Cellular Radio
— A Brief introduction

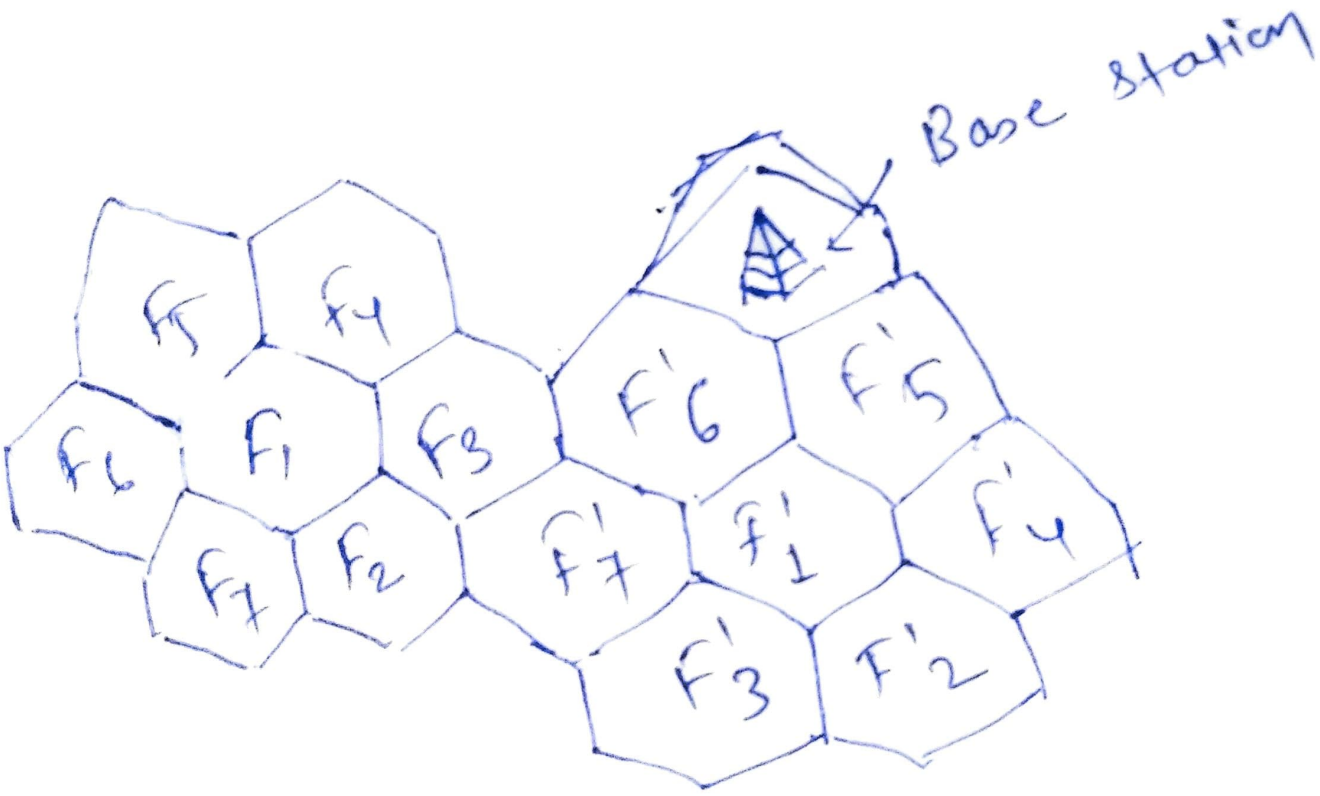
In cellular radio network the whole geographical area is divided into different geometrical patterns of hexagonal shape. The hexagonal shaped sub-division is known as a cell. Every cell has a tower attached to it, which is known as base service station (BSS). A group of cells (usually 7) is known as a cluster. In a cluster every cell has a unique frequency channel.

The whole model works on the principle of frequency reusability, in which two adjacent cells can't have similar frequency channel. Every cell can further be sub-divided into microcells which is half of the original cell.

In traditional networks use of very high towers with high capacity and energy consumption make it costly and inefficient in densely populated areas and in uneven terrains. Moreover, there was no concept of frequency reusability which is already scarce and expensive.

So, it was thought to rework on a model which can use transmitters of lesser capacity and higher penetration, hence the concept of cellular radio evolved.

Different access methods like FDMA, TDMA or CDMA is used. Typically, having the same set of RF channels in different clusters are termed as Co-channel cells. The distance between the cells should be sufficient to keep the co-channel influence to an acceptable level. Hence, the cellular systems are limited by co-channel interference.



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