

AWK-1137Cシリーズ

産業用802.11a/b/g/n無線クライアント



機能とメリット

- IEEE 802.11a/b/g/n準拠クライアント
- 1つのシリアルポートと2つのイーサネットLANポートを備えた包括的なインターフェース
- ミリ秒レベルクライアントベースのTurbo Roaming¹
- AeroMagを使った簡単なセットアップ
- 2x2 MIMOの将来を見据えた技術
- ネットワークアドレス変換(NAT)を使用した簡単なネットワーク設定
- 堅牢なアンテナと電源の統合絶縁
- 振動防止設計
- 産業用アプリケーション向けのコンパクトなサイズ

認証



製品紹介

AWK-1137Cは、産業用ワイヤレスモバイルアプリケーションに最適なクライアントソリューションです。これは、イーサネットとシリアルデバイスの両方のWLAN接続を可能にし、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。AWK-1137C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、将来の無線投資を防止するために、既存の802.11a/b/g機器と下位互換性があります。

産業用の耐久性

- 外部からの電氣的干渉に対して500 V絶縁保護を提供するよう設計が行われた統合型のアンテナと絶縁電源
- 過酷な環境でもスムーズな無線通信を実現する-40~75°Cの広い動作温度モデル (-T)

モビリティ志向の設計

- AP間のローミング切り替え時間が150ms未満となるTurbo Roaming¹
- 移動中に送受信機能を保証するMIMO技術
- 防振性能 (IEC 60068-2-6準拠)

容易な導入

- 導入コストを削減するために容易な設定項目
- 導入時のエラーを軽減する産業用アプリケーションの基本的なWLAN設定のためのAeroMag
- 異なるデバイスのタイプに接続するための各種通信インターフェース
- マシンのセットアップを簡素化する1対多のNAT

仕様

WLAN Interface

WLAN Standards	802.11a/b/g/n 802.11i Wireless Security
Modulation Type	DSSS OFDM

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。

	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)																								
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) ²																								
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	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 18±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 22±1.5 dBm @ 36 Mbps 20±1.5 dBm @ 48 Mbps 19±1.5 dBm @ 54 Mbps																								
Transmitter Power for 802.11n (2.4 GHz)	23±1.5 dBm @ MCS0/8 20 MHz 17±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>23 dBm</td> <td>23 dBm</td> </tr> <tr> <td>5 GHz (UNII-2)</td> <td>23 dBm</td> <td>23 dBm</td> <td>23 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	23 dBm	23 dBm	5 GHz (UNII-2)	23 dBm	23 dBm	23 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	23 dBm	23 dBm																						
5 GHz (UNII-2)	23 dBm	23 dBm	23 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																								

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.

	Typ. -87 @ 12 Mbps Typ. -85 @ 18 Mbps Typ. -81 @ 24 Mbps Typ. -78 @ 36 Mbps Typ. -74 @ 48 Mbps Typ. -73 @ 54 Mbps Note ³
Receiver Sensitivity for 802.11n (5 GHz; measured at 5.680 GHz)	Typ. -69 dBm @ MCS7 20 MHz Typ. -70 dBm @ MCS15 20 MHz Typ. -64 dBm @ MCS7 40 MHz Typ. -66 dBm @ MCS15 40 MHz Note ³
Receiver Sensitivity for 802.11b (measured at 2.437 GHz)	Typ. -89 dBm @ 1 Mbps Typ. -89 dBm @ 2 Mbps Typ. -89 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. -88 dBm @ 9 Mbps Typ. -88 dBm @ 12 Mbps Typ. -87 dBm @ 18 Mbps Typ. -84 dBm @ 24 Mbps Typ. -81 dBm @ 36 Mbps Typ. -77 dBm @ 48 Mbps Typ. -75 dBm @ 54 Mbps
Receiver Sensitivity for 802.11n (2.4 GHz; measured at 2.437 GHz)	Typ. -70 dBm @ MCS7 20 MHz Typ. -70 dBm @ MCS15 20 MHz Typ. -64 dBm @ MCS7 40 MHz Typ. -65 dBm @ MCS15 40 MHz
WLAN Operation Mode	Client, Client-Router, Slave, Sniffer
Antenna	External, 2/2 dBi, Omni-directional
Antenna Connectors	2 RP-SMA female
Ethernet Interface	
10/100BaseT(X) Ports (RJ45 connector)	2
Standards	IEEE 802.3 for 10BaseT IEEE 802.3u for 100BaseT(X) IEEE 802.1Q for VLAN Tagging
Ethernet Software Features	
Management	DHCP Server/Client, HTTP, IPv4, LLDP, SMTP, SNMPv1/v2c/v3, Syslog, TCP/IP, Telnet, UDP, Proxy ARP, VLAN, Wireless Search Utility, MXview, MXconfig
Routing	Port forwarding, Static Route, NAT
Security	HTTPS/SSL, RADIUS, SSH
Time Management	NTP Client, SNTP Client
Firewall	
Filter	ICMP, MAC address, IP protocol, Port-based
Serial Interface	
Connector	DB9 male
Serial Standards	RS-232, RS-422/485, RS-232/422/485

3. 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.

Operation Modes	Disabled, Real COM, RFC2217, TCP Client, TCP Server, UDP
Data Bits	5, 6, 7, 8
Stop Bits	1, 1.5, 2
Parity	None, Even, Odd, Space, Mark
Flow Control	None, RTS/CTS, XON/XOFF
Baudrate	75 bps to 921.6 kbps
Serial Data Log	256 KB

Serial Signals

RS-232	TxD, RxD, RTS, CTS, DCD, GND, DTR, DSR
RS-422	Tx+, Tx-, Rx+, Rx-, GND
RS-485-2w	Data+, Data-, GND
RS-485-4w	Tx+, Tx-, Rx+, Rx-, GND

LED Interface

LED Indicators	SYS, LAN1, LAN2, WLAN, Serial
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Input/Output Interface

Buttons	Reset button
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Physical Characteristics

Housing	Metal
IP Rating	IP30
Dimensions	77.1 x 115.5 x 26 mm (3.04 x 4.55 x 1.02 in)
Weight	470 g (1.03 lb)
Installation	DIN-rail mounting, Wall mounting (with optional kit)

Power Parameters

Input Voltage	9 to 30 VDC
Power Connector	1 removable 3-contact terminal block(s)
Power Consumption	11.7 W (max.)
Reverse Polarity Protection	Supported

Environmental Limits

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

EMC	EN 61000-6-2/-6-4, EN 55032/24
EMI	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: 2 kV; Signal: 1 kV IEC 61000-4-6 CS: 10 V IEC 61000-4-8 PFMF
Radio	EN 300 328, EN 301 489-1/17, EN 301 893, FCC ID SLE-1137C, ANATEL, MIC, NCC, SRRC, WPC, KC, RCM
Road Vehicles	E mark E1
Safety	EN 60950-1, UL 60950-1
Vibration	IEC 60068-2-6

MTBF

Time	1,125,942 hrs
Standards	Telcordia SR332

Warranty

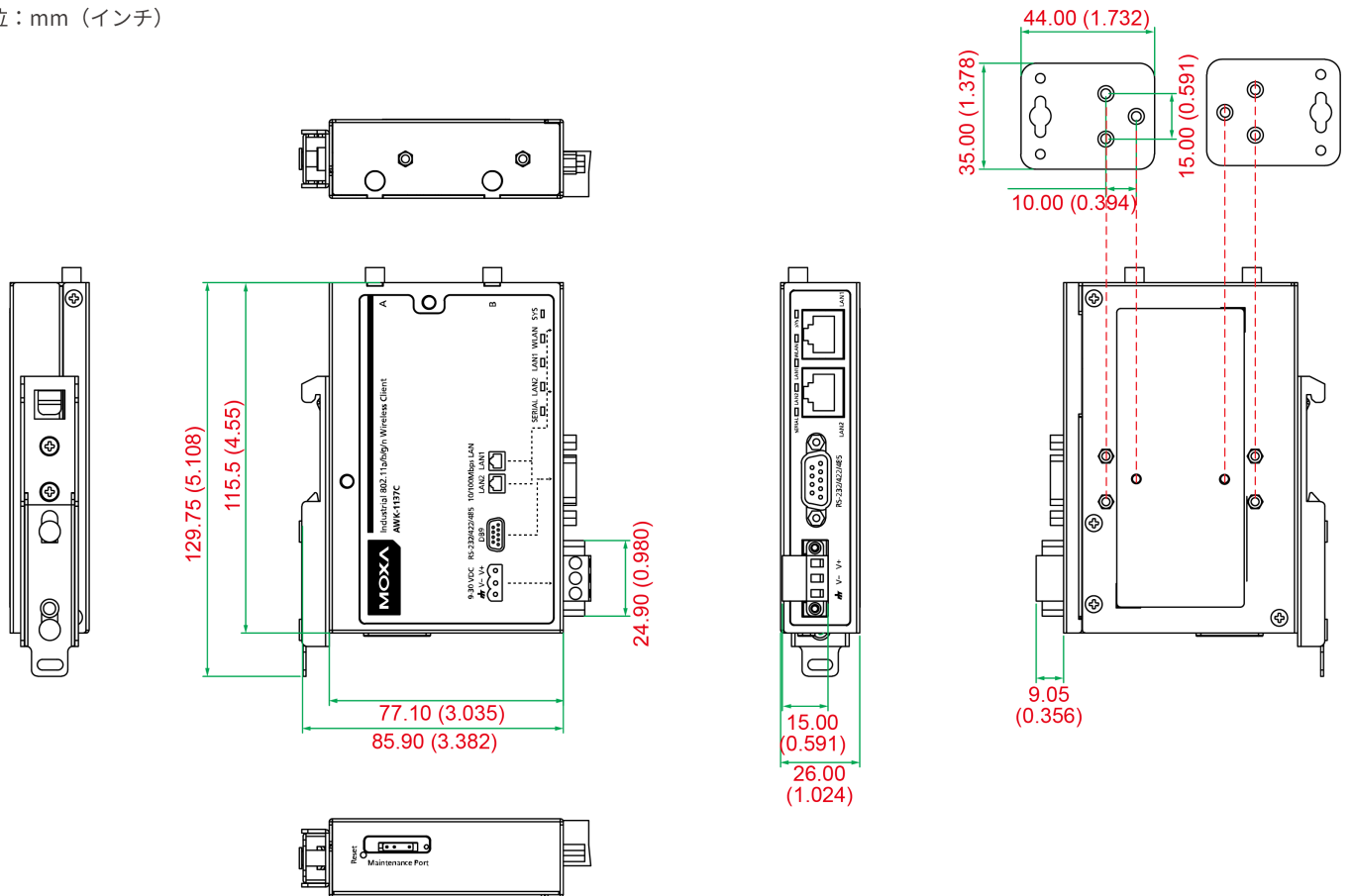
Warranty Period	5 years
Details	See www.moxa.com/jp/warranty

Package Contents

Device	1 x AWK-1137C Series wireless client
Installation Kit	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）



注文情報

Model Name	Band	Standards	Operating Temp.
AWK-1137C-EU	EU	802.11a/b/g/n	0 to 60°C
AWK-1137C-EU-T	EU	802.11a/b/g/n	-40 to 75°C
AWK-1137C-JP	JP	802.11a/b/g/n	0 to 60°C
AWK-1137C-JP-T	JP	802.11a/b/g/n	-40 to 75°C
AWK-1137C-US	US	802.11a/b/g/n	0 to 60°C
AWK-1137C-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-S2-60	SS402 cable, RP-SMA (male) to RP-SMA (female)
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

Surge Arrestors

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

Wireless Adapters

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

A-TRM-50-NM	Terminating Resistor, 50 ohm, RP-SMA Male
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Wall-Mounting Kits

WK-35-01	Wall-mounting kit, 2 plates, 6 screws, 35 x 44 x 2.5 mm
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