

ABSTRACT

Microstrip antenna is one type of antenna that is quite popular at this time. It has a small shape and size with the ability to radiate and receive good signals. With the development of semiconductor technology, the size of the devices used has become smaller. Therefore we need an antenna with a physical form that is compact, easily fabricated and has a high performance to be applied to existing wireless devices, the microstrip antenna is one solution to be used for these problems.

In this simulation using two software. Design a triangular patch microstrip antenna with direct feed to a patch that can operate at a frequency of 2.4 GHz. Then a slot will be added in the middle of the patch without changing the size of the patch antenna. This slot is designed with a rhombus shape, circle, triangle, square and inverted triangle with a size of 10 mm² - 100 mm² for each slot.

The results of this simulation can find out the effect of giving slots on dual band working operations on a triangular microstrip antenna on frequency, bandwidth and gain parameters. From the experimental results, after adding a slot, it causes the shift in the value of the resonant frequency to be smaller, ie from 2.404 GHz to 2.367 GHz. Then there was an increase in the value of VSWR from 1.67 to 3.123. Then for high resonance frequencies after adding slots, resulting in smaller frequency shifts, from 6.405 GHz to 5.972 GHz and an increase in bandwidth values up to 182.4 MHz and gain up to 5.32 dB.

Keywords: microstrip antenna, slot, dual band, frequency, bandwidth, gain