ABSTRACT

The FBMC system is an MCM technology that can provide high data bit rates. OQAM digital modulation is used to increase the bit rate. The process has a new method called Filter Bank Filter Multi-Carrier (FBMC). FBMC system does not use Cyclic Prefix (CP), because it saves slightly less bandwidth than OFDM. This study uses repetition codes which have simple error correcting codes but are good at reducing bit errors. Repetition codes have the concept of repeating sending messages several times and also being able to recover messages that are lost when noise occurs. This study will analyze the performance of the FBMC-OQAM system using channel Repetition codes based on the Bit Error Rate (BER) parameter to the Signal to Noise Ratio (SNR), the performance of the FBMC-OQAM system using channel Repetition codes based on channel capacity parameters and comparison of FBMC system performance. OQAM with (coded) and without channel coding (uncoded). The research results show that the performance of the FBMC OQAM system using Repetition Codes is still not better than the BER value of the FBMC OQAM system. The results of the FBMC OQAM BER comparison using Repetition Codes channel coding on the FBMC OQAM coded system have also reached the standard BER value of 10^{-3} *with a result of 0.005725, but the results have not been better than the FBMC OQAM uncoded BER system which obtained results 0.0004516 at SNR 20 dB.*

Keywords: BER, FBMC OQAM, Repetition codes, SNR