

ABSTRACT

Wireless communication technology has a great progress and vary for now on. To support wireless technology need an antenna that have a wide bandwidth and compact design. Furthermore, wireless technology also needed an adjustable smart antenna radiation pattern (beam forming). This antenna is very important, because it easily can be adjusted electronically where . Radiation pattern of transmitting antenna can easily directed based on traffic needs, so that the capacity of the system can be increased. At the receiver antenna, in the same way we can make the antenna automatically be directed to the source signal so that gain of antenna remains high.

One type of antenna that can support these technologies with some profit is microstrip antenna. Construction of microstrip antenna is board thin and able to work at very high frequencies. This antenna has a pattern layer (patch) with a variety of forms, and one type of microstrip antenna is fractal square. This form has very compact structure and easy in manufacturing and integrated it with the other circuit.

Simulation result, design, and realization shows that the combination switches on the type of antenna fractal disorder can be used as beamforming antenna. One result of the realization of simulation shows that fractal square patch antenna with reconfigurable disturbance switch which has width dimention of patch 6,67 cm, and width of gap between primary square and secondary square (cutting) 0,2 cm could work at two states at frequency 2,441 Ghz and limit of VSWR is less than 1.75, where each state gave the result bidirectional of radiation pattern. The analyzing of this experimnet and simulation of microstrip antenna is focused on radiation pattern and VSWR.

Key Word: HFSS, Mikrostrip Antennas, Disturbance switch combination, Radiation Pattern, VSWR