Fraunhofer
Heinrich Hertz Institute

MULTI-TERABIT TEST SOLUTION

AT A GLANCE

- Multi-Terabit testing capability for multi-format, flexi-grid and flexi-rate optical transport systems up to 54 Tb/s
- Highly scalable modular design adaptable for customer specific requirements
- Up to 272 Gb/s per carrier (in case of 16-QAM)
- Up to 200 DWDM carriers
- Narrow line width lasers in a 19" high density laser rack
- Up to 16 sychnronized electrical data streams
- 16 MBit waveform memory
- Easy to use GUI-based control
- Turn-key custom systems

Solution Building Blocks

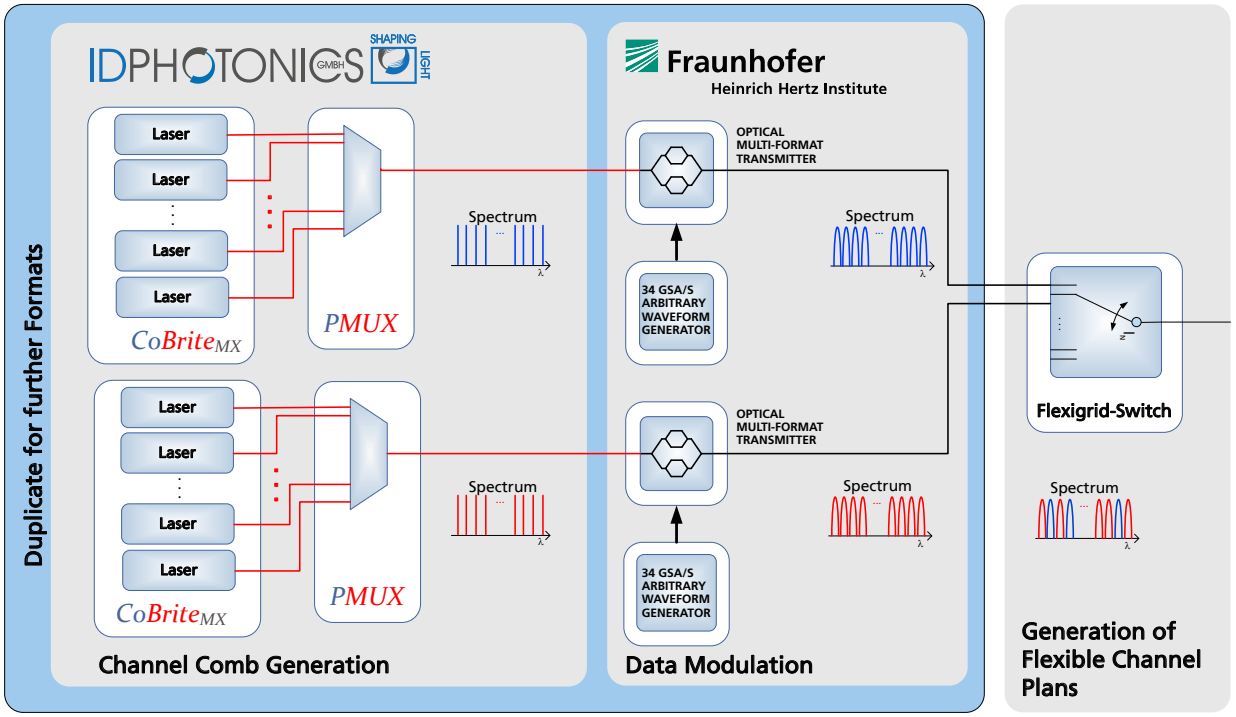
- 34 GSa/s ARBITRARY WAVEFORM GENERATOR
- OPTICAL MULTI-FORMAT TRANSMITTER with software-based predistortion
- *CoBrite*$_{MX}$ Highly scalable multi carrier laser platform
- *PMUX* Polarization maintaining multiplexer
- Graphical user interface (GUI)
- Digital signal processing (DSP) library

Powered by

IDPHOTONICS GMBH SHAPING LIGHT

ID Photonics GmbH
Anton-Bruckner-Straße 6
85579 Neubiberg | Germany
phone +49 89 201 899 16
email info@id-photonics.com
www.id-photonics.com

Fraunhofer
Heinrich Hertz Institute



Application example Generation of flexible channel plans with multiple modulation formats

Key Specifications

CoBrite$_{MX}$

Spectral line width	100 kHz
Carrier frequencies C-band / L-band	191.2 - 196.25 THz / 186.3 - 191.15 THz
Output power	up to +16 dBm
Frequency accuracy	-1.5 to +1.5 GHz
Side mode suppression ratio	up to 55 dB

PMUX

Insertion loss	< 6 dB
Uniformity across band	< 1.5 dB
3dB bandwidth in channel	0.6 nm
Channel configuration	customer specified
Polarization extinction ratio	20 dB typical

OPTICAL MULTI-FORMAT TRANSMITTER

Number of RF input channels	up to 4
Modulation formats	OOK, DPSK, QPSK, 16-QAM, etc.
Bitrate	up to 272 Gb/s (in case of 16-QAM)
Software	digital signal processing library

34 GSa/s ARBITRARY WAVEFORM GENERATOR

Sampling rate	up to 34 GSa/s
Number of synch. channels	up to 16
Memory	16 Mbit per channel
Bandwidth / Resolution	typ. 18 GHz / 6 bit

The Fraunhofer HHI

One of the prime research and development foci of the Fraunhofer Heinrich Hertz Institute lies in photonic networks, components and systems and their application in fields such as digital media.

Contact

Photonic Networks and Systems
Fraunhofer Heinrich Hertz Institute

Einsteinufer 37 | 10587 Berlin | Germany
phone +49 30 31002-414
fax +49 30 31002-250
email products-pn@hhi.fraunhofer.de

www.hhi.fraunhofer.de/MultiTerabitSolution

QUALITY MANAGEMENT SYSTEM in the field of photonics GLOBALCERT CERTIFIED DIN EN ISO 9001