

ABSTRACT

Indonesia as one of the largest archipelagic countries, faces challenges in ensuring equitable broadband access across its entire territory. The government, through the *Kementrian Komunikasi dan Informasi (Kominfo)* has undertaken various efforts to achieve digital sovereignty, including in areas (3T). One of the implemented solutions is the equitable distribution of communication access using satellite technology. High Throughput Satellites (HTS) have emerged as a cutting edge solution for delivering telecommunication service to underserved region. Satria-1 is one such technology expected to address these challenges. However, the orbital position near Satria-1 is also occupied by the foreign satellite Kacific-1, which poses a potential risk of interference. This research aims to analyze the technical and regulatory aspects of Satria-1 and Kacific-1 with a focus on the Ka-Band frequency. Technical analysis includes the calculation of Link Budget, Capacity, Coverage, and Interference. Interference analysis between Satria-1 and Kacific-1 is carried out by evaluating the values of C/N , C/I , $C/N+I$, and capacity reduction due to interference so that this study can evaluate the Complete Coordination process which is one of the requirements for obtaining satellite Landing Rights. Furthermore, this study will analyze the capacity opportunities that will be developed on the next generation Satria Satellite. This study also reviews the latest ITU-R regulations and evaluates compliance with these regulations. The results of the study are expected to provide strategic recommendations that are useful for satellite management in Indonesia.

Keywords : GSO Satellite, Link Budget, Capacity, Coverage, Interference, Regulatory, Satria-1, Kacific-1.