Handheld Optical Fiber & Transport Testing
Network Master™ & Access Master™ Family

400G Testing AND Beyond
4G/LTE Field Operations Use Test Cases

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Auto-Focus Fiber Optical Connector Inspection

G0382A High speed measurement with fully Automated one-button operation

✓ Automated focus
✓ Automated image centering
✓ Automated analysis
✓ Automated image capture

G0382A with Network Master Pro MT1000A

VIP Test Summary

<table>
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<tr>
<th>Connector</th>
<th>LC_UPC</th>
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<tr>
<td>File Name</td>
<td>vip_190408_0001.vipi</td>
</tr>
<tr>
<td>Probe Model</td>
<td>G0382A</td>
</tr>
<tr>
<td>Test Profile</td>
<td>SM UPC &gt;45</td>
</tr>
<tr>
<td>Result</td>
<td>PASS</td>
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</table>
OTDR, OLTS & Visual Fault Locator

Expert Advice & Troubleshooting Identifies possible event failures & causes

Toggle between OTDR measurements in both Fiber Visualizer & Trace View

Easy 1-button Auto Test Mode or Manual Test Mode Capable

Color-coded Pass/Fail events displayed in distance and loss (dB)

Event Preview window display trace, reflectance (dB) and distance

Visual Fault Locator and Optical Power Meter accessible during OTDR measurements

Fiber Visualizer© OTDR GUI software

Fiber Optic Cable

MT9090A Network Master

MT9085A ACCESS Master

©Anritsu Company
Pluggable Optics Module Verification Test

Is it Single-mode or Multi-mode?
Does it support GbE Ethernet?
Does it support 10GbE?
Ethernet Frame Generator & Monitor

- Traditional test of physical connection
- Generates and detects test patterns
- Counts errors in received test pattern
- Color-coded errors and alarms for easy overview
- Pattern generation:
  - Unframed
  - Layer 2 (Mac address)
  - Layer 3 (with IP header)
  - Layer 4 (with UDP/TCP header)
- Detects sequence errors and loss of sequence synchronization
- Frame loss count and frame loss seconds

10Mbps to 100Gbps Ethernet connection

Network Switch / Router Device

Network Master Pro
MT1000A
10 Mbps to 100 Gbps
## 5G/xHaul Field Operations Use Test Case

### Use Case

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<td>Ethernet / eCPRI High Resolution Latency</td>
<td>MU100011A: 100G Multirate Module</td>
<td>Uni-directional Latency requirement for URLLC:</td>
</tr>
<tr>
<td></td>
<td>MU10002xA: OTDR Modules</td>
<td>3GPP: 0.5ms</td>
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<tr>
<td></td>
<td>MT1000A: Mainframe</td>
<td>IEEE 802.3cm: 100us (RU-CU)</td>
</tr>
<tr>
<td>NGFI-I &amp; NGFI-II high throughput requirements</td>
<td></td>
<td>IEEE1913.1: 50us (RU-CU)</td>
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<tr>
<td>5G Network Transport Timing between EGM to gNB</td>
<td></td>
<td>25Gbps/RU * 3(RU/route) * 6(Route/NGFI-I) = 400Gbps / Ring</td>
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<tr>
<td></td>
<td></td>
<td>5G Network Timing Requirements Timing Error (TE) for each node by Category</td>
</tr>
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</table>
5G Mobile xHaul Transport Network Test Requirements

Network Elements

5G xHaul Transport

NGFI-I

DU

DU

NGFI-II

CU

High Resolution Latency (delay) Measurements

Trx Signal Latency Measurement

PTP-based Time Synchronous Measurements

ITU-T G.8275.1/2 Time Transfer Error measurement

eCPRI/RoE Throughtput Measurements

eCPRI/
RoE
Throughtput
Measurements

ITU-T G.8275.1/2
Time Transfer Error
measurement