

Title (en)

LOW-HEIGHT DUAL OR MULTI-BAND ANTENNA, IN PARTICULAR FOR MOTOR VEHICLES

Title (de)

NIEDRIG BAUENDE DUAL- ODER MULTIBANDANTENNE, INSBESONDERE FÜR KRAFTFAHRZEUGE

Title (fr)

ANTENNE BI-BANDE OU MULTIBANDE DE FAIBLE HAUTEUR, EN PARTICULIER POUR VEHICULES AUTOMOBILES

Publication

**EP 1522120 B1 20051005 (DE)**

Application

**EP 03738023 A 20030612**

Priority

- DE 10231961 A 20020715
- EP 0306199 W 20030612

Abstract (en)

[origin: WO2004008573A1] The invention relates to an improved, low-height dual or multi-band antenna comprising surface transmitters (3a, 3b), whose size varies in accordance with the frequency band to be transmitted. Said antenna is configured from a smaller surface transmitter that is located on top of a larger surface transmitter. The antenna is characterised by the following improved features: the dual or multi-band antenna is essentially configured as a one-piece punched and bent metal part; as a one-piece component, said antenna consists of at least two surface transmitters (3a, 3b), which are electrically connected via a short-circuit (11b); and at least the lowest surface transmitter for transmission in a lower frequency band and/or at least a surface transmitter (3a) that is lower than the surface transmitter for transmission in the highest frequency band have transmitter wings (203a) lying adjacent to their transmitter surface (103a). When the antenna is viewed from above, the respective surface transmitter (3b) for transmission in a higher frequency band lies between the wings of said lower frequency band transmitters.

IPC 1-7

**H01Q 1/24; H01Q 5/00; H01Q 9/04**

IPC 8 full level

**H01Q 21/30** (2006.01); **H01Q 1/24** (2006.01); **H01Q 1/32** (2006.01); **H01Q 1/38** (2006.01); **H01Q 5/00** (2006.01); **H01Q 5/371** (2015.01);  
**H01Q 9/04** (2006.01); **H01Q 21/06** (2006.01)

CPC (source: EP US)

**H01Q 1/243** (2013.01 - EP US); **H01Q 5/371** (2015.01 - EP US); **H01Q 9/0414** (2013.01 - EP US); **H01Q 9/0421** (2013.01 - EP US);  
**H01Q 9/0471** (2013.01 - EP US)

Designated contracting state (EPC)

AT BE BG CH CY CZ DE DK EE ES FI FR GB GR HU IE IT LI LU MC NL PT RO SE SI SK TR

DOCDB simple family (publication)

**WO 2004008573 A1 20040122**; AT E306128 T1 20051015; AU 2003245936 A1 20040202; BR 0312716 A 20050419;  
CN 100435411 C 20081119; CN 1669181 A 20050914; DE 10231961 B3 20040212; DE 50301327 D1 20060216; EP 1522120 A1 20050413;  
EP 1522120 B1 20051005; ES 2247548 T3 20060301; HK 1080998 A1 20060504; JP 2005539415 A 20051222; JP 4156590 B2 20080924;  
US 2006012524 A1 20060119; US 7158082 B2 20070102

DOCDB simple family (application)

**EP 0306199 W 20030612**; AT 03738023 T 20030612; AU 2003245936 A 20030612; BR 0312716 A 20030612; CN 03816807 A 20030612;  
DE 10231961 A 20020715; DE 50301327 T 20030612; EP 03738023 A 20030612; ES 03738023 T 20030612; HK 06100854 A 20060119;  
JP 2004520391 A 20030612; US 52109405 A 20050713