

The Design and Analysis of a Novel Type High Gain Microstrip Patch Antenna System for the Satellite Communication

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Abstract : An individual feed, smooth and smart, completely new shaped, dual band microstrip patch antenna has been proposed in this manuscript. Right here three triangular shape slots are usually presented in the 3 edges on the patch and along with a small feed line has utilized another edge on the patch to find out the dual band. The antenna carries a condensed framework wherever patch is around about 8.5mm by means of 7.96mm by means of 1.905mm leading to excellent bandwidths covering 13.15 GHz to 13.72 GHz in addition to 16.04 GHz to 16.58GHz. The return loss(RL) decrease in -19.00dB and will be attained in the first resonant frequency at 13.61 GHz and -28.69dB is at second resonance frequency at 16.33GHz. The stable average peak gain that may be observed along the operating band in lower and higher frequency is actually three. 53dB in addition to 5.562dB correspondingly. The radiation designs usually are omni directional along with moderate gain within equally most of these functioning bands. Accomplishment is proven within double frequencies at 13.62GHz since downlink in addition to 16.33GHz since uplink. This kind of low and simple configuration of the proposed antenna shows simplest fabrication and make it ensure that it is adaptable for your application within instant in satellite and as well as for the wireless communication system.

Keywords : dual band, microstrip patch antenna, HFSS, Ku band, satellite

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