

Title (en)
ANTENNA MODULE WITH TRANSMITTING AND RECEIVING ANTENNA ELEMENT

Title (de)
ANTENNENMODUL MIT SENDE- UND EMPFANGSANTENNENELEMENT

Title (fr)
MODULE D'ANTENNE AVEC ÉLÉMENT ANTENNAIRE DE RÉCEPTION ET DE TRANSMISSION

Publication
EP 2850691 A1 20150325 (DE)

Application
EP 13722459 A 20130515

Priority
• DE 102012208303 A 20120516
• EP 2013059985 W 20130515

Abstract (en)
[origin: WO2013171240A1] The invention relates to an antenna module (1, 2), which is a one-piece antenna module and has at least one outside receiving and/or transmitting antenna element (4, 5, 6, 7) under an outer cover (3). Furthermore, the one-piece antenna module has an antenna box (8), which has no or few inside internal antennas and which surrounds the electronic circuits that interact with the antenna elements (4 to 7). The outer cover (3) is detachably fastened to the antenna box (8). The outer cover (3) can be attached so as to protrude from a vehicle roof (10) through an opening (9) in the vehicle roof (10). The antenna box (8) is closed on all sides and can be attached below the vehicle roof (10) by means of a metal top side (11). The metal closed top side (11) of the antenna box (8) has feed-throughs (12 to 15) for the outside antenna elements (4 to 7). The outside antenna elements (4 to 7) in the outer cover (3) are electrically coupled to the circuits inside the antenna box (8) closed on all sides by means of the feed-throughs (12 to 15). Thus, a compact installation part is obtained, which provides complete shielding between an antenna part and a transceiver part.

IPC 8 full level
H01Q 1/32 (2006.01); **H01Q 1/12** (2006.01); **H01Q 1/24** (2006.01)

CPC (source: EP KR US)
H01Q 1/1214 (2013.01 - EP KR US); **H01Q 1/241** (2013.01 - KR US); **H01Q 1/3275** (2013.01 - EP KR US)

Citation (search report)
See references of WO 2013171240A1

Cited by
EP3588673A1; EP3588673B1

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

Designated extension state (EPC)
BA ME

DOCDB simple family (publication)
DE 102012208303 A1 20131121; **DE 102012208303 B4 20140515**; EP 2850691 A1 20150325; EP 2850691 B1 20180912; JP 2015516786 A 20150611; JP 6009062 B2 20161019; KR 102035370 B1 20191022; KR 20150022795 A 20150304; US 2015123854 A1 20150507; US 9966659 B2 20180508; WO 2013171240 A1 20131121

DOCDB simple family (application)
DE 102012208303 A 20120516; EP 13722459 A 20130515; EP 2013059985 W 20130515; JP 2015512044 A 20130515; KR 20147033722 A 20130515; US 201314400869 A 20130515