

## **ABSTRACT**

*The use of the internet in today's era is very important in every activity we do. We want our internet network to run fast, quality, efficient and without delay. For this reason, telecommunications service providers must have a large bandwidth in the communication system used in order to satisfy service to consumers or customers. To distribute the fiber optic communication system to every place, a central channel is needed which is designed to transfer or transmit data traffic flow, for that a local network is built using a backbone.*

*Remote Fiber Test System is a tool that can measure and monitor backbone networks with OTDR test signals to identify and find problems with optical fiber with a working system, namely accessing IP on JDSU devices. The use of the Remote Fiber Test System is very helpful for telecommunications service provider technicians in terms of monitoring backbone lines so that the flow of data traffic can run smoothly at any time and find the location of backbone line damage very quickly so that repairs can be done immediately. Because if you use an ordinary OTDR measuring instrument it can take up to tens of hours or even days, if you use RFTS it only takes a few minutes to monitor or find the location of cable damage.*

*The calculation results show the values for SNR, Q-Factor, and BER on the Kaliasem – Gianyar route, the results are 28.38 dB for SNR, 13.12 for Q-Factor,  $1,271 \times 10^{-39}$  for BER in Upstream. Then the results obtained are 30.9 dB for SNR, 17.53 for Q-Factor, and  $4,239 \times 10^{-69}$  for BER in Downstream. From these results it can be concluded that the SNR, Q-Factor, and BER values can be said to be feasible to use.*

**Keywords:** *Remote Fiber Test System, Fiber Optic Cut Backbone Handling*