

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 A1 20120530 (EN)

Application
EP 11009323 A 20111124

Priority
JP 2010261799 A 20101124

Abstract (en)
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 (applicant)
• JP H10327009 A 19981208 - FORD MOTOR CO
• JP 2000307321 A 20001102 - FORD MOTOR CO, et al
• US 6924771 B2 20050802 - LI HSUEH-JYH [TW], et al
• EP 1732160 A1 20061213 - MATSUSHITA ELECTRIC IND CO LTD [JP]
• JP H06276008 A 19940930 - NIPPON SHEET GLASS CO LTD
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Citation (search report)
• [Y] EP 2173008 A1 20100407 - ASAHI GLASS CO LTD [JP]
• [Y] JP 2001326515 A 20011122 - CENTRAL GLASS CO LTD
• [YD] WO 02075844 A1 20020926 - NIPPON SHEET GLASS CO LTD [JP], et al
• [Y] JP 2002185230 A 20020628 - CENTRAL GLASS CO LTD, et al
• [Y] US 5657029 A 19970812 - IJIMA HIROSHI [JP], et al

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