

**High gain microstrip patch antenna, with
PBG substrate and PBG cover, for
millimeter wave applications**

MICANS INFOTECH

ABSTRACT

This work aims to provide a new improved antenna structure using the PBG technique (photonic band gap) to operate in the millimeter wave band. The proposed design consists of an inset circular microstrip patch antenna designed on a PBG substrate and a PBG superstrate as a cover above the radiating element. Simulated results of the PBG antenna using HFSSv15 simulator, shows that antenna radiation characteristics has been notably enhanced.

EXISTING SYSTEM

- In existing system, High-Definition (HD) Video and WiGig Technology, which allows high data rate communications between devices.
- This antennas are among the most suitable candidates to oppose to the major limitations encountered in the millimeter wave band, can be easily implanted in the most complicated microwave and millimeter wave circuits.
- However, millimeter waves are more affected by rain and humidity, and usually attenuated and absorbed by the atmosphere, because of their short wavelength (10mm-1mm), which degrades signal strength.

PROPOSED SYSTEM

- We proposed a new PBG based circular microstrip patch antenna, designed to operate in the millimeter wave band, with PBG integrated in the substrate and used as a cover above the patch.
- The aim of this work is to optimize performance of an existing conventional patch antenna operating in millimeterc Frequencies.
- Radiation characteristics of our proposed antenna are significantly improved compared to the conventional patch antenna.

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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