Quick Installation Guide

XH2-240 Hardened Wireless Access Point

The XH2-240 (Model XH2240) provides two 4x4 802.11ac Wave 2 radios in a hardened case for installation outdoors and in other harsh environments. Radio 1 is dual-band (2.4 GHz and 5GHz), and Radio 2 is 5GHz only. This guide describes how to install the XH2-240 on a pole or wall and execute the initial power up of the AP. The pole or wall can be a structure that is at ground level or on a roof. The XH2 is not compatible with other Riverbed mounting options.

This document is intended ONLY for XH2-240 APs. For other models please see the installation guide for that model.

1

You Need the Following Items

- Professional Installation Required—regulatory requirements for the XH2-240 mandate that the device be installed and configured for use by trained professionals only. Direct questions regarding installation and use of the products to Riverbed Customer Support (see last page).
- Accessory Kit (included in each AP carton) includes:
  - Wall mounting bracket with four AP attachment screws and four drywall anchors
  - Grounding lug and wire
  - Two metal bands for pole attachment (2.5” maximum pole diameter)
- Appropriate tools, bands, screws, and/or anchors required for the desired mounting location (if other than provided with the AP).
- Antennas for two 4x4 radios. Riverbed offers both omnidirectional and directional antennas for use with this AP. Please see the XH2-240 datasheet and External Antenna Guide on our web site for recommended antennas.
- Antenna for Bluetooth radio (optional), RP-SMA type, rated for outdoor use. May be purchased as an accessory from Riverbed.
- A source of earth ground (see Step 3 on page 3 and Step 5 on page 4). If lightning surges are a concern, consider using a lighting arrestor.
- Workstation with a Web browser to configure the AP.
- RJ-45 Ethernet connection(s) to your wired network.
  - **Gigabit1/PoE+** —XH2-240 APs are powered via one Power over Ethernet (PoE) port using an outdoor-rated Ethernet Cat 5e or Cat 6 cable that also carries data traffic. Use

only 802.3at (POE+) compatible switches or power injectors, or a Riverbed-supplied PoE injector (the 30W XP1-MSI-30, or current models rated at 70W or higher).

- (Optional) **GIGABIT2**—Connection to this second, data-only Gigabit port provides additional bandwidth. Use Cat 5E or Cat 6 cable.

- The AP protects its inputs from typical static charge buildup on antennas. In areas where lightning surges are a concern, a lightning arrestor may be used between the antenna and the AP, with 6 AWG copper wire from the arrestor to a good earth ground.

NOTE: PoE Injectors and switches must be installed and used indoors.

NOTE: If XH2 models are used indoors, they are to be connected only to PoE networks without routing to the outside plant.

NOTE: The AP comes with plastic covers installed on Ethernet and antenna ports. You MUST leave these covers securely installed on unused ports to prevent weather damage.

2 Choose a Suitable Location

The XH2-240 is tested to IP67 waterproof and dust-proof requirements to protect against severely wet and dusty environments. For optimal placement, we recommend that a predictive survey be performed by a qualified Riverbed partner.

- Choose a location that is not subjected to submersion.
- Direct sunlight may raise the effective ambient temperature many degrees above air temperature. It is best to choose a location that has some protection from the sun.
- The maximum cable length between the XH2-240 and the RJ-45 Ethernet network is 100 meters. A PoE injector is not a repeater, so its location will not increase this distance.
- The XH2-240 can operate from a Wireless Distribution System (WDS) link. However, the unit will need to be configured via the Ethernet connection prior to mounting and power must still be supplied via the GIG1 Ethernet connector.
- Keep the unit away from electrical devices or appliances that generate RF noise—at least 3 to 6 feet (1 to 2 meters).
- The AP must be installed in a position so that the LED's cover is not directly affected by the Sun's radiation (typically with the LED and Ethernet connectors facing down).

3

Prepare the Mounting Location

The installation must ensure that the AP is grounded to earth ground to dissipate any static electric charge that may develop due to wind.

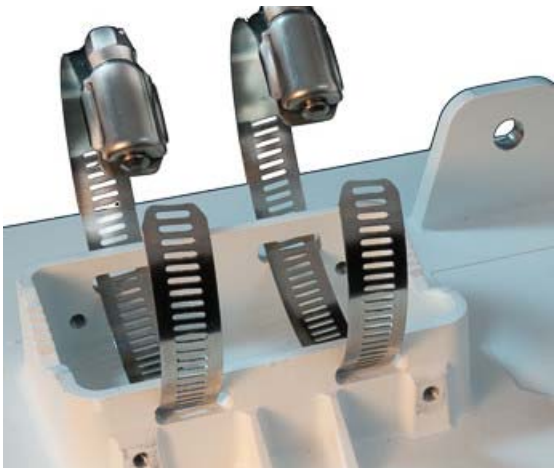
- Determine a good electrical earth ground point near the AP mounting location. If an earth ground point is not available, consult an electrician to have one installed. To reach the AP, the installer must use wire of the same gauge as the supplied grounding wire. Allow for some extra length in a service loop.
- Before the AP is mounted to a wall or pole, loosen the grounding screw (indicated by the ground symbol) on the back of the unit (see image at left and on page 6). Attach the supplied grounding wire and lug as shown and fasten the screw securely.

4

Mount the AP on a Pole or Wall

- "4a—Pole Mounting" on page 3
- "4b—Wall Mounting" on page 4

4a—Pole Mounting



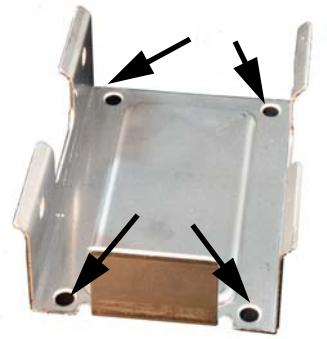
Two metal bands are supplied for pole attachment. Other sizes of metal bands can be obtained from third parties, such as www.BAND-IT-IDEX.com.

The following steps mount the AP to a pole:

- Slide the metal bands through the slots on the back of the AP as shown.
- Locate the AP at the desired location on the pole. Thread the end of a band into the slot on the other end. Turn the captive screw to draw the band through the slot.
- Continue tightening until the AP is securely fastened to the pole. Repeat for the other band.

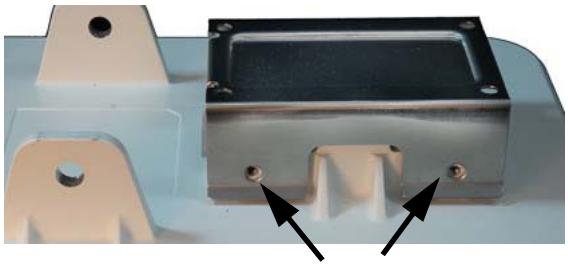
- Note the two additional flanges on the back of the AP, highlighted at right—these are provided for future third party mounting solutions. They are 4″ apart (interior measurement).

4b—Wall Mounting



- Place the supplied wall bracket in the desired location with the flat side flush against the wall. Mark the location of the four mounting holes on the wall as shown to the right. Note that the AP attaches to the bracket as shown in the second image. Orient the AP with the two black Ethernet connectors on the bottom.
- Drill and prepare the holes in the wall for the desired screw type. In metal walls the holes may be tapped to the proper thread or the AP may be mounted with sheet metal screws. For concrete walls, a plastic anchor and screw are suggested.

NOTE: Mounting screws for attaching the bracket to the wall are not provided in the kit.



- Attach the AP to the wall bracket. The AP seats on the bracket as shown at right. Make sure the screw holes on both sides of the bracket line up with those on the AP. Secure with the 4 supplied screws.

5

Ground to Earth Ground

WARNING: This equipment must be externally grounded using a customer-supplied ground wire before power is applied. Contact the appropriate electrical inspection authority or an electrician if you are uncertain that suitable grounding is available.

The mechanical installation must ensure that the AP is grounded to earth ground to dissipate static electric charge that may develop due to wind. In Step 3 on page 3, you secured a grounding wire to the AP.

- After Step 3 is complete and the AP is mounted to the wall or pole, attach the grounding wire from the AP to the electrical earth ground point that you located or installed in Step 3. The photo shows an earth ground connection where the AP is mounted on a pole at ground level and the grounding wire is attached to a stake driven into the ground.

6

Install Antennas

- "Riverbed Omnidirectional Antennas" on page 5
- "Radio Antennas" on page 5
- "Bluetooth Antenna" on page 5

If you are not using one of our recommended antennas, the TX output power settings on the XH2-240 must be configured so that total radiated output power from the connected antennas meet all applicable regulatory requirements.

> *NOTE: See the Warnings and Notices regarding external antennas in "Notices, Warnings & Compliance Statements" on page 13.*

Riverbed Omnidirectional Antennas

Riverbed offers a custom-designed Omnidirectional Dual Band 4x4 Quad Antenna (see the External Antenna Guide on our web site). Use two of these units to provide inputs for all eight antenna ports. No mounting is required, since these antennas attach directly to the AP.

Radio Antennas

- Antenna(s) should be installed by a professional installer as directed by the manufacturer.
- Use low-loss outdoor-rated coaxial cables terminated with male N type connectors (e.g., Riverbed part number ANT-CAB-195-10-MM-2). Note that some antennas include integrated cables as part of the unit, and these do not need separate cables.
- All four of a radio's antenna inputs **must** be connected to an antenna in order for the radio to operate properly, **and to avoid damage to the AP**.
- Be sure to configure the AP's IAP1 radio to the proper band (2.4 GHz or 5.0 GHz) in Step 9 on page 10. It must match the band of the antennas to which it is connected.

Bluetooth Antenna

For the optional connection to the Bluetooth radio, use a Bluetooth antenna terminated with a RP SMA connector rated for outdoor use. Riverbed offers this antenna as an accessory.

7

Connect the Ethernet Cable with the Waterproof Connector

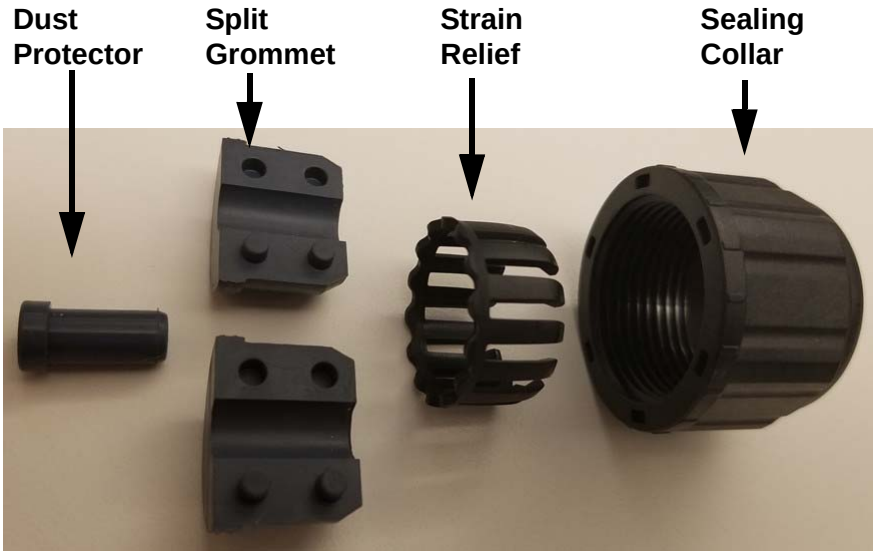
NOTE: To disconnect the Ethernet ports at a later time, you must follow the procedure in Step 10 on page 11.

- **Power**: These APs are only powered through the GIG1 PoE+ port.
- **Data**: Data is supplied to the GIG1-POE+ port via the same cable that powers the AP, and a second optional connection to the GIG2 port.

  NOTE: It is VERY IMPORTANT to assemble the waterproof connector properly, following the directions below. Failure to do so may expose the AP to the elements, and may result in an intermittent connection causing the AP to connect at very low speeds! If GIG2 is not used, you MUST leave its protector cap assembly securely installed.

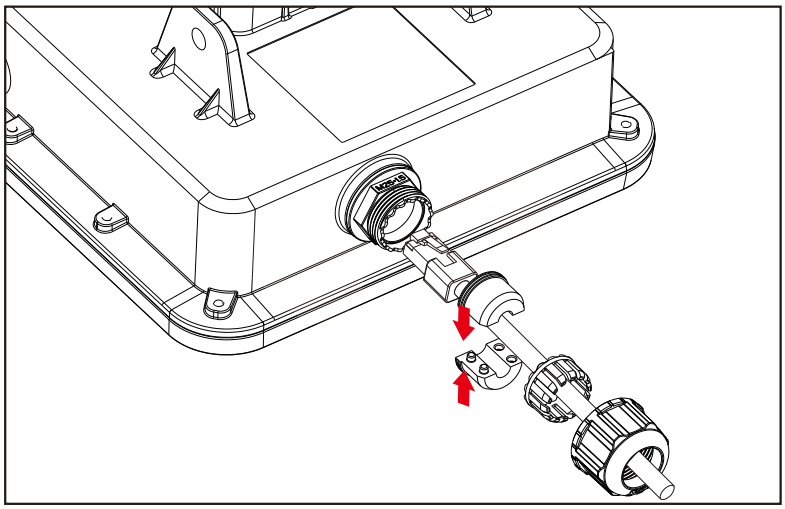
- The Ethernet cable must be terminated with a simple RJ45 plug with the tab exposed, as shown on the left below. Do not use a plug with a tab protector boot, as shown on the right. This will not seat properly in the waterproof connector, and the assembly will not be watertight.

- Unscrew the black GIG1/POE Ethernet connector from the bottom of the AP and disassemble it into the parts shown below, keeping the parts in their original order. Save the dust protector (shown on the left) in case you need to disconnect the Ethernet connection in the future.



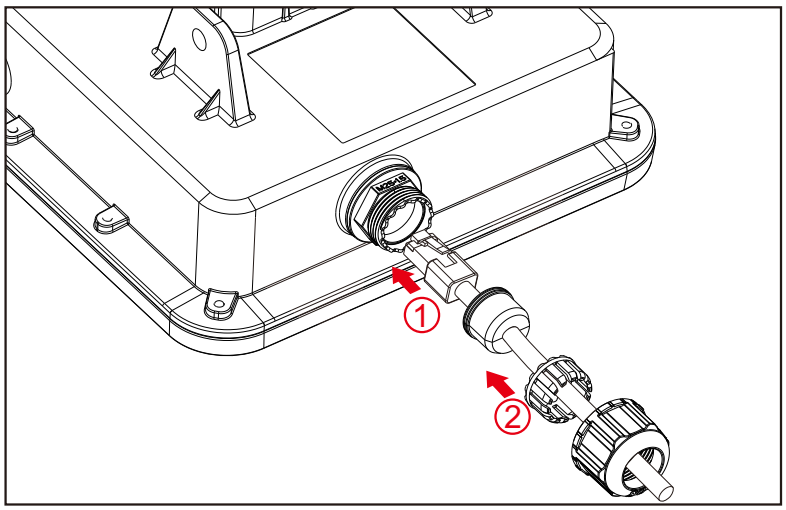
- For simplicity, the images below show only one Ethernet port on the AP.

- Feed the Ethernet cable through the sealing collar and the strain relief. The strain relief's open ribs should face the collar, as shown. Snap together the halves of the split rubber grommet over the cable.

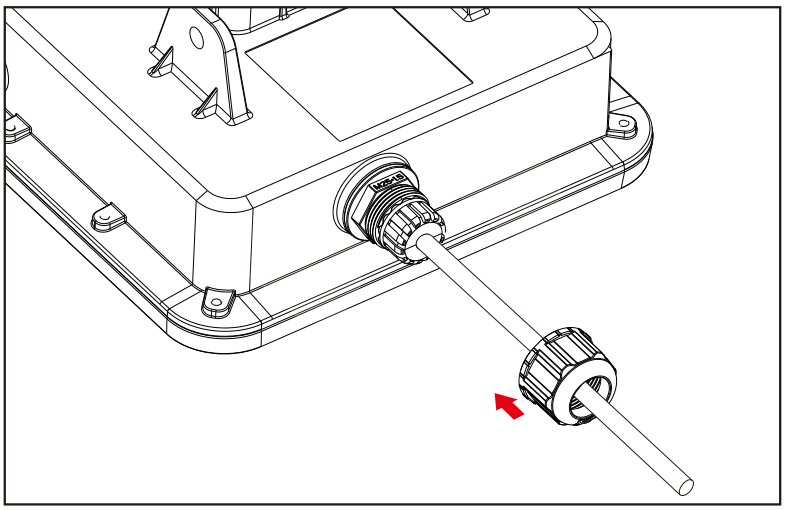


NOTE: Once you connect the AP's GIG1/POE port, an automatic upgrade typically starts soon after the AP has Internet connectivity. Do not unplug this port while booting or during the upgrade process or the AP may become inoperable. The upgrade should take 10 minutes or less depending on bandwidth.

- Plug the Ethernet connector into the AP. making sure that its tab clicks in place for a secure connection. Slide the strain relief all the way onto the grommet. If power is being properly supplied to the AP, the STATUS LED will show blinking green. When the boot has successfully completed, the LED will be solid green.



- Snug the grommet assembly against the Ethernet plug and slide the collar over that.



- Screw the collar onto the AP until it is snug, to provide a water tight fit.
- Repeat for the GIG2 port, if you are using it.

8

Connect the Antennas

The XH2-240 has four male Type N connectors (ANT1-ANT4) for the antennas on each side of the AP, for a total of eight inputs. The antennas labeled IAP1 are for the 2.4GHzz/5GHz dual-band radio. The antennas labeled IAP2 are for the 5GHz fixed-band radio.

If you are using radio IAP1, all four of the AP's IAP1 inputs must be attached to antenna leads. The antenna must support the frequency band you will use (for example, 2.4GHz), and IAP1 must be configured to that band on the AP (see Step 9 on page 10).

Similarly, all four IAP2 cables need to be connected to a 5GHz antenna.

For the Riverbed Omnidirectional Dual Band 4x4 Quad Antenna, follow the instructions that come with the antenna to attach it to the AP.

If you are using Bluetooth, remove the cover from the AP’s Bluetooth connector, located on the bottom of the unit as shown on page 6. Securely attach the antenna.

9

Zero-Touch Provisioning and Ongoing Management

Most customers employ the Xirrus Management System (XMS) for the initial setup and continuing management of Riverbed devices. XMS users can readily set up their new devices for zero-touch provisioning and ongoing maintenance via the following platforms. Wait five minutes after powering up the AP to automatically discover it, then use XMS to view and manage it. Newly discovered APs are automatically assigned to your specified profile, if any, else to the XMS default profile. APs will receive the configuration defined for their profile.

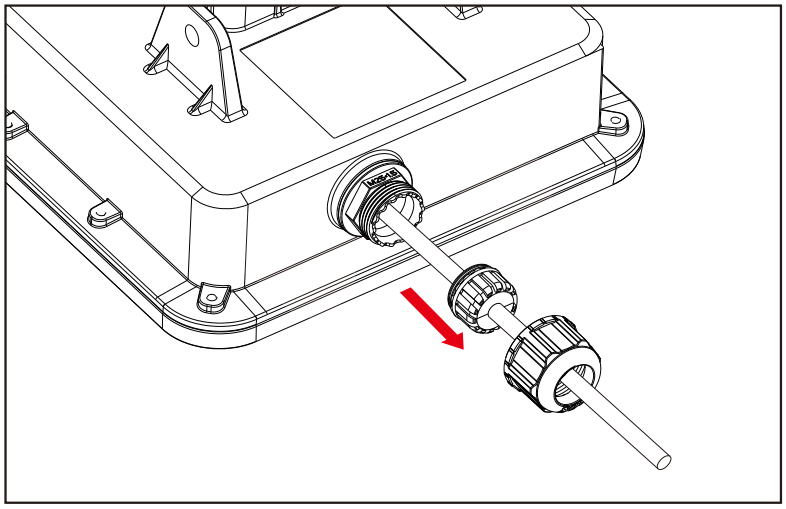
- XMS-Cloud—performs zero-touch provisioning. Your new APs appear in XMS even before you receive your equipment. When the email arrives with your login information, use XMS-Cloud to specify the initial settings for your APs. A Guided Tour will walk you through the basic steps of creating a profile containing configuration settings, including creating SSIDs and firewall/application control rules. Once the installed AP has Internet connectivity, it will automatically contact Riverbed for cloud-based zero-touch provisioning per your settings, install the latest applicable license, and upgrade the AP to the latest software version as appropriate.
- XMS-Enterprise—automatically detects and provisions new Riverbed devices deployed in your network via a similar zero-touch provisioning approach. Create and configure a default profile for newly added APs—these new devices will automatically receive the configuration defined in your default profile.
- If you are not using XMS, please see the *Riverbed Wireless Access Point User's Guide for AOS* to configure your AP manually via the Express Setup menu option. The User Guide is available from http://support.riverbed.com (login required).

10

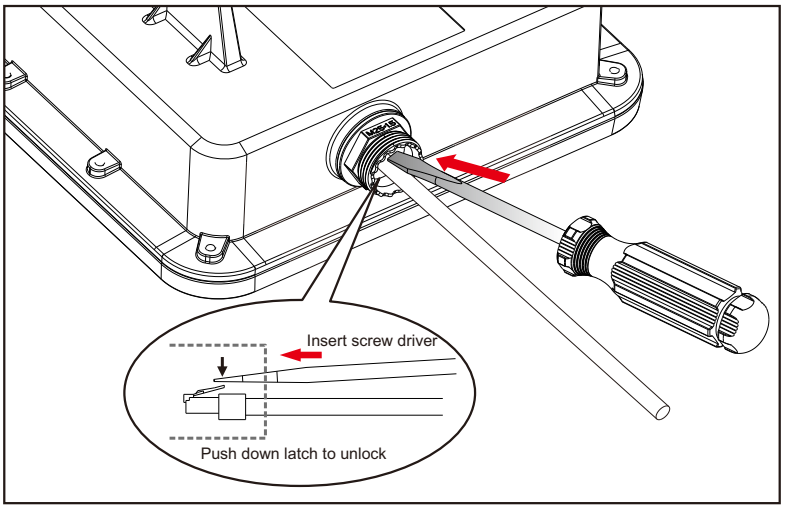
Disconnecting an Ethernet port

Follow the directions below to avoid damage if you need to disconnect an Ethernet port. A small flathead screwdriver is required. Refer to the image on page 7.

- Unscrew the sealing collar, and gently pull back the split grommet.



- Use the screwdriver to push down the Ethernet jack's latch to release it. Unplug the jack.



- Pull the strain relief away from the grommet, and split the grommet to completely free the Ethernet cable.
- Reassemble the grommet and strain relief as shown in Step 7 on page 6. Insert the dust protector facing away from the AP. Secure the assembly to the AP by screwing the collar on.

Physical/Environmental Specifications

- Operating Temperature: -40 to +55°C / -40 to 131°F, 0-90% humidity, non-condensing.
- Dimensions: 11.75 x 8.75 x 3.75 in. / 29.8 x 22.2 x 9.5 cm, including the Ethernet connectors at the bottom.
- Weight: 5.5 lbs. / 2.5 Kg.

11

Resetting the AP

The reset button returns the AP to factory default settings while rebooting. It is located on the bottom of the AP, next to the GIG2 Ethernet port. Refer to the image on page 6. Use the reset button as follows:

- Unplug the cable from the GIG1/POE port (see Step 10 on page 11), but don't disassemble the grommet and strain relief.
- Remove the screw assembly covering the reset button.
- Press the reset button all the way in with a bent paper clip (there should be a faint click) and keep the button depressed.
- Plug the Ethernet cable back in and continue to keep the reset button pressed for 10 seconds. This triggers the factory default reset during the boot process. If power is being properly supplied to the AP, the STATUS LED will show blinking green. When the boot has successfully completed, the LED will be solid green.
- Replace the screw assembly covering the reset button to keep water out of the AP.
- Snug the grommet and strain relief assembly against the RJ45 plug. Screw the collar onto the AP securely, to provide a water tight fit.

Notices, Warnings & Compliance Statements

Notices

- Read all user documentation before powering this device. Please verify the integrity of the system ground prior to installing Riverbed equipment. Additionally, verify that the ambient operating temperature does not exceed 55°C.
- Software used by the Access Points (APs) is covered by the Riverbed Software License and Product Warranty Agreement.
- Non-Modification Statement: Unauthorized changes or modifications to the device are not permitted. Use only Riverbed-approved external antennas supplied or recommended by the manufacturer. Modifications to the device will void the warranty and may violate FCC regulations.
- UL Statement: Use only with listed ITE product.
- Operating Frequency: The operating frequency in a wireless LAN is determined by the access point. It is important that the access point is correctly configured to meet the local regulations. If you have questions regarding the compliance of Riverbed products, please contact us at: Riverbed Technology, 680 Folsom St., San Francisco, CA 94107, USA.
  Tel: 1-415-247-7381/1-888-782-3822 Toll-free in the US, support.riverbed.com.
- The 2-GHz b/g/n radio operates in 2.4 GHz ISM band. It supports channels 1-11 in US, 1-13 in Europe, and 1-13 in Japan. It has two transmitters with a maximum total output power of 25dBm for 802.11b/g/n operation. Output power is configurable to 5 levels. It has three receivers that enables maximum-ratio combining (MRC).
- The 5-GHz a/n radio operates in the UNII-2 band (5.25 - 5.35 GHz), UNII-2 Extended/ETSI band (5.47 - 5.725 GHz), and the upper UNII/ISM band (5.725 - 5.850 GHz). It has two transmitters with a maximum total output power of 24 dBm for UNII-2 and Extended/ETSI bands for the A-domain. The total maximum output power for the upper ISM band is 26 dBm for A-domain. Power settings will change depending on the regulatory domain.
- High power radars are allocated as primary users (meaning they have priority) in the 5250MHz to 5350MHz and 5650MHz to 5850MHz bands. These radars could cause interference and/or damage Wireless LAN devices.
- Calculating the Maximum Output Power: The regulatory limits for maximum output power are specified in EIRP (equivalent isotropic radiated power). The EIRP level of a device can be calculated by adding the gain of the antenna used (specified in dBi) to the output power available at the connector (specified in dBm).

Warnings

GENERAL SAFETY GUIDELINES

WARNING: This warning symbol means danger. You are in a situation that could cause bodily injury. Before you work on any equipment, be aware of the hazards involved with electrical circuitry and be familiar with standard practices for preventing accidents.

WARNING: Only trained and qualified personnel should be allowed to install, replace, or service this equipment.

WARNING: Ultimate disposal of this product should be handled according to all national laws and regulations.

WARNING: Incorrect installation of Riverbed Access Points may invalidate FCC, CE mark, or other regulatory compliance approvals. Customers are responsible for any legal violations from operation of un-approved equipment or incorrect installation.

WARNING: Do not operate the Access Point near unshielded blasting caps or in an explosive environment unless the device has been modified to be especially qualified for such use.

CAUTION: Suitable for use in environmental air space in accordance with Section 300.22.C of National Electrical Code, and Sections 2-128, 12-010(3) and 12-100 of the Canadian Electrical Code, Part 1, C22.1.

CAUTION: Supplied watertight adapters must be used on all input/output connections to the Access Point.

CAUTION: RISK OF EXPLOSION IF BATTERY IS REPLACED BY AN INCORRECT TYPE.

DISPOSE OF USED BATTERIES ACCORDING TO THE MANUFACTURER'S INSTRUCTIONS.

POWER

WARNING: Read the installation instructions before connecting the system to the power source.

WARNING: Installation of the equipment must comply with local and national electrical codes.

WARNING: This equipment must be externally grounded using a customer-supplied ground wire before power is applied. Contact the appropriate electrical inspection authority or an electrician if you are uncertain that suitable grounding is available.

WARNING: Do not work on the system or connect or disconnect cables during periods of lightning activity.

WARNING: To ensure proper PoE power is delivered to the Access Point, use only No. 26 AWG or larger Ethernet (Shielded CAT5E, CAT6) cable.

CAUTION: When the Access Point is installed outdoors or in a wet or damp location, the AC branch circuit that is powering the Injector should be provided with ground fault protection (GFCI), as required by Article 210 of the National Electrical Code (NEC).

CAUTION: Riverbed PoE Injectors rely on the building's installation for over current protection. Ensure that a fuse or circuit breaker no larger than 120 VAC, 15A (U.S.) or 240 VAC, 10A (International) is used on all current-carrying conductors.

EXTERNAL ANTENNAS

!	**WARNING**: In order to comply with radio frequency (RF) exposure limits, the antennas for this product should be positioned no less than 31 cm from your body or nearby persons.
!	**WARNING**: Do not locate the antenna near overhead power lines or other electric light or power circuits, or where it can come into contact with such circuits. When installing the antenna, take extreme care not to come into contact with such circuits, because they may cause serious injury or death. For proper installation and grounding of the antenna, please refer to national and local codes (for example, U.S.:NFPA 70, National Electrical Code, Article 810, Canada: Canadian Electrical Code, Section 54).
!	This device has been designed to operate with antennas having an effective maximum gain of 6dBi in the 2.4 GHz band and 6dBi in the 5 GHz band. The required antenna impedance is 50 ohms. Effective maximum gain is antenna gain minus cable loss.
!	To reduce potential radio interference to other users, the antenna type and its gain should be so chosen that the equivalent isotropically radiated power (EIRP) is not more than that permitted for successful communication.

Wi-Fi Alliance Certification

www.wi-fi.org

Federal Communications Commission (FCC) Statements & Instructions

FCC Declaration of Conformity Statement

This device complies with Part 15 of the FCC Rules, with operation 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 unwanted operation.

This equipment has been tested and found to comply with the limits for a Class B digital device, pursuant to Part 15 of the FCC rules. These limits are designed to provide reasonable protection against harmful interference in a residential installation. This equipment generates, uses and can radiate RF energy and, if not installed and used in accordance with the instructions, may cause harmful interference to radio communications. 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 one or more of the following safety measures:

- Reorient or relocate the receiving antenna.
- Increase the separation between the equipment and the 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 wireless technician for help.

Consult the dealer or an experienced wireless technician for help. Shielded twisted pair (STP) cable must be used for all Ethernet connections in order to comply with EMC requirements.

> *FCC Caution: Any changes or modifications not expressly approved by the party responsible for compliance could void the user's authority to operate this equipment.*

FCC-Specific Instructions

The FCC, National Telecommunications and Information Administration (NTIA), Federal Aviation Administration (FAA), and industry are working to resolve interference to Terminal Doppler Weather Radar (TDWR) systems used near airports that has occurred from some outdoor wireless systems operating in the 5470 MHz - 5725 MHz band. These wireless devices are subject to Section 15.407 of our rules and while operating as a master device they are required to implement radar detection and Dynamic Frequency Selection (DFS) functions.

- Devices must be professionally installed.
- Any installation of either a master or a client device within 35 km of a TDWR location shall be separated by at least 30 MHz (center-to-center) from the TDWR operating frequency (as shown in the TDWR location at http://www.spectrumbridge.com/udia/home.aspx). This will require that channel 116 is not used in these locations.
- The installers and the operators must register the devices in the industry-sponsored database with the appropriate information regarding the location and operation of the device and installer information. A voluntary Wireless Internet Service Providers Association (WISPA) sponsored database has been developed that allows operators and installers to register the location information of the Unlicensed National Information Infrastructure (UNII) devices operating outdoors in the 5470 - 5725 MHz band within 35 km of any TDWR location (see http://www.spectrumbridge.com/udia/home.aspx). This database may be used by government agencies to expedite resolution of any interference to TDWRs.

FCC Safety Compliance Statement

The FCC with its action in ET Docket 96-8 has adopted a safety standard for human exposure to radio frequency (RF) electromagnetic energy emitted by FCC certified equipment. When used with Riverbed-approved antennas, Riverbed Wireless products meet the uncontrolled environmental limits found in OET-65 and ANSI C95.1, 1991. Proper installation of this radio according to the instructions found in this manual will result in user exposure that is substantially below the FCC recommended limits.

This radio transmitter [FCC: SK6-XH2240] has been approved by FCC to operate with the antenna types listed below, with the maximum permissible gain indicated. Antenna types not

included in this list that have a gain greater than the maximum gain indicated for any type listed are strictly prohibited for use with this device.

Antenna Type	Model Number	Antenna Gain (dBi)	Remark
Omni-directional Antenna	EHS1GA260A	2	2.4GHz, 5GHz
Dual Band & Quad Polarization Subscriber Antenna	MT - 953019/NVHD	10.23	2.4GHz
		12.14	5GHz
Omni-directional Antenna	RFDPA161300SBAB801	2.3	BT
	TLB-2400-3800B	2	

Industry Canada Statements and Warnings

Industry Canada Notice and Marking: This Class B digital apparatus complies with Canadian ICES-003.

*Cet appareil numérique de la classe **B** est conforme à la norme NMB-003 du Canada.*

The term "IC:" before the radio certification ID number IC: 21249-XH2240 only signifies that Industry Canada technical specifications were met.

Under Industry Canada regulations, this radio transmitter may only operate using an antenna of a type and maximum (or lesser) gain approved for the transmitter by Industry Canada. To reduce potential radio interference to other users, the antenna type and its gain should be so chosen that the equivalent isotropically radiated power (e.i.r.p.) is not more than that necessary for successful communication.

Conformément à la réglementation d'Industrie Canada, le présent émetteur radio peut fonctionner avec une antenne d'un type et d'un gain maximal (ou inférieur) approuvé pour l'émetteur par Industrie Canada. Dans le but de réduire les risques de brouillage radioélectrique à l'intention des autres utilisateurs, il faut choisir le type d'antenne et son gain de sorte que la puissance isotrope rayonnée équivalente (p.i.r.e.) ne dépasse pas l'intensité nécessaire à l'établissement d'une communication satisfaisante.

This device complies with Industry Canada license-exempt RSS standard(s). Operation is subject to the following two conditions: (1) this device may not cause interference, and (2) this device must accept any interference, including interference that may cause undesired operation of the device.

Le présent appareil est conforme aux CNR d'Industrie Canada applicables aux appareils radio exempts de licence. L'exploitation est autorisée aux deux conditions suivantes: (1) l'appareil ne doit pas produire de

brouillage, et (2) l'utilisateur de l'appareil doit accepter tout brouillage radioélectrique subi, même si le brouillage est susceptible d'en compromettre le fonctionnement.

Riverbed Access Points are certified to the requirements of RSS-247. The use of this device in a system operating either partially or completely outdoors may require the user to obtain a license for the system according to the Canadian regulations. For further information, contact your local Industry Canada office.

RF Radiation Hazard Warning: To ensure compliance with FCC and Industry Canada RF exposure requirements, this device must be installed in a location where the antennas of the device will have a minimum distance of at least 31 cm from all persons. Using higher gain antennas and types of antennas not certified for use with this product is not allowed. The device shall not be co-located with another transmitter.

Installez l'appareil en veillant à conserver une distance d'au moins 31 cm entre les éléments rayonnants et les personnes. Cet avertissement de sécurité est conforme aux limites d'exposition définies par la norme CNR-102 at relative aux fréquences radio.

This radio transmitter [IC: 21249-XH2240] has been approved by Innovation, Science and Economic Development Canada (ISED) to operate with the antenna types listed below, with the maximum permissible gain indicated. Antenna types not included in this list that have a gain greater than the maximum gain indicated for any type listed are strictly prohibited for use with this device.

Le présent émetteur radio [IC: 21249-XH2240] a été approuvé par Innovation, Sciences et Développement Économique Canada pour fonctionner avec les types d'antenne énumérés ci dessous et ayant un gain admissible maximal. Les types d'antenne non inclus dans cette liste, et dont le gain est supérieur au gain maximal indiqué pour tout type figurant sur la liste, sont strictement interdits pour l'exploitation de l'émetteur.

Antenna Type	Model Number	Antenna Gain (dBi)	Remark
Omni-directional Antenna	EHS1GA260A	2	2.4GHz, 5GHz
Dual Band & Quad Polarization Subscriber Antenna	MT - 953019/NVHD	10.23	2.4GHz
		12.14	5GHz
Omni-directional Antenna	RFDPA161300SBAB801	2.3	BT
	TLB-2400-3800B	2	

High Power Radars: High power radars are allocated as primary users (meaning they have priority) in the 5250MHz to 5350MHz and 5650MHz to 5850MHz bands. These radars could cause interference and/or damage to Wireless LAN devices used in Canada.

Les utilisateurs de radars de haute puissance sont désignés utilisateurs principaux (c.-à-d., qu'ils ont la priorité) pour les bandes 5 250 - 5 350 MHz et 5 650 - 5 850 MHz. Ces radars pourraient causer du brouillage et/ou des dommages aux dispositifs LAN-EL.

Radio Equipment Directive (RED) 2014/53/EU Compliance Information

This section contains compliance information for the Riverbed Wireless AP family of products. The compliance information contained in this section is relevant to the European Union and other countries that have implemented the EU Directive 2014/53/EC.

This declaration is only valid for configurations (combinations of software, firmware and hardware) provided and/or supported by Riverbed Inc. The use of software or firmware not supported/provided by Riverbed Inc. may result that the equipment is no longer compliant with the regulatory requirements.

Frequencies from 5150 to 5350 (5 GHz channels 36-64) are restricted to indoor use only.

AT	BE	BG	CH	CY	CZ	DE	DK	EE	EL	ES
FI	FR	HR	HU	IE	IS	IT	LI	LT	LU	LV
MT	NL	NO	PL	PT	RO	SE	SI	SK	TR	UK

Riverbed, Inc. declares that this radio equipment type [XH2240] is in compliance with Directive 2014/53/EU.

Declaration of Conformity

Cesky [Czech] Toto zahzeni je v souladu se základnimi požadavky a ostatnimi odpovidajcimi ustano veni mi Směrnice 2014/53/EC.

Dansk [Danish] Dette udstyr er i overensstemmelse med de væsentlige krav og andre relevante bestemmelser i Direktiv 2014/53/EF.

Deutsch [German] Dieses Gerat entspricht den grundlegenden Anforderungen und den weiteren entsprechenden Vorgaben der Richtinie 2014/53/EU.

Eesti [Estonian] See seande vastab direktiivi 2014/53/EU olulistele nõuetele ja teistele as jakohastele sätetele.

English This equipment is in compliance with the essential requirements and other relevant provisions of Directive 2014/53/EC.

Español [Spain] Este equipo cump le con los requisitos esenciales asi como con otras disposiciones de la Directiva 2014/53/ CE.

Ελληνυκη [Greek] Αυτόζ ο εξοπλτσμόζ είναι σε συμμόρφωση με τιζ ουσιώδειζ απαιτήσειζ και ύλλεζ σχετικέζ διατάξειζ τηζ Οδηγιαζ 2014/53/EC.

Français [French] Cet appareil est conforme aux exigences essentielles et aux autres dispositions pertinentes de la Directive 2014/53/EC.

Íslenska [Icelandic] Þetta tæki er samkvæmt grunnkröfum og öðrum viðeigandi ákvæðum Tilskipunar 2014/53/EC.

Italiano [Italian] Questo apparato é conforme ai requisiti essenziali ed agli altri principi sanciti dalla Direttiva 2014/53/CE.

Latviski [Latvian] Šī iekārta atbilst Direktīvas 2014/53/EK būtiskajā prasībām un citiem ar to saistītajiem noteikumiem.

Lietuvių [Lithuanian] Šis įrenginys tenkina 2014/53/EB Direktyvos esminius reikalavimus ir kitas šios direktyvos nuostatas.

Nederlands [Dutch] Dit apparant voldoet aan de essentiele eisen en andere van toepassing zijnde bepalingen van de Richtlijn 2014/53/EC.

Malti [Maltese] Dan l-apparant huwa konformi mal-htigiet essenzjali u l-provedimenti l-ohra rilevanti tad-Direttiva 2014/53/EC.

Margyar [Hungarian] Ez a készülék teljesiti az alapvetö követelményeket és más 2014/53/EK irányelvben meghatározott vonatkozó rendelkezéseket.

Norsk [Norwegian] Dette utstyret er i samsvar med de grunnleggende krav og andre relevante bestemmelser i EU-direktiv 2014/53/EF.

Polski [Polish] Urządzenie jest zgodne z ogólnymi wymaganiami oraz szczególnymi mi warunkami określony mi Dyrektywą. UE:2014/53/EC.

Português [Portuguese] Este equipamento está em conformidade com os requisitos essenciais e outras provisões relevantes da Directiva 2014/53/EC.

Slovensko [Slovenian] Ta naprava je skladna z bistvenimi zahtevami in ostalimi relevantnimi popoji Direktive 2014/53/EC.

Slovensky [Slovak] Toto zariadenie je v zhode so základnými požadavkami a inými prislušnými nariadeniami direktiv: 2014/53/EC.

Suomi [Finnish] Tämä laite täyttää direktiivin 2014/53//EY olennaiset vaatimukset ja on siinä asetettujen muiden laitetta koskevien määräysten mukainen.

Svenska [Swedish] Denna utrustning är i överensstämmelse med de väsentliga kraven och andra relevanta bestämmelser i Direktiv 2014/53/EC.

Assessment Criteria: The following standards were applied during the assessment of the product against the requirements of the Directive 2014/53/EC:

- Radio: EN 301 893 and EN 300 328 (if applicable)
- EMC: EN 301 489-1 and EN 301 489-17
- Safety: EN 50385
- RF Exposure: EN 62479

CE Marking: For the Riverbed Wireless Access Point, the CE mark and Class-2 identifier opposite are affixed to the equipment and its packaging:

WEEE Compliance: Natural resources were used in the production of this equipment.

- This equipment may contain hazardous substances that could impact the health of the environment.
- If you need more information on collection, re-use and recycling systems, please contact your local or regional waste administration.
- Please contact Riverbed for specific information on the environmental performance of our products.

National Restrictions: In the majority of the EU and other European countries, the 2.4 GHz and 5 GHz bands have been made available for the use of Wireless LANs. The following table provides an overview of the regulatory requirements in general that are applicable for the 2.4 GHz and 5 GHz bands.

Frequency Band (MHz)	Max Power Level (EIRP) (mW)	Indoor	Outdoor
2400-2483.5	100	X	X**
5250-5359*	200	X	N/A
5470-5725	1000	X	X

**Dynamic frequency selection and Transmit Power Control is required in these frequency bands.*

***France is indoor use only in the upper end of the band.*

The requirements for any country may change at any time. Riverbed recommends that you check with local authorities for the current status of their national regulations for both 2.4 GHz and 5 GHz wireless LANs. The following countries have additional requirements or restrictions than those listed in the above table:

Belgium: The Belgian Institute for Postal Services and Telecommunications (BIPT) must be notified of any outdoor wireless link having a range exceeding 300 meters. Riverbed recommends checking at www.bipt.be for more details.

Draadloze verbindingen voor buitengebruik en met een reikwijdte van meer dan 300 meter dienen aangemeld te worden bij het Belgisch Instituut voor postdiensten en telecommunicatie (BIPT). Zie www.bipt.be voor meer gegevens.

Les liasons sans fil pour une utilisation en extérieur d'une distance supérieure à 300 mèters doivent être notifiées à l'Institut Belge des services Postaux et des Télécommunications (IBPT). Visitez www.bipt.be pour de plus amples détails.

Greece: A license from EETT is required for the outdoor operation in the 5470 MHz to 5725 MHz band. Riverbed recommends checking www.eett.gr for more details.

Η δη ιουργβάικτ ωνεξωτερικο ρουστη ζ νησυ νοτ των 5470–5725 MHz ε ιτρ ετάιωνο ετάά όάδειά της ΕΕΤΤ, ου ορηγεβτάι στερά ά ό σ φωνη γν η του ΓΕΕΘΑ. Ερισσότερες λε τομ ρειεωστο www.eett.gr

Italy: This product meets the National Radio Interface and the requirements specified in the National Frequency Allocation Table for Italy. Unless this wireless LAN product is operating within the boundaries of the owner's property, its use requires a "general authorization." Please check with www.communicazioni.it/it/ for more details.

Questo prodotto é conforme alla specifiche di Interfaccia Radio Nazionali e rispetta il Piano Nazionale di ripartizione delle frequenze in Italia. Se non viene installato all'interno del proprio fondo, l'utilizzo di prodotti wireless LAN richiede una "autorizzazione Generale." Consultare www.communicazioni.it/it/ per maggiori dettagli.

Norway, Switzerland and Liechtenstein: Although Norway, Switzerland and Liechtenstein are not EU member states, the EU Directive 2014/53/EC has also been implemented in those countries.

International (non-EU) Compliance Information

Brazil ANATEL Homologation Notice:

Antennas used with the XH2240 with a gain higher than 8.5dBi (for omnidirectional) and a gain of 9.5dBi (for other types of antennas) must be ANATEL homologated.

RF Exposure

Generic Information

The Riverbed Access Point products are designed to comply with the following national and international standards on Human Exposure to Radio Frequencies:

- US 47 Code of Federal Regulations Part 2 Subpart J
- American National Standards Institute (ANSI) / Institute of Electrical and Electronic Engineers / IEEE C 95.1 (99)
- International Commission on Non Ionizing Radiation Protection (ICNIRP) 98
- Ministry of Health (Canada) Safety Code 6. Limits on Human Exposure to Radio Frequency Fields in the range from 3kHz to 300 GHz
- Australia Radiation Protection Standard

To ensure compliance with various national and international Electromagnetic Field (EMF) standards, the system should only be operated with Riverbed approved antennas and accessories.

Declaration on Conformity

This access point product has been found to be compliant to the requirements set forth in CFR 47 Section 1.1307 addressing RF Exposure from radio frequency devices as defined in Evaluating Compliance with FCC Guidelines for Human Exposure to Radio Frequency Electromagnetic Fields.

Use is permitted with antennas having an effective maximum gain of 9 dBi in the 2.4 GHz band and 6 dBi in the 5 GHz band. Antennas having a gain greater than this are strictly prohibited for use with this device. The required antenna impedance is 50 ohms. Effective maximum gain is antenna gain minus cable loss. A minimum separation distance of 31 cm between the antenna and all persons is required during normal operation.

Only antennas recommended by Riverbed for use with the product should be installed. The use of any other antennas may cause damage to the access points or violate regulatory emission limits and will not be supported by Riverbed.

International Guidelines for Exposure to Radio Waves

The Riverbed Access Points include radio transmitters and receivers. It is designed not to exceed the limits for exposure to radio waves (radio frequency electromagnetic fields) recommended by international guidelines. The guidelines were developed by an independent scientific organization (ICNIRP) and include a substantial safety margin designed to ensure the safety of all persons, regardless of age and health.

As such the systems are designed to be operated as to avoid contact with the antennas by the end user. It is recommended to set the system in a location where the antennas can remain at

least a minimum distance as specified from the user in accordance to the regulatory guidelines which are designed to reduce the overall exposure of the user or operator.

Separation Distance		
MPE	**Distance**	**Limit**
1.34 mW/cm^2	31 cm	1.00 mW/cm^2

The World Health Organization has stated that present scientific information does not indicate the need for any special precautions for the use of wireless devices. They recommend that if you are interested in further reducing your exposure then you can easily do so by reorienting antennas away from the user or placing the antennas at a greater separation distance then recommended.

FCC Guidelines for Exposure to Radio Waves

The device includes a radio transmitter and receiver. It is designed not to exceed the limits for exposure to radio waves (radio frequency electromagnetic fields) as referenced in FCC Part 1.1310. The guidelines are based on IEEE ANSI C 95.1 (92) and include a substantial safety margin designed to ensure the safety of all persons, regardless of age and health.

As such the systems are designed to be operated as to avoid contact with the antennas by the end user. It is recommended to set the system in a location where the antennas can remain at least a minimum distance as specified from the user in accordance to the regulatory guidelines which are designed to reduce the overall exposure of the user or operator.

Separation Distance		
MPE	**Distance**	**Limit**
1.34 mW/cm^2	31 cm	100 mW/cm^2

The device has been tested and found compliant with the applicable regulations as part of the radio certification process.

The US Food and Drug Administration has stated that present scientific information does not indicate the need for any special precautions for the use of wireless devices. The FCC recommends that if you are interested in further reducing your exposure then you can easily do so by reorienting antennas away from the user or placing the antennas at a greater separation distance then recommended or lowering the transmitter power output.

Industry Canada Guidelines for Exposure to Radio Waves

The Riverbed Access Points include radio transmitters and receivers. It is designed not to exceed the limits for exposure to radio waves (radio frequency electromagnetic fields) as

referenced in Health Canada Safety Code 6. The guidelines include a substantial safety margin designed into the limit to ensure the safety of all persons, regardless of age and health.

As such the systems are designed to be operated as to avoid contact with the antennas by the end user. It is recommended to set the system in a location where the antennas can remain at least a minimum distance as specified from the user in accordance to the regulatory guidelines which are designed to reduce the overall exposure of the user or operator.

Separation Distance		
MPE	**Distance**	**Limit**
1.34 mW/cm^2	31 cm	100 mW/cm^2

Health Canada states that present scientific information does not indicate the need for any special precautions for the use of wireless devices. They recommend that if you are interested in further reducing your exposure you can easily do so by reorienting antennas away from the user, placing the antennas at a greater separation distance than recommended, or lowering the transmitter power output.

Additional Information on RF Exposure

You can find additional information on the subject at the following links:

- FCC Bulletin 56: Questions and Answers about Biological Effects and Potential Hazards of Radio Frequency Electromagnetic Fields
- FCC Bulletin 65: Evaluating Compliance with the FCC guidelines for Human Exposure to Radio Frequency Electromagnetic Fields
- FCC Bulletin 65C (01-01): Evaluating Compliance with the FCC guidelines for Human Exposure to Radio Frequency Electromagnetic Fields: Additional Information for Evaluating Compliance for Mobile and Portable Devices with FCC limits for Human Exposure to Radio Frequency Emission

You can obtain additional information from the following organizations:

- World Health Organization Internal Commission on Non-Ionizing Radiation Protection at this URL: www.who.int/emf
- United Kingdom, National Radiological Protection Board at this URL: www.nrpb.org.uk
- Cellular Telecommunications Association at this URL: www.wow-com.com
- The Mobile Manufacturers Forum at this URL: www.mmfai.org

Customer Support

The Riverbed Customer Support Website provides online documents and tools for troubleshooting and resolving technical issues with Riverbed products and technologies.

Access to all tools on the Riverbed Customer Support Website requires a login user ID and password. If you have a valid service contract but do not have a user ID or password, you can register at this URL: http://support.riverbed.com

To request additional assistance, please contact Riverbed Customer Support via

- Email at support@riverbed.com
- Live chat with one of the Riverbed Customer Support Representatives at http://support.riverbed.com
- Call Riverbed at the following numbers:

United States and Canada	+1.888.782.3822 (US Toll Free) or +1.415.247.7381 (Direct)
Outside the U.S. dial	+1 415 247 7381