

Title (en)
APPARATUS AND METHOD OF DUAL POLARIZED BROADBAND AGILE CYLINDRICAL ANTENNA ARRAY WITH RECONFIGURABLE RADIAL WAVEGUIDES

Title (de)
VORRICHTUNG UND VERFAHREN FÜR DUALPOLARISIERTE BREITBANDIGE AGILE ZYLINDRISCHE ANTENNENGROPPE MIT REKONFIGURIERBAREN RADIALEN WELLENLEITERN

Title (fr)
APPAREIL ET PROCÉDÉ D'ANTENNE RÉSEAU CYLINDRIQUE AGILE LARGE BANDE À DOUBLE POLARISATION COMPORTANT DES GUIDES D'ONDES RADIAUX RECONFIGURABLES

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EP 3130037 A4 20170726 (EN)

Application
EP 15814201 A 20150627

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• US 201414319981 A 20140630
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Abstract (en)
[origin: WO2016000577A1] Embodiments are provided for an agile antenna that beamsteers radio frequency (RF) signals by selectively activating/de-activating tunable elements on radial-waveguides using direct current (DC) switches. The antenna comprises two parallel radial waveguide structures, each comprising a first radial plate, a second radial plate in parallel with the first radial plate, and conductive elements positioned vertically and distributed radially between the two plates. The radial waveguide structure further includes a plurality of quarter RF chokes which are connected to the conductive elements via respective micro-strips and tunable elements. The two parallel radial plates are separated by a height determined according to a desired transmission frequency range for RF signals, a length of the micro-strips, a diameter of the conductive elements, and a clearance space around each one of the conductive elements.

IPC 8 full level
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H01P 5/12 (2013.01); **H01Q 3/247** (2013.01); **H01Q 9/30** (2013.01); **H01Q 21/0012** (2013.01); **H01Q 21/205** (2013.01); **H01Q 21/24** (2013.01)

Citation (search report)
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• [A] FR 1459373 A 19660429 - HUGHES AIRCRAFT CO
• [A] JP H0661739 A 19940304 - TOPPAN PRINTING CO LTD
• [YA] JANAPSATYA J ET AL: "A switched-beam radial horn antenna design", MICROWAVES, RADAR AND WIRELESS COMMUNICATIONS, 2004. MIKON-2004. 15TH INTERNATIONAL CONFERENCE ON WARSAW, POLAND MAY 17-19, 2004, PISCATAWAY, NJ, USA, IEEE, vol. 1, 17 May 2004 (2004-05-17), pages 51 - 54, XP010740757, ISBN: 978-83-906662-7-3, DOI: 10.1109/MIKON.2004.1356854
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• [Y] ISMAIL M F ET AL: "The Investigation of PIN diode switch on reconfigurable antenna", RF AND MICROWAVE CONFERENCE (RFM), 2011 IEEE INTERNATIONAL, IEEE, 12 December 2011 (2011-12-12), pages 234 - 237, XP032137018, ISBN: 978-1-4577-1628-7, DOI: 10.1109/RFM.2011.6168737
• See references of WO 2016000577A1

Designated contracting state (EPC)
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Designated extension state (EPC)
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WO 2016000577 A1 20160107; CN 105874648 A 20160817; CN 105874648 B 20200421; EP 3130037 A1 20170215; EP 3130037 A4 20170726; EP 3130037 B1 20190814; WO 2016000607 A1 20160107

DOCDB simple family (application)
CN 2015082586 W 20150627; CN 2015082894 W 20150630; CN 201580003197 A 20150627; EP 15814201 A 20150627