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UniBLU Testing System

Using the UniBLU Mobile App with FiBLU Fiber Certifier and CuBLU Copper Tester



User Manual

AEM Networks

aemnetworks.com | customer-care@aemnetworks.com | Version 2.1

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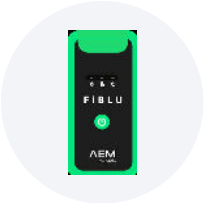
1. Introduction

1.1 About UniBLU



UniBLU is a professional mobile application developed by AEM Networks for controlling and managing the FiBLU Fiber Certification Tester and CuBLU Copper Tester. Available on both iOS and Android, UniBLU gives field technicians and network engineers an intuitive interface to perform fiber optic cable certification tests, configure test standards, manage project data, and sync results to the cloud or to TestDataPro PC software.

1.2 About FiBLU



FiBLU is a fiber certification tester manufactured by AEM Networks, available in both Singlemode (SM) and Multimode (MM) variants. It certifies fiber optic cabling installations in accordance with industry standards such as TIA-568 and ISO/IEC 14763-3. FiBLU communicates wirelessly with the UniBLU app via Bluetooth.

1.3 About CuBLU



CuBLU is AEM Networks' family of handheld copper cable testers designed for field technicians and network installers. It quickly verifies RJ45 copper cabling through wiremap testing, tone generation, and fault detection — helping test installations and isolate problems in the field.

CuBLU is part of the AEM Networks BLU series product line alongside FiBLU.

1.4 FiBLU Standard Kit Contents



- SM/MM FiBLU Fiber Tester
- Fiber Reference Cord SM/MM SC-LC
- Fiber Reference Cord SM/MM LC-LC
- Fiber Cleaner SC
- Interchangeable FC, SC, ST and LC
- 2 x Hanging Straps, 2 x USB-C charging Cables & 1 x Carrying Case

1.5 CuBLU Standard Kit Contents

CuBLU

- CuBLU main unit
- 1 × remote unit (preinstalled in the unit)
- Quick Start Guide (QR Code on box)

CuBLU II

- CuBLU II main unit
- 1 × remote unit (preinstalled in the unit)
- Quick Start Guide (QR Code on box)
- App setup instructions letter

CuBLU III

- CuBLU III with PoE Port main unit
- 1 × remote unit (preinstalled in the unit)
- Quick Start Guide (QR Code on box)
- App setup instructions letter

1.6 System Requirements

Requirement	Specification
iOS Version	iOS 15.5 or later
Android Version	Android 11 or later
Connectivity	Bluetooth (WPAN 2.4 GHz, v4.2 or higher)
Storage	Minimum 100 MB free space recommended
Internet Access	Required for cloud sync and firmware updates

1.7 Intended Users

- Field technicians specializing in fiber installation, certification, and copper cabling testing.
- Network engineers managing fiber infrastructure projects
- IT administrators overseeing test data and project records

2. Getting Started

2.1 Downloading and Installing UniBLU

Scan the QR codes on the packaging or Quick Start Guide using your phone camera to open the App Store or Google Play Store, or follow the steps below.

On iOS (iPhone / iPad)

Download on the App Store

Open the App Store on your iOS device.

- Search for UniBLU.
- Tap Get next to the app published by AEM Networks.
- Once installed, tap Open or find the UniBLU icon on your Home Screen.

On Android

GET IT ON Google Play

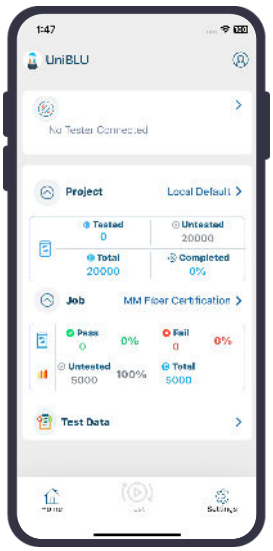
Open the Google Play Store on your Android device.

- Search for UniBLU.
- Tap Install next to the app published by AEM Networks.
- Once installed, tap Open or find the UniBLU icon in your App Drawer.

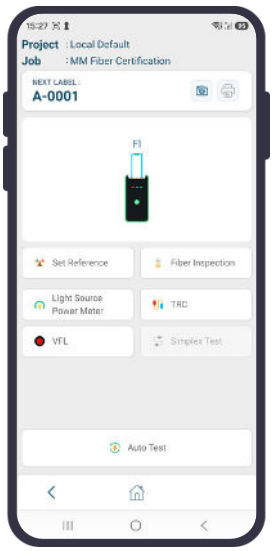
NOTE: *Minimum versions: iOS 15.5 / Android 11. Ensure your device has sufficient storage and a stable internet connection before downloading.*

2.2 App Navigation Overview

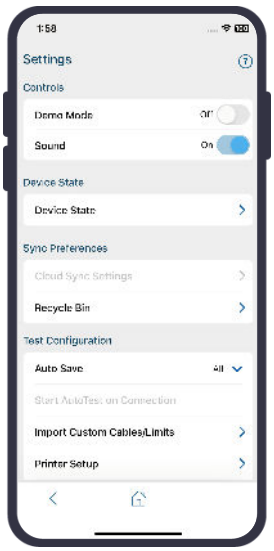
Tab	Description
Home	Dashboard showing connected FiBLU device, active Project and Job, and a summary of test results.
Test	Access all test functions: Autotest, Set Reference, Fiber Inspection, Light Source / Power Meter, TRC, VFL, and Simplex Test.
Settings	Configure app preferences, device state, cloud sync settings, printer setup, and test configuration.



Home — no tester connected



Test screen

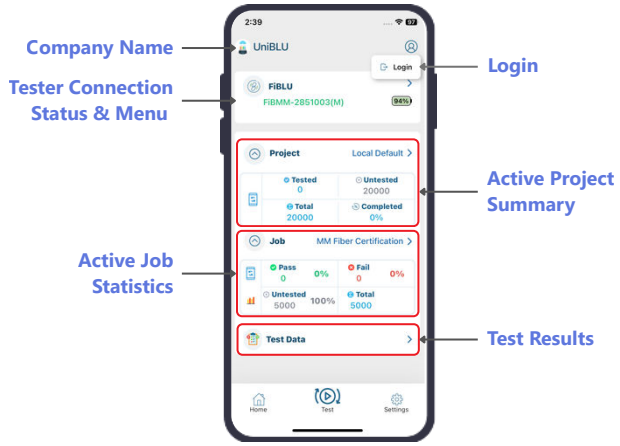


Settings screen

Main navigation tabs: Home, Test, Settings

2.3 Home UI

The Home Screen is the primary landing page of the UniBLU app and serves as the central hub for your fiber testing operations.



2.3.1 Login Menu

The Login icon is located at the top-right corner of the Home Screen. An active account is required to access cloud-based testing features. For detailed instructions on account management, please refer to Chapter 8.

2.3.2 Company Name

The Company Name is displayed in the top-left corner of the Home Screen. By default, this is set to “UniBLU.” Once logged into the cloud, the interface will update to display your custom organization name. The Connectivity Icon located to the left of the name indicates your current internet status.

2.3.3 Tester Connection Status & Menu

This section provides real-time information regarding the connected FiBLU device, including the Tester Name and its current Battery Level. For a comprehensive guide on hardware synchronization and status indicators, please refer to Chapter 3.

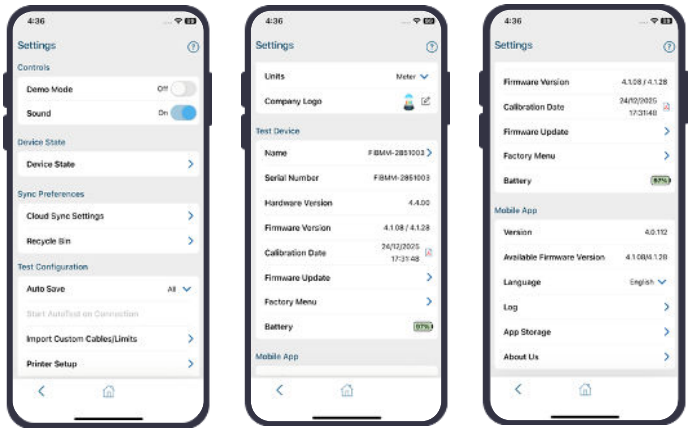
2.3.4 Summary of Active Project and Job

This section provides a real-time overview of your current progress. The Project Summary tracks overall completion, while the Job Summary focuses on specific tasks within that project. Tap the Statistic button to access detailed data visualizations and deeper insights into your current performance. For a full guide on managing workflows, please refer to Chapter 4.

2.3.5 Test Data of Active Job

Tap the Test Data button to view and manage all recorded test results for the current job. This area allows you to review measurements, edit metadata, and organize your fiber test files. For detailed information on data management and export options, please refer to Chapter 9.

2.4 Settings



2.4.1 Controls

Demo Mode: allows users to explore the application’s full functionality without physical hardware. Users can connect to virtual "demo testers" to simulate diverse testing scenarios, verify workflows, and practice data management without requiring an active fiber connection.

Sound: when enabled, the app provides immediate acoustic feedback for critical actions, such as successful test completions (Pass), measurement errors (Fail), or low-battery warnings.

2.4.2 Device State

This section enables users to remotely manage the connected hardware. Users can execute system commands directly through the interface, including restarting or powering off the device, ensuring full operational control without physical interaction with the tester.

2.4.3 Sync Preference

Cloud Sync Settings: This utility allows users to monitor real-time synchronization status between the local device and the cloud platform. Users can manually Force Sync data, toggle Auto-Sync for seamless background uploads, and enable or disable the Download Test Results feature to manage how historical data is retrieved from the server.

Recycle Bin: provides a safety layer for data management. Users can review, restore, or permanently delete discarded records, ensuring project integrity while allowing for the recovery of accidentally removed test data.

2.4.4 Test Configuration

2.4.4.1 Auto Save

There are three auto-save options available:

All: All test data will be automatically saved with the current label after the test is completed.

Only Pass: Only test data with a Pass result will be automatically saved with the current label after the test is completed.

None: No test data will be saved automatically after the test is completed.

2.4.4.2 Start Autotest on Connection

When this feature is enabled, the system initiates a measurement cycle automatically upon the detection of a stable cable connection. This streamlines high-volume testing by removing the need for manual trigger actions at each link.

2.4.4.3 Import Custom Cables/Limits

This feature enables users to expand the application's database by integrating proprietary cable specifications and specialized test limits. To ensure data integrity, follow the standardized import procedure below:

- From the drop-down menu, select the specific item type you wish to add (e.g., Cable, Connector, or Test Limit).
- Download the corresponding CSV template.
- Open the template in a spreadsheet editor. Populate the fields with your custom specifications and save the file, maintaining the .CSV extension.
- Use the "Select File to be Imported" button to browse for and upload your prepared CSV file into the app.

2.4.4.4 Printer Setup

This menu allows users to establish a wireless connection with a compatible Bluetooth label printer to facilitate real-time, on-site cable labeling. Refer to Chapter 10: Label Printing.

2.4.4.5 Units

This setting allows users to define the preferred unit for cable length measurements in meters or feet throughout the application.

2.4.4.6 Company Logo

This feature allows users to personalize documentation by uploading a corporate logo. Once configured, the image is automatically integrated into the header of all generated PDF fiber certification and copper test reports.

2.4.5 Test Device

This section provides real-time diagnostic information and identification details for the hardware currently interfaced with the UniBLU application.

2.4.6 Mobile App

Version: Displays the version of the application currently installed

Available Firmware Version: Indicates the latest hardware firmware version bundled within the app.

Language: Provides a selection menu for users to localize the application interface into their preferred language.

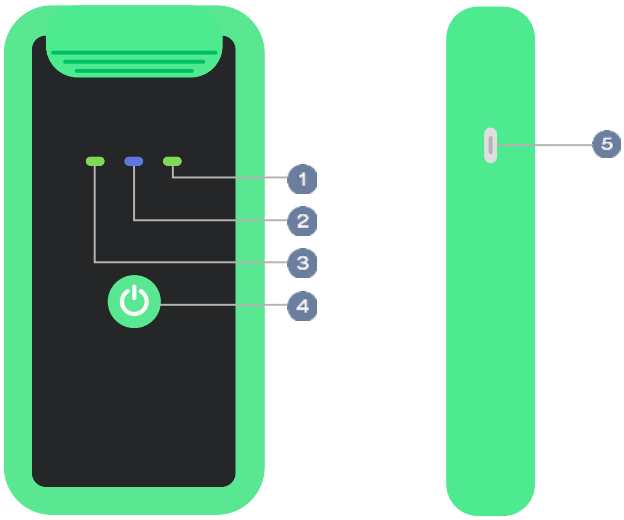
Log: Tap "All Logs" to generate a comprehensive system report that can be forwarded to AEM Networks Customer Support for technical assistance.

App Storage: Enables local data management, allowing users to back up and restore test projects stored directly on the mobile device to prevent data loss.

3. FiBLU Device Setup & Connectivity

3.1 FiBLU LED Indicators

The FiBLU device has three LEDs on the front panel indicating device status at a glance.



LED	Function	States
LED 1	Power Status	Green = On, not charging Red = Off, charging Orange = On, charging
LED 2	Bluetooth Status	Blue = Connected to app Green = Battery status check Blue Blink = Advertising, not connected
LED 3	Test Status	Green = Test Pass Red = Test Fail Orange Blink = Laser/Test active
USB (Type C) 5	Charger port	Device charging and data transfer

3.2 Power Button

4

- **Short Press** this button to turn on FiBLU device
- **Long Press** this button to turn off FiBLU device
- When device powered on and button is pressed shortly then LED indicates as below

L1	L2	L3	Battery levels
●	●	●	66% to 100%
●	●	○	33% to 66%
●	○	○	3% to 33%
●	○	○	Less than 3% (Red LED blinks)

3.3 Connecting FiBLU/CuBLU to UniBLU

FiBLU/CuBLU connects to UniBLU via Bluetooth only.

Wi-Fi is not used for the device connection.

Launch UniBLU and grant all requested permissions (Bluetooth, location if prompted).

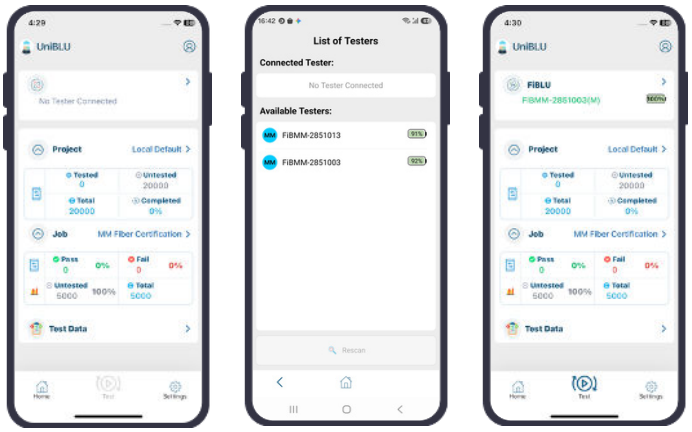
1. Press the Power Button briefly to turn on FiBLU/CuBLU. The green LED (LED-1) will illuminate. Wait for the blue LED (LED-2) to start blinking (FiBLU only) — this confirms the device is ON and advertising via Bluetooth (for CuBLU, it advertises as soon as it boots up).
2. On the UniBLU Home screen, tap Connect.
3. UniBLU scans and lists all available FiBLU/CuBLU devices. Tap your FiBLU/CuBLU unit (shown by serial number, e.g., FiBLUMM-10054).
4. Once connected, the Home screen shows the device name and its battery level.

NOTE: *UniBLU supported for CuBLU II and CuBLU III.*

Step 1
Tap Connect

Step 2
Select FiBLU

Step 3
Connected



Connecting to FiBLU/CuBLU via Bluetooth

NOTE: *If FiBLU/CuBLU does not appear in the scan list, ensure it is powered on and LED-2 is blinking blue. Keep the device within 10 meters of your mobile device and tap Rescan.*

3.4 Disconnecting the testers

To disconnect a tester, tap the device on the Home screen to open the List of Testers screen. Then, click the Disconnect Tester button. Once the tester is disconnected, the status will revert to No Tester Connected.

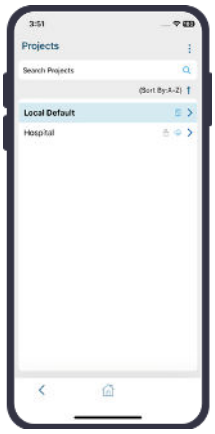
4. Project & Job

4.1 Overview

UniBLU organizes work into Projects and Jobs. A Project is a collection of Job configurations for a specific customer or contract. A Job defines the test parameters — certification type, cable, connector, label scheme, and test options.

4.2 Project

The Project UI displays a list of available projects.

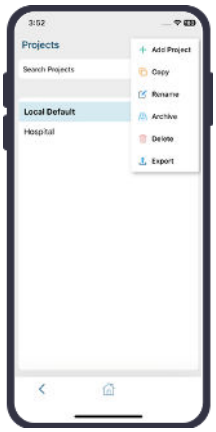


4.2.1 Project State Icons

Two status icons are displayed to the right of each project name:
1. **Lock Icon (Project Security):** Indicates if the project is locked for editing. This feature is in cloud-based testing only. Locked projects cannot be modified by Operator users. Only Owners and Managers can toggle the lock status via the project menu.
2. **Storage Icon (Location & Sync):**
Phone Icon: Data is stored locally on the device only.
Cloud Icon: Data is stored in the cloud and fully synchronized across all devices.

4.2.2 Project Operations Menu

The Project Operations Menu (⋮), located in the top-right corner of the interface, provides access to the project management tools listed below.



Note: Access to specific operations is determined by user role; certain cloud-based features are reserved exclusively for Owners or Managers.

Add Project
To create a new project, enter a name into the pop-up dialog. Because every project requires at least one associated job to function, the app will automatically navigate to the Add Job interface immediately after the project is created.

While you may choose to skip this step and add a job at a later time, the new project will not be designated as the "Current Project" or become active for testing until it contains at least one job.

"Local Default" is a default project automatically created by the App during installation. It exists only on the local device and is not synced to the cloud.

(Owner/Manager only, In cloud-based testing):
In cloud-based testing environments, Owner and Manager users have access to an "Assign user to this project" checkbox within the Add Project dialog. If this option is selected, the application will automatically navigate to the User Assignment interface immediately following project creation, allowing for seamless team integration.

Copy
Select a single project to create a duplicate under a new name.

Rename
Modify the name of a selected project.

Archive
Toggle the status of selected projects between active and archived.

Delete
Remove one or more selected projects from the system. Deleted projects can be restored from Recycle Bin.

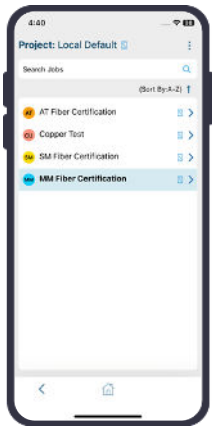
Export
Package one or more projects into a .ubu file. These files are compatible with TestDataPro PC software for advanced management and reporting.

Lock/Unlock (Owner/Manager Only, Cloud-based testing)
Secure a project to prevent modifications by Operator and Viewer users, or unlock it to restore editing permissions.

Assign User (Owner/Manager Only, Cloud-based testing)
Manage project access by assigning one or more users to a selected project in cloud-based environments.

4.3 Job

The Job interface displays a comprehensive list of all available jobs. To assist with navigation, the name of the currently selected job is prominently highlighted, allowing you to quickly identify the active project context while browsing the job list.



Job Settings showing all configurable parameters

4.3.1 Job State Icons

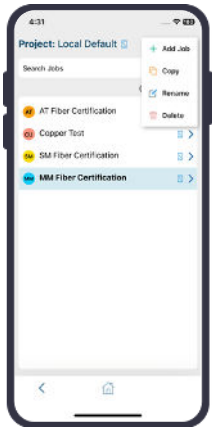
Two status icons are displayed to the right of each job name:

1. Lock Icon (Project Security): Indicates if the job is locked for editing. Locked jobs cannot be modified by Operator users. Only Owners and Managers can toggle the lock status via the job menu.

2. Storage Icon (Location & Sync):
Phone Icon: Data is stored locally on the device only.
Cloud Icon: Data is stored in the cloud and fully synchronized across all devices.

4.3.2 Job Operations Menu

The Job Operations Menu (3 dots ⋮), located in the top-right corner of the interface, provides access to the job management tools listed below.



Note: Access to specific operations is determined by user role; certain cloud-based features are reserved exclusively for Owners or Managers.

Add Job
Opens a pop-up dialog to create a new job. Upon completion, the application automatically navigates to the Job Settings interface.

Copy
Allows users to select a single job and create an exact duplicate under a new name.

Rename
Enables users to modify the name of a currently selected job.

Delete
Removes one or more selected jobs from the project.

Lock / Unlock (Owner/Manager Only, Cloud-based testing)
Restricts a job to "Read-Only" status to prevent modifications by Operator users, or unlocks it to restore editing access.

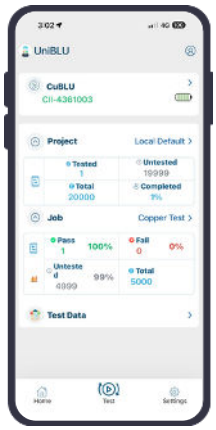
4.4 FiBLU Job Settings



Tab	Description
i. Job Type	SM Fiber Certification or MM Fiber Certification.
ii. Limit	Test limit standard (e.g., TIA-568.3-E Multimode STD Grade).
iii. Configuration	Cable test configuration: Loopback, Dual End Unidirection, Dual End Bidirection or Simplex.
iv. Cable	Generic or manufacturer-specific cable (e.g., Generic MMF, MultiMode OM4).
v. Connector	Generic or manufacturer-specific connector (e.g., LC).
vi. Label Scheme	Simple sequential labeling or upload a custom label list.
vii. Operator	Name of the operator performing the tests.
viii. Test Option	How results are stored (e.g., Duplex Fiber in same Label ID / Single Fiber).

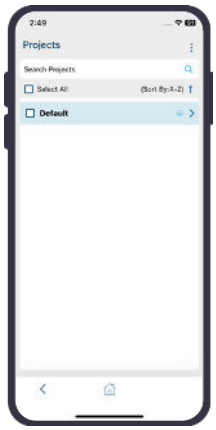
4.5 Selecting a Project and Job

Home screen



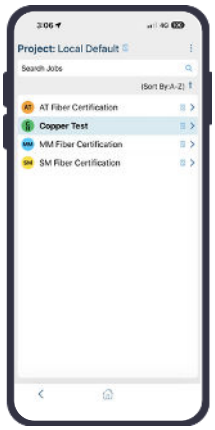
On the Home screen, tap the Project name to open the Projects list.

Projects list



Tap your project to select it.

Jobs list



Tap the Job name to view or change the active job for that project.

Navigating to a Project and Job

Tab	Description
Job Type	Copper test
Limit	Resistance limit 25 Ohms Length limit 120 meters
Cable	Coax, RJ11, RJ12, RJ45 and M12
Shield Status	Shielded or Unshielded
Length Constant	Set length constant and learn length constant.
Label Scheme	Simple sequential labelling or upload a custom label list.
Operator	Name of the operator performing the tests.
Test Option	T568A or T568B wiring

5. Setting the Reference for Fiber Test

5.1 Overview

A reference measurement must be performed before any certification test. This establishes the baseline optical power level used to calculate insertion loss. Always set a new reference whenever test cables are changed or conditions change significantly.

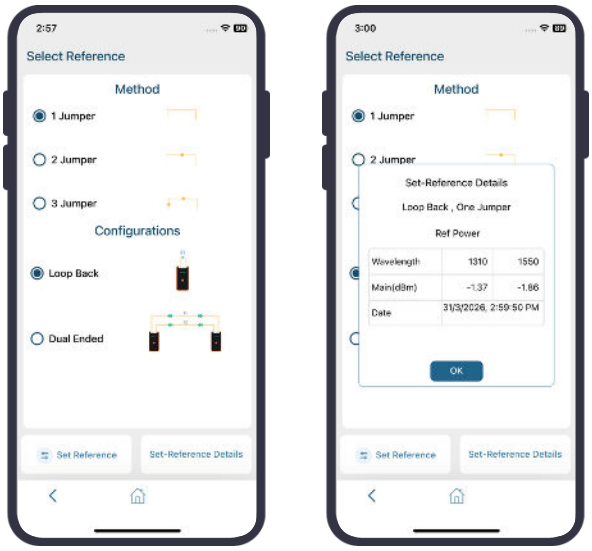
5.2 Loopback Set Reference

1. Connect the reference cable (2 meters) to the FiBLU TX port to RX port on the same device.
2. In UniBLU, tap the Test tab.
3. Review the Wiremap on the Autotest screen — it must match the physical cable connected to FiBLU. If it does not match, correct the connection.
4. Tap Set Reference.
5. Select the appropriate Jumper Reference Method (1, 2, or 3 Jumper). Once selected, specify the Test Type as Loopback.
6. Tap Set Reference. The measured reference power and date/time will be displayed.

Typical reference power ranges:

- Singlemode fiber: -6 dBm to -0 dBm
- Multimode fiber: -24 dBm to -18 dBm

Reference options *Reference result*

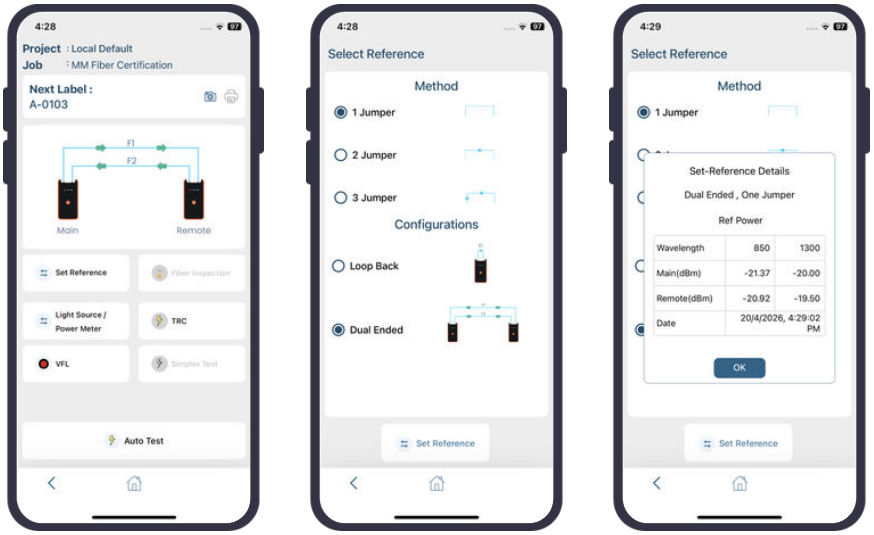


Set Reference: configuration options and measured power result

NOTE: *If measured reference power falls outside these ranges, check that all connectors are clean and properly seated before proceeding.*

5.3 Dual Ended Set Reference

1. Connect a 2-meter reference cable from the TX port on the Main unit to the RX port on the Remote unit. Connect a second 2-meter reference cable from the RX port on the Main unit to the TX port on the Remote unit.
2. In UniBLU, tap the Test tab.
3. Review the Wiremap on the Autotest screen — it must match the physical cable connected to FiBLU. If it does not match, correct the connection.
4. Tap Set Reference.
5. Select the appropriate Jumper Reference Method (1, 2, or 3 Jumper). Once selected, specify the Test Type as Dual Ended.



6. Running Fiber Tests

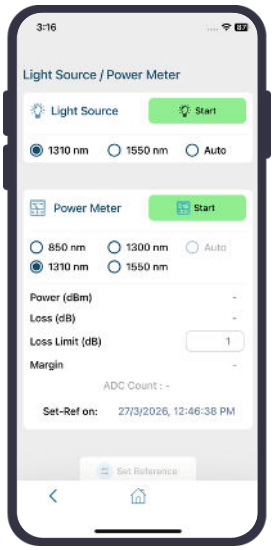
6.1 Light Source/Power Meter

This function performs manual optical power measurements. The light source generates a continuous wave at a selected wavelength; the power meter reads the received intensity.

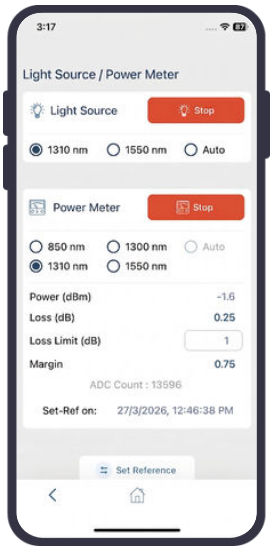
Procedure

1. Ensure fiber connectors are clean. Select the appropriate wavelength for both light source and power meter.
2. Connect the light source to one end of the fiber and the power meter to the other.
3. Tap Start on the Light Source. Observe the Power Meter readings.
4. Tap Set Reference to set current power as reference.
5. Tap Stop when the measurement is complete.

Light Source / PM setup



Measurement active



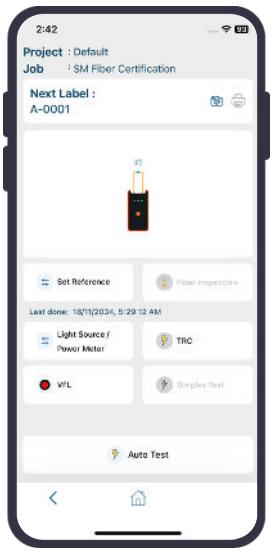
Light Source/Power Meter: setup and active measurement

6.2 TRC (Test Reference Cord Verification)

The TRC function verifies that your test reference cords meet the required loss limits before use in certification testing.

1. Connect the reference cord to FiBLU and review the Wiremap.
2. Select the appropriate label for the TRC.
3. Use the default TRC limits, or set them to the appropriate values.
4. Tap the Test button to start the TRC test.
5. View and save results.

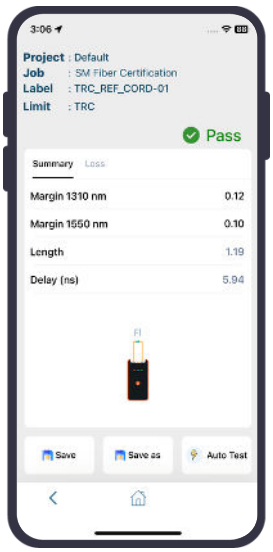
Test screen — tap TRC



TRC setup screen



*TRC result — Pass**



TRC: setup and Pass result

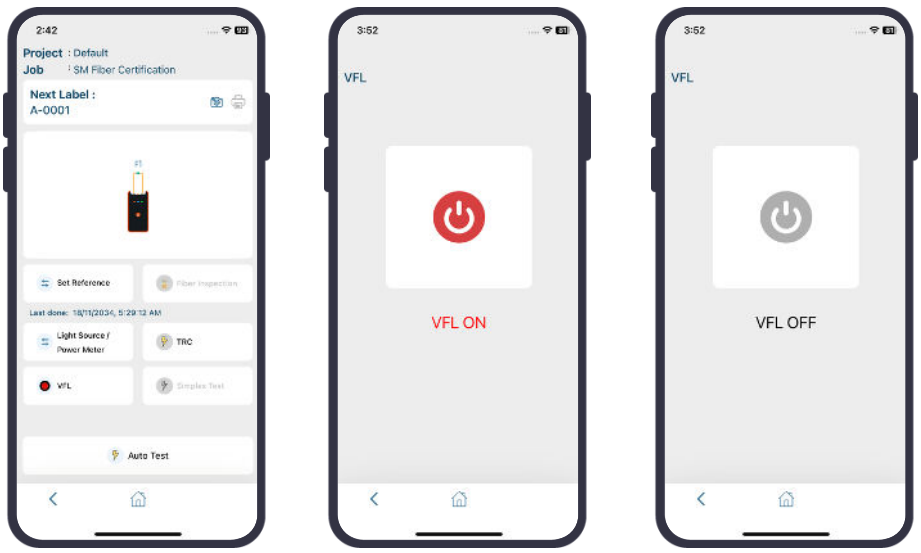
6.3 VFL (Visual Fault Locator)

VFL emits a 650 nm red laser through the fiber to visually identify breaks, bends, or damaged sections. It is ideal for both installation and maintenance tasks.

Procedure

1. Insert the fiber optic cable into the VFL adapter port on FiBLU.
2. In UniBLU, tap VFL on the Test screen.
3. Tap the power button to turn the laser ON (button turns red).
4. Look for red light leakage along the cable to identify breaks or bends.
5. Tap the button again to turn VFL OFF, then disconnect the cable.

Test screen — tap VFL *VFL ON* *VFL OFF*



VFL: access from Test screen → VFL ON → VFL OFF

Issue	Resolution
No light emission	Ensure FiBLU is powered on. Check for loose or dirty connections.
Light too dim	Check for contamination on the fiber end face. Clean and retry.
False faults	Thoroughly clean the fiber and connectors before retesting.

NOTE: *Never look directly into the VFL port while the laser is active. Use the protective cap when VFL is not in use.*

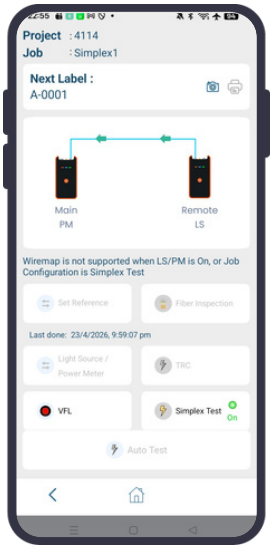
6.4 Simplex Test

The Simplex Test is an automated single-fiber test that drives both wavelengths simultaneously (850/1300 nm for multimode; 1310/1550 nm for singlemode) and returns a PASS or FAIL result.

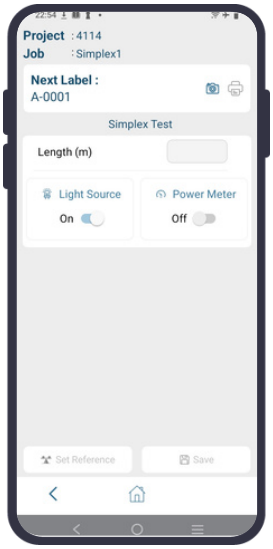
Procedure

1. Ensure all fiber connectors are clean before making any connections.
2. Connect the Tx port of the first FiBLU device to one end of the cable under test, and connect the Rx port of the second FiBLU device to the other end of the cable.
3. In the Simplex test UI, toggle ON the Light Source in the app connected to the first FiBLU device, and toggle ON the Power Meter in the app connected to the second FiBLU device.
4. In the Simplex Test – Power Meter app, enter the cable length, if it is known.
5. In the Simplex Test – Power Meter app, tap Set Reference to establish the reference level and enable accurate loss measurements (dB).
6. In the Simplex Test – Power Meter app, review the measurement results. Tap Save to store the readings.

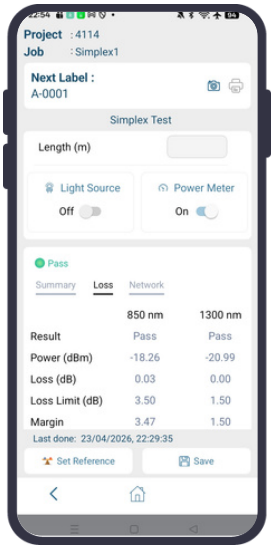
Test screen - tap Simplex Test



Simplex setup and Light Source screen



Simplex setup and Power Meter screen



Simplex Test: dual-end view → setup → result

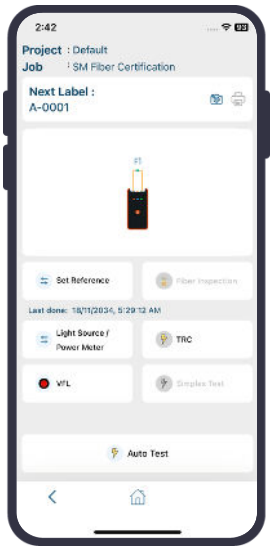
6.5 Autotest (Fiber Certification)

The **Autotest** function performs a comprehensive loopback or bidirectional certification test against your selected Job Limit. Once the Job Settings are configured and a reference is established, follow these steps to begin testing:

6.5.1 Loopback Test

1. Connect the fiber cable under test to the FiBLU device via the reference cable.
2. Review the Wiremap on the Autotest screen to confirm correct physical connections.
3. Verify the label shown (e.g., A-001). To change the label, tap it and select from the list. **Note:** *Cable Label Scan-N-Test This feature can be accessed by tapping the camera icon next to the label field. After tapping Capture, the scanned label is displayed. If multiple labels are detected, select the correct label from the dropdown list. You may also edit the label before accepting it.*
4. Tap Autotest to start the test.
5. The result (PASS or FAIL) is displayed with margin values for each wavelength.

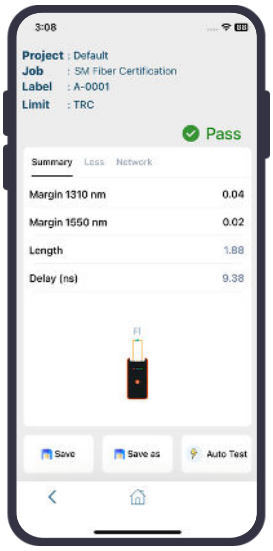
Test screen



Autotest in progress



Result — Pass



Autotest: Test screen → In progress → Pass result

6.5.2 Unidirectional Test

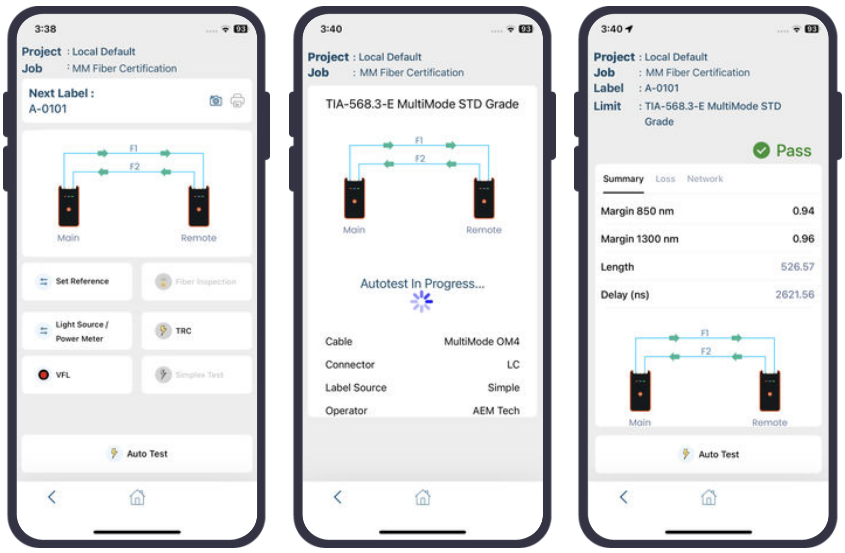
The FiBLU Dual-Ended Unidirectional test measures insertion loss and propagation delay to ensure compliance with industry standards. In this mode, measurements are captured in a single direction, with the signal traveling from the Main unit to the Remote unit.

Note: A Set Reference procedure must be completed prior to performing any Fiber Certification tests. AEM recommends the Single Jumper Reference Method to ensure the highest measurement accuracy and compliance with industry standards. For Job Settings, see Section 4.4.

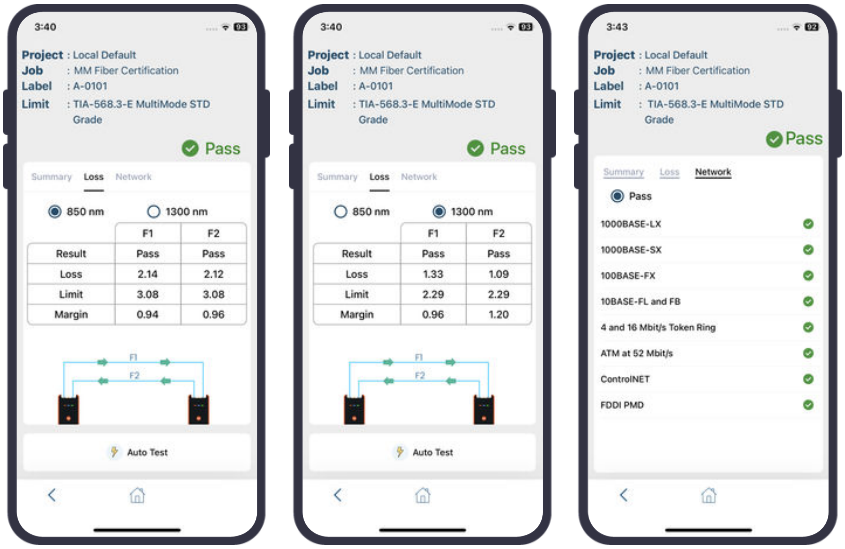
1. Connect the fiber cable under test to the FiBLU device via the reference cable. Review the Wiremap on the Autotest screen to confirm correct physical connections. Verify the label shown (e.g., A-001). To change the label, tap it and select from the list.

   Note: Cable Label Scan-N-Test This feature can be accessed by tapping the camera icon next to the label field. After tapping Capture, the scanned label is displayed. If multiple labels are detected, select the correct label from the dropdown list. You may also edit the label before accepting it.

2. Tap Autotest to begin the certification sequence.
3. Upon completion of the Autotest, the Summary page is displayed. This screen provides the overall test result (PASS or FAIL) along with the specific margin values for each tested wavelength.



4. Select the Loss tab to view measurement details. By default, 850 nm is displayed for Multimode fiber, while 1310 nm is shown for Singlemode fiber.
5. To view 1300 nm measurements, select the 1300 nm radio button. For Singlemode testing, select the 1550 nm radio button to view long-wavelength results.
6. The Network tab identifies specific network applications (e.g., 10GBASE-SR, 40GBASE-SR4) that the measured fiber link can support based on its current performance. This allows you to verify that the installation meets the requirements for intended hardware deployments.

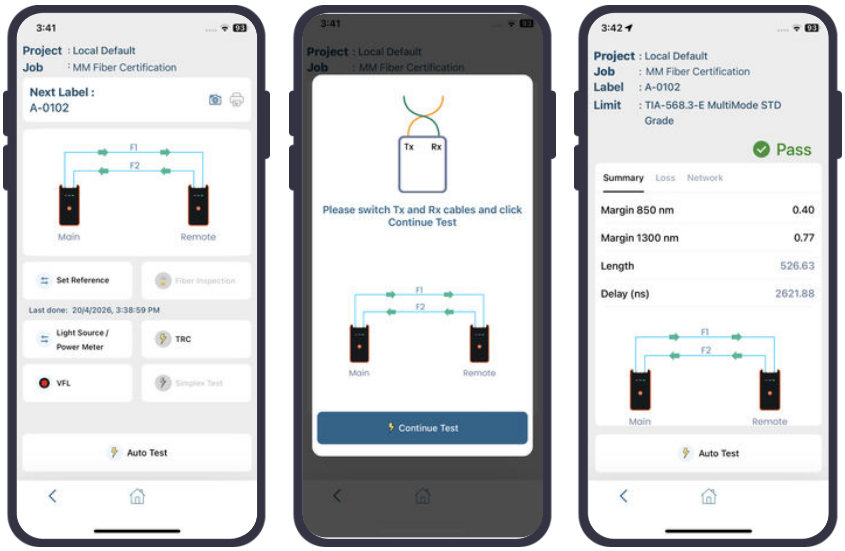


6.5.3 Dual Ended Bi-Direction

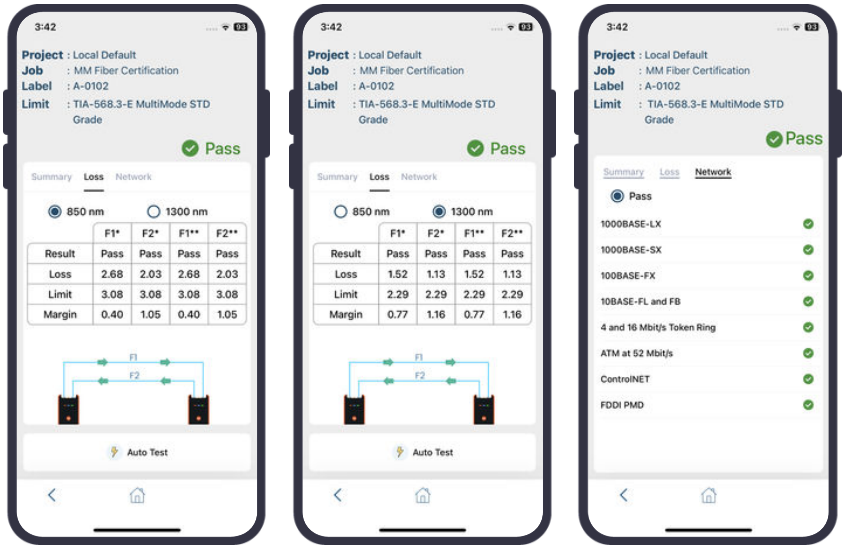
The FiBLU Dual-Ended Bidirectional Test measures insertion loss and propagation delay to ensure full compliance with industry standards. In this mode, measurements are captured in both directions, with the signal traveling from the Main unit to the Remote, and then from the Remote unit back to the Main.

Note: A Set Reference procedure must be completed prior to performing any Fiber Certification tests. AEM recommends the Single Jumper Reference Method to ensure the highest measurement accuracy and compliance with industry standards. For Job Settings, see Section 4.4.

1. Connect the fiber cable under test to the FiBLU device via the reference cable. Review the wiremap on the Autotest screen to confirm correct physical connections. Verify the label shown (e.g., A-001). To change the label, tap it and select from the list. Note: Cable Label Scan-N-Test This feature can be accessed by tapping the camera icon next to the label field. After tapping Capture, the scanned label is displayed. If multiple labels are detected, select the correct label from the dropdown list. You may also edit the label before accepting it.
2. Tap Autotest to begin the certification sequence. If the system is configured for bidirectional testing, the FiBLU will prompt you to swap the fiber connections at the end of the first phase to complete the measurement in the opposite direction.
3. Upon completion of the Autotest, the Summary page is displayed. This screen provides the overall test result (PASS or FAIL) along with the specific margin values for each tested wavelength.



4. Select the Loss tab to view measurement details. By default, 850 nm is displayed for Multimode fiber and 1310 nm for Singlemode. For Bidirectional tests, the screen displays four comprehensive measurements: F1 and F2 from Main to Remote, and F1 and F2 from Remote to Main.
5. To view 1300 nm measurements, select the 1300 nm radio button. For Singlemode testing, select the 1550 nm radio button to view long-wavelength results.
6. The Network tab identifies specific network applications (e.g., 10GBASE-SR, 40GBASE-SR4) that the measured fiber link can support based on its current performance. This allows you to verify that the installation meets the requirements for intended hardware deployments.



7. CuBLU Device & Copper Test

7.1 CuBLU Model Variants

CuBLU (Base model)	CuBLU II (App connected)	CuBLU III (Full featured)
Simple standalone handheld tester. No app or Bluetooth required. **FEATURES INCLUDED:** • Wiremap test (RJ45) • Tone generator — 7 frequency modes • Identifies following fault types: open, short, miswire, crossover, split-pair & multi-fault • Voltage detection (up to 60 V DC) • Shield detection • Up to 16 remote IDs (number shown on display) • Loop/continuous test • Auto-off • Battery indicator + 45-hr battery life **FEATURES NOT INCLUDED:** • Bluetooth / App • PoE detection • Reporting	Adds Bluetooth 5.4 and UniBLU app support for reporting and measurement. **FEATURES INCLUDED:** • All CuBLU features • UniBLU app connectivity • Bluetooth • Reporting via app (PDF/CSV) • DC Resistance & Length Measurements via UniBLU app **FEATURES NOT INCLUDED:** • PoE detection	Includes all CuBLU II features, plus PoE detection, voltage and power measurements, and PoE class identification. **FEATURES INCLUDED:** • All CuBLU II features • PoE detection up to IEEE 802.3bt (up to 90 watts)

7.2 CuBLU Features



Power Key		
Short Press	Turn ON Device	Wake Up from Low Power State
Long Press (4s)	Turn OFF Device	
WireMap Key		
Short Press	Initiate wiremap test	Wake Up from Low Power State
Long Press (4s)	Change Test option	
on Tone generator Screen short press	Wire selection	
on Tone generator Screen Long press (4s)	Back to wiremap screen/return to home	
Tone Key		
Long Press (4s)	Start Tone generation	
on Tone generator Screen short press	Change frequency	
Short Press	Wake Up from Low Power State	

7.2.1 CuBLU Home and Wiremap screen

WireMap Key		
Short press	Initiate wiremap test	Wake up from low power state
Long press (4s)	Change test option	
on tone generator screen, short press	Wire selection	
on tone generator screen, long press (4s)	Back to wiremap screen/return to home	



7.3 Tone Generator



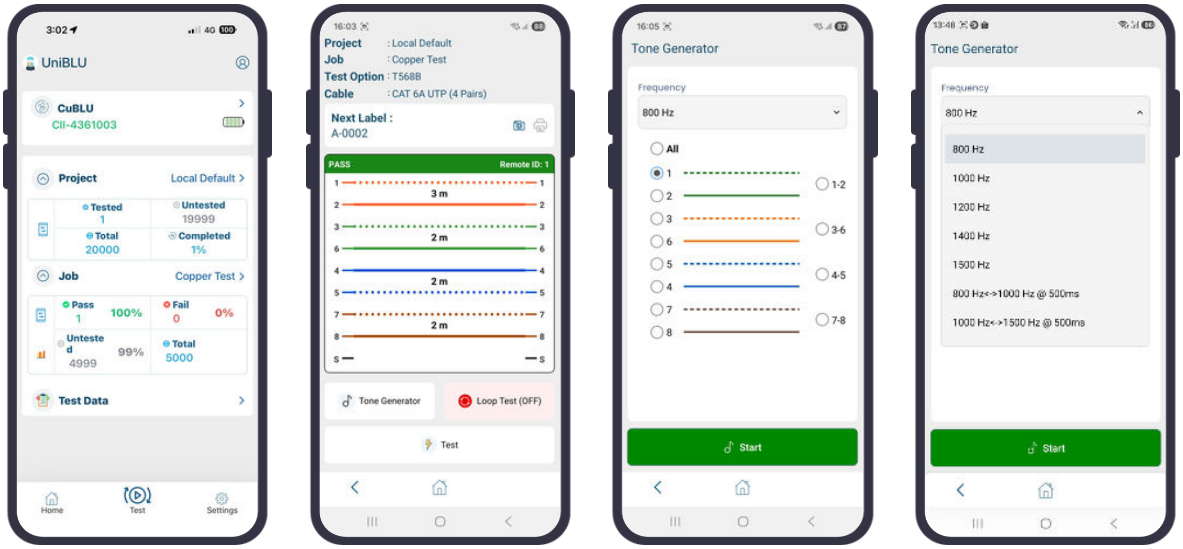
7 Frequencies from 800 Hz to 1500 Hz
Active frequency display
e.g., 800 Hz | 800 Hz <--> 100 Hz @500 ms

Wire combination being driven
eg. 1, 2, 3, 4, 5, 6, 7, 8, 12, 36, 45, 78

Tone Key	
Long press (4s)	Start tone generation
on tone generator screen short press	Change frequency
Short press	Wake up from low power state

- From the home screen, tap Test.
- Select Tone Generator.
- From the frequency drop-down list, choose the frequency that matches your Tone Probe or Tone Receiver (e.g., 800 Hz).
- Under Wiring, choose where the tone should be generated (e.g., All wires or individual wires).
- Select Start to activate the Tone Generator. Select Stop to stop the Tone.

Tone Generator with UniBLU



7.4 Running a CuBLU Test

CuBLU offers two modes for testing copper cables.

Single Test: Performs a wiremap test in a single operation, with length and resistance measurements available on CuBLU II and III. It is best used for rapid, standard installation testing and generating final "Pass/Fail" test reports.

Continuous (Loop) Test: Repeatedly measures the cable in real time. It is the ideal diagnostic tool for identifying intermittent faults, loose connections, and bad crimps by allowing technicians to physically wiggle the cable and observe live changes on the screen.

7.4.1 CuBLU Single Test

Single Test

- Press the power button to turn on the CuBLU. The screen will initially display "Wiremap Disconnected."

Note: *Ensure the infinite icon (∞) is not visible on the screen before proceeding.*

- Plug one end of the RJ45 cable under test into the CuBLU main unit, then connect the remote unit to the far end of the cable.
- Short-press the WIREMAP key. The progress bar will briefly animate, and the final Wiremap Screen will appear with your test results.





7.4.2 CuBLU Loop Test

Loop Test

- Press the power button to turn on the CuBLU. The screen will initially display "Wiremap Disconnected."

Note: *Verify that the infinite icon (∞) is visible on the screen. Then, press and hold the WIREMAP button until Loop Test mode is enabled.*

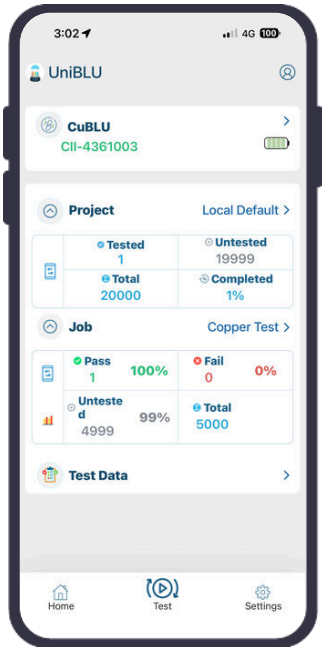
- Plug one end of the RJ45 cable under test into the CuBLU main unit, then connect the remote unit to the far end of the cable.
- In Loop Mode, measurements are conducted continuously. The screen will automatically refresh and display live test results the moment the cable under test is connected to the CuBLU.

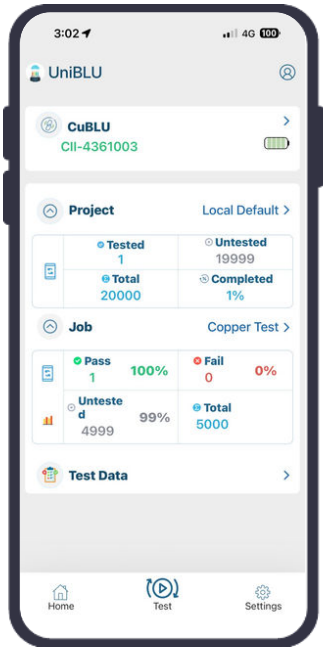


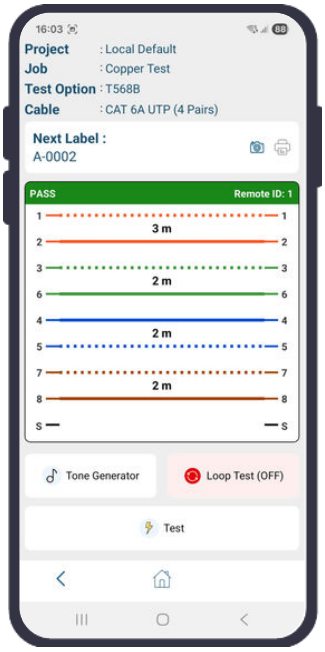


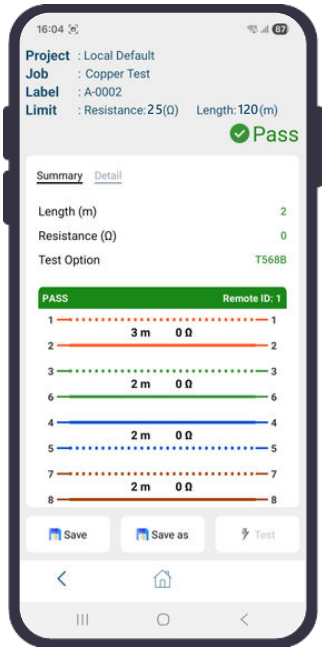
7.4.3 CuBLU II with UniBLU App

- Connect the UniBLU app to the CuBLU II tester.
- From the Home screen, tap Test.
- The UniBLU app will show a preview for wiremap and length (when Loop is enabled).
- Tap Test again. UniBLU will begin the copper DC, wiremap, and length tests.

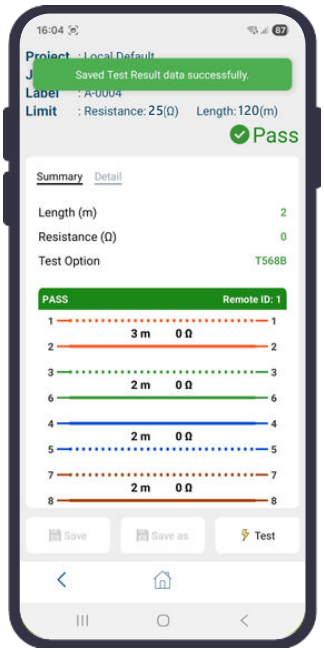


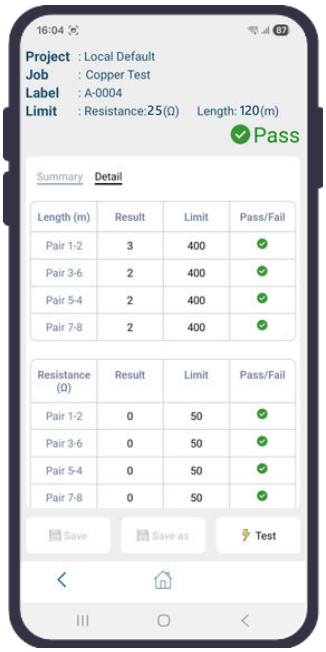






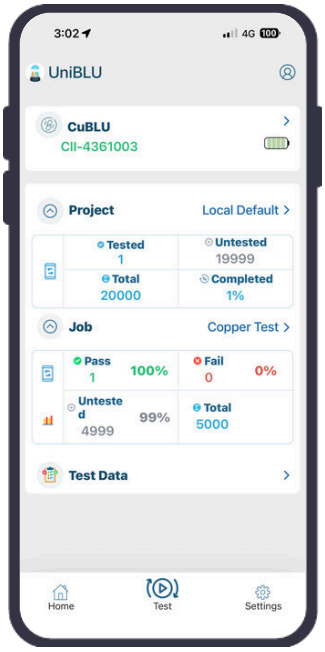
- To save the test result, tap the Save button to use the existing label scheme, or select Save As to enter a new label name.
- Tap the Details tab. The app will display the Length and DC Resistance results for each pair.

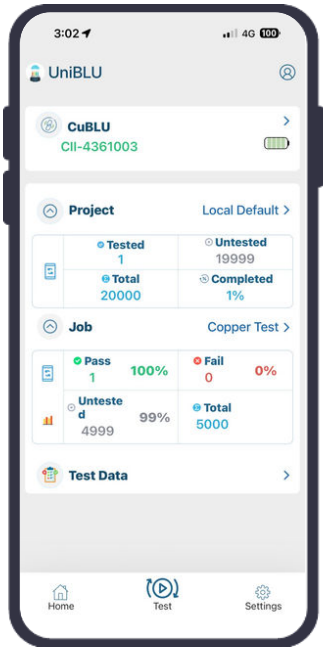


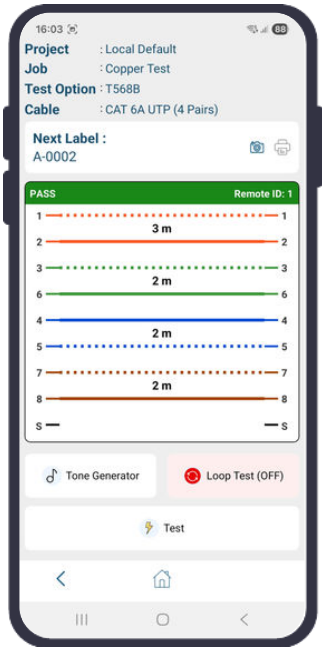


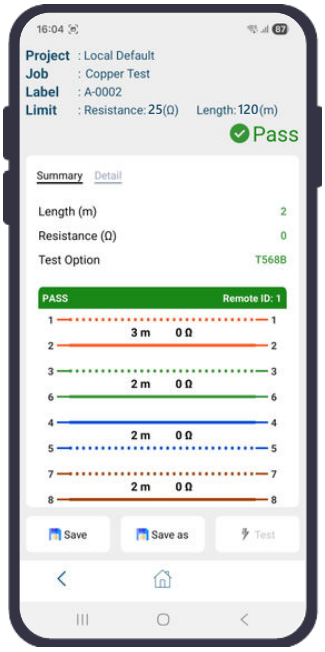
7.4.4 CuBLU III with UniBLU App

- Connect the UniBLU app to the CuBLU III with PoE tester.
- From the Home screen, tap Test.
- The UniBLU app will show a preview for wiremap and length (when loop is enabled).
- Tap Test again. UniBLU will begin the Copper DC, Wiremap, and Length tests.

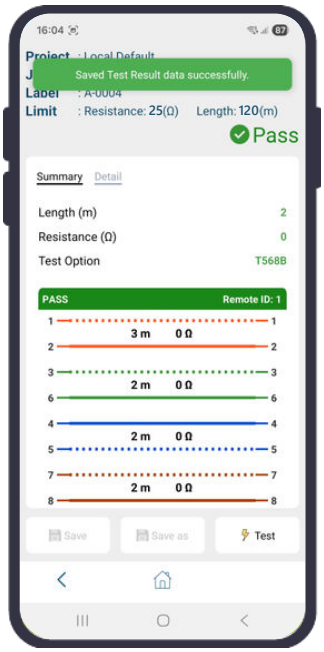


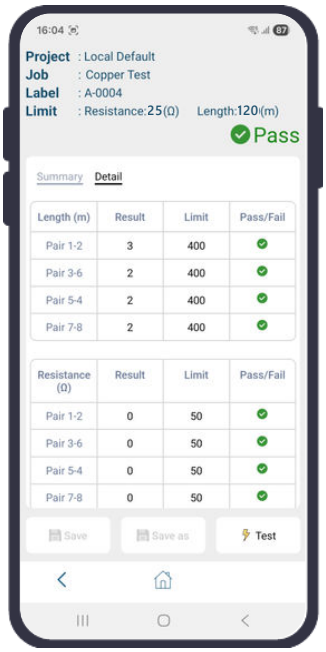




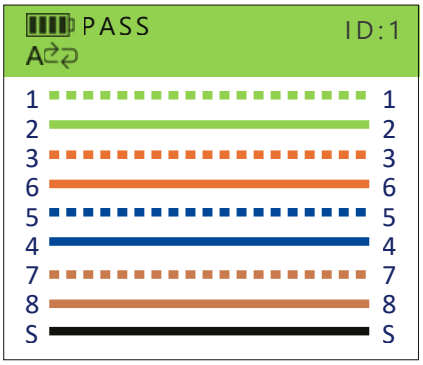


- To save the test result, tap the Save button to use the existing label scheme, or select Save As to enter a new label name.
- Tap the Details tab. The app will display the Length and DC Resistance results for each pair.



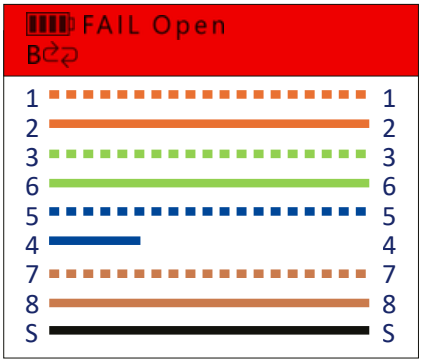


7.4.5 Wiremap Results — PASS & Fault Types

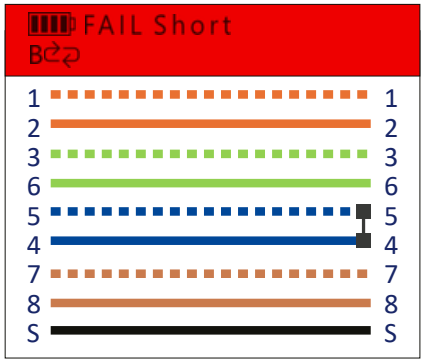


PASS Result
Screen shows green background. Remote ID number is displayed (ID: 1–16). All 8 conductors are shown as connected. Shield wire tested separately — PASS/FAIL result shown with named status.

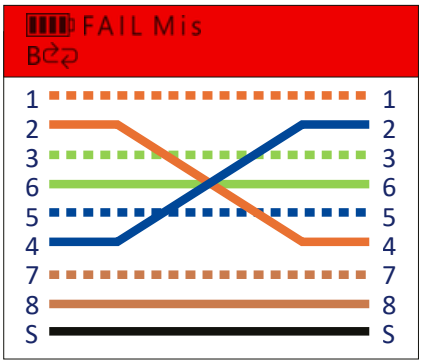
FAIL Fault Types — Each displayed with a separate, descriptive error name



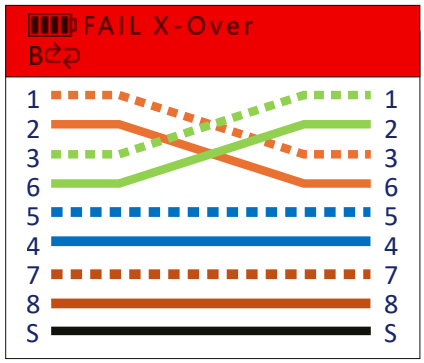
FAIL Open
One or more wires are broken or not connected end-to-end.



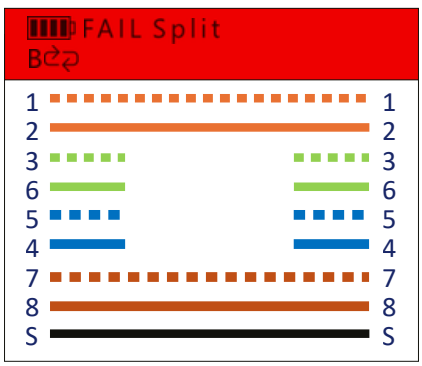
FAIL Short
Two or more conductors are shorted together. A gray bar with a highlighted dot indicates the fault.



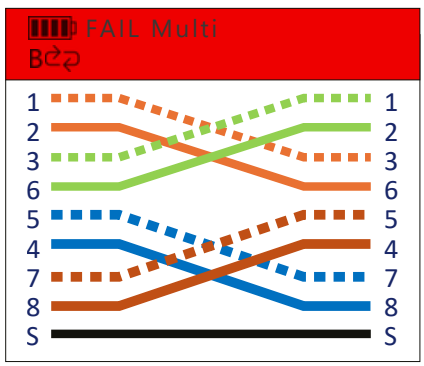
FAIL Miswire
Wires connected to wrong pins at the far end.



FAIL Crossover
Wire pairs are swapped (TX↔RX).



FAIL Split
Pairs partially crossed between pin groups.

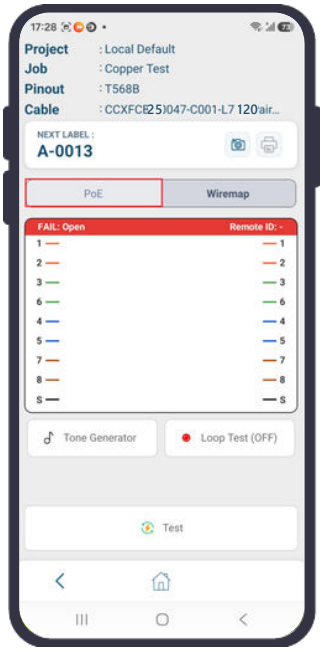


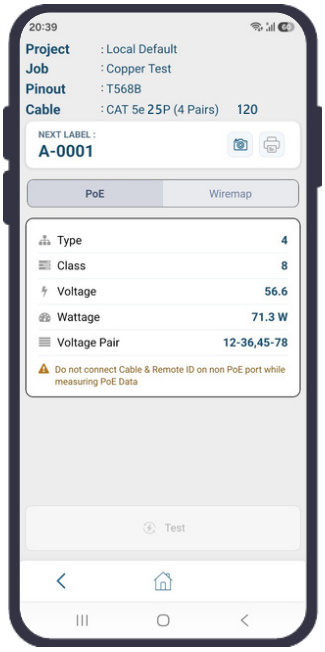
FAIL Multi
Multiple fault condition detected simultaneously.

7.4.6 PoE Test

The CuBLU III provides fast and accurate Power over Ethernet (PoE) testing to ensure your network infrastructure is fully capable of powering connected devices. Capable of evaluating PoE standards up to IEEE 802.3bt (up to 90 watts) power levels, the device instantly detects active Power Sourcing Equipment, measures operational DC voltage, identifies the PoE class, and verifies power pair mapping. Measurements are synced seamlessly via Bluetooth to the UniBLU app, the CuBLU III streamlines the installation and troubleshooting of IP cameras, wireless access points, and modern smart building technologies.

- Plug one end into the PoE port on the CuBLU III and the other end into the output port of the PoE Source. (Note: The CuBLU Remote is not required for this test.)
- In the UniBLU app, switch from the Wiremap tab to the PoE tab.
- The app will automatically measure, read, and display the PoE results.

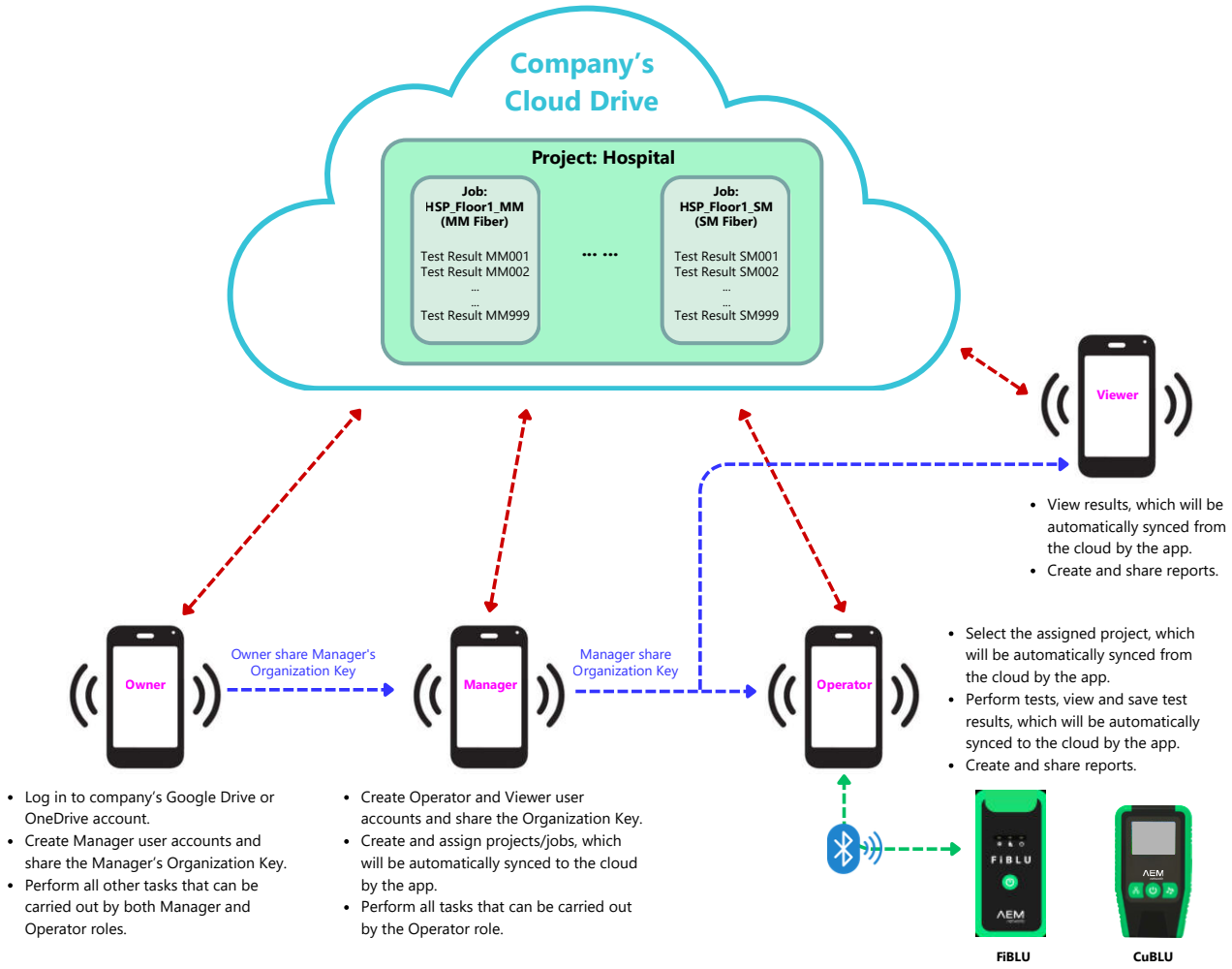




8. UniBLU Cloud Testing

UniBLU Cloud Testing transforms a standard cloud directory into a fully synchronized testing environment. By integrating with Google Drive and OneDrive, UniBLU ensures that all testing assets—including Projects, Jobs, Users, and Test Results — are managed through a familiar, high-availability infrastructure. This eliminates the need to set up or maintain a separate server for data management.

Warning: Users should choose one cloud storage platform and continue using it consistently. Switching between OneDrive and Google Drive is not recommended, as it may lead to data loss or synchronization issues.



UniBLU User Roles & Permissions			
Owner: • Primary administrator. Links the company's Google Drive or OneDrive account. • Creates the organization, generates Access Keys, manages all user accounts, and has full access to all Manager and Operator functions.	**Manager:** • Project Coordinator. Receives the Manager Access Key from the Owner. • Responsible for creating and configuring projects and jobs. • Managing Operator and Viewer user accounts and generating their corresponding access keys. • Assigning Operators and Viewers to projects. • Monitoring test progress. • Performing all actions available to Operator users.	**Operator:** • Field technician. Receives the Access Key from the Owner or Manager. • Selects the assigned project (auto-downloaded from cloud). • Connects the FiBLU tester via Bluetooth, runs Autotests, and results auto-upload to cloud.	**Viewer:** • Read-Only Stakeholder. Receives an Access Key from the Owner or Manager. • Can select assigned projects to view test results and progress, which are automatically downloaded from the cloud. • Can create and share reports, but cannot modify data or run tests for the assigned projects.

8.1 Owner User Role

8.1.1 Recommended Practices for Cloud Drive Accounts

To enable cloud-based testing features, the app requires full access to OneDrive or Google Drive when the Owner user signs in using either service.

If the Owner user signs in with the company's OneDrive or Google Drive account, which is linked to the company email address, the company's IT administrator may need to approve the app before it can access company storage. Depending on the organization's security policies, this approval process may take some time or, in some cases, may be denied.

To simplify and accelerate the setup process, and to address potential security concerns related to company storage, we recommend that the Owner user request the company's IT team or a responsible manager to create one or more separate OneDrive or Google Drive accounts dedicated exclusively to cloud-based testing with this app.

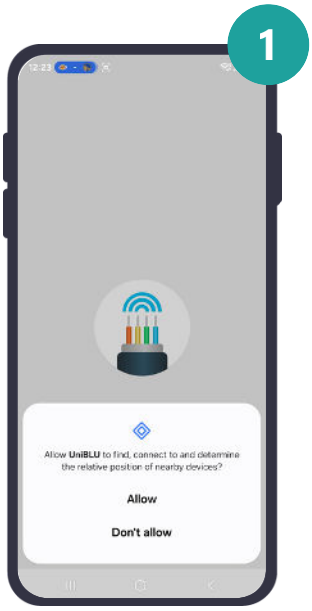
Please note that each fiber test result requires up to 5 KB of storage. Therefore, even a cloud drive with just a few gigabytes of available space will be more than sufficient to store hundreds of thousands of test results.

Capability	Owner	Manager	Operator	Viewer
Account & Access Management				
Link Google Drive / OneDrive account	✓	—	—	—
Generate Manager access key	✓	—	—	—
Generate Operator & Viewer access keys	✓	✓	—	—
Manage all user accounts	✓	—	—	—
Manage Operator & Viewer accounts	✓	✓	—	—
Project & Job Management				
Create & configure projects and jobs	✓	✓	—	—
Assign Operators & Viewers to projects	✓	✓	—	—
Select assigned project (auto-download)	✓	✓	✓	✓
Monitor test progress	✓	✓	✓	✓
Field Operations				
Projects & jobs created by Owner and Manager	✓	✓	—	—
Modify unlocked projects & jobs	✓	✓	✓	—
Run autotests	✓	✓	✓	—
Results auto-upload to cloud	✓	✓	✓	—
Reporting & Data				
View test results	✓	✓	✓	✓
Create & share reports	✓	✓	✓	✓

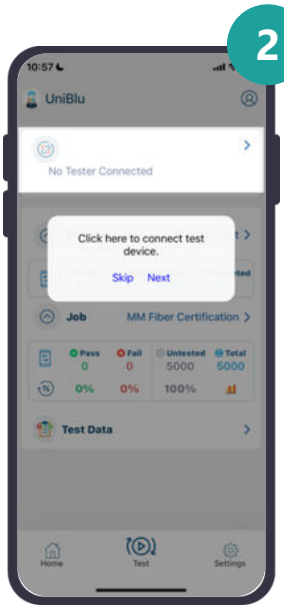
✓ Permitted — Not permitted

UniBLU Cloud Testing - User Permission Matrix Including Cloud Integration and Google/One Drive Authorization

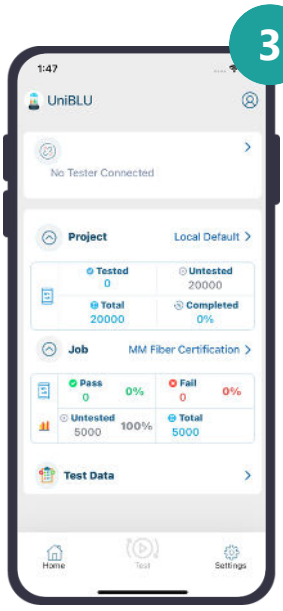
8.1.2 Linking the Cloud Account



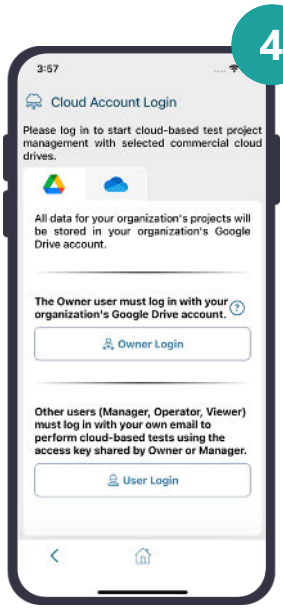
Open the UniBLU app and grant Bluetooth access when prompted.



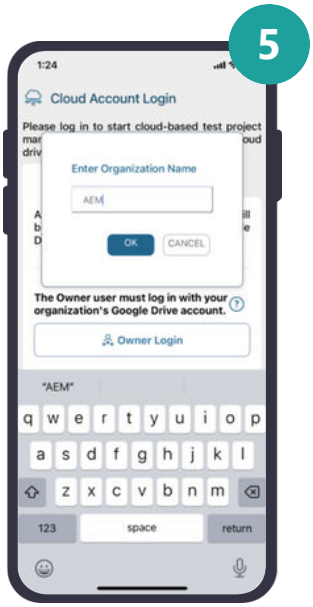
Tap Skip to proceed directly to UniBLU dashboard.



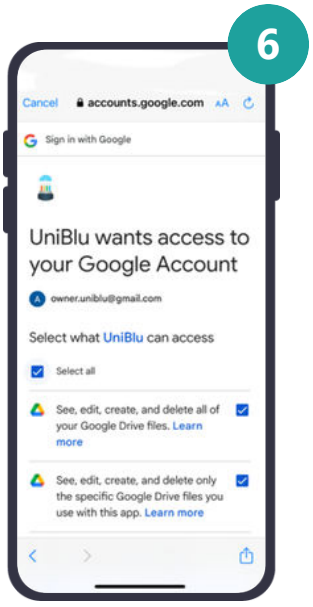
From the Home page, tap the User Icon



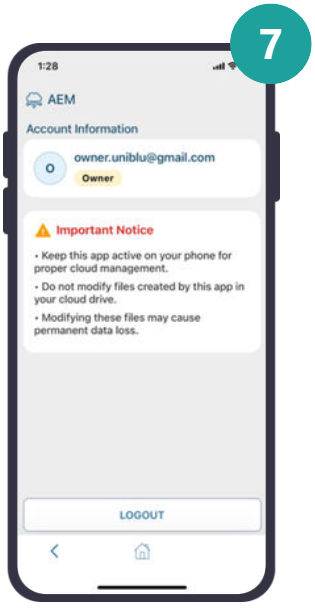
Tap Owner Login to bring up the Cloud Account sign-in page.



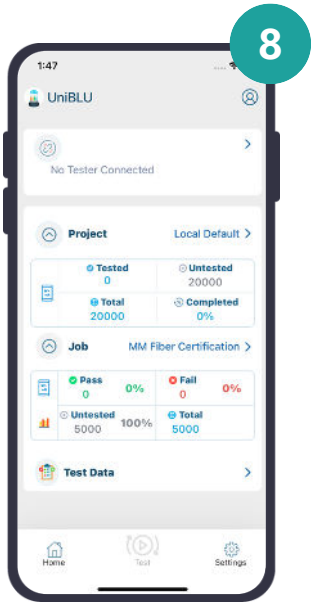
Enter the organization name like "AEM" and select OK.



Accept the Important Notice and proceed to sign in with your Google (Owner) account. Access to this step is restricted, as only the account owner should possess the company's Google login credentials. Other user roles—such as Manager, Operator, and Viewer—do not have access to the Owner's Google account credentials. Ensure that you grant all requested permissions to the UniBLU app to enable full synchronization.

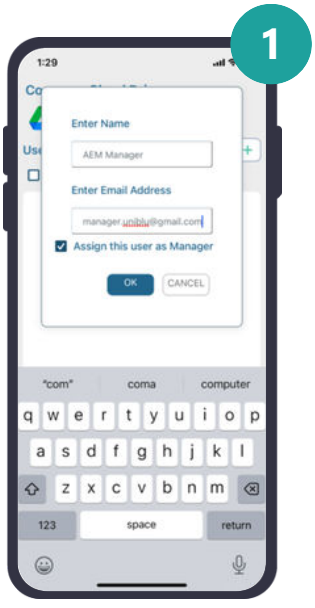


Once logged in, your Organization Name and Owner Account information will be displayed. Note: To facilitate synchronization between the owner and other accounts, the UniBLU app must remain open. It can continue to run in the background.

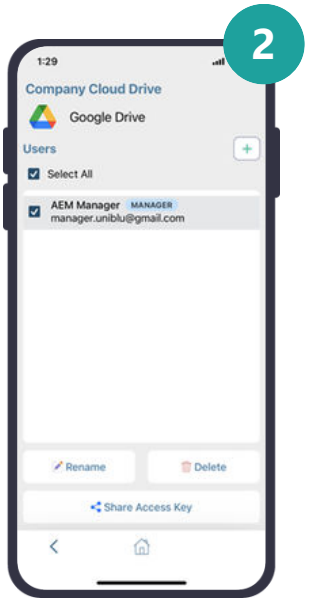


Tap Back to return to the main dashboard. You will notice the Organization Name is now displayed at the top left of the screen. Scroll to the bottom of the screen and tap Users & Cloud Management.

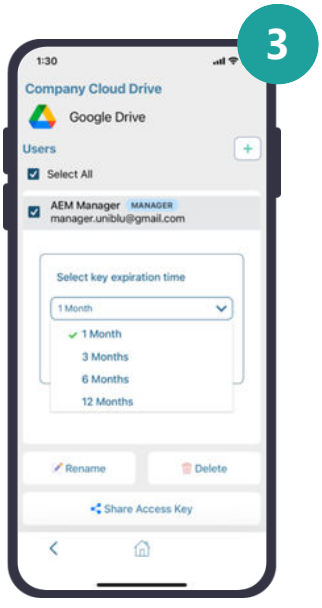
8.1.3 Adding a Manager



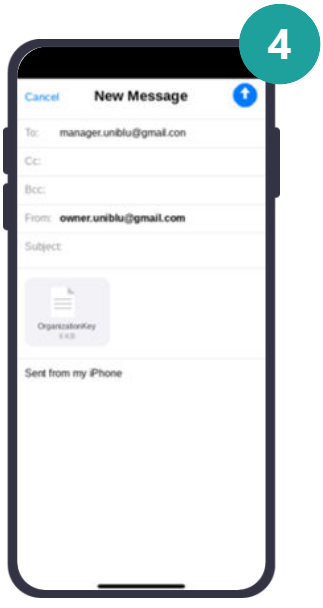
Select Add, then enter the name and email address of the manager responsible for the testing project. This can be any valid email service, such as iCloud, Yahoo, or Outlook. Note: To use OneDrive, a Microsoft email address (e.g., Outlook) is required.



Once the Manager's account has been successfully added by the Owner, a unique Access Key can be generated by clicking the Share Access Key button.



Because the Manager's account does not have direct access to the Owner's Google Drive, the Owner must grant permission using a generated Access Key. The Owner should securely share this key with the Manager, noting that its validity is configurable for a period ranging from one month to one year.



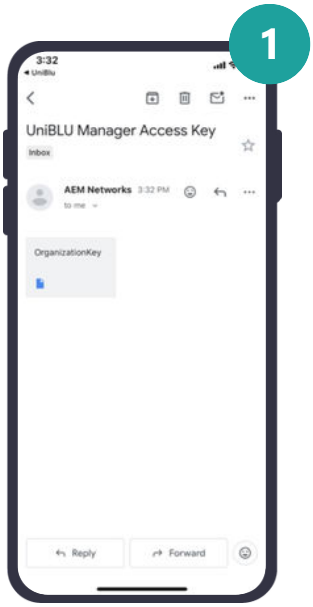
Once the initial configuration is complete and the Access Key has been shared, the Owner's setup phase is concluded. The Manager then takes over to lead project execution, oversee job configurations, and coordinate with the field team. An Access Key is a file that can be shared through various channels, such as email, WhatsApp, Microsoft Teams, and more.

8.2 Manager User Role

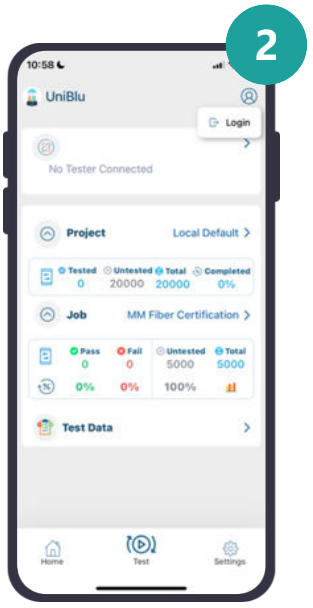
Project creation, job configuration, and Operator assignment.

8.2.1 Manager Account Activation

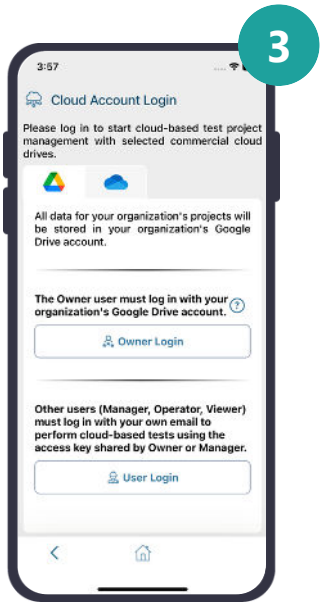
To link a Manager account to the Owner's organization, follow these steps:



Save the received Access Key file to your mobile device.



Open the UniBLU app and navigate to the Login screen.



Choose the User Login option to proceed.

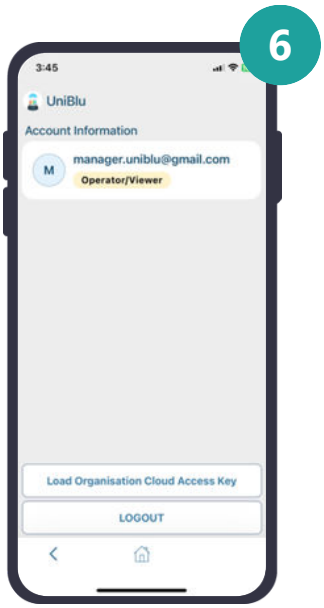


Click the User Login button, type in the Manager's email address and tap OK. Note: This must be the exact email address where the Organization Access Key was received.

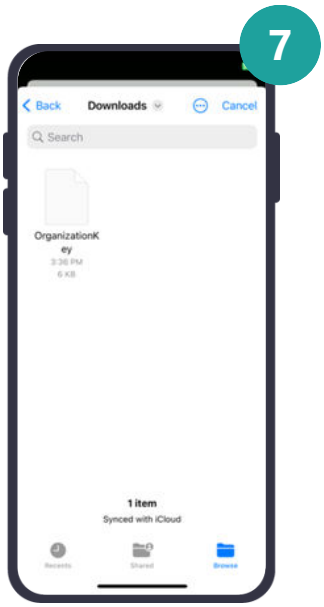


A dialog box will appear prompting you to load the Access Key provided by the Owner. Select OK to browse your device and upload the file.

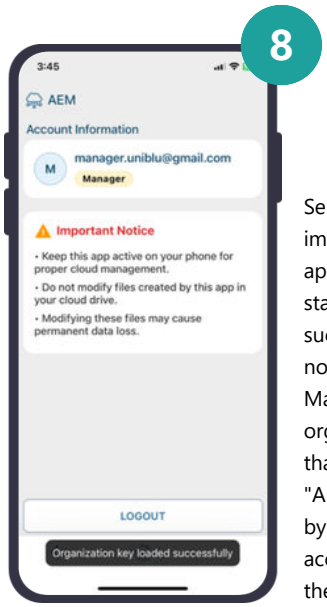
Upon initial login, you may notice that the account is temporarily assigned the Operator or Viewer role. This is because the synchronization link has not yet been established. To upgrade to the Manager role, follow these steps:



Select the button labeled Load Organization Cloud Access Key.



Browse to the directory on your mobile device where you saved the OrganizationKey.



Select the file; UniBLU will automatically import and validate the key within the application. A prompt will appear stating, "Organization Key loaded successfully." Your account status will now be updated, granting you full Manager permissions and access to the organization's cloud data. You will notice that the organization name now displays "AEM" (or the specific name designated by the Owner). This confirms that your account is correctly synchronized with the Owner's environment.

8.2.2 Managerial Responsibilities

The Manager serves as the primary coordinator for testing operations. Once the account is linked, the Manager oversees the following workflow:

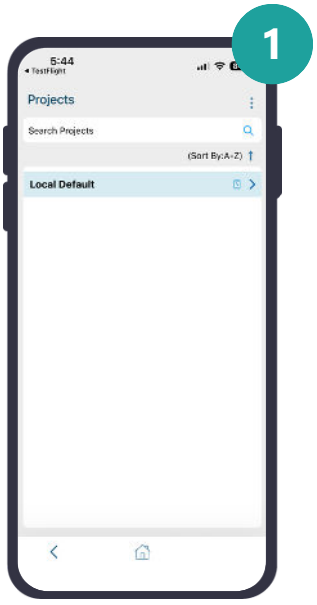
Add Normal Users: add normal users including Operators and Viewers.

Project Creation: Initialize and name new testing projects within the cloud environment.

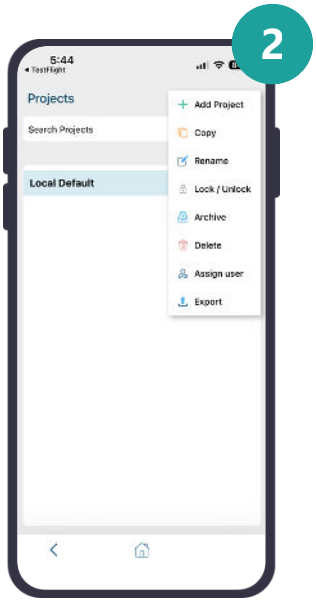
Job Configuration: Define the technical parameters, requirements, and specific tasks for each test job.

Operator Assignment: Distribute configured jobs to specific Operators to begin onsite testing.

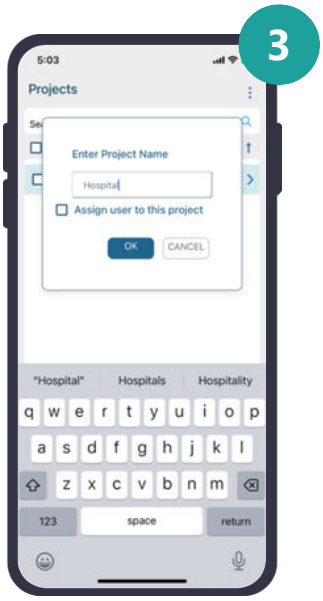
i. Set up a project and configure jobs



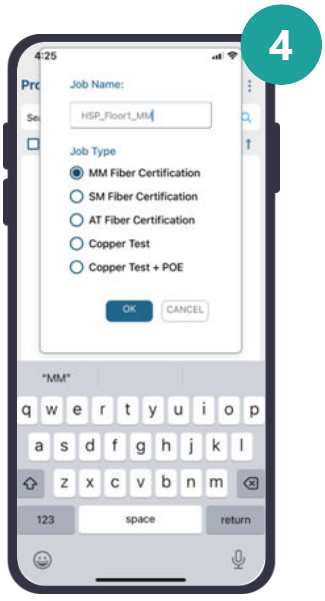
On the Home screen, select Project. Note: You may see an existing project named "Local Default." This is a local project stored only on your mobile device and does not synchronize with the cloud. Its local-only status is indicated by the Local icon displayed on the right side of the screen.



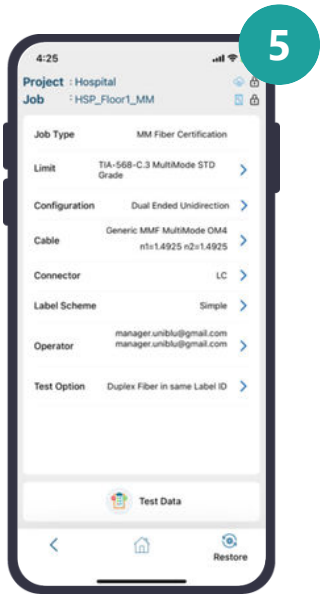
Tap the Menu button and select Add Project.



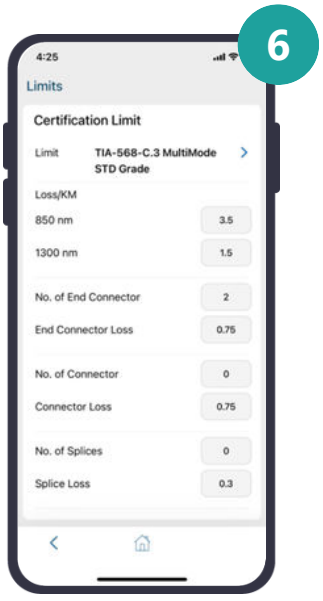
Project Name: Enter "Hospital". Uncheck "Assign user to this project." (You can assign users to the project at a later stage). Tap OK to save.



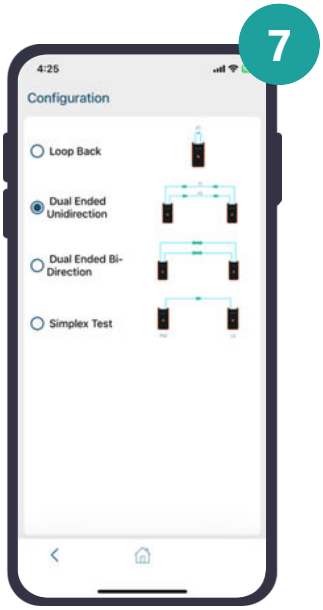
Configure the Test Job: Job Name: Enter "HSP_Floor1_MM". Test Type: Choose "MM Fiber Certification". Tap OK.



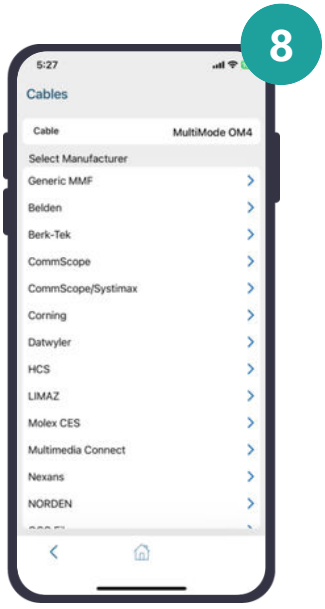
To modify the pass/fail limits, loss values, or the number of connectors and splices, select Limit.



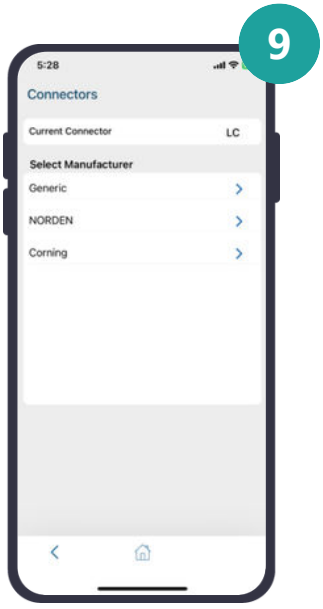
A preview of the Hospital Project and the HSP_Floor1_MM job will now be displayed, confirming the data is ready for the cloud environment



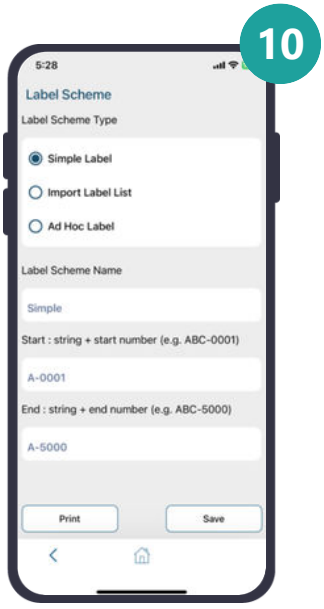
Select **Configuration** to define the testing method. Available options include: Loopback, Dual-Ended Unidirectional, Dual-Ended Bidirectional, Simplex Test.



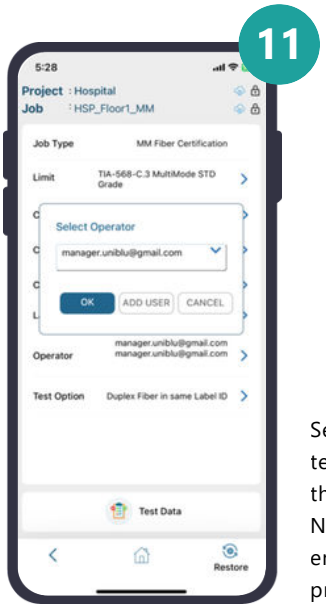
Select **Cable** to update the manufacturer and specific cable type.



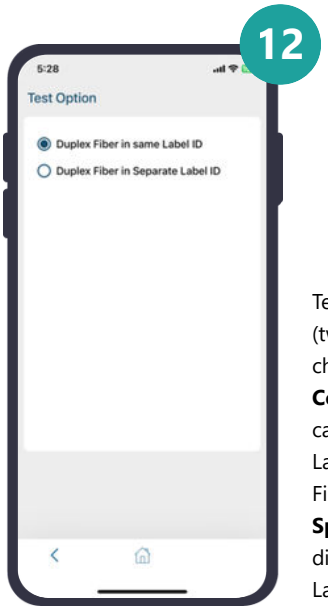
Use the same process to define the **Connector** types used in the project.



Select the **labeling** method that best fits your workflow. You have three choices:
Simple Label: A standard naming convention that can be edited manually.
Import Label List: Upload a pre-defined list of labels via a CSV file.
AdHoc Label: Create labels on-the-fly during the testing process.



Select Operator to add a new technician to the system or to reassign the job to a different existing Operator. Note: Assigning the correct Operator ensures that the test results are properly attributed in the final reports.

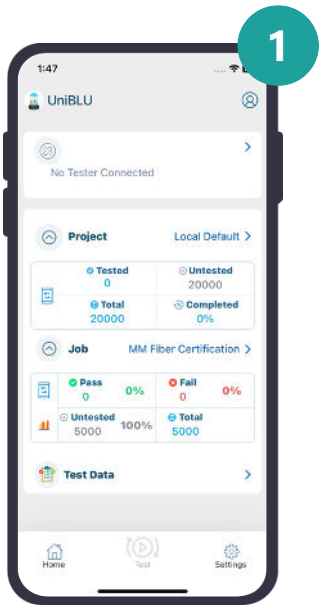


Test Option determines how duplex (two-fiber) results are recorded. You can choose between two methods:
Combined Labels: Merges the duplex cable results into a single Label ID (e.g., Label_01 contains both Fiber A and Fiber B).
Split Labels: Separates the results into distinct Label IDs for each fiber (e.g., Label_01A and Label_01B).

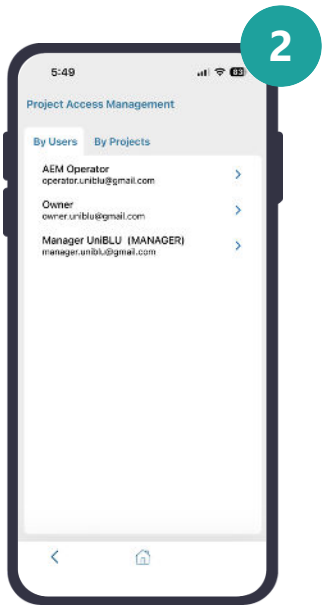
ii. Project access management

Effective collaboration is at the heart of cloud testing. Once a project is created and a job is configured, managers can delegate access based on two primary roles:

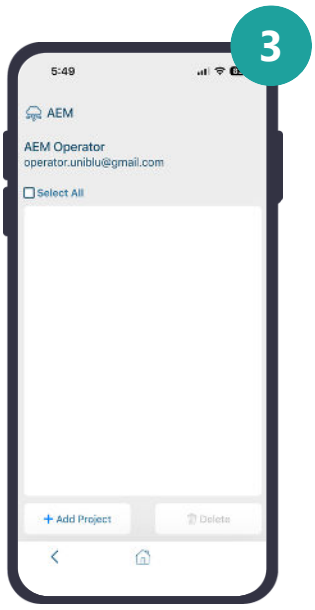
Operator: The tester responsible for executing jobs and managing project tasks.
Viewer: Users who require "read-only" access to monitor project progress and review test results.



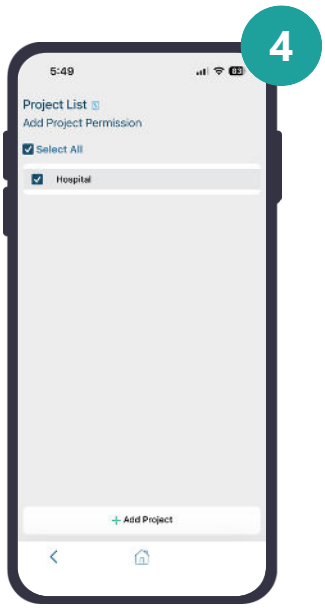
Navigate to the Home menu and select Project Access Management.



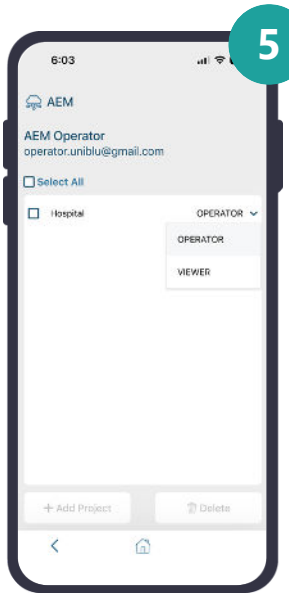
To assign a specific user to a project, navigate to the List of Users and select the designated account to be assigned as the Operator (e.g., operator.uniblu@gmail.com).



Select Add Project



select a project from the provided list (e.g., Hospital)

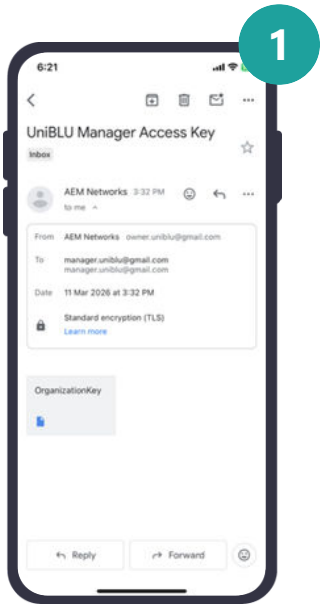


Toggle between the two access levels based on the user's responsibilities "Operator": If the user needs to run tests, configure settings, and manage job execution or "Viewer": If the user only needs to monitor the dashboard and download reports without making changes.

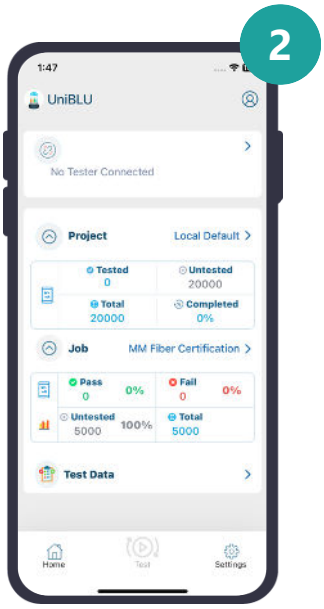
8.3 Operator User Role

The Operator serves as the primary technical lead for on-site execution. Their core responsibility is to translate project configurations into real-world results by performing physical or localised testing of assigned jobs.

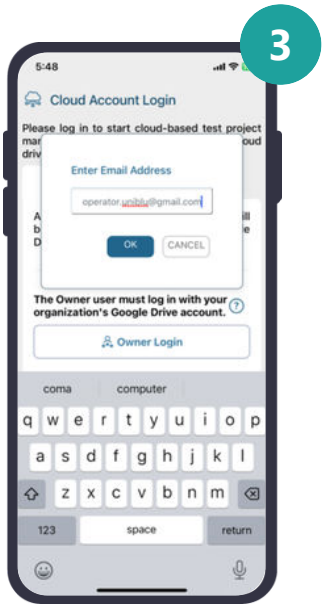
8.3.1 Operator Account Activation



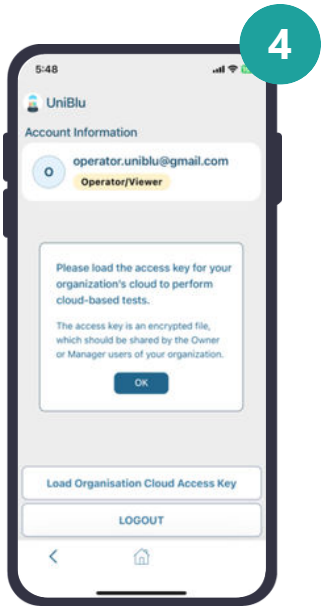
Save the received Access Key file to your mobile device.



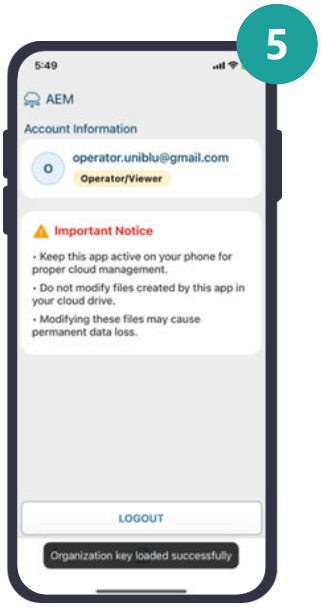
Open the UniBLU app and navigate to the Login screen.



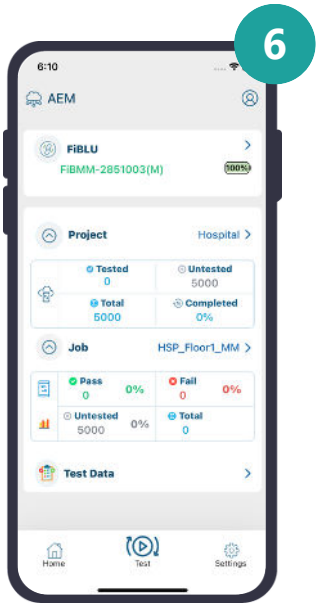
Select User Login, enter the operator's email address, and click OK.



Load the Organization Cloud Access Key.



You will see a confirmation once the key is loaded successfully.



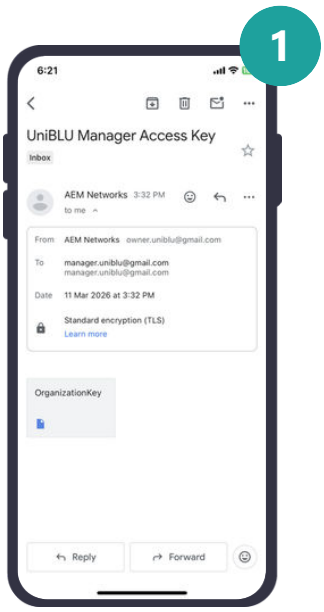
Navigate to the Home screen and verify that the Project is set to 'Hospital' and the Job is set to 'HSP_Floor1_MM'. The operator can now connect to the tester and complete the job.

8.4 Viewer User Role

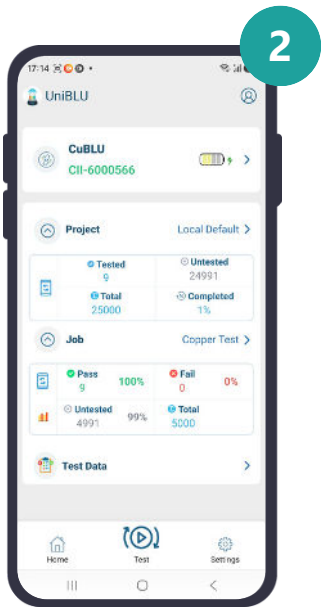
When the operator performs the cloud test and saves the test results, the UniBLU app automatically syncs these results to the cloud where the manager and the viewer can see the progress.

In Project Access Management, a person can be assigned as a viewer.

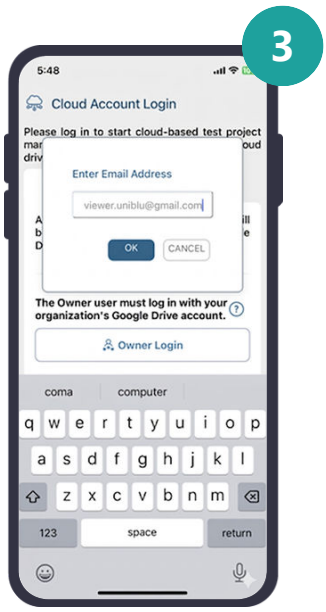
8.4.1 Viewer Account Activation



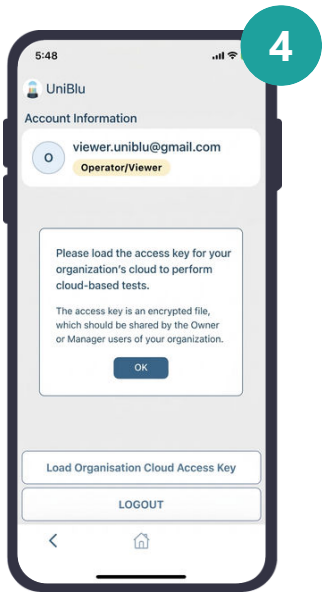
Save the received Access Key file to your mobile device.



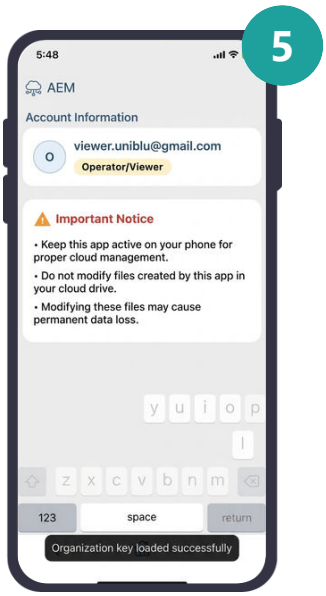
Open the UniBLU app and navigate to the Login screen.



Select User Login, enter the viewer's email address, and click OK.



Load the Organization Cloud Access Key.



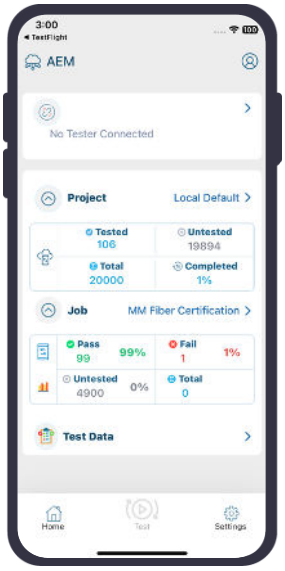
You will see a confirmation once the key is loaded successfully.

9. Test Results & Export

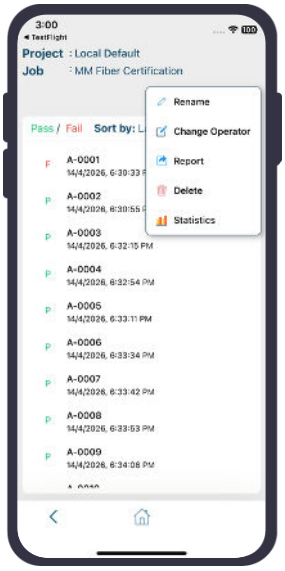
9.1 Viewing Results

Tap Test Data on the Home screen to view all results for the active Job. Tap any result to see full details including summary, loss, and network tabs.

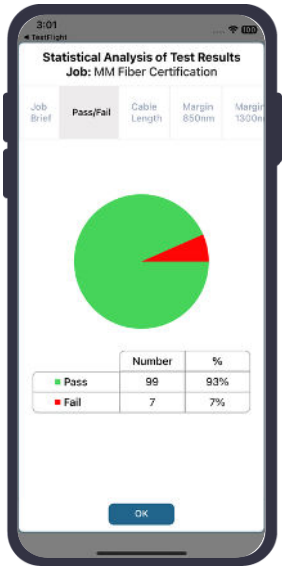
Home — tap Test Data



Test Data list

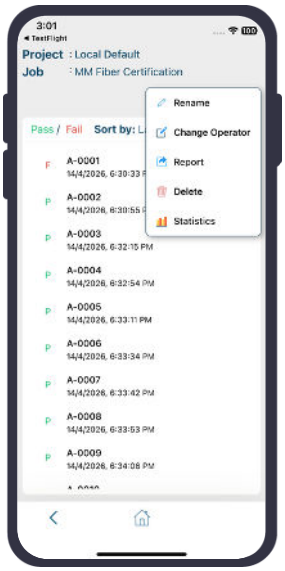


Statistics — Pie Chart

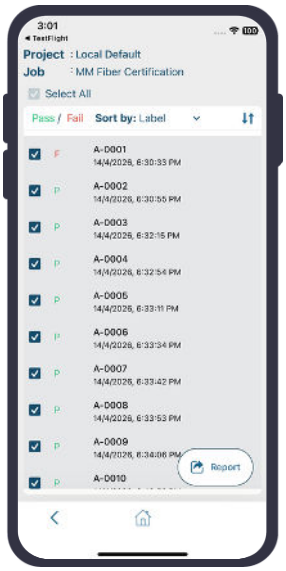


Viewing test results and statistics

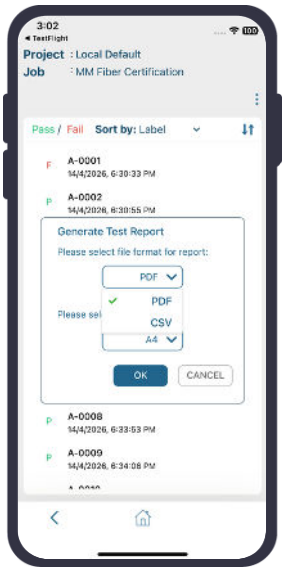
9.2 Report



Tap the menu (3 dots) in the top-right corner and select "Report".



Select the desired test results, or choose "Select All" to include everything.



Select either PDF or CSV format and click "OK" to continue.

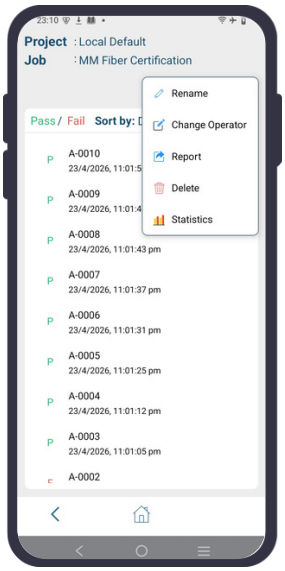


Sample PDF report generated by UniBLU.

9.3 Statistics & Charts

Tap Statistics from the Test Data menu to view graphical analysis for the current job, including:

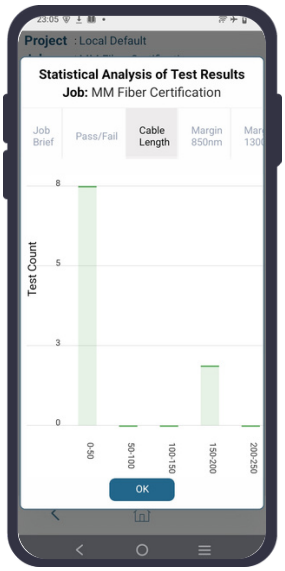
Job Brief: Overall pass, fail, and untested counts, with percentage breakdown.
Pass/Fail: Pass and fail counts, with percentage breakdown.
Cable Length: Distribution of tested cable lengths.
Margin 850 nm (MM) or 1310 nm (SM): Margin distribution at the 850 nm or 1310 nm wavelength.
Margin 1300 nm (MM) or 1550 nm (SM): Margin distribution at the 1300 nm or 1550 nm wavelength.



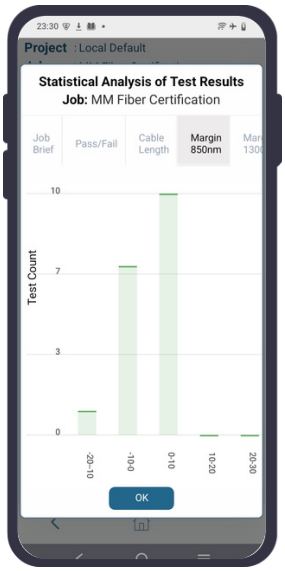
Tap the menu (3 dots) in the top-right corner and select "Statistics".



Job Brief screen



Cable length distribution screen



Margin distribution screen

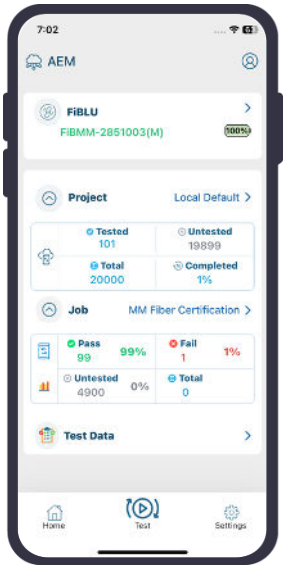
Test result analysis charts

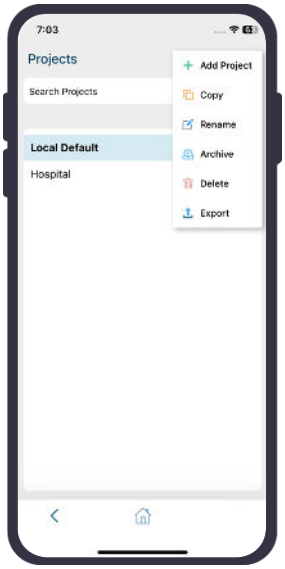
9.4 Managing Results with TestDataPro

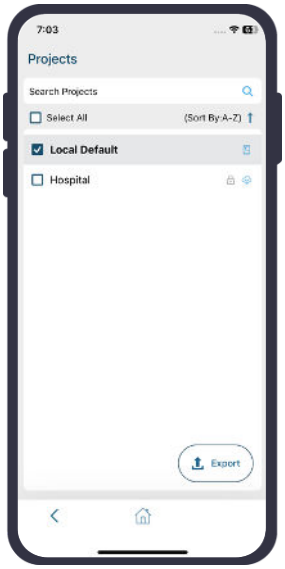
9.4.1 Export UniBLU Project

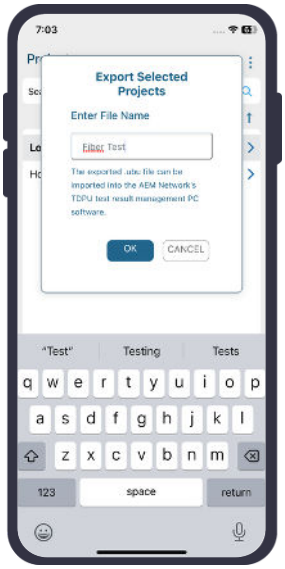
The UniBLU app allows you to export test results directly to email, Google Drive, or messaging apps. These .ubu files can then be seamlessly imported into the TestDataPro PC software for further analysis. To export a project or multiple projects

- On the Home screen, choose a project, such as Local Default.
- Tap the Menu icon (three vertical dots) and select Export.
- Select the specific project or multiple projects for export.
- Name the exported file and tap OK to proceed.

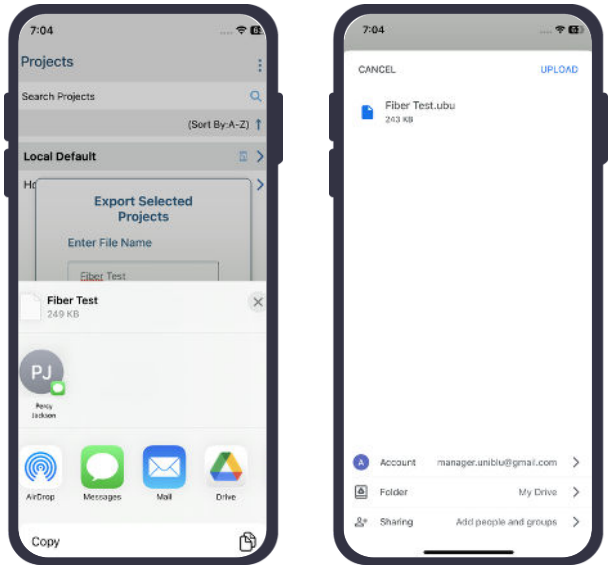




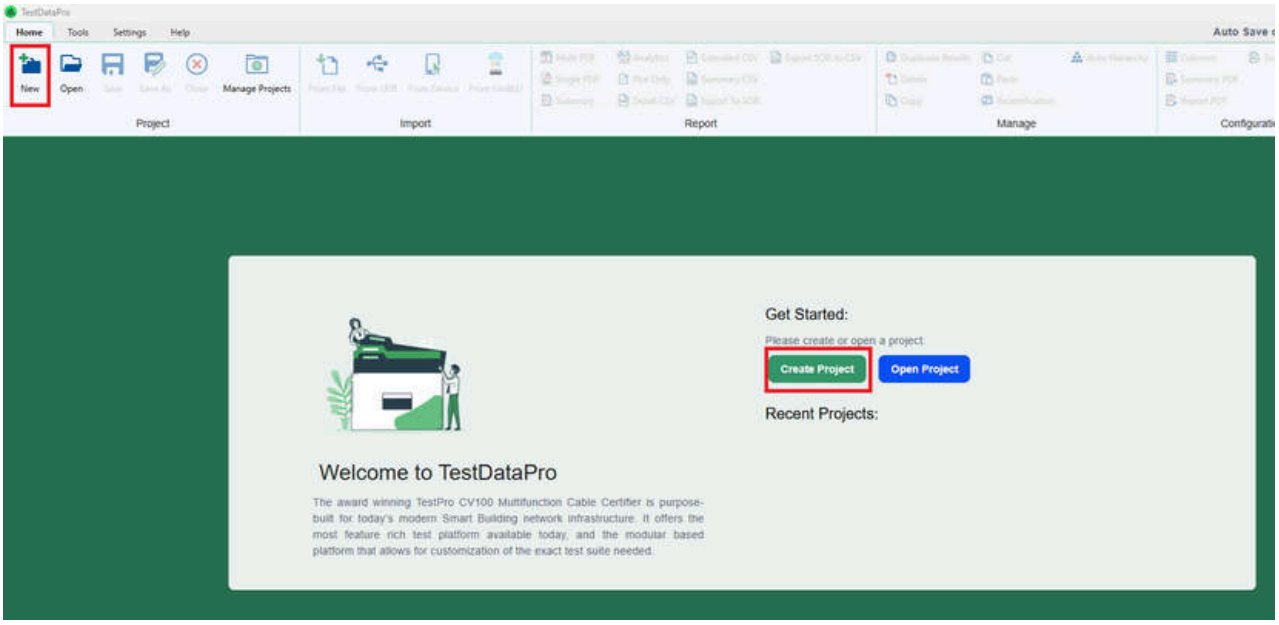




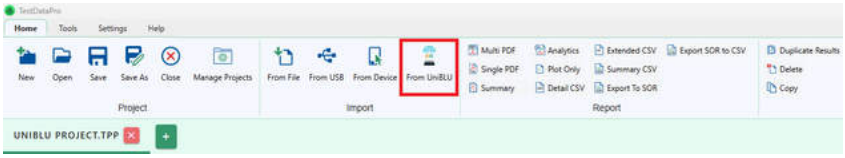
- Select a messaging app or storage drive on your device to share the .ubu file.



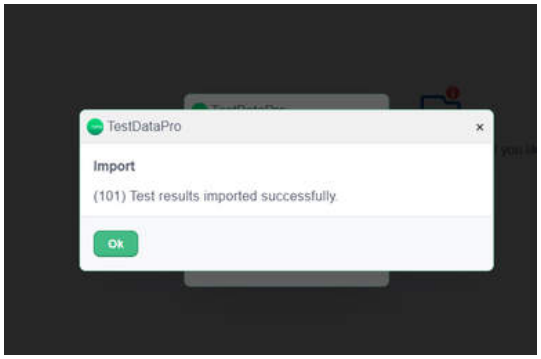
9.4.2 Import in TestDataPro



Open TestDataPro. From the Home tab, select New or click Create Project. Type a project name, such as UniBLU Project, and click OK.

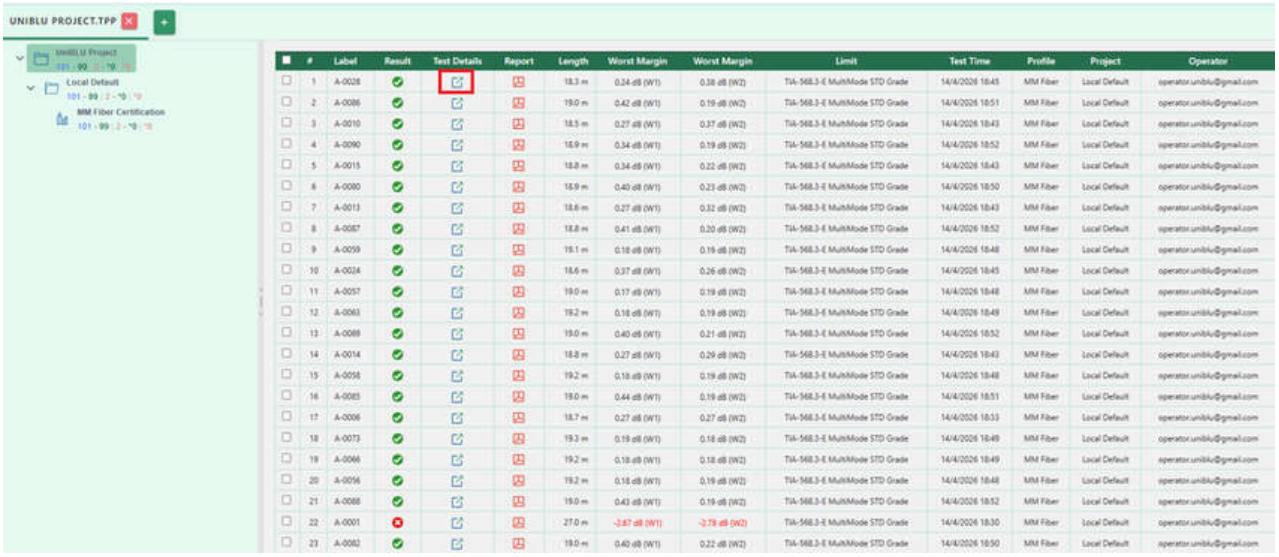


Select From UniBLU, locate your .ubu file (Fiber Test.ubu), and click Open.



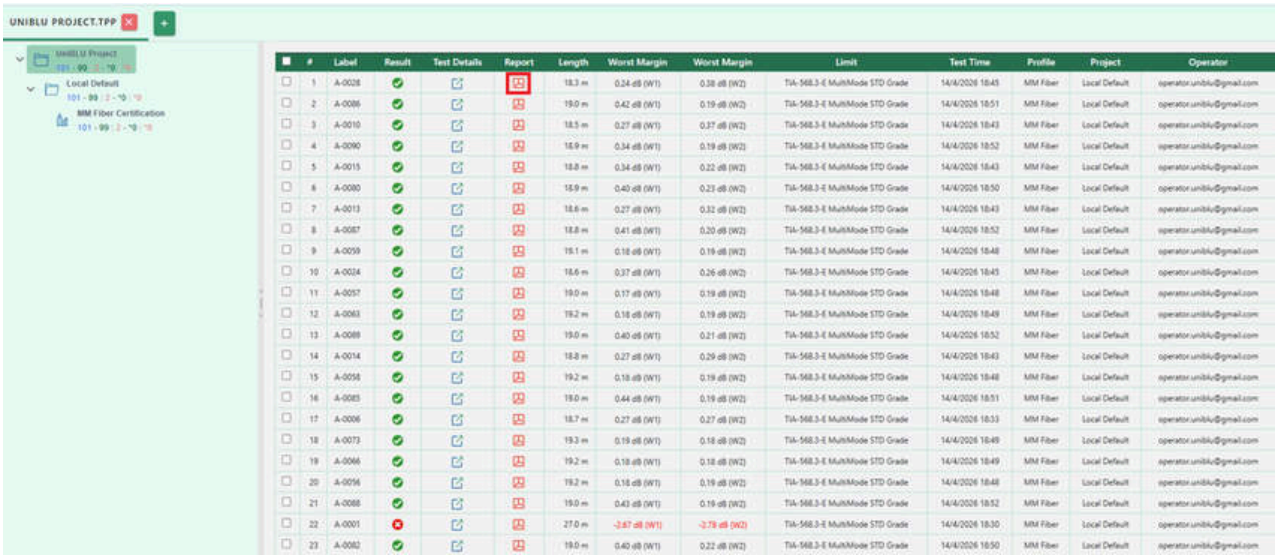
Your test results will then be imported directly into the TestDataPro software.

9.4.2.1 View Test Result



Click "Test Details" for full results and data visualizations.

9.4.2.2 View PDF Result



Click the PDF icon to generate a single report.

For more information, refer to the [TestDataPro User Manual].

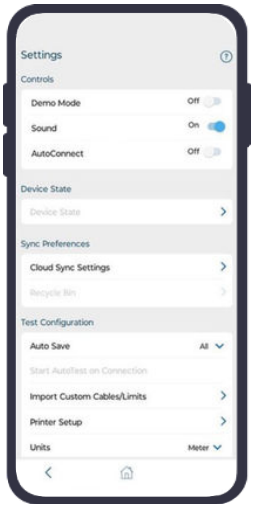
10. Label Printing

10.1 Printer Setup

UniBLU currently supports the Brother PT-E550W label printer. Support for additional printers will be added in future updates.

1. Place the Brother PT-E550W in Infrastructure Mode and connect it to your Wi-Fi network.
2. Ensure your mobile device running UniBLU is on the same Wi-Fi network.
3. In UniBLU, go to Settings and tap Printer Setup.
4. In the List of Printers, tap the printer name to connect. Discovery may take up to one minute.

Settings — tap Printer Setup



Printer Setup — printer found

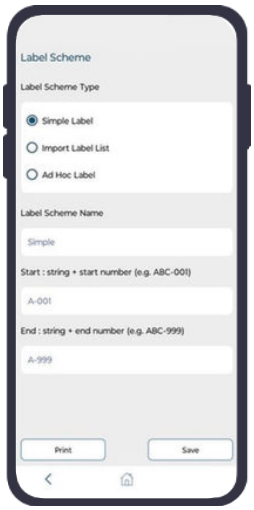


Printer Setup in Settings

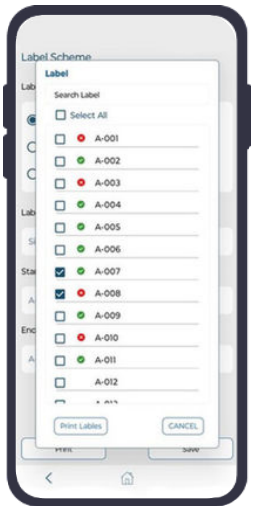
10.2 Multiple Label Printing

1. Navigate to Job > Label Scheme > Simple Label or Imported Label List.
2. Tap Print.
3. Select the labels to print, then tap Print Labels.

Label Scheme setup



Select labels to print



Label Scheme configuration and multiple label selection

10.3 Single Label Printing

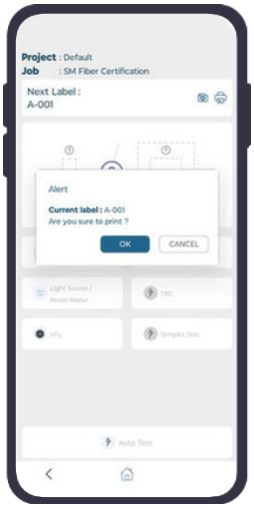
From the Test Screen

1. On the Test screen, tap the printer icon at the right of the Next Label field.
2. Confirm the current label in the alert prompt and tap OK.

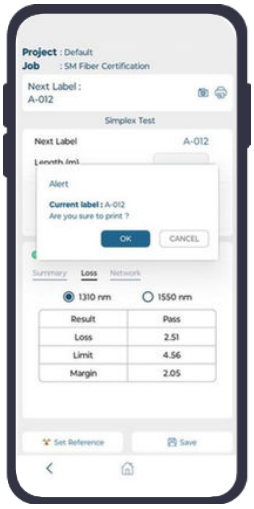
From the Simplex Test Screen

1. On the Simplex Test screen, tap the printer icon at the right of the Next Label field.
2. Confirm and tap OK.

Print confirm — Test screen



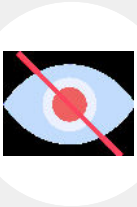
Print confirm — Simplex Test



Single label print confirmation dialogs

11. Safety & Compliance

11.1 Safety Precautions



Avoid direct eye exposure to laser light.



Wear safety glasses, if necessary, when working with high-power systems.



Handle Fiber cables with care to prevent damage.

TROUBLESHOOTING COMMON ISSUES

- Low Power Reading: Check for dirty or damaged connectors.
- No Light Detected: Verify proper connections and ensure the light source is active.
- Inconsistent Measurements: Ensure both devices are set to the same wavelength.

- Do not operate FiBLU in environments containing explosive or flammable gases.
- Keep FiBLU and your mobile device away from liquids.
- Always replace the protective cap on the VFL port when not in use.

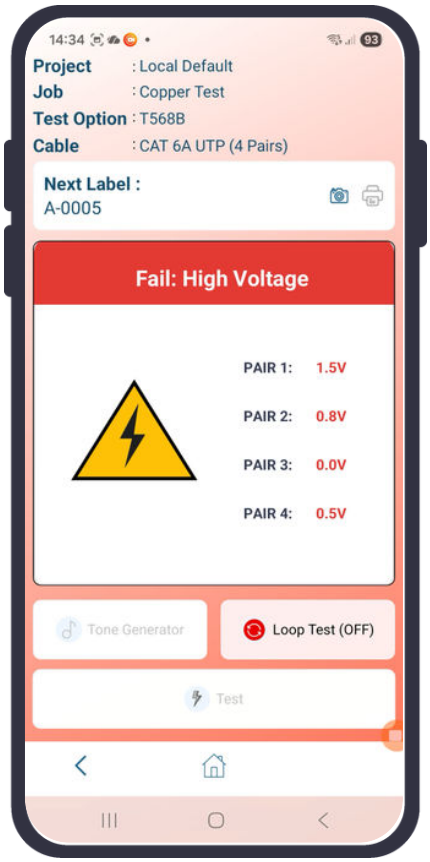
11.2 FiBLU Regulatory Compliance

FiBLU complies with IEC 61010-1 (3rd Edition) and EN 61326-1. The VFL is rated Laser Class II. For full regulatory documentation, contact AEM Networks.

11.3 CuBLU Safety and Compliance

CuBLU detects DC voltage on the cable under test and alerts the operator before wiremap measurement begins. This protects both the technician and the device from live voltage damage.

Specification	
Detection Range	Up to 60 V DC
Resolution	0.1V



How Voltage Detection Works

1. When the WIREMAP key is pressed, CuBLU first checks for voltage on the cable.
2. If voltage is detected, the wiremap screen will show a voltage warning and the detected level.
3. The wiremap test result will be marked accordingly. Do not proceed if unexpected voltage is present.
4. Disconnect the cable from any live equipment before testing wiring faults.

⚠ Never test cables connected to mains power (>60 V DC). CuBLU is designed for low-voltage structured cabling only.

12. Troubleshooting & FAQ

12.1 Common Issues

Issue	Resolution
FiBLU not found during scan	Ensure FiBLU is on and LED-2 is blinking blue. Toggle Bluetooth off/on on your device and tap Rescan.
Low power reading	Clean all connectors and re-perform the reference measurement.
No light detected	Verify all connections. Ensure the light source is active.
Inconsistent measurements	Ensure both devices are set to the same wavelength. Reset the reference.
Cloud sync not completing	Check internet connectivity. Re-login to your cloud account in Settings > Cloud Sync Settings.
Printer not discovered	Confirm the Brother PT-E550W is in Infrastructure Mode on the same Wi-Fi network. Wait up to one minute.
VFL no light emission	Confirm FiBLU is powered on. Check for loose or dirty connections on the VFL port.
App freezes or crashes	Force-close and relaunch UniBLU. Ensure the latest version is installed from the App Store / Google Play.

12.2 Frequently Asked Questions

Can I use UniBLU without an internet connection?
Yes. All core testing and local data storage functions work offline. An internet connection is only required for cloud sync, firmware updates, and account management.

What cloud drives does UniBLU support?
Google Drive and Microsoft OneDrive. All data is stored in your organization's own cloud drive account.

How do I check my FiBLU battery level?
With FiBLU powered on, press the Power Button briefly. The LED pattern indicates the battery level — see Section 3.2 for details. You can also check the battery level using the App.

How do I recover deleted test results?
Deleted results can be restored from the Recycle Bin.

13. Technical Support & Contact

For technical assistance with UniBLU supported devices, please contact us using the details below:

Live Phone Support:
Monday–Friday: 8am–5pm (Arizona, USA)
Email monitored 24 hrs: customer-care@aemnetworks.com

When contacting support, please have the following ready:

- UniBLU app version (found in Settings)
- FiBLU SM or MM variant and serial number/CuBLU variant and serial number
- Mobile device model and OS version
- Description of the issue and steps to reproduce

Channel	Details
Company	**AEM Networks Pte. Ltd.**
Address	**AEM Networks Pte. Ltd.** 52 Serangoon North Ave 4, Singapore 555853
Email	customer-care@aemnetworks.com
Phone	USA: T: 480-534-1232 | Toll Free: 833-572-6916 SG: T: +65 6483 1811 | F: +65 6483 1822
Website	aemnetworks.com/products/fiblu/ aemnetworks.com/products/cublu/ Support: aemnetworks.com/customer-care/

14. Orderable Part Numbers

14.1 FiBLU Orderable Part Numbers

Part number	Description
FIBLU-MM-K01	**FiBLU Multimode Fiber Certifier Pair.** Two FiBLU Multimode fiber certification handsets. Rechargeable internal battery via USB-C. Includes interchangeable Tx port interface adapter for SC (installed). Includes interchangeable Rx port interface adapters for SC and LC (installed). Two USB-C cables included, AC to DC charging adapters NOT included. Two SC/ST/FC interface adapters for RX port. Includes 2 each SC-LC and LC-LC OM4 Multimode Test Reference Cord for testing fiber with LC terminations. Includes 1 duplex LC coupler. Additional Test Reference Cords available separately. Soft carry case included. One LC (1.25 mm) and One SC (2.5 mm) one-click fiber cleaner. Two hanging straps. ***Use of UniBLU app and Bluetooth connection to mobile device required for use.***
FIBLU-SM-K01	**FiBLU Singlemode Fiber Certifier Pair.** Two FiBLU Singlemode fiber certification handsets. Rechargeable internal battery via USB-C. Includes interchangeable Tx port interface adapter for SC (installed). Includes interchangeable Rx port interface adapters for SC and LC (installed). Two USB-C cables included, AC to DC charging adapters NOT included. Two SC/ST/FC interface adapters for Rx port. Includes 2 each SC-LC and LC-LC OS2 Singlemode Test Reference Cord for testing fiber with LC terminations. Includes 1 duplex LC coupler. Additional Test Reference Cords available separately. Soft carry case included. One LC (1.25 mm) and One SC (2.5 mm) one-click fiber cleaner. Two hanging straps. ***Use of UniBLU app and Bluetooth connection to mobile device required for use.***
FIBLU-QD-K01	**FiBLU Multimode/Singlemode Fiber Certifier Kit with 2 MM and 2 SM handsets.** Four FiBLU fiber certification handsets, 2 Multimode and 2 Singlemode. Rechargeable internal battery via USB-C. Includes interchangeable Tx port interface adapters for SC (installed). Includes interchangeable Rx port interface adapters for SC and LC (installed). Four USB-C cables included, AC to DC charging adapters NOT included. Four SC/ST/FC interface adapters for Rx port. Test Reference Cords included: 2 each Multimode and Singlemode SC-LC and LC-LC for testing fiber with LC terminations, Includes 2 duplex LC couplers. Additional Test Reference Cords available separately. Soft carry case included. Two LC (1.25 mm) and Two SC (2.5 mm) one-click fiber cleaner. Four hanging straps. ***Use of UniBLU app and Bluetooth connection to mobile device required for use.***
FIBLU-MM	**FiBLU Multimode Fiber Certifier single handset (two required for dual-ended certification).** One FiBLU Multimode fiber certification handset. Rechargeable internal battery via USB-C. USB-C cable included, AC to DC charging adapter NOT included. Includes interchangeable Tx port interface adapter for SC (installed). Includes interchangeable Rx port interface adapters for SC, LC (installed). ***Use of UniBLU app and Bluetooth connection to mobile device required for use.***
FIBLU-SM	**FiBLU Singlemode Fiber Certifier single handset (two required for dual-ended certification).** One FiBLU Singlemode fiber certification handset. Rechargeable internal battery via USB-C. USB-C cable included, AC to DC charging adapter NOT included. Includes interchangeable Tx port interface adapter for SC (installed). Includes interchangeable Rx port interface adapters for SC, LC (installed). ***Use of UniBLU app and Bluetooth connection to mobile device required for use.***
OM4-SC-SC 2M	OM4 Multimode SC-SC Test Reference Cord (single)
OM4-SC-LC 2M	OM4 Multimode SC-LC Test Reference Cord (single)
OM4-SC-ST 2M	OM4 Multimode SC-ST Test Reference Cord (single)
OM4 LC-LC 2M	OM4 Multimode LC-LC Test Reference Cord (single)
OM4 ST-ST 2M	OM4 Multimode ST-ST Test Reference Cord (single)
OM1-SC-SC 2M	OM1 Multimode SC-SC Test Reference Cord (single)

Part number	Description
OM1-SC-LC 2M	OM1 Multimode SC-LC Test Reference Cord (single)
OM1-SC-ST 2M	OM1 Multimode SC-ST Test Reference Cord (single)
OM1 LC-LC 2M	OM1 Multimode LC-LC Test Reference Cord (single)
OM1 ST-ST 2M	OM1 Multimode ST-ST Test Reference Cord (single)
SM-SC-SC 2M	Singlemode SC-SC Test Reference Cord (single)
SM-SC-LC 2M	Singlemode SC-LC Test Reference Cord (single)
SM-SC-ST 2M	Singlemode SC-ST Test Reference Cord (single)
SM LC-LC 2M	Singlemode LC-LC Test Reference Cord (single)
SM ST-ST 2M	Singlemode ST-ST Test Reference Cord (single)
SM-LOOPBACK-LC	Singlemode Loopback Adapter, LC
MM-LOOPBACK-LC	Multimode Loopback Adapter, LC
SM-LOOPBACK-SC	Singlemode Loopback Adapter, SC
MM-LOOPBACK-SC	Multimode Loopback Adapter, SC
FI-ST-RX	ST interface for FiBLU Rx port
FI-ST-TX	ST Interface for FiBLU Tx port
ACC-SOFT-CASE-FI	Soft case for FiBLU kit. Will accommodate up to 4 FiBLU handsets and associated test reference cords and accessories

14.2 CuBLU Orderable Part Numbers

Part number	Description
CUBLU	CuBLU test unit with one remote unit (ID 1)
CUBLU-II	CuBLU II test unit and one remote unit (ID 1)
CUBLU-III	CuBLU III test unit, PoE test port, and one remote unit (ID 1)
CUBLU-REM1	1x CuBLU wiremap remote unit ID#1
CUBLU-REM16	Kit of CuBLU remote units IDs #1 through #16
CUBLU-CORD-KIT	• 2 x adapter cable RJ45-RJ12 (also suitable for RJ11) • 2 x adapter cable RJ45-Coax F • 2 x adapter cable RJ45-Alligator • 2 x RJ45 - RJ45 patch-cords • 1 x USB-C charging cable • 1 x soft carry case
CUBLU-II-KIT	• One CuBLU II app-enabled copper wiremap tester • Remote IDs #1–16, for a complete set of 16 unique remotes • CuBLU-CORD-KIT (see above for contents) • CuBLU Tone Probe
CUBLU-III-KIT	• One CuBLU III app-enabled copper wiremap tester • Remote IDs #1–16, for a complete set of 16 unique remotes • CuBLU-CORD-KIT (*see above for contents*) • CuBLU Tone Probe
CUBLU-TONE-PROBE	• Probe for tracing cables with the CuBLU tone generator

Appendix A: Glossary

Term	Definition
Autotest	Automated fiber certification function that tests both wavelengths and returns PASS or FAIL.
dB	Decibel — unit used to express optical loss or gain.
dBm	Decibels relative to 1 milliwatt — unit for absolute optical power.
FiBLU	Fiber certification tester (SM or MM) manufactured by AEM Networks
Insertion Loss	Reduction in optical power through a link, expressed in dB.
Job	A set of test parameters within a Project: fiber type, standard, cable, connector, labels, and options.
MM	Multimode — fiber type using LED sources at 850 nm and 1300 nm.
Project	A collection of Jobs configured to certify fiber for a specific customer or contract.
SM	Singlemode — fiber type using Laser sources at 1310 nm and 1550 nm.
TIA-568	ANSI/TIA standard for commercial building telecommunications cabling.
TRC	Test Reference Cord — a reference fiber verified for quality before certification testing.
UniBLU	Mobile app (iOS & Android) by AEM Networks for controlling and managing FiBLU and CuBLU.
VFL	Visual Fault Locator — emits red laser light to identify breaks, bends, or damage in fiber cables.
WPAN / BT	Wireless Personal Area Network — Bluetooth-based communication between FiBLU/CuBLU and UniBLU.

Appendix B: FiBLU Device Specifications

Loss/Length Specifications

Parameter	Multimode (MM)	Singlemode (SM)
Source Type	LED (encircled-flux compliant)	Laser
Wavelengths (nm)	850 ± 20, 1300 ± 20	1310 ± 20, 1550 ± 20
RMS Spectral Width (nm)	35	5
Output Power	850 nm: 10–20 µW | 1300 nm: 10–20 µW	1310 nm: 1.5–2 mW | 1550 nm: 0.5–2 mW
Length Measurement Range	2 km	20 km
Dual Ended Loss	0 dB to −10 dB	0 dB to −12 dB

General Specifications

Parameter	Specification
Transmit and Receive Interface Connectors	Interchangeable FC, SC, ST and LC Adapters
Certification Test Modes	Loopback or dual-ended, unidirectional or bidirectional, simplex or duplex
Test standards	ISO/IEC, TIA, IEEE, application-specific loss budget
Autotest Speed	Loopback Mode: 2 seconds | Dual Ended Mode: 3 seconds
Insertion Loss Accuracy	≤ 0.2 dB
Measurement Repeatability	≤ 0.05 dB
Length Measurement Accuracy	± (1 m + 1% of length)
Source Wavelengths	FiBLU-MM: 850 nm and 1300 nm | FiBLU-SM: 1310 nm and 1550 nm
Power Measurement Range	850 nm: 0 to −10 dBm | 1300/1310/1550 nm: 0 to −30 dBm
Laser Safety Classification	Class 1M for singlemode and multimode; Class 2 for 650 nm VFL
Calibration Interval	18 months (check with cable vendor on calibration requirements)
Dimensions	177 mm × 92 mm × 42 mm
Weight	350 g
Battery	Li-Ion 3.7V / 2600 mAh — >30 hours
Charging Time	2 hours
Power Adapter	5V/1A, USB-C
Connectivity	WPAN 2.4 GHz Bluetooth
Android App Requirement	Android 11 or higher
iOS App Requirement	iOS 15.5 or higher
Laser Safety Class	Class 1M

VFL Specifications

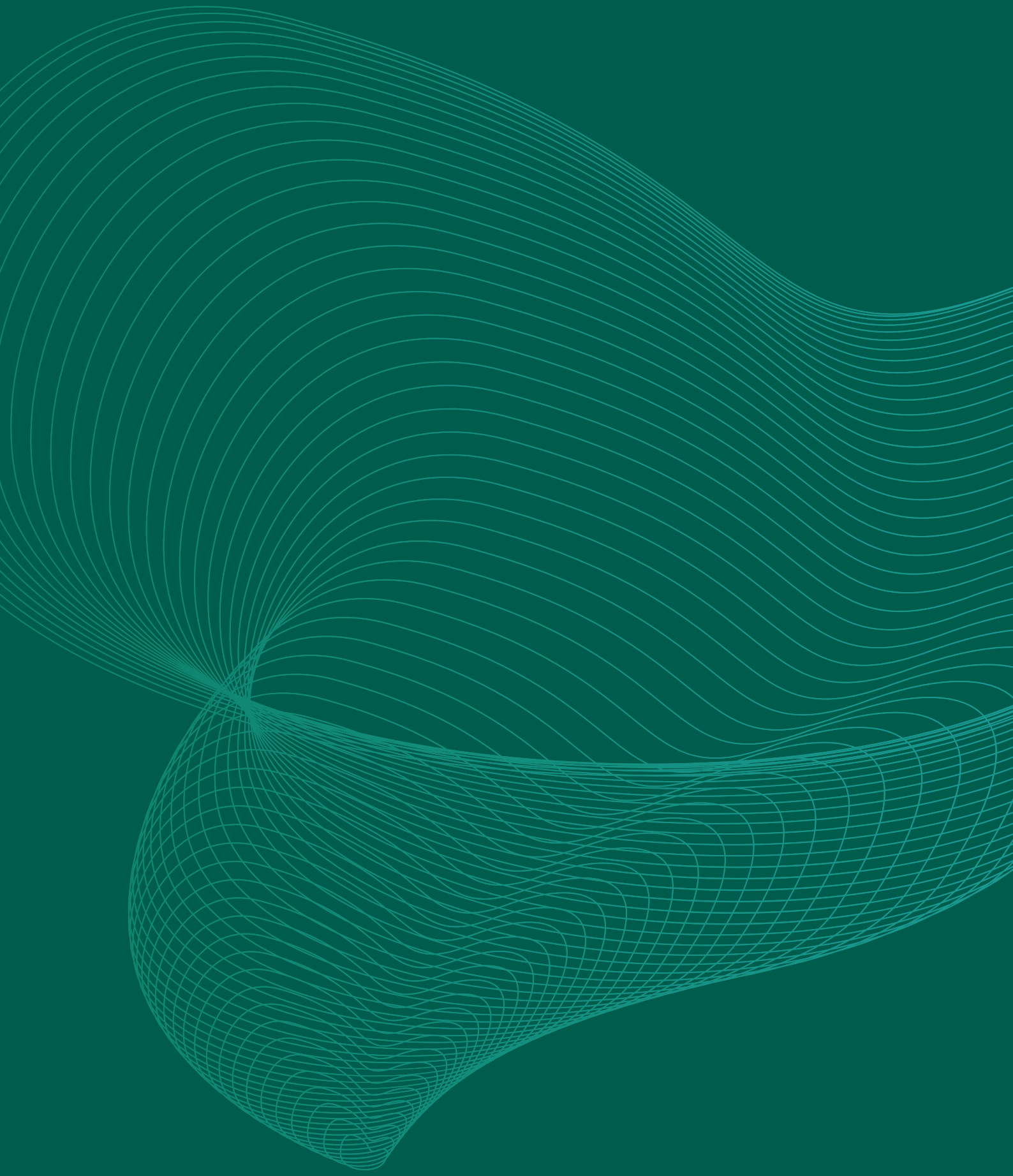
Parameter	Specification
VFL Light Source	650 nm Laser
Power Output	1 mW
Output Modes	1.5 Hz Pulsed mode
Connector Adapter	2.5 mm universal

Environmental Specifications

Parameter	Specification
Operating Temperature	0°C to 45°C (32°F to 113°F)
Storage Temperature	−30°C to +60°C (−22°F to +140°F)
Operating Humidity	0–90% RH (0°C–35°C) | 0–70% RH (35°C–45°C)
Safety	IEC 61010-1 3rd Edition
Vibration	Random, 2 g, 5 Hz–500 Hz
Shock	2 m drop test
Operating Altitude	Up to 4,000 m (13,123 ft)
EMC	EN 61326-1

Appendix C: CuBLU Device Specifications

Specification	CuBLU	CuBLU II	CuBLU III
Cloud Synchronization	—	Yes	Yes
Wiremap Interface	RJ45 8P8C	RJ45 8P8C	RJ45 8P8C
Wiremap Testing	800 meters	800 meters	800 meters
Wiremap Fault Types	Open, short, miswire, split pair, crossover, and multiple faults	Open, short, miswire, split pair, crossover, and multiple faults	Open, short, miswire, split pair, crossover, and multiple faults
Shield Detection	✓	✓	✓
Cable Length	—	Up to 120 meters via the UniBLU app.	Up to 120 meters via the UniBLU app.
DC Resistance	—	Per pair	Per pair
Loop/Continuous Test	✓	✓	✓
Tone Generator	7 frequencies	7 frequencies	7 frequencies
Voltage Detection	up to 60 V DC	up to 60 V DC	up to 60 V DC
PoE Detection	—	—	Up to IEEE 802.3bt (up to 90 watts)
Remote IDs	Up to 16	Up to 16	Up to 16
Remote Number Display	✓	✓	✓
Bluetooth	—	✓	✓
App Support (UniBLU)	—	iOS & Android	iOS & Android
Result Reporting	—	Export PDF/CSV reports	Export PDF/CSV reports
Display	Color TFT LCD	Color TFT LCD	Color TFT LCD
Length, resistance and PoE results	—	In the UniBLU app	In the UniBLU app
Battery Indicator	✓	✓	✓
Auto Power-Off	✓	✓	✓
Battery Capacity	2,600 mAh	2,600 mAh	2,600 mAh
Battery Life	45 hours	45 hours	45 hours
Charge Time	~2 hours	~2 hours	~2 hours
Dimensions (mm)	126 x 74 x 35	126 x 74 x 35	126 x 74 x 35
Weight	197 grams	197 grams	197 grams
Operating Temperature	0 °C to 50 °C	0 °C to 50 °C	0 °C to 50 °C
Storage Temperature	-20 °C to 60 °C	-20 °C to 60 °C	-20 °C to 60 °C



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