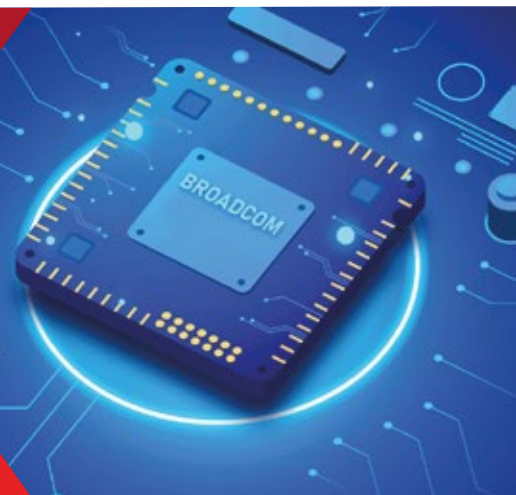


Indoor Access Point Switch NX-AP7540-C6



OVERVIEW

NX-AP7540-C6 is a high-performance Wi-Fi 6 enterprise AP designed for the majority of indoor scenarios. With the built-in IoT module, enterprise customers can be ready for future IoT expansion to boost the operational efficiency and customer experience. The Nodexon NX-AP7540-C6 supports concurrent dual-band dual-radio (2x2:2 in 2.4GHz, 4x4:4 in 5GHz), up to 6 total spatial streams and a maximum of 5.2Gbps wireless throughput. Taking the advantage of Wi-Fi 6 OFDMA Modulation, MU-MIMO, and BSS Color Spatial Reuse, the NX-AP7540-C6 guarantees minimal signal interference and a maximum of 1024 client connections.

Additionally, NX-AP7540-C6 is IoT ready with integrated module of BLE, without the need of external module and additional investment. With a total of 3 built-in Gigabit LAN ports, the LAN3 port is specially design for external IoT sensor connection with PoE out (passive) feature. Therefore, no extra power adaptor is needed for the sensor.

FEATURES HIGHLIGHTS

- › Wi-Fi 6 Technology: 1024-QAM High-speed Access.
- › OFDMA High-density User Access :
The NX-AP7540-C6 supports OFDMA of 802.11ax.
- › Max 5.2Gbps (Total 6 Spatial Streams)
with Concurrent Dual-Band Design.
- › Max 1024 Client connections.
- › OFDMA, MU-MIMO and BSS Technology
for minimal wireless signal interference.
- › IoT Ready: Integrated with BLE module and one IoT
extension port with PoE Out (passive).
- › AI Wireless Optimization:
one-click optimization powered by Nodexon WIS
technology.
- › Hybrid Management: support standalone AP to over
thousands of APs with deployment options of applian-
ces, private cloud or public cloud service.
- › Mobility Management: Free mobile app available for
NX-MACC-Base private cloud or Nodexon Public
Cloud customers.



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PRODUCT FEATURES

High Expandability Design

With the design of 3 Gigabit Ethernet ports, the NX-AP7540-C6 not only can expand uplink bandwidth, but can also extend the LAN port for PC, printer and other IP terminal connections. The LAN3 Port is specially design for external IoT sensor connection with PoE out (passive) feature. Therefore, no extra power adaptor is needed for the sensor. Additionally, the NX-AP7540-C6 is IoT ready enabled by the built-in BLE module, without the need of external module and extra investment.

Wi-Fi 6 Technology

1024-QAM High-speed Access

The NX-AP7540-C6 adopts the dual-radio dual-band design and 2G+5G is recommended. With the next-generation 802.11ax for 5G, the maximum access rate can reach 4.8Gbps. If dual-radio is enabled concurrently, the high-speed Wi-Fi can reach 5.2Gbps, offering the true high-speed experience.

OFDMA High-density User Access

The NX-AP7540-C6 supports OFDMA of 802.11ax, which divides the WLAN channel into a plurality of narrower subchannels, with each user occupying one or more subchannels. By scheduling multiple users to receive and send packets concurrently via the AP, user competition and back-off can be reduced, thereby reducing network latency and improving network efficiency. In a high-density deployment environment, the average rate per user is increased to four times of 802.11ac.

Bi-Directional MU-MIMO

Compared with the previous Wi-Fi 5 (802.11ac) with only downlink MU-MIMO support, Wi-Fi 6 supports both uplink and downlink MU-MIMO (multi-user, multiple-input and multiple-output). Therefore, Nodexon NX-AP7540-C6 Series access points can connect clients simultaneously, significantly improving the wireless performance and experience.

TWT (Target Wake Time)

Target wake time (TWT) is used to help minimize contention between clients and reduce the amount of time a client in power save mode to be awake. Energy consumption is reduced by up to 70% of the battery consumption, thereby improving battery life.

Spatial Reuse with BSS Color

The NX-AP7540-C6 supports spatial reuse with basic service set (BSS) color of 802.11ax to identify the BSSs of different WLANs in the network by different coloring (BSS color), and further divide them into internal and external BSS. Different packet receiving and sending thresholds can be maintained. When receiving packets, BSS coloring is used to quickly identify the packet of the external BSS.



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Industry-leading Local Forwarding Technology

Employing an industry-leading local forwarding technology, the NX-AP7540-C6 breaks through the limitation of traffic bottleneck of wireless controllers. In collaboration with the RG-WS Wireless Controller Series, users can flexibly pre-configure the data forwarding mode for NX-AP7540-C6. The AP also controls whether the data will be forwarded via the wireless controller according to the SSID or user VLAN, or directly sent to the wired network for data exchange. The local forwarding technology can classify and forward delay-sensitive data which requires real-time transmission through the wired network to greatly alleviate the traffic pressure on the wireless controllers and better meet the high traffic transmission requirements of the 802.11ax network.

Abundant QoS Policies

The NX-AP7540-C6 supports a wide variety of QoS policies. For example, it provides WLAN/AP/STA-based bandwidth limitations and Wi-Fi multimedia (WMM) which defines different priorities for different service data. The NX-AP7540-C6 realizes timely and quantitative transmission of audio and video, and guarantees smooth operation of multi-media applications. With the multicast-to-unicast technology, the NX-AP7540-C6 resolves the video lagging problem due to packet loss or high latency in the wireless network, and highly enhances user experience of the multicast video services of wireless network.

COMPREHENSIVE SECURITY PROTECTION

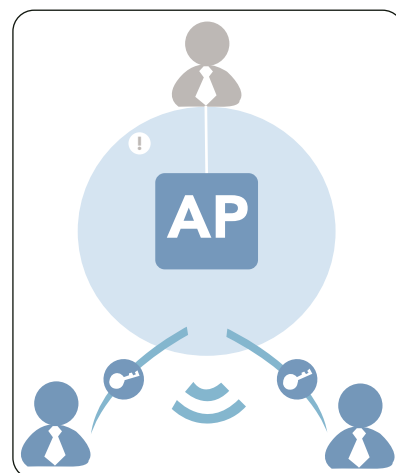
OFDMA High-density User Access

The NX-AP7540-C6 supports a wide range of authentication methods such as web, 802.1x, PPSK (one-time dynamic password for staff), voucher/ access code, user account, and social authentication. Complying with the standard network access control, it offers a set of control policies in terms of user access, authorization, equipment compliance check, network behavior monitoring, network attack prevention, etc. All these control features guarantee high network security for authenticated users.

Personal Pre-shared Keys (PPSK)

Practice Traditional Pre-shared Keys (PSK) are shared by all users on a WLAN, giving it potential risk of PSK leak-out. Ruijie Personal PSK (PPSK) is an easy-to-setup wireless authentication method with enterprise-grade security level. Credentials can be created and revoked individually. Each PPSK can also be tied to a unique user/ machine. With PPSK, you can enjoy the benefits of:

- High security by using different passwords for each user and device for individual SSID
- Simple deployment with batch account creation
- Ease of use, offering the same experience as WPA / WPA2-PSK
- Out-of-box feature in AC
- No additional AAA required



Indoor Access Point Switch NX-AP7540-C6



Virtual AP Technology

With the virtual AP technology, the NX-AP7540-C6 supports up to 48 ESSIDs. Network administrator can separately encrypt and isolate VLANs or subnets of the same SSID, thereby enabling specified authentication mode and encryption mechanism for each SSID.

Comprehensive Wireless Protection

Coupled with RG-WS6000 Series or NX-MACC Wireless Controllers, the NX-AP7540-C6 offers a breadth of security features including WIDS (Wireless Intrusion Detection System), RF interference tracking, rogue AP containment, anti-ARP spoofing, DHCP protection and beyond for all-around security protection.

HYBRID MANAGEMENT

Flexible Management Options

All Nodexon enterprise APs support hybrid management mode. Either deployed as standalone AP (Fat mode) or managed AP (Fit and MACC mode), the AP will detect the operation mode automatically without extra effort on firmware upgrade. For additional security and operation,

Web and CLI Management Interface

The NX-AP7540-C6 provides both web and command-line interface (CLI) for the AP and wireless controller, suitable for application in different scenarios. CLI design allows the networking professionals to perform fast troubleshooting, bulk configuration import or modification. Web GUI management should be perfect for the majority of general scenarios to plan, operate and maintain the wireless network without the need of customization

Mobile Monitoring and Optimizing

Nodexon is committed to providing more simple networking experience for customers by launching a free mobile app (namely Nodexon Cloud) for unified device lifecycle management, which is not only for Nodexon access points, but also for switches and security gateways, from provisioning, monitoring, configurations to optimization.



RADIUS Server



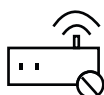
DHCP Protection



User Isolation



WIDS



Rogue AP Detection



RF Interference Tracking

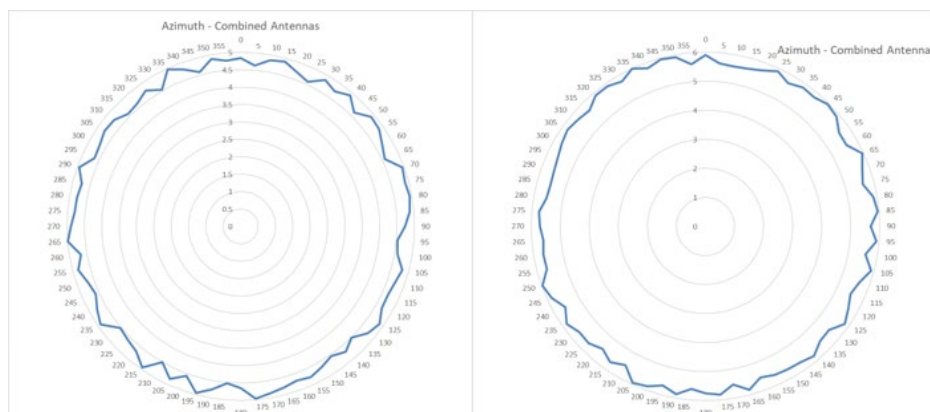


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ANTENNA PATTERNS

Horizontal planes (top view)

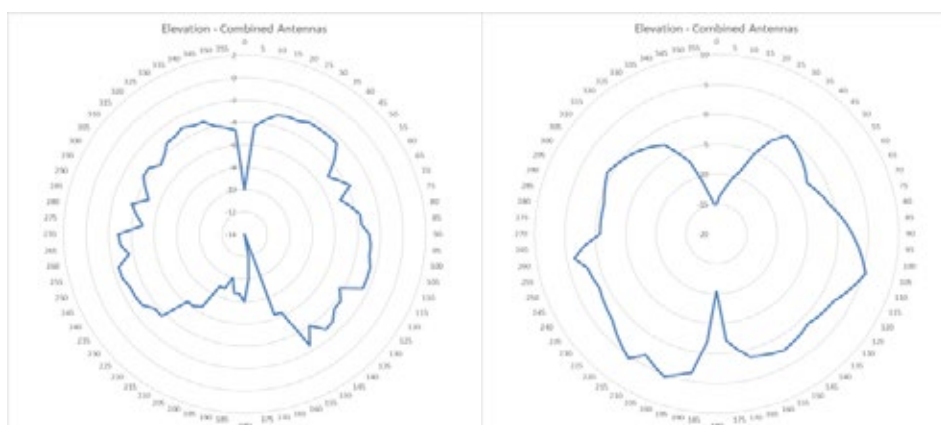
Below are the NX-AP7540-C6 2.4GHz and 5GHz azimuth antenna patterns:



NX-AP7540-C6 2.4GHz (Left) and 5GHz (Right) Azimuth Antenna Patterns

Vertical (elevation) planes (side view, AP facing down)

Below are the NX-AP7540-C6 2.4GHz and 5GHz elevation antenna patterns:



NX-AP7540-C6 2.4GHz (Left) and 5GHz (Right) Elevation Antenna Patterns

Indoor Access Point Switch NX-AP7540-C6



TECHNICAL SPECIFICATIONS

| SPECIFICATIONS | NX-AP7540-C6 |
|-----------------------|---|
| Radio | Dual-radio dual-band (2.4G+5G): 2.4G 2x2 MIMO + 5G 4x4 MIMO |
| Protocol | Supports standard 802.11ax, dual-radio dual-band, concurrent 802.11ax and 802.11a/b/g/n/ac |
| Operating Bands | 802.11b/g/n: 2.4G ~ 2.483GHz. 802.11a/n/ac/ax: 5.150~5.350GHz, 5.47~5.725GHz, 5.725~5.850GHz (vary depending on different countries) |
| Spatial Streams | Up to 6: 2x2:2 in 2.4GHz, 4x4:4 in 5GHz |
| Max Throughput | Maximum throughput of 2.4G: 400Mbps, 5G: 4.8Gbps, 5.2Gbps |
| Modulation | OFDM: BPSK@6/9Mbps, QPSK@12/18Mbps, 16-QAM@24Mbps, 64-QAM@48/54Mbps DSSS: DBPSK@1Mbps, DQPSK@2Mbps, and CCK@5.5/11Mbps MIMO-OFDM: BPSK, QPSK, 16QAM, 64QAM, 256QAM and 1024QAM OFDMA (up to 1024-QAM) |
| Receiver Sensitivity | 11b: -96dBm (1Mbps), -93dBm (5Mbps), -89dBm (11Mbps), 11a/g: -91dBm (6Mbps), -85dBm (24Mbps), -80dBm (36Mbps), -74dBm (54Mbps), 11n: -90dBm (MCS0), -70dBm (MCS7), -89dBm (MCS8), -68dBm (MCS15) /11ac HT20: -88dBm (MCS0), -63dBm (MCS9) /11ac HT40: -85dBm (MCS0), -60dBm (MCS9) /11ac HT80: -82dBm (MCS0), -57dBm (MCS9) /11ax HT80: -82dBm (MCS0), -57dBm (MCS9), -52dBm (MCS11) /11ax HT160: -80dBm (MCS0), -49dBm (MCS11) |
| Antenna | Integrated antenna design |
| Antenna Gain | 2.4G: 3dBi / 5G: 3dBi |
| Management Port | 1 console port |
| Service Ports | 3 10/100/1000M Ethernet ports (The LAN1 Port supports PoE in, LAN3 Port supports LAN & IoT module expansion with PoE out) |
| IoT Capability | 1 USB 2.0 port |
| USB | BLE |
| Reset Button | Support |
| Anti-theft Lock | Support |
| LED Indicator | 1 LED indicator (Supports red, green, blue, orange and flashing mode, which indicates device access. The indicator can be switched off to silent mode.) |
| Transmit Power | ≤100mw (20dBm) (vary depending on different countries) |
| Adjustable Power | 1dBm |
| Power Supply | Local power supply (DC 48V/1A) (Power adapters are sold separately) PoE+ (802.3at) PoE (802.3af) – Not recommended: 5G radio is degraded to 2x2 MIMO, and the PoE out of the LAN3/ IoT port is disabled |
| Power Consumption | <25.4W |
| IPv4 and IPv6 address | Support |
| Multicast routing | Multicast to unicast conversion |



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TECHNICAL SPECIFICATIONS

| SPECIFICATIONS | NX-AP7540-C6 |
|---|---|
| Temperature | Operating Temperature: -10°C to 50°C, Storage Temperature: -40°C to 70°C |
| Humidity | Operating Humidity: 5% to 95% (non-condensing), Storage Humidity: 5% to 95% (non-condensing) |
| Installation Mode | Ceiling/wall-mountable |
| Dimensions (W x D x H) | 220mm x 220mm x 48.85mm (Height of the AP only, excluding the mount kit) |
| Weight | 1.30kg |
| IP Rating | IP41 |
| Safety Standard | GB4943, EN/IEC 60950-1 |
| EMC Standard | GB9254, EN301 489, EN 55032, EN 61000, EN 55035 |
| Health Standard | EN 62311 |
| Radio Standard | SRRC, EN300 328, EN301 893 |
| DHCP service | DHCP Snooping, Option 82, Server, Client |
| Supported wireless LAN controllers | Nodexon WS Series Wireless Controller, Nodexon MACC-Base Software Controller, Nodexon Cloud (Public Cloud) |
| Management protocol | Telnet, SSH, TFTP, Web |
| Wireless Intelligent AI Optimization Service (WIS) | Support |
| SNMP | SNMPV1,V2c,V3 |
| Syslog / Debug | Support |
| FAT/FIT/MACC mode switching | Factory default firmware supports FAT (standalone) or FIT mode (WS controller) or MACC mode (Nodexon MACC-Base or Nodexon Cloud) management |
| Configuring the authentication mode, encryption mechanism and VLAN attributes for each SSID | Support |
| BSSID capacity | Up to 32 |
| SSID hiding | Support |
| 5G Priority (Band Steering) | Support |
| Maximum clients per AP | 1024 |
| STA control | SSID/radio-based |
| Bandwidth control | STA/SSID/AP-based bandwidth control |



Indoor Access Point Switch NX-AP7540-C6



TECHNICAL SPECIFICATIONS

| SPECIFICATIONS | NX-AP7540-C6 |
|--|--|
| Data encryption | WPA (TKIP), WPA-PSK, WPA2 (AES), WPA3, WEP (64/128 bits) |
| PSK and web authentication | Support |
| PPSK authentication (For Employee) | Support (require wireless controller) |
| 802.1x authentication | Support |
| PEAP authentication | Support |
| Data frame filtering | Whitelist, static/dynamic blacklist |
| User isolation | Support |
| Rogue AP detection and counter measure | Support |
| Dynamic ACL assignment | Support |
| RADIUS | Support |
| CPU Protection Policy (CPP) | Support |
| Network Foundation Protection Policy (NFPP) | Support |
| Remote Intelligent Perception Technology (RIPT) | Support |
| Intelligent device recognition technology | Support |
| Intelligent load balancing based on the number of users or traffic | Support |

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