

ABSTRACT

In this research the author makes a microstrip antenna at a working frequency of 2.4 GHz for Wireless Fidelity (Wi-Fi) applications. Wifi is a WLAN technology that works at a frequency of 2.4 GHz. To support the application of wifi technology, an antenna that has a small size but at a low cost is needed, so the microstrip antenna is the main candidate. The antenna that is being developed at this time is an antenna with a Multiple Input Multiple Output (MIMO) system. MIMO technology uses not only one antenna but two or more transmitters for better performance. In this final project designed "Mimo Patch Rectangular Microstrip Antenna at Frequency 2.4 GHz for Wireless Fidelity (Wi-Fi) Applications." The standard specifications that must be met are, VSWR 2, return loss - 10 dB, bandwidth > 100 MHz and minimum gain of 3 dB. The type of substrate used is FR-4 with dielectric constant (ϵ_r) = 4.3 and substrate thickness (h) = 1.6 mm and loss tangent = 0.0265. With the simulation results of the MIMO antenna design with a substrate size of 130 mm x 60 mm with the addition of slot I method, the return loss value is -22.65 dB, VSWR 1.161 for a frequency of 2.4 GHz, the gain value is 8.2534 dB.

Keywords: Antenna, Microstrip, MIMO, Wi-Fi. gain.