

FlowScout™
PON Optical Power Meter
User's Guide

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Safety Information

WARNING! The FlowScout™ uses the USB-C connector to charge the unit. Any sufficiently rated AC-to-USB power adapter can be used, though an AC adapter with a current rating below 2.4A may increase the time it will take to fully charge the FlowScout battery. To avoid the danger of fire and electrical shock:

- Never use a voltage that is different from that for which the AC adapter is rated.
- Do not plug the unit into a power outlet that is shared by other devices.
- Never modify the power cord or excessively bend, twist, or pull it.
- Do not allow the power cord to become damaged.
- Do not place heavy objects on the power cord or expose it to heat.
- Never touch the AC adapter while your hands are wet.
- Should the power cord become seriously damaged (internal wiring exposed or shorted), replace the USB-C power cord with an undamaged cord.

CAUTION! When the FlowScout is connected to a network the test ports may emit a high level signal that could be hazardous. To avoid serious eye injury, never look directly into the optical outputs of fiber optic network equipment, test equipment, patch cords, or test jumpers. Refer to your company's safety procedures when working with optical systems.

CAUTION! While the FlowScout does not contain any internal laser source(s), the test ports can emit potentially hazardous high level optical signals when it is connected to an optical network. To avoid serious eye injury, never look directly into the optical outputs of fiber optic network equipment, test equipment, patch cords, or test jumpers . Refer to your company's safety procedures when working with optical systems .

NOTICE: Except for the user replaceable battery, the FlowScout contains no user-serviceable parts. It must be returned to AFL or an authorized service center for repair and calibration.

IMPORTANT: Proper care in handling should be taken when using any precision optical test equipment. Scratched or contaminated optical connectors can impact the performance of the instrument. It is important to keep the dust caps in place when the unit is not being used.

IMPORTANT: Use the ICIC (Inspect-Clean-Inspect-Connect) method to eliminate the cause of 85% of network outages -dirty connectors. Always inspect each connector, clean if necessary, inspect again to verify it is clean, and then connect. Always inspect and clean test ports and any mating connectors before mating the connectors.

Product Overview

US Patent 9,602,200 and US Patent 10,771,153

AFL's FlowScout™ PON Power Meter identifies, measures, and qualifies both downstream and upstream signal levels in any PON network, even in PONs carrying a mix of GPON/EPON, video, and next generation PON (XG/XGS-PON, 10GE-PON) wavelengths. It is used at access point, ONT to home or business, and after splitter during new service activation or troubleshooting existing customers to ensure that the PON network has no excess loss and that the signals are within limits.

FlowScout is very easy to use and requires little or no training. It automatically detects the wavelengths and measures the power of any PON networks on each fiber under test - no setup required.

FlowScout displays test results in under 5 seconds on a large color touchscreen display visible in direct sunlight. Test results can be saved and organized into multiple files.

FlowScout is designed to meet the demands of the outside plant environment. It easily withstands the one-meter drop test and has splash resistant (IP54 rating water-resistant) controls that are easy to use, even with gloves on.

A range of field-swappable output adapters enable access for cleaning optical ports and supports multiple connector styles. The efficient design and rechargeable Li-Polymer battery provide long test times..

The File Management system allows technicians to organize test results into multiple files and transfer stored results via USB to a PC for analyzing, generating reports, and printing. The QR code feature can easily collect and transfer test data via any smart device.



Legal Notice

Made for

iPhone SE (2nd generation)

iPhone 11 Pro Max

iPhone 11 Pro

iPhone 11

“Made for iPad” means that an electronic accessory has been designed to connect specifically to iPod, iPhone, or iPad, respectively, and has been certified by the developer to meet Apple performance standards. Apple is not responsible for the operation of this device or its compliance with safety and regulatory standards.

Please note that the use of this accessory with iPod, iPhone, or iPad may affect wireless performance.

- iPad, and Retina are trademarks of Apple Inc., registered in the U.S. and other countries.
- iPad mini is a trademark of Apple Inc., registered in the U.S. and other countries.
- Android is a trademark of Google Inc.

Labeling and Hazard Warning

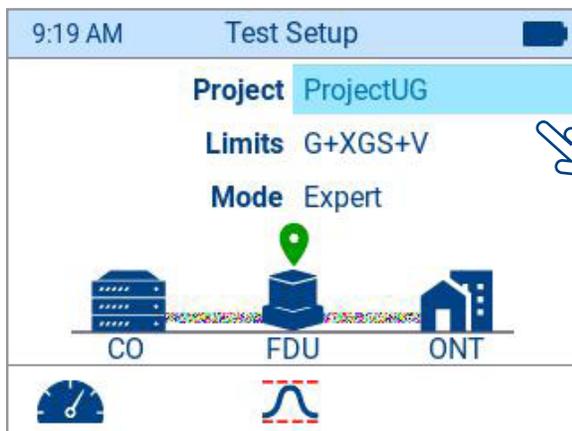
1. Serial Number label - located on the back of the FlowScout™ unit.
2. FCC Transmitter label (models containing Bluetooth transceiver)- located on the back of the FlowScout unit.



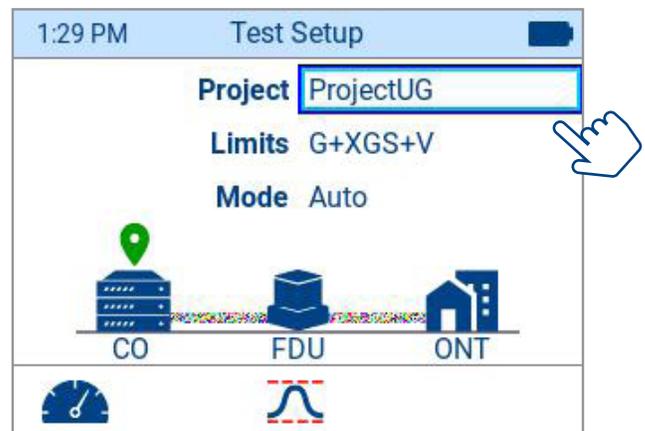
Two Ways to Operate the FlowScout

You can operate the FlowScout unit by using its on-screen "Tap/Touch" functionality or by using its Hard buttons and Soft keys functionality.

- When the "Tap/Touch" selection method is used, the selected item is indicated by Blue Highlight Bar.
- When the Hard buttons and Soft keys selection method is used, the selected item is indicated by Blue Rectangle.



"Tap/Touch" method indicate the selected item by the Blue Highlight Bar

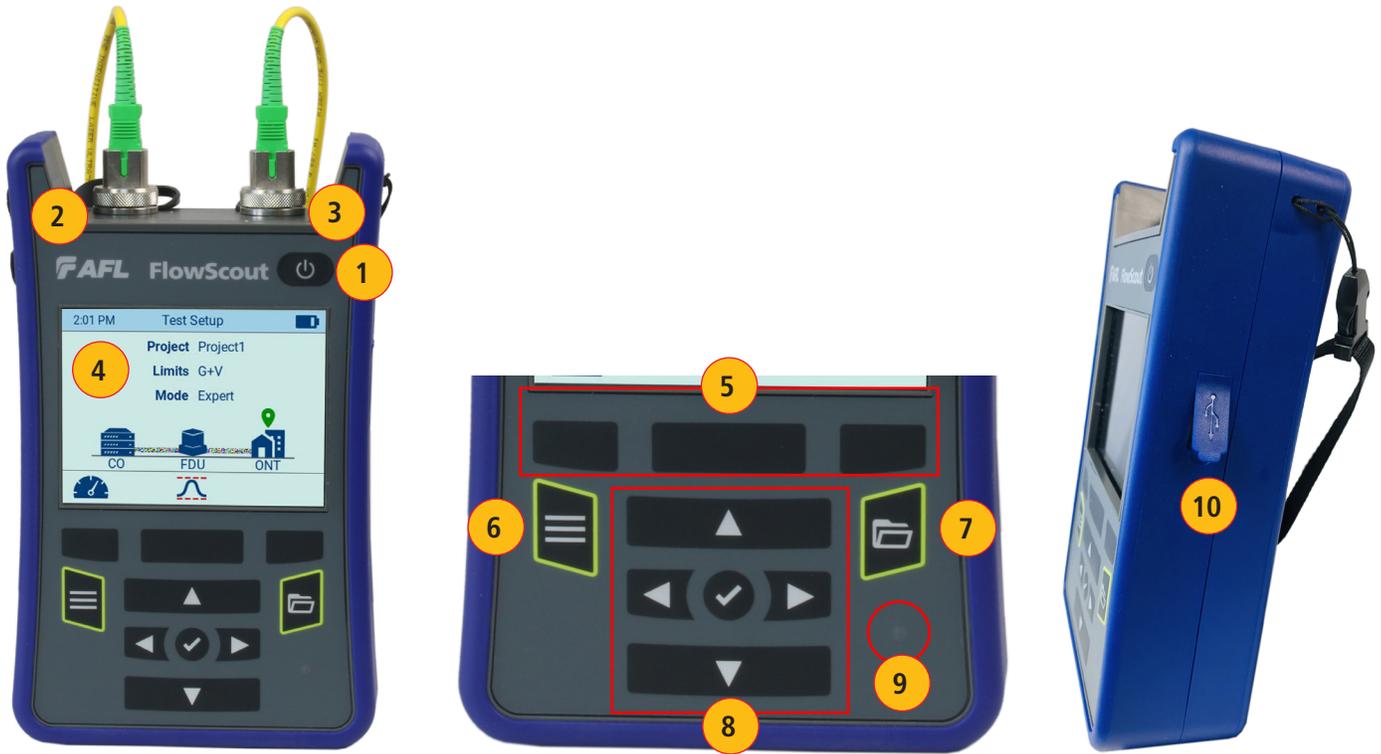


"Hard/Soft key" method indicates the selected item by the Blue Rectangle

This User's Guide provides detailed explanations on how operate the FlowScout using "Tap/Touch" selection method, however hard buttons and soft keys selection functionality is always available as an alternative method.

Hardware Overview

Controls, Display, Interfaces



Ref	Feature	Description
1	Power button	Press the On/Off button to turn on. Press and hold the On/Off button for ~2 seconds to turn off. Power Button RESET: If the unit is not responding to any touch events, keys or the power button it can be RESET by pressing and holding the power button for 60 seconds. The device will reset and then turn on.
2	OLT Port	OLT (Optical Line Terminal) Port - for testing the downstream signal.
3	ONT Port	ONT (Optical Network Terminal) Port - for testing the upstream signal.
4	Touchscreen display	Contains on-screen controls and menus. Used to show setup menus, test results, and saved test data information.
5	Soft keys	Press soft buttons (or touch labels on touchscreen) to perform the indicated functions.
6	Menu button	<ul style="list-style-type: none"> Press to access the Main Menu screen. Press again to return to the previously displayed screen.
7	Save button	Press to save the currently displayed test results.
8	Navigation Arrows and Select button	Navigation Arrows and Select button are used to navigate the different choices in a select menu.
9	AC/Charger indicator	AC/Charger indicator will illuminate to indicate the battery charging status
10	USB-C Port	The USB Port has multiple functions: <ul style="list-style-type: none"> This is the interface for the AC-to-USB power adapter/charger. The FlowScout™ uses the USB-C port to charge the unit. Any sufficiently rated AC-to-USB power adapter can be used to charge the battery. For files transfer, FlowScout can be connected to a PC via USB Cable: PC (USB-A) to FlowScout (USB-C).

Battery Charging

You may charge the battery while your FlowScout™ is switched on or off by using the AC-to-USB power adapter/charger. Any sufficiently rated AC-to-USB power adapter can be used to charge the FlowScout battery.

- Plug the included AC-to-USB power adapter/charger into AC outlet.
- Using USB-A to USB-C cable connect AC-to-USB power adapter to the FlowScout USB-C port.
- AC/Charger indicator will illuminate to indicate charging status as follows:
 - RED - Charging battery
 - GREEN - Not Charging
 - RED/GREEN FLASHING - Charging error
 - OFF - AC disconnected
- FlowScout™ charges while operating. However, the device will charge faster if powered off while connected to the AC-to-USB power adapter.
- A fully-charged battery operates for approximately 8 hours of typical use.

Understanding Battery Charge Status

When FlowScout is ON, battery icon shown on the display indicates battery status as follows:

-  – Battery fully charged (81% - 100%)
-  – Battery partially charged (61% - 80%)
-  – Battery partially charged (36% - 60%)
-  – Battery partially charged (10% - 35%)
-  – Battery discharged (0% - 9%)
-  – Battery charging

Please note that the LED will only indicate charging when there is sufficient current from the USB source to allow the battery to be charged.

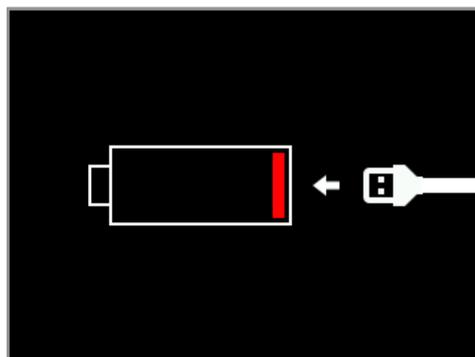
In addition, once the battery is fully charged, the charging LED will change from RED to GREEN (since the device is no longer charging).

As mentioned in the states above, the GREEN LED does not indicate that the battery is fully charged. It indicates that the battery is Not Charging. So, the device could be in this state if the battery is fully charged, OR if the USB source is not able to supply enough current for the battery to be charged.

You should refer to the Battery Status screen to see the exact percentage of the battery charge. For details see section ["Battery Status" on page 18.](#)

When the battery gets to 0% charge, FlowScout will auto power off.

On power up, if the battery is below 3% charge and the unit is not charging, a Low Battery screen is displayed for 3 seconds and then the FlowScout is powered off.

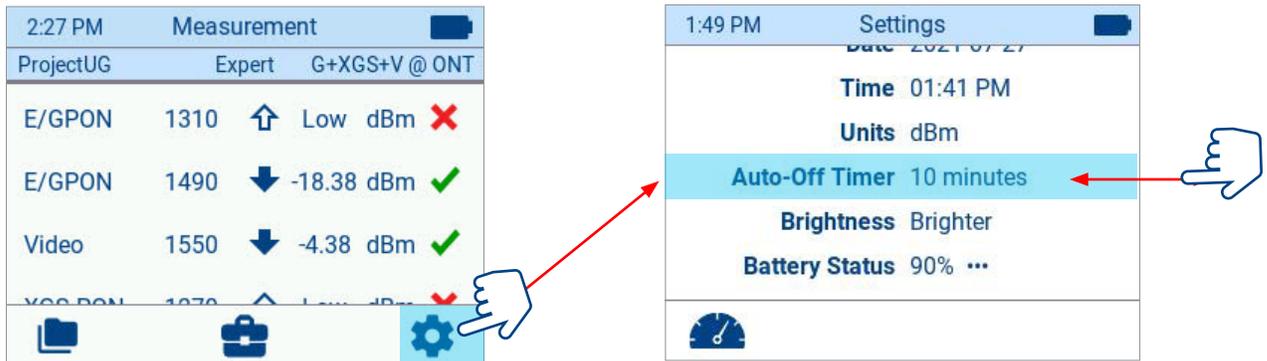


Configuring FlowScout's Auto-Off Timer

FlowScout™ has an Auto-Off feature and will power down if no user activity is detected during the Auto-Off Timer.

To Configure the Auto-Off Timer:

- Power on your FlowScout.
- From the displayed Measurement (Home) screen, touch Settings icon to display Settings screen/menu.
- In the Settings menu, locate the Auto-Off Timer option.
- Touch the displayed Auto-Off value to cycle through and select one of the available options: 2, 5, 10 minutes.



Workflow for Testing PONs with FlowScout™

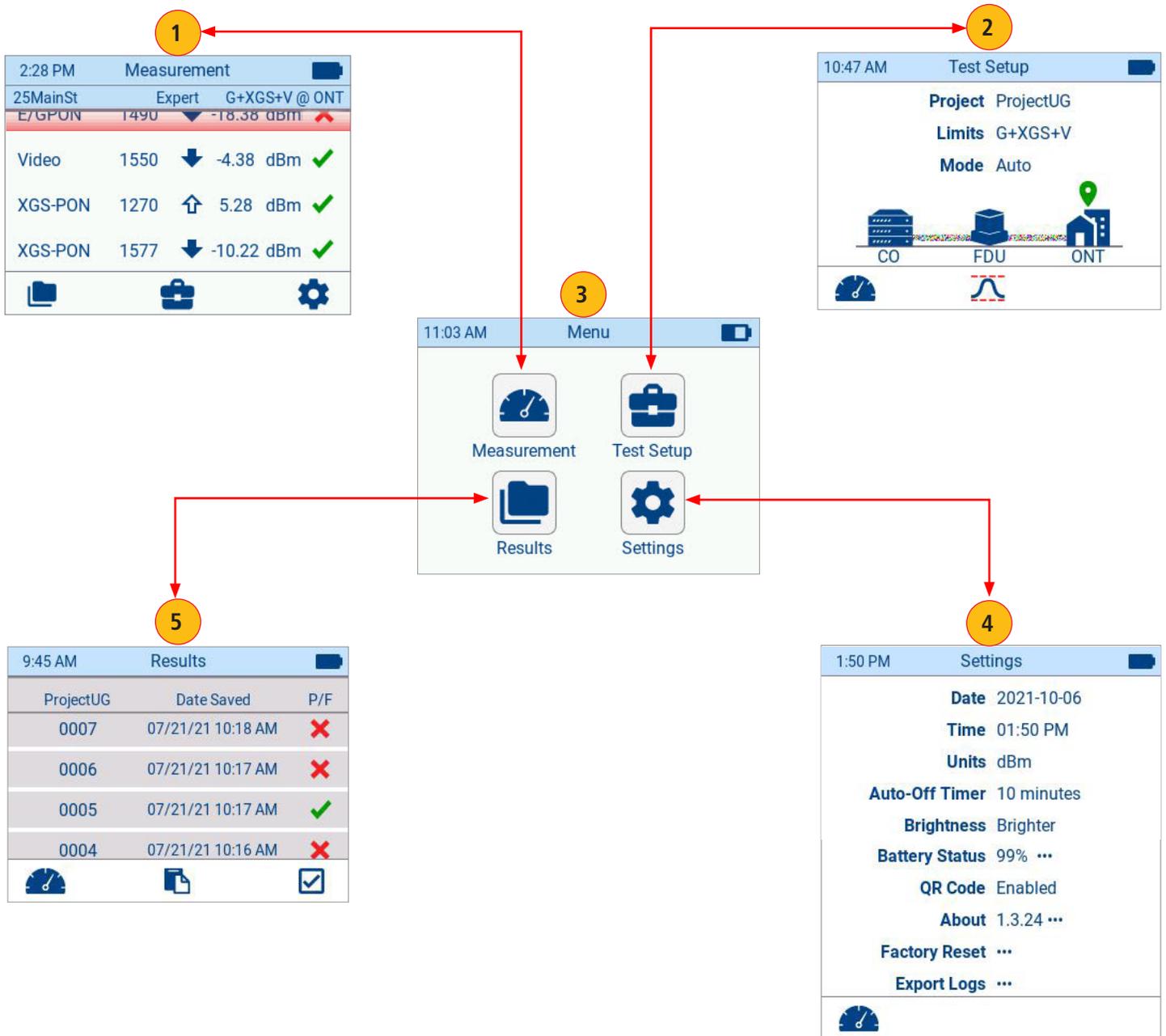
FlowScout provides the easiest and fastest way to verify PON - it will auto-detect both upstream and downstream signals simultaneously and measure up to 5 wavelengths in ≤ 3 seconds.

- Power the FlowScout On.
- Configure your test setup; refer to section titled ["Test Setup" on page 21.](#)
- Configure general setting; refer to section titled ["Settings Screen" on page 16.](#)
- Select the appropriate fiber optic test jumpers to connect FlowScout to the fiber optic system under test. A test jumper must have the same core and cladding size as the fiber under test. The connector at one end of the test jumper must mate with the optical port on FlowScout. The connector on the other end must mate with the fiber optic system under test.
- Clean test ports and any mating connectors. Optical ports and connector end faces must be kept free from dirt or other contaminants to ensure accurate measurements and operation.
- Connect the FlowScout to the network under test. The FlowScout starts measuring as soon as the fiber is inserted into test port.
- Observe the displayed measurements. See to section ["Measurement Screen" on page 10.](#)
- Save the result (see section ["To Save Test Results" on page 13](#)) and, if needed, transfer test data using QR code via any smart device, see section ["To Transfer Test Results Using QR Code Functionality" on page 14.](#)

FlowScout's Main Screens Summary

FlowScouts user interface features 5 Main screens.

1.  **Measurement screen** - this is the FlowScout's Home screen that is displayed at startup; this is where you observe live PON network testing results; see section "[Measurement Screen](#)" on page 10.
2.  **Test Setup screen** - this is where you configure your test settings; see section "[Test Setup](#)" on page 21.
3. **Menu screen** - this is where you can access all 4 Main screens.
4.  **Settings screen** - this is where you configure all General setting; see "[Settings Screen](#)" on page 16.
5.  **Results screen** - this is where you locate saved test results and perform file management functions; see section "[Viewing Saved Results](#)" on page 24.



Measurement Screen

The Measurement screen is the FlowScout's Home screen that is displayed at startup. The FlowScout starts measuring as soon as the unit is On and connected to the network under test.

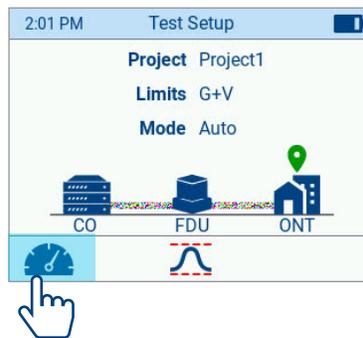
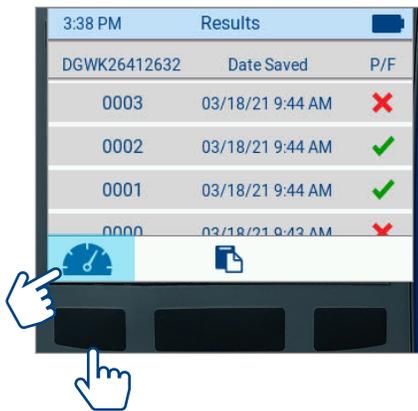


1:32 PM Measurement	
Project1	Auto G+XGS+V @ ONT
E/GPON 1310	↑ -5.34 dBm ✖
E/GPON 1490	↓ -18.38 dBm ✔
Video 1550	↓ -6.38 dBm ✔

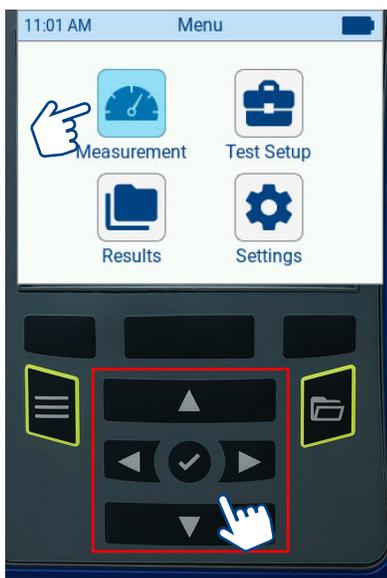


Measurement screen is represented by the measurement icon in Menu, Results, Test Setup, and Settings screens.

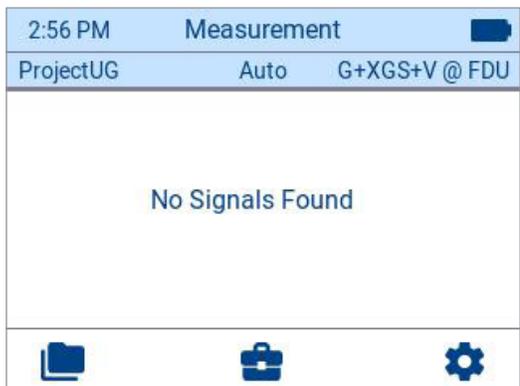
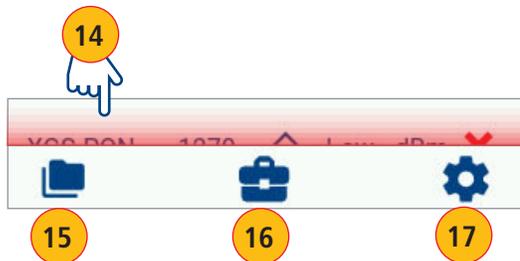
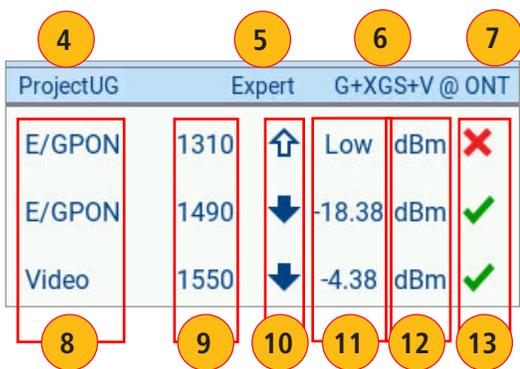
- While in Results, Test Setup, or Settings screen, you may switch to the Measurement screen by either touching the Measurement icon or pressing the soft key located below the Measurement icon.



- While in the Menu screen, you can access the Measurement screen by either touching the Measurement icon or by using the Navigation Arrows and Select button.



Measurement Screen Summary



If no signals are present in Auto mode, No Signals Found will be displayed

The Measurement screen displays live signals of the PON network under test.

- Time:** Current time; set in the Settings screen; see section ["Time" on page 17](#)
- Screen Name:** Indicates the currently displayed screen.
- Battery Indicator:** The battery icon shown on the display indicates battery status; see section ["Battery Status" on page 18](#).
- Project Name:** User-defined in the Test Setup screen; see section ["Project" on page 22](#).
- Test Mode:** User-selected in the Test Setup screen; see section ["Mode" on page 23](#).
- Test Limits:** User-selected in the Test Setup screen; see section ["Limits" on page 22](#).
- Test Location:** User-selected in the Test Setup Screen; see section ["Test Location" on page 23](#)
- Network Type:** User-selected in the Test Setup screen: E/GPON, Video, XGS-PON.
- Wavelength:** This value is the wavelength in nm of the signal that is being measured.
- Signal Direction:** This field displays the direction of the measured signal, upstream or downstream.
- Power Measurement:** This field displays the measured power for the given wavelength.
- Power Units:** User-selected units of measure (dBm or μ W), see section ["Units" on page 17](#). If in Expert Mode and a signal is not present or is above the measurement range of the device, 'Low' or 'High' will be displayed respectively.
- Pass/Fail Indicators:** ✓ - Passing signal, ✗ Failing signal. This field shows Pass/Fail result for each wavelength based on criteria configured in the Test Setup screen, see section ["Test Setup" on page 21](#).
- 'Fail Results' Bar Indicator:** Gradient bar indicates that there are failing signals above or below off screen. When there is a failed signal off the screen, scroll all the way to the end, to see all the failed signals.
- Results Icon:** touch this icon to display the Results screen.
- Test Setup Icon:** touch this icon to display the Test Setup screen and to configure Test Limits, Mode, Location, and Project Name.
- Settings:** touch this icon to display the Settings screen and configure General Settings.

Notes:

- If no signals are present in Auto mode, No Signals Found will be displayed
- While in the Measurement screen, you may touch any result to display the Details screen (refer to the next section) or you can press the Save button to save the currently displayed measurements (see section ["Saving and Transferring Test Results" on page 13](#).)

Details Screen Summary

While in the Measurement screen, you may touch any result to see details of that result - touch the desired result to display the Result Detail screen.

Measurement Screen (1:35 PM): Shows a list of results for Project1. The first result, E/GPON at 1310 nm with 12.28 dBm, is highlighted with a red 'X' and a hand icon pointing to it.

Test Setup Screen (9:54 AM): Shows configuration for ProjectUG with Limits G+XGS+V and Mode Auto. A network diagram shows CO, FDU, and ONT components.

Details Screen (1:36 PM): Shows details for the failed E/GPON result. A large red 'X' is in the center. A bar chart shows a 'Fail' status with a red segment on the right. Callouts explain:

- Detected PON network type: E/GPON
- Detected wavelength and signal direction: 1310 nm ↑
- Measured power in Red on the right side of the screen indicates failing test results that are above the Max Limit value: 12.28 dBm
- Min Limit value: Minimum passing value for the selected Limits and Location: 3.00 dBm
- Max Limit value: Maximum passing value for the selected Limits and Location: 10.00 dBm

Limits Details Screen (11:49 AM): A table showing limits for various wavelengths and directions. The 1310 nm ↑ entry is highlighted with a red box.

	Min	Max
1270 nm ↑	3.00 dBm	10.00 dBm
1310 nm ↑	3.00 dBm	10.00 dBm
1490 nm ↓	-35.00 dBm	-8.00 dBm
1550 nm ↓	-32.00 dBm	-3.00 dBm

Measurement Screen (2:28 PM): Shows a list of results. The first result, E/GPON at 1490 nm with -18.38 dBm, is highlighted with a red 'X' and a hand icon pointing to it.

'Fail Results' Bar Indicator: Gradient bar indicates that there are failing signals above or below off screen. When there is a failed signal off the screen, scroll all the way to the top / end, to see all the failed signals.

Details Screen (1:57 PM): Shows details for a passing result. A large green checkmark is in the center. A bar chart shows a 'Pass' status with a green segment. Callouts explain:

- This is the example of a Passing result - Details screen.
- Measured power in Green on the left side of the screen indicates passing test results that are below the Min Limit value: 7.28 dBm

Saving and Transferring Test Results

While in the Measurement screen, you may save the currently displayed measurements to the device and/or transfer test data (if QR code generation functionality is enabled) to FlowScout™ aeRos cloud.

To Save Test Results

1. While in the Measurement screen, press the Save button. A pop-up screen will confirm that measurements are Saved showing the following data:
 - Generated QR code (if enabled, see section ["QR Code" on page 19](#))
 - Project name and number of the saved fiber. Fiber number is auto-incremented.
 - Number of Passing measurements (if present)
 - Number of Failing measurements (if present)
 - You may transfer saved results, see ["To Transfer Test Results Using QR Code Functionality" on page 14](#)
2. Touch OK to return to the Measurements screen.

The diagram illustrates the process of saving test results and the resulting pop-up screens. It starts with a screenshot of the Measurement screen showing a table of test results:

Measurement Type	Value	Unit	Status
E/GPON	1310	Low dBm	Fail (Red X)
E/GPON	1490	-18.38 dBm	Pass (Green Check)
Video	1550	-4.38 dBm	Pass (Green Check)

A hand icon with a yellow circle '1' points to the Save button in the bottom right corner of the Measurement screen.

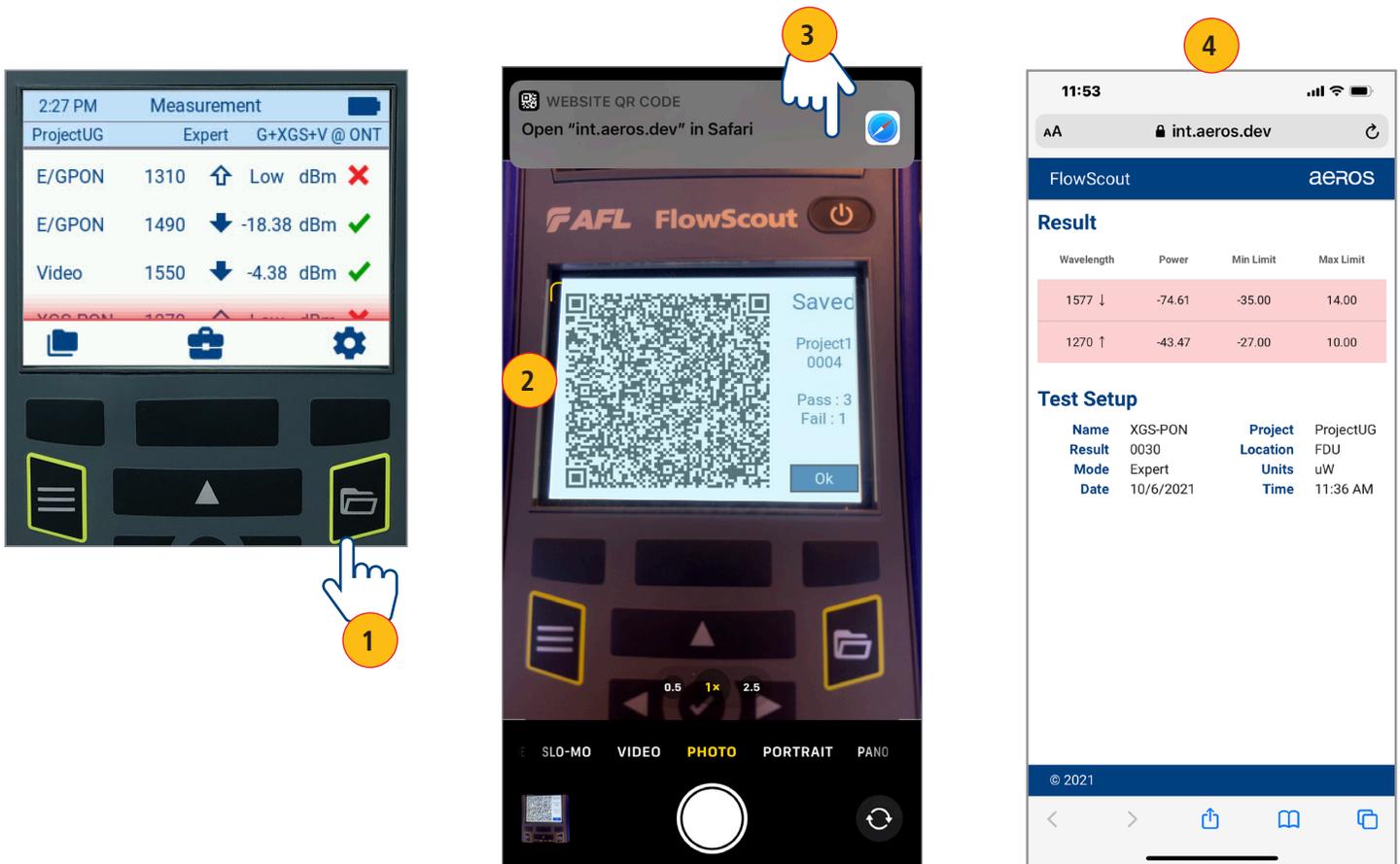
Two paths are shown:

- QR code generation is enabled in the Setting screen:** This path leads to a pop-up screen titled "Saved" that includes a QR code. The pop-up displays the following information:
 - Project name and auto-incremented fiber number: ProjectUG 0015
 - Number of Passing measurements (if present): Pass : 3
 - Number of Failing measurements (if present): Fail : 2A hand icon with a yellow circle '2' points to the "Ok" button.
- QR code generation is disabled in the Setting screen:** This path leads to a pop-up screen titled "Saved" that does not include a QR code. The pop-up displays the following information:
 - Project name and auto-incremented fiber number: ProjectUG_0015
 - Number of Passing measurements (if present): Pass : 3
 - Number of Failing measurements (if present): Fail : 2A hand icon with a yellow circle '2' points to the "Ok" button.

To Transfer Test Results Using QR Code Functionality

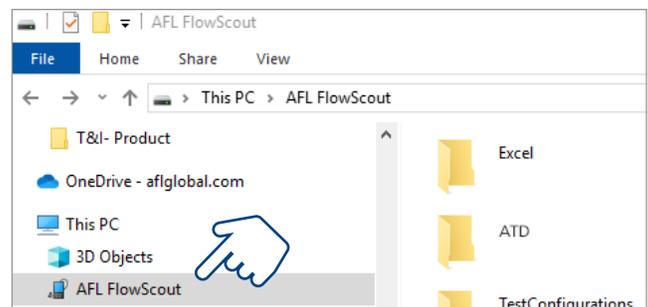
To transfer test data to FlowScout™ aeRos cloud, the QR code generation functionality should be enabled in the Settings screen, see section ["QR Code" on page 19](#).

1. While in the Measurement screen, press the Save button. A pop-up screen will confirm that measurements are Saved showing the following data:
 - Generated QR code
 - Project name and number of the saved fiber. Fiber number is auto-incremented.
 - Number of Passing measurements (if present)
 - Number of Failing measurements (if present)
2. Scan QR code with your smart device camera.
3. On your smart device, you should see pop-up Notification suggesting to open web browser - tap on it.
4. You should now see transferred test results that may be shared to a PC or another smart device using your smart device share options.



To Transfer Test Results to a PC via USB Cable

- Connect the FlowScout to a PC using USB cable.
- On your PC File Explorer, locate AFL FlowScout folder.
- In that folder, you will see several other folders:
 - Excel - contains results in spreadsheet format
 - ATD - contains results in .ATD format
- Copy files from Excel / ATD folder to your PC local folder.



Menu Screen

The FlowScout's Menu screen allows the user to access any of the Main screens: Measurement, Test Setup, Results, Settings. The Menu screen is accessed from any other screen by pressing the Menu button.

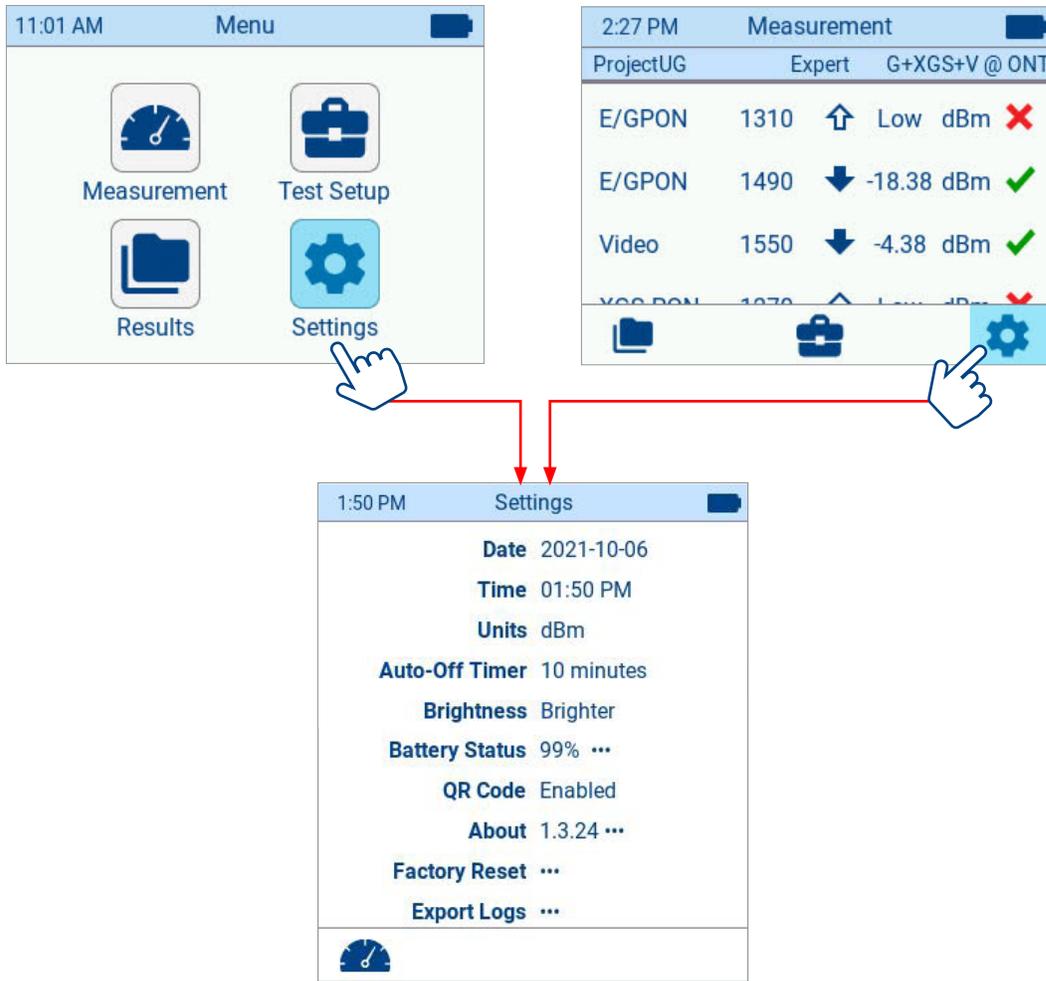


-  - Touch to access the Measurement screen - this is where you observe live PON network testing; refer to section titled "[Measurement Screen](#)" on page 10.
-  - Touch to access the Results screen - this is where you locate saved test results and perform file management functions; refer to section titled "[Viewing Saved Results](#)" on page 24.
-  - Touch to access the Test Setup screen - this is where you perform your test settings; refer to section titled "[Test Setup](#)" on page 21).
-  - Touch to access the Settings screen - this is where you perform all General setting; refer to section titled "[Settings Screen](#)" on page 16).

Settings Screen

The Settings screen is accessed from either Menu screen or from the Measurement screen by touching the Settings icon. Alternatively, it can be accessed using hard buttons or soft key:

- From the Menu screen using the Arrow and Select hard buttons.
- From the Measurement screen pressing the Settings soft key.

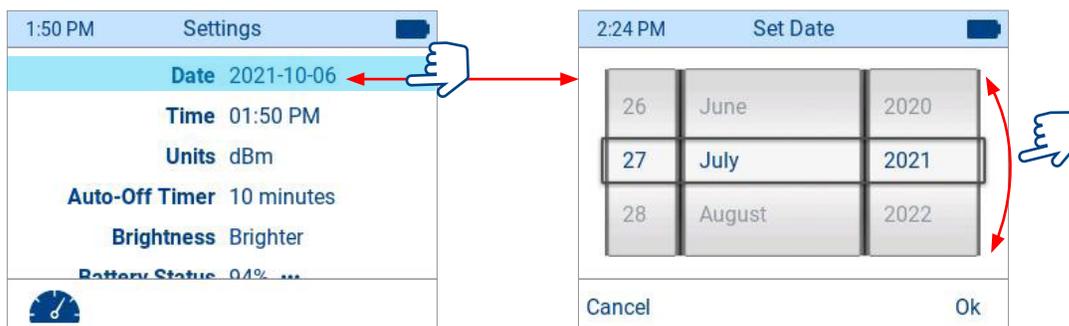


While in the Settings screen, touch the desired settings parameter (alternatively, you may use Arrow and Select buttons and software keys) to view or edit setting.

Date

Touch Date to adjust day / month / year as needed.

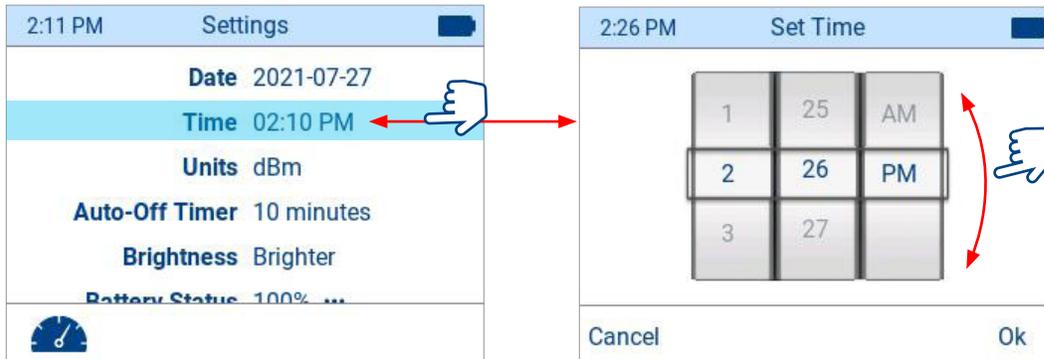
- Use the on-screen Spinner to select the desired parameter: day, month, year.
- Touch OK to save changes and return to the Settings screen.
- Touch Cancel to return to the Settings screen without saving edits.



Time

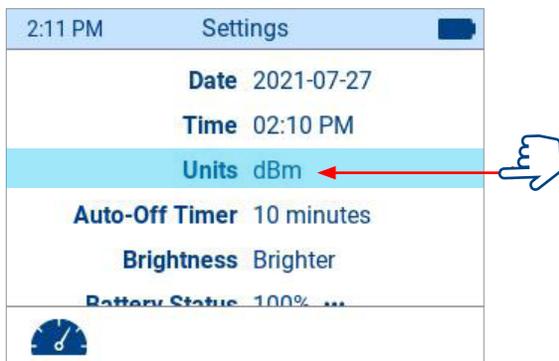
Touch Time to adjust hours, minutes, AM/PM as needed.

- Use the on-screen Spinner to adjust the desired parameter: hours, minutes, AM/PM.
- Touch OK to save changes and return to the Settings screen.
- Touch Cancel to return to the Settings screen without saving edits.



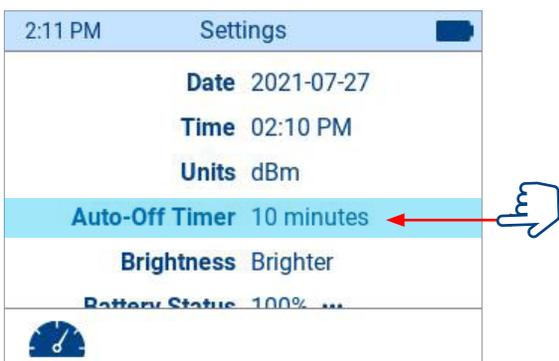
Units

Touch Units to alternate the currently displayed units of measure between dBm and μ W.



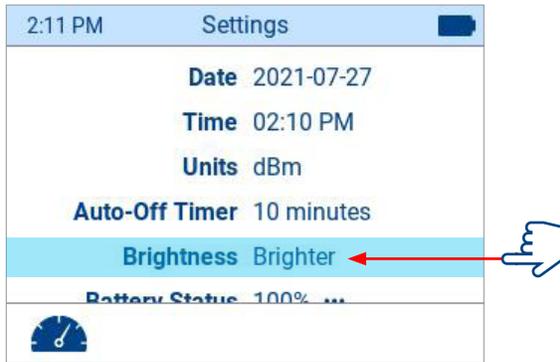
Auto-Off Timer

Touch the Auto-Off Timer to cycle through and select one of the available options: 2, 5, 10 minutes.



Brightness

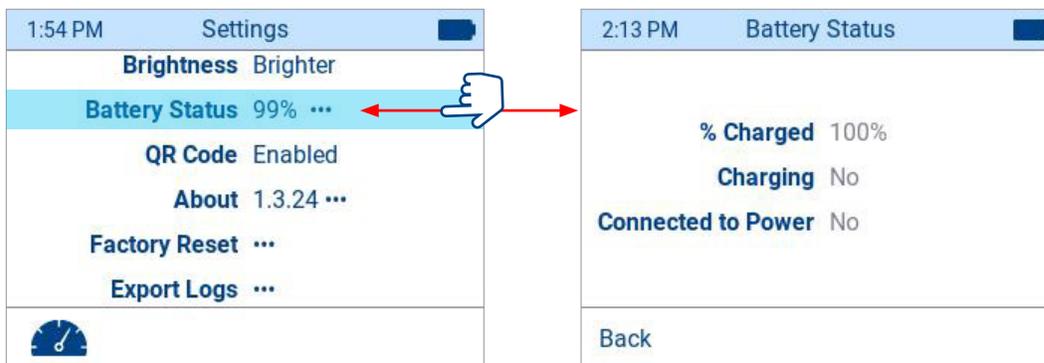
Touch Brightness to cycle through and select one of the available options: Brighter, Bright, Dimmer.



Battery Status

Touch Battery Status to display the Battery Status sub-screen. This screen is informative only, it displays:

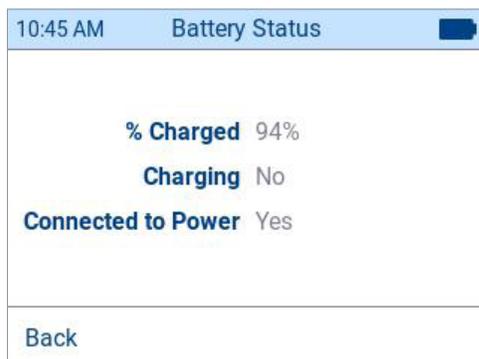
- Battery Level - as a percentage of charged battery - 0- 100%.
- Battery Status - Charging: Yes or No.
- Connected to a power source: Yes or No.



Note that the device could be “Connected to Power” and NOT “Charging”. This can typically occur when connecting FlowScout™ to a PC or unpowered USB hub. Make sure to use AC-to-USB power adapter to charge the FlowScout battery! Connecting the FlowScout to a PC USB port will not charge the battery. Images below show examples of connecting the FlowScout via USB to PC vs connecting to AC-to-USB power adapter.

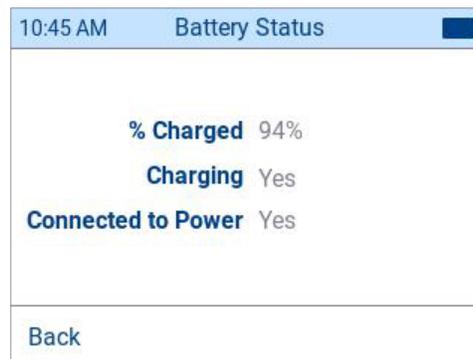
Battery is not charging!

FlowScout is connected to a PC



Battery is charging.

FlowScout is connected to a AC-to-USB power adapter.

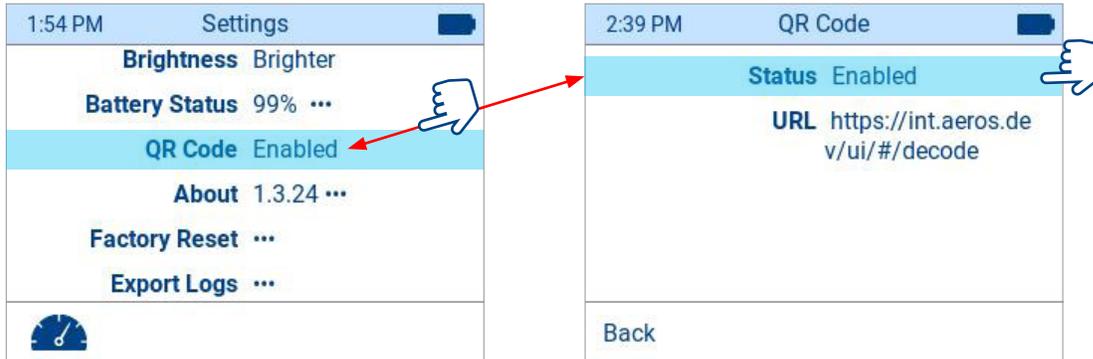


QR Code

QR code settings allows you to enable/disable the QR code functionality on the device.

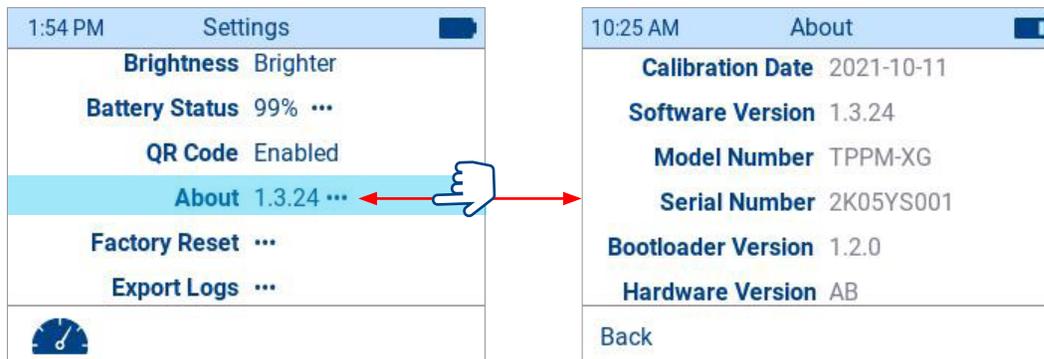
When enabled, FlowScout™ will generate a QR code for a single measurement (may contain multiple wavelengths), which transmits the relevant data to the smart device scanning the QR code. Scanning a QR code with a smart device will open a web page on aeRos cloud that displays the transferred data.

- Touch QR code field to display a sub-screen, which shows the QR code generation Status (enabled/disabled) and also shows the base URL.
- Touch the Status field to toggle between enabled and disabled.



About

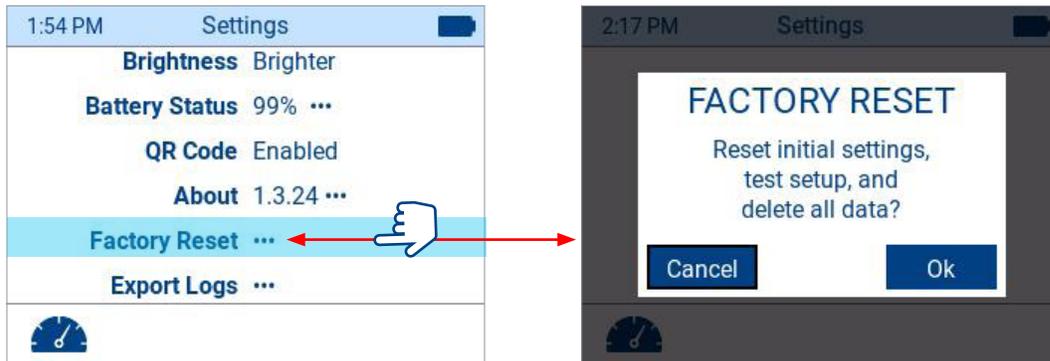
Touch About to display a sub-screen. This screen is informative only; it displays: FlowScout™ Calibration Date, Software Version, Model Number, Serial Number, Bootloader Version and Hardware Version.



Factory Reset

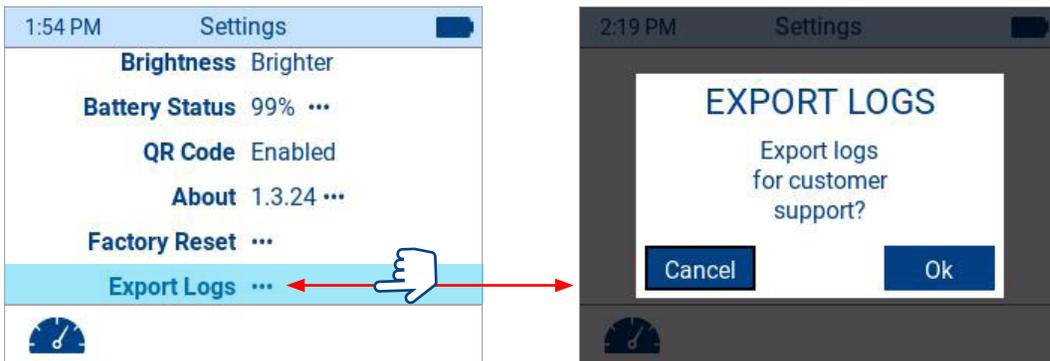
Touch Factory Reset to display the Reset sub-screen that allows resetting FlowScout™ to factory defaults.

Factory Reset will erase all data on the unit, please use the Factory Reset option with extreme caution. Make sure to transfer test results off the unit before performing Factory Reset.



Export Logs

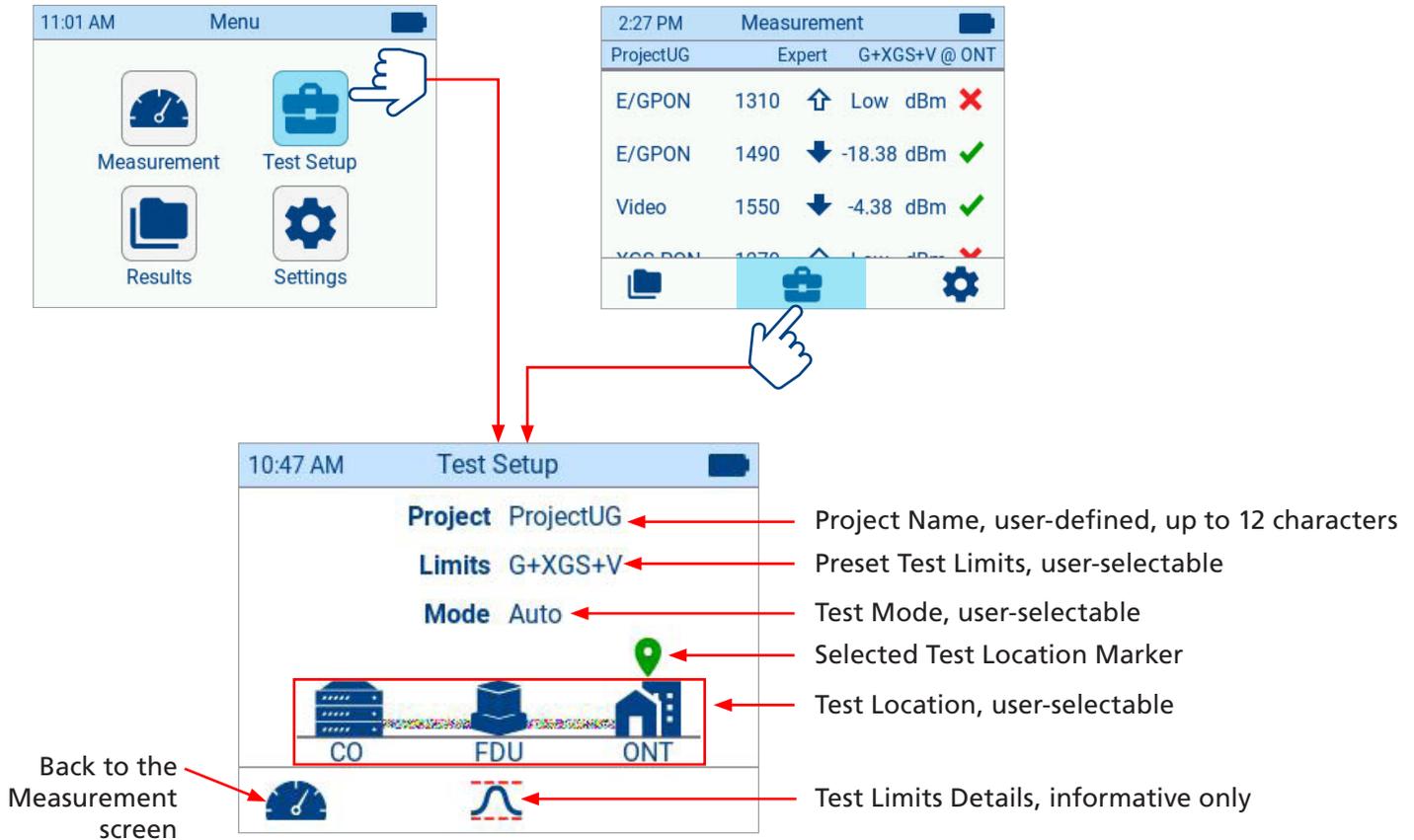
Touch Export Logs in case you need to export data for customer support team.



Test Setup

The Test Setup screen allows you to select various configurations and limits for the network that is currently being tested. This screen is accessed from either Menu screen or from the Measurement screen by touching the Test Setup icon. Alternatively, it can be accessed using hard buttons or soft key:

- From the Menu screen using the Arrow and Select hard buttons.
- From the Measurement screen pressing the Test Setup soft key.



While in the Test Setup screen you may perform setup operations as follows.

- Touch the desired settings parameter (Project, Limits, Mode) to edit/configure setting.
- Touch the desired location (CO, FDU, ONT) to select it. Location Marker  indicates the selected location.
- Touch the Measurement icon to return to the Measurement screen

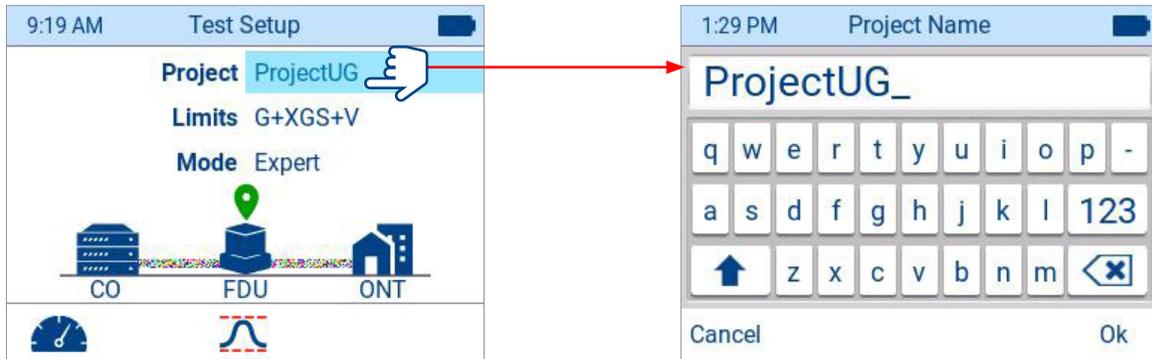
Alternatively to touching the setting, you may use Arrow and Select buttons and Soft keys

- Soft keys: Navigate to Measurement screen and Limit Details screen.
- Arrow and Select buttons: Navigate to Project screen and Limits screen; toggle Mode setting, select Test Location (CO / FDU / ONT).

Project

Touch the currently displayed project name to access the Project Name sub-screen that allows you to create new project name:

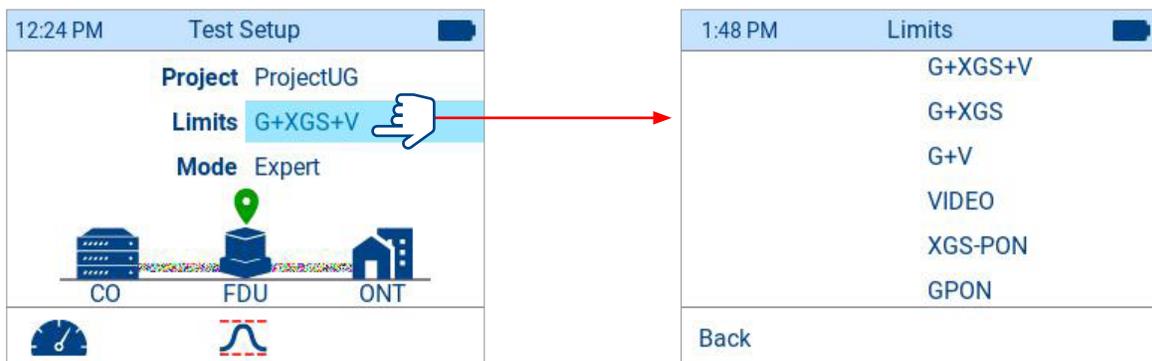
- Use Text Editor to enter new project name; up to 12 characters.
- Touch OK to save changes and return to the Test Setup screen.
- Touch Cancel to return to the Test Setup screen without saving edits.



Limits

The Limits setting allows you to select the set of limits that will be used for the Pass/Fail criteria. The system comes with a set of preset limits which represent typical network limits for each wavelength per Location (CO, FDU, or ONT). For example, G+XGS+V contains typical limits for a network that contains GPON, XGS-PON and Video signals. Touch the currently displayed Limits preset to access the Limits sub-screen and select one of the available limits preset:

- Touch the desired preset to select it and return to the Test Setup screen.
- Touch Back to return to the Test Setup screen without making any changes.



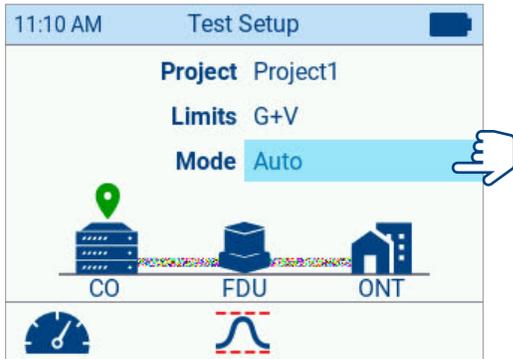
Mode

FlowScout™ provides two test modes to select from: Auto and Expert.

In "Auto" test mode, the FlowScout will automatically display only the valid signals on the network.

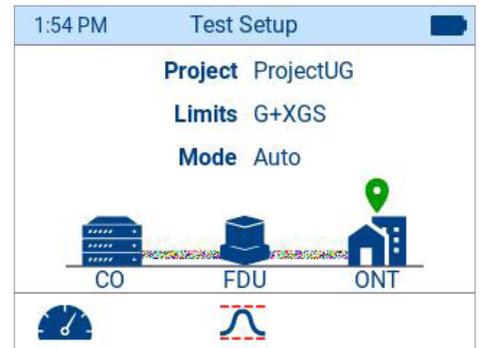
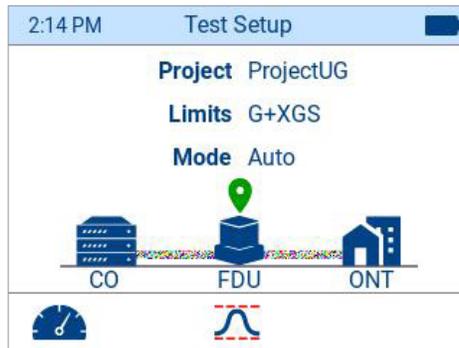
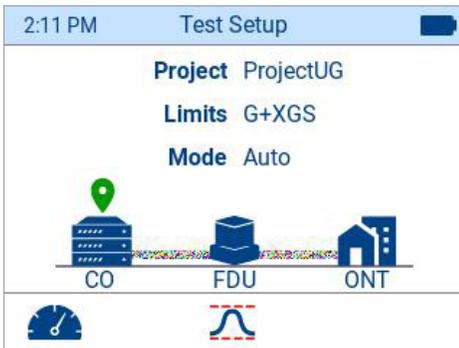
In "Expert" test mode, the FlowScout will display wavelengths associated with the selected Limits, even if the wavelengths are not present in the measurement results. These wavelength results will be compared to the Pass/Fail criteria and will display 'Low' when no signal is present.

Touch the currently displayed mode option to toggle between Auto and Expert.



Test Location

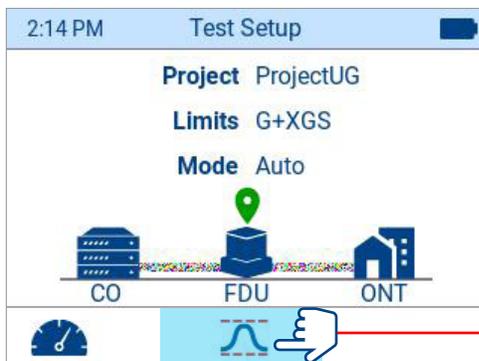
The Test Location setting allows the user to indicate where in the PON network the measurement is being performed: CO, FDU, or ONT. Touch the desired Test Location icon to make the selection. Note that the Location Marker  indicates the selected Location.



Limits Details

The Limits Details screen allows you to view the min and max acceptable power for each wavelength based on the selected Limits and Location of the Test Setup. These Pass/Fail criteria are applied to the Power Measurement data.

Touch the Limits Details icon to view details - these values are factory presets that are determined by selected Test Location and Test Limits.



The screenshot shows the 'Limits Details' screen at 1:30 PM. It displays a table with columns for 'Auto' and 'G+XGS @ FDU'. The table lists wavelengths and their corresponding minimum and maximum power limits.

	Auto	G+XGS @ FDU
	Min	Max
1270 nm ↑	2.00 μ W	10.00 mW
1310 nm ↑	2.00 μ W	10.00 mW
1490 nm ↓	0.32 μ W	10.00 mW
1577 nm ↓	0.32 μ W	25.12 mW
Back		

Results Screen

The Results screen allows you to view and manage saved results on the device.

Viewing Saved Results

The Results screen is accessed from either Menu screen or from the Measurement screen by touching the Results icon. Alternatively, it can be accessed using hard buttons or soft key:

- From the Menu screen using the Arrow and Select hard buttons.
- From the Measurement screen pressing the Results soft key.

The diagram illustrates the navigation process to the Results screen. It shows three screens: Menu, Measurement, and Results. Red arrows indicate the path from Menu and Measurement to Results. The Results screen contains a table of saved test results.

Project name	Date Saved	P/F
0007	07/21/21 10:18 AM	✗
0006	07/21/21 10:17 AM	✗
0005	07/21/21 10:17 AM	✓
0004	07/21/21 10:16 AM	✗

Annotations for the Results screen:

- Date of saved results:** in DD-MM-YY hh:mm format
- Test results are saved by fiber number (starts at 0001)s**
- Pass/Fail Indicator.** The Pass/Fail is based on all measurements results within tested fiber
- Select Mode icon.** Touch this icon to enable the Select mode.
- Projects icon - touch on this icon to access the Projects screen**
- Measurement screen icon - touch this icon to return to the Measurement screen**

While in the Results screen you may review saved test results as follows.

- Touch the desired fiber result to display a sub-screen

8:45 AM Results

ProjectUG	Date Saved	P/F
0007	07/21/21 10:18 AM	✗
0006	07/21/21 10:17 AM	✗
0005	07/21/21 10:17 AM	✓

9:21 AM Result

ProjectUG	Auto	G+XGS+V @ ONT
E/GPON	1490	↓ -7.57 dBm ✗
Video	1550	↓ -14.88 dBm ✓
XGS-PON	1577	↓ -13.73 dBm ✓

Transfer Results - QR code functionality is enabled in the Settings screen "QR Code" on page 19.

When disabled, this icon is grayed-out

- From the displayed sub-screen, touch the desired result to display the Result Detail screen

9:47 AM Result

ProjectUG	Auto	G+XGS+V @ ONT
E/GPON	1490	↓ -7.57 dBm ✗
Video	1550	↓ -14.88 dBm ✓
XGS-PON	1577	↓ -13.73 dBm ✓

Touch the Share icon if you need to transfer the displayed results, see section "To Transfer Test Results Using QR Code Functionality" on page 14.

9:23 AM Result Detail

ProjectUG Auto G+XGS+V @ ONT

E/GPON ✗ 1490 nm ↓ -7.57 dBm Fail

-35.00 dBm -8.00 dBm

Project Name, Mode, Limits. Location - user-set in the Test Setup screen

9:54 AM Test Setup

Project ProjectUG

Limits G+XGS+V

Mode Auto

CO FDU ONT

Min Limit value: Minimum passing value for the selected Limits and Location

Max Limit value: Maximum passing value for the selected Limits and Location

11:49 AM Limits Details

Auto G+XGS+V @ ONT

	Min	Max
1270 nm ↑	3.00 dBm	10.00 dBm
1310 nm ↑	3.00 dBm	10.00 dBm
1490 nm ↓	-35.00 dBm	-8.00 dBm
1550 nm ↓	-32.00 dBm	-3.00 dBm

Deleting Saved Projects or Individual Test Results

To Delete Saved Test Results

Navigate to Results screen: from either Menu screen or from the Measurement screen by touching the Results icon.

1. From the Results screen, touch the Projects icon to access the Projects screen.

In the Projects screen you have an option to delete the entire project(s) or delete test record(s) from the selected project.

To Delete a Project

2. Touch the Select icon to enable Selection mode.

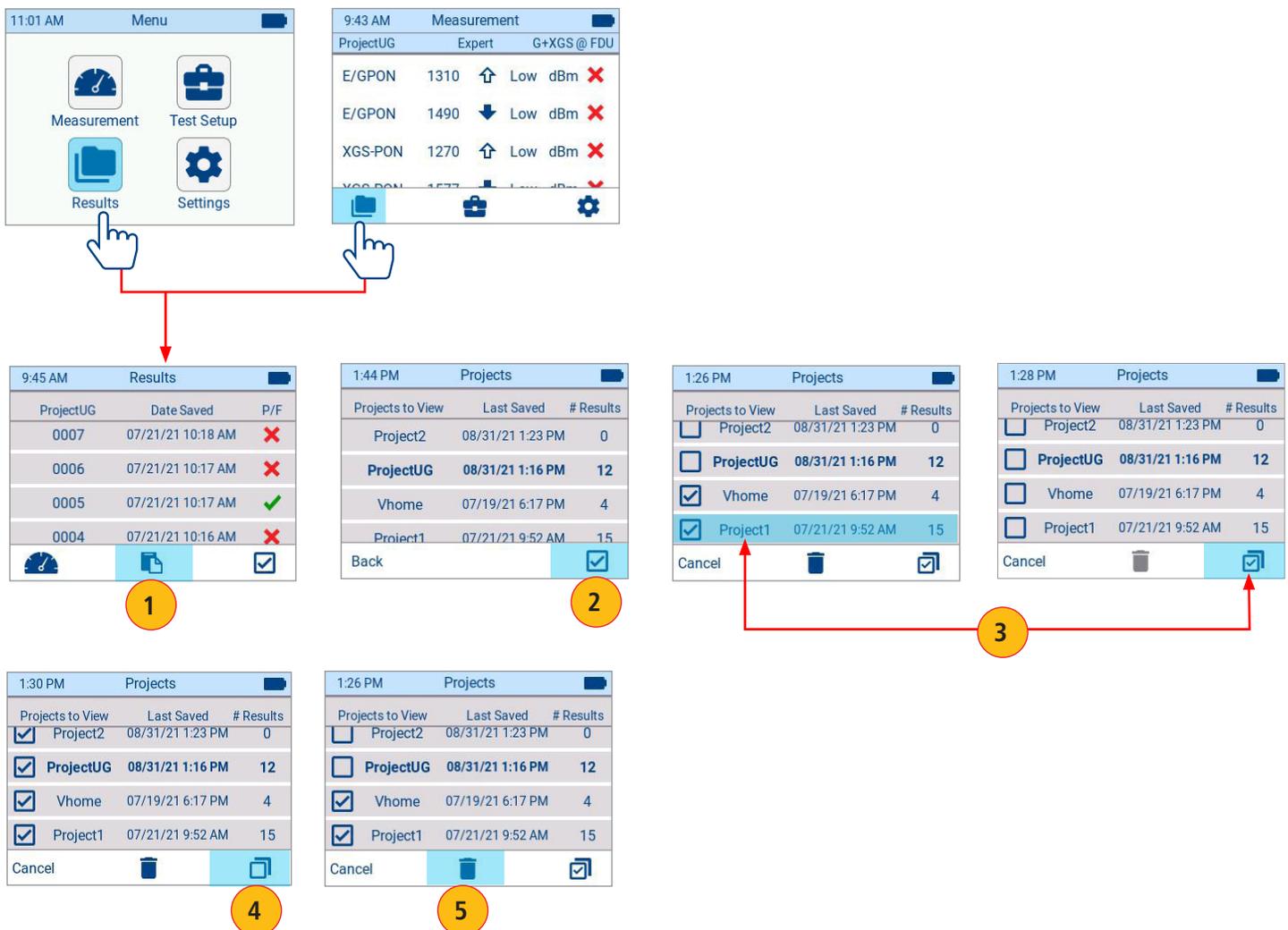
3. Do one of the following:

– Locate the desired Project, then touch it to check it for deletion

– Touch the Select All icon to select all projects for deletion. Note that Select All icon changes to Deselect All

4. In case you need to deselect all jobs selected for deletion, touch the Deselect All icon.

5. When done with selections, touch the Trash can icon to delete the selected results.



To Delete Individual Test Records

1. While in the Projects screen, touch the desired project to display test results saved with this project.
2. When in Results screen, touch the Select icon to enable Selection mode.
3. Do one of the following:
 - Locate the desired result, then touch it to check it for deletion.
 - Touch the Select All icon to select all results for deletion. Note that Select All icon changes to Deselect All.
4. In case you need to deselect all results selected for deletion, touch the Deselect All icon.
5. When done with selections, touch the Trash can icon to delete the selected projects.

1

Projects to View	Last Saved	# Results
Project2	08/31/21 1:23 PM	0
ProjectUG	08/31/21 1:16 PM	12
Vhome	07/19/21 6:17 PM	4
Project1	07/21/21 9:52 AM	15

2

ProjectUG	Date Saved	P/F
0007	07/21/21 10:18 AM	✗
0006	07/21/21 10:17 AM	✗
0005	07/21/21 10:17 AM	✓
0004	07/21/21 10:16 AM	✗

3

ProjectUG	Date Saved	P/F
<input checked="" type="checkbox"/> 0006	07/21/21 10:17 AM	✗
<input type="checkbox"/> 0005	07/21/21 10:17 AM	✓
<input checked="" type="checkbox"/> 0004	07/21/21 10:16 AM	✗

4

ProjectUG	Date Saved	P/F
<input checked="" type="checkbox"/> 0007	07/21/21 10:18 AM	✗
<input checked="" type="checkbox"/> 0006	07/21/21 10:17 AM	✗
<input checked="" type="checkbox"/> 0005	07/21/21 10:17 AM	✓
<input checked="" type="checkbox"/> 0004	07/21/21 10:16 AM	✗

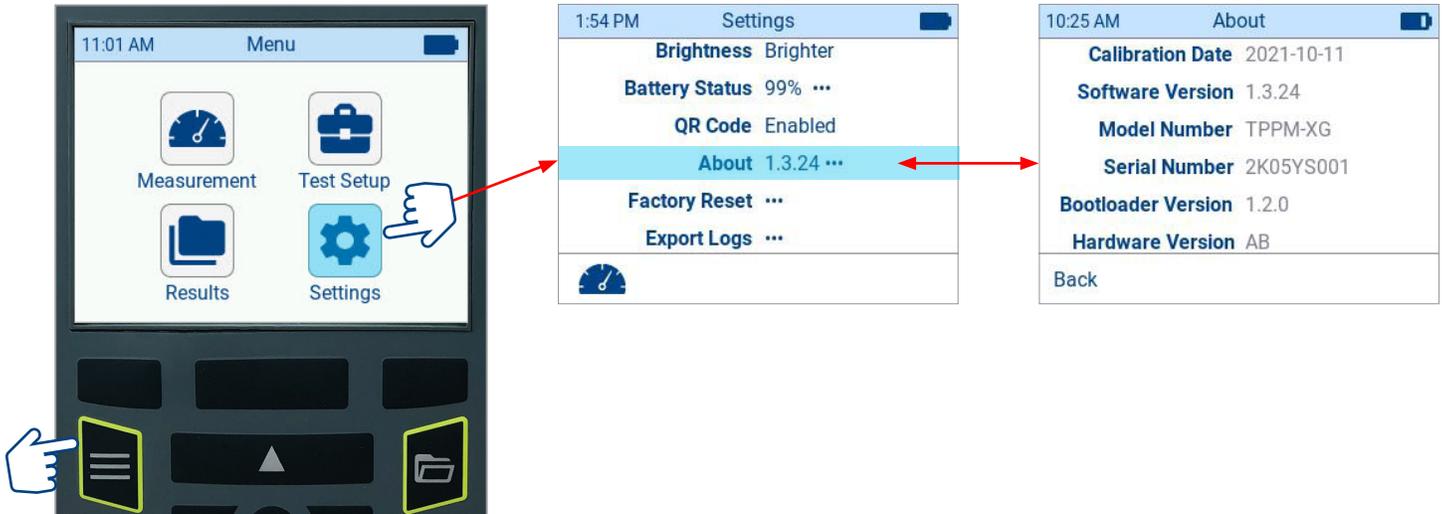
5

ProjectUG	Date Saved	P/F
<input checked="" type="checkbox"/> 0007	07/21/21 10:18 AM	✗
<input checked="" type="checkbox"/> 0006	07/21/21 10:17 AM	✗
<input checked="" type="checkbox"/> 0005	07/21/21 10:17 AM	✓
<input checked="" type="checkbox"/> 0004	07/21/21 10:16 AM	✗

How to View Device Information

FlowScout™ device information (calibration date, software version, model number, serial number, bootloader version, and hardware version) may be viewed from the About screen, which is accessed from the Settings screen.

- From any screen, press the Menu button.
- From the displayed Menu screen, touch Settings.
- From the Settings screen, touch About to display the About screen.



General Information

This user's guide provides operating instructions for testing PON networks with your FlowScout™ and assumes that you have basic knowledge about testing Passive Optical Network (PON). The purpose of this user's guide is to explain how to use and maintain your FlowScout.

Please check our web site at www.AFLglobal.com, **Test and Inspection** for updates to this user's guide and additional application information.

Warranty Terms and Conditions

AFL products are warranted against defective material and workmanship for a period of (1) one year from the date of delivery to the end user.

Any product that is found defective within the warranty period will, at the discretion of AFL, be repaired or replaced. Warranty will be voided if the product has been repaired or altered by other than an authorized AFL product repair facility, if the void sticker has been compromised, or which have been subject to misuse, negligence, or accident.

In no case shall AFL liabilities exceed the original purchase price.

Need Help?

If you have questions regarding FlowScout operation please contact Tech Support at AFLtesttechsupport@AFLglobal.com

Troubleshooting

- **Caution:** Don't put a downstream signal to the upstream signal port (OLT).
- **Power Button RESET:** If the unit is not responding to any touch events, keys or the power button it can be RESET by pressing and holding the power button for 60 seconds. The device will reset and then turn on.
- On power up, if the battery 3% charge and the unit is not charging, a low battery screen is displayed for 3 seconds and then the device is powered off. Please charge the device using the AC-to-USB power adapter before attempting to re-use the device
- **Caution:** Don't put 1550 nm downstream signal to upstream 153X nm upstream port on the TPPM-NG model (for future use).
- Be sure to plug the downstream signal into the OLT port and upstream signal into the ONT port. If you are seeing wavelengths or power measurement signals that are not expected you may have the signals in the wrong ports. Please switch the signals and re-test.
- Since this is a through-PON Power Meter, the upstream signal will not be present without a valid downstream signal. Best practice is to plug in the downstream signal followed by the upstream signal. If you see an upstream wavelength without a downstream wavelength you may have the signals in the wrong ports. Please switch the signals and re-test.



Test & Inspection

Thank you for choosing AFL Test & Inspection!

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