

Low side lobe level multilayer antenna for wireless applications

ABSTRACT

A low cost and easy fabrication multilayer antenna for wireless applications was presented to cover the industrial, scientific, and medical ISM band of (5.725-5.875) GHz with a gain of 11.7 dB. The antenna was composed of a feeding patch fabricated on a Rogers RT/Duroid 5880 substrate, and three superstrate layers of Rogers RO3006 were located above the feeding patch at a specific height for each layer. The superstrate layers were added to enhance the bandwidth and gain of the antenna and reduce its side-lobe level and return loss. The simulated and measured results of the operating frequency, return loss, bandwidth, and gain for the antenna were presented. CST Microwave Studio was used in this design's simulation.

Keyword: Multilayer antennas; Wireless; ISM band; Microstrip patch antennas