

Comparison of Single Mode Fiber and Multimode Fiber in Deployment of SCM-OCDMA in Local Area Network

Abstract

The integration of heterogeneous technologies promotes ubiquity and mobility. Optical code division multiple access (OCDMA) may be deployed in conjunction to SCM to improve the spectral efficiency and enhance the data rate of subscribers in a Local Area Network (LAN). This paper compares the performance of multimode fiber to single mode fiber in the deployment of a SCM-OCDMA system with multi-diagonal (MD) codes in a LAN.

Keywords; Multimode Fiber (MMF), Spectral Amplitude Coding Optical Code Division Multiple Access (SAC-OCDMA), Subcarrier Multiplexing (SCM)