ABSTRACT

OFDM used to transmition technique for communication between user, central unit and remote access unit. On communication of RAU and CU connected by fiber optic, while for RAU and user communication using IEEE 802.11g standard on frequency 2.4 GHz gives wide coverage area. The simulation built by C++ program language with Borland C++ Builder software and perform signal form in every diagram block.

Simulation of OFDM modulation including generation of random signal that generated by software, divide data stream become parallel data until reform serial data so that can be transmitted. With using digital modulation BPSK in data rate 3 Mbps and space frequency 31.25 MHz. to optimalize the software so do scaling 1 : 1000 on several parameter, also make validation by compare program result with theory calculation.

On this final project produce simulation that perform OFDM with BPSK modulation process, so can watched the change of signal that happen in every diagram block. The signal have good orthogonal 0.0026 and also produce 3Mbps data rate. according analyze, it can be concluded that wider space frequency make signal more orthogonal and make bandwidth wider.

Key Word : ***OFDM, BPSK, simulation, modulation, orthogonal, C++***