

# **CASE STUDY REPORT: EXPLORING FIELD TEST MODE ON SMARTPHONES**

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Course Name: COMPUTER NETWORKS

Date: 22/10/24

## **1.Introduction**

The objective of this case study is to explore and understand key networking information available on smartphones using Field Test Mode. This mode provides insights into various parameters that influence network connectivity and performance.

## **2.Device Types Used**

The devices used in this case study include:

Android Phone

## **3.Methodology**

Field Test Mode was accessed on each device by dialling specific codes. The following key parameters were collected:

IMEI Number

MAC Address

IP Address

Network Operator/Brand

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

Signal Strength (dBm)

Mobile Location Information (LAC and CID)

## **4.Key Network Parameters**

### **IMEI Number (International Mobile Equipment Identity):**

A unique identifier for mobile devices, used for tracking and blocking lost or stolen phones on cellular networks.

### **MAC Address (Media Access Control Address):**

A unique identifier assigned to your device's network interface, essential for local network connections.

### **IP Address (Internet Protocol Address):**

An address that identifies your device on a network, allowing for communication and internet access.

### **Network Operator/Brand:**

Indicates the cellular provider, impacting service quality.

### **Network Type (4G LTE, 5G, etc.):**

Shows the technology used for internet connectivity, affecting speed and performance.

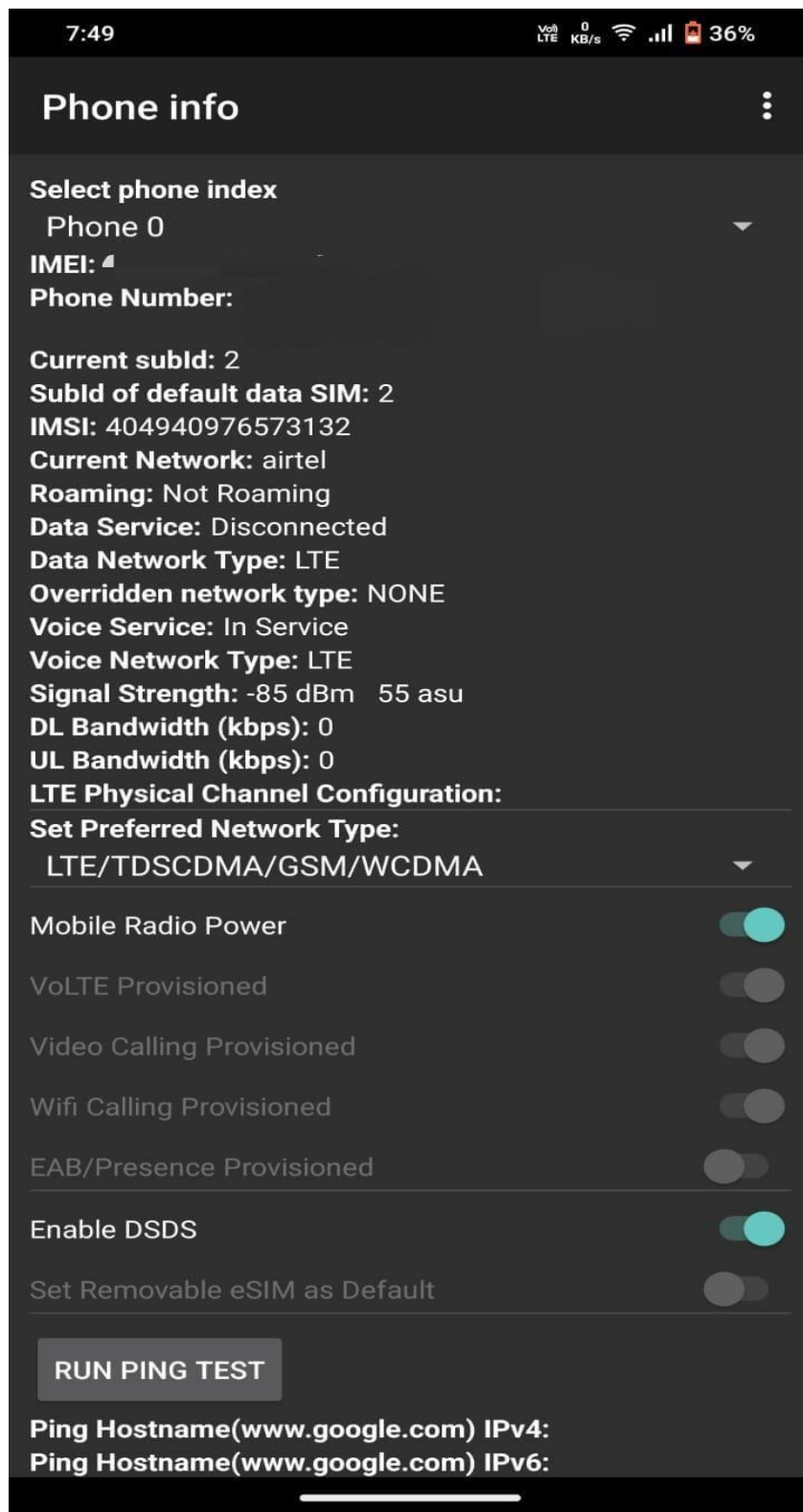
### **Signal Strength (Measured in dBm):**

Indicates the quality of the network connection, with higher (less negative) values representing better quality.

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

Identifies the cell tower connection for tracking and performance analysis.

## 5.Screenshots:



7:49

Vol 2.55  
LTE KB/s

36%

## Phone info



RUN PING TEST

Ping Hostname([www.google.com](http://www.google.com)) IPv4: PassPing Hostname([www.google.com](http://www.google.com)) IPv6: Fail(2)

HTTP Client Test: Pass

Data Sent: 95180 pkts, 23452048 bytes

Data Received: 264990 pkts, 296906330 bytes

Number of PPP Reset Since Boot:

Voice Call Status: Idle

Message Waiting: false

Call Redirect: false

Cell Info Refresh Rate:

Disabled



## All Cell Measurement Info:

LTE

SRV	MCC	MNC	TAC	CID	PCI	EARFCN	BW	RSRP	RSRQ	TA
R+P	404	94	50491	23 01	467 1615			-85	-12	
N			65535	26 43	266 3710			-87	-15	
N			65535	26 43	148 390			-90	-11	
N			65535	26 43	266 390			-90	-11	
N			65535	26 43	266 1615			-93	-20	
N			65535	26 43	298 39294			-101	-16	
N			65535	26 3	148 39294			-101	-16	
N			65535	26 3	266 39294			-102	-17	
N			65535	26 43	298 39150			-103	-17	
N			65535	26 43	266 39150			-106	-16	
N			65535	26 43	148 39150			-106	-20	

CARRIER  
PROVISIONING  
INFOTRIGGER  
CARRIER  
PROVISIONINGOEM-SPECIFIC  
INFO/  
SETTINGS

SMSC: \_\_\_\_\_

UPDATE

REFRESH

TOGGLE DNS CHECK

0.0.0.0 not allowed

## **6.Conclusion:**

The exploration of Field Test Mode on smartphones provides valuable insights into network parameters that influence connectivity and performance. Understanding these parameters is crucial for optimizing mobile network use.

## **7.References**

Waveform. (n.d.). Field Test Mode Guide. Retrieved from [Waveform](<https://www.waveform.com/a/b/guides/field-test-guide>)

Signal Booster. (n.d.). Field Test Mode Overview. Retrieved from [Signal Booster](<https://www.signalbooster.com/pages/field-test-mode>)

Florida State University. (2015). Field Test Mode in Smartphones. Retrieved from [FSU Repository](<https://repository.lib.fsu.edu/islandora/object/fsu%3A175931/datastream/PDF/view>)