

CRA: Code-Reservation Assignment of Orthogonal Variable Spreading Codes in W-CDMA

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ABSTRACT

This study develops a novel assignment scheme for orthogonal-variable-spreading-factor (OVSF) codes in wideband CDMA (W-CDMA). A Code-Reservation Assignment (CRA) scheme is proposed to reduce the considerable time requirements of code reassignment procedures. This study focuses not only on eliminating the code-blocking problem, but also on reducing the call setup delay. The main idea behind the proposed scheme is like “garbage collection,” which the code-reserving procedure is applied during the free time between two adjacent calls. The CRA reserves a code supporting a specified data rate, which enables the cellular system to rapidly complete code assignments.

Keywords : OVSF, code-blocking, W-CMDA, IMT2000, UMTS

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