

Title (en)

Wilkinson power divider circuit and corresponding design method

Title (de)

Wilkinson-Leistungsverteilerschaltung und entsprechendes Entwurfsverfahren

Title (fr)

Circuit diviseur de puissance Wilkinson et sa méthode de conception

Publication

**EP 0997965 A1 20000503 (EN)**

Application

**EP 98120556 A 19981030**

Priority

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Abstract (en)

The present invention provides a Wilkinson power divider circuit, comprising a plurality of N transmission lines (TRL1, TRL2, ..., TRLN), N being an integer equal to or greater than 2, having a respective length of  $l = \lambda_0/4$  at a center frequency  $f_0$ , where  $\lambda_0$  is the wavelength at  $f_0$ , and respective line impedances  $Z_w$ ; said plurality of N transmission lines (TRL1, TRL2, ..., TRLN) being connected to a first port (P1) at a respective first end, to a respective second port (P2, P3, ..., PN+1) at a respective second end, and via a respective resistor (R1, ..., RN) to a node (O) at the respective second end. By means of an additional LC circuit (50) comprising at least an inductor having an inductance L and a capacitor having a capacitance C connected in series between said first port (P1) and said first ends of said plurality of N transmission lines (TRL1, TRL2, ..., TRLN) having its resonance frequency  $f_r$  at or near said center frequency  $f_0$ , it is possible to broaden the bandwidth at a desired value of the minimum isolation. <IMAGE>

IPC 1-7

**H01P 5/16**

IPC 8 full level

**H01P 5/16** (2006.01)

CPC (source: EP)

**H01P 5/16** (2013.01)

Citation (search report)

- [A] GB 2282008 A 19950322 - HUGHES AIRCRAFT CO [US]
- [XY] PATENT ABSTRACTS OF JAPAN vol. 5, no. 121 (E - 068) 5 August 1981 (1981-08-05)
- [Y] A.A.M. SALEH: "PLANAR ELECTRICALLY SYMMETRIC N-WAY HYBRID POWER DIVIDERS/COMBINERS", IEEE TRANSACTIONS ON MICROWAVE THEORY AND TECHNIQUES., vol. 28, no. 6, June 1980 (1980-06-01), NEW YORK US, pages 555 - 563, XP002095839

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RU2717898C1; CN111027265A; CN108011168A; US11011818B1; US8963657B2; WO2021063302A1; EP2246624A2; DE102009019118A1; US8216912B2

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