ABSTRACT

Microstrip antenna is widely used for wireless communications applications and phased array. Microstrip antenna offers high efficiency, easy to manufacture and installation, has a small weight and size, and can be adapted to integrated circuits in RF and microwave frequencies. Microstrip antenna has a compact form, so that can be designed for communication purposes on systems with limited places. Basically, microstrip antennas have narrow bandwidth, and usually on the practical applications requires a wide bandwidth.

Conventional dipole antenna is a narrowband device. Dipole can be made broadband by using triangular metal plate. Variations such dipole antennas are usually called the Bow Tie. In Bow Tie antenna, impedance when plotted will be more flat compared to the conventional dipole antenna.

Therefore in this final project have been designed and realized modification of the conventional dipole antenna Bow Tie microstrip antenna with feed line feeding technique that works on the 2400-2483.5 MHz frequency range for wireless LAN applications. Bow Tie antenna is realized to obtain a wide bandwidth that is equal to 191.9 MHz frequency operation can use for the wireless LAN, with close to omnidirectional antenna radiation pattern and the gain is 4.985 dBi. In addition, the bow-tie microstrip antenna is designed with small size, so it can be applied for purposes of communication on a system that provides limited places.

Keywords: Wireless LAN, the Bow Tie Microstrip Antenna, Wideband, Omnidirectional