

Title (en)
Antenna module

Title (de)
Antennenmodul

Title (fr)
Module d'antenne

Publication
EP 1619752 A1 20060125 (DE)

Application
EP 05015079 A 20050712

Priority
DE 102004035064 A 20040720

Abstract (en)
An antenna module for GHz-frequencies has a lower patch antenna (10) with a lower substrate (11) made of a dielectric material, a lower lambda/2-structure form of the lower substrate (11), and a lower metallization (13) formed on the bottom face of the lower substrate (11). An upper lambda/-structure is formed on the upper face of the upper substrate (21) for satellite GHz-range reception, and a lower antenna tap (14) from the lower lambda/2 antenna structure is provided through the lower substrate (11).

IPC 8 full level
H01Q 1/32 (2006.01); **H01Q 5/00** (2006.01); **H01Q 5/40** (2015.01); **H01Q 9/04** (2006.01); **H01Q 21/28** (2006.01)

CPC (source: EP US)
H01Q 1/3275 (2013.01 - EP US); **H01Q 5/40** (2015.01 - EP US); **H01Q 9/0407** (2013.01 - EP US); **H01Q 9/0414** (2013.01 - EP US); **H01Q 21/28** (2013.01 - EP US)

Citation (applicant)
• EP 0521384 A1 19930107 - BALL CORP [US]
• US 2004051661 A1 20040318 - WIXFORTH THOMAS [DE], et al
• DE 10133295 A1 20030123 - FUBA AUTOMOTIVE GMBH [DE]

Citation (search report)
• [X] US 2004051661 A1 20040318 - WIXFORTH THOMAS [DE], et al
• [A] DE 10133295 A1 20030123 - FUBA AUTOMOTIVE GMBH [DE]
• [A] US 4827271 A 19890502 - BERNEKING WILLIAM D [US], et al

Citation (third parties)
Third party :
• EP 0521384 A1 19930107 - BALL CORP [US]
• EP 1249892 A2 20021016 - TYCO ELECTRONICS CORP [US]
• US 6762729 B2 20040713 - EGASHIRA YOSHIMI [JP]
• MACI S; GENTILI G B: "DUAL-FREQUENCY PATCH ANTENNAS", IEEE ANTENNAS AND PROPAGATION MAGAZINE, vol. 39, no. 6, December 1997 (1997-12-01), pages 13 - 20, XP000727580
• JAMES J.R., HALL P.S.: "Handbook of microstrip antennas", vol. 1, 1989, SHORT RUN PRESS LTD., ENGLAND, ISBN: 0-86341-150-9, article "Multilayer and parasitic configurations", pages: 318 - 320, XP003000186
• "Build this no-tune dual-band feed for mode L/S", AMSAT JOURNAL, 2002, pages 7 PG-S, XP003000187

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WO2009133523A1; KR101540223B1; CN103403961A; EP1936736A1; US7587183B2; US9553365B2; US7936306B2; US7928909B2; WO2009065806A1; WO2012123125A1; US7277056B1; US7528780B2; US7405700B2; US9093750B2; US9270019B2; WO2010031459A1; US8111196B2; US7489280B2

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DOCDB simple family (application)
EP 05015079 A 20050712; DE 102004035064 A 20040720; US 18501505 A 20050720; US 49453306 A 20060728; US 75353907 A 20070524