

AWK-1131Aシリーズ

エントリーレベルの産業用IEEE 802.11a/b/g/n 無線AP/クライアント



機能とメリット

- IEEE 802.11a/b/g/n AP/クライアントサポート
- ミリ秒レベルクライアントベースのTurbo Roaming¹
- アンテナと電源の統合絶縁
- 5 GHz DFSチャンネルサポート

認証



製品紹介

AWK-1131A産業用ワイヤレスAP/クライアントは、最大300 MbpsのネットデータレートでIEEE 802.11n技術をサポートすることで、増大する高速データ転送に対するニーズを満たしています。AWK-1131Aは、動作温度、電源入力電圧、サージ、ESD、振動において産業規格および認証に準拠しています。2つの冗長DC電源入力により電源の信頼性が高められています。AWK-1131Aは、2.4または5 GHz帯域のいずれかで動作することができ、既存の802.11a/b/g機器と下位互換性があります。

より高いデータレートとチャンネル容量の向上

- 高速ワイヤレス接続（最大300 Mbpsのデータレート）
- 多重データストリーム送受信能力を向上させるためのMIMO技術
- チャンネル接合技術によるチャンネル幅の拡大
- DFSを使用したワイヤレス通信システムを構築するための柔軟なチャンネル選択をサポート

産業用 アプリケーション向けの仕様

- 冗長 DC電源入力
- 環境干渉 に対する保護が強化された統合 絶縁設計
- コンパクトな アルミニウム製筐体、IP30保護等級

仕様

WLAN Interface

| | |
|---|---|
| WLAN Standards | 802.11a/b/g/n 802.11i Wireless Security |
| Modulation Type | DSSS OFDM MIMO-OFDM |
| Frequency Band for US (20 MHz operating channels) | 2.412 to 2.462 GHz (11 channels) 5.180 to 5.240 GHz (4 channels) 5.260 to 5.320 GHz (4 channels) ² 5.500 to 5.700 GHz (11 channels) ² 5.745 to 5.825 GHz (5 channels) |

1. The Turbo Roaming Recovery Timeは、干渉のない20 MHz RFチャンネル、WPA2-PSKセキュリティ、およびデフォルトのTurbo Roamingパラメータで設定されたAPに全体にわたり、最適化された条件で記録されたテスト結果の平均です。クライアントは、100 Kbpsのトラフィック負荷で3チャンネルローミングが設定されています。他の条件もまた、ローミング性能に影響を及ぼす可能性があります。Turbo Roamingパラメータ設定の詳細については、製品マニュアルを参照してください。
2. 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.

| Frequency Band for EU (20 MHz operating channels) | 2.412 to 2.472 GHz (13 channels) 5.180 to 5.240 GHz (4 channels) 5.260 to 5.320 GHz (4 channels) ³ 5.500 to 5.700 GHz (11 channels) ³ | | | | | | | | | | | | | | | | | | | | | | | | |
|--|---|--------|--------|----|----|---------|--------|--------|--------|----------------|--------|--------|--------|----------------|--------|--------|--------|-----------------|--------|--------|--------|----------------|--------|---|---|
| Frequency Band for JP (20 MHz operating channels) | 2.412 to 2.484 GHz (14 channels) 5.180 to 5.240 GHz (4 channels) 5.260 to 5.320 GHz (4 channels) ³ 5.500 to 5.700 GHz (11 channels) ³ | | | | | | | | | | | | | | | | | | | | | | | | |
| Wireless Security | WEP encryption (64-bit and 128-bit) WPA/WPA2-Enterprise (IEEE 802.1X/RADIUS, TKIP, AES) WPA/WPA2-Personal | | | | | | | | | | | | | | | | | | | | | | | | |
| Transmission Rate | 802.11b: 1 to 11 Mbps 802.11a/g: 6 to 54 Mbps 802.11n: 6.5 to 300 Mbps | | | | | | | | | | | | | | | | | | | | | | | | |
| Transmitter Power for 802.11a | 23±1.5 dBm @ 6 to 24 Mbps 21±1.5 dBm @ 36 Mbps 20±1.5 dBm @ 48 Mbps 18±1.5 dBm @ 54 Mbps | | | | | | | | | | | | | | | | | | | | | | | | |
| Transmitter Power for 802.11n (5 GHz) | 23±1.5 dBm @ MCS0/8 20 MHz 18±1.5 dBm @ MCS7/15 20 MHz 23±1.5 dBm @ MCS0/8 40 MHz 17±1.5 dBm @ MCS7/15 40 MHz | | | | | | | | | | | | | | | | | | | | | | | | |
| Transmitter Power for 802.11b | 26±1.5 dBm @ 1 Mbps 26±1.5 dBm @ 2 Mbps 26±1.5 dBm @ 5.5 Mbps 25±1.5 dBm @ 11 Mbps | | | | | | | | | | | | | | | | | | | | | | | | |
| Transmitter Power for 802.11g | 23±1.5 dBm @ 6 to 24 Mbps 21±1.5 dBm @ 36 Mbps 19±1.5 dBm @ 48 Mbps 18±1.5 dBm @ 54 Mbps | | | | | | | | | | | | | | | | | | | | | | | | |
| Transmitter Power for 802.11n (2.4 GHz) | 23±1.5 dBm @ MCS0/8 20 MHz 18±1.5 dBm @ MCS7/15 20 MHz 23±1.5 dBm @ MCS0/8 40 MHz 17±1.5 dBm @ MCS7/15 40 MHz | | | | | | | | | | | | | | | | | | | | | | | | |
| Transmitter Power | <table border="1"> <thead> <tr> <th></th> <th>US</th> <th>EU</th> <th>JP</th> </tr> </thead> <tbody> <tr> <td>2.4 GHz</td> <td>26 dBm</td> <td>18 dBm</td> <td>18 dBm</td> </tr> <tr> <td>5 GHz (UNII-1)</td> <td>23 dBm</td> <td>21 dBm</td> <td>21 dBm</td> </tr> <tr> <td>5 GHz (UNII-2)</td> <td>23 dBm</td> <td>21 dBm</td> <td>21 dBm</td> </tr> <tr> <td>5 GHz (UNII-2e)</td> <td>23 dBm</td> <td>23 dBm</td> <td>23 dBm</td> </tr> <tr> <td>5 GHz (UNII-3)</td> <td>23 dBm</td> <td>-</td> <td>-</td> </tr> </tbody> </table> <p>Note: Based on regional regulations, the maximum transmission power allowed on the UNII bands is restricted in the firmware, as indicated above.</p> | | US | EU | JP | 2.4 GHz | 26 dBm | 18 dBm | 18 dBm | 5 GHz (UNII-1) | 23 dBm | 21 dBm | 21 dBm | 5 GHz (UNII-2) | 23 dBm | 21 dBm | 21 dBm | 5 GHz (UNII-2e) | 23 dBm | 23 dBm | 23 dBm | 5 GHz (UNII-3) | 23 dBm | - | - |
| | US | EU | JP | | | | | | | | | | | | | | | | | | | | | | |
| 2.4 GHz | 26 dBm | 18 dBm | 18 dBm | | | | | | | | | | | | | | | | | | | | | | |
| 5 GHz (UNII-1) | 23 dBm | 21 dBm | 21 dBm | | | | | | | | | | | | | | | | | | | | | | |
| 5 GHz (UNII-2) | 23 dBm | 21 dBm | 21 dBm | | | | | | | | | | | | | | | | | | | | | | |
| 5 GHz (UNII-2e) | 23 dBm | 23 dBm | 23 dBm | | | | | | | | | | | | | | | | | | | | | | |
| 5 GHz (UNII-3) | 23 dBm | - | - | | | | | | | | | | | | | | | | | | | | | | |
| Receiver Sensitivity for 802.11a (measured at 5.680 GHz) | Typ. -90 @ 6 Mbps Typ. -88 @ 9 Mbps Typ. -88 @ 12 Mbps Typ. -85 @ 18 Mbps Typ. -81 @ 24 Mbps Typ. -78 @ 36 Mbps Typ. -74 @ 48 Mbps Typ. -72 @ 54 Mbps Note ⁴ | | | | | | | | | | | | | | | | | | | | | | | | |

- 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.
- Due to a limitation in the receiver sensitivity performance for channels 153 and 161, it is recommended to avoid using these channels in your critical applications.

| | |
|---|--|
| Receiver Sensitivity for 802.11n (5 GHz; measured at 5.680 GHz) | Typ. -69 dBm @ MCS7 20 MHz Typ. -71 dBm @ MCS15 20 MHz Typ. -63 dBm @ MCS7 40 MHz Typ. -68 dBm @ MCS15 40 MHz Note ⁵ |
| Receiver Sensitivity for 802.11b (measured at 2.437 GHz) | Typ. -93 dBm @ 1 Mbps Typ. -93 dBm @ 2 Mbps Typ. -93 dBm @ 5.5 Mbps Typ. -88 dBm @ 11 Mbps |
| Receiver Sensitivity for 802.11g (measured at 2.437 GHz) | Typ. -88 dBm @ 6 Mbps Typ. -86 dBm @ 9 Mbps Typ. -85 dBm @ 12 Mbps Typ. -85 dBm @ 18 Mbps Typ. -85 dBm @ 24 Mbps Typ. -82 dBm @ 36 Mbps Typ. -78 dBm @ 48 Mbps Typ. -74 dBm @ 54 Mbps |
| Receiver Sensitivity for 802.11n (2.4 GHz; measured at 2.437 GHz) | Typ. -70 dBm @ MCS7 20 MHz Typ. -69 dBm @ MCS15 20 MHz Typ. -67 dBm @ MCS7 40 MHz Typ. -67 dBm @ MCS15 40 MHz |
| WLAN Operation Mode | Access point, Client, Sniffer |
| Antenna | External, 2/2 dBi, Omni-directional |
| Antenna Connectors | 2 RP-SMA female |
| Ethernet Interface | |
| Standards | IEEE 802.3 for 10BaseT IEEE 802.3u for 100BaseT(X) IEEE 802.3ab for 1000BaseT(X) IEEE 802.1X for authentication |
| 10/100/1000BaseT(X) Ports (RJ45 connector) | 1 |
| Ethernet Software Features | |
| Management | DHCP Server/Client, DNS, HTTP, IPv4, LLDP, Proxy ARP, SMTP, SNMPv1/v2c/v3, Syslog, TCP/IP, Telnet, UDP, VLAN, Wireless Search Utility, MXview, MXconfig |
| Security | HTTPS/SSL, RADIUS, SSH |
| Time Management | SNTP Client |
| Firewall | |
| Filter | ICMP, MAC address, IP protocol, Port-based |
| Serial Interface | |
| Console Port | RS-232, 8-pin RJ45 |
| LED Interface | |
| LED Indicators | PWR, FAULT, STATE, SIGNAL, WLAN, LAN |
| Input/Output Interface | |
| Buttons | Reset button |

5. Due to a limitation in the receiver sensitivity performance for channels 153 and 161, it is recommended to avoid using these channels in your critical applications.

Physical Characteristics

| | |
|--------------|--|
| Housing | Metal |
| IP Rating | IP30 |
| Dimensions | 58 x 115 x 70 mm (2.29 x 4.53 x 2.76 in) |
| Weight | 307 g (0.68 lb) |
| Installation | DIN-rail mounting, Wall mounting (with optional kit) |

Power Parameters

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|-----------------------------|---|
| Input Current | 0.56 A @ 12 VDC, 0.14 A @ 48 VDC |
| Input Voltage | 12 to 48 VDC |
| Power Connector | 1 removable 4-contact terminal block(s) |
| Power Consumption | 6.96 W (max.) |
| Reverse Polarity Protection | Supported |

Environmental Limits

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|--|---|
| 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 (package included) | -40 to 85°C (-40 to 185°F) |
| Ambient Relative Humidity | 5 to 95% (non-condensing) |

Standards and Certifications

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|-----------|---|
| EMC | EN 55032/24 |
| EMI | CISPR 32, FCC Part 15B Class B |
| EMS | IEC 61000-4-2 ESD: Contact: 4 kV; Air: 8 kV IEC 61000-4-3 RS: 80 MHz to 1 GHz: 10 V/m 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 PFMF |
| Radio | EN 300 328, EN 301 489-1/17, EN 301 893, FCC ID SLE-WAPN008, ANATEL, MIC, NCC, RCM, SRRC, WPC, KC, RCM |
| Safety | EN 60950-1, UL 60950-1 |
| Vibration | IEC 60068-2-6 |

MTBF

| | |
|-----------|-----------------|
| Time | 749,476 hrs |
| Standards | Telcordia SR332 |

Warranty

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|-----------------|--|
| Warranty Period | 5 years |
| Details | See www.moxa.com/jp/warranty |

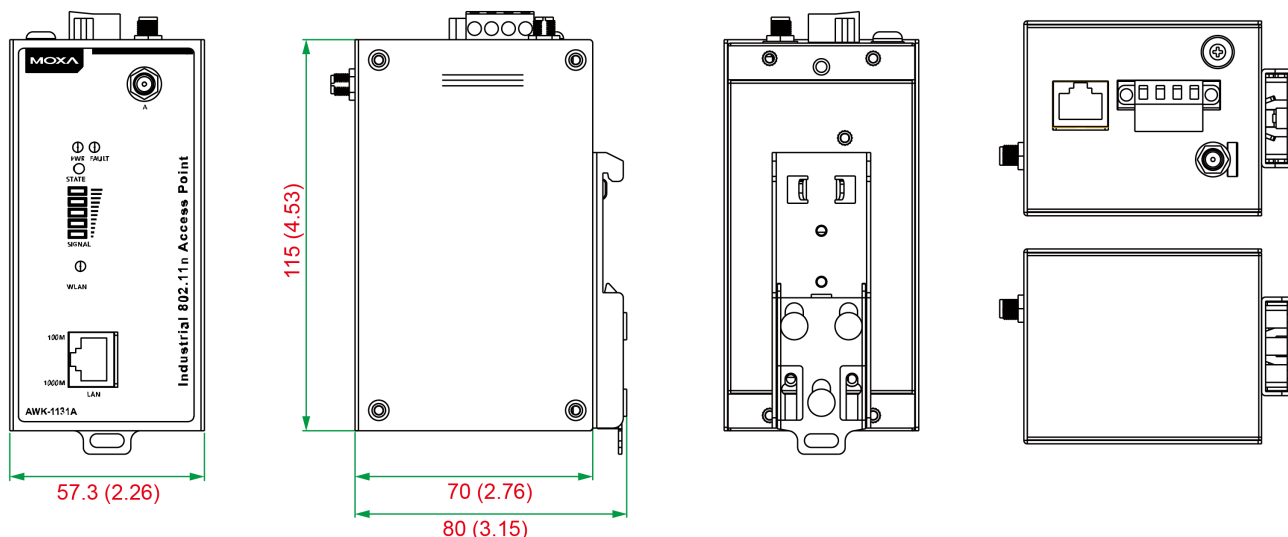
Package Contents

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|------------------|---|
| Device | 1 x AWK-1131 Series wireless AP/client |
| Installation Kit | 1 x cap, plastic, for RJ45 port 1 x DIN-rail kit |

| | |
|---------------|---|
| Antenna | 2 x 2.4/5 GHz antenna |
| Documentation | 1 x quick installation guide 1 x warranty card |

寸法

単位：mm（インチ）



前面図

側面図

背面図

上面図と底面図

注文情報

| Model Name | Band | Standards | Operating Temp. |
|----------------|------|---------------|-----------------|
| AWK-1131A-EU | EU | 802.11a/b/g/n | 0 to 60°C |
| AWK-1131A-EU-T | EU | 802.11a/b/g/n | -40 to 75°C |
| AWK-1131A-JP | JP | 802.11a/b/g/n | 0 to 60°C |
| AWK-1131A-JP-T | JP | 802.11a/b/g/n | -40 to 75°C |
| AWK-1131A-US | US | 802.11a/b/g/n | 0 to 60°C |
| AWK-1131A-US-T | US | 802.11a/b/g/n | -40 to 75°C |

アクセサリ（別売）

Antennas

| | |
|-------------------------|--|
| ANT-WDB-ANF-0407 | 2.4/5 GHz, omni-directional antenna, 4/7 dBi, N-type (female) |
| ANT-WDB-ANF-0609 | 2.4/5 GHz, omni-directional antenna, 6/9 dBi, N-type (female) |
| ANT-WDB-ANM-0306 | 2.4/5 GHz, omni-directional antenna, 3/6 dBi, N-type (male) |
| ANT-WDB-ANM-0407 | 2.4/5 GHz, dual-band omni-directional antenna, 4/7 dBi, N-type (male) |
| ANT-WDB-ANM-0502 | 2.4/5 GHz, omni-directional antenna, 5/2 dBi, N-type (male) |
| ANT-WDB-ANM-0609 | 2.4/5 GHz, omni-directional antenna, 6/9 dBi, N-type (male) |
| ANT-WDB-ARM-02 | 2.4/5 GHz, omni-directional rubber duck antenna, 2 dBi, RP-SMA (male) |
| ANT-WDB-ARM-0202 | 2.4/5 GHz, panel antenna, 2/2 dBi, RP-SMA (male) |
| ANT-WDB-PNF-1518 | 2.4/5 GHz, panel antenna, 15/18 dBi, N-type (female) |
| MAT-WDB-CA-RM-2-0205 | 2.4/5 GHz, ceiling antenna, 2/5 dBi, MIMO 2x2, RP-SMA-type (male) |
| MAT-WDB-DA-RM-2-0203-1m | 2.4/5 GHz, desktop antenna, 2/3 dBi, MIMO 2x2, RP-SMA-type (male), 1 m cable |

| | |
|----------------------|---|
| MAT-WDB-PA-NF-2-0708 | 2.4/5 GHz, panel antenna, 7/8 dBi, MIMO 2x2, N-type (female) |
| ANT-WSB5-ANF-12 | 5 GHz, omni-directional antenna, 12 dBi, N-type (female) |
| ANT-WSB5-PNF-18 | 5 GHz, directional panel antenna, 18 dBi, N-type (female) |
| ANT-WSB-ANF-09 | 2.4 GHz, omni-directional antenna, 9 dBi, N-type (female) |
| ANT-WSB-PNF-12 | 2.4 GHz, directional panel antenna, 12dBi, N-type (female) |
| ANT-WSB-PNF-18 | 2.4 GHz, directional panel antenna, 18 dBi, N-type (female) |
| ANT-WSB-AHRM-05-1.5m | 2.4 GHz, omni-directional/dipole antenna, 5 dBi, RP-SMA (male), 1.5 m cable |

Wireless Antenna Cables

| | |
|-------------------|--|
| A-CRF-RFRM-R4-150 | RF magnetic stand, RP-SMA (male) to RP-SMA (female), RG-174/U cable, 1.5 m |
| A-CRF-RMNM-L1-300 | N-type (male) to RP SMA (male), LMR-195 Lite cable, 3 m |
| A-CRF-RMNM-L1-600 | N-type (male) to RP SMA (male), LMR-195 Lite cable, 6 m |
| A-CRF-RMNM-L1-900 | N-type (male) to RP SMA (male), LMR-195 Lite cable, 9 m |
| CRF-N0117SA-3M | N-type (male) to RP SMA (male), CFD200 cable, 3 m |
| A-CRF-RFRM-S2-60 | SS402 cable, RP-SMA (male) to RP-SMA (female) |

Surge Arrestors

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|--------------|--|
| A-SA-NFNF-01 | Surge arrestor, N-type (female) to N-type (female) |
| A-SA-NMNF-01 | Surge arrestor, N-type (female) to N-type (male) |

Wireless Adapters

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|-------------------------|---|
| A-ADP-RJ458P-DB9F-ABC01 | DB9 female to RJ45 connector for the ABC-01 |
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Wireless Terminating Resistors

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| A-TRM-50-RM | Termination resistor, 50 ohms, N-type male |
|-------------|--|

Wall-Mounting Kits

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|----------|---|
| WK-51-01 | Wall-mounting kit, 2 plates, 6 screws, 51.6 x 67 x 2 mm |
|----------|---|

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