Case study:

Exploring Field Test mode on a Samsung A35

Objective:

The purpose of this case study is to explore and understand key networking information using Field Test mode on a samsung Galaxy A35. By using Field Test mode, we gather data on network performance, such as signal strength, network type, and bandwidth, which can help assess the device's connection quality.

1. Device Type covered

-> samsung Galaxy A35 (Android)

2. Key Information collected

1. IMEI number (International mobile Equipment Identity)

The IMEI is a unique ~~and~~ identifier used by the mobile network to track the device.

2. MAC Address (media Access Control Address)

This address is used to identify the device for local network communication, such as Wi-Fi.

3. IP Address (Internet Protocol Address)

The IP address is crucial for communication over the internet, assigned to the device by the network.

4. Network Operator / Brand : Airtel

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

5. Network Type: 4G LTE
The device operates on a 4G LTE network, offering moderate to high speed data transfer.

6. Signal Strength: -92 dBm
A signal strength of -92 dBm indicates a weak signal, which may impact call quality and data performance.

7. Download / Upload Bandwidth: 35 Mbps / 8 Mbps
These speeds reflect the network's current performance, sufficient for typical use but potentially slowed by weak signal strength.

8. Mobile location information:
-> LAC (Location Area code): 32015
-> CID (cell ID): 48295
The LAC and CID help pinpoint

the exact cell tower to which the device is connected, revealing the phone's network location.

3. Steps to access Field Test mode

1. Open the Phone dialer on the Samsung galaxy A35.

2. Dial *#0011# to access the service mode.

3. View relevant network information, including IMEI, signal strength, and network type, under the "serving cell info" section.

4. Capture screenshots of the key details, such as signal strength, network type, and mobile location (LAC and CID), for analysis.

4. Analysis Of collected Data

1. Signal strength:

With a signal strength of -92 dBm, the connection is slightly better ~~than the samsung A33~~ but still weak, which might cause slower download speeds and potentially degraded call quality.

2. Network Type:

The device is connected to a 4G LTE network, providing moderate data speeds suitable for everyday internet usage. However, weak signal strength (-92dBm) can limit the full potential of the 4G LTE connection, leading to occasion connectivity issues.

3. IMEI, MAC, and IP Address:

These identifiers are crucial for device recognition on both cellular and Wi-Fi networks. Airtel uses the IMEI to manage the phone's access to its services, while the MAC and IP addresses handle local and internet communications.

4. Mobile Location Information (LAC / CID):

The LAC and CID values help locate the cell tower servicing the phone, enabling service providers to assess tower performance in the device's current location. This information can be used to troubleshoot connectivity or optimize coverage.

Q. Importance of reworking information

The data collected from field test mode is valuable for understanding and troubleshooting network performance.

-> Signal strength:

The dBm value helps determine whether the phone is in an area with good network coverage. A weak signal (-92 dBm) could explain slow internet speeds, dropped calls, or buffering during video streaming.

-> Network type:

Knowing the network type (4G or LTE, in this case) helps users understand the capabilities of their connection. 4G LTE generally providing sufficient speeds for

daily tasks, but the experience is limited by the signal strength.

-> Location information:

The LAC and CID values are useful for identifying the cell tower responsible for the phone's connection. This information can aid in diagonsing performance issues related to specific towers or geographical areas, helping both users and providing to improve service

conclusion:

The case study highlights the benefits of using field test mode to gather network data on the Samsung galaxy A35. By examining signal strength,

network type, and location information, users can better understand the state of their device's connection. The signal strength of -92 dBm suggests that while the device can support moderate data usage on a 4G LTE network, improvements in network coverage or proximity to a cell tower could further enhance the overall performance.

Status information

IP address
fe80::c0fd:23ff:fe91:7243
192.168.29.133
2405:201:e01d:80e5:c0fd:23ff:fe91:7243
2405:201:e01d:80e5:44c0:ecac:1dce:6d5c

Wi-Fi MAC address

Phone Wi-Fi MAC address
B8:A8:25:47:3E:72

Bluetooth address
B8:A8:25:47:3E:71

Ethernet MAC address
Unavailable

Serial number
RZCX80D8MDM

Up time
2:07:11

Phone status
Official

Rated
DC 9 V; 2.77 A