ABSTRACT:

This paper presents an unconventional methodology in examining the extent of vegetation blockage effects imposed on near line-of-sight (NLOS) fixed wireless links based on Institute of Electrical and Electronics Engineers (IEEE) 802.11a Wireless Local Area Network (WLAN) standard operating at frequency 5.8 GHz of Unlicensed National Information Infrastructure (UNII) band. By employing the concept of remote data logging, power received measurements were acquired constantly via a remote server for 24 hours and seven days a week from three dissimilar NLOS links within the campus of Universiti Teknologi Malaysia (UTM) in which it can best be described as suburban environment. These point-to-point links deployed in conjunction with wireless campus are impeded directly or indirectly by vegetation. The behaviour of these site-specific links performance is studied. The average excess path loss inclusive of foliage loss which is relevant to the climate of a tropical country is derived. Comparison of tabulated results between these divergent fixed wireless links besides exploratory data analysis is presented.