

AWK-4252A 系列

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



特色與優點

- IEEE 802.11a/b/g/n/ac Wave 2 AP/橋接器/用戶端
- 同時雙頻 Wi-Fi，聚合資料速率最高達 1.267 Gbps
- 最新 WPA3 加密，提供增強無線網路安全性
- 通用 (UN) 型號，可透過可設定國碼或區碼進行更具有彈性的部署
- 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¹
- 內建 2.4 GHz 與 5 GHz 帶通濾波器，無線連線更可靠
- IP68 等級防風雨外殼專為戶外應用以及 -40 至 75°C 的寬廣操作溫度範圍所設計
- 整合式天線隔離
- IEC 62443-4-2 安全等級 1 認證
- -40°C 至 75°C 操作溫度範圍

認證



簡介

AWK-4252A 系列三合一工業無線 AP/橋接器/用戶端設計透過 IEEE 802.11ac 技術符合 日益增長的資料傳輸需求，速率最高可達 1.267 Bbps。在操作溫度、電源輸入電壓、突波、ESD 和 震動方面，AWK-4252A 符合工業標準及 規定。兩個備援直流電源輸入提升 電源的可靠性，而且 AWK-4252A 可透過 PoE 獲得供電，部署更有彈性。AWK-4252A 可同時在 2.4 或 5 GHz 頻段上操作，並相容 現有的 802.11a/b/g/n 部署。

IEC 62443-4-2 安全等級 1 認證

US 與 UN 系列型號通過 IEC 62443-4-2 安全等級 1 認證 ([FR_Cyber10095](#))，可協助客戶 符合安全工業網路設計的標準要求。

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，提供彈性的部署方式
- 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。² 在 AP 間的漫遊復原時間 < 150 毫秒（用戶端模式）

工業級 耐用性

- -40 至 75°C 的寬廣操作溫度可在惡劣環境中提供順暢的無線通訊
- 增強式 天線連接埠隔離保護設計可承受最高達 30 kV ESD 與 6 kV 突波保護

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。其他情況也有可能會影響漫遊的效能。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。

2. 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。其他情況也有可能會影響漫遊的效能。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。

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-4252A US Models Only: 2.412 to 2.462 GHz (11 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) ⁴ 5.745 to 5.825 GHz (5 channels)
Frequency Band for UN (20 MHz operating channels)	AWK-4252A 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) ³ 5.500 to 5.700 GHz (11 channels) ⁴ 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)	24±1.5 dBm @ 6 Mbps 22±1.5 dBm @ 54 Mbps
Transmitter Power for 802.11n (5 GHz, Dual Chain)	24±1.5 dBm @ MCS0 20 MHz 21±1.5 dBm @ MCS7 20 MHz 23±1.5 dBm @ MCS0 40 MHz 21±1.5 dBm @ MCS7 40 MHz
Transmitter Power for 802.11ac (Dual Chain)	23.5±1.5 dBm @ MCS0 20 MHz 20.5±1.5 dBm @ MCS8 20 MHz 23.5±1.5 dBm @ MCS0 40 MHz 20±1.5 dBm @ MCS9 40 MHz 22.5±1.5 dBm @ MCS0 80 MHz 20±1.5 dBm @ MCS9 80 MHz
Transmitter Power for 802.11b (Dual Chain)	27.5±1.5 dBm @ 1 Mbps 28±1.5 dBm @ 11 Mbps
Transmitter Power for 802.11g (Dual Chain)	28±1.5 dBm @ 6 Mbps 25±1.5 dBm @ 54 Mbps
Transmitter Power for 802.11n (2.4 GHz, Dual Chain)	26±1.5 dBm @ MCS0 20 MHz 24±1.5 dBm @ MCS7 20 MHz 26±1.5 dBm @ MCS0 40 MHz 24.5±1.5 dBm @ MCS7 40 MHz
Receiver Sensitivity for 802.11a (measured at 5.680 GHz)	Typ. -88 @ 6 Mbps Typ. -71 @ 54 Mbps
Receiver Sensitivity for 802.11n (5 GHz; measured at 5.680 GHz)	Typ. -87 dBm @ MCS0 20 MHz Typ. -68 dBm @ MCS7 20 MHz Typ. -83 dBm @ MCS0 40 MHz Typ. -66 dBm @ MCS7 40 MHz

- 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。
- 支援 DFS (動態頻率選擇) 通道：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 802.11ac	Typ. -87 dBm @ MCS0 20 MHz Typ. -64 dBm @ MCS8 20 MHz Typ. -84 dBm @ MCS0 40 MHz Typ. -59 dBm @ MCS9 40 MHz Typ. -81 dBm @ MCS0 80 MHz Typ. -56 dBm @ MCS9 80 MHz
Receiver Sensitivity for 802.11b (measured at 2.437 GHz)	Typ. -93 dBm @ 1 Mbps Typ. -86 dBm @ 11 Mbps Note: Concurrent USB read/write activity on the device may generate interference and may mildly affect receiver sensitivity performance. It is recommended to avoid USB activity on the device in mission-critical applications.
Receiver Sensitivity for 802.11g (measured at 2.437 GHz)	Typ. -88 dBm @ 6 Mbps Typ. -71 dBm @ 54 Mbps Note: Concurrent USB read/write activity on the device may generate interference and may mildly affect receiver sensitivity performance. It is recommended to avoid USB activity on the device in mission-critical applications.
Receiver Sensitivity for 802.11n (2.4 GHz; measured at 2.437 GHz)	Typ. -87 dBm @ MCS0 20 MHz Typ. -68 dBm @ MCS7 20 MHz Typ. -84 dBm @ MCS0 40 MHz Typ. -66 dBm @ MCS7 40 MHz Note: Concurrent USB read/write activity on the device may generate interference and may mildly affect receiver sensitivity performance. It is recommended to avoid USB activity on the device in mission-critical applications.
WLAN Operation Mode	Access point Client Client-Router Master Slave Sniffer Mesh
Antenna	External, 3/6 dBi Omni-directional
Antenna Connectors	2 x N-type 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/IPv6 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	PWR, LAN1, LAN2, 2.4G, 5G, SYS
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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
Dimensions	66.5 x 157.6 x 244 mm (2.56 x 6.20 x 9.61 in)
IP Rating	IP68

Weight	2024 g (4.7 lb)
Installation	Wall mounting DIN-rail mounting (with optional kit) Pole mounting (with optional kit)

Power Parameters

Input Current	12-48 VDC, 2.2-0.55 A
Input Voltage	12 to 48 VDC Redundant dual inputs 48 VDC Power-over-Ethernet
Power Connector	M12 A-coded 5-pin male connector
Power Consumption	28.4 W (max.)

Environmental Limits

Operating Temperature	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: 1 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
Industrial Cybersecurity	IEC 62443-4-2 Security Level 1
Safety	IEC 60950-1 IEC 62368-1 UL 62368-1
Vibration	IEC 60068-2-6
Radio	EN 300 328, EN 301 489-1/17, EN 301 893, FCC, MIC, NCC, RCM, SRRC, WPC, KC, NBTC, IC

MTBF

Time	746,471 hrs
Standards	Telcordia Standard SR-332

Warranty

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

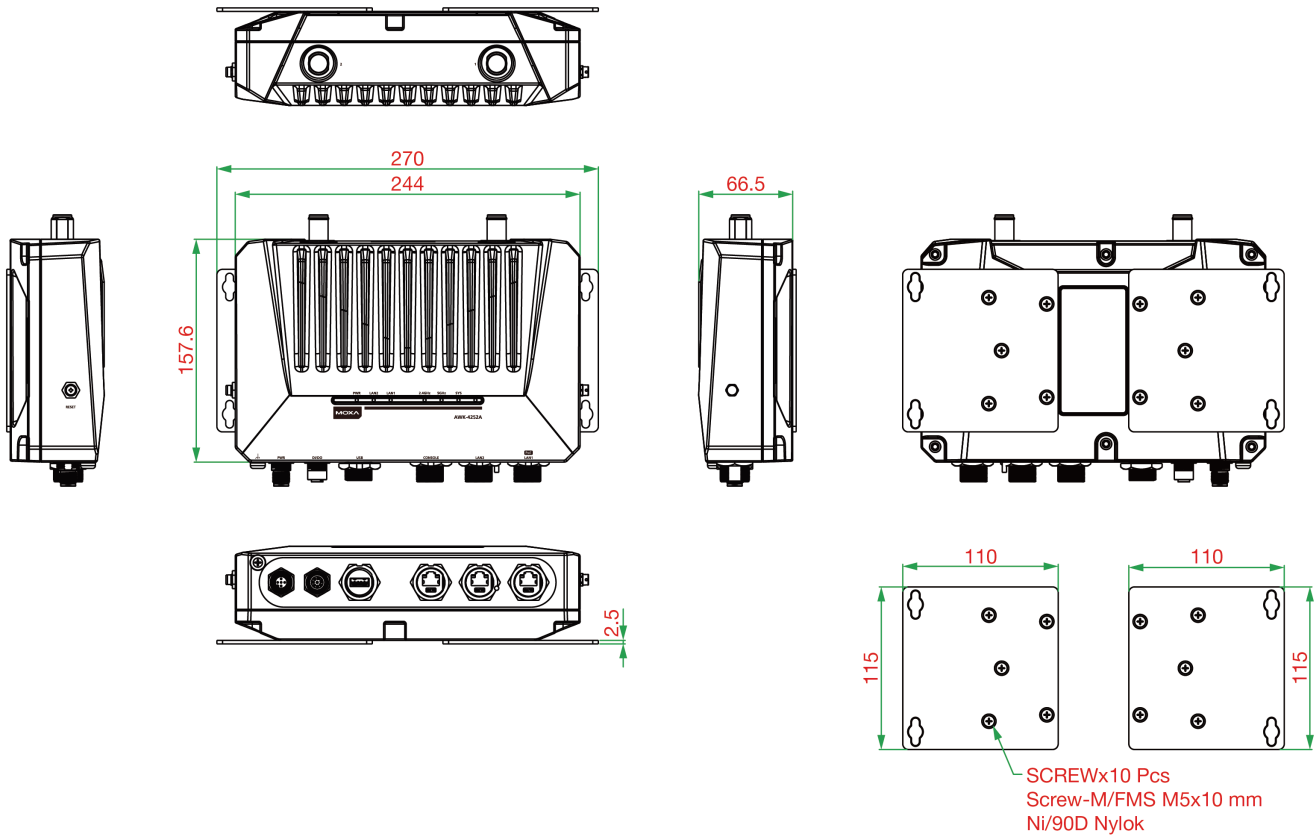
Package Contents

Device	1 x AWK-4252A Series wireless AP/bridge/client
Installation Kit	2 x cap, plastic, for N-type connector 4 x cap, metal, for Console/USB/LAN1/LAN2 1 x cap, metal, for DI/DO port

	1 x wall-mounting 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



訂購資訊

Model Name	Band	Standards	Operating Temp.
AWK-4252A-UN-T	UN	802.11a/b/g/n/ac Wave 2	-40 to 75°C
AWK-4252A-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
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-NMNM-LL4-900	N-type (male) to N-type (male) LMR-400 Lite cable, 9 m
A-CRF-NMNM-LL4-600	N-type (male) to N-type (male) LMR-400 Lite cable, 6 m
A-CRF-NMNM-LL4-300	N-type (male) to N-type (male) LMR-400 Lite cable, 3 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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Mounting Kits

PK-DC2DOF	Pole mounting kit
PK-DC2DOF-02	PK-DC2DOF-02

Wireless Connector Caps

A-CAP-M12M-M	Metal cap for M12 male connector
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Cables

CBL-RJ45F25-150	8-pin RJ45 to DB25 female serial cable, 1.5 m
CBL-RJ45F9-150	8-pin RJ45 to DB9 female serial cable, 1.5m

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