

Abstract

The effects of load impedance, line length and branches on the performance of an indoor voltage broadband power line communications (BPLC) are presented in this paper. The power line network topology adopted here is similar to that of the system found in Tanzania. Investigation on effects of network load impedances, direct transmitter to receiver line length, branched line length and numbers of branches have been carried out. The frequency response of the power line transfer function shows that position of notches and peaks in the magnitude and phase responses are largely affected by the above network parameters particularly attenuation and dispersion. The response was also observed in the time domain. The observations made in this work could be useful in the design of high performance PLC systems for data transfer.