

## Investigation of Roll-Off Factor in Pulse Shaping Filter on Maximal Ratio Combining for CDMA 2000 System

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**Abstract :** The integration of wide variety of communication services is made possible with invention of 3G technology. Code Division Multiple Access 2000 operates on various RF channel bandwidths 1.2288 or 3.6864 Mcps (1x or 3x systems). It is a 3G system which offers high bandwidth and wireless broadband services but its efficiency is lowered due to various factors like fading, interference, scattering, absorption etc. This paper investigates the effect of diversity (MRC), roll off factor in Root Raised Cosine (RRC) filter for the BPSK and QPSK modulation schemes. It is possible to transmit data with minimum Inter symbol Interference and within limited bandwidth with proper pulse shaping technique. Bit error rate (BER) performance is analyzed by applying diversity technique by varying the roll off factor for BPSK and QPSK. Roll off factor reduces the ISI and diversity reduces the Fading.

**Keywords :** CDMA2000, root raised cosine, roll-off factor, ISI, diversity, interference, fading

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