High Gain Microstrip Yagi Antenna for Millimeter Waves

ABSTRACT

In this paper a printed microstrip Yagi antenna is proposed for Millimeter or 5G applications. The resonant frequency of antenna is 60 GHz. The design has single wide band of 4.44 GHz. The proposed antenna shows good impedance matching throughout the band with minimum return loss -27.62 dB at 57.25 GHz. The antenna is low profile, low cost and light in weight. The overall dimensions of the antenna is 8.016 x 8 mm2. The antenna has the maximum gain of 10.2 dB. The radiation mechanism of Yagi antenna with its radiation characteristic are discussed. It can be a prospective candidate for future 5G applications. The antenna can be utilized for short distance communication like Device-to-Device (D-2-D). WLAN, WPANM and WHDMI.

EXISTING SYSTEM

- The consequences of change in material of the substrate of high gain Yagi antenna designed for 60 GHz V-band were presented.
- A multi-layered compact stacked high gain quasi-Yagi antennas were designed and tested at 5.8 GHz for local positioning systems (LPS) applications.
- But the designs were too bulky and large in dimensions.

PROPOSED SYSTEM

- A high gain design is proposed but was bulky in weight due to its extra parasitic substrate above.
- Another technique is used, in which rectangular slotted ground had been used but due to complexity in fabrication not a suitable match.
- A design has multiband but with very narrow bandwidth.

SYSTEM REQUIREMENTS

HARDWARE REQUIREMENTS:

- Processor - intel core i3
- RAM - 2GB
- Hard Disk - 20 GB

SOFTWARE REQUIREMENTS:

- Ansoft HFSS(High Frequency Structure Stimulator)

REFERENCE

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