

Review of: "Investigations on Input Impedance and Radiation Pattern of a UWB Antenna for Microwave Imaging"

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Potential competing interests: No potential competing interests to declare.

Authors have presented 'Investigations on Input Impedance and Radiation Pattern of a UWB Antenna for Microwave Imaging'. There are some major comments/suggestions that must be discussed before accepting the manuscript:

1- Author should improve the figure quality.

2- Author should calculate the channel capacity of the proposed antenna.

3- Put some images of antenna testing and measurement.

4-Kindly incorporate the efficiency plot.

5-Following are the articles, author needs to discuss in introduction section & literature.

(a)- Singh, A. K., Mahto, S. K., & Sinha, R. (2022). Quad element MIMO antenna for LTE/5G (sub-6 GHz) applications. *Journal of Electromagnetic Waves and Applications*, 36(16), 2357-2372.

(b) Singh, A. K., Mahto, S. K., Kumar, P., Mistri, R. K., & Sinha, R. (2022). Reconfigurable circular patch MIMO antenna for 5G (sub-6 GHz) and WLAN applications. *International Journal of Communication Systems*, 35(16), e5313.

(c) Singh, A. K., Mahto, S. K., & Sinha, R. (2022). Reconfigurable dual element dual band MIMO antenna for 5G (Sub-6 GHz) and WLAN applications. *COMPEL-The international journal for computation and mathematics in electrical and electronic engineering*, (ahead-of-print).

(d) Singh, A. K., Mahto, S. K., & Sinha, R. (2021). A miniaturized MIMO antenna for C, X, and Ku band applications. *Progr. Electromagn. Res. C*, 117, 31-40.

(e) Mahto, S.K., Singh, A.K., Sinha, R., Alibakhshikenari, M., Khan, S. and Pau, G., 2023. High Isolated Four Element MIMO Antenna for ISM/LTE/5G (Sub-6GHz) Applications. *IEEE Access*.

(f) Singh, A.K., Mahto, S.K. and Sinha, R., 2022, December. Circular Shape Dual Element MIMO Antenna for 5G (Sub-6GHz) Application. In *2022 IEEE Microwaves, Antennas, and Propagation Conference (MAPCON)* (pp. 583-587). IEEE.

(g) Singh, A.K., Mahto, S.K. and Sinha, R., 2021. Compact super-wideband MIMO antenna with improved isolation for wireless communications. *Frequenz*, 75(9-10), pp.407-417.

(h) Kumar, Praveen, Ajit Kumar Singh, Ranjeet Kumar, Santosh Kumar Mahto, Pravesh Pal, Rashmi Sinha, Arvind Choubey, and Ahmed Jamal Abdullah Al-Gburi. "Design and Analysis of Low Profile Stepped Feedline with Dual Circular Patch MIMO Antenna and Stub Loaded Partial Ground Plane for Wireless Applications."

(i) Singh, Ajit Kumar, Santosh Kumar Mahto, Praveen Kumar, and Rashmi Sinha. "Analysis of path loss and channel capacity in quad element MIMO antenna for terahertz communication systems." *International Journal of Circuit Theory and Applications* 51, no. 3 (2023): 1460-1475.

6- Why is there a large deviation in simulation and measurement results in Fig. 24?

7- Kindly add the measurement results in other S-parameters and radiation patterns.

8-What is the limitation of the proposed design?

9-How have the length and width of the patch been calculated?

10- What are the other ways to improve the directivity of the antenna apart from a reflector?

11-Author should thoroughly revise the English language.

12- Author should analyze the current distribution.

13-Kindly add a comparative table or chart with other published literature for better novelty.