

## ABSTRACT

Nowadays, the development of wireless access technology is growing really fast. A lot of wireless access technic with their own standards had been introduced to public such as UMTS, EVDO, Wi-Fi/WLAN, WiMAX, etc. One of the difference between them is the band of frequency that is used.

End user or mobile station can access more than one standards of technology at the same time with an antenna that can operate with more than one band of frequency (multiband). An antenna for end user equipment or mobile station must be small so it is portable. Using of microstrip antenna can solve that problem.

In this final project, there will be designed a microstrip antenna with a patch of rectangular that is suitable for WLAN/WiMAX applications. The antenna is designed to work in three bands of frequency (triple band). They are 2,3 GHz, 2,4 GHz, and 3,5 GHz. The patch of antenna is slotted to make it a multiband antenna. Designing the antenna with CST Microwave Studio 2012 software.

The antenna has three operation frequencies such as 2,3 GHz, 2,4 GHz, and 4,2 GHz. The results of this final project are VSWR 1,6085 for frequency 2,3 GHz, 1,2123 for frequency 2,4 GHz, and 1,2356 for frequency 4,2 GHz with gain 2,305 dBi for frequency 2,3 GHz, 1,592 dBi for frequency 2,4 GHz, and 1,617 dBi for frequency 4,2 GHz. The antenna from simulation has unidirectional pattern of radiation.

*Keywords:* Microstrip antenna, Triple Band, WLAN, WIMAX