

# 300Mbps 802.11n Wireless Ceiling-mount Range Extender

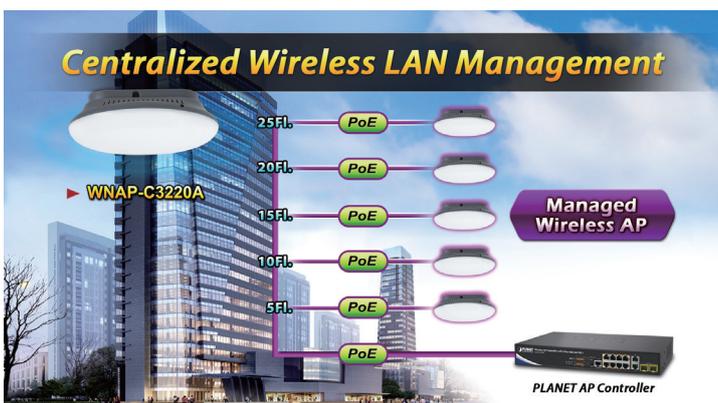


PLANET WNAP-C3220A, a **300Mbps 802.11n Wireless** Range Extender, offers **multiple operation modes** and complies with **802.3af/at Power over Ethernet** standard. Particularly, it supports **AP Controller** features that can increase wireless coverage and can easily be centrally managed within a network. **Sleek styling housing** and **ceiling-mountable** design makes the WNAP-C3220A blend unobtrusively into any ceiling or wall for various environments. This unique product also creates a secure, cost-effective and highly scalable wireless LAN infrastructure. It is ideal for enterprises, hotels, hospitals and home users to extend wireless network coverage.



## Ease of Deployment with PLANET AP Controller

To simplify the wireless deployment, the WNAP-C3220A supports AP controller, which can be switched to the “managed AP” mode and thus can be centrally managed by PLANET Wireless AP Controller. It will certainly benefit the system integrators when the scale of the wireless network gets bigger. With visible LED lighting, the administrator can quickly pinpoint the localization of each ceiling-mount AP. Furthermore, the user-friendly, graphical configuration setup wizard and PLANET Smart Discovery tool can make the WNAP-C3220A convenient to be managed and configured remotely in a small business wireless network.



## Wireless Standard Compliance

- Compliant with IEEE 802.11n wireless technology with data rate of up to 300Mbps
- Backward compatible with 802.11b/g standard
- Supports IEEE 802.3af/at standard-based PoE or local AC power

## Secure Network Connection

- Advanced security: 64-/128-bit WEP, WPA/WPA2 and WPA-PSK/WPA2-PSK (TKIP/AES encryption), 802.1x
- Supports wireless MAC address filtering control to limit the connected wireless clients

## Comprehensive Wireless Advanced Features

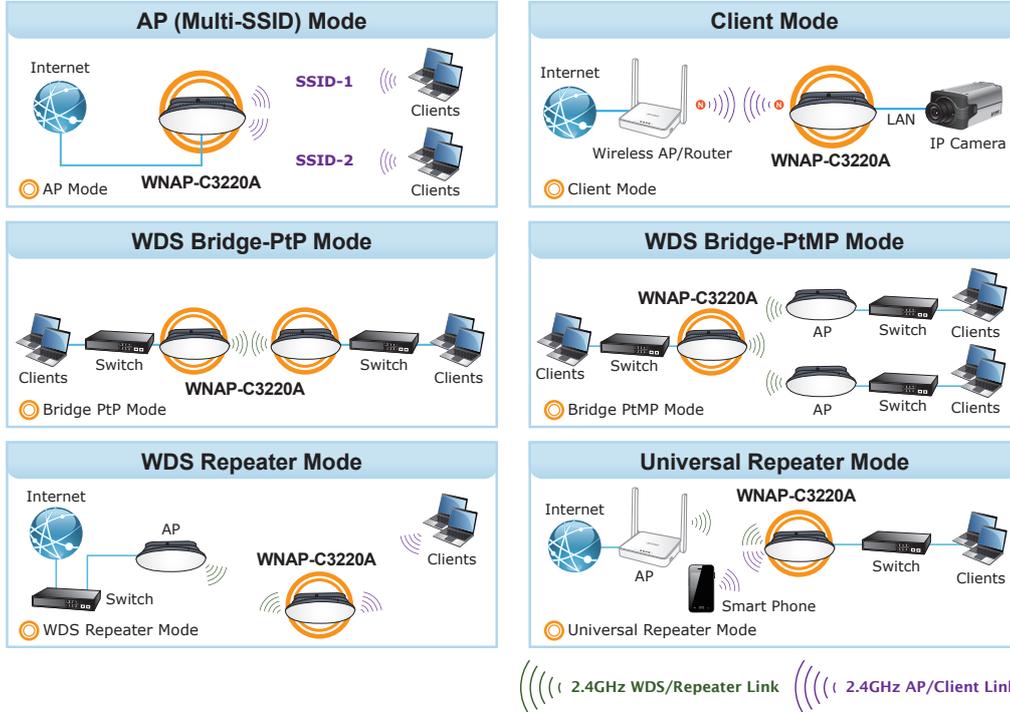
- Multiple operation modes including AP (Multi-SSIDs), Client, Repeater/Universal Repeater, WDS Point-to-Point (PtP) and WDS Point-to-Multipoint (PtMP)
- Up to 5 multiple-SSIDs to allow users to access different networks through a single AP
- Supports WMM (Wi-Fi Multimedia) and wireless QoS to enhance the efficiency of multimedia application
- Supports IAPP (Inter Access Point Protocol) wireless roaming to enable clients to roam across multiple APs
- Provides 5-level Transmitting Power Control to adapt various environments
- Wireless schedule allows administrators to enforce time-based internet access
- Self-healing (Schedule Reboot) mechanism for reliable connection

## Easy Deployment & Centralized Management

- Supports AP controller to enable administrator to configure and monitor multiple APs simultaneously
- Flexible deployment with standard 802.3af/at PoE/ PD supported
- Sleek, ceiling-mountable design and position LED help to locate multiple APs with ease
- Step-by-step configuration with intelligent setup wizard and graphical Web-based UI
- Supports SNMP-based management interface
- System status monitoring including associated client list and system log

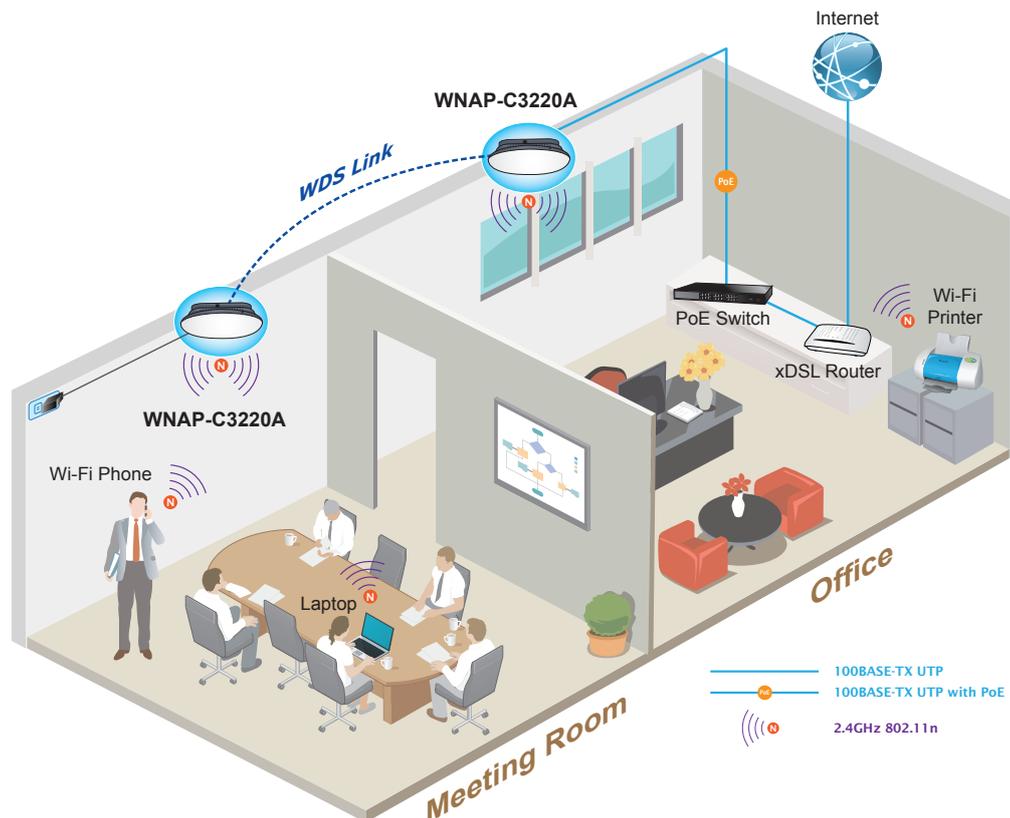
**Comprehensive Wireless Operation Mode**

The WNAP-C3220A supports multiple types of wireless connectivity such as AP (Multi-SSIDs), Client, Repeater/Universal Repeater, WDS Point-to-Point (PtP) and WDS Point-to-Multipoint (PtMP), allowing users to comprehensively experience various applications. It also helps users to easily build wireless network and extend the wireless range of the existing wireless network.



**Universal Wireless Range Extender**

To extend the coverage and eliminate the dead spot of wireless network in every place, the WNAP-C3220A supports not only WDS bridging, but also Universal Repeater mode which can solve the incompatibility between brands and provides a high-speed, wide coverage. The built-in intelligent antennas offer 360 degrees of coverage with excellent performance.



**Advanced, Secure Wireless Connection**

In aspect of security, besides 64-/128-bit WEP encryption, the WNAP-C3220A integrates WPA/WPA2, WPA-PSK/WPA2-PSK and 802.1x authority to secure and protect your wireless LAN. To simplify security settings for home and SOHO network, the WNAP-C3220A supports **Wi-Fi Protected Setup (WPS)**. By just pressing the WPS button or keying in the PIN code, the secure connection between the WNAP-C3220A and wireless clients will be built immediately even the user has never experienced to create a secure wireless network. In addition, the WNAP-C3220A provides the wireless MAC filtering and SSID broadcast control to consolidate the wireless network security and prevent unauthorized wireless connection.

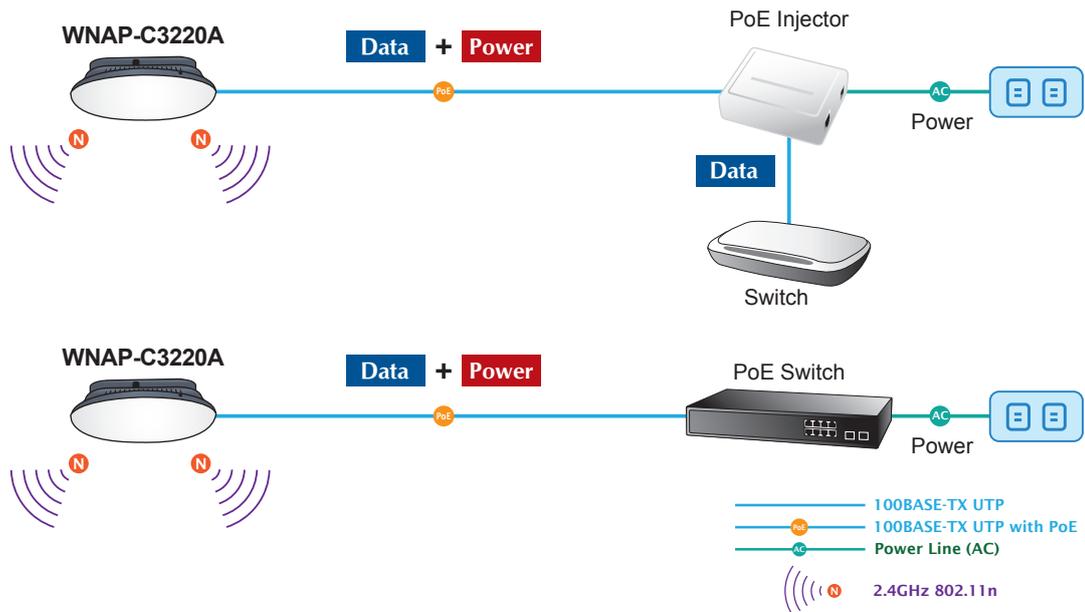
**Elegant, Unique & Ceiling-mountable Design**

Featuring an attractive flying saucer appearance and ceiling-mountable design, the WNAP-C3220A can be firmly absorbed on the ceiling or the wall, which makes the client-side installation easy and convenient. Its streamlined body without protruding antennas gives effects of embellishment on the surroundings and also provides greater wireless coverage.



**Flexible Deployment with PoE Feature**

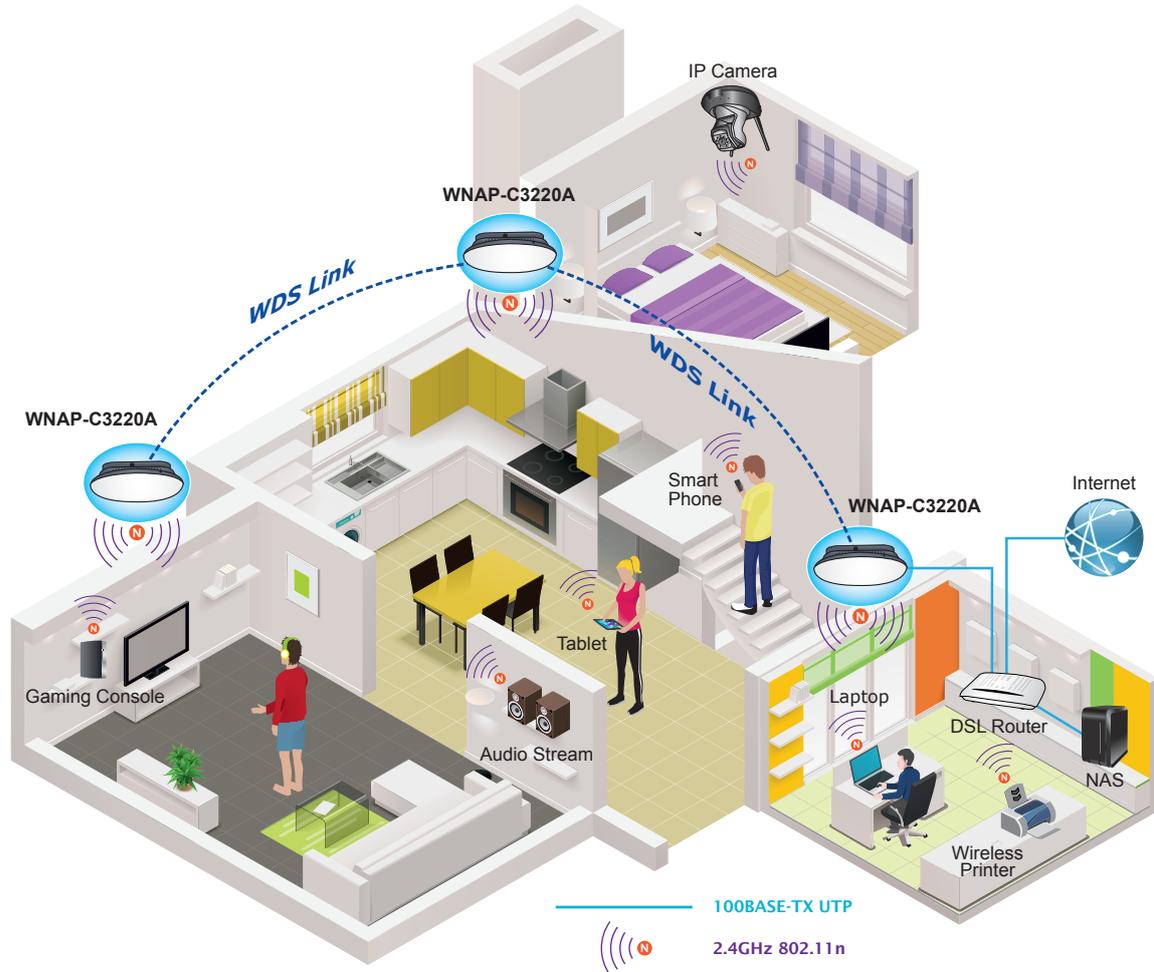
Compliant with IEEE 802.3af/at Power over Ethernet standard, the WNAP-C3220A can be powered and networked by a single UTP cable. It thus reduces the needs of extra cables and dedicated electrical outlets on the wall, ceiling or any other place which is difficult to reach. The wireless AP deployment becomes more flexible and worry-free from the power outlet locations.



## Applications

### High-speed and Manageable Wireless Network

To minimize installation and cabling costs, the WNAP-C3220A supports **Wireless AP Controller**, **SNMP**, **PLANET Smart Discovery** and **multiple operation modes** in software implementation. As to the hardware design, the WNAP-C3220A supports **IEEE 802.3af/at PoE** which can be powered through a single UTP cable and is easy to be mounted on the ceiling within seconds. Thus, the WNAP-C3220A is an ideal solution to providing wireless networking with a high speed of 300Mbps to all residential and office users.



## Specifications

Product	WNAP-C3220A
<b>Hardware Specifications</b>	
PoE	802.3af/at PoE PD, PD Class 3
Interface	Wireless IEEE 802.11b/g/n LAN: 1x 10/100BASE-TX, auto-MDI/MDIX, 802.3af/at PoE compliant
Antenna	Built-in 2T2R, 3dbi antenna
LED	Power/position LED (Allowing LED to turn off via software control)
Button	Reset button (Press over 5 seconds to reset the device to factory default)
Material	Plastic
Dimensions (Φ x H)	144 x 33 mm
Weight	128 ±5g
Power Requirements	802.3af/at PoE, 48-56V DC input, 0.35A (max.) 5V DC input, 1A (max.)
Power Consumption	≤ 4.5W (max.)
Mounting	Ceiling Mount, Wall Mount
<b>Wireless Interface Specifications</b>	
Standard	IEEE 802.11b/g/n 2.4GHz
Antenna Structure	802.11n: 2T2R MIMO
Modulation	Transmission/emission type: DSSS/OFDM Data modulation type: OFDM: BPSK, QPSK, 16-QAM, 64-QAM, DBPSK, DQPSK, CCK
Frequency Range	America -- FCC: 2.412~2.462GHz Europe -- ETSI: 2.412~2.472GHz
Operating Channels	America -- FCC: 1~11 Europe -- ETSI: 1~13
Channel Width	802.11n: 20/40MHz
Data Transmission Rates	802.11n (HT40): 270/243/216/162/108/81/54/27Mbps 135/121.5/108/81/54/40.5/27/13.5Mbps (dynamic)
	802.11n (HT20): 130/117/104/78/52/39/26/13Mbps 65/58.5/52/39/26/19.5/13/6.5Mbps (dynamic)
	802.11g: 54/48/36/24/18/12/9/6Mbps (dynamic)
	802.11b: 11/5.5/2/1Mbps (dynamic)
Transmission Distance	802.11n: up to 70m 802.11g: up to 30m The estimated transmission distance is based on the theory. The actual distance will vary in different environments.
Max. RF Power	802.11n: 17 ± 2dBm 802.11g: 17 ± 2dBm 802.11b: 18 ± 2dBm
Receiver Sensitivity	IEEE 802.11b: -92dBm @ 1Mbps; -85dBm @ 11Mbps, PER < 8% IEEE 802.11g: -88dBm @ 6Mbps; -73dBm @ 54Mbps, PER < 10% IEEE 802.11n: -90dBm @ MCS8; -70dBm @ MCS15, PER < 10%
Data Rate	IEEE 802.11b: 1/2/5.5/11Mbps IEEE 802.11g: 6/9/12/18/24/36/48/54Mbps IEEE 802.11n: 300 Mbps in 40MHz mode/150Mbps in 20MHz mode
TX Power	Provides 5-level Tx Power Control (100%, 70%, 50%, 35%, 15%)
<b>Software Features</b>	
Operation Mode	<ul style="list-style-type: none"> <li>■ Standalone AP</li> <li>■ Managed AP</li> </ul>
Wireless Mode	<ul style="list-style-type: none"> <li>■ AP (Multiple-SSIDs)</li> <li>■ Client</li> <li>■ Repeater (WDS+AP)</li> <li>■ Universal Repeater (AP+Client)</li> <li>■ WDS PtP Bridge</li> <li>■ WDS PtMP Bridge</li> </ul>
Wireless Encryption	<ul style="list-style-type: none"> <li>■ WEP (64-/128-bit) encryption security</li> <li>■ WPA/WPA2 (TKIP/AES)</li> <li>■ WPA-PSK/WPA2-PSK (TKIP/AES)</li> <li>■ 802.1x RADIUS Authentication</li> </ul>
Wireless Security	<ul style="list-style-type: none"> <li>Wireless MAC address filtering (up to 20 entries)</li> <li>Supports WPS (Wi-Fi Protected Setup)</li> <li>SSID broadcast and hide</li> </ul>

Other Protocols and Standards	Supports WMM (Wi-Fi Multimedia) for better data transmission of video or on-line demand
Wireless Advanced	Supports wireless schedule
	Multiple SSIDs: up to 5
	Wireless Isolation: Enables it to isolate each connected wireless client of a BSSID from communicating with each other
	IAPP (Inter Access Point Protocol): 802.11f wireless roaming
Max. Clients	Provides wireless statistics, max. associated station number
	Wired: 253 2.4GHz Wireless: 32
LAN	Built-in DHCP server supporting static IP address distribution
	Supports static IP and dynamic IP
	Supports UPnP
	Supports 802.1d Spanning Tree
System Management	Web-based (HTTP) management interface
	Supports SNTP synchronization
	Easy firmware upgrade via HTTP/TFTP (through AP controller)
	Easily locate deployed APs through the LED control
	Supports scheduled reboot
Max. WDS Peers	Supports Smart Discovery Utility
	Supports WAPC series of AP controllers for central management
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IEEE Standards	IEEE 802.11n (2T2R, up to 300Mbps)
	IEEE 802.11g
	IEEE 802.11b
	IEEE 802.11i
	IEEE 802.3 10BASE-T
	IEEE 802.3u 100BASE-TX
Other Protocols and Standards	IEEE 802.3x flow control
Other Protocols and Standards	CSMA/CA, CSMA/CD, TCP/IP, DHCP, ICMP, SNTP
<b>Standards Conformance</b>	
Temperature	Operating: -10 ~ 50 degrees C Storage: -40 ~ 70 degrees C
Humidity	Operating: 10 ~ 90% (non-condensing) Storage: 5 ~ 90% (non-condensing)
Regulatory	CE, RoHS

## Ordering Information

WNAP-C3220A	300Mbps 802.11n Wireless Ceiling-mount Range Extender
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## Related Wireless Products

WDL-U601AC	433Mbps 802.11AC Dual Band Wireless USB Adapter
WDAP-C7200AC	1200Mbps 802.11ac Dual Band Ceiling-mount Wireless Access Point
WDAP-W7200AC	1200Mbps 802.11ac Dual Band Wall-mount Wireless Access Point

## Related PoE Products

WAP-1232HP	Wireless AP Controller with 8-Port 802.3at PoE+
WAPC-2864HP	Wireless AP Controller with 24-Port 802.3at PoE + 4-Port 10G SFP+
POE-152	IEEE 802.3af Power Over Ethernet Injector (End-span)
POE-2400G	24-Port Gigabit IEEE 802.3af Power over Ethernet Injector Hub
WGSD-10020HP	L2+ 8-Port 10/100/1000T + 2-Port 100/1000X SFP Managed 802.3at PoE Switch
WGSW-24040HP/ WGSW-24040HP4	24-Port 10/100/1000Mbps 802.3at PoE+ with 4 Shared SFP Managed Switch

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