

ABSTRACT

Communication is very important and needed to exchange information between humans. Along with the development of the world of technology, communication tools are also developed. Therefore, multimedia devices are also evolving from wired to wireless devices. The development of wireless devices has given rise to various application systems such as wireless fidelity.

In this research, an array-shaped Microstrip Antenna with an H-shaped slot is designed for WIFI applications that are useful for increasing bandwidth operating at a frequency of 5.2 GHz. The substrate material used is FR-4 epoxy which has a dielectric constant of 4.4 with a dielectric thickness of 1.6 mm. The design and realization of this antenna are formed in dimensions of 5.2 cm x 3.4 cm and uses the microstrip feed line rationing technique.

From the simulation results, at a frequency of 5.2 GHz, a return loss of -16.786834 dB is obtained, for a bandwidth of up to 146.4 MHz as measured at VSWR 1.3385337. Meanwhile, in the measurement of the realization results, at a frequency of 5.2 GHz, a return loss of -13,152 dB is obtained, for a bandwidth of 202 MHz which is measured at VSWR 1.5639. There are differences with the simulation and measurement results, this is because of limitations of the tools, cables and antenna realization.

Keywords: Microstrip Antena, Patch Circular, Slot Hted, WIFI, Array.