

ABSTRACT

The wireless technology are forward increasing in this days, from 1G (AMPS), 2G (GSM), 3G (UMTS), and 4G for the next generations. One of the difference parameters in each wireless generations is service allocation, that always depend on bandwidth, bit rate, spectrum efficiency, BER.

There are several technique to handling that problems: MIMO system (Multiple Input Multiple Output) and multicarriers systems. In this final assignment, the writer are combining these two system with CDMA system, then the combination of three systems is MIMO-MC-CDMA

The MIMO System is transmission systems, which on transmitter and receiver uses multi antennas. Meanwhile MC-CDMA is transmission system that splitting the data which are transmits to several tiny part as much as the numbers of subcarriers, so the bandwidth of every subcarriers smaller than channel bandwidth. In these condition, channels character is flat fading for every subcarriers.

On the receiver MC-CDMA system needs combiners, which can combining the signal in every subcarrier to obtaining the signal information. In this final assignment, the writers are comparing two types of combiner, there are MRC (Maximum Ratio Combiner) and EGC (Equal Gain Combiner).

The process of performance analysis observed in two parameters, there are SNR (Signal to Noise Ratio) and BER (Bit Error Rate), which everything is get from simulation with a same parameters in that two combiners in each simulation.

Keyword : MIMO,MC-CDMA,STBC,EGC,MRC.