

عنوان مقاله:

Wideband Multisection Hybrid Coupler in Slot-coupled Structure for L/S/C band Applications

محل انتشار:

اولین کنفرانس بین المللی دستاوردهای نوین پژوهشی در مهندسی برق و کامپیوتر (سال: 1395)

تعداد صفحات اصل مقاله: 5

نویسندگان:

Somayeh Khajepour - Department of Electrical Engineering, University of Shahid Beheshti, Tehran ۱۵۹۱۴, Iran

Shahrooz Asadi - Department of Electrical Engineering, University of Shahid Beheshti, Tehran ۱۵۹۱۴, Iran

Mohammad Saeid Ghaffarian - Department of Electrical Engineering, Amirkabir University of Technology, Tehran ۱۵۹۱۴, Iran

Gholamreza Moradi - Department of Electrical Engineering, Amirkabir University of Technology, Tehran ۱۵۹۱۴, Iran

خلاصه مقاله:

This paper presents a wideband compact hybrid coupler working on 1-6 GHz frequency band. This 3-dB hybrid coupler is in slot-coupled structure designed on multilayer Rogers RO4003C substrate. The proposed coupler consists of elliptically shaped transmission line and the combination of rectangular and elliptical shaped slots on the ground plane. To improve characteristics of the designed coupler especially in lower frequency band, multisection transmission line and altering shape of the slot on ground is proposed. By etching extra rectangular slots on the ground plane the overall size reduction is achieved. Simulation results show that the proposed coupler provides coupling of 3 ± 0.8 dB with $90^\circ\pm 0.85$ phase shift and demonstrate the return loss and isolation better than 16 dB over 1–6 GHz (143%) frequency band which increased by 34% compared to other slot-coupled configuration in literature review. The coupler size is 20 mm × 30 mm. The results indicate that the proposed coupler covers .GPS/DCS/PCS/UMTS/WiBro/ S-DMB/WiMax/WLAN frequency bands

کلمات کلیدی:

Hybrid; slot-coupled; wideband; multisection

لینک ثابت مقاله در پایگاه سیویلیکا:

<https://civilica.com/doc/497448>

