Glass substrates are a promising alternative to today’s standard materials because of advantages in transparency over a wide optical spectral range. Glass is a commercially available and reliable material with high thermal stability and excellent optical properties. In addition, many techniques are known and applied in the field of integrated optics and display technology.

Thin glass substrates have great potential for transmitting and receiving modules (transceivers) in the optical signal transmission. The aim of the use of glass substrates for transceivers on the electro-optical circuit boards or in separate housing is the integration and optica coupling to waveguides in the electro-optical circuit board or fiber optic cables.

In the ongoing development optical waveguides, micro-optics and mechanical alignment structures are integrated into the glass substrate and can be combined with conventional packaging and interconnection technology. In this way glass is able to compete with established substrate materials such as polymers, ceramics or silicon to manufacture multi-channel transceiver modules.