QUICK CARD

Insertion Loss, Cell Tower Construction

This quick card explains how to connect to a fiber under test, configure the OTDR Module as a CW Optical Light Source, and operate the MP-60A Optical Power Meter to perform an Optical Power Loss Test (Insertion Loss) Measurement.

► ONA-800 equipped with the following:

- Fiber Optics Software Release V19.92 or greater
- 4100 Series OTDR Module
- MP-60 Optical Power Meter

► Fiber optic cleaning and inspection tools

► 3 Fiber Optic Patch Cables:

- Launch Fiber to connect to the optical source
- Loopback fiber or device for the top of the tower
- Receive fiber to connect to the power meter.

► Optical Couplers to connect Patch Cables to the Fiber Under Test

Figure 1: Equipment Requirements

► Use the VIAVI P5000i or FiberChek Probe microscope to inspect both sides of every connection being used (OCC Port, Launch Cable, bulkhead connectors, patch cables, etc.)

► Focus fiber on the screen. If dirty, clean the end-face.

► If it appears clean, run inspection test.

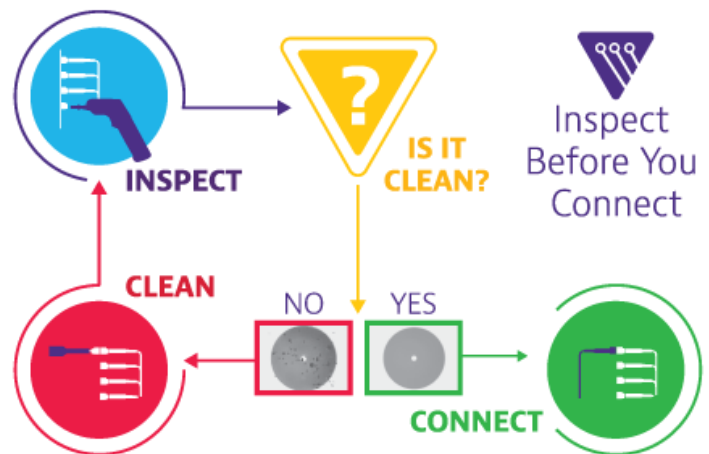► If it fails, clean the fiber and re-run inspection test. Repeat until it passes.

Figure 2: Inspect Before You Connect

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CONNECT FOR REFERENCING AND TO FIBER UNDER TEST (FUT)

All fibers and connectors should be inspected and clean prior to connection, as described on page 1.

1. Inspect and clean (as needed) the OTDR port on top of the test set and all fiber end faces.
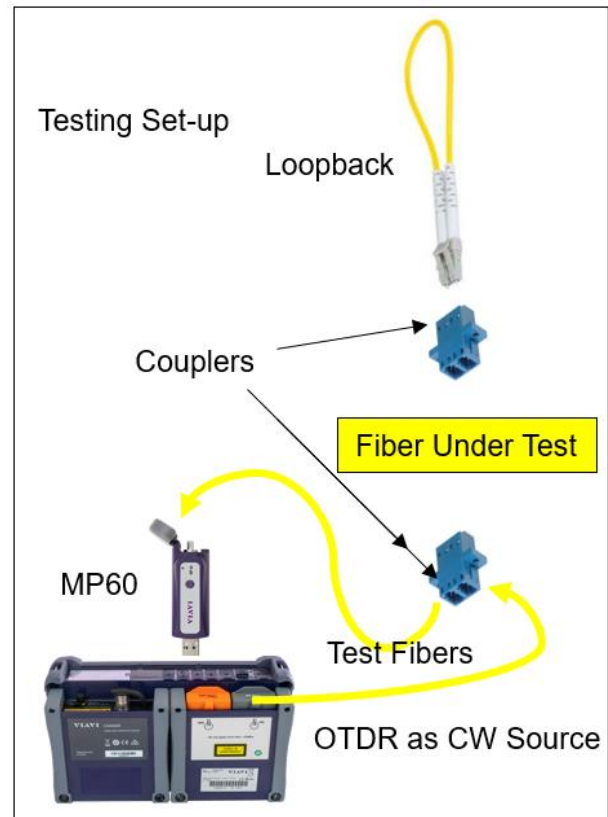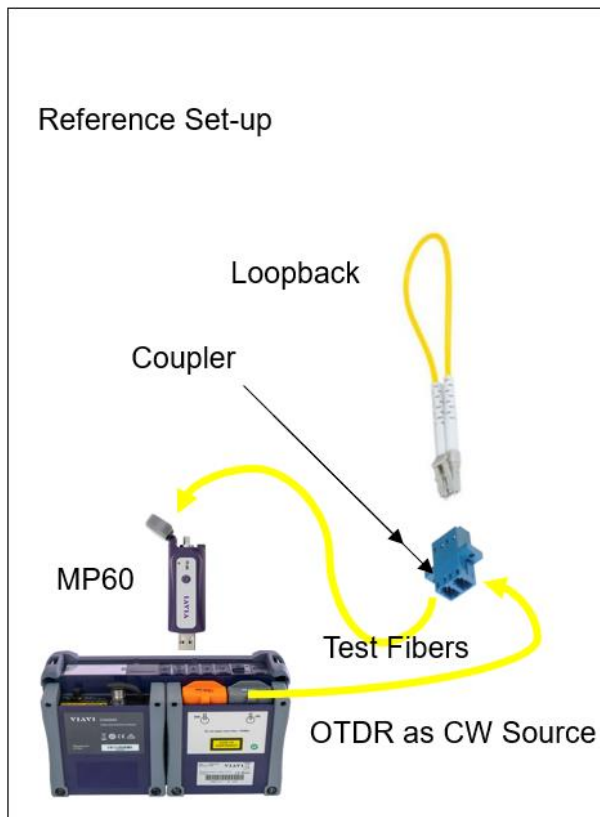

Figure 3: OTDR Port Inspection

Figure 4: (Left) Set-up for referencing all test cords. (Right) Set-up for Testing

2. Connect all test leads and, if possible, the loopback fiber/device as shown in *Figure 4* (left). If the loopback fiber/device is not included in the reference step it will add to the loss measured.

Figure 5: Test fibers connected to the OTDR Port and MP60 installed on OneAdvisor-800

OneAdvisor-800 Portable Network Tester

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LAUNCH AND CONFIGURE THE CW LIGHT SOURCE
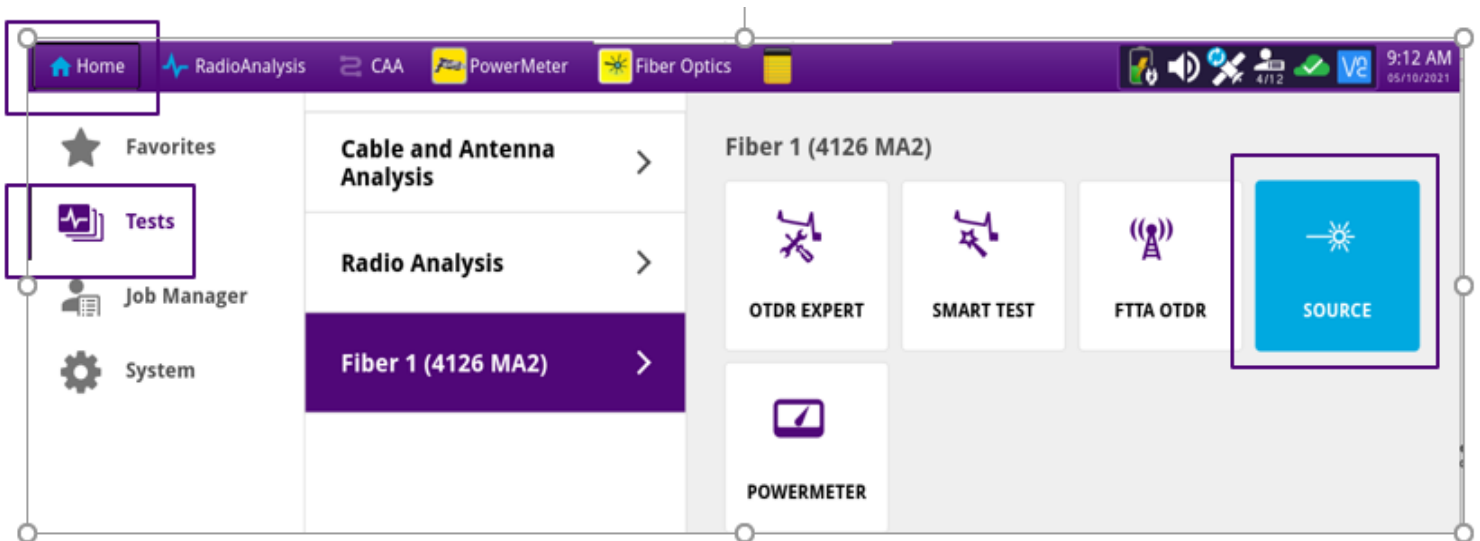
Figure 6: Home > Tests Screen

1. Press the Power button ![power] to start the test set.
2. Tap ![Home] to display the Home screen.
3. Tap ![Tests] **Tests** to display test selections.
4. Tap the Fiber 1 selection ![Fiber 1 (41xxxxxx)] to display OTDR module test selections.
   Note: The Model number of your OTDR is displayed in the parenthesis.
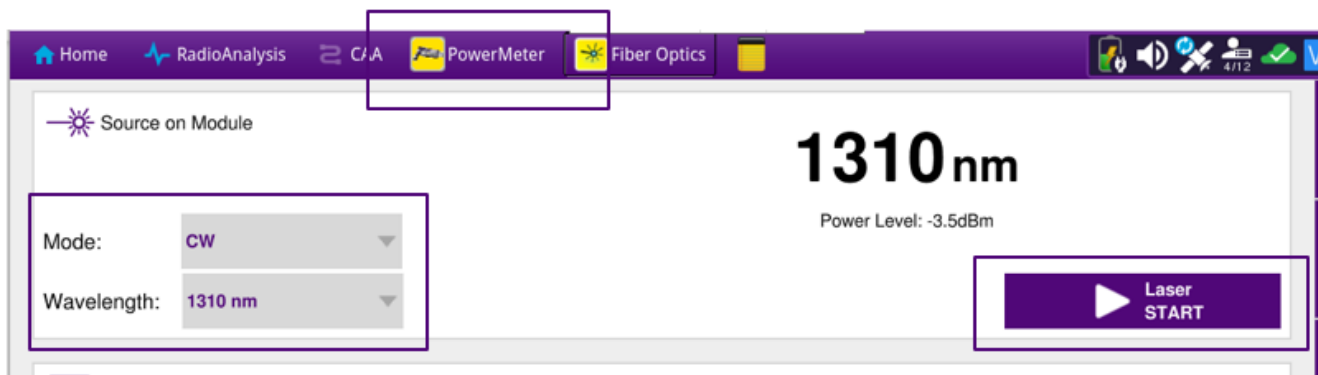5. Tap ![SOURCE] to launch the Optical Source test application.

Figure 7: Optical Source

6. Configure as shown in *Figure 7* (CW/1310). Once fibers are connected and there is no risk of the laser light reaching anyone's eyes, start the Laser (right).

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LAUNCH AND CONFIGURE THE POWER METER

1. Insert the MP-60 into one of the ONA800's USB ports and launch the Power Meter. [PowerMeter]

2. Ensure all fibers are connected as shown in *Figure 4* left side for the reference step.

3. Configure the Power Meter as shown in *Figure 8:*
   - Set Wavelength to 1310.
   - Set Display Units to dB.
   - Check the box for Show Pass/Fail and enter the limit (-3.00 dB in this example).
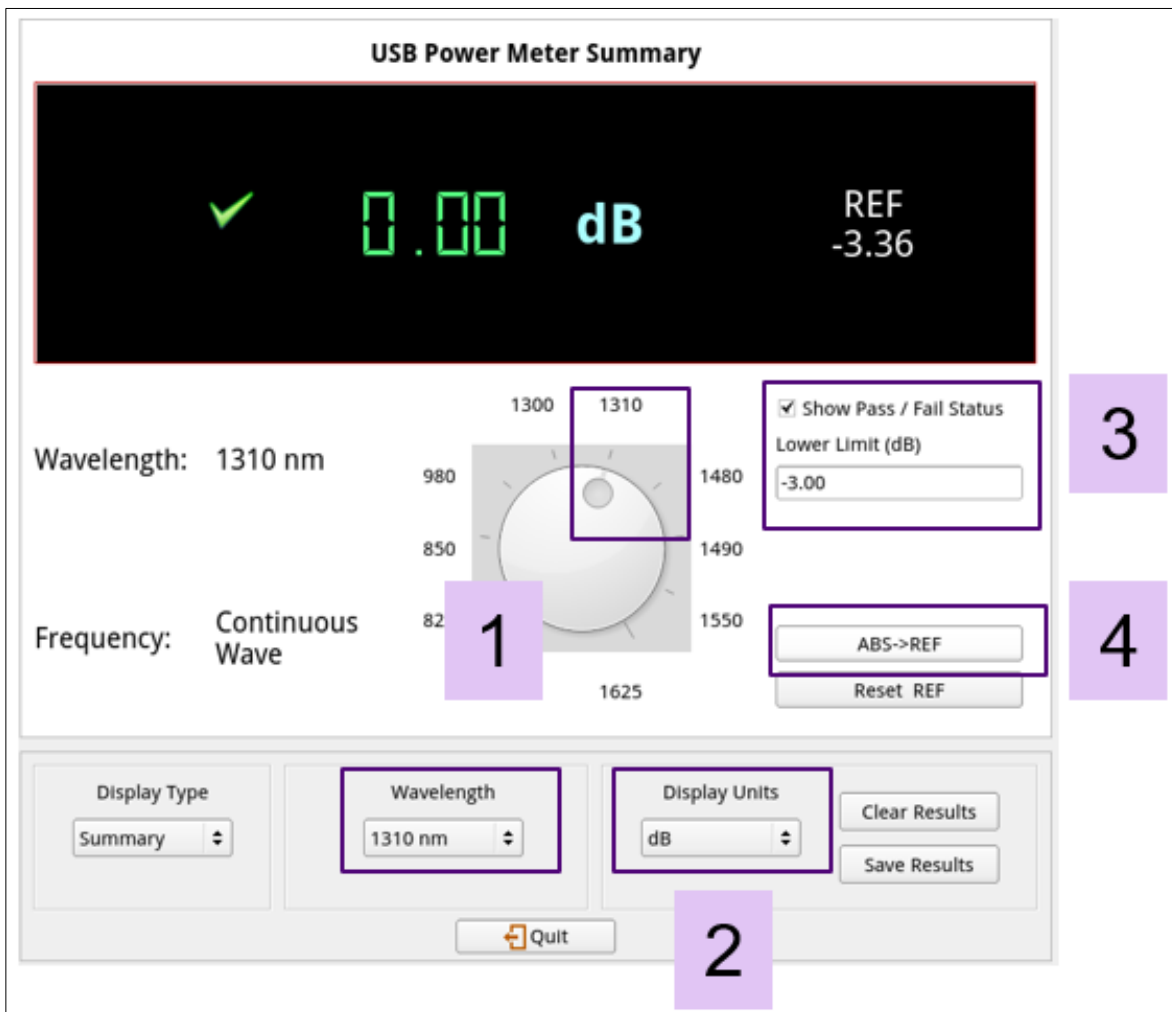   - Tap ABS->REF to set the reference.

Figure 8: Power Meter set-up

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ACTIVATE JOB MANAGER

Job Manager allows the creation of a set of tasks that must be completed using the OneAdvisor-800. These could be across the various applications (Insertion Loss, OTDR, Fiber Inspection, Cable Sweep, etc.)

In this example, we will use the Job Manager WITHOUT a specific test procedure. Instead, we will use Job Manager to aggregate all "ad-hoc" results into a single report.

1. Go to Home > Job Manager.
2. Select Load Job and navigate to (free.test.json) and Load.
3. Enter relevant Job Information that should appear on page 1 of the report.
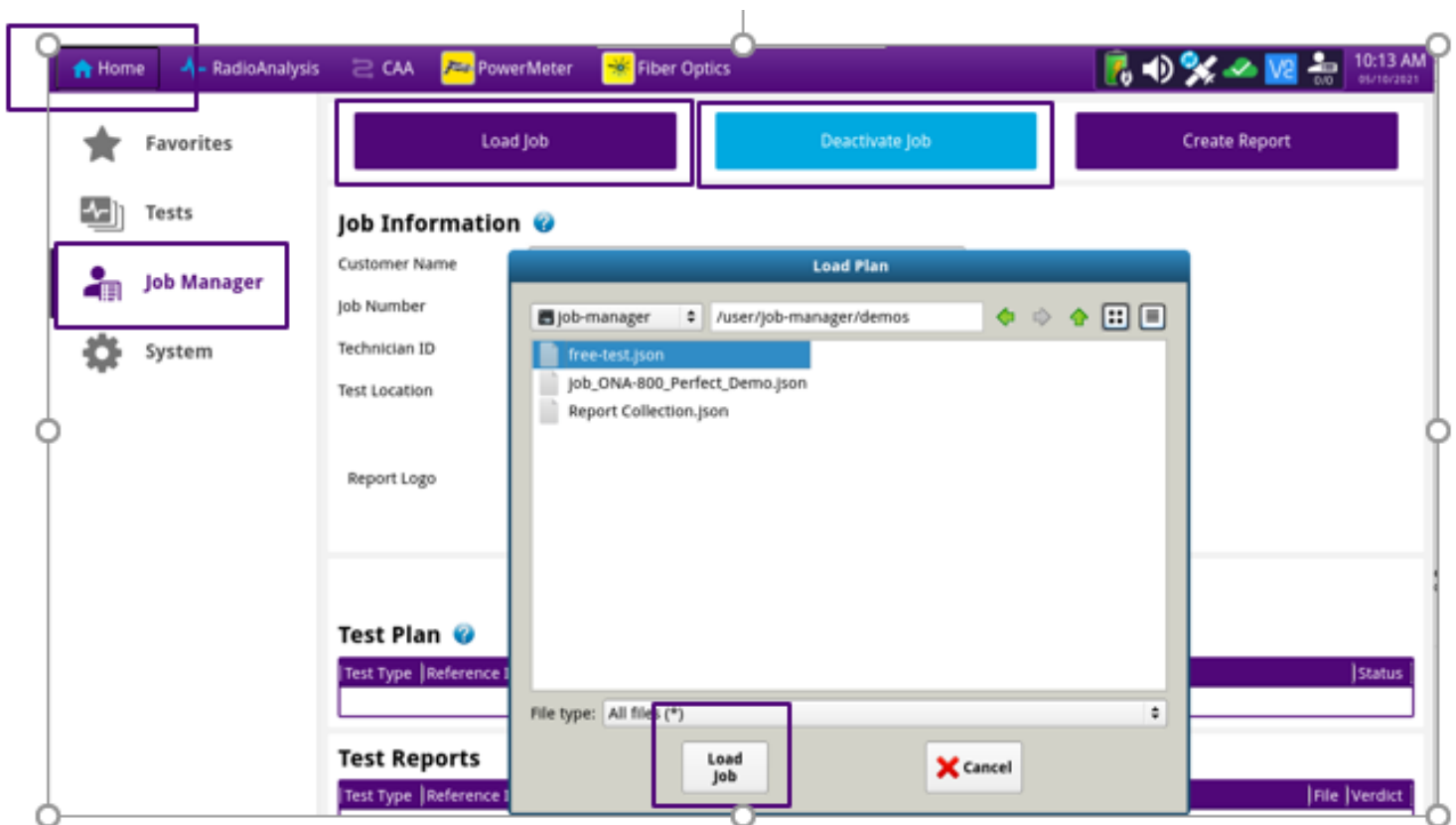4. Click on Activate Job (It will turn to Deactivate Job as shown in *Figure 9*).

Figure 9: Opening a Job

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PERFORM THE TEST

1. Connect the fiber under test as shown in Figure 3 right side.

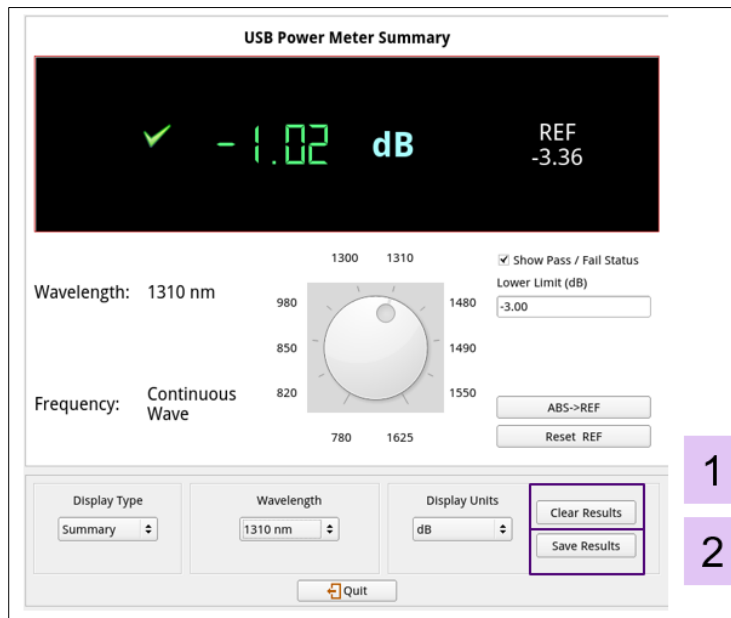2. Read the value shown. If it passes the threshold the value will be shown in green.

Figure 10: Power Meter for Save Step

3. Press Clear Results and then Save Results.

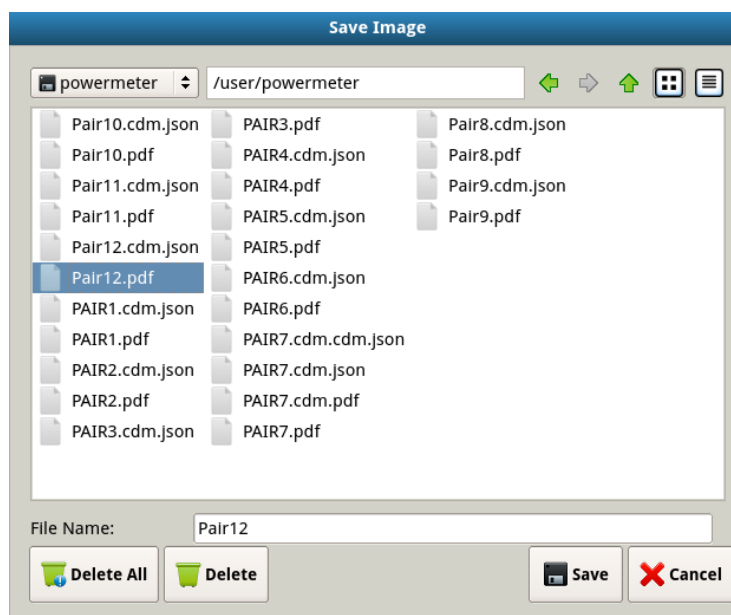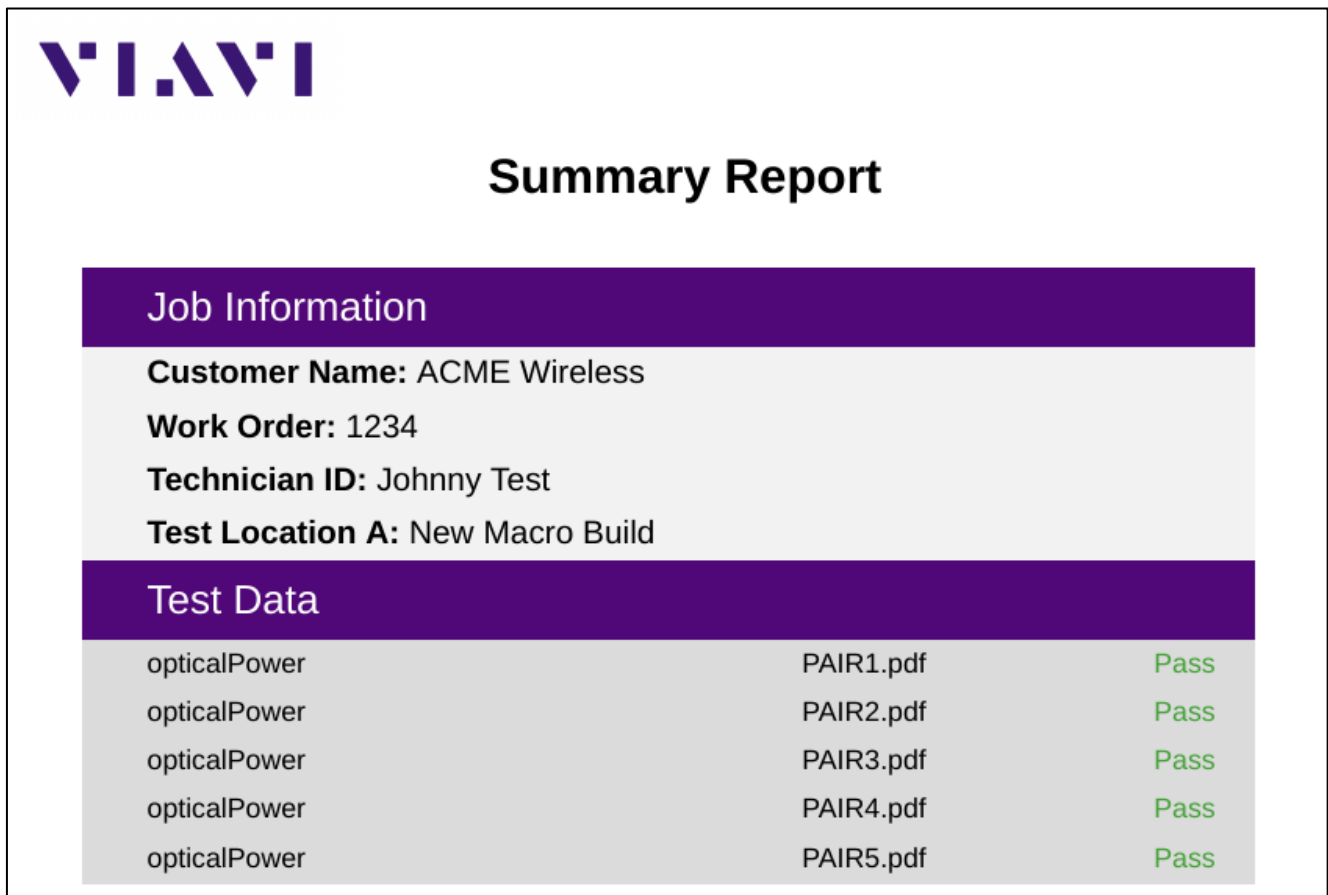4. Name the results file as appropriate and click Save.

Figure 11: Saving Results

5. Proceed to the next fiber and repeat steps 1 through 4 until all fibers have been tested (and pass).

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CREATE REPORT WITH JOB MANAGER

1. Go to Home > Job Manager

2. Deactivate the Job

3. Select Create Report

Figure 12: Report Example

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