

Title (en)

ANTENNAS WITH REDUCED SPACE AND IMPROVED PERFORMANCE

Title (de)

ANTENNEN MIT VERRINGERTEM RAUM UND VERBESSERTER LEISTUNGSFÄHIGKEIT

Title (fr)

ANTENNES A ENCOMBREMENT REDUIT ET PERFORMANCE AMELIOREE

Publication

**EP 1579529 A2 20050928 (EN)**

Application

**EP 03808509 A 20031217**

Priority

- US 0340663 W 20031217
- US 32219602 A 20021217
- US 37542303 A 20030227
- US 64310203 A 20030818

Abstract (en)

[origin: WO2004057698A2] The disclosed embodiments of antenna elements and antenna element arrangements provide a generally low profile, improved isolation, and providing a larger bandwidth. Certain disclosed antenna elements provide a reduction in the footprint of the antenna elements while maintaining the performance characteristics by providing a greater surface area on either a top, middle or bottom portion of a CLMD antenna. Various resonant modes of a multiresonant antenna structure share at least portions of the structure volume. Other disclosed antenna element arrangements provide improved radiation efficiency by providing metallic reflectors on the sides of antenna elements. The isolation characteristics of certain disclosed antenna elements are improved through the use of coplanar wave guides. The bandwidth may be improved through the use of stubs resonators. The bandwidth of the antenna elements may be improved without reducing isolation or shielding by providing a variable gap between two portions of the antenna elements.

IPC 1-7

**H01Q 1/00**

IPC 8 full level

**H01Q 1/00** (2006.01); **H01Q 1/22** (2006.01); **H01Q 1/24** (2006.01); **H01Q 1/36** (2006.01); **H01Q 1/52** (2006.01); **H01Q 5/00** (2006.01); **H01Q 5/357** (2015.01); **H01Q 9/04** (2006.01); **H01Q 9/26** (2006.01); **H01Q 9/42** (2006.01); **H01Q 19/10** (2006.01); **H01Q 21/24** (2006.01); **H01Q 21/28** (2006.01)

CPC (source: EP)

**H01Q 1/24** (2013.01); **H01Q 1/36** (2013.01); **H01Q 1/52** (2013.01); **H01Q 1/521** (2013.01); **H01Q 5/357** (2015.01); **H01Q 9/0442** (2013.01); **H01Q 9/265** (2013.01); **H01Q 9/42** (2013.01); **H01Q 19/10** (2013.01); **H01Q 21/24** (2013.01); **H01Q 21/28** (2013.01)

Designated contracting state (EPC)

AT BE BG CH CY CZ DE DK EE ES FI FR GB GR HU IE IT LI LU MC NL PT RO SE SI SK TR

DOCDB simple family (publication)

**WO 2004057698 A2 20040708**; **WO 2004057698 A3 20060629**; **WO 2004057698 A9 20040812**; AU 2003303179 A1 20040714; AU 2003303179 A8 20040714; EP 1579529 A2 20050928; EP 1579529 A4 20070919

DOCDB simple family (application)

**US 0340663 W 20031217**; AU 2003303179 A 20031217; EP 03808509 A 20031217