ABSTRACT

Natural disasters are events which cause harm in terms of property and loss of lives. Public Protection and Disaster Relief (PPDR) is a solution of disaster mitigation by means of radiocommunication to prevent and minimize the impact of natural disasters.

This final assignment figure the network planning, integrated infrastructure in the application of PPDR. Which provide internet access via VSAT as a link to the satellite. Satellite as backhaul will provide coverage in disaster areas where telecommunication infrastructure fails as the impact of the disaster. The results of link budget calculation will obtain a certain C/N value that determines quality. Analyzed the use of power and bandwidth capacities as well as variations in parameter changes from modulation techniques and FEC.

From the calculation of the Inbound link budget, the recommended modulation technique and the optimal FEC are 16QAM & FEC 1/3. Links are feasible because C/N_{total} (28.51 dB) > (19.73 dB) C/N_{req}, Eb/No (27.88 dB) > (14.5 dB) Eb/No_{req}. The recommended calculation result for Outbound link budget is the optimal modulation technique and FEC, namely 64QAM & FEC 3/4. The link is feasible because C/N_{total} (28.5 dB) > (25.49 dB) C/N_{req}, Eb / No (22.88 dB) > (18.5 dB) Eb/No_{req}.

Keywords: PPDR, Satellite, VSAT, Link budget