

## Comparative Investigation of Miniaturized Antennas Based on Chiral Slotted Ground Plane

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**Abstract :** This study presents a miniaturized antenna based on chiral metamaterials slotted ground plane. To decrease resonant frequency while keeping the antennas physical dimensions the same, we propose a two novel patch antennas with double Z and cross slots on the ground plane. The length of the each type of slot are also altered to investigate the effect on miniaturization performance. Resonance frequency reduction has been achieved nearly to 30% and 23% as well as size reduction of almost 28% and 22% for the double Z and the cross shape respectively.

**Keywords :** chiral metamaterials, miniaturized antenna, miniaturization, resonance frequency

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