

Energy Optimization Approach in a Relay-assisted D2D Communication

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Abstract

In this paper, we are interested in the problem of radio resources management in order to optimize energy consumption in a D2D communication. This aims being able to meet the needs of all users and therefore the establishment a Quality of Services (QoS). We will propose an approach whose objective is to manage not only overcoming interference situations in order to guarantee QoS but also optimizing the energy consumption of various devices in the D2D communication.

Full-text

Due to technical limitations, full-text HTML conversion of this manuscript could not be completed. However, the manuscript can be downloaded and accessed as a PDF.

Figures

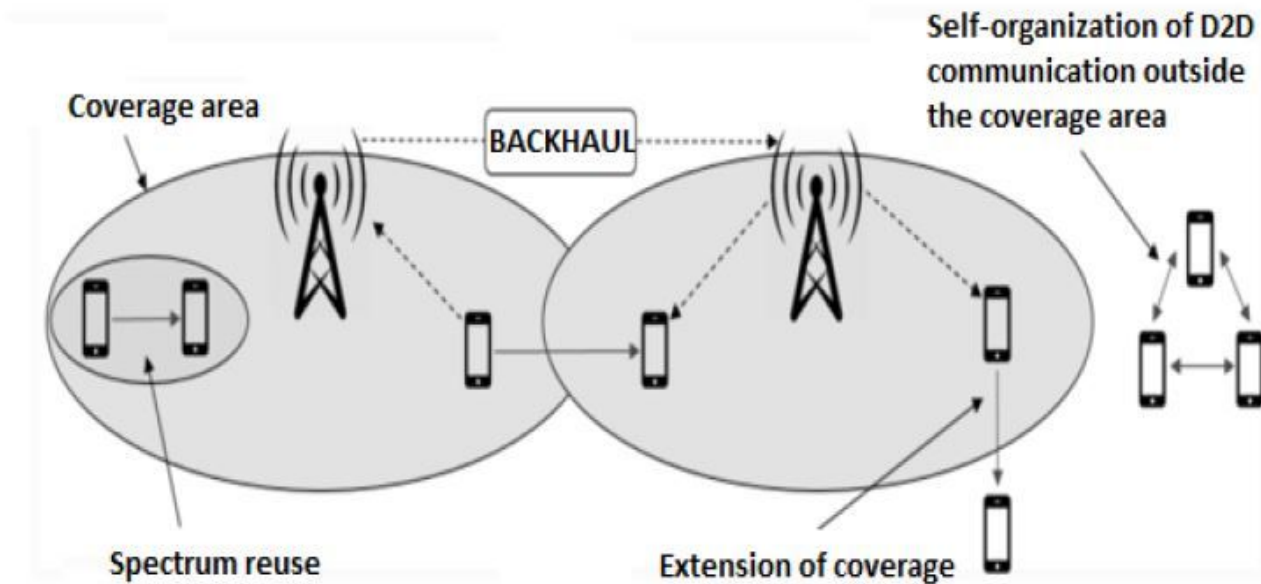


Figure 1

Illustration of possible use cases of the D2D [8].



Figure 2

Radio Resource Management

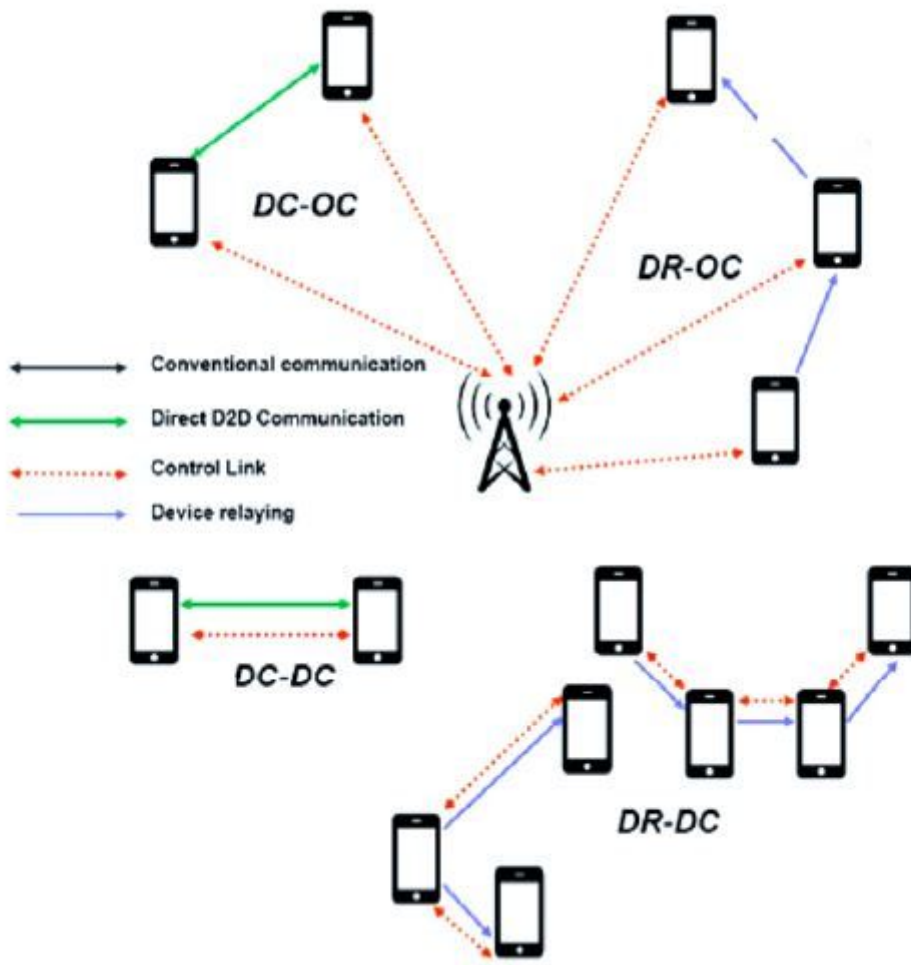


Figure 3

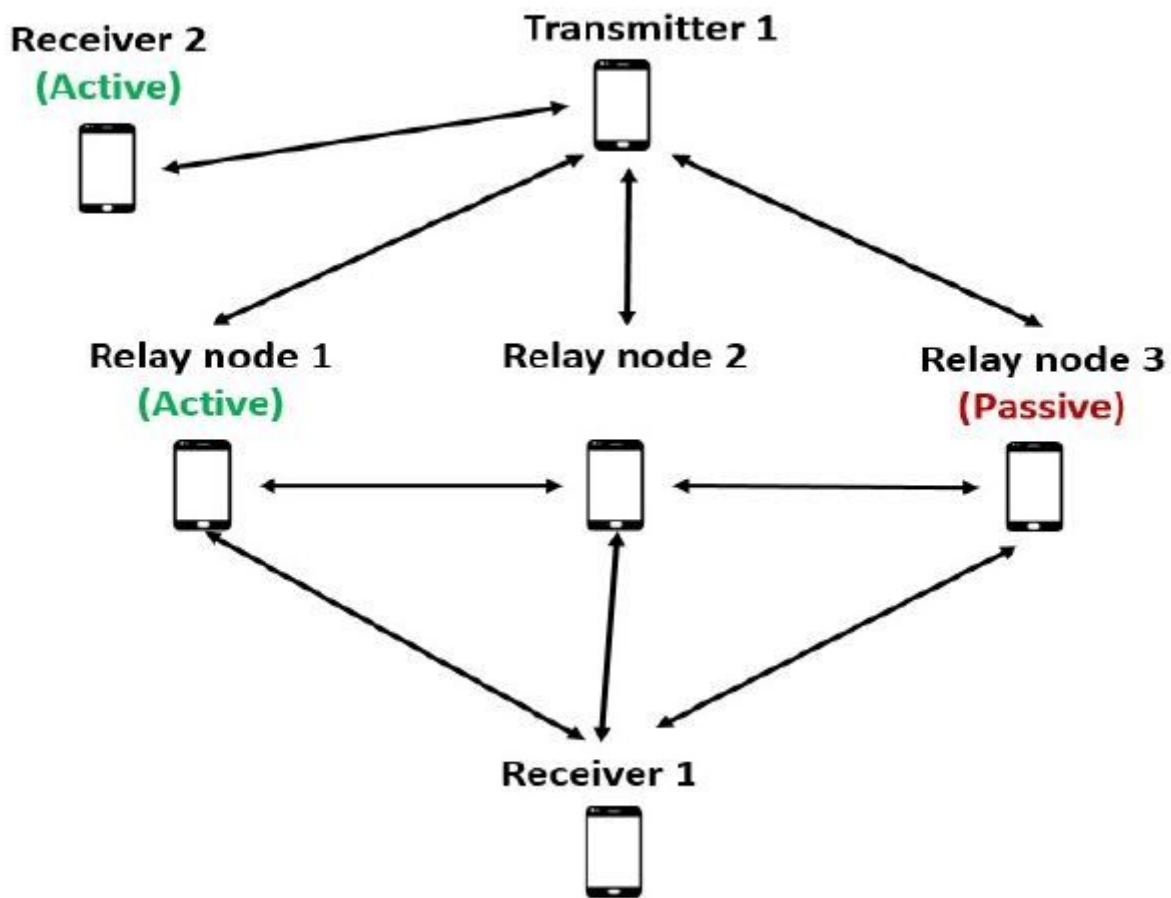


Figure 4

Proposed topology

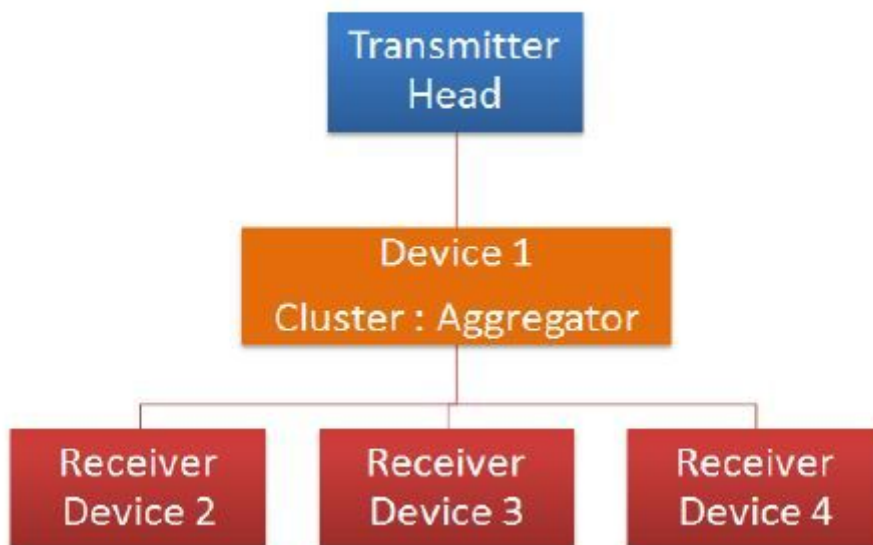


Figure 5

Communication topology

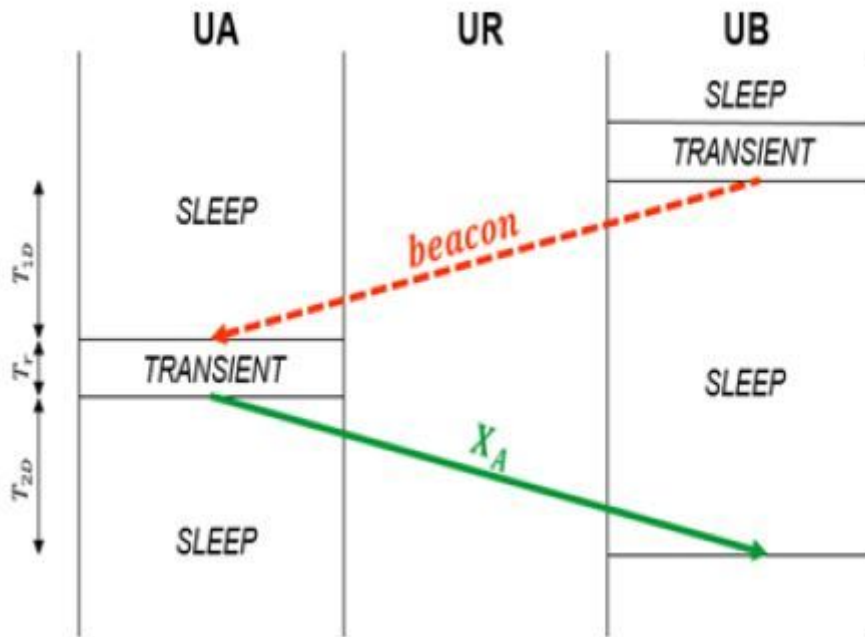


Figure 6

DC-DC topology transmission timing processes

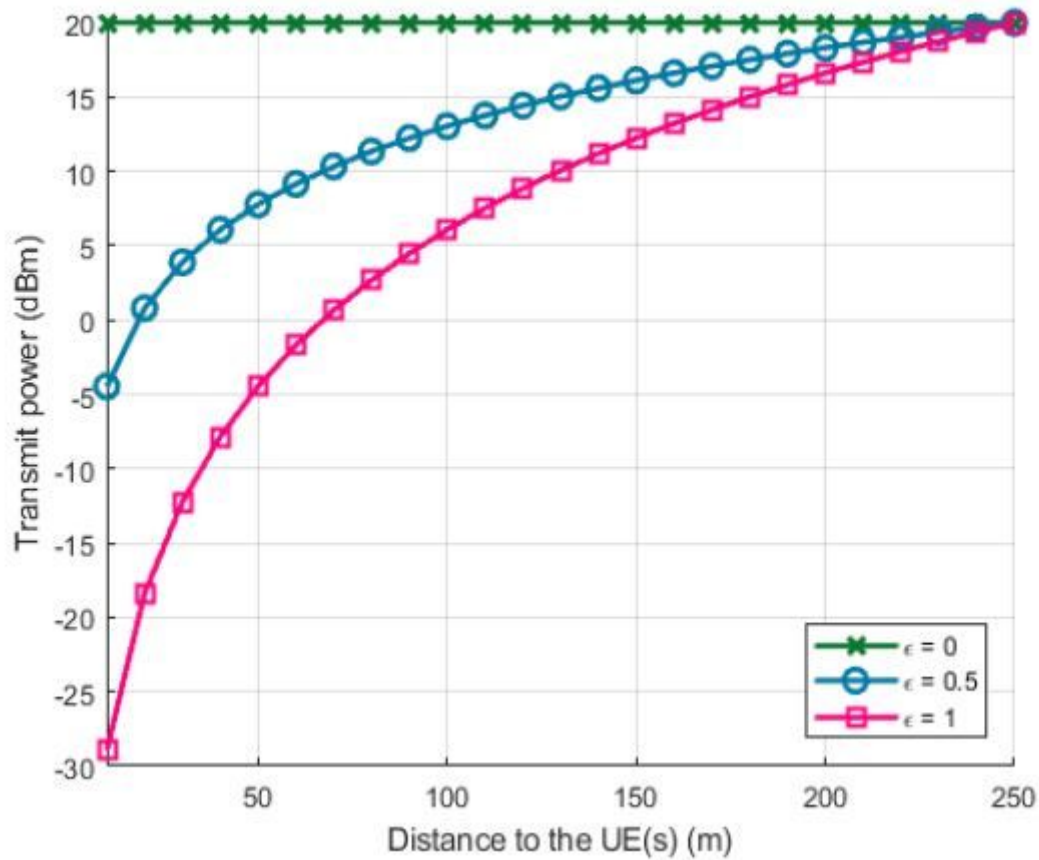


Figure 7

Power consumed by distance

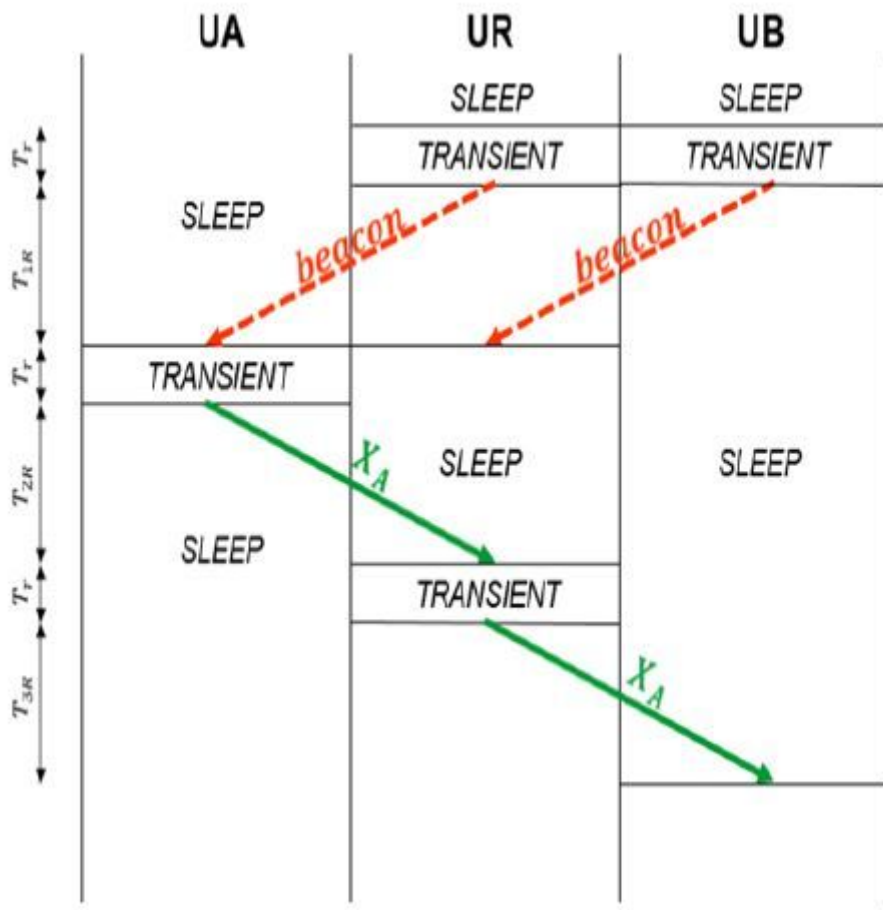


Figure 8

Time processes of DR-DC topology transmissions

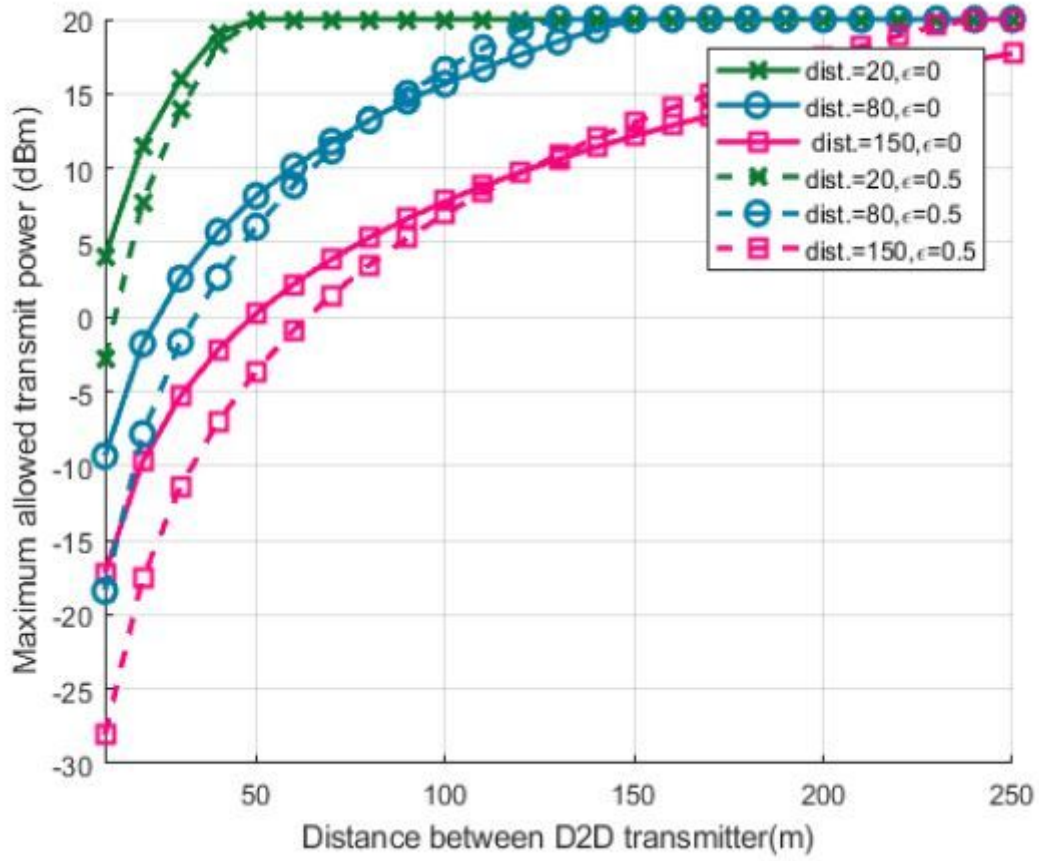


Figure 9

Energy consumed by distance

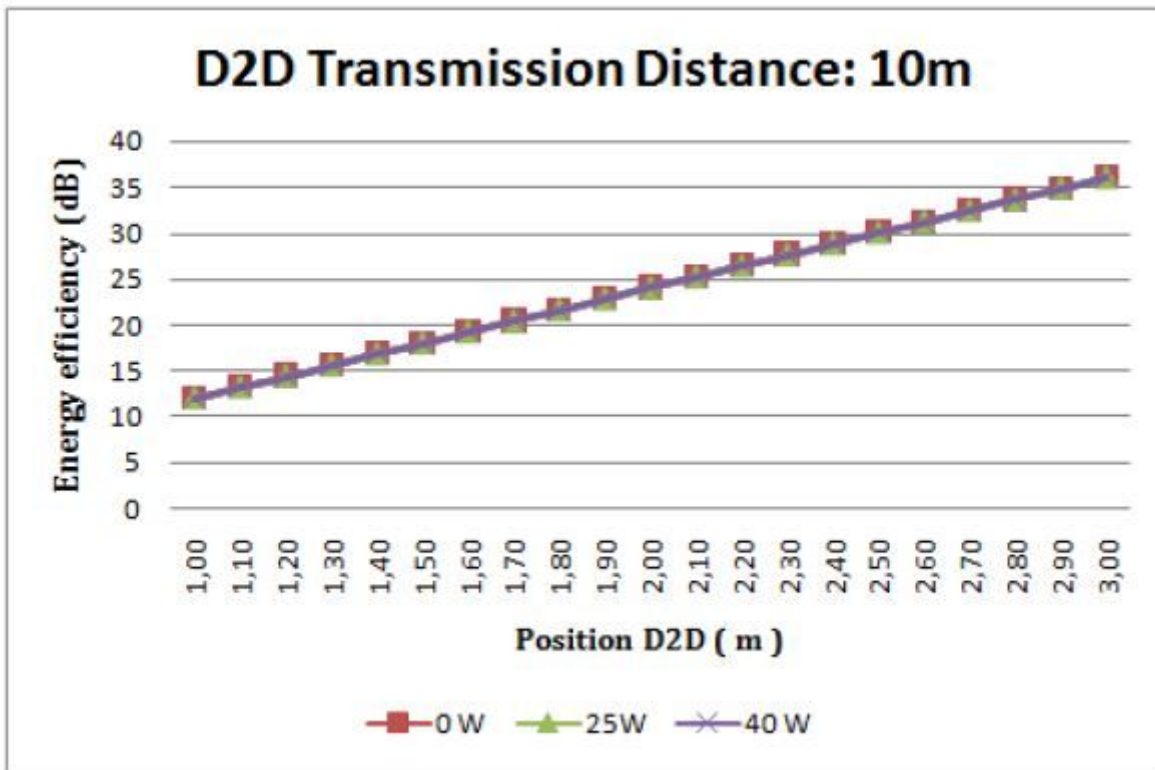


Figure 10

Energy efficiency as a function of transmission distance (10m)

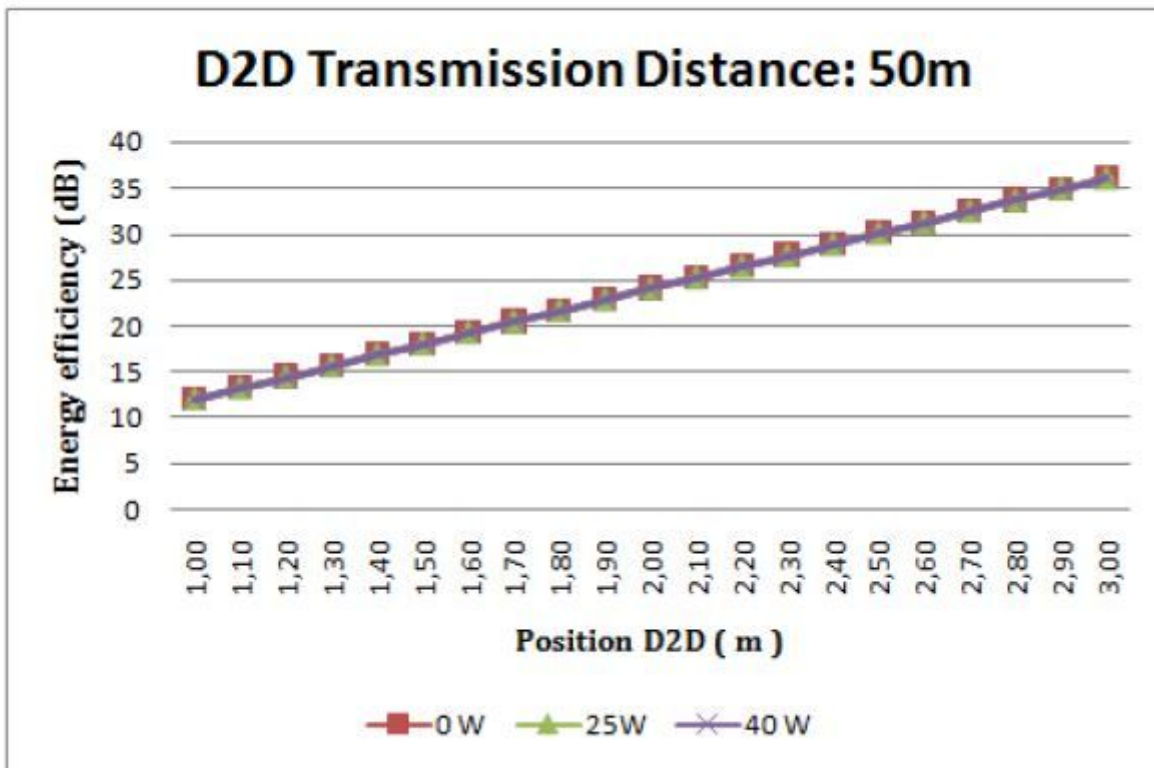


Figure 11

Energy efficiency vs transmission distance (50m)

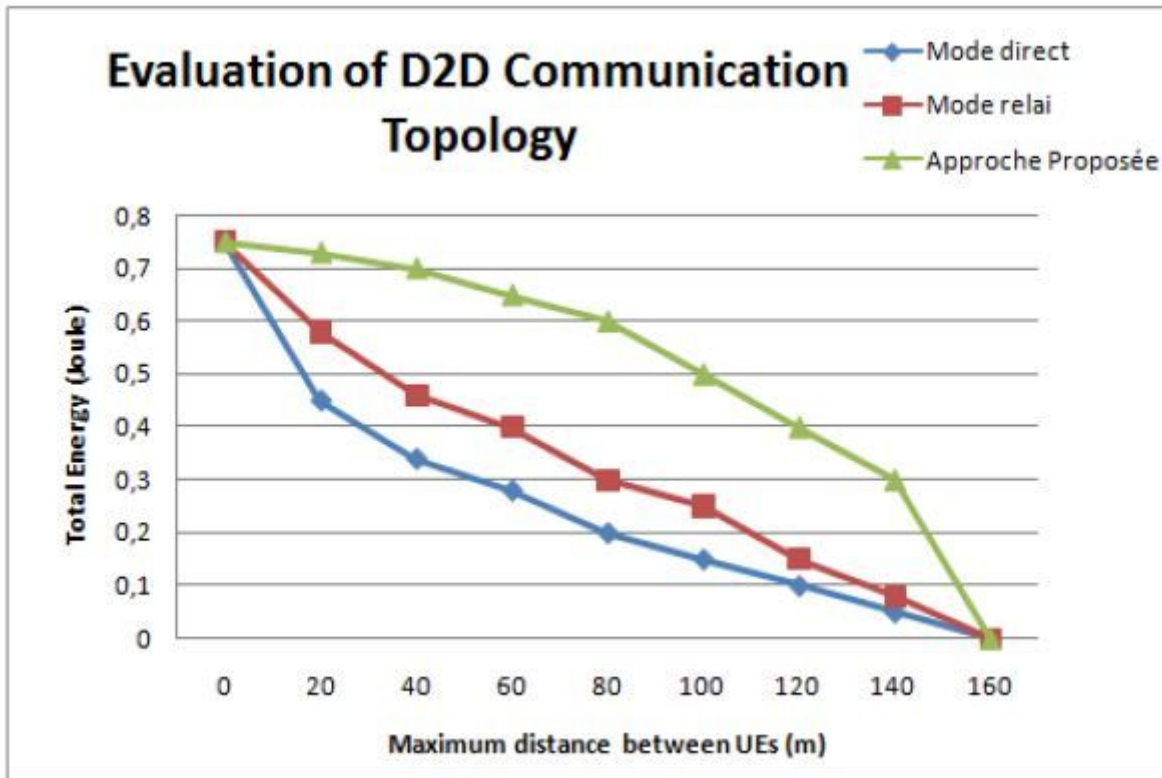


Figure 12

Evaluation of Communication Topology D2D