

## Data Sheet

# IBR600C Series Router

2024 - 01 - 15

The Cradlepoint IBR600C Series Router for IoT networks is a semi-ruggedized, cloud-managed LTE router, built for IoT and M2M applications. They provide a resilient, LTE connection ideal for use in high-availability, portable, or fixed uses. The IBR600C Series is available with IoT NetCloud Service Plans, which provide features optimized for each unique deployment.

## Semi-Ruggedized IoT Solution

When coupled with the NetCloud IoT service plan, the IBR600C router provides a compact semi-ruggedized 4G LTE router solution for connecting and protecting IoT devices at scale. It is ideal for use in high-availability portable or fixed applications such as surveillance cameras, digital signs, oil and gas monitoring, and parallel networking. With an extensive list of features, it can be confidently deployed in the field, in buildings, or in embedded systems to deliver complete visibility, security, and control of connected devices anywhere.

## Robust Cloud Managed IoT Solution

For organizations requiring robust connectivity for IoT networks — with installed routers numbering from hundreds to many thousands — Cradlepoint's NetCloud Service for IoT with the IBR600C router provides a comprehensive cloud managed network solution. When coupled with advanced IoT features, it provides troubleshooting and diagnostics with in-band and out-of-band management, extensive analytics and insights, and extensibility and integrations such as Microsoft Azure IoT Central. Cradlepoint's NetCloud-managed IoT endpoints can be rapidly deployed and easily scaled to accommodate the diverse requirements of organizations.

## Notable Features

- Define policies through centralized, cloud-based management for easy deployment at scale.
- Gain fast, reliable connectivity with an embedded Cat 4 modem with dual SIM support.
- Expand working radius and IoT connectivity with secure, enterprise class Wi-Fi.
- Provide a semi-ruggedized, portable solution capable of enduring harsh environments.
- Utilize Configurable GPIO ports and NetCloud Integrations for IoT applications.
- Customize and extend NetCloud Service functionality with NetCloud SDK and API.



[Product Page](#)



[NetCloud Service](#)



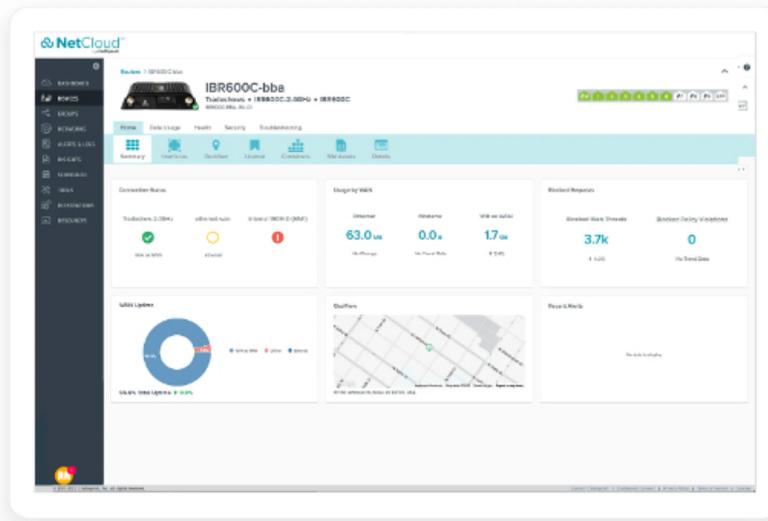
[Quick Start Guide](#)

# Key Software Capabilities

Cradlepoint NetCloud Service for the IBR600C Series Router includes the appropriate router software with powerful cloud management features for managing IoT at scale. The NetCloud Service includes cloud-based management for optimizing routing, VPN, SD-WAN, and security capabilities. The cloud capabilities include defining and applying policies, at-a-glance status insights, reports, troubleshooting, and analytics dashboards. The service includes a warranty for as long as an active IoT Essentials or Essentials + Advanced subscription on the router, online training, live and online support, and all software and firmware updates.

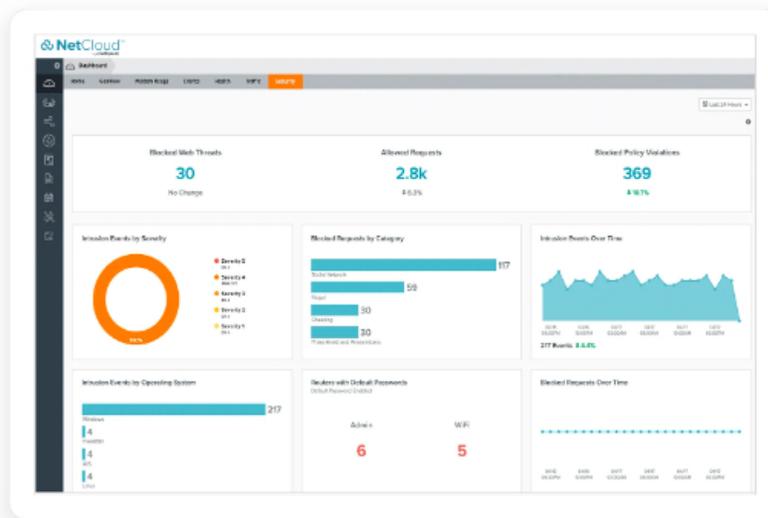
## Router Services

Next generation hardware provides local processing power to handle demanding, router-delivered services, such as support for VPN tunneling encryption including DMVPN, IPsec, GRE, and other tunneling technologies.



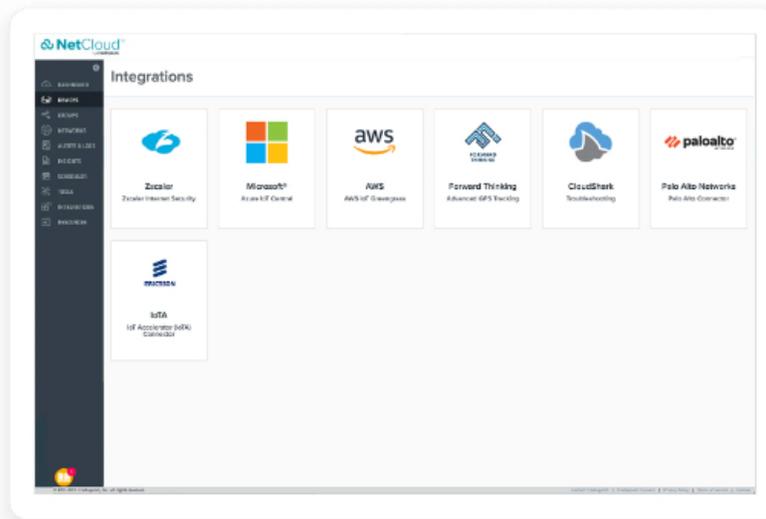
## Security Services

NetCloud Service includes security features and options to optimize the IBR600C Series Router to meet the evolving security needs of IoT. The service includes a stateful zone-based firewall, an authenticated wireless connection that is fully isolated from the surrounding networks, and the ability to add content filtering with Zscaler.



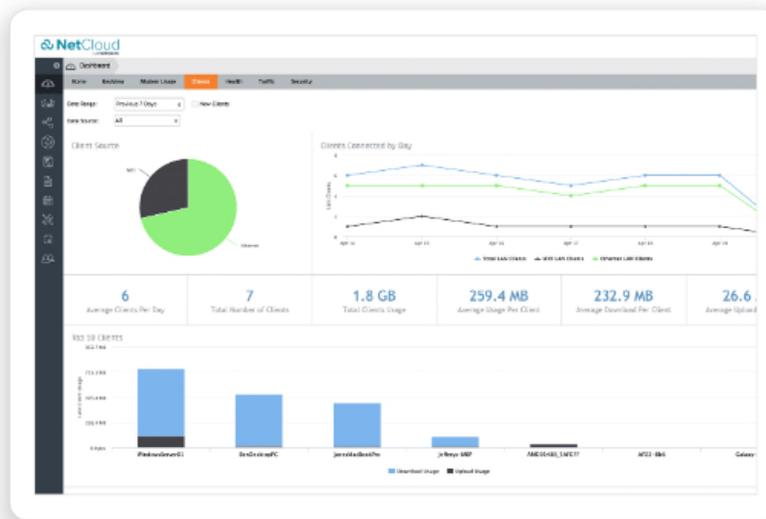
## Extensibility and Integrations

NetCloud Service and the IBR600C Series Router can access network data that third-party applications need to provide higher levels of insights and control. Leverage pre-built connections to partner applications or create custom connections across a variety of use cases using the NetCloud SDK or NetCloud API.



## Cloud Services

NetCloud Manager delivers true, zero-touch deployment with the ability to define and deliver policy across entire groups of endpoints. Users can create a cloud-orchestrated hub and spoke VPN network and gain insights and analytics required for rapid troubleshooting and diagnostic workflows.



## Hardware Specifications

The following features are delivered through the hardware.

INTERFACES	
<b>Modem:</b>	<ul style="list-style-type: none"> <li>— Embedded 150M modem with 2 x SMA cellular antenna connectors</li> <li>— Optional dual modem (requires the the COR Extensibility Dock) with Modular MC400 Modem</li> </ul>
<b>Ethernet:</b>	<ul style="list-style-type: none"> <li>— 1 x GbE (LAN/WAN switchable)</li> <li>— 1 x FE (LAN/WAN switchable)</li> </ul>
<b>Wi-Fi:</b>	<p>Single-radio, single-band (2.4 GHz)</p> <ul style="list-style-type: none"> <li>— 2x2 MIMO 802.11b/g/n Wi-Fi 4</li> <li>— 300 Mbps (2.4 GHz)</li> <li>— Two (2) Wi-Fi SSIDs</li> <li>— WPA/WPA2/WPA3 Personal, WPA2/ WPA3 Enterprise, Open</li> <li>— Wi-Fi Alliance Certified</li> </ul>
<b>Expansion:</b>	<p>1 x USB 2.0 Type A (output: 5V, 500mA, 2.5W)</p> <p>1 x Extensibility Port</p> <ul style="list-style-type: none"> <li>— Extensibility Dock</li> <li>— 9-Wire Power and GPIO Cable</li> <li>— Serial Port Adapter</li> </ul>
<b>GNSS/GPS:</b>	1 x SMA GNSS antenna connector
ENVIRONMENTAL	
<b>Temperature:</b>	<ul style="list-style-type: none"> <li>— Operating: -20 °C to 60 °C (-4 °F to 140 °F)</li> <li>— Storage: -20 °C to 70 °C (-4 °F to 158 °F)</li> </ul>
<b>Humidity:</b>	<ul style="list-style-type: none"> <li>— Operating: 5% to 95%</li> <li>— Storage: 5% to 95%</li> </ul>
POWER	
<b>Required:</b>	<p>One of the following:</p> <ul style="list-style-type: none"> <li>— 9-33 VDC steady state input</li> <li>— External DC power supply, 100-240 VAC input, 12 VDC 3A output (included)</li> </ul>
<b>Features:</b>	<ul style="list-style-type: none"> <li>— Reverse polarity and transient voltage protection (ISO 7637-2)</li> <li>— Ignition sensing (automatic ON and time-delay OFF)</li> </ul>
<b>Consumption:</b>	<ul style="list-style-type: none"> <li>— Idle: 4 W</li> <li>— Wi-Fi TX/RX: 9 W</li> <li>— LTE TX/RX: 6.25 W</li> </ul>
PHYSICAL	
<b>Size:</b>	118 x 113.5 x 29.3 mm (4.6 x 4.5 x 1.2 in)

<b>Weight:</b>	400 g (14 oz)
<b>CERTIFICATIONS</b>	
<b>Safety:</b>	UL/cUL, CB Scheme, EN 60950-1, EN 62368-1, MIL-STD 810G, SAE J1455
<b>Materials:</b>	WEEE, RoHS, REACH, California Prop 65
<b>RELIABILITY</b>	
<b>Calculated MTBF:</b>	892,499 hours (Telcordia SR332 at 25 °C)
<b>WI-FI POWER</b>	
<b>FCC:</b>	2.4 GHz band: 28.1 dBm Conducted
<b>Canada:</b>	2.4 GHz band: 28.1 dBm Conducted
<b>Rest of World:</b>	<ul style="list-style-type: none"> <li>— 2.4 GHz band: 15.44 dBm Conducted</li> <li>— 2.4 GHz band: 20 dBm EIRP</li> </ul>
<b>PERFORMANCE</b>	
<b>Stateful Firewall Throughput:</b>	75 Mbps
<b>IPSec VPN Throughput:</b>	10 Mbps
<b>Concurrent VPN Tunnels:</b>	5
<b>Concurrent Sessions (TPC):</b>	16,000
<b>Typical Client Count:</b>	5
<b>LEDs</b>	
Refer to the <a href="#">IBR600C Series IoT Router Quick Start Guide</a> .	

Performance testing conducted based on requirements as defined in RFC2544 using fixed-frame 1518-byte packets. Throughput results reflect uni-directional UDP traffic with less than 1% packet loss as tested with wired connections. Results do not reflect performance of the cellular wireless operator networks.

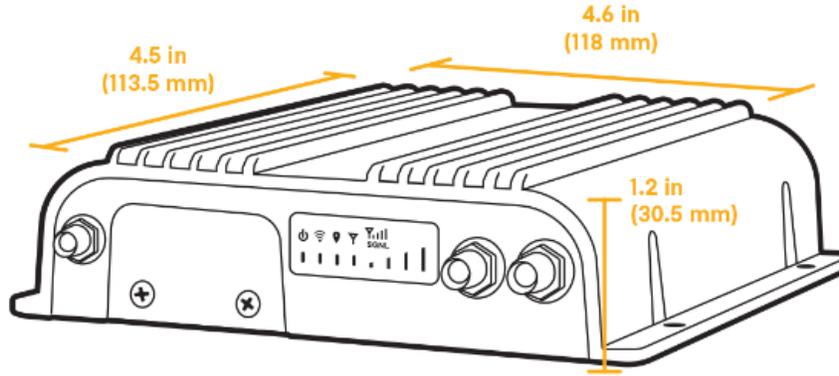
## Enterprise-Class Modem Specifications

SPECIFICATION	150M-D (NORTH AMERICA)	150M-B (EUROPE)	150M-C (APAC)
<b>Technology:</b>	LTE Cat 4 (3GPP Rel. 11), DC-HSPA+ <ul style="list-style-type: none"> <li>— Dual SIM slots, 2FF form factor</li> <li>— SIM-based auto-carrier selection</li> </ul>	Cat 4 LTE (3GPP Rel. 11), DC-HSPA+ <ul style="list-style-type: none"> <li>— Dual SIM slots, 2FF form factor</li> <li>— SIM-based auto-carrier selection</li> </ul>	LTE Cat 4 (3GPP release 11), DC-HSPA+ <ul style="list-style-type: none"> <li>— Dual SIM slots, 2FF form factor</li> <li>— SIM based auto carrier select</li> </ul>
<b>Fallback:</b>	WCDMA/UMTS/HSPA+	WCDMA/UMTS/HSPA+	WCDMA/UMTS/HSPA+
<b>Carrier Aggregation:</b>	N/A	N/A	N/A
<b>Peak Downlink Rates:</b>	<ul style="list-style-type: none"> <li>— LTE: 150 Mbps</li> <li>— WCDMA: 42.2 Mbps</li> </ul>	<ul style="list-style-type: none"> <li>— LTE: 150 Mbps</li> <li>— WCDMA: 42.2 Mbps</li> </ul>	<ul style="list-style-type: none"> <li>— LTE: 150 Mbps</li> <li>— WCDMA: 42.2 Mbps</li> </ul>
<b>Peak Uplink Rates:</b>	<ul style="list-style-type: none"> <li>— LTE 50 Mbps</li> <li>— WCDMA: 5.76 Mbps</li> </ul>	<ul style="list-style-type: none"> <li>— LTE 50 Mbps</li> <li>— WCDMA: 5.76 Mbps</li> </ul>	<ul style="list-style-type: none"> <li>— LTE 50 Mbps</li> <li>— WCDMA: 5.76 Mbps</li> </ul>

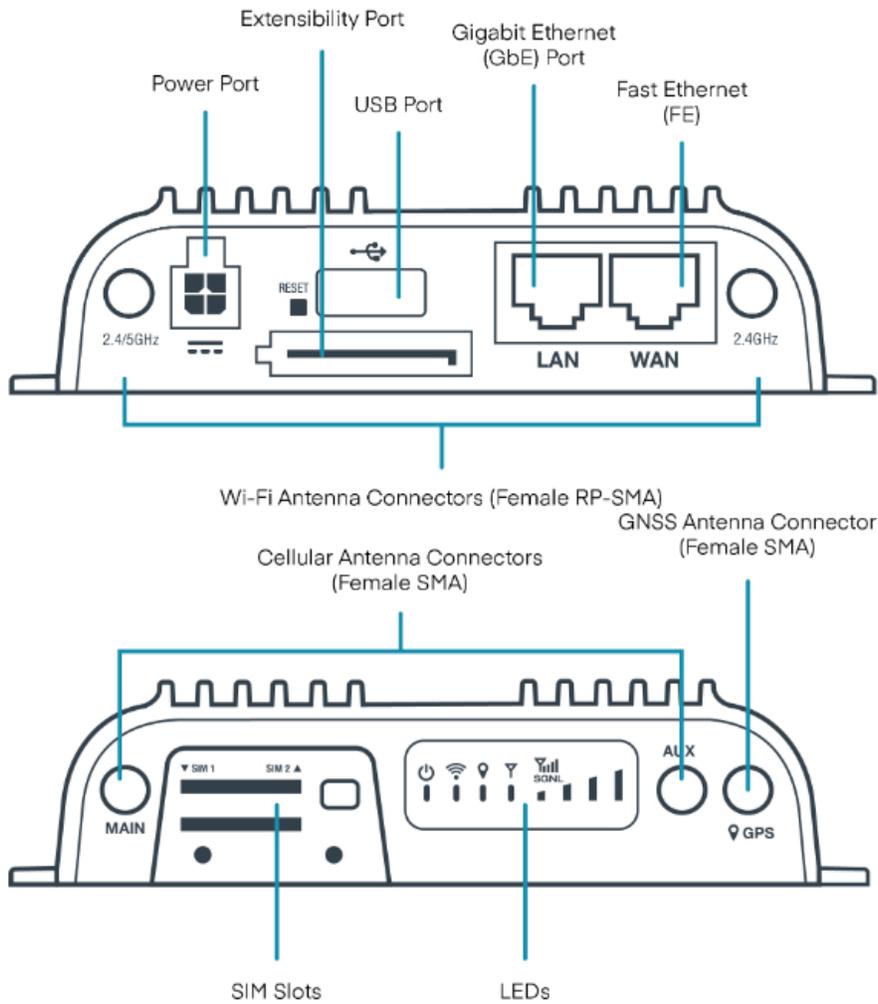
<b>MIMO:</b>	2x2 MIMO	2x2 MIMO	2x2 MIMO
<b>QAM:</b>	Up to 16	Up to 16	Up to 16
<b>LTE Bands:</b>	LTE FDD — B2, B4, B5, B12, B13, B14, B66, B71	LTE TDD — B38, B40, B41  LTE FDD — B1, B3, B5, B7, B8, B20	LTE FDD — B1, B3, B5, B7, B28
<b>WCDMA Bands:</b>	B2, B4, B5	LTE FDD — B1, B5, B8	LTE FDD — B1, B5
<b>Power:</b>	LTE 23 dBm ± 1, DC-HSPA+ 23 dBm ± 1 (typical conducted)	LTE 23 dBm ± 1; HSPA+ 23 dBm ± 1 (typical conducted)	LTE 23 dBm ± 1; HSPA+ 23 dBm ± 1 (typical conducted)
<b>Antennas:</b>	SMA female connectors, external 600 MHz - 6 GHz cellular paddle antennas (Qty 2, included)	SMA female connectors, external 600 MHz - 6 GHz cellular paddle antennas (Qty 2, included)	SMA female connectors, external 600 MHz - 6 GHz cellular paddle antennas (Qty 2, included)
<b>GNSS/GPS:</b>	Passive GNSS — GPS, GLONASS, BeiDou, Galileo	Passive GNSS — GPS, GLONASS, BeiDou, Galileo	Passive GNSS — GPS, GLONASS, BeiDou, Galileo
<b>SMS:</b>	Yes	Yes	Yes
<b>Regulatory:</b>	FCC (U.S.), IC (Canada)	CE (European Union)	RCM (AU/NZ)
<b>Network Operator Standards:</b>	PTCRB (U.S., Canada)	GCF (Worldwide)	GCF (Worldwide)
<b>Network Operator Certifications:</b>	AT&T, Verizon†	See note†	See note†
<b>Public Safety Network Certifications:</b>	FirstNet Trusted™, Verizon Frontline	N/A	N/A
<b>Private Cellular Network:</b>	N/A	N/A	N/A

† Cellular carriers and operators throughout the world may only require telecom industry certifications, like PTCRB or GCF, to operate on their network. Some carriers require additional testing and approval, beyond telecom certifications. A carrier listed in the approvals section means Cradlepoint completed additional testing and acquired technical approval for that given carrier. Any carrier not listed may not require additional testing or approval beyond telecom industry certifications to operate on their network.

## Physical Measurements & Features



## Features



## SIM Card Info



## Ordering Guide

**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 Essentials package at any time.

**NetCloud IoT Connectivity** packages and plans contain the features and capabilities required for a range of entry-level IoT applications. IoT Connectivity Packages include access to the technical documentation portal, on-demand Cradlepoint University training, and a one-year warranty.

For additional capabilities, a **NetCloud IoT Essentials Add-on** can be added to the NetCloud IoT Connectivity Package at any time.

See additional details of what is included in the Essential and Advanced NetCloud software: [cradlepoint.com/netcloud-service](https://cradlepoint.com/netcloud-service)

NetCloud IoT Packages for the IBR600C Series Router

REGION	MODEM	IOT PACKAGE PLAN	PART NUMBER
<b>North America: U.S. &amp; Canada</b>	Cat 4 (150 Mbps) with Wi-Fi	Essentials	TBy-600C150M-NNN
		Essentials + Advanced	TBAy-600C150M-NN
		IoT Connectivity	TBFy-600C150M-NN
	Cat 4 (150 Mbps) <b>without</b> Wi-Fi	Essentials	TBy-650C150M-N0N
		Essentials + Advanced	TBAy-650C150M-NN
<b>U.S. Federal Government</b>	TAA Compliant NC — Cat 4 (150 Mbps) with Wi-Fi	Essentials + Advanced	TAA-TBAy-600C150M-NN
<b>Worldwide: European Union, South Africa &amp; United Kingdom</b>	Cat 4 (150 Mbps) with Wi-Fi	Essentials	TBy-600C150M-EWM
		Essentials + Advanced	TBAy-600C150M-EM
		IoT Connectivity	TBFy-600C150M-EM
<b>Asia Pacific: Australia, New Zealand &amp; Singapore</b>	Cat 4 (150 Mbps) with Wi-Fi	Essentials	TBy-600C150M-PWM
		Essentials + Advanced	TBAy-600C150M-PM
		IoT Connectivity	TBFy-600C150M-PM

<b>All Regions</b>	Advanced	TBx-NCADV
	Essentials Add-on for IoT Connectivity	TBFx-NCCES
	Renewal Essentials	TAx-NCESS-R
	Renewal Advanced	TBx-NCADV-R
	Renewal Essentials + Advanced	TBAx-NCEA-R
	Renewal IoT Connectivity	TBFx-NCCONL-R
	Renewal IoT Connectivity to Essentials Add-on	TBFx-NCCES-R

x = 1, 3, or 5 years  
 y = 3 or 5 years

## Accessories

INCLUDED	PART NUMBER
One of the following power supplies:	170716-000
— Power Supply, 12V Small 2x2 1.5 meters (North America Type A)	170717-000
— Power Supply, 12V Small 2x2 1.5 meters (North America-United Kingdom-Europe-Australia Types A-G-C-I)	
Cellular Antenna, 600 MHz - 6 GHz, SMA Black Mini (Qty 2)	170704-002
Wi-Fi Antenna, Charcoal, Dual-Band 2.4/5 GHz, RPSMA (Qty 2)	170836-000
OPTIONAL	PART NUMBER
GPIO Cable, Small, 2x2, Black, 3 meters, 22AWG	170585-001
Power Supply, Vehicle, 12V, 2x2	170635-000
DIN Rail Mounting Bracket	170656-002
GPIO Cable, SATA with Lock, Black, 1.7 meters	170680-001
COR Extensibility Dock	170700-000
COR Extensibility Cable, SATA-DB9, Black, 305 mm	170767-000
Rail Safe GPIO Cable, Small 2x2, Black, 3 meters, 20 AWG	170871-000
LTE Advanced (Cat 6) modem <sup>†</sup>	MC400LP5
LTE Advanced Pro (1200 Mbps) modem upgrade for Mobile — includes IBR1700 & COR Extensibility Dock doors, no antennas <sup>†</sup>	MA-MC400-1200M-B
UNITED STATES FEDERAL GOVERNMENT	PART NUMBER
GPIO Cable, Small, 2x2, Black, 3 meters, 22 AWG	TAA-170585-001
Power Supply, Vehicle, 12V, 2x2, 2 meters	TAA-170635-000
DIN Rail Mounting Bracket	TAA-170656-002

GPIO Cable, SATA with Lock, Black, 1.7 meters	TAA-170680-001
COR Extensibility Dock	TAA-170700-000
Power Supply, 12 V, Small 2x2, 1.5 meters (North America Type A)	TAA-170716-000
Power Supply, 12 V Small 2x2, 1.5 meters (North America-United Kingdom-Europe-Australia Types A-G-C-I)	TAA-170717-000
COR Extensibility Cable, SATA-DB9, Black, 305 mm	TAA-170767-000
LTE Advanced Pro (1200 Mbps) modem upgrade for Mobile — includes IBR1700 & COR Extensibility Dock doors, no antennas†	TAA-MA-MC400-1200M-B

†Refer to the [Cradlepoint MC400 Modular Modem](#) webpage for more information about modular modems.

## Support & Warranty

The IBR600C Series Router is only sold as a component of NetCloud IoT Connectivity, IoT Essentials or Essentials + Advanced Packages.

- Only IoT Essentials or Essentials + Advanced 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 IoT Essentials or Essentials + Advanced Service Plan.

### More Information

**[Find the most up-to-date information at cradlepoint.com/ibr600c](https://www.cradlepoint.com/ibr600c)**