OPTICAL FREQUENCY DOMAIN REFLECTOMETER (OFDR)

New

OFDR-APX

Product description:

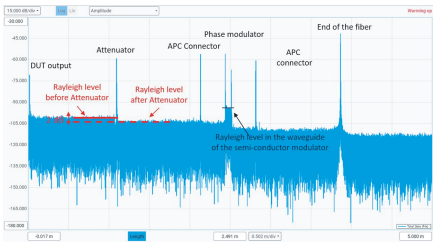
APEX Technologies OFDR-APX series is an Optical Frequency Domain Reflectometer with high resolution < 8 µm, a dynamic range of 120 dB and a measurement range of up to 350 m. Our system is able to analyze the back reflection and transmission characteristics of fiber optic devices/components in the spatial domain. This allows the measurement of insertion loss, return loss and polarization effects of fiber components, in free space and within photonic integrated circuits.

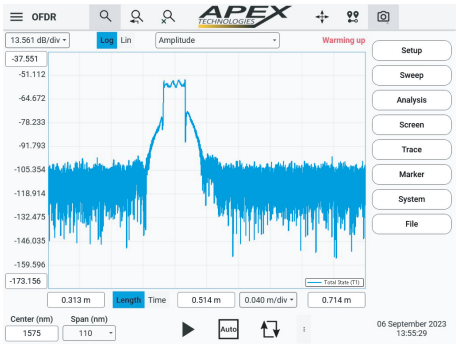
Key Features

- Ranges from 720 nm to 1630 nm
- Resolution < 8 µm
- Measurement range up to 350 m
- High dynamic range of 120 dB
- Reflection and transmission

Measure all your events with top specifications!

Measurement example of a phase modulator (SMF28 fiber) using the 8 µm resolution.





High resolution bragg grating measurement

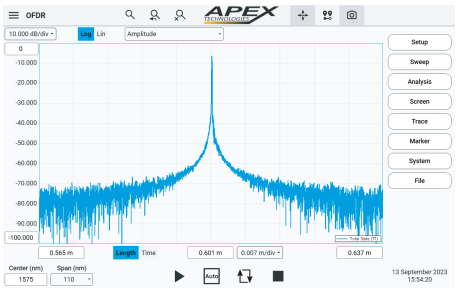
APEX Technologies OFDR allows to measure the transfert function of photonic integrated circuits and optical components with a resolution of 8 µm (zero dead zone).

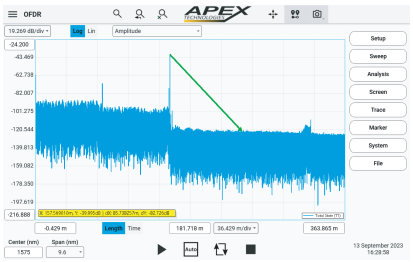
Applications

- Photonic Integrated Circuit (PIC)
- Optical communications (data center)
- Passive optical components (Switches, waveguides,filters...)
- Verify the quality of fiber connector and slices
- Optical cable maintenance and construction
- Civil engineering
- Aeronautics

OFDR highest dynamic range in the market > 120 dB

Our high dynamic range offers greater scope for measurements in a variety of conditions. There are no limitations for high-reflectivity measurements. This can be useful in variable measurement environments.



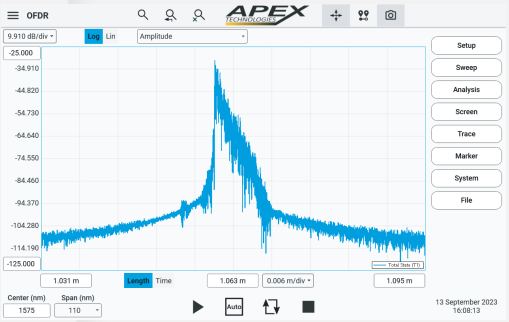


Long measurement distance (up to 350 m) measurements

APEX Technologies OFDR enables measurements of fibered components with a measurement range of up to 350 m. Any measurement range can be customized under request.

Multi-mode fiber OFDR characterization

Thanks to our high dynamic range, we are able to characterize multi-mode fibers despite the fact that there is high insertion loss. The mode dispersion observed observed in this measurement is a clear signature of multi-mode fiber.



Technical specifications

Wavelength Range*	
C+L Band	1520 - 1630
Length Mode*	
Reflection mode (m)	16, 60, 350
Transmission mode (m)	32, 120, 700
Two-Point Sampling Resolution (µm)	7.8 ; 15.4 ; 87.0
Wavelength Absolute Accuracy (pm)	±1.5
Wavelength relative Accuracy (pm)	< 0.5 pm
Maximum Wavelength scan range (nm)	110, 55, 9.6
Maximum Optical Power (dBm)	6
Measurement Time	See Next table
Reflection Mode	
Return Loss Dynamic Range (dB)	122
Insertion Loss Dynamic Range (dB)	18
Sensitivity for each polarization (dB)	-135
Total Range* total polarization (dB)	-10 to -132
Resolution (dB)	±0.2
Accuracy (dB)	±0.4
Length Repeatability (µm)	±12 (std@3*sigma)
Transmission Mode	
Insertion Loss Dynamic Range (dB)	115
Sentivity (dB)	-118
Total Range (dB)	0 to -115
Resolution (dB)	±0.2
Accuracy (dB)	±0.4
Repeatability (µm)	±24 (std@3*sigma)
Interface	
Remote control	Ethernet
Connector	FC/APC

*** Can be customized under request**

**** Custom number of modes 1, 2, 3**

***** Table of best resolution by length**

Datasheet scan time*

Mode**	Resolution	Span	Time(s)
16 m - High resolution	7.74	110	15
16 m - Low resolution	124.4	6.875	3
60 m - High resolution	15.4	55	21
60 m - Low resolution	241.4	6.875	4
350 m - High resolution	86.23	9.6	22
350 m - Low resolution	181.35	4,8	12

Custom length/resolution***

Length	Span (nm)	Resolution (µm)	Estimated meas. Time (s)
8	110	7.8	6
32	110	7.8	22
60	110	7.8	36
90	78	10.8	36.5
100	71	12	36.5
180	39	21.5	36.5
200	35	24	36.5
250	28	30	36.5
300	23	36	36.5
350	19	43	36.5

Custom sensitivity/saturation level

Configuration	Saturation level (dB)	Sensitivity (dB)
0	-10	-135
1	-5	-125
2	No Saturation	-110

Stand-alone OFDR benchtop

APEX technologies now proposes compact and stand-alone benchtop with many possibilities of remote control and a user-friendly interface

OFDR-APX