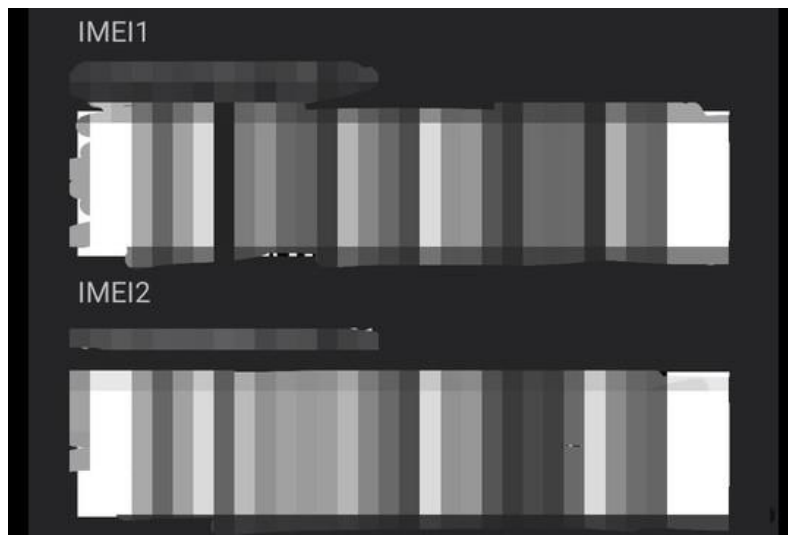# Computer Networks

Case study

Exploring Field Test Mode on

Smartphones

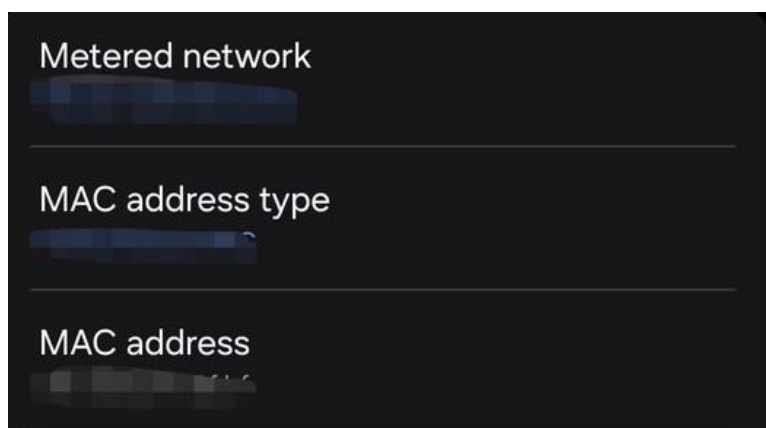Manu Sebastian
RA2211026050005
CSE AIML B

IMEI Number (International Mobile Equipment Identity)

A 15-digit number unique to your device, the IMEI allows network providers to identify valid devices on the network and can help track or block a device if lost or stolen. It's crucial for security and device management.
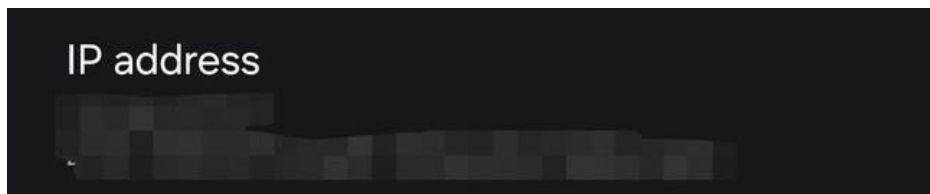

MAC Address (Media Access Control address)

This permanent identifier is unique to your device's network interfaces, like Wi-Fi and Bluetooth. It is essential for network communication, allowing secure connections and often used in network access control systems to authorize devices.

IP Address (Internet Protocol address)

An IP address allows data to be routed between your device and other devices on the internet or local network. Smartphones often use a private IP on local networks and a public IP through the carrier for internet access. Dynamic IPs may change as you connect to different networks.
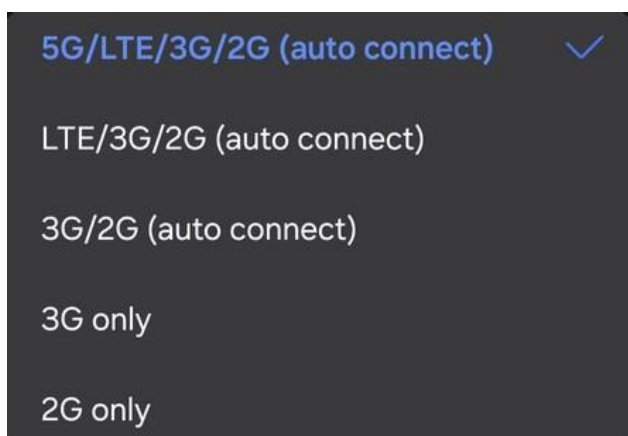

Network Operator/Brand

This displays the name of your cellular provider, like Jio or Vodafone, and affects your network services, roaming capabilities, and access to special features. The network operator often dictates coverage area and signal quality.

Network Type (4G LTE, 5G, etc.)

This shows the generation and technology of the network your device is connected to. 4G LTE offers high-speed internet suitable for most tasks, while 5G provides ultra-fast speeds and low latency, enhancing streaming, gaming, and high-demand applications.

Signal Strength (Measured in dBm)

Signal strength in dBm gives an insight into network reliability. A reading around -50 dBm means excellent signal quality, while below -90 dBm indicates weaker connectivity, often resulting in slower data speeds or call quality issues.

Signal strength
-108 dBm 32 asu

Download/Upload Bandwidth

Representing the data speeds available to your device, download and upload speeds are measured in Mbps (megabits per second). These speeds depend on network type, provider capacity, and the current load on the network, impacting your browsing and streaming experience.

My Provider: **Jio**

BROADBAND   MOBILE

Internet Provider	Download ▼	Upload	Ping
Jio	162,6	15,7	53
My Result	157,7	157,5	44
Airtel	106,5	11,7	47
Vodafone Idea	8,4	1,9	98
Metrics	Mb/s	Mb/s	ms

Mobile Location Information (LAC - Location Area Code and CID - Cell ID)

The LAC and CID codes help pinpoint the cell tower your device connects to. LAC represents a group of towers in a region, while CID identifies the specific tower. This information enables efficient network management and improves connectivity by distributing loads across nearby towers.