

Title (en)

ANTENNA, ANTENNA MODULE, AND ELECTRONIC DEVICE

Title (de)

ANTENNE, ANTENNENMODUL UND ELEKTRONISCHE VORRICHTUNG

Title (fr)

ANTENNE, MODULE D'ANTENNE ET DISPOSITIF ÉLECTRONIQUE

Publication

**EP 4216367 A4 20240313 (EN)**

Application

**EP 21884598 A 20210819**

Priority

- CN 202011193934 A 20201030
- CN 2021113630 W 20210819

Abstract (en)

[origin: EP4216367A1] This application provides an antenna, an antenna module, and an electronic device. The antenna includes a tapered slot antenna, a folded dipole, and a feeding structure. The tapered slot antenna includes a first metal structure and a second metal structure that form a tapered slot, and two ends of the tapered slot are a narrow-gap end and a wide-gap end. An extension direction of the folded dipole intersects with an extension direction of the tapered slot. The folded dipole includes a main dipole and a parasitic dipole that are disposed opposite to each other. The main dipole is located between the parasitic dipole and the narrow-gap end. The main dipole includes a first stub electrically connected to the first metal structure and a second stub connected to the second metal structure. An area between the main dipole and the parasitic dipole forms a resonant tank of the tapered slot antenna. The feeding structure is electrically connected between the first stub and the second stub, and feeds the folded dipole and the tapered slot antenna at the same time, to excite the tapered slot antenna that is a directional antenna and excite the folded dipole that is an omnidirectional antenna. This application has an advantage of dual-antenna miniaturization.

IPC 8 full level

**H01Q 1/02** (2006.01); **H01Q 1/22** (2006.01); **H01Q 5/357** (2015.01); **H01Q 9/26** (2006.01); **H01Q 13/08** (2006.01); **H01Q 19/28** (2006.01); **H01Q 25/00** (2006.01)

CPC (source: CN EP)

**H01Q 1/007** (2013.01 - EP); **H01Q 1/02** (2013.01 - EP); **H01Q 1/2291** (2013.01 - EP); **H01Q 1/38** (2013.01 - CN); **H01Q 1/50** (2013.01 - CN); **H01Q 5/357** (2015.01 - EP); **H01Q 9/26** (2013.01 - EP); **H01Q 13/085** (2013.01 - EP); **H01Q 19/28** (2013.01 - EP); **H01Q 25/00** (2013.01 - EP)

Citation (search report)

- [A] US 2004169612 A1 20040902 - SONG PETER CHUN TECK [CN], et al
- [A] DING XIAOXIANG ET AL: "A Compact Unidirectional Ultra-Wideband Circularly Polarized Antenna Based on Crossed Tapered Slot Radiation Elements", IEEE TRANSACTIONS ON ANTENNAS AND PROPAGATION, IEEE, USA, vol. 66, no. 12, 1 December 2018 (2018-12-01), pages 7353 - 7358, XP011702319, ISSN: 0018-926X, [retrieved on 20181129], DOI: 10.1109/TAP.2018.2867059
- See also references of WO 2022088866A1

Designated contracting state (EPC)

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