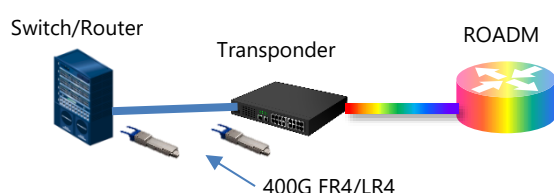


400ZR/OpenZR+/OpenROADM Pluggable Coherent Measurement

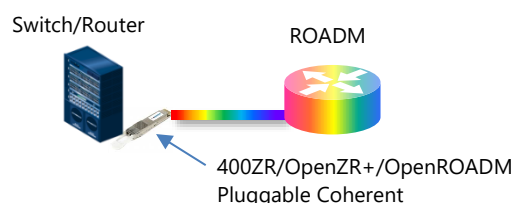
Network Master Pro MT1040A/MU104014B

New Transmission Network Era

The era of conventional transponder-based transmission networks is changing as switches and routers adopt 400ZR/OpenZR+/OpenROADM pluggable coherent transponders with direct coherent signaling transmission technology. This technology paradigm shift not only simplifies and reduces the amount of network equipment as well as cuts costs, but it also plays a key role in introduction of Open technology into ROADM networks by allowing network operators themselves to directly monitor and manage the quality of live networks.



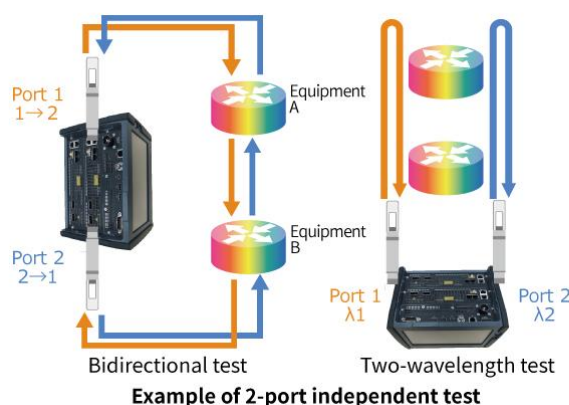
Transponder-based Transmission Network



Pluggable Coherent-based Transmission Network

Competent Powerful hardware for Evaluating Advanced Hardware

Generally, 400ZR/OpenZR+/OpenROADM transceivers have high power consumption levels of about twice that of 400G FR4/LR4 used on transponder interfaces. As a result, both the switches and routers as well as the tester require excellent hardware performance. The Network Master Pro MT1040A easily handles 400ZR/OpenZR+/OpenROADM transmission tests at environmental temperatures up to 40°C without requiring external cooling. Furthermore, the two fully independent ports support flexible configurations for comprehensive pre-deployment testing.



Example of 2-port independent test



Example of continuous monitoring of media-side quality

Flexible Settings for All Network Environments

- Grid, Wavelength, Tx Power settings
- Coherent monitoring (OSNR, SOP, CD, etc.) via OIF CMIS
- Media-side FEC monitoring (PreFEC BER) via OIF CMIS
- 1x 400G, 4x 100G, 2x 100G, 1x 100G Ethernet client signal
- Flexible Layer-2 to Layer-4 configuration



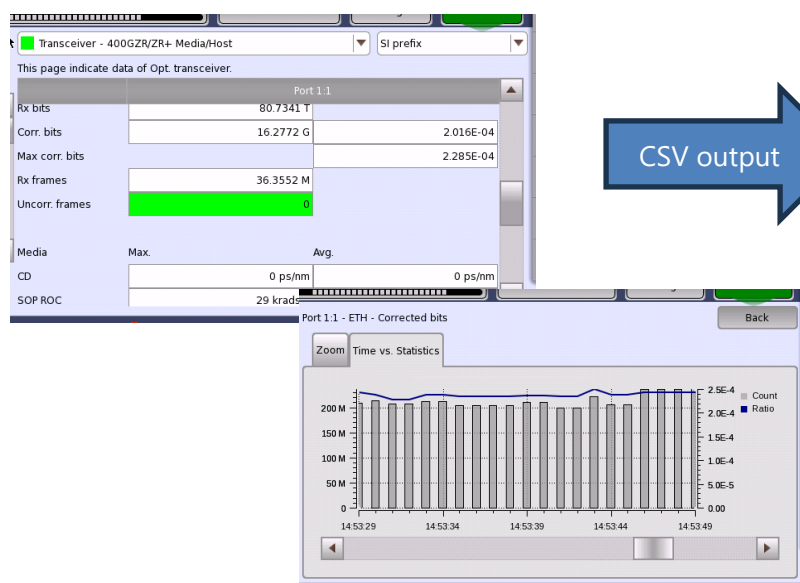
Example of client Settings

Unique History Function Monitors Live Network Changes

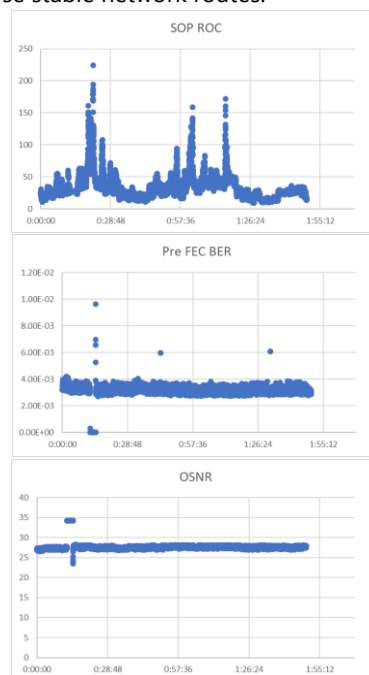
The condition of network transmission equipment as well as changes in the external environment affect transmission quality, which can be monitored by observing changes in parameters such as OSNR, SOP, CD, etc. Observing both long-term changes in these parameters as well as transient phenomena is difficult using temporary monitoring. In addition, simultaneously monitoring closely related parameters, such as OSNR and PreFEC BER, can help versatile capture of phenomena.

MT1040A automatically saves data captured via OIF CMIS at a minimum interval of 1 second. Not only can results be confirmed at on-screen graphs but they can also be output as .csv files for later detailed analysis and comparison.

This function helps network operators themselves troubleshoot problems and choose stable network routes.



Example of coherent transmission measurement



Comparison on the same time axis

Main Configuration

Model	Name	Remarks
MT1040A	Network Master Pro	
MT1040A-020	Activate for 400G Dual/100G Quad Option	Dual-module configuration
MU104014B	400G(QSFP-DD) Multirate Module	
MU104014B-033	Ethernet 400G Single Channel	Supports 1x 400G client
MU104014B-036	OpenZR+ Multi-Client BERT	Supports 1x 100G, 2x 100G, 4x 100G clients

Refer to MT1040A Data Sheet for other modules and options.