Rain Attenuation Measurements and Analysis at 73 GHz E-Band Link in Tropical Region

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Abstract

This letter presents the rainfall intensity and rain attenuation analysis in tropical region based on a one-year measurement using the 73.5 GHz E-band link of 1.8 km with three rain gauges installed along the path. The measured rain rate and rain attenuation were analysed and bench-marked with previous measurements and prediction models. The findings from this work showed that Malaysia agrees with the ITU-R rain prediction model of Zone P by 99.99% of time. The maximum measured rain attenuation exceeding 0.03% of the year is around 40.1 dB at the maximum rain rate of 108 mm/h.