

- **FX40 series**
- **FX80 series**



LTSync

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1.0 About This User Manual

This manual is suitable for novice, intermediate, and experienced users and is intended to help the operator successfully use the features and capabilities of the LTSync software. It is assumed that the user has basic computer experience and skills, and is familiar with optical fiber testing, telecommunication concepts, terminology, and safety.

Every effort was made to ensure that the information contained in this user manual is accurate. Information is subject to change without notice and we accept no responsibility for any errors or omissions. In case of discrepancy, the web version takes precedence over any printed literature. The content in this manual may vary from the software version installed in the unit.

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For more technical resources, visit the VeEX, Inc. web site at www.veexinc.com.

If you need assistance or have questions related to the use of this product, call or e-mail our customer care department for customer support. Before contacting our customer care department, you must have your product serial number and software version ready. Please provide this number when contacting VeEX customer service.

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2.0 Safety Information



Safety precautions should be observed during all phases of operation of this instrument. The instrument has been designed to ensure safe operation however please observe all safety markings and instructions. Do not operate the instrument in the presence of flammable gases or fumes or any other combustible environment. VeEX Inc. assumes no liability for the customer's failure to comply with safety precautions and requirements.



Optical Connectors

The test platform displays a laser warning icon when the laser source is active to alert the user about a potentially dangerous situation. Make sure that optical sources are inactive before connecting fiber to the test set to avoid skin or eye damage, or damage to the unit. It is recommended to:

- Deactivate the laser before connecting or disconnecting optical cables or patchcords.
- Never look directly into an optical patchcord or an optical interface (e.g. CFP, CFP2, CFP4, QSFP+, SFP+, SFP, OTDR, LS, VFL) while the laser is enabled. Even though optical transceivers are typically fitted with Class 1 lasers, which are considered eye safe, optical radiation for an extended period can cause irreparable damage to the eyes.
- Never use a fiber microscope to check the optical connectors when the laser source is active.

Electrical Connectors

Telephone lines may carry dangerous voltages. Always connect the electrical test ports to known test interfaces which carry low level signals.

3.0 Introduction

The LTSync Windows PC software is used to view and transfer saved test results from VeEX optical power meters, the compatible models include FX40, FX45, and FX8x series products. LTSync allows users to:

- Transfer test results from the compatible VeEX power meters (FX40, FX45, FX8x) to the PC.
- Upload test results to the cloud storage (Fiberizer Cloud).
- Control the compatible VeEX power meters through USB connection from the PC. LTSync requires Windows™ 7 or higher.



To use LTSync via a USB cable, install the FX40/45/8x USB driver, which can be downloaded from www.veexinc.com.

4.0 User Interface Overview

According to the LTSync functions, its interface has three sections (tabs):

1. Hardware
2. Results
3. Cloud storage (Fiberizer Cloud)

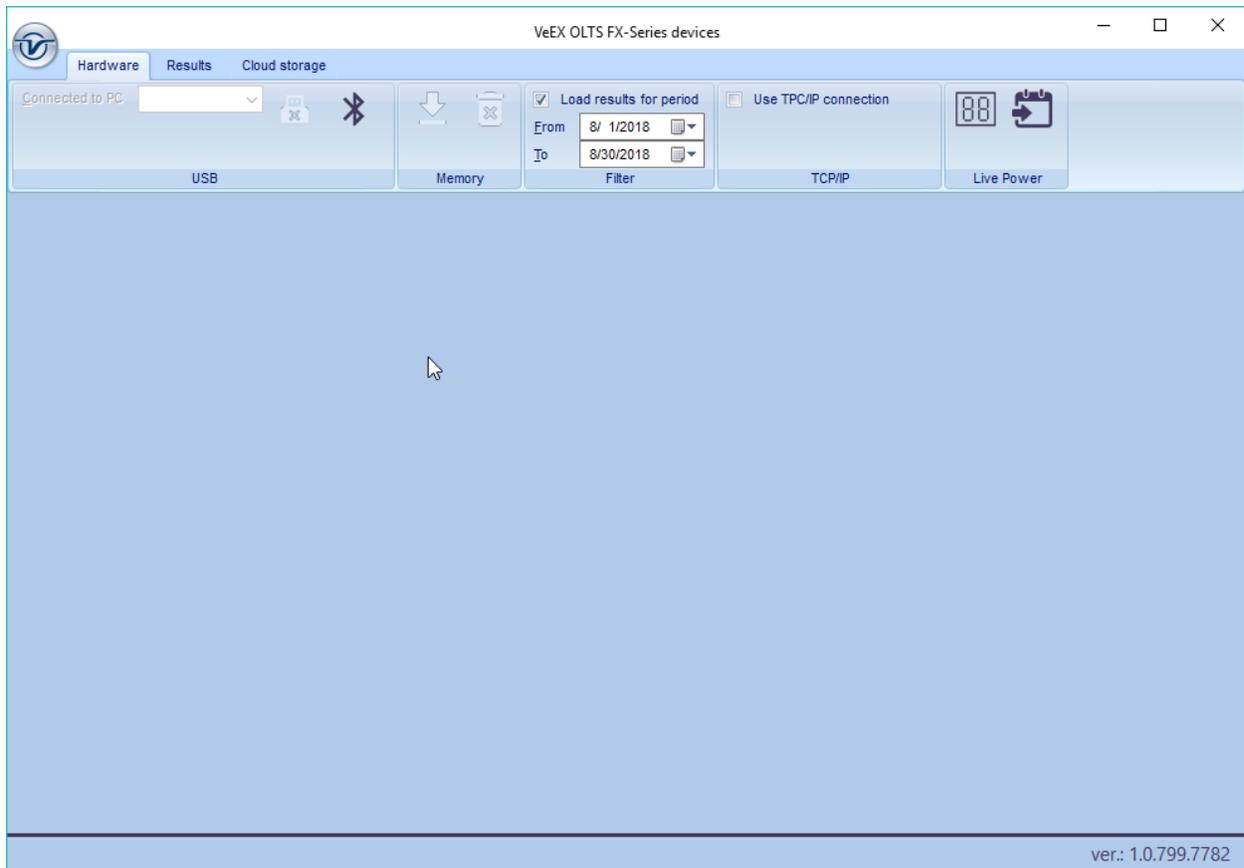


- *In any tab, the status bar at the bottom left shows the status of the current operation.*
- *Colors, buttons, and screen fonts can vary slightly, depending software versions.*

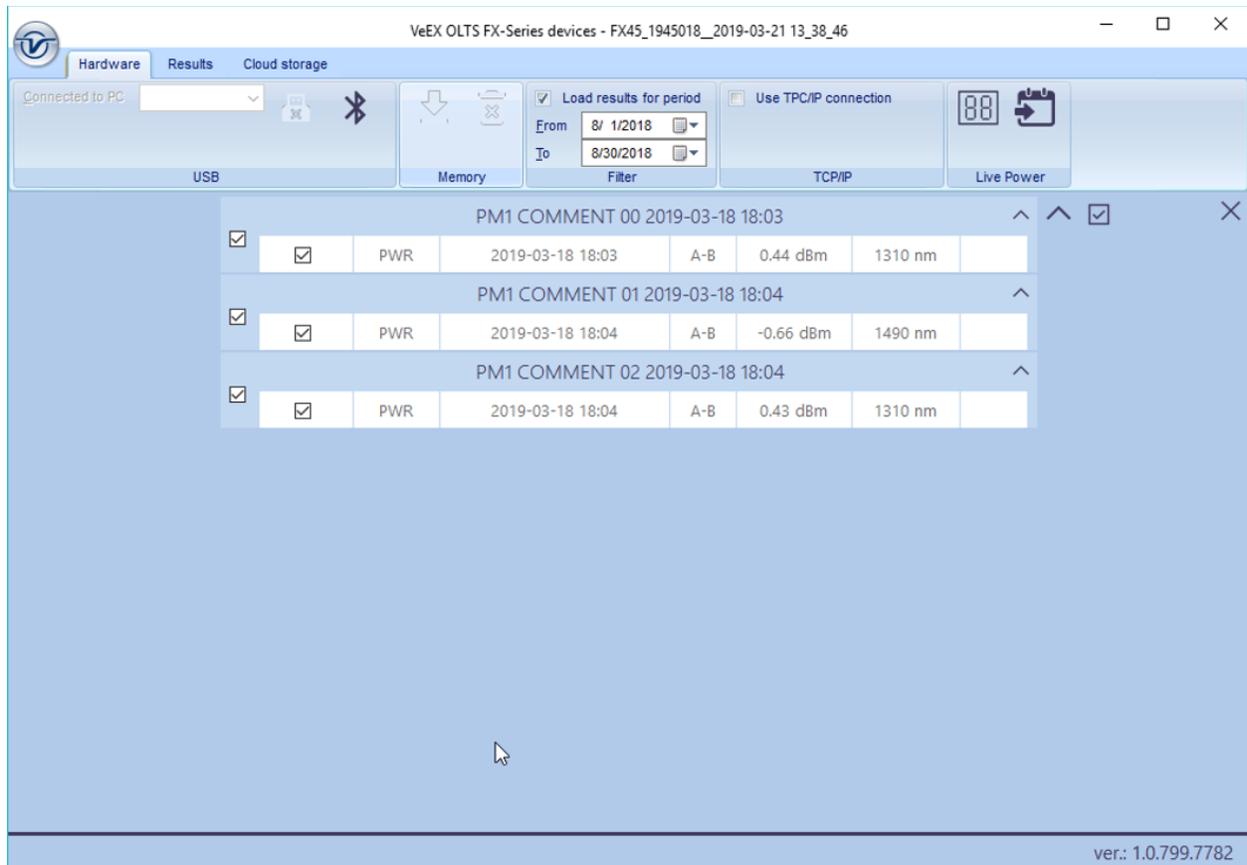
4.1 Hardware Tab

Use the **Hardware** tab to connect and manage compatible VeEX power meters. Shown below is the **Hardware** tab before and after a compatible power meter like the FX45 is connected to the PC via the USB interface.

Hardware tab before a power meter is connected.



Hardware tab with FX80 power meter connected and test results downloaded



The Hardware tab operations are grouped into 5 sections: (1) USB, (2) Memory, (3) Filter, (4) TCP/IP and (5) Live Power.

USB-related operations:

Connected to PC: view model # and product ID of connected device. If multiple test sets are connected, select the necessary one in the drop-down menu.

Disconnect USB: click the **[USB]** icon () to end the session.

Memory-related operations:

View all test results: click the [Show onscreen] icon ()

Delete test results in device memory: click the **[Delete]** icon ()

Time-filtering operations:

Define the period to display test results on the screen.

TCP/IP operations:

Used by VeEX for service purposes and for controlling the VeEX Optical Loss Test Set device via WiFi.

Live Power operations:

Remotely control a compatible power meter and view its measurement results onscreen.

4.2 Results Tab

Manage test results downloaded to the PC from a compatible power meter, prepare them for reporting, upload them to Fiberizer Cloud, and get a report in the PDF format.

Results tab, with several test results selected.

The screenshot shows the 'Results' tab of the VeEX OLTS FX-Series devices software. The window title is 'VeEX OLTS FX-Series devices - FX80_1897618_2019-08-07 15_08_42'. The interface includes a top navigation bar with 'Hardware', 'Results', and 'Cloud storage' tabs. Below the navigation bar, there are input fields for 'Job ID' (SL8), 'Cable ID' (089), and 'Fiber ID' (Green-19). There are also fields for 'Test ID' (FX80_1897618_2019-08-07 15_08_42) and 'Cable length, km' (0.000). A 'Use VeEX workspace' checkbox is checked. The 'Attributes' section shows 'FX80 1897618'. The 'Selection' section has checkboxes for wavelengths: 850 nm, 1310 nm, 1490 nm, 1550 nm, and 1625 nm. The 'Operations' section has icons for 'Download', 'Upload', 'PDF', and 'CSV'. The main area displays a table of test results for 'PON (burst) EX' tests. The table has columns for 'PWR', 'Date/Time', 'A-B', 'Power (dBm)', 'Wavelength (nm)', and 'Status'. The results are grouped by test ID and time.

PON (burst) EX 01 2019-04-16 04:34							
<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>	PWR	2019-04-16 04:34	A-B	2.31 dBm	1310 nm	PASS
<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>	PWR	2019-04-16 04:34	A-B	-11.97 dBm	1490 nm	PASS
<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>	PWR	2019-04-16 04:34	A-B	-49.72 dBm	1550 nm	FAIL
PON (burst) EX 02 2019-04-16 04:52							
<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>	PWR	2019-04-16 04:52	A-B	2.23 dBm	1310 nm	
<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>	PWR	2019-04-16 04:52	A-B	-11.96 dBm	1490 nm	
<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>	PWR	2019-04-16 04:52	A-B	-8.93 dBm	1550 nm	
PON (burst) EX 03 2019-04-16 04:55							
<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>	PWR	2019-04-16 04:55	A-B	-3.77 dBm	1310 nm	FAIL
<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>	PWR	2019-04-16 04:55	A-B	-11.95 dBm	1490 nm	PASS
<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>	PWR	2019-04-16 04:55	A-B	-8.99 dBm	1550 nm	PASS
PON (burst) EX 04 2019-04-16 04:55							
<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>	PWR	2019-04-16 04:55	A-B	2.28 dBm	1310 nm	PASS
<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>	PWR	2019-04-16 04:55	A-B	-24.02 dBm	1490 nm	FAIL
<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>	PWR	2019-04-16 04:55	A-B	-9.07 dBm	1550 nm	PASS
PON (burst) EX 05 2019-04-16 04:56							

ver.: 1.0.828.8050

To upload test results to Fiberizer Cloud, register for a new account using the **Cloud storage** tab.

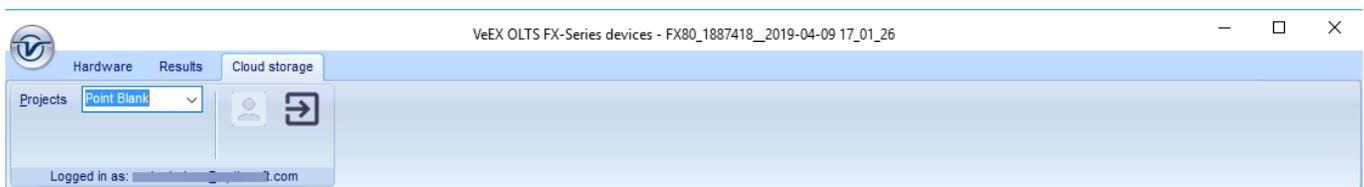


The **Operations** group buttons become active after selecting test results on the table.

4.3 Cloud Storage Tab

Manage the connection to an account in Fiberizer Cloud.

Cloud Storage tab, not connected to Fiberizer Cloud



5.0 Getting Started

5.1 Installing LTSync

The LTSync PC software is available as a standalone program and as a part of the Fiberizer Expert package. Both the program and the package can be downloaded from the VeEX web site at www.veexinc.com.

To install LTSync, launch the installation file and follow the onscreen instructions.

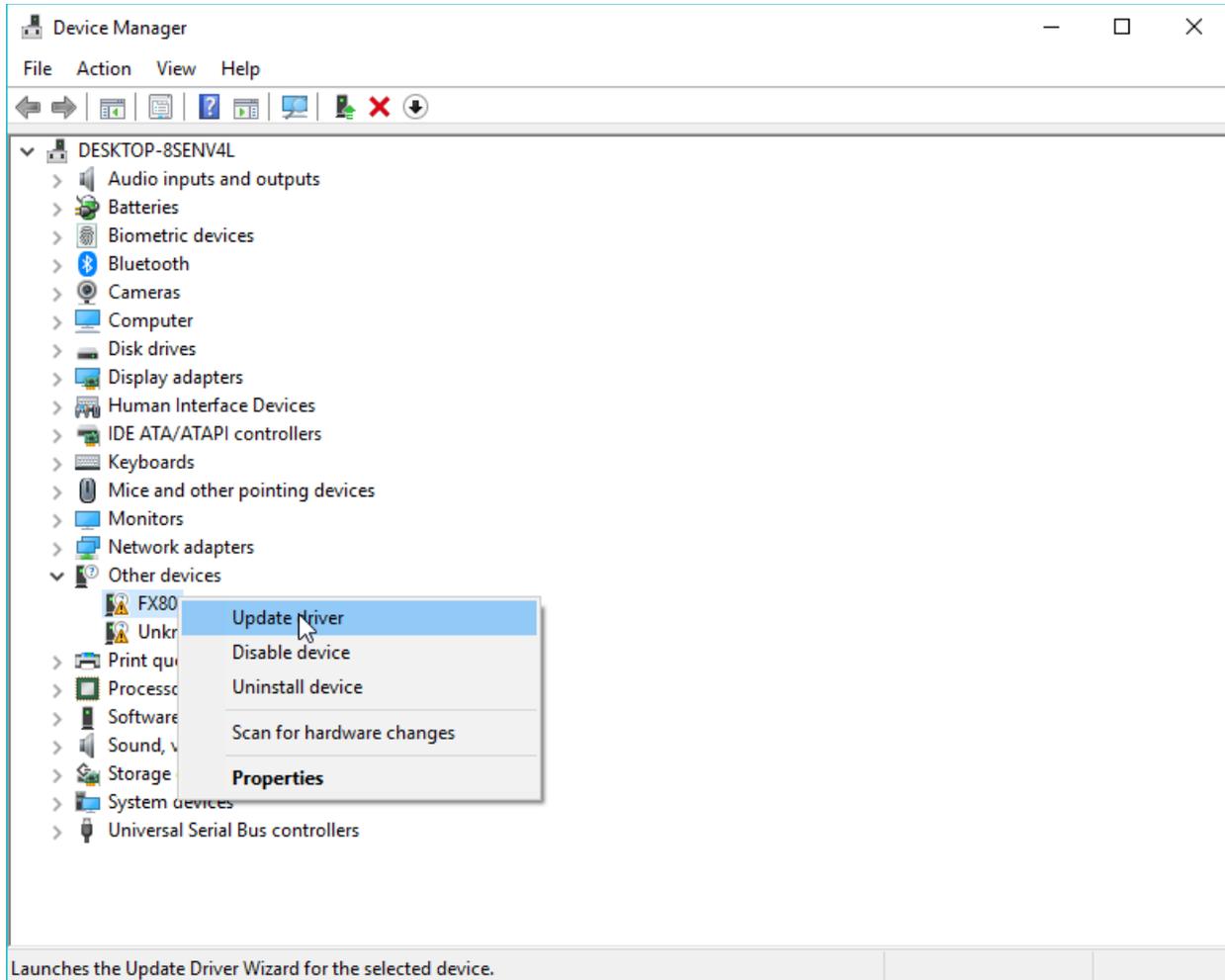
5.2 Installing the FX40/45/8x USB Driver

For the PC to operate with the FX40/45/8x device, first install the FX40/45/8x USB driver.

To install the USB driver:

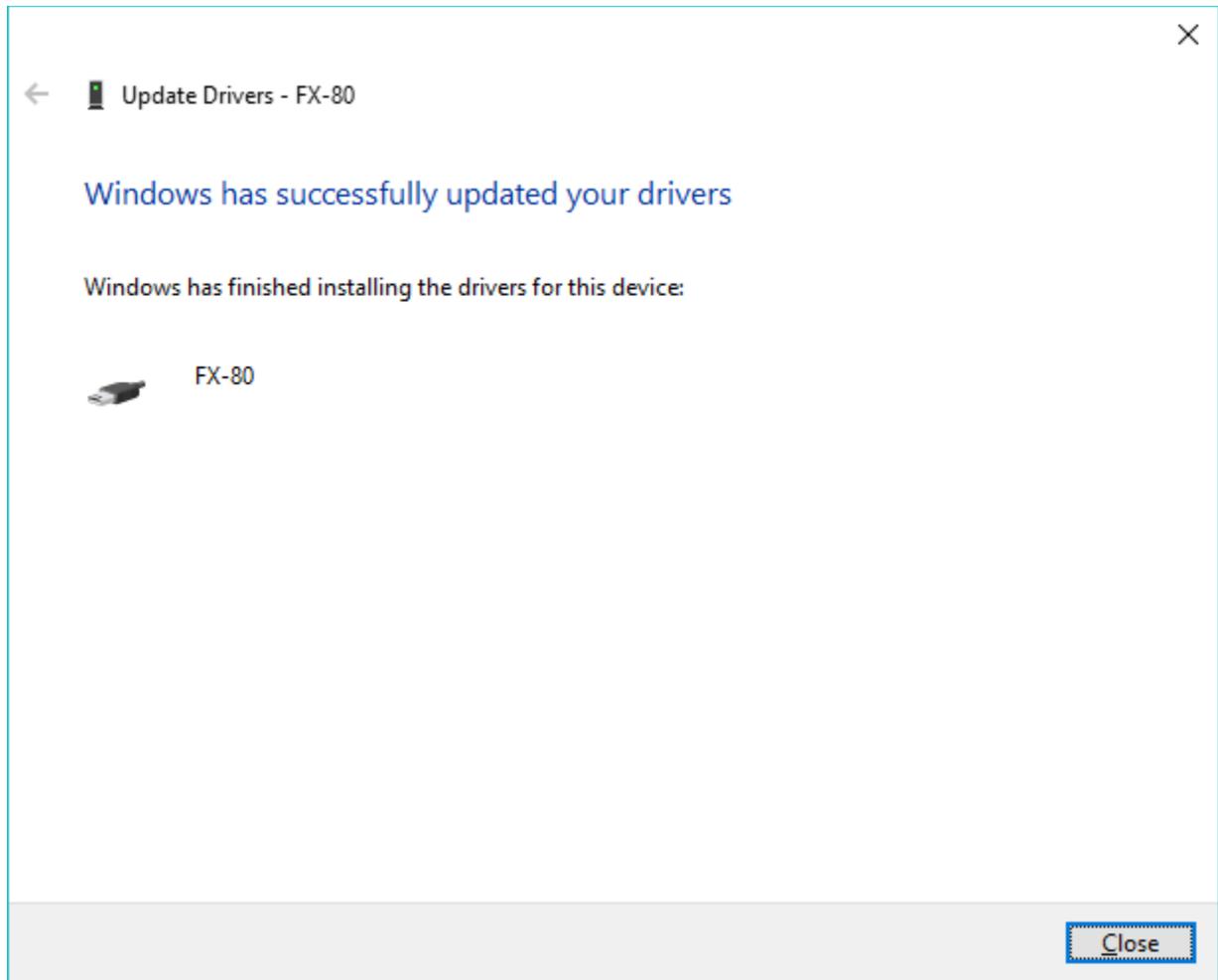
1. Plug in a compatible VeEX power meter to the PC via the supplied USB-to-microUSB cable.
2. Launch the Windows Device Manager and check the FXxx item (FX40, or FX45, or FX8x) in the **Other devices** list. The FXxx item is shown with the exclamation mark sign (see an example below) meaning that the driver for the device is not installed.
3. Download the driver from the VeEX web site at www.veexinc.com.
4. In the Windows Device Manager right-click the FXxx item, then select **Update driver** (see example below for the FX80 power meter).

Installing the driver for FX80



5. Select **Browse my computer for driver software**, define the path where the downloaded driver is to be saved, and then click **Next**. The driver installation begins. A new window appears when the driver has been updated successfully.

The driver for FX80 successfully installed



If another compatible power meter is plugged in, repeat the above procedure for this device as well.

6.0 Transfer Results to PC

To access measurement results to create a report, first transfer results to a PC so they can be uploaded to Fiberizer Cloud. This can be done using the provided micro-USB cable provided and via Bluetooth connection.

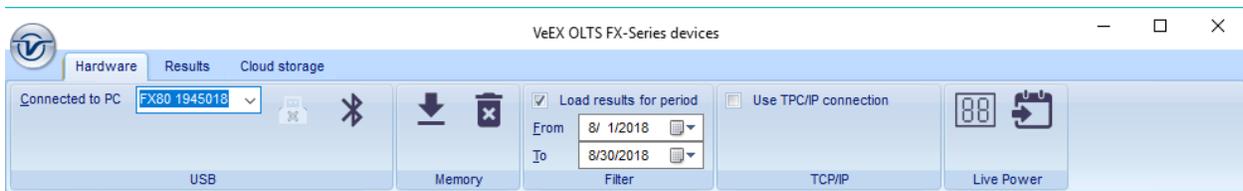


To transfer the measurement results via the micro-USB cable, install the USB driver (see [Section 5.2. Installing the FX40/45/8x USB Driver](#)). For Bluetooth transfer, no driver is needed.

6.1 Transfer Results Using Micro-USB Cable

To transfer measurement results to the PC using the micro-USB cable, connect the provided cable to a compatible power meter and to the PC. The figure below shows that a device is connected and the unique product ID.

FX80 is connected to PC in LTSync, its product ID is recognized by the program.



If a different power meter (for example, FX45) is connected, this will appear in the **Connected to PC** field. If several power meters are connected, select the active one from the drop-down list box.

To get the measurement results onscreen, click the **Download** button . Results will appear in a table, as shown in the figure below.

Measurement results are presented as a table

Unit	Wavelength (nm)	Power (dBm)	Status
EX 01 (2019-04-16 04:34)	1310 nm	2.31 dBm	PASS
	1490 nm	-11.97 dBm	PASS
	1550 nm	-49.72 dBm	FAIL
EX 02 (2019-04-16 04:52)	1310 nm	2.23 dBm	
	1490 nm	-11.96 dBm	
	1550 nm	-8.93 dBm	
EX 03 (2019-04-16 04:55)	1310 nm	-3.77 dBm	FAIL
	1490 nm	-11.95 dBm	PASS
	1550 nm	-8.99 dBm	PASS
EX 04 (2019-04-16 04:55)	1310 nm	2.28 dBm	PASS
	1490 nm	-24.02 dBm	FAIL
	1550 nm	-9.07 dBm	PASS
EX 05 (2019-04-16 04:56)	1310 nm		
	1490 nm		
	1550 nm		

Depending on the test unit connected, the data onscreen may look different. For example, when an FX80 power meter is connected, the **PASS/FAIL** column appears in the table.

6.2 Transfer Results Via Bluetooth



The FX80 series device must have the built-in Bluetooth option to transfer measurement results to the PC.

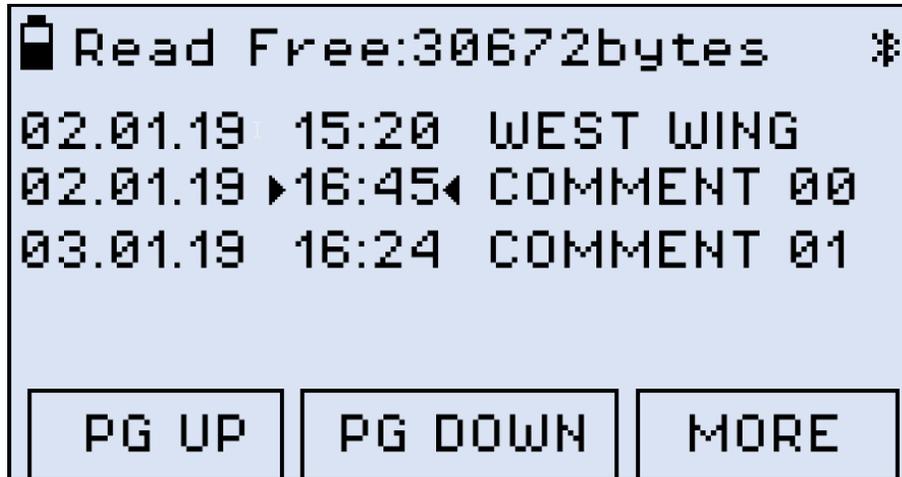
1. First pair the devices with the standard Bluetooth pairing procedure. If the FX8x is paired with to the PC, the device will appear as a mobile device in the **Bluetooth & other devices** list.

FX-80 listed as a mobile device in the Bluetooth & other devices list (Windows 10)



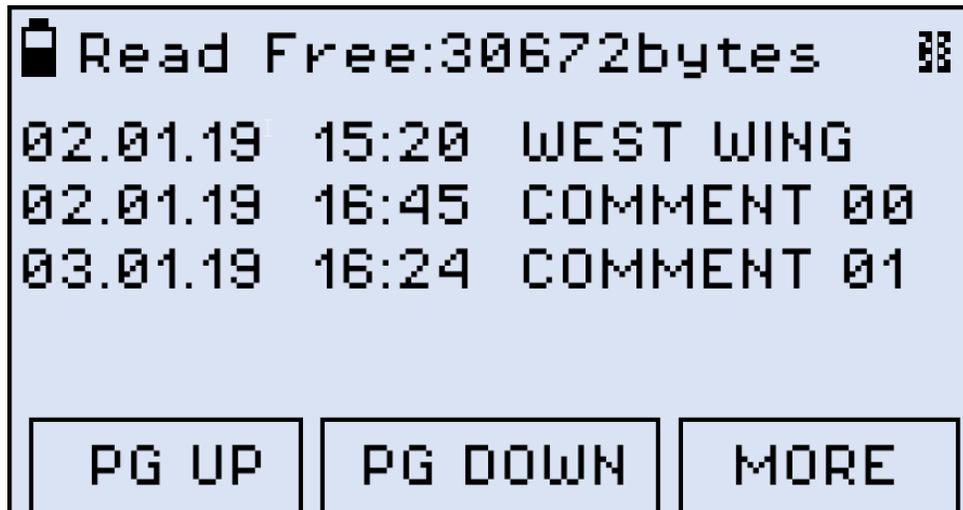
2. Power on the FX8x and enter the **[Read]** mode. The Bluetooth symbol appears at the top right corner of the screen (see below).

Read mode with Bluetooth (Windows 10)



- In **LTSync**, click the Bluetooth button on the **Hardware** tab. The FX80 serial number appears in the **Connected to PC** field. If there are several devices connected to the PC via Bluetooth, select the correct device from the drop-down list box. After the FX8x and the PC are connected, the Bluetooth sign inverts its colors (see below).

FX80 and PC are connected, the Bluetooth sign inverts its colors



- In **LTSync**, to transfer measurement results from FX8x to the PC, click **[Download]**  in the **Memory** group. Measurement results transfer from the FX8x to the PC.

The time it takes to transfer results depends on the size of the data. Results will appear in a table after the transfer is complete.

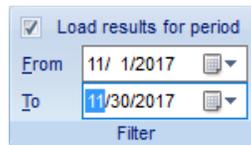
7.0 Results Report

7.1 Filter Results

Use the filter options to select only those results needed for the report. After selecting the filters, those measurement results are selected in the table.

Filter by date: If only the results for a specific time period are needed, select the **Load results for period** checkbox and enter the date range. If the checkbox is not marked, all stored results will appear.

Measurement results to be downloaded for a period.



Filter by wavelength: If the results for certain wavelengths are needed, select the corresponding checkboxes in the **Selection** section.

Filter by attributes: Use the fields in the **Attributes** group to filter the results by **Job ID**, **Cable ID**, **Fiber ID**, **Test ID**, and **Cable length**.

7.2 Moving/Removing rows:

To delete rows from the results table, select the checkboxes next to the rows and click the Delete button .

To move a row to another group, click to highlight the row (orange) to move. Then, drag-and-drop the row to another group. Alternatively, highlight the row, click the **Move row** button , and then highlight the desired group to which to move the row. Only one row at a time can be moved.



A row can be moved to another group only if there is no measurement with the same measurement parameters, i. e., wavelength and measurement type (PWR, IL, ORL), in the group.



The status bar at the bottom left shows the status of the current operation.

7.3 Generate Report

To generate a report in PDF format, click the **PDF** button .

8.0 Saving Measurement Results

8.1 Saving Results to PC

To save the measurement results to a folder on the PC, click the **Export selected files to a file** button  with the **Use VeEX workspace** checkbox unselected, then follow the onscreen instructions.

To ensure saved results will be accessible to other VeEX software programs, save the measurement results to the PC to a dedicated folder with the VeEX structure. To save using the VeEX structure, click the **Export selected files to a file** button  with the **Use VeEX workspace** checkbox selected.

Saving to the VeEX workspace storage



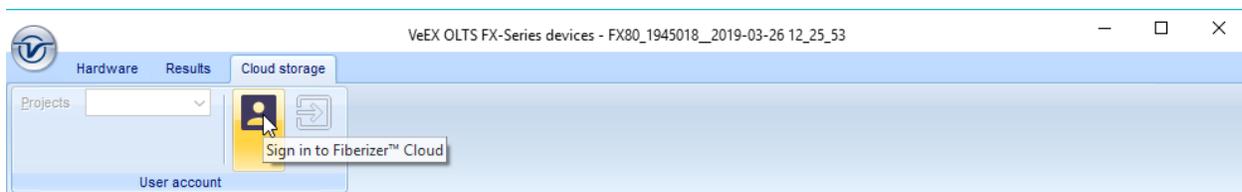
The measurement results are saved as an .oxtls file.

8.2 Uploading Measurement Results to Fiberizer™ Cloud

To access a Fiberizer Cloud account within the LTSync program:

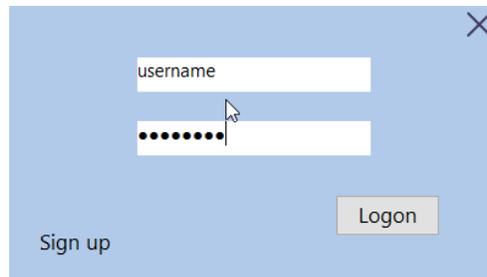
1. Select the **Cloud storage** tab, and then click the **Sign in to Fiberizer Cloud** button, and then entering the correct credentials in the resulting form.

Signing in to Fiberizer Cloud



2. Enter the user credentials in the resulting form

Fiberizer Cloud Login screen

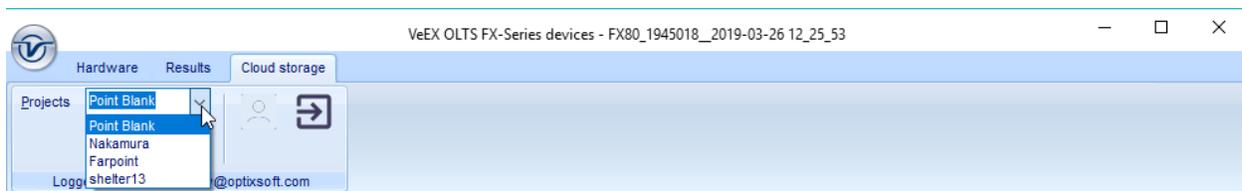


To register for a Fiberizer Cloud account, on the **Cloud Storage** tab, click the **Register in Fiberizer Cloud** button. Alternatively, click the **Sign up** link on the **Login** screen.

To upload measurement results:

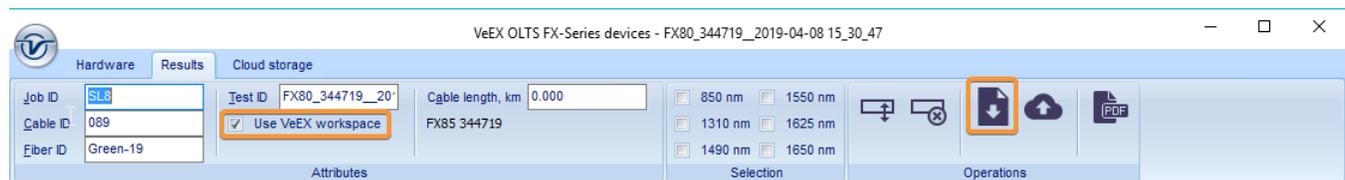
1. On the **Cloud Storage** tab, select a project from the Fiberizer Cloud account (see below).

Selecting a project from Fiberizer Cloud account.



2. In the **Results** tab, select the **Use VeEX workspace** checkbox. This ensures that the measurement results are uploaded to a dedicated VeEX folder in the Fiberizer Cloud account. To upload results to Fiberizer Cloud folder in the root directory, leave the **Use VeEX workspace** checkbox unselected.

Saving to Fiberizer Cloud



3. Click the **[Upload to Fiberizer Cloud]** button  to upload the measurement. **LTSync** creates a folder in the Fiberizer Cloud account named after the connected device (for example, **FX82 7654321**, **FX80 7654321**, or **FX45 89316**) to which it uploads the results. The results saved in the Fiberizer Cloud account will be accessible to other compatible VeEX devices.



- *The status bar at the bottom left shows the status of the current operation.*
- *The measurement results are saved as an .oxtls file.*

To log out from Fiberizer Cloud, on the **Cloud Storage** tab, click the **[Log out from Fiberizer Cloud]** button .

8.3 Erasing Measurement Results from Meter

To erase measurement results from the power meter memory, select the **Hardware** tab and click the **Erase all memory** button .

9.0 Controlling VeEX Device from PC

Use LTSync to control a compatible power meter and an Optical Loss Test Set device (FX100) from a PC.

9.1 Controlling Power Meter from PC

To view the measurement results from a power meter on the PC screen:

1. Connect the power meter to the PC via the supplied USB-to-microUSB cable.
2. Select the **Hardware** tab and click the **Show the Live Power window** button  in the **Live Power** group. A box appears and shows the current measurement result (see below).

Controlling the power meter from PC (Live Power mode)



3. Use the box to control the measurement just like from the power meter. For more information about the meter's operation, see the corresponding User Manual at www.veexinc.com.

To transfer the current measurement result to the measurement table, click the **Capture a Live Power result** button . The program then switches to the **Results** tab and shows the table.

Getting the current measurement result to measurement table from power meter

The screenshot displays the VeEX OLTS FX40/45/50 software interface. The main window has a title bar with the text "VeEX OLTS FX40/45/50". Below the title bar, there are tabs for "Hardware", "Results", and "Cloud storage". The "Results" tab is active, showing a table of measurement records. The table has columns for "Job ID", "Test ID", "Cable length", "Selection", and "Operations". A record is highlighted in yellow, with a date and time of "2018-03-16 15:57". The record details are: "PWR", "2018-03-16 15:57", "A-B", "-75.59 dBm", and "1310 nm". A detailed measurement window is open over this record, showing the following information:

- FX-45 89316
- Ref. PM3
- 0.024 nW
- <-75.0 dBm
- ◀ 1310 nm ▶

The bottom right corner of the software window shows the version number "ver.: 1.0.746.7149".



When the power meter is controlled by the PC, its screen shows the 'Control by USB' notification, and its buttons are inactive.

10.0 Warranty and Software

Warranty Period: The warranty period for hardware, software and firmware is one (1) year from the date of shipment to the customer. The warranty period for battery pack, LCD, LCD touch panel, LCD protective cover, and accessories (including, but not limited to patch cords, AC adaptor, SFP, USB adaptors, carrying case, carrying pouch) is limited to one (1) year.

Hardware Coverage: VeEX Inc. warrants hardware products against defects in materials and workmanship. During the warranty period, VeEX Inc. will, at its sole discretion, either

- Repair the products
- Replace hardware which prove to be defective

provided that the products that the customer elects to replace are returned to VeEX Inc. by the customer, along with Proof of Purchase, within thirty (30) days of the request by the customer, freight prepaid.

Software Coverage: VeEX Inc. warrants software and firmware materials against defects in materials and workmanship. During the warranty period, VeEX Inc. will, at its sole discretion, either

- Repair the products
- Replace software and/or firmware which prove to be defective

provided that the products that the customer elects to replace are returned to VeEX Inc. by the customer, along with proof of purchase, within thirty (30) days of the request by the customer, freight prepaid.

Additionally, during the warranty period, VeEX Inc. will provide, without charge to the customer, all fixes, patches and enhancements to the purchased software, firmware and software options. VeEX Inc. does not warrant that all software or firmware defects will be corrected. New enhancements attached to a software option require the option to be purchased (at the time of order or the time of upgrade) in order to benefit from such enhancements.

Limitations: The warranty is only for the benefit of the customer and not for the benefit of any subsequent purchaser or licensee of any merchandise (hardware, software, firmware and/or accessories).

Revoking the warranty: VeEX Inc. does not guarantee or warrant that the operation of the hardware, software or firmware will be uninterrupted or error-free. The warranty will not apply in any of the following cases:

- Improper or inadequate maintenance by the customer
- Damage due to software installed by the customer on the unit without prior authorization (written) from VeEX Inc.
- Unauthorized alteration or misuse
- Damage occurred from operating the unit outside of the environmental specifications for the product
- Improper installation by the customer

11.0 Product Specifications



The most recent product specifications can be found on the VeEX web site at www.veexinc.com.

12.0 Certifications and Declarations



Declaration of Conformity

What is CE?

The CE marking is a mandatory European marking for certain product groups to indicate conformity with the essential health and safety requirements set out in European Directives. To permit the use of a CE mark on a product, proof that the item meets the relevant requirements must be documented.

Use of this logo implies that the unit conforms to requirements of European Union and European Free Trade Association (EFTA). EN61010-1

For a copy of the CE Declaration of Conformity relating to VeEX products, please contact VeEX customer service.



ROHS Statement

What is RoHS?

RoHS is the acronym for Restriction of Hazardous Substances. Also known as Directive 2002/95/EC, it originated in the European Union and restricts the use of specific hazardous materials found in electrical and electronic products. All applicable products imported into the EU market after July 1, 2006 must pass RoHS compliance.

Click [here](#) for more information about RoHS compliance as it relates to VeEX products or go to www.veexinc.com.

13.0 About VeEX

VeEX Inc., an innovative, customer-focused communications test and measurement company, develops next-generation test and monitoring solutions for telecommunication networks and services. With a blend of advanced technologies and vast technical expertise, VeEX has developed products that diligently address all stages of network deployment, maintenance, and field service turn-up and integrate service verification features across DSL, fiber optics, CATV/DOCSIS, mobile backhaul and fronthaul (CPRI/OBSAI), next-generation transport network, fiber channel, carrier and metro Ethernet technologies, WLAN, and synchronization.

Visit us online at www.veexinc.com for the latest updates and additional documentation.

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