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**LigoWave NFT2ax High-Performance 802.11ax Wireless Access Point User Manual** 📕

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# LigoWave NFT2ax High-Performance 802.11ax Wireless Access Point

**NFT2ax**

A High-Performance 802.11ax Wireless Access Point

## INTRODUCTION

The NFT 2ax is a Wi-Fi access point based on 802.11ax technology with integrated 2.4 and 5GHz (2×2) radios delivering up to +25dBm output power. Equipped with a dual-core 1GHz QCA IPQ5000 radio, 256MB RAM, and 64MB Flash memory, the NFT 2ax AP brings efficiency to the next level. Two Ethernet ports, 2.5Gbps with 802.3at, which allows powering the access point using PoE switches, and an additional Gigabit Ethernet port, provide the users withthe the ability to extend the network or connect additional devices in the office or home network. Small footprint, low power consumption, and classic LigoWave.



## Optimized Antenna System

NFT 2ax uses a dedicated 4-element antenna system specially designed for ceiling and wall installations. Compared to "simply omnidirectional" multi-band onboard antennas, separate antenna elements for each polarization and band provide specific beams with higher gain in the desired coverage area, effectively cancelling unwanted interference to/from adjacent rooms.
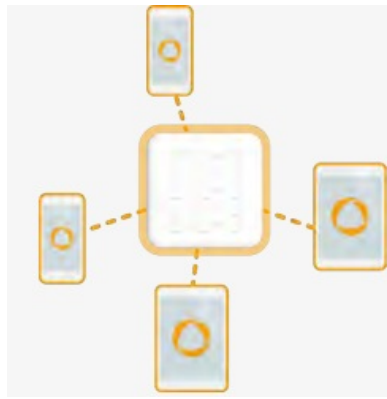
## Ideal for High-Density SMB Environments

MU-MIMO* ensures simultaneous multiple stream allocation to different clients, thus way increasing throughput, spectrum efficiency, and overall capacity, which is crucial in high-density environments. OFDMA* operation provides up to 4x reduction in collisions between client data streams, reducing delay and improving performance with dozens of simultaneously active stations.

*Not all combinations are supported in the current firmware release. Functionality requires client device/driver support for maximum efficiency.
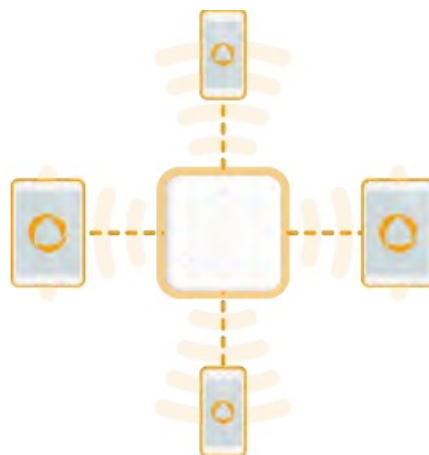
## Infinity Controller

The Infinity Controller is an intuitive product and network management platform for your NFT devices. It allows easy, simple, and fast network installation, configuration, and control, all of which can be performed using a web browser. The Controller also facilitates network maintenance and expansion by automating these processes. The management platform can function as an integrated controller or as an external one (i.e. Infinity Cloud Controller), thus serving as an optimal solution for setting up and managing networks of any size.
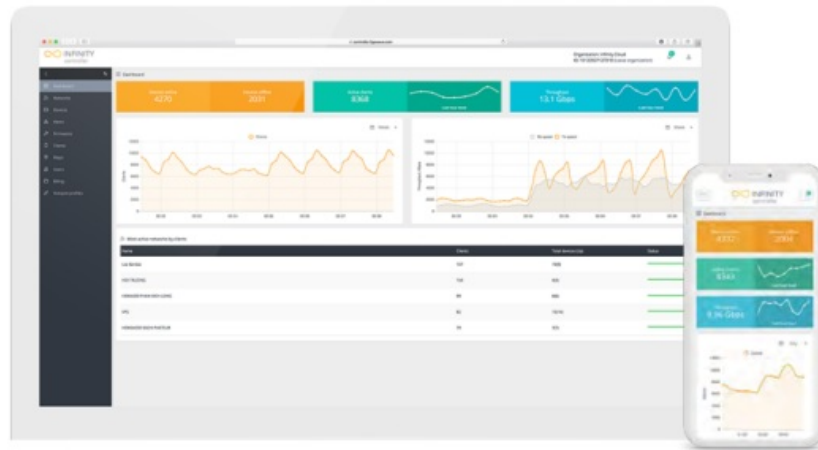
**Easy Mesh***

Easy Mesh is LigoWave's solution to wireless network coverage expansion and device configuration automation. This feature is designed for the NFT Series (as well as DLB devices utilizing NFT firmware) and is only available on the External Infinity Controller.

The Infinity Controller allows users to set up an Easy Mesh network in a plain and simple way: just have at least one LAN-connected AP, create a new Easy Mesh network, assign devices to it, and you are good to go!



**Automated Device Onboarding**

Automated device onboarding (ADO) is the process of automatically setting up Infinity access points that are introduced to the network. Not only does ADO eliminate the discrepancies caused by manual setup, but it also simplifies the deployment process and saves valuable time.

Automated device onboarding requires one-time configuration of the Cloud AP, after which the settings are automatically applied to all Infinity access points that are newly connected to the network using a physical connection.

**Flexible Network Scaling**

The External Infinity Controller is designed with various types of networks in mind, whether they contain just a few access points or thousands of them.
Networks can be categorized into different logical groups (up to 4 layers) based on geographical location, service type, company branch, or other criteria. Each group can have different configurations assigned to them and access points can easily migrate between networks.

Furthermore, the External NFT Controller (installed on customer premises) supports multiple organizations simultaneously (many network owners).

**Pay as You Grow**
A cloud-based Infinity Controller account is free and supports a network of up to 10 Infinity wireless access points, but can be expanded as the business grows. Learn more about the paid version here.

**IP Session Logging**
Infinity access points allow users to track and log end-user credentials

(source/destination IPs and ports, MAC address, etc.) on the Internet, thus allowing a safer and transparent Internet service.



### Predefined Scenarios for Your Applications

The Infinity Controller provides an array of features, collectively forming the optimal solution for multiple scenarios, e.g. a complete any-size office access point network, small café or shop hotspot, and an Easy Mesh application, which is popular among small hotels, schools, and hospitals.



### WPA3 Security

The NFT 2ax access point supports state-of-the-art authentication and encryption algorithms according to WPA3 specifications, ensuring secure operation regardless of operational environment, from "Secure Open" to WPA3- Enterprise networks.

## Interfaces



## Technical Specifications

### Wireless

- WLAN Standard IEEE 802.11a/b/g/n/ac/ax

- Radio Mode Dual 2×2
- Radio Chains/Streams 2×2:2
- Operating Modes Access Point, Repeater
- Radio Frequency Band 2.402–2.484GHz (Country-Dependent) 5.170-5.875GHz (Country-Dependent)
- Transmit Power 2 GHz: 20dBm
- 5 GHz: 24dBm
- Channel Size 20, 40, 80MHz
- Modulation Schemes 802.11ax: OFDM (1024 QAM, 256-QAM, 64-QAM, 16-QAM, QPSK, BPSK) 802.11ac: OFDM (256-QAM, 64-QAM, 16-QAM, QPSK, BPSK) 802.11a/g/n: OFDM (64-QAM, 16-QAM, QPSK, BPSK) 802.11b: DSS (CCK, DQPSK, DBPSK)
- Data Rates 802.11ax: OFDM (1024 QAM, 256-QAM, 64-QAM, 16-QAM, QPSK, BPSK) 802.11ac @ 80MHz: 867, 780, 650, 585, 520, 390, 260, 195, 130, 65Mbps 802.11n @ 40MHz: 400, 270, 240, 180, 120, 90, 60, 30Mbps 802.11a/g @ 20MHz: 54, 48, 36, 24, 18, 12, 9, 6Mbps 802.11b @ 20MHz: 11, 5.5, 2, 1Mbps
- Duplexing Scheme Time Division Duplex
- Wireless Security WPA/WPA2/WPA3 Personal, WPA/WPA2/WPA3 Enterprise (802.1x), WACL, Hotspot (UAM)
- Roaming Supported
- Beamforming Supported

**Antenna**

- Type 4× Internal Omnidirectional Antennas
- Gain 2.4GHz: 4dBi, 5GHz: 5dBi
- Coverage Radius 100m (328ft)

**Interfaces**

- 1× 10/100/2000 Base-T with 802.3af/at PoE 1× 10/100/1000 Base-T Reset Button

**Networking**

- Operating Mode Bridge, Router IPv4 and IPv6

- Management IPv4 Static, Dynamic

- Management IPv6 Static, Dynamic Stateless, Dynamic Stateful

- Secondary IPv4 Supported

- VLAN 802.1Q for Management and Data

- Virtual SSID 8 per Each Radio

- Client Isolation Supported

- Bandwidth Limitation Supported per SSID

## Traffic Management

- Client Isolation Supported

- Wi-Fi Multimedia (WMM) Supported

- Multicast Enhancement Supported

- Concurrent Clients 254

## Services

- Services SNMP server, system alerts, NTP Client

## Power

- Power Method DC Jack (12V/1A) or 802.3af/at with Passive PoE (48–56V) Support

- Power Supply 100–240VAC to 48VDC PoE (Optional)

- Max. Power Consumption 10W

## Management

- System Monitoring SNMP v1/2c/3, Syslog, Infinity Controller

## Physical Specifications

- Dimensions 152.5mm (6.00") × 152.5mm (6.00") × 30mm (1.18")

- Weight 404g (14.25oz)

- Mounting Suspended Ceiling Mount (15/16 or 9/16 Ceiling Clip), Wall Mount, Free-standing placement
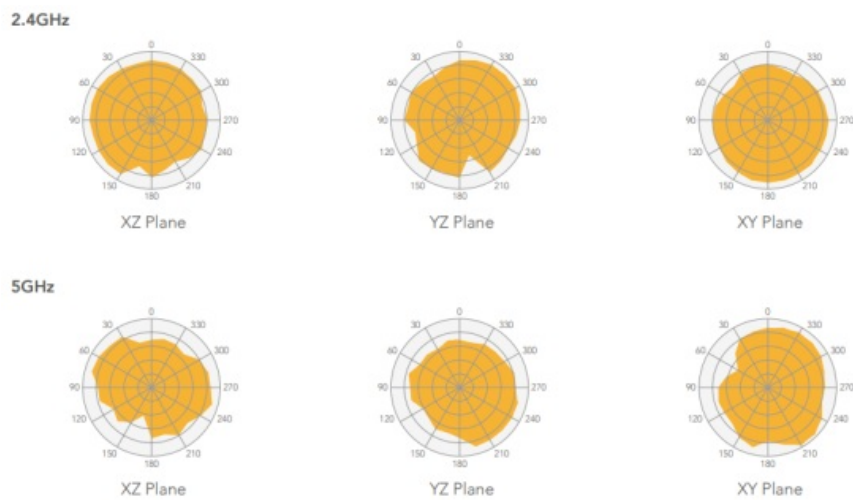
## Environmental Specifications

- Outdoor Ingress Protection Rating IP65
- Operating Temperature 0°C (32°F) ~ +40°C (+104°F)
- Humidity 0–95% (Non-Condensing)

## Regulatory

- Certification FCC/CE/UK CA

# Antenna specifications

**2.4GHz**

XZ Plane     YZ Plane     XY Plane

**5GHz**

XZ Plane     YZ Plane     XY Plane

## 2.4GHz Integrated Antenna

- Frequency Range 2.4 – 2.5GHz
- Gain 4dBi
- VSWR 1.7:1

## 5GHz Integrated Antenna

- Frequency Range 5.1 – 5.9GHz
- Gain 5dBi
- VSWR 2:1

# FCC Caution

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.
2. This device must accept any interference received, including interference that may cause undesired operation.

Any Changes or modifications not expressly approved by the party responsible for compliance could void the user's authority to operate the equipment.

**Note:** This equipment has been tested and found to comply with the limits for a Class B digital device, pursuant to part 15 of the FCC Rules. These limits are designed to provide reasonable protection against harmful interference in a residential installation. This equipment generates uses and can radiate radio frequency energy and, if not installed and used in accordance with the instructions, may cause harmful interference to radio communications. However, there is no guarantee that interference will not occur in a particular installation. If this equipment does cause harmful interference to radio or television reception, which can be determined by turning the equipment off and on, the user is encouraged to try to correct the interference by one or more of the following measures:

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

**FCC Radiation Exposure Statement:**
This equipment complies with FCC radiation exposure limits set forth for an uncontrolled environment. This equipment should be installed and operated with a minimum distance 20 cm between the radiator & your body.

**CONTACT**

www.ligowave.com

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# Documents / Resources

|  | [LigoWave NFT2ax High-Performance 802.11ax Wireless Access Point](#) [pdf] User Manual<br>2BQVC-NFT2AX, 2BQVCNFT2AX, nft2ax, NFT2ax High-Performance 802.11ax Wireless Access Point, NFT2ax, High-Performance 802.11ax Wireless Access Point, 802.11ax Wireless Access Point, Wireless Access Point, Access Point, Point |
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## References

- [User Manual](#)

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