

Title (en)  
POLARISING SCREEN WITH WIDEBAND POLARISING RADIOFREQUENCY CELL(S)

Title (de)  
POLARISATIONSSCHIRM MIT BREITBAND-HOCHFREQUENZ-POLARISATIONSZELLE(N)

Title (fr)  
ECRAN POLARISEUR A CELLULE(S) POLARISANTE(S) RADIOFREQUENCE(S) LARGE BANDE

Publication  
**EP 3726642 B1 20211222 (FR)**

Application  
**EP 20166973 A 20200331**

Priority  
FR 1904139 A 20190418

Abstract (en)  
[origin: CA3078132A1] A polarizing screen comprises an arrangement of at least one, electrically conductive, polarizing cell (112), which at least one cell is frequency- and polarization-selective, for transforming the polarization of the electric component E of the transverse electromagnetic (TEM) wave, received with linear polarization, into an electromagnetic wave with circular polarization. The four lateral walls (124, 125, 126, 127) of each section of waveguide (120) forming a polarizing cell (112) are each open over their entire length due to a median continuous slot (134, 135, 136, 137), parallel to the direction of propagation of the incident electromagnetic wave, so as to form four angled electrically conductive plates. Each polarizing cell (112) includes electrically conductive interconnection rods which interconnect the lateral walls and the four angled plates so that they are partially or completely rigidly connected and which form one or more electrical discontinuities (152), which are arranged at the ends of or inside the section of waveguide forming the polarizing cell and form one or more inductive or capacitive loads, or one or more (LC) resonators equivalent to an inductor and a capacitor connected in parallel or in series. The longitudinally open slots of the lateral walls and the elementary electrical discontinuities of each polarizing cell include geometric shapes and dimensions which provide total transmission of the incident wave, which is associated with a phase anisotropy of +90° or -90° according to the components E<sub>V</sub> and E<sub>H</sub>.

IPC 8 full level  
**H01P 1/17** (2006.01); **H01P 3/12** (2006.01); **H01P 3/123** (2006.01); **H01Q 15/24** (2006.01)

CPC (source: EP US)  
**H01P 1/165** (2013.01 - US); **H01P 1/17** (2013.01 - EP US); **H01P 3/12** (2013.01 - EP US); **H01P 3/123** (2013.01 - EP US); **H01Q 15/242** (2013.01 - US); **H01Q 15/244** (2013.01 - EP US)

Cited by  
CN117832872A; EP4391232A1

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

DOCDB simple family (publication)  
**EP 3726642 A1 20201021**; **EP 3726642 B1 20211222**; CA 3078132 A1 20201018; ES 2906084 T3 20220413; FR 3095303 A1 20201023; FR 3095303 B1 20210409; US 11171396 B2 20211109; US 2020335842 A1 20201022

DOCDB simple family (application)  
**EP 20166973 A 20200331**; CA 3078132 A 20200417; ES 20166973 T 20200331; FR 1904139 A 20190418; US 202016849941 A 20200415