**Air Pro**®

Simple | Secure | Trusted

# 11ax 1800Mbps Inwall Wireless AP

## PRODUCT OVERVIEW

AIR-WAP645 is a11ax Wi-Fi standard in wall Access Point support MU-MIMO, Wave2.0, OFDMA and Seamless Roaming.

Combined 1800Mbps Wi-Fi speed over 2 radios: 2.4GHz (600Mbps 11ax 2*2) + 5GHz (1200Mbps 2*2), equipped Gigabit WAN port, support MU-MIMO and DL/UL-OFDMA modulation, faster Ethernet data rate and more users, then multiple users can upload or download multiple packets at same time, narrower subcarrier spacing and longer symbol time, improved the stability and data processing efficiency, publicly to be used in high density access environment such as university campus, concert venue, gymnasium, etc.

## KEY FEATURES AND HIGHLIGHTS

Wireless data rate up to 1.8Gbps. 802.11ax support 1024QAM, long OFDM symbol, 160M bandwidth and 11ax 2x2 MIMO technology, the wireless data rate up to 1.8Gbps, meet with demand of high-speed applications such as VR/ AR, 4K or 8K stream media.


802.11ax: 1024-QAM, Long OFDM Symbol, Max 160MHz bandwidth
802.11ac: 256-QAM

DL/ UL MU-MIMO. 802.11ax support both downlink MU-MIMO and uplink MU-MIMO. It can communicate with multiple end users at the same time, greatly improving the user's uplink transmission rate and the system's uplink and downlink capacity, improving the efficiency of multi-user concurrent scenarios, reducing the terminal application latency.



TWT (Target Wake-up Time). 802.11ax support TWT, allowing devices to negotiate when need to wake up, send and receive data. In additional, wireless AP can group the device into different TWT cycles, increase sleep time, reduce the device competing after wake-up, and save the device power.
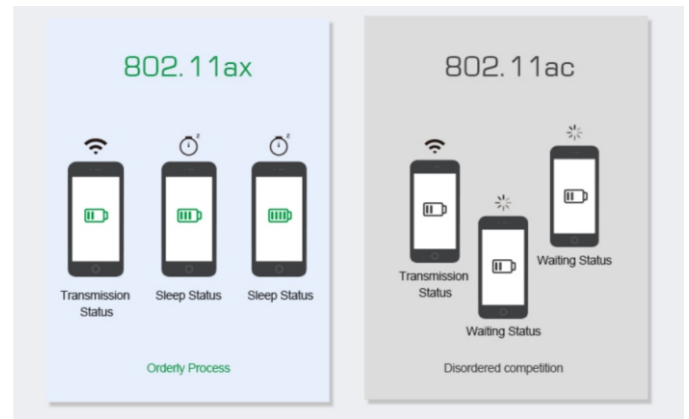


Coverage Improvement. 802.11ax support long OFDM symbol transmission mechanism and 2MHz narrowband transmission, effectively reduced the packet loss rate and noise interference, improve the receive sensitivity and increase the Wi-Fi coverage.


802.11ax Coverage Radius          802.11ac Coverage Radius
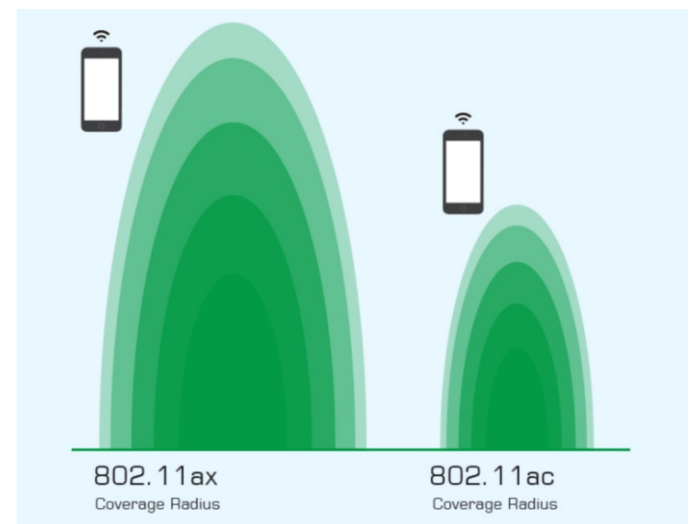
Improvement of Anti-Interference Ability. 802.11ax support BSS color bit and dynamic CCA-SD (Clear Channel Assessment Signal Detection) threshold and power adjustment, effectively allev\iates the channel interference in multi-users scenarios, improve the utilization of spectrum resources.
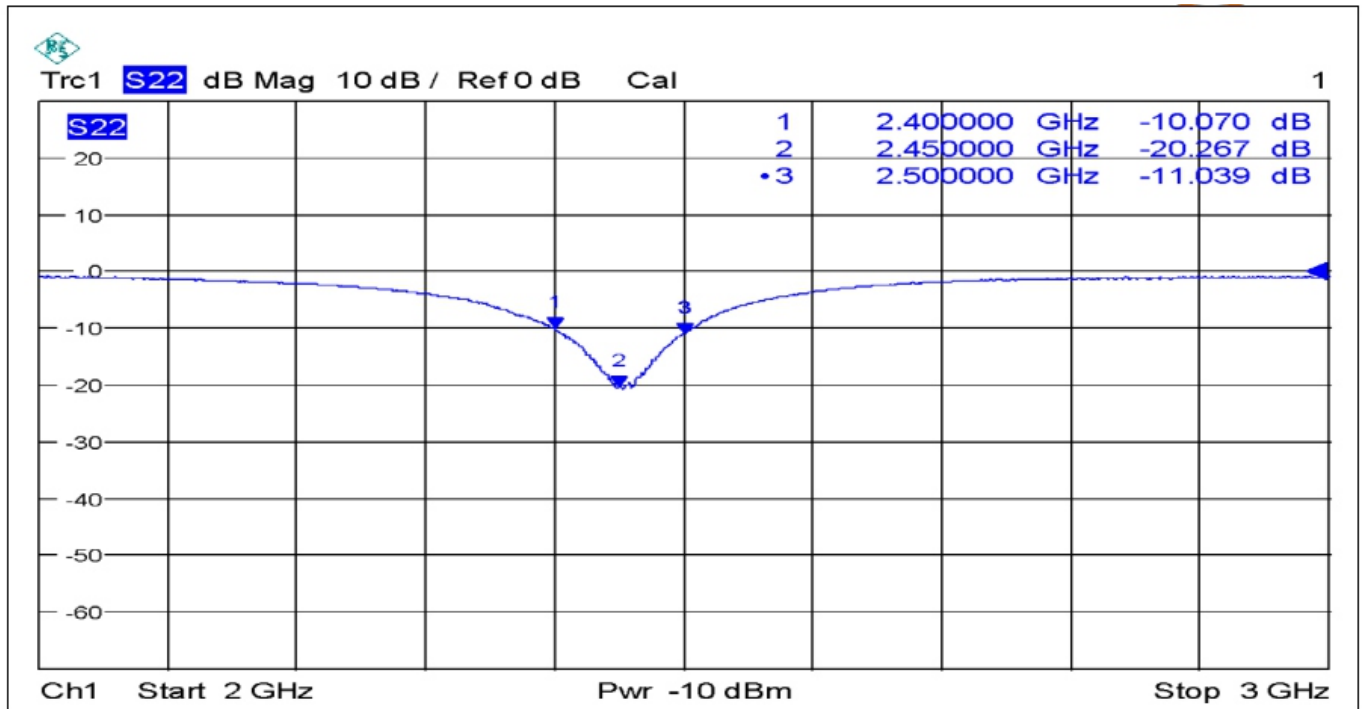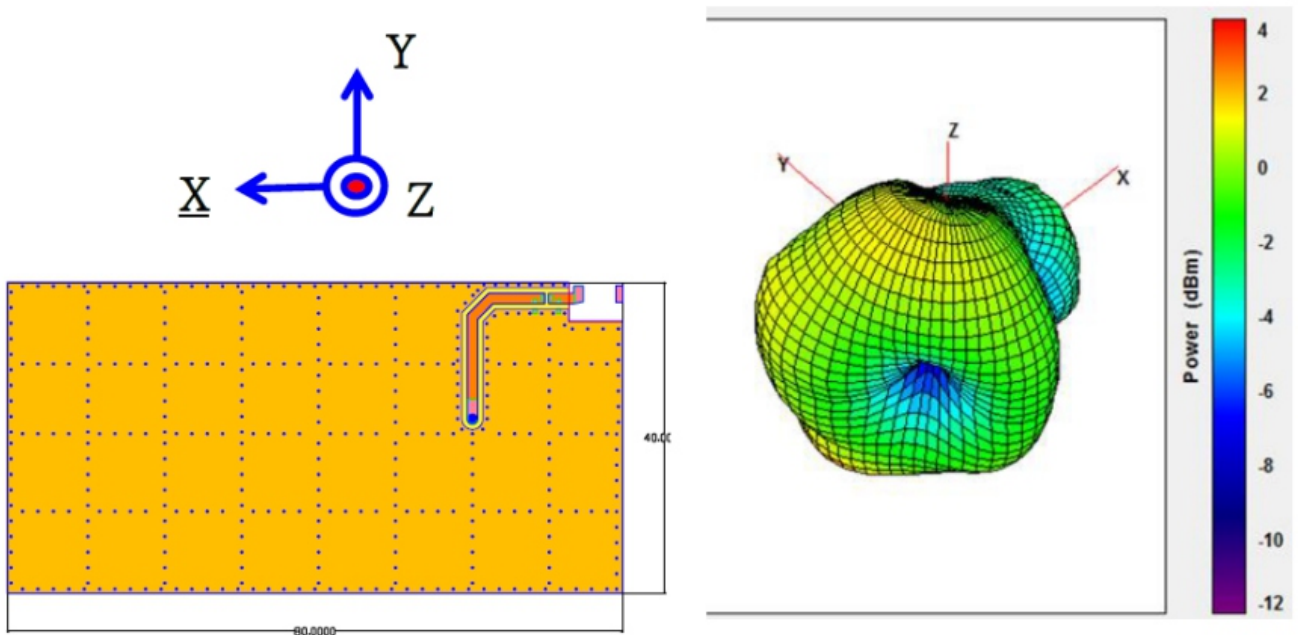


## PRODUCT SPECIFICATIONS
### Hardware Specifications

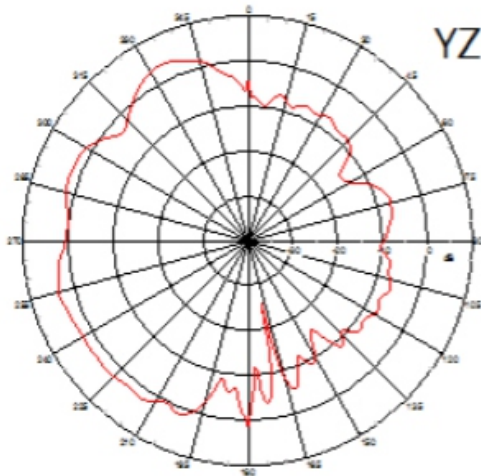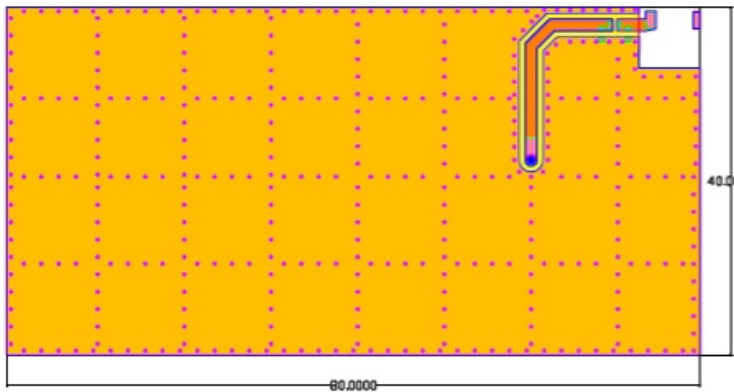| Item | AIR-WAP645 |
|---|---|
| Standard | 802.11ax/ac/b/g/n |
| 2.4G Frequency | 2.4GHz - 2.484GHz |
| 2.4G Wi-Fi standard | 802.11b/g/n/ac/ax |
| 5.8G Frequency | 5150~5850MHz |
| 5.8G Wi-Fi Standard | 802.11 a/n/ac/ax |
| Interface | 1 * 10/100 /1000 RJ45 WAN Port |
| | 1 * Reset button, press 10 seconds to revert to default setting |
| | 1 * LAN Port |
| Antenna | 2.4G: 3dBi; 5G:4dBi |
| Data Rate | 1800Mbps |
| End Users | 120+ |
| RF Power | 2.4G≤20dBm; 5.8G≤19dBm |
| PoE | 48V (IEEE 802.3af) |
| LED light | Sys |
| Power Consumption | ≤ 14W |
| ESD | ±6KV |
| Size | 86mmX86mmX45mm |
| **Firmware Specification** | |
| Working Mode | Gateway, AP |
| | Multiple SSID functions: 2.4GHz: 4; 5.8GHz: 4. |
| | Support SSID hidden |
| | Support seamless roaming, 802.11kvr standard. |
| | Support 5G Prior for a faster Ethernet. |
| Wireless Functions | Wireless Security: Open, WPA, WPA2PSK_TKIPAES, WAP2_EAP, |
| | Support MAC filter |
| | Support Wi-Fi time on/off to save energy |
| | Support client isolation to improve the wireless stability |
| | Support RF power adjustable, adjust the RF power based on environment. |
| | Support user quantity limited, Max 64 users to access each band. |
| Networking Function | VLAN settings |
| | Managed through Controller |
| | Back-up the configuration |
| | Restore the configuration |
| | Reset to factory default |
| | Reboot the device: including time reboot or reboot immediately |
| Device Management | Admin management password modify |
| | Firmware upgrade |
| | System log |
| | Support firmware GUI web management, AC controller management, |
| | remote management and cloud management |
| Protocols | Ipv4 |
| **Antenna Specification** | |
| Frequency Range | 2.4-2.5GHz |
| Impedance | 50 Ohms nominal |
| Gain | 3dBi |
| Radiation | Omni |
| Polarization | Linear |

**Return Loss/VSWR**



Trc1 S22 dB Mag 10 dB / Ref 0 dB    Cal                                    1

| Marker | Frequency | Value |
|---|---|---|
| 1 | 2.400000 GHz | -10.070 dB |
| 2 | 2.450000 GHz | -20.267 dB |
| •3 | 2.500000 GHz | -11.039 dB |

Ch1    Start 2 GHz          Pwr -10 dBm          Stop 3 GHz

**Radiation Pattern**



|  | Efficiency | Peak Gain | Directivity |
|---|---|---|---|
| 2400MHz | 64.77 % | 2.62 dBi | 5.15 dBi |
| 2450MHz | 75.12 % | 3.19 dBi | 5.03 dBi |
| 2500MHz | 66.18 % | 2.64 dBi | 5.10 dBi |

## PRODUCT SPECIFICATIONS

### Hardware Specifications

| Item | AIR-WAP645 |
|------|------------|
| Frequency Range | 5.15-5.85GHz |
| Impedance | 50 Ohms nominal |
| Gain | 3dBi |
| Radiation | Omni |
| Polarization | Linear |
| Return | Loss/VSWR |



Tr1 Return Loss 10.0 dB/ 0.0 dB
50.0 1   5150.0000 MHz -12.842 dB
     2   5470.0000 MHz -15.631 dB
 3   5850.0000 MHz -15.678 dB
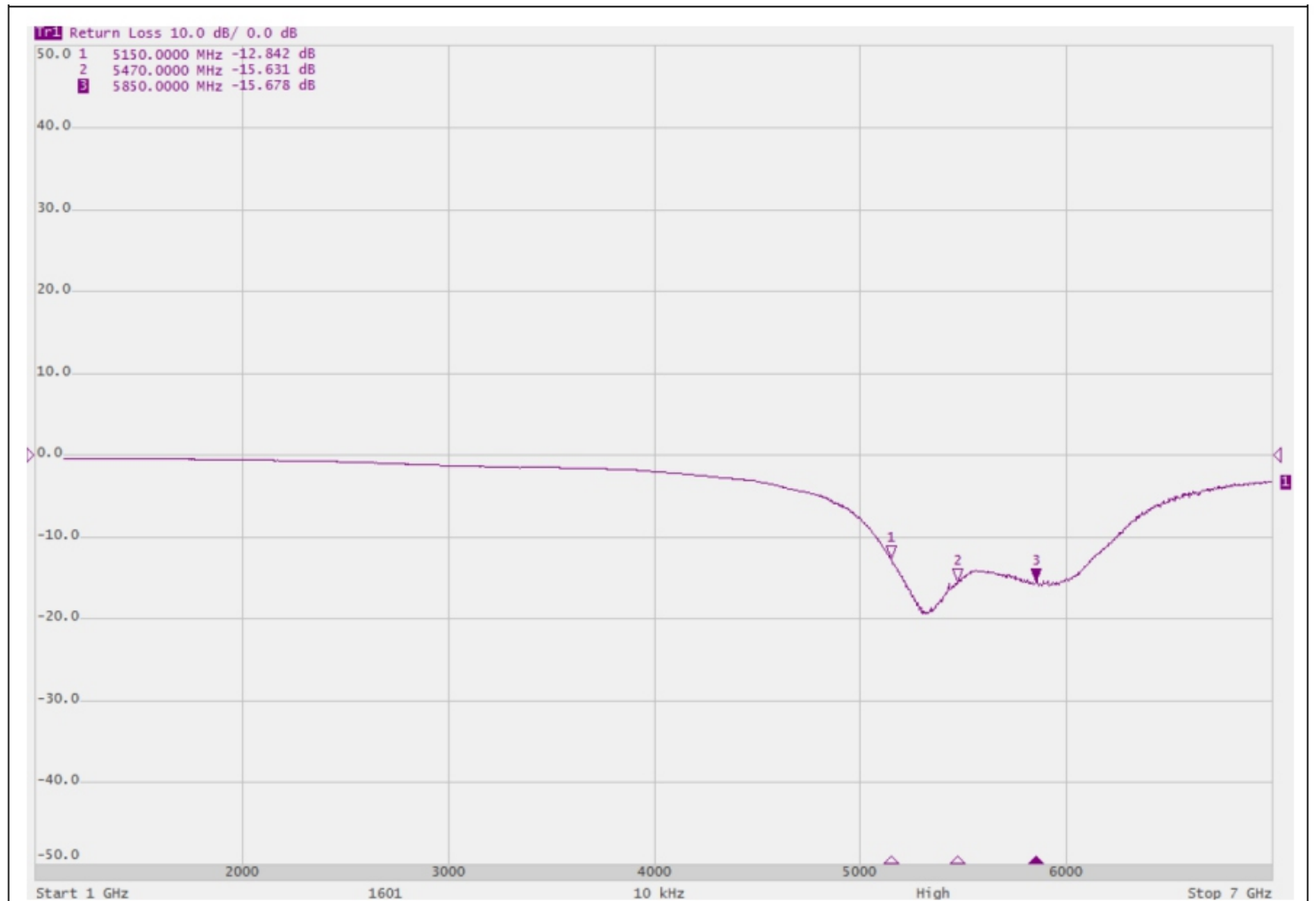
## Radiation Pattern
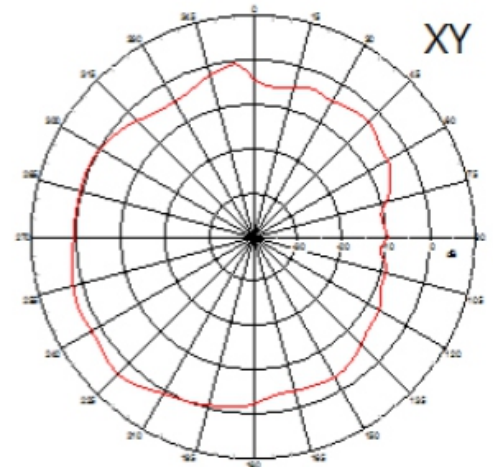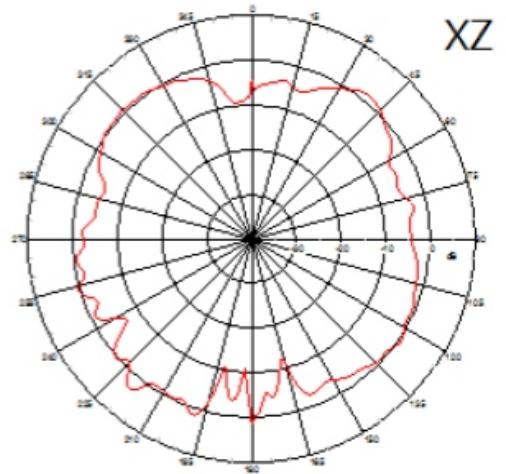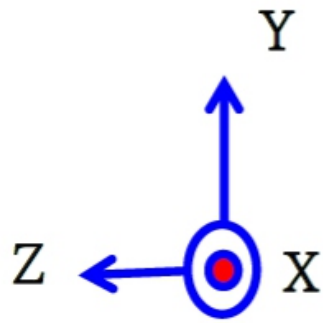
| | Efficiency | Peak Gain |
|---|---|---|
| 5150MHz | 72.73 % | 4.05 dBi |
| 5500MHz | 84.66 % | 4.63 dBi |
| 5850MHz | 69.57 % | 3.87 dBi |

# For Hotel/School:



Connection Diagram 1

Connection Diagram 2
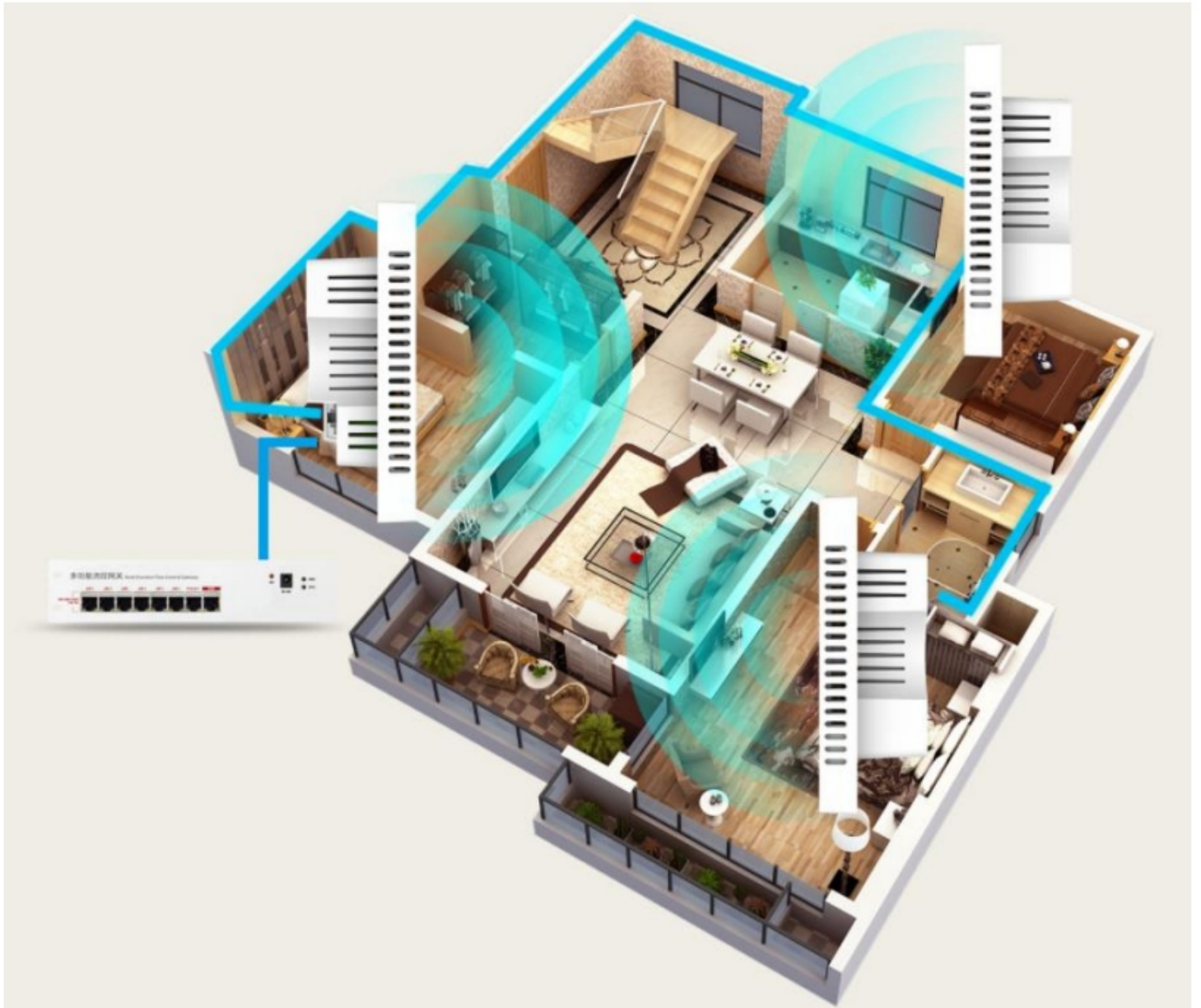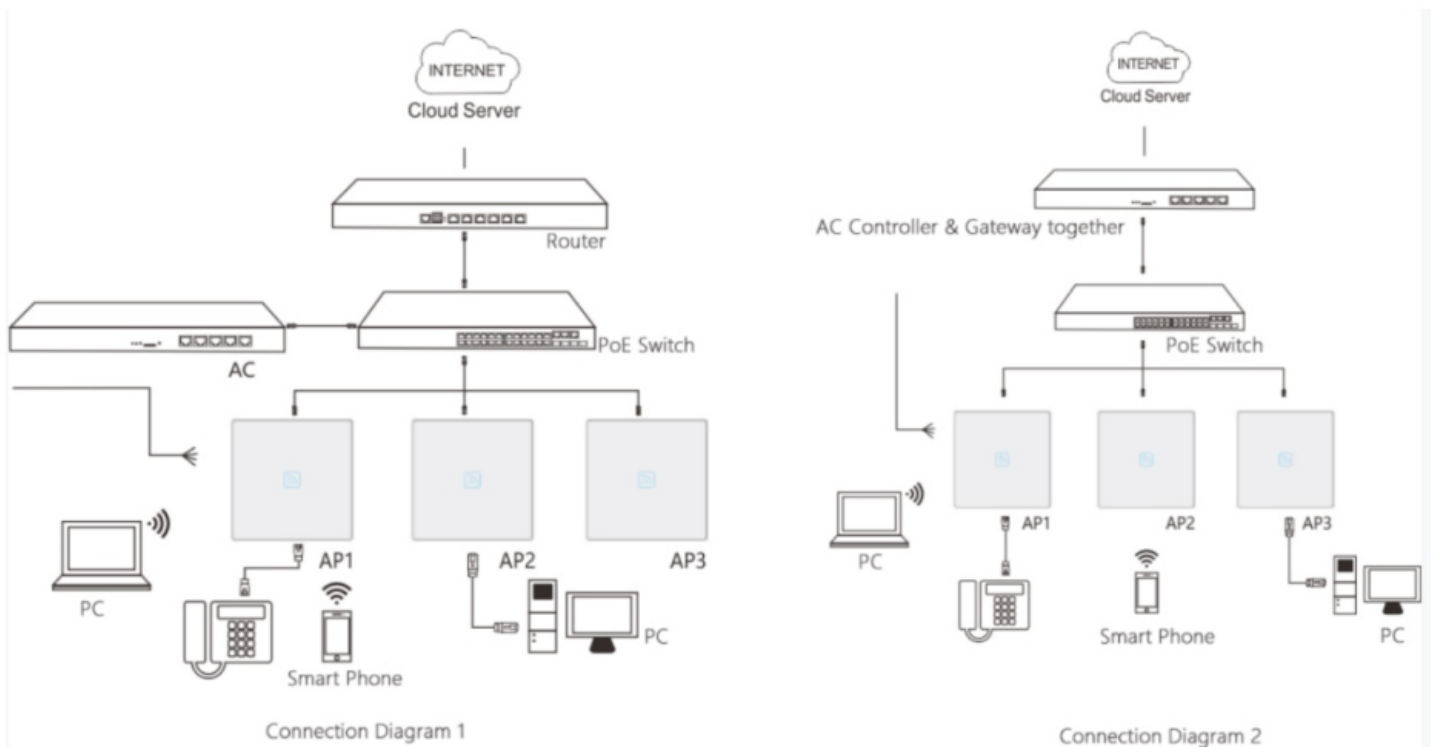
# Throughput Testing:

| Mode | 11AX HT40 (2.4G) |
|------|------------------|
| Upload Link | 396Mbps |



| Download Link | 433Mbps |
|---------------|---------|



| Mode: | 11AX HT80 (5.8G) |
|-------|------------------|
| Upload Link | 915Mbps |

| Download Link | 850Mbps |
|---|---|
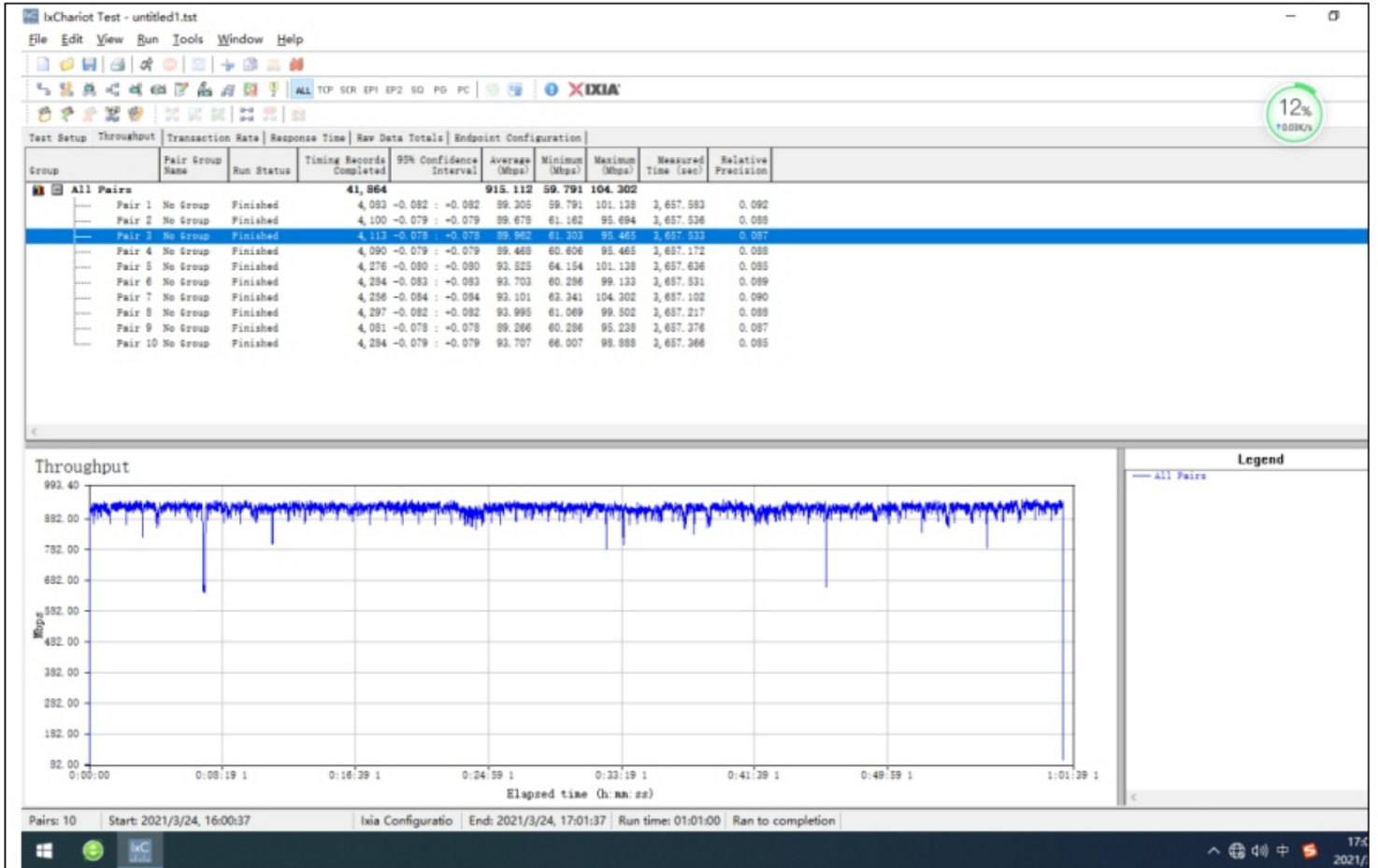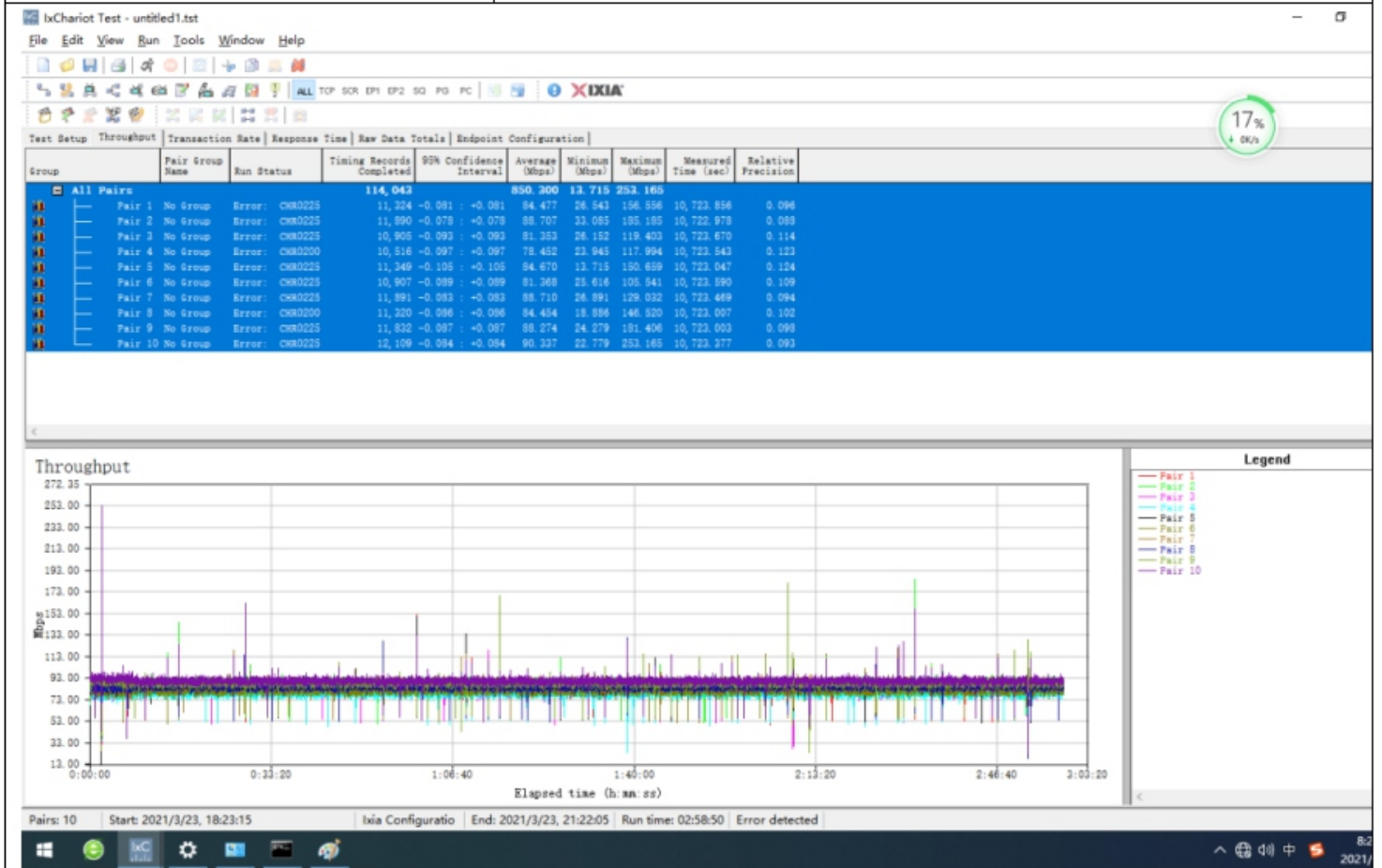
## PRODUCT SPECIFICATIONS

### Signal Strength Testing:

| Item | AIR-WAP645 | |
|------|------------|---|
| Distance | Band | Signal strength/ Link quality |
| 5 meters | 2.4G | -37dBm/66% |



| 5 meters | 5G | -35dBm/68% |
|----------|-----|-------------|
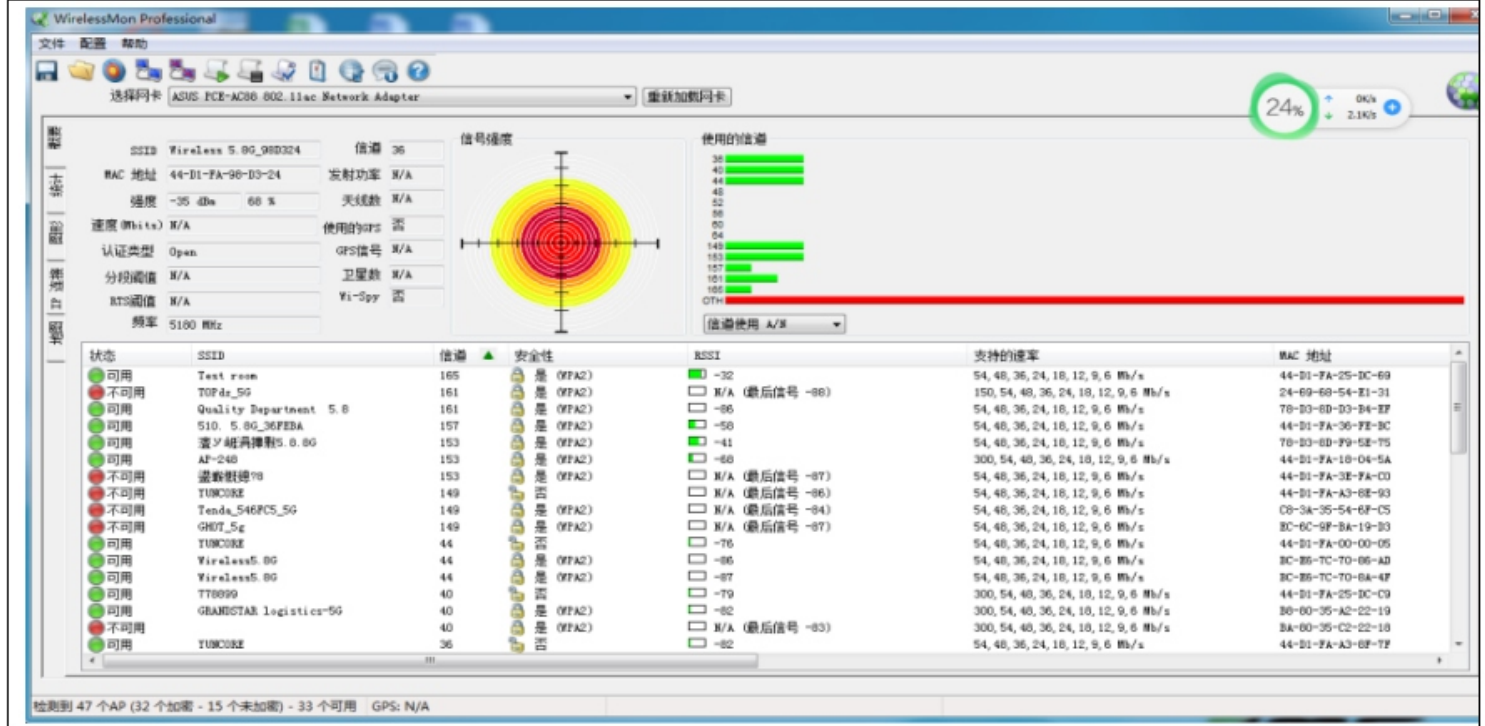
## PRODUCT SPECIFICATIONS

### Accessory

| Item | AIR-WAP645 |
|------|------------|
| AP | 1 |
| Screw | 2 |
| Gift Box | 1 |

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