ABSTRACT

Orbcomm was satellite system in Low Earth Orbit with 36 satellites in 6 orbital plane. Burst transmission for uplink 2400 bps and downlink burst transmission 4800 bps. Orbcomm’s applications were data packet communication for tracking, monitoring and messaging. Uplink frequency of Orbcomm is 148-150.05 MHz and downlink frequency 137-138 MHz. Orbcomm band interference in is caused of Orbcomm uplink frequency in Indonesia is in front of amateur band. This final project was analysis if interference in Orbcomm band at Surabaya and Nganjuk.

Frequency taping was done in Surabaya and Nganjuk with two method frequency record, there are fix frequency record and mobile frequency record. Orbcomm frequency was be recorded with spectrum analyzer and VHF monopole antenna. Result uplink data and downlink frequency record can be analyzed with Matlab 7.7. Interference source from intruder in band Orbcomm was be analyzed. Data from urban and rural was be compared of Interference/Noise (I/N) signal.

Scanning result of downlink frequency have interference channel probability no more than 1% from all channel, that means downlink channel in Surabaya and Nganjuk was empty. Uplink frequency channel in urban more interference than channel in rural, that make noise floor in Surabaya higher than noise floor in Nganjuk. Effect of vehicle when mobile frequency record that passing through mobile station can increase noise floor value.

Keyword: VHF, interference, LEO, Orbcomm