Title (en)

IMPROVED REFLECTOR ANTENNA WITH A SELF-SUPPORTED FEED

Title (de)

VERBESSERTE REFLEKTORANTENNE MIT SELBSTTRAGENDEM SPEISEELEMENT

Title (fr)

VERSION AMELIOREE D'UNE ANTENNE A REFLECTEUR DOTEE D'UNE ALIMENTATION AUTOPORTEE

Publication

EP 1004151 B1 20061213 (EN)

Application

EP 98941971 A 19980818

Priority

- SE 9801478 W 19980818
- US 5622097 P 19970821

Abstract (en)

[origin: WO9910950A2] The invention consists of improvements of reflector antennas with self-supported feeds. The feed consists of a waveguide tube, a dielectric joint and a sub-reflector. The tube is attached to the center of the rotationally symmetric reflector and extends to the focal region of it. The sub-reflector is located in front of the tube, and the surface of this sub-reflector is provided with rotationally symmetric grooves also called corrugations. The improvements of the present invention are (1) a ring focus reflector to improve the gain of the antenna, (2) an elevated central region of the reflector to reduce the return loss, (3) metal screws or cylinders to strongly fasten the sub-reflector to the tube, (4) corrugations or other similar means around the rim or the reflector in order to reduce far-out sidelobes, (5) dual-band operation by means of a coaxial waveguide outside the circular waveguide in the tube, and (6) dielectric filling or covering of the corrugations or of the region between the corrugations and the waveguide tubeend, both in order to avoid the gathering of water, dust or other undesired material in this area which could destroy the performance of the antenna.

IPC 8 full level

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CPC (source: EP)

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Cited by

CN102232258A; CN112335127A; RU2503021C2; CN112909578A; US8730122B2; EP3516737A4; WO2020074539A3; WO2017103286A1; US11424538B2; US11489259B2; US11742577B2

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