

# Redefining Transport Testing

## MT1100A Network Master Flex

MU110010A 10G Multirate Module  
MU110011A 100G Multirate Module  
MU110012A 40/100G Module CFP2

Today's core and metro communications networks are implementing 100 GigE and OTN technologies rapidly to provide sufficient bandwidth supporting the explosive increase in mobile communications data. These high-bit-rate networks demand very high reliability due to the large data volumes and variety of client signals in use. Consequently, every stage from R&D through to manufacturing, installation, and maintenance, requires precision testing and verification of network equipment and transport devices.

The all-in-one Network Master Flex MT1100A supports all the latest communications network technologies. Selecting and installing up to two modules from a range of three module options supports all-in-one R&D, manufacturing, installation and maintenance tests of network and transport equipment operating at bit rates from 1.5 Mbps to 100 Gbps. The large, 12.1-inch color LCD touch panel with easy-to-use GUI plus remote operation of a full range of test functions over an Internet connection greatly improves test efficiency and helps cut costs.



### Key Benefits and Features:

- All-in-one transport tester
  - supports testing from 1.5 Mbps to 100 Gbps
- Up to 4 ports at all rates
- CFP, CFP2, CFP4 (with extender), CXP QSFP+, SFP+ and SFP interfaces
- Electrical interfaces of CAUI, XLAUI using optional extenders
- Easy and intuitive GUI
- WLAN\*/Bluetooth\*/LAN connectivity
- PDF, CSV and XML report generation for documenting test results
- Remote operation using VNC or dedicated GUI operation software via Ethernet, WLAN
- Remote control (scripting, via Ethernet, WLAN, GPIB)
- Portable design for maximum field portability
- High performance in small form factor
- Modular platform ensuring maximum return on investment

### Key Applications:

- Core and metro networks installation and maintenance
  - OTN up to OTU4 including mapping of Ethernet, CPRI, Fibre Channel and SDH/SONET client signals, multistage mapping and FEC (Forward Error Correction) also supporting O.182 Poisson error addition
  - Testing and verification of new OTN functions ODU0, ODU2e, ODU3e1, ODU3e2, ODU4, ODUflex
- Carrier Class Ethernet installation and troubleshooting
  - Ethernet testing up to 100 Gbps including RFC 2544, RFC 6349 and Y.1564
  - Ethernet OAM
  - MPLS-TP and PBB/PBB-TE
  - IP Channel Statistics (up to 10 Gbps)
  - Frame capture for advanced troubleshooting
- Mobile backhaul installation and verification
  - Synchronous Ethernet testing up to 10 Gbps ITU-T G.826x, IEEE 1588 v2
- Mobile fronthaul installation and verification
  - CPRI/OBSAI up to 10.1376 Gbps
  - Pass through monitoring
  - CPRI over OTN
- Powerful Storage Area Networking (SAN) testing
  - Fibre Channel up to 10 Gbps
- Quick and easy testing of SDH/SONET and PDH/DSn networks
  - SDH/SONET (STM-1 to 256/OC-3 to 768)
  - PDH/DSn (E1, E3, E4, DS1, DS3)
- Event log
- Fiber end face inspection using VIP

### Key Specifications:

- Dimension/Mass (Excluding projections)
  - MT1100A + MU110011A + Power supply module  
320 (W) × 225 (H) × 187 (D) mm, ≤9.5 kg (with battery)  
320 (W) × 225 (H) × 177 (D) mm, ≤8.5 kg (without battery)
  - MT1100A + MU110012A + MU110012A + Power supply module  
320 (W) × 225 (H) × 237 (D) mm, ≤10.5 kg (without battery)
  - MT1100A + MU110010A + MU110012A + Power supply module  
320 (W) × 225 (H) × 223 (D) mm, ≤10.5 kg (with battery)
- Power supply  
AC power or Large-capacity li-ion battery
- Test interface
  - OTN: CFP, CFP2, CFP4 (with extender), QSFP+, SFP/SFP+ Ethernet  
100 Gbps: CFP, CFP2, CFP4 (with extender), CXP  
40 Gbps: CFP, CFP2, CFP4 (with extender), QSFP+  
10 Gbps: SFP+  
1 Gbps, 100 Mbps: SFP, RJ45  
10 Mbps: RJ45
  - Fibre Channel: SFP/SFP+ (up to 4 ports)  
SDH/SONET: CFP, SFP/SFP+, BNC  
PDH/DSn: BNC, RJ48, Bantam
- Supported protocol
  - OTN: OTU1, 2, 1e, 2e, 1f, 2f, 3, 3e1, 3e2, 4
  - Ethernet: 10 Mbps, 100 Mbps, 1 Gbps, 10 Gbps, 40 Gbps, 100 Gbps
  - CPRI: 614.4, 1228.8, 2457.6, 3072.0, 4915.2, 6144.0, 9830.4, 10137.6 Mbps
  - OBSAI: 768, 1536, 3072.0, 6144.0 Mbps
  - Fibre Channel: 1GFC, 2GFC, 4GFC, 8GFC, 10GFC
  - SDH/SONET: STM-1 to 256, OC-3 to 768
  - PDH/DSn: E1, E3, E4, DS1, DS3
- Service interface  
Ethernet, WLAN, USB, GPS

\*: Available for certified countries and regions including USA, Canada, Japan and all EU countries.

### Test Modules:

- 10G Multirate Module MU110010A  
Up to 2 ports: 1.5 Mbps to 10 Gbps  
(SFP/SFP+, RJ45, BNC, RJ48, Bantam)



- 100G Multirate Module MU110011A  
Single port: 40 Gbps (CFP) or 100 Gbps (CFP)  
Up to 2 ports: 10 Mbps to 40 Gbps (QSFP+, SFP/SFP+, RJ45)



- 40/100G Module MU110012A  
Up to 2 ports: 40 Gbps to 100 Gbps (CFP2, CXP, QSFP+)

