

ABSTRACT

The increasing of transfer data need which has high data speed and good quality services makes one technology that can fulfill the qualification above, named WiMAX technology is implemented. One of frequency WiMAX which use is 3.5 GHz.

In satellite communication system at 3.4-3.7 GHz band frequency is allocated by Telkomvision for *Direct to Home TV* (DTH) application which uses *Digital Video Broadcast over satellite* (DVB-S) basic technology. DTH system uses Telkom-1 satellite with existing equipment *digital headend* in SPU Cibinong.

Sharing band frequency by two different systems could be makes interferences. Those interferences could be happen between WiMAX and VSAT DTH.

This final project analyzes how the values of the interferences for various area. In the calculation of link budget, the minimum value Telkomvision *C/I* for quality service in 17.71 dB.

From the interferences calculation result, we can conclude that DTH is disturbed by *WiMAX*. In the LOS area was disturbed in distance 45 Km for 15° off axis degree, 35 Km 25° off axis degree, 30 Km for 35° off axis degree and 20 Km for 48° off axis degree. In urban area was disturbed in distance 5 Km for 15° off axis degree, 4 Km for 25° off axis degree, 3,5 Km for 35° off axis degree and 2,25 Km 48° off axis degree. In rural area, DTH was disturbed in distance 42 Km for 15° off axis degree, 32 Km for 25° off axis degree, 28 Km for 35° off axis degree and 19 Km for 48° off axis degree.