# High Performance Dual-Band WiFi 6 Wall Plate AP WF-186W

Product Datasheet

VERSION 4.0

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## Overview

WF-186W，is a versatile dual-band 2x2 MU-MIMO 802.11ax wall plate Wi-Fi Access Point, thoughtfully crafted to meet the demands of apartments and hotels seeking premium performance. With its support for 802.11ax 2.4G/5G Wi-Fi access, users can enjoy remarkable data rates of up to 2.974Gbps, ensuring a seamless and high-speed wireless network experience throughout their space.

Built with enhanced transmission power and receive sensitivity, the WF-186W delivers the high throughput and reliable coverage required to keep everyone connected. Its compatibility with most wireless terminals makes it easy to establish a high-capacity Wi-Fi network, catering to diverse connectivity needs.

Beyond standard Wi-Fi capabilities, the WF-186W may go the extra mile by supporting BLE 5.1 and Zigbee features, making it an excellent choice for expanding into the realm of IoT applications, such as integrating smart home devices into the network.

Furthermore, this Wi-Fi AP supports PoE power supply, allowing simultaneous provisioning of 802.3af PoE PSE for other devices, streamlining power management and reducing clutter.

The WF-186W is designed to adapt to various regions with its universal bracket, ensuring a hassle-free installation process.

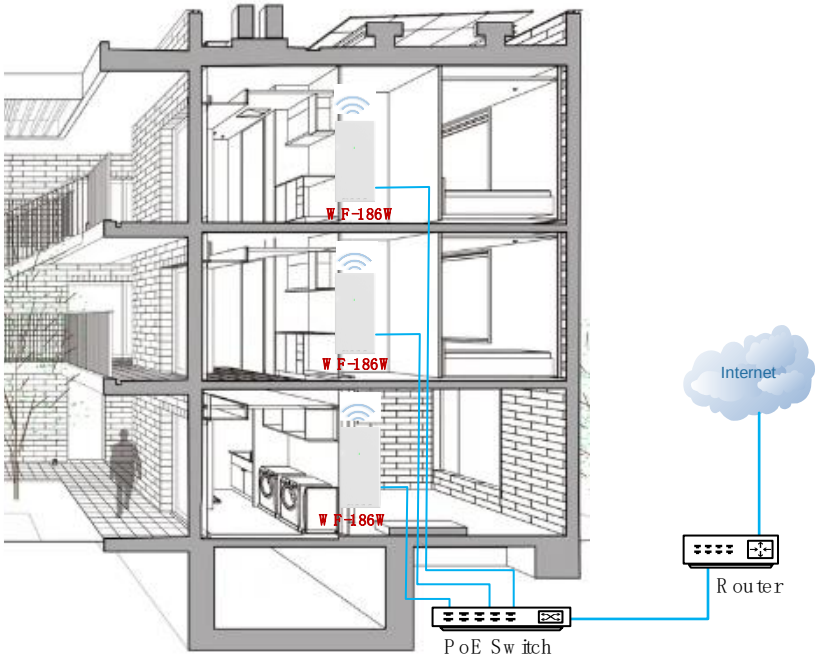
For developers, the WF-186W offers support for Qualcomm's QSDK and OpenWiFi development platforms. This opens the door to streamlined software development, thanks to standardized interfaces, well-defined APIs, and pre-integrated stacks, reducing complexities and enhancing reliability. Additionally, OpenWiFi's active community support provides valuable troubleshooting assistance, ensuring a future-proof and cost-efficient solution for innovative Wi-Fi applications.

## Key Features

- Supports wall mounting with universal bracket
- Supports 2.4G 2x2/ 40MHz Wi-Fi (802.11b/ g/ n/ ac/ ax), up to 574Mbps link rate
- Supports 5G 2x2/ 160MHz Wi-Fi(802.11a/ n/ ac/ ax), up to 2.4Gbps link rate
- Supports BLE 5.1/ Zigbee
- 2 x Integrated dual-band antennas
- 1 x Integrated Bluetooth antenna
- 1 x GE WAN, on the device back

  ** Operates with 802.3bt PoE (PD), with 802.3af PoE (PSE) working

  ** Operates with 802.3af PoE (PD), without 802.3af PoE (PSE) working
- 4x RJ45 GbE LAN, LAN4 with 802.3af PoE out
- 1 x Reset Button, on the side
- 1x RBG LEDs for visual indication
- TIP OpenWiFi development platform



## Specifications

| Item | WF-186W |
|---|---|
| Dimension (W x D x H) | 180mm × 89.5mm × 29.3mm |
| Weight | 280g, without bracket |
| Installation | Wall mounting |
| LEDs | 1 x RBG LED (Software definition) |
| Interface | • 1 x GE WAN<br>** Operates with 802.3bt PoE (PD), with 802.3af PoE (PSE) working<br>** Operates with 802.3af PoE (PD), without 802.3af PoE (PSE) working<br>• 4x RJ45 GE LAN, LAN4 with 802.3af PoE(PSE)<br>• 1 x Reset Button |
| Input Voltage | • 802.3bt PoE (PD), with LAN port supporting 802.3af PoE(PSE)<br>• 802.3 af PoE (PD), with restricted functions |
| Power consumption | < 12W, without 802.3af PoE (PSE) |
| **Environmental Specification** | |
| Temperature | Operation: 0℃ ~ +40℃<br>Storage: -40℃ ~ +70℃ |
| Operating Humidity | 5% ~ 95% (non-condensing) |
| Elevations | 86kPa ~ 106kPa altitude |
| Dustproof and Waterproof | IP30 |
| Safety | • NRTL Listed 62368-1 (US & CA)<br>• CB with IEC/EN 62368-1 (Basic Safety Certificate for Worldwide Marketing) |

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| Item | WF-186W |
|---|---|
| | • GB 9254-2008 (Class B of Product), EN55032, CISPR 32:2010, EN55024, CISPR 24:2010<br>• RoHS 2011/65/EU Compliant (RoHS 11 Compliant, No Pb)<br>• WEEE 2002/96/EC Recyclable Materials Requirements<br>• FCC DOC Part 15 Class B (US)<br>• FCC Part 15 Subpart C 15.247 (US)<br>• FCC Part 15 Subpart E 15.407 (US)<br>• ETSI EN 300 328 (2.4GHz)<br>• ETSI EN 301 893 (5GHz) |
| **Reliability** | |
| MTBF | > 300,000 Hours<br>Telcordia SR-332: Reliability Prediction Procedures for Electronic Equipment, Issue 3, Method 1, Case 3. This is based on a GB/GC (Ground Benign, Controlled) environment with a steady state condition at a 25ºC ambient temperature. It does not account for software failures. |
| AFR | AFR (Annualized Failure Rate) < 1.5% (in continuous operation) |
| **Chipset** | |
| SoC | Qualcomm chipset (IPQ5018) |
| Flash | 128MB NAND Flash |
| DDR | 512MB DDR3 RAM |
| **Wi-Fi Interface** | |
| Operating frequency | 2.4G radio: 2.4000GHz~2.4835GHz |
| | 5G radio: 5.150~5.250,5.250~5.350,5.470~5.725, 5.725~5.850 GHz |
| Maximum Transmit power (per chain) | 2.4G radio: 18dBm@MCS0; 18dBm@MCS7; 17dBm@MCS9; 16dBm@MCS11 |
| | 5G radio: 19dBm@MCS0; 19dBm@MCS7; 18dBm@MCS9; 17dBm@MCS11 |
| Max EIRP | 2.4GHz: 24dBm<br>5GHz: 25dBm |

<table>
<tr><th>Item</th><th>WF-186W</th></tr>
<tr><td>Data Rate</td><td>802.11b: 1, 2, 5.5, and 11Mbps<br>802.11g: 6, 9, 12, 18, 24, 36, 48, and 54Mbps<br>802.11a: 6, 9, 12, 18, 24, 36, 48 and 54Mb/s<br>802.11n HT20/ HT40: MCS0~MCS15<br>802.11ac VHT20/VHT40/VHT80: MCS0 ~ MCS9<br>802.11ax HE20/ HE40/HE80/HE160: MSC0 ~ MCS11</td></tr>
<tr><td rowspan="5">Receive Sensitivity</td><td>802.11g: -90dBm@6Mbps<br>-74dBm@54Mbps</td></tr>
<tr><td>802.11n:<table><tr><td></td><td>HT20</td><td>HT40</td></tr><tr><td>MCS0/8/16</td><td>-90dBm</td><td>-87dBm</td></tr><tr><td>MCS7/15</td><td>-71dBm</td><td>-68dBm</td></tr></table></td></tr>
<tr><td>802.11a: -90dBm@6Mbps<br>-74dBm@54Mbps</td></tr>
<tr><td>802.11ac:<table><tr><td></td><td>VHT20</td><td>VHT40</td><td>VHT80</td></tr><tr><td>MCS0</td><td>-90dBm</td><td>-87dBm</td><td>-84dBm</td></tr><tr><td>MCS8</td><td>-67dBm</td><td>-64dBm</td><td>-61dBm</td></tr><tr><td>MCS9</td><td></td><td>-61dBm</td><td>-58dBm</td></tr></table></td></tr>
<tr><td>802.11ax:<table><tr><td></td><td>HE20</td><td>HE40</td><td>HE80</td><td>HE160</td></tr><tr><td>MCS0</td><td>-90dBm</td><td>-87dBm</td><td>-84dBm</td><td>-81 dBm</td></tr><tr><td>MCS11</td><td>-60dBm</td><td>-57dBm</td><td>-54dBm</td><td>-51 dBm</td></tr></table></td></tr>
<tr><td>Antenna Pattern<br>(Built-in Antennas)</td><td><table><tr><td>Frequency(MHz)</td><td>2400 ~ 2500</td><td>4940 ~ 5850</td></tr><tr><td>Polarization</td><td>Vertical/Horizontal</td><td>Vertical/Horizontal</td></tr><tr><td>Gain(dBi)</td><td>≥3</td><td>≥3</td></tr></table></td></tr>
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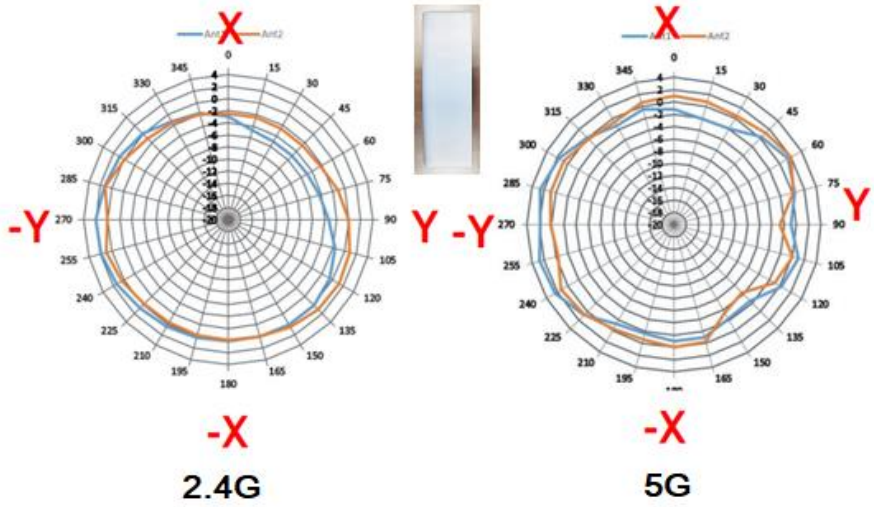
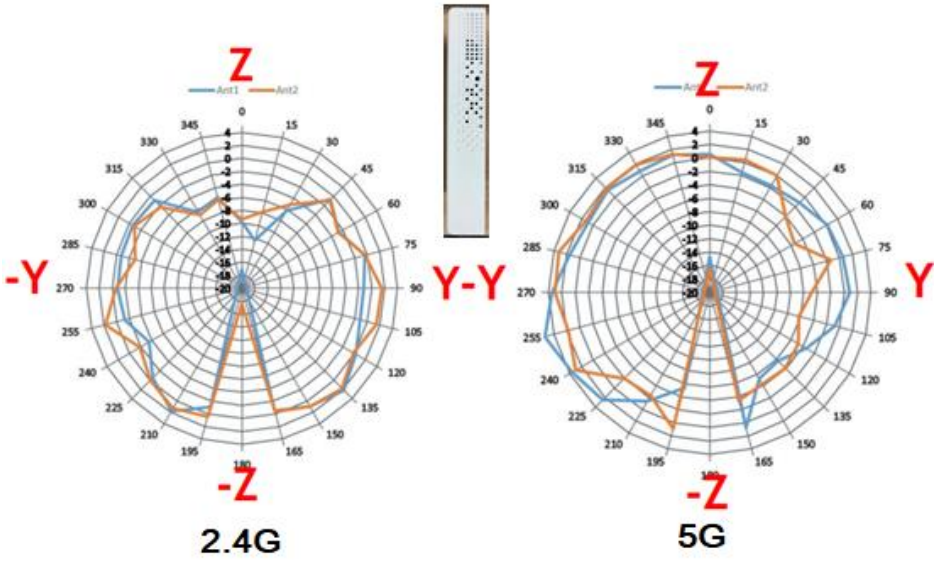
| Item | WF-186W |
|---|---|
| | Horizontal planes (top view, wall mounting)<br>  <br><br>Vertical planes (side view, wall mounting)<br>  <br> |

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