

Title: A compact dual-band microstrip antenna array with Artificial Magnetic Conductor

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Abstract: In this paper, an approach for designing a compact microstrip antenna array using Artificial Magnetic Conductor (AMC) for dual-frequency operation are presented. The designs of single element, 1×2 and 2×2 array yield a good gain with compact size. The radiating patch for the 2×2 array has dimensions 48×57 mm with ground plane (GP) size of 63×95 mm. The antennas introduce the U-slot structure designed below the patch to create the second resonant frequency. The AMC then used as the back plane for the antennas to increase the gain and redirect the back radiation as well as provide shielding to the antenna. Proposed design antenna operates at 2.45 GHz and 5.8 GHz and suitable for ISM band application.