

Title (en)
DEVICE FOR EMITTING AND RECEIVING ELECTROMAGNETIC RADIATION

Title (de)
VORRICHTUNG ZUM AUSSENDEN UND EMPFANGEN ELEKTROMAGNETISCHER STRAHLUNG

Title (fr)
DISPOSITIF D'ÉMISSION ET DE RÉCEPTION DE RAYONNEMENT ÉLECTROMAGNÉTIQUE

Publication
EP 3729559 A1 20201028 (DE)

Application
EP 18786286 A 20181011

Priority
• DE 102017223471 A 20171220
• EP 2018077703 W 20181011

Abstract (en)
[origin: WO2019120672A1] The invention relates to a device (1) for emitting (6, 7) and receiving (8, 9) electromagnetic radiation, wherein different antennas (3, 4, 5) are used for emitting and receiving, and a first antenna (3) or a first group of antennas (3) is used for emitting in a first polarization form (6), a second antenna (4) or a second group of antennas (4) is used for emitting in a second polarization form (7) and a third antenna (5) or a third group of antennas (5) is used for receiving the reflected electromagnetic radiation which was emitted by the first antenna (3) or the first group of antennas (3) and the second antenna (4) or the second group of antennas (4). The device (1) disclosed according to the invention can be advantageously fixed to a motor vehicle (23) and can be used for object detection (24) in connection with a distance and speed control or collision avoidance, and the polarimetric information acquired from the different reception levels during propagation of the two differently polarized electromagnetic waves (6, 7) via different propagation paths (28, 29) is used for detection of the state of the road (29), particularly for determining the weather-dependent state of the road (29).

IPC 8 full level
H01Q 1/32 (2006.01); **G01S 7/02** (2006.01); **G01S 13/931** (2020.01); **H01Q 21/06** (2006.01); **H01Q 21/24** (2006.01)

CPC (source: EP KR US)
G01S 7/025 (2013.01 - EP KR US); **G01S 7/026** (2013.01 - EP KR); **G01S 7/03** (2013.01 - EP KR US); **G01S 7/411** (2013.01 - EP KR US); **G01S 13/003** (2013.01 - EP KR); **G01S 13/931** (2013.01 - EP KR US); **H01Q 1/3233** (2013.01 - EP KR US); **H01Q 21/065** (2013.01 - EP KR US); **H01Q 21/24** (2013.01 - EP KR US); **G01S 2013/93271** (2020.01 - EP US)

Citation (search report)
See references of WO 2019120672A1

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 102017223471 A1 20190627; CN 111512494 A 20200807; CN 111512494 B 20210921; EP 3729559 A1 20201028; JP 2021507254 A 20210222; JP 7079331 B2 20220601; KR 102554214 B1 20230712; KR 20200096633 A 20200812; US 11579243 B2 20230214; US 2020271751 A1 20200827; WO 2019120672 A1 20190627

DOCDB simple family (application)
DE 102017223471 A 20171220; CN 201880082869 A 20181011; EP 18786286 A 20181011; EP 2018077703 W 20181011; JP 2020534476 A 20181011; KR 20207020445 A 20181011; US 201816754444 A 20181011