

Title (en)

COUPLER HAVING ARBITRARY IMPEDANCE TRANSFORMATION RATIO AND ARBITRARY COUPLING RATIO

Publication

EP 0066015 B1 19870318 (EN)

Application

EP 81302294 A 19810522

Priority

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Abstract (en)

[origin: EP0066015A1] An impedance transforming coupler (27, 28) is disclosed which may be used as a power divider or power combiner at microwave frequencies. The power division or power combination ratio is arbitrary, and the impedance transformation ratio is arbitrary. These couplers may be used in a circuit to power-combine amplifiers (11, 12). The insertion loss of the circuit is low and the bandwidth is improved by an order to two to one over prior art systems which had separate circuits for matching the impedance and providing power combining. The coupler is optimally a branch line coupler having four curved branches a quarter wavelength long at the center frequency. The output ports are 90 DEG out of phase. Simple formulas are given relating the desired admittances of each of the four branches to k, the desired power coupling ratio, and Y, the desired admittance transformation ratio.

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H01P 5/225 (2013.01); **H01P 5/227** (2013.01)

Citation (examination)

US 3772616 A 19731113 - IMOTO K

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GB2160024A; GB2389715A; GB2389715B; GB2380616A; GB2161991A; EP0180011A1; EP0169124A1; FR2567695A1; US7385461B2; US11011815B2; WO2019210070A1

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