Title (en)

HYBRID MODE WAVEGUIDING MEMBER AND HYBRID MODE FEEDHORN ANTENNA

Publication

EP 0024685 B1 19840215 (EN)

Application

EP 80104951 A 19800820

Priority

- US 6862179 A 19790822
- US 6872679 A 19790822

Abstract (en)

[origin: EP0024685A1] The waveguiding member transforming the TE11 mode into the HE11 mode, comprises a waveguide body (12), including a tubular section (12) at the TE11 mode entrance port, and a spiro-helical projection (18) bonded to the interior surface of the waveguide body. In a first arrangement, the spiro-helical projection comprises a closely spaced helically wound wire structure (18) formed of dielectrically coated wires which decrease in gauge size in small adjacent portions thereof as the helix progresses away from the TE11 mode entrance port and in the remainder of the helical projection, the same or decreasing gauge wire in adjacent portions can be used. In another arrangement, the spiro-helical projection comprises an initially flattened dielectrically coated wire that gradually returns to a rounded configuration in closely spaced helical turns after which the spacings between turns gradually increase linearly in the tubular section. In a further arrangement, multiple layers of closely-wound helically wound dielectrically coated wires, which layers gradually taper down to a single layer, can replace the closely spaced flattened-to-round wire section of other arrangement.

IPC 1-7

H01P 1/16; H01P 3/127; H01Q 13/02

IPC 8 full level

H01P 1/16 (2006.01); **H01P 3/127** (2006.01); **H01Q 13/02** (2006.01)

CPC (source: EP)

H01P 1/16 (2013.01); **H01P 3/127** (2013.01); **H01Q 13/0208** (2013.01)

Cited by

CN112615161A; FR2603425A1; US4971847A; US11289816B2; WO2018157921A1; WO8401472A1; US11613931B2; US11959382B2; WO2023283167A1

Designated contracting state (EPC)

DE FR GB IT NL SE

DOCDB simple family (publication)

EP 0024685 A1 19810311; **EP 0024685 B1 19840215**; DE 3066596 D1 19840322

DOCDB simple family (application)

EP 80104951 A 19800820; DE 3066596 T 19800820