

LCOS 10.80

# LANCOM OAP-5G

## Outdoor SD-WAN gateway with 5G for harsh environments



In outdoor areas with intensive weather conditions, such as large construction sites and event locations without a wired Internet connection, a reliable and powerful cellular connectivity is essential. Specially developed for these requirements, the outdoor SD-WAN gateway LANCOM OAP-5G offers flexible and future-proof 5G connectivity with maximum weather resistance. The robust IP67-rated housing is dust- and water-resistant. The IPSec VPN functionality and an integrated 5G modem with four external antennas enable securely encrypted site networking via a cellular data connection with fast data transfer and optimum signal quality. With network management via the LANCOM Management Cloud (LMC), you not only automate and accelerate your workflows, but also save resource-intensive work in difficult-to-access or remote outdoor areas.

- SD-WAN – incl. zero-touch deployment and Auto-VPN via the LANCOM Management Cloud
- Integrated 5G modem for low latency and high bandwidth for real-time applications
- Robust IP67 protective housing – reliably protected against dust and water even at extreme temperatures (-20°C to +70°C)
- Mounting kit for wall and pole mounting, cable and adapter included
- Secure site connectivity with 5 simultaneous IPSec VPN connections (25 channels optional)
- Flexible power supply via Power over Ethernet (PoE) according to IEEE 802.3at
- Integrated stateful-inspection firewall with intrusion detection and Denial-of-Service protection
- Network virtualization with up to 16 networks on one device (ARF)
- Maximum future viability, reliability, and security "Engineered in Germany"



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# LANCOM OAP-5G

## **Fully future-proof with 5G**

With the OAP-5G, either as a mobile primary access or in active/active mode with other access types, you benefit from all the advantages of 5G technology. Low latency and high-performance use of real-time applications such as telephony, video chat, video streaming in 4K or 8K or augmented reality, even with a high user density, are possible.

## **Robust housing for maximum reliability in all weather conditions**

The robust housing with IP67 protection class allows this cellular router to guarantee excellent Internet connections even in harsh outdoor environments and is completely dustproof and resistant to water jets. The LANCOM OAP-5G is thus optimally protected against external influences and is ideal for outdoor installation even at remote locations and construction sites. Thanks to an extended temperature range of -20°C to +70°C, the device provides reliable wireless connections under the most demanding conditions.

## **LANCOM SD-WAN – Next-level networking**

With LANCOM SD-WAN you can manage and monitor your entire corporate network centrally, cost-effectively, quickly, and stress-free! In combination with the LANCOM Management Cloud, the SD-WAN gateway gives you all the options for an automated setup of secure VPN connections (Auto-VPN) between sites, including network virtualization. Highlight features such as High Scalability VPN (HSVPN) and Advanced Mesh VPN offer you a significant plus in scalability and efficiency for a large number of branches and applications. Furthermore, if multiple WAN connections are defined, they are automatically operated in active/active mode (load balancing), thereby increasing the available total bandwidth. With Dynamic Path Selection and Dynamic Traffic Steering, applications are also dynamically routed via the best connection at any given time.

## **Secure site connectivity via VPN**

With virtual private networks (VPN), you use the public medium of the Internet as a communication path and secure the connection in such a way that the communication still remains completely inaccessible to external parties. This SD-WAN gateway offers you five integrated IPSec VPN channels for secure encryption, so that the protection of internal company data is always guaranteed when connecting mobile employees, home offices, or branch offices. With the LANCOM VPN Option, you can also upgrade the device to up to 25 VPN channels, so that the infrastructure can easily grow with your needs without additional hardware.

## **Stateful Inspection Firewall**

Equipped with a stateful inspection firewall, the LANCOM OAP-5G protects the entire network. With functions such as intrusion prevention and denial of service protection, this device ensures optimum protection so that all data in the network is safe.



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# LANCOM OAP-5G

## Layer 2 features

VLAN 4.096 IDs based on IEEE 802.1q, dynamic assignment

Multicast IGMP-Snooping, MLD-Snooping

Protocols ARP-Lookup, LLDP, ARP, Proxy ARP, BOOTP, DHCP

## Layer 3 features

Firewall Stateful inspection firewall including packet filtering, extended port forwarding, N:N IP address mapping, packet tagging, support for DNS targets, 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

SD-WAN Application Routing SD-WAN Application Routing in connection with the LANCOM Management Cloud

SD-WAN dynamic path selection SD-WAN dynamic path selection in connection with the LANCOM Management Cloud

SD-WAN Zero Touch Deployment Zero touch commissioning of the device in conjunction with the LANCOM Management Cloud

Router virtualization ARF (Advanced Routing and Forwarding) up to separate processing of 16 contexts

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

Dynamic routing protocols RIPv2, BGPv4, OSPFv2, LISP (Locator/ID Separation Protocol)

IPv4 protocols DNS, HTTP, HTTPS, ICMP, NTP/SNTP, NetBIOS, PPPoE (server), RADIUS, RADSEC (secure RADIUS), RTP, SNMPv1,v2c,v3, TFTP, TACACS+, IGMPv3

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, MLDv2, NPTv6 (NAT66)

WAN operating mode VDSL, ADSL1, ADSL2 or ADSL2+ additional with external DSL modem at an ETH port



# LANCOM OAP-5G

## Layer 3 features

**WAN protocols** PPPoE, Multi-PPPoE, GRE, EoGRE, PPTP (PAC or PNS), L2TPv2 (LAC or LNS), L2TPv3 with Ethernet-Pseudowire 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), 464XLAT

## Security

**Intrusion Prevention** Monitoring and blocking of login attempts and port scans

**IP spoofing** Source IP address check on all interfaces: only IP addresses belonging to the defined IP networks are allowed

**Access control lists** Filtering of IP or MAC addresses and preset protocols for configuration access

**Denial of Service protection** Protection from fragmentation errors and SYN flooding

**General** Detailed settings for handling reassembly, PING, stealth mode and AUTH port

**Password protection** Password-protected configuration access can be set for each interface

**Alerts** Alerts via e-mail, SNMP traps and SYSLOG

**Authentication mechanisms** EAP-TLS, EAP-TTLS, PEAP, MS-CHAP, MS-CHAPv2 as EAP authentication mechanisms, PAP, CHAP, MS-CHAP and MS-CHAPv2 as PPP authentication mechanisms

**Adjustable reset button** Adjustable reset button for 'ignore', 'boot-only' and 'reset-or-boot'

## High availability / redundancy

**VRRP** VRRP (Virtual Router Redundancy Protocol) for backup in case of failure of a device or remote station.

**FirmSafe** For completely safe software upgrades thanks to two stored firmware versions, incl. test mode for firmware updates

**5G backup** In case of failure of the main connection, a backup connection is established over the internal 5G modem; automatic return to the main connection

**Load balancing** Static and dynamic load balancing over up to 2 WAN connections. Channel bundling with Multilink PPP (if supported by network operator)

**VPN redundancy** Backup of VPN connections across different hierarchy levels, e.g. in case of failure of a central VPN concentrator and re-routing to multiple distributed remote sites. Any number of VPN remote sites can be defined (the tunnel limit applies only to active connections). Up to 32 alternative remote stations, each with its own routing tag, can be defined per VPN connection. Automatic selection may be sequential, or dependant on the last connection, or random (VPN load balancing)

**Line monitoring** Line monitoring with LCP echo monitoring, dead-peer detection and up to 4 addresses for end-to-end monitoring with ICMP polling



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## VPN

|                                    |   |
|------------------------------------|---|
| IPSec over HTTPS                   | Enables IPsec VPN based on TCP (at port 443 like HTTPS) which can go through firewalls in networks where e. g. port 500 for IKE is blocked. Suitable for client-to-site connections and site-to-site connections. IPSec over HTTPS is based on the NCP VPN Path Finder technology   |
| Number of VPN tunnels              | Max. number of concurrent active IPSec, PPTP (MPPE) and L2TPv2 tunnels: 5 (25 with VPN 25 Option). Unlimited configurable connections. Configuration of all remote sites via one configuration entry when using the RAS user template or Proadaptive VPN.   |
| Hardware accelerator               | Integrated hardware accelerator for 3DES/AES encryption and decryption  |
| Realtime clock                     | Integrated, buffered realtime clock to save the date and time during power failure. Assures timely validation of certificates in any case   |
| Random number generator            | Generates real random numbers in hardware, e. g. for improved key generation for certificates immediately after switching-on  |
| 1-Click-VPN Client assistant       | One click function in LANconfig to create VPN client connections, incl. automatic profile creation for the LANCOM Advanced VPN Client   |
| 1-Click-VPN Site-to-Site           | Creation of VPN connections between LANCOM routers via drag and drop in LANconfig   |
| IKE, IKEv2                         | IPSec key exchange with Preshared Key or certificate (RSA signature, ECDSA-Signature, digital signature)  |
| Smart Certificate*                 | Convenient generation of digital X.509 certificates via an own certification authority (SCEP-CA) on the webpage or via SCEP.  |
| Certificates                       | X.509 digital multi-level certificate support, compatible with Microsoft Server / Enterprise Server and OpenSSL. Secure Key Storage protects a private key (PKCS#12) from theft.  |
| Certificate rollout                | Automatic creation, rollout and renewal of certificates via SCEP (Simple Certificate Enrollment Protocol) per certificate hierarchy   |
| Certificate revocation lists (CRL) | CRL retrieval via HTTP per certificate hierarchy  |
| OCSP Client                        | Check X.509 certifications by using OCSP (Online Certificate Status Protocol) in real time as an alternative to CRLs  |
| OCSP Server/Responder*             | Offers validity information for certificates created with Smart Certificate via OCSP  |
| XAUTH                              | XAUTH client for registering LANCOM routers and access points at XAUTH servers incl. IKE-config mode. XAUTH server enables clients to register via XAUTH at LANCOM routers. Connection of the XAUTH server to RADIUS servers provides the central authentication of VPN-access with user name and password. Authentication of VPN-client access via XAUTH and RADIUS connection additionally by OTP token |
| RAS user template                  | Configuration of all VPN client connections in IKE ConfigMode via a single configuration entry  |
| Proadaptive VPN                    | Automated configuration and dynamic creation of all necessary VPN and routing entries based on a default entry for site-to-site connections.  |
| Algorithms                         | 3DES (168 bit), AES-CBC and -GCM (128, 192 or 256 bit), RSA (1024-4096 bit), ECDSA (P-256-, P-384-, P-521-curves) and Chacha20-Poly 1305. OpenSSL implementation with FIPS-140 certified algorithms. MD-5, SHA-1, SHA-256, SHA-384 or SHA-512 hashes  |



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## VPN

|                              |  |
|------------------------------|--|
| NAT-Traversal                | NAT-Traversal (NAT-T) support for VPN over routes without VPN passthrough  |
| LANCOM Dynamic VPN           | Enables VPN connections from or to dynamic IP addresses. The IP address is communicated via the ICMP or UDP protocol in encrypted form. Dynamic dial-in for remote sites via connection template |
| Dynamic DNS                  | Enables the registration of IP addresses with a Dynamic DNS provider in the case that fixed IP addresses are not used for the VPN connection   |
| Specific DNS forwarding      | DNS forwarding according to DNS domain, e.g. internal names are translated by proprietary DNS servers in the VPN. External names are translated by Internet DNS servers                          |
| Split DNS                    | Allows the selective forwarding of traffic for IKEv2 depending on the addressed DNS domain.  |
| IPv4 VPN                     | Connecting private IPv4 networks   |
| IPv4 VPN over IPv6 WAN       | Use of IPv4 VPN over IPv6 WAN connections  |
| IPv6 VPN                     | Connecting private IPv6 networks   |
| IPv6 VPN over IPv4 WAN       | Use of IPv6 VPN over IPv4 WAN connections  |
| Radius                       | RADIUS authorization and accounting, outsourcing of VPN configurations in external RADIUS server in IKEv2, RADIUS CoA (Change of Authorization)  |
| High Scalability VPN (HSVPN) | Transmission of multiple, securely separated networks within a VPN tunnel  |
| Advanced Mesh VPN            | On demand dynamic VPN tunnel establishment between branches  |
| IKEv2-EAP*                   | VPN clients can be authenticated with IKEv2-EAP against a central database like Microsoft Windows Server or RADIUS Server  |
| Two-factor authentication*   | Two-factor authentication with LANCOM Advanced VPN Client via IKEv2 EAP-OTP  |
| *)                           | Only with VPN 25 option  |

## Performance

|                     |  |
|---------------------|--|
| Routing-Performance | Data regarding the overall routing performance can be found inside the LANCOM tech paper "Routing-Performance" on <a href="http://www.lancom-systems.com">www.lancom-systems.com</a> |
|---------------------|--|

## VoIP

|         |   |
|---------|---|
| SIP ALG | The SIP ALG (Application Layer Gateway) acts as a proxy for SIP communication. For SIP calls the ALG opens the necessary ports for the corresponding media packets. Automatic address translation (STUN is no longer needed). |
|---------|---|

## Cellular radio

|                     |   |
|---------------------|---|
| Supported standards | 5G, LTE, UMTS and HSPA support (mode of transmission automatically or manually adjustable), 2G/GSM is not supported |
|---------------------|---|



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## Cellular radio

|   |  |
|---|--|
| Supported 5G modes                          | 5G standalone (SA), 5G non-standalone (NSA)  |
| Supported mobile bands (5G) for OAP-5G      | n1 (2100 MHz), n2 (1900 MHz), n3 (1800 MHz), n5 (850 MHz), n7 (2600 MHz), n8 (900 MHz), n12 (700 MHz), n13 (700 MHz), n14 (700 MHz), n18 (850 MHz), n20 (800 MHz), n25 (1900 MHz), n26 (850 MHz), n28 (700 MHz), n29 (700 MHz), n30 (2300 MHz), n38 (2600 MHz), n40 (2300 MHz), n41 (2500 MHz), n48 (3500 MHz), n66 (2100 MHz), n70 (2000 MHz), n71 (600 MHz), n75 (1500 MHz), n76 (1500 MHz), n77 (3700 MHz), n78 (3500 MHz), n79 (4700 MHz)                              |
| Supported mobile bands (4G) for OAP-5G      | B1 (2100 MHz), B2 (1900 MHz), B3 (1800 MHz), B4 (1700 MHz), B5 (850 MHz), B7 (2600 MHz), B8 (900 MHz), B12 (700 MHz), B13 (700 MHz), B14 (700 MHz), B17 (700 MHz), B18 (850 MHz), B19 (850 MHz), B20 (800 MHz), B25 (1900 MHz), B26 (850 MHz), B28 (700 MHz), B29 (700 MHz), B30 (2300 MHz), B32 (1500 MHz), B34 (2000 MHz), B38 (2600 MHz), B39 (1900 MHz), B40 (2300 MHz), B41 (2500 MHz), B42 (3500 MHz), B43 (3700 MHz), B48 (3500 MHz), B66 (1700 MHz), B71 (600 MHz) |
| Supported mobile bands (5G) for OAP-5G (US) | n1 (2100 MHz), n2 (1900 MHz), n3 (1800 MHz), n5 (850 MHz), n8 (900 MHz), n20 (800 MHz), n25 (1900 MHz), n28 (700 MHz), n41 (2500 MHz), n48 (3500 MHz), n66 (2100 MHz), n71 (600 MHz), n77 (3700 MHz)   |
| Supported mobile bands (4G) for OAP-5G (US) | B1 (2100 MHz), B2 (1900 MHz), B3 (1800 MHz), B4 (1700 MHz), B5 (850 MHz), B8 (900 MHz), B12 (700 MHz), B13 (700 MHz), B17 (700 MHz), B20 (800 MHz), B25 (1900 MHz), B26 (850 MHz), B28 (700 MHz), B30 (2300 MHz), B32 (1500 MHz), B41 (2500 MHz), B46 (5200 MHz), B48 (3500 MHz), B66 (1700 MHz), B71 (600 MHz)  |
| Supported SIM card formats*                 | Mini-SIM (2FF), Micro-SIM (3FF) via adaptor, Nano-SIM (4FF) via adaptor  |
| *) Note                                     | LANCOM Systems recommends the use of a standard SIM (2FF / Mini-SIM)   |

## Interfaces

|                             |  |
|-----------------------------|--|
| Ethernet ports              | 2 x 10/100/1000BASE-T autosensing (RJ-45), IEEE 802.3az, PoE (Power over Ethernet) at ETH1 |
| External antenna connectors | Four N antenna connectors for external 5G antennas   |

## Hardware

|              |   |
|--------------|---|
| Power supply | Via Power over Ethernet, compliant with IEEE 802.3at  |
| Environment  | Temperature range -20°C to +70 °C; humidity up to 95%; non-condensing   |
| Housing      | Robust metal housing, IP67 protection rating, ready for wall and pole mounting, 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 separately), SSL, SSH, HTTPS, Telnet, TFTP, SNMP, HTTP, access rights via TACACS+, scripting, timed control of all parameters and actions through cron job |



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## Management and monitoring

|                           |   |
|---------------------------|---|
| FirmSafe                  | Two stored firmware versions, incl. test mode for firmware updates  |
| automatic firmware update | configurable automatic checking and installation of 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-LAN                    | SD-LAN – automatic LAN configuration via the LANCOM Management Cloud  |
| SD-WAN                    | SD-WAN – automatic WAN configuration via the LANCOM Management Cloud  |

## Declarations of conformity\*

|  |   |
|--|---|
| Europe/EFTA  | CE  |
| North America  | FCC, IC, PTCRB  |
| Cellular Network Operator Certifications (North America) | AT&T  |
| 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 <a href="http://www.lancom-systems.com">www.lancom-systems.com</a> |

## Scope of delivery

|              |   |
|--------------|---|
| Manual       | Quick Installation Guide (DE/EN)  |
| Cable        | Water-resistant, UV-resistant Ethernet PoE cable with water-resistant screw connector, 15m, temperature range from -33°C to +70°C |
| Mounting Kit | Mounting kit for wall and pole mounting   |
| Antennas     | Four 2 dBi 5G/LTE/UMTS-antennas   |





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## Support

|                                |  |
|--------------------------------|--|
| Warranty extension             | Free warranty extension up to 3 years (replacement service for defects)<br>For details, please refer to the service and support conditions at <a href="http://www.lancom-systems.com/support-conditions">www.lancom-systems.com/support-conditions</a> or at <a href="http://www.lancom.de/rma">www.lancom.de/rma</a> .  |
| Security updates               | Up to 2 years after End of Sale of the device (but min. 3 years, see <a href="http://www.lancom-systems.com/product-tables">www.lancom-systems.com/product-tables</a> ), can be extended by purchasing LANcare products  |
| Software updates               | Regular free updates including new features as part of the LANCOM Lifecycle Management ( <a href="http://www.lancom-systems.com/lifecycle">www.lancom-systems.com/lifecycle</a> )  |
| Manufacturer support           | For LANcommunity partners up to the End of Life of the device<br>For end customers with LANcare Direct or LANcare Premium Support during the LANcare validity  |
| LANcare Basic M                | Security updates until EOL (min. 5 years) and 5 years replacement service with shipment of the replacement device within 5 days after arrival of the defective device (8/5/5Days), item no. 10721  |
| LANcare Advanced M             | Security updates until EOL (min. 5 years) and 5 years NBD advance replacement with delivery of the replacement device within one business day (8/5/NBD), item no. 10731  |
| LANcare Direct Advanced 24/7 M | Direct, prioritized 10/5 manufacturer support incl. 24/7 emergency hotline and security updates for the device, NBD advance replacement with delivery of the device on the next business day (24/7/NBD), guaranteed first response times (SLA) of max. 30 minutes for reporting massive operational disruptions by telephone (priority 1) and max. 4 hours for all other concerns (priority 2), term-based for 1, 3, or 5 years (item no. 10779, 10780 or 10781) |
| LANcare Direct 24/7 M          | Direct, prioritized 10/5 manufacturer support incl. 24/7 emergency hotline and security updates for the device, guaranteed first response times (SLA) of max. 30 minutes for reporting massive operational disruptions by telephone (priority 1) and max. 4 hours for all other concerns (priority 2), term-based for 1, 3, or 5 years (item no. 10755, 10756 or 10757)  |
| LANcare Direct Advanced 10/5 M | Direct, prioritized 10/5 manufacturer support and security updates for the device, NBD advance replacement with delivery of the device on the next business day (10/5/NBD), guaranteed first response times (SLA) of max. 2 hours for reporting massive operational disruptions by telephone (priority 1) and max. 4 hours for all other concerns (priority 2), term-based for 1, 3, or 5 years.(item no. 10767, 10768 or 10769)                                 |
| LANcare Direct 10/5 M          | Direct, prioritized 10/5 manufacturer support and security updates for the device, guaranteed first response times (SLA) of max. 2 hours for reporting massive operational disruptions by telephone (priority 1) and max. 4 hours for all other concerns (priority 2), term-based for 1, 3, or 5 years.(item no. 10743, 10744 or 10745)  |

## Software

|                      |  |
|----------------------|--|
| Lifecycle Management | After discontinuation (End of Sale), the device is subject to the LANCOM Lifecycle Management. Details can be found at:<br><a href="http://www.lancom-systems.com/lifecycle">www.lancom-systems.com/lifecycle</a>  |
| Anti-backdoor policy | Products from LANCOM are free of hidden access paths (backdoors) and other undesirable features for introducing, extracting or manipulating data. The trust seal "IT Security made in Germany" (ITSMIG) and certification by the German Federal Office for Information Security (BSI) confirm the trustworthiness and the outstanding level of security. |

## Options

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|-----|--|
| VPN | LANCOM VPN-25 Option (25 channels), item no. 60083 |
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## Options

|                              |   |
|------------------------------|---|
| LANCOM Content Filter        | LANCOM Content Filter +10 user (additive up to 100), 1 year subscription, item no. 61590  |
| LANCOM Content Filter        | LANCOM Content Filter +25 user (additive up to 100), 1 year subscription, item no. 61591  |
| LANCOM Content Filter        | LANCOM Content Filter +100 user (additive up to 100), 1 year subscription, item no. 61592   |
| LANCOM Content Filter        | LANCOM Content Filter +10 user (additive up to 100), 3 year subscription, item no. 61593  |
| LANCOM Content Filter        | LANCOM Content Filter +25 user (additive up to 100), 3 year subscription, item no. 61594  |
| LANCOM Content Filter        | LANCOM Content Filter +100 user (additive up to 100), 3 year subscription, item no. 61595   |
| LANCOM BPjM Filter           | LANCOM BPjM Filter Option, 5 years subscription, item no. 61418   |
| LANCOM Public Spot           | Hotspot option for LANCOM products, versatile access (via voucher, e-mail, SMS), including a comfortable setup wizard, secure separation of guest access and internal network, item no. 60642           |
| LANCOM Public Spot (10 bulk) | Hotspot option for LANCOM products, versatile access (via voucher, e-mail, SMS), including a comfortable setup wizard, secure separation of guest access and internal network (10 bulk), item no. 61312 |

## LANCOM Management Cloud

|                             |  |
|-----------------------------|--|
| LANCOM LMC-B-1Y LMC License | LANCOM LMC-B-1Y License (1 Year), enables the management of one category B device for one year via the LANCOM Management Cloud, item no. 50103     |
| LANCOM LMC-B-3Y LMC License | LANCOM LMC-B-3Y License (3 Years), enables the management of one category B device for three years via the LANCOM Management Cloud, item no. 50104 |
| LANCOM LMC-B-5Y LMC License | LANCOM LMC-B-5Y License (5 Years), enables the management of one category B device for five years via the LANCOM Management Cloud, item no. 50105  |

## Accessories

|                               |   |
|-------------------------------|---|
| External antenna              | AirLancer O-360Q-5G, omnidirectional outdoor antenna MIMO (4x4), for all 4G/5G bands (700-3800 MHz), item no. 61234                                       |
| Surge arrestor (LAN cable)    | AirLancer Extender SN-LAN surge arrestor (LAN cable), item no. 61261  |
| LAN cable (outdoor)           | LANCOM OX Ethernet cable (30 m), item no. 61347   |
| LANCOM PoE++ Injector (EU)    | 1-port PoE injector with multi-Gigabit support, integrated power supply, compatible with the standard IEEE 802.3af/at/bt (up to 65W), item no. 61779 (EU) |
| LANCOM AirLancer SurgeProtect | Surge arrestor for connection between LANCOM outdoor antennas and access points, item no. 61257   |
| VPN Client Software           | LANCOM Advanced VPN Client for Windows 7,8/8.1,10,11 - single license, item no. 61600   |
| VPN Client Software           | LANCOM Advanced VPN Client for Windows 7,8/8.1,10,11 - 10 licenses, item no. 61601  |
| VPN Client Software           | LANCOM Advanced VPN Client for Windows 7,8/8.1,10,11 - 25 licenses, item no. 61602  |



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## Accessories

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|                     |   |
|---------------------|---|
| VPN Client Software | LANCOM Advanced VPN Client for Mac OS X (10.5 Intel only, 10.6 or higher), single license, item no. 61606 |
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|---------------------|--|
| VPN Client Software | LANCOM Advanced VPN Client for Mac OS X (10.5 Intel only, 10.6 or higher), 10 licenses, item no. 61607 |
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## Item number(s)

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|---------------|-------|
| LANCOM OAP-5G | 61911 |
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| LANCOM OAP-5G (US) | 61913 |
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