

ABSTRACT

Trains are the most widely used public transportation for the mobilization of workers (employees) from one city to another. This is caused by affordable ticket prices, as well as a fairly short travel time. In the world of work, time efficiency is prioritized so that it can always be productive at all times. To support this, it is necessary to have easy access to data under any conditions, so that there is a need for internet access services within the train to meet passenger needs.

The procurement of internet access services in workshops needs to consider several factors including the vibrations that occur due to the speed of the train and the attenuation that is generated from the effects of carbon fiber as the building material for railroad cars. In this Final Project, a reliability analysis of five access points is carried out to determine the best access point that can be used on the train.

Reliability analysis is carried out in several factors, namely the suitability of the device with IEC 60077 standard, low stress value, high reliability value, and high QoS. Based on these factors, it can be seen that the best access point in terms of stress value and reliability factors is Huawei AP9131DN with a stress value of 125 and reliability of 99.99921875%. when viewed from the QoS factor, the best access point is Teldat APR222n with a throughput value of 43.8059275 kbps, a delay value of 74.41269 ms, and a Jitter value of 7.27849 ns.

Keywords : Reliability, Stress, QoS, Throughput, Delay, Jitter