

AWK-3131A-RCCシリーズ

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

- 鉄道向け車両間通信用の特別な設計
- IEEE 802.11a/b/g/n準拠
- 最大300 Mbpsのデータ転送レート
- M12耐振動コネクタ
- MIMO技術により、データスループットと範囲が向上
- EN 50155全必須検査項目に準拠¹
- -40～75°Cの環境に対しての広温度モデルが利用可能
- 自動車両間接続(ACC)機能をサポート

認証



製品紹介

AWK-3131A-RCCシリーズ工業用802.11nワイヤレス AP/クライアントは、802.11gデバイスと比較してより速いデータレートを提供するので、列車内乗客情報システムおよび無線車両間バックボーンネットワークのようなアプリケーションのための理想的な無線ソリューションです。自動車両間接続(ACC)機能は、ワイヤレスデバイスの展開を容易にし、無線車両間バックボーンネットワークの信頼性を高めます。AWK-3131A-RCCシリーズも 乗客のWi-Fiサービスのために最適化され、EN 50155仕様の一部に準拠して 動作温度、電源入力電圧、サージ、ESD、振動に対応することにより、さまざまな産業用途に適した製品となっています。AWK-3131A-RCCシリーズは、より容易な導入のために、AWK-3131A-RCCシリーズへ対してPoEポートを介して電力供給することもできます。

高データレートと帯域幅

- 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

工業用用途に設計

- 工業用QoSおよびVLAN 効率的なデータトラフィック管理向け
- 統合DI/DO 現場監視・警告用
- 信号強度LED 展開とアンテナの位置調整が容易に

仕様

WLAN Interface

WLAN Standards	802.11a/b/g/n 802.11i Wireless Security
Modulation Type	DSSS OFDM 802.11b: CCK @ 11/5.5 Mbps 802.11b: DQPSK @ 2 Mbps 802.11b: DBPSK @ 1 Mbps 802.11a/g: 64QAM @ 54/58 Mbps 802.11a/g: 16QAM @ 36/24 Mbps 802.11a/g: QPSK @ 18/12 Mbps 802.11a/g: BPSK @ 9/6 Mbps 802.11n: 64QAM @ 300 Mbps to BPSK @ 6.5 Mbps

1. 本製品は、EN 50155標準規格で定められた鉄道車両アプリケーションに適しています。詳細については、こちらをクリックしてください：www.moxa.com/doc/specs/EN_50155_Compliance.pdf

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 (8 channels) excluding 5.600 to 5.640 GHz ³ 5.745 to 5.825 GHz (5 channels)
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) ² 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) ² 5.500 to 5.700 GHz (11 channels) ²
Wireless Security	SSID broadcast enable/disable WEP encryption (64-bit and 128-bit) WPA/WPA2-Personal WPA/WPA2-Enterprise (IEEE 802.1X/RADIUS, TKIP, AES)
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 20 MHz 20±1.5 dBm @ MCS1 20 MHz 20±1.5 dBm @ MCS2 20 MHz 20±1.5 dBm @ MCS3 20 MHz 19±1.5 dBm @ MCS4 20 MHz 18±1.5 dBm @ MCS5 20 MHz 18±1.5 dBm @ MCS6 20 MHz 18±1.5 dBm @ MCS7 20 MHz 23±1.5 dBm @ MCS8 20 MHz 20±1.5 dBm @ MCS9 20 MHz 20±1.5 dBm @ MCS10 20 MHz 20±1.5 dBm @ MCS11 20 MHz 19±1.5 dBm @ MCS12 20 MHz 19±1.5 dBm @ MCS13 20 MHz 18±1.5 dBm @ MCS14 20 MHz 18±1.5 dBm @ MCS15 20 MHz 23±1.5 dBm @ MCS0 40 MHz 20±1.5 dBm @ MCS1 40 MHz 20±1.5 dBm @ MCS2 40 MHz 20±1.5 dBm @ MCS3 40 MHz 19±1.5 dBm @ MCS4 40 MHz 18±1.5 dBm @ MCS5 40 MHz 18±1.5 dBm @ MCS6 40 MHz 18±1.5 dBm @ MCS7 40 MHz 23±1.5 dBm @ MCS8 40 MHz 20±1.5 dBm @ MCS9 40 MHz 20±1.5 dBm @ MCS10 40 MHz 20±1.5 dBm @ MCS11 40 MHz 19±1.5 dBm @ MCS12 40 MHz 19±1.5 dBm @ MCS13 40 MHz 18±1.5 dBm @ MCS14 40 MHz 18±1.5 dBm @ MCS15 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

- 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.
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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 20 MHz 21±1.5 dBm @ MCS1 20 MHz 21±1.5 dBm @ MCS2 20 MHz 21±1.5 dBm @ MCS3 20 MHz 20±1.5 dBm @ MCS4 20 MHz 19±1.5 dBm @ MCS5 20 MHz 18±1.5 dBm @ MCS6 20 MHz 18±1.5 dBm @ MCS7 20 MHz 23±1.5 dBm @ MCS8 20 MHz 21±1.5 dBm @ MCS9 20 MHz 21±1.5 dBm @ MCS10 20 MHz 21±1.5 dBm @ MCS11 20 MHz 20±1.5 dBm @ MCS12 20 MHz 19±1.5 dBm @ MCS13 20 MHz 18±1.5 dBm @ MCS14 20 MHz 18±1.5 dBm @ MCS15 20 MHz 23±1.5 dBm @ MCS0 40 MHz 20±1.5 dBm @ MCS1 40 MHz 20±1.5 dBm @ MCS2 40 MHz 20±1.5 dBm @ MCS3 40 MHz 19±1.5 dBm @ MCS4 40 MHz 19±1.5 dBm @ MCS5 40 MHz 18±1.5 dBm @ MCS6 40 MHz 17±1.5 dBm @ MCS7 40 MHz 23±1.5 dBm @ MCS8 40 MHz 20±1.5 dBm @ MCS9 40 MHz 20±1.5 dBm @ MCS10 40 MHz 20±1.5 dBm @ MCS11 40 MHz 20±1.5 dBm @ MCS12 40 MHz 19±1.5 dBm @ MCS13 40 MHz 18±1.5 dBm @ MCS14 40 MHz 17±1.5 dBm @ MCS15 40 MHz
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. -74 @ 54 Mbps Note ⁴
Receiver Sensitivity for 802.11n (5 GHz; measured at 5.680 GHz)	Typ. -88 dBm @ MCS0 20 MHz Typ. -85 dBm @ MCS1 20 MHz Typ. -82 dBm @ MCS2 20 MHz Typ. -79 dBm @ MCS3 20 MHz Typ. -76 dBm @ MCS4 20 MHz Typ. -71 dBm @ MCS5 20 MHz Typ. -70 dBm @ MCS6 20 MHz Typ. -69 dBm @ MCS7 20 MHz Typ. -95 dBm @ MCS8 20 MHz Typ. -91 dBm @ MCS9 20 MHz Typ. -87 dBm @ MCS10 20 MHz Typ. -80 dBm @ MCS11 20 MHz Typ. -78 dBm @ MCS12 20 MHz Typ. -74 dBm @ MCS13 20 MHz Typ. -72 dBm @ MCS14 20 MHz Typ. -71 dBm @ MCS15 20 MHz Typ. -84 dBm @ MCS0 40 MHz Typ. -81 dBm @ MCS1 40 MHz Typ. -77 dBm @ MCS2 40 MHz Typ. -75 dBm @ MCS3 40 MHz Typ. -71 dBm @ MCS4 40 MHz Typ. -67 dBm @ MCS5 40 MHz Typ. -64 dBm @ MCS6 40 MHz

4. 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.

	Typ. -63 dBm @ MCS7 40 MHz Typ. -90 dBm @ MCS8 40 MHz Typ. -85 dBm @ MCS9 40 MHz Typ. -82 dBm @ MCS10 40 MHz Typ. -81 dBm @ MCS11 40 MHz Typ. -77 dBm @ MCS12 40 MHz Typ. -73 dBm @ MCS13 40 MHz Typ. -71 dBm @ MCS14 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. -89 dBm @ MCS0 20 MHz Typ. -85 dBm @ MCS1 20 MHz Typ. -85 dBm @ MCS2 20 MHz Typ. -82 dBm @ MCS3 20 MHz Typ. -78 dBm @ MCS4 20 MHz Typ. -74 dBm @ MCS5 20 MHz Typ. -72 dBm @ MCS6 20 MHz Typ. -70 dBm @ MCS7 20 MHz Typ. -95 dBm @ MCS8 20 MHz Typ. -90 dBm @ MCS9 20 MHz Typ. -87 dBm @ MCS10 20 MHz Typ. -83 dBm @ MCS11 20 MHz Typ. -80 dBm @ MCS12 20 MHz Typ. -74 dBm @ MCS13 20 MHz Typ. -71 dBm @ MCS14 20 MHz Typ. -69 dBm @ MCS15 20 MHz Typ. -87 dBm @ MCS0 40 MHz Typ. -83 dBm @ MCS1 40 MHz Typ. -83 dBm @ MCS2 40 MHz Typ. -80 dBm @ MCS3 40 MHz Typ. -76 dBm @ MCS4 40 MHz Typ. -73 dBm @ MCS5 40 MHz Typ. -69 dBm @ MCS6 40 MHz Typ. -67 dBm @ MCS7 40 MHz Typ. -93 dBm @ MCS8 40 MHz Typ. -88 dBm @ MCS9 40 MHz Typ. -85 dBm @ MCS10 40 MHz Typ. -82 dBm @ MCS11 40 MHz Typ. -78 dBm @ MCS12 40 MHz Typ. -73 dBm @ MCS13 40 MHz Typ. -69 dBm @ MCS14 40 MHz Typ. -67 dBm @ MCS15 40 MHz
WLAN Operation Mode	Access point, Client, Client-Router, Sniffer
Antenna Connectors	QMA

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.

Ethernet Interface

PoE Ports (10/100/1000BaseT(X), M12 A-coded 8-pin female connector)	1
Standards	IEEE 802.3 for 10BaseT IEEE 802.3u for 100BaseT(X) IEEE 802.3ab for 1000BaseT IEEE 802.3af for PoE IEEE 802.1Q for VLAN Tagging
10/100/1000BaseT(X) Ports (M12 A-coded 8-pin female connector)	1, M12 A-coded 8-pin female connector, 10/100/1000BaseT(X) auto negotiation speed, F/H duplex mode, auto MDI/MDI-X connection

Ethernet Software Features

Management	General: Proxy ARP, DNS, HTTP, HTTPS, IP, ICMP, SNTP, TCP, UDP, RADIUS, SNMP, DHCP AP-only: ARP, BOOTP, DHCP
Security	RADIUS

Firewall

Filter	MAC/IP Protocol/Port-based
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Serial Interface

Console Port	RS-232 (RJ45-type)
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LED Interface

LED Indicators	PWR1, PWR2, PoE, FAULT, STATE, SIGNAL, Client, WLAN, LAN
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Input/Output Interface

Digital Inputs	2 +13 to +30 V for state 1 +3 to -30 V for state 0 Max. input current: 8 mA
Alarm Contact Channels	Relay output with current carrying capacity of 1 A @ 24 VDC
Buttons	Reset button

Physical Characteristics

Housing	Metal
IP Rating	IP30
Dimensions	52.9 x 151.9 x 127.4 mm (2.08 x 5.98 x 5.02 in)
Weight	850 g (1.87 lb)
Installation	DIN-rail mounting, Wall mounting (with optional kit)
Protection	AWK-3131A-M12-RCC-US-CT-T: PCB conformal coating AWK-3131A-M12-RCC-JP-CT-T: PCB conformal coating AWK-3131A-M12-RCC-EU-CT: PCB conformal coating AWK-3131A-M12-RCC-JP-CT: PCB conformal coating AWK-3131A-M12-RCC-US-CT: PCB conformal coating AWK-3131A-M12-RCC-EU-CT-T: PCB conformal coating

Power Parameters

Input Current	0.67 A @ 12 VDC, 0.17 A @ 48 VDC
Input Voltage	12 to 48 VDC, Redundant dual inputs, 48 VDC Power-over-Ethernet
Power Connector	1 removable 10-contact terminal block(s)

Power Consumption	Maximum 8.03 W
Reverse Polarity Protection	Supported

Environmental Limits

Operating Temperature	Standard Models: -25 to 60°C (-13 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

EMC	EN 55032/24
EMI	CISPR 32, FCC Part 15B Class B
EMS	IEC 61000-4-2 ESD: Contact: 8 kV; Air: 15 kV IEC 61000-4-3 RS: 80 MHz to 1 GHz: 20 V/m IEC 61000-4-4 EFT: Power: 2 kV; Signal: 2 kV IEC 61000-4-5 Surge: Power: 2 kV; Signal: 2 kV IEC 61000-4-6 CS: 10 V IEC 61000-4-8 PFMF
Railway	EN 50155, EN 50121-4
Railway Fire Protection	EN 45545-2
Radio	EN 300 328, EN 301 893, MIC, FCC ID SLE-WAPN008, IDA
Safety	UL 60950-1, IEC 60950-1, EN 60950-1 (LVD)

MTBF

Time	742,649 hrs
Standards	Telcordia SR332

Warranty

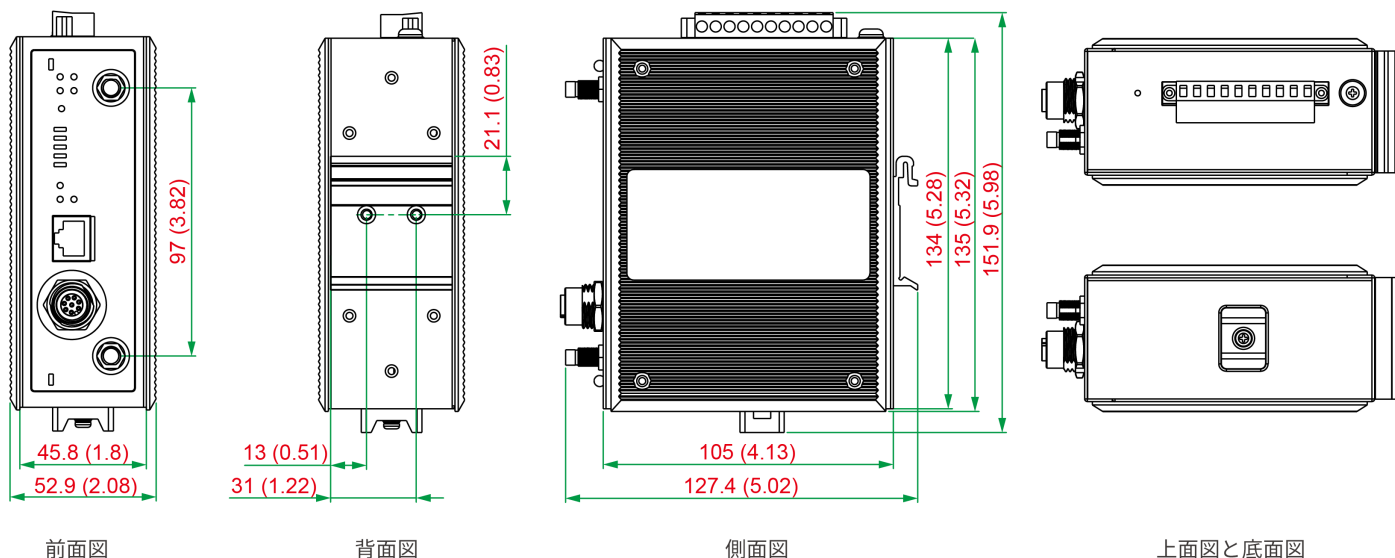
Warranty Period	5 years
Details	See www.moxa.com/jp/warranty

Package Contents

Device	1 x AWK-3131A-M12-RCC wireless AP/client
Installation Kit	1 x DIN-rail kit 2 x cap, plastic, for RJ45 port 1 x cable holder with screw
Documentation	1 x quick installation guide 1 x warranty card

寸法

単位：mm（インチ）



注文情報

Model Name	Band	Operating Temperature (-40 to 75°C)	Conformal Coating
AWK-3131A-M12-RCC-US	US	-25 to 60°C	-
AWK-3131A-M12-RCC-EU	EU	-25 to 60°C	-
AWK-3131A-M12-RCC-JP	JP	-25 to 60°C	-
AWK-3131A-M12-RCC-US-T	US	-40 to 75°C	-
AWK-3131A-M12-RCC-EU-T	EU	-40 to 75°C	-
AWK-3131A-M12-RCC-JP-T	JP	-40 to 75°C	-
AWK-3131A-M12-RCC-US-CT	US	-25 to 60°C	P
AWK-3131A-M12-RCC-EU-CT	EU	-25 to 60°C	P
AWK-3131A-M12-RCC-JP-CT	JP	-25 to 60°C	P
AWK-3131A-M12-RCC-US-CT-T	US	-40 to 75°C	P
AWK-3131A-M12-RCC-EU-CT-T	EU	-40 to 75°C	P
AWK-3131A-M12-RCC-JP-CT-T	JP	-40 to 75°C	P

アクセサリー（別売）

Wall-Mounting Kits

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