Abstract

PLC (Power Line Communication) technology is a communication technology via electrical wire that have used in this era. But, this technology is not much growth because PLC channel actually were not prepared for data transmission. Besides that, if we look from the channels characteristic (too much noise, multi path propagation, distortion, etc) PLC channel is a bad transmission media.

With digital technology, DSP, and VSLI, PLC grow on broadband PLC. Implementation of multi carrier modulation technique (OFDM; coding)become one of the solution to handle any noise problems that caused of electronic devises. PLC channel has used for simple activities, like simplex light controller. But, for complex data transmission, PLC still face many problems, there are: channel distortion caused of multi path propagation, noise, limited bandwidth, etc.

This Final Project has succeeded realize a full duplex communication system with FDD (Frequency Division Duplex) method. This system is a prototype of double transmitter and receiver digital with FSK modulation use Celenec Band EN 50065 as a spectrum that used in PLC channel. The transmission between TX1 to Rx1 use B band frequency (95–125 kHz) *and transmissioan between Tx2 to Rx2 use C band frequency* (125–140 kHz)*. In this Final Project also measure the coupling bandwidth for both of the systems, there are 875 kHz for 1st system and 700 kHz for 2nd system.*

Keyword: full duplex, FDD, PLC