Report on a Case Study in Field Test Mode By N.Azhaar Ahamed (RA22110300500028)

**Goal:**

This case study aims to investigate and comprehend important networking data on cellphones through the use of diagnostic tools like Field Test Mode. The objective is to gather crucial network-related information from Samsung, iPhone, or Android devices and evaluate the importance of each characteristic.

**Type of Device Used:** Samsung Galaxy A52

Network Data Gathered International Mobile Equipment Identity **(IMEI) Number:**

SLOT1:

SLOT2:

Definition: Each mobile device is uniquely identified by its IMEI. Network providers use it to determine whether devices are legitimate and to prevent phones that have been stolen or

compromised from connecting to the network.

Importance: Network operators can secure networks, track devices, and handle hardware-related problems with the aid of the IMEI.

Devices on a local network can be uniquely identified by their MAC address, which is a hardware identification.

Significance: It facilitates device authentication and network traffic management in both wired and wireless networks.

Definition: An IPv4 or IPv6 address is a special address that is given to your device for network communication.

Significance: It is essential for internet service access and data routing between networked devices.

The telecoms company that provides the device with cellular service is known as the network operator.

Importance: When determining roaming, network availability, and service-specific parameters, the operator's identity is crucial.

Type of Network : 4G

Definition: The type of network, 4G reflects the generation of mobile communication technology being employed.

Relevance: The type of network has an impact on signal strength, data rates, and the general mobile experience.

Strength of Signal (dBm):-106dBm

Decibels per milliwatt (dBm) is the unit of measurement for signal strength. It displays how well your smartphone and the cellular tower are connected.

Relevance: Better call quality, quicker data speeds, and fewer missed connections are all correlated with stronger signal strengths (nearer 0 dBm).

The maximum rate of data transfer (upload and download) between a device and a network is referred to as bandwidth.

Significance: It establishes the maximum speed at which information can be sent or received, impacting the efficiency of file sharing, streaming videos, and browsing.

Mobile Location Information (LAC and CID)

Definition: LAC (Location Area Code) and CID (Cell ID) provide details about the specific cellular tower serving the device.

Importance: This information helps network operators manage traffic and handover between towers during movement.





