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PERFORMANCE EVALUATION ON OPTIMIZATION OF WCDMA BASED RADIO OVER FIBER (ROF) TRANSMISSION LINK

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ABSTRACT

Radio over fiber (RoF) systems is the combination of both free-space radio path and fiber optic link. In this paper the performance of radio over fiber links for WCDMA is assessed by simulation. The simulation model has been developed by integrating both RF wireless and optical fiber systems that is transparent to a UMTS system. This WCDMA RoF system has 16 users transmitting data through optical network. The whole hierarchical simulation system model was constructed and simulated using a commercial optical system simulator. The Bit Error Rate (BER) has been calculated by varying the length of fiber, type of fiber and using different modulation format.

KEYWORDS: Radio over Fiber, BER, Modulation Format, WCDMA