Title (en)

A HYBRID COUPLER

Title (de)

HYBRIDKOPPLER

Title (fr)

COUPLEUR HYBRIDE

Publication

EP 3451443 A1 20190306 (EN)

Application

EP 17275130 A 20170831

Priority

EP 17275130 A 20170831

Abstract (en)

A hybrid coupler (20) for dividing an input electrical signal to produce first and second output electrical signals which are substantially out of phase, the hybrid coupler including: a first port comprising an input port (12) for receiving the input electrical signal; an input line (14) for coupling the input electrical signal to a slotline (18); and an output line (24) for coupling the first and second output electrical signals to, respectively, second and third ports comprising, respectively, a first output port (26) and a second output port (28), the output line (24) having a junction with the slotline (18); wherein the slotline (18) couples the input electrical signal to the junction, and the junction acts as a divider to produce the first and second electrical signals; wherein the hybrid coupler further comprises: an input section including said input line (14) and an output section including said output line (24), and wherein the slotline (18) is terminated at the output section by an output open circuit termination (22); a pair of ground planes, between which said input line (14) and said output line (24) are located; and wherein: on one of the ground planes, the slotline (18) transitions at said output section into a first end of a Co-Planar Waveguide (40), said Co-Planar Waveguide (40) being electrically connected to said output line (24), said Co-Planar Waveguide (40) defining, at a second, opposing end thereof, a sum port (46) configured to divert common mode signals received at said first and second output ports (26) to said sum port (46).

IPC 8 full level

H01P 5/10 (2006.01); **H01P 5/19** (2006.01)

CPC (source: EP)

H01P 5/10 (2013.01); **H01P 5/1015** (2013.01); **H01P 5/19** (2013.01)

Citation (applicant)

- US 2005105637 A1 20050519 - FITZPATRICK DOUGLAS D [US], et al
- GB 2503226 A 20131225 - BAE SYSTEMS PLC [GB]

Citation (search report)

- [XDY] GB 2503226 A 20131225 - BAE SYSTEMS PLC [GB]
- [Y] JP S60172802 A 19850906 - NIPPON TELEGRAPH & TELEPHONE
- [Y] WO 0115260 A1 20010301 - PARATEK MICROWAVE INC [US]
- [A] US 5075647 A 19911224 - PETTER JEFFREY K [US]
- [A] GB 2503225 A 20131225 - BAE SYSTEMS PLC [GB]
- [A] US 3678395 A 19720718 - HUNTON JAMES KEITH, et al
- [A] NING YANG ET AL: "Broadband Compact 180^{\circ} Hybrid Derived From the Wilkinson Divider", IEEE TRANSACTIONS ON MICROWAVE THEORY AND TECHNIQUES, PLENUM, USA, vol. 58, no. 4, 1 March 2010 (2010-03-01), pages 1030 - 1037, XP011304012, ISSN: 0018-9480

Cited by

CN111628257A

Designated contracting state (EPC)

AL AT BE BG CH CY CZ DE DK EE ES FI FR GB GR HR HU IE IS IT LI LT LU LV MC MK MT NL NO PL PT RO RS SE SI SK SM TR

Designated extension state (EPC)

BA ME

DOCDB simple family (publication)

EP 3451443 A1 20190306

DOCDB simple family (application)

EP 17275130 A 20170831