

# LANCOM 1800VAW

## SD-WAN gateway with VDSL and Wi-Fi 6



The current challenge for the IT in medium-sized businesses is reliable and highly secure site networking. With scalable SD-WAN technology and fast dual-band concurrent Wi-Fi 6, the LANCOM 1800VAW has exactly the power you need. Even with high data volumes, a high-performance Internet connection is guaranteed thanks to the integrated VDSL modem and the optional fiber-optic connection. You can network your branch offices and mobile employees quickly and easily with LANCOM IPsec VPN. With the central management of the LANCOM 1800VAW and other devices in the LANCOM Management Cloud (LMC), you not only automate and accelerate your workflows, but also use valuable resources such as money and time more efficiently.

- SD-WAN – incl. zero-touch deployment and Auto-VPN via the LANCOM Management Cloud
- Integrated VDSL Supervectoring modem for up to 300 Mbps
- High-speed Internet via fiber optics (GPON and AON modules available separately) and Gigabit Ethernet for connection of external modems
- Dual-band concurrent Wi-Fi 6 with up to 1,200 Mbps at 5 GHz and up to 575 Mbps at 2.4 GHz
- 5 integrated IPsec VPN channels (25 optional)
- Network virtualization with up to 16 networks on one device (ARF)
- Maximum future compatibility, reliability, and security "Engineered in Germany"

LCOS 10.80

# LANCOM 1800VAW

## **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.

## **WAN connectivity with VDSL Supervectoring**

The LANCOM 1800VAW offers full VDSL Supervectoring support and is also backwards compatible with VDSL2 and ADSL2+. Data rates of up to 300 Mbps are possible on existing copper lines.

## **Professional integration of wireless clients via Wi-Fi 6**

The LANCOM 1800VAW offers wireless LAN in the Wi-Fi 6 standard (IEEE 802.11ax) and can simultaneously integrate clients in the 2.4 GHz frequency band as well as modern end devices in the 5 GHz band into the network and supply them with fast Wi-Fi. The dual-band concurrent Wi-Fi 6 technology enables transmission rates of up to 1,200 Mbps in 5 GHz and up to 575 Mbps in 2.4 GHz in parallel.

## **Modern housing with focus on sustainability**

Innovative technology meets forward-looking optics: the combination of matte black plastic and mirror-like acrylic glass front panel for interface information conveys a tangible feeling of security, reliability, and high quality. The housing of the SD-WAN branch router offers high installation flexibility thanks to possible table, rack, and wall mounting. Local production ensures short procurement routes with low CO2 emissions and thus scores particularly well in terms of sustainability.

## **Security with stateful inspection firewall, VLAN, and ARF**

Equipped with a stateful inspection firewall, the LANCOM SD-WAN gateway protects the entire network with functions such as intrusion prevention and denial of service protection. Logical network segmentation allows you to define individual security settings and access rights according to the requirements of the user groups, and to divide your infrastructures and applications into different areas. This network segmentation using ARF (Advanced Routing and Forwarding) and VLAN (Virtual Local Area Network) ensures that your enterprise network as a whole remains protected, even if a network segment is compromised. Learn more in the Techpaper: Advanced Routing and Forwarding.

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## WLAN product specifications

Frequency band 2.4 GHz and 5 GHz	2400-2483.5 MHz (ISM), 5150-5350 MHz and 5470-5725 MHz (depending on country-specific restrictions)
Data rates IEEE 802.11ax	<p>→ up to 1200 Mbps according to IEEE 802.11ax with MCS11/QAM-1024 at 5 GHz, 2x2 MIMO and 80 MHz channel width</p> <p>→ up to 575 Mbps according to IEEE 802.11ax with MCS11/QAM-1024 at 2.4 GHz, 2x2 MIMO and 40 MHz channel width</p>
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 802.11ac/n, IEEE 802.11n/a compatibility mode or pure IEEE 802.11ac, pure IEEE 802.11n, pure IEEE 802.11a modems 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
Output power at radio module, 2.4 GHz and per chain	<p>→ IEEE 802.11b: +25 dBm @ 1 MBit/s, +25 dBm @ 11 MBit/s</p> <p>→ IEEE 802.11g: +25 dBm @ 6 MBit/s, +24 dBm @ 54 MBit/s</p> <p>→ IEEE 802.11n: +25 dBm @ MCS0/20 MHz, +23 dBm @ MCS7/20 MHz</p> <p>→ IEEE 802.11ac/ax: +22 dBm @ MCS9/40 MHz, +20 dBm @ MCS11/40 MHz</p>
Output power at radio module, 5 GHz and per chain	<p>→ IEEE 802.11a: +25 dBm @ 6 MBit/s, +22 dBm @ 54 MBit/s</p> <p>→ IEEE 802.11n: +25 dBm @ MCS0/20 MHz, +22 dBm @ MCS7/20 MHz</p> <p>→ IEEE 802.11ac/ax: +19 dBm @ MCS9/80 MHz, +18 dBm @ MCS11/80 MHz</p>
Receiver sensitivity, 2.4 GHz	<p>→ IEEE 802.11b: -98 dBm @ 1 MBit/s, -90 dBm @ 11 MBit/s</p> <p>→ IEEE 802.11g: -95 dBm @ 6 MBit/s, -76 dBm @ 54 MBit/s</p> <p>→ IEEE 802.11n: -94 dBm @ MCS0/20 MHz, -74 dBm @ MCS7/20 MHz</p> <p>→ IEEE 802.11ac/ax: -67 dBm @ MCS9/40 MHz, -61 dBm @ MCS11/40 MHz</p>
Receiver sensitivity, 5 GHz	<p>→ IEEE 802.11a: -94 dBm @ 6 MBit/s, -75 dBm @ 54 MBit/s</p> <p>→ IEEE 802.11n: -93 dBm @ MCS0/20 MHz, -73 dBm @ MCS7/20 MHz</p> <p>→ IEEE 802.11ac/ax: -63 dBm @ MCS9/80 MHz, -57 dBm @ MCS11/80 MHz</p>
Radio channels 5 GHz	Up to 16 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 14 independent WLAN networks; time-controlled activation and deactivation of WLAN networks
Concurrent WLAN clients	Up to 127 clients (recommended)

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## Supported WLAN standards

IEEE standards IEEE 802.11ax (Wi-Fi 6), IEEE 802.11ac Wave 2 (Wi-Fi 5), IEEE 802.11n (Wi-Fi 4), IEEE 802.11a, IEEE 802.11g, IEEE 802.11b, IEEE 802.11i, IEEE 802.1X, IEEE 802.11h, IEEE 802.11d, IEEE 802.11v

### Standard IEEE 802.11ax (Wi-Fi 6)

Supported features 2x2 DL-/UL-MU-MIMO, DL-/UL-OFDMA, triggered target-wake-time, BSS coloring, QAM-1024, 80 MHz channels

### Standard IEEE 802.11ac (Wi-Fi 5)

Supported features 2x2 MIMO, 80 MHz channels, MU-MIMO, QAM-256

### Standard IEEE 802.11n (Wi-Fi 4)

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

## WLAN operating modes

Modes WLAN access point (standalone, WLC or LANCOM Management Cloud managed)

## Security

Encryption options WPA3-Personal, IEEE 802.1X (WPA3-Enterprise, WPA2-Enterprise), IEEE 802.11i (WPA2-Personal), WPA2™, WPA, WEP, IEEE 802.11w (Protected Management Frames), LEPS-MAC (LANCOM Enhanced Passphrase Security MAC), LEPS-U (LANCOM Enhanced Passphrase Security User)

Encryption AES-CCMP AES-GCMP, TKIP, 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, MSCHAPv2, Dynamic Peer Discovery

Others WLAN protocol filters, IP-redirection of any packet received over the WLAN interface, IEEE 802.1X supplicant, client detection ("rogue WLAN client detection"), Wireless Intrusion Detection System (WIDS), RADIUS CoA (Change of Authorization)

## LANCOM Active Radio Control

Client Management Steering of WLAN clients to the ideal access point using 802.11k and 802.11v

Band Steering Steering of 5GHz clients to the corresponding high-performance frequency band

Managed RF Optimization\* Selection of optimal WLAN channels by the administrator

Airtime Fairness Improved utilization of the WLAN bandwidth

Adaptive Transmission Power Automatic adjustment of the transmission power for Wi - Fi backup scenarios

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## LANCOM Active Radio Control

\*) Note Only in installations with WLAN controller

## Roaming

Roaming IAPP (Inter Access Point Protocol), IEEE 802.11r (Fast Roaming), OKC (Opportunistic Key Caching)

## Layer 2 features

VLAN 4.096 IDs based on IEEE 802.1q, dynamic assignment

Multicast IGMP-Snooping, MLD-Snooping

Protocols Ethernet over GRE-Tunnel (EoGRE), L2TPv3, 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 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

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

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## Layer 3 features

IPv6 protocols	NDP, stateless address autoconfiguration (SLAAC), stateful address autoconfiguration (DHCPv6), router advertisements, ICMPv6, DHCPv6, DNS, HTTP, HTTPS, PPPoE, RADIUS, SMTP, NTP, BGP, LISP, Syslog, SNMPv1,v2c,v3, MLDv2, PIM, NPTv6 (NAT66)
Multicast Routing	PIM (Protocol Independent Multicast), IGMP proxy, MLD proxy
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), 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
URL blocker	Filtering of unwanted URLs based on DNS hitlists and wildcard filters. Extended functionality with Content Filter Option
Password protection	Password-protected configuration access can be set for each interface
Alerts	Alerts via e-mail, SNMP traps and SYSLOG
Authentication mechanisms	PAP, CHAP, MS-CHAP and MS-CHAPv2 as PPP authentication mechanism
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
Load balancing	Static and dynamic load balancing over up to 4 WAN connections (incl. client binding). Channel bundling with Multilink PPP (if supported by network operator)

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## High availability / redundancy

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

## 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

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## VPN

<b>XAUTH</b>	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
<b>RAS user template</b>	Configuration of all VPN client connections in IKE ConfigMode via a single configuration entry
<b>Proadaptive VPN</b>	Automated configuration and dynamic creation of all necessary VPN and routing entries based on a default entry for site-to-site connections.
<b>Algorithms</b>	3DES (168 bit), AES-CBC and -GCM (128, 192 or 256 bit), Blowfish (128 bit), RSA (1024-4096 bit), ECDSA (P-256-, P-384-, P-521-curves), Chacha20-Poly 1305 and CAST (128 bit). OpenSSL implementation with FIPS-140 certified algorithms. MD-5, SHA-1, SHA-256, SHA-384 or SHA-512 hashes
<b>NAT-Traversal</b>	NAT-Traversal (NAT-T) support for VPN over routes without VPN passthrough
<b>LANCOM Dynamic VPN</b>	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
<b>Dynamic DNS</b>	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
<b>Specific DNS forwarding</b>	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
<b>Split DNS</b>	Allows the selective forwarding of traffic for IKEv2 depending on the addressed DNS domain.
<b>IPv4 VPN</b>	Connecting private IPv4 networks
<b>IPv4 VPN over IPv6 WAN</b>	Use of IPv4 VPN over IPv6 WAN connections
<b>IPv6 VPN</b>	Connecting private IPv6 networks
<b>IPv6 VPN over IPv4 WAN</b>	Use of IPv6 VPN over IPv4 WAN connections
<b>Radius</b>	RADIUS authorization and accounting, outsourcing of VPN configurations in external RADIUS server in IKEv2, RADIUS CoA (Change of Authorization)
<b>High Scalability VPN (HSVPN)</b>	Transmission of multiple, securely separated networks within a VPN tunnel
<b>Advanced Mesh VPN</b>	On demand dynamic VPN tunnel establishment between branches
<b>IKEv2-EAP*</b>	VPN clients can be authenticated with IKEv2-EAP against a central database like Microsoft Windows Server or RADIUS Server
<b>Two-factor authentication*</b>	Two-factor authentication with LANCOM Advanced VPN Client via IKEv2 EAP-OTP
<b>*)</b>	Only with VPN 25 option



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## Performance

**Routing-Performance** Data regarding the overall routing performance can be found inside the LANCOM tech paper "Routing-Performance" on [www.lancom-systems.com](http://www.lancom-systems.com)

## 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).

## Interfaces

**WAN: VDSL / ADSL2+**

- VDSL2 compliant with ITU G.993.2, profiles 8a, 8b, 8c, 8d, 12a, 12b, 17a, 30a, 35b
- VDSL Supervectoring as per ITU G.993.2 (Annex Q)
- VDSL2 Vectoring: as per ITU G.993.5 (G.Vector)
- ADSL2+ over ISDN as per ITU G.992.5 Annex B/J with DPBO, ITU G.992.3/5 and ITU G.992.1
- ADSL2+ over POTS as per ITU G.992.5 Annex A/M with DPBO, ITU G.992.3 and ITU.G.992.1
- Supports one virtual ATM circuit (VPI, VCI pair) at a time

**Ethernet ports** 5 individual 10/100/1000 Mbps Ethernet ports, 1 of them is combo (TP/SFP), 1 port is set to WAN when delivered, up to 3 ports can be operated as additional WAN ports. Ethernet ports can be electrically disabled within LCOS configuration. The ports support energy saving according to IEEE 802.3az

**Port configuration** Each Ethernet port can be freely configured (LAN, DMZ, WAN, monitor port, off). LAN ports can be operated as a switch or separately. Additionally, external DSL modems or termination routers can be operated as a WAN port with load balancing and policy-based routing. DMZ ports can be operated with their own IP address range without NAT

**USB 2.0 host port** USB 2.0 hi-speed host port for connecting USB printers (USB print server), LANCOM Wireless ePaper USB stick, USB data storage (FAT file system); bi-directional data exchange is possible

**Serial interface** Serial configuration interface / COM port (USB-C): 9,600 - 115,000 baud.

## Management and monitoring

**Management** LANCOM Management Cloud, LANconfig, WEBconfig, 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

**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, Layer 7 Application Detection including application-centric tracking of traffic volume

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## Management and monitoring

IPerf	IPerf is a tool for measurements of the bandwidth on IP networks (integrated client and server)
SLA-Monitor (ICMP)	Performance monitoring of connections
Netflow	Export of information about incoming and outgoing IP traffic
SD-LAN	SD-LAN – automatic LAN configuration via the LANCOM Management Cloud
SD-WAN	SD-WAN – automatic WAN configuration via the LANCOM Management Cloud

## Hardware

Weight	1,76 lbs (800 g)
Environment	Temperature range 0–40°C; humidity 0–95%; non-condensing
Housing	Robust synthetic housing, rear connectors, ready for wall mounting, 293 x 44 x 190 mm (W x H x D)
Fans	1 silent fan
Power consumption (max./idle)	31 watt / 23 watt

## Declarations of conformity\*

Europe/EFTA	CE
Great Britain	UKCA
IPv6	IPv6 Ready Gold
Country of Origin	Made in Germany
*) Note	You will find all declarations of conformity on our website at <a href="http://www.lancom-systems.com/doc">www.lancom-systems.com/doc</a>

## Scope of delivery

Manual	Quick Installation Guide (DE/EN)
Cable	1 Ethernet cable, 3 m
Cable	DSL cable for IP based communications incl. galvanic signature, 4,25m
Antennas	Two 3 dBi dipole antennas (Gain depends on frequency.)
Power supply unit	External power adapter (230 V), NEST 12 V/5 A DC/S, coaxial power connector 2.1/5.5 mm, temperature range from 0 to +40° C, LANCOM item no. 112112 (EU)

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## Support

Warranty	3 years For details, please refer to the General Warranty Conditions at: <a href="http://www.lancom-systems.com/warranty-conditions">www.lancom-systems.com/warranty-conditions</a>
Security updates	3 years, can be extended by purchasing LANcare products
Software updates	Regular free updates as part of the LANCOM Lifecycle Managements ( <a href="http://www.lancom-systems.com/lifecycle">www.lancom-systems.com/lifecycle</a> )
Manufacturer support	Technical manufacturer support as part of a support contract (LANcommunity partner, LANcare Direct, or LANcare Premium Support)
LANcare Basic S	Security updates and manufacturer support until EOL status (min. 5 years, support contract required: LANcommunity partner, LANcare Direct, or LANcare Premium Support), 5 years replacement service with shipment of the device within 5 days after arrival of the faulty device (8/5/5Days), 10720
LANcare Advanced S	Security updates and manufacturer support until EOL status (min. 5 years, support contract required: LANcommunity partner, LANcare Direct, or LANcare Premium Support), 5 years NBD advance replacement with delivery of the device on the next business day (8/5/NBD), item no. 10730
LANcare Direct Advanced 24/7 S	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. 10776, 10777 or 10778)
LANcare Direct 24/7 S	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. 10752, 10753 or 10754)
LANcare Direct Advanced 10/5 S	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. 10764, 10765 or 10766)
LANcare Direct 10/5 S	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. 10740, 10741 or 10742)

## Software

Lifecycle Management	After discontinuation (End of Sale), the device is subject to the LANCOM Lifecycle Management. Details can be found at: <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

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 All-IP Lizenz Option	Upgrade option for the operation of the LANCOM routers with All-IP connections, support of PBX systems and telephony devices as well as voice & fax services, incl. Voice Call Manager, item no. 61419
LANCOM Public Spot PMS Accounting Plus	Extension of the LANCOM Public Spot (XL) Option for the connection to hotel billing systems with FIAS interface (such as Micros Fidelio) for authentication and billing of guest accesses for 178x/19xx routers, WLCs, and current central-site gateways, item no. 61638
LANCOM VoIP +10 Option	Upgrade for LANCOM VoIP router with 10 additional internal VoIP numbers (additionally up to 40) and 10 external SIP lines (additionally up to 55) item no. 61423

## 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

1000Base-BX20-U SFP module	LANCOM SFP-AON-1, item no. 60200
GPON ONT SFP module	LANCOM SFP-GPON-1, item no. 60199
1000Base-BX20 SFP module pair	LANCOM SFP-BiDi1550-SC1, item no. 60201
1000Base-SX SFP module, 550 m	LANCOM SFP-SX-LC1, item no. 61556
1000Base-SX SFP module, 2 km	LANCOM SFP-SX2-LC1, item no. 60183

LCOS 10.80

# LANCOM 1800VAW

## Accessories

1000Base-LX SFP module	LANCOM SFP-LX-LC1, item no. 61557
SFP copper module 1G	LANCOM SFP-CO1, item no. 61494
19" Rack Mount	19" LANCOM CPE blackline rack mount, item no. 61990
19" Rack Mount	19" LANCOM CPE blackline rack mount plus, item no. 61991
LANCOM Wireless ePaper USB	Update of LANCOM Wireless ePaper Displays in the 2.4 GHz frequency band, item no. 62225
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
VPN Client Software	LANCOM Advanced VPN Client for Mac OS X (10.5 Intel only, 10.6 or higher), single license, item no. 61606
VPN Client Software	LANCOM Advanced VPN Client for Mac OS X (10.5 Intel only, 10.6 or higher), 10 licenses, item no. 61607
*) Note	Support for third-party accessories (SFP and DAC) is excluded and cannot be granted

## Item number(s)

LANCOM 1800VAW (EU)	62149
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