

FTTx PON Demo Kit



Features

- FTTx "PON-in-a-box" demo kit
- Configurable to various single and distributed splitter architectures
- Supports split ratios up to 1x128
- Includes 4 km fibre with connector, splice, and macro-bend events
- Includes multiple fibre rings to simulate feeder, distribution and drop fibres
- Includes OLS7-FTTH 1310/1490/1550 Laser Source to simulate active OLT
- Field portable in supplied hard carry case
- Demo procedure for in-service and out-of-service FTTx PON tests

Applications

- Train new FTTx PON installation and maintenance crews
- Demonstrate out-of-service PON tests including insertion loss and OTDR testing
- Demonstrate in-service PON tests including live fibre detection and non-disruptive OTDR testing on live PON
- Test OLT/ONT performance through various split ratios and network configurations

The FTTx PON Demo Kit from is designed to simulate a wide variety of FTTx PON architectures. It is field-configurable to implement both single splitter and distributed splitter PONs, including:

- Single splitter PON: 1x16, 1x32, 1x64, 1x128
- Distributed splitter PON: 1x4 + 1x8, 1x4 + 1x16, 2 x 1x8.

The field-portable FTTx PON Demo Kit may be used for lab or table-top FTTx PON demonstration, evaluation, and testing applications. The demo kit includes:

- Multiple splitters with split ratios of 1x2, 1x4, and 1x8;
- 4 km fibre network with connector, splice and macro-bend events;
- Fibre rings in various lengths up to 1 km to simulate distribution and drop fibres;
- Jumper cables and bulkhead adapters to configure various PON architectures;
- Splitters, fibre rings, and 4 km fibre network are terminated with SC/APC connectors
- OLS7-FTTH 1310/1490/1550 laser source to simulate downstream traffic at 1490 or 1550 nm
- Rolling, hard-shell carry case

The FTTx PON Demo Kit is designed for a variety of users and applications, including:

- Network designers: Configure and test various PON architectures in a lab environment
- Fibre Optic installation teams and trainers: Develop, verify and practice PON test methods
- Equipment manufacturers: Test and verify FTTx PON equipment designs on various PON configurations
- Sales engineers: Enable field-portable demonstrations of FTTx PON network and test equipment.

FTTx PON Demo Kit

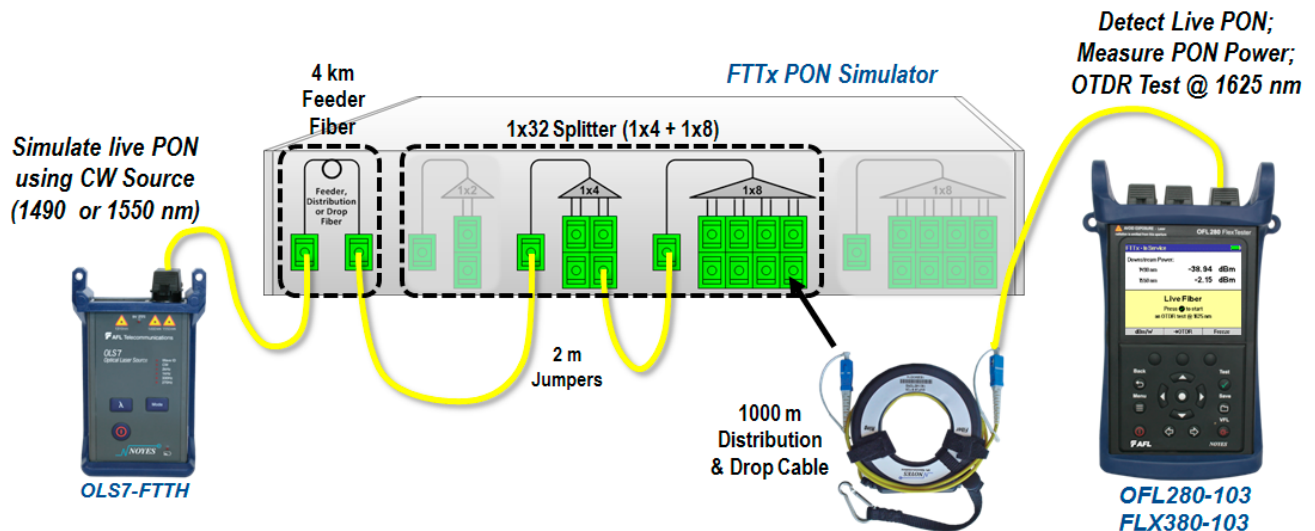
Typical Applications:

Demonstrate Live PON OTDR Test:

Troubleshooting a live PON presents a unique challenge to optical network maintenance technicians. In a live PON, service may be lost at one subscriber while other subscribers continue to receive service. The drop fibre at the out-of-service subscriber may be disconnected and downstream power levels at 1490 and 1550 nm may be checked without disrupting service to other subscribers. However, initiating an upstream OTDR test at 1310, 1490 or 1550 nm could disrupt service.

AFL's OFL280-103 and FLX380-103 FlexTesters include an integrated PON Power Meter and a ServiceSafe™ live PON OTDR. When the FlexTester is connected to a drop fibre on an in-service PON and the "Test" key is pressed, the FlexTester will automatically detect and measure downstream power levels at 1490 and 1550 nm. If downstream signals are detected, the FlexTester will not permit an OTDR test to be initiated at 1310 or 1550 nm, while allowing a Live PON OTDR test to be performed using an out-of-band 1625 nm wavelength. The Live PON OTDR's filtered detector prevents any downstream signals from interfering with the 1625 nm OTDR test.

The FTTx PON Demo Kit may be used to demonstrate Live PON OTDR tests using the included OLS7-FTTH to simulate downstream signals from the OLT at either 1490 or 1550 nm, as shown below:

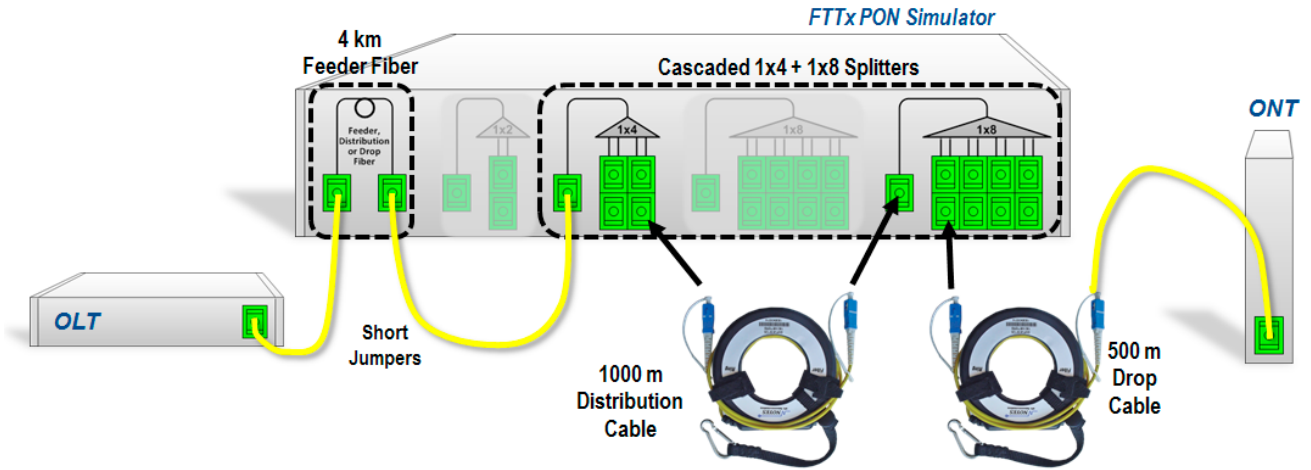


Evaluate FTTx PON Equipment Performance on Various FTTx PON Architectures

An FTTx PON Demo Kit may also be used to test new FTTx PON equipment, such as GPON, EPON, XGPON, or 10GEPON OLTs and ONTs on single or distributed PON splitter architectures with split ratios up to 1x128. Various splitters, jumper cables and fibre rings included in the PON Demo Kit may be used to configure each of the different architectures and split ratios. Users may configure longer networks using their own fibre, or custom-ordered AFL network simulators.

The illustration below shows an FTTx PON with a distributed splitter architecture in which cascaded 1x8 splitters are separated by a 1000 m fibre ring.

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Kit Contents

ITEM	QUANTITY	DESCRIPTION
FTTx PON Splitter Box	1	Includes 1x2, 1x4, and 2 x 1x8 splitters with SC/APC connectors; Includes 4 km fibre with connector, fusion splice and macrobend events
Fibre Rings	4	200, 300, 500, 1000 m single-mode fibre rings with SC/APC connectors
SC/APC Jumpers	3	3 x 2 m singlemode jumper fibres with SC/APC connectors
Hybrid Jumpers	2	2 x 2 m singlemode SC/UPC to SC/APC jumper fibres
OLS7-FTTH	1	1310/1490/1550 nm Laser Source (CW, 270 Hz, 330 Hz, 1 kHz, 2 kHz)
PON Demo Procedure	1	Procedure to test FTTx PONs using OTDR, source, power meter
Carry Case	1	Rolling, hard-shell carry case

Ordering Information

MODEL	DESCRIPTION
PONS-00-0900PZ	FTTx PON Demo Kit

The FTTx PON Demo Kit includes room in the carry case for additional FTTx PON test sets, including the following:

MODEL	DESCRIPTION
OFL280-103	OTDR/ Live PON OTDR (41/38/38 db Dynamic Range @ 1310/1550/1625) with PON Power Meter, OLS, OPM, VFL
FLX380-103	OTDR/ Live PON OTDR (34/32/30 db Dynamic Range @ 1310/1550/1625) with PON Power Meter, OLS, OPM, VFL
OPM4-FTTx	1490/1550 nm PON Power Meter
OFI-FTTx	Active ONT Detector

