

Specifications

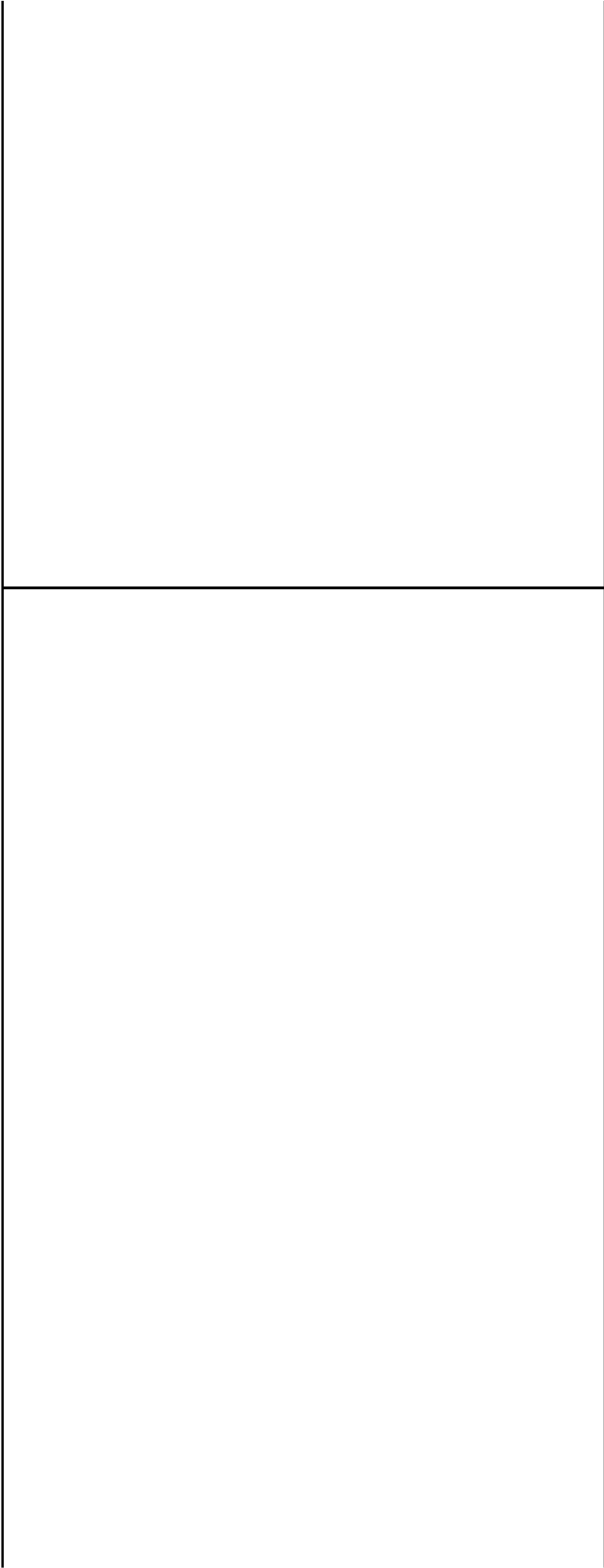
Dimensions and Weight
Unit dimensions (W x D x H)
Shipping dimensions (W x D x H)
Unit weight
Shipping weight
Mounting

Lock option

Wi-Fi Radio

Radio design

Operating frequencies



Data rates

Data rate set

Packet aggregation

Antenna type

Max. antenna gain

Max. transmit power

Power increment

Radio technologies

Modulation types



The following table lists the radio frequency performance of Wi-Fi including different frequency bands, protocols, and data rates. It is country-specific, and Ruijie Networks reserves the right of interpretation.

Wi-Fi Radio
Frequency Performance

Frequency Band and Protocol
2.4 GHz, 802.11b
2.4 GHz, 802.11g
2.4 GHz, 802.11n (HT20)
2.4 GHz, 802.11n (HT40)
2.4 GHz, 802.11ax (HE20)
2.4 GHz, 802.11ax (HE40)
5 GHz, 802.11a
5 GHz, 802.11n (HT20)

5 GHz, 802.11n (HT40)
5 GHz, 802.11n (HT40)
5 GHz, 802.11ac (VHT20)
5 GHz, 802.11ac (VHT40)
5 GHz, 802.11ac (VHT80)
5 GHz, 802.11ax (HE20)
5 GHz, 802.11ax (HE40)
5 GHz, 802.11ax (HE80)

Bluetooth Radio
Bluetooth
Antenna type
Max. antenna gain

Max. transmit power

Receive sensitivity

Ports

Fixed service port

Fixed management Port

Status LED

Button

Dutton

Power Supply and Consumption

Input power supply

Power consumption

Environment and Reliability

Temperature

Humidity

IP rating

Environment standard

Mean Time Between Failure (MTBF)

Certifications and Regulatory Compliance

Regulatory compliance

Certifications

*For more country-specific regulatory information and approvals, contact your local sale agency.

Applicable Software Version
Applicable software version

WLAN
Max. number of associated STAs
Max. number of BSSIDs

STA management

STA limiting

Bandwidth limiting

Wireless roaming

Security and Authentication

Authentication and encryption

Data frame filtering

WIDS

ACL

CPP

NFPP

Routing and Switching

IP service

Multicast

IPv6 basics

IP routing

VPN

Management

Network management

Network management platform

User access management

Fat/Fit/Cloud mode switchover

RG-AP810-L

220 mm x 220 mm x 49 mm (8.7 in x 8.7 in x 2.0 in)

507 mm x 319 mm x 278 mm (20.0 in x 12.6 in x 11.0 in)

Device: 0.6 kg (1.33 lbs)

Mounting bracket: 0.07 kg (0.15 lbs)

1.04 kg (2.29 lbs)

Wall/Ceiling-mount (A mounting bracket is delivered with the main unit)

Kensington lock and securing latch

RG-AP810-L

Dual-radio

Radio 1: 2.4 GHz, two spatial streams, 2x2 MU-MIMO

Radio 2: 5 GHz, two spatial streams, 2x2 MU-MIMO

Radio 1, 802.11b/g/n/ax:

- 2.400 GHz to 2.4835 GHz, ISM

Radio 2, 802.11a/n/ac/ax:

- 5.150 GHz to 5.250 GHz, U-NII-1
- 5.250 GHz to 5.350 GHz, U-NII-2A

- 5.470 GHz to 5.725 GHz, U-NII-2C
- 5.725 GHz to 5.850 GHz, U-NII-3/ISM

Note: Country-specific restrictions apply.

Combined peak data rate: 1.775 Gbps

2.4 GHz radio, 574 Mbps

- Two spatial stream Single User (SU) MIMO for up to 574 Mbps wireless data rate to individual 2SS HE40 802.11ax client devices (max.)

- Two spatial stream Single User (SU) MIMO for up to 287 Mbps wireless data rate to individual 2SS HE20 802.11ax client devices (typical)

5 GHz radio, 1.2Gbps

- Two spatial stream Single User (SU) MIMO for up to 1.2 Gbps wireless data rate to 2SS HE80 802.11ax client devices (typical)

The following 802.11-compliant data rates in Mbps are supported:

2.4 GHz radio

- 802.11b: 1, 2, 5.5, 11
- 802.11g: 1, 2, 5.5, 6, 9, 11, 12, 18, 24, 36, 48, 54
- 802.11n: 6.5 to 300 (MCS0 to MCS15, HT20 to HT40)
- 802.11ax: 8.6 to 574 (MCS0 to MCS11, NSS = 1 to 2, HE20 to HE40)

5 GHz radio

- 802.11a: 6, 9, 12, 18, 24, 36, 48, 54
- 802.11n: 6.5 to 300 (MCS0 to MCS15, HT20 to HT40)
- 802.11ac: 6.5 to 867 (MCS0 to MCS9, NSS = 1 to 4, VHT20 to VHT80)
- 802.11ax: 8.6 to 1,200 (MCS0 to MCS11, NSS = 1 to 2, HE20 to HE80)

802.11n/ac/ax: A-MPDU and A-MSDU

Built-in omnidirectional antennas (two 2.4 GHz antennas and two 5 GHz antennas)

2.8 dBi in 2.4 GHz and 3.6 dBi in 5 GHz

The downtilt angle for the maximum gain is roughly 30 degrees.

With reference to the pattern of each antenna of the MIMO radios, the maximum gain of the effective per-antenna pattern is 2.3 dBi in 2.4 GHz and 2.7 dBi in 5 GHz.

2.4 GHz radio: 26 dBm (23 dBm per chain)

5 GHz radio: 26 dBm (23 dBm per chain)

Note: The transmit power is limited by local regulatory requirements.

Configurable based on requirement

802.11b: Direct-Sequence Spread-Spectrum (DSSS)

802.11a/g/n/ac: Orthogonal Frequency-Division Multiplexing (OFDM)

802.11ax: Orthogonal Frequency Division Multiple Access (OFDMA)

802.11b: BPSK, QPSK, CCK

802.11a/g/n: BPSK, QPSK, 16-QAM, 64-QAM

802.11ac: BPSK, QPSK, 16-QAM, 64-QAM, 256-QAM

802.11ax: BPSK, QPSK, 16-QAM, 64-QAM, 256-QAM, 1024-QAM

RG-AP810-L

Data Rate
1 Mbps
2 Mbps
5.5 Mbps
11 Mbps
6 Mbps
24 Mbps
36 Mbps
54 Mbps
MCS0
MCS7
MCS0
MCS7
MCS0
MCS11
MCS0
MCS11
6 Mbps
24 Mbps
36 Mbps
54 Mbps
MCS0

MCS7
MCS0
MCS7
MCS0
MCS9
MCS0
MCS9
MCS0
MCS9
MCS0
MCS11
MCS0
MCS11
MCS0
MCS11

RG-AP810-L
Bluetooth 5.1
1 x onboard built-in omnidirectional antenna
2.4 dBi, with a downtilt angle of roughly 30 degrees

17 dBm (GFSK)

14 dBm ($\pi/4$ -DQPSK, 8-DPSK)

-95.5 dBm (DH5)

-95 dBm ($\pi/4$ -DQPSK)

-87.5 dBm (8-DPSK)

RG-AP810-L

Uplink: 1 x 10/100/1000Base-T RJ45 Ethernet port with auto-negotiation

- Compliance with IEEE 802.3af standard (PoE)
- Auto MDI/MDIX crossover

- PoE-PD: 54 V DC (nominal) 802.3af/at/bt (Class 3 or higher)

- 802.3az EEE

1 x RJ45 console port (serial console port)

1 x multi-color system status LED

1 x Reset button

- Press the button for shorter than 2 seconds. Then the device restarts.

- Press the button for longer than 5 seconds. Then the device restores to factory settings.

RG-AP810-L

The AP supports the following two power supply modes:

- 48 V DC/0.6 A power input over DC connector: The DC connector accepts 2.1 mm/5.5 mm center-positive circular plug. A DC power adapter needs to be purchased separately.

- PoE input over PoE-in port: The power source equipment (PSE) complies with IEEE 802.3af/at/bt standard (PoE/PoE+/PoE++).

Note:

- If both DC power and PoE are available, DC power is preferred.

Max power consumption: 12.95 W

- DC powered: 12.95 W
- PoE powered (802.3af): 12.95 W
- PoE+ powered (802.3at): 12.95 W
- PoE++ powered (802.3bt): 12.95 W
- Idle mode: 6 W

RG-AP810-L

Operating temperature: -10°C to $+50^{\circ}\text{C}$ (14°F to 122°F)

Storage Temperature: -40°C to $+70^{\circ}\text{C}$ (-40°F to $+158^{\circ}\text{F}$)

Note: At an altitude between 3,000 m (9,843 ft) and 5,000 m (16,404 ft), every time the altitude increases by 220 m (722 ft), the maximum temperature decreases by 1°C (1.8°F).

Operating humidity: 5% to 95% RH (non-condensing)

Storage humidity: 5% to 95% RH (non-condensing)

IP51

Storage and shipment environment: NEBS GR-63-CORE_Issue3_2006 GB/T 2423.6-1995

200,000 hours (22 years) at the operating temperature of 25°C (77°F)

RG-AP810-L

GB 4943.1, GB/T 17618, GB/T 19286

CE Marked, EN 300386, EN 301 489, EN 50155, EN 50121,

IEC/EN 62368-1 (replacing IEC/EN 60950-1),

FCC Part 15E

RED Directive 2014/53/EU

EMC Directive 2014/30/EU

Low Voltage Directive 2014/35/EU

Wi-Fi Alliance:

- 2.4 GHz and 5 GHz Spectrum Capabilities
- Wi-Fi CERTIFIED a, b, g, n, ac, ax (6)

- WPA2™-Enterprise 2018-04
- WPA2™-Personal 2021-01
- WPA3™-Enterprise 2020-02
- WPA3™-Personal 2020-12
- WPA™-Enterprise
- WPA™-Personal
- WMM®, Wi-Fi Agile Multiband™

RG-AP810-L

RGOS11

RG-AP810-L

256 (up to 128 STAs per radio)

32 (up to 16 BSSIDs per radio)

SSID hiding

Band steering

Each SSID can be configured with the authentication mode, encryption mechanism, and VLAN attributes independently.

Remote intelligent perception technology (RIPT)

Intelligent client identification technology

Intelligent load balancing based on the STA quantity or traffic

SSID-based STA limiting

Radio-based STA limiting

STA/SSID/AP-based rate limiting

Layer 2 and Layer 3 roaming

RG-AP810-L

Remote Authentication Dial-In User Service (RADIUS)

PSK, PPSK, web, 802.1X, PEAP, WPA, WPA2, and WPA3 authentication

Data encryption: WEP (64/128-bit), WPA-TKIP, WPA-PSK, WPA2-AES, WPA3

Allowlist, static blocklist, and dynamic blocklist

WIDS (Wireless Intrusion Detection System)

User isolation

Rogue AP detection and containment

Dynamic ACL assignment

- ACL assignment based on time spans
- ACL assignment (complete entry) based on MAC addresses

- Execution of pre-configured ACLs (entry index) based on MAC addresses

Supported

Supported

RG-AP810-L

Static IPv4 address and DHCP-assigned IPv4 address

DHCP Snooping, Option 82, DHCP Server, DHCP Client

Multicast-to-unicast conversion

IPv6 addressing, Neighbor Discovery (ND), ICMPv6, IPv6 Ping

IPv6 DHCP Client

IPv4/IPv6 static routing

PPPoE Client

IPsec VPN, up to five IPsec tunnels

RG-AP810-L

SNMP v1/v2c/v3

Syslog

Debugging

Web-based management (Eweb)

Ruijie Cloud

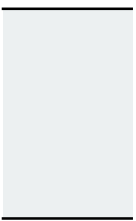
Console, SSH, and Telnet-based management

FTP Client and TFTP Client

When the AP works in Fit mode, it can be switched to Fat mode through an AC.

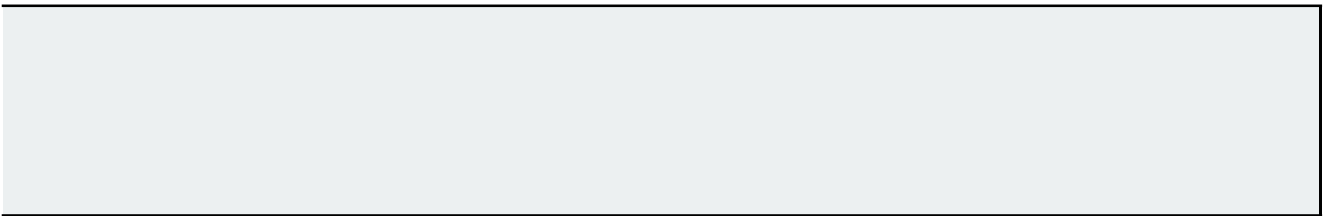
When the AP works in Fat mode, it can be switched to Fit mode through the console port or Telnet.

When the AP works in Cloud mode, it can be managed through Ruijie Cloud.



Max. Transmit Power per Transmit Chain
23 dBm
23 dBm
23 dBm
23 dBm
23 dBm
22 dBm
22 dBm
20 dBm
23 dBm
19 dBm
23 dBm
19 dBm
23 dBm
15 dBm
23 dBm
15 dBm
23 dBm
22 dBm
22 dBm
20 dBm
23 dBm

19 dBm
23 dBm
19 dBm
23 dBm
18 dBm
23 dBm
18 dBm
23 dBm
18 dBm
23 dBm
16 dBm
23 dBm
16 dBm
23 dBm
16 dBm



Max. Receive Sensitivity per Receive Chain

-91 dBm

-91 dBm

-90 dBm

-87 dBm

-89 dBm

-82 dBm

-78 dBm

-72 dBm

-85 dBm

-67 dBm

-82 dBm

-64 dBm

-85 dBm

-58 dBm

-82 dBm

-54 dBm

-89 dBm

-82 dBm

-78 dBm

-72 dBm

-85 dBm

-67 dBm
-82 dBm
-64 dBm
-85 dBm
-60 dBm
-82 dBm
-57 dBm
-79 dBm
-53 dBm
-85 dBm
-58 dBm
-82 dBm
-54 dBm
-79 dBm
-52 dBm