Fade margins prediction for broadband fixed wireless access (BFWA)from measurements in tropics

Abstract :

The fade margins for 15, 23, 26 and 38 GHz frequency bands are predicted based on one-minute rain rate measurements for four years at Universiti Teknologi Malaysia (UTM) Skudai and the speci¯cations of the given four MINI-LINKS. The availabilities of terrestrial microwave links are also investigated based on rain attenuation data collected from seven operational microwave links at 15 GHz and one at 23 GHz for more than one year. The fade margins for all eight links are measured based on the rain attenuation data collected with di®erent hop lengths. In this paper, the feasibility to design outage-free wireless broadband radio link also highlighted. These results will contribute to the better design of outage-free Broadband Fixed Wireless Access (BFWA) system such as, Local Multipoint Distribution Service (LMDS) and IEEE802.16 in tropical regions.