

Title (en)

Wide scan steerable antenna with no key-hole

Title (de)

Steuerbare Breitenscan-Antenne ohne Schlüsselloch

Title (fr)

Antenne orientable à balayage important sans trou de clé

Publication

EP 2584650 A1 20130424 (EN)

Application

EP 12188658 A 20121016

Priority

US 201161627710 P 20111017

Abstract (en)

A steerable antenna architecture (10), or configuration, for optimal steering of transmitting and/or receiving beam (12) over wide scan angles, is capable of steering the beam (12) on a full hemisphere (2Å steradians), with no singularity or key-hole within a coverage area (14), and with only one RF rotary joint. The architecture (10) includes a dual-reflector assembly (26) defining an antenna focal point (30) located close to a main reflector surface (28) and a signal feed chain having a signal source (18) located adjacent to the antenna focal point (30) and defining a feed axis (40) substantially pointing towards a sub-reflector intersection point (32). A first actuator (42) rotates the feed chain and the dual-reflector assembly (26) about a first rotation axis (RA1) generally perpendicular to the feed axis (40) and not intersecting with the coverage area (14). A second actuator (46) rotates one of the main reflector (28) and the dual-reflector assembly (26) about a second rotation axis (RA2) aligned with the feed axis (40).

IPC 8 full level

H01Q 3/08 (2006.01); **H01Q 3/16** (2006.01); **H01Q 3/20** (2006.01); **H01Q 19/19** (2006.01)

CPC (source: EP)

H01Q 3/08 (2013.01); **H01Q 3/16** (2013.01); **H01Q 3/20** (2013.01); **H01Q 19/19** (2013.01); **H01Q 19/193** (2013.01)

Citation (applicant)

US 6747604 B2 20040608 - AMYOTTE ERIC [CA], et al

Citation (search report)

[X] US 2010238082 A1 20100923 - KITS VAN HEYNINGEN MARTIN AREND [US], et al

Cited by

FR3050577A1; CN110391499A; CN109921197A; WO2017182612A1

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

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EP 2584650 A1 20130424; **EP 2584650 B1 20170524**; JP 2013093846 A 20130516; JP 5961087 B2 20160802

DOCDB simple family (application)

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