Chapter Five

Conclusions and Future works

5.1 Conclusions

Different scenarios (Indoor, Free Space, Urban Area, and Sub Urban Area) are constructed for D2D links with greedy grouping algorithm, and more parameters are examined and implemented such as D2D links lengths, varying nodes densities to evaluate the performance of interference reduction.

In figures (4.3 to 4.10) scenarios with fixed link lengths, it is seen that when the link lengths decrease, more links are combined in the same group; moreover fewer groups are necessary to accommodate a whole links. Also it seen that as the link lengths decrease, a higher SINR is guaranteed at a lower cost or number of necessary groups.

Also when the minimum distance d_{min} greater than the diameter of the cell D, it has causes severe interference with other nodes in others cells.

Comparing the indoor, free space, urban, sub urban areas models, it is found that the model using for derivation the minimum distance requirement d_{min} is more suitable in case of sub urban area compared to other areas because more links are grouped with less necessary groups.

5.2 Future Works

In the future work it will implement a cluster concept in the cell to increase the cell capacity, and also propose different propagation model for d_{min} to reduce the severe interference.