Impact of Polarisation on Hidden Node Margin

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Abstract:

Dual polarized measurements comparing the received power of a line of sight broadcast signal in the ultra-high frequency (UHF) band, undertaken both in the UK and Mexico, with received power in suburban streets and indoors including high rise buildings are presented in this paper. Both the co-polarized and cross-polarized fades are therefore measured in the different locations. The results identify the importance of using polarisation when considering hidden node margins in spectrum sensing of television white spaces. The impact of polarization in open environments with low clutter or near windows inside high rise buildings is more significant than in densely cluttered spaces experiencing strong multipath.