

ABSTRACT

The development of telecommunications technology currently used not only for voice communication but video communication into a new discourse of contemporary communication trends. Video as one of the requirements of multimedia applications that have a low bitrate and PSNR that high, so that video requires large network bandwidth. However, mobile wireless networks (mobile wireless) has a bit error rate characteristics of a relatively high due to poor physical channels that are available. To meet these needs is offered H.264/AVC which has several advantages compared with existing coding standards previously.

In this final project aim of comparing the H.264/AVC video transmission using Redundant slices on its 3G UMTS network. The parameters measured to assess the resulting video quality is PSNR, bitrate, compression ratio and parameters of the arrival of data packets that is one way jitter. Video transmission simulation using a redundant next slice of data packets sent in a UMTS channel with the help of Network Simulator. The method used in this thesis is the literature review, conduct simulations and analysis.

The simulation results give the average PSNR values of Y Stefan CIF video with 16 redundant slice QP value 10, which amounted to 41.314 dB. The average PSNR values of Y video AVI car using redundant slice is a slice with redundant QP value 10, that is equal to 46.696 dB. The average PSNR values of Y using redudant video Akiyo with 16 redundant slice is a slice with QP value 10, that is equal to 48.323 dB. Differences in the average decline in the value of AVI video with redundant slice QP 16 and without the redundant slice is 5.2934 dB, at 1872 dB videos is QCIF and CIF video is at 16.066 dB. Stefan's largest video bitrate CIF video with a value of 11355.17 kbps bitrate, for QCIF Akiyo video bitrate value of 436.66 kbps, and video to AVI with a value of 816.03 Car kbps. Jitter value on each video is very feasible to be delivered within the UMTS network, because the jitter value <5 ms.

Keywords: 3G-UMTS, H.264/AVC, Redundant Slices