LANCOM

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Quick Installation Guide

LANCOM OAP-5G

Documentation / Firmware	Service & Support	All information on your device
Basically, current versions of the LCOS firmware, drivers, tools and documentation for all LANCOM and AirLancer products are available for download free of charge from our website. You will also find explanations of all the functions of your LANCOM device in the LCOS Reference Manual: www.lancom-systems.de/docs/LCOS/Refmanual/EN/ All information on the interfaces and connection options of your device can be found under the following QR code in the **Hardware Quick Reference**:	The LANCOM Knowledge Base — with over 2,500 articles — is available to you at any time via the LANCOM website: www.lancom-systems.com/knowledgebase If you have any further questions, please submit your request via our Service & Support portal: www.lancom-systems.com/service-support Information on the lifecycle, in particular on End of Sale / End of Life and on the supply of LANCOM devices with security updates can be found at: www.lancom-systems.com/lifecycle	

Package contents

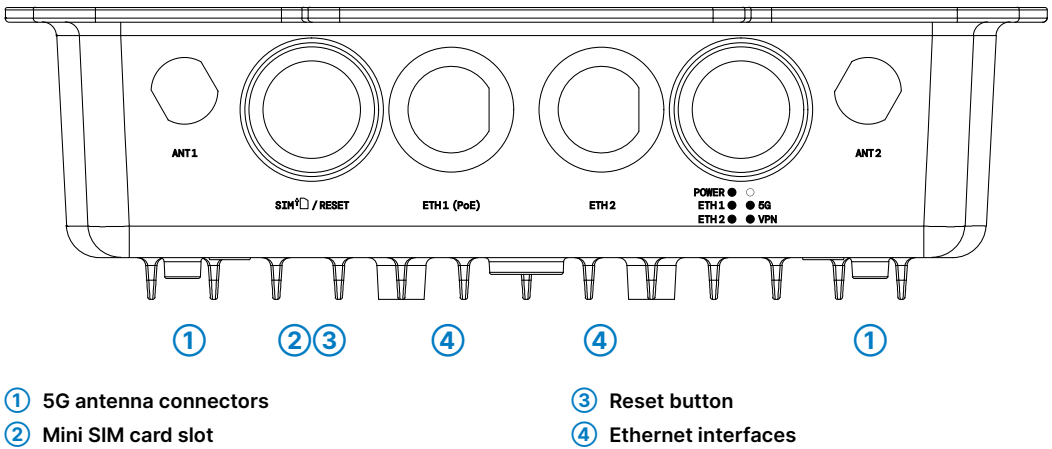|	
Cables	Water-resistant, UV-resistant Ethernet cable with screw connector, 15 m
External antennas	4 5G antennas
Mounting kit	Equipment for wall and pole mounting, screws included
Covering cap	Ensures that the unit remains sealed in case an Ethernet port is unused
Grounding cable	To avoid electrostatic charge

Interface overview of the LANCOM OAP-5G

Front panel

① 5G antenna connectors
② Mini SIM card slot
③ Reset button
④ Ethernet interfaces

Rear panel

⑤ 5G antenna connectors
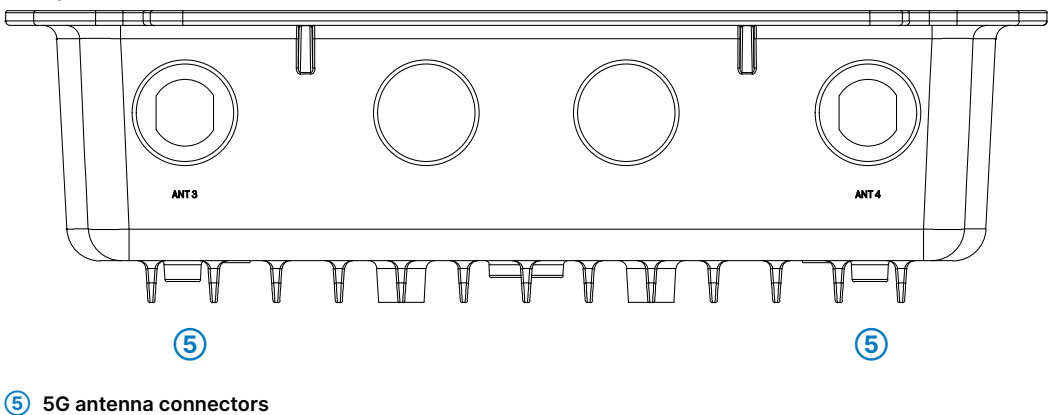
Initial start-up

Establishing the required connections for device configuration

→ Always observe the adjacent safety instructions and notes.
For the power supply select the description **a)** or **b)** applicable to the equipment of the present device

a) PoE power supply via PoE network device
Connect a network cable to the Ethernet port marked **PoE** on the device and a free **PoE-active** network socket on your local network (e.g. on a PoE-capable switch).

b) PoE power supply via separate PoE injector
Connect a network cable to the Ethernet port marked **PoE** on the device and the output of the PoE injector. Then connect another network cable to the input of the PoE injector and a free **NON-PoE-active** network outlet of your local network. Connect the PoE injector to the power supply.

Always observe the documentation of the PoE injector or PoE switch!

→ Use suitable cables to connect other required device interfaces to other components and, in the case of devices with Wi-Fi or mobile radio interfaces, connect any antennas supplied.

→ Depending on the device equipment, choose one of the following configuration methods **a)** or **b)**

a) Configuration via the LANCOM Management Cloud (LMC)
The LMC automatically rolls out the configuration to your device, provided it has access to the Internet. If a router that establishes the Internet connection should be added to the LMC, it may first be necessary to configure a basic configuration and an Internet connection via the local network, as described under **b)**.

b) Configuration via the local network
Connect one of the **ETH** or **LAN** interfaces of the device via an Ethernet cable either to a network switch or directly to the network device intended for configuration (e.g. notebook).
The CONFIG or COM interface is not suitable for configuration via the network!

Options for initial start-up of the unconfigured device

→ **Option 1: via the LANCOM Management Cloud (LMC)**
The LANCOM Management Cloud allows LANCOM partners to automate the commissioning, centralized management, and monitoring of LANCOM devices. Further information on commissioning and configuration via the LMC can be found at www.lancom-systems.com/lmc-access.

→ **Option 2: via web browser (WEBconfig)**
Configuration via web browser is an easy and fast variant, since no additional software is required on the computer used for configuration.
Note: If a certificate warning appears in your browser when trying to connect to your device, there is a button or link on the displayed browser page to connect to the device anyway (depending on the browser, usually under **Advanced**).
In the following, select the description **a)** or **b)** that applies to your setup for configuring the device.

a) Configuration in a network without active DHCP server
For configuration via TCP/IP, the IP address of the device in the local network (LAN) is required. After power-on, an unconfigured LANCOM device first checks whether a DHCP server is active in the LAN.

The device can be accessed from any computer with the Auto DHCP function enabled using a web browser under the IP address **172.23.56.254**.
The given IP address can be modified at any time.

b) Configuration in a network with active DHCP server
In this procedure, the DNS server used in your network must be able to resolve the host name reported by the device via DHCP. When using a LANCOM device as a DHCP and DNS server, this is the default case.

At **https://lancom-XXYYZZ** you can access your device. Replace **XXYYZZ** with the last six digits of the **MAC address** of your device, which you can find on the enclosed document **LANCOM Management Cloud** or on the nameplate of the device. If necessary, append the domain name of your local network (e.g. **.intern**).

• When the computer is connected to an unconfigured LANCOM device, WEBconfig automatically starts the setup wizard **Basic settings**.
• After the setup wizard has been run through, the initial commissioning of the device is complete.
• If necessary, make further configurations using the setup wizards available for selection.

→ **Option 3: via the Windows software LANconfig (www.lancom-systems.com/downloads)**
• Please wait until the booting process of the device is completed before starting LANconfig.
• Unconfigured LANCOM devices are automatically found by LANconfig in the local network (LAN) and the setup wizard **Basic settings** is then started.
• After the setup wizard has finished, the initial start-up of the device is complete.
• If necessary, make further configurations using the setup wizards available for selection.

General safety instructions

→ Under no circumstances should the device housing be opened and the device repaired without authorization. Any device with a case that has been opened is excluded from the warranty.

→ If antennas are available, they may only be installed or replaced when the device is switched off. Mounting or demounting antennas while the device is powered on may cause the destruction of the radio module.

→ Mounting, installation, and commissioning of the device may only be carried out by qualified personnel.

Safety instructions and intended use

In order to avoid harming yourself, third parties or your equipment when installing your LANCOM device, please observe the following safety instructions. Operate the device only as described in the corresponding documentation. Pay particular attention to all warnings and safety instructions. Use only those third-party devices and components that are recommended or approved by LANCOM Systems.

Before commissioning the device, be sure to study the corresponding Hardware Quick Reference which can be downloaded from the LANCOM website www.lancom-systems.com/downloads.

Any warranty and liability claims against LANCOM Systems are excluded in the event of any use other than the intended use described below!

Environment

LANCOM devices should only be operated when the following environmental requirements are met:

→ Ensure that you comply with the temperature and humidity ranges specified in the Quick Reference Guide for the LANCOM device.

→ Do not expose the device to direct sunlight (does not apply to outdoor devices).

→ Ensure that there is adequate air circulation and do not obstruct the ventilation slots.

→ Do not cover devices or stack them on top of one another

→ The device must be mounted so that it is freely accessible (for example, it should be accessible without the use of technical aids such as elevating platforms (does not apply to outdoor devices)); a permanent installation (e.g. under plaster) is not permitted.

→ Only outdoor equipment intended for this purpose is to be operated outdoors.

→ When operating an outdoor device without a suitable surge protection adapter, LANCOM does not provide any warranty in case of surge damage.

Power supply

Before start-up, the following points must be observed, as improper use can lead to personal injury and damage to property, as well as voiding the warranty:

→ If available, the power plug of the device must be freely accessible.

→ Operate the device only with a professionally installed power supply at a nearby and at all times freely accessible socket.

→ Only use the enclosed power supply / IEC cable or the one listed in the hardware quick reference.

→ A high touch current is possible for devices with metal housing and grounding screw! Before connecting the power supply, connect the grounding screw to a suitable ground potential.

→ Some devices support power supply via an Ethernet cable (Power over Ethernet - PoE). Please refer to the corresponding notes in the hardware quick reference of the device.

→ Never operate damaged components.

→ Only switch on the device when the housing is closed.

→ The device must not be installed during thunderstorms and should be disconnected from the power supply during thunderstorms.

→ In case of emergency (e.g. damage, ingress of liquids or objects, for example through the ventilation slots), disconnect the power supply immediately.

Applications

→ The devices may only be used in accordance with the relevant national regulations and under consideration of the legal situation applicable there.

→ The devices must not be used for the actuation, control, and data transmission of machinery that, in case of malfunction or failure, may present a danger to life and limb.

→ The devices with their respective software are not designed, intended or certified for use in: the operation of weapons, weapons systems, nuclear facilities, mass transportation, autonomous vehicles, aircraft, life support computers or equipment (including resuscitators and surgical implants), pollution control, hazardous materials management, or other hazardous applications where failure of the device or software could lead to a situation in which personal injury or death could result. The customer is aware that the use of the devices or software in such applications is entirely at the customer's risk.

Regulatory Notice

Regulatory compliance for devices with radio or Wi-Fi interfaces

This LANCOM device is subject to governmental regulation. The user is responsible for ensuring that this device operates in accordance with local regulatory guidelines, specifically for compliance with potential channel restrictions.

Maximum transmission power for devices with radio interfaces

This LANCOM device may contain one or more radio interfaces using various technologies. The maximum output power per technology and used frequency band for use in EU countries is described in the following tables:

Technology	Frequency range (MHz)	Max. output power (dBm EIRP)	Technology	Frequency range (MHz)	Max. output power (dBm EIRP)
LTE (Band 1)	1,920 – 1,980	23	5G NR (Band 28)	703 – 748	24
LTE (Band 3)	1,710 – 1,785	23	5G NR (Band 41)	2,496 – 2,690	24
LTE (Band 7)	2,500 – 2,570	23	5G NR (Band 77)	3,300 – 4,200	24.5
LTE (Band 8)	880 – 915	23	5G NR (Band 78)	3,300 – 3,800	24.5
LTE (Band 20)	832 – 862	23	UMTS (Band 2)	1,850 – 1,910	23
5G NR (Band 1)	1,920 – 1,980	24	UMTS (Band 4)	1,710 – 1,755	23
5G NR (Band 3)	1,710 – 1,785	24	UMTS (Band 5)	824 – 849	23

Declarations of Conformity

You will find all the Declarations of Conformity concerning our product portfolio under www.lancom-systems.com/doc. These documents contain all the tested standards and required guidelines in the area of EMC - SAFETY - RF, as well as the proof of the guidelines concerning RoHS & REACH.

CE Simplified Declaration of Conformity

Hereby, LANCOM Systems GmbH | Adenauerstrasse 20/B2 | D-52146 Wuerselen, declares that this device is in compliance with Directives 2014/30/EU, 2014/35/EU, 2014/53/EU, 2011/65/EU, and Regulation (EC) No. 1907/2006. The full text of the EU Declaration of Conformity is available at the following Internet address: www.lancom-systems.com/doc

LANCOM FCC Regulatory Notice Class A Devices

This device complies with Part 15 of the FCC rules. Operation is subject to the following two conditions

(1) this device may not cause harmful interference, and
(2) this device must accept any interference received, including interference that may cause undesired operation.

WARNING:

This equipment has been tested and found to comply with the limits for a class A digital device, pursuant to part 15 of the FCC rules. These limits are designed to provide reasonable protection against harmful interference when the equipment is operated in a commercial environment. This equipment generates, uses, and can radiate radio frequency energy and, if not installed and used in accordance with the instruction manual, may cause harmful interference to radio communications. Operation of this equipment in a residential area is likely to cause harmful interference in which case the user will be required to correct the interference at his own expense.

The FCC declaration of conformity may be downloaded from www.lancom-systems.com/doc under the corresponding product section.

Symbols on the device label

The appliance must not be disposed of with household waste.

Surface may be hot!