

ABSTRACT

Increased community needs to communicate with others anytime and anywhere to make the development of communications technology, particularly in the rapidly growing field of wireless. Not only are developing wireless technologies, but also increasingly developing technology that is multitasking in which on one device can have more than one function that uses multiband. One of the most important to realize this is the antenna, antenna development is now so diverse, one of which is the development of a microstrip antenna. Development of a microstrip antenna itself is very diverse, depending on the application. Examples are: widen the bandwidth, increase the gain, reduce cost, minimize the antenna dimensions, etc.

Antenna that made in this research is planar elliptical monopole antenna which is essentially a form of microstrip monopole. Antenna is modified into an elliptical shape and use ridged ground plane that can be obtained a very wide bandwidth (wideband). Bandwidth that will be designed larger 10 percent of its frequency. Using a coplanar waveguide transmission line, where the current application of the coplanar waveguide is very diverse, not only for wideband antenna, but also widely applied to several electronic circuits.

On this final task, has been successfully created a planar elliptical monopole antenna that works on the working frequency of 2.1 GHz and has a bandwidth of 3600 MHz with a $VSWR \leq 1.5$. Antenna is designed with coplanar waveguide where the effect of coplanar waveguide can provide savings of manufacturing because it uses only a single layer.

Keyword: elliptical planar monopole antenna, microstrip, patch, coplanar waveguide, frequency