

CW-500 R1

**eXtreme High Power WiFi6 Dual-Radio AX1800
Ceiling/Wall PoE Access Point (500mW)**

EAN Code : 4712757151480



Introduction

CERIO CW-500 R1 is a eXtreme High Power WiFi6 Dual-Radio AX1800 Ceiling/Wall PoE Access Point, supporting 2.4GHz and 5GHz Dual-Band frequencies. It is an ultra-high-speed AX1800 model. **Using the new generation of WiFi6 (802.11ax) Quad-core 1.2Ghz high-computing processing chip with the latest MU-MIMO and OFDMA technology** and provide higher efficiency and transmission speed. **It supports up to 120 client devices simultaneously**, enabling simultaneous uploading and downloading of multiple data streams to multiple wireless devices at once, effectively enhancing transmission efficiency.

The CW-500 R1 hardware using a wireless amplifier chip, which enhances the signal distance capability and stability. **It's built-in dual-band 2x2 (2.4G/5G) 5dBi antennas in four sets to achieve high-speed transmission and reception for wireless MU-MIMO. All Ethernet ports support IEEE 802.3at PoE+ (PD in) function**, allowing both power and data to be provided through CAT5e cabling. No need to worry about power supply installation.

The CW-500 R1 bundles CentOS 5.0 software core and supports CAP (Controlled Access Point) mode for centralized AP management. **It can manage up to 64 wireless APs simultaneously**. The AP mode supports authentication features (AAP authentication entry wireless base station) and built-in 802.1x RADIUS Server account function. Additionally, the AAP mode also supports Repeater and WISP operation modes, making it easy for users to establish or extend wireless AP in various deployment environments. It's the best solution for deployment in enterprises, factories, conference rooms, schools, and WISP applications.

Highlight Features

- 2.4GHz band supports 802.11bgn/ax 2TX/2RX with a maximum transmission rate of 574Mbps (Radio0).
- 5GHz band supports 802.11an/ac/ax 2TX/2RX with a maximum transmission rate of 1200Mbps (Radio1).
- Supports 500mW Output eXtreme High Power at 2.4GHz and 5GHz bands.
- Supports the latest 11ax Low-Density Parity-Check (LDPC) function, which can efficiently perform error correction and supports Space-Time Block Coding (STBC), Transmit Beamforming (TxBF), which can enhance signal coverage and improve wireless transmission performance.
- Supports two 10/100/1000Mbps Gigabit ETH port and both support PoE power input.
- Built-in 4 sets of dual-band (2.4G/5G) 5dBi Omni antennas to achieve wireless MU-MIMO high-speed transmission and reception.
- **Operation Modes** : Including Access Point Mode (AP Mode), Control Access Point Mode (CAP Mode), Client Bridge Mode and WISP Mode.
- Built in 802.1x RADIUS authentication server and supports up to 50 User Accounts.
- Provide customizable login and logout Captive portal page by Web Page.
- CentOS 5.0 Control Access Point Mode (CAP) supports centralized management of up to 64 AP devices.
- With AP mode supports at total of 32 Multiple-ESSIDs per device (16 ESSID on 2.4Ghz and 16 ESSID on 5Ghz).
- With AP mode supports x8 WDS per Radio (2.4Ghz band WDS x8 and 5Ghz band WDSx8) for a total of 16 WDS Links.

Software Features

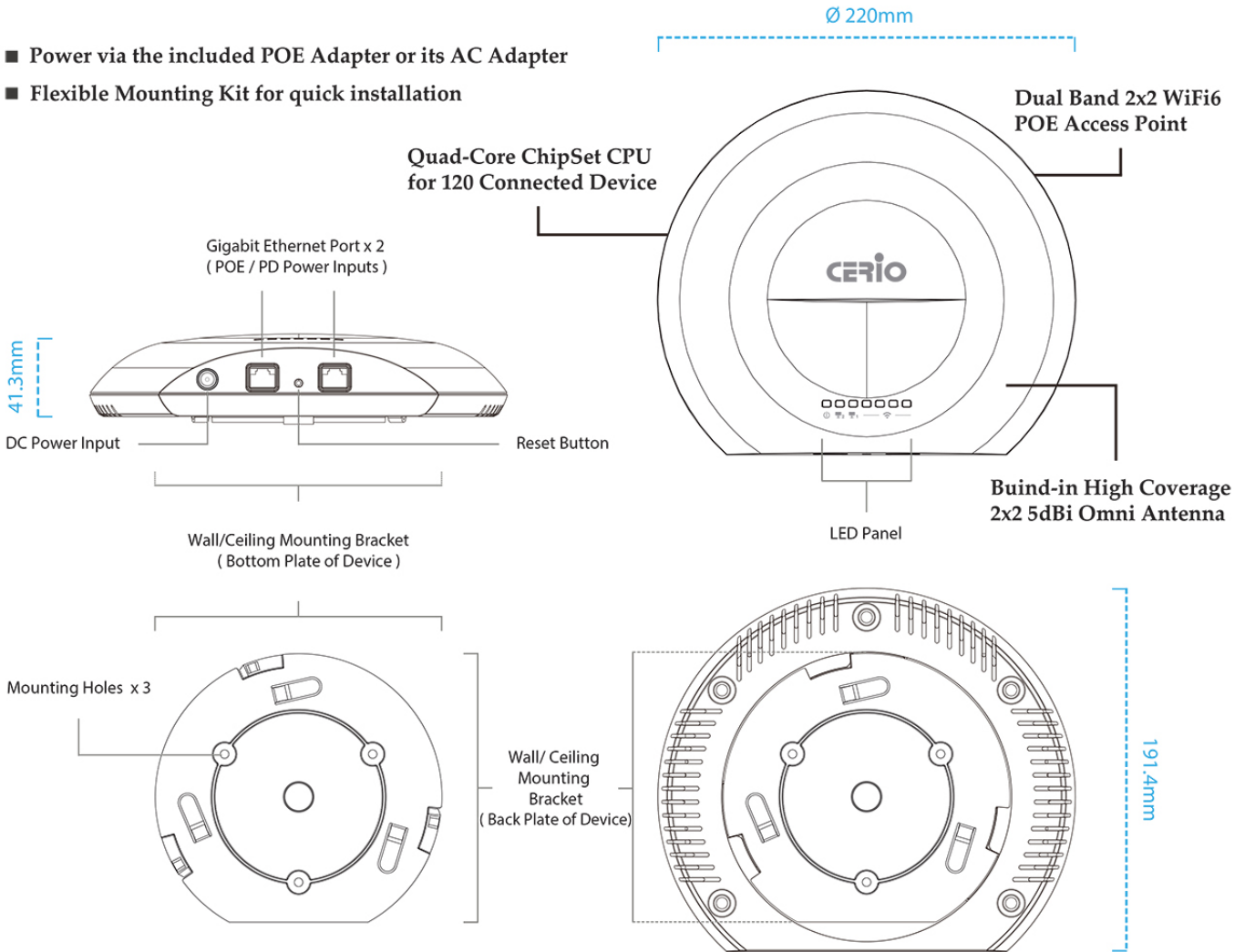
- Built-in 802.1x RADIUS authentication server account database for small and medium environments, removing the need to set up external server and avoiding additional costs. Also supports RADIUS Server authentication server account features to fit the needs of large-scale network environments.
- Built-in Time Policy function can set multiple times schedule apply to RF on/off and IP/MAC filter or other security function.
- Captive Portal Authentication supports by remote RADIUS server, Local account, third-party OAuth2.0, POP3, Guest and remote bulk MAC Address.
- Wireless AP group management - Automatic configuration and setting of intelligent control of AP.
- Each SSID supports 802.1q VLAN Tag standards, supporting up to 4096 group VLAN Tag capability.
- With AP mode supports MAC filtering and wireless account web authentication, and encryption methods such as WEP, WPA/WPA2/WPA3 Personal, WPA/ WPA2/WPA3 Enterprise and 802.1x connection.
- QoS(Quality of Service) for bandwidth management and traffic prioritization and supports network.
- Users Upload / Download Bandwidth Control speed limits and User Device (Total) bandwidth control. Administrators can regulate the limit of each network user.
- Support Band steering technology to automatically switch between frequency bands. When using dual-band network cards with 802.11ac, users can always automatically connect to 5Ghz Radio.
- Supports IEEE802.11f IAPP and IEEE802.11r and IEEE802.11k Fast Roaming.
- Support Ping Watchdog function, which automatically monitoring device operations and reboots the device before a crash can occur.
- Software Web UI supports auto reboot setting function. Software setting allows automatically reboot by Daily/Weekly/Monthly settings.
- Administrative Access : Supports Telnet and SSH.
- Provides Traffic Monitor and Graphical GUI Status Interface for Network and Radio Overview.

Hardware Features

- 2.4GHz band supports 802.11bgn/ax 2TX/2RX with a maximum transmission rate of 574Mbps (Radio0).
- 5GHz band supports 802.11an/ac/ax 2TX/2RX with a maximum transmission rate of 1200Mbps (Radio1).
- Hardware embedded high-power amplifier chip and high sensitivity receiver provide reliable performance for wireless deployment in various environmental applications.
- Supports 500mW at 2.4GHz/5GHz Output eXtreme High Power design.
- Built in 4 sets dual-band 2.4/5GHz 2x2 5dBi Omni Antenna to achieve wireless MU-MIMO high-speed transmission and reception.
- Supports two 10/100/1000Mbps gigabit Ethernet port and all support PoE standard allows PoE power and data transmission through Cat5e cabling. It also supports a DC input of DC12~56V power adapter.
- Supports target wake time (Smart AP TWT) function, the device can stay in a sleep state to save power when it's not necessary to transmit.
- The OFDMA technology allowing multiple users to transmit simultaneously under different bandwidths, increasing transmission efficiency and no delay.
- 802.11ax BSS Coloring to improve service efficiency in high-density AP deployment environments.
- Supports 11ax 1024QAM, which improves the transmission efficiency higher than 256QAM.
- Built-in AES 128,256, DES/3DES, WAPI-2 hardware encryption algorithm acceleration engines.
- Supports "Hardware Watch Dog" function, to achieve automatic reconnection mechanism.
- Easily placed on the desktop or installed on the wall or ceiling.

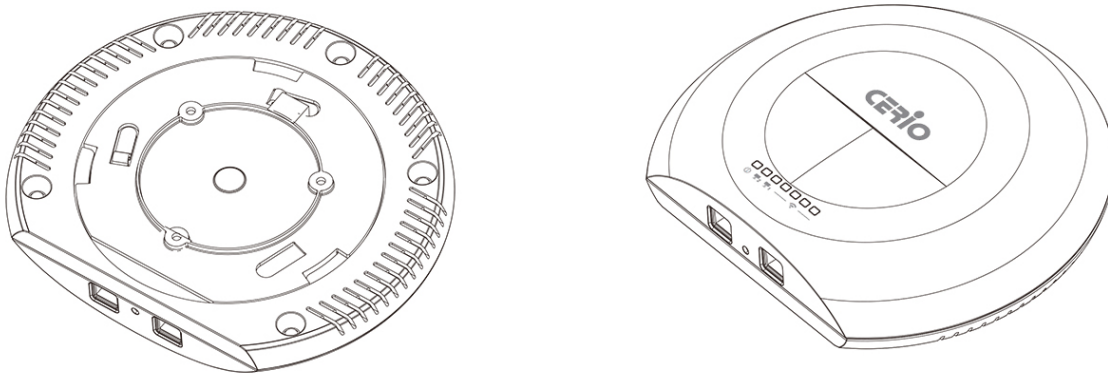
Hardware Overview

- Power via the included POE Adapter or its AC Adapter
- Flexible Mounting Kit for quick installation

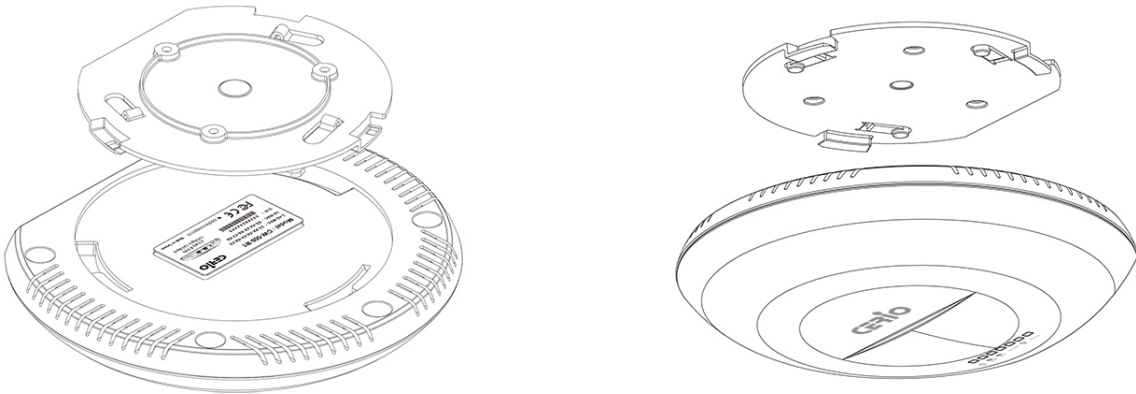


Mounting Application

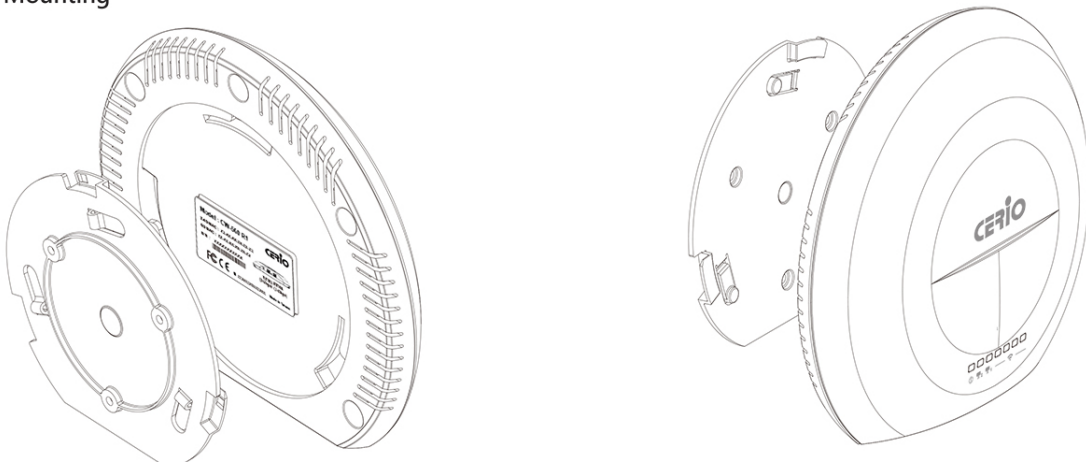
- Desktop placement



■ Ceiling Mounting



■ Wall Mounting



Software

Application Software

Cerio CenOS 5.0 Software Core

Standards & Hardware Specifications

Network Standards Conformance

- IEEE 802.11 p/n/a/ac/ax compliant
- IEEE 802.3 / IEEE 802.3u
- IEEE 802.3af/at Power Over Ethernet compliant
- IEEE 802.11Q VLAN
- IEEE 802.11r/k Fast Roaming
- IEEE 802.11e WMM
- IEEE 802.1x RADIUS
- IEEE 802.3az EEE

Ethernet Configuration

RJ45 10/100/1000M Ethernet Port x 2
(Supports Power over Ethernet 802.3.af/at PoE in)

Reset Button

Reset to the factory default

LED Indicators

- | | |
|------------------------|----|
| PWR (Power) | x1 |
| ETH1 (PoE In) | x1 |
| ETH2 (PoE In) | x1 |
| 2.4GHz WiFi | x1 |
| 5GHz WiFi | x1 |
| 2.4GHz Repeater/Bridge | x1 |
| 5GHz Repeater/Bridge | x1 |

Wireless Specifications

Data Transfer Rate

IEEE802.11b : 1 / 2 / 5.5 / 11Mbps (auto sensing)
IEEE801.11g : 6/ 9/ 12/ 18/ 24/ 36/ 48/ 54Mbps
IEEE802.11n : 400Mbps (@ 40MHz 64QAM)
IEEE802.11ac : 867Mbps (@ 80MHz 256QAM)
IEEE802.11ax : 574Mbps(@ 40MHz 1024QAM)
IEEE802.11ax : 1200Mbps(@ 80MHz 1024QAM)

RF Spatial Streaming

2.4Ghz : / **5Ghz**:
 SU-MIMO (2ss), DL MU-MIMO (2ss, 2 users), UL MU-MIMO (STA mode only, 2ss), DL-OFDMA (8 users), UL-OFDMA (4 users)

Frequency Range

IEEE802.11nbg :
 Supports 2.412 ~ 2.472 GHz
IEEE802.11a/an/ac/ax :
 Supports 5.180 – 5.240 & 5.725 – 5.825 GHz

Channel Spacing

IEEE802.11b/g/n : 20/40MHz
IEEE802.11ac/ax: 20/40/80MHz

Media Access Protocol

OFDMA on top CSMA / CA , Spatial Reuse / BSS Color

Modulation Method

IEEE802.11b : DSSS (DBPK,DQPSK,CCK)
IEEE802.11a/g/n : OFDM(64-QAM,16-QAM,QPSK,BPSK)
IEEE802.11ac : OFDM (256-QAM, 64,-QAM, 16-QAM, QPSK,BPSK)
IEEE802.11ax : OFDMA (1024-QAM, 256-QAM, 64,-QAM, 16-QAM, QPSK,BPSK)

Operating Channels

2.4GHz : 1-13
5GHz : 36-64, 100-140, 149-165
 (Depends on configured regulatory domain)

Transmit Power Variation

2.4GHz : Max : 27 ± 1 dBm
5GHz : Max : 27 ± 1 dBm

Receiver Sensitivity

2.4GHz : Max : -96 dBm
5GHz : Max : -92 dBm

Environmental & Mechanical Characteristics

Operating Temperature

0 °C ~ 40 °C

Storage Temperature

-40 °C ~ 70°C

Operating Humidity

10% - 95% Non-Condensing

Storage Humidity

10% - 95% Non-Condensing

Antenna

Built-in 2x2 (2.4G / 5G) 5dBi Onmi Antenna x 4

Form Factor

Supports Desktop / Wall / Ceiling Mount Installation

Power Consumption

14Watt (Standby)
 20Watt Max (maximum wireless access when using)

Power Requirement

IEEE802.3at 52~57V PoE In or
 DC Jack 12~56 VDC In

Dimensions (W x L x H)

220 x 191.4 x 41.3mm

Housing Materials

Plastic

Unit Weight (g)

415g

Production Location

TW

Certifications

CE, FCC, NCC planning and RoHS Compliant

Package Contents

Package Contents

CW-500 R1 Main Unit	x1
PoE Adapter & AC Power Supply kit	x1
Wall/Ceiling Mounting Bracket(with screw kit)	x1
Quick Installation Guide	x1
Warranty Card	x1