

Title (en)  
Glass antenna for vehicle

Title (de)  
Scheibenantenne für ein Fahrzeug

Title (fr)  
Antenne pour vitre d'un véhicule

Publication  
**EP 2009733 A1 20081231 (EN)**

Application  
**EP 08158694 A 20080620**

Priority  
JP 2007162719 A 20070620

Abstract (en)  
A glass antenna for a vehicle includes four antenna elements integrated in one windowpane and has excellent reception sensitivity and directional characteristics. The glass antenna includes two first vertical antenna elements (16a, 16b) and two second horizontal antenna elements (18a, 18b) on a rear window. The first antenna elements extend downwardly from the vicinity of ends of an upper side of the rear window. Second antenna elements extend horizontally from the vicinity of upper portions of sides of the rear window toward the center of the vehicle in the width direction.

IPC 8 full level  
**H01Q 1/12** (2006.01); **H01Q 21/24** (2006.01); **H01Q 21/28** (2006.01)

CPC (source: EP)  
**H01Q 1/1271** (2013.01); **H01Q 21/24** (2013.01); **H01Q 21/28** (2013.01)

Citation (applicant)  
• JP 2000252732 A 20000914 - ASAHI GLASS CO LTD  
• JP 2002135025 A 20020510 - FUJITSU TEN LTD

Citation (search report)  
• [XY] EP 1575120 A1 20050914 - NIPPON SHEET GLASS CO LTD [JP]  
• [Y] US 5521606 A 19960528 - IJIMA HIROSHI [JP], et al  
• [Y] EP 1530253 A1 20050511 - NIPPON SHEET GLASS CO LTD [JP]  
• [X] US 2007097001 A1 20070503 - SUGIMOTO YUJI [JP], et al  
• [DA] JP 2002135025 A 20020510 - FUJITSU TEN LTD  
• [A] WO 2006107018 A1 20061012 - MATSUSHITA ELECTRIC IND CO LTD [JP], et al

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CN109155453A; WO2022096594A1

Designated contracting state (EPC)  
AT BE BG CH CY CZ DE DK EE ES FI FR GB GR HR HU IE IS IT LI LT LU LV MC MT NL NO PL PT RO SE SI SK TR

Designated extension state (EPC)  
AL BA MK RS

DOCDB simple family (publication)  
**EP 2009733 A1 20081231**; JP 2009004989 A 20090108; JP 4988445 B2 20120801

DOCDB simple family (application)  
**EP 08158694 A 20080620**; JP 2007162719 A 20070620