

Dear reviewer,

We would like to thank you for handling and reviewing our paper. These valuable reflections assisted us in improving our paper. The manuscript ( Title: **Optimal Power Allocation for Channel-Based Physical Layer Authentication in Dual-Hop Wireless Networks** ) has been carefully revised according to your suggestions. We have studied your astute comments carefully and have made the corresponding corrections, which will hopefully meet your approval. The main revisions in the paper are as follows.

- 1) In the Introduction, the authors should summarize their contribution in the introduction section using some bullets or numbers briefly.

**Response:** In section I, we merged the statement about reference [8] and [9], and removed the statement about reference [10]. In addition, to fill in more details, reference [17]-[21] were cited.

- 2) It would be better to compare the performance of the proposed design with other published work in Table in a new section called Section 2 "Related works".

**Response:** We included in the introduction a table comparing different certification schemes at the end of section I. We enumerated the authentication principles of watermark authentication channel characteristic authentication, fingerprint authentication and their main defects.

- 3) References should be provided for the equations which were borrowed from the literature.

**Response:** In the derivation of false alarm rate and missed alarm rate, due to the definition problem, there are similar parts in the formula. we annotated the final formula of false alarm rate and missed detection rate from reference [14].

- 4) In Table 1, Why you are considered Carrier frequency 2 GHz, why not 2.4 GHz for LTE technology? Also, Subcarrier interval are very tight why not 1.25, 5, 10, 15 or 20 MHz?

**Response:** Our simulation found that the performance of 2GHz and 2.4GHz was almost the same, so we replaced this frequency point. As for the sub-carrier interval, we chose 15kHz according to LTE standard. In theory, 1.25 and others are all fine.

- 5) The parameters given in Table 1 need references to support them.

**Response:** In this article, we described the parameters selected in the table and deleted some elements in the table. As the 4<sup>th</sup> response, we changed carrier frequency from 2GHz to 2.4GHz. Other parameters in table 1 were selected based on 3GPP. In addition, other simulation parameters not included in the table were also explained in the article of Section VI

- 6) I recommend providing the figures in the result section with colors to distinguish the lines.

**Response:** Following your comment, we colored the curves in figures.

- 7) What are the limitations of this study? and How could/should futures studies improve the model?

**Response:** In section VII, we explained the limitations and follow-up of the scheme.

Thank you again for your generosity with your precious time invested in improving the paper.

We sincerely hope you will be satisfied with the revised paper.

Sincerely

The Authors