Case study:

Exploring field test mode on a Realme 9

Objective:

This case study focuses on exploring and understanding networking information using field test mode on a Realme 9. The objective is to gather network performance data such as signal strength, network type and bandwidth to assess the device's connection quality and network performance.

1. IMEI Number (International Mobile Equipment identity):

The IMEI is a unique identifier that allows the network to recognize and manage the device.

2. MAC Address (media Access control Address):

The MAC Address identifies the device on local networks like Wi-Fi.

3. IP Address (Internet Protocol Address):

This Address is used for communication over the internet, assigned by the network.

4. Network operator / Brand: Airtel

The device is connected to Airtel's mobile network, which provides cellular services.

5. Network Type: 4G LTE

The device operates on a 4G LTE network, which offers moderate to high-speed data transfer.

6. Signal strength: -90 dBm

The signal strength of -90 dBm suggests a weak to moderate signal, which may affect data speeds and call quality.

7. Download / upload Bandwidth: 42 Mbps (Download) / 12 Mbps (upload)

These values represent the network's download and upload speeds, providing average performance for common online tasks.

3. Mobile Location Information:

- LAC (Location area code)
- CID (cell ID)

These codes help identify the specific cell tower the device is connected to, providing insights into network location and performance.

Steps to Access Field Test Mode

1. Open the phone dialer on the Realme 9.
2. Dial *#*#3646337#*#* or use *#*#4636#*#* to access the service mode menu.
3. Choose "Phone Information" to view important network data like IMEI, signal strength, and network type.
4. For Wi-Fi related data such as MAC address and IP address, go to WiFi information.
5. Capture screenshots of the essential information eg Signal strength, Network type, LAC and CID for further analysis.

Analysis of collected data

1. Signal strength:

A signal strength of -90 dBm is slightly better than the cases with other devices like the oneplus Nord CE 3 Lite and Samsung Galaxy A35, but it still indicates a weak to moderate connection.

2. Network Type:

The Realme 9 is connected to a 4G LTE network, which typically provides moderate to high-speed data services. However, the weak signal strength (-90 dBm) could prevent users from fully utilizing the 4G LTE network's capabilities.

3. IMEI, MAC and IP addresses:

These identifiers are crucial for managing the device's access to cellular and Wi-Fi networks. The IMEI is used by Airtel to manage network access, while the MAC and IP addresses enable local and internet communications

4. Mobile Location Information (LAC / CID):

The LAC and CID identify the cell tower currently handling the device's connection. This information can be used to analyze the performance of the particular tower and troubleshoot connectivity issues in the location.

5. Importance of Networking information:

The network information obtained from field test made on the Realme 9 provides valuable insights into device performance:

Signal Strength:

The dBm value indicates the signal strength in specific area. Moving to a location with better reception or using a network booster could improve signal quality.

Network Type:

The 4G LTE network supports common online tasks such as browsing, streaming and downloading.

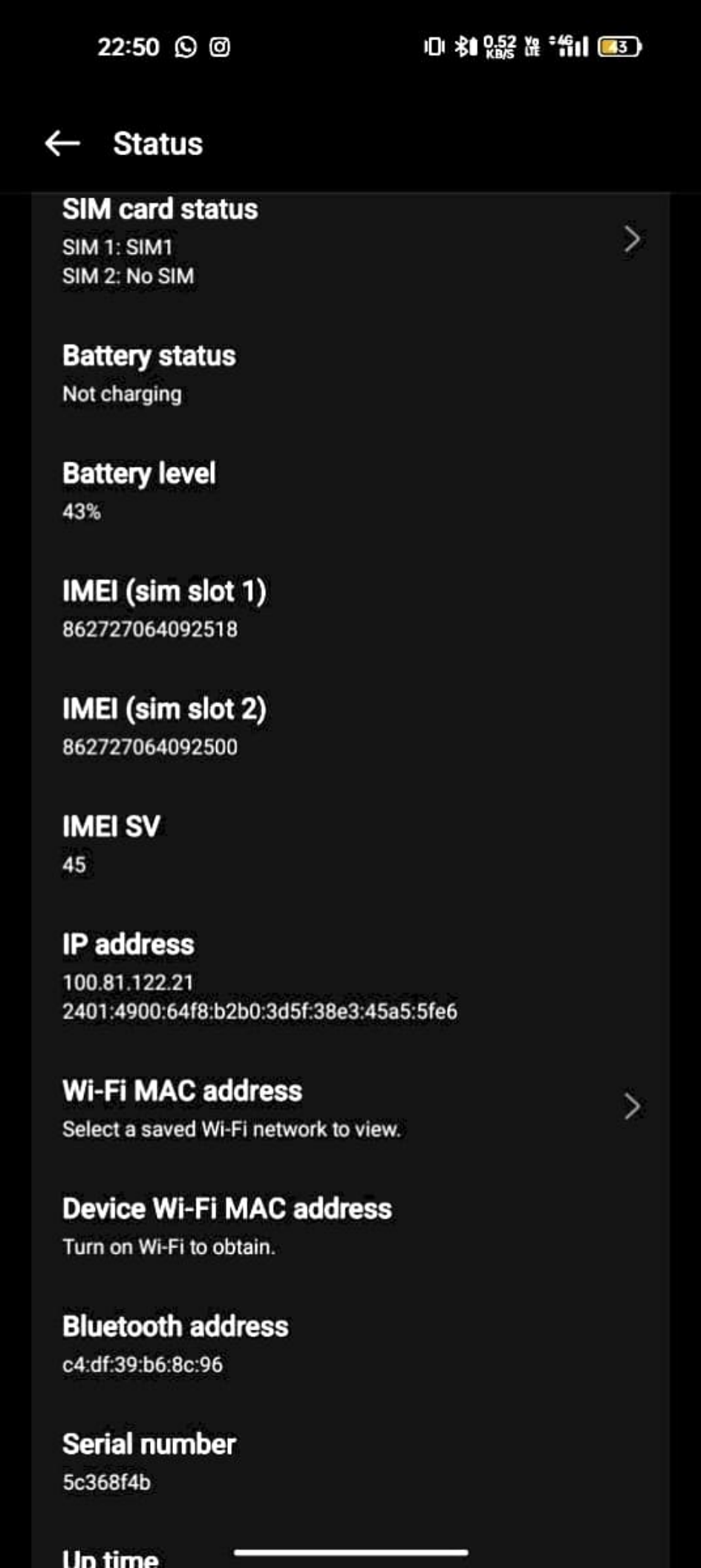
In areas with poor reception, a staging LTE network may not perform optimally.

Location Information: (LAC and CID)

If users face performance issues, knowing the tower can help identify whether the problem is tower's load, coverage or potential maintenance needs.

Conclusion:

This case study on Realme 9 demonstrates the usefulness of Field test mode in assessing network performance. The collected data, including signal strength, network type and location information, helps users diagnose connection problems and make informed decisions to improve their mobile experience. With a signal strength of -90 dBm on a 4G LTE network, the Realme 9 is capable of supporting moderate data usage. Last improvements in signal quality or coverage may enhance the overall performance.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