

Abstract:

An inverted microstrip circular patch with a parasitic element printed back to back on the same substrate and backed by a cylindrical metallic cavity is investigated as a compact integratable broadband antenna. The cavity effect in changing its impedance behavior is thoroughly examined and an optimized X-band design is presented. As much as 11% bandwidth is apparent from the design data. Principal plane radiation patterns are also examined showing above 98 % efficiency and 10.97 dB directivity.