

## ABSTRACT

*WiMAX is a standard technology from WMAN (Wireless Metropolitan Area Network) that is able to give high speed service up to 70 Mbps and spread the area more than 50 Kms; is made as the solution of limited spectrum frequency problem. To support the WiMAX technology, it will not be separated to a device called filter. The filter used is filter that has high selectivity so the unintended frequency can be reduced. Here, filters that operate on the device will be fulfilled on the frequency between 2.5 – 2.6 GHz.*

*In this final project, it will be designed and realized a BPF filter for WiMAX network on band frequency 2.5 – 2.6 GHz by using Cascaded Trisection method. By using this method, the result of filter response will have the expected characteristic which fulfill the specification given before. After performing simulations using Ansoft HFSS software 10, then the filter is designed in hardware. The next step was measured using a Network Analyzer to test the process on the filter to be able to pass the desired frequency and the last step was analyzed the result to compare the results of measurements with the initial specifications.*

*From the design and realization of this filter, the frequency that will be gotten is between 2.49 GHz - 2.69 GHz with the middle frequency 2.593 GHz. Insertion loss of center frequency at 2.536 dB, VSWR 1.398 in operating frequency range. Thus, the results obtained do not meet design specifications.*

**Keywords: WiMAX, BPF filter, Cascaded Trisection**