ABSTRAK

Teknologi VSAT Ku-Band memiliki beberapa kelebihan dan kekurangan diantaranya masalah propagasi terutama propagasi yang rentan sekali terganggu oleh hujan, Umumnya ditempat penulis bekerja antenna VSAT Ku-Band saat hujan akan mengalami redaman yang sangat tinggi dan mengakibatkan pelanggan mengalami gangguan layanan hingga *service down*. Program *diversity* dibuat yang berguna ketika Antenna Jatiluhur, Purwakarta diguyur hujan akan berpindah jalur transmitnya ke Buahbatu, Bandung. Jarak *diversity* Purwakarta – Bandung yang sangat jauh diharuskan menggunakan media transmisi Fiber Optic agar pengalaman perpindahan jalur cepat dan meminimalisir pelanggan mengalami *downtime* yang lama. Jalur *diversity fiber optic* ini sendiri mempunyai 2 *core* yang berbeda, yaitu milik PT. Powertel dan PT. Aplikanusa Lintasarta. 2 *core* main-bakcup ini dibangun agar ketika salahsatu *core* nya mengalami *down* atau *fo cut* maka program diversity masih bisa dilakukan secara otomatis dan normal menggunakan *core backup*, 2 *Core fiber optic main-backup* ini memiliki redaman yang berbeda yang mempengaruhi kualitas sinyal penerima atau sinyal pelanggan. Dari hasil penelitian ini *Link fiber optic* PT. Powertel mendapatkan kualitas sinyal paling buruk dibanding *link fiber optic* milik PT, Aplikanusa Lintasarta. Meskipun keduanya masih dibawah nilai batas wajar dengan referensi sebsar -10,73 dB tetapi link *fiber optic* PT. Lintasarta mempunyai nilai redaman yang dan kualitas sinyal penerimanya lebih baik mendekati nilai referensi.

Kata kunci: VSAT, Ku-Band, *Fiber Optic. Diversity Switch*

ABSTRACT

VSAT Ku-Band technology has several advantages and disadvantages, including propagation problems, especially propagation, which is very susceptible to rain disturb. Generally, the VSAT Ku-Band antenna will experience very high attenuation and cause customers to experience service disruptions to service downs during the rain. A diversity program is created, which is useful when the Antenna Jatiluhur, Purwakarta, rained, it will change its transmit line to Buahbatu, Bandung. Purwakarta – Bandung diversity distance which is very far, is required to use Fiber Optic transmission media so that the experience of moving fast lanes and minimizing customers experience extended downtime. This fiber optic diversity line has two different cores, which PT owns. Powertel and PT. Aplikanusa Lintasarta. These two main-backup cores are built so that when one of the cores is down or fo-cut, the diversity program can still be carried out automatically and usually using backup cores. These two main-backup fiber optic cores have different attenuations that affect the quality of the receiving signal or customer signal. From the results of this study, fiber optic link PT. Powertel gets the worst signal quality compared to the fiber optic link owned by PT, Aplikanusa Lintasarta. However, both are still below the fair value with a reference of -10.73 dB, the fiber optic link of PT. Lintasarta has a better attenuation value, and the quality of the receiving signal is closer to the reference value.

Keywords: VSAT, Ku-Band, Fiber Optic. Diversity Switch