

# High Gain of 2x1 Simulated Circularly Polarized Rectangular Microstrip Patch Array Antenna

## Abstract

This paper presents a high gain of 2x1 circularly polarized rectangular microstrip array antenna for wide communication. This paper study the design and the simulation of the array antenna in terms of gain, return loss and the axial ratio. The 2 1 array antenna with dimension of 130 80 mm is proposed. The presented design is composed of two elements of microstrip patch antenna with an array configuration. The truncated edge of the patch and the inclined slot are the techniques used that capable to achieve circular polarized capability. The antenna is fed by microstrip transmission line with full ground plane and etched on Rogers RT 5880 substrate with 2.1 and 1.53 mm of dielectric constant and the thickness respectively. The 2x1 array antenna achieved a gain of 10.77 dB with a return loss of -24. 63 dB at a desired frequency of 5.8 GHz.