

# CradlePoint COR IBR600/IBR650

## INTEGRATED BROADBAND ROUTERS

IBR600/IBR650 Series – Hardened for Machine-to-Machine



COR IBR600

The CradlePoint COR Series is built for your M2M network. The CradlePoint COR 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, CradlePoint COR 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 and go. It also supports traditional wired data networks like DSL, cable, or T1 for maximum network flexibility.

Increase your Internet availability and ensure maximum uptime; 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.

COR is also ideal for deployment as a primary connection solution, especially when a wired Internet connection is unavailable or inconvenient.

CradlePoint COR provides VPN endpoint functionality, VLAN support, multiple remote management methods, 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.

COR now supports these enterprise routing protocols: BGP, OSPF, RIP; VRRP for router redundancy; and STP.

\*WiFi is only supported on IBR600 models. IBR650 models have no WiFi radio.

\*\*Full-size USB port with hardware version 1.3

### THE HEART OF YOUR M2M NETWORK

- For use in business-critical, high-availability installations such as ATMs, kiosks, surveillance, vehicles, etc. that require 24/7 connectivity
- 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 3G and/or 4G support for US and international carriers
- IPsec VPN termination (tunnel, NAT-T, and transport) with GRE support and site-to-site dynamic VPN with NHRP
- VLAN support to isolate, segment, and secure network traffic
- 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)\*
- IPv6 support
- SMS 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](http://cradlepoint.com/ecm) for details.



POWER / RESET / LAN / WAN / USB\*\*  
COR IBR600



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

[cradlepoint.com/cor](http://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)

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

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

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

## Service, Support, and Warranty

CradleCare Premier 1, 2, 3, and 5 year Enterprise Support Agreements available with 24/7 technical support, software upgrades and advanced hardware exchange

Limited 1 year warranty included, access to software updates and hardware repair or replacement – 2, 3, and 5 year warranty extensions available

CradleCare Site Survey and Installation services offered for rapid deployment

## 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

\*\*NEMO requires a separate feature 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\*, 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 cable, see [www.cradlepoint.com/COR](http://www.cradlepoint.com/COR) for more

## Requirements

**Internet Service and Modem** Active mobile broadband plan with cellular provider 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 and others; 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

**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)
<b>LE-VZ</b>	LTE/EVDO	Verizon	■ ▲	✓ <sup>1</sup>	✓
<b>LP-AT</b>	LTE/HSPA+	AT&T	◆ ▲	✓ <sup>1</sup>	✓
<b>LP</b>	LTE/HSPA+	Canada	◆ ▲	✓ <sup>1</sup>	✓ <sup>2</sup>
<b>LP2-EU</b>	LTE/HSPA+	Europe	◆ ▲	✓ <sup>1</sup>	✓ <sup>2</sup>
<b>P</b>	HSPA+	Generic	▲	✓	✓
<b>P-INTL</b>	HSPA+	International	▲	✓	✓
<b>P-AT</b>	HSPA+	AT&T	▲	✓ <sup>2</sup>	✓
<b>W</b>	WiMAX	CLEAR	●		✓
<b>E-VZ</b>	EVDO	Verizon	▲	✓	✓
<b>E-SP</b>	EVDO	Sprint	▲	✓	✓
<b>NM (no modem)</b>	-	-	-	✓	

1 -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 MOQ

2 Requires minimum order quantity (MOQ)

Accessories (see CradlePoint's antenna ordering and installation guide for more antenna information)	
Part # 170587-000	Directional Patch antennas for external (outside) mounting
Part # 170588-000	Directional Yagi (Log-Periodic) antennas for external (outside) mounting
Part # 170586-000	Omni-directional antennas 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 # 170584-000	COR wall power adapter
Part # 170446-002	COR international wall power adapter (for IBR600P/IBR650P, IBR600LP2-EU)
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](http://cradlepoint.com/ecm) for details.

Enterprise Support Agreements	
CradleCare Premium	<p>When your applications are mission critical, you need the assurance that only the CradleCare Premier plan can provide: 24-hour coverage every day, all year – including holidays. As a CradleCare Premier customer, you will be assigned an account engineer* for consistency and follow-up on all your cases, with periodic case reviews provided.</p> <ul style="list-style-type: none"><li>• Complete technical support, 24/7 coverage; unlimited 24-hour technical support center assistance; extended warranty; next-day parts replacement; assigned account engineer*; guaranteed response times; online video-based training sessions; software bug fixes and upgrades; advanced replacement; access to CradlePoint Enterprise Advanced Services Knowledge Base and online documentation.</li></ul> <p><i>*Account engineer for customers with 50+ sites.</i></p>
CradleCare Extended Warranty	<p>This plan represents an extension of the standard 1-year CradlePoint warranty to 2, 3, or 5 years; one-time enterprise technical support; software bug fixes; access to CradlePoint Enterprise Advanced Services Knowledge Base and online documentation; hardware repair/replacement.</p>
CradleCare Standard 3G/4G Site Survey	<p>Comprehensive carrier analysis for optimal performance: on-site engineer with proprietary site survey tool; 3G/4G RF testing on the major carriers; WiFi coverage testing; specified operating location; external antennas and POE testing; mapping and photos; data capture; report generation, including recommendations.</p>
CradleCare Standard Installation	<p>Deploy the experts to ensure a successful installation and operations: Installation Statement of Work (SOW); installation, mounting of CradlePoint equipment; installation of customer-specific equipment; cabling and mounting of antennas; extended wiring; configuration of all equipment; operational testing; report generation.</p>

# Verizon SKUs

## Active GPS w/ WiFi

**COR IBR600LE-VZ** 4G/3G LTE/EVDO for Verizon  
**COR IBR650LE-VZ**

**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:**

- LTE Band 13 (700MHz)
- CDMA EVDO Rev A/1xRTT (800/1900 MHz)

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

**Module:** Sierra Wireless MC7750

**Module Antennas:** two SMA male (plug), 1 dBi (LTE), 2 dBi (CDMA) 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:** FCC, WiFi Alliance (IBR600 only), Verizon, Verizon NEMO/DMNR for Primary Wireless Access

**Certification Part Number:** IBR600LE, IBR650LE

**COR IBR600LE-VZ-PWD** Active GPS w/ LTE Verizon

**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:**

- LTE Band 13 (700MHz)
- CDMA EVDO Rev A/1xRTT (800/1900 MHz)

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

**Module:** Sierra Wireless MC7750

**Module Antennas:** two SMA male (plug), 1 dBi (LTE), 2 dBi (CDMA) gain; finger tighten only;

**GPS:** active standalone GPS support; SMA connector (with included adapter) with 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

**COR IBR600E-VZ** 3G EVDO for Verizon  
**COR IBR650E-VZ**

**Technology:** EVDO Rev A

**Downlink Rates:** 3.1 Mbps (theoretical)

**Uplink Rates:** 1.8 Mbps (theoretical)

**Frequency Bands:**

- CDMA EVDO Rev A/1xRTT (800/1900 MHz)

**Module Power:** 24 +/- 0.5 dBm (typical conducted)

**Module:** Sierra Wireless 5728v

**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



# AT&T SKUs

## Active GPS w/ WiFi

COR IBR600LP-AT 4G/3G LTE/HSPA+ for AT&T  
COR IBR650LP-AT

**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:**

- 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 +/- 1 dBm, UMTS 23 +/- 1 dBm (typical conducted)

**Module:** Sierra Wireless MC7700

**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, WiFi Alliance (IBR600 only), AT&T

**Certification Part Number:** IBR600LP, IBR650LP

COR IBR600LP-AT-PWD Active GPS w/ LTE for AT&T

**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:**

- 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 +/- 1 dBm, UMTS 23 +/- 1 dBm (typical conducted)

**Module:** Sierra Wireless MC7700

**Module Antennas:** two SMA male (plug), 1 dBi (LTE), 2 dBi (HSPA+) gain; finger tighten only

**GPS:** active standalone GPS support; SMA connector (with included adapter) with 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

## No-WiFi

COR IBR650P-AT HSPA+ for AT&T

**Technology:** HSPA+

**Downlink Rates:** HSPA+ 21 Mbps (theoretical)

**Uplink Rates:** HSPA+ 5.76 Mbps (theoretical)

**Frequency Bands:**

- HSPA+/UMTS (850/1900/2100 MHz)
- GSM/GPRS/EDGE (850/900/1800/1900 MHz)

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

**Module:** Sierra Wireless 8705

**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 IBR600E-SP  
COR IBR650E-SP

3G EVDO for Sprint

**Technology:** EVDO Rev A

**Downlink Rates:** 3.1 Mbps (theoretical)

**Uplink Rates:** 1.8 Mbps (theoretical)

**Frequency Bands:**

- CDMA EVDO Rev A/1xRTT (800/1900 MHz)

**Module Power:** 24 +/- 0.5 dBm (typical conducted)

**Module:** Sierra Wireless 5728v

**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), plus carrier specific certifications as required

**Certification Part Number:** IBR600E, IBR650E

# CLEAR SKUs

## No-WiFi

4G

COR IBR650W	4G WiMAX for CLEAR
<b>Technology:</b> WiMAX 802.16e Wave 2	
<b>Downlink Rates:</b> 10 Mbps peak, 6 Mbps average	
<b>Uplink Rates:</b> 5 Mbps peak, 1.2 Mbps average	
<b>Frequency Band:</b> 2500 MHz band	
<b>Module Power:</b> 23.5 +/- 0.5 dBm (RSU/CPE)	
<b>Module:</b> Beceem 250 chipset	
<b>Module Antennas:</b> two SMA male (plug), 5 dBi gain; finger tighten only; maximum torque spec is 7 kgf-cm	
<b>GPS:</b> no GPS support	
<b>Power:</b> 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)	
<b>Industry Standards &amp; Certs:</b> FCC, CLEAR	
<b>Certification Part Number:</b> IBR650W	



# International SKUs

4G

COR IBR600LP2-EU	4G/3G LTE/HSPA+ for Europe
<b>Technology:</b> LTE, HSPA+	
<b>Downlink Rates:</b> LTE 50 Mbps, HSPA+ 21.1 Mbps (theoretical)	
<b>Uplink Rates:</b> LTE 50 Mbps, HSPA+ 5.76 Mbps (theoretical)	
<b>Frequency Bands:</b>	
<ul style="list-style-type: none"> <li>LTE (800/900/1800/2100/2600 MHz)</li> <li>HSPA+/UMTS (900/2100 MHz)</li> <li>GSM/GPRS/EDGE (900/1800/1900 MHz)</li> </ul>	
<b>Module Power:</b> LTE 23 +/- 1 dBm, UMTS 23 +/- 1 dBm (typical conducted)	
<b>Module:</b> Sierra Wireless MC7710	
<b>Module Antennas:</b> two SMA male (plug), 1 dBi (LTE), 2 dBi (HSPA+) gain; support for GPS on aux connection; finger tighten only	
<b>GPS:</b> standalone GPS support	
<b>Power:</b>	
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)	
<b>Industry Standards &amp; Certs:</b> CE, WiFi Alliance, GCF-CC	
<b>Certification Part Number:</b> IBR600LP2	

*Includes power adapter kit for US, EU, and UK.*

COR IBR600LP	4G/3G LTE/HSPA+ for Canada
<b>Technology:</b> LTE, HSPA+	
<b>Downlink Rates:</b> LTE 50 Mbps, HSPA+ 21.1 Mbps (theoretical)	
<b>Uplink Rates:</b> LTE 50 Mbps, HSPA+ 5.76 Mbps (theoretical)	
<b>Frequency Bands:</b>	
<ul style="list-style-type: none"> <li>LTE Band 17 (700 MHz), Band 4 (AWS)</li> <li>HSPA+/UMTS (850/1900/2100 MHz)</li> <li>GSM/GPRS/EDGE (850/900/1800/1900 MHz)</li> </ul>	
<b>Module Power:</b> LTE 23 +/- 1 dBm, UMTS 23 +/- 1 dBm (typical conducted)	
<b>Module:</b> Sierra Wireless MC7700	
<b>Module Antennas:</b> two SMA male (plug), 1 dBi (LTE), 2 dBi (HSPA+) gain; finger tighten only; support for GPS on aux connection	
<b>GPS:</b> standalone GPS support	
<b>Power:</b>	
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)	
<b>Industry Standards &amp; Certs:</b> PTCRB, FCC, IC, WiFi Alliance	
<b>Certification Part Number:</b> IBR600LP	

*NOTE: The only difference between the IBR600P (or IBR650P) and IBR600P-INTL (or IBR650P-INTL) is that the -INTL version comes with an adapter kit for non-USA/Canada power outlets (US, EU, UK).*

3.7G

COR IBR600P(-INTL) COR IBR650P(-INTL)	HSPA+ for International
<b>Technology:</b> HSPA+	
<b>Downlink Rates:</b> HSPA+ 21 Mbps (theoretical)	
<b>Uplink Rates:</b> HSPA+ 5.76 Mbps (theoretical)	
<b>Frequency Bands:</b>	
<ul style="list-style-type: none"> <li>HSPA+/UMTS (850/900/1900/2100 MHz)</li> <li>GSM/GPRS/EDGE (850/900/1800/1900 MHz)</li> </ul>	
<b>Module Power:</b> UMTS 23 +/- 1 dBm (typical conducted)	
<b>Module:</b> Sierra Wireless 8705	
<b>Module Antennas:</b> two SMA male (plug), 2 dBi gain; finger tighten only; maximum torque spec is 7 kgf-cm	
<b>GPS:</b> standalone GPS support	
<b>Industry Standards &amp; Certs:</b> PTCRB, GCF-CC, FCC, IC, CE, WiFi Alliance (IBR600 only)	
<b>Power:</b>	
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)	
<b>Certification Part Number:</b> IBR600P, IBR650P	