

Half-Wave Dipole Antenna Operating at 5 GHz for Wi-Fi Applications

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Abstract— This paper presents the design and evaluation of simple half wave dipole antenna for its application in Wi-Fi technology. The proposed antenna successfully achieved its operation in ISM band of 5GHz with ultra-wide operating bandwidth of 4.1 GHz. It achieved a gain of 3.330dB and a desired omnidirectional radiation pattern with maximum radiation of 3.443dBi at the center frequency.

All the design and Simulations were carried out using CST microwave studio 2011. The overall size of an antenna is with conductor radius of 7mm.

keywords— CST microwave studio, half wavelength dipole antenna, ISM band, linear antenna, omnidirectional pattern, Ultra-wide bandwidth, Wi-Fi applicatio