QNAP

QXP-W6-AX200 PCIe WiFi 6 Card

Add Gigabit WiFi connectivity to a NAS/PC in wireless environments

QNAP x Gigabyte
Additional half-height bracket and flat bracket for NAS
A new milestone with Gigabit+ level of WiFi 6 connectivity

- The increasing trend of wireless-only environment
- Gigabit+ level WiFi 6 wireless connectivity
- QXP-W6-AX200 PCIe WiFi 6 card enables NAS and PC with high-speed WiFi 6 client connectivity
- How to install and setup QXP-W6-AX200 on PC and NAS
More WiFi only environments because of the simplicity of wireless connections

- Laptops and mobile devices already have integrated wireless capability
- Because all mobile devices now are equipped with Wi-Fi, hotel rooms and lobbies, show rooms, and conference centers no longer provide wired connection or provide it with a fee. More and more locations now provide WiFi-only connection.
More and more laptops have removed RJ45 LAN port.

- **Apple Macs**
- **Windows computers**
- **Chromebook**
Next-gen WiFi 6 network with Gigabit+ speed

<table>
<thead>
<tr>
<th>WiFi 6</th>
<th>2x2 802.11ax</th>
<th>2400 Mbps</th>
<th>16X Faster</th>
</tr>
</thead>
<tbody>
<tr>
<td>WiFi 5</td>
<td>2x2 802.11ac wave2</td>
<td>1734 Mbps</td>
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<tr>
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<td>WiFi 4</td>
<td>1x1 802.11bgn</td>
<td>150 Mbps</td>
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</table>

QXP-W6-AX200
WiFi 6 is faster and lower in latency than WiFi 5

1.25 X Faster Speed

11ax
1024-QAM
10 bits/symbol
1.25x improvement

11ac
256-QAM
8 bits/symbol

4 X Lower Latency

802.11ax I OFDMA

Source: https://www.tp-link.com/bg/wifi6/
WiFi 6 with larger coverage, less interference, and higher capacity for more devices

- 8 x 8 MU-MIMO supports concurrent upload and download for more connected devices.
- BSS (Basic Service Set) coloring can mark surrounding non-related wireless devices and ignore them and also avoid weak wireless signals to reduce the wireless interference for better wireless connection quality.
- OFDMA (Orthogonal Frequency-Division Multiple Access) can divide each channel into small ones with narrower bands for higher wireless coverage thus reducing the number of wireless-dead zones.

[125% More coverage Fewer dead corners More connections]
More devices are now shipped with WiFi 6

**Laptops**
- Asus Chromebook Flip c436
- Dell XPS 13 (2020)
- HP Spectre x360
- Lenovo Yoga c940
- LG Gram 17
- Microsoft Surface pro 7

**Phones / iPad Pro**
- Huawei P40 Pro
- iPhone 11 series, SE
- LG V60 ThinQ
- Motorola Edge Plus
- OnePlus 8 and 8 Pro
- Samsung Galaxy S10, S20 series
- Samsung Galaxy Note 10 series
- Samsung Galaxy Fold
- Xiaomi Mi 10 series

**PCs / Motherboards**
- Asus Mini PC PN62
- Asus desktop PC S700TA
- Acer Predator Helios 300
- AMD B550 boards
- Intel Z490 boards
QXP-W6-AX200 enables your current PC and NAS with WiFi 6 wireless connectivity

Current Windows 10 /Linux PCs

QNAP TS-253D NAS + PC / NAS installs the QXP-W6-AX200 PCIe WiFi 6 card

WiFi6 router / access point
QXP-W6-AX200 WiFi 6 card package contents

- WiFi 6 PCIe Card and antenna
- 2 extra half-height brackets for PC and NAS
- Installation guide
- Internal USB cable for Bluetooth 5.0 on PC
- Windows 10 driver CD
QXP-W6-AX200 WiFi 6 card overview

- AORUS high-performance dual-band antenna with 802.11ax 2.4GHz & 5GHz
  - 2T x 2R antenna with smart antenna enhancement for the optimal wireless performance
  - Antenna with multiple angle tilt and magnetic base for the best placement and signal reception

- Pre-installed full-height bracket
- Gold-plated connectors for higher quality and durability

- Pre-installed full-height bracket
- Intel WiFi 6 AX200 wireless module
  - Theoretical speed up to 2400Mbps
  - 802.11 ax/ac/a/b/g/n
  - Bluetooth 5.0 for PC

- Bluetooth 5.0 USB connector for PC connection (Choose from USB 2.0 Type-A and pin header)

- PCle 2.0 x1 interface
Supports NAS QTS / QuTS hero, Windows 10, and Linux operating systems

Install the driver from Intel AX200 website

Supports Windows 10 64 bit / Linux kernel 5.1+

QTS 4.4.3 + & QuTS hero
NAS with a PCIe slot* and 64-bit x86 and ARM CPU

*Refer to the QNAP website for the compatible NAS models. Some NAS models require a BIOS update.
2x2 WiFi 6 and 160MHz for 3X data rates and 4X capacity

- QXP-W6-AX200 WiFi 6 (802.11ax) card provides nearly 3X higher peak data rates and 4X capacity improvements with spatial reuse than a WiFi 5 (802.11ac) card in dense environments*.
- 2x2 160MHz channels, Upload/Download OFDMA, 1024QAM, and MU-MIMO deliver theoretical data rates in 2.4GHz up to 574Mbps, and in 5GHz up to 2402Mbps.


*A WiFi 6 router is required to achieve the WiFi 6 performance and benefits. Actual wireless throughput and/or range will vary depending on your environments.
Add Bluetooth 5.0 to PC with faster and longer BT range

- Use the included USB cable or an optional USB Type-A cable for the PC motherboard connection*
- Bluetooth 5.0 provides 2X the data transfer speed and 4X the range compared to Bluetooth 4.x

*NAS does not support the Bluetooth usage.
How to connect the USB cable in PC for Bluetooth 5.0

• Step 1: Connect the included USB cable to the black connector on the rear end of the QXP-W6-AX200 card.

• Step 2: Connect the other end of the USB cable to the F_USB connector on the PC motherboard.
You can make your NAS wireless by installing PCIe AX200 or USB WiFi Dongles.

**Two methods for setting up WiFi NAS**

QNAP QXP-W6-AX200 PCIe supports WiFi 6 (802.11ax)

USB Dongle only supports up to WiFi 5 (802.11ac)
Go to QNAP website for USB WiFi Dongle Compatibility List
https://www.qnap.com/go/compatibility

Compatibility List

QNAP regularly tests hard drives and other devices for compatibility with our products. Please check below for details on compatible and recommended devices.

1 - Category
Which type of device?
USB Wi-Fi

Choose Brand
AboCom
ASUS
BELKIN
Buffalo
D-Link
EDIMAX
Linksys
Mercury
Netcore
Netis
TOTOLINK
TP-LINK
Xiaomi
Zyxel
Transform your NAS to become WiFi 6 NAS

- Direct cable connection
- High speed wireless internet
- QXP-W6-AX200
- WiFi 6 AP
- Hotel
- Library
- Factory
- Customer Office
- Pure wireless office
How to quickly setup QXP-W6-AX200

The QXP-W6-AX200 card can be activated on NAS using following two ways

**Enable WiFi at [Network and Virtual Switch]**
- Log into Captive Portal via Browser Station

**Enable WiFi via Qfinder Pro**
- Log into Captive Portal via host browser

***If the connected WiFi AP has a mechanism that blocks request under NAT, the browser cannot be opened automatically. You need to enable Browser Station on the NAS to log into Captive Portal, or select another WiFi network that does not need to log into Captive Portal.

***Browser Station only supports on x86-based NAS with a minimum 4GB memory or above.***

***Browser Station needs to be installed manually.***
Network and Virtual Switch x Browser Station

Step 1

• Install QXP-W6-AX200 on NAS PCIe slot.
Step 2

- Turn on NAS. Connect PC and NAS directly using ethernet cable and log into QTS.

- You can see system notification shows that PCIe WiFi 6 AX200 has been detected.

- QTS FW needs to be 4.4.3 or above.
Step 3

- Go to Network and Virtual Switch page
- Go to WiFi6 AX200 Setting.
Network and Virtual Switch x Browser Station

Step 4

- Enable WiFi and select a SSID to connect.
- Enter WiFi password
Step 5

- If log into Captive Portal is required, click the link under SSID, and a new browser tab will open automatically via Browser Station.

- WiFi connection will complete after logging in.

***Browser Station only supports on x86-based NAS with a minimum 4GB memory or above.
Step 1

- Install AX200 on NAS PCIe slot. Turn on NAS. Connect PC to NAS directly using ethernet cable.

- Find NAS via Qfinder Pro

- NAS Status will show a Wireless Icon indicating that AX200 is detected.
Setting up QXP-W6-AX200 via Qfinder Pro

Step 2

- Click Wireless icon
- Log into NAS and enable WiFi settings
Step 3

Select SSID and connect
Step 4

Click login after wireless connection completes. Captive portal page will be opened via host browser automatically.

***If the connected WiFi AP has a mechanism that blocks request under NAT, the browser cannot be opened automatically. You need to enable Browser Station on the NAS to log in to Captive Portal, or select another WiFi network that does not need to log in to Captive Portal.
AX200 card becomes QTS default gateway automatically

<table>
<thead>
<tr>
<th>Adapter</th>
<th>Status</th>
<th>NIC model</th>
<th>Vendor name</th>
<th>IP Address</th>
<th>Network Speed</th>
<th>VLAN</th>
<th>NIC model</th>
<th>Vendor name</th>
<th>IP Address</th>
<th>Network Speed</th>
<th>VLAN</th>
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<tbody>
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<td>Intel Corporation</td>
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<tr>
<td>Adapter 2</td>
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<td>Intel Corporation</td>
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</table>
Access NAS via wireless connection

User Scenario 1

QXP-W6-AX200

WiFi connection

WiFi 6 Router

Access NAS via wireless connection
User Scenario 2

Access Internet via mobile hotspot

WiFi 6

Phone Hotspot
4G/5G Internet

QXP-W6-AX200
Connect your NAS wirelessly to another NAS that is installed with QuWAN and QWA-AC2600 with WirelessAP Station. QuWAN provides network optimization, firewall and deep packet inspection on both wireless and wired networks to achieve high-speed and redundant transmission and security protection mechanisms.
WiFi 6 NAS can turn into a high speed wireless desktop by connecting HDMI monitor and keyboard to NAS.
QXP-W6-AX200
PCIe WiFi 6 card

Enables NAS and PC with WiFi 6 Gigabit+ connectivity and more responsive performance on dense wireless network