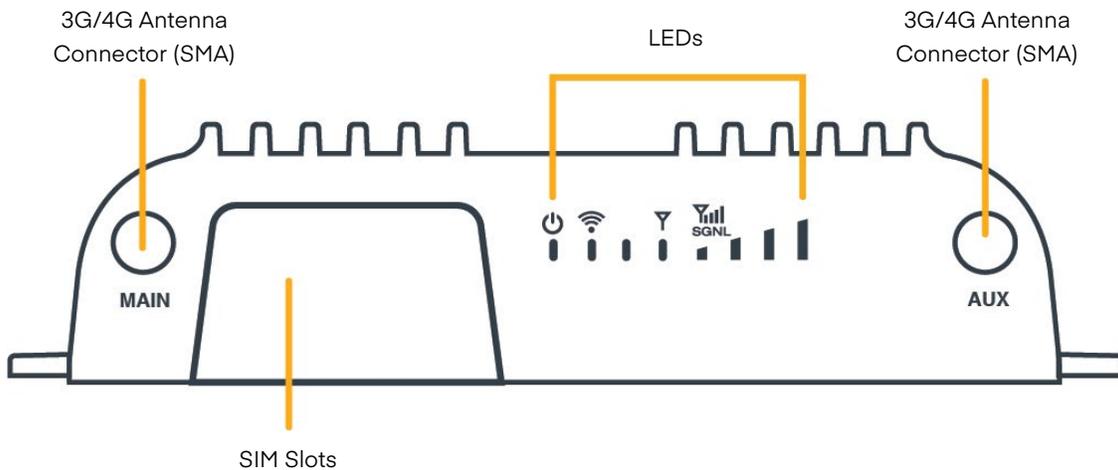
FirstNet and FirstNet Ready are registered trademarks and service marks of the First Responder Network Authority, an independent authority within the U.S. Department of Commerce.
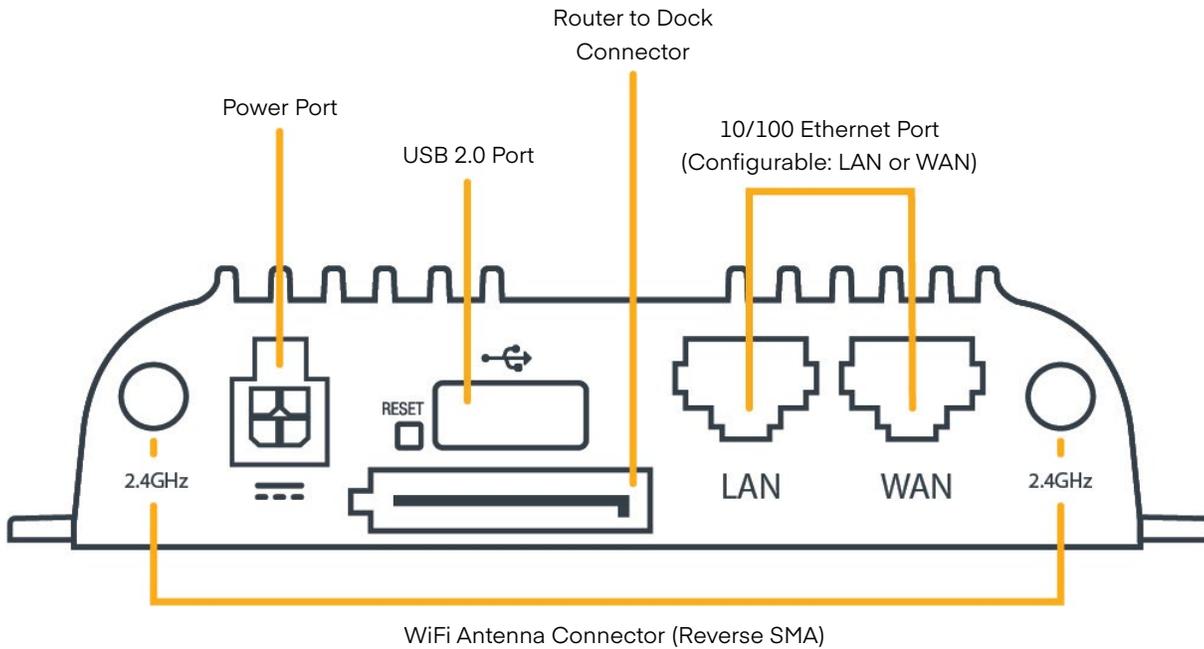
Hardware

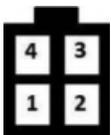### IBR600C-150M

IBR600C-LPE

WiFi Antenna Connector (Reverse SMA)
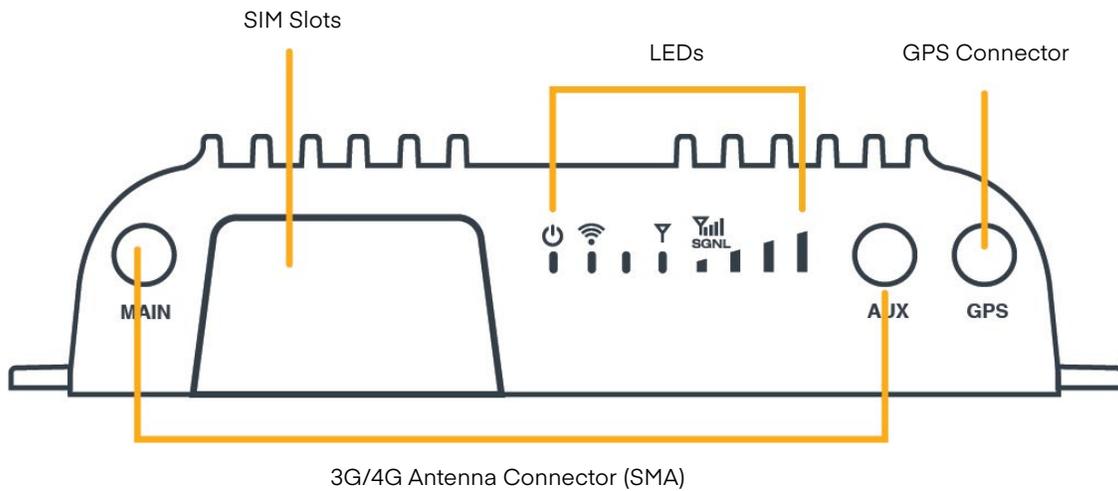
Power/GPIO Connector

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
⏻	**Power:** The Cradlepoint IBR600C/IBR650C must be powered using an approved 12 V DC power source. • Green = Powered ON. • Amber = Attention is required. Check the status of the router through the local interface (IBR600C only). • No Light = Not receiving power. Check the power source connection.
⚠	**Attention:** Indicates whether attention is required (IBR650C only) • Off = Router is operating normally. • Amber = Attention is required. Check the status of the router through the local user interface.
📶	**WiFi Broadcast:** Indicates WiFi activity (IBR600C only). • Green = WiFi is on and operating normally. • Off = WiFi radio is disabled.
⅄	**Embedded or USB Modem:** Indicates information about the embedded modem or attached USB 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
ᵞ.ıll	**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 modem LEDs blink red in unison for 10 seconds during an NCOS upgrade error.