cradlepoint MBR1400 Series

Mission-Critical Broadband Router
with Integrated Business Modem (optional)

Quick Start Guide

Optional: ARC Series package includes an integrated **4G LTE** business-grade modem with antennas.

What's In The Box

| Mission-Critical Broadband Router | WiFi Antennas | AC Power Supply | Ethernet Cable | Mounting Hardware | Quick Start Guide |

The CradlePoint Mission-Critical Broadband Router (MBR1400) is built to provide an instant network connection with high-speed 4G LTE.

CONNECT
Integrated 4G LTE Business-Grade Modem, USB or ExpressCard modems, Ethernet-Based Wired Services (Cable/DSL/T1), WiFi as WAN

Designed for small businesses, branch offices, and retail locations, the MBR1400 provides a secure connection to the Internet.

With features like failover/failback, load balancing, secure VPN, VLAN support, IPv6 support, multiple encryption modes, dual-band WiFi broadcast (2.4 GHz or 5 GHz), guest networks, WiFi as WAN, data usage management and alerts, the MBR1400 can meet all your business needs.

The MBR1400 is compatible with all major corporate network environments like Cisco, Juniper, SonicWall, and others. It also fully supports all 802.11 a/b/g/n client adapters for WiFi networking.

Manage your ARC MBR1400 routers with **CradlePoint Enterprise Cloud Manager** for enhanced efficiency and intelligence. Enterprise Cloud Manager enables zero-touch deployment and real-time remote management for the distributed enterprise.
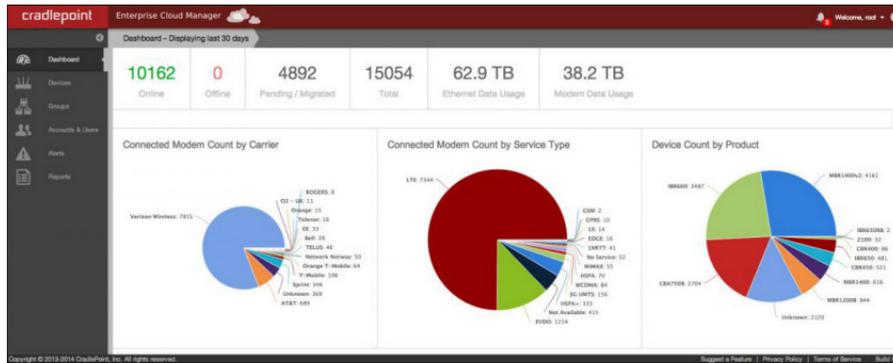
Visit **cradlepoint.com/ecm** to learn more and begin a free trial. *Alternatively, manage locally via the web-based administration pages.*

Accessories

- 5 GHz WiFi Antennas
- Power Adapters
- External Modem Antennas and Cabling
- Security Modem Cap Enclosure for USB and ExpressCard Modems

Left Side

**10/100/1000 Ethernet Ports
(Configurable LAN or WAN)**

**Modem Port
(USB 2.0)**

**Power
Switch and Port**

1   2   3   4

Reset

**WiFi Antenna Connector
(Reverse SMA)**

**WiFi Antenna Connector
(Reverse SMA)**

**WiFi Antenna Connector
(Reverse SMA)**

Right Side

Modem Security Tab Slot

Modem Security Tab Slot

ExpressCard Lock

ExpressCard Lock
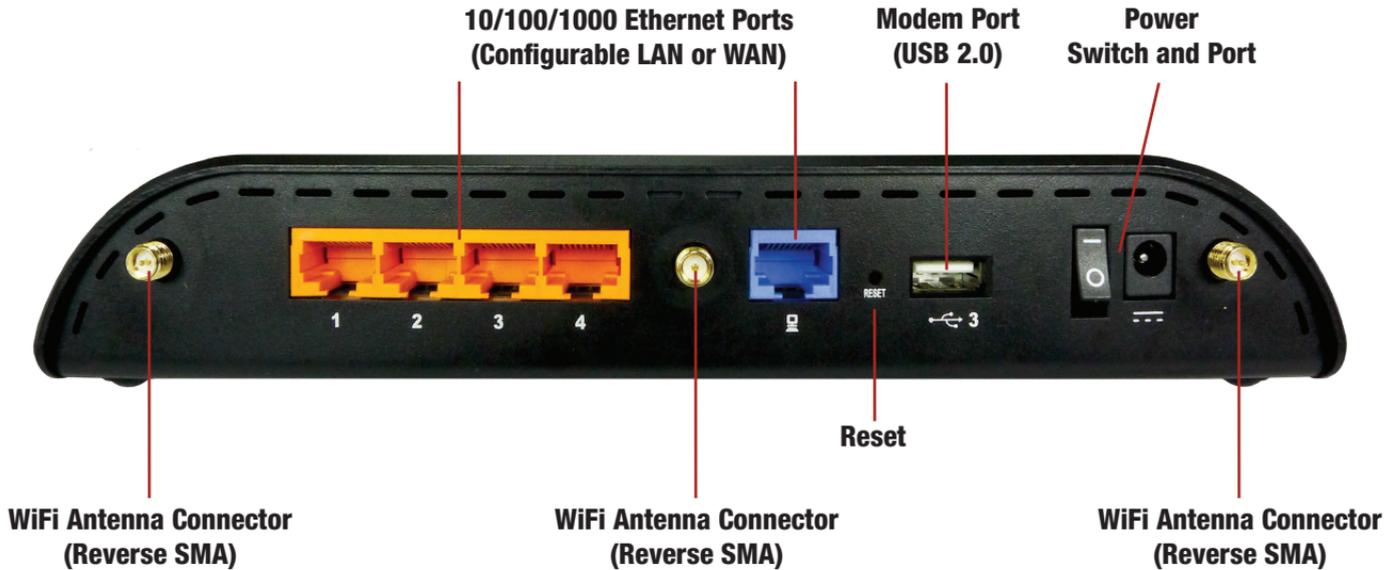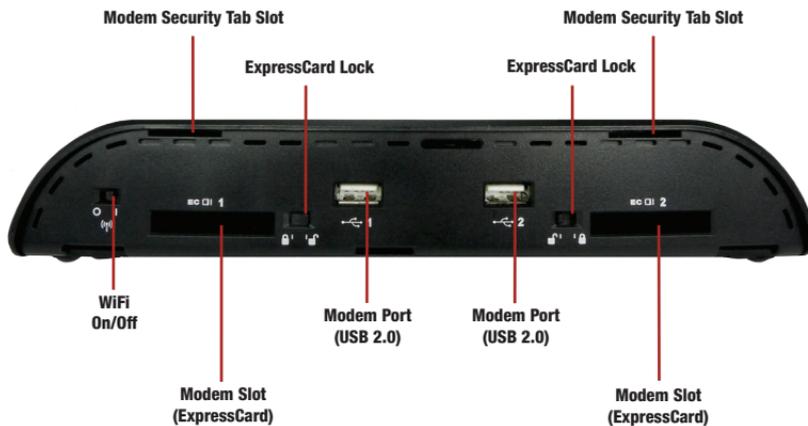
Note: Right side may be covered by Integrated Modem

EC □I **1**

EC □I **2**

WiFi On/Off

Modem Port (USB 2.0)

Modem Port (USB 2.0)

Modem Slot (ExpressCard)

Modem Slot (ExpressCard)

Integrated Modem

3G/4G Antenna Connector (SMA)

3G/4G Antenna Connector (SMA)
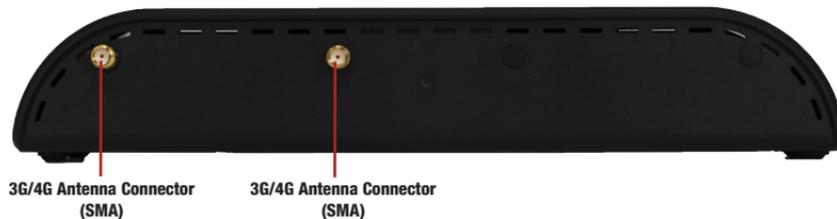
1. Connect the Router to a Modem / Data Source.

Keep the router in the OFF position until the modem is securely connected. Connect a CradlePoint Business-Grade Modem or a supported USB or ExpressCard modem to the router in the appropriate port or slot. Your modem will require an active subscription from your service provider. If you have not already done so, add a service plan to your Integrated Business-Grade Modem by contacting your service provider. You will need the modem identifier (IMEI or MEID) and the ID from your SIM card/UICC. See page 8 for SIM card/UICC installation instructions. For Ethernet WAN, connect a Cable or DSL modem to the blue Ethernet WAN port.

2. Connect the WiFi and Modem Antennas.

Attach the three included WiFi and optional modem antennas to the connectors. Antennas are jointed, which enables you to position them for optimal WiFi broadcast. To attach, hold the antenna straight and twist the base of the antenna to connect, folding the joint if needed. Please note that 2.4 GHz antennas are provided. 5 GHz antennas are available as accessories.

3. Connect to a Power Source.

Connect the router to the provided power supply (12V DC Wall Adapter). When you flip the power switch to the ON (I) position, watch for the appropriate modem LED to illuminate. Ensure the connected modem LED is lit with a solid green light, which indicates that the modem is properly connected. For other LED states, please see descriptions on pages 10 and 11.

4. Connect to a Computer or other Network Equipment.

In order to access the MBR1400, establish a connection to the router. Connect wirelessly to the WiFi broadcast, or with an Ethernet cable connected to your computer and then plugged into one of the orange Ethernet ports.

The default WiFi network name broadcast is "MBR1400-xxx", where "xxx" is the last three characters of your router's MAC address (this is the "SSID" on the product label).

To connect to the WiFi, input the default password when prompted. The default password is provided on the product label found on the bottom of your router (see example below).

5. Use.

For most users, the MBR1400 router can be used immediately without any special configuration changes. If you would like to change your network name, level of WiFi security, etc. follow the First Time Setup Wizard steps on page 9.

cradlepoint

Part No.: MBR1400
H/W ver.: 2.0
www.cradlepoint.com

Default Password: 440c1fc1
MAC Address: 0030440c1fc1

Serial No.: MM1001679004418

SSID: MBR1400-fc1

FCC ID:UXX-MBR1400v2
IC: 6921A-MBR1400v2
Model No.: MBR1400v2

RoHS

WiFi CERTIFIED

Made in Taiwan　　12V === 1.5A

Step 1   **Step 2**   **Step 3**   **Step 4**
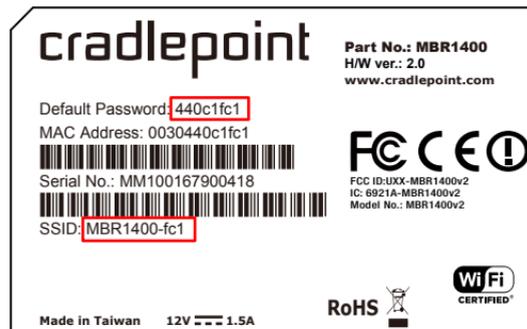
1. Disconnect the modem from the router by pulling from side to side. If you experience difficulty, apply slight pressure to the back of the device to facilitate separation.

2. Insert the SIM card/UICC into the slot in the modem (notch end first, contacts down–it will click into place).

3. Reconnect the modem to the router.

4. Insert screws (3) to secure the connection between the router and modem (backside).

The First Time Setup Wizard will help you customize the name of your wireless network, change passwords to something you choose, and establish an optimal WiFi security mode. The MBR1400 comes out of the box with a unique password at WPA2 WiFi security level.

CradlePoint recommends BEST WPA2 WiFi security.

1) Open a browser window and type "**cp/**" or "**192.168.0.1**" in the address bar. **PRESS ENTER/RETURN**.

2) When prompted for your password, type the eight character **DEFAULT PASSWORD** found on the product label.

3) When you log in for the first time, you will be automatically directed to the **FIRST TIME SETUP WIZARD**. To return to the First Time Setup Wizard after your initial login, select **GETTING STARTED** on the top navigation bar and then **FIRST TIME SETUP** in the dropdown menu.

The **FIRST TIME SETUP WIZARD** will walk you through the steps to customize your device. You have the ability to change any of the following:

   Administrator Password
   Time Zone
   WiFi Network Name
   Security Mode
   Access Point Name (APN) for SIM-based modems
   Modem Authentication
   Failure Check mode

Once you have made changes, review the details and record your administrator password. Click APPLY to save the settings to your router.

NOTE: If you are currently using WiFi, reconnect your devices using the new wireless network name and security password.

Y₁₁ **SIGNAL STRENGTH BUTTON** Blue LED bars indicate the active modem's signal strength. Press button to turn on/off. 4 Solid Bars = strongest signal. 1 Blinking Bar = weakest signal.

⏻ **POWER** The MBR1400 must be powered using an approved 12V DC power source.
Green = Powered On. No Light = Not receiving power. Check that the unit is connected to an outlet.
Amber = Attention. Check router status page.

⊞ **NETWORK LAN CONNECTION** Indicates a connected device on the 1-4 LAN ports on the MBR1400.
Green = Connected to an active 10/100 Ethernet interface. Blinking Green = Traffic. Blue = Connected to an active 10/100/1000 Ethernet interface. Blinking Blue = Traffic. No Light = Not connected, the connection is not configured correctly, router is not configured correctly, or may not be turned on.

↔ **WPS** WiFi Protected Setup. When you press the WPS button for five seconds, it allows you to use WPS for your WiFi security. Blinking Blue = WPS setting is in progress. Solid Blue = WPS is active.
CradlePoint recommends using WPA2 WiFi Security.

⬚ **WAN CONNECTION** Indicates information about a data source connected to the WAN port (Blue Ethernet port).
Green = Connected to an active 10/100 Ethernet interface. Blinking Green = Traffic. Blue = Connected to an active 10/100/1000 Ethernet interface. Blinking Blue = Traffic. No Light = Not connected, the connection is not configured correctly, and/or router are not configured correctly or turned on.

((ᵩ))   **WiFi BROADCAST**   Indicates activity on the WiFi broadcast for either the 2.4 GHz or 5 GHz band.
Green = 2.4 GHz WiFi is on and operating normally.
Blue = 5 GHz WiFi is on and operating normally.
Blinking Red = Error with 2.4 GHz or 5 GHz connection.
No Light = WiFi is off.

⟜   **USB MODEMS**   Indicates the status of any USB or Business-Grade modems connected to the MBR1400.
A connected CradlePoint Business Grade Modem LED information will be shown on LED #1 or #2.
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.

EC ▢I   **EXPRESS CARD MODEMS**   Indicates the status of any ExpressCard modems connected to the MBR1400.
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.

The CradlePoint MBR1400 is a business-grade router specifically designed for retail locations and small/branch offices. Optimized for performance, reliability, and maximum WiFi range, the MBR1400 has access to a cloud-enabled management and application platform called CradlePoint Enterprise Cloud Manager for rapid deployment, dynamic management, and enhanced intelligence of CradlePoint enterprise network solutions.

Secure Access
The MBR1400 supports WEP, WPA, and WPA2 encryption modes to create secure Internet connections for up to 128 connected devices via WiFi. 253 users can connect via Ethernet. Prevent unwanted access to computers connected to your networks with an SPI Firewall and NAT (Network Address Translation). Features like URL Filtering, Traffic Filtering, DMZ, Virtual Server, Port Forwarding, and FTP pass-through (passive and active) are also available to enable safe Internet access for all connected users.

VPN (Virtual Private Networking), GRE (Generic Route Encapsulation)
Create, manage, and terminate secure VPN tunnels between remote computers and secure corporate networks with IPsec. With up to 20 concurrent sessions, the MBR1400 supports both VPN and GRE, including multiple routes in a single tunnel. Provide end-to-end protection of secure company communications with Hash and Cipher encryption algorithm protocols.

Load Balancing
When multiple data sources are connected to the MBR1400 (up to two 4G devices), the router can be configured to distribute all connected users or device traffic across active data connections. This feature distributes each connected user to the best data source available, relieving congestion and pressure on any single data source.

Failover

When multiple Internet sources (4G, 3G, DSL, Cable, T1 modems) are connected to the MBR1400, the router can automatically detect an Internet outage and "failover" to a secondary connection and "failback" when the primary data service returns. Redundant connection keeps your business going.

HOW TO CONFIGURE: Select **INTERNET** on the top navigation bar and **CONNECTION MANAGER** from the dropdown menu. Order your connections by failover priority. Select a connection and click **EDIT**. Select desired **FAILURE CHECK** and **FAILBACK CON-FIGURATION** settings. Click **SUBMIT.**

WiFi Networks

The MBR1400 can broadcast up to four WiFi networks on either the 2.4 GHz or 5 GHz band. Secured SSIDs are used for your trusted workgroup members. Guest (public) SSIDs can provide full, secure access to the Internet, but users are restricted from accessing the router administration console or any connected devices on the private network. Each network can be configured with its own security, QoS, and VLAN Settings. The ability to "Hide" network names (SSIDs) from broadcast is also available.

HOW TO CONFIGURE: Enable the Guest Network in Step 2 of the First Time Setup Wizard. It will appear by default as "Guest-XXX" in your available networks list (XXX = the last three characters of your routers MAC Address).

Dual-Band WiFi

The MBR1400 provides the option of broadcasting your WiFi network on either the 2.4 GHz or 5 GHz band. This allows administrators the option to select the less used 5 GHz frequency band if desired. For best operation, use the 5 GHz antenna available as an accessory.

VLAN Support

Create and manage virtual LANs to segregate and secure your network.

WiFi as WAN

The MBR1400 can receive an existing WiFi signal and use it to create secure Internet access, allowing you to connect up to 128 devices using the MBR1400's security features. The WiFi as WAN feature can be used as a WiFi repeater or as a WiFi-to-Ethernet adapter for non-WiFi devices.

HOW TO CONFIGURE: Select **INTERNET** on the top navigation bar and then **WiFi as WAN / Bridge** in the dropdown menu.

VRRP (Virtual Router Redundancy Protocol)

Enable master and backup routers via VRRP for increased reliability.

HOW TO CONFIGURE: Select **NETWORK SETTINGS** on the top navigation bar and **WIFI / LOCAL NETWORKS** from the dropdown menu. Select the desired network and click **EDIT**. Select the **VRRP** tab for configuration options. *Requires a feature license.*

Advanced Routing Protocols (BGP/OSPF/RIP)

Border Gateway Protocol (BGP), Open Shortest Path First (OSPF), and Routing Information Protocol (RIP) are enterprise routing protocols that improve router communication and understanding of the network topology.

HOW TO CONFIGURE: Select **NETWORK SETTINGS** on the top navigation bar and **ROUTING PROTOCOLS** from the dropdown menu. Select the desired routing protocol to view configuration options. *Requires a feature license.*

CradlePoint Enterprise Cloud Manager — Deploy and Manage the Intelligent Network

Rapidly deploy and dynamically manage networks at geographically distributed stores and branch locations with Enterprise Cloud Manager, CradlePoint's next generation management and application platform. Enterprise Cloud Manager enables real-time cloud management and zero-touch deployment for your CradlePoint devices to improve productivity, increase reliability, reduce costs, and enhance the intelligence of your network and business operations.
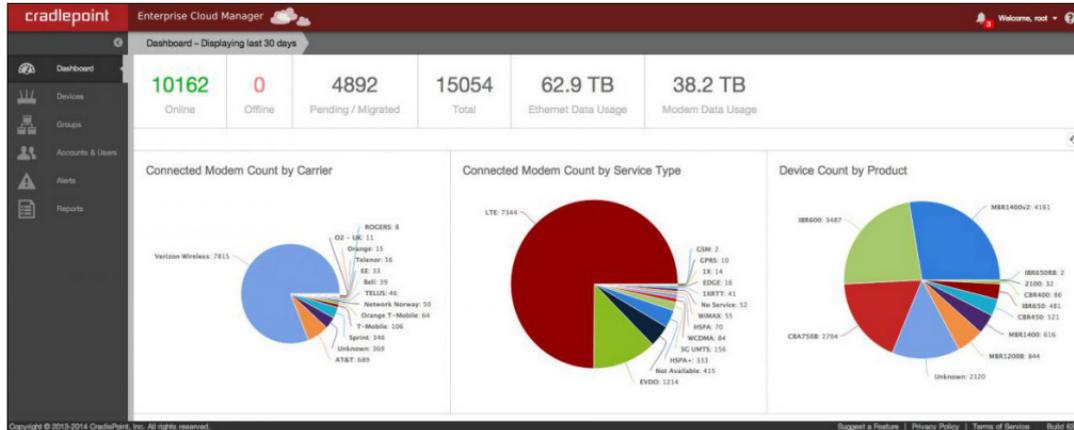
To learn more about **CradlePoint Enterprise Cloud Manager**, contact services@cradlepoint.com or visit **cradlepoint.com/ecm**.

The CradlePoint series of Integrated Business-Grade Modems provides the highest level of data throughput at the same location as a standard USB modem. CradlePoint optimizes and intelligently manages the co-existence between the wireless broadband signal and the WiFi broadcast of the router, creating a fast, wide-range, truly business-class modem-based instant network.

FEATURES

- Business-Class modems provide optimal data throughput and co-existence

- Establish continuous uptime with optimum total cost of ownership for broad deployment

- Flexible installation provides highest level of 3G/4G performance

- Standardized platform and centralized remote management

- Enterprise-level security features

- Simple to install, configure, and maintain—minimal impact on IT

- Ability to attach remote antennas for better signal reception

- Multiple 4G LTE models available for different carriers

CradlePoint recommends the following antenna positions
for best performance:

Desk Mount

Wall Mount

WiFi

When connecting the provided antennas,
review the connection points.

WiFi antennas have flat circular bases.

Modem antennas have protruding pins.

Modem

HOW TO UPDATE FIRMWARE (AUTOMATIC)

1) Connect your computer to the router via the WiFi SSID or to an orange Ethernet LAN port with an Ethernet cable.

2) Open a browser window and type **"cp/"** or **"http://192.168.0.1"** in the address bar. Press enter/return.

3) When prompted for your password, type the default password found on the MBR1400 product label.

4) Select **SYSTEM SETTINGS ➡ SYSTEM SOFTWARE**.

5) If new firmware is available, select **AUTOMATIC (Internet)**. (This process requires an active data source.)

6) Wait a moment while firmware is updated and the router reboots (do not close the browser window when updating).

HOW TO UPDATE FIRMWARE (MANUAL)

Downloading firmware before updating is only required if your modem doesn't work in the router initially.

1) Go to **cradlepoint.com/firmware**. Select the MBR1400 from the dropdown list.

2) Download the most current version of the router firmware to your desktop.

3) Follow steps 1-4 above. Select **MANUAL FIRMWARE UPLOAD** and click the **BROWSE** button.

4) Select the firmware file you saved to your desktop and click **OPEN** and then **BEGIN FIRMWARE UPGRADE**.

5) Wait a moment while firmware is updated and the router reboots (do not close the browser window when updating).

NOTE: Access to firmware upgrades requires a CradleCare Support Agreement.

Setting the APN

Depending on your modem, you may need to specify the **ACCESS POINT NAME**.

SELECT THE ACCESS POINT NAME (APN)

1) Log in to the router following steps 1–3 on page 18.

2) Select **INTERNET ➡ CONNECTION MANAGER**.

3) Select the modem you would like to manage. Click **EDIT** to open the WAN Configuration editor.

4) Select the **SIM/APN/Auth SETTINGS** tab. In the **ACCESS POINT CONFIGURATION** field, either select the desired APN from the options displayed or enter it manually.

5) Some APNs require a username and password. From within the WAN Configuration editor, input the username and password under the **MODEM SETTINGS** tab.

6) Click **SUBMIT**.

Federal Communication Commission Statement **1**

This equipment has been tested and found to comply with the limits for a Class B digital device, pursuant to Part 15 of FCC Rules. These limits are designed to provide reasonable protection against such interference in a residential installation. This equipment generates, uses, and can radiate radio frequency energy and, if not installed and used in accordance with the instructions provided by CradlePoint, may cause harmful interference to radio communications. This device must accept any interference received, including interference that may cause undesired operations. However, there is no guarantee that interference will not occur in a particular installation.

If this equipment does cause harmful interference to radio or television reception, which can be determined by turning the equipment off and on, the user is encouraged to try to correct the interference by using one or more of the following measures:

• Reorient or relocate the receiving antenna.
• Increase the separation between the equipment and receiver.
• Connect the equipment into an outlet on a circuit different from that to which the receiver is connected.
• Consult the dealer or an experienced radio or television technician for help.

Changes or modifications not expressly approved by CradlePoint, Inc. could void the user's authority to operate the product.

Radiation Exposure Statement **1**

This equipment complies with FCC radiation exposure limits set forth for an uncontrolled environment. End users must follow the specific operating instructions for satisfying RF exposure compliance. To maintain compliance with FCC RF exposure compliance requirements, please follow operation instruction as documented in this manual.

Industry Canada Statement **2**

This device complies with RSS-210, RSS-102, and RSS-Gen of the Industry Canada Rules. Operation is subject to the following two conditions: (1) This device may not cause harmful interference, and (2) this device must accept any interference received, including interference that may cause undesired operation.

1 Applies to MBR1400, MC200LE, MC200LE2, MC200LP, MC200LP2   **2** Applies to MBR1400 and MC200LP

IMPORTANT NOTE: Radiation Exposure Statement **1**
This equipment complies with IC radiation exposure limits set forth for an uncontrolled environment. This equipment should be installed and operated with minimum distance 20cm between the radiator and your body.

Caution: **2**
1) The device for the band 5150-5250 MHz is only for indoor usage to reduce potential for harmful interference to co-channel mobile satellite systems.

2) The maximum antenna gain permitted (for devices in the band 5725-5825 MHz) to comply with the e.i.r.p. limits specified for point-to-point and non point-to-point operations as appropriate, as stated in section A9.2(3).

This device has been designed to operate with an antenna having a maximum gain of 5 dBi. Antenna having a higher gain is strictly prohibited per regulations of Industry Canada. The required antenna impedance is 50 ohms.

Déclaration d'Industrie Canada **2**
Ce dispositif est conforme à la norme CNR-210, CNR-102, et CNR-Gen d'Industrie Canada applicable aux appareils radio exempts de licence. Son fonctionnement est sujet aux deux conditions suivantes: (1) le dispositif ne doit pas produire de brouillage préjudiciable, et (2) ce dispositif doit accepter tout brouillage reçu, y compris un brouillage susceptible de provoquer un fonctionnement indésirable.

NOTE IMPORTANTE (Pour l'utilisation de dispositifs mobiles): Déclaration d'exposition aux radiations
Cet équipement est conforme aux limites d'exposition aux rayonnements IC établies pour un environnement non contrôlé. Cet équipement doit être installé et utilisé avec un minimum de 20 cm de distance entre la source de rayonnement et votre corps.

Précaution
1) Le dispositif fonctionnant dans la bande 5150-5250 MHz est réservé uniquement pour une utilisation à l'intérieur afin de réduire les risques de brouillage préjudiciable aux systèmes de satellites mobiles utilisant les mêmes canaux.

1 Applies to MBR1400, MC200LE, MC200LE2, MC200LP, MC200LP2   **2** Applies to MBR1400 and MC200LP

2) Le gain d'antenne maximal autorisé (pour les appareils dans la bande 5725-5825 MHz) pour se conformer à la pire limites fixées pour les opérations de point à point et non point à point et non le cas échéant, comme indiqué dans la section A9.2 (3).

Ce dispositif a été conçu pour fonctionner avec une antenne ayant un gain maximal de 5 dBi. Une antenne à gain plus élevé est strictement interdite par les règlements d'Industrie Canada. L'impédance d'antenne requise est de 50 ohms.

Open Source Software **2**

This product contains software distributed under one or more of the following open source licenses: GNU General Public License Version 2, BSD License, Net-SNMP License, and PSF License Agreement for Python 3.3. For more information on this software, including licensing terms and your rights to access source code, contact CradlePoint at cradlepoint.com.

Warranty Information **1**

CradlePoint, Inc. warrants this product against defects in materials and workmanship to the original purchaser (or the first purchaser in the case of resale by an authorized distributor) for a period of one (1) year from the date of shipment. This warranty is limited to a repair or replacement of the product, at CradlePoint's discretion as purchaser's sole and exclusive remedy. CradlePoint does not warrant that the operation of the device will meet your requirements or be error free. Within thirty (30) days of receipt should the product fail for any reason other than damage due to customer negligence, purchaser may return the product to the point of purchase for a full refund of the purchase price. If the purchaser wishes to upgrade or convert to another CradlePoint, Inc. product within the thirty (30) day period, purchaser may return the product and apply the full purchase price toward the purchase of another CradlePoint product. Any other return will be subject to CradlePoint, Inc.'s existing return policy.

Limitation of CradlePoint Liability **1**

The information contained in this Quick Start Guide is subject to change without notice and does not represent any commitment on the part of CradlePoint or its affiliates. CRADLEPOINT AND ITS AFFILIATES HEREBY SPECIFICALLY DISCLAIM LIABILITY FOR ANY AND ALL: (A) DIRECT, INDIRECT, SPECIAL, GENERAL, INCIDENTAL, CONSEQUENTIAL, PUNITIVE OR EXEMPLARY DAMAGES, INCLUDING WITHOUT LIMITATION FOR

1 Applies to MBR1400, MC200LE, MC200LE2, MC200LP, MC200LP2   **2** Applies to MBR1400 only

LOSS OF PROFITS OR REVENUE OR OF ANTICIPATED PROFITS OR REVENUE ARISING OUT OF THE USE OR INABILITY TO USE THE DEVICE, EVEN IF CRADLEPOINT AND/OR ITS AFFILIATES HAVE BEEN ADVISED OF THE POSSIBILITY OF SUCH DAMAGES, AND EVEN IF SUCH DAMAGES ARE FORESEEABLE; AND (B) CLAIMS BY ANY THIRD PARTY.

Notwithstanding the foregoing, in no event shall the aggregate liability of CradlePoint and/or its affiliates arising under or in connection with the device or integrated modems, regardless of the number of events, occurrences, or claims giving rise to liability, exceed the price paid by the original purchaser of the device or integrated modems.

Privacy
CradlePoint collects general data pertaining to the use of CradlePoint products via the Internet including, by way of example, IP address, device ID, operating system, browser type and version number, etc. To review CradlePoint's privacy policy, please visit: cradlepoint.com/privacy.

Other Binding Documents; Trademarks; Copyright
By using your CradlePoint device, you agree to be bound by CradlePoint's Terms of Use, User License and other Legal Policies, all as posted at cradlepoint.com/legal. Please read these documents carefully. CradlePoint and the CradlePoint logo are trademarks of CradlePoint, Inc. © 2014 CradlePoint, Inc. All rights reserved.

ADDITIONAL INFORMATION

Enterprise level service and support agreements available.

Contact: **services@cradlepoint.com**

cradlepoint.com/mbr1400