Study on microstrip x-linear polarized and x-circular polarized antenna

Abstract :

This paper present an x-linear polarized microstrip patch antenna and x-circular polarized microstrip patch antenna using single port in X-form at 45^0, 135^0, 225^0 and 315^0. Combinations of 4 patches using quarter wave impedance matching technique have been used to design x-linear polarized microstrip patch antenna and x-circular polarized microstrip patch antenna. The proposed designs were simulated using Computer Simulation Technology (CST) with dielectric constant, ε_r=4.3, tan δ=0.019 and thickness of substrate, t=1.6mm. The associated simulation and measurement results such as return loss, bandwidth, gain, directivity and polarization have been compared and analyzed. Both antennas have gain between 5dB to 7dB.