AFL

FOCIS WiFi2

Fiber Optic Connector Inspection System
User Guide

Table of Contents

Table of Contents

Safety Information

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.

NOTE! FOCIS WiFi2 contains no user serviceable parts. This instrument must be returned to AFL or authorized agents for repair.

IMPORTANT! It is important to keep connector end-faces on the launch and receive cables and those on the Fiber Under Test (FUT) clean, to ensure accurate measurements and operation.

CAUTION! Never view a live fiber. Never look directly into the optical outputs of fiber optic network equipment, test equipment, patch cords and jumpers. Laser radiation is harmful to eyes.

WARNING! Use only the specified AC adapter. Use of another type of AC adapter can damage the instrument and create the danger of fire and electrical shock.

WARNING! 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), contact the manufacturer to request servicing.

NOTE! Refer to your company's safety procedures when working with optical systems.

NOTE! Follow your company's approved cleaning procedures.

Standards Compliance Information

AFL Test & Inspection FOCIS WiFi2 contains a WiFi transceiver.

FCC ID: 2ANTH-FWF2R1-2F

IC ID: 23261-FWF2R12F

NOTE: This equipment has been tested and found to comply with the limits of Part 15 of the FCC Rules. These limits are designed to provide reasonable protection against harmful interference in a residential installation. This equipment generates, uses and can radiate radio frequency energy and, if not installed and used in accordance with the instructions, may cause harmful interference to radio communications. However, there is no guarantee that interference will not occur in a particular installation. If this equipment does cause harmful interference to radio or television reception, which can be determined by turning the equipment off and on, the user is encouraged to try to correct the interference by one or more of the following measures:

- Reorient or relocate the receiving antenna.
- Increase the separation between the equipment and receiver.
- Connect the equipment into an outlet on a circuit different from that to which the receiver is connected.
- Consult the dealer or an experienced radio/TV technician for help.

ISED RF Exposure Guidance Statement (in English and French):

- In order to comply with FCC/ISED RF Exposure requirements, this device must be installed to provide at least 20 cm separation from the human body at all times.
- Afin de se conformer aux exigences d'exposition RF FCC / ISED, cet appareil doit être installé pour fournir au moins 20 cm de séparation du corps humain en tout temps.

NOTE: The AFL FOCIS WiFi2 complies with Industry Canada RSS 247 standard. See RSS GEN 7.1.5. The term "IC:" before the certification/registration number only signifies that registration was performed based on a Declaration of Conformity indicating that Industry Canada technical specifications were met. The term "IC:" before the certification/registration number does not imply that Industry Canada approved the equipment.

Le FOCIS WiFi2 d'AFL est conforme à la norme d'Industrie Canada RSS 247. Voir RSS GEN 7.1.5. Le terme "IC:" avant le numéro de certification/enregistrement signifie seulement que l'enregistrement a été effectué sur la base d'une déclaration de conformité indiquant que les spécifications techniques d'Industrie Canada ont été rencontrées. Le terme "IC:" avant le numéro de certification/enregistrement n'implique pas qu'Industrie Canada a approuvé l'équipement.

ISED RSS-Gen Notice (in English and French):

This device complies with Industry Canada's licence-exempt RSSs. Operation is subject to the following two conditions:

1. This device may not cause interference:
2. This device must accept any interference, including interference that may cause undesired operation of the device.

Le présent appareil est conforme aux CNR d'Industrie Canada applicables aux appareils radio exempts de licence. L'exploitation est autorisée aux deux conditions suivantes :

1. l'appareil ne doit pas produire de brouillage;
2. l'appareil doit accepter tout brouillage radioélectrique subi, même si le brouillage est susceptible d'en compromettre le fonctionnement."

FOCIS WiFi2 Probe and FOCIS WiFi2 App Solution Overview

Paired with AFL's FOCIS WiFi2 Fiber Optic Connector Inspection System, FOCIS WiFi2 App features a complete fiber optic connector inspection and data management solution.

FOCIS WiFi2 Fiber Optic Connector Inspection System

FOCIS WiFi2 is an ergonomic Fiber Optic Connector Inspection System that, when paired with an iOS or Android smart device, provides fast and accurate IEC/IPC/AT&T compliant and user-defined Pass/Fail end-face cleanliness analysis. Free of charge iOS and Android companion Apps support a comprehensive and user-friendly feature set.

Pass/fail results in seconds: With the press of a single button, FOCIS WiFi2 auto-focuses, captures, centers and analyzes the end-face image to industry standard IEC 61300-3-35 (2015), IPC-8497-1, AT&T TP-76461 and user-defined criteria.

Untethered operation: App-based report generator with results/reports transferable to the aeRos cloud. With rechargeable battery and convenient Pass/Fail LED feedback, FOCIS WiFi2 can be used autonomously.

Wide range of adapter tips: Interchangeable adapter tips support single and multi-fiber connector inspection for a wide range of patch cords and bulkhead-mounted connectors having either PC/UPC or APC polished end-faces.

FOCIS WiFi2 App

By pairing the FOCIS WiFi2 inspection probe with the FOCIS WiFi2 App, users are enabled to control their test hardware directly from their Android or iOS smart devices.

FOCIS WiFi2 App is available via Google play store or Apple Store.

Warranty Terms and Conditions

AFL Test and Inspection products are warranted against defective material and workmanship for a period of (1) one year from the date of delivery to the end user. Optional Extended Warranty starts at the end of the standard (1) one year warranty period. 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 repair facility or when it has been subjected to misuse, negligence, or accident.

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

Repair Services

Please contact customer service for a return authorization number prior to sending your AFL test equipment in for repair or calibration.

USA Repair and Calibration services

AFL Test & Inspection Division
16 Eastgate Park Road
Belmont, NH 03220
603-528-7780
800-321-5298

FOCIS WiFi2 Probe Overview

FOCIS WiFi2 Controls and Interfaces

1 Dust cover.

2 Optical inspection port.

3 Adapter tip.

4 Multifunctional button 📷 / ⏻ has several multiplexed functions. See "Multifunctional Button Operation" on page 8.

5 Multifunctional LED indicator represents various states of the FOCIS WiFi2. See "Multifunctional LED Indicator States" on page 8.

6 5 VDC input jack.
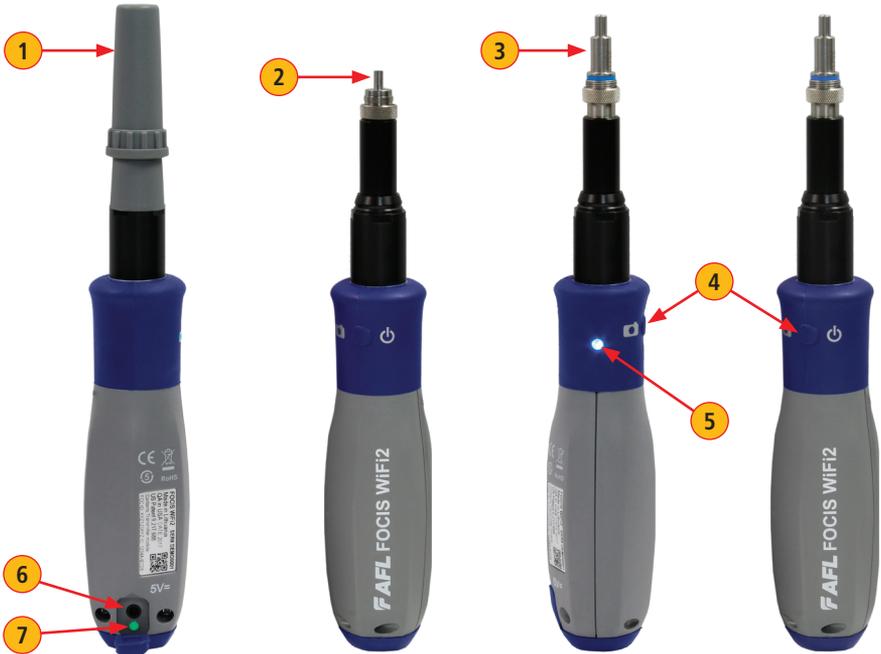
7 Charging indicator.

Powering Up/Down

Power-Up

- Press and release the Multifunctional button **4** to turn the FOCIS WiFi2 probe On.
- LED status indicator **5** will display Flashing Blue light.

Power-Down

- Press and hold the Multifunctional button **3** for over 3 seconds to turn the probe Off.
- LED status indicator **4** will turn off.

FOCIS WiFi2 Probe Overview

Multifunctional Button Operation

Multifunctional button (A) has several multiplexed functions:

- Powers FOCIS WiFi2 On/Off.

- In the Live Image mode, press the Multifunctional button to perform the following:

  – Auto Focus image (if the Auto Focus option is enabled)

  – Capture the displayed image and enter the Captured Image mode

  – Analyze image (if the Pass/Fail option is enabled)

  – Save results and in the memory of WiFi connected Smart Device (if Auto Save is enabled)

- In the Captured Image mode, press the Multifunctional button to return to the Live Image mode.

Multifunctional LED Indicator States

Multifunctional LED indicator (B) represents various states of the FOCIS WiFi2 as follows:

#	Action	State	LED Color/Behavior
1	FOCIS WiFi2 power On	Firmware loading	**Blue** blinks 3 times: 1 s On/1 s Off
2	Press FOCIS WiFi2 button 3-5 times	Upgrade mode, loading Firmware	**Blue** blinks: 0.5 s On/0.5 s Off
3	Firmware flashing	Firmware Flashing. After flashing FOCIS WiFi2 enter to Firmware loaded.	**Blue** blinks 0.2 s On/0.2 s Off
4	FOCIS WiFi2 power On	Firmware loaded. WiFi SSID beacon, not connected.	**Blue** blinks: 2 s On/1 s Off
5	Smart device WiFi connect	WiFi connected, Apps not active	**White** lit steadily
6	Smart device WiFi disconnect	WiFi disconnected, WiFi SSID beacon	**Blue** blinks: 2 s On/1 s Off
7	Apps start	Live mode	**Blue** lit steadily
8	Apps closed/standby	WiFi connected, Apps not active	**White** lit steadily
9	Image capture and Analysis	Pass	**Green** lit steadily
10	Image capture and Analysis	Fail	**Red** lit steadily
11	Image capture and Analysis	No Fiber	**Cyan** lit steadily
12	Image capture without Analysis, Menu	Not Analyzed, Menu	**Purple** lit steadily

FOCIS WiFi2 Probe Overview

Battery Charging and Operation

To charge battery of the FOCIS WiFi2 probe:

1. Plug the included AC Charger into AC outlet.

2. Connect charger plug into 5 VDC jack (A) on the FOCIS WiFi2 probe.

3. Charging indicator (B) displays the battery charging status as follows:

| LED Color/Behavior	Battery Charging Status
Off	AC is not connected
Red	Battery is charging
Green	Battery is fully charged
Red/Green flashing	Charging error: • Verify that correct 5VDC 2A charger is used. • Allow the FOCIS WiFi2 probe to cool before charging.

4. FOCIS WiFi2 probe charges while operating.

Configuring FOCIS WiFi2 Probe to Auto-Off

FOCIS WiFi2 probe Power Save options are controlled by iOS & Android Apps.

The following instructions assume that FOCIS WiFi2 probe is connected to a smart device, which operates in the FOCIS WiFi2 App.

On your Smart Device:

1 From the Live Mode screen, tap on the Menu ☰ on-screen button to display the Main Menu.

2 From the Main Menu, tap Auto-Power Off.

3 Select the desired power save option: 1 min, 5 min, 30 min, Never.
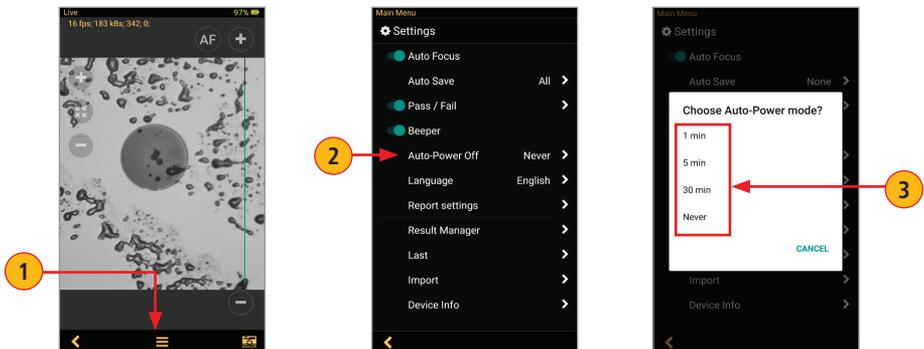
FOCIS WiFi2 Probe Overview

Properly Installing and Removing Adapter Tips

FOCIS WiFi2 is available with the following adapter tips:

Connector	UPC Connectors		APC Connectors	
	Ferrule	Bulkhead	Ferrule	Bulkhead
SC	FFLX-01-U25	FFLX-01-SC	FFLX-01-A25	FFLX-01-ASC
FC	FFLX-01-U25	FFLX-01-FC	FFLX-01-A25	FFLX-01-AFC
LC	FFLX-01-U125	FFLX-01-LC	FFLX-01-A125	FFLX-01-ALC2
ST	FFLX-01-U25	FFLX-01-ST	Not applicable	Not applicable

**Note:** Contact AFL Sales Representative or Tech Support for additional connector adapter tips

Installing Adapter Tips

- While holding adapter tip in place, raise captive nut (A) until it engages with adapter tip threads.
- Turn captive nut counter-clockwise (viewed from front/top).
- Hand-tighten (do not over-tighten).

Removing Adapter Tips

Probe tips are held in place with a captive nut (A).

- Turn captive nut clockwise (viewed from front/top).
- Continue until captive nut is free of adapter tip.
- Remove adapter tip by pulling it gently straight off the probe base.
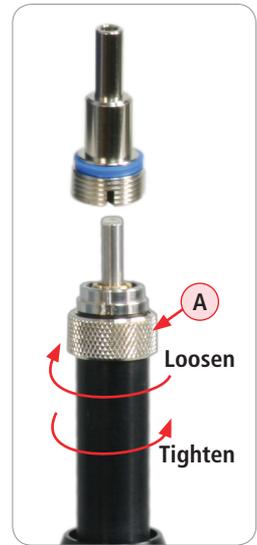
FOCIS WiFi2 App Overview

Downloading FOCIS WiFi2 App

Download FOCIS WiFi2 App from Google Play or Apple Store.

Connecting the FOCIS WiFi2 to a Smart Device

On FOCIS WiFi2 probe:

- Press and release the ⬜ / ⏻ button to power On.
- LED status indicator will display Flashing Blue light indicating that FOCIS WiFi2 is in "WiFi Beacon Mode" – ready to connect to your smart device.

On your Smart Device:

- Navigate to Settings.
- Tap Wi-Fi **A**. Make sure Wi-Fi is turned on **B**.
- Locate your FOCIS WiFi2 device (as in example screen below - **C**); tap.
- Enter password: 12345678 **D**.
- Tap Connect **E**.
- Note the 'Connected' status **F**.
- Your FOCIS WiFi2 probe is now connected to your smart device.
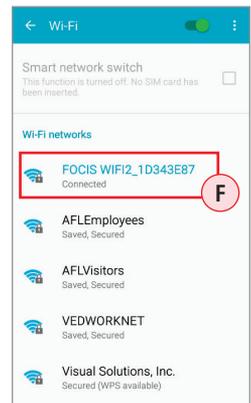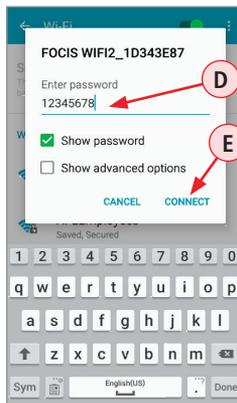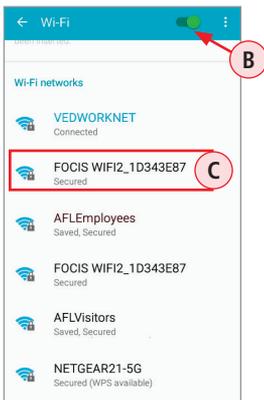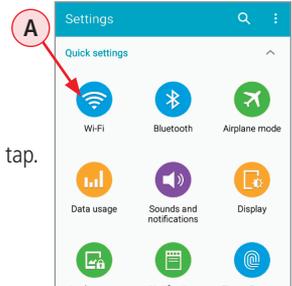
On FOCIS WiFi2 probe:

- Note that LED status indicator changes to White indicating that FOCIS WiFi2 is connected; FOCIS WiFi2 App is not active.
- Launch the FOCIS WiFi2 App on your smart device.
- Note that LED status indicator changes to Blue indicating that FOCIS WiFi2 is connected and FOCIS WiFi2 App is active in Live Mode.

Mobile Device Screen Format

FOCIS WiFi2 App supports vertical and horizontal screen formats. Switching from vertical format to horizontal is performed by turning the mobile device vertically/horizontally.

Note: 'Screen Rotation' feature needs to be enabled in the mobile device Settings menu.


Supported Touch Screen Gestures

The FOCIS WiFi2 App display is controlled from the touch screen of the mobile device using a supported set of gestures

Touch Gesture	Description	Function	Screens
	Tap Briefly touch surface with fingertip	Select	All screens
	Double tap Rapidly touch surface twice with fingertip	Enter edit mode	Captured Image,
	Drag Move fingertip over surface without losing contact	Pan, scroll	Live Image, Captured Image
	Flick/Swipe Quickly brush surface with fingertip	Switching modes	Captured Image
	Pinch Touch surface with two fingers and bring them closer together	Zoom out	Live Image, Captured Image
	Spread Touch surface with two fingers and move them apart	Zoom in	Live Image, Captured Image

Live Image Mode

Live Image Screen Features

FOCIS WiFi2 App starts in the Live Image mode, which enables the user to view live images of a fiber end-face and perform visual inspection of the displayed fiber end-face image on a mobile device.
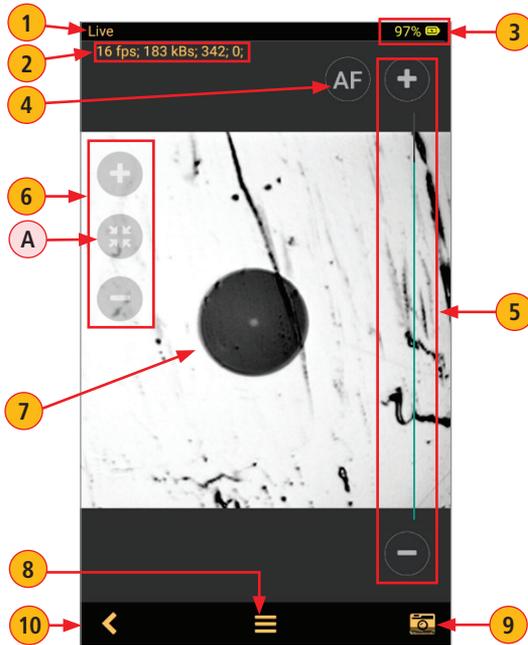
1 Screen title: Indicates that FOCIS WiFi2 operates are in the Live image mode.

2 Live video streaming status: This row indicates frame per second data and kB/s transfer rate, focus position and signature for auto focusing.

3 Battery status field: indicates percentage of battery charge.

4 AF (auto-focus) control: Tap to initiate auto-focus.

5 Focus control slider: Drag Focus slider or tap (+) / (−) to increase/decrease focal length.

6 Zoom controls:

- Tap (+) / (−) for increasing/decreasing the scale of the live fiber-end image.
- Tap (A) to reset the nominal Zoom.

7 Live image of the fiber that is being inspected.

- The fiber image can be scaled and positioned on the screen by pinching/spreading/dragging the displayed fiber image.
- Tapping on the fiber image will turn ON/Off the Focus and Zoom control buttons.

8 Menu on-screen button: Tapping Menu displays the Main Menu that allows the user to set preferences, manage saved test results and perform other non-test functions.

9 Capture on-screen button: Tap to initiate Image capture and enter the Capture screen.

10 Back on-screen button: Tap to return to the previous screen.

Main Menu

Main Menu Overview

The Main Menu is accessed from Live Image mode by tapping the Menu ☰ on-screen button. Main Menu contains various Settings that are used to select user preferences, perform general settings, manage saved test results, and perform other non-test functions.

The Main Menu screen contains the following controls:

- ●/○ (On/Off) -Tapping this control enables/disables the selected Setting.
- Right arrow ▶ - Tapping this control will either display a pop-up menu or a sub-screen allowing to configure the selected Setting.
- Back ◀ on-screen button - Tap this control to return to the previous screen - Live Image mode.

The Main Menu allows configuring Settings as follows:

Auto Focus

1 Tap the ●/○ control to enable/disable auto focus.

- If set to On, then pressing the Capture button will automatically focus before capturing an image.
- When set to Off, the fiber image will be captured at the current focus position.

Auto Save

2 Tap on the Right arrow ▶ to display a pop-up menu

- Choose from the available Auto Save options: All, Pass only, None.
- When Auto Save is enabled, then tapping Capture button from Live Image mode will cause FOCIS WiFi2 to perform the following:
  - Auto Focus (if enabled)
  - Capture image
  - Perform Pass/Fail Analysis (if enabled)
  - Save image and pass/fail results to the configured Job/Cable folder
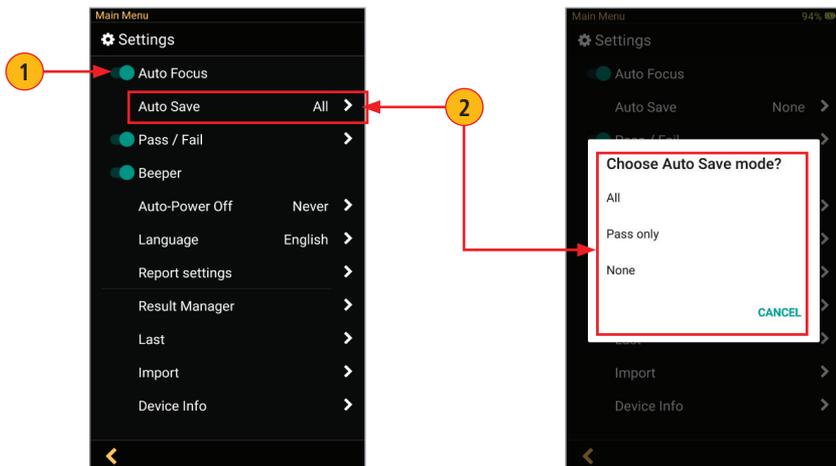
FOCIS WiFi2 App User Interface Overview

Main Menu

Pass/Fail

3 Tap the ●/○ control to enable/disable Pass/Fail Analysis.

3A Tap on the Right arrow ❯ to display a sub-screen that allows configuring Pass/Fail Criteria. For details see section <u>"Pass/Fail Criteria" on page 21.</u>

Beeper

4 Tap the ●/○ control to enable/disable a sound signal that indicates Pass/Fail Analysis results. When enabled, FOCIS WiFi2 will produce High tone beep for Passed results and Low tone beep for Failed or No Fiber results.

Auto-Power Off

5 Tap on the Right arrow ❯ to display a pop-up menu.

- Choose from the available Auto-Power options:1 min, 5 min, 30 min, Never.

Language

6 Select the desired Language option from the list of available options.
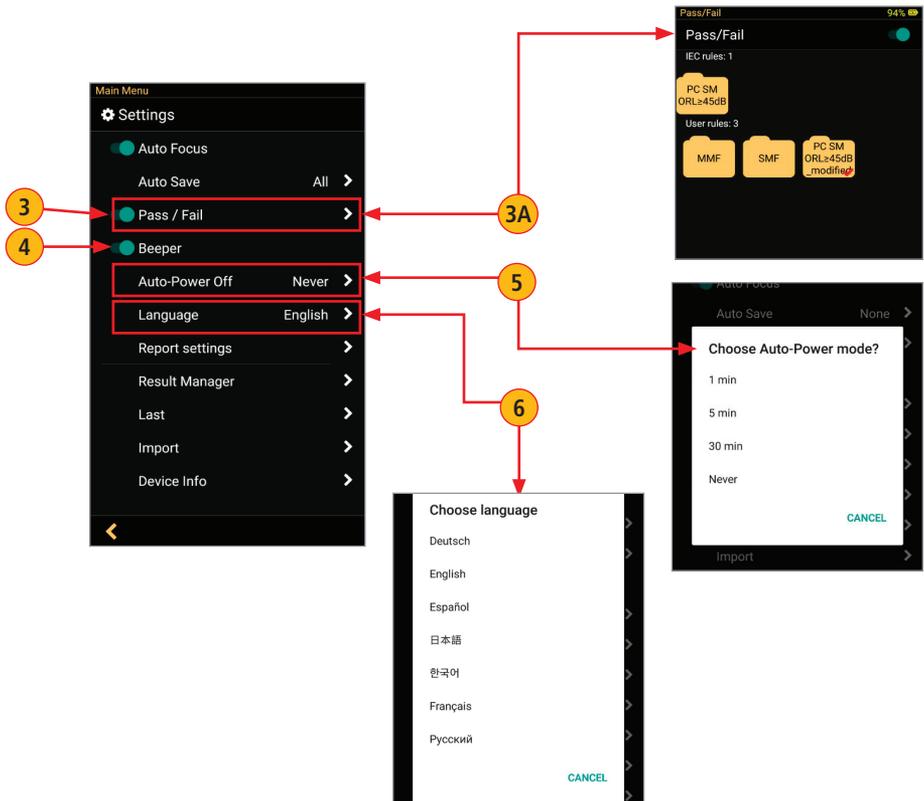
FOCIS WiFi2 App User Interface Overview

Main Menu

Report Settings

(7) Configure reports by adding various data: Customer, Company, Location, Operator, and Comments. These report settings will be applied to all saved result.

Result Manager

(8) Tap on the Right arrow ▶ to display the Result Manager, which allows the user to manage stored results. For details see section "Result Manager" on page 26.
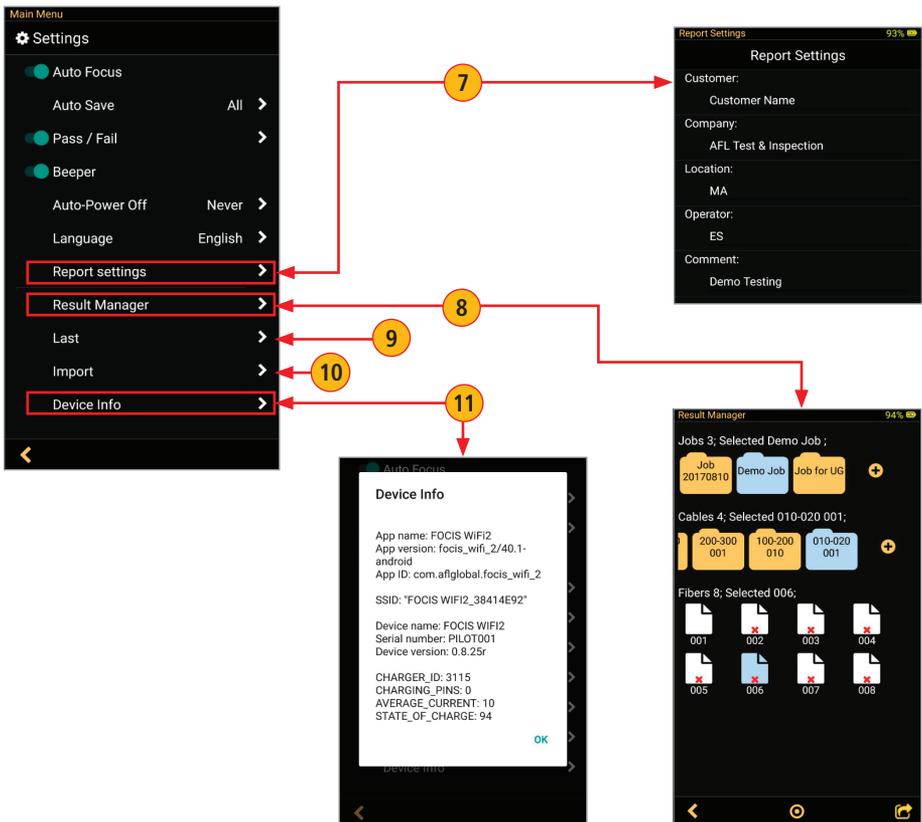
Last Image

(9) Tap on the Right arrow ▶ to recall the most recently viewed fiber end-face image.

Import

(10) Allows the user to import saved fiber images from the Photo Gallery.

Device Info

(11) Tap on the Right arrow ▶ to view Application, WiFi SSID and Device information.

Captured Image Mode

Captured Image Views

Once a fiber end-face image has been captured and analyzed (if enabled), inspection test results will be displayed in the Captured Image screen. Tapping on the displayed fiber end-face image allows the user to switch the display modes sequentially, as follows:

A Image of the inspected fiber end-face with Pass/Fail Analysis overlay (default display mode)

B Pass/Fail Analysis results only

C Image of a fiber end-face only
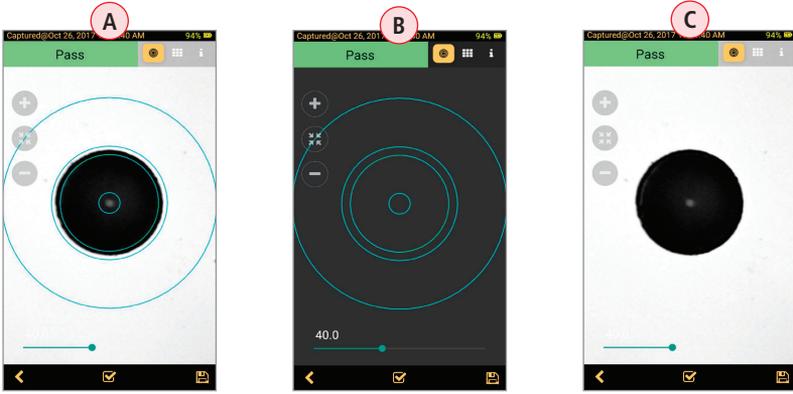
Captured Image screen features three Display Views Identified by View Tabs:

1 Fiber Image View identified by Fiber Image Tab - ⊚.

2 Pass/Fail Results Table View identified by Pass/Fail Results Table Tab - ▦.

3 Image Information View identified by Image Information Tab - ℹ.
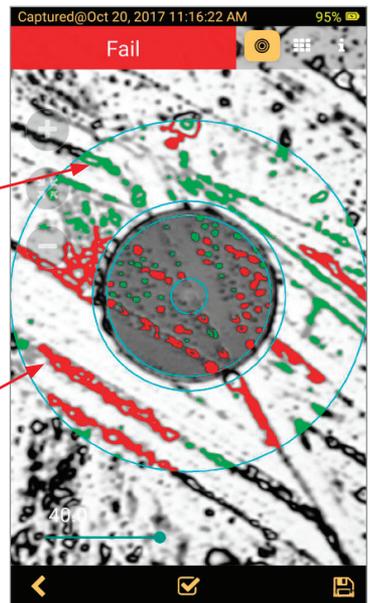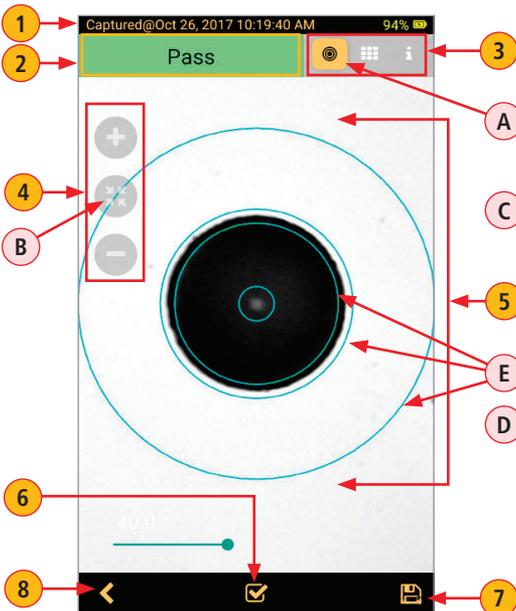
Switching between Display Views is done by tapping on the View Tab icon or by swiping the screen to the left or right. The active Tab icon is displayed on a highlighted in Orange color background - ⊚.
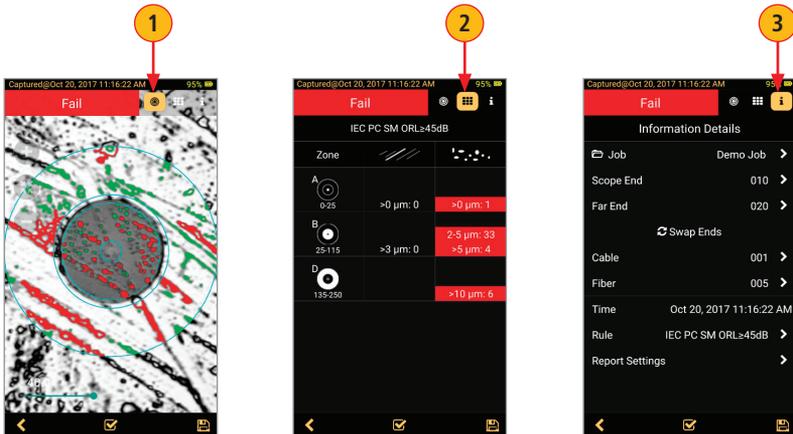
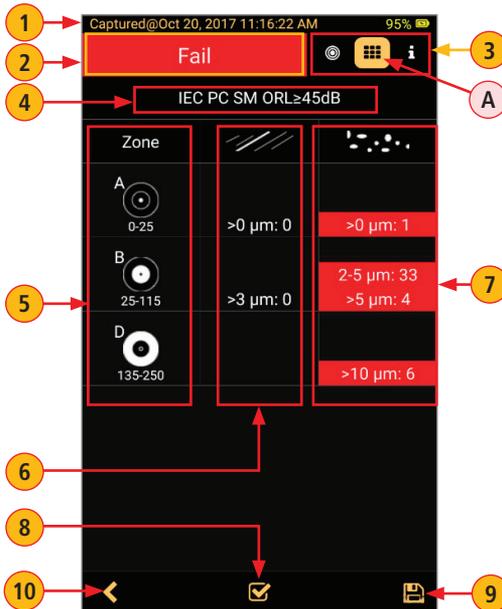# Captured Image Mode

Fiber Image View

(1) Screen title: Indicates date and time of the test - [Captured @ hh:mm:ss].

(2) Pass/Fail Analysis indication: Shown only if Pass/Fail Analysis option is enabled in the Main Menu. Depending on performed analysis, this field will display: **Pass** for Passing fiber, **Fail** for Failing fiber, **No fiber** if No Fiber detected during Pass/Fail Analysis.

(3) Display Tabs icons with the Image tab selected (the active tab icon will is displayed on a highlighted in Orange color background (A)). Switching between views is done by swiping the screen to the left or right or by directly taping on the tab icon.

   ◎ – Fiber End-face Image;   ⊞ – Pass/Fail Results Table;   ℹ – Image Information

(4) Zoom controls:

   • Tap (+) / (−) for increasing/decreasing the scale of the live fiber-end image.

   • Tap (B) to reset the nominal Zoom.

(5) End-face image: displays end-face image with Pass/Fail overlay (if enabled).

   • Passing scratches/defects highlighted in GREEN (C).

   • Failing scratches/defects highlighted in RED (D).

   • Analyzed zones represented by BLUE circles (E).

(6) Analyze on-screen button: Tap to perform analysis of defects / scratches.

(7) Save on-screen button: Only displayed is Auto Save is disabled in Main Menu. Tap to manually save captured image and Pass/Fail results (if performed).

(8) Back on-screen button: Tap to return to the Live Image mode.

Captured Image Mode

Pass/Fail Results Table View

1 **Screen title**: Indicates date and time of the test - [Captured @ hh:mm:ss].

2 **Pass/Fail Analysis indication**: Shown only if Pass/Fail Analysis option is enabled in the Main Menu. Depending on performed analysis, this field will display: Pass for Passing fiber, Fail for Failing fiber, No fiber if No Fiber detected during Pass/Fail Analysis.

3 **Display Tabs icons** with the Pass/Fail display tab selected (the active tab icon will is displayed on a highlighted in Orange color background (**A**)). Switching between views is done by swiping the screen to the left or right or by directly taping on the tab icon.

⊚ – Fiber End-face Image; ▦ – Pass/Fail Results Table; ℹ – Image Information

4 **Analysis Rule** applied to determine Pass/Fail.

5 **Analysis Zones** (if enabled): A - core, B - cladding, C - adhesive, D - contact area.

6 **Scratch analysis results** for each zone:

- Reports the number of detected scratches exceeding limit for each region.
- Highlights failed rules in RED.

7 **Defect analysis results** for each zone:

- Reports the number of detected defects exceeding limit for each region.
- Highlights failed rules in RED.

8 **Analyze on-screen button**: Tap to perform analysis of defects/scratches.

9 **Save on-screen button**: Only displayed is Auto Save is disabled in Main Menu. Tap to manually save captured image and Pass/Fail results (if performed).

10 **Back on-screen button**: Tap to return to the Live Image mode.

Captured Image Mode

Image Information View

1 **Screen title**: Indicates date and time of the test - [Captured @ hh:mm:ss].

2 **Pass/Fail Analysis indication**: shown only if Pass/Fail Analysis option is enabled in the Main Menu. Depending on performed analysis, this field will display: `Pass` for Passing fiber, `Fail` for Failing fiber, `No fiber` if No Fiber detected during Pass/Fail Analysis.

3 **Display Tabs icons** with the Image Information display tab selected (the active tab icon will is displayed on a highlighted in Orange color background (**A**)). Switching between views is done by swiping the screen to the left or right or by directly taping on the tab icon.

- ◎ – Fiber End-face Image
- ▦ – Pass/Fail Results Table
- **i** – Image Information

4 **Results ID field**: Parameters displayed in this field **Job, Scope End, Far End, Cable, Fiber** identify the directory (Job/Cable/Fiber) into which the inspected fiber end-face image and Pass/Fail Analysis results will be saved.

- Tapping on ❯ icon of any parameter in this field will display the Result Manager screen, which allows the user to view/change/edit details as needed.
- Tapping on **Swap Ends** (**B**) will swap test ends.

5 **Time & Date field**: indicates Time & Date of the displayed captured image.

6 **Rule field**: indicates the applied Pass/Fail Analysis rule. Tapping on ❯ icon displays the Pass/Fail Rules screen, which allows the user to view/change/edit Rules.

7 **Report Settings**: Tap on ❯ icon to customize reports by adding Customer/Company/Location/Operator information. Customized report information will be applied to the currently captured image only. For next captured image, will be used report information defined in the Menu > Report settings.

8 **Analyze on-screen button**: Tap to perform analysis of defects/scratches.

9 **Save on-screen button**: Only displayed is Auto Save is disabled in Main Menu. Tap to manually save captured image and Pass/Fail results (if performed).

**10** **Back on-screen button**: Tap to return to the Live Image mode.
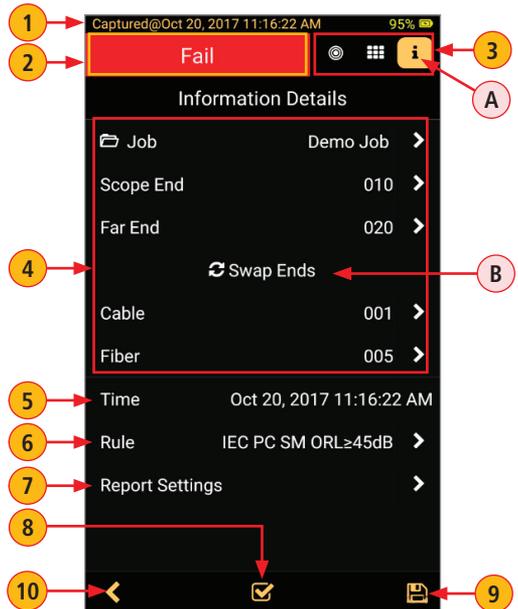
Pass/Fail Criteria

Pass/Fail Screen Features

Configuring Pass/Fail criteria is done in the Pass/Fail screen, which is accessed from Live Image mode > Main Menu screen.

(A) From the Live Image screen, tap Menu ☰.

(B) In the Main Menu, tap on the Right arrow ▶ next to the Pass/Fail option to display a sub-screen that allows the user to enable, select and configure Rules for Pass/Fail Analysis.

Live Image screen

Main Menu screen
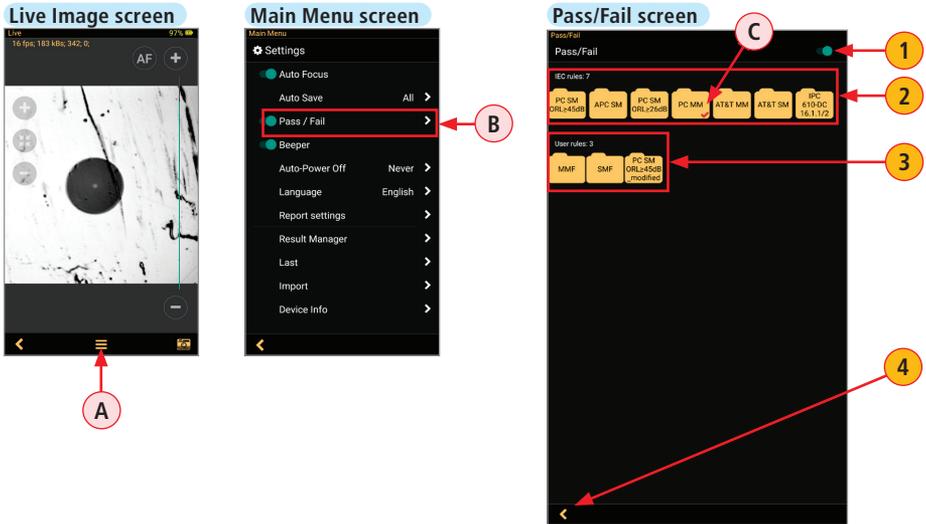
Pass/Fail screen

(1) **On/Off ●/○ control** - Tap the to enable/disable Pass/Fail Analysis.

- If enabled, then tapping on the Capture button 📷 in the Live Image screen will automatically start analysis of the fiber end-face image according to the selected Rule.

- If disabled, then no analysis will be performed on the Capture button 📷 press.

(2) **IEC, IPC, AT&T Rules:** a set of Rules per IEC 61300-3-35 standard. These Rules are not editable.

- Tap the desired IEC Rule (shown as Folder image) to select.

- The selected Rule will be marked with Red check mark (as in screen example - **(C)**).

- Double tap the desired IEC Rule to view.
For details see section "Configuring Pass/Fail Criteria" on page 23.

(3) **User Rules:** a set of Rules created by users. These Rules are editable.

- Tap the desired Rule (shown as Folder image) to select.

- The selected Rule will be marked with Red check mark.

- Double tap the desired Rule to view and/or edit criteria. For details see section "Configuring Pass/Fail Criteria" on page 23.

(4) Tap Back ◀ button to return to the previous screen.

Pass/Fail Criteria

IEC, IPC, AT&T Pass/Fail Analysis

IEC 61300-3-35 defines connector inspection Pass/Fail criteria.
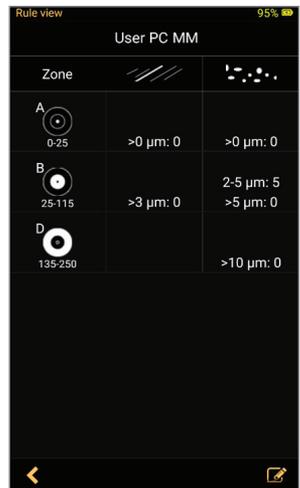
Pass/Fail criteria depends on:

- Fiber type (SMF or MMF)
- Connector end-face Zones
    - A: Core
    - B: Cladding
    - C: Adhesive (between cladding and ferrule)
    - D: Physical contact area
- Type of end face flaw:
    - Scratches
    - Defects (contamination, particles, chips)
- Size of flaw

Passing Defect

Failing Defect

Core

Cladding

Adhesive

Contact
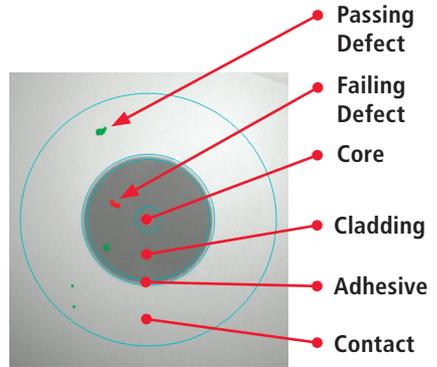
Example IEC Rule

Shown below is the display when the IEC rule for single-mode PC connector with return loss ≥ 45 dB is selected. The table identifies the number of scratches or defects of a certain size, which may be allowed in each of the core, cladding, and contact regions.

Zone	Scratch	Defect
A: Core 0-25 microns	>0 µm: 0 No scratches >0 µm allowed	>0 µm: 0 No defects >0 µm allowed
B: Cladding 25-115 microns	>3 µm: 0 No scratches >3 µm allowed	2-5 µm: 5 Up to 5 defects 2-5 µm diameter allowed
		>5 µm: 0 No defects >5 µm allowed
D: Contact 135-250 microns	Blank No limitations on scratches	>10 µm;0 No defects >10 µm allowed

Rule view   95%

User PC MM

Zone		
A 0-25	>0 µm: 0	>0 µm: 0
B 25-115	>3 µm: 0	2-5 µm: 5 >5 µm: 0
D 135-250		>10 µm: 0

Pass/Fail Criteria

Configuring Pass/Fail Criteria

### Enable/Disable Pass/Fail Analysis
- Access the Main Menu screen.
- Tap the ⬤/◯ control (A) to enable/disable Pass/Fail Analysis.

Select Rule
- Tap on the Right arrow ▶ to display a list of available Rules (preset IEC, IPC, AT&T and user-set rules).
- Tap the desired Rule (shown as Folder image) to select.
- Note that selected Rule will be marked with Red check mark (B).

View Rule
- To view Rule details double tap on the desired Rule folder.
- Settings for Zone, Scratches and Defects will be displayed (C).
- Tap on desired field to view settings.

  - **Zone settings** (D)
    Displays enabled for analyses zones (A, B, C, D) and inner and outer diameters of zones.
  - **Scratches settings** (E)
    Displays configured rules for scratches for appropriate zone, scratches size and numbers.
  - **Defects settings** (F)
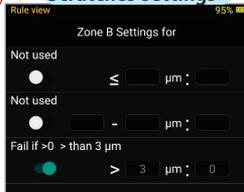   Displays configured rules for defects for appropriate zone, defects size and numbers.
- When done viewing, tap Back ◀ button to return to the previous screen.

Main Menu screen · Rules screen · Rule View screen

Zone settings · Scratches settings · Defects settings
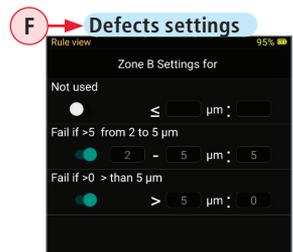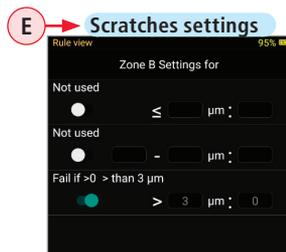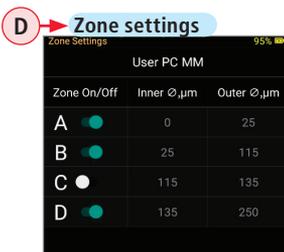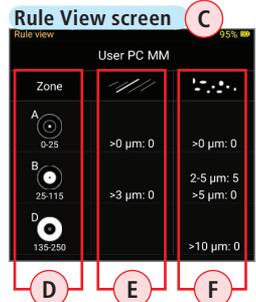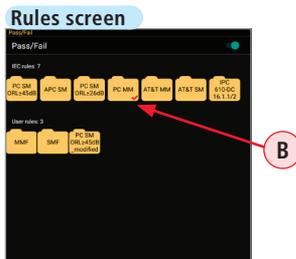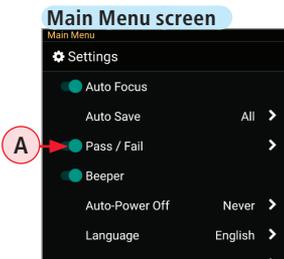
Pass/Fail Criteria

Configuring Pass/Fail Criteria

Edit User Rule:

- To edit User Rule double tap on the desired User Rule (A) or similar Standard Rule (B) (any available rule).

- Settings for Zone, Scratches and Defects will be shown.

- Tap on desired field to view and edit settings.

    – **Rule name (C):** allows to change Rule name. Standard rule name or selected User Rule name will be replaced by new User Rule name.

    – **Zone settings (D):** allows to turn On/Off zones A, B, C, D for analyses and change inner and outer diameters of zones.

    – **Scratches settings (E):** allows to set rules for scratches for appropriate zone, scratches size and numbers.

    – **Defects settings (F):** allows to set rules for defects for appropriate zone, defects size and numbers.

Rules screen

Rule View screen

Zone settings
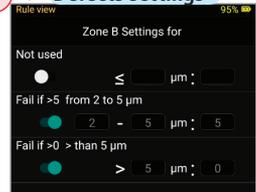
Scratches settings

Defects settings

Configuring Pass/Fail Criteria

- While in any of Settings screen, Zone/Scratches/Defects:
    - Tap the On/Off - ●/○ control to enable/disable the desired Rule parameter.
    - Once enabled, tap on the desired field to edit the parameter value.
    - Using on screen Editor, change the selected value as needed.
    - Tap Done (G).
- Tap Back ◀ (H) to return to the previous screen.
- Tap Save 💾 (J) to save edits.

Zone settings — D

E — Scratches settings

F — Defects settings

Result Manager

Result Manager Screen

To access the Result Manager
- From the Live Image mode, tap Menu ☰ to display the Main Menu.
- Tap on the Right arrow ▶ next to the Result Manager option.
- Result Manager screen displays saved test results organized into Jobs, Cables, Fibers.

Screen Features

(1) Jobs field: Displays a list of saved Jobs (folders).
- Drag Jobs field horizontally to navigate in Job folders.
- Field title (A) indicates the number of Jobs saved and the name/or number of Job(s) selected.

(2) Cables field: Displays a list of saved Cables (folders).
- Drag Cables field horizontally to navigate in Cables folders.
- Field title (B) indicates the number of Cables saved and the name/or number of Cable(s) selected.

(3) Fibers field: Displays a list of saved fiber end-face inspection results.
- Drag Fiber field vertically to navigate in the Fibers.
- Field title (C) indicates the number of Fibers saved and the name/or number of Fiber(s) selected.

(4) Add button: Double tap this button to create new Job or Cable.

(5) Group button: Tapping on this button enables multi-select functionality

(6) Share button: Tap on this button to display a pop-up menu that allows the user to Rename (Single Item Selection only), Send to, Send Report, or Delete operations.

**(7) Back button:** Tap this button to return to the previous screen.
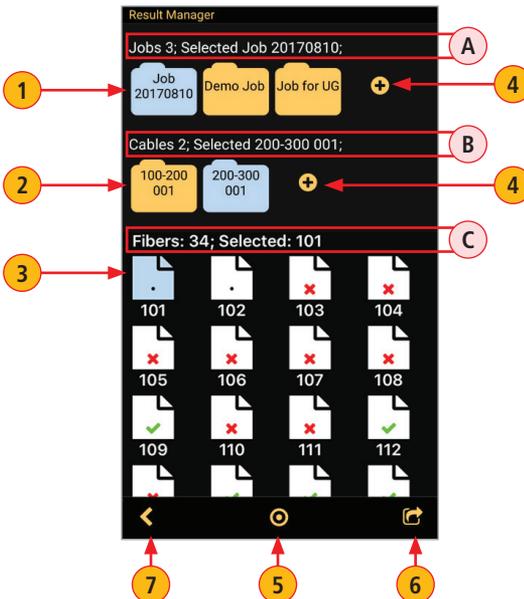
Result Manager

Creating a New Job/Cable Folder

1 In the Result Manager screen, double tap Add ➕ in the Jobs field.

2 In the Job Editor screen, note that new Job is created with a default name format: Job YYYMMDD

3 Edit the default Job name as needed, then tap Accept (A) or Done (B).

4 When back in the Result Manager screen, note that the new Job folder is created and selected (displayed in Blue color).

5 In the Cables field, double tap Add ➕.

6 In the Cable Editor screen, you may either change numbers for Scope End/Far End/Cable or accept default numbers, then tap Accept (C) or Done (D).

7 When back in the Result Manager screen, note that the new Job folder is created and selected (displayed in Blue color).

Note: The selected Job/Cable folder will become current and all following tests will be saved to this currently selected Job/Cable folder.
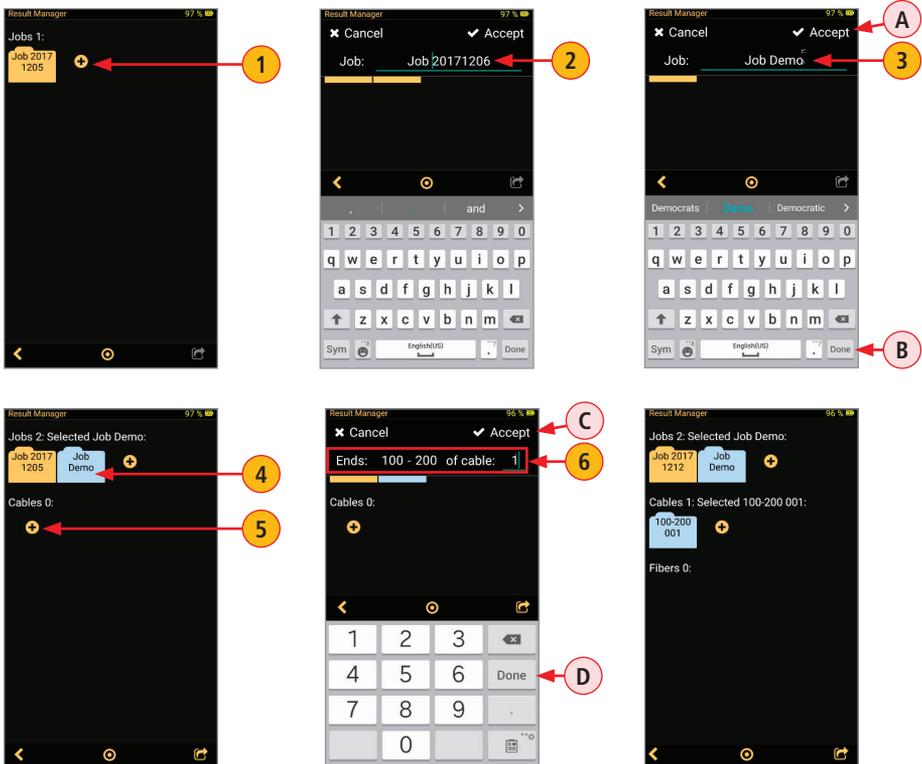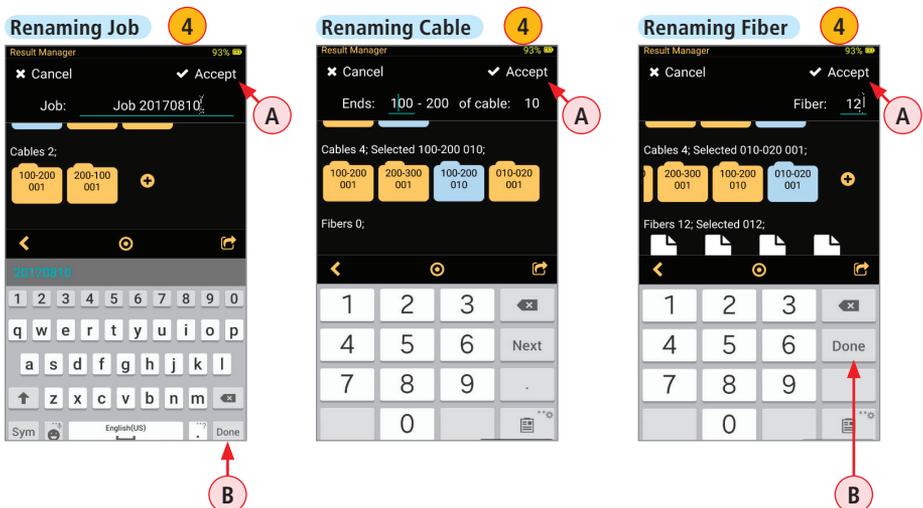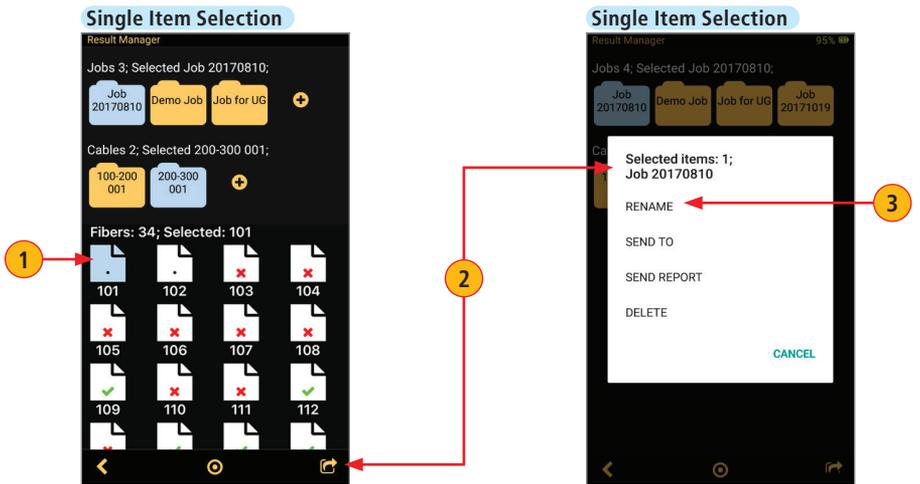
Result Manager

Renaming a Job/Cable/Fiber

To Rename Saved Test Results

1 Navigate to the desired item, Job/Cable/Fiber; tap to select.

2 Tap on the Share 📤 button.

3 Tap RENAME.

4 Using the displayed on screen Editor, make changes as needed.

5 Once done editing, tap Accept **A** or Done **B** .to save changes.

Single Item Selection

Single Item Selection

Renaming Job **4**

Renaming Cable **4**

Renaming Fiber **4**

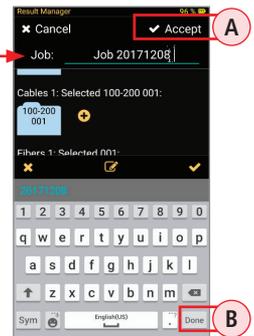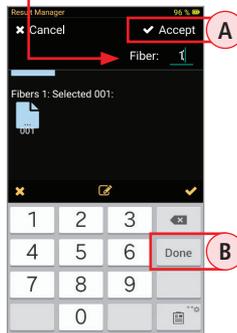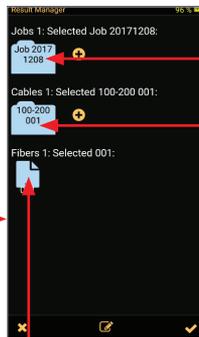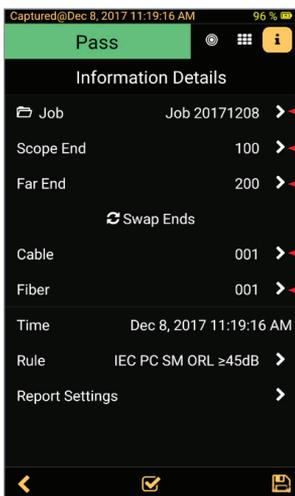# Result Manager

Saving Test Results

Saving Test Results for the First Time

If test results are saved for the first time and no Job/Cable folder previously created in the Result Manager, then default settings for Job/Scope End/Far End/Cable/Fiber will be used, where:

1 Job Folder name = YYYYMMDD

2 Scope End = 100

3 Far End = 200

4 Cable number = 001

5 Fiber number = 1

The default settings for Job/Scope End/Far End/Cable/Fiber may be changed as needed.

- When the captured fiber end image is displayed, tap on the Information tab to display the Information Details screen.

- Tap on the Right arrow ➤ in the desired parameter line.

- Double tap on the desired Job/Cable/Fiber.

- Make edits as needed using the on screen Editor.

- When done, tap Accept **(A)** or Done **(B)**.

- Tap Check ✔. to save changes.
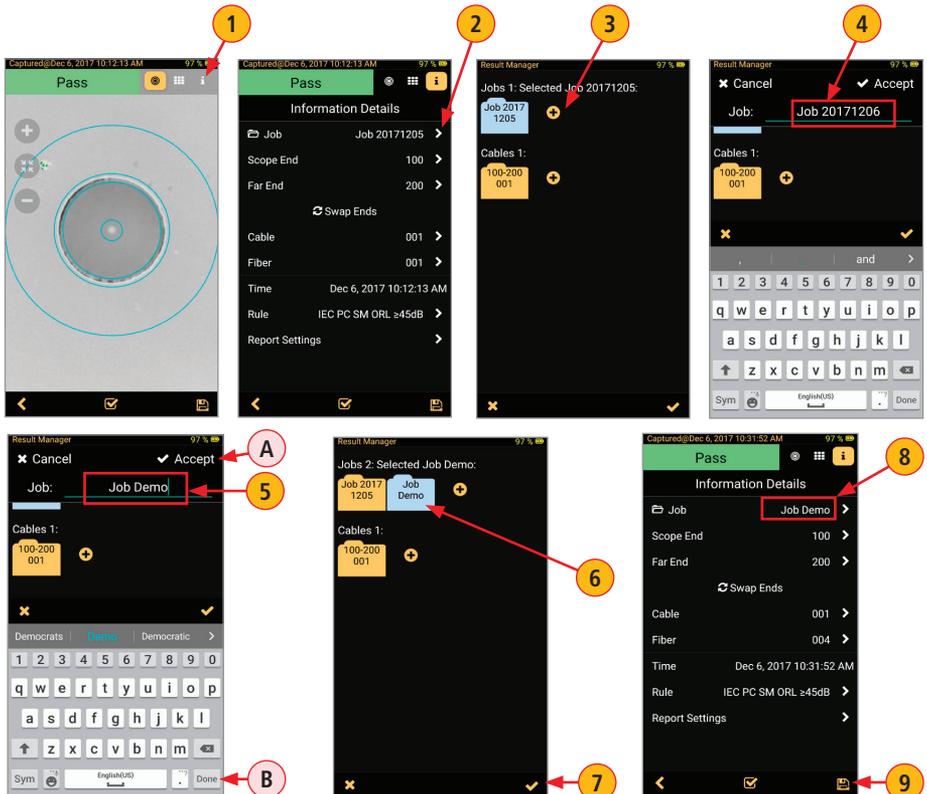
- Tap Save 💾 to save test results.
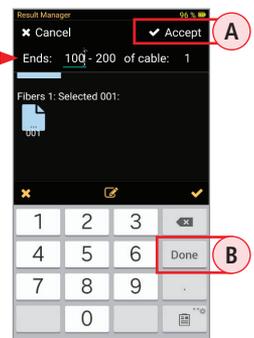
Result Manager

Saving Test Results to a New Job/Cable Folder

To save test results to a new Job/Cable folder

1 Capture an image. Once the captured image is displayed, tap on the Information tab.

2 In the Information Details screen, tap on the Right Arrow ⊁ in the Job line.

3 Double tap Add ➕ .

4 Note that new Job name is displayed in the default format - YYYYMMDD.

5 Edit Job name as needed. Tap Accept (A) or Done (B).

6 The new Job folder is created and selected (displayed in Blue color).

7 Tap Check ✔ to save changes.

8 Note that newly created Job folder is now current.

– If needed, you may change Scope End, Far End, Cable, and Fiber.

– Make sure to tap Check ✔ to save changes.

9 When done, tap Save 💾 to save test results in the newly created folder.

Note: this will make the newly created Job/Cable folder current and all following test results will be saved to this Job/Cable folder.
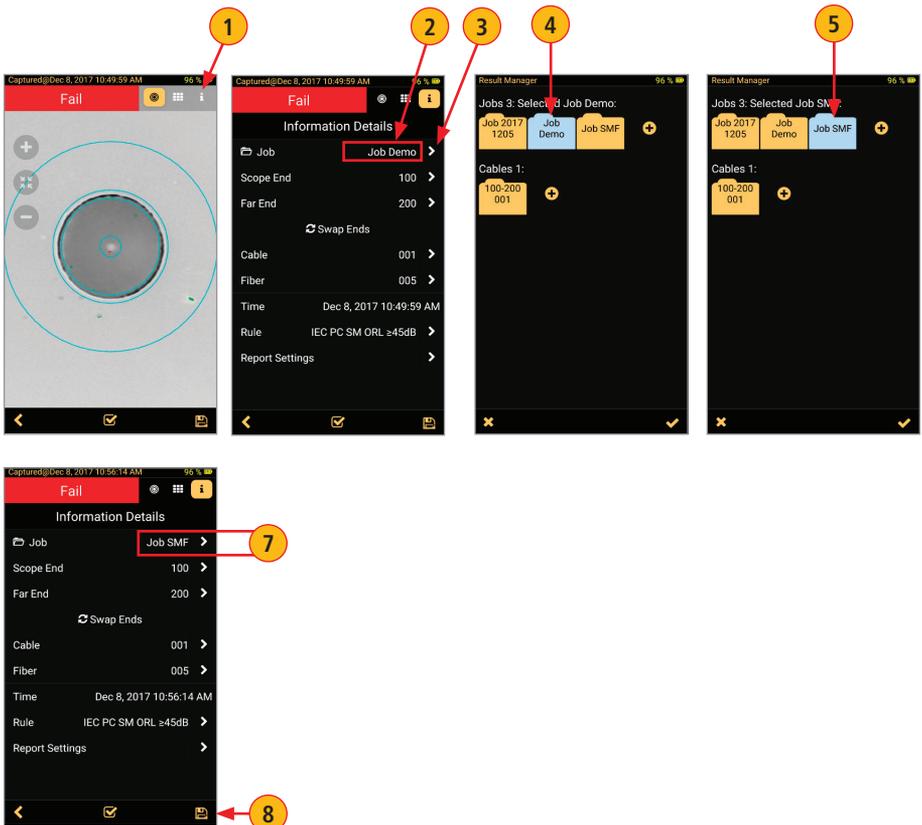
Result Manager

Saving Test Results to an Existing Job/Cable Folder

To save test results to an existing Job/Cable folder

1 Capture an image. Once the captured image is displayed, tap on the Information tab.

2 In the Information Details screen, look at the Job Folder name - this is the current folder where the test result will be saved.

3 To select a different destination Job folder, tap on the Right Arrow ▶.

4 Note that the current Job folder is displayed in Blue color.

5 Locate the desired destination Job folder and tap on it to make it current.

6 Tap Check ✔.

7 When back in the Information Details screen, note that the Job line is now displays the selected folder as current.

8 Tap Save 💾 to save test results in the selected Job folder.

**Note:** all following test results will be saved to the selected Job/Cable folder.

Result Manager Functionality

To Select a Single Item - Job/Cable/Fiber

• Tap on the desired Job/Cable/Fiber icon to select it. If a Job (Cable) folder contains Cables (Fibers) then tapping on that folder will expend it to show contents.

• Note that color of the selected item changes from Yellow (folder) / White (fiber) to Blue.
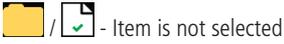
     /   - Item is not selected

     /   - Item is selected
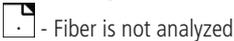
To View Saved Test Result

• Navigate to the desired fiber.

• Note that fiber icons indicate results as follows:

   - Passing fiber;

     - Failing fiber

     - Fiber is not analyzed

• Double tap on the desired Fiber to view saved fiber end-face image.

To Select Multiple Items - Jobs, Cables, Fibers

• Tap on the Group 🔘 button - (A) to enable multi-select functionality.

• Note that button color changes to Blue 🔘 - (B).

• Tap on as many items as needed to multi-select them.

• Note that color of the selected items changes to Blue - (C).

• Note that name of the selected group changes to reflect the number of selected items - (D).
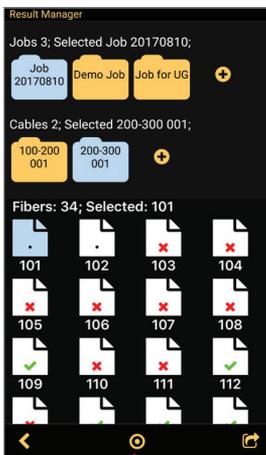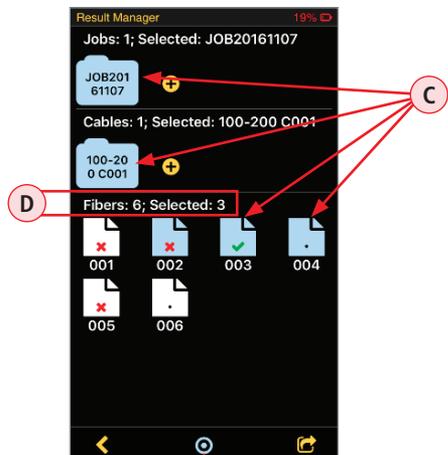
Result Manager

Result Manager Functionality

To Delete Saved Test Results

1 Select a single item or multiple items for deletion.

– To select a single item, navigate to the desired item (Job/Cable/Fiber), and then tap on it to select.

– To select multiple items, tap on the Group ⊙ button to enable multi-select functionality, and then tap on as many items as needed to multi-select.

2 Tap on the Share button.

3 From the displayed pop-up menu, select DELETE.

4 When prompted, confirm deletion.

Single Item Selection

Multi-item Selection
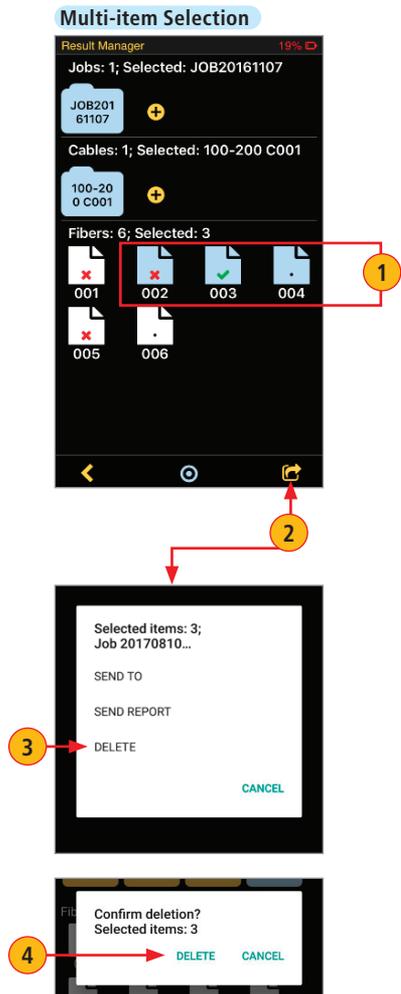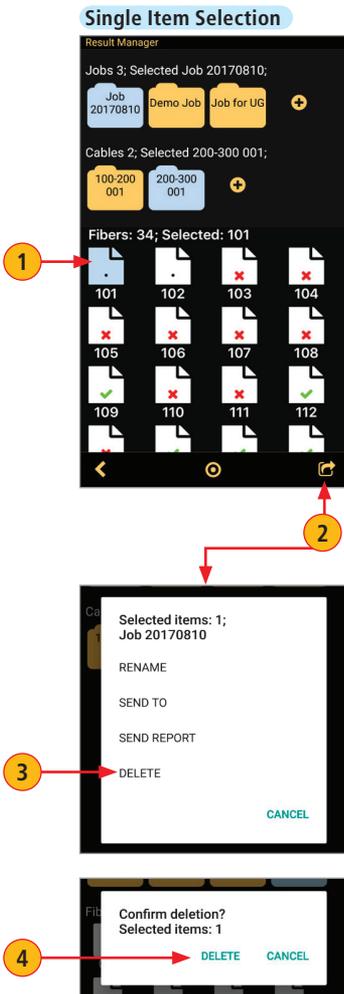
Result Manager

Result Manager Functionality

Sharing Captured Test Results

Saved test results may be transferred to another location using your mobile device applications that support transfer functionality.

Note: Prior to transferring, make sure your mobile device is connected to the Internet.

1 Select a single item or multiple items for transfer.

  – To select a single item, navigate to the desired item (Job/Cable/Fiber), and then tap on it to select.

  – To select multiple items, tap on the Group ⊙ button to enable multi-select functionality, and then tap on as many items as needed to multi-select.

2 Tap on the Share 🔗 button.

3 From the displayed pop-up menu, select SEND TO.

4 FOCIS WiFi2 will generate zipped file with Job-Cable-Fiber path.

5 From the displayed list, select the desired transferring option. Follow on-screen instructions.
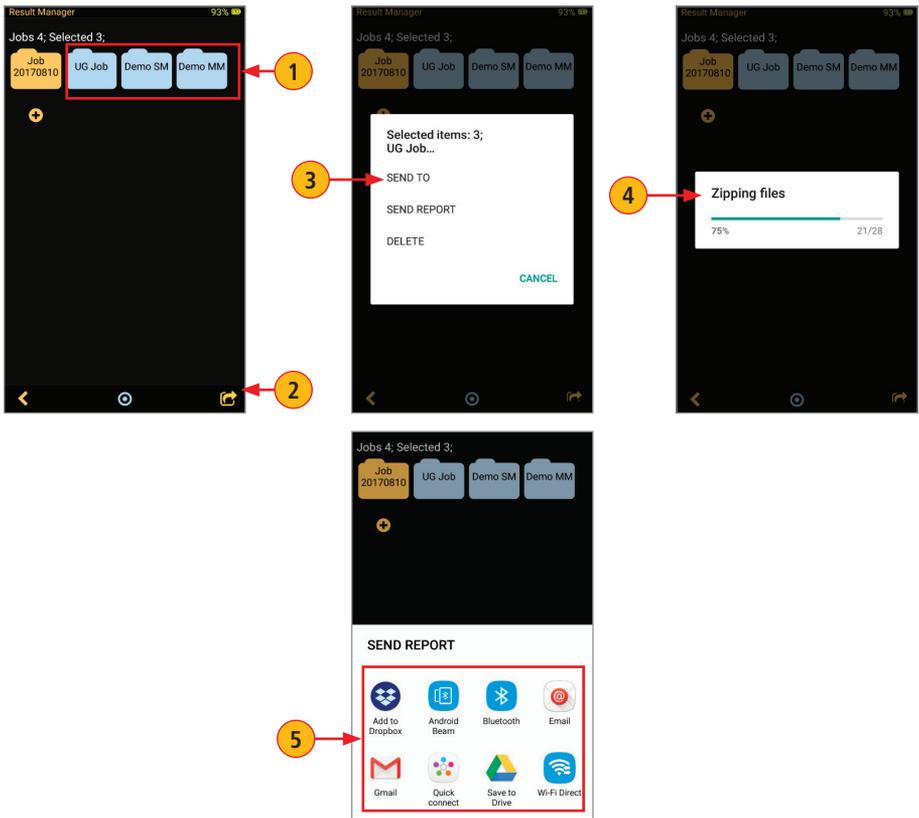
Inspecting Fibers with FOCIS WiFi2 Solution

1. Get your FOCIS WiFi2 Probe ready.

   - Make sure battery is fully charged.
   - Make sure that optical port is equipped with the appropriated adapter tip

2. Connect FOCIS WiFi2 probe to the FOCIS WiFi2 App installed on your mobile device.

3. Insert the fiber under test into adapter tip.

4. On your FOCIS WiFi2 App, you should see Live video of the fiber being inspected. You may perform visual inspection of the displayed fiber end-face image.

5. From the Live Image Screen, display Main Menu. Configure test options as needed.

6. Tab Back button to return to the Live Image mode.

7. When back in the Live Image mode, initiate test by either pressing the Multifunctional button on the FOCIS WiFi2 Probe or tapping the Capture on-screen button on the Live Image screen.

8. According to test configurations set in the Main Menu (Auto Focus, Pass/Fail, Auto Save). FOCIS WiFi2 will capture, inspect and save the fiber end-face image and Pass/Fail Analysis.

Thank you for choosing AFL Test & Inspection!