## ABSTRACT


### ANCHOR CARRIER IN A MULTIPLE CARRIER WIRELESS COMMUNICATION SYSTEM

Multiple downlink (DL) and uplink (UL) carriers can enhance wireless communication between nodes and user equipment (UE). Among the carriers, it is beneficial to have some special, by configuration designated carriers to provide synchronization, system information, paging, data and control for multi-carrier enabled UEs. Thereby, overhead system information can be reduced. For instance, synchronization and paging for a certain cell are not provided on all carriers. A carrier can provide backward compatibility for single carrier UEs for access, synchronization, broadcast, and new control region within the data region of the legacy terminals. Coordination between nodes for selecting anchor carriers that mitigate interference and for transmit power control for non-anchor carriers provide further network performance advantages.

Figure 1