

# RF over Glass

## The cable way of delivering Fiber-to-the-X



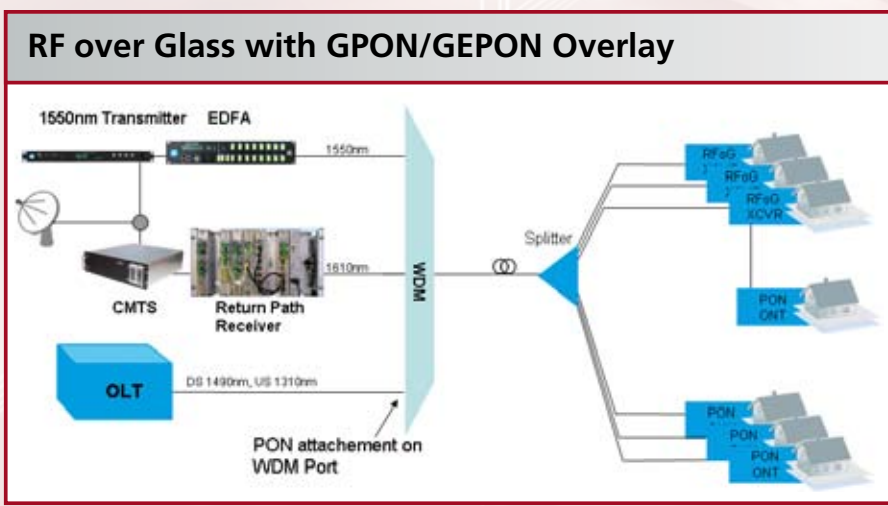
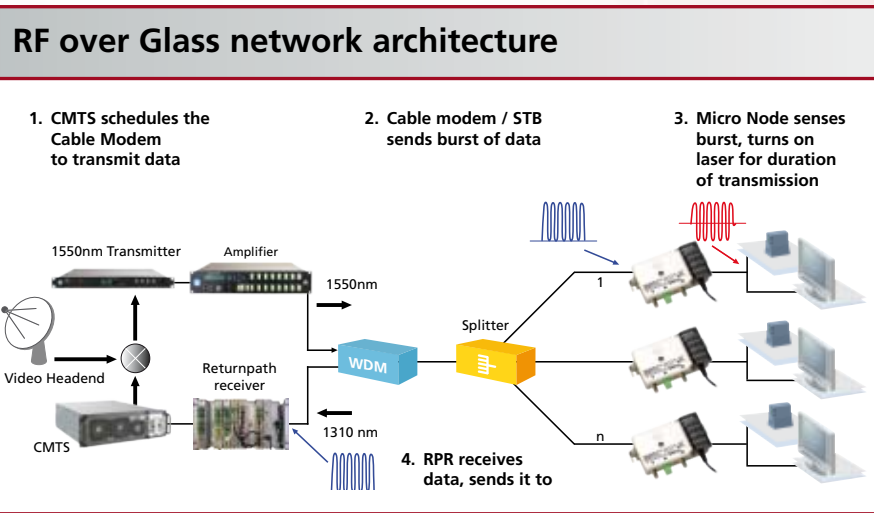
### Application Description

Radio Frequency over Glass (RFOG) or DOCSIS PON is a passive distribution network which transfers the HF signals to the subscriber via fiber. In downstream the RFOG network acts like an HFC network. The upstream channel is only active when the corresponding cable modem is transmitting. This is achieved by ensuring that the micro node which terminates the network only activates the return channel when the connected modem is transmitting.

The advantages of this technology compared to conventional HFC systems are that RFOG achieves an excellent noise and ingress behaviour, the DS bandwidth is additionally widened from 862 MHz to 1 GHz. The network requires less power due to the reduction of necessary line or distribution amplifiers and the maintenance costs are minimized.

By using of standardized DOCSIS components, the RFOG network acts like a standard HFC network. Therefore it is the preferred migration technology for cable network operators. As in the HFC network, provisioning works transparently via the DOCSIS layer.

Since the passive infrastructure is based on the same principles used in GPON and GEPON, the system may be extended when subscriber demand requires higher bandwidth or additional customers like small and medium businesses need to be connected. The distance and splitting specifications are adjusted to satisfy the requirements of the digital PON during planning of the RFOG network. Both technologies may be used on the same infrastructure by utilizing different wavelengths.



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### WISI LT 88 Optical Transmitter

The LT 88 series product line is a family of high performance 1550 nm externally modulated CATV fiber optic transmitters. This series of transmitters couple high optical output powers in a convenient 1 RU housing with low optical linewidth resulting in unmatched performance. The advanced set of features of the product family allows these transmitters to be quickly optimized in the field for any link or application without the need to deploy specifically tuned transmitters.



### WISI LA xx E Fiber Amplifier

The LA xx E series is a family of high performance CATV erbium doped fiber amplifiers (EDFA) or erbium/ytterbium doped fiber amplifiers (EYDFA). Usage of the latest DSP technology at the core of electrical control circuitry results in superior output power stability and exceptionally low noise figures demanded by CATV applications, especially in Fiber-to-the-X networks.



### WISI LR 83 RFoG Micronode

WISI has developed a high performance compact micronode for RF over Glass solutions. The LR83 utilizes an extremely low noise receiver combined with an optical automatic level control. The device is fully compliant with SCTE ISP SP 910. Different options (1310 nm, 1610 nm) for the return path laser wavelength are available to meet the requirements of an combined RFoG and GPON/GEPON rollout.



### (Euro)-DOCSIS 3.0 Cable Modem Termination System

WISI offers a Cable Modem Termination System that is a new class of cable edge device, combining 3rd generation DOCSIS CMTS and an MPEG Video Edge-QAM in a single compact platform. The CMTS provides flexible downstream to upstream channel ratio combined with an high channel density thus increasing cost efficiency for providing video-over-IP service today. The modular architecture gives operators the flexibility to meet the requirements of their customers.

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