# GPON HGU with 4-Port GbE, 1200Mbps 802.11ac Wireless and 2-Port FXS (1 x USB)

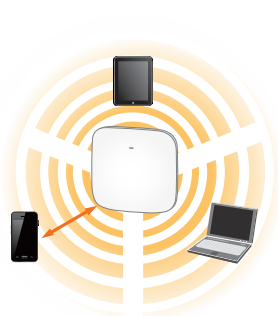## *Ultra-high-speed, Wave 2 MU-MIMO Wireless LAN Solution*

PLANET WDAP-C7210E 1200Mbps Wave 2 Dual Band 802.11ac Wireless AP supports central management through PLANET NMS controllers. With IEEE 802.11ac Wave 2 MU-MIMO 2T2R dual-band technology, the WDAP-C7210E provides a maximum wireless speed of 867Mbps at 5GHz and 300Mbps at 2.4GHz.



Mega Speed Wireless Solution via 802.11ac Wave 2 — Seamless Roaming, Wave 2 MU-MIMO, Dual Band 5GHz/2.4GHz, 1200 Mbps, Setup Wizard, AP Control, Dashboard — PLANET NMS Controller

## *Benefits of MU-MIMO under 802.11ac Wave 2*

With the MU-MIMO Wave 2 technology, the WDAP-C7210E, installed in public areas such as hotspots, airports and conferences, reduces the frustration that Wi-Fi users often experience in downloading web pages, e-mail file attachments and media contents. For cellular operators, the WDAP-C7210E provides a better Wi-Fi user experience, reducing the likelihood of users turning off Wi-Fi and putting more load on the cellular network. For enterprises, this technology also can solve Wi-Fi congestion issues in open work spaces and conference rooms.

|  |  |
|---|---|
| WAVE 1 | WAVE 2 |
| **SU-MIMO** | **MU-MIMO** |
| Serving one user at a time | Serving multiple users simultaneously |
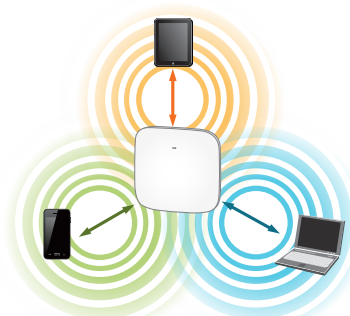


## Industrial Compliant Wireless LAN and LAN

- Compliant with the IEEE 802.11a/b/g/n/ac wireless technology
- Equipped with 10/100/1000Mbps RJ45 ports, auto MDI/MDI-X supported

## RF Interface Characteristics

- 802.11ac Wave 2 2T2R MIMO architecture with data rate of up to 1200Mbps (300Mbps at 2.4GHz and 867Mbps at 5GHz)
- High output power with multiply-adjustable transmit power control

## Multiple Operation Modes and Wireless Features

- Multiple operation modes: AP, Gateway, WISP, Repeater, Super WDS
- WMM (Wi-Fi multimedia) provides higher priority to multimedia transmitting over wireless
- Coverage threshold to limit the weak signal of clients occupying session
- Real-time Wi-Fi channel analysis chart and client limit control for better performance
- Support Terminal Fast Roaming with 802.11k, 802.11v, and 802.11r

## Secure Network Connection

- Full encryption supported: 64-/128-bit WEP, WPA/WPA2, WPA-PSK/WPA2-PSK and 802.1X RADIUS authentication
- Supports 802.1Q VLAN and SSID-to-VLAN mapping
- Supports IP/Port/MAC address/URL filtering, DoS, SPI Firewall
- Supports DMZ and Port forwarding
- Bandwidth control per IP address to increase network stability

## Easy Deployment and Management

- Supports PLANET AP Controllers in AP mode
- Easy discovery by PLANET Smart Discovery
- Self-healing mechanism through system auto reboot setting
- System status monitoring through remote Syslog Server
- Supports PLANET DDNS/ Easy DDNS

## Powerful Dual-band WLAN Solution

PLANET WDAP-C7210E, adopting the IEEE 802.11ac Wave 2 standard, provides a high-speed transmission of power and data, meaning two remote nodes in the **5GHz** frequency band can be bridged. The **2.4GHz** wireless connection can also be used simultaneously. Furthermore, the WDAP-C7210E adopts the high-class Qualcomm Atheros SoC (System-on-a-Chip), which provides higher stability to meet the stringent requirements of the solution.
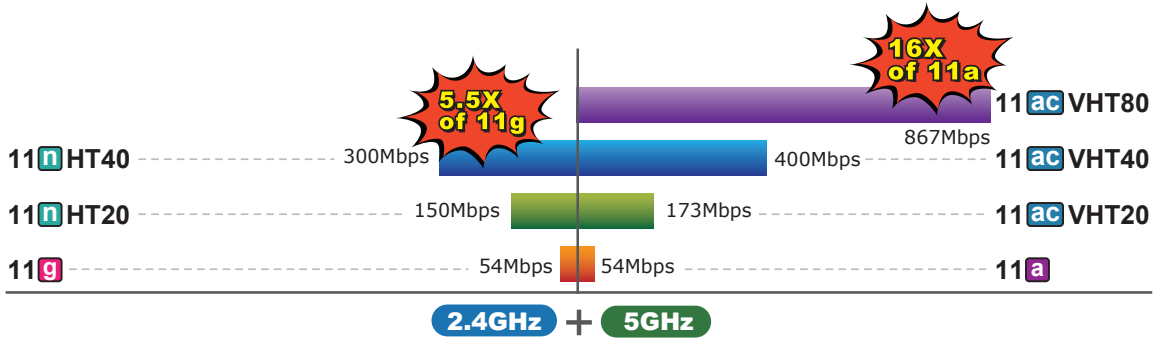


**WDAP-C7210E Data Transmission Rates 1200Mbps**

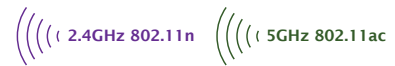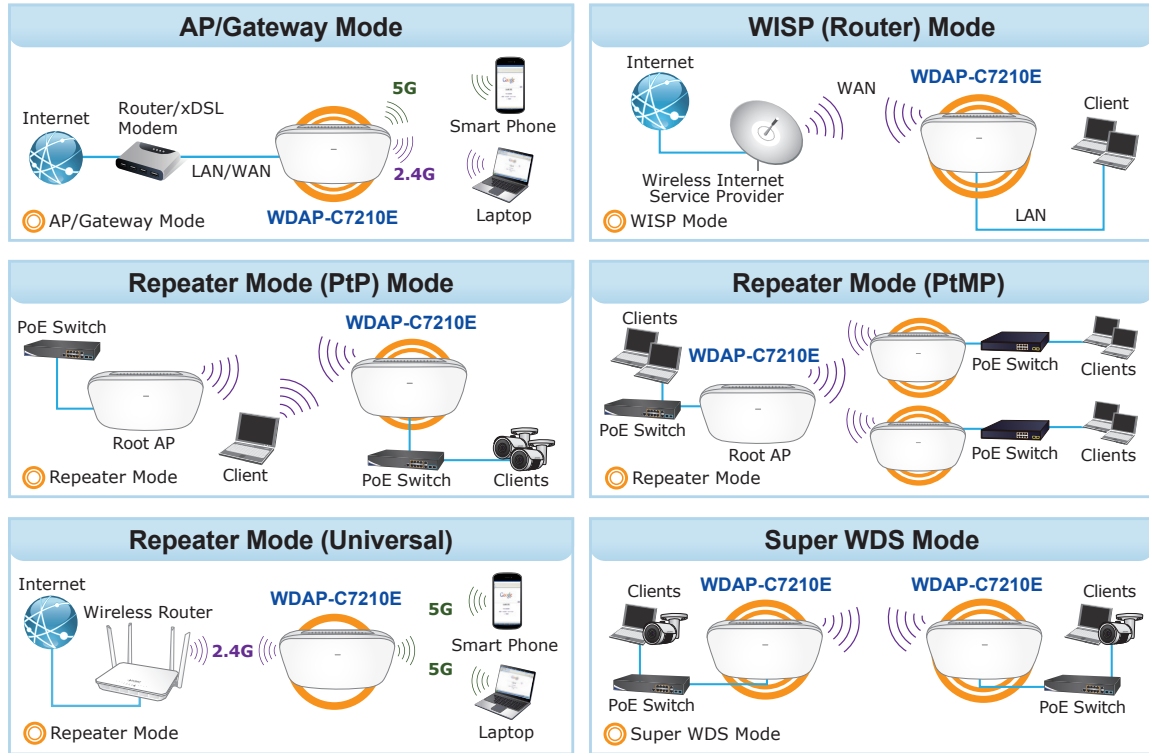## Advanced Security and Rigorous Authentication

The WDAP-C7210E supports 128-bit WEP, WPA / WPA2, WPA-PSK and WPA2-PSK wireless encryptions, the advanced WPA2-AES mechanism and 802.1X RADIUS authentication, which can effectively prevent eavesdropping by unauthorized users or bandwidth occupied by unauthenticated wireless access. Furthermore, any users are granted or denied access to the wireless LAN network based on the ACL (Access Control List) that the administrator pre-established. For management purposes, the IEEE 802.1Q VLAN supported allows multiple VLAN tags to be mapped to multiple SSIDs to distinguish the wireless access.

## Multi-SSID + VLAN + Fast Roaming
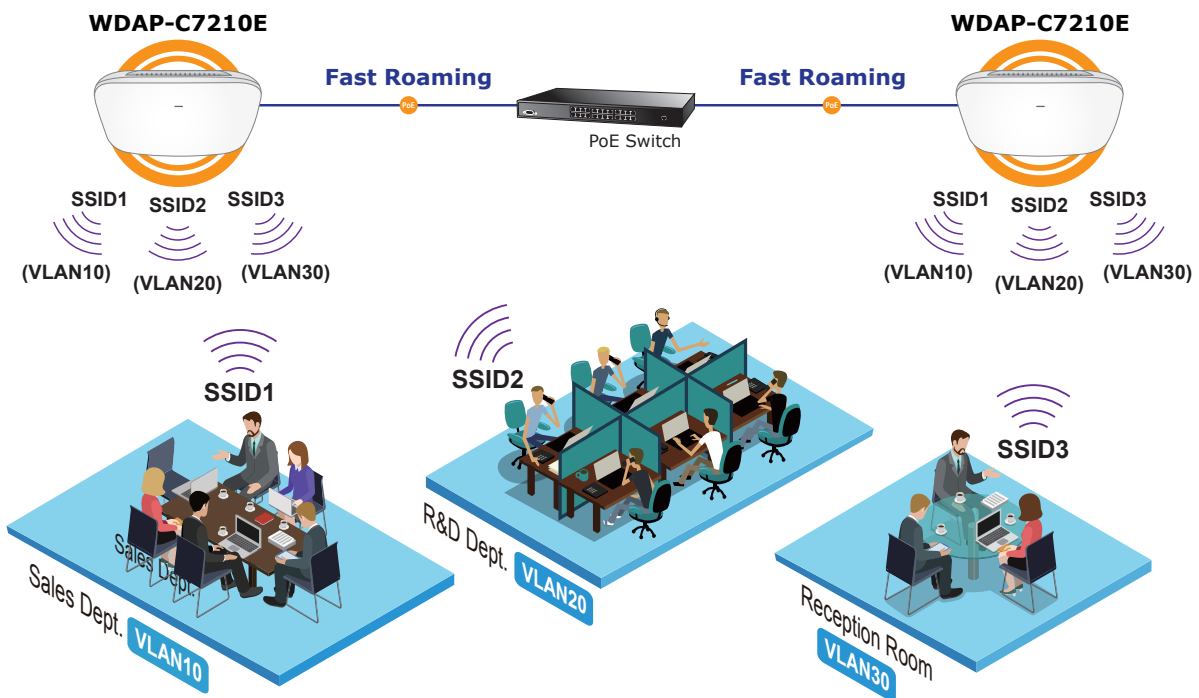
## Multiple Operation Modes for Various Applications

The WDAP-C7210E supports AP, Gateway, WISP, Repeater and Super WDS modes, through which it provides more flexibility for users when wireless network is established. Compared with general wireless access points, the WDAP-C7210E offers more powerful and flexible capability for wireless clients.



AP/Gateway Mode

WISP (Router) Mode

Repeater Mode (PtP) Mode

Repeater Mode (PtMP)

Repeater Mode (Universal)

Super WDS Mode

2.4GHz 802.11n    5GHz 802.11ac

## Ceiling-mount Design for Your Environment

With the standard IEEE802.3at Power over Ethernet (PoE) design, the WDAP-C7210E can be easily installed in the areas where power outlets are not available. By supporting the standard IEEE 802.3at PoE PD power scheme, the WDAP-C7210E can be powered and networked by a single UTP cable, effectively eliminating the needs of dedicated electrical outlets on the ceiling and reducing the cabling cost. Furthermore, the system administrator is able to arrange the PoE schedule of the WDAP-C7210E by working with the managed PoE switch.



AP/Gateway Mode

PoE (PD)-enabled device
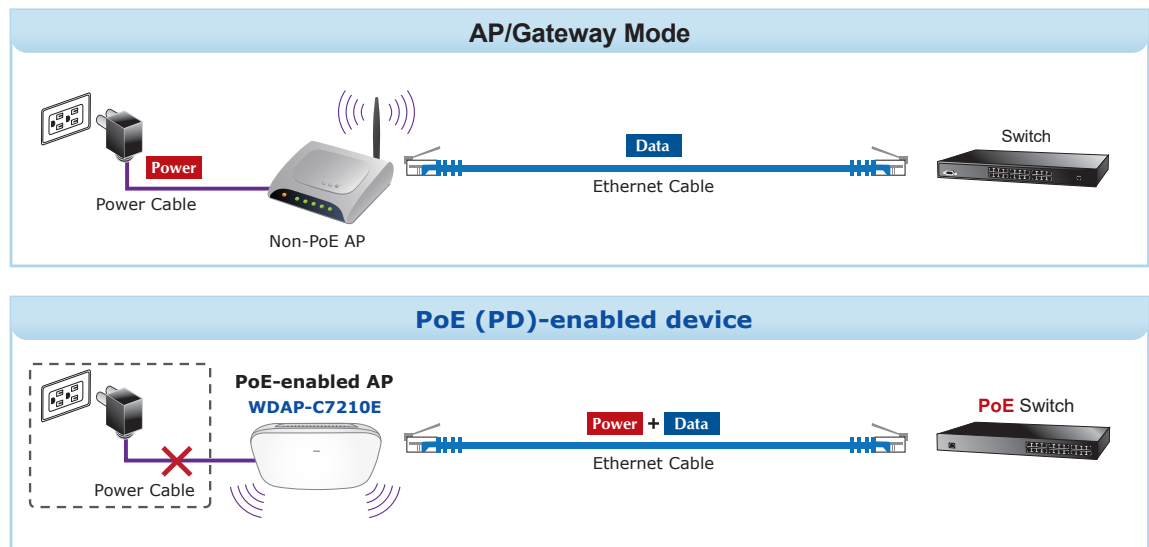
## Optimized Efficiency in AP Management

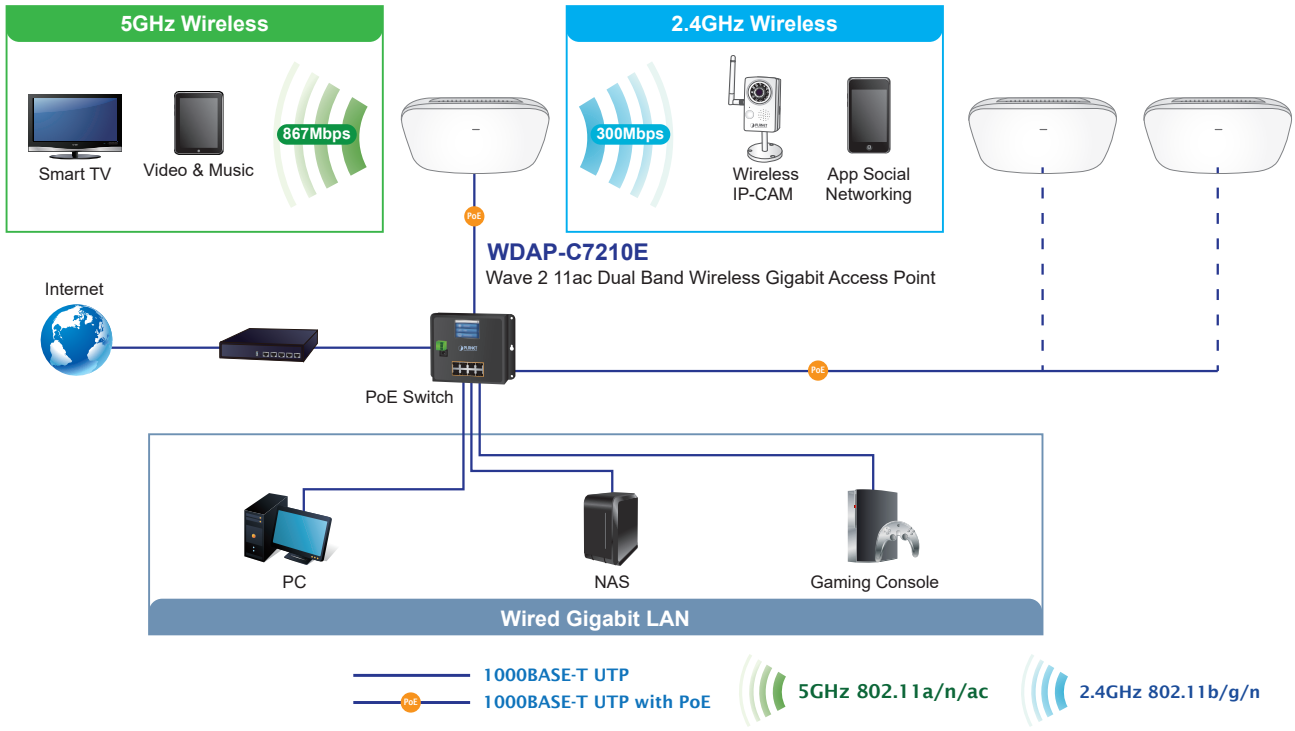The brand-new GUI configuration wizard helps the system administrator easily set up the WDAP-C7210E step by step. Besides, the built-in Wi-Fi analyzer provides real-time channel utilization to prevent channel overlapping to assure greater performance. With the automatic transmission power mechanism, distance control and scheduled reboot setting, the WDAP-C7210E is easy for the administrator to deploy and manage without on-site maintenance. Moreover, you can use PLANET NMS-500 or NMS-1000V AP control function to deliver wireless profiles to multiple APs simultaneously, thus making the central management simple.

**Setup Wizard Multiple Modes**

**Home Dashboard for Wi-Fi Status**

**Wi-Fi Channel Analyzer**
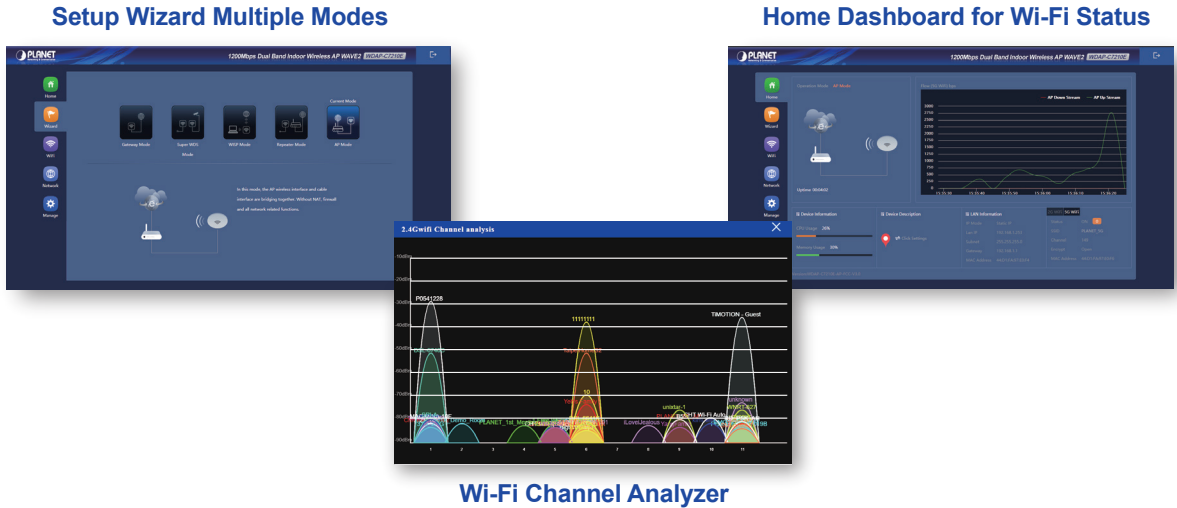
# Applications

## Extremely High Speed and Dual Band Make Wi-Fi Transmission More Powerful

The WDAP-C7210E delivers the Dual Band technology to avoid signal interference and ensure the best Wi-Fi performance. It allows you to check e-mails and surf the Internet via the 2.4GHz band and simultaneously watch High-Definition (HD) video or any other multimedia application via 5GHz band. Moreover, the Gigabit Ethernet port of the WDAP-C7210E offers ultra-fast wired connections that utilize the maximum wireless bandwidth; therefore, users will have real wireless speed over 100Mbps. With outstanding stability of high-speed wireless transmission, the WDAP-C7210E can provide users with excellent experience in multimedia streaming with your mobile devices anywhere, anytime.

**5GHz Wireless**

**2.4GHz Wireless**

Smart TV | Video & Music

867Mbps

300Mbps

Wireless IP-CAM | App Social Networking

**WDAP-C7210E**
Wave 2 11ac Dual Band Wireless Gigabit Access Point

Internet

PoE Switch

PC | NAS | Gaming Console

**Wired Gigabit LAN**

1000BASE-T UTP
1000BASE-T UTP with PoE

5GHz 802.11a/n/ac | 2.4GHz 802.11b/g/n

## Specifications

| Product | | WDAP-C7210E |
|---|---|---|
| **Hardware Specifications** | | |
| Interfaces | LAN | 2 x 10/100/1000BASE-T RJ45 port<br>Auto-negotiation and auto MDI/MDI-X |
| Antennas | Gain | 4 x Internal 5dBi antenna (2.4G x2, 5G x2) |
| Reset Button | | Reset button on the rear side  (Press over 15 seconds to reset the device to factory default) |
| LED Indicators | | SYS, 2.4G, 5G |
| Dimensions (W x D x H) | | 186 x 186 x 35.8mm |
| Weight | | 380 ±5g |
| Power Requirements | | 48V DC IN, 0.5A, IEEE 802.3at PoE+ or<br>12V DC IN, 1.5A from DC Jack ( 5.5 x 2.1mm ) |
| Power Consumption | | < 12W |
| Mounting | | Ceiling Mount |
| **Wireless Interface Specifications** | | |
| Standard | | IEEE 802.11ac<br>IEEE 802.11n<br>IEEE 802.11a<br>IEEE 802.11b<br>IEEE 802.11g<br>IEEE 802.11i<br>IEEE 802.3 10BASE-T<br>IEEE 802.3u 100BASE-TX<br>IEEE 802.3ab 1000BASE-T<br>IEEE 802.3x flow control<br>IEEE 802.11k, 802.11v, and 802.11r |
| Media Access Control | | CSMA/CA |
| Data Modulation | | 802.11ac: OFDM (BPSK / QPSK / 16QAM / 64QAM / 256QAM)<br>802.11a/g/n: OFDM (BPSK / QPSK / 16QAM / 64QAM)<br>802.11b: DSSS (DBPSK / DQPSK / CCK) |
| Band Mode | | 2.4G / 5G concurrent mode |
| Frequency Range | | **2.4GHz:**<br>  FCC: 2.412~2.462GHz<br>  ETSI: 2.412~2.472GHz<br>**5GHz:**<br>  FCC: 5.180~5.240GHz, 5.745~5.825GHz<br>  ETSI: 5.180~5.700GHz |
| Operating Channels | | FCC: 36, 40, 44, 48, 149, 153, 157, 161, 165 (9 Channels)<br>ETSI: 36, 40, 44, 48, 100, 104, 108, 112, 116, 132, 136, 140 (12 Channels)<br>**5GHz channel list may vary in different countries according to their regulations.** |
| Max. Transmit Power (dBm) | | FCC: up to 22 ± 1dBm<br>ETSI: < 20dBm (EIRP) |

| Receive Sensitivity | **Network Mode** | **Data Rate** | **Receive Sensitivity (dBm)** |
|---|---|---|---|
| | **2.4GHz** | | |
| | **802.11b** | 1Mbps | -99 |
| | | 11Mbps | -92 |
| | **802.11g** | 6Mbps | -95 |
| | | 54Mbps | -82 |
| | **802.11n HT20** | MCS0/MCS8 | -95 |
| | | MCS7/MCS15 | -77 |
| | **802.11n HT40** | MCS0/MCS8 | -93 |
| | | MCS7/MCS15 | -75 |
| | **5GHz** | | |
| | **802.11a** | 6Mbps | -92 |
| | | 54Mbps | -75 |
| | **802.11n HT20** | MCS0/MCS8 | -91 |
| | | MCS7/MCS15 | -72 |
| | **802.11n HT40** | MCS0/MCS8 | -88 |
| | | MCS7/MCS15 | -70 |
| | **802.11ac VHT20** | MCS0 | -92 |
| | | MCS8 | -70 |
| | **802.11ac VHT40** | MCS0 | -89 |
| | | MCS9 | -65 |
| | **802.11ac VHT80** | MCS0 | -87 |
| | | MCS9 | -61 |

| Software Features | |
|---|---|
| LAN | Static IP / Dynamic IP |
| | Supports IP-MAC binding |
| WAN | ■ Static IP |
| | ■ Dynamic IP |
| | ■ PPPoE |
| Wireless Mode | ■ Access Point |
| | ■ Gateway |
| | ■ WISP |
| | ■ Repeater |
| | ■ Super WDS |
| Channel Width | 20MHz, 40MHz, 80MHz |
| Encryption Security | 64-/128-bit WEP, WPA, WPA-PSK, WPA2, WPA2-PSK, 802.1X |
| Wireless Security | Enable/Disable SSID Broadcast |
| | Wireless max. 32 MAC addresses filtering |
| | User Isolation |
| Max. SSIDs | 8 (4 per radio) |
| Max. Clients | 64 per radio (50 is suggested, depending on usage) |
| Max. WDS Peers | 4 |
| Wireless QoS | Supports Wi-Fi Multimedia (WMM) |
| Wireless Advanced | Auto Channel Selection |
| | 5-level Transmit Power Control (Max.100%, Efficient 75%, Enhanced 50%, Standard 25% or Min. 12.5%) |
| | Client Limit Control, Coverage Threshold |
| | Wi-Fi channel analysis chart |
| | Fast Roaming |
| Status Monitoring | Device status, Wireless client List |
| | PLANET Smart Discovery |
| | DHCP client table |
| | System Log supports remote syslog server |
| VLAN | IEEE 802.1Q VLAN (VID: 3~4094) |
| | SSID-to-VLAN mapping up to 4 SSIDs |
| Self-healing | Supports auto reboot settings per day/hour |
| Management | Remote management through PLANET DDNS/ Easy DDNS |
| | Configuration backup and restore |
| | Supports UPnP |
| | Supports IGMP Proxy |
| | Supports PPTP/L2TP/IPSec VPN Pass-through |
| | SNMP v1/v2c/v3 support, MIB I/II, Private MIB |
| Central Management[1] | Applicable controllers: NMS-500, NMS-1000V |
| Remarks [1]: The feature will be supported through firmware/system upgrade. | |
| Environment & Certification | |
| Temperature | Operating: 0 ~ 40 degrees C |
| | Storage: -40 ~ 70 degrees C |
| Humidity | Operating: 10 ~ 90% (non-condensing) |
| | Storage: 5 ~ 90% (non-condensing) |
| Regulatory | CE, RoHS |

# Ordering Information

| WDAP-C7210E | 1200Mbps 802.11ac Wave 2 Dual Band Ceiling-mount Wireless Access Point w/802.3at PoE+ and 2 10/100/1000T LAN Ports |
|---|---|

## Related Wireless Products

| | |
|---|---|
| WDAP-C7200E | 1200Mbps 802.11ac Dual Band Ceiling-mount Wireless Access Point (802.3at PoE, 2 10/100/1000T LAN Ports) |
| WNAP-C3220E | 300Mbps 802.11n Ceiling-mount Wireless Access Point (802.3af/at PoE, 10/100TX LAN) |
| WNAP-W2200UE | 300Mbps 802.11n In-Wall Wireless Access Point w/ USB Charger (EU Type, 802.3af/at) |
| WDAP-W750E | 750Mbps 802.11ac Dual Band In-wall Wireless Access Point w/ USB Charger (EU Type, 802.3af/at PoE, 10/100TX LAN) |
| NMS-500 | Enterprise-class Universal Network Management Controller  (500 nodes, 5 10/100/1000T LAN Ports) |
| NMS-1000V-12 | Universal Network Management Controller with 12" LCD Touch screen (1024 nodes, 2 10/100/1000T LAN Ports) |
| NMS-1000V-10 | Universal Network Management Controller with 10" LCD Touch screen (1024 nodes, 2 10/100/1000T LAN Ports) |

**WDAP-C7210E**