

# Fiber, Transport, and Business Services Test Solutions for HFC Networks

## Fiber Inspection and Test

### Fiber Inspection and Cleaning



**P5000i**  
**Integrated Inspection and Test**



**FiberChek Probe**



**FiberChek Sidewinder**

### Power Meters, Light Sources, and Loss Test Sets



**SmartPocket RFOG**  
high power level power meters and light sources



**SmartClass Fiber OLP-87**  
PON Power Meter

### Fiber Accessories



**Visual Fault Locator (VFL)**



**Live Fiber ID**



**Fiber Cleaning**

## Fiber Characterization



**T-BERD/MTS-8000E or T-BERD/MTS-6000**  
Advanced Fiber Characterization Kit OTDR, PMD, CD, AP  
(Modules fit both T-BERD/MTS-8000 and T-BERD/MTS-6000)

## OTDRs

### OTDR, CWDM & DWDM OTDR, and PON-optimized OTDR modules



**SmartOTDR**



**T-BERD/MTS-2000**  
Handheld Modular Test Set



**T-BERD/MTS-4000 V2**  
Dual Module Mainframe



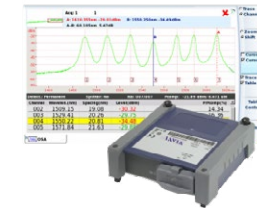
**T-BERD/MTS 4000 V2**  
with MPO Switch and Cable-SLM

## Optical Spectrum Analysis

### CWDM, DWDM, and ROADM OSA modules and channel checkers



**T-BERD/MTS-6000A**  
with OSA110M or 110R



**CWDM channel checker - COSA module**  
**DWDM channel checker module**



**OCC-55 for CWDM**  
**OCC-56 for DWDM**  
Optical Channel Checkers

## Transport and Business Services (MetroE, Cell Backhaul, and Others)



**T-BERD/MTS-5800 100G**  
and **SmartClass 4800**



**T-BERD/MTS-5800**  
Handheld to 100G, MetroE, Cell Backhaul, 10 GE, TrueSpeed, PRI-ISDN, VoIP (SIP), Fiber testing



**T-BERD/MTS-6000A and T-BERD/MTS-8000E**  
Modular Test Platforms (Transport to 100 G), Ethernet 10 Mbps to 100 G, DS1 to OC-192, CPRI, Fibre Channel, TrueSpeed, One-Way Latency, Fiber testing



## Centralized Remote Testing



**Virtual Test and Activation**



**VSA-RF100 and VSA Video**



**TrueSpeed VNF**  
Virtual RFC 6349 (TrueSpeed)



**Optical Network Management System (ONMSi)**  
24/7 Remote Fiber Network Monitoring



**SmartOTU**  
24/7 fiber monitoring standalone probe

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## Fiber Characterization

Tests to Perform	Tool Category	T-BERD/MTS-8000E	T-BERD/MTS-6000A
Link characterization (OTDR, IL, ORL, CD, PMD, AP)	Link characterization	■	■
Network characterization (CD, PMD, AP through amps, active devices)	Network characterization	■	■
Test automation (script, optical switch)	Link characterization	■	
Single fiber connection to run multiple tests	Link characterization	■	■

## Fiber Inspection and Test

Tests to Perform	Tool Category	Fiber Inspection Kits	FiberChek Probe	FiberChek Sidewinder	T-BERD/MTS-8000E	T-BERD/MTS-6000A	T-BERD/MTS-5800	T-BERD/MTS-4000 V2	T-BERD/MTS-2000	Smart OTDR	SmartClass Handhelds	PocketClass Handhelds	Fiber Accessories
Measure power levels	Optical power meter	■			■	■	■	■	■	■	■	■	■
Visual (red light) fault location	VFL	■			■	■	■	■	■	■	■	■	■
Detect live traffic	Fiber identifier												■
Optical test source	Light source				■	■		■	■	■	■	■	
Automated pass/fail analysis	Connector inspection	■	■	■	■	■	■	■	■	■			
Evaluate connector end-face quality	Connector inspection	■	■	■	■	■	■	■	■	■			
Auto focus & test			■	■									
MPO pass/fail analysis			1 test = 1 fiber	1 test = All fibers									

## OTDRs

Tests to Perform	Tool Category	T-BERD/MTS-8000E	T-BERD/MTS-6000A	T-BERD/MTS-5800	T-BERD/MTS-4000 V2	T-BERD/MTS-2000	Smart OTDR
Fiber length and break location	OTDR	■	■	■	■	■	■
Evaluate event loss, reflectance on connectors and splices	OTDR	■	■	■	■	■	■
Measure link loss	OTDR, loss test set	■	■	■	■	■	■
Detect macrobends	OTDR (multi-wavelength), VFL	■	■	■	■	■	■
Evaluate fiber paths on CWDM networks (length, splice, connector loss, reflectance, ORL)	CWDM OTDR	■	■	■	■	■	■
Evaluate fiber paths on DWDM networks (length, splice, connector loss, reflectance, ORL)	DWDM OTDR	■	■	■	■	■	■
Optical return loss	OTDR, return loss meter	■	■	■	■	■	■
External MPO Switch	OTDR		■		■	■	■
Internal/Integrated MPO switch	OTDR				■		
Automated bi-directional IL, ORL & OTDR	OTDR	■	■	■	■	■	■
Test result management and reporting	Instrument and Cloud	■	■	■	■	■	■
Modular test set	Multi-functional	■	■	■	■	■	■

## CWDM/DWDM/ROADM OSA

Tests to Perform	Tool Category	T-BERD/MTS-8000E	T-BERD/MTS-6000A	T-BERD/MTS-5800	T-BERD/MTS-4000 V2	T-BERD/MTS-2000	SmartClass Handhelds
Verify CWDM wavelengths/power levels	CWDM channel checker or OSA	■	■	■	■	■	■
CWDM spectral analysis (optical power and wavelength per channel, drift)	COSA or OSA	■	■	■	■	■	■
Evaluate fiber paths on CWDM networks (length, splice, connector loss, reflectance, ORL)	CWDM OTDR	■	■	■	■	■	■
Verify DWDM wavelengths/power levels	DWDM channel checker or DWDM OSA	■	■	■	■	■	■
DWDM spectral analysis (optical power and wavelength per channel, drift, OSNR)	DWDM OSA	■	■	■	■	■	■
Evaluate fiber paths on DWDM networks (length, splice, connector loss, reflectance, ORL)	DWDM OTDR	■	■	■	■	■	■
In-band spectral analysis (optical power and λ per channel, drift, in-band OSNR on ROADMs and/or advanced laser overlapping spectra)	ROADM (in-band) OSA	■	■				

## Transport and Business Services

Tests to Perform	Tool Category	T-BERD/MTS-8000E	T-BERD/MTS-6000A	T-BERD/MTS-5800	T-BERD/MTS-5800 100G	SmartClass 4800
40/100 G	Layer 1/2/3 Services	■	■	■	■	
10 G	Layer 1/2/3 Services	■	■	■	■	■
MetroE (Ethernet to GE)	Layer 1/2/3 Services	■	■	■	■	■
Cell backhaul (Ethernet)	Layer 1/2/3 Services	■	■	■	■	■
DS1/DS3	Layer 1/2/3 Services	■	■	■	■	DS1
STS to OC-192 (SONET)	Layer 1/2/3 Services	■	■	■	■	
RFC 2544 and Y.1564	Layer 1/2/3 Services	■	■	■	■	■
RFC 6349 (TrueSpeed)	Layer 4 Services	■	■	■	■	■
PRI-ISDN	Layer 1/2/3 Services	■	■	■	■	■
VoIP (SIP)	Layer 1/2/3 Services	■	■	■	■	■
Full line-rate capture	Layer 1/2/3 Services	■	■	■	■	■
One-way delay	Layer 1/2/3 Services	■	■	■	■	■
Upgradeable for fiber testing	Layer 1/2/3 Services	■	■	■	■	

## Centralized Remote Testing

Tests to Perform	Tool Category	Virtual Test and Activation	TrueSpeed VNF	VSA	VSA-RF100	ONMSI	SmartOTU
10 GE	Remote test and monitor	■					
MetroE (Ethernet to GE)	Remote test and monitor	■					
Cell backhaul	Remote test and monitor	■					
TWAMP	Remote test and monitor	■					
RFC 6349 testing (TrueSpeed)	Remote test and monitor	■	■				
24/7 fiber monitoring System	Remote test and monitor					■	
24/7 fiber monitoring standalone probe	Remote test and monitor						■
Video service assurance	Remote test and monitor			■	■		