

**PERFORMANCE ANALYSIS OF BANDWIDTH EFFICIENCY FOR  
SATELLITE BACKHAUL LINK IN SINGLE CHANNEL PER CARRIER  
SYSTEMS**

**THESIS**

**Thesis submitted to  
School of Electrical Engineering  
Telkom University**



**By :  
SUGENG SUGIARTO  
2101140022**

**IN PARTIAL FULFILLMENT OF THE REQUIREMENTS  
FOR THE DEGREE OF MASTER OF ELECTRO-TELECOMMUNICATION  
IN SCHOOL OF ELECTRICAL ENGINEERING  
2017**