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Design of Broadband W-Slotted Microstrip Patch Antenna

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Abstract : Microstrip patch antenna widely used in communication area because it offers low profile, narrow bandwidth, high gain, and compact in size. It has big disadvantage of narrow bandwidth. To improve the bandwidth a W-slot technique is used, it is efficient to enhance the bandwidth of antenna. The feeding point of antenna is very important for efficient operation, so coaxial feeding technique is applied to microstrip patch antenna for impedance matching. A broadband W-slot microstrip patch antenna is designed successfully which attains a bandwidth of 22.74% at 10dB return loss with centre frequency of 4.5GHz and also it attains maximum directivity 8.78dBi. It is designed by cutting a W-slot into the patch of antenna, because of this resonant slot, the antenna gives broad bandwidth. This antenna is best suitable for C-band frequency spectrum. The proposed antenna is designed and simulated using IE3D software.

Keywords : broadband, microstrip antenna, VSWR, W-slotted patch
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