Abstracts

Matched-Line Directional Dividers

T.J. Russell. "Matched-Line Directional Dividers." 1993 Transactions on Microwave Theory and Techniques 41.6 (Jun./Jul. 1993 [T-MTT]): 1094-1104.

A new class of passive microwave devices is described that provides for equal or unequal division of a signal from an input to two or more outputs--with the outputs isolated from each other. The matched-line directional divider consists of an input network connected through interconnection ports to a transmission line network. The input network typically consists of resistors. The transmission line network consists of generally parallel transmission lines that are coupled together at the interconnection ports and uncoupled at their output ports. Output match and isolation between output ports is obtained by designing the transmission line network to match the uncoupled output ports to the outputs of the input network. It is shown that by using tapered transmission lines, MLDD's can be designed to have high-pass frequency response. Five new types of coupled tapered line power dividers having terminating resistor configurations at the coupled line inputs are described.

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