ABSTRACT

To support Wi-Fi technology, antennas are needed that are cheap, lightweight and easy to integrate with other equipment. Microstrip antenna is the solution. In this final project, a rectangular – triangular 4 element microstrip patch antenna arranged in a plannar array is designed which functions as an external antenna for Wi-Fi that works at a frequency of 2.4 GHz to amplify the Wi-Fi signal received by the user using AWR software. Design Environment 2009. This antenna is designed using the array method to increase the gain on the antenna. The results of the design simulations carried out include the results of designing a single rectangular patch microstrip antenna, which is to obtain a return loss of -20.63 dB, VSWR 1.206 and a gain of 5.943 dB, the results of the design of a single triangular patch microstrip antenna, namely return loss -20.77 dB, VSWR 1.206. and the gain is 5.909 dB, and the results of the design of the 2x2 array microstrip antenna are -27.11 dB return loss, 1.092 VSWR and 8.589 dB gain. The simulation results on the design of a 2x2 array antenna are better than the design of a single antenna so that this 2x2 array antenna can work well for wireless fidelity applications.

Keywords : Microstrip antenna, Plannar array, Wi-Fi, 2.4 GHz.

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