SIMULATION OF WIDEBAND CODE DIVISION MULTIPLE ACCESS (WCDMA) COMMUNICATION SYSTEM

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ABSTRACT

The goal for the next generation of mobile communications system is to seamlessly integrate a wide variety of communication services such as high-speed data, video and multimedia traffic as well as voice signals. WCDMA as the radio access technology for the 3G has many advantages such as highly efficient spectrum utilisation and variable user data rates

This paper presents the performance of Wideband Code Division Multiple Access (WCDMA) in terms of spreading signal and power spectrum, Scatter Plotting and Error rate calculation. In this project it is assumed that the system transmit and receives the signals simultaneously. The multiple access is achieved by assigning each user a pseudo-random code (pseudo-noise code) with good auto and cross-correlation properties. This code is used to transform a user's signal into a wideband spread spectrum signal. A receiver then transforms this wideband signal into the original signal bandwidth using the same pseudo-random code.

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