DATA SHEET

NETWORK DESIGN TOOL FOR XTM SERIES

TRANSPORT NETWORK DESIGN TOOL (TNDT)

Design Tool for Planning of XTM Series Networks

Transport Network Design Tool (TNDT) is an important tool in the implementation of new XTM Series networks as well as upgrades to installed XTM Series networks.

One of the first tasks when planning the design of an XTM Series network is to verify that the network fulfills the optical limits set by products, fibers and traffic matrices. This is where the TNDT provides significant help.

Calculation of Optical Attributes

Calculation of optical signal to noise ratio (OSNR), optical input power and dispersion per wavelength/service is of great importance for the overall performance of the optical network.

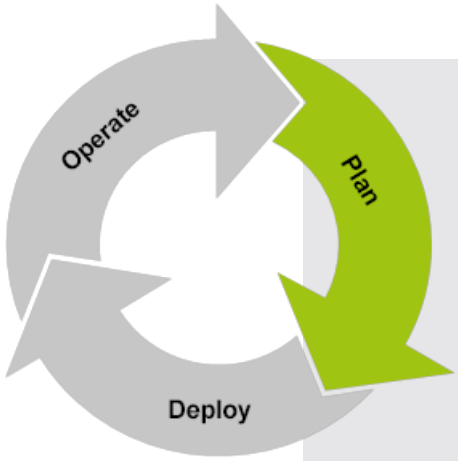
Calculation of OSNR

The OSNR calculation is given by fiber data in combination with selected amplifiers in the system. The calculation result gives information about which transponders/muxponders can be used in the system. It also gives information about the maximum distance allowed for any wavelength in the network.

Guard channels and OSNR penalty are calculated individually per channel on 10G, 40G and 100G and on mixed systems 10G/40G/100G.

Calculation of Optical Input Power

Optical input power calculation is based on fiber data in combination with attenuation values from optical multiplexers/demultiplexers and other devices that add attenuation to the system. Based on the calculated optical input power, transceivers can be selected that yield optimal system performance.



Transport Network Design Tool (TNDT) Helps Network Operators Plan and Tune Their XTM Series-based Optical Networks for the Most Efficient Network Design.

Key benefits:

- Automated calculation of optical attributes, removing the need for manual calculations
- Validates planned network design, assuring a sustainable network deployment
- Optimizes optical performance, assuring a cost-efficient optical network design
- Provides assurance of a proper design in an optical transmission result report (PDF format)
- Provides analysis and estimation of variable optical attenuator (VOA) and amplifier settings

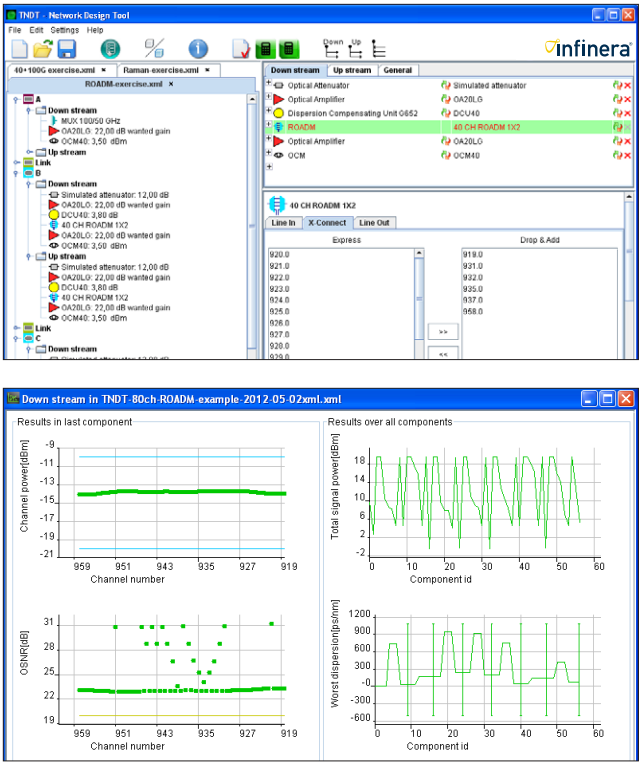


Fig 1. Two Screenshots from TNDT Showing the Optical Performance of an 80-channel ROADM Example.

Calculation of Chromatic Dispersion

Chromatic dispersion is a vital parameter for any optical network. The TNDT calculates the chromatic dispersion throughout the system end to end, as well as for any partial segment in the network.

Validation of Planned Design and Optimization of Optical Performance

TNDT validates the planned design and provides a clear visualization of the result for both upstream and downstream paths, as well as a matrix for paths throughout the network.

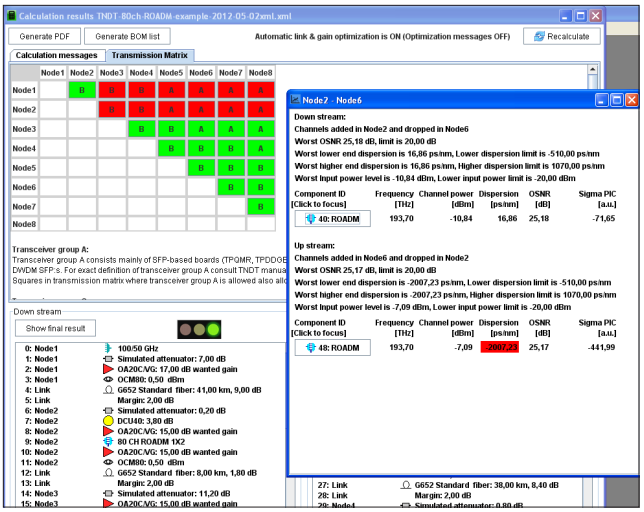


Fig 2. Validation Matrix.

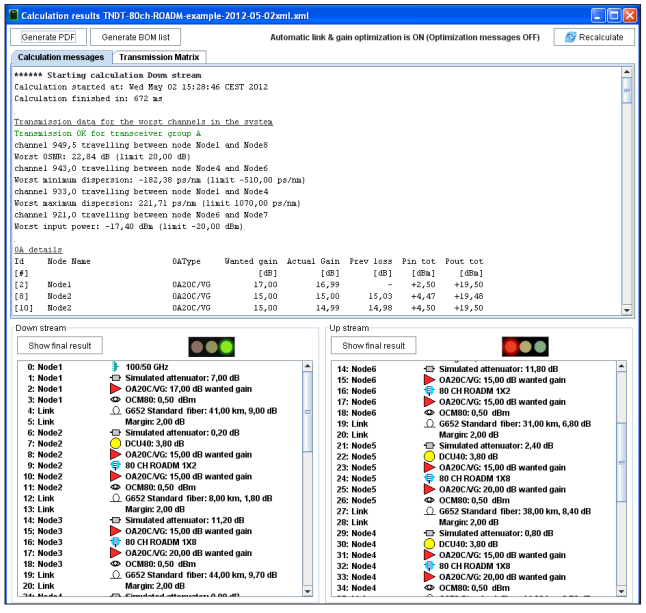


Fig 3. Upstream and Downstream Validation.

The planned design will be considered acceptable if OSNR, optical input power and chromatic dispersion are within design specifications.

PDF Report of Optical Transmission Result

A printable report of system verification can be generated.

Analysis and Estimation of VOA and Amplifier Settings

TNDT automatically provides suggested settings for VOAs (attenuation) and amplifiers (gain).

This results in an easier onsite installation as the field engineer will be provided with suggested attenuation levels for these optical components and other items such as patch cables.

Specifications

Software Recommendations	Microsoft Windows 7, Java 8 Windows XP

Specifications and Features Are Subject to Change

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