

ABSTRACT

Free Space Optic (FSO) is a wireless optical communication technology that uses visible or infrared light to transmit data through the air without the need for physical cables. This technology is also known as "laser communication" or "optical wireless communication" which uses Light Emitting Diode (LED) or Light Amplification by Stimulated Emission of Radiation (LASER) as a light source. This technology has a high capacity to transfer data at gigabits per second depending on environmental conditions. In the FSO communication process itself requires a direct line of sight or Line Of Sight (LOS) between the transmitter and receiver.

This autotracking optical transceiver prototype is a state-of-the-art device designed to automatically establish point-to-point optical communication connections to maintain alignment between transmitting and receiving units. This technology will be used in various applications, such as inter-building communications, free space optical communications, laser communication systems, to satellite communications.

The problem in implementing this FSO communication is that it is difficult for the transmitter and receiver optics to move to align the position in the information transfer, therefore the design of this electronic prototype is needed so that later it can help facilitate the transmitter and receiving optics in transferring information automatically properly.

Keywords: *Free space optic (FSO), Line Of Sight (LOS), Autotracking*