

mimosa

B11User Guide

Warnings, Warranty, Compliance & Regulatory Statements

Export Control

These commodities, technology, or software were exported from the United States in accordance with the Export Administration Regulations. Diversion contrary to U.S. law is prohibited.

Important Safety and Handling Information

Failure to follow any of the safety instructions in this guide, instructions on any Mimosa provided packaging, and heed WARNINGS (indicated by), could result in fire, electric shock or other injury, and incur damage to this product or other property and voiding of the product Limited Warranty.

There are no End User serviceable parts inside the equipment.

Read all operating and safety instructions contained herein and accompanying the product as provided by Mimosa Networks, Inc. ("Mimosa")

Occupational/controlled exposure limits apply when using the equipment. Persons exposed as a consequence of their employment should use appropriate means to mitigate their RF exposure.

Electrical Safety Information

Do not operate this product in any location that can be submerged by water.

Do not install or maintain this product during the presence of an electrical storm to avoid risk of electric shock from lightning.

Power specifications are indicated on the power supply provided with the Mimosa product. Connecting to any power source that does not meet the voltage, frequency and current requirements listed may damage the power supply or product, and pose a fire hazard.

Depending on the product model, your product will be classified either as a safety class I or safety class II compliant device. Class I devices require a connection to earth ground (3-terminal plug), while class II devices incorporate a 2-terminal plug

Class I: This device is intended for use with a grounded safety outlet. A safety ground wire (3-wire outlet plug type) is included on the provided AC adapter. Under no circumstances should you replace the provided detachable power cord with a non-grounded (2-wire outlet plug type) or use any adapter plugs which do not provide ground wire continuity.

Class II: Safety Class II-compliant devices include supplemental insulation to protect against electric shock, and do not require a connection to earth ground.

Installation of the product must comply with local and national electrical codes.

Mandatory Grounding Instructions

IMPORTANT: In order to comply with the Mimosa Limited Warranty conditions in this document, you must properly ground the device according to these instructions. Failure to properly ground the device will violate the product warranty.

A minimum grounding wire of 10 AWG (5.26 mm²) with a secured grounding terminal, and shorter in length than 1 meter is required. It is NOT supplied with the product.

1. Ensure that NO power is being supplied to the product. 2. Locate the Ground point screw next to the Ground icon on the device 3. Remove the provided Ground Screw 4. Thread the ground wire terminal and ground wire meeting the above specifications over the screw removed in the previous step. 5. Replace and tighten the screw with the threaded ground terminal and cable at the product Ground point. 6. Secure the other end of the grounding cable to the properly grounded structure (pole, tower, mast, etc.) meeting local and national electrical regulations and codes.

End User Product Warranty

Products purchased from Mimosa Networks, Inc. ("Mimosa") are warranted against defects in material, and workmanship for a period of either (i) twelve (12) months from the date of activation, or (ii) thirty-six (36) months from the original date of shipment, whichever is earlier. Please go to www.mimosa.co/warranty to determine whether your product is in warranty.

The sole responsibility of Mimosa under this warranty shall be limited to the repair or replacement of in-warranty defective product, at Mimosa's sole option.

Out of warranty products shipped to Mimosa will not be returned. This warranty does not cover costs associated with the removal and/or reinstallation of the product for repair nor for any parts that are readily replaced in normal use.

Mimosa or its designated partner will repair or replace product found to be defective during the defined warranty period.

The End User is responsible for delivering defective product in accordance with Mimosa's published Return Material Authorization (RMA) processes.

Limitation of Warranty

Mimosa's product warranty is invalidated if the RMA product is altered or otherwise tampered with in a manner that modifies the product from its original shipping configuration and/or form factor, and could violate the End User's authority to operate the equipment, unless said activity was performed by or with the written authorization of a Mimosa representative.

Modifications include: (a) External surfaces that have been painted, labeled, or otherwise modified from the original shipping condition. (b) Modifications of the product with third party hardware, firmware, and/or software. (c) Any product subjected to abnormal physical or electric stress, including, but not limited to, lightning strikes, negligence, accident, or misuse. (d) Any product damaged due to incorrect installation, including, but not limited to, improper product mounting, cabling, cabling defects or connection to power. (e) Failure induced by connected third party products.

Improper grounding, or failure to ground the product as instructed in this guide will void the End User warranty.

Mimosa will not warrant any product which has been installed outdoors without the use of minimum CAT 6 shielded Ethernet cable and/or proper earth grounding.

Disclaimer

EXCEPT FOR ANY EXPRESS WARRANTIES PROVIDED HEREIN, MIMOSA NETWORKS AND ITS SUBSIDIARIES, LICENSORS AND AFFILIATES (COLLECTIVELY, "MIMOSA"), AND ANY THIRD PARTY DATA, SERVICE, SOFTWARE AND HARDWARE PROVIDERS MAKE NO OTHER REPRESENTATION OR WARRANTY OF ANY KIND AND HEREBY DISCLAIM ALL WARRANTIES, EXPRESS OR IMPLIED, STATUTORY OR OTHERWISE, INCLUDING, BUT NOT LIMITED TO, ANY REPRESENTATIONS OR WARRANTIES OF DESIGN, MERCHANTABILITY, ACCURACY, QUALITY OF SERVICE OR RESULTS, AVAILABILITY, LACK OF VIRUSES, QUIET ENJOYMENT, FITNESS FOR A PARTICULAR PURPOSE, NON-INFRINGEMENT AND ANY WARRANTIES ARISING FROM ANY COURSE OF DEALING, USAGE OR TRADE PRACTICE IN CONNECTION WITH SUCH PRODUCTS AND SERVICES. YOU ACKNOWLEDGE THAT NEITHER MIMOSA NOR ITS THIRD PARTY

PROVIDERS CONTROL YOUR EQUIPMENT

OR THE TRANSFER OF DATA OVER COMMUNICATIONS FACILITIES, INCLUDING THE INTERNET, AND THAT THE PRODUCTS AND SERVICES PROVIDED BY MIMOSA MAY BE SUBJECT TO LIMITATIONS, INTERRUPTIONS, DELAYS, CANCELLATIONS AND OTHER PROBLEMS INHERENT IN THE USE OF COMMUNICATIONS FACILITIES. MIMOSA AND ANY THIRD PARTY PROVIDERS ARE NOT RESPONSIBLE FOR ANY INTERRUPTIONS, DELAYS, CANCELLATIONS, DELIVERY FAILURES, DATA LOSS, CONTENT CORRUPTION, PACKET LOSS, OR OTHER DAMAGE RESULTING FROM ANY OF THE FOREGOING.

IN ADDITION, MIMOSA MAKES NO WARRANTY OR UNDERTAKING, AND MAKES NO REPRESENTATION OF ANY KIND THAT THE LICENSED PRODUCTS WILL MEET YOUR REQUIREMENTS, ACHIEVE ANY INTENDED RESULTS, BE COMPATIBLE OR WORK WITH ANY OTHER SOFTWARE, APPLICATIONS, SYSTEMS OR SERVICES, OPERATE WITHOUT INTERRUPTION, MEET ANY PERFORMANCE OR RELIABILITY STANDARDS, BE ERROR FREE OR THAT ANY ERRORS OR DEFECTS CAN OR WILL BE CORRECTED, OR THAT THE LICENSED PRODUCTS ARE NOT VULNERABLE TO FRAUD OR UNAUTHORIZED USE.

Limitation of Liability

EXCEPT TO THE EXTENT PROHIBITED BY THE LAWS IN YOUR JURISDICTION, IN NO EVENT WILL MIMOSA OR ITS SUPPLIERS OR LICENSORS BE LIABLE FOR SPECIAL, INCIDENTAL, CONSEQUENTIAL OR OTHER DAMAGES (INCLUDING LOST PROFIT, LOST DATA, OR DOWNTIME COSTS), NOR FOR DAMAGES BASED ON UNAUTHORIZED USE OR ACCESS, ARISING OUT OF THE USE, INABILITY TO USE, OR THE RESULTS OF USE OF THE PRODUCT, WHETHER BASED IN WARRANTY, CONTRACT, TORT OR OTHER LEGAL THEORY, AND WHETHER OR NOT ADVISED OF THE POSSIBILITY OF SUCH DAMAGES. IN NO EVENT SHALL MIMOSA, ITS SUPPLIERS' OR ITS LICENSORS' DIRECT LIABILITY EXCEED THE VALUE OF THE LICENSED PRODUCTS GIVING RISE TO SUCH LIABILITY. THESE LIMITATIONS SHALL APPLY NOTWITHSTANDING ANY FAILURE OF ESSENTIAL PURPOSE OF ANY LIMITED REMEDY. IN NO EVENT SHALL MIMOSA BE RESPONSIBLE FOR DAMAGES OR CLAIMS OF ANY NATURE OR DESCRIPTION RELATING TO NETWORK PERFORMANCE, INCLUDING COVERAGE, YOUR SELECTION OF MIMOSA PRODUCTS FOR YOUR PARTICULAR APPLICATION AND/OR FAILURE OF MIMOSA PRODUCTS TO MEET GOVERNMENT OR REGULATORY REQUIREMENTS.

Some legal jurisdictions do not allow exclusions of implied warranties or conditions, or for the exclusion or limitation of liability for incidental or consequential damages, so the above exclusion may not apply to you. You may have other rights specific to your legal jurisdiction. EXCEPT TO THE EXTENT ALLOWED BY THE LAW OF YOUR JURISDICTION, THESE WARRANTY TERMS DO NOT EXCLUDE, RESTRICT OR MODIFY, AND ARE IN ADDITION TO, ANY MANDATORY STATUTORY RIGHTS APPLICABLE TO YOU IN THE LICENSE OF ANY EMBEDDED SOFTWARE. The United Nations Convention on Contracts for the International Sale of Goods shall not apply to any transactions regarding the sale of the Products.

FCC

This device complies with part 15 of the FCC Rules. Operation is subject to the following two conditions:

(1) This device may not cause harmful interference, and (2) this device must accept any interference received, including interference that may cause undesired operation.

NOTE: This equipment has been tested and found to comply with the limits for a Class A 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 commercial environment. This equipment generates, uses, and can radiate radio frequency energy and, if not installed and used in accordance with the instruction manual, may cause harmful interference to radio communications. Operation of this equipment in a residential area is likely to cause harmful interference in which case the user will be required to correct the interference at his own expense.

The radiated output power of this device is below the FCC radio frequency exposure limits. Nevertheless, the device should be used in such a manner that the potential for human contact during the normal operation is minimized. In order to avoid the possibility of exceeding the FCC radio frequency exposure limit, human proximity to the antenna should be more than 9.53m.

Any changes or modifications not expressly approved by Mimosa could void the user's authority to operate this

device.

Australia & New Zealand

Warning: This is a Class A product. In a domestic environment this product may cause radio interference in which case the user may be required to take adequate measures.

European Compliance Statement

CE Marking on this product represents that this product complies with all requirements that are applicable to it.

Alert sign must be indicated if a restriction on use applied to the product and it must follow the CE marking.

Europe EU Declaration of Conformity

This device can be used in the European Community. A copy of the EU Declaration of Conformity is available at: www.mimosa.co/compliance.

Български (Bulgarian) - Mimosa Networks, Inc. декларира, че това Mimosa Networks, Inc. приспособление е в съответствие със съществените изисквания и другите приложими правила на Директива 1999/5/EC.

Cesky (Czech) - Společnost Mimosa Networks, Inc. tímto prohlašuje, že tento Mimosa Networks, Inc. zařízení je ve shodě se základními požadavky a dalšími příslušnými ustanoveními směrnice 1999/5/ES.

Dansk (Danish) - Undertegnede Mimosa Networks, Inc. erklærer herved, at følgende udstyr Mimosa Networks, Inc. enhed overholder de væsentlige krav og øvrige relevante krav i direktiv 1999/5/EØF.

Deutsch (German) - Hiermit erklärt Mimosa Networks, Inc., dass sich das Mimosa Net- works, Inc. Gerät in Übereinstimmung mit den grundlegenden Anforderungen und den übrigen einschlägigen Bestimmungen der Richtlinie 1999/5/EG befinden.

Eesti (Estonian) - Käesolevaga kinnitab Mimosa Networks, Inc., et see Mimosa Net- works, Inc. seade vastab direktiivi 1999/5/EÜ põhinõuetele ja nimetatud direktiivist tulenevatele teistele asjakohastele sätetele.

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

Español (Spanish) - Por medio de la presente Mimosa Networks, Inc. declara que este Mimosa Networks, Inc. dispositivo cumple con los requisitos esenciales y cualesquiera otras disposiciones aplicables o exigibles de la Directiva 1999/5/CE.

Ελληνικά (Greek) - Με την παρούσα, η Mimosa Networks, Inc. δηλώνει ότι αυτή η συσκευή Mimosa Networks, Inc. συσκευή συμμορφώνεται προς τις βασικές απαιτήσεις και τις λοιπές σχετικές διατάξεις της Οδηγίας 1999/5/EK.

Français (French) - Par la présente Mimosa Networks, Inc. déclare que ce Mimosa Net- works, Inc. appareil est conforme aux exigences essentielles et aux autres dispositions pertinentes de la directive 1999/5/CE.

Íslenska (Icelandic) - Mimosa Networks, Inc. lýsir því hér með yfir að þetta Mimosa Networks, Inc. tæki fullnægir lágmarkskröfum og öðrum viðeigandi ákvæðum Evróputil- skipunar 1999/5/EC.

Italiano (Italian) - Con la presente Mimosa Networks, Inc. dichiara che questo Mimosa Networks, Inc. dispositivo è conforme ai requisiti essenziali ed alle altre disposizioni pertinenti stabilite dalla direttiva 1999/5/CE.

Latviski (Latvian) - Ar šo Mimosa Networks, Inc. deklare, ka šī Mimosa Networks, Inc. ierīce atbilst Direktīvas 1999/5/EK būtiskajām prasībām un citiem ar to saistītajiem noteikumiem.

Lietuvių (Lithuanian) - Šiuo „Mimosa Networks, Inc.“ deklaruojama, kad šis Mimosa Net- works, Inc. atitinka esminius

reikalavimus ir kitas 1999/5/EB Direktyvos nuostatas.

Magyar (Hungarian) - Alulírott, Mimosa Networks, Inc. nyilatkozom, hogy a Mimosa Networks, Inc. eszköz megfelel a vonatkozó alapvető követelményeknek és az 1999/5/ EC irányelv egyéb előírásainak.

Malta (Maltese) - Hawnhekk, Mimosa Networks, Inc., jiddikjara li dan Mimosa Networks, Inc. tagħmir jikkonforma mal-htigijiet essenzjali u ma provvedimenti oħrajn relevanti li hemm fid-Dirrettiva 1999/5/EC.

Nederlands (Dutch) - Hierbij verklaart Mimosa Networks, Inc. dat dit Mimosa Networks, Inc. toestel in overeenstemming is met de essentiële eisen en de andere bepalingen van richtlijn 1999/5/EG.

Norsk (Norwegian) - Mimosa Networks, Inc. erklærer herved at dette Mimosa Networks, Inc. apparatet er i samsvar med de grunnleggende kravene og øvrige relevante krav i EU-direktivet 1999/5/EU.

Polski (Polish)- Niniejszym Mimosa Networks, Inc. oświadcza, że ten Mimosa Networks, Inc. urządzenie są zgodne z zasadniczymi wymogami oraz pozostałymi stosownymi postanowieniami Dyrektywy 1999/5/EC.

Português (Portuguese) - Mimosa Networks, Inc. declara que este Mimosa Networks, Inc. dispositivo está em conformidade com os requisitos essenciais e outras disposições da Directiva 1999/5/CE.

Română(Romanian) - Prin prezenta, Mimosa Networks, Inc. declară că acest Mimosa Networks, Inc. aparat este în conformitate cu cerințele esențiale și cu celelalte prevederi relevante ale Directivei 1999/5/CE.

Slovensky (Slovak) - Mimosa Networks, Inc. týmto vyhlasuje, že toto Mimosa Networks, Inc. zariadenie spĺňa základné požiadavky a všetky príslušné ustanovenia Smernice 1999/5/ES.

Slovensko (Slovene) - Mimosa Networks, Inc. izjavlja, da je ta Mimosa Networks, Inc. naprava skladne z bistvenimi zahtevami in ostalimi ustreznimi določili direktive 1999/5/ ES.

Suomi (Finnish) - Mimosa Networks, Inc. vakuuttaa täten, että tämä Mimosa Networks, Inc. tyyppinen laite on direktiivin 1999/5/EY oleellisten vaatimusten ja sitä koskevien direktiivin muiden ehtojen mukainen.

Svenska (Swedish) - Härmad intygar Mimosa Networks, Inc. att denna Mimosa Net- works, Inc. apparat står i överensstämmelse med de väsentliga egenskapskrav och övriga relevanta bestämmelser som framgår av direktiv 1999/5/EG.

RoHS & WEEE Compliance

User Information for Consumer Products Covered by EU Directive 2002/96/EC on Waste Electric and Electronic Equipment (WEEE).

This document contains important information for users with regards to the proper disposal and recycling of Mimosa Networks, Inc. products. Consumers are required to comply with this notice for all electronic products bearing the following symbol:

English - Environmental Information for Customers in the European Union European Directive 2002/96/EC requires that the equipment bearing this symbol on the product and/or its packaging must not be disposed of with unsorted municipal waste. The symbol indicates that this product should be disposed of separately from regular household waste streams. It is your responsibility to dispose of this and other electric and electronic equipment via designated collection facilities appointed by the government or local authorities. Correct disposal and recycling will help prevent potential negative consequences to the environment and human health. For more detailed information about the disposal of your old equipment, please contact your local authorities, waste disposal service, or the shop where you purchased the product.

Български (Bulgarian) - Информация относноопазването на околната среда за потребители в Европейския съюз

Европейска директива 2002/96/EC изисква уредите, носещи този символ върху изделието и/или опаковката му, да не се изхвърлят с несортирани битови отпадъци. Символът обозначава, че изделието трябва да се изхвърля отделно от сметосябирането на обикновените битови отпадъци. Ваша е отговорността този и другите електрически и електронни уреди да се изхвърлят в предварително определени от държавните или общински органи специализирани пунктове

за събиране. Правилното изхвърляне и рециклиране ще спомогнат да се предотвратят евентуални вредни за околната среда и здравето на населението последствия. За по-подробна информация относно изхвърлянето на вашите стари уреди се обърнете към местните власти, службите за сметосябиране или магазина, от който сте закупили уреда.

Ceština (Czech) - Informace o ochraně životního prostředí pro zákazníky v zemích Evropské unie Evropská směrnice 2002/96/ES zakazuje, aby zařízení označené tímto symbolem na produktu anebo na obalu bylo likvidováno s netřídeným komunálním odpadem. Tento symbol udává, že daný produkt musí být likvidován odděleně od bežného komunálního odpadu. Odpovídáte za likvidaci tohoto produktu a dalších elektrických a elektronických zařízení prostřednictvím uřených sběrnych míst stanovených vládou nebo místními úřady. Správná likvidace a recyklace pomáhá předcházet potenciálním negativním dopadům na životní prostředí a lidské zdraví. Podrobnější informace o likvidaci starého vybavení si laskavě vyžádejte od místních úřadů, podniku zabývajícího se likvidací komunálních odpadů nebo obchodu, kde jste produkt zakoupili.

Dansk (Danish) - Miljøinformation for kunder i EU EU-direktiv 2002/96/EF kræver, at udstyr der bærer dette symbol på produktet og/eller emballagen ikke må bortskaffes som usorteret kommunalt affald. Symbolet betyder, at dette produkt skal bortskaffes adskilt fra det almindelige husholdningsaffald. Det er dit ansvar at bortskaffe dette og andet elektrisk og elektronisk udstyr via bestemte indsamlingssteder udpeget af staten eller de lokale myndigheder. Korrekt bortskaffelse og genvinding vil hjælpe med til at undgå mulige skader for miljøet og menneskers sundhed. Kontakt venligst de lokale myndigheder, renovationstjenesten eller den butik, hvor du har købt produktet, angående mere detaljeret information om bortskaffelse af dit gamle udstyr.

Deutsch (German) - Umweltinformation für Kunden innerhalb der Europäischen Union Die Europäische Richtlinie 2002/96/EC verlangt, dass technische Ausrüstung, die direkt am Gerät und/oder an der Verpackung mit diesem Symbol versehen ist, nicht zusammen mit unsortiertem Gemeindeabfall entsorgt werden darf. Das Symbol weist darauf hin, dass das Produkt von regulärem Haushaltmüll getrennt entsorgt werden sollte. Es liegt in Ihrer Verantwortung, dieses Gerät und andere elektrische und elektronische Geräte über die dafür zuständigen und von der Regierung oder örtlichen Behörden dazu bestimmten Sammelstellen zu entsorgen. Ordnungsgemäßes Entsorgen und Recyceln trägt dazu bei, potentielle negative Folgen für Umwelt und die menschliche Gesundheit zu vermeiden. Wenn Sie weitere Informationen zur Entsorgung Ihrer Altgeräte benötigen, wenden Sie sich bitte an die örtlichen Behörden oder städtischen Entsorgungsdienste oder an den Händler, bei dem Sie das Produkt erworben haben.

Eesti (Estonian) - Keskkonnaalane infotüüp Euroopa Liidus asuvatele klientidele Euroopa Liidu direktiivi 2002/96/EÜ nõuetekohaselt on seadmeid, millel on tootel või pakendil käesolev sümbol keelatud kõrvaldada koos sorteerimata olmejäätmeteega. See sümbol näitab, et toode tuleks kõrvaldada eraldi tavalistest olmejäätmekoogudest. Olete kohustatud kõrvaldamama käesoleva ja ka muud elektri- ja elektroonikaseadmed riigi või kohalike ametiasutustele poolt ette nähtud kogumispunktidest. Seadmete korrektna kõrvaldamine ja ringlussevõtt aitab vältida võimalikke negatiivseid tagajärgi keskkonnale ning inimeste tervisele. Vanade seadmete kõrvaldamise kohta täpsema infotüüpiga saamiseks võtke palun ühendust kohalike ametiasutustega, jäätme- ja kauplusega, kust te toote ostsite.

Español (Spanish) - Información medioambiental para clientes de la Unión Europea La Directiva 2002/96/CE de la UE exige que los equipos que llevan este símbolo en el propio aparato y/o en su embalaje no deben eliminarse junto con otros residuos urbanos no seleccionados. El símbolo indica que el producto en cuestión debe separarse de los residuos domésticos convencionales con vistas a su eliminación. Es responsabilidad del usuario desechar este y cualesquier otros aparatos eléctricos y electrónicos a través de los puntos de recogida que ponen a su disposición el gobierno y las autoridades locales. Al desechar y reciclar correctamente estos aparatos estará contribuyendo a evitar posibles consecuencias negativas para el medio ambiente y la salud de las personas. Si desea obtener información más detallada sobre la eliminación segura de su aparato usado, consulte a las autoridades locales, al servicio de recogida y eliminación de residuos de su zona o pregunte en la tienda donde adquirió el producto.

Ελληνικά (Greek) - Στοιχεία περιβαλλοντικής προστασίας για πελάτες εντός της Ευρωπαϊκής Ένωσης Σύμφωνα με την Κοινοτική Οδηγία 2002/96/EC, ο εξοπλισμός που φέρει αυτό το σύμβολο στο προϊόν ή/και τη συσκευασία του δεν πρέπει να απορρίπτεται μαζί με τα μη διαχωρισμένα αστικά απορρίμματα. Το σύμβολο υποδεικνύει ότι αυτό το προϊόν θα πρέπει να απορρίπτεται ξεχωριστά από τα συνήθη οικιακά απορρίμματα. Είστε υπεύθυνος για την απόρριψη του παρόντος και άλλου ηλεκτρικού και ηλεκτρονικού εξοπλισμού μέσω των καθορισμένων εγκαταστάσεων συγκέντρωσης απορριμμάτων, οι οποίες ορίζονται από το κράτος ή τις αρμόδιες τοπικές αρχές. Η σωστή απόρριψη και ανακύκλωση συμβάλλει στην πρόληψη ενδεχόμενων αρνητικών επιπτώσεων στο περιβάλλον και την υγεία. Για περισσότερες πληροφορίες σχετικά με την απόρριψη του παλαιού σας εξοπλισμού, επικοινωνήστε με τις τοπικές αρχές, τις υπηρεσίες αποκομιδής απορριμμάτων ή το κατάστημα από το οποίο αγοράσατε το προϊόν.

Français (French) - Informations environnementales pour les clients de l'Union européenne La directive européenne 2002/96/CE exige que l'équipement , sur lequel est apposé ce symbole sur le produit et/ou son emballage ne soit pas jeté avec les autres ordures ménagères. Ce symbole indique que le produit doit être éliminé dans un circuit distinct de celui pour les déchets des ménages. Il est de votre responsabilité de jeter ce matériel ainsi que tout autre matériel électrique ou électronique par les moyens de collecte indiqués par le gouvernement et les pouvoirs publics des collectivités territoriales. L'élimination et le recyclage en bonne et due forme ont pour but de lutter contre l'impact néfaste potentiel de ce type de produits sur l'environnement et la santé publique. Pour plus d'informations sur le mode d'élimination de votre ancien équipement, veuillez prendre contact avec les pouvoirs publics locaux, le service de traitement des déchets, ou l'endroit où vous avez acheté le produit.

Italiano (Italian) - Informazioni relative all'ambiente per i clienti residenti nell'Unione Europea La direttiva europea 2002/96/EC richiede che le apparecchiature contrassegnate con questo simbolo sul prodotto e/o sull'imballaggio non siano smaltite insieme ai rifiuti urbani non differenziati. Il simbolo indica che questo prodotto non deve essere smaltito insieme ai normali rifiuti domestici. È responsabilità del proprietario smaltire sia questi prodotti sia le altre apparecchiature elettriche ed elettroniche mediante le specifiche strutture di raccolta indicate dal governo o dagli enti pubblici locali. Il corretto smaltimento ed il riciclaggio aiuteranno a prevenire conseguenze potenzialmente negative per l'ambiente e per la salute dell'essere umano. Per ricevere informazioni più dettagliate circa lo smaltimento delle vecchie apparecchiature in Vostro possesso, Vi invitiamo a contattare gli enti pubblici di competenza, il servizio di smaltimento rifiuti o il negozio nel quale avete acquistato il prodotto.

Latviešu valoda (Latvian) - Ekologiska informācija klientiem Eiropas Savienības jurisdikcijai Direktīvā 2002/96/EK ir prasība, ka aprīkojumu, kam pievienota zīme uz paša izstrādājuma vai uz tās iesainojuma, nedrīkst izmest nešķirota veida kopa ar komūnālajiem atkritumiem (tiem, ko rada vieteji iedzīvotāji un uzņēmumi). Šī zīme nozīmē to, ka šī ierīce ir jaizmet atkritumos tā, lai tā nenonāktu kopā ar parastiem mājsaimniecības atkritumiem. Jusu pienākums ir šo un citas elektriskas un elektroniskas ierīces izmest atkritumos, izmantojot īpašus atkritumu savākšanas veidus un līdzekļus, ko nodrošina valsts un pašvaldību iestādes. Ja izmēšana atkritumos un pārstrāde tiek veikta pareizi, tad mazinais iespējamais kaitējums dabai un cilvēku veselībai. Sīkākas ziņas par novecojuša aprīkojuma izmēšanu atkritumos jūs varat saņemt vietējā pašvaldībā, atkritumu savākšanas dienestā, kā arī veikalā, kur iegādājaties šo izstrādājumu.

Lietuvškai (Lithuanian) - Aplinkosaugos informacija, skirta Europos Sajungos vartotojams Europos direktyva 2002/96/EC numato, kad įrangos, kuri ir kurios pakuotei yra pažymėtos ta šiuo simboliu, negalima šalinti kartu su nerūšiuotomis komunalinėmis atliekomis. Šis simbolis rodo, kad gaminys reikia šalinti atskirai nuo bendro buitinės atliekų srauto. Juos privalote užtikrinti, kad šis ir kita elektros ar elektroninė įranga būtų šalinama per tam tikras nacionalines ar vietines valdžios nustatytas atliekų rinkimo sistemas. Tinkamai šalinant ir perdirbant atliekas, bus išvengta galimos žalos aplinkai ir žmonių sveikatai. Daugiau informacijos apie juos senos įrangos šalinimą gali pateikti vietines valdžios institucijos, atliekų šalinimo tarnybos arba parduotuvės, kuriose išsigijote tai gaminį.

Malti (Maltese) - Informazzjoni Ambjentali għal Klijentifl-Unjoni Ewropea Id-Direttiva Ewropea 2002/96/KE titlob li tagħmir li jkun fiċċi is-simbolu fuq il-prodott u/ jew fuq l-ippakkjar ma jistax jintrema ma' skart municipal li ma giex isseparat. Is-simbo lu jindika li dan il-prodott għandu jintrema separatament minn ma' l-iskart domestiku regolari. Hija responsabbiltà tiegħek li tarmi dan it-tagħmir u kull tagħmir ieħor ta' l-elettriku u elektroniku permezz ta' facilitajiet ta' għbir appuntati apposta mill-gvern jew mill-awtoritajiet lokali. Ir-rimi b'mod korrett u r-riciklagg jgħiġi jipprevjeni konsegwenzi negattivi potenziali għall-ambjent u għas-saħħha tal-bniedem. Għal aktar informazzjoni dettaljata dwar ir-rimi tat-tagħmir antik tiegħek, jekk jogħgbok ikkuntattja lill-awtoritajiet lokali tiegħek, is-servizzi għar-rimi ta' l-iskart, jew il-ħanut minn fejn xtrajt il-prodott.

Magyar (Hungarian) - Környezetvédelmi információ aeurópai uniós vásárlók számára A 2002/96/EC számú európai uniós irányelv megkívánja, hogy azokat a termékeket, amelyeken, és/vagy amelyek csomagolásán az alábbi címke megjelenik, tilos a többi szelektálatlan lakossági hulladékkel együtt kidobni. A címke azt jelöli, hogy az adott ter- mék kidobásakor a szokványos háztartási hulladékelszállítási rendszerektől elkülönített eljárást kell alkalmazni. Az Ön felelőssége, hogy ezt, és más elektromos és elektronikus berendezéseit a kormányzati vagy a helyi hatóságok által kijelölt gyűjtőrendszeren keresztül számolja fel. A megfelelő hulladékfeldolgozás segít a környezetre és az emberi egészségre potenciálisan ártalmas negatív hatások megelőzésében. Ha elavult berendezéseinek felszámolásához további részletes információra van szüksége, kérjük, lépjön kapcsolatba a helyi hatóságokkal, a hulladékfeldolgozási szolgálattal, vagy azzal üzlettel, ahol a terméket vásárolta.

Nederlands (Dutch) - Milieu-informatie voor klanten in de Europese Unie De Europese Richtlijn 2002/96/EC schrijft voor dat apparatuur die is voorzien van dit symbool op het product of de verpakking, niet mag worden ingezameld met niet-gescheiden huishoudelijk afval. Dit symbool geeft aan dat het product apart moet worden ingezameld. U bent zelf verantwoordelijk voor de vernietiging van deze en andere elektrische en elektronische apparatuur via de daarvoor door de landelijke of plaatselijke overheid aangewezen inzamelingskanalen. De juiste vernietiging en recycling van deze apparatuur voorkomt mogelijke negatieve gevolgen voor het milieu en de gezondheid. Voor meer informatie over het vernietigen van uw oude apparatuur neemt u contact op met de plaatselijke autoriteiten of afvalverwerkingsdienst, of met de winkel waar u het product hebt aangeschaft.

Norsk (Norwegian) - Miljøinformasjon for kunder i EU-direktiv 2002/96/EF krever at utstyr med følgende symbol avbildet på produktet og/eller pakningen, ikke må kastes sammen med usortert avfall. Symbolet indikerer at dette produktet skal håndteres atskilt fra ordinær avfallsinnsamling for husholdning- savfall. Det er ditt ansvar å kvitte deg med dette produktet og annet elektrisk og elektronisk avfall via egne innsamlingsordninger slik myndighetene eller kommunene bestemmer. Korrekt avfallshåndtering og gjenvinning vil være med på å forhindre mulige negative konsekvenser for miljø og helse. For nærmere informasjon om håndtering av det kasserte utstyret ditt, kan du ta kontakt med kommunen, en innsamlingsstasjon for avfall eller butikken der du kjøpte produktet.

Polski (Polish) - Informacja dla klientów w Unii Europejskiej o przepisach dotyczących ochrony środowiska Dyrektywa Europejska 2002/96/EC wymaga, aby sprzęt oznaczony symbolem znajdujący się na produkcie i/lub jego opakowaniu nie był wyrzucany razem z innymi nie-sortowanymi odpadami komunalnymi. Symbol ten wskazuje, że produkt nie powinien być usuwany razem ze zwykłymi odpadami z gospodarstw domowych. Na Państwie spoczywa obowiązek wyrzucania tego i innych urządzeń elektrycznych oraz elektronicznych w punktach odbioru wyznaczonych przez władze krajowe lub lokalne. Pozbywanie się sprzętu we właściwy sposób i jego recykling pomaga zapobiec potencjalnie negatywnym konsekwencjom dla środowiska i zdrowia ludzkiego. W celu uzyskania szczegółowych informacji o usuwaniu starego sprzętu, prosimy zwrócić się do lokalnych władz, służb oczyszczania miasta lub sklepu, w którym produkt został nabyty.

Português (Portuguese) - Informação ambiental para clientes da União Europeia A Directiva Europeia 2002/96/CE exige que o equipamento que exibe este símbolo no produto e/ou na sua embalagem não seja eliminado junto com os resíduos municipais não separados. O símbolo indica que este produto deve ser eliminado separadamente dos resíduos domésticos regulares. É da sua responsabilidade eliminar este e qualquer outro equipamento eléctrico e electrónico através das instalações de recolha designadas pelas autoridades governamentais ou locais. A eliminação e reciclagem correctas ajudarão a prevenir as consequências negativas para o ambiente e para a saúde humana. Para obter informações mais detalhadas sobre a forma de eliminar o seu equipamento antigo, contacte as autoridades locais, os serviços de eliminação de resíduos ou o estabelecimento comercial onde adquiriu o produto.

Română(Romanian) - Informații de mediu pentru clienti din Uniunea Europeană Directiva europeană 2002/96/CE impune ca echipamentele care prezintă acest simbol pe produs și/sau pe ambalajul acestuia să nu fie casate împreună cu gunoiul menajer municipal. Simbolul indică faptul că acest produs trebuie să fie casat separat de gunoiul menajer obișnuit. Este responsabilitatea dvs. să casatați acest produs și alte echipamente electrice și electronice prin intermediul unităților de colectare special desemnate de guvern sau de autoritățile locale. Casarea și reciclarea corecte vor ajuta la prevenirea potențialelor consecințe negative asupra sănătății mediului și a oamenilor. Pentru mai multe informații detaliate cu privire la casarea acestui echipament vechi, contactați autoritățile locale, serviciul de salubrizare sau magazinul de la care ați achiziționat produsul.

Slovenčina (Slovak) - Informácie o ochrane životného prostredia pre zákazníkov v Európskej únii Podľa európskej smernice 2002/96/ES zariadenie s týmto symbolom produkty a/ alebo jeho balení nesmie byť likvidované spolu s netriedeným komunálnym odpadom. Symbol znamená, že produkt by sa mal likvidovať oddelene od bežného

odpadu z domácností. Je vašou povinnosťou likvidovať toto i ostatné elektrické a elektronické zariadenia prostredníctvom špecializovaných zberných zariadení určených vládou alebo miestnymi orgánmi. Správna likvidácia a recyklácia pomôže zabrániť prípadným negatívnym dopadom na životné prostredie a zdravie ľudí. Ak máte záujem o podrobnejšie informácie o likvidácii starého zariadenia, obráťte sa, prosím, na miestne orgány, organizácie zaobrajúce sa likvidáciou odpadov alebo obchod, v ktorom ste si produkt zakúpili.

Slovenčina (Slovene) - Okoljske informacie za stranke v Evropskej unii Evropska direktiva 2002/96/ES prepoveduje odlaganje opreme s tem simbolom na izdelku in/ali na embalaži z nesortiranimi komunalnimi odpadkami. Ta symbol opozarja, da je treba izdelek zavreťť a odložiť od preostalih gospodinjskych odpadkov. Vaša odgovornosť je, da to in preostalo elektricno in elektronsko opremo oddať na posebna zbirališča, ki jih določijo državne ustanove ali lokalne oblasti. S pravilnim odlaganjem in recikliranjem boste preprečili morebitne škodljive vplive na okolje in zdravje ljudi. Če želite izvedeti več o odlaganju stare opreme, se obrnite na lokalne oblasti, odlagališče odpadkov ali trgovino, kjer ste izdelek kupili.

Suomi (Finnish) - Ympäristöä koskevia tietoja EU-alueen asiakkaille EU-direktiivi 2002/96/EY edellyttää, että jos laitteistossa on tämä symboli itse tuotteessa- ja sen pakauksessa, laitteistoa ei saa hävittää lajittelumattoman yhdyskuntajätteen mukana. Symboli merkitsee sitä, että tämä tuote on hävittää erillään tavallisesta kotitalousjätteestä. Sinun vastuullasi on hävittää tämä elektroniikkatuote ja muut vastaavat elektroniikkatuotteet viemällä tuote tai tuotteet viranomaisten määräämään keräyspisteesseen. Laitteiston mahdolliset kielteiset vaikutukset ympäristöön ja ihmisten terveyteen. Lisätietoja vanhan laitteiston oikeasta hävitystavasta saa paikallisilta viranomaisilta, jätteenhävityspalvelusta tai siitä myymälästä, josta ostit tuotteen

Svenska (Swedish) - Miljöinformation för kunder i Europeiska unionen Det europeiska direktivet 2002/96/EC kräver att utrustning med denna symbol på produkten och/eller förpackningen inte får kastas med osorterat kommunalt avfall. Symbolen visar att denna produkt bör kastas efter att den avskilts från vanligt hushållsavfall. Det faller på ditt ansvar att kasta denna och annan elektrisk och elektronisk utrustning på fastställda insamlingsplatser utsedda av regeringen eller lokala myndigheter. Korrekt kassering och återvinning skyddar mot eventuella negativa konsekvenser för miljön och personhälsa. För mer detaljerad information om kassering av din gamla utrustning kontaktar du dina lokala myndigheter, avfallshanteringen eller butiken där du köpte produkten.

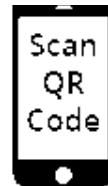
Installation Instructions:



<http://mimosa.co/start>

Do not attempt installation in remote locations with limited Internet access. An unlock key must be obtained online prior to operation of the product.

OR



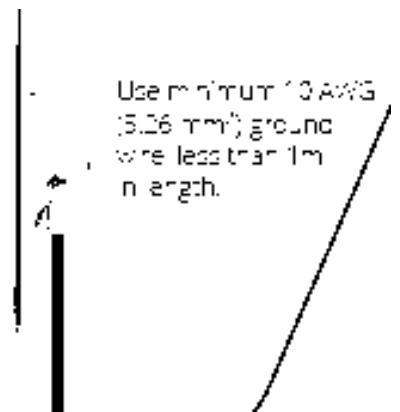
1. Mount



Visit mimosa.co/accessories to identify compatible antennas.

Use a 5mm hex key to secure the 4 bolts to the selected antenna.

2. Ground



Use minimum 10 AWG
(5.26 mm²) ground
wire less than 1m
in length.



3. Connect

Use only shielded CAT 6 cabling and seal the system with the IP67 gland as shown.

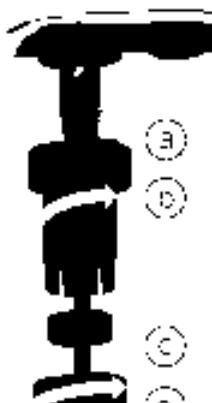


Table of Contents

Mimosa Help Center	1
Backhaul	1
User Guide	1
Overview	1
Accessing the Interface	1
Logging In	2
User Interface Overview	3
Dashboard	5
Dashboard Overview	5
Signal Meter	6
Aiming Mode	9
Performance	11
Device Details	13
MIMO Status	15
Wireless	18
Channel & Power	18
Spectrum Analyzer	18
Channel & Power Settings	19
Exclusions & Restrictions	23
Link	24
TDMA Configuration	24
Link Configuration	26
Location	28
Local Satellite Signals	28
Satellite Information	29
Location Data	30
Local Coordinates	31
Remote Coordinates	32
Distance	33
Site Survey	34
Survey Results	34
Preferences	35
General	35
Naming	35
Time	36
Set Password	37
Miscellaneous	38
Management	40
Management IP	40
Watchdog	41
Services	42
Miscellaneous	43

Network Interfaces	45
VLAN Management	46
REST Services	47
2.4 GHz Console	48
2.4 GHz Network	48
2.4 GHz Security	49
Notifications	50
SNMP Notifications	50
SNMP Traps	51
System Log Notifications	53
System Log Traps	54
Firmware & Reset	55
Firmware Update	55
Reset & Reboot	56
Backup & Restore	57
Backup & Restore	57
Diagnostics	58
Tests	58
Tests	58
Ping	59
Bandwidth	60
Traceroute	61
Logs	62
Log Overview	62
REST API	63
REST API Overview	63
GET Device Status	64
GET Device Info	67
GET Ethernet Configuration	70
GET Link Info	72
GET Device Reboot	74
SNMP Interface	75
SNMP MIB Downloads	75
SNMP OID Reference Tables	76
SNMP Usage Examples	83
SNMP Get	83
SNMP Walk	84
SNMP Table	85
SNMP Object Names	86

Accessing the Graphical User Interface

Accessing the graphical user interface (GUI) requires that the radio first be connected to power. The Power over Ethernet (PoE) connection process describes the steps to do this. Note that the GUI will be available approximately one minute after applying power.

The GUI can be accessed in three ways to facilitate set-up and management.

1. Locally through the built-in 2.4 GHz wireless management network (B5/B5c and B11 Only)
2. Through the local Ethernet interface (LAN)
3. Remotely through the 5 GHz wireless link

Via 2.4 GHz Management Network

On any device with 2.4 GHz 802.11n capability, go to the wireless network listing and connect to the Local Network Management wireless network (SSID): "mimosaMXXX". The default passphrase for the 2.4 GHz connection is "mimosanetworks". Once connected, type 192.168.25.1 into your browser. Please note that both the Local Network Management SSID and passphrase are configurable by the user, so their values could be different from the default values.

Via Ethernet interface or in-band over the 5 GHz Wireless link

By default, the device IP address is 192.168.1.20 and can be accessed via the Ethernet port using this IP address in any standard Web browser. To access the device via a locally connected computer initially (on the same LAN or directly to the Ethernet port), the computer's IP address must be on the same subnet as the above address. Once you have modified the IP address (static or is DHCP) of the device for remote management purposes (in-band over wireless or over the Ethernet interface), the new specified IP address must be used to access the device. This is important to do in order to avoid IP address conflicts with other devices on the network. Current IP addresses of different Mimosa devices on the network can be identified using terminal-based discovery. It is highly recommended to change the default password to a unique and secured password.

Logging In

After connecting via one of the three access methods, the GUI will prompt you to log-in with a password. The default password is "mimosa", and should be changed immediately after login to protect your network since it gives the user read / write privileges. The password can be changed within the Preferences > General > Set Password panel of the GUI.

User Interface Overview

When you first log in, you'll notice that there is a title bar with the device name shown in the top-right corner, a navigation pane on the left, and a large content pane on the right. The default page shown in the content pane is the Dashboard, which shows a summary of overall performance at a glance, and highlights both radio and link parameters that affect link health.

Title Bar

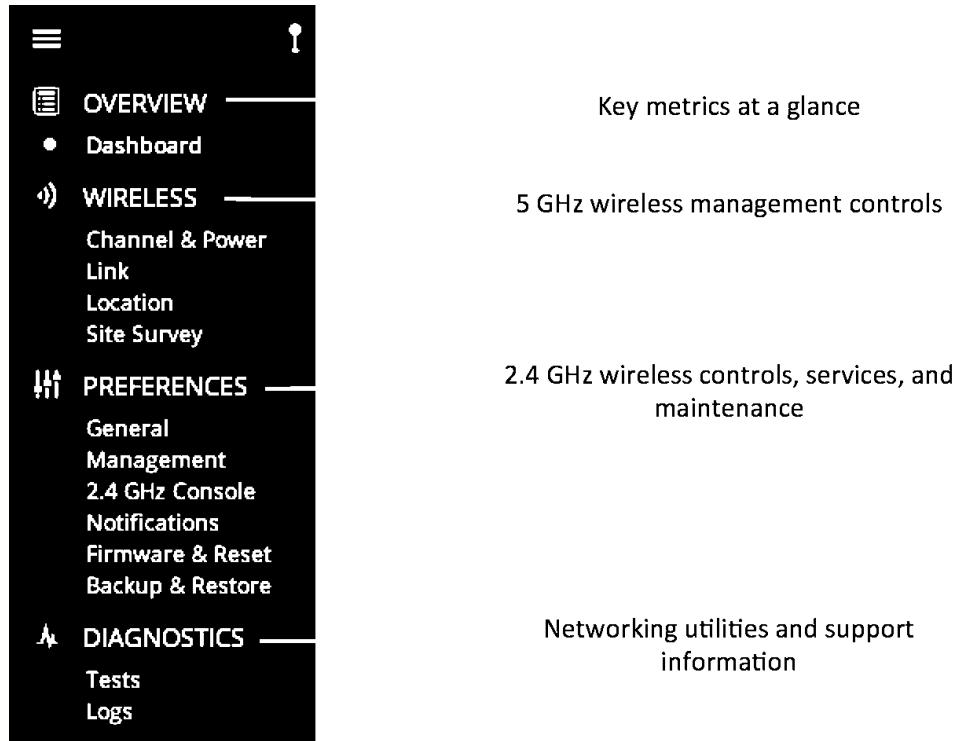
Content Pane

Left Navigation Pane

On the left navigation pane, there are four prominent sections: Overview, Wireless, Preferences, and Diagnostics. Each of these sections contains one or more links to pages containing task-related data, controls, and tools used to administer the radio...and you can return the Dashboard at any time by clicking on the Dashboard link in the Overview section.

The pin in the top corner of the left navigation pane allows you to "pin" open the navigation menu for easier access. Else, the menu contracts to provide more workspace within the GUI. Note that the 2.4 GHz Console menu item is not

present on the B5-Lite.



The Dashboard

The Dashboard contains several panels used to group related items. The status panel at the top of the page shows the link SSID, the link status, GPS signal quality*, Link Uptime since association, and Link Availability since the last reboot. Two of the values on this panel contain an information icon that shows more information when you click or hover over it with your mouse cursor. On other panels, detailed help text can be found by clicking on the information icon in the upper right hand corner.

* Applies to B5/B5c and B11 only; does not apply to B5-Lite.

The screenshot displays the Mimosa B11 Dashboard interface. At the top, there is a status bar with the following information:

- Link SSID: 802.11n (2.4GHz)
- Link Status: Up
- GPS Signal Quality: 52.0 dBm (with an information icon)
- Link Uptime: 1 day, 1 hour, 12 minutes
- Link Availability: 100% (with an information icon)

Below the status bar, there are several panels:

- Current wireless connection status:** Shows the current wireless connection details.
- Estimated half-duplex IP throughput in Mbps (TCP based):** Displays the estimated throughput.
- Device and Link information:** Provides details about the device and the link.
- Provides a real time signal level in dBm for the established link:** Displays the real-time signal level.

The left side of the dashboard features a vertical navigation menu with the following sections:

- OVERVIEW
- Dashboard
- WIRELESS
 - Channel & Power
 - Link
 - Location
 - Site Survey
- PREFERENCES
 - General
 - Management
 - 2.4 GHz Console
 - Notifications
 - Reboots & Reset
 - Backup & Restore
- DIAGNOSTICS
 - Tests
 - Logs

Reading the Signal Meter

Connected Link

Received signal strength is shown in large text in the center of the control, and as a green indicator in the top dial. The blue shaded bar and text immediately below the dial represent target signal strength based on distance and other information exchanged between radios. The objective is to align the green indicator with the blue bar as a guideline during antenna aiming.

The resulting half-duplex PHY rates shown at the bottom of the Signal Meter control are correlated with the MCS, and represent raw data across the link without protocol overhead. The Max Throughput values include TDMA window size and MAC layer efficiency.

The following settings and values that affect link health are listed for reference:

B5/B5c

- Channel 1 Center Frequency: True center of the first frequency range (no offset).
- Channel 2 Center Frequency: True center of the second frequency range (no offset).
- Channel Width: Number of channels used (1 or 2), and the width of each channel (20, 40 or 80 MHz).
- Tx Power: Total transmit power level (dBm).
- Link Length: Distance between local and remote radios (when connected).

B5-Lite

- Center Frequency: True center of the frequency range (no offset).
- Channel Width: The width of the channel (20, 40 or 80 MHz).
- Tx Power: Total transmit power level (dBm).
- Link Length: Distance between local and remote radios (when connected).

B11

- Center Frequency 1: True center of the first frequency range (no offset).
- Center Frequency 2: True center of the second frequency range (no offset).
- Channel Width: Number of channels used (1 or 2), and the width of each channel (20, 40 or 80 MHz).
- Tx Power: Total transmit power level (dBm).
- Link Length: Distance between local and remote radios (when connected).

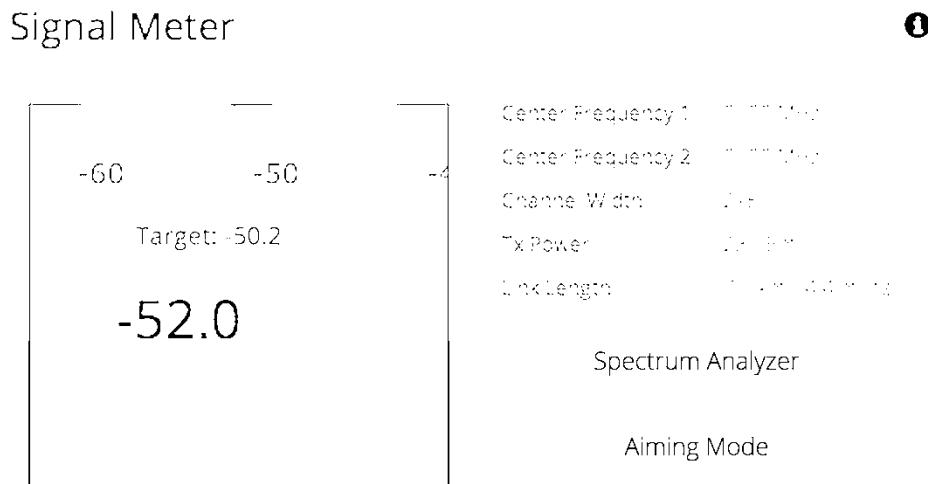
Click the Spectrum Analyzer button to access the Spectrum Analyzer, which can also be found on the Channel & Power page. This will not disturb the link.

When a link is not associated, the signal strength and PHY rates are replaced by an indicator of "Disconnected".

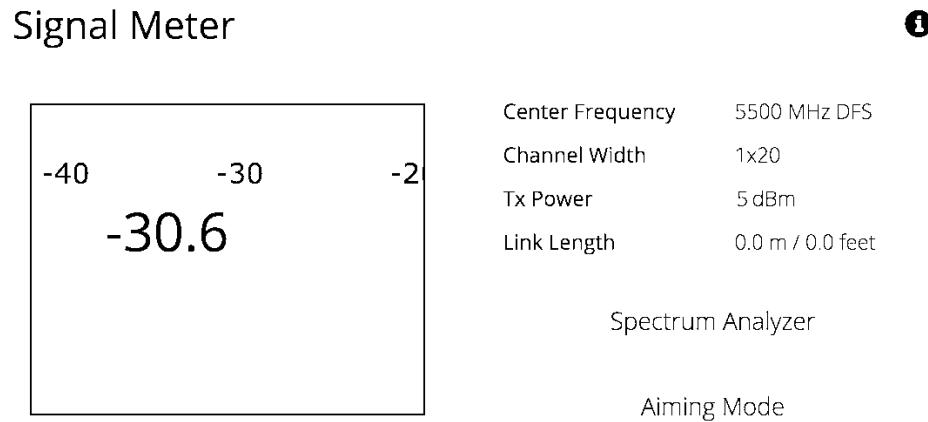
Once associated, click the Aiming Mode button on the Dashboard to open a new window that refreshes once per second for a 5-minute period. The Aim Heading indicates the direction in which the front of the device should be

pointed based exchange of coordinates. The green arrow and blue shaded region on the dial indicator represent current and target signal levels, respectively. Note that the dial indicator does not represent azimuth. Azimuth may need to be adjusted in either direction to meet the target.

B5/B5c Signal Meter

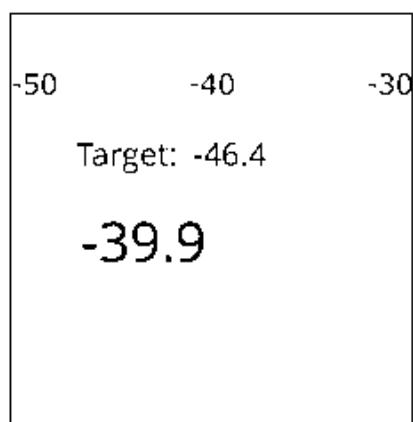


B5-Lite Signal Meter



B11 Signal Meter

Signal Meter



Center Frequency 1: 10830 MHz
Center Frequency 2: 11020 MHz
Channel Width: 2x60
Tx Power: 21 dBm
Link Length: 10.2 km / 6.3 mi

Spectrum Analyzer

Aiming Mode

Antenna Aiming Mode

Once associated, click the Aiming Mode button on the Dashboard to open a new window that refreshes once per second for a 5-minute period. The Aim Heading indicates the direction in which the front of the device should be pointed based exchange of coordinates. The green arrow and blue shaded region on the dial indicator represent current and target signal levels, respectively. Note that the dial indicator does not represent azimuth. Azimuth may need to be adjusted in either direction to meet the target.

Aim Heading

342°



Target: -50.2 dBm

-52.3 dBm

600 / 600

PHY Tx/Rx (Mbps)

[Back to](#)

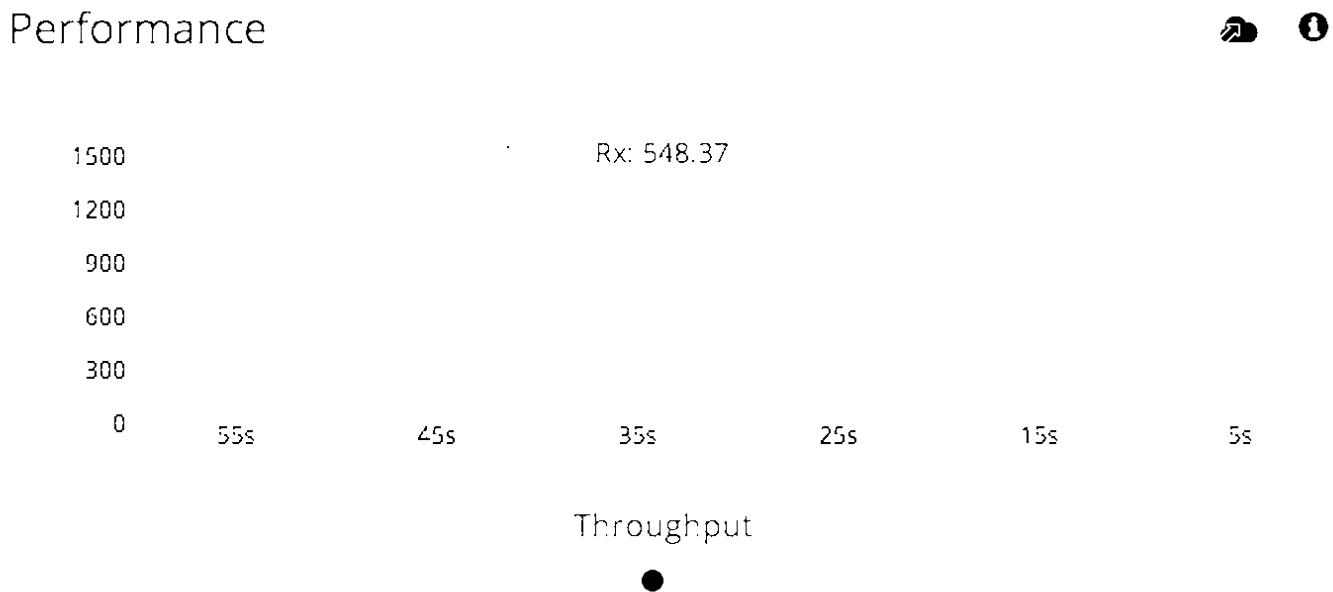
Antenna Aiming Procedure

1. While viewing the Aiming Mode screen, move the local antenna on one axis at a time (first azimuth and then elevation) in 6mm (1/4 inch) increments.
2. Wait 2-3 seconds for the signal to settle after each movement. Signal strength may increase or decrease after each movement. Increases in signal strength will move the green arrow and blue shaded region closer together. Decreases in signal strength will move them farther apart. The point of maximum signal strength indicates optimal antenna alignment for each axis.
3. Repeat the steps 1 and 2 above on the remote antenna. The signal strength should match the outputs from the Mimosa Design application. If not, please consult the Low Rx Power troubleshooting guide.

Reading the Performance Charts

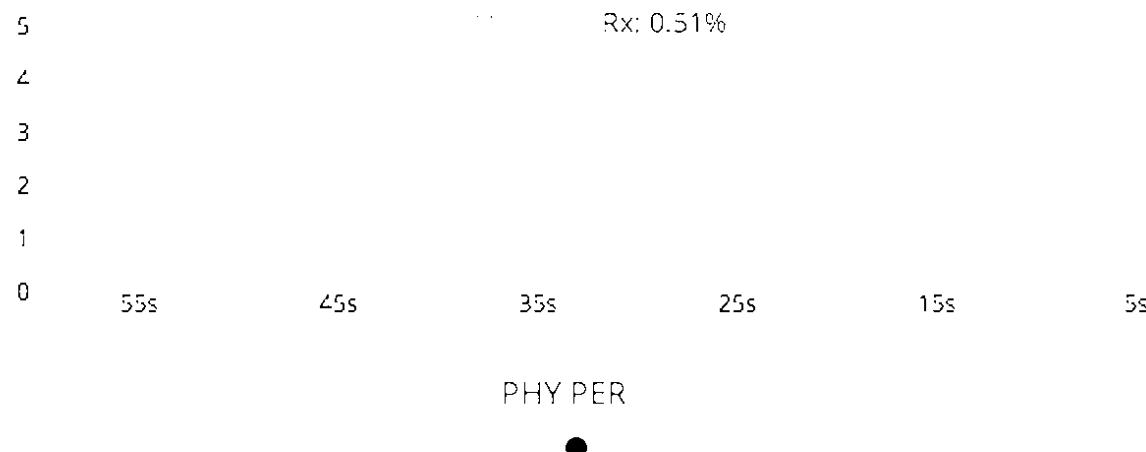
IP Throughput and Packet Error Rate (PER) are charted over 60 seconds in 5-second intervals. The newest data shows up on the right and scrolls to the left over time. You can toggle between the charts by clicking on the navigation circles at the bottom of the panel. If enabled, click on the cloud icon to view historical data within the Manage application.

The IP Throughput graph plots three lines representing transmit, receive, and aggregate (summed) throughputs at the datagram (or packet) layer excluding any protocol or encapsulation overhead. The results here may differ from those measured using speed test tools, due to protocol overhead and encapsulation. Note that internal Bandwidth test results are excluded.



The Packet Error Rate (PER) is the number of packets with errors divided by the total number of packets sent within a 5-second period. Ideally, this value should be below 2%, while higher values indicate the presence of interference. Tx PER is an indication that the local radio did not receive an ACK from the remote radio, so is forced to retransmit the same information again. Rx PER is a value sent from the remote radio to the local radio in management frames.

Performance



Reading Device Details

The Device Details panel shows two summary tables for the local and remote device configurations and their status.

Click on the navigation circles at the bottom of the panel to toggle between the two tables.

The table shows the following for both Local and Remote devices:

B5/B5c

- Device Name: The friendly name given to each device. (Set in *Preferences > General > Naming*)
- Serial Number: The unique identifier for the device assigned at the factory.
- IP Address: The IP address of each device and how it was assigned. (Set in *Preferences > Management*)
- Wireless Protocol: The MAC level protocol. (Set in *Wireless > Link > MAC Configuration*)
- TDMA Traffic Balance: Identifies the "gender" of the radio, the duration for each TDMA time slot, and ratio of bandwidth allocated for transmission. (Set in *Wireless > Link > MAC Configuration*)
- Ethernet Speed: Data rate and duplex mode of the wired Ethernet interface.
- Firmware: The latest firmware version applied to each device. (Set in *Preferences > Update & Reboot*)
- Internal Temp: Temperature inside the device casing (operating range: -40 °C to +60 °C).
- 2.4 GHz MAC: The unique identifier for the 2.4 GHz radio.
- 5 GHz MAC: The unique identifier for the 5 GHz radio.
- Ethernet MAC: The unique identifier for the physical Ethernet interface.
- Last Reboot: The date and time at which each device last rebooted.

B5-Lite

- Device Name: The friendly name given to each device. (Set in *Preferences > General > Naming*)
- Serial Number: The unique identifier for the device assigned at the factory.
- IP Address: The IP address of each device and how it was assigned. (Set in *Preferences > Management*)
- Wireless Protocol: The MAC level protocol. (Set in *Wireless > Link > MAC Configuration*)
- TDMA Traffic Balance: Identifies the "gender" of the radio, the duration for each TDMA time slot, and ratio of bandwidth allocated for transmission. (Set in *Wireless > Link > MAC Configuration*)
- Ethernet Speed: Data rate and duplex mode of the wired Ethernet interface.
- Firmware: The latest firmware version applied to each device. (Set in *Preferences > Update & Reboot*)
- CPU Temp: Temperature on the device CPU (operating range: -40 °C to +110 °C).
- 5 GHz MAC: The unique identifier for the 5 GHz radio.
- Ethernet MAC: The unique identifier for the physical Ethernet interface.
- Last Reboot: The date and time at which each device last rebooted.

B11

- Device Name: The friendly name given to each device. (Set in *Preferences > General > Naming*)
- Serial Number: The unique identifier for the device assigned at the factory.
- IP Address: The IP address of each device and how it was assigned. (Set in *Preferences > Management*)
- Wireless Protocol: The MAC level protocol. (Set in *Wireless > Link > MAC Configuration*)
- TDMA Traffic Balance: Identifies the "gender" of the radio, the duration for each TDMA time slot, and ratio of

bandwidth allocated for transmission. (Set in Wireless > Link > MAC Configuration)

- Ethernet Speed: Data rate and duplex mode of the wired Ethernet interface.
- Network Interface: Shows port status; "Ethernet", "Fiber" or "Down".
- Firmware: The latest firmware version applied to each device (Set in Preferences > Update & Reboot).
- Internal Temp: Temperature inside the device casing (operating range: -40 °C to +60 °C).
- 5 GHz MAC: The unique identifier for the 5 GHz radio.
- Ethernet MAC: The unique identifier for the physical Ethernet interface.
- Last Reboot: The date and time at which each device last rebooted.

Device Details



	Local	Remote
Device Name	HE-CP-LINK at HE	HE-CP-LINK_at_CP
Serial Number	5500C	101313
IP Address		
Wireless Protocol	TDMA - Access point	TDMA - Station
TDMA Traffic Balance	A - 4ms - 50% ➔	B - 4ms - 50% ←
Ethernet Speed	1000Mb/s Full Duplex	1000Mb/s Full Duplex



Device Details



	Local	Remote
Firmware	0.4.0-45	0.4.0-45
Internal Temp	42.1°C / 107.8°F	27°C / 80.6°F
2.4 GHz MAC	20:B5:C6:00:07:51	20:B5:C6:00:04:DE
5 GHz MAC	20:B5:C6:00:07:50	20:B5:C6:00:04:DD
Ethernet MAC	20:B5:C6:00:07:4F	20:B5:C6:00:04:DC
Last Reboot	2014-12-08 17:36:48 (UTC +0000)	2014-12-08 17:35:31 (UTC +0000)



Reading MIMO Status Tables

The MIMO Status panel contains two tables: Chains and Streams. Chains represent the physical medium (RF Tx/Rx values), while Streams represent data. Chains and Streams are not necessarily correlated one to one because the Rate Adaptation algorithm may periodically increase or decrease the number of data streams sent over the physical medium when reacting to interference.

The Chains table describes each chain's power, noise, SNR, frequency and polarization.

The Streams table describes each stream's MCS index, PHY rates and Rx Error Vector Magnitude (EVM).

Each table can be selected by clicking on the navigation circles at the bottom of the panel.

Chains

The Chains table contains 6 values: Tx Power, Rx Power, Rx Noise, SNR, Center Frequency and Polarization. Each channel is assigned two chains (horizontal and vertical). If two channels are selected, Channel 1 uses Chains 1 & 2, while Channel 2 uses Chains 3 & 4.

MIMO Status



Chain	Tx Power (dBm)	Rx Power (dBm)	Rx Noise (dBm)	SNR (dB)	Center Freq. (MHz)	Pol
1	1	-50.7	-80.4	30	5305.053	..
2	1	-50.6	-80.4	30	5305.053	V
3	1	-50.7	-82.0	32	5225.053	..
4	1	-50.6	-82.0	32	5225.053	V

Chains



Tx Power is the amount of power applied to each of the MIMO chains.

Rx Power is the incoming signal level from the remote radio. Larger values are better (e.g. -50 dBm is better than -60 dBm).

Rx Noise is a combination of the thermal noise floor plus interference detected by the local radio. Smaller values are

better (e.g. -90 dBm is better than -80 dBm). Noise sources can be either in close proximity to the local radio, or they can be remote transmitters pointed back at the local radio.

The signal-to-noise ratio (SNR) is the difference between the Rx Power and Rx Noise, and is a measure of how well the local receiver can detect signals from the remote transmitter and clearly discern them from noise. Higher values are better (e.g. 30 dB is better than 10 dB).

If two channels are selected, you may observe that SNR is much lower on one channel than the other. This could be because the Tx Power is set lower on the remote transmitter, or because of higher interference levels on the channel. To resolve this, increase Tx Power or change the channel that has lower SNR.

Chains 1 & 3 have horizontal polarization, and Chains 2 & 4 have vertical polarization. Chains with the same polarization are combined internal to the radio before exiting to the antenna connectors.

Streams

The Streams table contains the Tx MCS index, Tx PHY rate, Rx MCS index, Rx PHY rate, and the Rx EVM for each stream.

MIMO Status



Stream	Tx MCS	Tx PHY (Mbps)	Rx MCS	Rx PHY (Mbps)	Rx EVM (dB)
1	9	432	9	432	-27.0
2	9	432	9	432	-27.0
3	9	432	9	432	-27.1
4	9	432	9	432	-26.9

Streams



The Tx MCS is an indicator of how well the remote radio can receive data from the local transmitter. The Rx MCS indicates how well the local radio is receiving data from the remote transmitter.

The Error Vector Magnitude (EVM) indicates the difference between the actual and expected amplitude and phase of an incoming signal. Smaller values are better (e.g. -30 dB is better than -10 dB).

Rate Adaptation dynamically adjusts both the MCS and the number of streams depending on RF conditions. Poor RF

conditions (i.e. interference) causes PER to increase. PER and MCS are inversely correlated meaning that as PER increases, MCS decreases and vice versa.

Single channel mode usually uses 2 streams, but may drop to one stream if RF conditions are poor. Dual channel mode uses up to 4 streams. You may also see the number of streams change periodically because of tests that Rate Adaptation performs to optimize performance. This is expected and normal.

Related:

[Backhaul FAQ: What SNR is required for each MCS?](#)

[Backhaul FAQ: What is the sensitivity for each MCS index?](#)

[Backhaul FAQ: What's a good EVM?](#)

Reading the Spectrum Analyzer

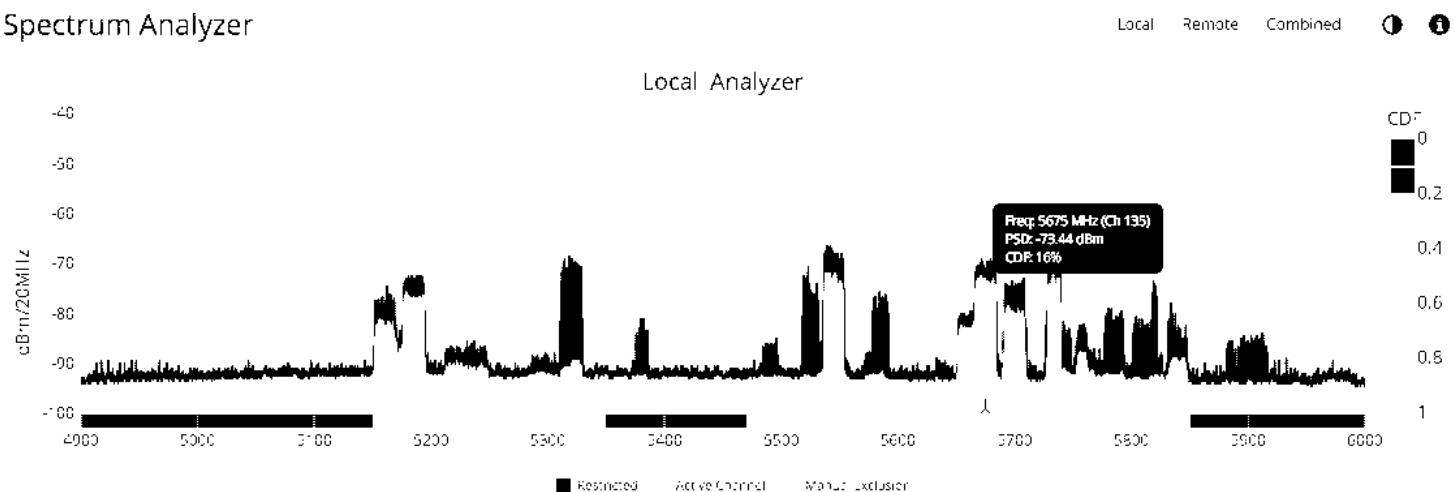
The Spectrum Analyzer actively scans the 5 GHz band in the background to report on interference sources that may impact link performance. Click the Local, Remote, or Combined buttons to each radio's spectrum individually or simultaneously. Click on the half circle icon in the upper right to toggle the graph's background color between black and white. Note that the remote side data may be as much as 5 minutes behind the local radio.

Channels in use have higher Power Spectral Density (PSD) on the vertical axis, and are shaded in different colors to represent how often the signals are likely to be on the same frequency at the same amplitude.

The legend to the right of the graph explains the color code for the Cumulative Distribution Function (CDF). The color red suggests the highest probability (1 = 100%), while purple represents the lowest probability (0 = 0%).

Cross hairs appear on the graph beneath the mouse pointer along with an information box containing the frequency (channel), PSD, and CDF values.

There are three types of markings, or bars, immediately beneath the graph's horizontal axis that indicate frequency ranges that are restricted, manually excluded, or in active use by this link. Note that traffic from the Active Channel is excluded from the display so that noise can be detected.



Managing Channel & Power Settings

The Channel and Power Settings panel allows for either automatic or manual changes to frequency, channel width, and power for either one or two channels.

B5/B5c

- Auto Everything - Automatically configure channel, channel width and power to optimize performance based on spectrum data.
- Channel Width (MHz) - In Manual Mode, choose the number of link channels (single or dual) and the channel width for each (Example: 2x80 MHz represents two channels with 80 MHz each, totaling 160 MHz). Single channel options ending in "FD" allow for different transmit and receive frequencies on Channel 1 & 2, respectively.
- Maximum Channel Width (MHz) - Select the maximum channel width Auto Everything is allowed to use. The decision for single or dual channel modes will be made automatically. For example, selecting 40 MHz as the maximum channel width may result in 1x40 or 2x20 mode. Smaller channel widths may also be selected based on RF conditions. Auto Everything is designed to maintain the highest link bandwidth while maintaining link stability.
- Center Frequency (1 & 2) - In Off (Manual) mode, select the center frequency of the channel used on the link. In all modes, the center frequency represents the absolute center of the selected channel width without any offset, and the center can be moved in 5 MHz increments. If Auto Everything is set to On, the Channel(s) will be automatically set, and not editable.
- Tx Power (1 & 2) - Set the desired transmit power level. The allowed options are determined by a combination of country and chosen frequency. If Channel Width is set to 1xN MHz, Channel 2 will not be used. If Auto Everything is set to On, Tx Power will be automatically set, and not editable. In "FD" mode, Power 1 and Power 2 represent transmit power on the local and remote sides, respectively.
- Antenna Gain (dBi) - Set the gain according to antenna specifications and subtract out any cable/connector loss.
- Channel Recommendations - List of channel widths, center frequencies, and Tx powers that Auto Everything would choose in order of preference (if enabled).

Channel & Power Settings



Auto Everything Off (Manual) Channel Width (MHz) 2x80

Center Frequency 1 (MHz) 5420 (ch 84) DFS Center Frequency 2 (MHz) 5060 (ch 12)

Tx Power 1 (dBm) 24 Tx Power 2 (dBm) 0

Antenna Gain (dBi) 25

Channel Recommendations

Channel Width(MHz)	Channel 1 (MHz)	Channel 2 (MHz)	Channel 1 Power (dBm)	Channel 2 Power (dBm)
2x80	5010	5090	24	24
2x80	5005	5090	24	24
2x80	5000	5090	24	24

B5-Lite

- Auto Everything - Automatically configure channel, channel width and power to optimize performance based on spectrum data.
- Channel Width (MHz) - In Manual Mode, choose the channel width (20, 40, or 80 MHz).
- Maximum Channel Width (MHz) - Select the maximum channel width Auto Everything is allowed to use. The decision for single or dual channel modes will be made automatically. Smaller channel widths may also be selected based on RF conditions. Auto Everything is designed to maintain the highest link bandwidth while maintaining link stability.
- Center Frequency - In Off (Manual) mode, select the center frequency of the channel used on the link. In all modes, the center frequency represents the absolute center of the selected channel width without any offset, and the center can be moved in 5 MHz increments. If Auto Everything is set to On, the Channel will be automatically set, and not editable.
- Tx Power - Set the desired transmit power level. The allowed options are determined by a combination of country and chosen frequency. If Auto Everything is set to On, the Channel & Tx Power will be automatically set, and not editable.

- Channel Recommendations - List of channels, center frequencies, and Tx powers that Auto Everything would choose in order of preference (if enabled).

Channel & Power Settings



Auto Everything	Off (Manual)	Channel Width (MHz)	1x20
Center Frequency (MHz)	5500 (ch 100) DFS	Tx Power (dBm)	-1

Channel Recommendations

Channel Width (MHz)	Frequency (MHz)	Tx Power (dBm)
2x80	5880	-1
2x80	5875	-1
2x80	5870	-1

B11

- Auto Everything - Automatically configure channel, channel width and power to optimize performance based on spectrum data. Available only within the 10,000-10,700 MHz Operating Band.
- Channel Width (MHz) - In Manual Mode, choose the channel width (20, 40, or 80 MHz).
- Maximum Channel Width (MHz) - Select the maximum channel width Auto Everything is allowed to use. The decision for single or dual channel modes will be made automatically. Smaller channel widths may also be selected based on RF conditions. Auto Everything is designed to maintain the highest link bandwidth while maintaining link stability.
- Center Frequency (1 & 2) - In Off (Manual) mode, select the center frequency of the channel used on the link. In all modes, the center frequency represents the absolute center of the selected channel width without any offset, and the center can be moved in 5 MHz increments. If Auto Everything is set to On, the Channel will be automatically set, and not editable.
- Local and Remote Device Power - Set the desired transmit power levels on the AP. The allowed options are determined by a combination of country and chosen frequency. If Auto Everything is set to On, the Channel & Tx Power will be automatically set, and not editable.
- Antenna Gain (dBi) - Set the gain according to antenna specifications and subtract out any cable/connector loss.
- Channel Recommendations - List of channel widths, center frequencies, and Tx powers that Auto Everything would choose in order of preference (if enabled).

Channel & Power Settings



		Channel Width (MHz)	2x80
Center Frequency 1 (MHz)	11325	Center Frequency 2 (MHz)	10835
Local Device Power (dBm)	15	Remote Device Power (dBm)	15
Antenna Gain (dBi)	35	Operating Band	10700 - 11700

Note: Tx power selections may be limited based on your regulatory domain (refer to the Maximum Power chart for more details).

Managing Exclusions & Restrictions

Exclusions list the frequency ranges in which the device should not operate. The Auto Everything feature will avoid these frequency bands. The excluded bands will be shown as shaded regions on the Spectrum Analyzer.

- Start - Specify the lower limit for the exclusion range, not including this frequency.
- End - Specify the upper limit for the exclusion range, not including this frequency.
- Add Exclusions - The button to add the Start and End frequency range to the exclusion list.
- Existing Exclusions and Restrictions - Exclusions can be removed from the list by clicking on the trash icon. The restricted bands with the lock icon cannot be removed. They are protected because of regulatory requirements.
- Regulatory Domain - The country in which the device has been configured to run.

In the United States, if either the AP or STA are within a 60 km radius of a Terminal Doppler Weather Radar (TDWR) location, one or more 30 MHz restrictions are automatically created to avoid the TDWR operating frequencies.

Exclusions & Restrictions

Add a New Exclusion (N + z)

Start Frequency End Frequency

+ Add Exclusion

Existing Exclusions and Restrictions

- 4900 - 5150
- 5260 - 5280
- 5350 - 5470
- 5805 - 5850
- 5850 - 6000

Regulatory Domain

TDMA Configuration Settings

The TDMA Configuration panel contains controls for configuring and fine tuning TDMA performance. One side of the radio link must be set as an Access point, and the other set as a Station. The Station inherits the other settings from the AP, so the other fields are grayed out and not accessible when Station is selected.

B5/B5c

- Wireless Mode - Choose whether the device will act as an Access Point or a Station.
- Gender - Traffic Split - The radio can be configured to allocate bandwidth symmetrically (50/50) or biased towards downstream (75/25) in environments where traffic direction is expected to be heavier in one direction than the other. With an asymmetrical split, the local radio is represented first in the slash notation, (local/remote). For example, in the (75/25) split, the local radio gets 75, while the remote radio gets 25. If "Auto" is selected the radio will automatically determine, based upon traffic flow, which ratio will be used. The radio will continue to evaluate the flow and adjust accordingly.
- TDMA Window - Determines the length of the transmit time slot in milliseconds.

Note: To enable spectrum reuse, both Gender-Traffic Split and TDMA Window must each be set to the same value for all collocated radios. Further, "Auto" must not be selected as the TDMA Window when radios are collocated.

B5-Lite

- Wireless Mode - Choose whether the device will act as an Access Point or a Station.
- Traffic Split - The radio can be configured to allocate bandwidth symmetrically (50/50) or biased towards downstream (75/25) in environments where traffic direction is expected to be heavier in one direction than the other. With an asymmetrical split, the local radio is represented first in the slash notation, (local/remote). For example, in the (75/25) split, the local radio gets 75, while the remote radio gets 25. If "Auto" is selected the radio will automatically determine, based upon traffic flow, which ratio will be used. The radio will continue to evaluate the flow and adjust accordingly.
- TDMA Window - Determines the length of the transmit time slot in milliseconds.

B11

- Wireless Mode - Choose whether the device will act as an Access Point or a Station.
- Gender - Traffic Split - The radio can be configured to allocate bandwidth symmetrically (50/50) or biased towards downstream (75/25) in environments where traffic direction is expected to be heavier in one direction than the other. With an asymmetrical split, the local radio is represented first in the slash notation, (local/remote). For example, in the (75/25) split, the local radio gets 75, while the remote radio gets 25. If "Auto" is selected the radio will automatically determine, based upon traffic flow, which ratio will be used. The radio will continue to evaluate the flow and adjust accordingly.
- TDMA Window - Determines the length of the transmit time slot in milliseconds.

Note: To enable spectrum reuse, both Gender-Traffic Split and TDMA Window must each be set to the same value for all collocated radios. Further, "Auto" must not be selected as the TDMA Window when radios are collocated.

Example Access Point Settings

TDMA Configuration



Wireless Mode Access point

Wireless Protocol

Gender - Traffic Split A - 50/50

TDMA Window 4 ms

Example Station Settings

TDMA Configuration



Wireless Mode Station

Wireless Protocol

Gender - Traffic Split

TDMA Window

Link Configuration Settings

The Link Configuration panel includes controls to define the 5 GHz SSID and passphrase between radios:

- Link Friendly Name - A friendly name to describe the link between the Access Point (AP) and Station. This name is used to differentiate amongst other links.
- SSID - The wireless link name used by both radios. Both AP and Station must use the same SSID to communicate with each other.
- Encryption Key - Enter the ASCII Passphrase to connect with the broadcasted SSID. Select "Show Key" to see passphrase in plain text. Enter any combination of printable characters. The passphrase should be between 8 to 63 characters in length. The Encryption Key must be the same on both the Access Point and Station for them to communicate with each other.
- Scan for SSID - On a radio configured as a Station, click this button to display a list of Access Point SSIDs.
- Status - Indicates whether the AP and Station are "Connected" (associated) or "Not Connected" (disassociated).

Please ensure that the SSID, Encryption Key, and firmware versions are the same. Additionally, ensure that the IP addresses are different, and on the same subnet.

Example Access Point Link Configuration

Link Configuration



Link Friendly Name Mimosa_Lower

SSID mimosaLocation

Encryption Key

Example Station Link Configuration

Link Configuration



Link Friendly Name

SSID

mimosaLocation

Encryption Key

.....

Status

Example SSID Scan after pressing the "Scan SSID" button. To connect to a particular SSID, click the "Select" button.

Encryption	SSID	Vendor	MAC Address	Signal Strength	Action
WPA-PSK	Mimosa	54:0:3E	34:0:3E:00:00:00	-50 dBm	Select
WPA-PSK	Mimosa	54:0:3E	61:0:3E:00:00:00	-61 dBm	Select
WPA-PSK	Mimosa	54:0:3E	79:0:3E:00:00:00	-76 dBm	Select
WPA-PSK	Mimosa	54:0:3E	80:0:3E:00:00:00	-50 dBm	Select
WPA-PSK	Mimosa	54:0:3E	79:0:3E:00:00:00	-76 dBm	Select

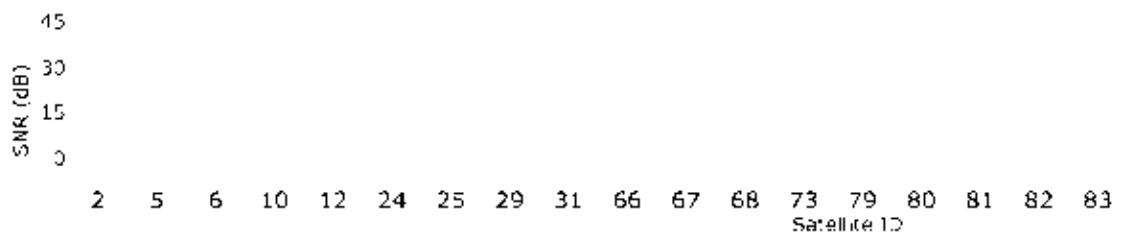
Close

Interpreting Local Satellite Signals

Product Applicability: B5/B5c, B11

The Local Satellite Signals panel contains a chart showing both GPS and GLONASS satellites in blue and green, respectively, from which the radio can obtain position and timing data used for synchronization. Each numbered column represents a unique satellite with the columns' amplitude representing the signal to noise ratio of the satellite's signal at the radio's receiver. The number of satellites the radio detects and the SNR of each both contribute to clock accuracy.

Local Satellite Signals



Reading Satellite Information

Product Applicability: B5/B5c, B11

The Satellite Information panel contains values that represent and contribute to clock accuracy. Good GPS signal strength is required for maximum performance, as the GPS is used to synchronize timing between devices.

- Satellite Signal Strength - Qualitative assessment based on all items below; also displayed on the Dashboard.
- Satellite Avg SNR - Average signal to noise ratio amongst satellites.
- Total Satellites - Sum of detected GPS and GLONASS satellites.
 - GPS - Number of GPS satellites detected.
 - GLONASS - Number of GLONASS satellites detected.
- Clock Accuracy - Timing signal accuracy measured in parts per billion (ppb).

Satellite Information



Satellite Signal Strength	Good
Satellite Avg SNR	27 dB
Total Satellites	12
GPS	9
GLONASS	3
Clock Accuracy	1.56 ppb

Viewing Location Data

Product Applicability: B5/B5c

Status table showing location, altitude, and heading for both the local and remote devices, as well as the link distance between them. The link length in the middle of the table will show "Disconnected" if a connection has not been established.

Location Data



	Local	----- 7 km / 4 miles -----	Remote
Latitude	37.7100006		37.682662
Longitude	-121.696807		-121.623428
Altitude	298 m / 846 feet		352 m / 1181 feet
Link Heading	115°		205°

Local Coordinates

Product Applicability: B5-Lite

Enter the latitude and longitude of the local radio in signed decimal degrees with four digits after the decimal point (e.g. ##.####). These values are used to calculate distance and propagation delay, to coordinate Auto Everything within the same subnet, and to display the radios on a map within Mimosa cloud applications.

Remote Coordinates

Product Applicability: B5-Lite

Enter the latitude and longitude of the remote radio in signed decimal degrees with four digits after the decimal point (e.g. ##.####). These values are used to calculate distance and propagation delay, to coordinate Auto Everything within the same subnet, and to display the radios on a map within Mimosa cloud applications.

Distance

Product Applicability: B5-Lite

The calculated distance between radios based on the local and remote coordinates. This value is used to calculate propagation delay.

Reading Site Survey Results

The Survey Results status table summarizes the results of a site survey, including the SSIDs broadcast by other devices, their configuration and capabilities. Note that the Site Survey function is only available on radios configured as a Station (versus AP).

The table provides the following data per device found:

- SSID - The wireless link name advertised by each detected AP.
- Capability - Indicates which 802.11 (Wi-Fi technology standard) is support by the device. Options include A, G, N, AC.
- MAC Address - The device's unique identifier.
- Vendor - The name of the device manufacturer (if known).
- Wi-Fi Channel - Lists the channel on which the device operates.
- Channel Width - The size (in MHz) of the channel on which the device operates.
- Frequency Range - The specific frequency range (in MHz) within the Wi-Fi channel that the device operates.
- Signal Strength - The received power level (in dBm) from each detected AP.

Note: The Site Survey will temporarily interrupt your link. Once started, this process cannot be stopped until complete.

Use the Start Survey button to place the radio into the scan mode to search for 802.11-compatible access points.

The Last Updated field indicates (down to the second) when the last Site Survey was requested.

It is important to note that running a site survey will temporarily take down your link. Once activated, this process cannot be stopped until complete. Please plan accordingly.

Survey Results



SSID	Vendor	MAC Address	Capability	Frequency Channel	Channel Width (MHz)	Frequency Range	TDMA	Signal Strength (dBm)
██████	Mimosa		11a, 11n, 11ac	28	1x0	5120-5160	A, 50/50, 4ms	-38
██████	Mimosa		11a, 11n, 11ac	18	1x40	5070-5110	A, 50/50, 4ms	77
██████	Mimosa		11a, 11n, 11ac	32	1x40	5140-5180	B, 50/50, 4ms	-34
██████	Mimosa		11a, 11n, 11ac	76	2x40	5360-5400, 5070-5110	B, 50/50, 4ms	-81
██████	Mimosa		11a, 11n, 11ac	33	1x20	5155-5175	B, 50/50, 4ms	77
██████	Mimosa		11a, 11n, 11ac	33	1x20	5155-5175	B, 50/50, 4ms	-77
██████			11a, 11n	163	1x20	5805-5825	N/A	-81
██████	Mimosa		11a, 11n, 11ac	33	1x20	5155-5175	B, 50/50, 4ms	-77
██████			11a, 11n	53	1x20	5255-5275	N/A	-78
██████			11a, 11n	104	1x20	5510-5530	N/A	-81

Setting a Device Name and Description

The device name and description are local identifiers for administrative purposes, and are not used as part of the wireless link.

- Device Friendly Name - Name for the local device displayed on the Dashboard.
- Device Description - A more detailed device description (up to 150 characters) for administrative purposes.

Naming



Device Friendly Name

MimosaBBJPK

Device Description

Backhaul device near the
data center



Reading the Date/Time & Setting the Install Date

The Time panel shows the current date and time in Coordinated Universal Time (UTC). The Install Date input box can be used for administrative purposes, but it is optional and has no other affect.

B5/B5c

- Current Date (UTC) - Current date as set by GPS.
- Current Time (UTC) - Current time as set by GPS.
- Install Date - Used to track the date that the device was installed.

B5-Lite

- Current Date (UTC) - Current date as set by the NTP Server.
- Current Time (UTC) - Current time as set by the NTP Server.
- Install Date - Used to track the date that the device was installed.
- NTP Server - Domain name or IP address of network time server.

B11

- Current Date (UTC) - Current date as set by GPS.
- Current Time (UTC) - Current time as set by GPS.
- Install Date - Used to track the date that the device was installed.

Time



Current Date (UTC)

Current Time (UTC)

Install Date

NTP Server

0.mimosa.pool.ntp.org

Setting a Password

Enter the new password in both the New Password and Verify New Password input boxes to validate that they were typed correctly. To finalize the change, enter the existing password and then save. The default password should be changed during device configuration to protect your network.

- New Password - Enter the new password.
- Verify New Password - Re-enter the new password (to confirm).
- Current Configure Password - Enter the existing password (as a security measure).

The Password rules are as follows for choosing a password:

- It must be between 6 to 64 characters.
- It can use capital (A-Z) or lower case (a-z) characters, excluding space.
- Valid special characters for the password include ! " # \$ % & ' () * + , - . / : ; < = > ? [] ^ _ ` { | } ~
- The password cannot be blank.
- The password may not have a leading or trailing space.
- There is no complexity required for the password.

Set Password



New Password

Verify New Password

To change password, you must enter your current password below.

Current Password

General Miscellaneous Settings

The Miscellaneous panel contains general functionality not described elsewhere.

B5/B5c

- LED Brightness - Changes the intensity of the status indicator lights on the device exterior. The Auto option adjusts the amount of light based upon ambient conditions. Manual options include Low, Medium, and High.
- Unlock Code - Displays the code used to unlock the device.

B5-Lite

- Unlock Code - Displays the code used to unlock the device.

B11

- LED Brightness - Changes the intensity of the status indicator lights on the device exterior. The Auto option adjusts the amount of light based upon ambient conditions. Manual options include Low, Medium, and High.
- Unlock Code - Displays the code used to unlock the device.

Miscellaneous



LED Brightness	Auto
Unlock Code	Auto
	Low
	Medium
	High

Miscellaneous



LED Brightness	Auto
Unlock Code	

Related:

Change Unlock Country - Replace an existing unlock code to enable another regulatory domain

Setting the Management IP Address

The Management IP panel contains controls for setting the device's network address, subnet, gateway and DNS servers.

- IP Mode - Select the preferred mode of network addressing: Static or DHCP+Static Failover. If Static is chosen, the device will always use the IP address that has been assigned. If DHCP+Static Failover is chosen, and a DHCP server is available, then the addresses are automatically assigned by the DHCP server. If a DHCP server is unavailable, the device will use the static IP address listed below.
- IP Address - The network address used to manage the device.
- Netmask - The subnet mask that defines the network subnet.
- Gateway - The gateway address for the subnet.
- Primary DNS - The first DNS server IP Address. Default is 8.8.8.8.
- Secondary DNS - The backup DNS server IP Address. Default is 8.8.4.4.



Management IP



IP Mode	Static
IP Address	192.168.1.20
Netmask	255.255.255.0
Gateway	192.168.1.1
Primary DNS	8.8.8.8
Secondary DNS	8.8.4.4

Enabling Watchdog

The Watchdog panel contains controls to monitor a remote host and reboot the local device under configurable failure conditions.

- IP Ping Watchdog - Enables the IP Ping Watchdog feature, which resets the device if it cannot ping a certain IP after a number of retry attempts.
- Ping IP Address - Enter the IP address of the device to ping.
- Interval - Set the number of seconds (1-3600) between ping attempts.
- Delay After Startup - Set the delay in number of seconds (1-3600) between device start up and the first ping attempt.
- Failure Count Triggering Reboot - Set the number of failed ping attempts (1-100) before rebooting the device.
WARNING: rebooting will take the device offline.

Watchdog



Ping Watchdog

Ping Address

Interval (Seconds)

Delay After Startup (Seconds)

Failure Count Triggering Reboot

Management Services

The Services panel holds controls to secure management traffic by specifying how it should be served over the network.

- Enable HTTPS - Use SSL to access the web interface of this device.
- Web Server Port - Indicate which TCP port will be used for the web server. This web server is for the web interface.
- Secure Web Server Port - Indicate which TCP port will be used for the secure web server.
- Session Timeout - Set the number of minutes (0-60) of inactivity that will be allowed on the interface before automatic log-out for sessions. If set to "0", the session will have no timeout.

Services



Enable HTTPS

Web Server Port 80

Secure Web Server Port - HTTPS

Session Timeout (Minutes) 10

Management Miscellaneous Settings

The Miscellaneous panel contains controls to enable Mimosa Cloud Management and to select the Ethernet Port data rate, either automatically or manually.

B5/B5c

- Mimosa Cloud Management - Enables the device to use Mimosa Cloud Management tools. Data will be collected and stored the Mimosa Cloud.
- Ethernet Port - Set the Ethernet port transfer rate or allow it to be automatically determined. Manually selectable options are 10, 100, or 1000BaseT at either full or half duplex. Note that Auto or 1000BaseT/Full is recommended so that the Ethernet port does not create a bottleneck.
- Rapid Port Shutdown (RPS) - Enabling this option disables the logical link of the Ethernet port for 2 seconds once every 5 minutes if the wireless link disassociates. This function becomes active only after initial association, and repeats the off/on cycle until the link re-associates. This speeds convergence of routing and switching protocols used in the network.
- Flow Control - Enables PAUSE frames (part of 802.3x standard) to manage the transmission rate between upstream senders and the Ethernet Interface.

B5-Lite

- Mimosa Cloud Management - Enables the device to use Mimosa Cloud Management tools. Data will be collected and stored the Mimosa Cloud.
- Ethernet Port - Set the Ethernet port transfer rate or allow it to be automatically determined. Manually selectable options are 10, 100, or 1000BaseT at either full or half duplex. Note that Auto or 1000BaseT/Full is recommended so that the Ethernet port does not create a bottleneck.
- Rapid Port Shutdown (RPS) - Enabling this option disables the logical link of the Ethernet port for 2 seconds once every 5 minutes if the wireless link disassociates. This function becomes active only after initial association, and repeats the off/on cycle until the link re-associates. This speeds convergence of routing and switching protocols used in the network.
- Flow Control - Enables PAUSE frames (part of 802.3x standard) to manage the transmission rate between upstream senders and the Ethernet Interface.

B11

- Mimosa Cloud Management - Enables the device to use Mimosa Cloud Management tools. Data will be collected and stored the Mimosa Cloud.
- Rapid Port Shutdown (RPS) - Enabling this option disables the logical link of the Ethernet port for 2 seconds once every 5 minutes if the wireless link disassociates. This function becomes active only after initial association, and repeats the off/on cycle until the link re-associates. This speeds convergence of routing and switching protocols used in the network.
- Flow Control - Enables PAUSE frames (part of 802.3x standard) to manage the transmission rate between upstream senders and the Ethernet Interface.

Note: Your firewall must be configured for outbound access to enable Mimosa Cloud Management.

Miscellaneous



Mimosa Cloud Management

Ethernet Port Auto

Rapid Port Shutdown

Flow Control

Network Interfaces

The Network Interfaces panel contains controls for changing data port status and speed.

B11

- Ethernet Port - Set the Ethernet port transfer rate or allow it to be automatically determined. Manually selectable options are 10, 100, or 1000BaseT at either full or half duplex. Note that Auto or 1000BaseT/Full is recommended so that the Ethernet port does not create a bottleneck.
- Fiber Port - Enable this option to route all data through this port with optical fiber and a small form-factor pluggable (SFP) media adapter. Note that when using the Fiber Port, the Ethernet cable must remain connected to the Ethernet Port to supply power.

Network Interfaces



Ethernet Port

Fiber Port

VLAN Management

The VLAN Management panel allows the administrator to enable a VLAN (Virtual Local Area Network) for management traffic. When enabled, all Web Management traffic must originate from a device on that VLAN.

- Enable - Use the slider control to turn VLAN Management on or off.
- ID - The VLAN ID tag.

You can still connect locally via the 2.4 GHz management console on a B5 or B5c.

Management VLAN



Enable

ID

1|

Configuring REST Services

The REST Services panel contains controls to enable remote access to the radio's REST API, and then set a username and password that will be used to log in. Note that this feature need only be activated when using a third-party monitoring system that supports REST calls. REST services require that HTTPS is enabled.

- REST Management - Use the slider control to turn REST on or off.
- Management Username - The username that will be used to log into the local device through the REST interface.
- Management Password - The password that will be used to log into the local device through the REST interface.

REST Services



REST Management

Management Username

Mimosa

Management Password

Enabling the 2.4 GHz Network

Product Applicability: B5/B5c, B11

The 2.4 GHz wireless interface allows local browser-based configuration with any Wi-Fi capable device. This is a low power interface that performs best if accessed within 60 meters (~200 feet) of the radio. It is completely separate from the link and has no performance impact on throughput if activated.

- Network Mode - Choose to automatically or manually enable or disable the 2.4 GHz management network. The automatic mode turns the 2.4 GHz management network on for a limited time (defined in Console Timeout) after boot and then turns it off if there is no activity. If a user associates with the radio within the timeout period, they will not be disconnected.
- Console Timeout - Set the number of minutes (1-60) of inactivity that will be allowed on the 2.4 GHz interface before the turning it off in Auto mode.
- SSID (Local Management) - Set the SSID name for the 2.4 GHz local management interface.
- Channel - Select the channel on which the 2.4 GHz wireless network will operate.
- Recovery SSID - This is an non-editable recovery SSID that allows the device to be reset to factory defaults. This is available for 5 minutes after device boot. Disabling the 2.4 GHz management network will not impact availability of this option. The serial number of the device must be known in order to perform the factory reset.

Note: If you turn off the 2.4 GHz management radio, you can still access the device through the wired LAN interface, or in-band through the 5 GHz wireless link. During the B5/B5c device reset process, the 2.4 GHz wireless interface is briefly re-enabled, and then disabled after a timeout.

2.4 GHz Network



Network Mode	Auto Enable/Disable
Console Timeout	10
SSID (Local Management)	mimosaM://3
Channel	6
Recovery SSID	

Setting 2.4 GHz Network Security

Product Applicability: B5/B5c, B11

The 2.4 GHz Security panel contains controls for managing access to the local wireless management network.

- Maximum Wireless Clients - Limit the maximum number of wireless clients that can simultaneously access the 2.4 GHz management interface.
- Encryption Key - Enter an ASCII Passphrase for gaining access to the 2.4 GHz management interface.
- Show Key (checkbox) - Check to display the Encryption Key in clear text for verification before saving the change.

2.4 GHz Security



Maximum Wireless Clients 3

Encryption Key

Enabling SNMP Notifications

Enable the SNMP service to allow SNMP requests and enable push notifications to a remote server.

- SNMP - Enable or disable SNMP service on the local device.
- SNMP Community String - Enter a string for use during client authentication.
- Contact - Specify an (optional) administrative contact for the SNMP system.
- Location - Specify the (optional) physical location for the SNMP system.
- Trap Server - Define the server to receive the notifications.

SNMP Notifications



SNMP

SNMP Community String

mimosa

Contact

Location

Trap Server:

Related:

[SNMP Usage Examples: Get / Walk / Table](#) - Sample commands for retrieving values

[SNMP Object Names](#) - Query values using SNMP Object Names defined within the Mimosa MIB file

[SNMP Traps](#) - Configure outgoing notifications for specific events

[SNMP MIB Download](#) - Available values in standard Management Information Base (MIB) format

[SNMP OID Reference](#) - Summarized list of available values and where to find them on the GUI

Configuring SNMP Traps

Define which traps (or notifications) are sent to the remote SNMP server.

- Critical Fault - Notification created if the device is forced to reboot.
- Boot/Reboot - Notification created if the system boots or reboots.
- Wireless Up/Down - Notification created if the device connects to (Wireless Up) or disconnects from (Wireless Down) another device.
- Ethernet Up/Down - Notification created if the Ethernet Port is connected (Ethernet Up) or disconnected (Ethernet Down).
- Ethernet Speed Change - Notification created when the Ethernet port changes from one speed (10, 100, or 1000BaseT) to another.
- Temperature Low/High - Notification created if the temperature falls outside of the safe range for the product.
- Multiple Login Attempts - Notification created if multiple failed login attempts are made from the same IP Address.
- Fiber Up/Down (B11) - Notification created when the SFP port is connected (Fiber) or disconnected (Down).

SNMP Traps



Critical Fault

Boot/Reboot

Wireless Up/Down

Ethernet Up/Down

Ethernet Speed Change

Temperature Low/High

Multiple Login Attempts

Fiber Up/Down

Related:

[SNMP Usage Examples: Get / Walk / Table - Sample commands for retrieving values](#)

[SNMP Object Names - Query values using SNMP Object Names defined within the Mimosa MIB file](#)

[SNMP Notifications - Enabling SNMP on Mimosa Backhaul products](#)

[SNMP MIB Download - Available values in standard Management Information Base \(MIB\) format](#)

[SNMP OID Reference - Summarized list of available values and where to find them on the GUI](#)

Enabling System Log Notifications

Enable Syslog service on the local device to send traps to a remote Syslog server.

- Syslog Remote Log - Enable or disable Syslog service on the local device.
- Transport Server - Choose the desired protocol for the Syslog connection. Note that most devices send UDP messages by default. UDP is an unreliable transmission protocol, thus messages may get lost. Choose TCP for higher reliability if any message loss is unacceptable.
- Remote Log IP Address - List the IP Address of the remote Syslog server to which Notifications will be sent.
- Remote Log Port - List the Port on the remote Syslog server to which Notifications will be sent.

System Log Notifications



Syslog Remote Log

Transport Server UDP

Remote Log IP Address

Remote Log Port 514

Configuring System Log Traps

Define which traps (or notifications) are sent to the remote server for the System Log.

- Critical Fault - Notification created if the device is forced to reboot.
- Boot/Reboot - Notification created if the system boots or reboots.
- Wireless Up/Down - Notification created if the device connects to (Wireless Up) or disconnects from (Wireless Down) another device.
- Ethernet Up/Down - Notification created if the Ethernet Port is connected (Ethernet Up) or disconnected (Ethernet Down).
- Ethernet Speed Change - Notification created when the Ethernet port changes from one speed (10, 100, or 1000 BaseT) to another.
- Temperature Low/High - Notification created if the temperature falls outside of the safe range for the product.
- Multiple Login Attempts - Notification created if multiple login attempts are made from the same IP Address.
- Fiber Up/Down (B11) - Notification created when the Fiber port is connected (Fiber) or disconnected (Down).

System Log Traps



Critical Fault

Boot/Reboot

Wireless Up/Down

Ethernet Up/Down

Ethernet Speed Change

Temperature Low/High

Multiple Login Attempts

Fiber Up/Down

Performing a Firmware Update

The Firmware Update panel displays the current firmware version and date, and allows the user to upload a new firmware image. The latest firmware image may be downloaded from help.mimosa.co. Alternately, firmware can be pushed to the device automatically through the Manage application at manage.mimosa.co.

- Installed Version - The currently installed firmware version.
- Build Date - The date that the installed firmware was created.
- Image File - Update to the latest firmware. Click the Choose File button to select a file for upload the file.

Firmware Update



Installed Version	9.1.1 64
Build Date	2017-10-25 15:37:01 (UTC -0700)
Image File	Choose File

The firmware update process occurs in four phases:

1. Upload - Selecting a firmware image and uploading to the radio
2. Verification - Ensuring that the firmware image is complete and without errors
3. Upgrade - Writing the new firmware image to flash memory
4. Reboot - Restarting with the new firmware image (~90 seconds)

Once the remote radio enters the Upgrade phase, it is generally safe to begin the Upload phase to the local radio. Alternately, the Mimosa Manage application offers a parallel upgrade feature which sends the firmware image to both radios, and once both radios receive and verify the image, they upgrade at the same time and reboot in an order that you specify.

Reset & Reboot the Device

Reboot the device or reset it to its original factory settings.

- Factory Reset Device - Clears all configuration settings and locks the device. **WARNING:** This will delete ALL saved configuration settings and return the device to the locked factory state. You will be required to re-enter your unlock key upon device reset. The current version of firmware will remain, however.
- Reset Device Configuration - Clears all configuration settings. The device will remain unlocked.
- Reset Device Unlock - Locks the device and resets the country code. **WARNING:** You will be required to re-enter your unlock key upon reset.
- Reboot Device - Restarts the device.

Reset & Reboot



Factory Reset Device

Reset

Reset Device Configuration

Reset Configuration

Reset Device Unlock

Reset Unlock

Reboot Device

Reboot

Backup or Restore Configuration Settings

The Backup and Restore Configuration panel contains controls for managing configuration settings files.

- Backup Current Configuration - Perform a configuration backup by downloading the mimosa.conf file.
- Restore Configuration - Click the Choose File button to upload a previously saved mimosa.conf file.

Backup & Restore Configuration



[Backup Current Configuration](#) [Download File](#)

[Restore Configuration](#) [Choose File](#)

Diagnostic Tests

Three types of tests are available within the Diagnostics section: Ping, Bandwidth and Traceroute.

Ping Test

A low level ICMP test which indicates whether the target host is reachable from the local device.

- Destination Host - The destination IP Address of the device to ping.
- Packet Count - The number of packets to transmit during a ping.
- Packet Size - The size of each packet to transmit during a ping.
- Run Test - Click on the Run Test button to ping the destination IP address. Results are shown in the corresponding table.

Bandwidth Test

A manual test to assess maximum throughput when minimal or no traffic is present. This test sends 1500-byte packets using a proprietary UDP-like protocol. Results are shown in corresponding graph on this page. Note that bandwidth test data is excluded from the Dashboard Performance graph. This is because the test is conducted by transmitting packets at a low layer between the two radios. Navigating away from this page will stop the test. The bandwidth test is only available when the devices are associated.

- Test Duration - The length of the bandwidth test in seconds.
- Test - Select one of the following options to assess the maximum throughput:
 - Local to Remote - Unidirectional test from the local device to the remote device
 - Remote to Local - Unidirectional test from the remote device to the local device
 - Transmit then Receive - Bidirectional tests conducted in series
 - Simultaneous - Bidirectional test conducted in parallel

Traceroute Test

A network utility used to display the path and transit delay between the local device and a given destination across an IP network.

- Destination Host - The destination IP address for traceroute to send packets.
- Resolve IP Address - Indicate whether the system should resolve and print the host name of the destination.
- Max Number of Hops - Choose the maximum number of intermediate devices (e.g. routers) through which packets must pass between source and destination.
- Run Test - Click on the Run Test button to begin the traceroute test. Results are shown in the corresponding table.

Running a Ping Test

A low level ICMP test which indicates whether the target host is reachable from the local device.

- Destination Host - The destination IP Address of the device to ping.
- Packet Count - The number of packets to transmit during a ping.
- Packet Size - The size of each packet to transmit during a ping.
- Run Test - Click on the Run Test button to ping the destination IP address. Results are shown in corresponding table.

Destination

Packet Count

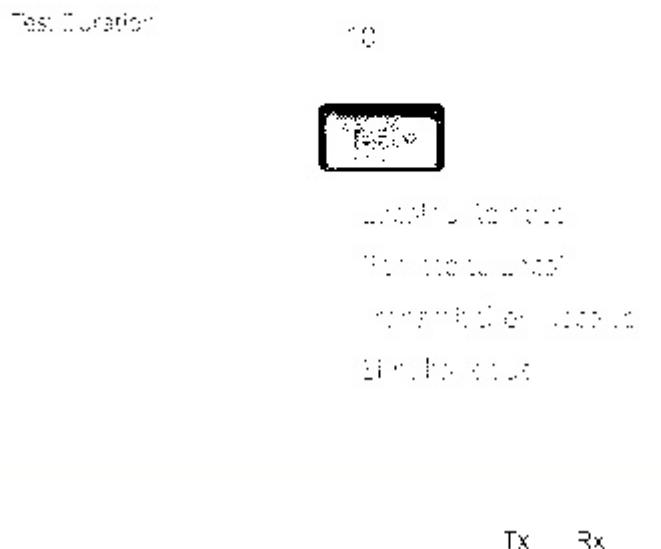
Packet Size

 Run Test

Running a Bandwidth Test

A manual test to assess maximum throughput when minimal or no traffic is present. This test sends 1500-byte packets using a proprietary UDP-like protocol. Results are shown in corresponding graph on this page. Note that bandwidth test data is excluded from the Dashboard Performance graph. This is because the test is conducted by transmitting packets at a low layer between the two radios. Navigating away from this page will stop the test. The bandwidth test is only available when devices are associated.

- Test Duration - The length of the bandwidth test in seconds.
- Test - Select one of the following options to assess the maximum throughput:
 - Local to Remote - Unidirectional test from the local device to the remote device
 - Remote to Local - Unidirectional test from the remote device to the local device
 - Transmit then Receive - Bidirectional tests conducted one after the other
 - Simultaneous - Bidirectional test conducted at the same time



Running a Traceroute Test

A network utility used to display the path and transit delay between the local device and a given destination across an IP network.

- Destination Host - The destination IP address for traceroute to send packets.
- Resolve IP Address - Indicate whether the system should resolve and print the host name of the destination.
- Max Number of Hops - Choose the maximum number of intermediate devices (e.g. routers) through which packets must pass between source and destination.

Destination Host 127.0.0.1

Resolve IP Address

Max Number of Hops 30

 Run Test