

ABSTRACT

Satellite communication services in Indonesia have been using high throughput satellite technology. This technology is able to provide a solution to increase satellite bandwidth up to 112.5 MHz, whereas in traditional satellites it is only able to provide 36 MHz bandwidth in each transponder. High throughput satellite systems use multiple beams and frequency reuse between beams. The main problem is the low cross polarization value when the results of the cross polarization interference do not meet the ITU-R Rec S.731 recommendation of at least 30 dB, which results in the performance of the satellite communication system decreasing. The parameters that affect the performance of the satellite communication system are modulation and coding changes to low levels, transmitting power increases, and the appearance of stream error rates. The ground segment antenna installation must comply with the standard operating procedures that have been determined, namely pointing azimuth and elevation and determining the angle of polarization of the feedhorn. In this study, the lowest CPI value was at level of 6.38 dB and the highest CPI value was 35.73 dB. To get a maximum CPI value of 35.73 dB, the feedhorn must be placed at an angle of 3° to the horizontal angle.

Keywords: *Cross Polarization Interference, High Throughput Satellite, Stream Error Rate, ITU-R Rec S.731*