

Propagation Loss Modeling for Lower UHF Band with Low Antennas in Rural Area

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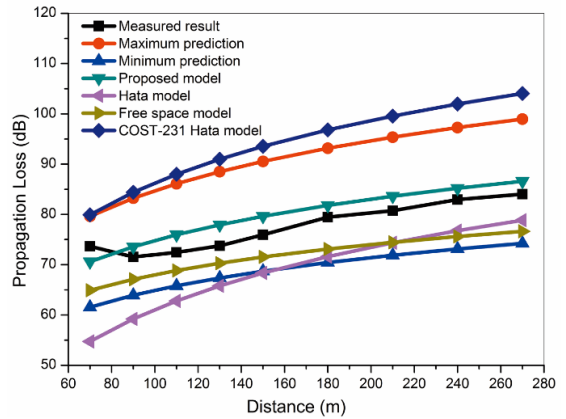
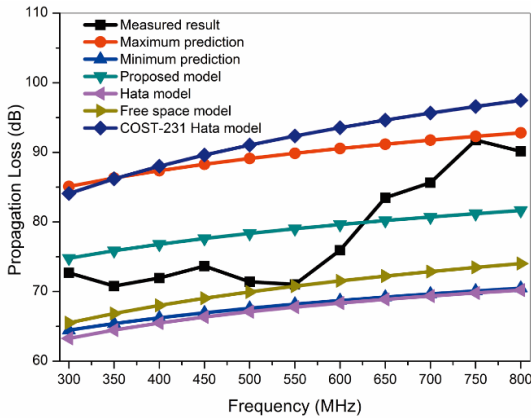
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◆ Propagation Loss Modeling

$$PL_{pro} = [\mu_k + 10\mu_\alpha \lg(d) + 10\mu_\beta \lg(f)] \\ + [10\delta_\alpha x_1 \lg(d) + 10\delta_\beta x_2 \lg(f) + \delta_k x_3 + \mu_\delta \chi + \delta_\delta x_4 \chi]$$

$$PL_{pro} = 57.4 + 27.3\lg(d) + 16.1\lg(f)$$

◆ Performance of the Models



◆ CONCLUSIONS

This paper performs a detailed investigation of radio wave propagation for low antenna and short distance situation at lower UHF band in rural environment. A statistical propagation loss model including variable component is established based on measurement data. For practical application, a simplified model is proposed. The proposed model is verified and found to be a good choice for fast prediction with high accuracy.