

PERFORMANCE ANALYSIS OF A CDMA WIRELESS LOCAL LOOP SYSTEMS

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ABSTRACT

In this paper, the capacity of the Code Division Multiple Access Wireless Local Loop (CDMA WLL) system is analytically derived, and the capacity gain achieved in a CDMA WLL over a cellular mobile environment is calculated. The results show that the CDMA WLL system can support up to 36 % more users than CDMA cellular mobile system. The paper also propose a new approach to increase the reverse link capacity of the CDMA WLL system, which synchronize the reverse link so that signals transmitted from different subscriber units within the same cell are time aligned at the base station (BS). A theoretical analysis of the potential capacity gain of reverse link synchronous CDMA WLL is presented.