

## **ABSTRACT**

*A design and realization of dual band square patch microstrip antenna is described and investigated in this final project. The antenna intended to fulfill these needs of small and compact antenna that capable to operate in dualband frequency that is single band frequency of wimax 2500 MHz and single band frequency GPS L1 1575.42 MHz. Double square patch with stacked method is one simple method to design microstrip antenna in order to work at two frequency. The direct coaxial feed or probe feed technique is used for feeding microstrip patch antennas. The antenna is design to work at 50  $\Omega$  coaxial line. The measurement bandwidth when VSWR = 2 between 1544.14 up to 1597.14 MHz is 53 MHz or 3.37 % of center frequency is 1570.5 MHz, and between 2432 up to 2605 MHz is 173 MHz or 6.87 % of center frequency is 2518.5 MHz. The gain of microstrip antenna realization at 1.5 GHz is 8.157 dBi and at 2.5 GHz is 8.823 dBi. For both frequency of this antenna is have a unidirectional radiation pattern and ellipse polarization.*

**Keywords :** *microstrip, Square, stacked method, dual band, GPS, WiMAX, probe coaxial*