



Cradlepoint COR IBR600 Series

INTEGRATED BROADBAND ROUTERS

IBR600/IBR650 Models - Hardened for Machine-to-Machine



COR IBR600

The Cradlepoint COR IBR600 Series is built for your M2M network. The COR IBR600 Series is an affordable, highly featured compact router with an embedded modem designed for critical business and enterprise applications that require 24/7 connectivity.

With its compact size, sleek metal case, mounting bracket, and external mobile broadband and WiFi* (IBR600 only) antennas, the Cradlepoint COR IBR600 Series is ideal for use in high-availability portable or fixed applications like ATMs, kiosks, surveillance, vehicles, etc.

Cradlepoint COR provides instant network connectivity with a built-in modem - just add a mobile broadband plan or insert an activated SIM (2FF) and go. It also supports traditional wired data networks like DSL, cable, or T1 for maximum network flexibility. Business-continuity features like failover/failback come standard in Cradlepoint COR. When configured for failover, COR detects network failures and seamlessly switches over to a secondary WAN - keeping your network online.

The Cradlepoint COR IBR600 Series provides VPN endpoint functionality, VLAN support, IPv6 support, multiple remote management methods including SMS, modem data usage management and alerts, GPIO support, USB-to-serial console passthrough support for out-of-band management of connected devices, and the ability to be part of a PCI-DSS compliant solution. It allows for secure access to company networks for enterprise applications and provides a secure way to transmit sensitive data to and from a remote site.

EXTENDED ENTERPRISE LICENSE

Cradlepoint's Extended Enterprise License provides advanced routing and security features: BGP, OSPF, RIP, VRRP, STP, NHRP, L2TP, and NEMO/DMNR.

Subscription required. See cradlepoint.com/eel for details.

THE HEART OF YOUR M2M NETWORK

- For use in 24/7 business-critical installations such as ATMs, kiosks, surveillance, vehicles, etc.
- WiFi* (IBR600) and no-WiFi (IBR650) options available
Wireless 2x2 MIMO "N" WiFi (802.11 b/g/n)*
- Increase your network availability with WiPipe™-powered automatic failover and failback
- Supports both wireless and wired Internet connections (two Ethernet ports for either LAN/LAN or WAN/LAN)
- Several models available with 4G and/or 3G support for US and international carriers
- Certified for shock and vibration in accordance with MIL STD 810G and SAE J1455 - be confident in the device's ability to survive challenging environments, including vehicles
- IPsec VPN termination (tunnel, NAT-T, and transport) with GRE support and site-to-site dynamic VPN with NHRP
- Create a custom-branded hotspot with our captive portal feature (include ToS, advertisements, etc.)*
- Standalone active GPS support on -PWD models (1x1 "N" WiFi support)*

CRADLEPOINT ENTERPRISE CLOUD MANAGER

Rapidly deploy and dynamically manage networks at geographically distributed locations with Enterprise Cloud Manager, Cradlepoint's next generation application platform. Improve productivity, reduce costs, and enhance the intelligence of your network and business operations.

Subscription required. See cradlepoint.com/ecm for details.

**WiFi is only supported on IBR600 models.*



POWER / RESET / LAN / WAN / USB
COR IBR600



SIM SLOT / ON-OFF / LEDs / SIGNAL STRENGTH
COR IBR600

cradlepoint.com/cor

COR IBR600/IBR650 Integrated Broadband Router

Internet Access and Device Connectivity

- Includes integrated 3G/4G modem (see attached for options and specifications)
- 2 Ethernet LAN/WAN ports for Ethernet-enabled devices or landline Internet
- Wireless 2x2 MIMO "N" WiFi (802.11 b/g/n)*
- Supports up to 64 WiFi connections at a time*
- Two SSIDs (with individual security, bandwidth limits, and QoS settings; separate critical traffic or create a public WiFi hotspot)*

Security

- IPsec VPN (up to 5 concurrent sessions) and GRE Tunneling option, also supports passthrough VPN connections (IPsec, L2TP, PPTP)
- Layer 2 Tunneling Protocol (L2TP)**
- WEP, WPA, WPA2, WPA2 Enterprise with AES encryption for secure WiFi*
- 802.1Q VLAN support to isolate, segment and secure network traffic
- SPI (stateful packet inspection) firewall and NAT (network address translation) to prevent unwanted access to connected computers
- Zone-based firewall
- Variety of security features (URL filtering, IP & traffic filtering, DMZ, port forwarding) for safer Internet access
- Advanced security mode and reporting to facilitate PCI-DSS compliance

Flexibility

- First-time and advanced setup wizards for easy, swift, and secure setup
- Remote management with Cradlepoint Enterprise Cloud Manager
- Multi-Carrier Software-Defined Radio with LPE models
- SNMP v1/2c/3, CLI over SSH, and SMS
- IP passthrough support provides 3G/4G-to-Ethernet adapter
- Create a WiFi hotspot with a captive portal (terms of service, ads, etc)*
- Network failover support & load balancing
- GPIO for additional hardware control, serial console available (USB-to-serial)
- LAN/WAN affinity to assign specific LAN traffic to a WAN
- Enterprise routing protocols:** BGP, OSPF, RIP
- VRRP for enterprise router redundancy**
- GPS NMEA GGA, VGT, and/or RMC sentence support
- IPv6 support
- Advanced APN management
- Network Mobility (NEMO) support for session continuity in mobile networks**
- Roaming control and ability to force 3G or 4G bands

Support and Warranty

- CradleCare Support with technical support, software upgrades, and advanced hardware exchange - 1, 3, and 5 year options
- Limited 1 year warranty included with hardware repair or replacement - extend warranty to 2, 3, or 5 years

IBR600/IBR650 Differences

- IBR600: Includes WiFi, hotspot services/captive portal, WiFi as WAN
- IBR650: WiFi excluded in order to facilitate PCI and HIPAA compliance

*WiFi-related items are only supported on IBR600 models
 **Requires an Extended Enterprise License

Specifications

- WAN Integrated modem, 10/100 Ethernet port, WiFi as WAN*
 LAN WiFi (802.11 b/g/n)*, two 10/100 Ethernet ports (WAN or LAN)
- TEMPERATURE -20°C to 60°C (-4°F to 140°F) operating modem as WAN
 -20°C to 50°C (-4°F to 122°F) operating Ethernet as WAN
 -30°C to 70°C (-22°F to 158°F) storage
- RELATIVE HUMIDITY (non-condensing) 10% to 85%, operating
 5% to 90%, storage
- POWER DC input steady state voltage range: 9 - 18VDC
 Recommended inline fuse for vehicle installations: 1.5A fast-blow (see vehicle best practices installation guide for details)
- WiFi* (IBR600) Transmit power: 15 dBm typical for all modes; receive sensitivity: -68 dBm @ HT20 (11n), -65 dBm @ HT40 (11n), -72 dBm typical @ 54 Mbps (11g), -84 dBm typical @ 11 Mbps (11b); antennas: 5 dBi gain
- SIZE 3.3-in x 4-in x 0.9-in (85mm x 102mm x 22mm)
 WEIGHT 7.2 oz (200g)
- CERTIFICATIONS FCC, WiFi Alliance*, Shock/Vibration (MIL STD 810G and SAEJ1455), carrier certifications (see individual SKUs for additional certifications)

What's In The Box

- COR IBR600/IBR650 Integrated Broadband Router w/ metal mounting bracket
- External 3G/4G mobile broadband modem antennas (2) (SMA) w/ support for GPS on auxiliary connection (some models), finger tighten only
- External WiFi antennas (2) reverse SMA*, 5 dBi gain, finger tighten only
- 12V / 1.5A power supply w/ locking connector; GPIO/power cable available
- Quick Start Guide with warranty information

Accessories

High-gain external antennas (Omni-directional, Patch, Yagi, 12" Mag-mount, 4" Mini mag-mount), GPIO/power cables, see cradlepoint.com/COR for more

Requirements

- Internet Service and Modem Active mobile broadband plan with cellular provider (most models require 2FF SIM) or Ethernet-based Internet connection (DSL, cable, satellite, T1)
- Browser (to configure router) Minimum of Firefox v2.0, Internet Explorer v7.0, Chrome, or Safari v1.0

Router Details

- Security NAT, SPI, ALG, inbound filtering of IP addresses, port blocking, service filtering (FTP, SMTP, HTTP, RPL, SNMP, DNS, ICMP, NNTP, POP3, SSH), protocol filtering, WAN ping (allow/ignore), 802.1X Ethernet port security
- Redundancy and Load Balancing Failover/failback with 4G, 3G, Ethernet with rule selection, advanced load balancing options (round robin, spillover, data usage, rate), WAN failure detection, VRRP**
- Intelligent Routing UPnP, DMZ, virtual server/port forwarding, routing rules, NAT-less routing, wired or wireless WAN-to-LAN IP passthrough, route management, per-interface routing, content filtering, IP filtering, website filtering, per-client Web filtering, local DHCP server, DHCP client, DHCP relay, DNS, DNS proxy; ALGs: PPTP, L2TP, PPPoE passthrough, IPsec passthrough, FTP (passive), FTP (active), SIP, TFTP, IRC, MAC address filtering, Dynamic DNS, LAN/WAN affinity, VLAN support (802.1Q), STP, enterprise routing protocols: BGP/OSPF/RIP, multicast proxy support, IP setting overrides, Network Mobility (NEMO)***, IPv6
- Management Cradlepoint Enterprise Cloud Manager (subscription-based); web-based GUI (local management); optional RADIUS or TACACS+ username/password; remote WAN web-based management w/access control (HTTP, HTTPS); SNMP v1, v2c, & v3; CLI over SSH, SSH to serial, SSH to telnet; API; one-button firmware upgrade; modem configuration, update, and management; modem data usage w/alerts, per-client data usage; custom AT scripting to modems; SMS

Performance & Health Monitoring WiPipe™ advanced QoS with traffic shaping, Modem Health Management (MHM) improves connectivity of modem, SSID-based priority, WAN port speed control, several levels of basic and advanced logging for troubleshooting

VPN (IPsec) Tunnel, NAT-T, and transport modes: connect to Cradlepoint, Cisco/Linksys, CheckPoint, Watchguard, Juniper, SonicWall, Adtran, etc.; certificate support; Hash (MD5, SHA128, SHA256, SHA384, SHA512), Cipher (AES, 3DES, DES), support for 5 concurrent connections, GRE tunneling, multiple networks supported in a single tunnel, site-to-site dynamic VPN with NHRP**, L2TP**

GPS Active standalone GPS on -PWD models, passive standalone GPS on others; GUI mapping as well as local (LAN) or remote (WAN) server logging; NMEA GGA, VGT, and/or RMC sentence support



Ordering Information

Cradlepoint COR models	Modem Technology	Carrier / Location	Antenna Symbol	IBR600 (WiFi)	IBR650 (no WiFi)
LPE-VZ ¹	LTE/HSPA+/EVDO	Verizon	No symbol ²	✓	✓
LPE-AT ¹	LTE/HSPA+/EVDO	AT&T	No symbol ²	✓	✓
LPE-SP ¹	LTE/HSPA+/EVDO	Sprint	No symbol ²	✓	✓
LPE-GN ¹	LTE/HSPA+/EVDO	T-Mobile/Canada	No symbol ²	✓	✓
LP3-EU ¹	LTE/HSPA+	Europe	No symbol ²	✓	✓
P	HSPA+	T-Mobile/Canada	▲	✓	✓
P-INTL	HSPA+	International	▲	✓	✓
P-AT	HSPA+	AT&T	▲	✓ ⁴	✓
NM (no modem)	-	-	-	✓	✓

Discontinued Models

Cradlepoint COR models	Modem Technology	Carrier / Location	Antenna Symbol	IBR600 (WiFi)	IBR650 (no WiFi)
LE-VZ**	LTE/EVDO	Verizon	■▲	✓ ³	✓
LE2-SP**	LTE/EVDO	Sprint	▲	✓	✓
LP-AT**	LTE/HSPA+	AT&T	◆▲	✓ ³	✓
LP**	LTE/HSPA+	T-Mobile/Canada	◆▲	✓ ³	✓ ⁴
LP2-EU**	LTE/HSPA+	Europe	◆▲	✓ ³	✓ ⁴
E-VZ**	EVDO	Verizon	▲	✓	✓
E-SP**	EVDO	Sprint	▲	✓	✓

1 LPE versions include additional bands and Multi-Carrier Software-Defined Radio technology for added flexibility

2 LPE and LP3 versions include a universal 3G/4G/LTE antenna marked "4G" (part number 170649-000 below), so there is no antenna symbol on the router

3 -PWD version available (IBR600LE-VZ-PWD, IBR600LP-AT-PWD, IBR600LP2-EU-PWD, IBR600LP-PWD2) that comes with an active GPS connection at 3.3 V and 100 mA max; IBR600LP2-EU-PWD, IBR600LP-PWD2 versions require Minimum Order Quantity

4 Requires Minimum Order Quantity

** Discontinued Models are no longer available for sale. For more information on Cradlepoint's End-of-Life policy visit:

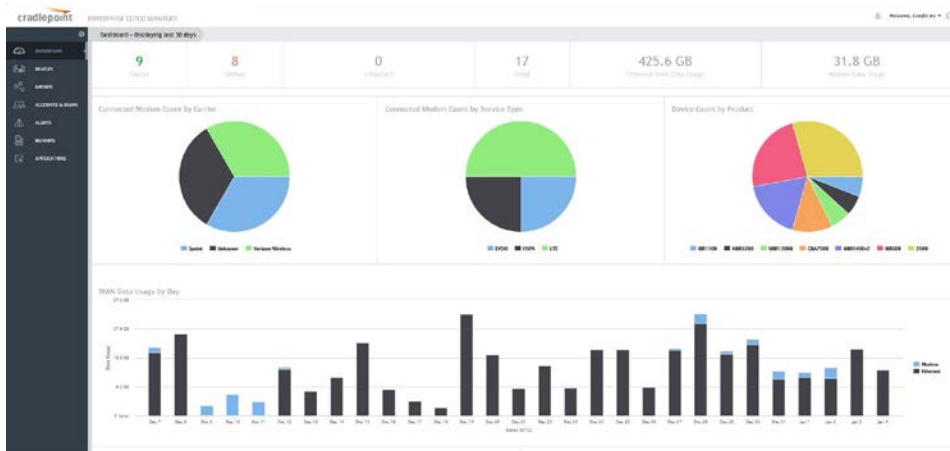
<http://knowledgebase.cradlepoint.com/articles/Support/Product-End-of-Life-Policy>

Accessories (see Cradlepoint's antenna ordering and installation guide for more antenna information)	
Part # 170649-000	Universal 3G/4G/LTE antenna w/ SMA connector (2dBi/3dBi)
Part # 170587-000	Directional Patch antenna for external (outside) mounting
Part # 170588-000	Directional Yagi (Log-Periodic) antenna for external (outside) mounting
Part # 170586-000	Omni-directional antenna for external (outside) mounting
Part # 170605-000	12" Mag-mount antenna
Part # 170606-000	4" Mini mag-mount antenna
Part # 170585-000	COR 2 meter power & GPIO cable (direct wire)
Part # 170635-100	COR 2 meter power & GPIO cable (direct wire) with filter (required for E-mark compliant vehicle installations)
Part # 170635-000	COR vehicle power adapter
Part # 170584-000	COR wall power adapter
Part # 170446-002	COR international wall power adapter
Part # 170593-000	COR mounting bracket

Cradlepoint Enterprise Cloud Manager



DEPLOY AND MANAGE THE INTELLIGENT NETWORK



Rapidly deploy and dynamically manage networks at geographically distributed locations with Enterprise Cloud Manager, Cradlepoint’s next generation application platform. Improve productivity, reduce costs, and enhance the intelligence of your network and business operations.

- **DEPLOYMENT** - configure devices by groups or individually, and update firmware easily with a few clicks.
- **MANAGEMENT** - monitor device statuses in real-time and set proactive alerts for optimized 3G/4G data usage and network uptime.
- **INTELLIGENCE** - view network analytics and manage security and PCI compliance.

Annual and multi-year licenses available. See cradlepoint.com/ecm for details.

CradleCare Support and Warranty	
CradleCare Support	When your applications are mission critical, you need the assurance that only a CradleCare Support plan can provide: unlimited technical support center assistance; extended warranty; advanced, next-day parts replacement; assigned account engineer*; guaranteed response times; software bug fixes and upgrades - 1, 3, or 5 year plans available. <i>*Account engineer for customers with 50+ sites.</i>
CradleCare Extended Warranty	This plan represents an extension of the standard 1-year Cradlepoint warranty to 2, 3, or 5 years, with hardware repair/replacement.

Verizon SKUs

COR IBR600LPE-VZ (WiFi) 4G LTE for Verizon
 COR IBR650LPE-VZ (No WiFi)

Technology: LTE, HSPA+, EVDO Rev A

Downlink Rates: LTE 50 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)

Module Power: LTE 23 dBm +/- 1, EVDO 24 dBm +/- 1 (typical conducted)

Module Antennas: two SMA male (plug); 2 dBi gain for frequency < 1 GHz, 3 dBi gain for frequency > 1 GHz; finger tighten only; support for GPS on aux connection

GPS: standalone GPS support

Power:

idle: typical=350mA@12V(4.2W) worst case=700mA@12V(8.4W)

Tx/Rx: typical=600mA@12V(7.2W) worst case=1200mA@12V(14.4W)

Industry Standards & Certs: FCC, WiFi Alliance (IBR600 only), Verizon, Verizon NEMO/DMNR for Primary Wireless Access

Certification Part Number: IBR600LPE, IBR650LPE

Please note that LPE models (above) are flexible and support bands for multiple cellular providers; however, only the frequency bands in *bold* are supported by the listed provider.

AT&T SKUs

COR IBR600LPE-AT (WiFi) AT&T COR IBR650LPE-AT (No WiFi)	4G LTE for AT&T
Technology: LTE, HSPA+, EVDO Rev A	
Downlink Rates: LTE 50 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:	
<ul style="list-style-type: none"> • 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) 	
Module Power: LTE 23 dBm +/- 1, UMTS 23 dBm +/- 1 (typical conducted)	
Module Antennas: two SMA male (plug); 2 dBi gain for frequency < 1 GHz, 3 dBi gain for frequency > 1 GHz; finger tighten only; support for GPS on aux connection	
GPS: standalone GPS support	
Power: idle: typical=350mA@12V(4.2W) worst case=700mA@12V(8.4W) Tx/Rx: typical=600mA@12V(7.2W) worst case=1200mA@12V(14.4W)	
Industry Standards & Certs: PTCRB, FCC, WiFi Alliance (IBR600 only), AT&T	
Certification Part Number: IBR600LPE, IBR650LPE	

Please note that LPE models (above) are flexible and support bands for multiple cellular providers; however, only the frequency bands in *bold* are supported by the listed provider.

COR IBR650P-AT (No WiFi) AT&T	HSPA+ for AT&T
Technology: HSPA+	
Downlink Rates: HSPA+ 21 Mbps (theoretical)	
Uplink Rates: HSPA+ 5.76 Mbps (theoretical)	
Frequency Bands:	
<ul style="list-style-type: none"> • HSPA+/UMTS (850/1900/2100 MHz) • GSM/GPRS/EDGE (850/900/1800/1900 MHz) 	
Module Power: UMTS 23 dBm +/- 1 (typical conducted)	
Module Antennas: two SMA male (plug), 2 dBi gain; finger tighten only; maximum torque spec is 7 kgf-cm	
GPS: standalone GPS support	
Industry Standards & Certs: PTCRB, GCF-CC, FCC, AT&T	
Power: idle: typical=350mA@12V(4.2W) worst case=700mA@12V(8.4W) Tx/Rx: typical=600mA@12V(7.2W) worst case=1200mA@12V(14.4W)	
Certification Part Number: IBR650P	

Sprint SKUs

COR IBR600LPE-SP (WiFi) **4G LTE for Sprint**
COR IBR650LPE-SP (No WiFi)

Technology: LTE, HSPA+, EVDO Rev A

Downlink Rates: LTE 50 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)**

Module Power: LTE 23 dBm +/- 1, UMTS 23 dBm +/- 1 (typical conducted)

Module Antennas: two SMA male (plug); 2 dBi gain for frequency < 1 GHz, 3 dBi gain for frequency > 1 GHz; finger tighten only; support for GPS on aux connection

GPS: standalone GPS support

Power:

idle: typical=350mA@12V(4.2W) worst case=700mA@12V(8.4W)
 Tx/Rx: typical=600mA@12V(7.2W) worst case=1200mA@12V(14.4W)

Industry Standards & Certs: FCC, WiFi Alliance (IBR600 only), Sprint

Certification Part Number: IBR600LPE, IBR650LPE

Please note that LPE models (above) are flexible and support bands for multiple cellular providers; however, only the frequency bands in *bold* are supported by the listed provider.

Europe/International SKUs

COR IBR600LP3-EU (WiFi) 4G LTE for Europe COR IBR650LP3-EU (No WiFi)
Technology: LTE, HSPA+
Downlink Rates: LTE 50 Mbps, HSPA+ 21.1 Mbps (theoretical)
Uplink Rates: LTE 50 Mbps, HSPA+ 5.76 Mbps (theoretical)
Frequency Bands:
<ul style="list-style-type: none"> • LTE Band 1 (2100 MHz), Band 3 (1800 MHz), Band 7 (2600 MHz), Band 8 (900 MHz), Band 20 (800 MHz) • HSPA+/UMTS (800/850/900/1900/2100 MHz) • GSM/GPRS/EDGE (850/900/1800/1900 MHz)
Module Power: LTE 23 dBm +/- 1, UMTS 23 dBm +/- 1 (typical conducted)
Module Antennas: two SMA male (plug); 2 dBi gain for frequency < 1 GHz, 3 dBi gain for frequency > 1 GHz; finger tighten only; support for GPS on aux connection
GPS: standalone GPS support
Power:
idle: typical=350mA@12V(4.2W) worst case=700mA@12V(8.4W) Tx/Rx: typical=600mA@12V(7.2W) worst case=1200mA@12V(14.4W)
Industry Standards & Certs: CE, WiFi Alliance, GCF-CC
Certification Part Number: IBR600LP3, IBR650LP3

COR IBR600P-INTL (WiFi) HSPA+ for International COR IBR650P-INTL (No WiFi)
Technology: HSPA+
Downlink Rates: HSPA+ 21 Mbps (theoretical)
Uplink Rates: HSPA+ 5.76 Mbps (theoretical)
Frequency Bands:
<ul style="list-style-type: none"> • HSPA+/UMTS (850/900/1900/2100 MHz) • GSM/GPRS/EDGE (850/900/1800/1900 MHz)
Module Power: UMTS 23 dBm +/- 1 (typical conducted)
Module Antennas: two SMA male (plug), 2 dBi gain; finger tighten only; maximum torque spec is 7 kgf-cm
GPS: standalone GPS support
Industry Standards & Certs: PTCRB, GCF-CC, FCC, IC, CE, WiFi Alliance (IBR600 only)
Power
idle: typical=350mA@12V(4.2W) worst case=700mA@12V(8.4W) Tx/Rx: typical=600mA@12V(7.2W) worst case=1200mA@12V(14.4W)
Certification Part Number: IBR600P, IBR650P

Cradlepoint products with the -EU and -INTL SKUs enable and disable WiFi channels to comply with EU law. The -EU and -INTL SKUs are not legal for use in North America.

The -EU and -INTL versions come with an adapter kit for non-USA/Canada power outlets (includes US, EU, and UK options).

Generic/North America SKUs

COR IBR600LPE-GN (WiFi) (generic) COR IBR650LPE-GN (No WiFi)	4G LTE
Technology: LTE, HSPA+, EVDO Rev A	
Downlink Rates: LTE 50 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: <ul style="list-style-type: none"> • 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) 	
Module Power: LTE 23 dBm +/- 1, UMTS 23 dBm +/- 1, EVDO 24 dBm +0.5/-1 (typical conducted)	
Module Antennas: two SMA male (plug); 2 dBi gain for frequency < 1 GHz, 3 dBi gain for frequency > 1 GHz; finger tighten only; support for GPS on aux connection	
GPS: standalone GPS support	
Power: idle: typical=350mA@12V(4.2W) worst case=700mA@12V(8.4W) Tx/Rx: typical=600mA@12V(7.2W) worst case=1200mA@12V(14.4W)	
Industry Standards & Certs: CE, WiFi Alliance, GCF-CC	
Certification Part Number: IBR600LPE, IBR650LPE	

COR IBR600P (WiFi) (generic) COR IBR650P (No WiFi)	HSPA+
Technology: HSPA+	
Downlink Rates: HSPA+ 21 Mbps (theoretical)	
Uplink Rates: HSPA+ 5.76 Mbps (theoretical)	
Frequency Bands: <ul style="list-style-type: none"> • HSPA+/UMTS (850/900/1900/2100 MHz) • GSM/GPRS/EDGE (850/900/1800/1900 MHz) 	
Module Power: UMTS 23 dBm +/- 1 (typical conducted)	
Module Antennas: two SMA male (plug), 2 dBi gain; finger tighten only; maximum torque spec is 7 kgf-cm	
GPS: standalone GPS support	
Industry Standards & Certs: PTCRB, GCF-CC, FCC, IC, CE, WiFi Alliance (IBR600 only)	
Power idle: typical=350mA@12V(4.2W) worst case=700mA@12V(8.4W) Tx/Rx: typical=600mA@12V(7.2W) worst case=1200mA@12V(14.4W)	
Certification Part Number: IBR600P, IBR650P	

Generic models work on T-Mobile in the U.S. and Rogers, Bell, and TELUS in Canada.

No Modem SKUs

The Cradlepoint COR now includes versions without integrated modems:

- IBR600NM (WiFi)
- IBR650NM (no WiFi)



Attach a USB modem for 3G/4G functionality. (A full-size USB port was introduced with hardware version 1.3.)

Discontinued SKUs

The following models have been discontinued and are no longer available for sale. For more information on Cradlepoint's End-of-Life policy visit:

<http://knowledgebase.cradlepoint.com/articles/Support/Product-End-of-Life-Policy>

<p>COR IBR600LE-VZ (WiFi) 4G LTE for Verizon COR IBR650LE-VZ (No WiFi) COR IBR600LE-VZ-PWD (WiFi & active GPS)</p>
Technology: LTE, EVDO Rev A
Downlink Rates: LTE 50 Mbps, EVDO 3.1 Mbps (theoretical)
Uplink Rates: LTE 50 Mbps, EVDO 1.8 Mbps (theoretical)
Frequency Bands:
<ul style="list-style-type: none"> LTE Band 13 (700 MHz) CDMA EVDO Rev A/1xRTT (800/1900 MHz)
Module Power: LTE 23 dBm +/- 1, EVDO 24 dBm +/- 1 (typical conducted)
Module Antennas: two SMA male (plug), 1 dBi (LTE), 2 dBi (CDMA) gain; finger tighten only
GPS: standalone GPS support; -PWD version includes active standalone GPS support, SMA connector with included adapter, 3.3V @ 100mA max (WiFi reduced to 1x1 N)
Power:
idle: typical=350mA@12V(4.2W) worst case=700mA@12V(8.4W) Tx/Rx: typical=600mA@12V(7.2W) worst case=1200mA@12V(14.4W)
Industry Standards & Certs: FCC, WiFi Alliance, Verizon, Verizon NEMO/DMNR for Primary Wireless Access
Certification Part Number: IBR600LE, IBR650LE

<p>COR IBR600LE2-SP (WiFi) 4G LTE for Sprint COR IBR650LE2-SP (No WiFi)</p>
Technology: LTE, EVDO Rev A
Downlink Rates: LTE 50 Mbps, EVDO 3.1 Mbps (theoretical)
Uplink Rates: LTE 50 Mbps, EVDO 1.8 Mbps (theoretical)
Frequency Bands:
<ul style="list-style-type: none"> LTE Band 25 (1900 MHz) CDMA EVDO Rev A/1xRTT (800/1900 MHz)
Module Power: LTE 23 dBm +/- 1, EVDO 24 dBm +/- 1 (typical conducted)
Module Antennas: two SMA male (plug); finger tighten only; support for GPS on aux connection
GPS: standalone GPS support
Power:
idle: typical=350mA@12V(4.2W) worst case=700mA@12V(8.4W) Tx/Rx: typical=600mA@12V(7.2W) worst case=1200mA@12V(14.4W)
Industry Standards & Certs: FCC, WiFi Alliance (IBR600 only), Sprint
Certification Part Number: IBR600LE2, IBR650LE2

<p>COR IBR600E-VZ (WiFi) 3G EVDO for Verizon COR IBR650E-VZ (No WiFi)</p>
Technology: EVDO Rev A
Downlink Rates: 3.1 Mbps (theoretical)
Uplink Rates: 1.8 Mbps (theoretical)
Frequency Bands:
<ul style="list-style-type: none"> CDMA EVDO Rev A/1xRTT (800/1900 MHz)
Module Power: 24 dBm +/- 0.5 (typical conducted)
Module Antennas: two SMA male (plug), 2 dBi gain; finger tight is sufficient; maximum torque spec is 7 kgf-cm
GPS: standalone GPS support
Power:
idle: typical=300mA@12V (3.6W) worst case=600mA@12V (7.2W) Tx/Rx: typical=500mA@12V (6W) worst case=1000mA@12V (12W)
Industry Standards & Certs: FCC, WiFi Alliance (IBR600 only), Verizon
Certification Part Number: IBR600E, IBR650E

<p>COR IBR600LP-AT (WiFi) 4G LTE for AT&T COR IBR650LP-AT (No WiFi) COR IBR600LP-AT-PWD (WiFi & active GPS)</p>
Technology: LTE, HSPA+
Downlink Rates: LTE 50 Mbps, HSPA+ 21.1 Mbps (theoretical)
Uplink Rates: LTE 50 Mbps, HSPA+ 5.76 Mbps (theoretical)
Frequency Bands:
<ul style="list-style-type: none"> LTE Band 17 (700 MHz), Band 4 (AWS) HSPA+/UMTS (850/1900/2100 MHz) GSM/GPRS/EDGE (850/900/1800/1900 MHz)
Module Power: LTE 23 dBm +/- 1, UMTS 23 dBm +/- 1 (typical conducted)
Module Antennas: two SMA male (plug), 1 dBi (LTE), 2 dBi (HSPA+) gain; finger tighten only
GPS: standalone GPS support; -PWD version includes active standalone GPS support, SMA connector with included adapter, 3.3V @ 100mA max (WiFi reduced to 1x1 N)
Power:
idle: typical=350mA@12V(4.2W) worst case=700mA@12V(8.4W) Tx/Rx: typical=600mA@12V(7.2W) worst case=1200mA@12V(14.4W)
Industry Standards & Certs: PTCRB, FCC, WiFi Alliance, AT&T
Certification Part Number: IBR600LP, IBR650LP

Discontinued SKUs

The following models have been discontinued and are no longer available for sale. For more information on Cradlepoint's End-of-Life policy visit:

<http://knowledgebase.cradlepoint.com/articles/Support/Product-End-of-Life-Policy>

COR IBR600E-SP (WiFi) COR IBR650E-SP (No WiFi)	3G EVDO for Sprint
Technology: EVDO Rev A	
Downlink Rates: 3.1 Mbps (theoretical)	
Uplink Rates: 1.8 Mbps (theoretical)	
Frequency Bands:	
<ul style="list-style-type: none"> CDMA EVDO Rev A/1xRTT (800/1900 MHz) 	
Module Power: 24 dBm +/- 0.5 (typical conducted)	
Module Antennas: two SMA male (plug), 2 dBi gain; finger tighten only; maximum torque spec is 7 kgf-cm	
GPS: standalone GPS support	
Power:	
idle: typical=300mA@12V (3.6W) worst case=600mA@12V (7.2W) Tx/Rx: typical=500mA@12V (6W) worst case=1000mA@12V (12W)	
Industry Standards & Certs: FCC, WiFi Alliance (IBR600 only), Sprint	
Certification Part Number: IBR600E, IBR650E	

COR IBR600LP2-EU (WiFi)	4G LTE for Europe
Technology: LTE, HSPA+	
Downlink Rates: LTE 50 Mbps, HSPA+ 21.1 Mbps (theoretical)	
Uplink Rates: LTE 50 Mbps, HSPA+ 5.76 Mbps (theoretical)	
Frequency Bands:	
<ul style="list-style-type: none"> LTE (800/900/1800/2100/2600 MHz) HSPA+/UMTS (900/2100 MHz) GSM/GPRS/EDGE (900/1800/1900 MHz) 	
Module Power: LTE 23 dBm +/- 1, UMTS 23 dBm +/- 1 (typical conducted)	
Module Antennas: two SMA male (plug), 1 dBi (LTE), 2 dBi (HSPA+) gain; support for GPS on aux connection; finger tighten only	
GPS: standalone GPS support	
Power:	
idle: typical=350mA@12V(4.2W) worst case=700mA@12V(8.4W) Tx/Rx: typical=600mA@12V(7.2W) worst case=1200mA@12V(14.4W)	
Industry Standards & Certs: CE, WiFi Alliance, GCF-CC	
Certification Part Number: IBR600LP2	

COR IBR600LP (WiFi) (generic)	4G LTE
Technology: LTE, HSPA+	
Downlink Rates: LTE 50 Mbps, HSPA+ 21.1 Mbps (theoretical)	
Uplink Rates: LTE 50 Mbps, HSPA+ 5.76 Mbps (theoretical)	
Frequency Bands:	
<ul style="list-style-type: none"> LTE Band 17 (700 MHz), Band 4 (AWS) HSPA+/UMTS (850/1900/2100 MHz) GSM/GPRS/EDGE (850/900/1800/1900 MHz) 	
Module Power: LTE 23 dBm +/- 1, UMTS 23 dBm +/- 1 (typical conducted)	
Module Antennas: two SMA male (plug), 1 dBi (LTE), 2 dBi (HSPA+) gain; finger tighten only; support for GPS on aux connection	
GPS: standalone GPS support	
Power:	
idle: typical=350mA@12V(4.2W) worst case=700mA@12V(8.4W) Tx/Rx: typical=600mA@12V(7.2W) worst case=1200mA@12V(14.4W)	
Industry Standards & Certs: PTCRB, FCC, IC, WiFi Alliance, Bell, Rogers, TELUS	
Certification Part Number: IBR600LP	