

AWK-3131A Series

Industrial IEEE 802.11a/b/g/n wireless AP/bridge/client



- > IEEE 802.11a/b/g/n AP/bridge/client support
- > Seamless roaming with Turbo Roaming
- > Complete redundancy with AeroLink Protection
- > Integrated antenna and power isolation
- > -40 to 75°C operating temperature range (-T models)
- > 5 GHz DFS channel support



Introduction

The AWK-3131A 3-in-1 industrial wireless AP/bridge/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-3131A is compliant with 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, and the AWK-3131A can be powered via PoE to make deployment easier. The AWK-3131A 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.

Advanced 802.11n Industrial Wireless Solution

- 802.11a/b/g/n compliant AP/bridge/client for flexible deployment
- Software optimized for long distance (LoS, 1 km) wireless communication with external high-gain antenna (available on 5 GHz)

- Supports 60 clients connected concurrently
- DFS channel support allows a wider range of 5 GHz channel selection to avoid existing wireless infrastructure and interference

Advanced Wireless Technology

- Seamless roaming with Client-based Turbo Roaming for < 150 ms roaming recovery time between APs (Client mode)
- Supports AeroLink Protection for creating a redundant wireless link (< 300 ms recovery time) between AP and clients (Client mode)

Industrial Ruggedness

- Integrated antenna and power isolation designed to provide 500 V insulation protection against external electrical interference
- Hazardous location wireless communication with Class I Div II and ATEX Zone 2 certifications
- -40 to 75°C wide operating temperature models (-T) provided for smooth wireless communication in harsh environments

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
 IEEE 802.3af for Power-over-Ethernet
 IEEE 802.1D for Spanning Tree Protocol
 IEEE 802.1w for Rapid STP
 IEEE 802.1Q for VLAN

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 @ 1 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 GHz (4 channels)
 5.260 to 5.320 GHz (4 channels)*
 5.500 to 5.700 GHz (8 channels, excluding 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 GHz (4 channels)
 5.260 to 5.320 GHz (4 channels)*
 5.500 to 5.700 GHz (11 channels)*

JP:

2.412 to 2.484 GHz (14 channels)
 5.180 to 5.240 GHz (4 channels)
 5.260 to 5.320 GHz (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)

Transmitter Power:

802.11b:

Typ. 26±1.5 dBm @ 1 Mbps, Typ. 26±1.5 dBm @ 2 Mbps

Typ. 26±1.5 dBm @ 5.5 Mbps, Typ. 25±1.5 dBm @ 11 Mbps

802.11g:

Typ. 23±1.5 dBm @ 6 to 24 Mbps, Typ. 22±1.5 dBm @ 36 Mbps

Typ. 20±1.5 dBm @ 48 Mbps, Typ. 19±1.5 dBm @ 54 Mbps

802.11n (2.4 GHz):

Typ. 23±1.5 dBm @ MCS0/8 20 MHz,

Typ. 18±1.5 dBm @ MCS7/15 20 MHz

Typ. 23±1.5 dBm @ MCS0/8 40 MHz,

Typ. 17±1.5 dBm @ MCS7/15 40 MHz

802.11a:

Typ. 23±1.5 dBm @ 6 to 24 Mbps, Typ. 21±1.5 dBm @ 36 Mbps

Typ. 20±1.5 dBm @ 48 Mbps, Typ. 18±1.5 dBm @ 54 Mbps

802.11n (5 GHz):

Typ. 23±1.5 dBm @ MCS0/8 20 MHz,

Typ. 18±1.5 dBm @ MCS7/15 20 MHz

Typ. 23±1.5 dBm @ MCS0/8 40 MHz,

Typ. 18±1.5 dBm @ MCS7/15 40 MHz

Note: Based on regional regulations, the maximum transmission power allowed on the UNII bands is restricted in the firmware, as indicated below:

	US	EU	JP
2.4 GHz	20 dBm	20 dBm	20 dBm
5 GHz (UNII-1)	17 dBm	20 dBm	20 dBm
5 GHz (UNII-2)	20 dBm	20 dBm	20 dBm
5 GHz (UNII-2e)	20 dBm	20 dBm	20 dBm
5 GHz (UNII-3)	20 dBm	20 dBm	20 dBm

Receiver Sensitivity:

802.11b:

-93 dBm @ 1 Mbps, -93 dBm @ 2 Mbps

-93 dBm @ 5.5 Mbps, -88 dBm @ 11 Mbps

802.11g:

-88 dBm @ 6 Mbps, -86 dBm @ 9 Mbps

-85 dBm @ 12 Mbps, -85 dBm @ 18 Mbps

-85 dBm @ 24 Mbps, -82 dBm @ 36 Mbps

-78 dBm @ 48 Mbps, -74 dBm @ 54 Mbps

802.11n (2.4 GHz):

-70 dBm @ MCS7 20 MHz, -69 dBm @ MCS15 20 MHz

-67 dBm @ MCS7 40 MHz, -67 dBm @ MCS15 40 MHz

802.11a:

-90 dBm @ 6 Mbps, -88 dBm @ 9 Mbps

-88 dBm @ 12 Mbps, -85 dBm @ 18 Mbps

-81 dBm @ 24 Mbps, -78 dBm @ 36 Mbps

-74 dBm @ 48 Mbps, -72 dBm @ 54 Mbps

802.11n (5 GHz):

-69 dBm @ MCS7 20 MHz, -71 dBm @ MCS15 20 MHz

-63 dBm @ MCS7 40 MHz, -68 dBm @ MCS15 40 MHz

Protocol Support

General Protocols: Proxy ARP, DNS, HTTP, HTTPS, IP, ICMP, SNMP, TCP, UDP, RADIUS, DHCP, VLAN, STP/RSTP

Interface

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

Connector for External Antennas: RP-SMA (female), 500 V insulation

LAN Ports: 1, RJ45, 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: PWR1, PWR2, PoE, FAULT, STATE, SIGNAL*, WLAN, LAN

*signal strength indicator

Alarm Contact (digital output): 1 relay output with current carrying capacity of 1 A @ 24 VDC

Digital Inputs: 2 electrically isolated inputs

• +13 to +30 V for state "1"

• +3 to -30 V for state "0"

• Max. input current: 8 mA

Management

Device Management: Wireless Search Utility, MXconfig, SNMP

Network Monitoring: MXview

Physical Characteristics

Housing: Metal, IP30 protection

Weight: 860 g (1.9 lb)

Dimensions: 52.7 x 135 x 105 mm (2.08 x 5.32 x 4.13 in)

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

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: -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 or 48 VDC Power-over-Ethernet Plus (IEEE 802.3af compliant)

Input Current: 0.6 A @ 12 VDC; 0.15 A @ 48 VDC

Connector: 10-pin removable terminal block, 500 V insulation

Power Consumption: 7.2 W

Reverse Polarity Protection: Present

Standards and Certifications

Safety: UL 60950-1, EN 60950-1

Hazardous Location: UL/cUL Class I Division 2, ATEX Zone 2

EMC: EN 61000-6-2/6-4

EMI: CISPR 22, 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: 3 V/m

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

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

IEC 61000-4-6 CS: 3 V/m

IEC 61000-4-8 PFMF: 1 A/m

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

SLE-WAPN008, KC, RCM, MIC, ANATEL, WPC

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

MTBF (mean time between failures)

Time: 770,854 hrs

Standard: Telcordia SR332

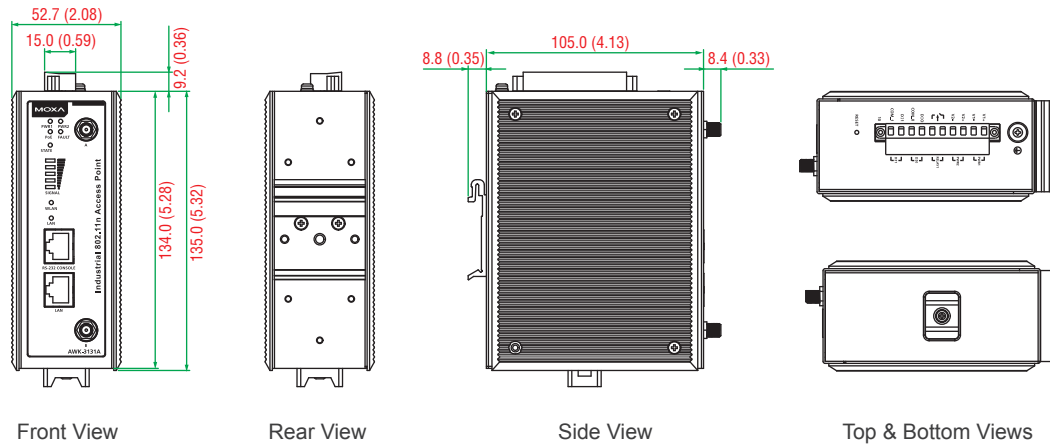
Warranty

Warranty Period: 5 years

Details: See www.moxa.com/warranty

Dimensions

Unit: mm (inch)



Ordering Information

Available Models

AWK-3131A-US: IEEE 802.11a/b/g/n wireless AP/bridge/client, US band, -25 to 60°C operating temperature
AWK-3131A-US-T: IEEE 802.11a/b/g/n wireless AP/bridge/client, US band, -40 to 75°C operating temperature
AWK-3131A-EU: IEEE 802.11a/b/g/n wireless AP/bridge/client, EU band, -25 to 60°C operating temperature
AWK-3131A-EU-T: IEEE 802.11a/b/g/n wireless AP/bridge/client, EU band, -40 to 75°C operating temperature
AWK-3131A-JP: IEEE 802.11a/b/g/n wireless AP/bridge/client, JP band, -25 to 60°C operating temperature
AWK-3131A-JP-T: IEEE 802.11a/b/g/n wireless AP/bridge/client, JP band, -40 to 75°C operating temperature

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-3131A wireless AP/bridge/client
- 2 2.4/5 GHz antennas: ANT-WDB-ARM-02
- DIN-rail kit
- 2 plastic RJ45 protective caps
- Cable holder with one screw
- Quick installation guide (printed)
- Warranty card

AWK-4131A Series

Outdoor industrial IEEE 802.11a/b/g/n wireless AP/bridge/client



- > 2x2 MIMO 802.11a/b/g/n AP/bridge/client
- > Seamless roaming with Client-Based Turbo Roaming
- > Wireless redundancy with AeroLink Protection
- > Rugged industrial design with integrated antenna and power isolation
- > IP68-rated weatherproof housing designed for outdoor applications and -40 to 75°C operating temperatures
- > Avoid wireless congestion with 5 GHz DFS channel support



Introduction

The AWK-4131A IP68 outdoor industrial AP/bridge/client meets the growing need for faster data transmission speeds by supporting 802.11n technology and allowing 2X2 MIMO communication with a net data rate of up to 300 Mbps. The AWK-4131A is compliant with 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, and the AWK-4131A can be powered via PoE to make deployment easier. The AWK-4131A 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 investments in wireless networks.

Advanced 802.11n Industrial Wireless Solution

- 802.11a/b/g/n compliant AP/bridge/client for flexible deployment
- Software optimized for long distance (LoS, 1 km) wireless communication with external high-gain antenna (available on 5 GHz)

- Supports 60 clients connected concurrently
- DFS channel support allows a wider range of 5 GHz channel selection to avoid existing wireless infrastructure and interference

Advanced Wireless Technology for Mission-Critical Applications

- Seamless roaming with Client-based Turbo Roaming for < 150 ms roaming recovery time between APs (Client mode)
- Supports AeroLink Protection for creating a redundant wireless link (< 300 ms recovery time) between AP and clients (Client mode)

Industrial Ruggedness

- Integrated antenna and power isolation designed to provide 500 V insulation protection against external electrical interference
- IP68 rated metal casing for complete ingress protection for any outdoor weather
- -40 to 75°C wide operating temperature provided for smooth wireless communication in harsh environments

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
 IEEE 802.3af for Power-over-Ethernet
 IEEE 802.1D for Spanning Tree Protocol
 IEEE 802.1w for Rapid STP
 IEEE 802.1Q for VLAN

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 @ 1 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 GHz (4 channels)
 5.260 to 5.320 GHz (4 channels)*
 5.500 to 5.700 GHz (8 channels, excluding 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 GHz (4 channels)*
 5.260 to 5.320 GHz (4 channels)
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JP:

2.412 to 2.484 GHz (14 channels)
 5.180 to 5.240 GHz (4 channels)
 5.260 to 5.320 GHz (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)

Transmitter Power:

802.11b:

Typ. 26±1.5 dBm @ 1 Mbps, Typ. 26±1.5 dBm @ 2 Mbps

Typ. 26±1.5 dBm @ 5.5 Mbps, Typ. 25±1.5 dBm @ 11 Mbps

802.11g:

Typ. 23±1.5 dBm @ 6 to 24 Mbps, Typ. 22±1.5 dBm @ 36 Mbps

Typ. 20±1.5 dBm @ 48 Mbps, Typ. 19±1.5 dBm @ 54 Mbps

802.11n (2.4 GHz):

Typ. 23±1.5 dBm @ MCS0/8 20 MHz,

Typ. 18±1.5 dBm @ MCS7/15 20 MHz

Typ. 23±1.5 dBm @ MCS0/8 40 MHz,

Typ. 17±1.5 dBm @ MCS7/15 40 MHz

802.11a:

Typ. 23±1.5 dBm @ 6 to 24 Mbps, Typ. 21±1.5 dBm @ 36 Mbps

Typ. 20±1.5 dBm @ 48 Mbps, Typ. 18±1.5 dBm @ 54 Mbps

802.11n (5 GHz):

Typ. 23±1.5 dBm @ MCS0/8 20 MHz,

Typ. 18±1.5 dBm @ MCS7/15 20 MHz

Typ. 23±1.5 dBm @ MCS0/8 40 MHz,

Typ. 18±1.5 dBm @ MCS7/15 40 MHz

Note: Based on regional regulations, the maximum transmission power allowed on the UNII bands is restricted in the firmware, as per the following list:

	US	EU	JP
2.4 GHz	20 dBm	20 dBm	20 dBm
5 GHz (UNII-1)	17 dBm	20 dBm	20 dBm
5 GHz (UNII-2)	20 dBm	20 dBm	20 dBm
5 GHz (UNII-2e)	20 dBm	20 dBm	20 dBm
5 GHz (UNII-3)	20 dBm	20 dBm	20 dBm

Receiver Sensitivity:

802.11b:

-93 dBm @ 1 Mbps, -93 dBm @ 2 Mbps

-93 dBm @ 5.5 Mbps, -88 dBm @ 11 Mbps

802.11g:

-88 dBm @ 6 Mbps, -86 dBm @ 9 Mbps

-85 dBm @ 12 Mbps, -85 dBm @ 18 Mbps

-85 dBm @ 24 Mbps, -82 dBm @ 36 Mbps

-78 dBm @ 48 Mbps, -74 dBm @ 54 Mbps

802.11n (2.4 GHz):

-70 dBm @ MCS7 20 MHz, -69 dBm @ MCS15 20 MHz

-67 dBm @ MCS7 40 MHz, -67 dBm @ MCS15 40 MHz

802.11a:

-90 dBm @ 6 Mbps, -88 dBm @ 9 Mbps

-88 dBm @ 12 Mbps, -85 dBm @ 18 Mbps

-81 dBm @ 24 Mbps, -78 dBm @ 36 Mbps

-74 dBm @ 48 Mbps, -72 dBm @ 54 Mbps

802.11n (5 GHz):

-69 dBm @ MCS7 20 MHz, -71 dBm @ MCS15 20 MHz

-63 dBm @ MCS7 40 MHz, -68 dBm @ MCS15 40 MHz

Protocol Support

General Protocols: Proxy ARP, DNS, HTTP, HTTPS, IP, ICMP, SNMP, TCP, UDP, RADIUS, SNMP, DHCP, VLAN, STP/RSTP

Interface

Default Antennas: 2 dual-band omni-directional antennas, 5 dBi at 2.4 GHz, 2 dBi at 5 GHz, N-type (male)

Connector for External Antennas: N-Type (female), 500 V insulation

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

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

Reset: Present

LED Indicators: PWR, FAULT, STATE, WLAN, LAN

Alarm Contact (digital output): 8-pin M12 A-coded connector (female), 1 relay output with current carrying capacity of 1 A @ 24 VDC

Digital Inputs: 8-pin M12 A-coded connector (female), 2 electrically isolated inputs

• +13 to +30 V for state "1"

• +3 to -30 V for state "0"

• Max. input current: 8 mA

Management

Device Management: Wireless Search Utility, MXconfig, SNMP

Network Monitoring: MXview

Physical Characteristics

Housing: Metal, IP68 protection

Weight: 1400 g (3.09 lb)

Dimensions: 224 x 147.7 x 66.5 mm (8.82 x 5.82 x 2.62 in)

Installation: Wall mounting (standard), DIN-rail mounting (optional), pole mounting (optional)

Environmental Limits

Operating Temperature: -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 or 48 VDC Power-over-Ethernet (IEEE 802.3af compliant)

Input Current: 0.64 A @ 12 VDC; 0.16 A @ 48 VDC

Connector: 5-pin M12 A-coded connector (male), 500 V insulation

Power Consumption: 7.68 W

Reverse Polarity Protection: Present

Standards and Certifications

Safety: UL 60950-1, EN 60950-1

EMC: EN 61000-6-2/6-4

EMI: CISPR 22, 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: 10 V/m

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

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

IEC 61000-4-6 CS: 10 V

IEC 61000-4-8

Radio: EN 301 489-1/17, EN 300 328, EN 301 893, TELEC, FCC ID SLE-WAPN008

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

MTBF (mean time between failures)

Time: 440,764 hrs

Standard: Telcordia SR332

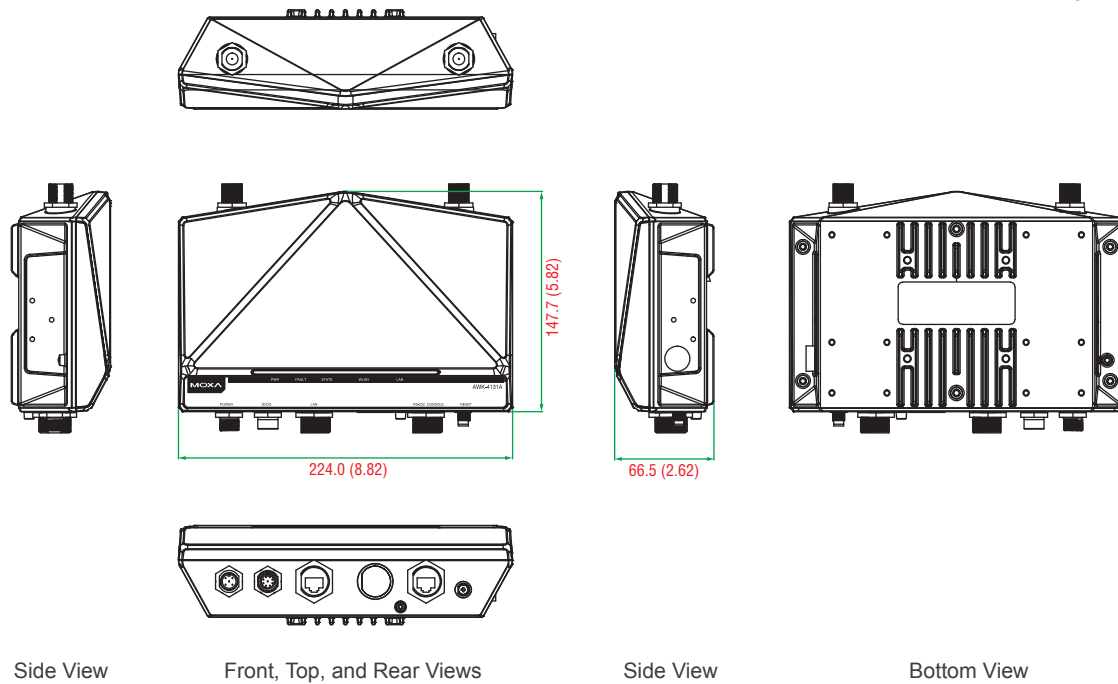
Warranty

Warranty Period: 5 years

Details: See www.moxa.com/warranty

Dimensions

Unit: mm (inch)



Ordering Information

Available Models

AWK-4131A-US-T: IEEE 802.11a/b/g/n IP68 wireless AP/bridge/client, US band, -40 to 75°C operating temperature

AWK-4131A-EU-T: IEEE 802.11a/b/g/n IP68 wireless AP/bridge/client, EU band, -40 to 75°C operating temperature

AWK-4131A-JP-T: IEEE 802.11a/b/g/n IP68 wireless AP/bridge/client, JP band, -40 to 75°C operating temperature

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-4131A wireless AP/bridge/client
- 2 2.4/5 GHz antennas: ANT-WDB-ANM-0502
- Wall-mounting kit (includes 2 supports)
- Field-installable power plug
- Field-installable RJ45 plug
- Metal cap to cover RJ45 connector
- Metal cap to cover M12-female connector
- Transparent plastic sticks for field-installable plugs
- Quick installation guide (printed)
- Warranty card

OnCell G3470A-LTE Series

Industrial LTE cellular gateway



- > **LTE Band Support**
 - EU Model: 2100/1800/2600/900/800 MHz (B1/B3/B7/B8/B20)
 - US Model: 1900/AWS/850/700/700/1900 MHz (B2/B4/B5/B13/B17/B25)
- > **Built-in high speed 4-port Ethernet switch**
- > **Industrial design with dual-power input and built-in DI/DO support**
- > **Cellular link redundancy with dual-SIM GuaranLink support**
- > **Antenna and power isolation design to protect against interference**



Introduction

Moxa's OnCell G3470A-LTE LTE Ethernet IP gateway provides a higher cellular bandwidth and more reliable connection to your Ethernet network for cellular applications. With an integrated 4-port Gigabit Ethernet switch and LTE support, the OnCell G3470A-LTE offers a faster cellular connection with a lower total cost of ownership. To enhance reliability, a key for industrial users, the OnCell G3470A-LTE provides isolation for both power and antenna inputs. Coupled with high-level EMS and wide-temperature support, the OnCell G3470A-LTE provides the highest level of device stability in any rugged environment. In addition, with dual-SIM and dual-power input features, the OnCell G3470A-LTE offers network redundancy to ensure uninterrupted connectivity for your applications.

Multi-Band Support

- EU Model: 2100/1800/2600/900/800 MHz (B1/B3/B7/B8/B20)
- US Model: 1900/AWS/850/700/700/1900 MHz (B2/B4/B5/B13/B17/B25)

Isolation and Redundancy Design

- Dual-power input for power redundancy
- Dual-SIM support for cellular connection redundancy
- Antenna isolation for protection against radio interference
- Power isolation for power source insulation protection
- GuaranLink for reliable cellular connectivity

Specifications

Cellular Interface

Standards: GSM/GPRS/EDGE/UMTS/HSPA/LTE

Band Options:

EU Band:

- LTE 2100/1800/2600/900/800 MHz (B1/B3/B7/B8/B20)
- UMTS/HSPA 2100/1900/850/800/900 MHz

US Band:

- LTE 1900/AWS/850/700/700/1900 MHz (B2/B4/B5/B13/B17/B25)
- UMTS/HSPA 2100/1900/AWS/850/900 MHz
- Universal quad-band GSM/GPRS/EDGE 850/900/1800/1900 MHz

LTE Data Rate:

- 20 MHz bandwidth: 100 Mbps DL, 50 Mbps UL
- 10 MHz bandwidth: 50 Mbps DL, 25 Mbps UL

HSPA Data Rate: 42 Mbps DL, 5.76 Mbps UL (Category 24, 6)

EDGE Data Rate: 237 kbps DL, 237 kbps UL (Class 10, 12)

GPRS Data Rate: 85.6 kbps DL, 42.8 kbps UL

LAN Interface

Number of Ports: 4

Ethernet: 10/100/1000 Mbps, RJ45 connector, auto MDI/MDIX

Interface

Cellular Antenna Connectors: 2, SMA (female)

GNSS: 1 SMA (female), GPS (1575.42 MHz), GLONASS (1602 MHz)

Console Port: RS-232 (RJ45)

LED Indicators: PWR1, PWR2, READY, FAULT, CELLULAR SIGNAL, SIM1, SIM2, 2G, 3G, 4G, GPS

Ground Screw: M5

Reset Button: Power Reset/Factory Default Reset

I/O Interface

Alarm Contact: 1 relay output with current carrying capacity of 1 A @ 24 VDC

Digital Inputs: 2 electrically isolated inputs

- +13 to +30 V for state "1"
- +3 to -30 V for state "0"

Software

Network Protocols: ICMP, DDNS, TCP/IP, UDP, DHCP, Telnet, DNS, SNMP, HTTP, HTTPS, SMTP, SNTP, ARP

Routing/Firewall: NAT, VPN tunneling, port forwarding, IP/MAC/Port filtering, Access IP lists

VPN:

- Max. Tunnel Number: 5 (Responder/Initiator)
- IPSec (DES, 3DES, AES, MD5, SHA-1, DH2, DH5), PSK/X.509/RSA

Cellular Connectivity: GuaranLink

GPS: NMEA

Management Software

Utilities: Wireless Search Utility

Configuration and Management Options: SNMP v1/v2c/v3, Web / Telnet / Serial Console, SSH, Remote SMS Control

Private IP Solution: OnCell Central Manager

SIM Interface

Number of SIMs: 2

SIM Control: 3 V

Physical Characteristics

Housing: Aluminum, providing IP30 protection

Weight: 1300 g (2.87 lb)

Dimensions: 66.3 x 124 x 90 mm (2.61 x 4.88 x 3.54 in)

Environmental Limits

Operating Temperature:

Standard Models: -30 to 55°C (-22 to 131°F)

Wide Temp. Models: -30 to 70°C (-22 to 158°F)

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

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

Power Requirements

Number of Power Inputs: 2 (terminal block), redundant dual inputs

Input Voltage: 12 to 48 VDC

Input Current: 0.7 A @ 12 VDC; 0.2 A @ 48 VDC

Reverse Polarity Protection: Present

Standards and Certifications

Safety: OnCell G3470A-LTE-US: UL 60950-1

EMC: OnCell G3470A-LTE-EU: EN 61000-6-2/6-4

EMI: OnCell G3470A-LTE-US: CISPR 22, FCC Part 15B Class A

EMS:

IEC 61000-4-2 ESD: Contact: 8 kV; Air: 15 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: 1 kV; Signal: 1 kV

IEC 61000-4-6 CS: 10 V

IEC 61000-4-8

Radio:

FCC ID N7NMC7355

EN 301 489-1, EN 301 489-7, EN 301 511

MTBF (mean time between failures)

Time: 327,326 hrs

Standard: Telcordia SR332

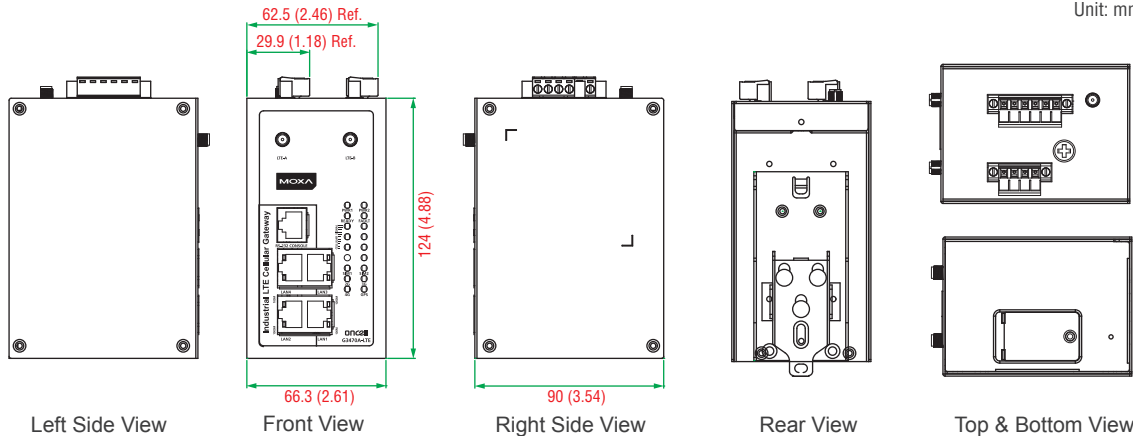
Warranty

Warranty Period: 5 years

Details: See www.moxa.com/warranty

Dimensions

Unit: mm (inch)



Ordering Information

Available Models

OnCell G3470-LTE-US: Industrial LTE cellular gateway, B2/B4/B5/B13/B17/B25, -30 to 55°C operating temperature

OnCell G3470-LTE-US-T: Industrial LTE cellular gateway, B2/B4/B5/B13/B17/B25, -30 to 70°C operating temperature

OnCell G3470-LTE-EU: Industrial LTE cellular gateway, B1/B3/B7/B8/B20, -30 to 55°C operating temperature

OnCell G3470-LTE-EU-T: Industrial LTE cellular gateway, B1/B3/B7/B8/B20, -30 to 70°C operating temperature

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

Optional Accessories (can be purchased separately)

A-CRF-SMSF-R3-100: 1 m cellular RF cable with SMA connector and magnetic base

ANT-LTEUS-ASM-01: 2 x UMTS/LTE cellular antennas (US model)

ANT-LTE-ASM-02: 2 x UMTS/LTE cellular antennas (EU model)

Package Checklist

- OnCell G3470A-LTE
- 2 UMTS/LTE cellular antennas
- 5 plastic RJ45 protective caps for serial console and Ethernet ports
- 1 GPS connector terminator
- DIN-rail kit
- Quick installation guide (printed)
- Warranty card



Model Name	A-CRF-SMSF-R3-100	ANT-LTEUS-ASM-01	ANT-LTE-ASM-02	ANT-GPS-OSM-05-3M
Description	Magnetic Mount Antenna Base: SMA, 1 m	US LTE Antenna, 1 dBi, 2 pcs	EU LTE Antenna, 2 dBi, 2 pcs	GPS Antenna, SMA, 1 m