Characterization of Radio Propagation Pathloss: A Case study of GSM Network of Muscat CBD area

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Abstract

The GSM signal is impacted by variety of propagation factors. There are many models studying the path loss of the GSM signal and predict the signal strength at specific distance. This case study has focused on the CBD area in Muscat. The Okumura-Hata model and Lee model has been studied and compared to the actual data. The RMSE value was used as indicator of error. Both Okumura-Hata model and Lee model have been enhanced to provide lower RMSE value. Finally, the enhanced formulas have been tested and verified in the CBD area and the results were positive.