QUICK CARD

FiberComplete/-PRO: IL/ORL, Distance & Bidirectional OTDR Measurement

The following procedure outlines how to use FiberComplete/-PRO to fully qualify a fiber link: bidirectional IL, bidirectional ORL, length/distance and OTDR.
These measurements are performed to ensure that the fiber link meets performance levels that support network equipment (transmitter/receiver) specifications.
Please read the entire procedure BEFORE starting.

INSPECT AND CLEAN CONNECTORS

Before connecting a fiber into a test module, inspect and clean the module bulkhead and the fiber jumper connectors.

- Use standard single fiber test cords.
- Use video inspection scope / probe to inspect connector endfaces for dirt and/or damage. Inspect ALL connectors including bulkheads and test ports.

CONNECT AND TURN BOTH UNITS ON

1. Connect a fiber jumper to the main module port of each product.
2. Press the **ON/OFF** hard key to turn both units on and wait the completion of auto-test (~ 45 seconds).

ACTIVATE THE FIBERCOMPLETE FUNCTION ON BOTH PRODUCTS

1. Press the **HOME** hard key and select the icon FiberComplete (FCOMP) 

or FiberCompletePRO (FCOMP-PRO) 

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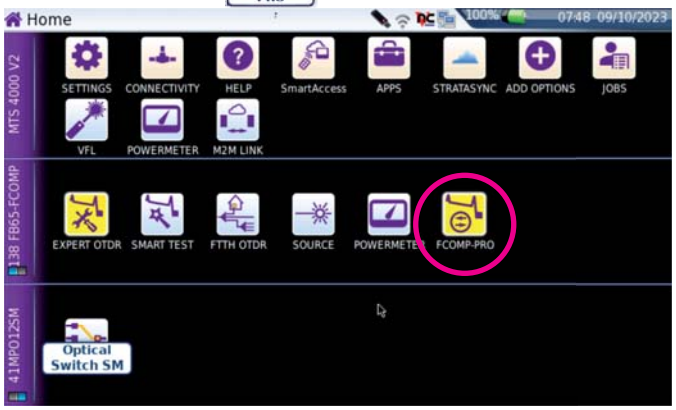

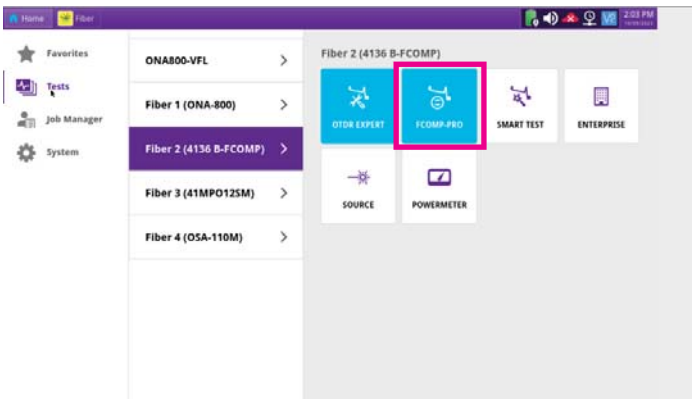

PERFORM THE REFERENCES

The references are valid for all fibers that will be tested during the day with the same test cords (TC). The TC should not be disconnected from the main module's port, otherwise a new reference will need to be performed.

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The Power Meter option is mandatory.
Each test equipment must set its own references and conform to the following process:

1. From the results page, press **References** >  key and follow the step by step instructions to perform references on each unit.
2. Choose **Loopback** for your loss referencing method.

The loopback referencing is used when the two units are at different location. After clicking on **Loopback**, the wizard will guide you through two steps:

3. The loss and ORL reference is used for loss and ORL testing. Connect the TC from the module port to the mainframe powermeter and press **Ok** to start referencing.

MTS/T-BERD 4000 (1)

MTS/T-BERD 4000 (2)

The reference values are stored and displayed at the end

4. The zero ORL reference is necessary for ORL testing. Once the self reference measurement has been carried out, the Zero ORL adjustment can be performed

Connect the TC to the non-reflective termination via a mating sleeve/bulkhead adapter. If you don't have a non-reflective termination, a mandrel can be used.

Press **Ok** to start referencing.

Non-reflective terminations (part of the kit) are mandatory when bend insensitive test cords and/or PC connectors are used.

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CONFIGURING THE LOCAL PLATFORM TO PERFORM THE MEASUREMENT

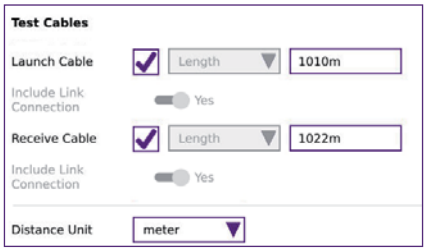
1. Tap the **Setup** soft key  .

1. Press **Load Configuration** key [Load Configuration] and select the pre-defined configuration file.
   Or
   Edit your configuration by following the next steps

General

1. Test Cables

- Adjust the **Launch Cable** / **Receive Cable** (if not done via the shortcuts in Process view)
- Adjust the **Distance Unit** accordingly



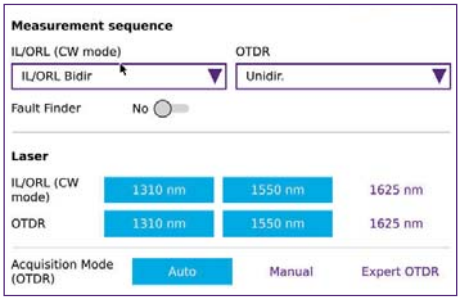
Acquisition

2. IL/ORL Acquisition

- **IL/ORL Measurement**: **IL/ORL Bidir** (recommended)
- **Laser**: **1310/1550 nm**.
- **Fault Finder**: **No** (recommended)

3. OTDR Acquisition

- **None**
- **Unidir**: to perform OTDR from the local to the remote
- **Loopback** (when license installed)
- **TrueBIDIR** (when license installed): Recommended: performs OTDR in both directions, analyzes & harmonizes events from both directions, calculates the average loss and worst reflectance of each event, displays results and stored files on the Local unit.



- **Acquisition Mode**
  - **Auto**: Recommended
  - **Manual**: select **Pulse & Acq. time**
  - **Expert OTDR**: the OTDR set up is entirely done in Expert OTDR application for a maximum user customization
  - **Laser**: 1310/1550 nm or All to enable bend detection with the OTDR

Advanced

4. Advanced

- **Table view**: **Fiber** (recommended)

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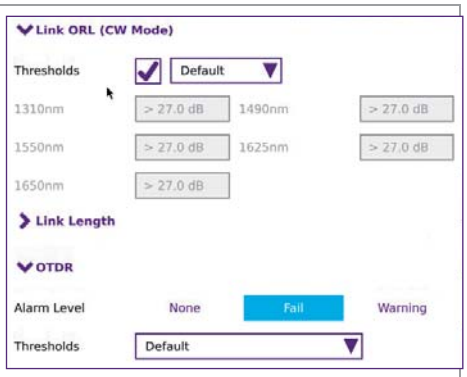
Alarms

5. Alarms

- **IL/ORL Threshold**: **Default** (recommended)
- **OTDR Alarm level**: **Fail** (Recommended)
- **OTDR Alarm Threshold**: **Default** (Recommended)

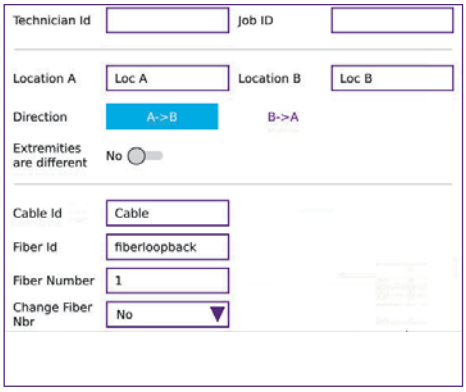


Link

6. Link

Enter the appropriate information:

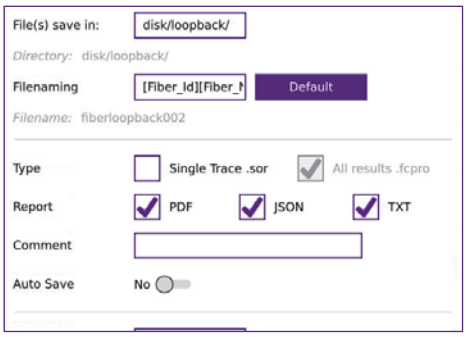
- **Technician Id**
- **Job ID**
- **Location A** and **Location B** (here you can name each location)
- **Direction** (one unit should say A to B and the other should say B to A)
- **Extremity are different**: **No** (recommended)
- **Cable Id**
- **Fiber ID**
- **Fiber Number**
- **Change Fiber Number** : **Increment** (recommended)



Files

7. Files

- **File(s) save in**: configure the directory where all results will be stored
- **Filenaming**: configure per convention
- **Type: All results.fcpro** (not changeable) and **Single Trace.sor** (recommended to get .sor & .msor files)
- **Report**: configure the report format selection (.pdf; .json; ...)
- **Comment**: fill as needed



PERFORMING THE MEASUREMENT

As soon as the remote unit is connected to the fiber, the local unit detects it (and vice-versa).

1 Press **START** – preferably from **Process** view.

At START, the set up is automatically transferred to the other unit. Only the unit initiating the START will perform the bi-directional OTDR (with TrueBIDIR SW option) analysis and save all results and reports for each fiber.

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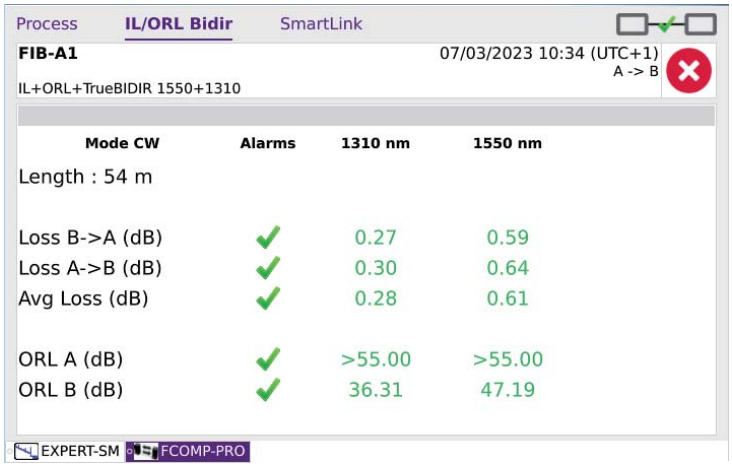
2 Once the tests are completed, on the local unit.

- Press **IL/ORL Bidir** tab for total link loss and ORL bidirectional results*.

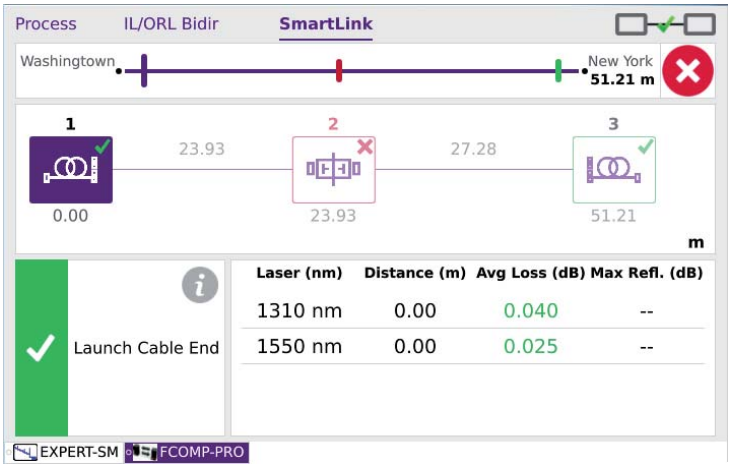
*total link loss & ORL are either acquired from Continuous Wave or from the OTDR, according to the test set up.

- Press **Smartlink** tab for OTDR Averaging results (if TrueBIDIR selected in setup) or OTDR unidir (if uniDIR selected in setup).
- Change app to view the unidir OTDR traces from each direction, displayed in Expert-OTDR app. All unidirectional traces (up to 6) are displayed for each direction (filenaming automatically contains OE (Origin Extremity), EO (Extremity Origin) and each wavelength (up to 3).
- The direction is indicated on top if « **Info** » is selected.
- Browse through each trace by selecting the trace number.
- Clicking on the **Smartlink** or **Table** tabs gives access to the other results representation

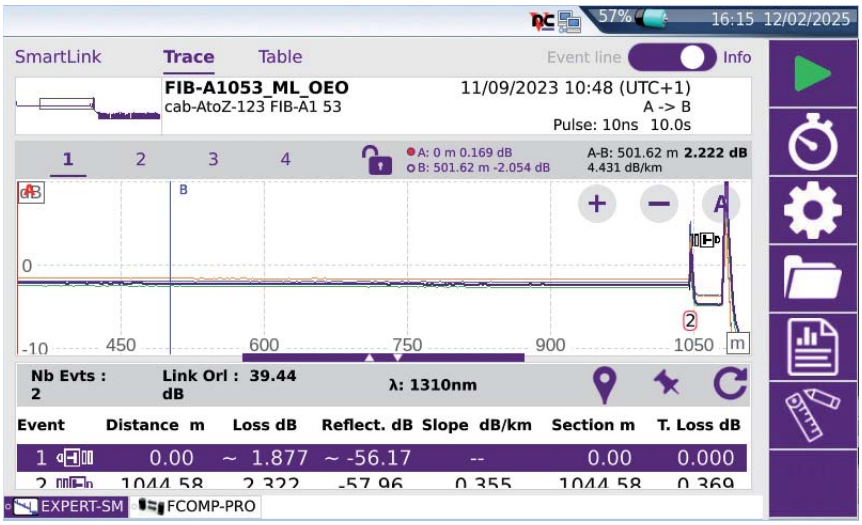
3 Disconnect the fiber, and connect the next one, then test by pressing the green **START** button.



Results: Bidir IL/ORL



Results: Bidir OTDR events characterization



Results: unidir. Traces in Expert-OTDR app