Wireless LAN SECURE. NETWORKS.



## **LANCOM** LN-1700UE

Gigabit Wi-Fi combined with Wireless ePaper technology

Fast, future-proof, and patented innovation—the LANCOM LN-1700UE is an all-round solution that operates different wireless technologies in parallel. It offers powerful 11ac Wave 2 (Wi-Fi 5) wireless LAN at up to 1733 Mbps in high-density environments with large numbers of concurrent users. Due to Wireless ePaper support it enables high-speed enterprise-class Wi-Fi networks combined with modern digital signage and Internet of Things solutions.

- > Dual concurrent WLAN parallel operation at 2.4 and 5 GHz with up to 1733 Mbps in IEEE 802.11ac Wave 2 (Wi-Fi 5) and 450 Mbps in IEEE 802.11n (Wi-Fi 4)
- > 4x4 Multi-User MIMO for simultaneous beam-steering for multiple clients
- > Integrated radio module for controlling LANCOM Wireless ePaper Displays
- > USB 2.0 port for the integration of future IoT radio systems
- > Power supply optionally via Power over Ethernet (IEEE 802.3at) or power-supply unit
- > Zero-touch deployment by LANCOM WLAN controller or LANCOM Management Cloud
- > Elegant LANCOM design with integrated antennas
- > User-friendly and secure integration of external users through the LANCOM Public Spot Option



#### **Dual concurrent Wi-Fi with up to 1733 Mbps**

The LANCOM LN-1700UE features two Wi-Fi radio modules, one offering IEEE 802.11ac Wave 2 (Wi-Fi 5) and the other offering IEEE 802.11n (Wi-Fi 4). This provides fast Wi-Fi to 11n-clients in the 2.4-GHz frequency band and also the growing number of modern 11ac-enabled devices in the 5-GHz band.

### **Control of LANCOM Wireless ePaper Displays**

LANCOM Wireless ePaper Displays provide advanced digital signage for a variety of applications. In addition to two Wi-Fi radio modules, the LANCOM LN-1700UE also has a wireless module for controlling LANCOM Wireless ePaper Displays, thus enabling, for example, innovative room signage or price labeling. Fast, reliable Wi-Fi and the control of the battery powered Wireless ePaper Displays work in parallel and trouble-free thanks to patented technology.

### IoT-ready

The aim of the IoT ("Internet of Things") is to capture information about physical "things", mostly by wireless, and to make it accessible over the network. The integrated USB port of the LANCOM LN-1700UE provides you with the basis for future IoT radio systems into your existing WLAN infrastructure.

#### 4x4 multi-user MIMO

Multi-user MIMO (MU-MIMO for short) simultaneously distributes all of the available spatial streams of the LANCOM LN-1700UE between several different Wave 2 clients, rather than one after the other as was formerly the case. The available bandwidth is used efficiently and delays in the wireless network are substantially reduced.

# Active Radio Control for dynamic radio-field optimization

The LANCOM LN-1700UE supports the Wi-Fi optimization feature LANCOM Active Radio Control. This intelligent combination of innovative features included with the LCOS operating system—such as Spectral Scan, Band Steering, Adaptive Noise Immunity, Adaptive RF Optimization, Airtime Fairness, and Client Steering—sustainably increases Wi-Fi performance and supports administrators with professional tools for Wi-Fi management.

### **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. Administrators and employees alike benefit from professional security policies on the network.

# Managed via LANCOM Management Cloud, WLAN controller, or stand-alone

The LANCOM LN-1700UE offers the greatest possible versatility in operation: Managed through the LANCOM Management Cloud, it integrates into a holistic, automated network orchestration system based on software-defined networking technology. It is also able to operate with central management by LANCOM WLAN controller or even in WebGUI mode.

### Maximum freedom of design for guest Internet access

The LANCOM Public Spot Option, the LN-1700UE provides reliable and secure Internet access for guests, visitors, partners or customers, all based on a common infrastructure. The guest network is at all times strictly and securely separated from the internal network. There is no need for any additional hardware components, which makes the LANCOM Public Spot option the ideal solution for the provision of secure hotspots.



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)
Integrated Antenna Gain	up to 3 dBi in 2.4 GHz, up to 4.5 dBi in 5 GHz (per antenna (3) @ WLAN-1 and per antenna (4) @ WLAN-2)
Data rates IEEE 802.11ac/n	1733 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 moder and data rates selectable
Data rates IEEE 802.11n	450 Mbps according to IEEE 802.11n with MCS23 (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
Range IEEE 802.11ac/n/a/g/b *	Up to 150 m (up to 30 m in buildings)
Output power at radio module WLAN-1, 5 GHz	Maximum transmit power may be limited below these numbers to ensure compliance with local regulatory requirements. 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: +21 dBm @ 6 up to 36 MBit/s and +20 dBm @ 48 up to 54 MBit/s IEEE 802.11ac: 23 dBm @ (MCS 0/1, 20 MHz), 22 dBm @ (MCS 2/3, 20 MHz), 21 dBm @ (MCS 4/5, 20 MHz), 20 dBm @ (MCS6/7, 20 MHz), 19 dBm @ (MCS8, 20 MHz), 18 dBm @ (MCS9, 20 MHz), 23 dBm @ (MCS0/1, 40 MHz), 22 dBm @ (MCS2/3, 40 MHz), 21 dBm @ (MCS4/5, 40 MHz), 20 dBm @ (MCS6, 40 MHz), 19 dBm @ (MCS7/8, 40 MHz), 18 dBm @ (MCS9, 40 MHz), 23 dBm @ (MCS0/1, 80 MHz), 22 dBm @ (MCS2/3, 80 MHz), 21 dBm @ (MCS4/5, 80 MHz), 12 dBm @ (MCS6, 80 MHz), 19 dBm @ (MCS7, 80 MHz), 18 dBm @ (MCS8/9, 80 MHz), 22 dBm @ (MCS0/1, 160 MHz), 21 dBm @ (MCS2/3, 160 MHz), 20 dBm @ (MCS4/5, 160 MHz), 19 dBm @ (MCS6, 160 MHz), 18 dBm @ (MCS7, 160 MHz), 17 dBm @ (MCS8/9, 160 MHz)
Output power at radio module WLAN-1, 2.4 GHz	Maximum transmit power may be limited below these numbers to ensure compliance with local regulatory requirements. 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)
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: -88 dBm @ 6 MBit/s, -87 dBm @ 9 MBit/s, -85 dBm @ 12 MBit/s, -83 dBm @18 MBit/s, -80 dBm @ 24 MBit/s, -77 dBm @36 MBit/s, -74dBm @ 48 MBit/s, -73dBm @ 48 MBit/s, IEEE 802.11n: -88 dBm @ (MCS0, HT20), -85 dBm @ (MCS1, HT20), -83 dBm @ (MCS2, HT20), -79 dBm @ (MCS3, HT20), -75 dBm @ (MCS4, HT20), -74 dBm @ (MCS5, HT20), -73 dBm @ (MCS6, HT20), -71 dBm @ (MCS7, HT40), -84 dBm @ (MCS1, HT40), -82 dBm @ (MCS2, HT40), -79 dBm @ (MCS3, HT40), -76 dBm @ (MCS4, HT40), -73 dBm @ (MCS5, HT40), -71 dBm @ (MCS6, HT40), -99 dBm @ (MCS7, HT40), IEEE 802.11ac: -88 dBm @ (MCS0, VHT20), -85 dBm @ (MCS1, VHT20), -83 dBm @ (MCS2, VHT20), -79 dBm @ (MCS3, VHT20), -75 dBm @ (MCS4, VHT20), -74 dBm @ (MCS5, VHT20), -73 dBm @ (MCS6, VHT20), -71 dBm @ (MCS5, VHT20), -84 dBm @ (MCS5, VHT40), -84 dBm @ (MCS6, VHT40), -79 dBm @ (MCS3, VHT40), -70 dBm @ (MCS6, VHT40), -70 dBm @ (MCS7, VHT40), -71 dBm @ (MCS6, VHT40), -71 dBm @ (MCS6, VHT40), -69 dBm @ (MCS7, VHT40), -71 dBm @ (MCS6, VHT40), -69 dBm @ (MCS7, VHT40)
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 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 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 512 clients (recommended)
Others	Wireless Quality Indicators (WQI), Hotspot 2.0
*) Note	The effective distances and transmission rates that can be achieved are depending of the onsite RF conditions



Supported WLAN standards	
IEEE standards	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 802.11u, IEEE 802.11r (Fast Roaming), IEEE 802.11k, IEEE 802.11v, 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 (Wi-Fi 5)	
Supported features	4x4 MIMO, 80 MHz/160 MHz channels, MU-MIMO, QAM-256
Standard IEEE 802.11n (Wi-Fi 4)	
Supported features	3x3 MIMO, 40 MHz channels, 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), WLAN bridge (P2P or P2MP) (standalone or AutoWDS*), (standalone, WLC or LANCOM Management Cloud managed), WLAN client mode, transparent WLAN client mode
*) Note	Only in installations with WLAN controller
Security	
Encryption options	WPA3-Personal, IEEE 802.1X (WPA3-Enterprise, WPA2-Enterprise), IEEE 802.11i (WPA2-Personal), Wi-Fi Certified™ 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 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 Management	Steering of WLAN clients to the ideal access point using 802.11k and 802.11v
	steering of the fit die fact access point asing over that a over the
Band Steering	Steering of 5GHz clients to the corresponding high-performance frequency band
Band Steering  Managed RF Optimization*	
	Steering of 5GHz clients to the corresponding high-performance frequency band
Managed RF Optimization*	Steering of 5GHz clients to the corresponding high-performance frequency band  Selection of optimal WLAN channels by the administrator
Managed RF Optimization*  Adaptive Noise Immunity	Steering of 5GHz clients to the corresponding high-performance frequency band  Selection of optimal WLAN channels by the administrator  Better WLAN throughput due to immunity against interferences
Managed RF Optimization*  Adaptive Noise Immunity  Spectral Scan	Steering of 5GHz clients to the corresponding high-performance frequency band  Selection of optimal WLAN channels by the administrator  Better WLAN throughput due to immunity against interferences  Monitoring your WLAN for sources of interference
Managed RF Optimization*  Adaptive Noise Immunity  Spectral Scan  Adaptive RF Optimization	Steering of 5GHz clients to the corresponding high-performance frequency band  Selection of optimal WLAN channels by the administrator  Better WLAN throughput due to immunity against interferences  Monitoring your WLAN for sources of interference  Dynamic selection of the optimal WLAN channel
Managed RF Optimization*  Adaptive Noise Immunity  Spectral Scan  Adaptive RF Optimization  Airtime Fairness	Steering of 5GHz clients to the corresponding high-performance frequency band  Selection of optimal WLAN channels by the administrator  Better WLAN throughput due to immunity against interferences  Monitoring your WLAN for sources of interference  Dynamic selection of the optimal WLAN channel  Improved utilization of the WLAN bandwidth
Managed RF Optimization*  Adaptive Noise Immunity  Spectral Scan  Adaptive RF Optimization  Airtime Fairness  Adaptive Transmission Power	Steering of 5GHz clients to the corresponding high-performance frequency band  Selection of optimal WLAN channels by the administrator  Better WLAN throughput due to immunity against interferences  Monitoring your WLAN for sources of interference  Dynamic selection of the optimal WLAN channel  Improved utilization of the WLAN bandwidth  Automatic adjustment of the transmission power for Wi - Fi backup scenarios
Managed RF Optimization*  Adaptive Noise Immunity  Spectral Scan  Adaptive RF Optimization  Airtime Fairness  Adaptive Transmission Power  *) Note	Steering of 5GHz clients to the corresponding high-performance frequency band  Selection of optimal WLAN channels by the administrator  Better WLAN throughput due to immunity against interferences  Monitoring your WLAN for sources of interference  Dynamic selection of the optimal WLAN channel  Improved utilization of the WLAN bandwidth  Automatic adjustment of the transmission power for Wi - Fi backup scenarios
Managed RF Optimization*  Adaptive Noise Immunity  Spectral Scan  Adaptive RF Optimization  Airtime Fairness  Adaptive Transmission Power  *) Note  Roaming	Steering of 5GHz clients to the corresponding high-performance frequency band  Selection of optimal WLAN channels by the administrator  Better WLAN throughput due to immunity against interferences  Monitoring your WLAN for sources of interference  Dynamic selection of the optimal WLAN channel  Improved utilization of the WLAN bandwidth  Automatic adjustment of the transmission power for Wi - Fi backup scenarios  Only in installations with WLAN controller  IAPP (Inter Access Point Protocol), IEEE 802.11r (Fast Roaming), OKC (Opportunistic Key Caching), Fast Client Roaming (only in operating)
Managed RF Optimization*  Adaptive Noise Immunity  Spectral Scan  Adaptive RF Optimization  Airtime Fairness  Adaptive Transmission Power  *) Note  Roaming  Roaming	Steering of 5GHz clients to the corresponding high-performance frequency band  Selection of optimal WLAN channels by the administrator  Better WLAN throughput due to immunity against interferences  Monitoring your WLAN for sources of interference  Dynamic selection of the optimal WLAN channel  Improved utilization of the WLAN bandwidth  Automatic adjustment of the transmission power for Wi - Fi backup scenarios  Only in installations with WLAN controller  IAPP (Inter Access Point Protocol), IEEE 802.11r (Fast Roaming), OKC (Opportunistic Key Caching), Fast Client Roaming (only in operating)
Managed RF Optimization*  Adaptive Noise Immunity  Spectral Scan  Adaptive RF Optimization  Airtime Fairness  Adaptive Transmission Power  *) Note  Roaming  Roaming  Wireless ePaper Displays  Support of LANCOM Wireless ePaper	Steering of 5GHz clients to the corresponding high-performance frequency band  Selection of optimal WLAN channels by the administrator  Better WLAN throughput due to immunity against interferences  Monitoring your WLAN for sources of interference  Dynamic selection of the optimal WLAN channel  Improved utilization of the WLAN bandwidth  Automatic adjustment of the transmission power for Wi - Fi backup scenarios  Only in installations with WLAN controller  IAPP (Inter Access Point Protocol), IEEE 802.11r (Fast Roaming), OKC (Opportunistic Key Caching), Fast Client Roaming (only in operating mode client modus)
Managed RF Optimization*  Adaptive Noise Immunity  Spectral Scan  Adaptive RF Optimization  Airtime Fairness  Adaptive Transmission Power  *) Note  Roaming  Roaming  Wireless ePaper Displays  Support of LANCOM Wireless ePaper Displays	Steering of 5GHz clients to the corresponding high-performance frequency band  Selection of optimal WLAN channels by the administrator  Better WLAN throughput due to immunity against interferences  Monitoring your WLAN for sources of interference  Dynamic selection of the optimal WLAN channel  Improved utilization of the WLAN bandwidth  Automatic adjustment of the transmission power for Wi - Fi backup scenarios  Only in installations with WLAN controller  IAPP (Inter Access Point Protocol), IEEE 802.11r (Fast Roaming), OKC (Opportunistic Key Caching), Fast Client Roaming (only in operating mode client modus)
Managed RF Optimization*  Adaptive Noise Immunity  Spectral Scan  Adaptive RF Optimization  Airtime Fairness  Adaptive Transmission Power  *) Note  Roaming  Roaming  Wireless ePaper Displays  Support of LANCOM Wireless ePaper Displays  iBeacon	Steering of 5GHz clients to the corresponding high-performance frequency band  Selection of optimal WLAN channels by the administrator  Better WLAN throughput due to immunity against interferences  Monitoring your WLAN for sources of interference  Dynamic selection of the optimal WLAN channel  Improved utilization of the WLAN bandwidth  Automatic adjustment of the transmission power for Wi - Fi backup scenarios  Only in installations with WLAN controller  IAPP (Inter Access Point Protocol), IEEE 802.11r (Fast Roaming), OKC (Opportunistic Key Caching), Fast Client Roaming (only in operating mode client modus)  The device is equipped with a radio module for the update of LANCOM Wireless ePaper Displays in the 2.4 GHz frequency band.  The device is equipped with a BLE radio module and can thus transmit a configurable iBeacon. The UUID as well as the major and
Managed RF Optimization*  Adaptive Noise Immunity  Spectral Scan  Adaptive RF Optimization  Airtime Fairness  Adaptive Transmission Power  *) Note  Roaming  Roaming  Wireless ePaper Displays  Support of LANCOM Wireless ePaper Displays  iBeacon  Support of iBeacon technology	Steering of 5GHz clients to the corresponding high-performance frequency band  Selection of optimal WLAN channels by the administrator  Better WLAN throughput due to immunity against interferences  Monitoring your WLAN for sources of interference  Dynamic selection of the optimal WLAN channel  Improved utilization of the WLAN bandwidth  Automatic adjustment of the transmission power for Wi - Fi backup scenarios  Only in installations with WLAN controller  IAPP (Inter Access Point Protocol), IEEE 802.11r (Fast Roaming), OKC (Opportunistic Key Caching), Fast Client Roaming (only in operating mode client modus)  The device is equipped with a radio module for the update of LANCOM Wireless ePaper Displays in the 2.4 GHz frequency band.  The device is equipped with a BLE radio module and can thus transmit a configurable iBeacon. The UUID as well as the major and



Layer 2 features	
Rate limiting	SSID based, WLAN client based
Multicast	IGMP-Snooping, Multicast-to-Unicast-conversion on WLAN interfaces
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 paket filtering, extended port forwarding, N:N IP address mapping, paket tagging, support for DNS targets, 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
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
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), L2TPv3 with Ethernet-Pseudowire, 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), IEEE 802.3az, PoE (Power over Ethernet) at ETH1
USB	USB 2.0 hi-speed host port
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
Internal antenna	Radio module 1 uses three internal antennas, radio module 2 uses four internal antennas and BLE radio module uses one internal antenna
Hardware	
Power supply	12 V DC, external power adapter (230 V). PoE (Power over Ethernet), compliant with IEEE 802.3at
Environment	Temperature range 0° to 40 °C (vertical wall mount with LANCOM Wall Mount (LN)), 0° to 35 °C (horizontal ceiling mount with LANCOM Wall Mount (LN)). Access point overheating is avoided by automatic throttling of the Wi-Fi modules. Humidity 0-95 %; non-condensing
Power consumption (max)	Approx. 20.4 W via 12 V / 2 A power adapter (value solely refers to the power consumption of the access point), Approx. 22.3 W via PoE (value solely refers to the power consumption of the access point)
Housing	Robust synthetic housing, rear connectors, ready for wall mounting, Kensington lock; 205 x 42 x 205 mm (W x H x D)
Management and monitoring	
Management	LANCOM Management Cloud, LANconfig, WEBconfig, WLAN controller, LANCOM Layer 2 management (emergency management)



Management and monitoring	
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
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
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 50581, EN 62311, EN 62368, EN 301 489-1, EN 301 489-3, EN 301 489-17
5 GHz WLAN	EN 301 893
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.com
Scope of delivery	
Manual	Installation Guide (DE/EN/FR/ES/IT/PT/NL)
Cable	1 Ethernet cable, 3 m
Power supply unit	External power adapter (230 V), coaxial power connector 2.1/5.5 mm, temperature range from -5 to +45° C
Support	
Warranty	3 years support
Software updates	Regular free updates (LCOS operating system and LANtools) via Internet
Options	
LANCOM Warranty Basic Option S	Option to extend the manufacturer's warranty from 3 to 5 years, item no. 10710
LANCOM Warranty Advanced Option S	Option to extend the manufacturer's warranty from 3 to 5 years and replacement of a defective device, item no. 10715
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 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 Wireless ePaper Displays	2.7" LANCOM Wireless ePaper Display, item no. 62213 (bulk 5), 4.4" LANCOM Wireless ePaper Display, item no. 62211 and item no. 62214 (bulk 5), 7.4" LANCOM Wireless ePaper Display, item no. 62212 and item no. 62215 (bulk 5)



Accessories	
LANCOM WLAN controllers	LANCOM WLC-4006+, item no. 62035 (EU), item no. 62036 (UK) and item no. 62037 (US), LANCOM WLC-1000, item no. 61783 (EU), LANCOM WLC Basic Option for Routers, item no. 61639
LANCOM Wall Mount LN	Robust mounting plate for simple, theft-proof mounting of LANCOM devices with LN housing, Item no. 61342
LANCOM Serial Adapter Kit	For the connection of V.24 modems with AT command set and serial interface for the connection to the LANCOM COM interface, incl. serial cable and connection plug, item no. 61500
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)
Item number(s)	
LANCOM LN-1700UE (EU/WW)	61801 (EU), 61802 (WW)

