

Title (en)
CAMERA DEVICE FOR GENERATING AN IMAGE OF SURROUNDINGS

Title (de)
KAMERA VORRICHTUNG ZUM ERZEUGEN EINES ABBILDS EINER UMGEBUNG

Title (fr)
DISPOSITIF DE CAMÉRA POUR GÉNÉRER UNE IMAGE DE L'ENVIRONNEMENT

Publication
EP 4022883 A1 20220706 (DE)

Application
EP 20754254 A 20200811

Priority
• DE 102019212988 A 20190829
• EP 2020072502 W 20200811

Abstract (en)
[origin: WO2021037556A1] The invention relates to a camera device (10) with an enlarged or wide-angle field of view (FOV), of 165 degrees for example, for generating one or more images (U) of the surroundings simultaneously using only one image capturing device (12), such as an image sensor for example. For this purpose, the camera device (10) uses a deflecting unit (11), which is connected upstream of the image capturing device (12). The deflecting unit (11) has so-called holographic optical elements which are designed to divert or deflect light on the basis of deflecting structures (23, 24, 25, 26, 27, 28) of the elements so that the camera device (10) can capture the wide-angle field of view (FOV) without imaging errors on the resulting image(s). For this purpose, the deflecting structures (23, 24, 25, 26, 27, 28) are designed to be wavelength-selective and/or angle-selective. The entire field of view (FOV) is thus divided into individual angular regions of incidence (T1, T2, T3) by virtue of the properties of the deflecting structures (23, 24, 25, 26, 27, 28).

IPC 8 full level
H04N 5/225 (2006.01); **B60Q 1/00** (2006.01); **B60R 1/00** (2022.01); **B60R 11/04** (2006.01); **G02B 5/32** (2006.01); **G02B 6/00** (2006.01); **H04N 5/232** (2006.01)

CPC (source: CN EP US)
G02B 5/32 (2013.01 - CN); **G02B 6/00** (2013.01 - CN); **G02B 6/4206** (2013.01 - US); **G02B 13/06** (2013.01 - CN EP); **H04N 23/45** (2023.01 - CN EP); **H04N 23/55** (2023.01 - CN EP US); **H04N 23/698** (2023.01 - CN EP US); **B60R 1/23** (2022.01 - US); **B60R 2300/10** (2013.01 - US); **B60R 2300/20** (2013.01 - US); **G02B 5/32** (2013.01 - EP); **G02B 6/0011** (2013.01 - EP); **G03H 1/0248** (2013.01 - US)

Citation (search report)
See references of WO 2021037556A1

Cited by
EP3918249B1

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)
WO 2021037556 A1 20210304; CN 114009001 A 20220201; CN 114009001 B 20220517; DE 102019212988 A1 20210304; EP 4022883 A1 20220706; US 11758273 B2 20230912; US 2022272258 A1 20220825

DOCDB simple family (application)
EP 2020072502 W 20200811; CN 202080045050 A 20200811; DE 102019212988 A 20190829; EP 20754254 A 20200811; US 202017628442 A 20200811