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2018 IEEE International Conference on Innovative Research and Development, ICIRD 2018

8 June 2018, Pages 1-4

2018 IEEE International Conference on Innovative Research and Development, ICIRD 2018; AIT Conference Center BangkokBangkok; Thailand; 11 May 2018 through 12 May 2018; Category numberCFP18P33-ART; Code 137077

Design and analysis of 1-to-4 wilkinson power divider for antenna array feeding network

(Conference Paper)

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Abstract

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In this paper, A Novel 1 to 4 modified Wilkinson power divider operating over the frequency range of (3 GHz to 8 GHz) is proposed. The design perception of the proposed divider based on two different stages and printed on FR4 (Epoxy laminate material) with the thickness of 1.57mm and $r = 4.3$ respectively. The modified design of this power divider including curved corners instead of the sharp edges and some modification in the length of matching stubs. In addition, this paper contain the power divider with equal power split at all ports, reasonable insertion loss, acceptable return loss below -10 dB, good impedance matching at all ports and satisfactory isolation performance has been obtained over the mentioned frequency range. The design concept and optimization development is practicable through CST simulation software. © 2018 IEEE.

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ISBN: 978-153865696-9

Source Type: Conference Proceeding

Original language: English

DOI: 10.1109/ICIRD.2018.8376338

Document Type: Conference Paper

Sponsors:

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