

عنوان مقاله:

Design of a Circular Patch Antenna with Parasitic Elements for 5G Applications

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خلاصه مقاله:

A design of a wideband bidirectional pattern antenna, accomplished by the integration of a circular patch, crescents as parasitic elements, encompassed by a circular ring adjoining the ground plane, to operate over the mid-band 5G sub-6 GHz applications is reported. It is come up with a copper grazed on FR4 substrate with relative permittivity of 4.3 and height of 1.6 mm. The proposed antenna is fed by a 50-ohm coplanar waveguide, which is printed on the same side of the radiating circular patch. A concise antenna model with dimensions of 45 × 45 × 0.6 mm³ was made up and investigated to affirm the simulation outcomes. Good consistency was confirmed between experimental and simulation results. The proposed antenna has the benefit of bidirectional pattern with a good gain of 5.24 dBi and wide bandwidth covering of 111.4% (1.81-6.36 GHz) — it is one of good postulants for 5G new radiation application especially for indoor .environment, narrow, and long path services area like corridor, tunnel, and train station, etc

کلمات کلیدی:

circular patch antenna, Wideband antenna, parasitic elements, 5G applications

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