AWK-1131A Series

Industrial 802.11n Access Point



- IEEE 802.11a/b/g/n compliant
- One Gigabit Ethernet LAN port
- Up to 300 Mbps data rate
- Supports client-based Turbo Roaming
- MIMO technology increases data throughput and range
- 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 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)*
*Note: The AWK-1131A does not support these channel as 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, SNTP, 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, FCC ID SLE-WAPN005
Note: Please check Moxa's website for the most up-to-date certification status.

Reliability

MTBF: 810,022 hrs

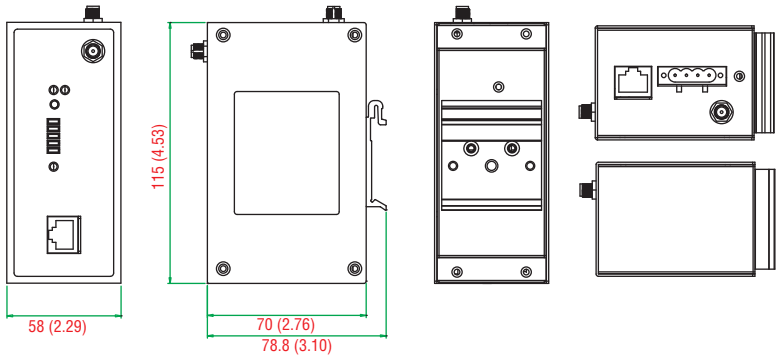
Warranty

Warranty Period: 5 years
Details: See www.moxa.com/warranty

Dimensions

AWK-1131A

Unit: mm (inch)



Front View | Side View | Rear View | Top & Bottom Views

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
- Din-rail kit
- 1 plastic RJ45 protective caps
- Document and software CD
- Quick installation guide (printed)
- Warranty card

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