Abstract

The aim of this paper is to discuss the development of LTE algorithm which has the most advantages compare to other technologies such as WiMAX and WiFi. In order to improve LTE disadvantages is to increase the bandwidth at both sides (transmitter and receiver), where the current bandwidth is 100 MHz and the peak data rate is 1Gbps. The objective of this paper is to increase the bandwidth up to 100 MHz through increasing the number of carrier aggregation in LTE system. This paper focus on the high-bandwidth internet access anytime, anywhere which is continuously increasing. As the spectrum is limited, this means mobile communications systems have to support larger bandwidth than today's systems. Peak data rates up to 1 Gbps are expected from bandwidths of 100 MHz where OFDM adds additional sub-carrier to increase bandwidth. Unfortunately, the available bandwidth may not be continuous as a result of fragmented spectrum. In addition, this feature allows scalable expansion of effective bandwidth delivered to a user terminal through concurrent utilization of radio resources across multiple carriers. Therefore, in order to support bandwidths greater than 20 MHz, two or more component carriers (CCs) (of the same or different bandwidths) are aggregated together in LTE-A. This way, wider transmission bandwidths are supported in the downlink (DL) or uplink.
Design and Implementation of Intra band Contiguous Component Carriers on LTE-A

(UL) between User equipment (UE) and Evolved Node B (eNB).

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Index Terms

Computer Science Wireless Communications

Keywords

Lte-a; Ca; Cc; Intra Band Aggregation