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Literature Review about improving Energy Efficiency on D2D

1.*Energy Efficiency and Spectrum Efficiency in Underlay Device-to-Device Communications Enabled Cellular Networks*

D2D communication will be used as the basic communication system model in this project as shown in figure 6 where two user equipment are able to communicate with each other directly without passing the base station using spectrum sharing scheme which hence improve the energy efficiency [7].It is a very useful technology which can be used to solve the issues of overloading traffic of base station and reduce the energy consumption from base station which therefore can be used to support for IOT

However, despite significant benefit of D2D communication, there are also some potential issues of D2D communication which need to be solved like energy consumption. Recently, with yearly increasing number of users using mobile devices and smart phones, energy consumption is becoming a serious issue. Hence, the energy efficiency which can be defined based on the whole D2D link which includes the harvested energy from D2D receiver can be used to check if a D2D communication is green communication

2.Energy Efficient D2D Communications: A Perspective of Mechanism Design

an idea of optimally coordinating users to redistribute the traffic which can minimize the energy consumption hence improve energy efficiency in D2D communication system was put forward. To solve this issue, two problems need to be considered. First, relaying data to others from base station will cause cost to the users, and this will become an issue if the users are self-interested. So, a contract-based approach was proposed which will make sure that users chosen by the BS are willing to relay data. Second, after the BS choose the users relaying data, a proper matching method needs to be proposed to establish the link between the chosen users and users requesting data and a matching algorithm was proposed solve this problem.

3.Radio resource management for optimizing energy efficiency of D2D communications in cellular networks

a joint subchannel and power resource allocation have been modified maximize the weighted-energy-efficiency while the minimum data rate of each cellular link is also guaranteed.