



airFiber[®] NxN

Scalable airFiber[®]
MIMO Multiplexer

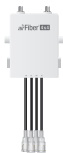
Models: AF-MPx4, AF-MPx8

QUICK START GUIDE

Introduction

Thank you for purchasing the Ubiquiti Networks® airFiber NxN MIMO Multiplexer. This Quick Start Guide is designed to guide you through installation and also includes warranty terms.

Package Contents



AF-MPx4
airFiber NxN Multiplexer

or



AF-MPx8
airFiber NxN Multiplexer



4x4 Radio Bracket



8x8 Radio Bracket*



Protective Shrouds
(Left and Right)



Multiplexer Screws
(Qty. 2)



Radio Bracket Screws*
(Qty. 4)




Quick Start
Guide


* Only included with the AF-MPx8.


TERMS OF USE: Ubiquiti radio devices must be professionally installed. Shielded Ethernet cable and earth grounding must be used as conditions of product warranty. TOUGH Cable™ is designed for outdoor installations. It is the professional installer's responsibility to follow local country regulations, including operation within legal frequency channels, output power, and Dynamic Frequency Selection (DFS) requirements.

airFiber X Compatibility

The airFiber NxN is designed for use with the airFiber 4X (model AF-4X) and airFiber 5X (model AF-5X) radios or RocketDish™ antennas.


 **Note:** For the remainder of this Quick Start Guide, *airFiber X radios* will refer to both the 5X and 4X models.


 **Note:** The airFiber NxN is not recommended for use with the airFiber AF-5G23-S45 antenna.

 **Note:** The airFiber X Antenna OMT Conversion Kit (AF-5G-OMT-S45) is highly recommended when using a RocketDish for proper fitting and improved frequency isolation.

Installation Requirements

- (2) airFiber AF-4X or AF-5X radios for AF-MPx4
- (4) airFiber AF-4X or AF-5X radios for AF-MPx8
- airFiber X or RocketDish antenna
- Clear view of the sky for proper GPS operation
- Ground wires – min. 10 AWG (5 mm²) and max. length: 1 m. As a safety precaution, ground the airFiber X radios to grounded masts, poles, towers, or grounding bars.

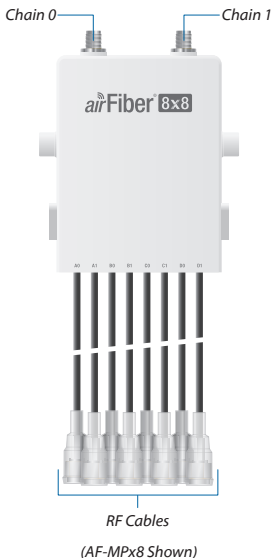
 **WARNING: Failure to properly ground your airFiber X radio will void your warranty.**

 **Note:** For guidelines about grounding and lightning protection, follow your local electrical regulatory codes.

- Outdoor, shielded Category 6 (or above) cabling and shielded RJ-45 connectors are required for all wired Ethernet connections.

Hardware Overview

airFiber NxN Multiplexer



Chain 0 Connect the antenna RF +45° to this connector.

Chain 1 Connect the antenna RF -45° to this connector.

RF Cables Connect each *RF Cable* pair to the corresponding RF connection chain on each airFiber X radio. For example, connect cable **A0** to **Chain 0**, and cable **A1** to **Chain 1**.

Configure the airFiber X Radio



Note: The airFiber X radios must be running airOS®F v3.2.3 or newer. The latest firmware is available at: www.ubnt.com/download/airfiber

Each airFiber X radio must be preconfigured for use with the airFiber NxN before installing them at the site. Configuration details are available in the airFiber X User Guide, available at: www.ubnt.com/download/airfiber

Enable airFiber NxN support on each radio:

1. Log into the airOS F Configuration Interface.
2. Click the **Wireless** tab.
3. Enter the additional *Cable Loss* value (dB):
 - **4** (5 GHz) or **5** (4.7 GHz) for the AF-MPx4, or
 - **7** (5 GHz) or **8** (4.7 GHz) for the AF-MPx8
4. For the *NxN Radio* setting, select **Enable**.

The screenshot displays the airOS F Configuration Interface, specifically the 'Wireless' tab. The interface is divided into several sections:

- Basic Wireless Settings:** Includes fields for Wireless Mode (Slave), Link Name (UBNT), Country Code (Locked), Channel Bandwidth (10MHz), Output Power (ERP) (15 dBm), Antenna Gain (0 dB), Cable Loss (0 dB), Maximum Modulation Rate (8x (250QAM MIMO)), Automatic Rate Adaptation (checked), and NxN Radio (Enable).
- Frequency Settings:** Shows valid frequency ranges and TDD Split Frequency Mode (Enable). Frequency 1 is set to 5800 MHz (Current State: Operating). Frequency 2 and 3 are set to 0 MHz.
- Wireless Security:** Key Type is set to HEX, and the Key is 0000:0000:0000:0000:0000.

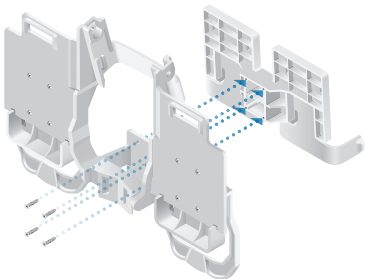
A 'Change' button is located at the bottom right of the configuration area. The footer includes the Ubiquiti logo and copyright information: © Copyright 2006-2015 Ubiquiti Networks, Inc.

5. Click **Change**, and then click **Apply**.

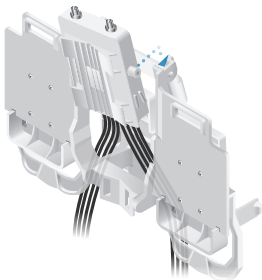
Hardware Installation

The following installation shows the AF-MPx8. For the AF-MPx4 installation, only the mounting and connecting of two airFiber X radios apply.

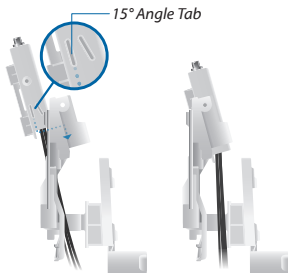
1. (For AF-MPx8 only) Attach the *8x8 Radio Bracket* to the *4x4 Radio Bracket* using four *Radio Bracket Screws*.



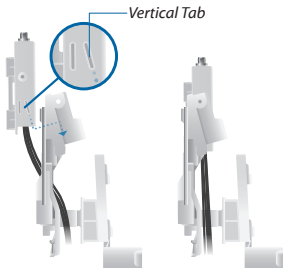
2. Seat the *airFiber NxN Multiplexer* into the *4x4 Radio Bracket* either at (a) a 15° angle or (b) vertically:



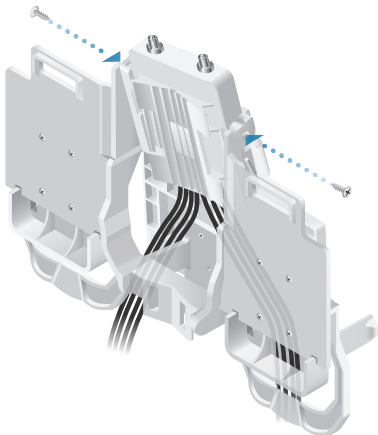
- a. For most antenna models, the *airFiber NxN Multiplexer* should be installed at a 15° angle. Insert the *airFiber NxN Multiplexer* from behind the *4x4 Radio Bracket* and slide the *15° Angle Tabs* into the slots on the bracket.



- b. For other antenna configurations that require the *airFiber NxN* assembly to be mounted to a pole, the *airFiber NxN Multiplexer* must be installed vertically. Insert the *airFiber NxN Multiplexer* from behind the *4x4 Radio Bracket* and slide the *Vertical Tabs* into the slots on the bracket.



3. Secure the *airFiber NxN Multiplexer* to the *4x4 Radio Bracket* using two *Multiplexer Screws*.



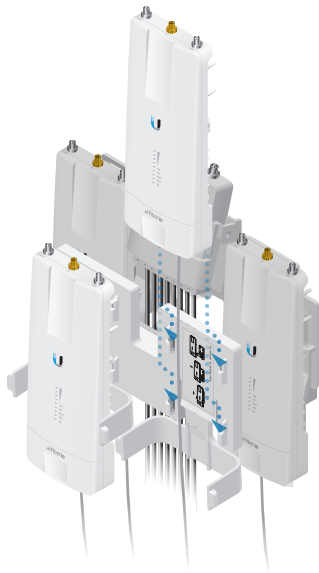


Note: Ensure the airFiber X radios are preconfigured and the ground wires are installed as outlined in the radio's Quick Start Guide before mounting the radios.

4. Mount the airFiber X radios to the *4x4 Radio Bracket* by performing the following steps:
 - a. Align the mounting tabs on the back of the radio with the mounting bracket.
 - b. Slide the radio down until it locks into place.



5. Mount the airFiber X radios to the *8x8 Radio Bracket* by performing the following steps:
 - a. Align the mounting tabs on the back of the radio with the mounting bracket.
 - b. Slide the radio down until it locks into place.



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6. Connect the *RF Cables* to the airFiber X radios. Connect each *RF Cable* pair to the corresponding RF connection chain on each radio. For example, connect cable **A0** to **Chain 0**, and cable **A1** to **Chain 1**.



7. Attach the airFiber NxN assembly to the airFiber X or RocketDish antenna:
 - a. Align the mounting tabs on the back of the *airFiber NxN Multiplexer* with the mounting bracket.
 - b. Slide the *airFiber NxN Multiplexer* down to lock it into place on the bracket.

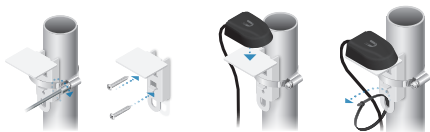


Note: The airFiber NxN assembly may be pole-mounted if it cannot be attached to the antenna. See the *Pole-Mounting* section for details.

8. Connect the RF cables from the antenna to the RF connectors on the *airFiber NxN Multiplexer*. Connect $+45^\circ$ to *Chain 0* and -45° to *Chain 1*.

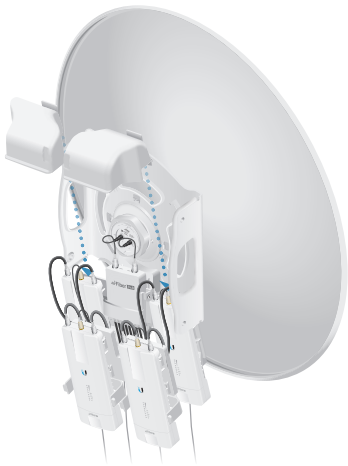


9. Attach the GPS antennas to each of the airFiber X radios.
10. Mount the GPS antennas in a location that has a clear view of the sky, and is above and as far away from the radios as possible.



11. Attach the *Protective Shrouds*:

- a. Insert the *Protective Shroud's* attachment tab between the airFiber X radio and the *4x4 Radio Bracket*.
- b. Push the *Protective Shroud* down until the attachment tab locks into place.



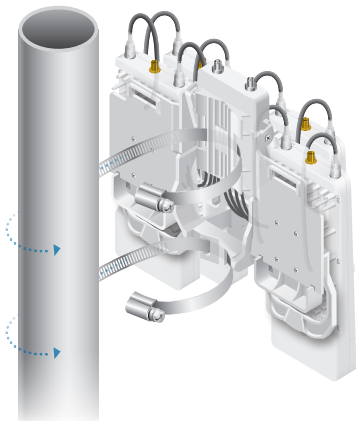
12. Secure the grounding wire from each radio to a grounded mast, pole, tower, or grounding bar.

! **WARNING:** Failure to properly ground your airFiber X radio will void your warranty.

📄 **Note:** The ground wire should be as short as possible and no longer than one meter in length.

Pole-Mounting

1. Ensure the *airFiber NxN Multiplexer* is installed vertically in the *4x4 Radio Bracket*.
2. Mount the airFiber NxN assembly to the pole using two metal straps (not included):
 - a. Insert a metal strap through each mounting bracket on the back of the *airFiber NxN Multiplexer* and *4x4 Radio Bracket*.
 - b. Secure both straps around the pole.



3. Connect the RF cables from the antenna to the RF connectors on the *airFiber NxN Multiplexer*. Connect +45° to Chain 0 and -45° to Chain 1.

Specifications

| AF-MPx4 | |
|----------------------------|--|
| Dimensions | 197.5 x 240.9 x 103.2 mm (7.78 x 9.48 x 4.06") |
| Weight | 0.4 kg (0.8 lb) |
| RF Connectors | (2) RP-SMA Weatherproof (CH0, CH1) (4) RP-SMA Weatherproof (A0, A1, B0, B1) |
| Cable Loss | |
| 5 GHz | 4.1 dB |
| 4.7 GHz | 4.5 dB |
| Supported airFiber X Radio | AF-5X and AF-4X |
| Multiplex MIMO | 2 x (2x2) |
| Mounting | airFiber X/Rocket® Mount Compatible |

| AF-MPx8 | |
|----------------------------|---|
| Dimensions | 210.5 x 240.9 x 109 mm (8.29 x 9.48 x 4.29") |
| Weight | 0.45 kg (1.0 lb) |
| RF Connectors | (2) RP-SMA Weatherproof (CH0, CH1) (8) RP-SMA Weatherproof (A0, A1, B0, B1, C0, C1, D0, D1) |
| Cable Loss | |
| 5 GHz | 7.2 dB |
| 4.7 GHz | 7.9 dB |
| Supported airFiber X Radio | AF-5X and AF-4X |
| Multiplex MIMO | 4 x (2x2) |
| Mounting | airFiber X/Rocket Mount Compatible |

Limited Warranty

UBIQUITI NETWORKS, Inc ("UBIQUITI NETWORKS") warrants that the product(s) furnished hereunder (the "Product(s)") shall be free from defects in material and workmanship for a period of one (1) year from the date of shipment by UBIQUITI NETWORKS under normal use and operation. UBIQUITI NETWORKS' sole and exclusive obligation and liability under the foregoing warranty shall be for UBIQUITI NETWORKS, at its discretion, to repair or replace any Product that fails to conform to the above warranty during the above warranty period. The expense of removal and reinstallation of any Product is not included in this warranty. The warranty period of any repaired or replaced Product shall not extend beyond its original term.

Warranty Conditions

The above warranty does not apply if the Product:

- (I) has been modified and/or altered, or an addition made thereto, except by Ubiquiti Networks, or Ubiquiti Networks' authorized representatives, or as approved by Ubiquiti Networks in writing;
- (II) has been painted, rebranded or physically modified in any way;
- (III) has been damaged due to errors or defects in cabling;
- (IV) has been subjected to misuse, abuse, negligence, abnormal physical, electromagnetic or electrical stress, including lightning strikes, or accident;
- (V) has been damaged or impaired as a result of using third party firmware;
- (VI) has no original Ubiquiti MAC label, or is missing any other original Ubiquiti label(s); or
- (VII) has not been received by Ubiquiti within 30 days of issuance of the RMA.

In addition, the above warranty shall apply only if: the product has been properly installed and used at all times in accordance, and in all material respects, with the applicable Product documentation; all Ethernet cabling runs use CAT5 (or above), and for outdoor installations, shielded Ethernet cabling is used, and for indoor installations, indoor cabling requirements are followed.

Returns

No Products will be accepted for replacement or repair without obtaining a Return Materials Authorization (RMA) number from UBIQUITI NETWORKS during the warranty period, and the Products being received at UBIQUITI NETWORKS' facility freight prepaid in accordance with the RMA process of UBIQUITI NETWORKS. Products returned without an RMA number will not be processed and will be returned freight collect or subject to disposal. Information on the RMA process and obtaining an RMA number can be found at: www.ubnt.com/support/warranty

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Note

Some countries, states and provinces do not allow exclusions of implied warranties or conditions, so the above exclusion may not apply to you. You may have other rights that vary from country to country, state to state, or province to province. Some countries, states and provinces do not allow the exclusion or limitation of liability for incidental or consequential damages, so the above limitation may not apply to you. EXCEPT TO THE EXTENT ALLOWED BY LOCAL LAW, THESE WARRANTY TERMS DO NOT EXCLUDE, RESTRICT OR MODIFY, AND ARE IN ADDITION TO, THE MANDATORY STATUTORY RIGHTS APPLICABLE TO THE LICENSE OF ANY SOFTWARE (EMBEDDED IN THE PRODUCT) TO YOU. The United Nations Convention on Contracts for the International Sale of Goods shall not apply to any transactions regarding the sale of the Products.

Declaration of Conformity

български [Bulgarian] С настоящото UBIQUITI NETWORKS декларира, че този тип радиосъоръжение, AF-MPx4 or AF-MPx8, е в съответствие с Директива 2014/53/ЕС. Цялостният текст на ЕС декларацията за съответствие може да се намери на следния интернет адрес: www.ubnt.com/compliance

Hrvatski [Croatian] UBIQUITI NETWORKS ovime izjavljuje da je radijska oprema tipa, AF-MPx4 or AF-MPx8, u skladu s Direktivom 2014/53/EU. Cjeloviti tekst EU izjave o sukladnosti dostupan je na sljedećoj internetskoj adresi: www.ubnt.com/compliance

Čeština [Czech] Tímto UBIQUITI NETWORKS prohlašuje, že typ rádiového zařízení, AF-MPx4 or AF-MPx8, je v souladu se směrnicí 2014/53/EU. Úplné znění EU prohlášení o shodě je k dispozici na této internetové adrese: www.ubnt.com/compliance

Dansk [Danish] Hermed erklærer UBIQUITI NETWORKS, at radioudstyrstypen, AF-MPx4 or AF-MPx8, er i overensstemmelse med direktiv 2014/53/EU. EU-overensstemmelseserklæringens fulde tekst kan findes på følgende internetadresse: www.ubnt.com/compliance

Nederlands [Dutch] Hierbij verklaar ik, UBIQUITI NETWORKS, dat het type radioapparatuur, AF-MPx4 or AF-MPx8, conform is met Richtlijn 2014/53/EU. De volledige tekst van de EU-conformiteitsverklaring kan worden geraadpleegd op het volgende internetadres: www.ubnt.com/compliance

English Hereby, UBIQUITI NETWORKS declares that the radio equipment type, AF-MPx4 or AF-MPx8, is in compliance with Directive 2014/53/EU. The full text of the EU declaration of conformity is available at the following internet address: www.ubnt.com/compliance

Eesti keel [Estonian] Käesolevaga deklareerib UBIQUITI NETWORKS, et käesolev raadioseadme tüüp, AF-MPx4 or AF-MPx8, vastab direktiivi 2014/53/EL nõuetele. ELi vastavusdeklaratsiooni täielik tekst on kättesaadav järgmisel internetiaadressil: www.ubnt.com/compliance

Suomi [Finnish] UBIQUITI NETWORKS vakuuttaa, että radiolaitetyypit, AF-MPx4 or AF-MPx8, on direktiivin 2014/53/EU mukainen. EU-vaatimustenmukaisuusvakuutuksen täysimittainen teksti on saatavilla seuraavassa internetosoitteessa: www.ubnt.com/compliance

Français [French] Le soussigné, UBIQUITI NETWORKS, déclare que l'équipement radioélectrique du type, AF-MPx4 or AF-MPx8, est conforme à la directive 2014/53/UE. Le texte complet de la déclaration UE de conformité est disponible à l'adresse internet suivante: www.ubnt.com/compliance

Deutsch [German] Hiermit erkläre UBIQUITI NETWORKS, dass der Funkanlagentyp, AF-MPx4 or AF-MPx8, der Richtlinie 2014/53/EU entspricht. Der vollständige Text der EU-Konformitätserklärung ist unter der folgenden Internetadresse verfügbar: www.ubnt.com/compliance

Ελληνικά [Greek] Με την παρούσα ο/η UBIQUITI NETWORKS, δηλώνει ότι ο ραδιοεξοπλισμός, AF-MPx4 or AF-MPx8, πληροί την οδηγία 2014/53/ΕΕ. Το πλήρες κείμενο της δήλωσης συμμόρφωσης ΕΕ διατίθεται στην ακόλουθη ιστοσελίδα στο διαδίκτυο: www.ubnt.com/compliance

Magyar [Hungarian] UBIQUITI NETWORKS igazolja, hogy a, AF-MPx4 or AF-MPx8, típusú rádióberendezés megfelel a 2014/53/EU irányelvnek. Az EU-megfelelőségi nyilatkozat teljes szövege elérhető a következő internetes címen: www.ubnt.com/compliance

Íslenska [Icelandic] Hér með lýsir UBIQUITI NETWORKS yfir því að, AF-MPx4 or AF-MPx8, er í samræmi við grunnkröfur og aðrar kröfur, sem gerðar eru í tilskipun 2014/53/EU. Fullur texti ESB samræmisýfirlýsing er að finna á eftirfarandi netfangi: www.ubnt.com/compliance

Italiano [Italian] Il fabbricante, UBIQUITI NETWORKS, dichiara che il tipo di apparecchiatura radio, AF-MPx4 or AF-MPx8, è conforme alla direttiva 2014/53/UE. Il testo completo della dichiarazione di conformità UE è disponibile al seguente indirizzo Internet: www.ubnt.com/compliance

Latvīq kalba [Latvian] Ar šo UBIQUITI NETWORKS deklarē, ka radioiekārta, AF-MPx4 or AF-MPx8, atbilst Direktīvai 2014/53/ES. Pilns ES atbilstības deklarācijas teksts ir pieejams šādā interneta vietnē: www.ubnt.com/compliance

Lietuvių kalba [Lithuanian] Aš, UBIQUITI NETWORKS, patvirtinu, kad radijo įrenginių tipas, AF-MPx4 or AF-MPx8, atitinka Direktyvą 2014/53/ES. Visas ES atitikties deklaracijos tekstas prieinamas šiuo interneto adresu: www.ubnt.com/compliance

Malti [Maltese] B'dan, UBIQUITI NETWORKS, niddikjara li dan it-tip ta' tagħmir tar-radju, AF-MPx4 or AF-MPx8, huwa konformi mad-Direttiva 2014/53/UE. Id-dikjarazzjoni tal-konformità tista' tiġi kkonsultata minn www.ubnt.com/compliance

Norsk [Norwegian] UBIQUITI NETWORKS erklærer herved at utstyret, AF-MPx4 or AF-MPx8, er i samsvar med de grunnleggende krav og øvrige relevante krav i direktiv 2014/53/EU. Den fulle teksten til EU-samsvarserklæringen er tilgjengelig på følgende internetadresse: www.ubnt.com/compliance

Polski [Polish] UBIQUITI NETWORKS niniejszym oświadcza, że typ urządzenia radiowego, AF-MPx4 or AF-MPx8, jest zgodny z dyrektywą 2014/53/UE. Pełny tekst deklaracji zgodności UE jest dostępny pod następującym adresem internetowym: www.ubnt.com/compliance

Português [Portuguese] O(a) abaixo assinado(a) UBIQUITI NETWORKS declara que o presente tipo de equipamento de rádio, AF-MPx4 or AF-MPx8, está em conformidade com a Diretiva 2014/53/UE. O texto integral da declaração de conformidade está disponível no seguinte endereço de Internet: www.ubnt.com/compliance

Română [Romanian] Prin prezenta, UBIQUITI NETWORKS declară că tipul de echipamente radio, AF-MPx4 or AF-MPx8, este în conformitate cu Directiva 2014/53/UE. Textul integral al declarației UE de conformitate este disponibil la următoarea adresă internet: www.ubnt.com/compliance

Slovenčina [Slovak] UBIQUITI NETWORKS týmto vyhlasuje, že rádiové zariadenie typu, AF-MPx4 or AF-MPx8, je v súlade so smernicou 2014/53/EÚ. Úplné EÚ vyhlásenie o zhode je k dispozícii na tejto internetovej adrese: www.ubnt.com/compliance

Slovenščina [Slovenian] UBIQUITI NETWORKS potrjuje, da je tip radijske opreme, AF-MPx4 or AF-MPx8, skladen z Direktivo 2014/53/EU. Celotno besedilo izjave EU o skladnosti je na voljo na naslednjem spletnem naslovu: www.ubnt.com/compliance

Español [Spanish] Por la presente, UBIQUITI NETWORKS declara que el tipo de equipo radioeléctrico, AF-MPx4 or AF-MPx8, es conforme con la Directiva 2014/53/UE. El texto completo de la declaración UE de conformidad está disponible en la dirección Internet siguiente: www.ubnt.com/compliance

Svenska [Swedish] Härmed försäkrar UBIQUITI NETWORKS att denna typ av radioustrustning, AF-MPx4 or AF-MPx8, överensstämmer med direktiv 2014/53/EU. Den fullständiga texten till EU-försäkran om överensstämmelse finns på följande webbadress: www.ubnt.com/compliance

Online Resources

Website www.ubnt.com
Support help.ubnt.com
Community community.ubnt.com
Downloads downloads.ubnt.com

Ubiquiti Networks, Inc.
685 Third Avenue, 27th Floor
New York, NY 10017
USA

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