

Specifications

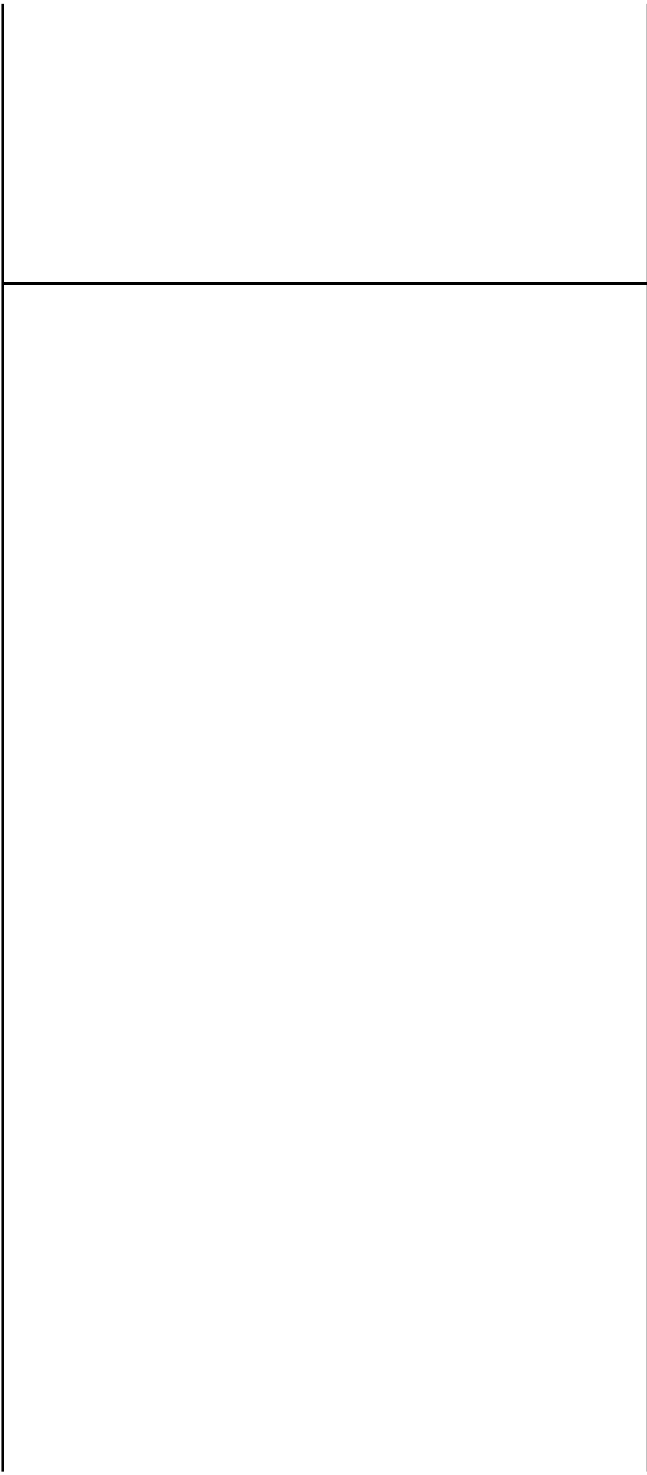
Dimensions and Weight
Unit dimensions (W x H x D)
Shipping dimensions (W x D x H)
Unit weight
Shipping weight

Mounting

Color

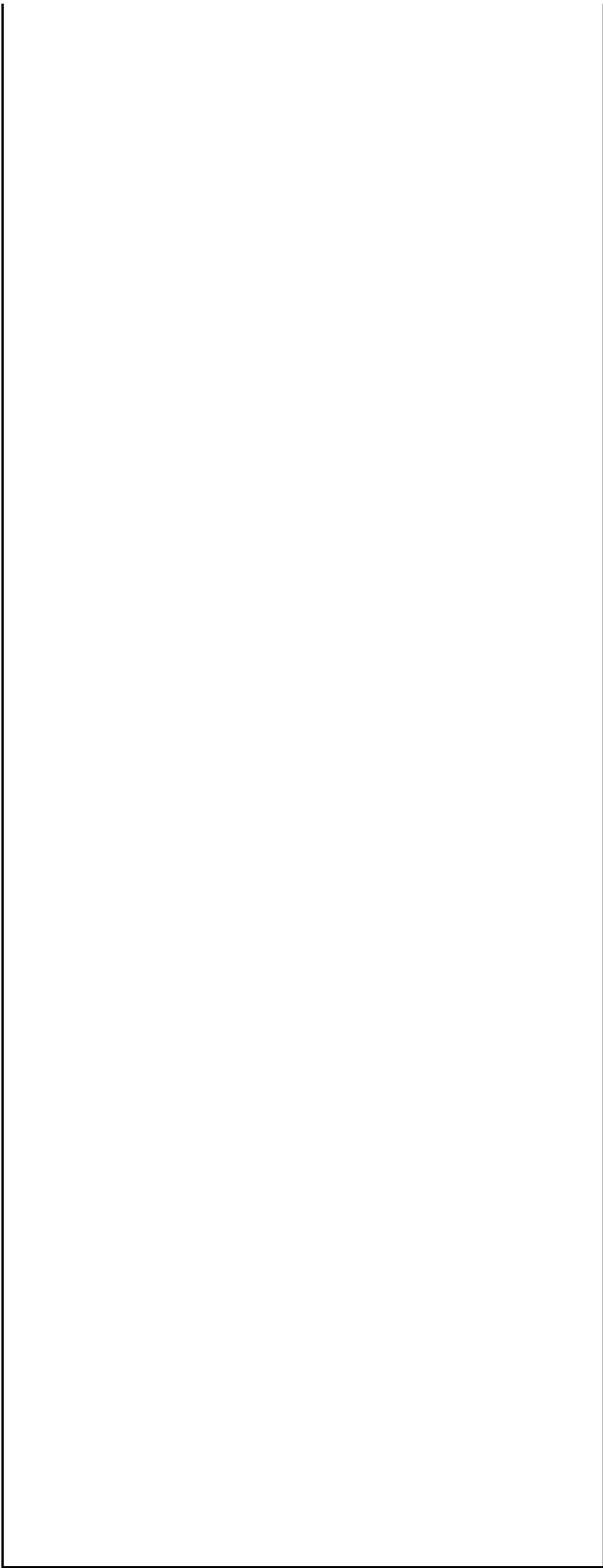
Wi-Fi Radio

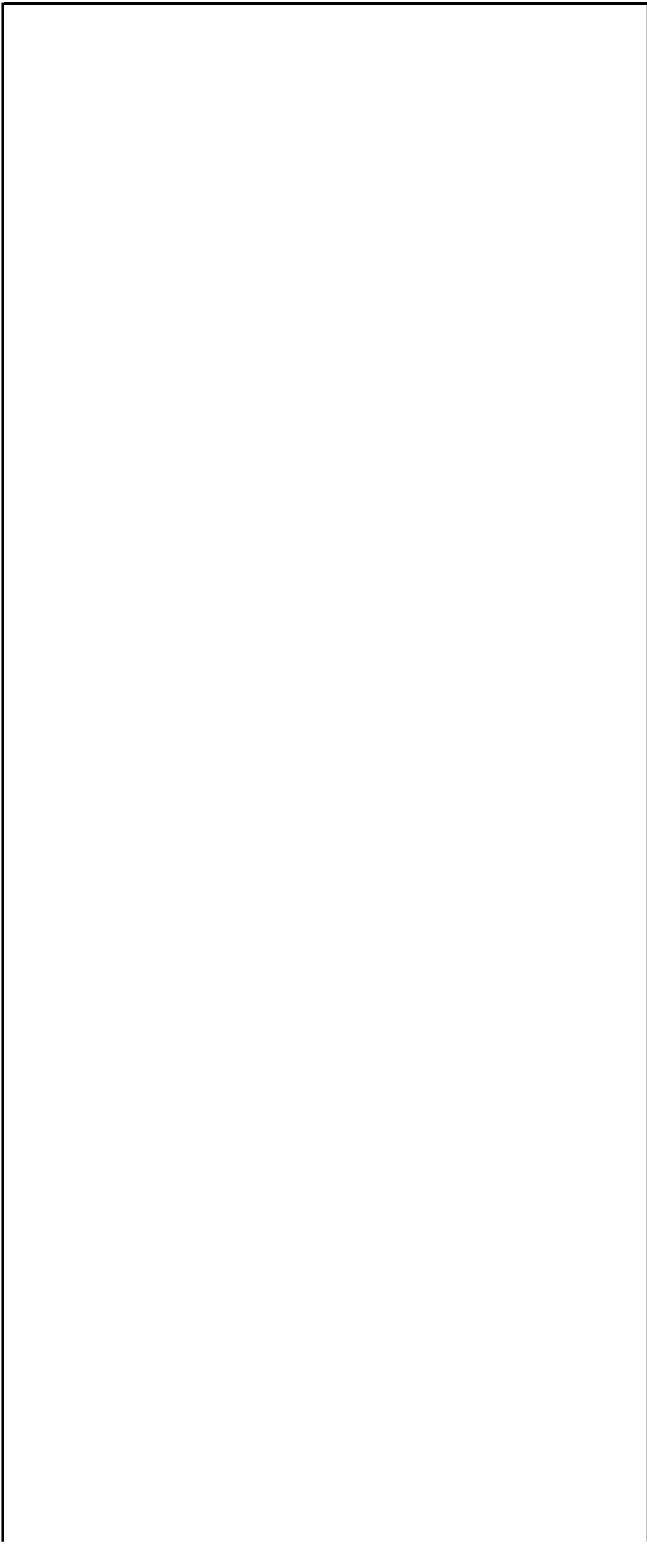
Radio design



Operating frequencies

Data rates





Data rate set

packet aggregation
Antenna type
Max. antenna gain
Max. transmit power

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, 802.11ac (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

Power Supply and Consumption

Input power supply

External 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 sales 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
STA access management

Fat/Fit/Cloud mode switchover

RG-AP180

In-wall: 86 mm x 116 mm x 19 mm (3.4 in x 4.6 in x 0.8 in)

Above-wall: 86 mm x 116 mm x 24 mm (3.4 in x 4.6 in x 1.0 in)

508 mm x 390 mm x 152 mm (20.0 in x 15.4 in x 6.0 in)

0.22 kg (0.49 lbs)

0.3 kg (0.66 lbs)

Wall-mount

Compatible with 86-mm and EU standard junction boxes (if you want to use the US standard junction box, purchase an RG-AP180-MNT mounting bracket separately)

Elegant white

RG-AP180

Dual-radio and up to four spatial streams:

- 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, channels 1 to 13

Radio 2: 802.11a/n/ac/ax

- 5.150 GHz to 5.250 GHz, U-NII-1, channels 36, 40, 44, and 48

- 5.250 GHz to 5.350 GHz, U-NII-2A, channels 52, 56, 60, and 64

- 5.470 GHz to 5.725 GHz, U-NII-2C, channels 100, 104, 108, 112, 116, 120, 124, 128, 132, 136, and 140

- 5.725 GHz to 5.850 GHz, U-NII-3/ISM, channels 149, 153, 157, 161, and 165

Note: Country-specific restrictions apply.

Radio 1: 2.4 GHz, 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)

Radio 2: 5 GHz, 1.2 Gbps

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

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

- Two spatial stream Multi-User (MU) MIMO for up to 1.2 Gbps wireless data rate to up to two 1SS HE80 802.11ax DL-MU-MIMO capable client devices simultaneously (max.)

- Two spatial stream Multi-User (MU) MIMO for up to 574 Mbps wireless data rate to up to two 1SS HE40 802.11ax DL-MU-MIMO capable client devices simultaneously (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)
- 802.11ac: 6.5 to 400 (MCS0 to MCS9, NSS = 1 to 2, VHT20 to VHT40)

- 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 2, 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 intelligent antenna (two 2.4 GHz antennas and two 5 GHz antennas)

2.4 GHz radio: 2 dBi

5 GHz radio: 2 dBi

2.4 GHz radio: 20 dBm (17 dBm per chain)

5 GHz radio: 20 dBm (17 dBm per chain)

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

Configurable in increments of 1 dBm

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, 256-QAM

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

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

RG-AP180

Data Rate	Max. Transmit Power per Transmit Chain
1 Mbps	18 dBm
2 Mbps	17 dBm
5.5 Mbps	16 dBm
11 Mbps	15 dBm

6 Mbps	18 dBm
24 Mbps	16 dBm
36 Mbps	16 dBm
54 Mbps	15 dBm
MCS0	18 dBm
MCS7	15 dBm
MCS0	18 dBm
MCS7	15 dBm
MCS0	18 dBm
MCS11	12 dBm
MCS0	18 dBm
MCS11	12 dBm
6 Mbps	18 dBm
24 Mbps	16 dBm
36 Mbps	16 dBm
54 Mbps	15 dBm
MCS0	18 dBm
MCS7	15 dBm
MCS0	18 dBm
MCS7	15 dBm
MCS0	18 dBm
MCS9	13 dBm
MCS0	18 dBm
MCS9	13 dBm

MCS0	18 dBm
MCS9	13 dBm
MCS0	18 dBm
MCS11	12 dBm
MCS0	18 dBm
MCS11	12 dBm
MCS0	18 dBm
MCS11	12 dBm

RG-AP180
Bluetooth 5.0
Onboard omnidirectional antenna
2.4 dBi, with a downtilt angle of roughly 30 degrees
10 dBm
-88 dBm (@BLE)

RG-AP180
Uplink:

1 x 10/100/1000Base-T Ethernet port with auto-negotiation, compliant-with IEEE 802.3af/802.3at standard (PoE/PoE+).

Downlink:

4 x 10/100/1000Base-T Ethernet ports with auto-negotiation

1 x Micro USB console port (under the decorative cover)

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 3 seconds. Then the device restores to factory settings.

RG-AP180

The AP supports the following two power supply modes:

- 12 V DC/1 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 the PoE-in port: The power source equipment (PSE) complies with the IEEE 802.3af standard. The IEEE 802.3at (PoE+) standard is backward compatible with the IEEE 802.3af (PoE) standard.

Note:

- When powered by 802.3at (PoE+), the AP operates with the optimal performance.

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

Not supported

Max power consumption: 10 W

- DC powered: 10 W
- PoE powered (802.3af): 10 W
- Idle mode: 3.3 W

RG-AP180

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

Storage temperature: -40°C to 70°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)

IP41

Storage and operating 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-AP180

GB 4943.1

CE Marked, EN300 328, EN301 893, EN 301 489, EN 50121,

EN 50155, EN55032, EN55035

EN 62311, IEC/EN 62368-1(replacing IEC/EN 60950-1)

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 2018-04
- WPA3™-Personal 2019-08
- WPA™-Enterprise
- WPA™-Personal
- WMM®, W-Fi Agile Multiband™

RG-AP180

RGOS11

RG-AP180

512 (up to 256 STAs per radio)

16 (up to 8 BSSIDs per radio)

SSID hiding

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-AP180

Remote Authentication Dial-In User Service (RADIUS)

PSK, web, and 802.1X authentication

QR code-based guest authentication, SMS authentication, MAB authentication (used with the RG-WS series wireless access controller)

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-AP180

Static IPv4 address and DHCP-assigned IPv4 address

NAT ALG FTP and NAT ALG DNS

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 four IPsec tunnels

RG-AP180

NTP server and NTP client

SNTP client

SNMP v1/v2c/v3

Fault inspection and alarm

Information statistics and logging

Web-based management (Eweb)

Console and Telnet-based management

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. Receive Sensitivity per Receive Chain
-91 dBm
-91 dBm
-90 dBm
-87 dBm

-89 dBm
-82 dBm
-78 dBm
-72 dBm
-85 dBm
-77 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