ABSTRACT

Wireless communication is currently needed by the community in interacting in cyberspace. Wireless Local Area Network (WLAN) technology is an Ethernet-based wireless network with the 802.11 standard. IEEE 802.11ac is a fifth generation wireless network standardization of standardization of 802.11 wireless networks. The speed of 802.11ac is three times higher than the previous version, namely 802.11n. considering that the demand for Wi-Fi networks from gadgets will increase but the constraints of the 802.11ac antenna have a small gain at a frequency of 5 Ghz, so the coverage signal in the area itself is very small and limited.

In this research to be designed and realized microstrip antenna array using a series feed at a frequency of 5.3 Ghz for 802.11 AC technology. The design and simulation of microstrip antennas was carried out in the antenna designer software. The realization of the antenna will use Rogers 4003C as a substrate and copper as a ground plane and patch.

The antenna results of the evaluation in this study work at a frequency of 5.3 Ghz with Eliptcal polarization. With a return loss value of -38.128 dB, VSWR 1.0555, gain 6,980 dBi, and bandwidth of 272 MHz. The results of the realization of the antenna have dimensions of 11.7 cm x 5.4 cm x 0.0813 cm.

Keywords: Microstrip Antenna,Series-Fed Arrays,802.11 ac