

عنوان مقاله:

A Novel Circularly polarized dielectric resonator antenna with Branch-Line Coupler and Log-Periodic Balun

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خلاصه مقاله:

A new shaped circularly polarized dielectric resonator antenna (CP DRA) is studied with branch-line coupler and log-periodic balun for the GPS application. Since the coupler and balun are located under the DRA, it does not increase the footprint of the antenna, as a result the system is very compact. Two configurations are considered in this paper. In the first configuration, an external 50Ω load is used for the matching port of the branch-line coupler. For the second one, a three-resonator log-periodic balun is used instead of branch-line coupler, thus, no lumped elements are required in this configuration. Moreover, two modes $HEM_{11\delta}$ of the cylindrical DRA are utilized to design the wide band circular polarization. The reflection coefficient, axial ratio, antenna gain, and radiation pattern are studied for each configuration. These first and the second configurations offer an impedance bandwidth (S11

کلمات کلیدی:

circular polarization, dielectric resonator antenna, coupler, balun

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