

## ABSTRACT

CDMA modem is a device used to meet the demand for Internet access that offers mobility and flexibility to its users. But the signal strength was different in different places. To overcome these problems, various brands of modems provide an additional external antenna that can increase the received power of the modem.

In this final project implement sierpinski gasket fractal microstrip antenna as CDMA modem external antenna. The dimensions of the antenna calculated based on the theory of microstrip antenna design. The dimensions of the antenna simulated using CST Studio 2010 software to determine the value of the antenna parameters and to be optimized.

The *sierpinski gasket* fractal microstrip antenna works on CDMA operating frequency at 880,21 MHz with 6,63 MHz bandwidth and 1984,41 MHz with 24 MHz bandwidth, and  $VSWR \leq 2$ . The radiation pattern is unidirectional form, and elliptical polarization.

Keywords: antenna, microstrip, sierpinski gaskets, CDMA