

Title (en)

ANTENNA DEVICE AND METHOD FOR EMITTING ELECTROMAGNETIC WAVES USING THE ANTENNA DEVICE

Title (de)

ANTENNENEINRICHTUNG UND VERFAHREN ZUM ABSTRAHLEN VON ELEKTROMAGNETISCHEN WELLEN MIT DER ANTENNENEINRICHTUNG

Title (fr)

DISPOSITIF D'ANTENNE ET PROCÉDÉ DE RAYONNEMENT D'ONDES ÉLECTROMAGNÉTIQUES AVEC LE DISPOSITIF D'ANTENNE

Publication

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Application

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Priority

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Abstract (en)

[origin: WO2018050711A1] An antenna device (1) for emitting electromagnetic waves has a waveguide (2), which in turn has two plates (3) made of an electrically conductive material and arranged parallel to one another, between which a dielectric material is arranged. The antenna device (1) has a feed-in device (4), with which electromagnetic waves can be coupled into the waveguide (2), which then propagate along the waveguide (2) and are emitted at an edge (5) of the waveguide (2) at a distance from the feed-in device (4). According to the invention, using a control device of the antenna device (1), the dielectric material can be influenced in such a way that a first region (9) having a first permittivity and at least one second region (10) having a second permittivity are formed, such that the electromagnetic waves coupled into the waveguide (2) propagate preferably through the first region (9) and are emitted in this preferred propagation direction (11). The waveguide (2) can be in the shape of a circle segment and the feed-in device (4) can feed-in the electromagnetic wave in the centre of the circle. The dielectric material is a fluid having an anisotropic permittivity. The control device can have multiple respective electrodes (12), arranged on the plates (3) of the waveguide (2) and insulated in relation to same, between which an electric field can be generated.

IPC 8 full level

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