

# AWK-3252A 系列

工業級 IEEE 802.11a/b/g/n/ac 無線 AP/橋接器/用戶端



## 特色與優點

- 符合 IEEE 802.11a/b/g/n/ac Wave 2 AP/橋接器/無線用戶端
- 同步雙頻 Wi-Fi，整體資料傳輸率可高達 1.267 Mbps
- 最新的 WPA3 加密增強了無線網路安全性
- 具有可設定國家或地區代碼的通用 (UN) 型號，實現更為靈活的部署方式
- 透過網路位址轉譯 (NAT) 輕鬆設定網路
- 毫秒等級的用戶端 Turbo Roaming 漫遊
- 內建 2.4 GHz 和 5 GHz 具有通濾波器，無線連線更可靠
- -40 至 75°C 寬操作溫度範圍 (-T 型號)
- 整合式天線隔離
- 根據 IEC 62443-4-1 開發且符合 IEC 62443-4-2 工業網路安全標準

## 認證



## 簡介

AWK-3252A 系列三合一工業級無線 AP/橋接器/用戶端旨在藉由 IEEE 802.11ac 技術滿足日益增長的資料傳輸需求，整體資料傳輸率可高達 1.267 Gbps。在操作溫度、電源輸入電壓、突波、ESD 和震動方面，AWK-3252A 符合工業標準及規定。兩個備援直流電力輸入提供供電的可靠性，且 AWK-3252A 可透過 PoE 獲得供電，方便靈活部署。AWK-3252A 現在可以在 2.4 和 5 GHz 頻段上操作，且向後相容至現有的 802.11a/b/g/n 部署，確保您的無線投資不過時。

AWK-3252A 系列符合 IEC 62443-4-2 和 IEC 62443-4-1 工業網路安全認證，兼顧產品安全和安全開發生命週期需求，幫助顧客符合安全工業網路的合規要求設計。

## 先進 802.11ac 工業無線解決方案

- 802.11a/b/g/n/ac 相容的 AP/橋接器/用戶端，提供靈活部署方式
- DFS 頻道支援提供更廣泛的 5 GHz 頻道選擇，避免現有無線基礎設施的干擾

## 先進無線技術

- 基於用戶端的 Turbo Roaming 快速漫遊，達到無縫漫遊的目的。在 AP 間的漫遊復原時間 < 150 毫秒 (用戶端模式)

## 工業級耐用性

- 整合式天線隔離設計可防止外部電氣干擾
- -40 至 75°C 的寬廣操作溫度型號 (-T) 可在惡劣環境中提供順暢的無線通訊

## 規格

### WLAN Interface

WLAN Standards	2.4 GHz: 802.11b/g/n with 256 QAM support 5 GHz: 802.11a/n/ac Wave 2 with 256 QAM support
Frequency Band for US (20 MHz operating channels)	AWK-3252A US Models Only: 2.412 to 2.462 GHz (11 channels)

1. 此處所指的 Turbo Roaming 快速漫遊復原時間是在最佳狀態下，配置無干擾 20 MHz RF 頻道、WPA2-PSK 安全性和預設的 Turbo Roaming 快速漫遊參數，所得到的測試結果平均值。用戶端設定為在 100 Kbps 流量負載下 3 個頻道漫遊。其他情況也有可能影響漫遊的效能。若想了解更多關於 Turbo Roaming 快速漫遊的參數設定，請參閱產品手冊。

	5.180 to 5.240 GHz (4 channels) 5.260 to 5.320 GHz (4 channels) <sup>2</sup> 5.500 to 5.700 GHz (11 channels) <sup>2</sup> 5.745 to 5.825 GHz (5 channels)
Frequency Band for UN (20 MHz operating channels)	AWK-3252A UN Models Only: 2.412 to 2.472 GHz (13 channels) 5.180 to 5.240 GHz (4 channels) 5.260 to 5.320 GHz (4 channels) <sup>2</sup> 5.500 to 5.700 GHz (11 channels) <sup>2</sup> 5.745 to 5.825 GHz (5 channels) Available channels change depending on the selected country or region code.
Wireless Security	WPA/WPA2/WPA3-Enterprise (IEEE 802.1X/RADIUS, TKIP, AES) WPA/WPA2/WPA3-Personal
Transmission Rate	2.4 GHz: 802.11b: 1 to 11 Mbps 802.11g: 6 to 54 Mbps 802.11n: 6.5 to 400 Mbps  5 GHz: 802.11a: 6 to 54 Mbps 802.11n: 6.5 to 300 Mbps 802.11ac: 6.5 to 867 Mbps
Transmitter Power for 802.11a (Dual Chain)	25±1.5 dBm @ 6 Mbps 23±1.5 dBm @ 54 Mbps
Transmitter Power for 802.11n (5 GHz, Dual Chain)	25±1.5 dBm @ MCS0 20 MHz 22±1.5 dBm @ MCS7 20 MHz 24±1.5 dBm @ MCS0 40 MHz 22±1.5 dBm @ MCS7 40 MHz
Transmitter Power for 802.11ac (Dual Chain)	25±1.5 dBm @ MCS0 20 MHz 22±1.5 dBm @ MCS8 20 MHz 24±1.5 dBm @ MCS0 40 MHz 21±1.5 dBm @ MCS9 40 MHz 23±1.5 dBm @ MCS0 80 MHz 20±1.5 dBm @ MCS9 80 MHz
Transmitter Power for 802.11b (Dual Chain)	29±1.5 dBm @ 1 Mbps 29±1.5 dBm @ 11 Mbps
Transmitter Power for 802.11g (Dual Chain)	29±1.5 dBm @ 6 Mbps 26±1.5 dBm @ 54 Mbps
Transmitter Power for 802.11n (2.4 GHz, Dual Chain)	28±1.5 dBm @ MCS0 20 MHz 25±1.5 dBm @ MCS7 20 MHz 28±1.5 dBm @ MCS0 40 MHz 25±1.5 dBm @ MCS7 40 MHz
Receiver Sensitivity for 802.11a (measured at 5.680 GHz)	Typ. -88 @ 6 Mbps Typ. -72 @ 54 Mbps
Receiver Sensitivity for 802.11n (5 GHz; measured at 5.680 GHz)	Typ. -88 dBm @ MCS0 20 MHz Typ. -68 dBm @ MCS7 20 MHz Typ. -84 dBm @ MCS0 40 MHz Typ. -66 dBm @ MCS7 40 MHz
Receiver Sensitivity for 802.11ac	Typ. -88 dBm @ MCS0 20 MHz Typ. -65 dBm @ MCS8 20 MHz Typ. -85 dBm @ MCS0 40 MHz Typ. -60 dBm @ MCS9 40 MHz Typ. -81 dBm @ MCS0 80 MHz Typ. -55 dBm @ MCS9 80 MHz
Receiver Sensitivity for 802.11b (measured at 2.437 GHz)	Typ. -96 dBm @ 1 Mbps Typ. -88 dBm @ 11 Mbps

2. 支援 DFS (動態頻率選擇) 頻道：在 AP 模式下，當設備偵測到一個雷達信號，會自動切換到另一個頻道。然而，根據規定，當頻道切換後，若要重啟服務，需要 60 秒的可用性檢查期。

Receiver Sensitivity for 802.11g (measured at 2.437 GHz)	Typ. -90 dBm @ 6 Mbps Typ. -74 dBm @ 54 Mbps
Receiver Sensitivity for 802.11n (2.4 GHz; measured at 2.437 GHz)	Typ. -90 dBm @ MCS0 20 MHz Typ. -70 dBm @ MCS7 20 MHz Typ. -87 dBm @ MCS0 40 MHz Typ. -69 dBm @ MCS7 40 MHz
WLAN Operation Mode	Access point Client Client-Router Master Slave 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 802.3af for PoE IEEE 802.3at for PoE IEEE 802.3az for Energy-Efficient Ethernet IEEE 802.1Q for VLAN Tagging IEEE 802.1X for authentication
10/100/1000BaseT(X) Ports (RJ45 connector)	1
PoE Ports (10/100/1000BaseT(X), RJ45 connector)	1

### Ethernet Software Features

Management	DHCP Server DHCP Client DNS HTTP IPv4 LLDP SMTP SNMPv1/v2c/v3 Syslog TCP/IP Telnet UDP VLAN MXconfig
Routing	Port forwarding Static Route NAT
Security	HTTPS/SSL RADIUS SSH Certificate Management
Time Management	SNTP Client

### Firewall

Filter	ICMP MAC address IP protocol Port-based Wi-Fi ACL Client Isolation
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## Serial Interface

Console Port	RS-232 8-pin RJ45
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## USB Interface

Storage Port	USB Type A
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## LED Interface

LED Indicators	PWR1, PWR2, PoE, SYS, 2.4G, 5G, LAN1, LAN2
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## Input/Output Interface

Digital Inputs	2 Max. input current: 8 mA +13 to +30 V for state 1 +3 to -30 V for state 0
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	45 x 130 x 100 mm (1.77 x 5.12 x 3.94 in)
Weight	700 g (1.5 lb)
Installation	DIN-rail mounting Wall mounting (with optional kit)

## Power Parameters

Input Current	12-48 VDC, 2.2-0.5 A
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	28.4 W (max.)

## 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 61000-6-2/-6-4 EN 55032/35
EMI	CISPR 32, 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: 2 kV IEC 61000-4-5 Surge: Power: 2 kV; Signal: 1 kV IEC 61000-4-6 CS: 10 V/m IEC 61000-4-8 PFMF: 30 A/m

Safety	IEC 60950-1 IEC 62368-1 UL 62368-1
Hazardous Locations	ATEX Class I Division 2 IECEX
Road Vehicles	E mark E1
Vibration	IEC 60068-2-6
Radio	EN 300 328, EN 301 489-1/17, EN 301 893, ANATEL, FCC, MIC, NCC, RCM, SRRC, WPC, KC, NBTC, IC
Industrial Cybersecurity	IEC 62443-4-1 IEC 62443-4-2

#### MTBF

Time	653,801 hrs
Standards	Telcordia SR332

#### Warranty

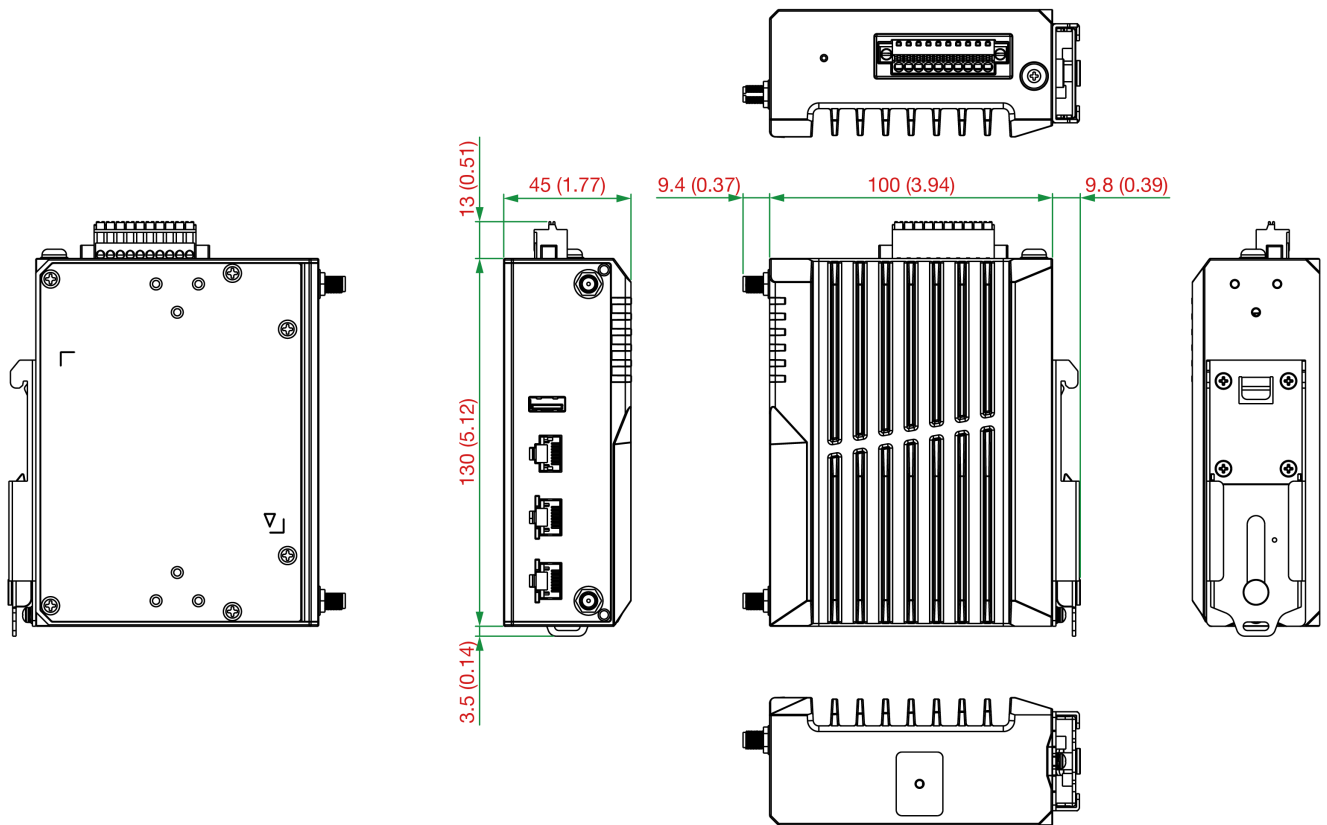
Warranty Period	5 years
Details	See <a href="http://www.moxa.com/tw/warranty">www.moxa.com/tw/warranty</a>

#### Package Contents

Device	1 x AWK-3252A Series wireless AP/bridge/client
Installation Kit	1 x cap, for type A USB port 1 x cable holder with screw 1 x DIN-rail kit
Antenna	2 x 2.4/5 GHz antenna
Documentation	1 x quick installation guide 1 x warranty card

## 尺寸

單位：公釐（英吋）



## 訂購資訊

Model Name	Band	Standards	Operating Temp.
AWK-3252A-UN	UN	802.11a/b/g/n/ac Wave 2	-25 to 60°C
AWK-3252A-UN-T	UN	802.11a/b/g/n/ac Wave 2	-40 to 75°C
AWK-3252A-US	US	802.11a/b/g/n/ac Wave 2	-25 to 60°C
AWK-3252A-US-T	US	802.11a/b/g/n/ac Wave 2	-40 to 75°C

## 配件（選購）

### Antennas

ANT-WSB-PNF-12-02	12 dBi at 2.4 GHz, N-type (female), single-band directional antenna
ANT-WSB5-PNF-16	16 dBi at 5 GHz, N-type (female), single-band directional antenna
ANT-WDB-ONM-0707	07 dBi at 2.4 GHz and 07 dBi at 5 GHz, N-type (male), dual-band omnidirectional antenna
ANT-WDB-PNF-1011	10 dBi at 2.4 GHz and 11 dBi at 5 GHz, N-type (female), dual-band directional antenna
ANT-WDB-ONF-0709	7 dBi at 2.4 GHz or 9 dBi at 5 GHz, N-type (female), dual-band, omnidirectional antenna
ANT-WDB-ANM-0306	3 dBi at 2.4 GHz or 6 dBi at 5 GHz, N-type (male), omnidirectional antenna
ANT-WDB-ARM-02	2 dBi at 2.4 GHz or 2 dBi at 5 GHz, RP-SMA (male) omnidirectional rubber-duck antenna
ANT-WDB-ARM-0202	2 dBi at 2.4 GHz or 2 dBi at 5 GHz, RP-SMA (male), dual-band, omnidirectional antenna
ANT-WSB-AHRM-05-1.5m	5 dBi at 2.4 GHz, RP-SMA (male), omnidirectional/dipole antenna, 1.5 m cable
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-WDB-ANM-0502	5 dBi at 2.4 GHz or 2 dBi at 5 GHz, N-type (male), omnidirectional antenna

### Wireless Antenna Cables

A-CRF-RFRM-R4-150	RF magnetic base, 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

### Surge Arrestors

A-SA-NMNF-02	0 to 6 GHz, N-type (male) to N-type (female) surge arrester
A-SA-NFNF-02	0 to 6 GHz, N-type (female) to N-type (female) surge arrester

### Wireless Terminating Resistors

A-TRM-50-NM	50-ohm termination resistor with N-type male connector
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### Wall-Mounting Kits

WK-35-01	Wall-mounting kit with 2 plates (35 x 44 x 2.5 mm) and 6 screws
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