



**REPORT ON QUALITY-OF-SERVICE (QoS)  
PERFORMANCE  
BY THE MOBILE NETWORK OPERATORS  
FOR THE FY 2024-2025**

## I. INTRODUCTION

The Communications Authority of Kenya (CA) regularly monitors quality of mobile cellular services provided by mobile network operators to the public as a consumer protection mechanism. The quality of service (QoS) monitoring is performed according to a Quality-of-Service Assessment Framework established in 2017. This framework provides for three components used to gauge the Mobile Network Operators’ (MNOs) performance; End to End testing through Drive tests and Walk tests, Network Performance NP-QoS and Quality of Experience (QoE) done vide surveys.

During the period under review of 2024-2025, the Authority conducted quality of service assessment on the three MNOs in Kenya based on the three (3) components; End to End testing vide Drive tests , Network Perfomance and Quality of Experience (QoE).

This report details results of the QoS monitoring and the outcomes of the same, based on End-to-End QoS, Network Perfomance and Quality of Experience (QoE) assessment that was conducted through surveys, alongside the Customer Satisfaction and perception surveys for the 2025 period.

The end-to-end testing QoS monitoring activities were conducted in all the 47 counties.

## II. METHODOLOGY

Quality of Service monitoring is undertaken based on a framework that provides for three components used to gauge the Mobile Network Operators’ (MNOs) performance; End to End testing through Drive tests and Walk tests, Network Performance (NP) QoS, and Quality of Experience (QoE) done vide surveys. The framework provides for weightings to be applied on the three components to come up with a weighted average of the QoS performance. The weighting of the components is provided in Table 1.

**Table 1: QoS Components’ Weighting**

QoS Component	Weighting
1. End to End Drive Test QOS	60%
2. Network Performance (NP) System	25%
3. Quality of Experience (QoE)	15%

The three (3) QoS components are defined as follows:

- 1. End-to -End Quality of Service (QoS)** is defined as the totality of characteristics of a telecommunications service that bear on its ability to satisfy the stated and implied needs of the user of the service (Recommendation ITU-T E.800). This is undertaken using the drive test quality of service moninting system.The field data once collected during end-to-end tests is cleaned up to remove redundancies and inadmissible captures in line with the prevailing recommendations from standards development bodies such as the ITU, ETSI and IEC. The data logs are further shared with MNOs for their review and comments.

2. **Network Performance (NP)** is the gathering and analysis of network statistics called performance indicators to assess the quality of service provided by a telecommunication network. It is both a quantitative and a qualitative analysis and is a crucial tool for understanding the health of the network. It is undertaken using a system that connects directly to mobile network's Network Operation Centres (NOC). This NP system was not available for use during the period under review due to maintenance challenges occasioned by contractual challenges between the local supplier and the OEM.

3. **Quality of Experience (QoE)** is defined as the overall acceptability of an application or service, as perceived subjectively by the end-user (Recommendation ITU-T P.10/G.100). It is the degree of delight or annoyance of the user of an application or service. The assessment is done through surveys alongside customer satisfaction surveys.

### III. DRIVE TEST QOS DATA COLLECTION

During the period under review, the drive tests were undertaken in all the 47 counties focussing on the parameters and the respective targets in Table 2, as measured in the End-to-End drive test Quality of Service exercises;

**Table 2: Measurement Parameters and Targets**

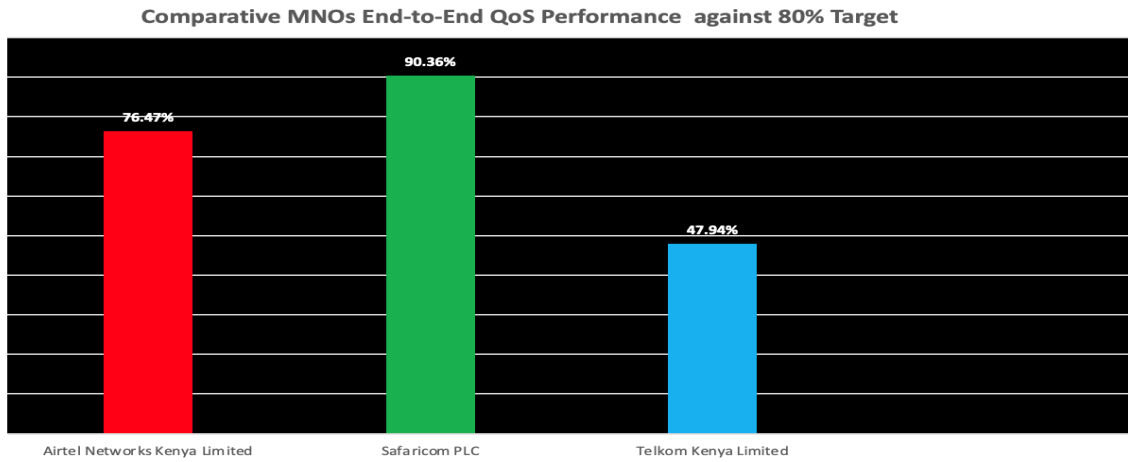
Service	Parameters	Targets
<b>Voice</b>	Unsuccessful call ratio	<=5%
	Dropped call ratio	<=2%
	Call set up time	Mean value <= 12s
	Voice quality (MOS, POLQA)	>= 3.4 (Narrow Band)
	Handover	>= 96%
<b>Data</b>	Latency	<=100 ms (1)
	Jitter *	<=50 ms (1)
	Data transfer failure ratio and Throughput of successful data transfer	DL failure ratio <= 10 % UL failure ratio <= 10 %
	Ratio of Packet Loss*	1 / 1,000 (1)
	Internet Accessibility	=>98 %
	HTTP set-up failure ratio and	HTTP set-up failure ratio <=2%
	HTTP set-up time	HTTP set-up time >=95% within T<=20s
	HTTP Completion failure ratio and	HTTP Completion failure ratio <=90%
HTTP Completion Time	HTTP Completion Time >=95% within T<=20s	
<b>SMS</b>	Successful SMS Ratio	> 95%
	Completion Rate for SMS	> 95%
	End-to-End delivery time for SMS	> 95% Rate of SMS completed in a delay of less than 30 s. (best practice)

\*These KPIs were not assessed since Video tests and Gaming which relate to these, were not included in the measurements.

**a) National End-to-End Drive Test QoS Performance**

The results for National End-to-End Drive test, as shown in Figure 1, indicates that Safaricom exceeded the 80% target by registering performance of 90.36%, while Airtel and Telkom performed below the 80% target by registering 76.47% and 47.94%, respectively.

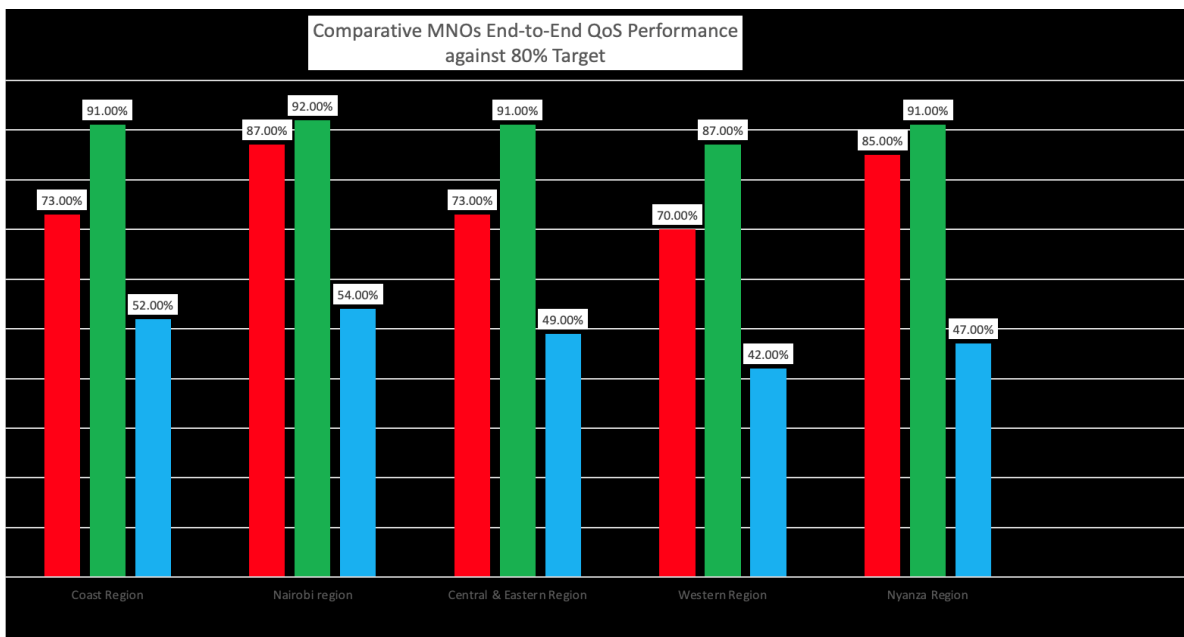
**Figure 1: MNOs' Drive Test QoS results for 2024-2025**



**b) Regional Drive Test QoS Performance**

The five (5) regions have clusters of counties with Nyanza region having 8 Counties, Western region 12 counties, Central Region 13 counties, Coast Region 6 counties and Nairobi Region 8 counties. With these cluster of counties put together, Safaricom met targets in 5 of the 5 regions while Airtel met targets in 2 of the 5 regions, Telkom Kenya did not meet targets in any of the regions, as shown in Figure 2.

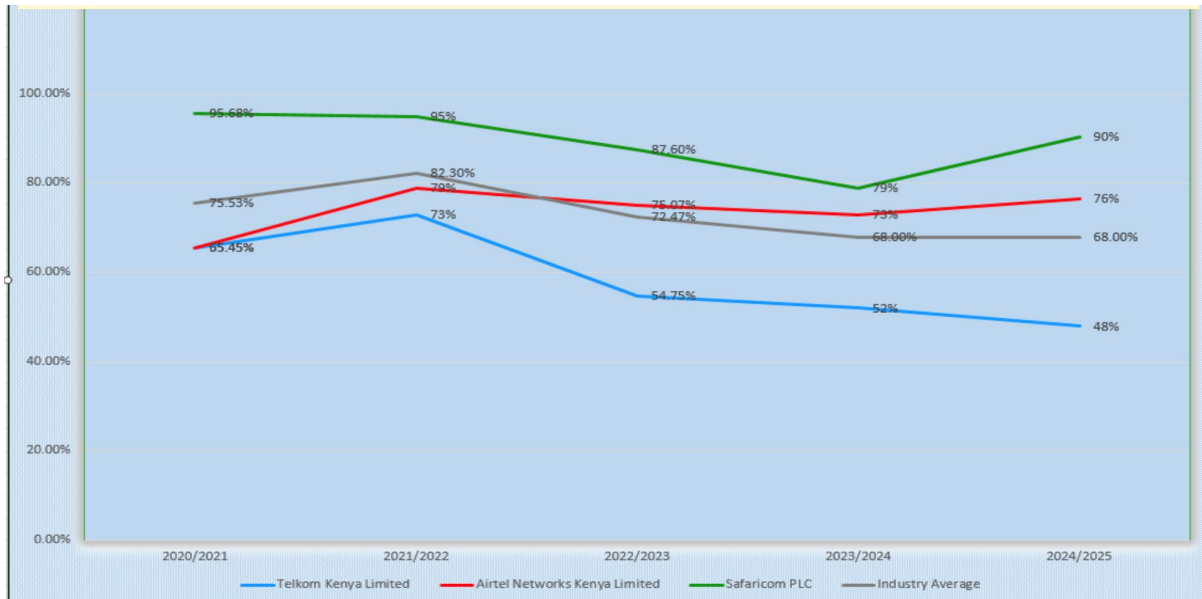
**Figure 2: MNO's QOS performance in Regional Cluster Counties**



### c) Historical Performance

The historical performance trend in Figure 3 indicates that the industry average MNOs End-to-End Drive test QoS performance has been in a downward trend. This implies the need for more investment in network quality improvement to meet the increasing consumer demands and expansion in mobile service coverage.

**Figure 3: MNO's Drive Test QoS Performance Trend over 4 years**



## IV. NETWORK PERFORMANCE (NP) SYSTEM

The NP System parameters that can be matched to the QoS parameters with targets for monitoring under the QoS Framework are; Unsuccessful Call Ratio (Call Block Rate), Call Drop Rate, Handover Success Rate, Data Service Access Rate and Data Service Availability. The performance of the MNOs against these parameters as obtained from the NP Systems are presented in Table 3.

**Table 3: MNOs QoS Performance Results from Network Performance System**

KPI	Unsuccessful Call Ratio	Call Drop Rate	Handover Success Rate	Data_Service Access_Rate, %	Data Service Availability	Score
Target	<=5%	<=2%	>=96%	T=>98%	T=>85%	
Safaricom	0.33%	0.51%	98.89%	99.13%	98.50%	100%
Airtel	0.24%	0.22%	97.92%	99.41%	95.24 %	100%
Telkom	1.55%	6.86%	97.43 %	99.98%	73%	60%

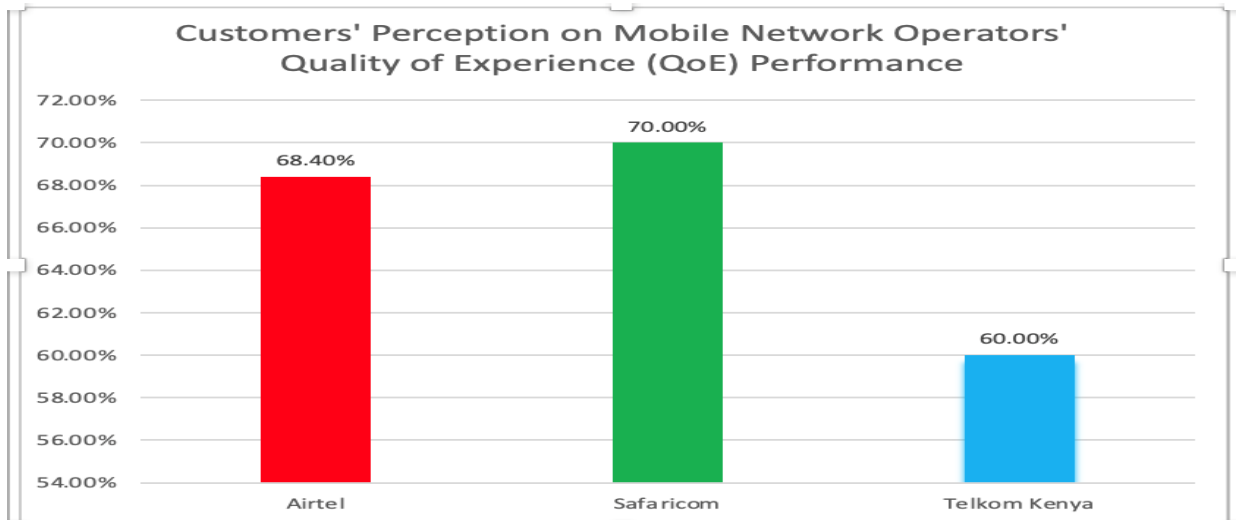
## V. QUALITY OF EXPERIENCE (QoE)

The Authority undertook QoE assessment alongside customer satisfaction survey conducted between August 2025 and November 2025, and the QoE report published in December 2025 for inclusion into the 2024-2025 QoS assessment process. The QoE performance for the three (3) mobile networks is given in Table 4 and Figure 4 with Safaricom, Airtel, and Telkom registering 70.0%, 68.4% and 60.0%, respectively. This performance is lower than previous year where the ratings for Safaricom, Airtel, and Telkom were 77.6%, 69.7% and 64.2%, respectively.

**Table 4: Quality of Experience (QoE) for 2024-2025**

	<b>Dimension / Index Area</b>	<b>Airtel</b>	<b>Safaricom</b>	<b>Telkom Kenya</b>
1.	Network Coverage Satisfaction	65.00%	65.80%	72.70%
2.	Voice Call Quality	64.60%	63.00%	62.70%
3.	Call Connectivity Reliability ( <i>Calls, drops, completion</i> )	58.00%	61.50%	55.00%
4.	Internet/Broadband Quality	64.20%	64.20%	58.60%
5.	Internet Speed Satisfaction (Fast + Very Fast weighted)	26.60%	10.60%	33.90%
6.	Billing Satisfaction	71.80%	73.10%	71.80%
7.	Billing Transparency & Accuracy	82.30%	82.50%	75.00%
8.	Customer Care Satisfaction	69.80%	70.60%	63.50%
9.	Complaint Handling Satisfaction	68.30%	69.80%	61.70%
10.	Customer Care Accessibility	72.40%	67.00%	79.00%
	<b>Overall Satisfaction Index</b>	<b>68.40%</b>	<b>70.00%</b>	<b>60.00%</b>

**Figure 4: MNO's QoE Performance**



## VI. OVERALL WEIGHTED AVERAGE ON QOS, NP AND QOE COMPONENTS

The overall performance of the MNOs have been determined using the Drive Test QoS, NP System QoS and Quality of Experience components is as shown in Table 5 and Figure 5 below. The overall performance for Safaricom is 89.72% and for Airtel is 81.14%, hence met the threshold of 80%. The overall performance for Telkom is 52.76%, hence did not meet the threshold of 80%.

**Table 5: MNO's Weighted Overall QoS Performance**

	QOS Component and Weighting	Airtel Networks Kenya Limited	Safaricom PLC	Telkom Kenya Limited
1.	Drive Test QOS "A"	76.47%	90.36%	47.94%
2.	Weighted "A" (QoS*0.6)	45.88%	54.22%	28.76%
3.	Customer Perception QoE "B"	68.4%	70.0%	60.0%
4.	Weighted "B" (QoE*0.15)	10.26%	10.5%	9%
5.	NP QOS "C"	100%	100%	60%
6.	Weighted "C" (QoE*0.25)	25%	25%	15%
7.	<b>Total (A+B+C)</b>	<b>81.14%</b>	<b>89.72%</b>	<b>52.76%</b>

**Figure 5: MNO's Overall QoS Performance**

