Title (en)

AN ANTENNA HAVING RADIO FREQUENCY LIQUID CRYSTAL (RFLC) MIXTURES WITH HIGH RF TUNING, BROAD THERMAL OPERATING RANGES, AND LOW VISCOSITY

Title (de)

ANTENNE MIT RADIOFREQUENZ-FLÜSSIGKRISTALL (RFLC)-MISCHUNGEN MIT HOHER RF-ABSTIMMUNG, BREITEN THERMISCHEN BETRIEBSBEREICHEN UND NIEDRIGER VISKOSITÄT

Title (fr)

ANTENNE AYANT DES MÉLANGES DE CRISTAUX LIQUIDES À RADIOFRÉQUENCE (RFLC) À ACCORD RF ÉLEVÉ, DE LARGES PLAGES DE FONCTIONNEMENT THERMIQUE ET UNE FAIBLE VISCOSITÉ

Publication

EP 3458871 A4 20200122 (EN)

Application

EP 17800317 A 20170520

Priority

- US 201662339550 P 20160520
- US 201715600514 A 20170519
- US 2017033707 W 20170520

Abstract (en)

[origin: WO2017201515A1] A device containing a radio-frequency (RF) liquid crystal (RFLC) mixture with improved performance is disclosed. In one embodiment, the improved performance includes high RF tuning, broad thermal operating ranges and low viscosity. In one embodiment, the device comprises an antenna comprising: an antenna element array having a plurality of antenna elements and each antenna element having a liquid crystal (LC) structure, wherein the LC structure comprises a mixture of one or more of the following: laterally functionalized with one or more of at least a proton, a hydrogen (H), or a heteroatom.

IPC 8 full level

G01S 13/00 (2006.01); **C09K 19/18** (2006.01); **G01S 13/88** (2006.01); **G01S 13/89** (2006.01); **H01Q 1/36** (2006.01); **H01Q 3/24** (2006.01); **H01Q 3/44** (2006.01); **H01Q 21/08** (2006.01)

CPC (source: EP KR)

C09K 19/18 (2013.01 - EP KR); **H01Q 1/364** (2013.01 - EP KR); **H01Q 3/44** (2013.01 - EP KR); **H01Q 15/0066** (2013.01 - EP KR); **H01Q 15/0086** (2013.01 - EP KR); **H01Q 21/0031** (2013.01 - EP KR); **H01Q 21/064** (2013.01 - EP KR); **H01Q 21/065** (2013.01 - EP KR); C09K 2019/122 (2013.01 - EP KR); C09K 2019/123 (2013.01 - EP KR); C09K 2019/181 (2013.01 - EP KR); C09K 2019/183 (2013.01 - EP KR); C09K 2019/3009 (2013.01 - EP KR); C09K 2019/3036 (2013.01 - EP KR); C09K 2219/11 (2013.01 - EP KR)

Citation (search report)

- [XAY] US 2016040066 A1 20160211 - WITTEK MICHAEL [DE], et al
- [YA] US 2015236412 A1 20150820 - BILY ADAM [US], et al
- [A] US 2005067605 A1 20050331 - LUSSEM GEORG [DE], et al
- See also references of WO 2017201515A1

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)

WO 2017201515 A1 20171123; CN 109716158 A 20190503; EP 3458871 A1 20190327; EP 3458871 A4 20200122; JP 2019520738 A 20190718; JP 2021132377 A 20210909; JP 7174101 B2 20221117; KR 102652402 B1 20240328; KR 20190039028 A 20190410; KR 20210147080 A 20211206; KR 20230072509 A 20230524

DOCDB simple family (application)

US 2017033707 W 20170520; CN 201780031364 A 20170520; EP 17800317 A 20170520; JP 2018560814 A 20170520; JP 2021064042 A 20210405; KR 20187035572 A 20170520; KR 20217037964 A 20170520; KR 20237015487 A 20170520