

Designs of Dual - band Circularly Polarized Slot Antenna for Satellite / Wireless Communication Systems

楊秉剛、許崇宜；施家頤

E-mail: 9707873@mail.dyu.edu.tw

ABSTRACT

In this thesis, a compact CPW-fed dual-band circularly polarized (CP) slot antenna is proposed. The antenna was designed by embedding an L-shaped metallic strip into the slot to obtain low-frequency CP radiation. Embedding an extended tuning-stub protruded from a 50- CPW feedline can result in high-frequency CP radiation. The perturbation owing to the extended feedline and the radiator can themselves excite two space-wise mutually orthogonal resonant modes with an equal amplitude and a phase difference of 90° . Finally, the back-patch at the center of the L-shaped metallic strip and slot can be adjusted to give an optimal impedance match in these two CP bands.

Keywords : circular polarization ; axial ratio

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