

Title (en)  
Miniature broadband antenna with inductive chassis coupling

Title (de)  
Kleine, Breitbandigeantenne mit Induktive Chassiskopplung

Title (fr)  
Antenne a large bande miniature avec couplage inductif du châssis

Publication  
**EP 1962372 A1 20080827 (EN)**

Application  
**EP 06110107 A 20060217**

Priority  
EP 06110107 A 20060217

Abstract (en)  
The present proposes an antenna for use in portable electronic equipment for wireless communication. The antenna (100, 200, 300, 400, 500) comprises a first chassis element (1) of the portable electronic equipment, a second chassis element of the portable electronic equipment, an interconnection element (3) for galvanically interconnecting the first chassis element (1) with the second chassis element (2), and an inductive coupling element. The inductive coupling element is adapted to inductively couple to a current on the first chassis element (1), the second chassis element (2), and the interconnection element (3). A first antenna-feeding terminal (7b) is connected to ground of the first chassis element (1). The geometrical form of the first chassis element (1), the second chassis element (2), and the interconnection element (3) is designed for the electrical length of the chassis formed by the first chassis element, the second chassis element, and the interconnection element to correspond to an odd multiple of a half-wavelength resonance at a specified frequency. The inductive coupling element comprises a first conducting line (5), the first end of which is electrically connected to a second antenna-feeding terminal (7a), and the second end of which is electrically connected to an electrode of a tuning capacitor (6) having its other electrode electrically connected to ground of the second chassis element (6). The capacitance of said tuning capacitor (6) is thereby dimensioned for the input impedance between the first feeding terminal (7b) and the second feeding terminal (7a) to be of a defined and substantially real value at the specified frequency.

IPC 8 full level  
**H01Q 1/24** (2006.01); **H01Q 1/08** (2006.01); **H01Q 1/48** (2006.01); **H01Q 5/00** (2006.01); **H01Q 21/28** (2006.01)

CPC (source: EP)  
**H01Q 1/084** (2013.01); **H01Q 1/243** (2013.01); **H01Q 1/48** (2013.01); **H01Q 21/28** (2013.01)

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Designated contracting state (EPC)  
AT BE BG CH CY CZ DE DK EE ES FI FR GB GR HU IE IS IT LI LT LU LV MC NL PL PT RO SE SI SK TR

Designated extension state (EPC)  
AL BA HR MK YU

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**EP 1962372 A1 20080827; EP 1962372 B1 20101013; AT E484859 T1 20101015; DE 602006017582 D1 20101125**

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**EP 06110107 A 20060217; AT 06110107 T 20060217; DE 602006017582 T 20060217**