



## COMPACT HELIX ANTENNAS

*Innovative system to reduce the size of helical antennas by the application of patterns on the radiating wires*

### Technological advantages

#### A simple and flexible system

Simple design with integrated power supply circuit  
Compactness can be adjusted according to dimensional constraints

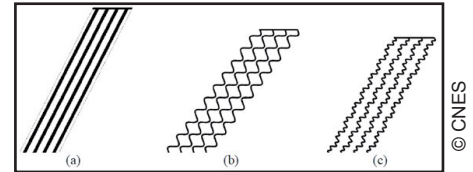
Necessary compromise with radiating effectiveness, which is reduced with the antenna height

Flexibility of the shape of the radiation pattern, to maximise the budget link over a given coverage area

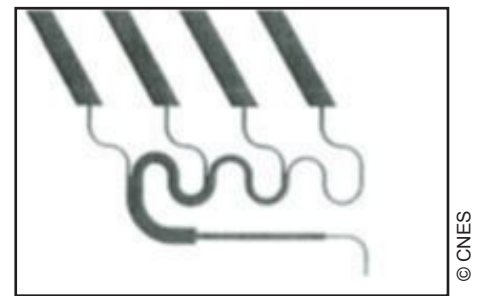
#### A modular solution

System applicable in two radiating modes:

- Radial: reduction in height reduces the directivity but increases the beam opening
- Axial: the radiating patterns for directivity can be maintained the same for high reduction rates (up to -60%)



Profiles of compact printed helix antennas



Power supply circuit

### Overview of invention

Quadrifilar helix antenna comprised of radiating wires printed on a coiled substrate.

System enabling application of longitudinal patterns (fractal or sinusoidal) to reduce antenna height for a given operating frequency.

Integrated power supply circuit on the same substrate as the radiating elements.

### Commercial benefits

#### Simple, low-cost design

Simple construction and repeatable RF performances through the use of printed circuits  
A low-cost solution

### Potential applications

Navigation: GPS and Galileo frequency

Data transmission

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*Patented invention, available under license*