

ABSTRACT

The development of the broadcasting industry in the country growing rapidly with the advent of the organizers station - a new television station in Indonesia, both nationally and locally. This led to the use of a transmitter tower which is bad for the environment and society. One of the adverse effects of local television for the environment in the city of Makassar is the location of the transmitter tower is located in the middle - the middle of the city which is different from other television transmitter site is located in an area where the transmitter tower locations together, thus directing consumers to a less efficient antenna.

On this design, will design an optical communication link that connects the television station Makasssar Tv with existing networks and network existing ICON ICON + + along with the tower. At Makassar Tv link with existing networks are ICON + 2 design scenario is scenario 1 with a distance of 3.451 km and scenario 2 with a distance of 2,631 Km, while the existing network link to the tower with ICON + has a length of 7.812 Km link. The device used is a converter device Perle S-100-S2SC20 located in Makassar Tv and in Tower along with PTX sensitivity of -18 dBm and -32 dBm, while in existing network devices are ICON + port Small Form-factor Pluggable (SFP) with PTX -5 dBm and -28 dBm sensitivity.

Results obtained from the design that scenario 2 is more effective than scenario 1. In designing the tower link withdrawal with 13.76 Km long cable with 4 new Box Joint placement. Power Link Budget calculation results obtained high of 12.36 dB attenuation with margin (M) of 16.63 dB. This indicates that the link meets eligibility link power budget. Rise time of test results obtained for the highest budget smaller than 0.228 ns rise time when NRZ is equal to 140 ns.

Keyword: ICON+, PLB, RTB, STL.