Abstract

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WIRELESSHD VIDEO TRANSMISSION OVER MULTICARRIER ERROR-CORRECTION CHANNELS

Uncompressed High-Definition video streaming over extremely high frequency using wireless technologies, also known as WirelessHD, is a challenge problem because of the high data rate requirement and channel variations. The advantages in RF technology and the huge bandwidth available in the 57-66 GHZ millimeter wave open new era for High Definition applications and high data rates communication. Retransmission is not favored for HD multimedia transmission as any latency may cause flickering. So, powerful error correction and detection is needed to detect any corrupted pixels and recover it to guarantee the communication. In this study, we proposed a system that uses Low Density Parity Check (LDPC) code for error detection and correction and OFDM technique for protecting video signal from fading. A suggested frame partitioning technique is applied to perform spatial diversity.To judge on the proposed system, peak signal to noise ratio and symbol error rate will be used at the receiver for testing the received frame quality. Simulations using uncompressed videos indicate that the proposed system can give low bit error rate and high peak signal to noise ratio after transmitting the frame over AWGN and Rayleigh channels.