

Title (en)  
Vehicular antenna apparatus and window glass

Title (de)  
Fahrzeugantennenvorrichtung und Fensterglas

Title (fr)  
Appareil d'antenne et vitrage pour véhicule

Publication  
**EP 2458672 B1 20160810 (EN)**

Application  
**EP 11009323 A 20111124**

Priority  
JP 2010261799 A 20101124

Abstract (en)  
[origin: EP2458672A1] A vehicular antenna apparatus includes a window glass (23) attached to a vehicle, a glass antenna (100) including a first antenna conductor, and a first feeding section (16) and a second feeding section (17) serving as a pair of feeding points of the first antenna conductor, a coaxial cable (70) including an inner conductor (71) connected to the first feeding section (16) and an outer conductor (72) is connected to the second feeding section (17), and a grounding member (73,75) configured to ground to a vehicle body a middle part (74) of the outer conductor (72) of the coaxial cable (70) extending from the pair of feeding points (16,17) to a signal processing unit (80) installed on the vehicle body. The first antenna conductor includes a first element (1A) connected to the first feeding section (16) and extending in a horizontal direction or a vertical direction. An inclination angle of the window glass (23) relative to a horizontal plane at a position of the pair of feeding points is greater than or equal to 10° and smaller than or equal to 30°. Even for such low inclination angles the vehicular antenna apparatus provides an antenna gain sufficient for receiving vertically polarized radio waves.

IPC 8 full level  
**H01Q 1/12** (2006.01); **H01Q 1/32** (2006.01); **H01Q 5/10** (2015.01); **H01Q 5/20** (2015.01); **H01Q 5/378** (2015.01); **H01Q 7/00** (2006.01); **H01Q 9/16** (2006.01); **H01Q 9/46** (2006.01)

CPC (source: EP)  
**H01Q 1/1278** (2013.01); **H01Q 5/20** (2015.01); **H01Q 9/46** (2013.01)

Citation (examination)

- JP 2005101809 A 20050414 - CENTRAL GLASS CO LTD, et al
- EP 1763105 A1 20070314 - NIPPON SHEET GLASS CO LTD [JP], et al
- EP 2190058 A1 20100526 - ASAHI GLASS CO LTD [JP]

Cited by  
JP2018133798A; EP3361564A1; US2018233803A1; CN108428996A; US10651536B2; CN110168805A; EP3570370A4; EP3321115A4; EP3101728B1

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

DOCDB simple family (publication)  
**EP 2458672 A1 20120530; EP 2458672 B1 20160810**; AU 2011253663 A1 20120607; JP 2012114669 A 20120614; JP 5655522 B2 20150121

DOCDB simple family (application)  
**EP 11009323 A 20111124**; AU 2011253663 A 20111124; JP 2010261799 A 20101124