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WANLUTECH MT-5500

WANLUTECH MT-5500 OTDR Fiber Optic Tester User Manual

Model: MT-5500 1310/1550nm 28/26dB

1. Introduction

The WANLUTECH MT-5500 is a multi-functional fiber optic tester designed for comprehensive network and fiber optic system analysis. It integrates various testing capabilities including Optical Time Domain Reflectometer (OTDR), Optical Power Meter (OPM), Visual Fault Locator (VFL), Light Source (LS), Optical Loss Test (OLS), IP Camera testing, cable testing (RJ45 TDR, UTP, Cable Tracer), network tools, PoE power output, and WiFi analysis. This manual provides detailed instructions for the safe and effective operation of the MT-5500 device.

2. Safety Information

- **Battery Safety:** Before initial use, open the battery cover and remove the insulating paper piece. Use only the provided or approved battery and charger.
- **Laser Safety:** The VFL and Light Source emit laser radiation. **Do not look directly into the optical output ports or at the laser beam.** Direct exposure can cause eye damage.
- **Electrical Safety:** Do not expose the device to moisture or extreme temperatures. Avoid operating the device with wet hands.
- **Maintenance:** Refer all servicing to qualified personnel. Do not attempt to disassemble the device.

3. Package Contents

Verify that all items are present in the package:

- WANLUTECH MT-5500 OTDR Fiber Optic Tester
- Digital Cable Tracer
- Tool Bag
- Power Adapter
- USB Cable
- RJ45 Cable
- Optical Fiber Patch Cord
- SC/FC/ST Adapters

- Lithium Ion Battery (pre-installed or separate)
- User Manual (this document)
- Other accessories as pictured



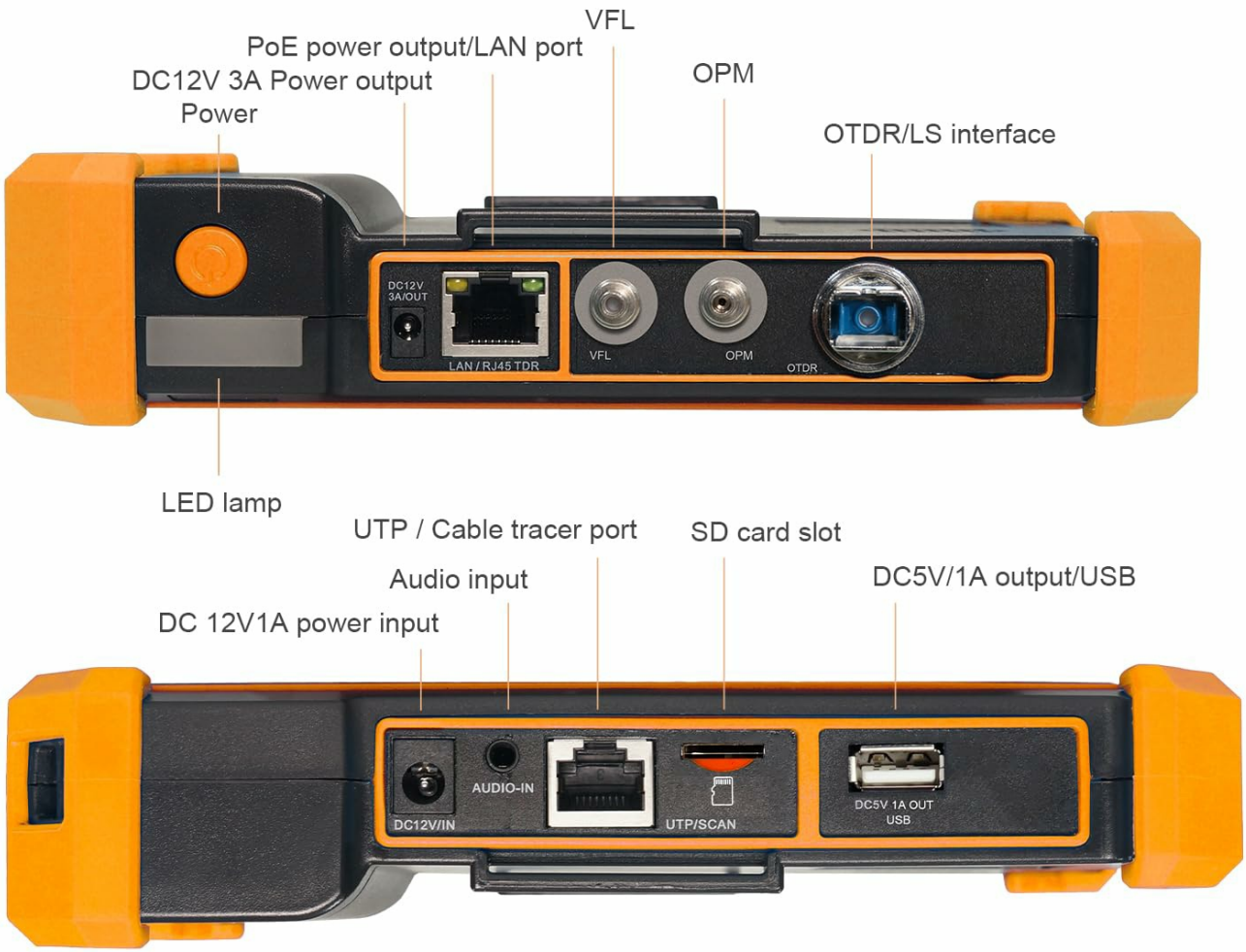
Image 3.1: The MT-5500 tester along with its standard accessories, including the cable tracer, various cables, adapters, and power supply.

4. Device Overview

The MT-5500 features a 5.4-inch IPS touchscreen display and various ports for connectivity and testing functions.

4.1. Interfaces

Interface



Before using the tester, open the battery cover and remove the paper piece!!

Image 4.1: Top and bottom views of the MT-5500, highlighting the various ports and connectors.

- **PoE Power Output/LAN Port:** Supports PoE IEEE802.3af/at, max 48V, 30W output. Also functions as a LAN port for network testing.
- **VFL Port:** Visual Fault Locator output.
- **OPM Port:** Optical Power Meter input.
- **OTDR/LS Interface:** Port for OTDR testing and Light Source output.
- **DC12V 3A Power Output:** Auxiliary power output.
- **LED Lamp:** Integrated flashlight.
- **Audio Input:** For external audio sources.
- **UTP/Cable Tracer Port:** For UTP cable testing and connecting the cable tracer.
- **SD Card Slot:** For expandable storage.
- **DC5V/1A Output/USB:** USB port for data transfer and 5V power output.
- **DC12V/1A Power Input:** Power input for charging the device.

5. Setup

5.1. Initial Battery Activation

Before using the tester for the first time, ensure the battery is properly connected. Locate the battery compartment, open the cover, and remove any insulating paper piece that may be isolating the battery terminals. Close the cover securely.

5.2. Charging the Device

Connect the provided power adapter to the DC12V/1A Power Input port on the device and plug it into a power outlet. The charging indicator will illuminate. Allow the device to fully charge before extensive use.

6. Operating Instructions

The MT-5500 operates via its 5.4-inch IPS touchscreen. Navigate through the main menu to access different testing functions.

6.1. OTDR Fiber Optic Test

The OTDR function measures fiber length, attenuation, splice loss, and identifies faults. This model (1310nm/1550nm) does not support testing live fiber.

- **Quick Setup Mode:** Allows for rapid configuration of wavelength, distance range, pulse width, and measurement duration for quick tests.
- **Parameters Set Mode:** Provides advanced control for professional technicians to set detailed parameters like IOR, non-reflection threshold, and end threshold for more accurate curve results.

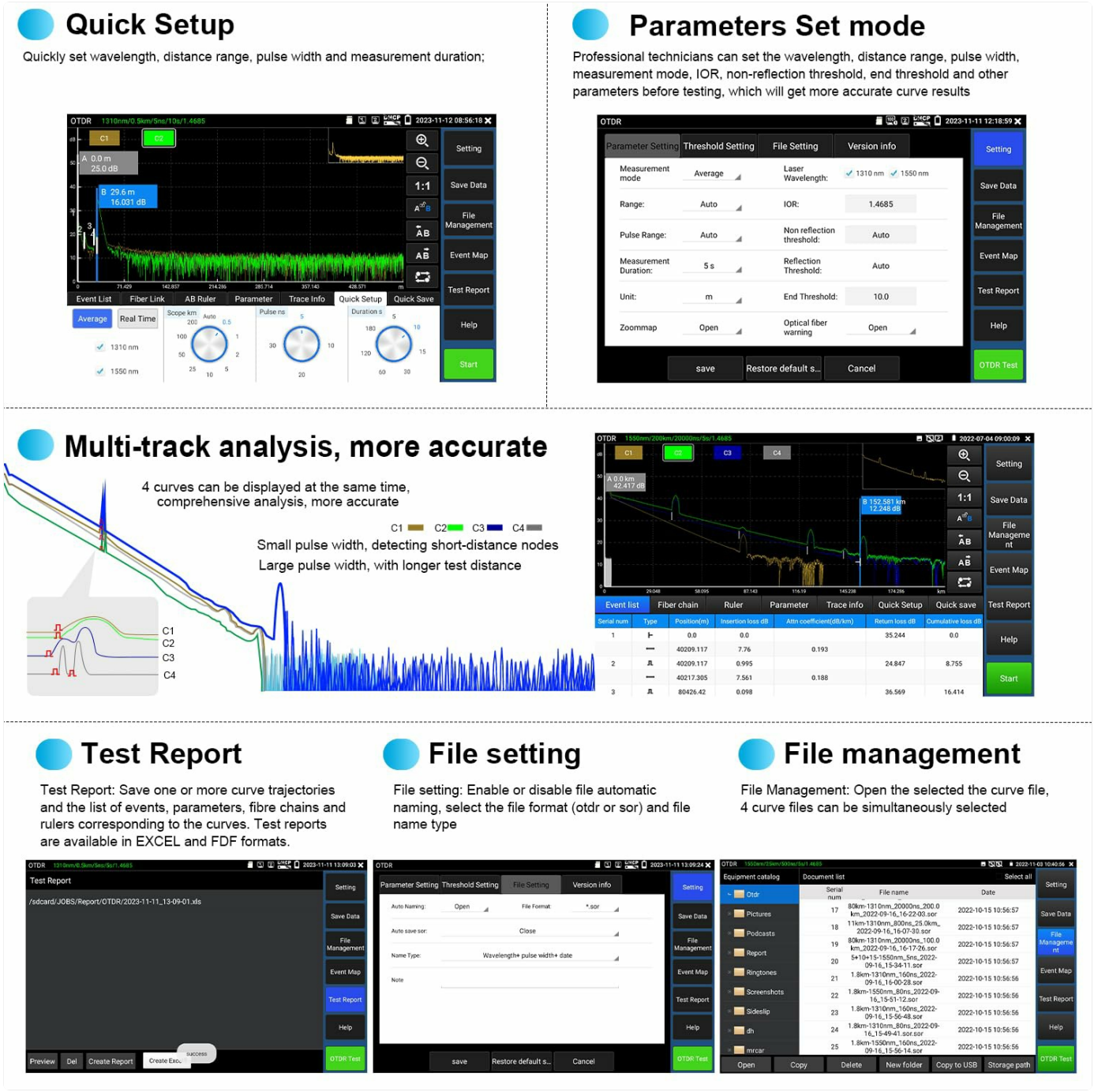


Image 6.1: Screenshots illustrating the OTDR Quick Setup and Parameters Set interfaces, multi-track analysis, and file management options.

6.1.1. Event Map

The Event Map visually represents the results of fiber optic link inspections. It displays information such as fiber link length, connector types, fusion points, and break points in a graphical format for easy understanding. Test curves can be saved, zoomed, and moved for detailed analysis.

Image 6.2: The Event Map interface showing visual representation of fiber events and the Threshold Setting menu.

6.1.2. File Management

Test reports, including trajectories, event lists, parameters, and fiber chains, can be saved in EXCEL and PDF formats. The device supports opening and managing saved curve files, with the ability to simultaneously select up to four curves for comparison.

6.2. Optical Power Meter (OPM)

Connect the fiber to the OPM port to measure optical power. The OPM supports calibrated wavelengths of 850/1300/1310/1490/1550/1625nm.

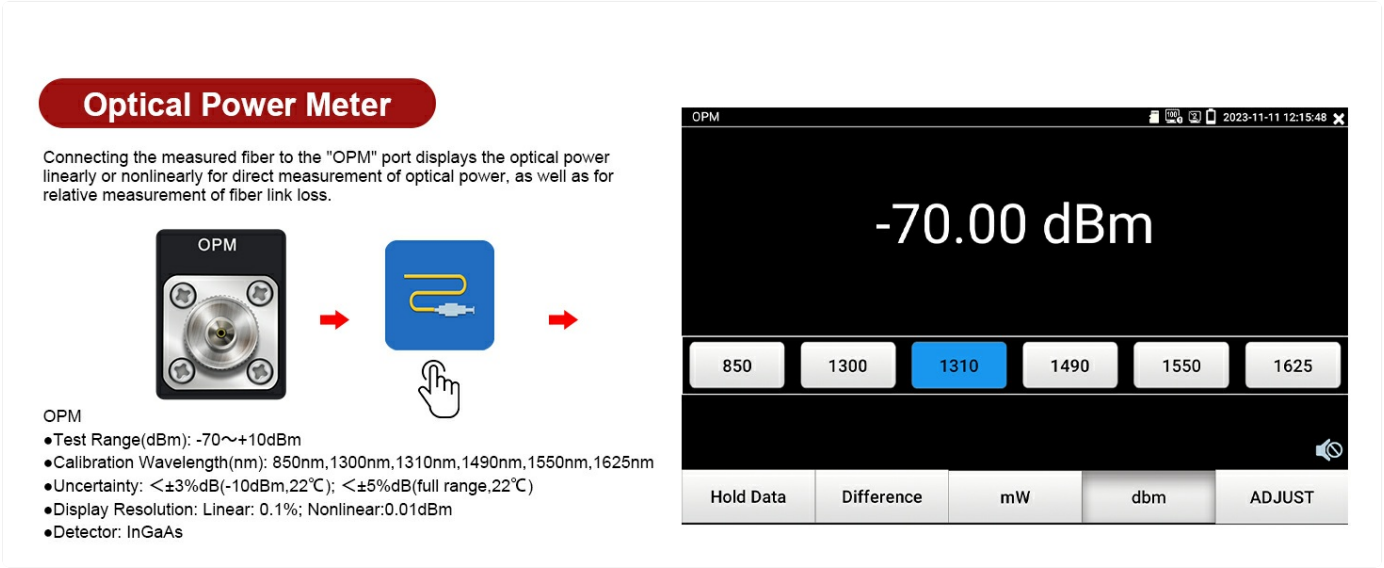


Image 6.3: The Optical Power Meter screen displaying a power measurement and wavelength selection.

6.3. Visual Fault Locator (VFL)

The VFL function helps determine fiber continuity and locate faults. It emits a 650nm wavelength laser with a maximum test range of 8KM. **Caution: Do not look directly into the VFL output.**

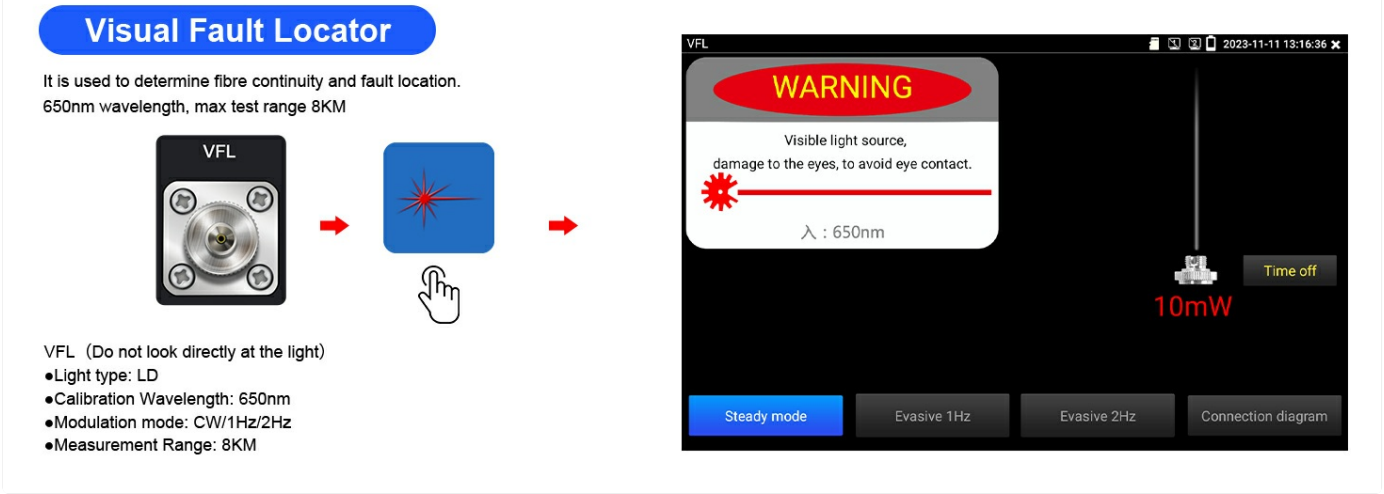


Image 6.4: The Visual Fault Locator screen, including a safety warning regarding laser light.

6.4. Light Source (LS)

The Light Source function provides a stable optical signal for engineering and maintenance of optical communication and CATV fiber systems. It supports CW, 270 Hz, 330 Hz, 1 kHz, and 2 kHz modulation modes.

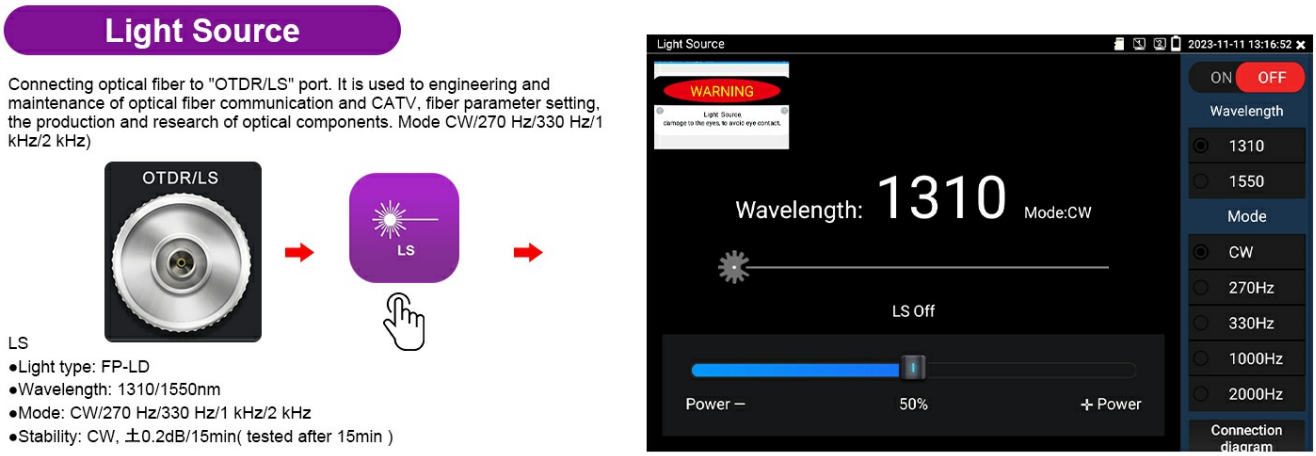


Image 6.5: The Light Source interface, demonstrating wavelength and modulation mode settings.

6.5. Optical Loss Test (OLS)

The OLS function is used to test the insertion loss of optical passive devices. Connect the OTDR/LS port and OPM port with short fiber optic patch cables. After setting parameters, connect the device under test to measure insertion loss. Calibration before each test is recommended for accuracy.

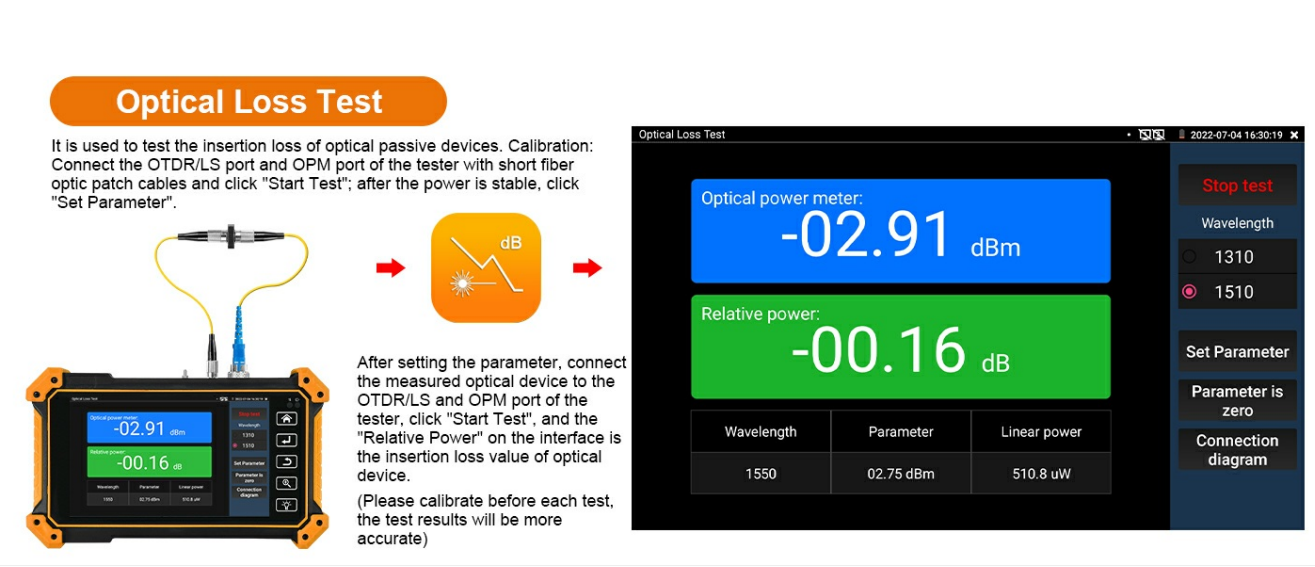


Image 6.6: The Optical Loss Test screen displaying optical power and relative power measurements.

6.6. IP Camera Test (IPC Test)

The MT-5500 supports testing up to 4K 12MP IP cameras. It integrates power information, IP discovery, and various test tools.



Image 6.7: The IPC Test interface, showing network information, power details, and a live video feed from a connected camera.

- **IP Discovery:** Automatically searches for IP addresses in the network segment and modifies the tester's local IP address to match the camera's segment.
- **Quick ONVIF:** Automatically logs in, displays live video, creates test reports, and allows modification of IP addresses and channel names.
- **HIK/DH Camera Test:** Supports batch activation of DH and Hik cameras, modification of IP addresses, passwords, and channel names.

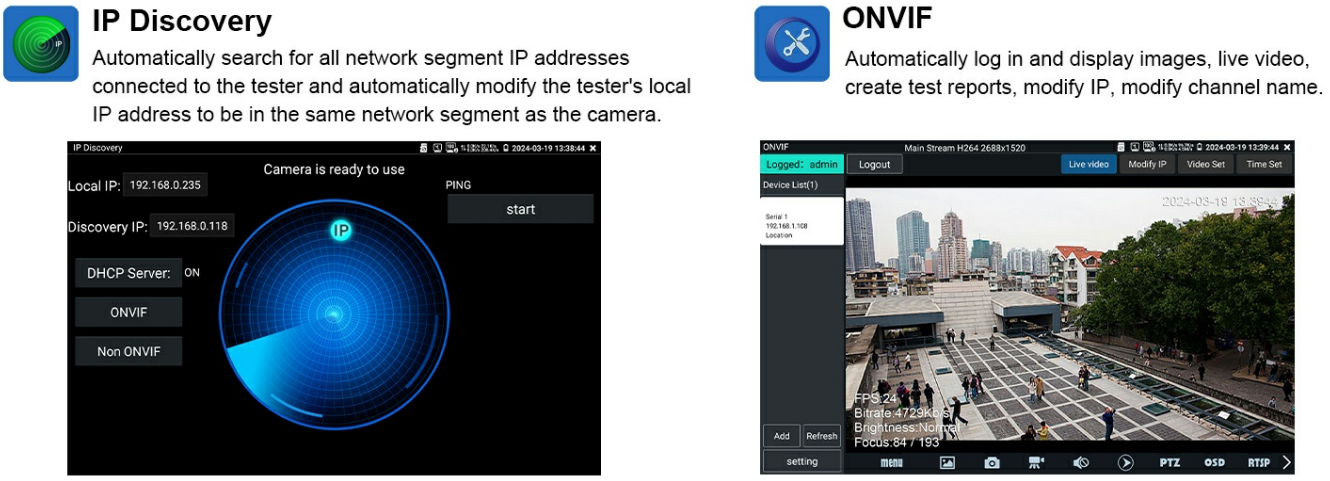


Image 6.8: The IP Discovery radar interface and the ONVIF live video display with login options.

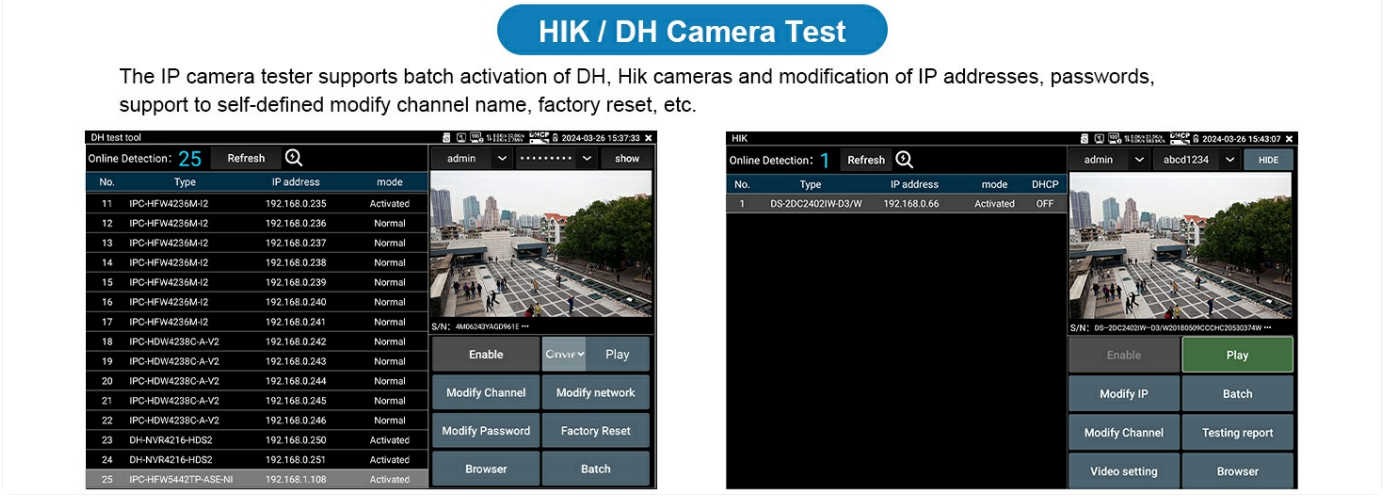


Image 6.9: The HIK/DH Camera Test screen showing options for batch activation, IP modification, and password changes.

6.7. Cable Testing

- **RJ45 Cable TDR Test:** Tests the open and short status of network cables and measures cable length up to 600 meters.

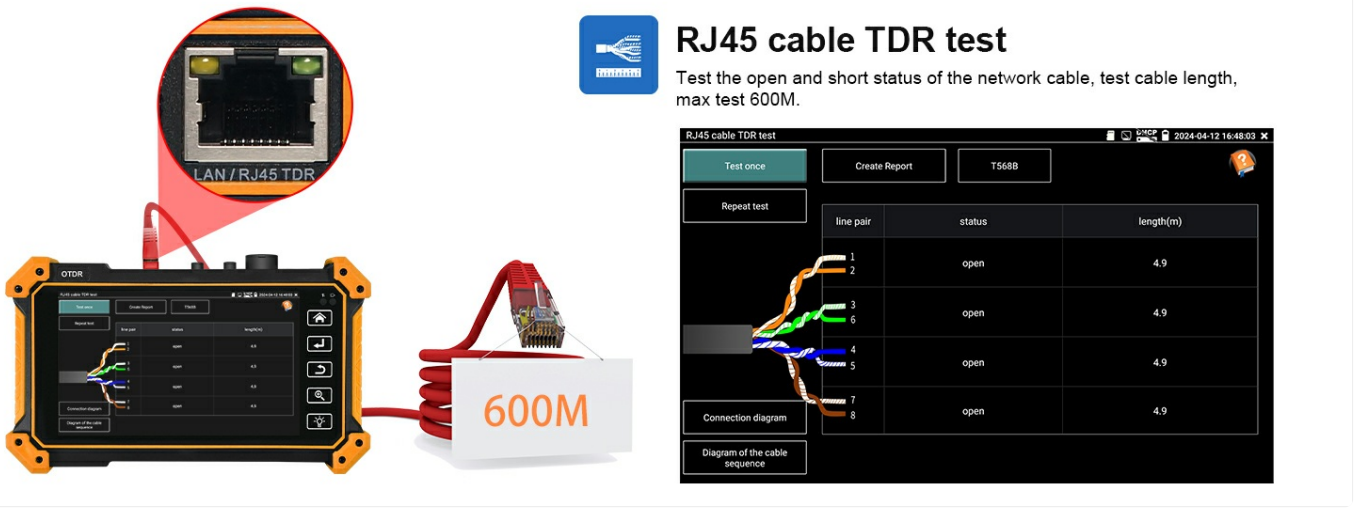


Image 6.10: The RJ45 Cable TDR Test screen displaying the status of individual wire pairs and measured cable length.

- **UTP Cable Tester:** Displays the connection status of UTP cables and detects near-end, mid-end, and far-end fault points of the RJ45 cable plug.
- **Cable Tracer:** Assists in locating BNC, network, and telephone cables within cluttered wiring environments.

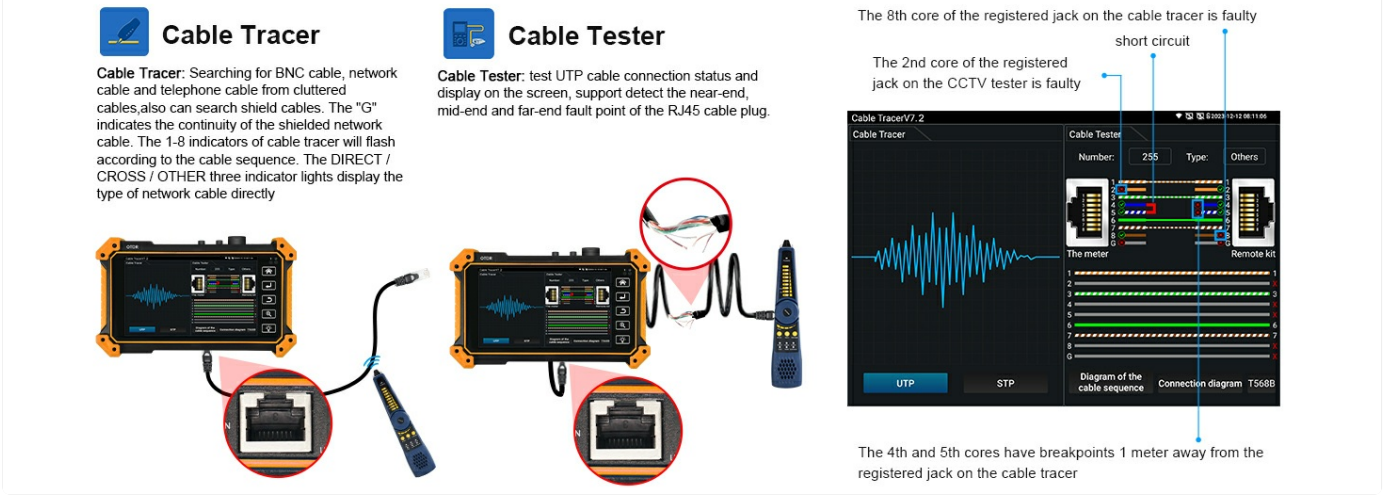


Image 6.11: The Cable Tracer function showing different cable types and the UTP Cable Tester displaying wire map results.

6.7.1. Cable Tracer + Electroscope

This combined function allows for cable tracing and non-contact electroscope testing for live wire detection.



Image 6.12: Illustration of cable tracing and non-contact electroscope for detecting live wires.

6.8. Network Tools

The MT-5500 includes professional network testing tools such as Ping, IP Scan, DHCP Server, PPPOE, Trace Route, Port Flash, LLDP, and Link Monitor.

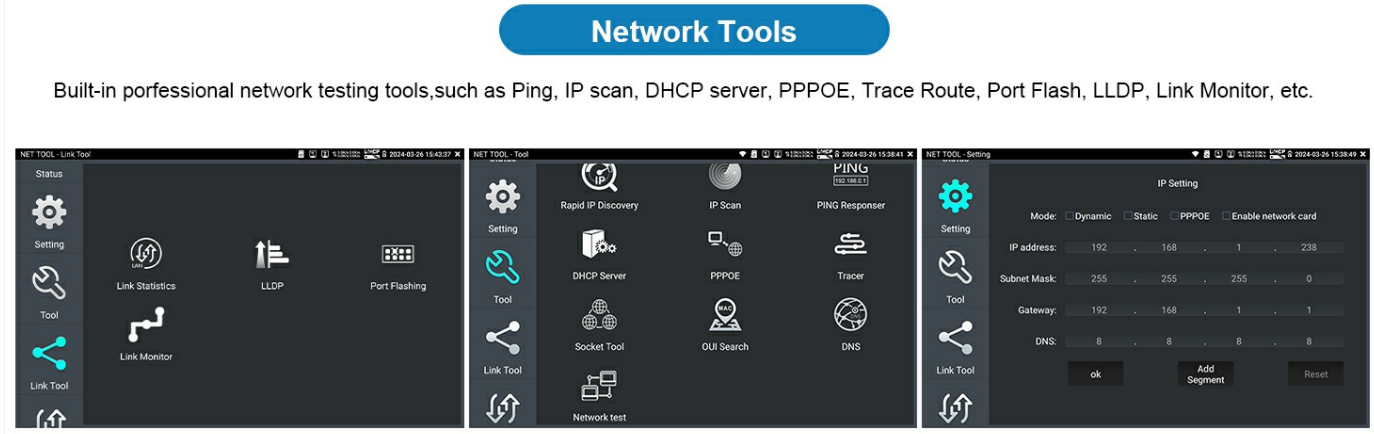


Image 6.13: Screenshots of the Network Tools menu, displaying options like Ping, IP Scan, and Link Monitor.

6.9. PoE Power Output

The device supports PoE IEEE802.3af/at, providing a maximum of 48V and 30W power output. Ensure the network cable connected to the PoE power output port (LAN port) is a straight-through cable and not short-circuited.

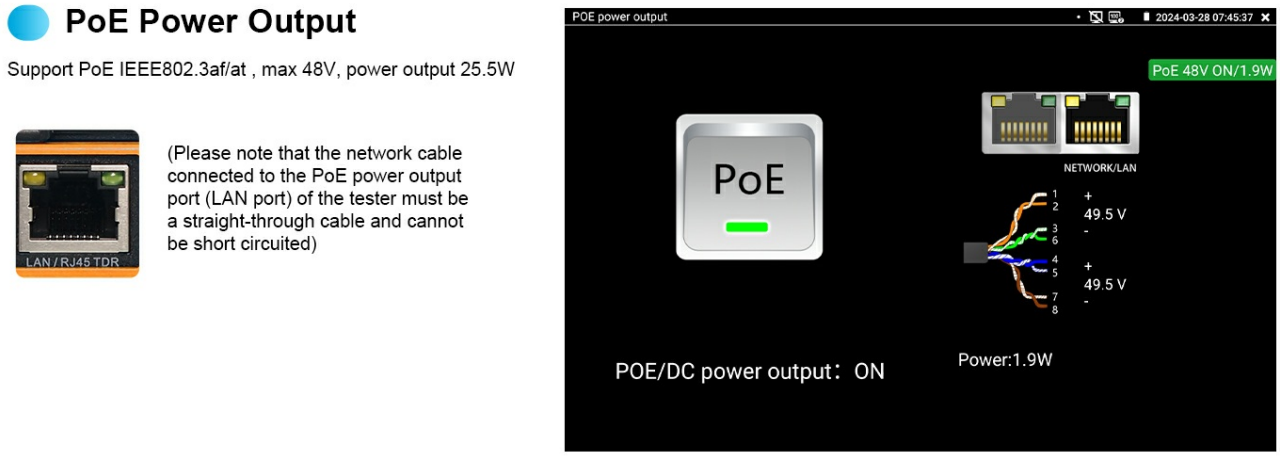


Image 6.14: The PoE Power Output screen, indicating power status and voltage.

6.10. WiFi Analyzer

The built-in WiFi Analyzer supports 2.4G frequency band, displaying WiFi connection status, available networks, signal strength, and channel information.

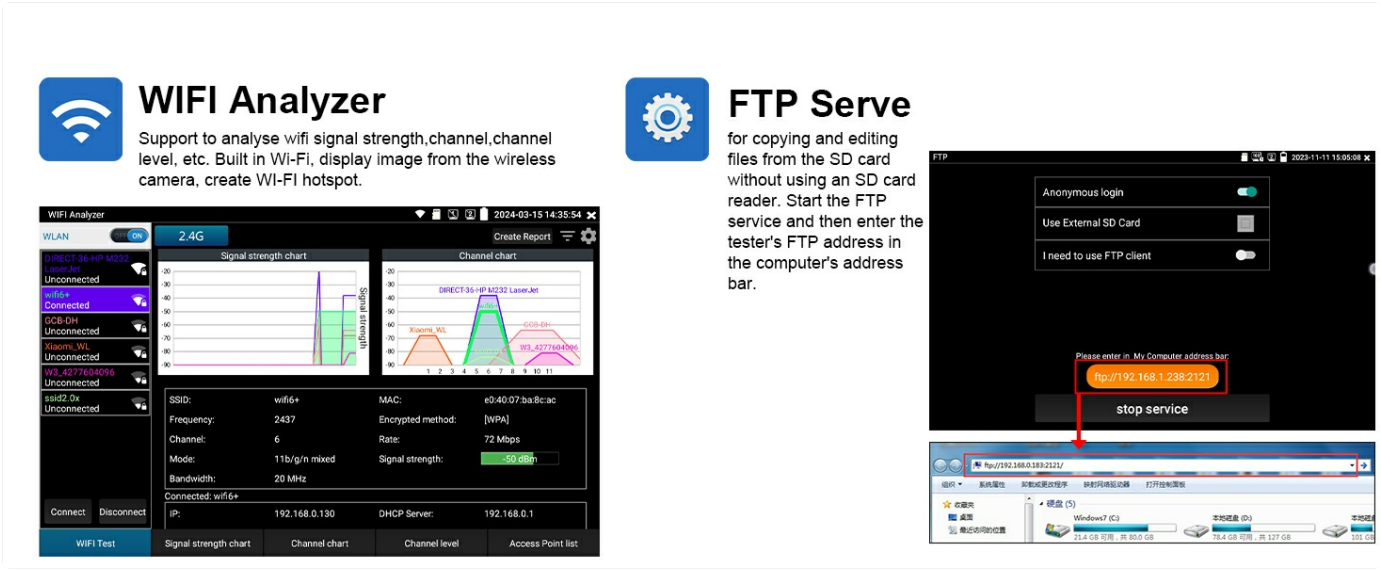


Image 6.15: The WiFi Analyzer displaying network details and the FTP Server setup screen.

6.11. FTP Server

The device can function as an FTP server, allowing for copying and editing files from the SD card without needing an SD card reader. Start the FTP service and access it via a web browser on a computer.

6.12. TesterPlay (Screen Projection)

The TesterPlay app supports screen projection, allowing the tester's display to be viewed simultaneously on a PC or Android mobile phone. Install the 'TesterPlay' app on Android or use VLC player on PC to receive screen information.



Image 6.16: Illustration of the TesterPlay feature, showing the tester's screen mirrored on a PC and a mobile phone.

7. Specifications

Feature	Specification
Model Number	MT-5500
OTDR Wavelength	1310nm/1550nm
OTDR Dynamic Range	28dB/26dB

Feature	Specification
Display	5.4-inch IPS Touchscreen, 1920x1152 resolution
Processor	1.6GHz 4-cores CPU
Memory	1GB RAM (LPDDR4), 8GB Flash (EMMC)
OPM Calibrated Wavelengths	850/1300/1310/1490/1550/1625nm
VFL Wavelength	650nm, max test range 8KM
Light Source Modes	CW/270 Hz/330 Hz/1 kHz/2 kHz
IP Camera Test	Supports max 4K 12MP IP cameras
RJ45 Cable TDR Test Range	Max 600M
PoE Power Output	IEEE802.3af/at, max 48V, 30W
WiFi Analyzer	2.4G frequency band support
Ethernet Port	One gigabit Ethernet 10/100/1000M Port
Power Input	DC12V1A
Power Output	DC12V/3A, DC5V/1A
Dimensions	10.24 x 5.71 x 3.94 inches
Weight	2.65 Pounds

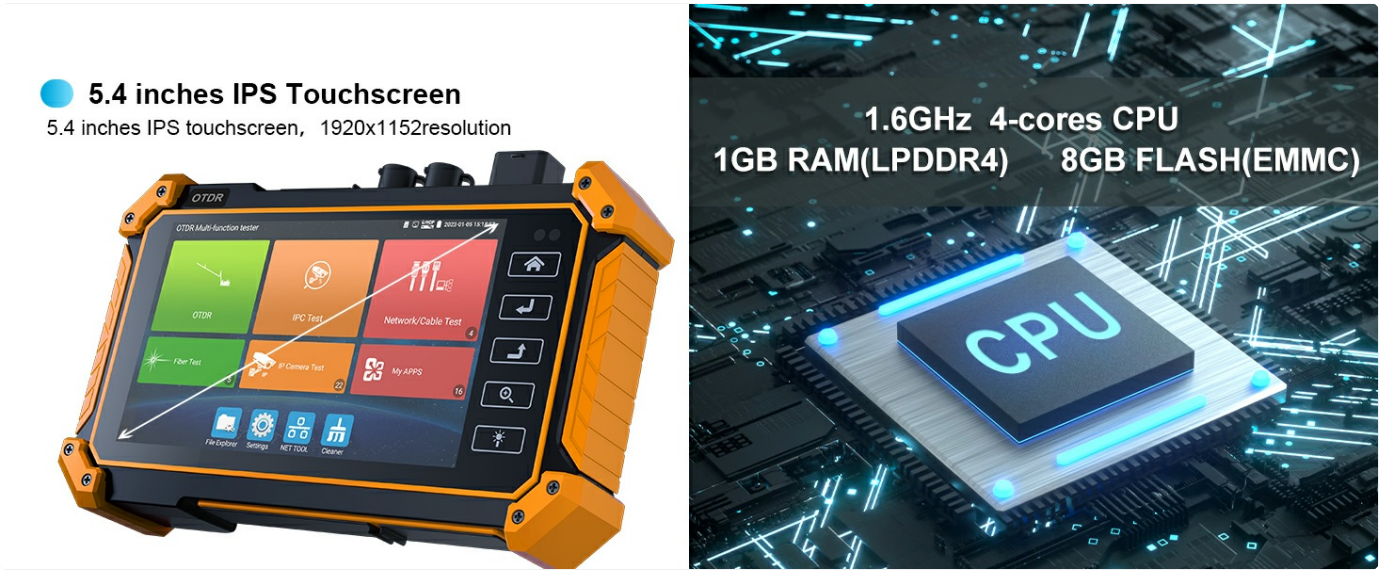


Image 7.1: Visual representation of the 5.4-inch IPS touchscreen and the internal CPU, RAM, and Flash memory specifications.

8. Maintenance

- **Cleaning:** Use a soft, dry cloth to clean the device's exterior. For the touchscreen, use a screen-specific cleaning solution and a microfiber cloth.
- **Optical Ports:** Keep all optical ports clean and free of dust. Use appropriate fiber optic cleaning tools to prevent contamination, which can affect measurement accuracy.
- **Storage:** Store the device in its protective tool bag in a cool, dry place when not in use. Avoid extreme temperatures and

direct sunlight.

- **Battery Care:** If the device will not be used for an extended period, charge the battery to approximately 50% and store it separately if possible, or ensure periodic charging to maintain battery health.

9. Troubleshooting

- **Device Not Powering On:** Ensure the battery is properly installed and charged. Connect the power adapter to check if it powers on.
- **Inaccurate Optical Measurements:** Clean all optical connectors and ports thoroughly. Ensure correct wavelength settings for OPM and LS functions.
- **VFL Not Working:** Check if the VFL port is clean. Ensure the VFL function is activated in the software.
- **IP Camera Connection Issues:** Verify network cable connections. Use the IP Discovery tool to ensure the tester and camera are on the same network segment. Check camera power supply.
- **Touchscreen Unresponsive:** Restart the device. If the issue persists, contact support.

10. Warranty and Support

WANLUTECH products are manufactured under strict quality control. For warranty information, please refer to the documentation provided with your purchase or contact WANLUTECH customer service.

10.1. Customer Support

If you encounter any issues or have questions regarding the operation of your WANLUTECH MT-5500, please contact the manufacturer directly. You can typically find support contact information through your purchase platform or the official WANLUTECH website.

- **Online Support:** Visit the WANLUTECH Store on Amazon or their official website for FAQs and contact options.
- **Direct Messaging:** If purchased on Amazon, locate your order, click 'get product support' to message the seller.

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