

ABSTRACT

SYSTEM FOR DEFLECTING AND POINTING A MICROWAVE BEAM

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The invention relates to a steerably deflecting system that includes:

10 - a device for forming an incident microwave beam having a wavelength comprised between 1 mm and 1 m, which is configured to collimate said beam in emission mode or to focus said beam in reception mode,

15 - a first device for deflecting the microwave beam comprising a first diffractive dielectric component (C1) comprising subwavelength microstructures, the first diffractive dielectric component being associated with a first mechanism (R1) for rotating about a first steerable axis (Ω_1).

It comprises, upstream of the first deflecting device in emission mode or downstream of the first deflecting device in reception mode:

20 - a second deflecting device configured to deflect a microwave beam that is incident on the first deflecting device in emission mode, or issued from the first deflecting device in reception mode, this second deflecting device being associated with a second mechanism (R2) for rotating about a second steerable axis (Ω_2),

25 and the angle (Ω_1 , Ω_2) made by the first and second axes of rotation is larger than 0° and smaller than or equal to 90° , and the first rotating mechanism (R1) is securely fastened to the second rotating mechanism (R2) so that a rotation of the second rotating mechanism about its steerable axis (Ω_2) leads to a rotation of the first rotating
30 mechanism about the same axis.

Figure 2a