
# LANCOM L-822acn dual Wireless

## Dual-radio enterprise-class 11ac WLAN access point with up to 867 Mbps

The LANCOM L-822acn dual Wireless is a high-performance 11ac WLAN enterprise-class access point. It provides fast WLAN to 11n clients in the 2.4-GHz frequency band and also to the increasing number of modern 11ac-enabled devices in the 5-GHz band. It offers wireless freedom for virtually every industry and application.

- Dual concurrent WLAN – parallel operation at 2.4 and 5 GHz with up to 867 Mbps with IEEE 802.11ac and 300 Mbps with IEEE 802.11n
- Dynamic WLAN optimization thanks to LANCOM Active Radio Control (ARC)
- Powerful WLAN diagnostics with Spectral Scan
- Professional security features such as IEEE 802.1X
- Zero-touch deployment with a LANCOM WLAN controller or LSR
- Easy and secure integration of external users with the Public Spot Option

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# LANCOM L-822acn dual Wireless

### Dual concurrent WLAN with up to 867 Mbps

The LANCOM L-822acn dual Wireless offers one wireless radio module for 11ac WLAN and another for 11n WLAN. This provides fast WLAN to 11n clients in the 2.4-GHz frequency band and also the increasing number of modern 11ac-enabled devices in the 5-GHz band.

### Dynamic radio-field optimization from Active Radio Control

The LANCOM L-822acn dual Wireless supports the WLAN optimization concept LANCOM Active Radio Control. This intelligent combination of innovative features included with the LCOS operating system – such as Band Steering, Adaptive Noise Immunity, Adaptive RF Optimization, Airtime Fariness and Client Steering – sustainably increases WLAN performance and supports administrators with professional tools for WLAN management.

### Powerful WLAN diagnostics with Spectral Scan

The LANCOM L-822acn dual Wireless uses the Spectral Scan to search the surrounding radio field for sources of interference. This professional tool for efficient WLAN troubleshooting is a combination of hardware and software features. It identifies and graphically represents sources of interference, so helping the administrator to initiate countermeasures.

### LANCOM security for wireless networks

With numerous integrated security features, such as IEEE 802.1X, this enterprise-class access point provides optimal security for networks. As a result, employees and visitors all benefit from security policies in the network.

### Support for zero-touch deployment

By supporting zero-touch deployment, the LANCOM L-822acn dual Wireless is quickly and easily integrated and configured without having to access the configuration UI. In installations operated by a WLAN controller or LSR the access point receives an appropriate configuration immediately after network authentication.

### Secure integration of external users

In combination with the LANCOM Public Spot Option, the LANCOM L-822acn dual Wireless is ideal for operating hotspots. Users benefits from a hotspot that is secure and easy-to-use, while hotspot operators can be sure that their own network remains separate from the hotspot.

### Maximum future-proofing

In combination with the LANCOM Public Spot Option, the LANCOM L-822acn dual Wireless is ideal for operating hotspots. Users benefits from a hotspot that is secure and easy-to-use, while hotspot operators can be sure that their own network remains separate from the hotspot.

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| WLAN Product Specifications | |
|---|---|
| Frequency band 2.4 GHz or 5 GHz | 2400-2483.5 MHz (ISM) or 5150-5825 MHz (depending on country-specific restrictions) |
| Data rates IEEE 802.11ac/n | 867 Mbps according to IEEE 802.11ac with MCS9 (Fallback to 6,5 Mbps with MCS0). Compatible to IEEE 802.11 ac/n/a, IEEE 802.11 ac/n, IEEE 802.11 n/a or pure IEEE 802.11ac, pure IEEE 802.11n, pure IEEE 802.11a and data rates selectable |
| Data rates IEEE 802.11n | 300 Mbps according to IEEE 802.11n with MCS15 (Fallback to 6,5 Mbps with MCS0). Compatible to IEEE 802.11a/n, IEEE 802.11g/n, IEEE 802.11b/g/n and IEEE 802.11b/g compatibility mode or pure IEEE 802.11n, pure IEEE 802.11a, IEEE 802.11g or pure IEEE 802.11b mode and data rates selectable |
| Data rates IEEE 802.11a/ h | 54 Mbps (fallback to 48, 36 , 24, 18, 12, 9, 6 Mbps, Automatic Rate Selection), fully compatible with TPC (adjustable power output) and DFS (automatic channel selection, radar detection) and data rates selectable |
| Data rates IEEE 802.11b/g | 54 Mbps to IEEE 802.11g (fallback to 48, 36, 24, 18, 12, 9, 6 Mbps, Automatic Rate Selection) compatible to IEEE 802.11b (11, 5.5, 2, 1 Mbps, Automatic Rate Selection), IEEE 802.11 b/g compatibility mode or pure IEEE802.11g or pure IEEE802.11b and data rates selectable |
| Range IEEE 802.11a/b/g * | Up to 150 m (up to 30 m in buildings) |
| Output power at radio module WLAN-1, 5 GHz | IEEE 802.11a/h: +17 up to +18 dBm @ 6 up to 48 Mbps, +13 up to +15 dBm @ 54 Mbps, IEEE 802.11n: +17 up to +18 dBm @ (MCS0/8/16, 20 MHz), +11 up to +13 dBm @ (MCS7/15/23, 20 MHz), +16 up to +17 dBm @ (MCS0/8/16, 40 MHz), +9 up to +12 dBm @ (MCS7/15/23, 40 MHz) |
| Output power at radio module WLAN-2, 5 GHz | IEEE 802.11a/h: +18 dBm @ 6 up to 48 MBit/s and +16 dBm @ 54 MBit/s IEEE 802.11ac: +16 up to +18 dBm @ (MCS0-7, 20/40/80 MHz), +14 dBm @ (MCS8, 20/40/80 MHz), +14 dBm @ (MCS9, 40/80 MHz) |
| Output power at radio module WLAN-1, 2.4 GHz | IEEE 802.11b: +22 dBm @ 1 and 2 Mbps, +22 dBm @ 5,5 and 11 Mbps, IEEE 802.11g: +22 dBm @ 6 up to 36 Mbps, +20 dBm @ 48 Mbps, +18 dBm @ 54 Mbps, IEEE 802.11n: +22 dBm @ (MCS0/8/16, 20 MHz), +16 dBm @ (MCS7/15/23, 20 MHz), +21 dBm @ (MCS0/8/16, 40 MHz), +15 dBm @ (MCS7/15/23, 40 MHz) |
| Max. radiated power (EIRP), 2.4 GHz band | IEEE 802.11b/g: Up to 20 dBm / 100 mW EIRP (transmission power control according to TPC) |
| Max. radiated power (EIRP), 5 GHz band | IEEE 802.11a/h: Up to 30 dBm / 1000 mW EIRP (depending on national regulations on channel usage and subject to further obligations such as TPC and DFS) |
| Minimum transmission power | Transmission power reduction in software in 1 dB steps to min. 0.5 dBm |
| Receiver sensitivity WLAN-1, 5 GHz | IEEE 802.11a/h: -98 dBm @ 6 Mbps, -81 dBm @ 54 Mbps, IEEE 802.11n: -94 dBm @ (MCS0, 20 MHz), -76dBm @ (MCS 7, 20 MHz), -92 dBm @ (MCS0, 40 MHz), -72 dBm @ (MCS7, 40 MHz) |
| Receiver sensitivity WLAN-2, 5 GHz | IEEE 802.11a/h: -95 dBm @ 6 MBit/s, -76 dBm @ 54MBit/s, IEEE 802.11ac: -94 dBm @ MCS0 20 MHz, -76 dBm @ MCS7 20 MHz, -72 dBm @ MCS8 20 MHz, -92 dBm @ MCS0 40 MHz, -76 dBm @ MCS7 40 MHz, -71 dBm @ MCS8 40 MHz, -70 dBm @ MCS9 40 MHz, -90 dBm @ MCS0 80 MHz, -72 dBm @ MCS7 80 MHz, -68 dBm @ MCS8 80 MHz, -67 dBm @ MCS9 80 MHz |
| Receiver sensitivity WLAN-1, 2.4 GHz | IEEE 802.11b: -97 dBm @ 1 MBit/s, -93 dBm @ 11 MBit/s, IEEE 802.11g: -95dBm @ 6 MBit/s, -81dBm @ 54 MBit/s IEEE 802.11n: -94 dBm @ 6,5MBit/s (MCS0, 20 MHz), -77 dBm @ 65 MBit/s (MCS7, 20 MHz), -91 dBm @ 15 MBit/s (MCS0, 40 MHz), -74 dBm @ 150 MBit/s (MCS7, 40 MHz) |
| Radio channels 2.4 GHz | Up to 13 channels, max. 3 non-overlapping (depending on country-specific restrictions) |
| Radio channels 5 GHz | Up to 26 non-overlapping channels (available channels and further obligations such as automatic DFS dynamic channel selection depending on national regulations) |
| Multi-SSID | Up to 31 (Simultaneous use of up to 16 independent WLAN networks at WLAN interface 1 and up to 15 independent WLAN networks at WLAN interface 2. |
| Concurrent WLAN clients | Up to 200 clients (recommended), 512 clients (max.)** |
| Others | Wireless Quality Indicators (WQI) |
| *) Note | The effective distances and transmission rates that can be achieved are depending of the site RF conditions |
| **) Note | The 11ac WLAN module supports max. 128 clients, this specification refers to the combination with the 11n radio module. |
| **Supported WLAN standards** | |
| IEEE standards | IEEE 802.11ac, IEEE 802.11n, IEEE 802.11a, IEEE 802.11g, IEEE 802.11b, IEEE 802.11i, IEEE 802.1X, IEEE 802.11u, IEEE 802.11r (Fast Roaming), IEEE 802.11w (Protected Management Frames), WME and U-APSD/WMM Power Save as defined in IEEE 802.11e, IEEE 802.11h, IEEE 802.11d |
| **Standard IEEE 802.11ac** | |
| Supported features | 2x2 MIMO, 80 MHz channels, QAM-256 |

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| **Standard IEEE 802.11n** | |
| Supported features | 2x2 MIMO, 40-MHz channel, 20/40MHz coexistence mechanisms in the 2.4GHz Band, MAC aggregation, Block Acknowledgement, STBC (Space Time Block Coding), LDPC (Low Density Parity Check), MRC (Maximal Ratio Combining), Short Guard Interval |
| **WLAN operating modes** | |
| Modes | WLAN Access Point (standalone, WLC or Lightweight Controller architektur managed), WLAN Bridge (P2P or P2MP) (standalone or AutoWDS*), (standalone, WLC or Lightweight Controller architektur managed), WLAN client mode, transparent WLAN client mode |
| **Security** | |
| Encryption options | IEEE 802.1X (WPA2-Enterprise), IEEE 802.11i (WPA2-Personal), Wi-Fi Certified™ WPA2™, WPA, WEP, IEEE 802.11w (Protected Management Frames), LEPS (LANCOM Enhanced Passphrase Security) |
| Encryption | AES:CCMP (Advanced Encryption Standard with Counter Mode and Cipher Block Chaining Message Authentication Code Protocol), TKIP (Temporal Key Integrity Protocol), RC4 (only used by WEP) |
| EAP types (authenticator) | EAP-TLS, EAP-TTLS/MSCHAPv2, PEAPv0/EAP-MSCHAPv2, PEAPv1/EAP-GTC, EAP-SIM, EAP-AKA, EAP-AKA Prime, EAP-FAST |
| RADIUS/EAP-server | User administration MAC based, rate limiting, passphrases, VLAN user based, authentication of IEEE 802.1X clients via EAP-TLS, EAP-TTLS, EAP-MD5, EAP-GTC, PEAP, MSCHAP or MSCHAPv2 |
| Others | WLAN protocol filters, IP-redirection of any packet received over the WLAN interface, IEEE 802.1X supplicant, background scanning, client detection ("rogue wlan client detection"), Wireless Intrusion Detection System (WIDS) |
| **LANCOM Active Radio Control** | |
| Client Steering* | Steering of WLAN clients to the ideal access point |
| Band Steering | Steering of 5GHz clients to the corresponding high-performance frequency band |
| Managed RF Optimization* | Selection of optimal WLAN channels by the administrator |
| Adaptive Noise Immunity | Better WLAN throughput due to immunity against interferences |
| Spectral Scan | Monitoring your WLAN for sources of interference |
| Adaptive RF Optimization | Dynamic selection of the optimal WLAN channel |
| Airtime Fairness | Improved utilization of the WLAN bandwidth |
| *) Note | Only in installations with WLAN controller |
| **Roaming** | |
| Roaming | IAPP (Inter Access Point Protocol), IEEE 802.11r (Fast Roaming), OKC (Opportunistic Key Caching), Fast Client Roaming (only in operating mode client modus) |
| **Layer 2 features** | |
| VLAN | 4.096 IDs based on IEEE 802.1q, dynamische assignment, Q-in-Q tagging |
| Quality of Service | WME based on IEEE 802.11e, Wi-Fi Certified™ WMM® |
| Rate limiting | SSID based, WLAN client based |
| Multicast | IGMP-Snooping |
| Protocols | Ethernet over GRE-Tunnel (EoGRE), ARP-Lookup, LLDP, DHCP option 82, IPv6-Router-Advertisement-Snooping, DHCPv6-Snooping, LDRA (Lightweight DHCPv6 Relay Agent), Spanning Tree, Rapid Spanning Tree, ARP, Proxy ARP, BOOTP, DHCP |
| **Layer 3 features** | |
| Firewall | Stateful inspection firewall including paketfiltering, extended port forwarding, N:N IP address mapping, paket tagging, user-defined rules and notifications |
| Quality of Service | Traffic shaping, Bandwidth reservation, DiffServ/TOS, Packet-size control, Layer 2-in-Layer 3-Tagging |
| Security | Intrusion Prevention, IP spoofing, Access control lists, Denial of Service protection, detailed settings for handling reassembly, session-recovery, PING, stealth mode and AUTH port, URL blocker, Password protection, programmable reset button |
| PPP authentication mechanisms | PAP, CHAP, MS-CHAP and MS-CHAPv2 |
| High availability / redundancy | VRRP (Virtual Router Redundancy Protocol), analog/GSM modem backup |
| Router | IPv4-, IPv6-, NetBIOS/IP multiprotokoll router, IPv4/IPv6 dual stack |
| Router virtualisation | ARF (Advanced Routing and Forwarding) up to separate processing of 16 contexts |

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| **Layer 3 features** | |
| IPv4 services | HTTP and HTTPS server for configuration by web interface, DNS client, DNS server, DNS relay, DNS proxy, dynamic DNS client, DHCP client, DHCP relay and DHCP server including autodetection, NetBIOS/IP proxy, NTP client, SNTP server, policy-based routing |
| IPv6 services | DHCPv6 client, DHCPv6 server, DHCPv6 relay |
| IPv6 compatible LCOS applications | WEBconfig, HTTP, HTTPS, SSH, Telnet, DNS, TFTP, Firewall, RAS dial-in |
| Dynamic routing protocol | RIPv2 |
| IPv4 protocols | DNS, HTTP, HTTPS, ICMP, NTP/SNTP, NetBIOS, PPPoE (server), RADIUS, RADSEC (secure RADIUS), RTP, SNMP, TFTP, TACACS+ |
| IPv6 protocols | NDP, stateless address autoconfiguration (SLAAC), stateful address autoconfiguration (DHCPv6), router advertisements, ICMPv6, DHCPv6, DNS, HTTP, HTTPS, PPPoE, RADIUS, SMTP |
| WAN operating mode | VDSL, ADSL1, ADSL2 or ADSL2+ with external ADSL2+ modem at an ETH Port |
| WAN protocols | PPPoE, Multi-PPPoE, ML-PPP, GRE, EoGRE, PPTP (PAC or PNS), L2TPv2 (LAC or LNS) and IPoE (using DHCP or no DHCP), RIP-1, RIP-2, VLAN, IPv6 over PPP (IPv6 and IPv4/IPv6 dual stack session), IP(v6)oE (autokonfiguration, DHCPv6 or static) |
| Tunneling protocols (IPv4/IPv6) | 6to4, 6in4, 6rd (static and over DHCP), Dual Stack Lite (IPv4-in-IPv6-Tunnel) |
| **Interfaces** | |
| Ethernet ports | 2 x 10/100/1000BASE-T Autosensing (RJ-45), PoE (Power over Ethernet) at ETH1 |
| Serial interface | Serial configuration interface / COM port (8 pin Mini-DIN): 9,600 - 115,000 baud, suitable for optional connection of analog/GPRS modems. Supports internal COM port server and allows for transparent asynchronous transmission of serial data via TCP |
| External antenna connectors | Four reverse SMA connectors for external LANCOM AirLancer Extender antennas or for antennas from other vendors. Please respect the restrictions which apply in your country when setting up an antenna system. For information about calculating the correct antenna setup, please refer to www.lancom-systems.eu |
| **Hardware** | |
| Power supply | 12 V DC, external power adapter (230 V) with bayonet cap. PoE (Power over Ethernet), compliant with IEEE 802.3af |
| Environment | Temperature range 0–40°C a vertical mounting position using the LANCOM Wall Mount; Temperature range 0–35°C a horizontal mounting position; humidity 0–95%; non-condensing; In order to prevent overheating of the device the WLAN modules are deactivated automatically. |
| Power consumption (max) | approx. 11 Watts with 12 V/ 1,5 A power supply adapter (total power consumption of access point and power supply adapter), approx. 12 Watts via PoE |
| Housing | Robust synthetic housing, rear connectors, ready for wall mounting, Kensington lock; 210 x 45 x 140 mm (W x H x D) |
| **Management and monitoring** | |
| Management | LANconfig, WEBconfig, LSR (LANCOM Large Scale Rollout), WLAN-Controller, LANCOM Layer 2 Management (emergency management) |
| Management funktions | Alternative boot configuration, Voluntary automatic updates for LCMS and LCOS |
| FirmSafe | Two stored firmware versions, incl. test mode for firmware updates |
| Monitoring | LANmonitor, WLANmonitor, LSM (LANCOM Large Scale Monitor) |
| Monitoring funktions | Device SYSLOG, SNMPv2c, Extensive LOG and TRACE options, PING and TRACEROUTE for checking connections, internal logging buffer for firewall events |
| Monitoring statistics | Extensive Ethernet, IP and DNS statistics; SYSLOG error counter, accounting information exportable via LANmonitor and SYSLOG |
| **Declarations of conformity*** | |
| CE | EN 60950-1, EN 301 489-1, EN 301 489-17 |
| Wi-Fi Alliance Certification | Wi-Fi Certified |
| 2.4 GHz WLAN | EN 300 328 |
| 5 GHz WLAN | EN 301 893 |
| Medical | Medical conformity with EN 60601-1-2 |
| IPv6 | IPv6 Ready Gold |
| *) Note | You will find all declarations of conformity in the products section of our website at www.lancom-systems.de/en |

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| Scope of delivery | |
|---|---|
| Manual | Installation Guide (DE/EN/FR/ES/IT/PT/NL) |
| Cable | 1 Ethernet cable, 3 m |
| Antenna | Four 3 dBi dipole dual-band antennas |
| Power supply unit | External power adapter (230 V), NEST 12 V/1.5 A DC/S, coaxial power connector 2.1/5.5 mm bayonet, temperature range from -5 to +45° C, LANCOM item no. 110723 (EU)/LANCOM item no 110829 (UK) (not included in bulk delivery) |
| **Support** | |
| Warranty | 3 years support via hotline and Internet KnowledgeBase |
| Software updates | Regular free updates (LCOS operating system and LANCOM Management System) via Internet |
| **Options** | |
| Warranty Extension | LANCOM Warranty Basic Option S, item no. 10710 |
| Warranty Extension & Advanced Replacement | LANCOM Warranty Advanced Option S, item no. 10715 |
| Public Spot | LANCOM Public Spot Option (authentication and accounting software for hotspots, incl. Voucher printing through Standard PC printer), item no. 60642 |
| **Accessories** | |
| LANCOM WLC-4006+ (EU/UK/US) | LANCOM WLAN controller for central management of 6 (opt. up to 30) LANCOM access points and WLAN routers, item no. 62035 (EU), item no. 62036 (UK) and item no. 62037 (US) |
| LANCOM WLC-4025+ (EU/UK/US) | LANCOM WLAN controller for central management of 25 (opt. up to 100) LANCOM access points and WLAN routers, item no. 61378, item no. Art.-Nr. 61379 and item no. 61384 (US) |
| LANCOM WLC-4100 (EU/UK) | LANCOM WLAN controller for central management of 100 (opt. up to 1000) LANCOM access points and WLAN routers, item no. 61369 (EU) and item no. 61377 (UK) |
| External antenna, indoor use | AirLancer Extender I-D180agn (item no. 60917) |
| External antenna, outdoor use | AirLancer Extender O-D80g (item no. 61221), AirLancer Extender O-D60a (item no. 61222), AirLancer Extender O-D9a (item no. 61224) |
| Surge arrestor (antenna cable) | AirLancer Extender SA-5L surge arrestor (2.4 and 5 GHz), to be integrated between Access Point and antenna, item no. 61553 |
| Surge arrestor (LAN cable) | AirLancer Extender SA-LAN surge arrestor (LAN cable), item no. 61213 |
| LANCOM Wall Mount | For simple, theft-proof mounting of LANCOM devices with plastic housings, item no. 61349 |
| LANCOM Wall Mount (White) | For simple, theft-proof mounting of LANCOM devices with plastic housings, item no. 61345 |
| Analog modem backup/serial adapter | LANCOM Serial Adapter Kit, item no. 61500 |
| Power over Ethernet Injector | LANCOM GE PoE+ Injector, item no. 61738 (EU) and 61739 (UK) |
| *) Note | The polarization diversity antennas require 2 cables and surge arrestors |
| **Item number(s)** | |
| LANCOM L-822acn dual Wireless (EU/UK) | 61743(EU), 61744(UK) |
| LANCOM L-822acn dual Wireless (Bulk 10) | 61753 |





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