

# QuCPE-303x

QuCPE-3032 QuCPE-3034

**User Guide** 

Document Version: 1 16/12/2021

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# 1. Preface

## **About This Guide**

This guide provides information about the device and step-by-step instructions on installing the hardware. It also provides instructions on basic operations and troubleshooting information.

## Audience

This document is intended for consumers and storage administrators. This guide assumes that the user has a basic understanding of storage and backup concepts.

## **Document Conventions**

Symbol	Description	
	Notes provide default configuration settings and other supplementary information.	
	Important notes provide information on required configuration settings and other critical information.	
	Tips provide recommendations or alternative methods of performing tasks of configuring settings.	
	Warnings provide information that, when ignored, may result in potential loss, injury, or even death.	

# 2. Product Overview

This chapter provides basic information about the QNAP device.

## About the QuCPE-303x

The QuCPE-303x Network Virtualization Premise Equipment is a universal virtualization platform specifically designed for SMBs. The QuCPE-303x adopts powerful Intel® Atom® multi-core processors that support Intel® QAT, Smart NIC SR-IOV and DPDK hardware acceleration technologies. With enhanced bandwidth and computing performance for running multiple VMs and VNFs, the QuCPE-303x is suitable for multi-user and multi-tasking business applications. The QuCPE-303x also features the QNE Network OS for chaining VNF services and AMIZ Cloud for centralizing device deployment and management to realize flexible Zero Touch Provisioning.

## **Hardware Specifications**

## Warning

If your QNAP product has hardware defects, return the product to QNAP or a QNAPauthorized service center for maintenance or replacement. Any attempt to repair or perform maintenance procedures on the product by you or an unauthorized third party invalidates the warranty.

QNAP is not responsible for any damage or data loss caused by unauthorized modifications and installation of unsupported third-party applications. For details, see the QNAP Warranty Terms and Conditions.



Tip Model sp

Model specifications are subject to change without prior notice. To see the latest specifications, go to https://www.qnap.com.

Ordering P/N	Memory
QuCPE-3032-C3558R-8G	8 GB
QuCPE-3034-C3758R-16G	16 GB

Component		QuCPE-3032-C3558R-8G	QuCPE-3034-C3758R-16G
Processor			
CPU	Intel® Atom® C3558R		Intel® Atom® C3758R
Frequency	4-core 2.4 GHz		8-core 2.4 GHz
Architecture	x86 64-bit		
Encryption engine	AES-NI		
Memory			
Pre-installed memory	8 GB RAM: 1 x 8 GB DDR4 2400 MHz Non- ECC UDIMM		16 GB RAM: 2 x 8 GB DDR4 2400 MHz Non-ECC UDIMM
Memory slots	2 x 288pin DDR4-2400 UDIMM		
		Note Use only QNAP memory modules to maintain system performance and stability. For devices with more than one memory slot, use QNAP modules with identical specifications. Using unsupported modules may degrade performance, cause errors, or prevent the operating system from starting.	
Maximum memory	UDIMM: 64 GB RAM: 2 x 32 GB		

Component	QuCPE-3032-C3558R-8G QuCPE-3034-C3758R-16G			
Storage				
M.2 SSD slots	2 x NVMe			
M.2 SSD form factor	2280			
M.2 for 4G/5G modules	1 x M.2 3052 PCIe slot           Note           For the list of compatible modules, go to https://www.qnap.com/compatibility.			
Network				
10 Gigabit Ethernet ports	2 x 10 GbE SFP+	4 x 10 GbE SFP+		
2.5 Gigabit Ethernet ports	8 x 2.5 GbE RJ45			
External I/O Ports &	Expansion Slots			
USB ports	1 x USB 2.0 Type-A 1 x USB 3.2 Gen 1 Type-A			
Interface				
Display panel	Monochrome backlit LCD display			
Buttons	<ul> <li>Enter</li> <li>Select</li> <li>Power</li> </ul>			
Dimensions				
Form factor	Compact			
Dimensions (H x W x D)	46.65 x 285 x 236.6 mm (1.87 x 11.22 x 9.31 in)			
Net weight	2.17 kg (4.78 lbs)			
Others				
Power consumption	60W			
System battery	CR2032 lithium battery (3V, 225 mAh)			
Fans	2 x 40 mm, 12V DC smart fan			
Operating temperature	0°C to 40°C (32°F to 104°F)			
Relative humidity	Non-condensing relative humidity: 5% to 95%			
	• Wet-bulb temperature: 27°C (80.6°F)			

# 

**Tip** For the list of compatible drive models and expansion cards, go to https://www.qnap.com/ compatibility.

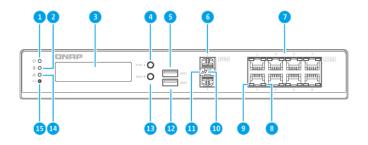
# Package Contents

Item	Quantity
QuCPE-303x	1

Item	Quantity
Power cord	1
Ethernet cables	1 x 1GbE (RJ45)
Quick Installation Guide (QIG)	1

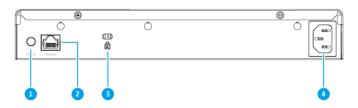
# Components

## **Front Panel**



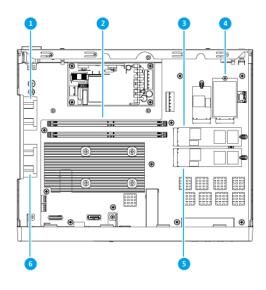
No.	Component	No.	Component
1	Power LED	9	2.5 Gigabit Ethernet activity LED
2	Drive LED	10	10 Gigabit Ethernet speed LED
3	LCD panel	11	10 Gigabit Ethernet activity LED
4	LCD enter button	12	USB 3.2 Gen 1 Type-A port
5	USB 2.0 Type-A port	13	LCD select button
6	10 Gigabit Ethernet ports (SFP+)	14	Warning LED
7	2.5 Gigabit Ethernet ports (RJ45)	15	Reset button
8	2.5 Gigabit Ethernet speed LED	-	-

## **Rear Panel**



No.	Component	No.	Component
1	Power button	3	Kensington security slot
2	RJ45 console port	4	Power input

# System Board



No.	Component	No.	Component
1	System fan 1	4	M.2 SSD slot
			Note     This slot is reserved for 5G/LTE     module extensions.
2	Memory slots	5	M.2 SSD slot 2
3	M.2 SSD slot 1	6	System fan 2

#### **Safety Information**

The following instructions help ensure personal safety and environmental safety. Read these instructions carefully before performing any operation.

#### **General Instructions**

- The device should be stored in a secure location with restricted access, controlled through the use of a tool, lock and key, or any means of security.
- Only qualified, skilled, and authorized persons with knowledge of all restrictions, safety precautions, and installation and maintenance procedures should have physical access to the device.
- To avoid potential injury or damage to components, ensure that the drives and other internal system components have cooled before touching them.
- Observe electrostatic discharge (ESD) procedures to avoid potential injury or damage to components.

#### Power

• To reduce the risk of fire or electric shock, ensure that you only connect the power cord to a properly grounded electrical outlet.



Devices with redundant power supply may have one or more power supply unit (PSU) cords. To avoid serious injuries, a trained service technician must disconnect all PSU cords from the device before installing or replacing system components.

#### **System Battery**

- To avoid potential battery explosion, causing injury or damage to components, ensure that you replace the existing battery with a battery of the same type.
- Dispose of used batteries properly according to local regulations or the instructions of the battery manufacturer.

#### **Moving Parts**



**Moving fan blades:** Keep your body parts away from moving fan blades while the device is connected to a power source.



**Moving components:** Keep your body parts away from other moving components.

# **Installation Requirements**

Category	Item
Environment	• Room temperature: 0°C to 40°C (32°F to 104°F)
	Non-condensing relative humidity: 5% to 95%
	• Wet-bulb temperature: 27°C (80.6°F)
	<ul> <li>Flat, anti-static surface without exposure to direct sunlight, liquids, or chemicals</li> </ul>
Hardware and peripherals	<ul> <li>Storage drives For the list of compatible drive models, go to https:// www.qnap.com/compatibility.</li> </ul>
	Network cable
Tools	Phillips #1 or #2 screwdriver
	Flat head screwdriver
	Anti-static wrist strap

# **3. Installation and Configuration**

This chapter provides specific hardware and firmware installation and configuration steps.

#### **Hardware Installation**

This section provides information on installing drives and memory modules.

## **Installing M.2 Solid-State Drives**

The QuCPE-303x series has two M.2 SSD slots on the System Board. For a list of compatible M.2 SSDs, go to http://www.qnap.com/compatibility.



#### Warning

- Installing a drive deletes all data on the drive.
- Observe electrostatic discharge (ESD) procedures to avoid damage to components.



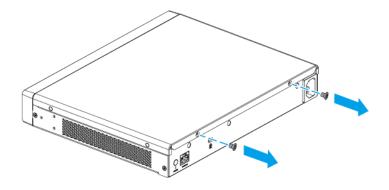
**Moving fan blades:** Keep your hands and other body parts away from moving fan blades.



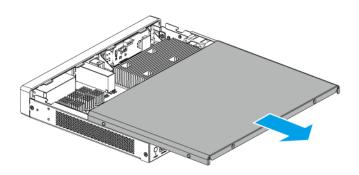
**Other moving components:** Keep your hands and other body parts away from other moving components.

# Note

- QNAP recommends installing heatsinks on the M.2 SSD controllers to enhance cooling efficiency and to ensure consistent performance.
- Before installing non-QNAP heatsinks, ensure that they are of the appropriate size and shape.
- 1. Power off the device.
- **2.** Disconnect the power cord from the electrical outlet.
- 3. Disconnect all cables and external attachments.
- **4.** Remove the case cover.
  - **a.** Loosen the screws.



**b.** Slide the cover back.

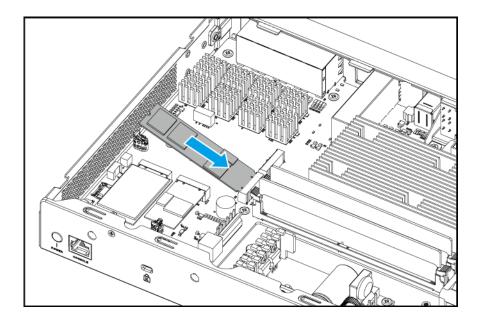


- 5. Install a heatsink on the M.2 SSD.
  - **a.** Locate the controller on the M.2 SSD.

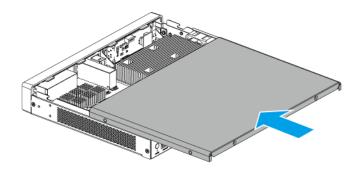
# Note The co

The controller location varies depending on the model and manufacturer of the M.2 SSD. For details, refer to the documentation or contact the manufacturer.

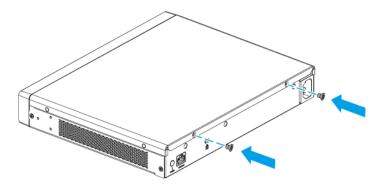
- 6. Install the M.2 SSD.
  - a. Verify the M.2 SSD connector is aligned with the slot.
  - **b.** Carefully press down the M.2 SSD until the pushpin locks the drive into place.



- **7.** Attach the case cover.
  - **a.** Place the cover on the device.
  - **b.** Slide the cover forward.



**c.** Tighten the screws.



- 8. Connect all cables and external attachments.
- **9.** Connect the power cord to the electrical outlet.
- **10.** Power on the device.

#### **Replacing Memory Modules**

The QuCPE-303x has two memory slots. You can increase the memory capacity of the device by upgrading memory modules. For optimal performance, replace memory modules in all slots at the same time.

Use only QNAP memory modules to maintain system performance and stability. You can purchase QNAP memory modules from authorized resellers.



#### Important

Use only all ECC memory modules, or all non-ECC memory modules. Installing both types of memory modules will cause the ECC modules to perform as non-ECC modules. Always install identical memory modules that feature the same capacity, timings, voltage, number of ranks, and of the same brand.



#### Warning

• Observe electrostatic discharge (ESD) procedures to avoid damage to components.

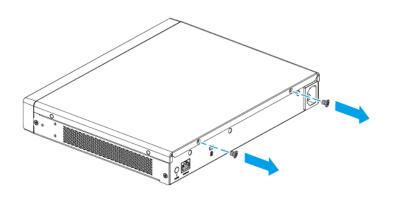


**Moving fan blades:** Keep your hands and other body parts away from moving fan blades.

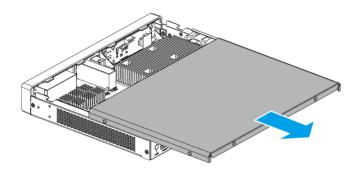


**Other moving components:** Keep your hands and other body parts away from other moving components.

- **1.** Power off the device.
- **2.** Disconnect the power cord from the electrical outlet.
- **3.** Disconnect all cables and external attachments.
- **4.** Remove the case cover.
  - **a.** Loosen the screws.

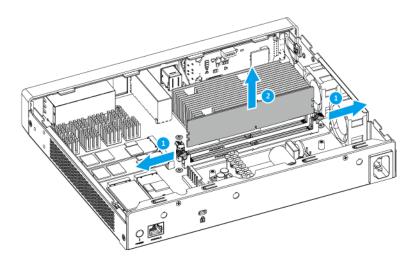


**b.** Slide the cover back.



**5.** Remove an existing module.

**a.** Push the retention clips outward simultaneously to release the module.





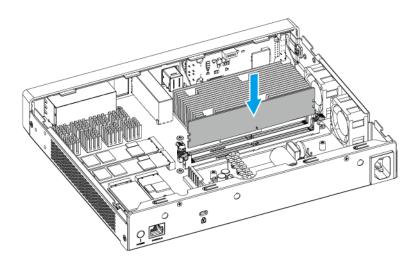
#### Note

Attempting to remove a module that is not completely released may damage the module and the motherboard.

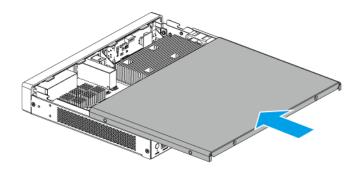
- **b.** Verify that the module has tilted upward and is completely released from the slot.
- **c.** Hold the module by the edges.
- **d.** Carefully slide the module out of the slot.

#### Warning

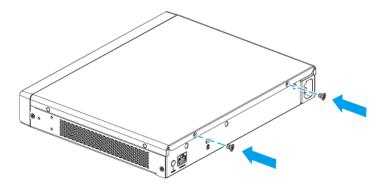
- Do not touch the internal components, particularly the metal connectors.
- Do not bend the module.
- **6.** Install a new module.
  - **a.** Align the notch with the ridge in the slot.
  - **b.** Insert the module into the slot.
  - c. Verify that the metal connectors are completely inserted into the slot.
  - **d.** Carefully press down on the module until the retention clips lock the module into place.



- **7.** Attach the case cover.
  - **a.** Place the cover on the device.
  - **b.** Slide the cover forward.



**c.** Tighten the screws.



- 8. Connect all cables and external attachments.
- **9.** Power on the device.
- **10.** Verify that the module is recognized by the device.
  - **a.** Log on to QNE as administrator.
  - **b.** Go to **Control Panel > System > System Status > Hardware Information** .
  - **c.** Check the values for each memory slot.

### **QNE Installation**

The QuCPE-303x uses the QNE operating system. You can install QNE using any of the following methods.

Method	Description	Requirements
Qfinder Pro installation (Recommended)	<ul> <li>If the device is connected to your local area network, you can do the following:</li> <li>Locate the device using Qfinder Pro.</li> <li>Complete the steps in the Smart Installation Guide wizard.</li> </ul>	<ul> <li>Computer</li> <li>Network cable</li> <li>Qfinder Pro installer</li> </ul>

Method	Description	Requirements
Cloud installation	<ul> <li>If the device is connected to the internet, you can do the following:</li> <li>Scan the QR code on the switch.</li> <li>Specify the Cloud Key.</li> <li>Log into your myQNAPcloud account.</li> <li>Use myQNAPcloud Link to remotely access your device.</li> <li>Complete the steps in the Smart Installation Guide wizard.</li> </ul>	<ul> <li>Computer or mobile device</li> <li>myQNAPcloud account</li> <li>Cloud Key</li> </ul>

## **Installing QNE Using Stand-Alone Mode**

Users without an AMIZ Cloud join key needs to install QNE using the Stand-Alone Mode. Stand-Alone Mode allows you to manage each QuCPE device separately using your local accounts. You can switch to Cloud Management Mode after installation.



Warning

Installing QNE deletes all data on the drives. Back up your data before proceeding.

- 1. Power on the device.
- 2. Connect the device to your local area network.
- **3.** Run Qfinder Pro on a computer that is connected to the same local area network.



To download Qfinder Pro, go to https://www.qnap.com/utilities.

- **4.** Locate the device in the list and then double-click the name or IP address. The **Smart Installation Guide** opens in the default web browser.
- **5.** Perform any of the following actions.
  - To install the out-of-the-box version, click **Skip**.
  - To check for the latest available version, click Check for Update, and then click Update. The wizard downloads the latest available version, and then the device restarts after the download is complete. If a newer version is not available, the wizard automatically displays the Smart Installation Guide.
  - To manually specify a version, click **Browse**, select a file, and then click **Update**.
- 6. Click Start under Stand-Alone Mode.
- **7.** Specify the following information.
  - **Host name**: Specify a name with 1 to 14 characters. The name supports letters (A to Z, a to z), numbers (0 to 9), and hyphens (-), but cannot end with a hyphen.
  - **User name**: Specify a name with 1 to 14 characters. The name supports letters (A to Z, a to z), numbers (0 to 9), and hyphens (-), but cannot end with a hyphen.

- **Password**: Specify an administrator password with 1 to 64 characters. The password supports all ASCII characters.
- Confirm password: Enter your password again.
- 8. Click Next.
- **9.** Specify the time zone, date, and time.



QNAP recommends connecting to an NTP server to ensure that the device follows the Coordinated Universal Time (UTC) standard.

**10.** Click **Apply**.

QNE is installed.

#### **Installing QNE Using Cloud Management Mode**

You can also deploy your device by creating an AMIZ Cloud join key and sending the join key to the device administrator. You can deploy the device once you initialize the device on the myQNAPcloud website. For details, visit https://amizcloud.qnap.com or see "Adding a Device Using an AMIZ Cloud Join Key" in the QNE User Guide.



Warning

Installing QNE deletes all data on the drives. Back up your data before proceeding.

- **1.** Power on the device.
- 2. Connect the device to your local area network.
- 3. Run Qfinder Pro on a computer that is connected to the same local area network.



**Note** To download Qfinder Pro, go to https://www.gnap.com/utilities.

- **4.** Locate the switch in the list and then double-click the name or IP address. The **Smart Installation Guide** opens in the default web browser.
- **5.** Perform any of the following actions.
  - To install the out-of-the-box version, click **Skip**.
  - To check for the latest available version, click **Check for Update**, and then click **Update**. The wizard downloads the latest available version, and then the device restarts after the download is complete. If a newer version is not available, the wizard automatically displays the **Smart Installation Guide**.
  - To manually specify a version, click **Browse**, select a file, and then click **Update**.
- 6. Click Start under Cloud Management Mode.
- 7. Enter your AMIZ Cloud Join Key.
- 8. Click Next.

Note

AMIZ Cloud installs QNE on your device.



You need to complete the initial device setup in AMIZ Cloud to deploy the device.

QuCPE-303x User Guide

# 4. Basic Operations

This chapter describes basic device operations.

#### **Buttons**

#### **Power Button**

Operation	User Action	Result	
Power on	Press the button once.	The device powers on.	
Power off	Press and hold the button for 1.5 seconds.	The device powers off.	
Force power off	Press and hold the button for 5 seconds.	The device powers off.	
		Important     Use this method only when     the device is unresponsive.	

#### **Reset Button**

Basic system reset	User Action	Result
Basic system reset	Press and hold the button for 3 seconds.	<ul> <li>The following settings are reset to default:</li> <li>System administrator password: The default password is the first MAC address in uppercase letters without special characters. For example, if the first MAC address is 00-08-9B-F6-15-75, then the admin password would be 00089BF61575.</li> </ul>
		You can find the first MAC address with Qfinder Pro or attached to a label on the device listed as MAC1.
		TCP/IP configuration:
		Obtain IP address settings automatically via DHCP
		• Disable jumbo frames
		<ul> <li>If port trunking is enabled (multi-LAN models only), the port trunking mode is reset to "Active Backup (Failover)".</li> </ul>
		System port: 8080 (system service port)
		Security level: Low (Allow all connections)
		• LCD panel password: (blank)
		• VLAN: Disabled

Basic system reset	User Action	Result
Advanced system reset	Press and hold the button for 15 seconds.	<ul><li>The default factory settings are restored.</li><li>To retrieve old data after an advanced system reset, recreate the previous folder structure on the device.</li></ul>

#### **LCD Panel**

The LCD panel allows you to perform the following operations:

- View network settings
- View information on the system and firmware version

#### **Viewing TCP/IP Settings**

You can view the IP address settings for each network adapter on the QuCPE.

- **1.** Press **Up** or **Down**. The panel displays the device name and QNE version.
- **2.** Press **Up** or **Down** to view the next TCP/IP screen. Repeat this step as necessary.

#### **LEDs**

LEDs indicate the system status and related information when the device is powered on. The following LED information applies only when the drive is correctly installed and when the device is connected to the network or to a host.

For details on the location of the LEDs, see Components.

LED	Status	Description
System power	Blue	The device is powered on.
	Off	The device is powered off.
Warning status	Red	The system fan is not functioning.
	Off	No warnings.
Drive activity	Green	The drive is ready.
	Flashes green	The drive is being accessed.
	Off	No drive was detected.
10 Gigabit Ethernet (SFP+) speed	Green	The network connection is operating at 10 Gbps
	Off	There is no network connection.
10 Gigabit Ethernet (SFP+) activity	Amber	A network connection has been established.
	Flashes amber	Data is being transmitted.
	Off	There is no network connection.

LED	Status	Description		
2.5 Gigabit Ethernet (RJ45) speed	Green	The network connection is operating at 2.5 Gbps.		
	Amber	The network connection is operating at less than 2.5 Gbps.		
	Off	<ul> <li>The network connection is operating at 10 Mbps.</li> </ul>		
		• There is no network connection.		
2.5 Gigabit Ethernet (RJ45) activity	Yellow	A network connection has been established.		
	Flashes yellow	The device is being accessed from the network.		
	Off	There is no network connection.		

## **Audio Alert**

Duration	Frequency	Description	
Short beep (0.5 seconds)	1	• The device is starting up.	
		• The device is shutting down (software shutdown).	
		• The device is being reset (reset button).	
	3	The firmware was updated.	
Long beep (1.5 seconds)	1	The device was powered on successfully and is ready.	
	3 (every 5 minutes)	The system fan is not functioning.	

# 5. Troubleshooting

This chapter describes basic troubleshooting information.

## Forcing Qfinder Pro and myQNAPcloud to Locate the Device

If Qfinder Pro or myQNAPcloud is unable to locate the device during QNE installation, the drives or data may be faulty.

- **1.** Power off the device.
- 2. Remove all drives.
- **3.** Power on the device.
- **4.** Locate the device using Qfinder Pro.
- 5. Reinsert the drives.
- **6.** Continue with the QNE installation.

#### **Support and Other Resources**

QNAP provides the following resources:

Resource	URL		
Documentation	https://download.qnap.com		
Compatibility List	https://www.qnap.com/compatibility		
Expansion Unit Compatibility	http://www.qnap.com/go/compatibility-expansion		
Service Portal	https://service.qnap.com		
Product Support Status	https://www.qnap.com/en/product/eol.php		
Downloads	https://download.qnap.com		
Community Forum	https://forum.qnap.com		
QNAP Accessories Store	https://shop.qnap.com		

# 6. Glossary

## myQNAPcloud

Provides various remote access services such as DDNS and myQNAPcloud Link

## myQNAPcloud Link

Enables you to access QNAP devices over the internet without configuring complex port forwarding settings

## **Qfinder Pro**

QNAP utility that lets you locate and access QNAP NAS devices in your local area network

## QNE

QNAP operating system for the QuCPE device

# 7. Notices

This chapter provides information about warranty, disclaimers, licensing, and federal regulations.

#### **Limited Warranty**

QNAP offers limited warranty service on our products. Your QNAP-branded hardware product is warranted against defects in materials and workmanship for a period of one (1) year or more from the date printed on the invoice. ("Warranty Period"). Please review your statutory rights at www.qnap.com/warranty, which may be amended from time to time by QNAP in its discretion.

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Back up the system periodically to avoid any potential data loss is recommended. QNAP disclaims any responsibility of all sorts of data loss or recovery.

Should you return any components of the package of QNAP products such as NAS (Network Attached Storage) for refund or maintenance, make sure they are carefully packed for shipping. Any form of damages due to improper packaging will not be compensated.

All the features, functionality, and other product specifications are subject to change without prior notice or obligation. Information contained herein is subject to change without notice.

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Version 3, 29 June 2007

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**FCC Class B Notice** 



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Note

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



#### Important

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VCCI-B

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SJ/T 11364-2006



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金属螺帽	0	0	0	0	0	0	
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