Meru Networks AP122

Installation Guide

xxx-XXXXX

October 2014

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MERU NETWORKS, INC.
Limited Product Warranty

This Limited Product Warranty applies to the original end-user customer of the Meru product which you purchased for your own use, and not for resale ("Product"), from Meru Networks, Inc. ("Meru") or its authorized reseller ("Reseller").

Limited Warranties

- One-year limited hardware warranty: Meru warrants to you that Meru hardware (other than Third Party Products as described below) will be free from defects in materials and workmanship for a one-year period after the date of delivery of the applicable product to you from Meru or its Reseller (the "Hardware Warranty Period"). If Meru receives written notice from you of such defects during the Hardware Warranty Period, Meru will, at its option, either repair or replace Meru hardware that Meru determines to be defective. Replacement products may be remanufactured units, and will be warranted for the remainder of the original Hardware Warranty Period, or if greater, for thirty days from delivery of such replacement. Should Meru be unable to repair or replace the Meru hardware, Meru (or its Reseller, as applicable) will refund to you the purchase price of the Product.
- 90-Day Limited Software Warranty: Meru warrants to you that, for a 90-day period after the date of delivery of the applicable product to you from Meru or its Reseller (the "Software Warranty Period"), when properly installed and used, (a) the media on which the Meru software is provided will be free from defects in materials or workmanship; and (b) the Meru software will substantially conform to the functional specifications in the applicable documentation. If Meru receives written notice from you of a breach of this warranty during the Software Warranty Period and is able to reproduce the defect, Meru will, at its option, either repair or replace the defective Meru software. Should Meru be unable to repair or replace the Meru software, Meru (or its Reseller, as applicable) will refund to you the purchase price of the Product.

Exclusions

The warranty on the Product shall not apply to defects resulting from the following:

- Alteration or modification of the Product in any way, including without limitation configuration with software or components other than those supplied by Meru or integration with parts other than those supplied by Meru.
- Abuse, damage or otherwise being subjected to problems caused by negligence or misapplication (including without limitation improper or inadequate maintenance or calibration), relocation of the products (including without limitation damage caused by use of other than Meru shipping containers), or use of the products other than as specified in the applicable Meru product documentation (including without limitation incompatible operating environments and systems), or improper site preparation or maintenance.
- Damage as a result of accidents, extreme power surge, extreme electromagnetic field, acts of nature or other causes beyond the control of Meru.
- Use of the Product with software, interfacing, parts or supplies not supplied by Meru.

The warranty on the Product does not apply if the Product is sold, or in the case of software, licensed, for free for evaluation or demonstration purposes.

Meru expressly disclaims any warranty or obligation to support the Product for all operating environments – for example, as illustration and not limitation, Meru does not warrant or ensure interoperability of the Product with future telecommunication systems or other future software or hardware.

You understand and acknowledge that the Products may generate, use or radiate radio frequency energy and may interfere with radio communications and/or radio and television receptions if is not used and/or installed in accordance with the documentation for such products. WHILE MERU USES COMMERCIALLY REASONABLE EFFORTS TO ENSURE COMPLIANCE OF THE PRODUCTS WITH APPLICABLE UNITED STATES FEDERAL COMMUNICATIONS COMMISSION AND PROTECT AGAINST HARMFUL INTERFERENCES, YOU ACKNOWLEDGE AND AGREE THAT INTERFERENCES WITH RADIO COMMUNICATIONS AND/OR RADIO AND TELEVISION RECEPTIONS MAY OCCUR AND THAT MERU WILL NOT BE LIABLE FOR ANY DAMAGES OR INCONVENIENCE BASED ON SUCH INTERFERENCES.

Third Party Products - The above Limited Warranties are exclusive of products manufactured by third parties (“Third Party Products”). If such third party manufacturer provides a separate warranty with respect to the Third Party Product, Meru will include such warranty in the packaging of the Meru Product.

Return procedures

To obtain warranty service you must: (a) obtain a return materials authorization number (“RMA#”) from Meru by contacting rmaadmin@merunetworks.com, and (b) deliver the Product, in accordance with the instructions provided by Meru, along with proof of purchase in the form of a copy of the bill of sale including the Product’s serial number, contact information, RMA# and detailed description of the defect, in either its original package or packaging providing the Product with a degree of protection equivalent to that of the original packaging, to Meru

at the address below. You agree to obtain adequate insurance to cover loss or damage to the Product during shipment.

If you obtain an RMA# and return the defective Product as described above, Meru will pay the cost of returning the Product to Meru. Otherwise, you agree to bear such cost, and prior to receipt by Meru, you assume risk of any loss or damage to the Product. Meru is responsible for the cost of return shipment to you if the Meru Product is defective.

Returned products which are found by Meru to be not defective, returned out-of-warranty or otherwise ineligible for warranty service will be repaired or replaced at Meru's standard charges and shipped back to you at your expense.

At Meru's sole option, Meru may perform repair service on the Product at your facility, and you agree to provide Meru with all reasonable access to such facility and the Product, as required by Meru. On-site repair service may be available and is governed by the specific terms of your purchase.

All replaced parts, whether under warranty or not, are the property of Meru.

Warranty limitations

THE WARRANTIES SET FORTH ABOVE ARE EXCLUSIVE AND NO OTHER WARRANTY, WHETHER WRITTEN OR ORAL, IS EXPRESSED OR IMPLIED BY MERU, TO THE MAXIMUM EXTENT PERMITTED BY LAW. THERE ARE NO OTHER WARRANTIES RESPECTING THE PRODUCT AND DOCUMENTATION AND SERVICES PROVIDED UNDER THIS AGREEMENT, INCLUDING WITHOUT LIMITATION ANY WARRANTY OF DESIGN, MERCHANTABILITY, FITNESS FOR A PARTICULAR PURPOSE (EVEN IF MERU HAS BEEN INFORMED OF SUCH PURPOSE), TITLE OR AGAINST INFRINGEMENT OF THIRD PARTY RIGHTS. IF ANY IMPLIED WARRANTY CANNOT BE DISCLAIMED UNDER APPLICABLE LAW, THEN SUCH IMPLIED WARRANTY SHALL BE LIMITED IN DURATION TO THE HARDWARE AND SOFTWARE WARRANTY PERIODS DESCRIBED ABOVE.

NO AGENT OF MERU IS AUTHORIZED TO ALTER OR EXCEED THE WARRANTY OBLIGATIONS OF MERU.

MERU SPECIFICALLY DOES NOT WARRANT THAT THE MERU SOFTWARE WILL BE ERROR FREE OR OPERATE WITHOUT INTERRUPTION.

THE REMEDIES IN THIS LIMITED PRODUCT WARRANTY ARE YOUR SOLE AND EXCLUSIVE REMEDIES, AND MERU'S SOLE AND EXCLUSIVE LIABILITY, FOR BREACH OF THE HARDWARE OR SOFTWARE WARRANTY SET FORTH ABOVE.

Limitations of Liability

You acknowledge and agree that the consideration which you paid to Meru does not include any consideration by Meru of the risk of consequential, indirect or incidental damages which may arise in connection with your use of, or inability to use, the Product. THUS, MERU AND ITS RESELLER WILL NOT BE LIABLE FOR ANY INDIRECT, INCIDENTAL, SPECIAL, PUNITIVE OR CONSEQUENTIAL DAMAGES, INCLUDING WITHOUT LIMITATION LOST PROFITS, LOST BUSINESS, LOST DATA, LOSS OF USE, OR COST OF COVER INCURRED BY YOU ARISING OUT OF OR RELATED TO YOUR PURCHASE OR USE OF, OR INABILITY TO USE, THIS PRODUCT OR THE SERVICES, UNDER ANY THEORY OF LIABILITY, WHETHER IN AN ACTION IN CONTRACT, STRICT LIABILITY, TORT (INCLUDING NEGLIGENCE) OR OTHER LEGAL OR EQUITABLE THEORY, EVEN IF MERU OR ITS RESELLER KNEW OR SHOULD HAVE KNOWN OF THE POSSIBILITY OF SUCH DAMAGES. IN ANY EVENT, THE CUMULATIVE LIABILITY OF MERU OR ITS RESELLER FOR ALL CLAIMS WHATSOEVER RELATED TO THE PRODUCT OR THE SERVICE WILL NOT EXCEED THE PRICE YOU PAID FOR THE PRODUCT OR SERVICES GIVING RISE TO SUCH CLAIMS.

THE LIMITATIONS SET FORTH HEREIN ARE INTENDED TO LIMIT THE LIABILITY OF MERU AND ITS RESELLERS AND SHALL APPLY NOTWITHSTANDING ANY FAILURE OF ESSENTIAL PURPOSE OF ANY LIMITED REMEDY.

The jurisdiction applicable to you may not allow the limitations of liability or damages set forth above, in which case such limitation shall only apply to you to the extent permitted in such jurisdiction.

Additional Information

This Limited Product Warranty shall be governed by and construed in accordance with the laws of the State of California, U.S.A., exclusive of its conflict of laws principles. The U.N. Convention on Contracts for the International Sale of Goods shall not apply.

This Limited Product Warranty is the entire and exclusive agreement between you and Meru with respect to its subject matter, and any modification or waiver of any provision of this statement is not effective unless expressly set forth in writing by an authorized representative of Meru.

All inquiries or claims made under this Limited Product Warranty must be sent to Meru at the following address:

Meru Networks Inc.,
894 Ross Drive, CA 94087, USA
Tel: 408-215-5300
Fax: 408-215-5301
Email: support@merunetworks.com

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1 About AP122

The AP122 is a dual-radio 802.11a/b/g/n/ac WLAN access point with a 2-stream design and an in-room wall plate form factor. It can operate in the 2.4 GHz band for 802.11n support and the 5 GHz band for 802.11ac to deliver an aggregate data rate of 1.2 Gbps data for demanding business applications such as video and voice.

To know more, visit *Meru Networks web site*.

Radio Specification

- Radio 1— Dual Band 2x2 stream 11 ac
- Radio 2—5Ghz 2x2 stream 11 ac

Safety Precautions—IMPORTANT

Read and follow the regulatory instructions in Appendix B before installing and operating this product.

If an optional power supply is used, it must be one supplied by Meru Networks.

This product is intended to be supplied by a UL Listed power supply marked Class 2 or LPS and rated 48V 1.04A. For Power over Ethernet, an 802.3 or 802.3at connection must be used.

The AP122 is intended only for installation in Environment A as defined in IEEE Std 802.3 All interconnected equipment must be contained within the same building, including the interconnected equipment's associated LAN connection.

Power Options

The AP is powered using a IEEE802.3at-2012 compliant PoE PD IN or 48V DC input.

Power Output

The IEEE802.3af-2012 compliant PoE PSE provides power output up to 13W.

Enclosure and Connectors

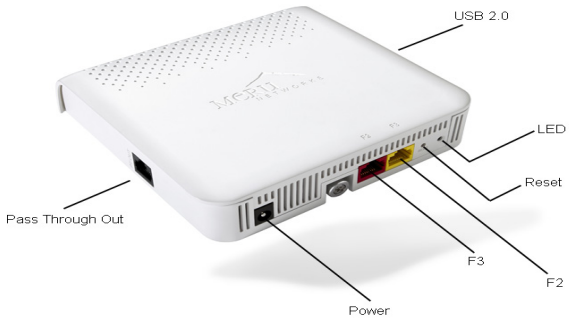


TABLE 1: *AP122 Connectors - Top and Side View*

Parts	Descriptions
Power	48v DC input.
F2	Fast-Ethernet
F3	PoE PSE Out Fast Ethernet
Reset	Reset pin. Using a sharp pin and press in for 3 seconds to return the AP to factory default settings
LED	• LED light provides the following status indications • PINK Color - This color represents the AP in boot up mode. • Blinking GREEN - This color represents the AP in discovery mode. • Solid BLUE - This color represents the AP in connected state.

TABLE 1: *AP122 Connectors - Top and Side View*

Parts	Descriptions
USB	USB 2.0 Port
PT Out	Pass Through Out. Wired connection with Pass Through In.

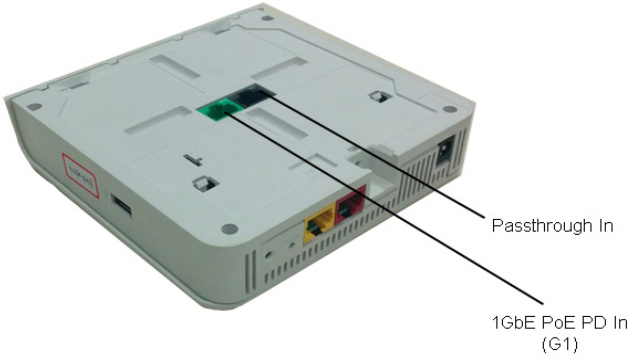


TABLE 2: *AP122 Connectors - Bottom View*

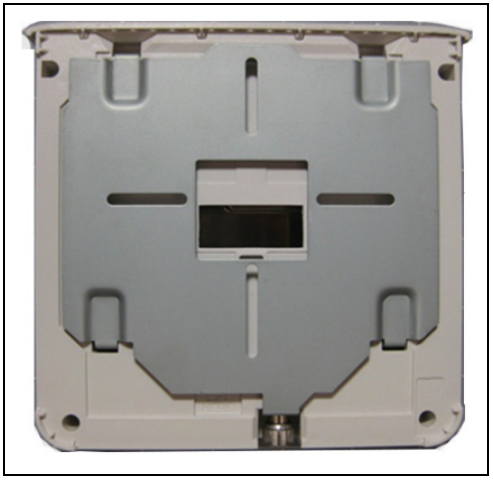
Parts	Description
G1	100 Mbps port
PT In	Wired connection with Pass Through Out

2 Mounting AP122

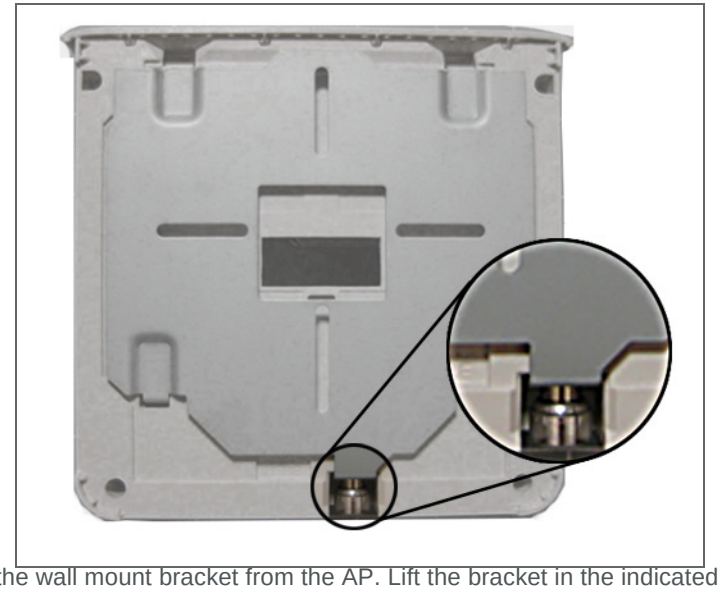
This section provides illustrated instructions to wall mount an AP122.

Follow all recommended safety procedures before you proceed.

1. The AP122 is shipped with the wall mount bracket installed on the bottom of the AP. The metal bracket clips into slots in the plastic housing. The captive screw used to lock the AP into place, is not engaged during shipment



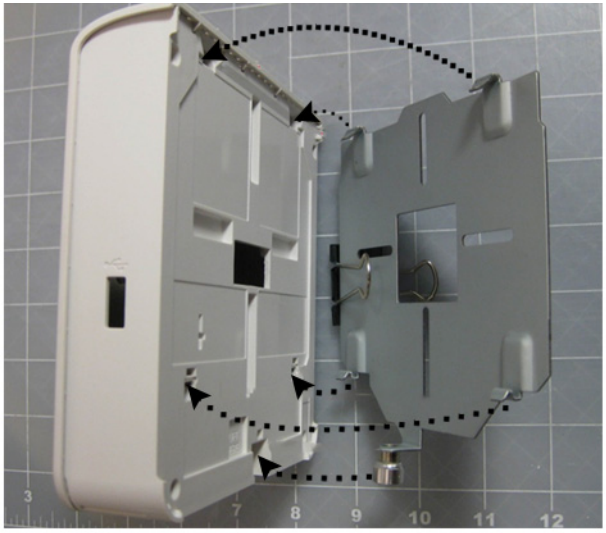
2. The wall mount bracket is designed to be installed over a wall plate (single gang box). There are a series of slots in the mounting bracket to allow optional installations.



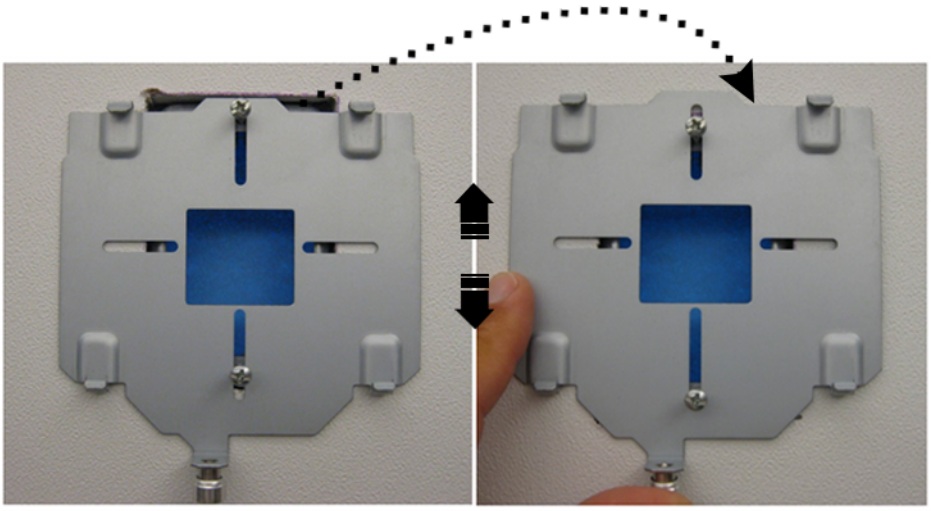
3. Remove the wall mount bracket from the AP. Lift the bracket in the indicated area to disengage the clips. You will need to move the bracket up and away from the AP to clear the top "hook" clips.

4. Once the bracket has been completely removed from the AP, position the bracket over the wall plate and install two screws (not included) as shown. Adjust the bracket over the

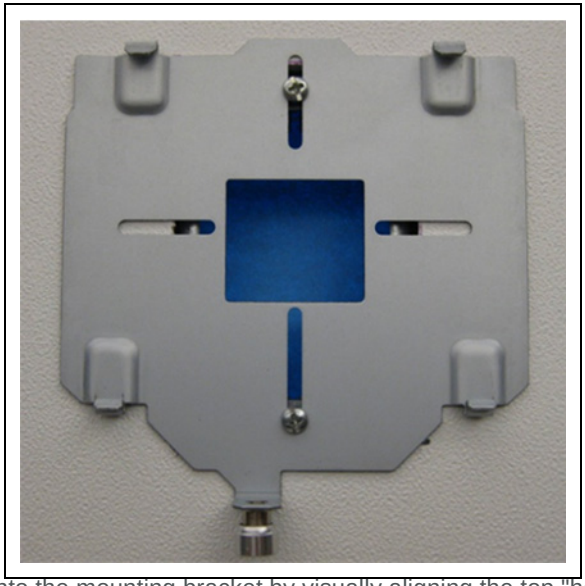
wall plate box before tightening the screws. Slide the bracket up or down along the screws in the slots to the desired location. Be sure to cover any gaps in the wall.



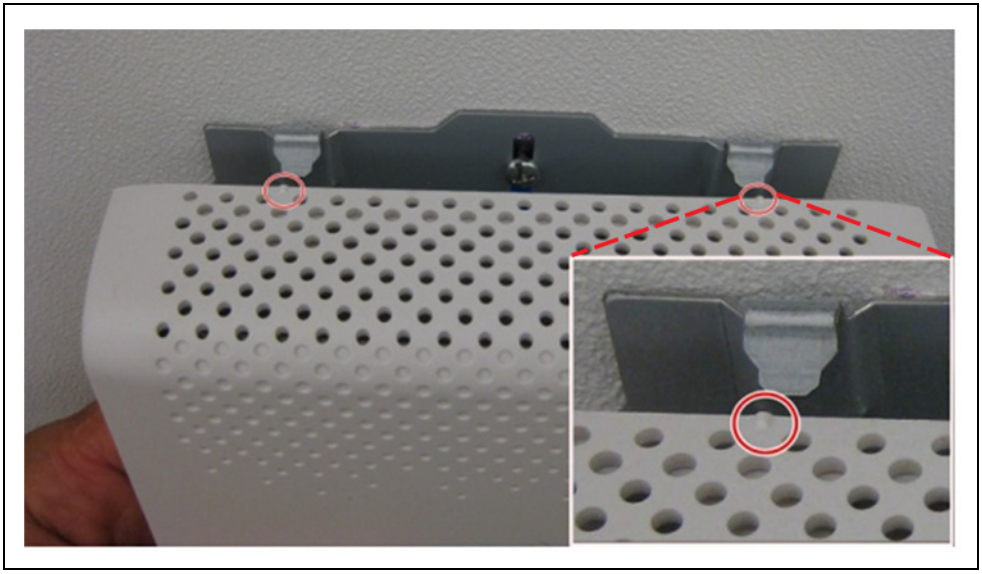
5. Tighten screws to secure bracket to wall plate. Do not over-tighten. Over-tightening may cause the bracket to bend.

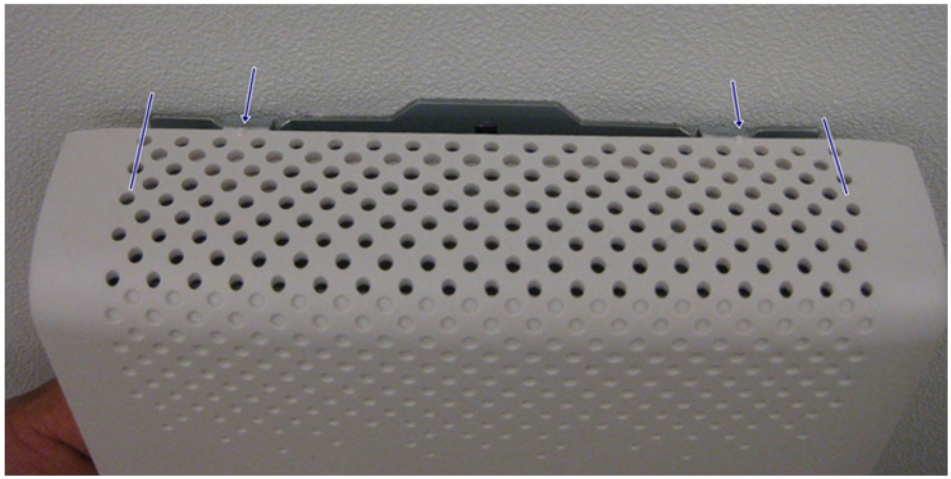


6. Before installing the AP to the bracket, connect all necessary cabling to the ports on the back of the AP.

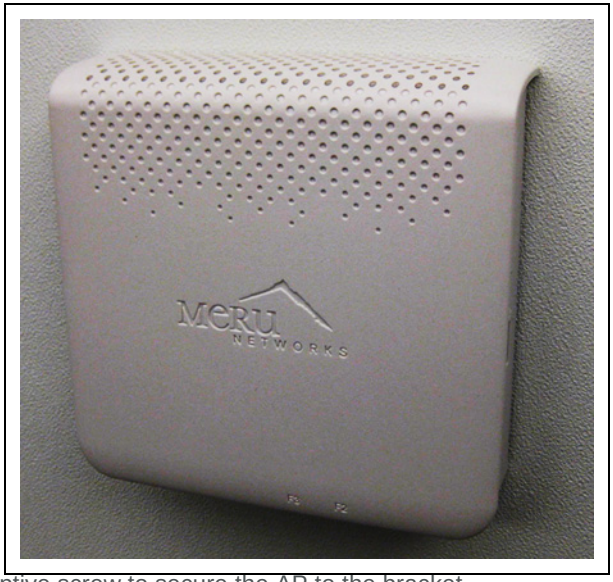


7. Install the AP onto the mounting bracket by visually aligning the top "hook" clips to the small raised bumps on the top edge of the AP. For additional visual alignment reference, use the edges of the bracket which line up with the outside vent holes on the AP.





8. Move the AP up slightly until you feel the top hooks slide into the receiving holes on the back of the AP. Once the top hooks are engaged, push gently on the bottom, front of the AP to engage the bottom hooks. You should feel the clips lock into place.



9. Tighten the captive screw to secure the AP to the bracket.

A Additional Notes

Maximum EIRP

The transmit EIRP is the sum of the conductive transmit power, IEEE Std 802.11n multiple stream effect, and the antenna gain. By default, Meru AP122 EIRP is set lower than the regulatory limit with the default antenna.

Dual Concurrent Same Band Operation

With grant of additional regulatory approval and Permit-but-Ask, users may configure two radios in AP122 on the same band (i.e., both radios are on the 2.4 GHz but in the different or same channels, and both radios are on the 5.x GHz but in the different or same channels).

However, user shall expect performance deterioration due to RF collision and collocation interference. It is important that users adopt external antennas, with extended coaxial pigtail cables, with AP122 in such use case. User shall place antennas far apart to reduce interference. Meanwhile, user shall also reduce AP122 transmit power, for each radio, by at-least 3 dBm from its default setting.

Manufacturing Information

The AP122 models are built in China. Contact Meru Networks for manufacturing related information.

Distributed Antenna Systems (DAS)

Meru Networks does not certify or endorse any specific Distributed Antenna System (DAS) vendors. Meru Networks will provide support to Meru Wi-Fi customers that use distributed antennas within the terms and conditions of the MeruAssure Terms of Service and in accordance with the customer's support agreement. Meru Customer Support will support Meru software and hardware, and will work jointly with DAS vendors to identify and troubleshoot issues, but any support related to RF issues, including RF coverage, shall be the responsibility of the DAS vendor.

Meru Networks recommends that customers use only a DAS that has been tested to work with Meru hardware and software. Meru does not provide any site surveys, design or implementation of Wi-Fi over DAS. Meru recommends that customers obtain such services from a trained and qualified systems integrator or from their DAS vendor.

Air Handling Space Requirements

AP122/AP121 are not plenum rated.

The products should be installed in accordance with all applicable, local regulations and practices.

Frequencies Blocked for Regulatory Compliance

These products are for indoor use only, in U-NII-1 and/or U-NII-3 band when Dynamic Frequency Selection, DFS, from 5.25-5.35 GHz and 5.47-5.725 GHz, is disabled. With DFS approval, these products can operate in U-NII-2 or U-NII-2e. To ensure compliance with local regulations, be sure to set your Access Point to the country in which you are using the Access Point.

Underwriters Laboratories

Use only listed e information technology equipment (ITE) I.T.E. equipment.

The unit is intended for installation in Environment A as defined in IEEE 802.3.All interconnected equipments must be contained within the same building, including the interconnected equipment's associated LAN connection.

Restriction of Hazardous Substances

European Community

This device complies the Restriction of Hazardous Substances Directive (RoHS) for its restriction of the use of certain hazardous substances in electrical and electronic equipment for European Union.

China

This device complies Administrative Measure on the Control of Pollution Caused by Electronic Information Products or China RoHS. AP122 may contain hazardous substances are marked with the EIP logo including an Environment Friendly Use Period (EFUP) value in 10 years.

AP832	Toxic and Hazardous Substances or Elements					10
Component with toxic and hazardous substances	Pb (Lead)	Hg (Mercury)	Cd (Cadmium)	Cr(VI) (Hexavalent Chrome)	PBB (Polybrominated biphenyl)	PBDE (Polybrominated diphenyl ether)
Circuit Modules	X	O	O	O	O	O
Metal Parts	O	O	O	O	O	O
Plastic and Polymeric Parts	O	O	O	O	O	O

O: Indicates that the content of the toxic and hazardous substance in all the homogenous materials of the part is below the concentration limit requirement for RoHS compliance.
X: Indicates that the content of the toxic and hazardous substance in at least one homogeneous material of the part exceeds the concentration limit requirement for RoHS compliance

B Cautions and Warnings

The cautions and warnings that appear in this manual are listed below in English, German, French, and Spanish. Changes or modifications not expressly approved by the party responsible for compliance could void the user’s authority to operate the equipment.

Cautions

A Caution calls your attention to a possible hazard that can damage equipment.

"Vorsicht” weist auf die Gefahr einer möglichen Beschädigung des Gerätes in.

Une mise en garde attire votre attention sur un risque possible d'endommagement de l'équipement. Ci-dessous, vous trouverez les mises en garde utilisées dans ce manuel.

Un mensaje de precaución le advierte sobre un posible peligro que pueda dañar el equipo. Las siguientes son precauciones utilizadas en este manual.

⚠	When changing the orientation of the antennas, be sure to slightly loosen the knurled ring before moving the antenna. Retighten the ring afterward. Otherwise, you might damage the internal cabling in the AP. Bei einer Neuausrichtung der Antennen muss vor Bewegung der Antenne der Rändelring leicht gelockert werden. Anschließend den Ring wieder festziehen. Anderenfalls können die internen Kabel im AP beschädigt werden. En cas de modification d’orientation des antennes, veiller à desserrer légèrement la bague moletée avant de réorienter l’antenne. Resserrer ensuite la bague, faute de quoi le câblage interne du point d’accès pourrait être endommagé. Al cambiar la orientación de las antenas, asegúrese de aflojar ligeramente el anillo estriado antes de mover la antena. Luego vuelva a apretar el anillo. De otro modo, podría dañar el cableado interno del punto de acceso.

	The radiated output power of the access points is well below the radio frequency exposure limits. However, the Meru Access Point should be used in such a manner that the potential for human contact during normal operation is minimized. To avoid the possibility of exceeding the radio frequency exposure limits, you should keep a distance of at least 20 cm between you (or any other person in the vicinity) and the Access Point antennas. Die abgestrahlte Ausgangsleistung von Geräten von Meru Networks, Inc. liegt weit unter den Hochfrequenz-Expositionsgrenzwerten der. Die Meru Access Point Zugangspunkte von Meru Networks, Inc. sollten jedoch so verwendet werden, dass das Potenzial für Kontakt mit Menschen während des normalen Betriebs auf ein Mindestmaß beschränkt wird. Um die Möglichkeit einer Überschreitung der -Hochfrequenz-Expositionsgrenzwerte zu vermeiden, ist ein Abstand von mindestens 20 cm zwischen Ihnen (bzw. einer anderen Person in der Nähe) und den Zugangspunkt-Antennen zu wahren. La puissance de rayonnement émise par les équipements Meru Networks, Inc. est très inférieure aux limites d'exposition aux fréquences radio définies par la. Toutefois, les points d'accès de la série Meru Access Point de Meru Networks, Inc. doivent être utilisés de façon à éliminer tout risque de contact humain en fonctionnement normal. Pour éviter de dépasser les limites d'exposition aux fréquences radio définies par la , il est impératif de préserver en permanence une distance supérieure ou égale à 20 cm entre l'utilisateur (ou toute personne se trouvant à proximité) et les antennes du point d'accès. La potencia de radiación de los dispositivos de Meru Networks, Inc. está muy por debajo de los límites de exposición a radiofrecuencia estipulados por la. No obstante, los puntos de acceso de la serie Meru Access Point de Meru Networks, Inc. deben usarse de tal manera que se minimice la posibilidad de contacto para el usuario durante la operación normal. Para evitar la posibilidad de exceder los límites de exposición a radiofrecuencia establecidos por la, el usuario (o cualquier otra persona en torno) debe mantenerse a una distancia de al menos 20 cm respecto a las antenas del punto de acceso.

⚠	Exposure to Radio Frequency Radiation. The installer of this radio equipment must ensure that the antenna is located or pointed such that it does not emit an RF field in excess of Health Canada limits for the general population; consult Safety Code 6, obtainable from Health Canada's website http://www.hc-sc.gc.ca/rpb. Exposition aux rayonnements à fréquence radioélectrique L'installateur de cet équipement radio doit veiller à positionner et orienter l'antenne de telle sorte qu'elle n'émette pas un champ radioélectrique supérieur aux limites définies par Santé Canada pour la population générale. Consulter le Code de sécurité n° 6, disponible sur le site Web de Santé Canada à l'adresse http://www.hc-sc.gc.ca/rpb. Exposición a la radiación de radiofrecuencia. El instalador de este equipo de radio debe cerciorarse de que la antena está localizada u orientada de tal manera que no emita un campo de radiofrecuencia superior a los límites estipulados por Health Canada para la población; consulte el Código de Seguridad 6 que podrá encontrar en el página web de Health Canada, http://www.hc-sc.gc.ca/rpb.

Warnings

A warning calls your attention to a possible hazard that can cause injury or death. The following are the warnings used in this manual.

"Achtung" weist auf eine mögliche Gefährdung hin, die zu Verletzungen oder Tod führen können. Sie finden die folgenden Warnhinweise in diesem Handbuch:

Un avertissement attire votre attention sur un risque possible de blessure ou de décès. Ci-dessous, vous trouverez les avertissements utilisés dans ce manuel.

Una advertencia le llama la atención sobre cualquier posible peligro que pueda ocasionar daños personales o la muerte. A continuación se dan las advertencias utilizadas en este manual.

antenas del punto de acceso.

	With plastic covers removed, this product is suitable for use in environmental air-handling space in accordance with the Section 300-22(c) of the National Electric Code and Sections 2- 128.12 - 010 (3) and 12 - 100 of the Canadian Electrical Code. Part 1. C22. 1. For other countries, consult local authorities for regulations. Bei abgenommener Kunststoffabdeckung ist dieses Produkt zur Verwendung in einem Umgebungsluftraum gemäß Abschnitt 300-22(c) des National Electric Code und Abschnitt 2- 128.12 - 010 (3) und 12 - 100 des Canadian Electrical Code Teil 1. C22.1 geeignet. Die Vorschriften für andere Länder sind bei den örtlichen Behörden erhältlich. Sous réserve que ses couvercles de plastique soient déposés, cet appareil est adapté à une utilisation dans les vides de construction des bâtiments selon la section 300-22(c) du code NEC (National Electric Code) et les sections 2- 128.12 - 010 (3) et 12 - 100 du Code électrique du Canada, partie 1. C22. 1. Pour tous les autres pays, consulter les organismes de réglementation locaux. Una vez desprendidas las cubiertas de plástico, este producto es adecuado para su uso en el espacio aéreo circundante en conformidad con la sección 300-22(c) del National Electric Code (Código Eléctrico Nacional de EE.UU.) y las secciones 2- 128.12 - 010 (3) y 12 - 100 del Código Eléctrico de Canadá. Parte 1. C22. 1. En otros países, consulte a las autoridades locales competentes para informarse acerca de las normativas vigentes.

	Any Ethernet cables installed in air-handling spaces should be suitable under NEC Article 800.50 and marked accordingly for use in plenums and air-handling spaces with regard to smoke propagation, such as CL2-P, CL3-P, MPP (Multi Purpose Plenum), or CMP (Communications Plenum). Alle Ethernet Kabel, die in Lüftungsräumen installiert werden, sollten gemäß NEC Artikel 800.50 geeignet sein und entsprechend zur Verwendung in Hohlräumen (Plenum) und Lüftungsräumen im Hinblick auf Rauchausbreitung gekennzeichnet sein, z.B. CL2-P, CL3-P, MPP (Multi Purpose Plenum) oder CMP (Communications Plenum). Les câbles Ethernet installés dans un vide d’air doivent correspondre aux critères de l’article 800.50 du code NEC et identifiés en conséquence comme adaptés à une utilisation dans les vides de construction des bâtiments en matière de propagation de la fumée (marquages CL2-P, CL3-P, MPP (Multi Purpose Plenum) ou CMP (Communications Plenum)). Todos los cables Ethernet instalados en espacios aéreos deben cumplir con el artículo 800.50 del NEC y estar marcados adecuadamente para su uso en espacios aéreos y plenums en lo concerniente a la propagación de humo, tales como CL2-P, CL3-P, MPP (Plenum multifuncional), o CMP (Plenum de comunicaciones).

Indoor antennas must be positioned to observe minimum separation of 20 cm. (~ 8 in.) from all users and bystanders. For the protection of personnel working in the vicinity of inside (downlink) antennas, the following guidelines for minimum distances between the human body and the antenna must be observed.

The installation of the indoor antenna must be such that, under normal conditions, all personnel cannot come within 20 cm. (~ 8.0 in.) from any inside antenna. Exceeding this minimum separation will ensure that the employee or bystander does not receive RF-exposure beyond the Maximum Permissible Exposure according to local country regulatory approval.

Indoorantennen müssen so positioniert werden, dass ein Mindestabstand von 20 cm (ca. 8 Zoll) zu allen Benutzern und anderen Personen gewahrt wird. Zum Schutz von Personal, das in der Nähe von Innenantennen (Downlink) arbeitet, sind die folgenden Richtlinien für Mindestabstand zwischen dem menschlichen Körper und der Antenne zu beachten.

Die Innenantenne muss so installiert werden, dass sich unter normalen Bedingungen kein Personal bis auf weniger als 20 cm (ca. 8 Zoll) an eine Innenantenne annähern kann. Durch Überschreitung dieses Mindestabstands wird sichergestellt, dass Mitarbeiter oder andere Personen keiner RF-Exposition über die maximal zulässige Exposition (MPE; Maximum Permissible Exposure) gemäß FCC CFR 47, Abschnitt 1.1310 (Grenzwerte für die allgemeine Bevölkerung/unkontrollierte Exposition) ausgesetzt werden.

Les antennes intérieures doivent être positionnées de façon à respecter une distance minimum de 20 cm par rapport aux utilisateurs et aux tiers. Pour la protection du personnel travaillant à proximité des antennes intérieures (liaison descendante), respecter les directives suivantes pour assurer des distances minimales entre les êtres humains et les antennes.

Toute antenne intérieure doit être installée de telle sorte que, dans des conditions normales, le personnel ne puisse s'en approcher à moins de 20 cm. Cette distance minimale est destinée à garantir qu'un employé ou un tiers ne sera pas exposé à un rayonnement radioélectrique supérieur à la valeur maximale autorisée, telle qu'elle est définie dans les limites d'exposition non contrôlées pour la population par la réglementation de la FCC CFR 47, section 1.1310.

Las antenas interiores deben colocarse de manera que se observe una separación mínima de 20 cm. (~ 8 pulg.) respecto a todos los usuarios y circunstantes. Para la protección del personal que trabaje en las inmediaciones de las antenas interiores (receptoras), deben observarse las siguientes directrices relativas a la distancia mínima entre el cuerpo humano y la antena.

La instalación de la antena interior debe efectuarse de tal modo que, en condiciones normales, ningún miembro del personal pueda acercarse a menos de 20 cm. (~ 8,0 pulg.) de cualquier antena interior. El cumplimiento de este mínimo de separación asegura que el empleado o circunstante no recibirá exposición a radiofrecuencia por encima de la Exposición Máxima Permisible conforme a la normativa FCC CFR 47, sección 1.1310, es decir, los límites asignados a la Exposición Incontrolada/Población Civil.

C Regulatory Information

The Meru Access Point (APs) must be installed and used in strict accordance with the manufacturer's instructions as described in the user documentation that comes with the product. For country-specific approvals, see below. Meru Networks, Inc. is not responsible for any radio or television interference caused by unauthorized modification of APs, or the substitution or attachment of connecting cables and equipment other than that specified by Meru Networks, Inc. The correction of interference caused by such unauthorized modification, substitution or attachment is the responsibility of the user. Meru Networks, Inc. and its authorized resellers or distributors are not liable for any damage or violation of government regulations that may arise from the user failing to comply with these guidelines.

Regulatory Specifications

TABLE 1: *Regulatory Specifications*

Category	Items
Safety	• UL 60950-1 • CSA C22.2 • EN 60950-1 • IEC 60950-1
Unintentional Radiation Compliance	• FCC Part 15.107 - 47CFR15.107 • FCC Part 15.109 - 47CFR15.109 B • ICES-003 Class B • EN 301 489-1 • EN 301 489-17 • EN55022 Class B • EN55024/AS/NZS CISPR 24 • VCCI Class B
Intentional Radiation Compliance	• FCC Part 15.247 - 47 CFR Ch. I • FCC Part 15.407 - 47 CFR15.407 • RSS-210 • EN 300 328 • EN 301 893 • Japan Radio (Ninsho)

Declaration of Conformity, Federal Communication Commission

Manufacturer Information

Meru Networks, Inc
894 Ross drive,
Sunnyvale, CA 94089
USA

Declaration of Conformity

This device complies with Part 15 rules. Operation is subject to the following two conditions:

- This device may not cause harmful interference, and
- This device must accept any interference received, including interference that may cause undesired operation.

Device Name	FCC ID Number
AP121	RE7-AP122
AP122	RE7-AP122

This product is FCC marked according to the provisions of FCC Part 15.

This equipment has been tested and found to comply with the limits of a Class B digital device, pursuant to Part 15 of the FCC Rules. These limits are designed to provide reasonable protection against harmful interference when the equipment is operated in a residential environment. This equipment generates, uses, and radiates radio frequency energy, and if not installed and used in accordance with the instructions, may cause harmful interference. However, there is no guarantee that interference will not occur. If this equipment does cause interference to radio or television reception, which can be determined by turning the equipment off and on, the user is encouraged to correct the interference by one 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 to which the receiver is connected.
- Consult the dealer or an experienced radio/TV technician for help.

The Part 15 radio device operates on a non-interference basis with other devices operating at this frequency when using the integrated antennas. Any changes or modification to the product not expressly approved by Meru could void the user's authority to operate this device.

Declaration of Conformity, Industry Canada

This equipment is in compliance with the essential requirements of other relevant provisions of Directive.

Manufacturer Information

Meru Networks, Inc
894 Ross drive,
Sunnyvale, CA 94089
USA

Declaration of Conformity

The Class B digital portion of this apparatus complies with Canadian standard ICES-003. These devices comply with RSS210 of Industry Canada.

La partie numérique de Classe B de cet appareil est conforme à la norme ICES-003 canadien. Ces appareils sont conformes à la norme RSS 210 d'Industrie Canada..

Per RSS 210 A9.5 point 7:

- 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 (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)
- The maximum antenna gain permitted (for devices in the bands 5250-5350 MHz and 5470-5725 MHz) to comply with the EIRPlimit; and the maximum antenna gain permitted (for devices in the band 5725-5825 MHz) to comply with the EIRP limits specified for point-to-point and non point-to-point operation as appropriate, as stated in section A9.2(3) (The maximum antenna gain permitted (for devices in the bands 5250-5350 MHz and 5470-5725 MHz) to comply with the EIRPlimit; and the maximum antenna gain permitted (for devices in the band 5725-5825 MHz) to comply with the EIRP limits specified for point-to-point and non point-to-point operation as appropriate, as stated in section A9.2(3).
- In addition, users should also be cautioned to take note that high-power radars are allocated as primary users (meaning they have priority) of the bands 5250-5350 MHz and 5650-5850 MHz and these radars could cause interference and/or damage to WLAN devices (En outre, les utilisateurs doivent également être avertis de prendre note que les radars à haute puissance sont désignés comme utilisateurs principaux (ils ont la priorité) des bandes 5250-5350 MHz et 5650-5850 MHz et ces radars pourraient cause des interférences et / ou endommager aux appareils WLAN.
- These devices are not permitted to operate in the 5600 - 5650 MHz band (Ces appareils ne sont pas autorisés à opérer dans le 5600 - bande 5650 MHz.)

For products available in the Canadian markets, only channels 1 through 11 can be operated. Selection of other channels is not authorized. 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 this device.

Pour les produits disponibles sur les marchés canadiens, seuls les canaux 1 à 11 peuvent être utilisés. La sélection d'autres canaux n'est pas autorisée. Son fonctionnement est soumis aux

deux conditions suivantes: (1) cet appareil ne doit pas provoquer d'interférences et (2) cet appareil doit accepter toute interférence, y compris celles pouvant causer un mauvais fonctionnement de ce dispositif

This device and its listed antenna(s) must not be co-located or operated in conjunction with any other antenna or transmitter

Cet appareil et son antenne énuméré (s) ne doivent pas être situés ou exploités conjointement avec une autre antenne ou transmetteur

The term "IC" before the equipment certification number only signifies that the Industry Canada technical specifications were met.

Le terme "IC" avant le numéro de certification de l'équipement signifie seulement que les spécifications techniques d'Industrie Ca-nada ont été atteints

To reduce the potential radio interference to other users, the antenna type and gain should be chosen so that the equivalent isotropic radiated power (EIRP) is not more than that required for successful communication. This device complies with Class B Limits of Industry Canada. Operation is subject to the following two conditions:

Pour réduire le risque d'interférence avec d'autres utilisateurs, le type d'antenne et le gain doivent être choisis de telle sorte que la puissance isotrope rayonnée équivalente ne soit pas supérieure à celle requise pour une communication réussie. Cet appareil est conforme aux limites de Classe B d'Industrie Canada. Son fonctionnement est soumis aux deux conditions suivantes

- This device may not cause harmful interference, and
- Cet appareil ne doit pas provoquer d'interférences nuisibles, et
- This device must accept any interference received, including interference that may cause undesired operation.
- Cet appareil doit accepter toute interférence reçue, y compris les interférences pouvant entraîner un fonctionnement indésirable.

To prevent radio interference to the licensed service, this device is intended to be operated indoors and away from windows to provide maximum shielding. Equipment (or its transmit antenna) that is installed outdoors is subject to licensing.

Pour empecher que cet appareil cause du brouillage au service faisant l'objet d'une licence, il doit etre utilze a l'interieur et devrait etre place lin des fenetres afin de Fournier un ecram de

blindage maximal. Si le matriel (ou son antenne d'emission) est installe a l'exterieur, il doit faire l'objet d'une licence.

Device Name (Nom de l'appareil)	Industry Canada ID Number (Industrie Canada Numéro d'identification)
AP121	6749A-AP122
AP122	6749A-AP122

Declaration of Conformity, R&TTE Directive 1999/5/EC

This equipment is in compliance with the essential requirements of other relevant provisions of Directive.

Declaration of Conformity

Hereby, Networks Inc. declares that this unit is in compliance with the essential requirements and other relevant provisions of Directive 1999/5/EC.

To obtain the declaration of conformity (DoC) for R&TTE Directive, please access the following URL address. http://www.merunetworks.com

Notice for customers: the following information is only applicable to equipment sold in countries applying EU directives. System may be operated in following countries:

EU Countries: Austria, Belgium, Bulgaria, Croatia, Cyprus, Czech Republic, Denmark, Estonia, Finland, France, Germany, Greece, Hungary, Ireland, Italy, Latvia, Lithuania, Luxembourg, Malta, The Netherlands, Poland, Portugal, Romania, Slovakia, Slovenia, Spain, Sweden, United Kingdom.

This equipment can be operated in other non-European countries.

EFTA Countries: Norway and Switzerland
EU Applicants: Albania, Bosnia and Herzegovina
EU Candidate: Iceland, Macedonia and Montenegro

The following standards were applied:

- EMC-EN 301.489-1 Article 3.1 (b) of R&TTE Directive; EN 301.489-17 Article 3.1 (b) of R&TTE Directive
- Health & Safety-EN60950-1

- Radio-EN 300 328 Article 3.1 (b) of R&TTE Directive; EN 301.893 Article 3.1 (b) of R&TTE Directive

- The conformity assessment procedure referred to in Article 10.4 and Annex III of Directive 1999/5/EC has been followed.

Language	Content of Declaration
Български (Bulgarian)	това оборудване е в съответствие със съществените изисквания и другите приложими разпоредби на Директива 1999/5/ЕО
Česka (Czech)	Toto zařízení je ve shodě se základními požadavky a dalšími příslušnými ustanoveními směrnice 1999/5/ES
Dansk (Danish)	Dette udstyr er i overensstemmelse med de væsentlige krav og øvrige relevante krav i direktiv 1999/5/EF
Deutsch (German)	Dette udstyr er i overensstemmelse med de væsentlige krav og andre relevante bestemmelser i direktiv 1999/5/EF
Esti (Estonian)	See seade on vastavuses oluliste Krav ja muude asjaomaste komisjoni direktiivi 1999/5/EÜ
English (English)	This equipment is in compliance with the essential requirements and other relevant provisions of Directive 1999/5/EC
Español (Spanish)	Este equipo cumple con el krav esenciales y otras comisiones pertinentes de la Directiva 1999/5/CE
Ελληνικά (Greek)	Αυτή η συσκευή είναι σύμφωνη με τις βασικές Krav και άλλα αρμόδια επιτροπή της οδηγίας 1999/5/ΕΚ
Français (French)	Cet appareil est en conformité avec le krav essentielles et aux autres commissions pertinentes de la directive 1999/5/CE
Isendska (Icelandic)	Þessi búnaður er í samræmi við nauðsynleg krav og aðrar viðeigandi þóknun tilskipunar 1999/5/EB
Italiano (Italian)	Questa apparecchiatura è conforme con il krav essenziali e altri servizi della Commissione, della direttiva 1999/5/CE
Latviešu (Latvian)	Šis aprīkojums ir saskaņā ar būtiskajām Krav un citiem attiecīgajiem Komisijas Direktīvas 1999/5/EK
Lietuvių (Lithuanian)	Ši įranga atitinka esminius Krav ir kitomis atitinkamomis Komisijos direktyvos 1999/5/EB
Nederlands (Dutch)	Deze apparatuur voldoet aan de essentiële krav en andere relevante provisies van Richtlijn 1999/5/EG
Malti (Maltese)	Dan it-tagħmir huwa konformi mal-Krav essenzjali u kummissjoni rilevanti oħra tad-Direttiva 1999/5/KE
Magyar (Hungarian)	Ez a berendezés megfelel a vonatkozó alapvető Krav és egyéb releváns bizottsági irányelv 1999/5/EK
Norsk (Norwegian)	Dette utstyret er i samsvar med de grunnleggende krav og andre relevante oppdrag i direktiv 1999/5/EF
Polski (Polish)	Ten sprzęt jest zgodny z zasadniczymi KRAV oraz innych właściwych komisji dyrektywy 1999/5/WE
Portugues (Portuguese)	Este equipamento está em conformidade com o krav essencial e outra comissão pertinente da Directiva 1999/5/CE
Română Romanian	Acest echipament este în conformitate cu Krav esențiale și alte Comisie relevante ale Directivei 1999/5/CE
Slovensko (Slovenian)	Ta oprema je v skladu z bistvenimi Krav in druge ustrezne provizije Direktive 1999/5/ES
Slovensky (Slovak)	Toto zariadenie je v súlade so základnými kráv a ostatnými príslušnými útvarmi Komisie smernice 1999/5/ES
Suomi (Finnish)	Tämä laite on yhdenmukainen olennaisten krav ja muiden asiaan liittyvien komission direktiivin 1999/5/EY
Svenska (Swedish)	Denna utrustning är i överensstämmelse med de grundläggande krav och andra relevanta uppdrag av direktiv 1999/5/EG

This device is intended to be used in all EU and EFTA countries.

Device Name	Certification Report Number
AP121	EMCS42577A-ETS328, EMCS42577-ETS489, EMCS42577B-ETS893
AP122	-

VCCI Statement

この装置は、クラスB情報技術装置です。この装置は、家庭環境で使用することを目的としていますが、この装置がラジオやテレビジョン受信機に近接して使用されると、受信障害を引き起こすことがあります。
取扱説明書に従って正しい取り扱いをして下さい。

VCCI－B

English Translation

This is a Class B product based on the standard of the Voluntary Control Council for Interference from Information Technology Equipment (VCCI). If this is used near a radio or television receiver in a domestic environment, it may cause radio interference. User shall install and use the equipment according to the instruction manual.

General Information of RF Exposure

International Guidelines

This Device Meets International Guidelines for Exposure to Radio Waves.

The AP121 and AP122 device includes 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**
0.82 mW/cm2	25 cm (9.84 inches)	1.00 mW/cm2

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 he antennas at a greater separation distance then recommended.

FCC Guidelines

This device meets FCC guidelines for exposure to radio waves.

The AP121 and AP122 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 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.

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

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.

Separation Distance		
MPE	**Distance**	**Limit**
0.63 mW/cm2	20 cm (7.87 inches)	1.00 mW/cm2

Industry Canada Guidelines

This device meets Industry Canada guidelines for exposure to radio waves.

The AP121 and AP122 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.

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.

Separation Distance		
MPE	**Distance**	**Limit**
0.63 mW/cm2	20 cm (7.87 inches)	1.00 mW/cm2

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.