

Title (en)  
Wideband printed antenna system

Title (de)  
Breitbandiges gedruckte Antennensystem

Title (fr)  
Antenne imprimée à large bande

Publication  
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Application  
**EP 01600007 A 20010412**

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Abstract (en)  
The present invention relates to a low-cost, wideband printed antenna system for the microwave and mm-wave frequency range. The antenna system according to the present invention consists of a butterfly-shaped dipole (radiator) comprising two elements 2, 3, balanced microstrip lines 4, 5 and balanced-to-unbalanced transition 8, 9 for the feeding network. The whole structure is printed on a low-loss dielectric substrate 1 and is placed about a quarter wavelength above a metal reflector plate 6. The two elements of the radiator are printed, respectively, on the opposite side of the substrate. Different radiating element shapes 5, 6 and their design method are presented. The proposed antenna system achieves wideband operation concerning impedance, antenna gain and radiation pattern characteristics. Bandwidth enhancement over the conventional dipole element, is achieved by the shape of the dipole, the proper matching between the feeding line and the radiating element, through coupling elements 10 located along the balanced microstrip lines and adjacent the radiating elements. <IMAGE>

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IPC 8 full level  
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CPC (source: EP)  
**H01Q 1/38** (2013.01); **H01Q 9/285** (2013.01); **H01Q 21/062** (2013.01)

Citation (search report)

- [X] XUE FENGZHANG: "A BROADBAND PRINTED CIRCUIT ANTENNA WITH STRIP GRIDS", PROCEEDINGS OF THE ANTENNAS AND PROPAGATION SOCIETY ANNUAL MEETING. 1991. VENUE AND EXACT DATE NOT SHOWN, NEW YORK, IEEE, US, vol. 1, 1991, pages 154 - 157, XP000242407, ISBN: 0-7803-0144-7
- [X] SUPRIYO DEY: "BANDWIDTH ENHANCEMENT BY FLARED MICROSTRIP DIPOLE ANTENNA", PROCEEDINGS OF THE ANTENNAS AND PROPAGATION SOCIETY ANNUAL MEETING. 1991. VENUE AND EXACT DATE NOT SHOWN, NEW YORK, IEEE, US, vol. 1, 1991, pages 342 - 345, XP000242446, ISBN: 0-7803-0144-7
- [X] EVTIOUSHKINE G A ET AL: "Very wideband printed dipole antenna array", ELECTRONICS LETTERS, IEE STEVENAGE, GB, vol. 34, no. 24, 26 November 1998 (1998-11-26), pages 2292 - 2293, XP006010649, ISSN: 0013-5194
- [A] DEY S ET AL: "Analysis of cavity backed printed dipoles", ELECTRONICS LETTERS, IEE STEVENAGE, GB, vol. 30, no. 3, 3 February 1994 (1994-02-03), pages 173 - 174, XP006000134, ISSN: 0013-5194

Cited by  
CN115173073A; CN107978850A; CN112736496A; CN111653877A; GB2510144A; CN108475844A; DE10351488A1; FR2943465A1; EP1566858A1; CN115020969A; AU2007215840B2; EP1993169A4; CN110534924A; CN110856456A; GB2480003A; GB2480003B; EP1515396A3; US8669911B2; US7193576B2; US7903042B2; US10186768B2; US8125390B2; WO2018236994A1; WO2010106073A1; US9746555B2; US11145984B2; US11735807B2; EP1515396A2; US7123207B2; JP5676722B1

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