



## Data Sheet

# IBR600C Series Router



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.

## 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.
- Integrate into an existing network with standards-based, VPN tunnel support and purpose-built IoT segmentation with NetCloud Perimeter.

## 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.

## Performance

Stateful Firewall Throughput	NetCloud Perimeter Throughput	IPSec VPN Throughput	Concurrent VPN Tunnels	Concurrent Sessions (TCP)	Typical Client Count
<b>75 Mbps</b>	<b>15 Mbps</b>	<b>10 Mbps</b>	<b>2</b>	<b>16,000</b>	<b>5</b>

*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.*

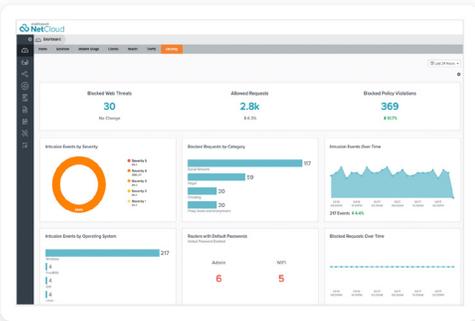
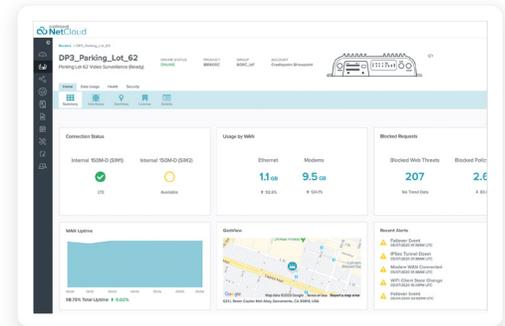
*Results do not reflect performance of the cellular wireless operator networks.*

## 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 there is an active 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.

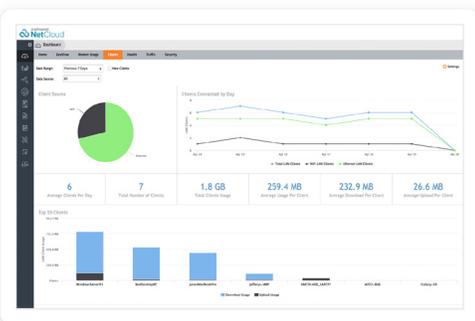
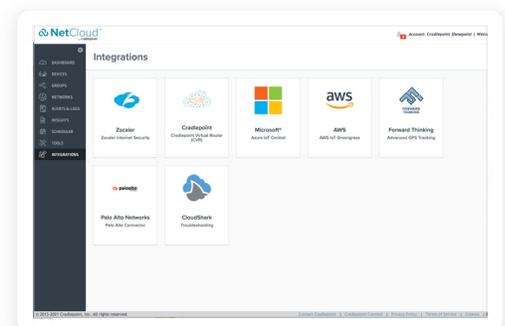


## Security Services

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 Container Orchestrator, 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>	Embedded 150M modem <ul style="list-style-type: none"> <li>— 2 x SMA cellular antenna connectors</li> </ul> Optional dual modem (requires the the COR Extensibility Dock): <ul style="list-style-type: none"> <li>— Modular MC400 Modem</li> </ul>
<b>Ethernet:</b>	1 x GbE (LAN/WAN switchable) 1 x FE (LAN/WAN switchable)
<b>Wi-Fi:</b>	Single-radio, single-band (2.4 GHz) <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 Personal, WPA2 Enterprise, Open</li> </ul>
<b>Expansion:</b>	1 x USB 2.0 Type A (output: 5V, 500mA, 2.5W) 1 x Extensibility Port <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>	Operating: -20 °C to 60 °C (-4 °F to 140 °F) Storage: -20 °C to 70 °C (-4 °F to 158 °F)
<b>Humidity:</b>	Operating: 5% to 95% Storage: 5% to 95%
POWER	
<b>Required:</b>	One of the following: <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)
CERTIFICATIONS	
<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
WI-FI POWER:	
<b>FCC:</b>	2.4 GHz band: 28.1 dBm Conducted
<b>Rest of World:</b>	2.4 GHz band: 15 dBm Conducted 2.4 GHz band: 20 dBm EIRP
LEDs	
Refer to the <a href="#">IBR600C Series IoT Router Quick Start Guide</a> .	

## Enterprise-Class Modem Specifications

SPECIFICATION	150M-D (NORTH AMERICA)	150M-B (EUROPE)
<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>
<b>Fallback:</b>	WCDMA/UMTS/HSPA+	WCDMA/UMTS/HSPA+
<b>Carrier Aggregation:</b>	N/A	N/A
<b>Peak Downlink Rates:</b>	LTE: 150 Mbps WCDMA: 42.2 Mbps	LTE: 150 Mbps WCDMA: 42.2 Mbps
<b>Peak Uplink Rates:</b>	LTE 50 Mbps WCDMA: 5.76 Mbps	LTE 50 Mbps WCDMA: 5.76 Mbps
<b>MIMO:</b>	2x2 MIMO	2x2 MIMO
<b>QAM:</b>	Up to 16	Up to 16
<b>LTE Bands:</b>	LTE FDD <ul style="list-style-type: none"> <li>— B2, B4, B5, B12, B13, B14, B66, B71</li> </ul>	LTE TDD <ul style="list-style-type: none"> <li>— B38, B40, B41</li> </ul> LTE FDD <ul style="list-style-type: none"> <li>— B1, B3, B5, B7, B8, B20</li> </ul>
<b>WCDMA Bands:</b>	B2, B4, B5	LTE FDD <ul style="list-style-type: none"> <li>— B1, B5, B8</li> </ul>
<b>Power:</b>	LTE 23 dBm ± 1, DC-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)
<b>GNSS/GPS:</b>	Passive GNSS <ul style="list-style-type: none"> <li>— GPS, GLONASS, BeiDou, Galileo</li> </ul>	Passive GNSS <ul style="list-style-type: none"> <li>— GPS, GLONASS, BeiDou, Galileo</li> </ul>
<b>SMS:</b>	Yes	Yes
<b>Regulatory:</b>	FCC (U.S.), IC (Canada)	CE (European Union)
<b>Network Operator Standards:</b>	PTCRB (U.S., Canada)	GCF (Worldwide)
<b>Network Operator Certifications:</b>	AT&T, Verizon†	See note†
<b>Public Safety Network Certifications:</b>	FirstNet Ready™	N/A
<b>Private Cellular Network:</b>	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.

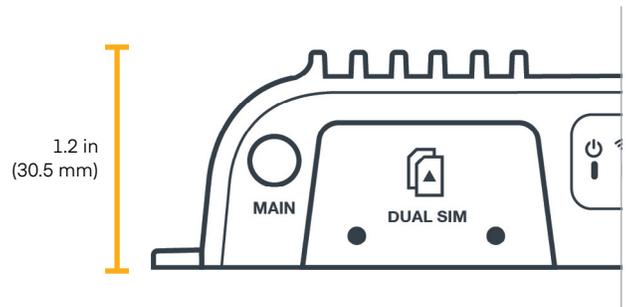
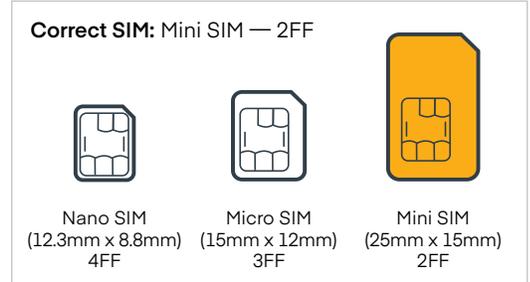
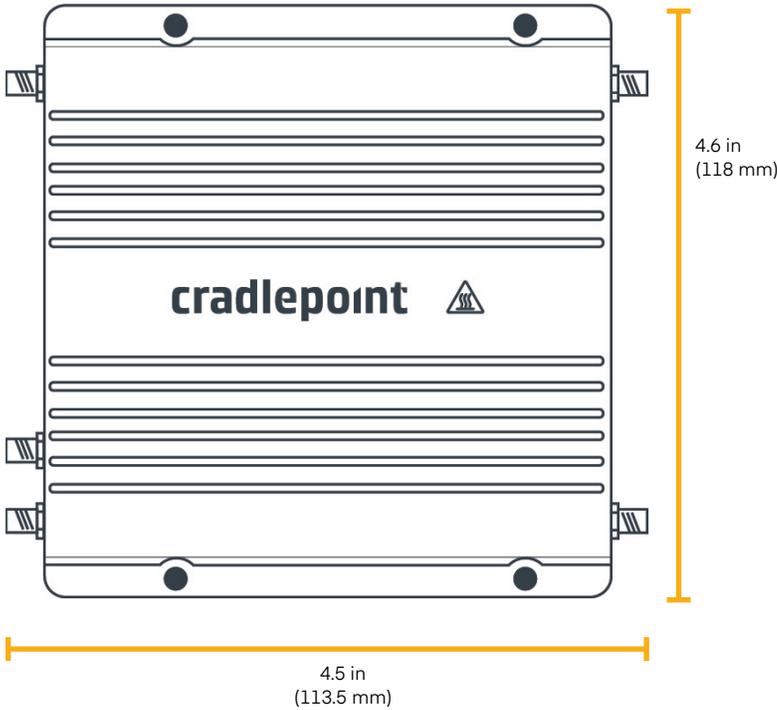
## Enterprise-Class Modem Specifications

SPECIFICATION	150M-C (APAC)
<b>Technology:</b>	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+
<b>Carrier Aggregation:</b>	N/A
<b>Peak Downlink Rates:</b>	LTE: 150 Mbps WCDMA: 42.2 Mbps
<b>Peak Uplink Rates:</b>	LTE: 50 Mbps WCDMA: 5.76 Mbps
<b>MIMO:</b>	2x2 MIMO
<b>QAM:</b>	Up to 16
<b>LTE Bands:</b>	LTE FDD <ul style="list-style-type: none"> <li>— B1, B3, B5, B7, B28</li> </ul>
<b>WCDMA Bands:</b>	LTE FDD <ul style="list-style-type: none"> <li>— B1, B5</li> </ul>
<b>Power:</b>	LTE 23 dBm ± 2; HSPA+ 23 dBm ± 1; (typical conducted)
<b>Antennas:</b>	SMA female connectors , External 600 MHz – 6 GHz cellular Paddle Antennas (Qty 2, included)
<b>GNSS/GPS:</b>	Passive GNSS <ul style="list-style-type: none"> <li>— GPS, GLONASS, BeiDou, Galileo</li> </ul>
<b>SMS:</b>	Yes
<b>Regulatory:</b>	RCM (AU/NZ)
<b>Network Operator Standards:</b>	GCF (Worldwide)
<b>Network Operator Certifications:</b>	See note <sup>†</sup>
<b>Public Safety Network Certifications:</b>	N/A
<b>Private Cellular Network:</b>	N/A

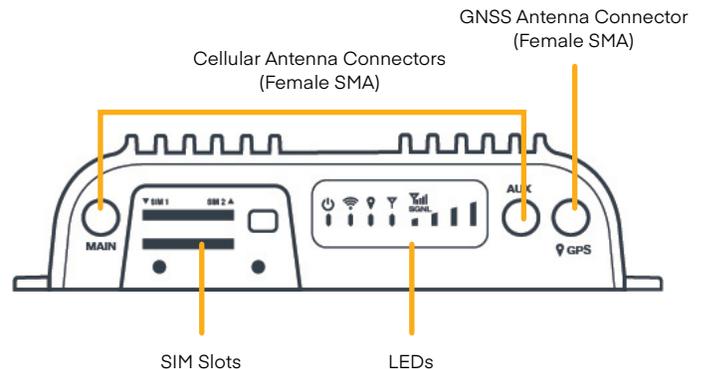
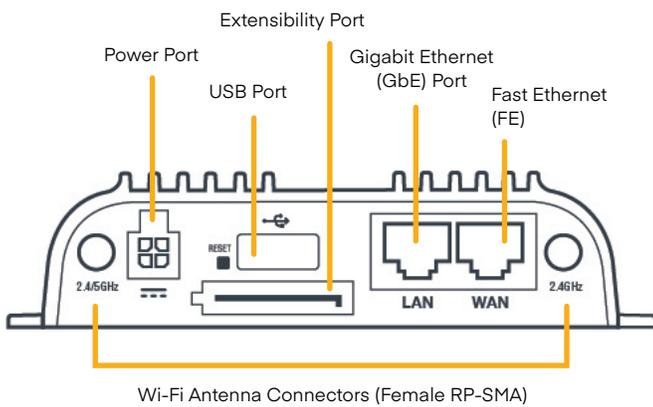
<sup>†</sup> Cellular carriers and operators throughout the world may only require telecom industry certifications, like PTCRB or GCF, to operate on their network. Some carriers require additional testing and approval, beyond telecom certifications. A carrier listed in the approvals section means Cradlepoint 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.

# Hardware

## Physical Measurements



## Sides



## 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.

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

For more details on the IBR600C router, included with the NetCloud IoT packages, see below.

## NetCloud Package and Plans

REGION	DESCRIPTION	PART NUMBER
<b>North America:</b> U.S. & Canada	NetCloud IoT Essentials Plan, Advanced Plan, and IBR600C Router with Wi-Fi (150 Mbps modem), North America	TBAy-600C150M-NN
	NetCloud IoT Essentials Plan, Advanced Plan, and IBR650C Router no Wi-Fi (150 Mbps modem), North America	TBAy-650C150M-NN
	NetCloud IoT Essentials Plan and IBR600C Router with Wi-Fi (150 Mbps modem), North America	TBy-600C150M-NNN
	NetCloud IoT Essentials Plan and IBR650C Router no Wi-Fi (150 Mbps modem), North America	TBy-650C150M-N0N
<b>United States:</b> Federal Government	TAA Compliant NC IoT Essentials Plan, Advanced Plan, and IBR600C Router with Wi-Fi (150 Mbps modem), North America	TAA-TBAy-600C150M-NN
<b>Worldwide:</b> European Union, Saudi Arabia, South Africa, United Arab Emirates & United Kingdom	NetCloud IoT Essentials Plan, Advanced Plan, and IBR600C Router with Wi-Fi (150 Mbps modem), Europe	TBAy-600C150M-EM
	NetCloud IoT Essentials Plan and IBR600C Router with Wi-Fi (150 Mbps modem), Europe	TBy-600C150M-EWM
<b>Asia Pacific:</b> Australia, Malaysia, New Zealand & Singapore	NetCloud IoT Essentials Plan, Advanced Plan, and IBR600C Router with Wi-Fi (150 Mbps modem), APAC	TBAy-600C150M-PM
	NetCloud IoT Essentials Plan and IBR600C Router with Wi-Fi (150 Mbps modem), APAC	TBy-600C150M-PWM
<b>All Regions</b>	NetCloud IoT Advanced Plan (Requires an Essentials Plan)	TBx-NCADV
	Renewal NetCloud IoT Essentials Plan	TAx-NCESS-R
	Renewal NetCloud IoT Advanced Plan	TBx-NCADV-R
	Renewal NetCloud IoT Essentials and Advanced Plans	TBAx-NCEA-R

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

## Accessories

INCLUDED	PART NUMBER
One of the following power supplies:	
— Power Supply, 12 V, Small 2x2, 1.5 meters (North America Type A)	170716-000
— Power Supply, 12 V, Small 2x2, 1.5 meters (North America-United Kingdom-Europe-Australia Types A-G-C-I)	170717-000
Cellular Antenna, 600 MHz - 6 GHz, Black Mini, SMA, 140 mm (Qty 2)	170704-002
Wi-Fi Antenna, Charcoal, Dual-Band 2.4/5 GHz, RPSMA, 194 mm (Qty 2)	170836-000
OPTIONAL	PART NUMBER
GPIO Cable, SATA with Lock, Black, 1.7 meters	170680-001
Power Supply, Vehicle, 12V, 2x2, 2 meters	170635-000
GPIO Cable, Small, 2x2, Black, 3 meters, 22 AWG	170585-001
Rail Safe GPIO Cable, Small 2x2, Black, 3 meters, 20 AWG	170871-000
COR Extensibility Dock	170700-000
COR Extensibility Cable, SATA-DB9, Black, 305 mm	170767-000
DIN Rail Mounting Bracket	170656-002
LTE Advanced (Cat 6) modem†	MC400LP5
LTE Advanced Pro (1200 Mbps) modem upgrade for Mobile	MA-MC400-1200M-B
— Includes IBR1700 & COR Extensibility Dock doors, no antennas†	
UNITED STATES FEDERAL GOVERNMENT	PART NUMBER
Cellular Antenna, Black Mini, 600 MHz - 6 GHz, SMA, 140 mm	TAA-170704-002
Wi-Fi Antenna, Charcoal, Dual-band 2.4/5 GHz, RPSMA, 194 mm	TAA-170836-000
GPIO Cable, SATA W/ Lock, Black, 1.7 meters	TAA-170680-001
Power Supply, Vehicle, 12V, 2x2, 2 meters	TAA-170635-000
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
GPIO Cable, Small, 2x2, Black, 3 meters, 22 AWG	TAA-170585-001
COR Extensibility Dock	TAA-170700-000
COR Extensibility Cable, SATA-DB9, Black, 305 mm	TAA-170767-000
DIN Rail Mounting Bracket	TAA-170656-002
LTE Advanced Pro (1200 Mbps) modem upgrade for Mobile	TAA-MA-MC400-1200M-B
— Includes IBR1700 & COR Extensibility Dock doors, no antennas†	

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

## Support & Warranty

The IBR600C router is only sold as a component of NetCloud IoT Essentials or Essentials + Advanced 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.

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