

# User Guide



# OSCIUM

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## Document version control

Version	Date	Changes
1.1	2025-05-26	Wire frame revisions and editorial text refinement
1.0	2025-05-06	Initial release for regulatory compliance

## Configuration reference

Item	Value
Hardware version	1.0
Firmware version	1.0
FCC ID	2BNM5-BE200NG

The WLAN Pi Go is a compact and powerful portable Wi-Fi network analysis tool. This device is purpose-built for Wi-Fi troubleshooting using passive packet capture and network scanning.

Made for on-the-go users, the WLAN Pi Go makes wireless diagnostics fast, easy, and accessible for both personal and professional applications.

Whether you're diagnosing Wi-Fi network issues in the field, validating performance across multiple sites, or exploring the airwaves, the WLAN Pi Go enables and delivers professional-grade insights.

## What's in the box

- WLAN Pi Go
- Carrying case
- Quick start guide
- Oscium sticker
- WLAN Pi sticker
- Cables:
  - USB Type-C to USB Type-C
  - USB Type-A to USB Type-C

## Design

Designed by the WLAN Pi team with input from the community, the WLAN Pi Go is crafted to meet the real-world needs of Wi-Fi professionals — striking a balance of performance, portability, and flexibility. Built on an open, Linux-based software platform, the WLAN Pi Go is ready to grow with you: users and developers can create and add new applications, expanding features and functionalities beyond out-of-the-box capabilities.

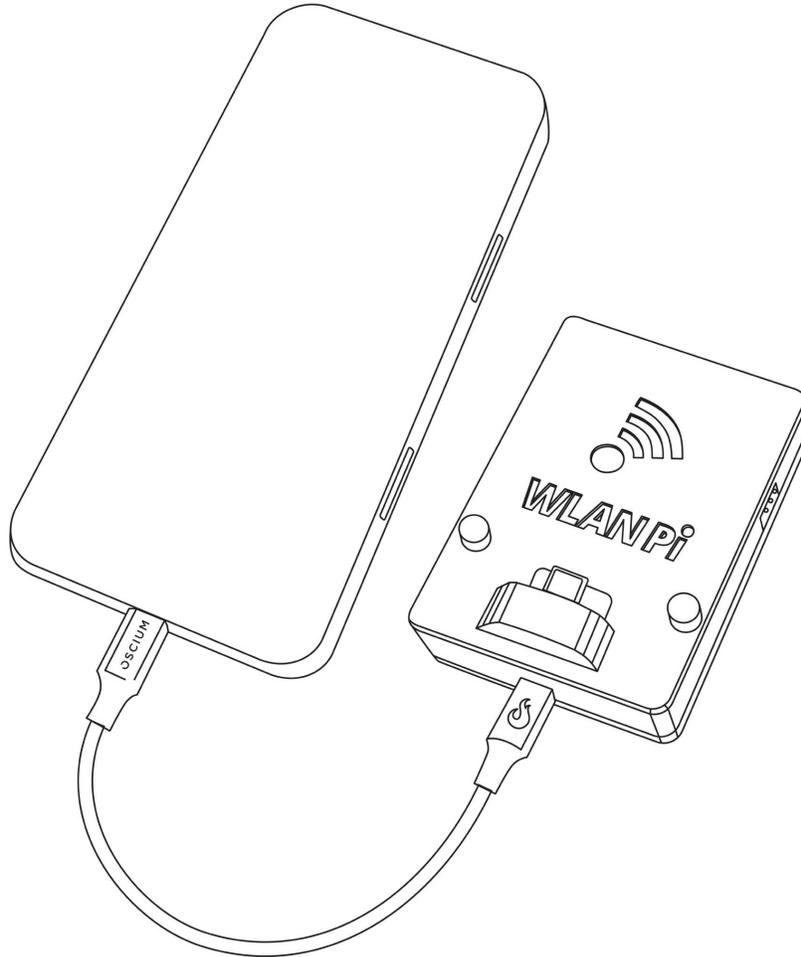
Each unit is carefully assembled in the USA using high-quality, globally sourced components to ensure dependable performance wherever your work takes you. Please note that throughout this guide, the terms “product”, “device”, and “WLAN Pi Go” are used interchangeably and all refer specifically to the WLAN Pi Go hardware device, unless explicitly stated otherwise.

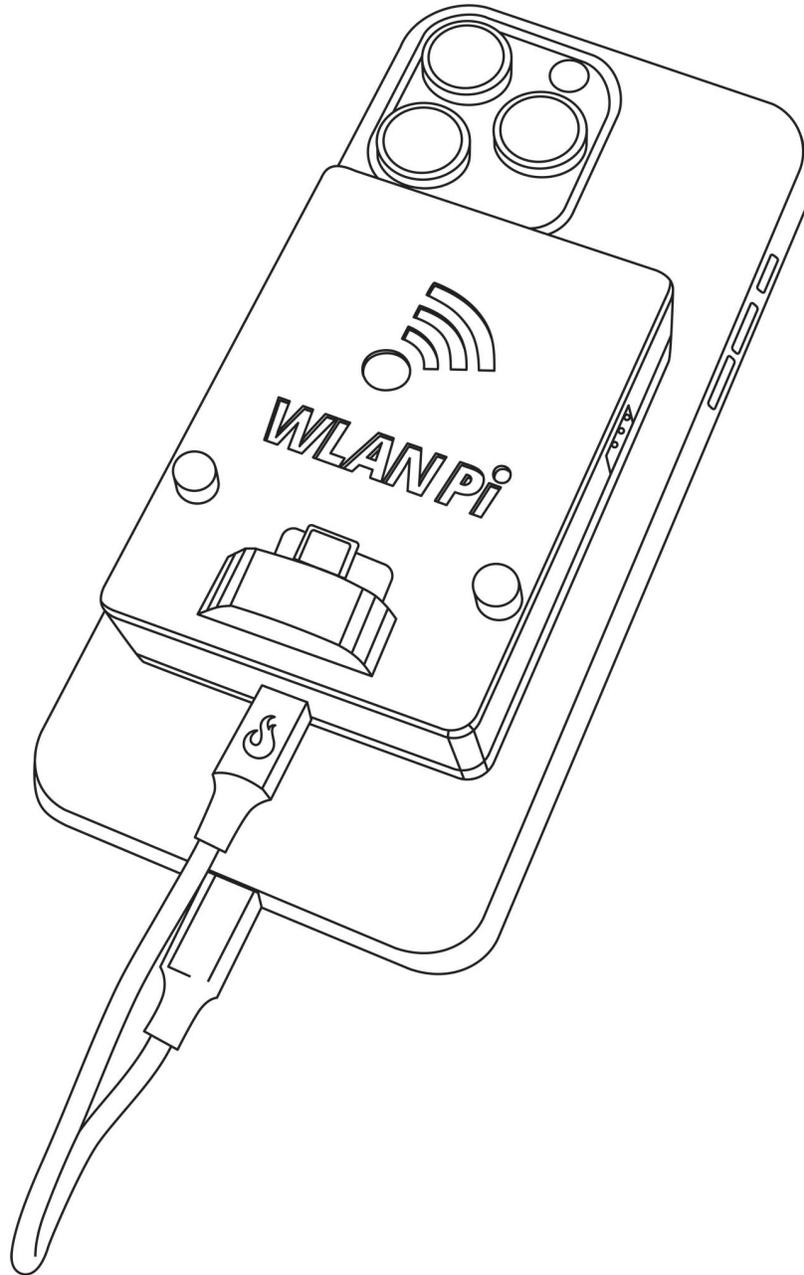
## Support

For help, the latest software, user manual, and community resources, please visit <https://wlanpi.com>. The software is open source and volunteer-maintained. While core developers are dedicated to addressing issues and providing community support, specific response and resolution times or service level agreements are not guaranteed.

## Setup instructions

Connect the supplied USB Type-C to Type-C cable from host (iOS/Mac/PC) to the USB Type-C data port on the bottom side of the Go.





## Specifications

- Input power required: 5 V / 900 mA
- Host compatibility: iOS/Linux/Mac/Windows (USB Type-C versions)
- Interfaces:
  - USB Type-C data port with OTG support
  - USB Type-C accessory port for expansion
- Frequency range:
  - 2.4–2.485 GHz
  - 5.15–5.895 GHz
  - 5.925–7.125 GHz
- Supported standards:
  - IEEE 802.11a/b/g/n/ac/ax/be
- Operating temperature range: 0 °C to 50 °C
- Storage temperature range: –40 °C to 80 °C
- Relative humidity: 50 % to 90 % non-condensing (at temperatures of 25 °C to 35 °C)
- Size: 33 mm × 61 mm × 84 mm (1.3 × 2.4 × 3.3")
- Weight: 156 g (5.5 oz)
- Other: MagSafe compatible

## Software compatibility

This product interfaces with several mobile and desktop applications, including:

- WLAN Pi App on iOS and Android by Numerous Networks Ltd
- WiFi Explorer Pi on iOS by Intuitibits, LLC
- Airtool Pi on iOS by Intuitibits, LLC
- Metageek App on PC by Oscium, LLC

## Local API access

The software on this product provides a local API which allows direct communication with the applications on the device. Advanced users and developers who wish to control or monitor the product programmatically can use the API reference in the WLAN Pi Cookbooks to access applications directly or create integration with custom software solutions and/or third-party tools beyond the listed applications.

## Factory reset procedure

Follow these steps to perform a factory reset, which will erase all existing data and install the latest official WLAN Pi software image.

1. Visit the support section to find and download the latest software image
2. Power off the device
3. Insert a paper clip into the small hole on the back of the WLAN Pi Go
4. While holding the reset button with the paper clip, connect the USB-C OTG port on the bottom of the device to your computer
5. Hold the reset button for 5 seconds
6. Release the reset button. The device should enter bootloader mode.
7. Use balenaEtcher (<https://etcher.balena.io/>) to install the software image you downloaded in step 1 onto the device
8. Disconnect the device from your computer and then reconnect to power on

**Important:** This factory reset process may take up to 20 minutes or more. To prevent data corruption, do not interrupt the process once started.

# Operating functions

The WLAN Pi Go has three operational modes:

1. Passive Scanning – scans for Wi-Fi networks across the 2.4 GHz, 5 GHz, and 6 GHz bands without transmitting
2. Passive Packet Capture – records Wi-Fi packets on nominated channels without transmitting
3. Device Profiling – temporarily advertises low-duty-cycle beacons to elicit association requests from client devices

All modes are designed with strict compliance to FCC and international regulatory standards. **Device profiling** is the only mode with intentional RF transmission, where transmission is performed under low duty cycle and certified parameters for client discovery purposes.

## Passive scanning

In Passive Scanning mode, the WLAN Pi Go uses a Wi-Fi adapter solely as a passive receiver to scan the 2.4 GHz, 5 GHz, and 6 GHz bands.

This mode enables network professionals to assess the RF environment without requiring additional client-side tools or creating interference on the monitored channels. Visualization and analysis are performed through third-party software, such as WiFi Explorer, on the connected host.

## Passive packet capture

In Passive Packet Capture mode, the WLAN Pi Go configures the Wi-Fi adapter to **receive and record** all traffic on a specific Wi-Fi channel. This includes management, control, and data frames observed over the air. No transmission or active participation in the wireless medium is performed in this mode.

Captured packets can be saved locally on the device or streamed in real time to a connected host device for detailed inspection.

## Device profiling

In Device Profiling mode, the WLAN Pi Go enables Wi-Fi transmission under strictly controlled conditions. In this mode, a profiler application advertises short-duration, **low-duty-cycle Wi-Fi beacons** to emulate an access point. These transmissions are designed solely to elicit association requests from client devices for profiling purposes. Once an association request is received and captured, the beacon transmission automatically stops, and no further communication occurs.

Data collected during profiling is stored locally and may be accessed by the user through supported applications.

## Transmission functionality

The WLAN Pi Go is designed primarily as a passive Wi-Fi analysis tool. Transmission capability is limited to the specific, low-power, low-duty-cycle function described in the Device Profiling section.

Transmission occurs only under the following conditions:

- In support of Device Profiling
- Using certified power levels and within authorized frequency bands (2.4 GHz and 5 GHz only)
- At a duty cycle and power level that qualifies for SAR testing exemption

The WLAN Pi Go firmware is developed to ensure that transmission is limited to this intended behavior. Transmission in the 6 GHz band is not enabled, and the system does not support continuous or configurable transmission outside of the profiled use case.

Users are not provided with any software-level controls to alter these constraints, and the firmware/software image and WLAN Pi App do not permit operation beyond the scope of regulatory compliance.

Oscium, LLC and the WLAN Pi development team are committed to full compliance with FCC and international regulatory requirements. Users are responsible for operating the product in accordance with applicable local laws and regulations.

## Statement of conditions

This product contains software licensed under BSD-3, MIT, and GPL license agreements.

Product images on packaging are for illustrative purposes only and may differ from the final product.

A portion of the device's storage capacity is reserved for firmware and system maintenance. Availability and performance of features, services, and applications may vary depending on product configuration, firmware version, and network environment. Additional terms, conditions, or service charges may apply.

Features, specifications, and product details are subject to change without notice.

Oscium, LLC and the WLAN Pi team are not responsible for any loss or damage resulting from the use or application of this product.

## Limited warranty

Users are solely responsible for compliance with all laws of their locality. Oscium, LLC and the WLAN Pi team and affiliates claim no responsibility for unauthorized or unlawful use.

## Trademarks

Intuitibits is a registered trademark of Intuitibits, LLC.

Oscium and Metageek are registered trademarks of Oscium, LLC.

WLAN Pi is a pending trademark of Big QAM, LLC.

## Safety

This product may become slightly warm during normal use; this is expected. The product has been tested under typical operating conditions using the default software provided by the manufacturer and does not reach temperatures that would pose a safety risk.

If the device becomes unusually hot to touch, disconnect from power and allow to cool before handling. Excessive heat may indicate abnormal conditions or unauthorized software behavior.

Always operate the device in a well-ventilated area with adequate air circulation.

This device contains one or more strong neodymium magnets. Maintain a safe distance between the device and medical implants such as pacemakers or defibrillators, as magnetic fields may interfere with their operation. Handle with care, as strong magnetic attraction may cause injury or damage if body parts or objects are caught between magnetic surfaces.

Do not expose the device to water, moisture, excessive heat, or dust, as this may result in malfunction or permanent damage.

Opening the device enclosure, modifying internal hardware, or installing unofficial or altered software places the device outside the scope of warranty and manufacturer liability.

Only firmware and software updates provided or approved by Oscium, LLC or the WLAN Pi team are supported. The manufacturer cannot guarantee safety, performance, or compliance if the product is operated outside the intended hardware and software configuration.

## Conformance and compliance

The WLAN Pi Go has been evaluated for conformance with applicable regulatory requirements for electromagnetic compatibility, RF exposure, and product safety. Testing has been performed by accredited laboratories in accordance with FCC rules and international standards.

### Regulatory testing summary

- **Electromagnetic interference (EMI):** Compliant with FCC Part 15 Subpart B for Class B digital devices.
- **Product safety:** Evaluated to meet applicable safety requirements under IEC/UL standards.

EMI and safety reports can be found at <https://oscium.com/regulatory/wlan-pi-go>.

### RF exposure and SAR compliance

This device is designed to operate in the 2.4 GHz, 5 GHz, and 6 GHz Wi-Fi bands, but active transmission functionality is restricted to 2.4 GHz and 5 GHz bands.

The WLAN Pi Go does **not operate in any non-compliant RF mode**. Complete RF exposure documentation is available upon request.

## FCC compliance statement

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.

FCC ID: 2BNM5-BE200NG

## Radiation exposure statement

This device complies with FCC RF exposure requirements and has been evaluated to meet exemption criteria from routine evaluation as specified in 47 CFR 2.1093.

## EU compliance statement

Hereby, Oscium, LLC declares that this device, WLAN Pi Go, is in compliance with the essential requirements and other relevant provisions of Directive 2014/53/EU.

The full text of the EU Declaration of Conformity can be found at <https://oscium.com/regulatory/wlan-pi-go>.

## Frequency bands and maximum output power

Frequency band	Maximum time-averaged output power	Transmission status
2.4 GHz	< 22 dBm (nominal: 22 mW average)	Transmit enabled
5 GHz	< 10 dBm (nominal: 9.5 mW average)	Transmit enabled
6 GHz	Not applicable	Receive only

## CE mark

This product bears the CE mark  to demonstrate compliance with applicable European Union directives and regulations.

## Disposal and recycling information



This symbol  on the product or packaging indicates that the product must not be disposed of with regular household waste. Please recycle where facilities exist. Check with your local authority for recycling advice and regulations regarding electronic equipment.