

A wideband cylindrical conformal microstrip mimo antenna array

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Abstract

In this paper, a wideband cylindrical conformal microstrip antenna array employing a proximity-coupled feeding mechanism with a cavity-backed configuration is designed and fabricated. Compared with other conformal microstrip patch antennas by using linear subarrays assembled piecewise, this design uses Teflon instead of traditional dielectric layers, and makes it possible to process the whole conformal array without splicing, obtaining the freedom in unit size and array radius adjustment except ease of manufacturing and assemblage. Combined with the optimization of the cavity size, an array with 4?4 elements is obtained which has a bandwidth of 40% from 8 to 12GHz and a gain of 16.4 dB.

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