## ABSTRACT

The proposal of Power Line grid as communication line has appeared when demand of new service of telecommunication having increasing number but the existing grid is limited. Even in telecomunication side is generally has new technologies for media data transmission, but development of Power Line is still continue. Because of that, this has to answer with the simultan and long researches for to know the possibilities for the application of PLC in the communication ace network. PLC technologi is presented to be the alternative communication dat technologi, besides other technologi that has exist long time ago.

For the use of mains network as high speed data path for internet, voice and data service carrier frequencies within the range from 500 kHz up to 20 MHz must be considered.The development of suitable communication system and the planning of Power Line Communication network requires measurement-based models of the transfer characteristics of the mains network in the above mentioned frequency range.

The heterogeneous structure of the mains network with numerous branches and impedance mismatching causes numerous reflections. Besides multi-path propagation with frequency-selective fading, typical power cables exhibit signal attenuation increasing with length and frequency. The complex transfer function of Power Line link can be decribed by a parametric model in the considered frequency range. Measurments of amplitude of a sample network with well-known geometric approve the validity of the model.

In this final project writer try to make a model of transfer function over Power Line Communication channel with using some certain parametrics. Types of cables that is analyzed are NAYY type that is usually used in Germany and type that is usually used in Indonesian NYCY type. From the both type, witer try to look frequency response that is gotten from parametrics of the both cables.