LANCOM OAP-830

Dual-radio outdoor 11ac WLAN access point for professional outdoor WLAN coverage – in parallel in the 2.4-GHz and 5-GHz frequency bands

The LANCOM OAP-830 features two radio modules for parallel operation in the 2.4- and 5-GHz frequency bands. Integrated sector antennas make it ideal for high-performance, reliable hotspots, and also for outdoor enterprise applications.

> Dual concurrent WLAN – parallel operation at 2.4 and 5 GHz with up to 300 Mbps with IEEE 802.11n and 867 Mbps with IEEE 802.11ac

> Integrated sector antennas for 2.4 and 5 GHz

> Robust IP66 protective housing – reliable even at extreme temperatures (-33°C to +70°C)

> Dynamic WLAN optimization thanks to LANCOM Active Radio Control (ARC)

> Professional security features such as IEEE 802.1X

> IPSec-VPN support with LANCOM OAP VPN Option

> Operation via LANCOM Management Cloud, WLAN controller or stand-alone

> Easy and secure integration of external users with the LANCOM Public Spot option

> Connectors for Gigabit Ethernet with Power over Ethernet as per IEEE 802.3af and Fast Ethernet

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Dual concurrent Wi-Fi with up to 867 Mbps

The LANCOM OAP-830 features two WLAN radio modules for the simultaneous operation at 2.4 and 5 GHz. This makes it the ideal choice for providing modern outdoor hotspots in high-density environments or for professional WLAN coverage of open spaces for professional applications - thanks to IEEE 802.11ac with up to 867 Mbps.

Maximum reliability in all weathers

The LANCOM OAP-830 has a rugged IP-66 protective housing, making it fully dust proof and water-jet resistant. It withstands temperatures between -33°C and +70°C to guarantee reliable operations even under extreme conditions.

Active Radio Control for dynamic radio-field optimization

The LANCOM OAP-830 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, and Client Steering - sustainably increases WLAN performance and supports administrators with professional tools for WLAN management.

LANCOM security for wireless networks

With numerous integrated security features, such as IEEE 802.1X, this outdoor access point provides optimal security for networks. Administrators and employees alike benefit from professional security policies on the network.

Optional VPN functionality

The LANCOM OAP VPN Option upgrades the outdoor access points of the OAP-8xx series with VPN functionality. This way, maintanance and management can be conducted remotely via an encrypted IPSec VPN tunnel. Furthermore, a trusted WLAN can be provided via a securely encrypted VPN tunnel to the company headquarters.

Zero-touch deployment

The LANCOM OAP-830 can be versatilely operated: Managed via the LANCOM Management Cloud it is integrated into a comprehensive, automated network orchestration, based on Software-defined Networking technology. It can also be operated via a LANCOM WLAN controller or be applied in stand-alone operation.

Secure integration of external users

In combination with the LANCOM Public Spot option, the LANCOM OAP-830 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 guest network.

Maximum future viability

The LANCOM OAP-830 supports the high-speed WLAN standard IEEE 802.11ac, so that you are well equipped for future challenges. LANCOM products are designed for a service life of several years and are equipped with hardware dimensioned for the future. Even reaching back to older product generations, updates to the LANCOM Operating System - LCOS - are available several times a year, free of charge and offering major features.

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LCOS 10.12

WLAN product specifications	
Frequency band 2.4 GHz and 5 GHz	2400-2483.5 MHz (ISM) and 5150-5700 MHz (depending on country-specific restrictions)
Integrated Antenna Gain	up to 11 dBi in 2.4 GHz, up to 8 dBi in 5 GHz
HPBW	2.4 GHz: 70° horizontal, 30° vertical 5 GHz: 90° horizontal, 30° vertical
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 802.11ac/n/a, IEEE 802.11 ac/n, IEEE 802.11n/a compatibility mode or pure IEEE 802.11ac, pure IEEE 802.11n, pure IEEE 802.11a mode 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 or 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 802.11b/g compatibility mode or pure IEEE 802.11g or pure IEEE 802.11b and data rates selectable
Net Data Throughput	max. 250 Mbps
Range (outdoor / P2P)	The actual range depends on the environmental conditions. The Antenna Distance Calculator on www.lancom.de provides information on the possible data rates and distances.
Output power at radio module, 5 GHz and per transmit chain	IEEE 802.11a/h: +17 dBm @ 54 MBit/s; IEEE 802.11an/ac: +16 dBm @ (MCS7, 20 MHz), +15 dBm @ (MCS7, 40 MHz), +15 dBm (MCS9, 20 MHz), +14 dBm (MCS9, 40/80 MHZ)
Output power at radio module, 2.4 GHz and per transmit chain	IEEE 802.11b/g: +18 dBm @ 54 MBit/s, IEEE 802.11n: +16 dBm @ (MCS7, 20 MHz), +16 dBm @ (MCS7, 40 MHz)
Max. allowed radiation power (EIRP), 5 GHz	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)
Max. allowed radiation power (EIRP), 2.4 GHz	IEEE 802.11b/g: Up to 20 dBm / 100 mW EIRP (transmission power control according to TPC)
Minimum transmission power	Transmission power reduction in software in 1 dB steps to min. 0.5 dBm
Receiver sensitivity 5 GHz	IEEE 802.11a/h: -80 dBm @ 54 MBit/s, IEEE 802.11an/ac: -75 dBm @ (MCS7, 20/40MHz), -71 dBm @ (MCS9, 20/40 MHz), -68 dBm (MCS9, 80 MHz)
Receiver sensitivity 2.4 GHz	IEEE 802.11b/g: -80 dBm @ 54 MBit/s, IEEE 802.11n: -77 dBm @ (MCS7, 20 MHz), -75 dBm @ (MCS7, 40 MHz)
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)
Radio channels 2.4 GHz	Up to 13 channels, max. 3 non-overlapping (depending on country-specific restrictions)
Multi-SSID	Up to 30 independent WLAN networks
Concurrent WLAN clients	Up to 65 clients (recommended), 256 clients (max.)**
PRP	Packet loss of point-2-point connections can be reduced by using the Parallel Redundancy Protocol with dual radio access points due to parallel data transmissions
**) Note	max. 128 clients supported per 11ac WLAN 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
Standard IEEE 802.11n	
Supported features	2x2 MIMO, 40 MHz channel, 20/40MHz coexistence mechanisms in the 2.4 GHz band, MAC aggregation, Block Acknowledgement, STBC (Space Time Block Coding), LDPC (Low Density Parity Check), MRC (Maximal Ratio Combining), Short Guard Interval

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WLAN operating modes	
Modes	WLAN access point (standalone, WLC or LANCOM Management Cloud managed), WLAN bridge (P2P or P2MP) (standalone or AutoWDS*), (standalone, WLC or LANCOM Management Cloud 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-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), RADIUS CoA (Change of Authorization)

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
Adaptive Transmission Power	Automatic adjustment of the transmission power for Wi - Fi backup scenarios
*) 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, dynamic 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, Multicast-to-Unicast-conversion on WLAN interfaces
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, LACP

Layer 3 features	
Firewall	Stateful inspection firewall including paket filtering, extended port forwarding, N:N IP address mapping, paket tagging, user-defined rules and notifications
Quality of Service	Traffic shaping, bandwidth reservation, DiffServ/TOS, packetsize 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 virtualization	ARF (Advanced Routing and Forwarding) up to separate processing of 16 contexts

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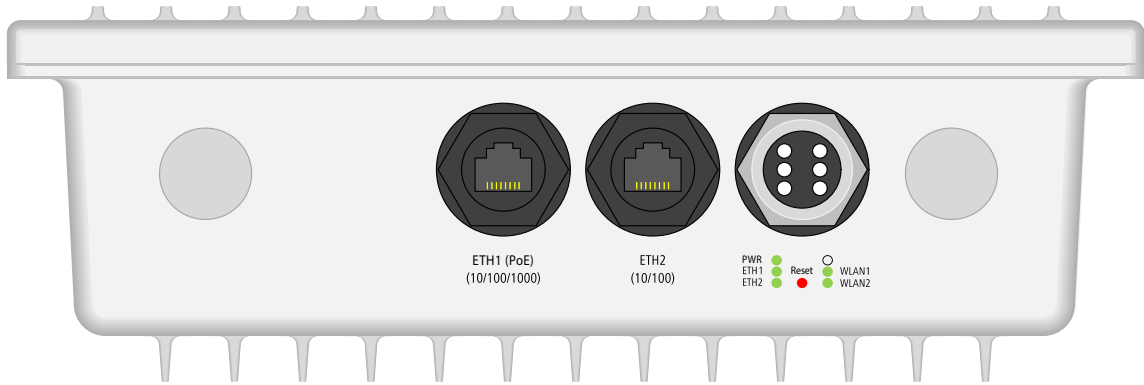| Layer 3 features	
IPv4 services	HTTP and HTTPS server for configuration by web interface, DNS client, DNS server, DNS relay, DNS proxy, dynamic DNS client, DHCP client, DHCP relay and DHCP server including autodetection, NetBIOS/IP proxy, NTP client, SNTP server, policy-based routing, Bonjour-Proxy, RADIUS
IPv6 services	HTTP and HTTPS server for configuration by web interface, DHCPv6 client, DHCPv6 server, DHCPv6 relay, DNS client, DNS server, dynamic DNS client, NTP client, SNTP server, Bonjour-Proxy, RADIUS
IPv6 compatible LCOS applications	WEBconfig, HTTP, HTTPS, SSH, Telnet, DNS, TFTP, firewall, RAS dial-in
Dynamic routing protocols	RIPv2
IPv4 protocols	DNS, HTTP, HTTPS, ICMP, NTP/SNTP, NetBIOS, PPPoE (server), RADIUS, RADSEC (secure RADIUS), RTP, SNMPv1,v2c,v3, TFTP, TACACS+
IPv6 protocols	NDP, stateless address autoconfiguration (SLAAC), stateful address autoconfiguration (DHCPv6), router advertisements, ICMPv6, DHCPv6, DNS, HTTP, HTTPS, PPPoE, RADIUS, SMTP, NTP, Syslog, SNMPv1,v2c,v3
WAN operating mode	VDSL, ADSL1, ADSL2 or ADSL2+ additional with external DSL 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 port	1 x 10/100/1000BASE-T autosensing (RJ-45), PoE (Power over Ethernet)
Ethernet port	1 x 10/100BASE-T autosensing (RJ-45)
Internal antennas per radio module	Each radio is connected to one of the two internal 2x2 MIMO antennas
Hardware	
Power supply	Via Power over Ethernet, compliant with IEEE 802.3af
Environment	Temperature range -33° to +70 °C
Power consumption (max)	12,95 watt, incl. PoE-Injector
Housing	Robust metal housing, IP 66 protection rating, ready for wall and pole mounting, 3 LEDs for status display, please note: device must not be mounted in salt water environments without a suitable protective housing; Dimensions 255 × 250 × 80 mm (length x width x depth)
Management and monitoring	
Management	LANCOM Management Cloud, LANconfig, WEBconfig, WLAN controller, LANCOM Layer 2 management (emergency management)
Management functions	Alternative boot configuration, voluntary automatic updates for LCMS and LCOS, individual access and function rights up to 16 administrators, RADIUS and RADSEC user management, remote access (WAN or (W)LAN, access rights (read/write) adjustable seperately), SSL, SSH, HTTPS, Telnet, TFTP, SNMP, HTTP, access rights via TACACS+, scripting, timed control of all parameters and actions through cron job
FirmSafe	Two stored firmware versions, incl. test mode for firmware updates
Monitoring	LANCOM Management Cloud, LANmonitor, WLANmonitor
Monitoring functions	Device SYSLOG, SNMPv1,v2c,v3 incl. SNMP-TRAPS, 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
iPerf	iPerf is a tool for measurements of the bandwidth on IP networks (integrated client and server)
SLA-Monitor (ICMP)	Performance monitoring of connections
SD-WLAN	SD-WLAN – automatic WLAN configuration via the LANCOM Management Cloud
SD-LAN	SD-LAN – automatic LAN configuration via the LANCOM Management Cloud
Declarations of conformity*	
CE	EN 60950-1, EN 301 489-1, EN 301 489-17
5 GHz WLAN	EN 301 893

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Declarations of conformity*	
2.4 GHz WLAN	EN 300 328
IPv6	IPv6 Ready Gold
Country of Origin	Made in Germany
*) Note	You will find all declarations of conformity in the products section of our website at www.lancom-systems.eu

Scope of delivery	
Manual	Hardware Quick Reference (DE/EN), Installation Guide (DE/EN)
CD/DVD	Data medium with management software (LANconfig, LANmonitor, WLANmonitor, LANCAPI) and documentation
Cable	Water-resistant, UV-resistant Ethernet PoE cable with water-resistant screw connector, 15m
Mounting Kit	Mounting kit for wall and pole mounting
Power supply unit	Via Power over Ethernet compliant with IEEE 802.3af, 1 x PoE Injector supplied

Support	
Warranty	3 years support
Software updates	Regular free updates (LCOS operating system and LANtools) via Internet

Options	
LANCOM Warranty Basic Option L	Option to extend the manufacturer´s warranty from 3 to 5 years, item no. 10712
LANCOM Warranty Advanced Option L	Option to extend the manufacturer´s warranty from 3 to 5 years and replacement of a defective device, item no. 10717
LANCOM OAP VPN	Option for the extension of the LANCOM OAP-8xx series with IPSec VPN functionality, 5 active VPN channels enable the secure maintenance and management of OAPs, and the provision of confidential WLANs via a VPN connection to the company headquarters, item no. 61635
LANCOM Public Spot	Hotspot option for LANCOM access points, LANCOM 17xx and LANCOM 19xx series for user authentication (up to 64), versatile access (via voucher, e-mail, SMS), including a comfortable setup wizard, secure separation of guest access and internal network, item no. 60642

LANCOM Management Cloud	
LANCOM LMC-A-1Y LMC License	LANCOM LMC-A-1Y License (1 Year), enables the management of one category A device for one year via the LANCOM Management Cloud, item no. 50100
LANCOM LMC-A-3Y LMC License	LANCOM LMC-A-3Y License (3 Years), enables the management of one category A device for three years via the LANCOM Management Cloud, item no. 50101
LANCOM LMC-A-5Y LMC License	LANCOM LMC-A-5Y License (5 Years), enables the management of one category A device for five years via the LANCOM Management Cloud, item no. 50102

Accessories	
LANCOM WLAN controllers	LANCOM WLC-4006+, item no. 62035 (EU), item no. 62036 (UK) and item no. 62037 (US), LANCOM WLC-4025+, item no. 61378, item no. 61379 and item no. 61384 (US), LANCOM WLC-4100, item no. 61369 (EU) and item no. 61377 (UK), LANCOM WLC Basic Option for Routers, item no. 61639
Surge arrestor (LAN cable)	AirLancer Extender SA-LAN surge arrestor (LAN cable), item no. 61213
LAN cable (outdoor)	LANCOM OAP Ethernet cable (30 m), item no. 61347
Power over Ethernet Injector	1-port PoE injector with Gigabit support, integrated power supply, compatible with the standard IEEE 802.3af/at, item no. 61738 (EU) and 61739 (UK)

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Item number(s)	
LANCOM OAP-830	61663

ETH1 (PoE)
(10/100/1000)

ETH2
(10/100)

PWR
ETH1
ETH2
Reset
WLAN1
WLAN2

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