

Title (en)  
Window antenna.

Title (de)  
Fensterantenne.

Title (fr)  
Antenne de vitre.

Publication  
**EP 0411963 B1 19950621 (EN)**

Application  
**EP 90308579 A 19900803**

Priority  
JP 20200889 A 19890803

Abstract (en)  
[origin: EP0411963A2] A pair of antenna conductors (10, 11) are formed on upper and lower blank portions outside an area where defogging heater wires (2) are attached on a window glass (1) of a motor vehicle. One of the antenna conductors (11b) is RF-coupled with the defogging heater wires (2) and a feed terminal (11a) thereof is located at a lateral side of the glass. The other antenna conductor (10) has a feed terminal (10a) located at another lateral side of the glass. The two reception signals complement with each other in directivity due to asymmetric characteristic of the antenna conductors (10, 11) and are used in a diversity reception system for obtaining a nondirectional reception characteristic.

IPC 1-7  
**H01Q 1/12**

IPC 8 full level  
**H01Q 1/12** (2006.01); **H01Q 1/32** (2006.01)

CPC (source: EP)  
**H01Q 1/1278** (2013.01)

Citation (examination)

- JP S63138408 U 19880912
- JP S6329307 U 19880226
- JP S63269625 A 19881107 - MAZDA MOTOR

Cited by  
EP2323221A4; EP0588514A1; US6002373A; EP0661772A1; US5659324A; CN1053297C; DE4323239A1; DE4323239C2; US5461391A; EP0591957A3; US8692726B2; US7719475B2; US8587487B2; US11223129B2; WO2005060044A1; WO2009068350A1

Designated contracting state (EPC)  
BE DE ES FR GB IT SE

DOCDB simple family (publication)  
**EP 0411963 A2 19910206; EP 0411963 A3 19910508; EP 0411963 B1 19950621**; AU 5976990 A 19910207; AU 636157 B2 19930422; CA 2022953 A1 19910204; CA 2022953 C 19990921; DE 69020256 D1 19950727; DE 69020256 T2 19960208; ES 2073534 T3 19950816; JP 2515158 B2 19960710; JP H0365803 A 19910320; ZA 905864 B 19910529

DOCDB simple family (application)  
**EP 90308579 A 19900803**; AU 5976990 A 19900724; CA 2022953 A 19900731; DE 69020256 T 19900803; ES 90308579 T 19900803; JP 20200889 A 19890803; ZA 905864 A 19900725