

# AWK-1131A Series

## Industrial 802.11n Access Point



- > IEEE 802.11a/b/g/n compliant
- > Up to 300 Mbps data rate
- > MIMO technology increases data throughput and range
- > Supports client-based Turbo Roaming
- > One Gigabit Ethernet LAN port
- > Higher noise avoidance protection
- > 802.11 dynamic frequency selection (DFS) (Pending)



### Introduction

The AWK-1131A industrial wireless AP/client meets the growing need for faster data transmission speeds by supporting IEEE 802.11n technology with a net data rate of up to 300 Mbps. The AWK-1131A is compliant with the industrial standards and approvals, covering operating temperature, power input voltage, surge, ESD and vibration. The two redundant DC power inputs increase the reliability of the power supply. The AWK-1131A can operate on either the 2.4 or 5 GHz bands and is backwards-compatible with existing 802.11a/b/g deployments to future-proof your wireless investments.

### Improved Higher Data Rate and Channel Capacity

- High-speed wireless connectivity with up to 300 Mbps data rate
- MIMO technology to improve the capability of transmitting and receiving multiple data streams
- Increased channel width with channel bonding technology
- Supports flexible channel selection to build up wireless communication system with DFS(Pending)

### Specifications

#### WLAN Interface

##### Standards:

IEEE 802.11a/b/g/n for Wireless LAN  
 IEEE 802.11i for Wireless Security  
 IEEE 802.3 for 10BaseT  
 IEEE 802.3u for 100BaseT(X)  
 IEEE 802.3ab for 1000BaseT

##### Spread Spectrum and Modulation (typical):

- DSSS with DBPSK, DQPSK, CCK
- OFDM with BPSK, QPSK, 16QAM, 64QAM
- 802.11b: CCK @ 11/5.5 Mbps, DQPSK @ 2 Mbps, DBPSK @ 11 Mbps
- 802.11a/g: 64QAM @ 54/48 Mbps, 16QAM @ 36/24 Mbps, QPSK @ 18/12 Mbps, BPSK @ 9/6 Mbps
- 802.11n: 64QAM @ 300 Mbps to BPSK @ 6.5 Mbps (multiple rates supported)

##### Operating Channels (central frequency):

US:

2.412 to 2.462 GHz (11 channels)  
 5.180 to 5.240 (4 channels)  
 5.260 to 5.320 (4 channels)\*  
 5.500 to 5.700 GHz (8 channels - excludes 5.600 to 5.640 GHz)\*  
 5.745 to 5.825 GHz (5 channels)

EU:

2.412 to 2.472 GHz (13 channels)  
 5.180 to 5.240 (4 channels)  
 5.260 to 5.320 (4 channels)\*  
 5.500 to 5.700 GHz (11 channels)\*

JP:

2.412 to 2.484 GHz (14 channels, DSSS)  
 5.180 to 5.240 (4 channels)  
 5.260 to 5.320 (4 channels)\*  
 5.500 to 5.700 GHz (11 channels)\*

### Specifications for Industrial-grade Applications

- Redundant DC power inputs
- Integrated design with enhanced protection technology to gain higher noise avoidance level
- IP30 compact size aluminum housing

*\*Note: These channels are not supported in AWK-1131A as the DFS certification has not been passed. Please check Moxa's website for the most up-to-date DFS status.*

#### Security:

- SSID broadcast enable/disable
- Firewall for MAC/IP/Protocol/Port-based filtering
- 64-bit and 128-bit WEP encryption, WPA /WPA2-Personal and Enterprise (IEEE 802.1X/RADIUS, TKIP and AES)

#### Transmission Rates:

802.11b: 1, 2, 5.5, 11 Mbps  
 802.11a/g: 6, 9, 12, 18, 24, 36, 48, 54 Mbps  
 802.11n: 6.5 to 300 Mbps (multiple rates supported)

#### TX Transmit Power (per antenna port):

2.4 GHz  
 802.11b:  
 Typ. 23±1.5 dBm @ 1 Mbps  
 Typ. 20±1.5 dBm @ 5 Mbps  
 Typ. 19±1.5 dBm @ 11 Mbps  
 802.11g:  
 Typ. 20±1.5 dBm @ 6 to 24 Mbps  
 Typ. 19±1.5 dBm @ 36 Mbps  
 Typ. 18±1.5 dBm @ 48 Mbps  
 Typ. 17±1.5 dBm @ 54 Mbps  
 802.11n (20 MHz):  
 MCS0, 8@20 MHz: Typ. 20 dBm (± 1.5 dBm)  
 MCS7, 15@20 MHz: Typ. 16 dBm (± 1.5 dBm)  
 MCS0, 8@40 MHz: Typ. 20 dBm (± 1.5 dBm)  
 MCS7, 15@40 MHz: Typ. 16 dBm (± 1.5 dBm)  
 5 GHz  
 802.11a:  
 Typ. 20±1.5 dBm @ 6 to 24 Mbps  
 Typ. 19±1.5 dBm @ 36 Mbps  
 Typ. 16±1.5 dBm @ 48 Mbps  
 Typ. 15±1.5 dBm @ 54 Mbps

802.11n (20/40 MHz):  
 MCS0, 8@20 MHz: Typ. 19 dBm (± 1.5 dBm)  
 MCS7, 15@20 MHz: Typ. 14 dBm (± 1.5 dBm)  
 MCS0, 8@40 MHz: Typ. 18 dBm (± 1.5 dBm)  
 MCS7, 15@40 MHz: Typ. 14 dBm (± 1.5 dBm)  
 RX Sensitivity:  
 2.4 GHz  
 802.11b:  
 -92 dBm @ 1 Mbps,  
 -90 dBm @ 2 Mbps,  
 -88 dBm @ 5.5 Mbps,  
 -84 dBm @ 11 Mbps  
 802.11g:  
 -87 dBm @ 6 Mbps,  
 -86 dBm @ 9 Mbps,  
 -85 dBm @ 12 Mbps,  
 -82 dBm @ 18 Mbps,  
 -80 dBm @ 24 Mbps,  
 -76 dBm @ 36 Mbps,  
 -74 dBm @ 48 Mbps,  
 -72 dBm @ 54 Mbps  
 802.11n:  
 -69 dBm @ MCS15 20MHz  
 -71 dBm @ MCS7 20MHz  
 5 GHz  
 802.11a:  
 -87 dBm @ 6 Mbps,  
 -86 dBm @ 9 Mbps,  
 -85 dBm @ 12 Mbps,  
 -82 dBm @ 18 Mbps,  
 -80 dBm @ 24 Mbps,  
 -76 dBm @ 36 Mbps,  
 -74 dBm @ 48 Mbps,  
 -72 dBm @ 54 Mbps  
 802.11n:  
 -68 dBm @ MCS15 40MHz  
 -69 dBm @ MCS15 20MHz  
 -70 dBm @ MCS7 40MHz  
 -71 dBm @ MCS7 20MHz

**Protocol Support**

**General Protocols:** Proxy ARP, DNS, HTTP, HTTPS, IP, ICMP, SNMP, TCP, UDP, RADIUS, SNMP, PPPoE, DHCP, LLDP

**AP-only Protocols:** ARP, BOOTP, DHCP

**Interface**

**Default Antennas:**

2 dual-band omni-directional antennas, 2 dBi, RP-SMA (male)

**Connector for External Antennas:** RP-SMA (female)

**RJ45 Ports:** 1, 10/100/1000BaseT(X) auto negotiation speed, F/H duplex mode, and auto MDI/MDI-X connection

**Console Port:** RS-232 (RJ45-type)

**Reset:** Present

**LED Indicators:** PWR, FAULT, STATE, SIGNAL, WLAN, 10/100/1000 (RJ45 port)

**Physical Characteristics**

**Housing:** Metal, providing IP30 protection

**Dimensions:** 58 x 115 x 70 mm (2.28 x 4.53 x 2.76 in)

**Installation:** DIN-rail mounting (standard), wall mounting (optional)

**Environmental Limits**

**Operating Temperature:**

Standard Models: 0 to 60°C (32 to 140°F)

**Storage Temperature:** -40 to 85°C (-40 to 185°F)

**Ambient Relative Humidity:** 5% to 95% (non-condensing)

**Power Requirements**

**Input Voltage:** 12 to 48 VDC, redundant dual DC power inputs

**Connector:** 4-pin removable terminal block

**Power Consumption:** 6.72 W (12 V/0.56 A to 48 V/0.14 A), 25°C

**Reverse Polarity Protection:** Present

**Standards and Certifications**

**Safety:** UL 60950-1, EN 60950-1

**EMC:** EN 301 489-1/17, FCC Part 15 Subpart B Class B, EN 55022/55024

**Radio:** EN 300 328, EN 301 893, TELEC

*Note: Please check Moxa's website for the most up-to-date certification status.*

**Reliability**

**MTBF :** 810,022 hrs

**Warranty**

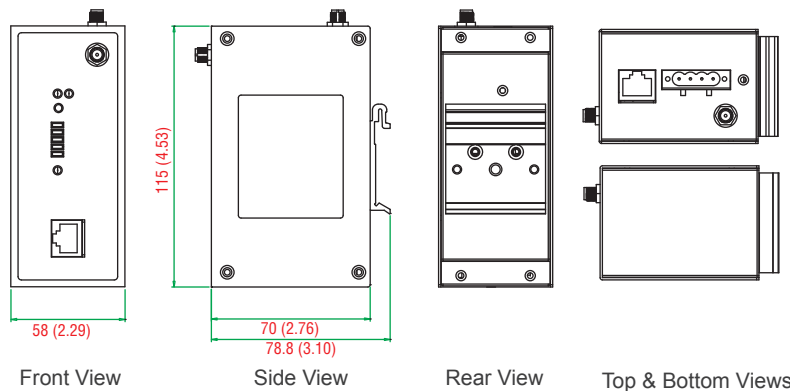
**Warranty Period:** 5 years

**Details:** See [www.moxa.com/warranty](http://www.moxa.com/warranty)

**Dimensions**

**AWK-1131A**

Unit: mm (inch)



**Ordering Information**

**Available Models**

**AWK-1131A-US:** 802.11n Access Point, US band, 0 to 60°C

**AWK-1131A-EU:** 802.11n Access Point, EU band, 0 to 60°C

**AWK-1131A-JP:** 802.11n Access Point, JP band, 0 to 60°C

*Note: Please visit Moxa's website for a complete list of optional wireless accessories and antennas available for Moxa's wireless products.*

**Package Checklist**

- AWK-1131A
- 2 2dBi dual band antenna
- 1 plastic RJ45 protective caps
- Din-rail kit
- Quick installation guide (printed)
- Document and software CD
- Warranty card