OPTIMIZATION OF INVERSE FAST FOURIER TRANSFORM IN THE WIMAX FIXED POINT

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Abstract. The prediction made by the ITU (International Telecommunication Union) shows that the user demand for broadband services, terminal mobility and roaming availability is becoming increasingly intensive. The operation trend of new methods is focusing more on access and wireless coverage and the wireless local networks (WLAN) have reached a great success in this field. But at moment, the WLAN has several limitations such as small coverage areas (transmission range) and interference problems due to the use of ISM (Industrial, Scientific and Medical) band frequency. To overcome these limitations, the IEEE committee developed 802.16x standards, which specified wireless broadband access (WBA) technologies. The standard defines the physical layer and MAC (Medium Access Control) WBA system in the range 2-66 GHz. It can operate with a maximum data rate of 75 Mbps and wireless coverage of up 50 km. This work describes an optimization of inverse fast Fourier transform (IFFT) in fixed point based on IEEE 802.16m standard.