

Title (en)  
FIN-TYPE ANTENNA ASSEMBLIES

Title (de)  
RIPPENARTIGE ANTENNENANORDNUNGEN

Title (fr)  
ENSEMBLES D'ANTENNE DE TYPE À AILETTES

Publication  
**EP 3147999 A1 20170329 (EN)**

Application  
**EP 16002074 A 20160926**

Priority  
• US 201562232786 P 20150925  
• EP 15003181 A 20151106  
• US 201615271421 A 20160921

Abstract (en)  
Communication assemblies are disclosed which comprises, a chassis, ground plane and one or more antenna subassemblies. Antenna assemblies include LTE, WI-FI, AM/FM, GPS and SDARS antennas. Some or all antenna subassemblies may consist of a multi-antenna configuration with each antenna appearing visually as a blade. For subassemblies configured in a multi-antenna arrangement, blades are configurable at a spacing optimal to implement MIMO or path diversity for instance for WIFI or LTE communications schemes. A chassis mechanism can be provided which holds elements of the antenna subassemblies in place and also acts as a ground plane. One or more feed lines which lead from each antenna subassembly and out of the molded enclosure can also be provided. A housing is provided which follows the general contours of the antenna subassemblies and is comprised of a material transparent to the frequencies utilized by the antenna subassemblies. The housing can be shaped in an aerodynamic morphology.

IPC 8 full level  
**H01Q 1/32** (2006.01); **H01Q 1/42** (2006.01); **H01Q 5/20** (2015.01); **H01Q 21/28** (2006.01)

CPC (source: EP)  
**H01Q 1/3275** (2013.01); **H01Q 1/42** (2013.01); **H01Q 5/20** (2015.01); **H01Q 21/28** (2013.01)

Citation (applicant)  
• US 8836604 B2 20140916 - YANG TAE HOON [KR], et al  
• US 7408511 B2 20080805 - LIU I-RU [TW]  
• US 2012274519 A1 20121101 - CHAKAM GUY-AYMAR [DE], et al  
• US 8947307 B2 20150203 - LO SHAN-GOW [TW]  
• US 2008218412 A1 20080911 - WALES STEPHEN WILLIAM [GB]  
• US 7239281 B2 20070703 - LU YU-SHENG [TW]  
• WO 2014204494 A1 20141224 - LAIRD TECHNOLOGIES INC [US]  
• WO 2014072683 A1 20140515 - UNIV BIRMINGHAM [GB]  
• US 2014347231 A1 20141127 - KERSELAERS ANTHONY [BE], et al

Citation (search report)  
• [X1] TW M508132 U 20150901 - WHA YU IND CO LTD [TW]  
• [XA] US 2013229315 A1 20130905 - DUZDAR AYMAN [US], et al  
• [XA] US 2015071137 A1 20150312 - THIAM CHEIKH T [US], et al  
• [XA] US 2015123854 A1 20150507 - CHAKAM GUY-AYMAR [DE], et al  
• [A] WO 2009065806 A1 20090528 - CONTINENTAL AUTOMOTIVE GMBH [DE], et al

Cited by  
CN110676780A; CN109760806A; CN109346841A; CN113054423A; EP3416236A1; CN110476301A; US10411335B2; CN107425283A; EP3742550A1; GB2584170A; GB2584170B

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

DOCDB simple family (publication)  
**EP 3147999 A1 20170329; EP 3147999 A8 20170517**

DOCDB simple family (application)  
**EP 16002074 A 20160926**