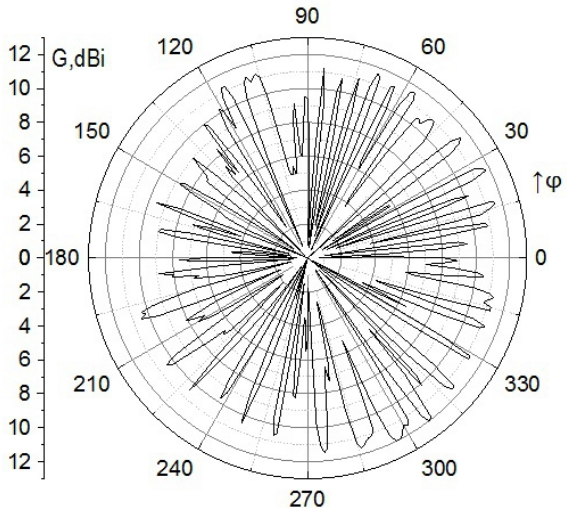
Ka-BAND ALL-AROUND LOOKING ANTENNA OF RESONANT TYPE

An appearance of the antenna



Distribution of antenna gain along the azimuthal coordinate

Areas of Application

Millimeter wave radars and operational communication systems are the field of application of the proposed antenna.

Specification

The antenna based on a segmental dielectric resonator provides a radiative emission in the azimuthal sector of the angles 0^0-360^0. According to the radiation pattern, 72 lobes are formed in the azimuthal sector of the angles 0^0-360^0. The width of each lobe at the level of -3 dB is 4^0. The antenna gain in lobes at the resonant frequency reaches 12 dB. In elevation, the radiation pattern width is 10^0. The antenna diameter is 80 mm, its height is 10 mm. The antenna mass is 0.2 kg.

Stage of Development

IRL3, TRL6
The theoretical and experimental studies have been carried out successfully. The laboratorial prototype has been created. The antenna can be designed and manufactured to order in a wide range of operating frequencies - from X- to W-waveband.

Advantages

The proposed antenna is a small-sized K_a-band circular viewing antenna with a relatively high gain at the resonant frequency. Compared to existing analogues, it is characterized by a high gain in the circular sector of angles, small size and weight.

IPR Protection

IPR1, IPR2

Contacts

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