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An Indoor Path Loss Prediction Model Using Wall Correction Factors for Wireless Local Area Network and 5G Indoor Networks

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Abstract
A modified indoor path loss prediction model is presented, namely, effective wall loss model. The modified model is compared to other indoor path loss prediction models using simulation data and real-time measurements. Different operating frequencies and antenna polarizations are considered to verify the observations. In the simulation part, effective wall loss model shows the best performance among other models as it outperforms 2 times the dual-slope model, which is the second best performance. Similar observations were recorded from the experimental results. Linear attenuation and one-slope models have similar behavior, the two models parameters show dependency on operating frequency and antenna polarization. ©2018. American Geophysical Union. All Rights Reserved.

Author Keywords
indoor propagation; millimeter-wave frequencies; path loss models; received signal strength; WLAN frequencies

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