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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 users¹ (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 designated² 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” hardware³.
- 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 burden⁴.

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 scale⁵. Microwave as we all know also has a extreme bad carcinogenic effect on human body due to its high radiative power.

IV. 5G ARCHITECTURE

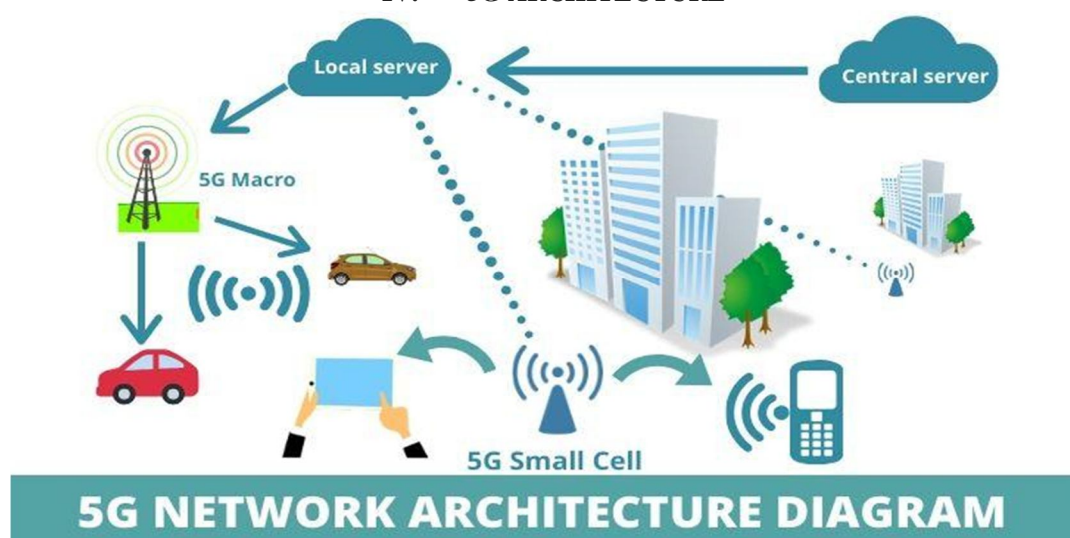


Fig1- 5G Architecture⁶



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