

## **ABSTRACT**

*High-speed wireless communication is highly needed by most people. There are a lot of user that needed high-speed wireless connection. WiMAX standard could provide that demand.*

*Turbo Code, found on 1994, is the nearest coding technique that can near Shannon channel capacity. This coding technique expected to yield low error probability with small power.*

*This final project will examine how far turbo code can fulfill expectation of Shannon capacity bound.*

*Dalam tugas akhir ini akan diteliti sejauh mana turbo code yang diterapkan pada standar WiMAX dapat memenuhi ekspektasi yang diharapkan agar mencapai kapasitas kanal Shannon.*

*From simulation result, we can conclude that Turbo Code usage as FEC on WiMAX could give coding gain up to more than 10 dB on BER  $10^{-1}$ .*