

## **ABSTRACT**

The need of rapid access to information will continue to grow. So that the technology required to meet the communications, including service of a global service and support the bandwidth. One of the access technology used in the communication system is a Wideband Code Division Multiple Access (WCDMA). WCDMA is designed to accommodate a variety of services either voice, data, and multimedia. WCDMA is an evolution or development of the GSM network to the third generation services that meet the needs of wideband. Narrow frequency range between the stopband frequency and cut off frequency, making the network susceptible to this interference with the network so that beside needed a filter device that has a high level selectivity that frequency above the frequency cut off can attenuated.

In this final project is designed a filter which operate at a frequency range of between 2.11 to 2.17 GHz. Bandwidth required is 60 Mhz. Methods that are applied in the design of this filter is squared microstrip ring resonator.

Results obtained in the frequency range 2.144 GHz – 2.203 GHz, the bandwidth is 1.18 GHz bandwidth and of 20 dB insertion loss. Stability of dielectric materials is important so that the good filter can be realized. In this final project is made for high filter frequency, the material used has large insertion loss on the high frequency so that the replacement material required dielectric.

*Keyword : WCDMA, filter, microstrip, insertion loss*