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Pattem-Reconfigurable PCB-based Phased Array for WLAN Applications

Abstract
A pattern-reconfigurable microstrip patch array antenna with switchable beams for WLAN application is presented. The proposed 1×2 array can steer the beam approximately to-30, 0, and +30 in the H(xz)-plane with the aid of DC biasing circuitry. An external switching circuit was also developed to measure the prototype effectively. The overall size of the proposed antenna prototype is 0.98?0 × 0.51?0 × 0.01?0 at 2.45 GHz, where the beam can be tilted by controlling the RF signal path through the developed microstrip feedline network using p-i-n diodes. © 2020 IEEE.

Keywords
antennas and propagation; beamforming; phased array antenna; Reconfigurable antenna