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# 5G Technology in India Case Study of High Energy Microwave Signals

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**Abstract:** This research paper is a short study conducted about 5G implementation in India and the allied problems related to this implementation procedure.

**Keywords:** 5th Generation, Connectivity, Microwave, Hardware, Small cell

## I. INTRODUCTION

In India at present there are 800 million mobile phone users<sup>1</sup> (according to CISCO study). These 800 million mobile users are at a stage where they are expecting fifth generation network connectivity. We are at a stage where big telecom companies are trying to introduce 5G tech very fast. Even a lump sum price of \$7 billion has been designated<sup>2</sup> as the base price of 5G band spectrum. Though everything looks very simple and easily executable but it is not.

## II. PROBLEMS FACED

Basic problems of 5G in India are as follows :-

- 1) No “Make In India” hardware<sup>3</sup>.
- 2) Projected use of microwaves in 5G connectivity which are highly harmful for human beings.
- 3) Problems faced by flight pilots (specifically in flight altimeters) 5G network.
- 4) Numerous small cell to be deployed causing high price burden<sup>4</sup>.

## III. CASE STUDY

The High-frequency microwave signals are easily blocked by buildings, walls, windows and trees further reducing the available 5G range . To optimize coverage, carriers are faced with installing numerous small cells in high densities, driving up the cost of deploying microwave networks at scale<sup>5</sup>. Microwave as we all know also has a extreme bad carcinogenic effect on human body due to its high radiative power.

## IV. 5G ARCHITECTURE

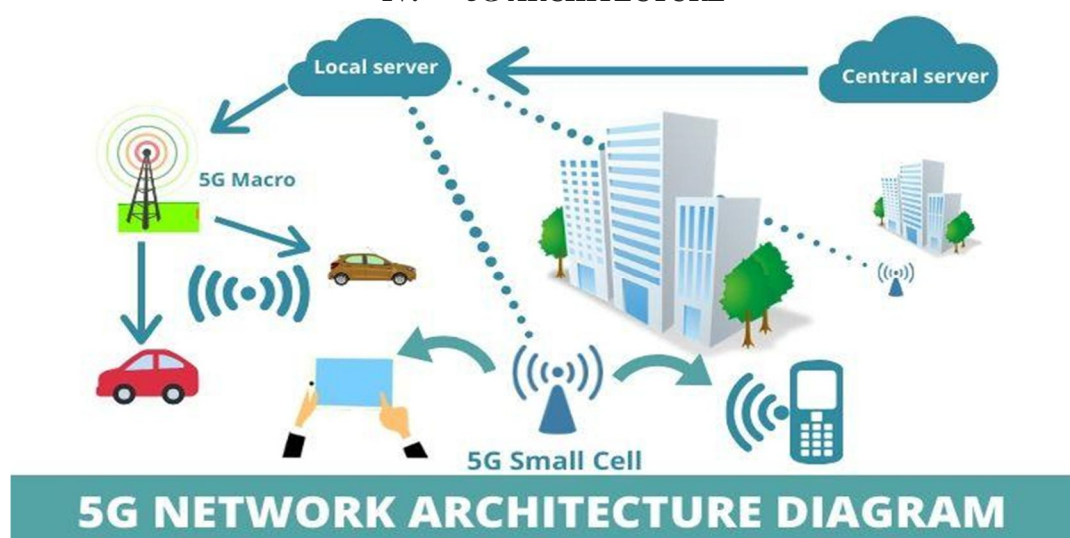


Fig1- 5G Architecture<sup>6</sup>



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