System Level Performance Evaluation of Various Carrier Aggregation Scenarios in LTE-Advanced

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***Abstract*— The LTE-Advanced as an enhanced form of the LTE standardized at the 3GPP, is a promising technology for a higher spectral efficiency and reliable transmission. Carrier aggregation (CA) is the most important one among other technologies since it is difficult to ensure a single wide frequency band for operators. Despite active standardization of CA, little studies for system level performance have been made. This paper evaluates the performance of CA schemes in deployment scenarios 1 and 2 with different inter-site distances by using a LTE-A based system level simulator. Round robin and proportional fair schedulers are adopted for performance evaluation. The simulation results can help to provide an appropriate guideline for CA deployment and management in upcoming B4G mobile communications.**

***Keyword*— carrier aggregation, scheduling, system level performance, LTE-Advanced**

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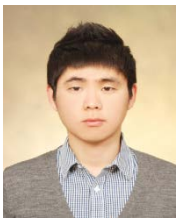

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