

## ABSTRACT

Sekolah Tinggi Teknologi Telkom is a college which is focusing on telecommunication and information technology. As the first college specialized in telecommunication technology and management, STT Telkom is expected to produce skillful experts in information and telecommunication, having a good knowledge in business as an answer of the rapid information and telecommunication industry development. Therefore, STT Telkom must be provided with complete facilities. STT Telkom has also built a dormitory for girls recently. To develop services, the dormitory needs to be added with multimedia services that provide data communication services (telephone, video broadcast, video on demand, and internet).

This final project will discuss how to design the network based on coax wire that accommodates multimedia services to be the basic service from this network in the asrama STT Telkom, Bandung. With the large frequency allocations, it is expected to allocate forward and reverse signal which can be analyzed with cabletools software. To get the high quality of signal in receiving many kinds of data, so that we need some accurate calculation.

With not very big area and total customer of 378 points which spread, the CATV coax network is very possible to be realized in asrama STT Telkom. And it is able to serve the services i.e telephony, analog tv broadcast, video on demand, and the internet. The performance of the network is very good and fulfill the standard that has been defined, which are up to 48 dB for CNR, up to 53 dB for CTB, CSO, and XMOD.