

Title (en)
Signal coupling methods and arrangements

Title (de)
Verfahren und Anordnung für Signalkopplung

Title (fr)
Procédés et dispositifs de couplage de signaux

Publication
EP 1341258 A1 20030903 (FR)

Application
EP 03101035 A 19990625

Priority
• EP 99928098 A 19990625
• GB 9813913 A 19980626
• GB 9813914 A 19980626

Abstract (en)
Signal coupling arrangements are described in which the effect of unwanted signals transferred between two antennas is compensated for. In one arrangement a microstrip edge coupler is used as a compensation network to provide a cross-coupling path for the transfer of a compensating signal between two antenna signal paths. In another arrangement, an antenna assembly includes cross-slots which, in association with a conductive ring, provide two mutually orthogonally polarised radiation signals and connections to the conductive ring have closely spaced portions which provide compensation for and minimise the effect of unwanted mutual coupling. <IMAGE>
In the four port coupling network (1), main signal paths (11,12) are provided between ports (2,3) and ports (4,5) respectively. In operation, unwanted signal will pass between antennas (6,7) via signal path (14), to compensate for this, a cross-coupling path (13), e.g. a microstrip edge coupler network, is arranged between signal paths (11,12) to provide a compensating signal of similar magnitude and opposite phase. An Independent claim is also included for an arrangement that uses a printed ring conductor coupled to two signal ports and also coupled to a printed cross slot conductor pattern.

IPC 1-7
H01Q 1/52; **H01P 1/161**; **H01Q 13/10**

IPC 8 full level
H01P 1/161 (2006.01); **H01Q 1/52** (2006.01); **H01Q 13/10** (2006.01)

CPC (source: EP US)
H01P 1/161 (2013.01 - EP US); **H01Q 1/523** (2013.01 - EP US); **H01Q 1/525** (2013.01 - EP US); **H01Q 13/10** (2013.01 - EP US)

Citation (search report)
• [Y] DE 4305908 A1 19940901 - PHILIPS PATENTVERWALTUNG [DE]
• [A] US 4419635 A 19831206 - REINDEL JOHN [US]
• [A] US 4903033 A 19900220 - TSAO CHICH-HSING [US], et al
• [A] EP 0271458 A2 19880615 - COMMUNICATIONS SATELLITE CORP [US]
• [DY] EDIMO M ET AL: "OPTIMISED FEEDING OF DUAL POLARISED BROADBAND APERTURE-COUPLED PRINTED ANTENNA", ELECTRONICS LETTERS, vol. 28, no. 19, 10 September 1992 (1992-09-10), pages 1785 - 1787, XP000319097, ISSN: 0013-5194
• [A] LINDMARK B ET AL: "DUAL-POLARIZED ARRAY FOR SIGNAL-PROCESSING APPLICATIONS IN WIRELESS COMMUNICATIONS", IEEE TRANSACTIONS ON ANTENNAS AND PROPAGATION, vol. 46, no. 6, 1 June 1998 (1998-06-01), pages 758 - 763, XP000766084, ISSN: 0018-926X

Cited by
WO2007088184A1; EP1939985A3; EP1939985A2; US8081113B2; US8283998B2

Designated contracting state (EPC)
AT BE CH CY DE DK ES FI FR GB GR IE IT LI LU MC NL PT SE

DOCDB simple family (publication)
WO 0001030 A1 20000106; EP 1099276 A1 20010516; EP 1341258 A1 20030903; GB 2342507 A 20000412; GB 9915049 D0 19990825; US 2003137464 A1 20030724; US 6509883 B1 20030121

DOCDB simple family (application)
GB 9902006 W 19990625; EP 03101035 A 19990625; EP 99928098 A 19990625; GB 9915049 A 19990628; US 30797302 A 20021203; US 71955001 A 20010302