

AWK-1131A Series

Industrial 802.11n Access Point



- > IEEE 802.11a/b/g/n AP/client support
- > Seamless roaming with Turbo Roaming
- > Integrated antenna and power isolation
- > 5 GHz DFS channel support



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

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

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)*

*DFS (Dynamic Frequency Selection) channel support: In AP mode, when a radar signal is detected, the device will automatically switch to another channel. However according to regulations, after switching channels, a 60-second availability check period is required before starting the service.

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):

802.11b:
 Typ. 23±1.5 dBm @ 1 Mbps, Typ. 23±1.5 dBm @ 2 Mbps,
 Typ. 20±1.5 dBm @ 5.5 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 (2.4 GHz):
 Typ. 20±1.5 dBm @ MCS0/8 20 MHz, Typ. 16±1.5 dBm @ MCS7/15
 20 MHz
 Typ. 20±1.5 dBm @ MCS0/8 40 MHz, Typ. 16±1.5 dBm @ MCS7/15
 40 MHz

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 (5 GHz):

Typ. 19±1.5 dBm @ MCS0/8 20 MHz, Typ. 14±1.5 dBm @ MCS7/15 20 MHz
Typ. 18±1.5 dBm @ MCS0/8 40 MHz, Typ. 14±1.5 dBm @ MCS7/15 40 MHz

RX Receive Sensitivity:

802.11b:

-90 dBm @ 1 Mbps, -88 dBm @ 2 Mbps,
-86 dBm @ 5.5 Mbps, -84 dBm @ 11 Mbps

802.11g:

-85 dBm @ 6 Mbps, -84 dBm @ 9 Mbps,
-83 dBm @ 12 Mbps, -82 dBm @ 18 Mbps,
-80 dBm @ 24 Mbps, -76 dBm @ 36 Mbps,
-70 dBm @ 48 Mbps, -70 dBm @ 54 Mbps

802.11n (2.4 GHz):

-70 dBm @ MCS7 20 MHz, -68 dBm @ MCS15 20 MHz
-65 dBm @ MCS7 40MHz, -63 dBm @ MCS15 40 MHz

802.11a:

-92 dBm @ 6 Mbps, -89 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 (5 GHz):

-70 dBm @ MCS7 20MHz, -67 dBm @ MCS15 20 MHz
-68 dBm @ MCS7 40MHz, -66 dBm @ MCS15 40 MHz

Protocol Support

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

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)

Wide Temp. Models: -40 to 75°C (-40 to 167°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:

EMI: CISPR 22, FCC Part 15B Class B

EMS: EN 55022/55024

IEC 61000-4-2 ESD: Contact 8 kV; Air 15 kV

IEC 61000-4-3 RS: 10 V/m (80 MHz to 1 GHz)

IEC 61000-4-4 EFT: Power 2 kV; Signal 1 kV

IEC 61000-4-5 Surge: Power 2 kV; Signal 1 kV

IEC 61000-4-6 CS: 3 V

IEC 61000-4-8

Radio: EN 301 489-1/17, EN 300 328, EN 301 893, TELEC, FCC ID SLE-WAPN005

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

Reliability

MTBF: 810,022 hrs

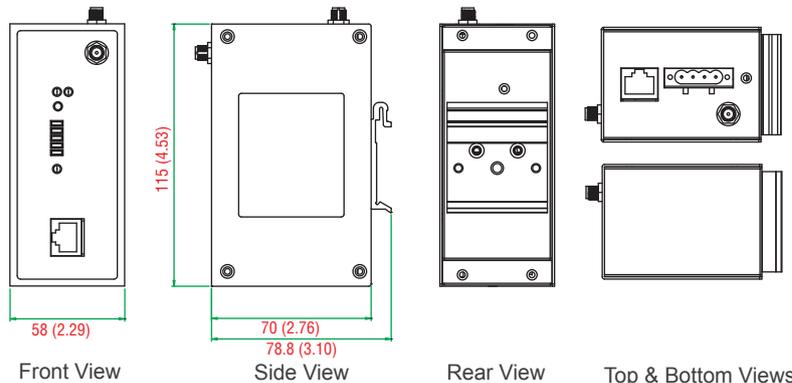
Warranty

Warranty Period: 5 years

Details: See www.moxa.com/warranty

Dimensions

AWK-1131A



Ordering Information

Available Models

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

AWK-1131A-US-T: 802.11n Access Point, US band, -40 to 75°C

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

AWK-1131A-EU-T: 802.11n Access Point, EU band, -40 to 75°C

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

AWK-1131A-JP-T: 802.11n Access Point, JP band, -40 to 75°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
- Din-rail kit
- 1 plastic RJ45 protective caps
- Document and software CD
- Quick installation guide (printed)
- Warranty card