

Estimation of specific attenuation of radio signal in Southwest Nigeria

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Abstract:

Radio signals could be attenuated by different atmospheric parameters. The magnitude at which the radio signals attenuate depends greatly on the signal power, frequency and state at which the troposphere through which the signals propagate. In this study, specific attenuation of radio signal in southwest Nigeria is determined using some weather parameters. The results were compared with the one given by International Telecommunication Union Radiowave Propagation (ITU-RP). The experimental specific attenuation of southwest Nigeria is 0.0585 dBkm^{-1} while that of ITU-RP is given as 0.05 dBkm^{-1} . If this value is rounded up to two decimal places it results to 0.06 dBkm^{-1} . It is therefore recommended that transmitters to be used for radio propagation in southwest Nigeria should be designed in such a way that this experimented value would have been taken into consideration for maximum output.

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