

# LANCOM LX-6212

## Fast Wi-Fi 6 for spatially challenging environments



The LANCOM LX-6212 offers high-throughput Wi-Fi 6 performance for small to medium-sized user densities in spatially challenging networks.

- Dual concurrent Wi-Fi – parallel operation at 2.4 GHz and 5 GHz with Wi-Fi 6 (IEEE 802.11ax)
- 2x2 multi-user MIMO for simultaneous beam-steering for multiple clients in down- and uplink mode
- Includes 4 flexibly adjustable omni-directional antennas / Alternative: Connection of optional ceiling, sector, or directional antennas
- Power supply via Power over Ethernet (IEEE 802.3at, PoE+) or included external power supply unit
- 2x 1 Gigabit Ethernet ports (1x IEEE 802.3at, Ethernet cable included)
- USB 2.0 port for connecting wireless IoT systems
- Bluetooth Low Energy 5.1 radio module
- Uncompromising and future-proof standards for replacement service, manufacturer support, and lifecycle management



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# LANCOM LX-6212

## **Dual concurrent Wi-Fi with an aggregated data rate of up to 1,775 Mbps**

The LANCOM LX-6212 offers the Wi-Fi 6 standard (IEEE 802.11ax) for fast wireless LAN for clients in the 2.4- and 5-GHz bands. Wi-Fi 6 technology achieves transmission rates of up to 1,200 Mbps at 5 GHz and simultaneously up to 575 Mbps at 2.4 GHz.

## **2x2 Multi-User MIMO for downlinks and uplinks**

Multi-user MIMO (MU-MIMO for short) simultaneously distributes all of the available spatial streams of the LANCOM LX-6212 between several different 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. With Wi-Fi 6, MU-MIMO is not, as before, only usable in the downlink but now also in the uplink as well.

## **Maximum flexibility in antenna alignment**

The option of connecting external antennas offers several advantages: The signal direction and coverage can be individually adjusted to increase transmission and reception performance. The four omni-directional antennas included in the scope of delivery enable comprehensive Wi-Fi coverage, while optionally connected ceiling, sector, or directional antennas ensure a precise beam angle.

## **Flexible power supply via PoE or power supply unit**

The LANCOM LX-6212 can be operated flexibly on any PoE-powered Ethernet port via Power over Ethernet (PoE) according to IEEE 802.3at. For optimum operation, ideally a corresponding PoE switch is used. The access point operates with a power supply unit supplied.

## **Professional IoT support via BLE and USB**

With the LANCOM LX-6212, you can easily dive into the world of the Internet-of-Things (IoT). Support for Bluetooth Low Energy (5.1) and USB 2.0 opens up many possibilities for you to communicate with modern WLAN sensors in devices or objects and use innovative applications such as asset tracking or digital signage with Wireless ePaper. In this way, you can easily operate solutions for digital signage, electronic shelf labels, and IoT applications via the optionally available LANCOM Wireless ePaper USB.

## **Holistic, automated Wi-Fi optimization with LANCOM Active Radio Control 2.0**

Scanning, analyzing, and optimizing – that is all it takes to make your Wi-Fi more efficient, even at sites with data-intensive applications, high user densities, or interfering third-party external networks. The automation solution LANCOM Active Radio Control 2.0 (ARC 2.0) does exactly that job for you! Even under complex conditions, you get a holistic, self-learning optimization of your Wi-Fi installation with improved channel distribution, channel bandwidth utilization, and transmission power. ARC 2.0 can also prioritize access points that are managed via the LANCOM Management Cloud according to their usage in order to provide capacity exactly where it is needed based on real usage behavior. This saves your IT administrators manual work and gets the best out of your Wi-Fi installation!



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## **Uncompromising and future-proof standards for warranty, support, and software lifecycle management**

The LANCOM LX-6212 supports the fast WLAN standard IEEE 802.11ax (Wi-Fi 6), so that you are technically well equipped for future challenges. LANCOM Systems gives you a 3-year warranty on the LX-6212. And you also benefit from the high LANCOM standards on the software side: Several times a year you receive free major releases of the LCOS LX operating system with new, future-proof features. Even if a product is no longer available, we offer free major releases, critical security fixes (security updates) based on the last available software version, and free technical manufacturer support as part of the LANCOM software lifecycle management for at least another 2 years.

## **Secure integration of external users**

Offer your guest a secure and user-friendly hotspot with the LANCOM LX-6212. This requires the access point to be operated directly on a Public Spot-enabled LANCOM device or via the LANCOM Management Cloud together with a Public Spot-enabled LANCOM device in your network. As a hotspot provider, rest assured that your internal network remains fully isolated from the hotspot.

## **Flexible operation via LANCOM Management Cloud, modern web interface, or WLAN controller**

Choose freely between operation via the LANCOM Management Cloud, WEBconfig, or a WLAN controller! In cloud operation, the LANCOM LX-6212 becomes part of a user-friendly, holistic, and automated network management system. Even in stand-alone operation, the LX-6212 offers fast configuration and comprehensive management and monitoring thanks to the intuitive, clear web interface of the new WEBconfig. As a third option, management can also take place centrally via a WLAN controller.



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## Wi-Fi product specification

Frequency band 2.4 GHz and 5 GHz	2400-2483.5 MHz (ISM), 5150-5700 MHz (depending on country-specific restrictions)
Integrated Antenna Gain	up to 3 dBi in 2.4 GHz, up to 4 dBi in 5 GHz
Data rates IEEE 802.11ax	→ up to 1200 MBit/s according to IEEE 802.11ax with MCS11/QAM-1024 at 5 GHz, 2x2 MIMO and 80 MHz channel width → up to 575 MBit/s according to IEEE 802.11ax with MCS11/QAM-1024 at 2.4 GHz, 2x2 MIMO and 40 MHz channel width
Data rates IEEE 802.11ac/n	867 Mbps according to IEEE 802.11ac with MCS9 (fallback to 6.5 Mbps with MCS0).
Data rates IEEE 802.11n	300 Mbps according to IEEE 802.11n with MCS15 (fallback to 6.5 Mbps with MCS0).
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)
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)
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), configurable maximum transmit power
Radio channels 2.4 GHz	Up to 13 channels, max. 3 non-overlapping (depending on country-specific restrictions), configurable maximum transmit power
Multi-SSID	Up to 32 (simultaneous use of up to 16 independent Wi-Fi networks at WLAN interface 1 and up to 16 independent Wi-Fi networks at WLAN interface 2); time-controlled activation and deactivation of Wi-Fi networks
Hotspot	Support for the Cloud-managed Hotspot in combination with the LANCOM Management Cloud

## Supported Wi-Fi standards

IEEE standards	IEEE 802.11ax, IEEE 802.11ac Wave 2, IEEE 802.11n, IEEE 802.11a, IEEE 802.11g, IEEE 802.11b, IEEE 802.11i, IEEE 802.1X, IEEE 802.11h, IEEE 802.11d, IEEE 802.11v
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### Standard IEEE 802.11ax

Supported features	2x2 DL-/UL-MU-MIMO, DL-/UL-OFDMA, triggered target-wake-time, BSS coloring, QAM-1024, 80 MHz channels
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### Standard IEEE 802.11ac

Supported features	2x2 MIMO, 80 MHz channels, MU-MIMO, QAM-256
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### Standard IEEE 802.11n

Supported features	2x2 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
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## Operating modes

Modes	Standalone, WLC-managed or LANCOM Management Cloud managed
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## Wi-Fi security

Encryption options	IEEE 802.1X (WPA3-Enterprise, WPA2-Enterprise), WPA3-Personal, IEEE 802.11i (WPA2-Personal), WEP, LEPS-U (Private PSK, only possible with WPA2), LEPS-MAC
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Encryption algorithms	AES-CCMP, AES-GCMP, TKIP, RC4
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EAP types (authenticator)	EAP-TLS, EAP-TTLS/MSCHAPv2, PEAPv0/EAP-MSCHAPv2, PEAPv1/EAP-GTC, EAP-FAST
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## Roaming

Roaming	IAPP (Inter Access Point Protocol), Fast Roaming (802.11r), OKC, Pre-Authentication, 802.11k
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## LANCOM Active Radio Control

Band Steering	Steering of 5GHz clients to the corresponding high-performance frequency band; support for 802.11v
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## Bluetooth Low Energy (BLE)

Support of Bluetooth Low Energy technology (BLE)	The device can scan the environment for BLE devices and can forward the resulting scan data via a REST API (via future software update).
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## Layer 2 functions

VLAN	4096 VLAN IDs, static assignment to SSIDs, dynamic Assignment via LEPS-U/LEPS-MAC or 802.1X (RADIUS)
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Quality of Service	WME based on IEEE 802.11e
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Bandwidth limitation	per SSID, per Client
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Multicast	IGMP-Snooping, Multicast-to-Unicast-conversion on WLAN interfaces
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Protocols	LLDP, Proxy ARP, LACP, L2TPv3
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## Network

Protocols	IPv4, IPv6, dual stack
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## Interfaces

USB 2.0 host port	USB 2.0 host port (USB-A)
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Ethernet ports	2 x 100/1000BASE-T autosensing (RJ-45), IEEE 802.3az, 1x PoE (Power over Ethernet)
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external antennas	zwei externe Antennenanschlüsse für 2,4 GHz und zwei externe Antennenanschlüsse für 5 GHz. Internal BLE antenna.
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# LANCOM LX-6212

## Supported IoT Modules

IoT USB modules	LANCOM Wireless ePaper USB, SES-imagotag Retail IoT Connector, Hanshow HS_C09978 ESL Controller, SoluM EGU200NA0X ESL GEN2 USB Gateway
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## Hardware

Power supply	12 V DC, external power adapter (230 V), PoE (Power over Ethernet), compliant with IEEE 802.3at
Power consumption	Idle: 7.7W; Max: 15W
Environment	Temperature range 0–40 °C. Humidity 0–90 %; non-condensing
Housing	Robust synthetic housing with aluminum bottom, 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, WLAN-Controller, WEBconfig, LANconfig, LL2M, external Syslog, Packet Capturing
Monitoring	LANCOM Management Cloud, WLAN-Controller, WEBconfig, LANmonitor, SNMP

## Conformity\*

Europe/EFTA	CE
Australia / New Zealand	RCM
Country of Origin	Made in Germany
*) Note	The full text of the specific Declaration of Conformity is available at the following Internet address: <a href="http://www.lancom-systems.com/doc">www.lancom-systems.com/doc</a>

## Scope of delivery

Documentation	Installation Guide (DE/EN); Mounting Instructions (DE/EN)
Cable	Ethernet cable, 1 m
Power supply unit	External power adapter (100-240 V), 12 V/2A DC, EU plug (not included in bulk delivery)

## Accessories

LANCOM WLAN PSU (EU, white, Bulk 10)	10x white LANCOM WLAN PSU 230V to 12V/2A DC power adapter, item no. 61814 (EU)
LANCOM PoE++ 10G Injector	1-port PoE injector with up to 10 Gigabit support, integrated power supply, compatible with the standard IEEE 802.3af/at/bt (up to 65W), item no. 61839 (EU)
LANCOM Wall Mount LN	Robust mounting plate for simple, theft-proof mounting of LANCOM AP series LN-xxxx, LX-64xx, LX-62xx, Item no. 61342



# LANCOM LX-6212

## Support

Warranty extension	Free warranty extension up to 3 years (replacement service for defects) 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> )
Information on the EU Data Act	For details on product data and data on connected services, please refer to <a href="https://www.lancom-systems.com/fileadmin/pdf/LCS/LANCOM-EU-data-act-product-data-and-data-related-services.pdf">https://www.lancom-systems.com/fileadmin/pdf/LCS/LANCOM-EU-data-act-product-data-and-data-related-services.pdf</a>
Manufacturer support	For LANcommunity partners up to the End of Life of the device For end customers with LANcare Direct or LANcare Premium Support during the LANcare validity
LANcare Basic S	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. 10720
LANcare Advanced S	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. 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.



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## LANCOM Management Cloud

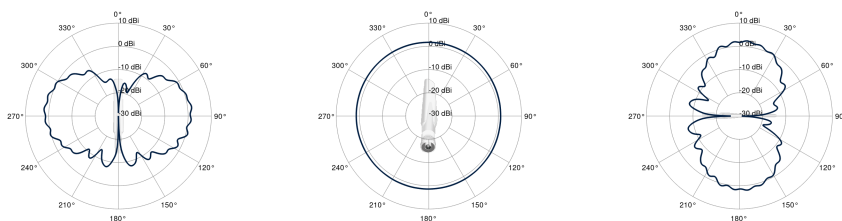
LANCOM LMC-A-1Y LMC License	LANCOM LMC-A-1Y License (1 Year), enables the management of one category A device for one year via the LANCOM Management Cloud, item no. 50100
LANCOM LMC-A-3Y LMC License	LANCOM LMC-A-3Y License (3 Years), enables the management of one category A device for three years via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

## Item number(s)

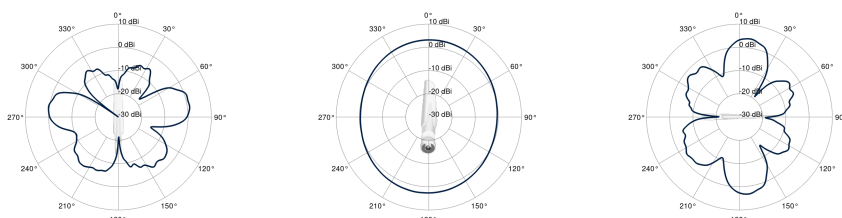
LANCOM LX-6212	61887
LANCOM LX-6212 (Bulk 10)	61888

## Antenna Gain

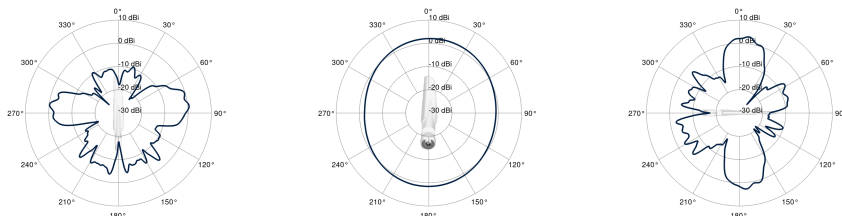
rod antenna pattern (ext. rod antenna), 2.4 GHz



rod antenna pattern (ext. rod antenna), 5.2 GHz



rod antenna pattern (ext. rod antenna), 5.5 GHz





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## Antenna Gain

antenna pattern, BLE

