

REDUCING CALL-DROP IN GLOBAL SYSTEM FOR MOBILE COMMUNICATION

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ABSTRACT

Call Drop is one of the most disturbing problems in Mobile Communications. It is one of the most important Quality of Service (QoS) indicators for a mobile carrier, hence over the years, many strategies have been proposed to solve the problem but without much success. One of the important factors for call drops is high Bit Error Rate (BER). This paper proposes the reduction of call drop due to high BER, by using a new signal processing subsystem at the receiver section of a wireless system. In particular, the calculation of un-mixing matrix and automated identification for distinguishing performance of the wireless system, the overall block diagram for Global Systems for Mobile (GSM) communication system was simulated and its BER measured. It was found that this subsystem helped to improve the BER and hence the end-to-end performance of the system. The effect of this signal processing block was explored by considering Additive White Gaussian Noise (AWGN), Ricean Fading and Channel Coding. The implication of this, is that the existing network will see a reduction in call drops. The results showed a coding gain of 3dB

KEYWORDS: Bit Error Rate (BER), Quality of Service (QoS), Channel Coding, Additive White Gaussian Noise (AWAN), Global Mobile System (GSM), Channel Equalization, Call Drop.