

Title (en)  
A LOW PROFILE MECHANICALLY SCANNING ANTENNA WITH REDUCED SIDELobe AND GRATING LOBES AND LARGE SCANNING DOMAIN

Title (de)  
MECHANISCH ABTASTENDE ANTENNE MIT NIEDRIGEM PROFIL MIT REDUZIERTER NEBENKEULE UND GITTERKEULEN UND GROSSER ABTASTDOMÄNE

Title (fr)  
ANTENNE DE BALAYAGE MÉCANIQUE À PROFIL BAS DOTÉE DE LOBES DE PÉRIODICITÉ ET LOBES LATÉRAUX RÉDUITS ET À DOMAINE DE BALAYAGE DE GRANDE TAILLE

Publication  
**EP 4131654 A1 20230208 (EN)**

Application  
**EP 21425038 A 20210803**

Priority  
EP 21425038 A 20210803

Abstract (en)  
This invention concerns an antenna system comprising:- a wave launcher (10, 210);- a deflection system configured to deflect the wave and comprising at least one planar deflector (20, 30; 210, 220), said planar deflector comprising a plurality of inclusions (300) configured to add a phase gradient to the wave incident on said deflector;- according to the invention, said inclusions are configured to work in an environment with refractive index greater than 1 and wherein, in addition, one or more matching devices are included at the outlet from and/or inlet to the deflector.

IPC 8 full level  
**H01Q 15/10** (2006.01); **H01Q 1/32** (2006.01); **H01Q 3/14** (2006.01); **H01Q 3/22** (2006.01)

CPC (source: EP)  
**H01Q 1/32** (2013.01); **H01Q 3/14** (2013.01); **H01Q 3/22** (2013.01); **H01Q 15/10** (2013.01)

Citation (applicant)  
• Y. SUNF. DANGC. YUANJ. HEQ. ZHANGX. ZHAO: "A Beam-Steerable Lens Antenna for Ku-Band High-Power Microwave Applications", IEEE TRANSACTIONS ON ANTENNAS AND PROPAGATION, vol. 68, no. 11, November 2020 (2020-11-01), pages 7580 - 7583, XP011817303, DOI: 10.1109/TAP.2020.2979282  
• ZHAO: "All-Metal Beam Steering Lens Antenna for High Power Microwave Applications", IEEE TRANSACTIONS ON ANTENNAS AND PROPAGATION, vol. 65, no. 12, December 2017 (2017-12-01), pages 7340 - 7344, XP011673507, DOI: 10.1109/TAP.2017.2760366

Citation (search report)  
• [X1] US 2008291101 A1 20081127 - BRAUNSTEIN MARK DAVID [US], et al  
• [X1] EP 1976062 A1 20081001 - ITT MFG ENTERPRISES INC [US]  
• [X1] US 2014320361 A1 20141030 - LIU RUOPENG [CN], et al  
• [X1] FR 3043499 A1 20170512 - THALES SA [FR]

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

Designated validation state (EPC)  
KH MA MD TN

DOCDB simple family (publication)  
**EP 4131654 A1 20230208**

DOCDB simple family (application)  
**EP 21425038 A 20210803**