QUARTERLY STATISTICAL BULLETIN ON COMMUNICATIONS IN GHANA

Volume 8 Issue 4

NATIONAL COMMUNICATIONS AUTHORITY

FOURTH QUARTER

OCTOBER - DECEMBER, 2023

Communications for Development

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LIST OF ABBREVIATIONS

BWA	Broadband Wireless Access
LTE	Long-Term Evolution
FM	Frequency Modulation
GH₵	Ghana Cedi
GHp	Ghana pesewas
MB	Megabytes
MNO	Mobile Network Operator
MoU	Minutes of Use
NCA	National Communications Authority
SMS	Short Message Service
TV	Television

VISION AND MISSION

Vision

A world-class communications regulator that facilitates innovative, reliable and sustainable communication solutions to meet stakeholders' expectations.

Mission

Regulate the communications industry in a forward-looking and transparent manner that promotes fair and sustainable competition, stimulates innovation, encourages investment, protects stakeholders' interests and facilitates universal access to quality communications services for national development.

Core Values

- Teamwork
- Accountability
- Consistency
- Trust
- Innovation
- Transparency

Tag Line/Slogan – Communications for Development

INTRODUCTION

This Quarterly Statistical Bulletin on Communications is a reference document that entails segregated data, industry trends and analysis of the communications sector of Ghana. The purpose of this document is to promote open and enriched public discussions on policies for telecom analysts, consumers, academia, policy makers, investors and other stakeholders for decision-making.

This bulletin is prepared from the monthly and quarterly data received from various licensees[1]. It also includes data on internet service providers and broadcasting entities and services providers that was gathered in-house.

The publication of this bulletin is consistent with the National Communications Authority's mandate under section 26 (2) (a) of the Electronic Communications Act 2008, Act 775; "to publish the result of research that it carries out or that is carried out on its behalf on its website and in any other manner that it considers appropriate to bring the results to the attention of the public".

[1] MTN, Vodafone, AT, Glo, Surfline, BBH, Telesol, Busy and BLU

DEFINITION OF TERMS

Average SMS per subscriptions - This is calculated by dividing the total SMS count for the quarter by the total average mobile subscriptions for that quarter.

BWA Data Usage per Subscriptions - This is calculated by dividing the total volume of BWA's traffic for the quarter by the total average BWA subscriptions for that quarter.

Cellular network or mobile network – refers to a communication network where the last mile connection is wireless. The network is distributed over land areas called cells, each served by at least one fixed-location transceiver, known as a cell site or base station. This base station provides the cell with the network coverage, which can be used for transmission of voice, data and others.

Fixed-line network - The term refers to all of the wired networks that are used for voice and data communications. A fixed-line can be seen as a connection to an end-user, by means of a cable, through which they can make phone calls or connect to the Internet.

Minutes of Use per Subscriptions - It is calculated by dividing the total volume of voice traffic for the quarter by the total average subscriptions for that quarter.

Mobile Data-refers to active mobile data subscriptions to GPRS, EDGE, HSPA, UMTS and LTE that have generated internet traffic (uploaded and/ or downloaded data) within the last ninety (90) days.

Mobile Data Usage per Subscriptions - It is calculated by dividing the total volume of data traffic for the quarter by the total average mobile data subscriptions for that quarter.

Mobile Penetration or Teledensity – This represents the total number of mobile subscriptions per every 100 inhabitants in a geographical area.

Net Subscriptions Addition – It refers to the total number of new mobile network subscribers minus customers that terminate a service with the service provider at a given time.

On-Net traffic - refers to phone calls made to a recipient on the same network as the caller.

Off-Net traffic - refers to phone calls made to a recipient on a different network.

Quarter-on-quarter – This is a comparison of the quarter under review with the preceding quarter.

Q1 – First Quarter (January – March).
Q2 – Second Quarter (April – June).
Q3 – Third Quarter (July – September).
Q4 – Fourth Quarter (October – December).

Year-on-year – This is a comparison of a period under review (month, quarter etc.) with the same period of the preceding year.

THE COMMUNICATIONS INDUSTRY AT A GLANCE[2]

A1. Service Providers Authorised/Licensed to Operate

Operator/Service Providers	Number of Authorisation/Licenses	Number in Operation
Mobile Network Operators	4	3
Fixed Network Operators	3	3
Broadband Wireless Access	3	1
Television Stations	175	137
FM Stations	747	550

B1. Total Subscriptions

		QUARTER-ON-QUARTER			YEAR-ON-YEAR		
SUBSCRIPTION	**UNITS**	**Q3 2023**	**Q4 2023**	***Growth (%)***	**Q4 2022**	**Q4 2023**	***Growth (%)***
Mobile Voice Subscription	Million	32.55	33.38	*2.57%*	40.05	33.38	*-16,63%*
Fixed Voice Subscription	Thousand	320.09	318.46	*-0.51%*	330.02	318.46	*-3.50%*
Mobile Data Subscription	Million	22.29	23.21	*4.13%*	22.85	23.21	*1.58%*
Fixed Data Subscription	Thousand	113.64	116.86	*2.83%*	102.95	116.86	*13.51%*
Broadband Wireless Access	Thousand	1.42	1.43	*0.70%*	38.07	1.43	*-96.24%*

B2. Voice, Data and SMS Traffic

		QUARTER-ON-QUARTER			YEAR-ON-YEAR		
TRAFFIC	**UNITS**	**Q3 2023**	**Q4 2023**	***Growth (%)***	**Q4 2022**	**Q4 2023**	***Growth (%)***
Mobile Voice Traffic (Domestic)	Billion minutes	24.79	26.26	*5.93%*	23.87	26.26	*10.01%*
Fixed Voice Traffic	Million minutes	7.98	7.27	*-8.90%*	8.80	7.27	*-17.39%*
Incoming International Traffic (Direct to Network Only)	Million minutes	51.82	40.68	*-21.50%*	61.23	40.68	*-33.56%*
Outgoing International Traffic	Million minutes	67.11	66.06	*-1.56%*	73.88	66.06	*-10.58%*
Mobile Data Traffic (MB)	Billion MB	479.08	495.89	*3.51%*	403.04	495.89	*19.83%*
BWA Data Traffic (MB)	Billion MB	0.27	0.26	*-3.70%*	4.65	0.26	*-94.41%*
SMS Count	Million	874.14	964.92	*10.39%*	747.91	964.92	*29.02%*

[1] Glo did not submit data on all indicators for October, November and December. 2023. AT also did not submit data on all indicators for November and December 2023
2 The decimals may not be exact due to the rounding-off of the actual figures.

B3. Penetration Rate (%)

PENETRATION RATE (%)	QUARTER-ON-QUARTER			YEAR-ON-YEAR		
	Q3 2023	Q4 2023	*Growth (%)*	Q4 2022	Q4 2023	*Growth (%)*
Mobile Voice Subscription	100.88	102.94	*2.04%*	126.05	102.94	*-18.33%*
Fixed Voice Subscription	0.99	1..00	*1.01%*	1.04	1.00	*-3.85%*
Mobile Data Subscription	69.10	71.56	*3.56%*	71.91	71.56	*-0.49%*
Fixed Data Subscription	0.35	0.37	*2.78%*	0.33	0.37	*12.12%*
Broadband Wireless Access	0.004	0.004	*0.00%*	0.12	0.004	*-96.67%*

C1. Broadcasting Sector

FM/TV AUTHORISATION & OPERATIONS	QUARTER-ON-QUARTER			YEAR-ON-YEAR		
	Q3 2023	Q4 2023	*Growth (%)*	Q4 2022	Q4 2023	*Growth (%)*
FM Authorisation	737	747	*1.36%*	707	747	*5.66%*
FM Stations Operating	544	550	*1.10%*	513	550	*7.21%*
TV Authorisations	175	175	*-0.00%*	156	175	*12.18%*
TV Stations Operating	120	137	*14.17%*	117	137	*17.09%*

C2. Categories of Authorised FM Radio Stations

CATEGORIES OF FM RADIO STATIONS	QUARTER-ON-QUARTER			YEAR-ON-YEAR		
	Q3 2023	Q4 2023	*Growth (%)*	Q4 2022	Q4 2023	*Growth (%)*
Public	31	31	*0.00%*	31	31	*0.00%*
Public Foreign	5	5	*0.00%*	5	5	*0.00%*
Campus	25	25	*0.00%*	24	25	*4.17%*
Community	133	137	*3.01%*	121	137	*13.22%*
Commercial	543	549	*1.10%*	526	549	*4.37%*

1.0 MOBILE NETWORK

The National Communications Authority (NCA) has licensed four (4) service providers to provide mobile telecoms services in Ghana namely AT, Glo, MTN and Vodafone. This report will focus mainly on MTN, Vodafone and AT, due to non-submission of data by Glo.

This section provides details on the performance of the Mobile Network Operators (MNOs) in Ghana by focusing on Mobile Voice Subscriptions, Net Additions to Voice/Mobile Data Subscriptions, Mobile Penetration, Volume of Mobile Voice/ Mobile Data Traffic, SMS and Mobile Data Subscriptions.

1.1 Mobile Voice Subscriptions and Penetration Rate[3]

Mobile Voice subscriptions increased from 32.55 million in Q3 2023 to 33.38 million at the end of Q4 2023, representing an increase in growth by 2.57%.

Year -on-Year subscriptions also decreased from 40.05 million at the end of Q4 2022 to 33.38 million at the end of Q4 2023, recording a decrease of 16.63% growth rate.

The penetration rate at the end of the quarter under review was 102.94% as compared to 100.88% recorded in Q3 2023, indicating a decrease in growth rate by 5.46% (Figure 1) (Appendix, Table 1).

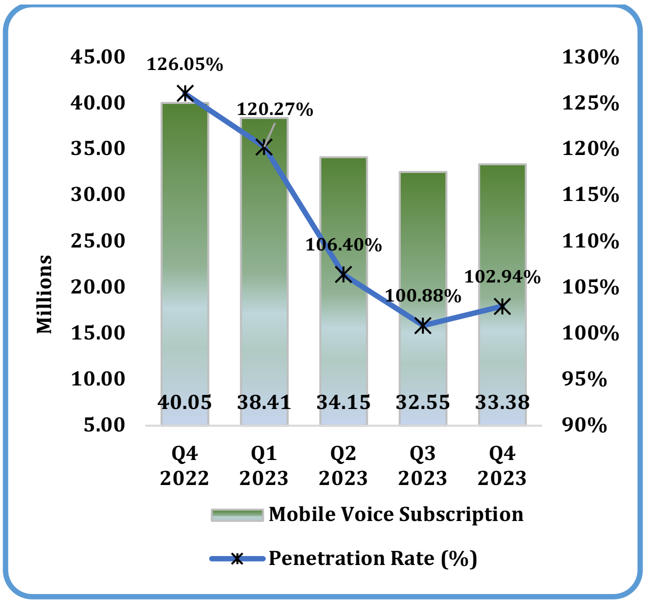


Figure 1: Mobile Voice Subscription and Penetration Rate

1.1.1 Mobile Voice Subscriptions and Market Share per Operator

At the end of Q4 2023, MTN recorded 73.84% of the market share with 24.65 million subscriptions. Vodafone followed with 6.28 million subscriptions (18.80%). AT ended the quarter under review with a market share of 7.36% with approximate subscriptions base of 2.46 million (Figure 2) (Appendix, Table 2).

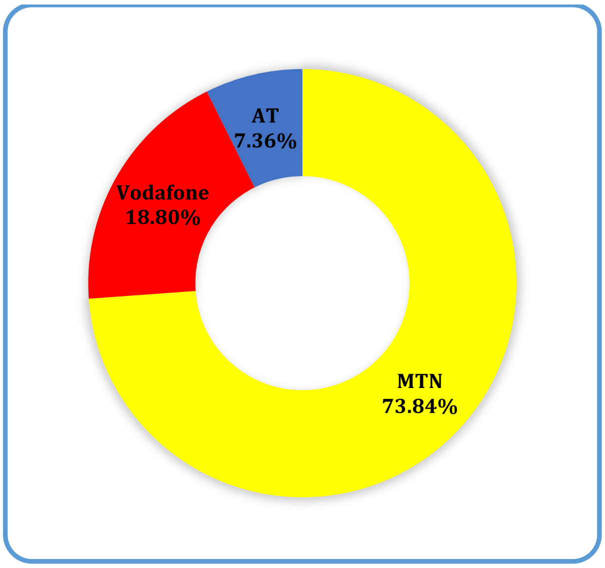


Figure 2: Market Share per Operator

1.1.2 Quarter-on-Quarter Market Share per Operator in Percentage

MTN increased its market share in percentage from 71.73% in Q3 2023 to 73.84% in Q4 2023, representing a growth of 2.95%.

Vodafone had a decrease in growth by 0.82% from 19.44% in Q3 2023 to 18.80% in Q4 2023.

AT's market share also decreased in percentage from 8.83% in Q3 2023 to 7.36% in Q42023, representing a decline of 3.31%.

[3] The mobile penetration rate is estimated by dividing the total number of mobile subscribers by the total population.

1.1.3 Prepaid and Postpaid Mobile Voice Subscriptions

Mobile Voice subscription for prepaid subscribers was 32.94 million representing a market share of 98.67%.

Post-paid subscriptions at the end of the quarter under review was 0.44 million and a market share of 1.33%. (Figure 3) (Appendix, Table 3).

Mobile Voice subscription for prepaid subscribers increased from 32.06 million at the end of Q3 2023 to 32.94 million at the end of Q4 2023 representing a percentage increase of 2.75%.

Mobile Voice subscription for postpaid subscribers declined from 0.49 million in Q3 2023 to 0.43 million in Q4 2023 representing a decrease in growth by 9.22%.

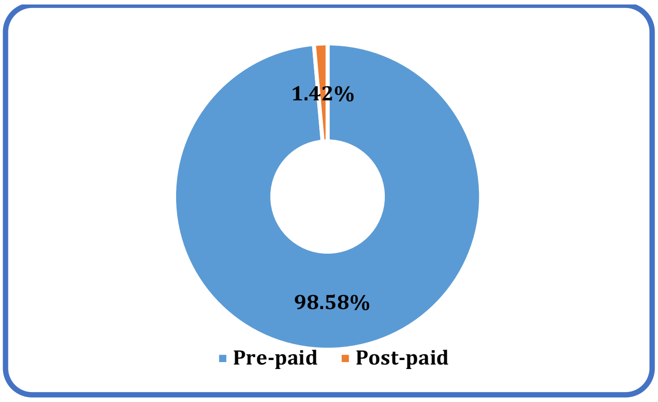


Figure 3: Prepaid and Postpaid Mobile Voice Subscriptions

1.2 Off-Net Domestic Voice Traffic

Mobile-to-Mobile Off-Net Traffic increased from 1.99 billion minutes at the end of Q3 2023 to 2.03 billion at the end of Q4 2023 representing a growth of 1.64%.

Year-on-Year Mobile-to-Mobile Off-Net Traffic also increased from 2.02 billion minutes at the end of Q4 2022 to 2.03 billion minutes at the end of Q4 2023, representing a growth of 0.34%.

Quarter-on-Quarter Mobile-to-Fixed Off-Net Traffic increased from 12.16 million minutes in Q3 2023 to 12.89 million minutes at the end of Q4 2023 indicating an increase in growth by 6.03%.

Year-on-Year Mobile-to-Fixed Off-Net Traffic decreased by 0.74% from 12.99 million minutes at the end of Q4 2022 to 12.89 million minutes at the end of Q4 2023. (Figure 4) (Appendix, Table 4)

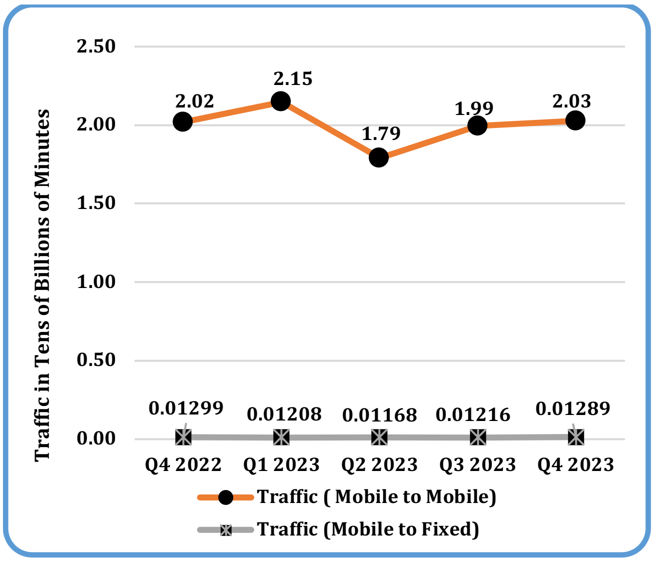


Figure 4: Off-Net Traffic Distribution between Mobile and Fixed Networks

1.2.1 Total Domestic Mobile Voice Traffic

Total Domestic Mobile Voice Traffic recorded an increased from 24.79 billion minutes in Q3 2023 to 26.26 billion minutes in Q4 2023, representing a 5.91% rise in growth.

Year-on-Year Mobile Voice Traffic also increased from 23.87 billion minutes at the end of Q4 2022 to 26.26 billion minutes at the end of Q4 2023, representing a 9.99% increase in growth rate.

In the quarter under review, Off-Net Traffic increased from 2.01 billion minutes at the end of Q3 2023 to 2.04 billion minutes at the end of Q4 2023, giving a growth rate of 1.55%.

Year-on-Year Off-Net Traffic increased from 2.03 billion minutes in Q4 2022 to 2.04 billion minutes at the end of Q4 2023 representing a 0.22% rise in growth.

On-Net Traffic increased from 22.79 billion minutes in the previous quarter to 24.22 billion minutes at the end of Q4 2023 representing a growth rate of 6.29% during the quarter under review.

Year-on-Year On-Net traffic also grew from 21.84 billion minutes in Q4 2022 to 24.22 billion minutes at the end of Q4 2023 representing a 10.89% increase in growth rate. (Figure 5) (Appendix, Table 5)

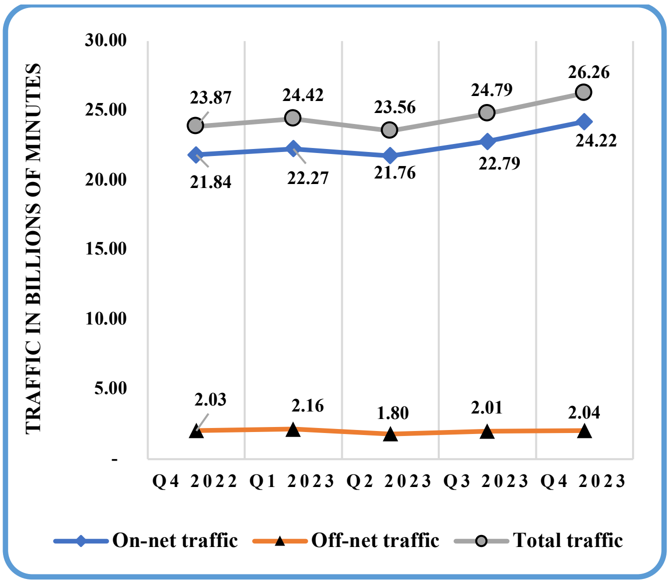


Figure 5: Total Domestic Mobile Voice Traffic in Billions of Minutes

1.2.2 Minutes of Use (MoU)

Quarter-on-Quarter average minutes of use per subscription increased from 750.34 minutes in Q3 2023 to 833.72 minutes representing a 11.11% increase in growth rate in Q4 2023.

Year-on-Year minutes of use per subscription also increased from 590.54 minutes in Q4 2022 to 833.72 minutes in Q4 2023, representing a 41.18% increase in growth (figure 6) (Appendix, Table 6).

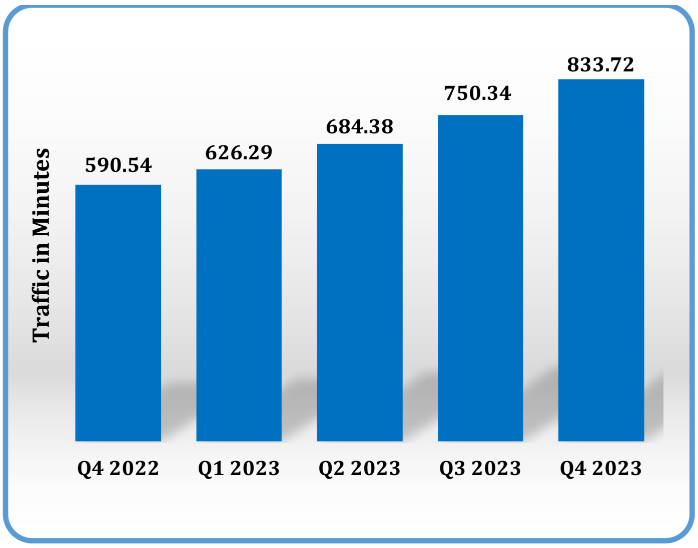


Figure 6: Mobile Voice Traffic Minutes of Use (MoU) per subscriptions

1.3 International Traffic

Inbound International Traffic decreased from 51.82 million minutes in Q3 2023 to 40.68 million minutes in Q4 2023, representing a decline in percentage growth rate by 21.50%.

Year-on-Year Inbound International Traffic also declined from 61.63 million minutes in Q4 2022 to 40.68 million minutes in Q4 2023 with a decreased growth rate of 33.57%.

Quarter-on-Quarter Outbound International Traffic showed a decrease in growth by 1.56% from 67.11 million minutes to 66.06 million minutes in the quarter under review.

Year-on-Year Outbound International Traffic showed a 10.58% decline in growth from 73.88 million in Q4 2022 to 66.06 million in Q4 2023. (Figure 7) (Appendix, Table 6)

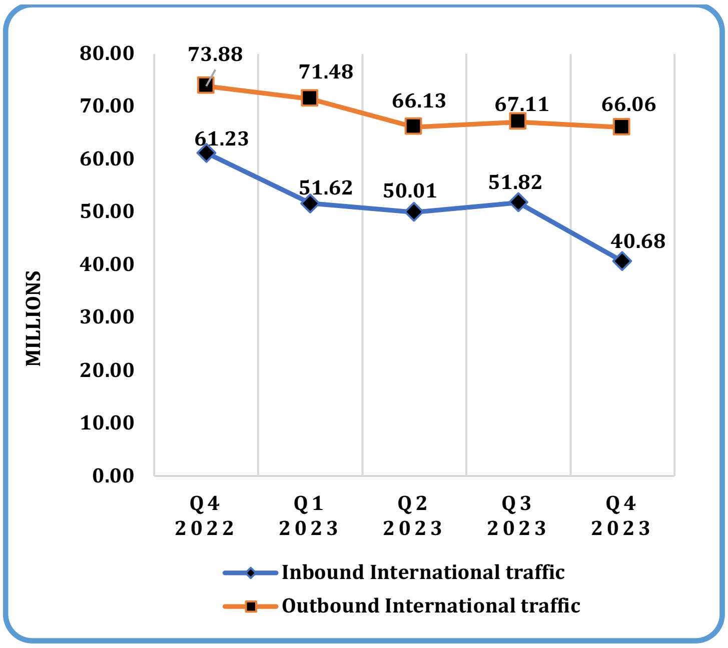


Figure 7: International Traffic in Millions of Minutes

1.3.1 Short Message Services (SMS)

The total number of Short Messages Service (SMS) sent at the end of Q4 2023 was 964.92 million as compared to 874.14 million in Q3 2023, recording an increase in growth by 10.39%.

Year-on-Year total SMS Counts increased from 747.91 million in Q4 2022 to 964.92 million at the end of Q4 2023 representing a growth rate of 29.02% (figure 8) (Appendix, Table 8)

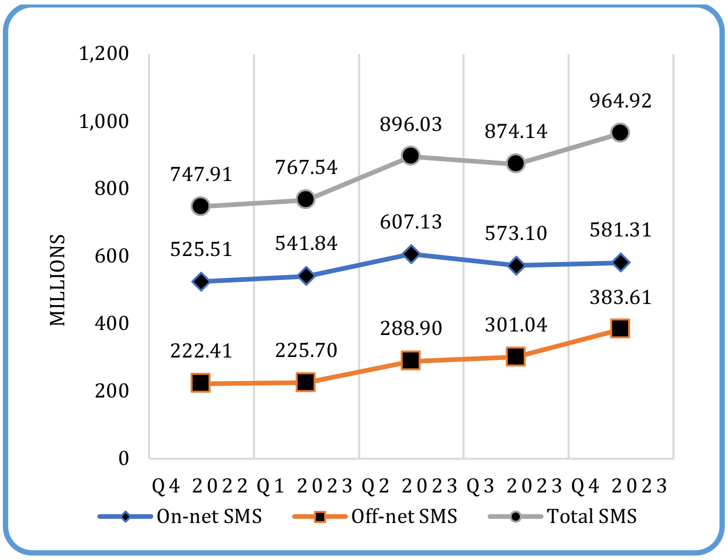


Figure 8: Total Number of SMS in Million

1.3.2 SMS Counts per Mobile Network Operator and Market Share

The volume of SMS Traffic originating from MTN was 654.71 million at the end of Q4 2023; representing a market share of 67.85% of the total SMS count.

The volume of SMS traffic from Vodafone was 302. 59 million, representing a market share of 31.36% of the total SMS count.

AT had an SMS count of 7.62 million, representing 0.79% of the market share of the total SMS count. (Figure 9) (Appendix, Table 8).

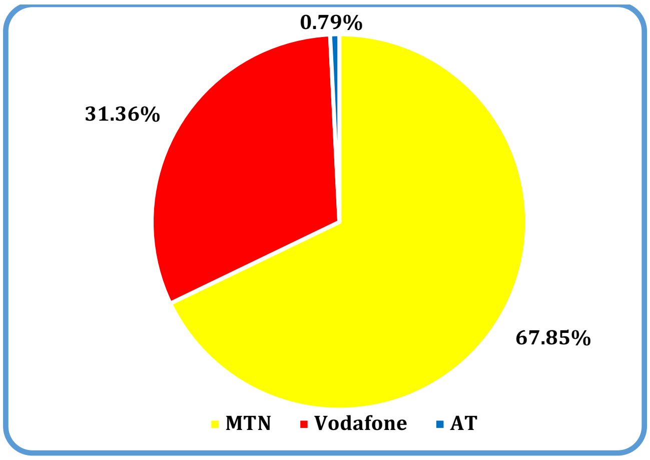


Figure 9: SMS Counts Market Share per Operator

1.3.3 SMS per Subscription

Quarter-on-Quarter SMS sent per subscriber at the end of Q4 2023 was 30.6 SMS, indicating a 15.27% increase in SMS per subscriptions as compared to the end of Q3 2023 (26.5).

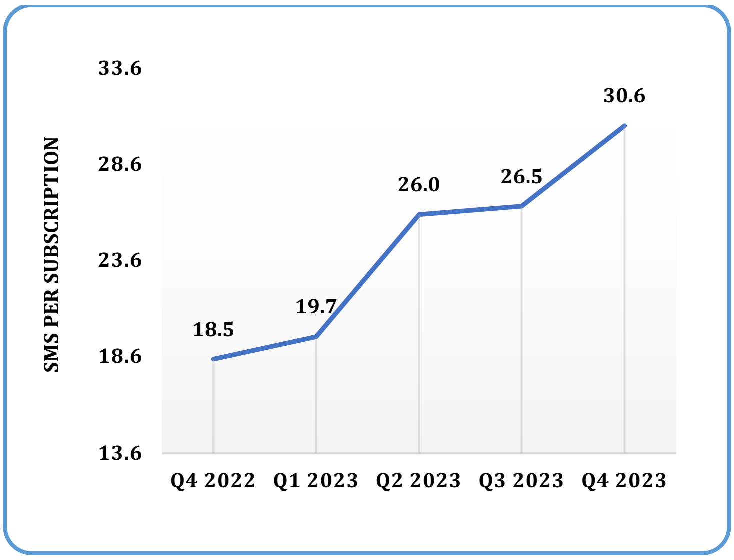


Figure 10: SMS per Subscription

1.4 Mobile Data Subscriptions and Penetration Rate (%)

At the end of Q4 2023, Mobile Data Subscriptions decreased by 2.47% from 22.29 million at the end of Q3 2023 to 21.74 million at the end of Q4 2023.

Year-on-Year subscriptions also decreased by 4.83% from 22.85 million at the end of Q4 2022 to 21.74 million at the end of Q4 2023. The penetration rate as at the end of the Q4 2023 was 67.04% (Figure 11) (Appendix, Table 10).

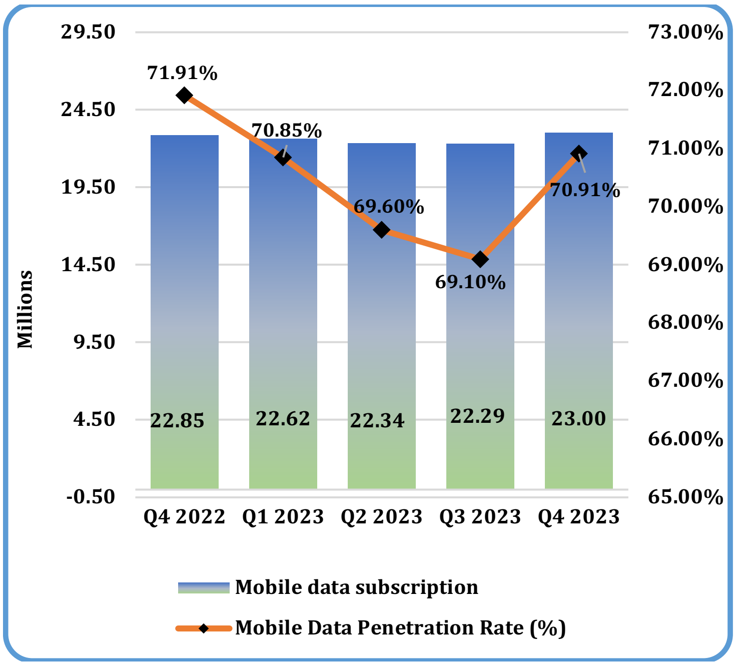


Figure 11: Mobile Data Subscriptions in Millions and Penetration Rate (%)

1.4.1 Mobile Data Prepaid and Postpaid Subscriptions and Market Share

Mobile Data Pre-Paid subscriptions increased from 22.09 million at the end of Q3 2023 to 23.00 million subscriptions at the end of Q4 2023, representing a market share of 99.09% of the total Mobile Data subscriptions.

Mobile Data Post-Paid subscriptions also increased from 206,542 at the end of Q3 2023 to 211,601 at the end of Q4 2023 representing a market share of 0.91% of the total Mobile Data subscriptions at the end of Q4 2023 (Figure: 12) (Appendix, Table 10).

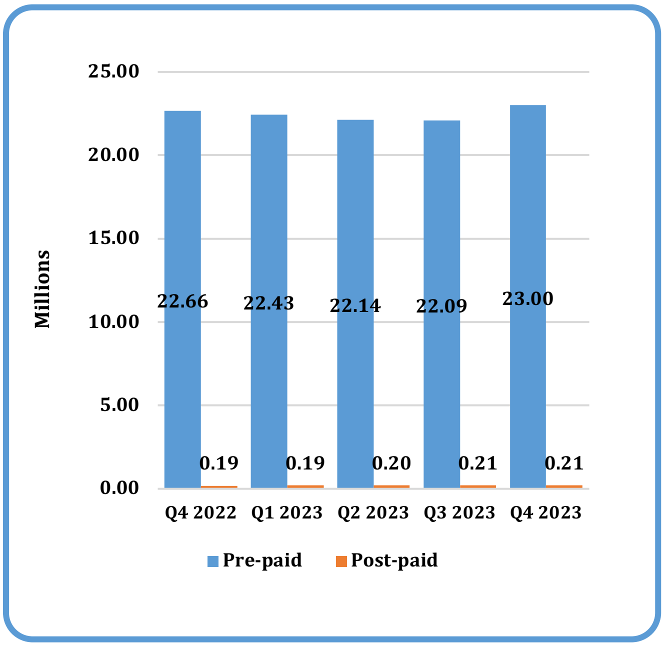


Figure 12: Mobile Data Pre-paid and Post-paid Subscriptions

1.4.2 Mobile Data Subscriptions per Mobile Network Operator and Market Share

MTN recorded 18.68 million subscriptions, which represents 80.47% of the market, while Vodafone Recorded 3.07 million subscriptions with a 13.21% share of the market.

AT also had 1.47 million in mobile data subscriptions with a 6.31% share of the market (Figure13).

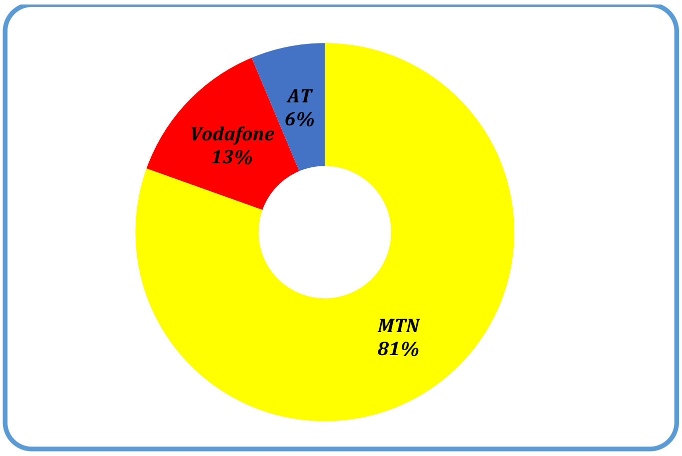


Figure 13: Mobile Data Market Share per Operator

1.5 Mobile Data Traffic in Billions of Megabytes (MB)

At the end of Q4 2023, internet traffic generated by the Mobile Network Operators was 495.89 billion megabytes of data, recording an increase in growth by 3.51% as compared to 479.08 billion megabytes of data at the end of Q3 2023.

Year-on-Year internet traffic increased from 403.04 billion megabytes at the end of Q4 2022 to 495.89 billion megabytes at the end of Q4 2023, representing an increase of 23.04%. (Figure 14) (Appendix, Table 11).

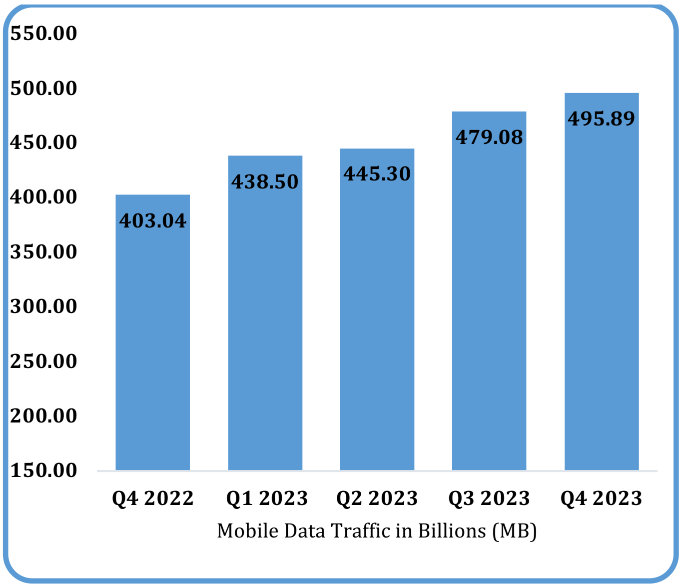


Figure 14: Mobile Data Traffic in Billions of Megabytes (MB)

1.5.1 Mobile Internet Usage per Subscription (MB) [4]

Mobile internet usage per subscription increased from 21,898 MB at the end of Q3 2023 to 22,889 MB at the end of Q4 2023 recording a growth of 4.53%.

Year-on-Year mobile data usage per subscription increased from 17,048 MB at the end of Q4 2022 to 22,889 MB at the end of Q4 2023, recording a growth of 34.26% (Figure 15) (Appendix, Table 12).

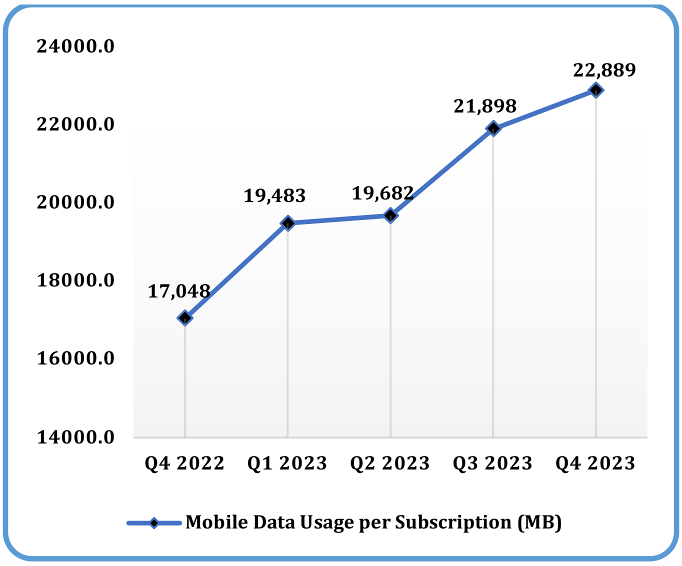


Figure 15: Mobile Data Usage per Subscription (MB*)*

1.5.2 Mobile Internet Traffic (MB) per Mobile Network Operator

MTN generated the highest volume of internet traffic, 397.13 billion megabytes with a market share of 80.08%.

Vodafone followed with a traffic of 79.39 billion megabytes and a market share of 16.01%.

AT also had 19.41 billion megabytes of data, recording a market share of 3.91%. (Figure 16) (Appendix, Table 13)

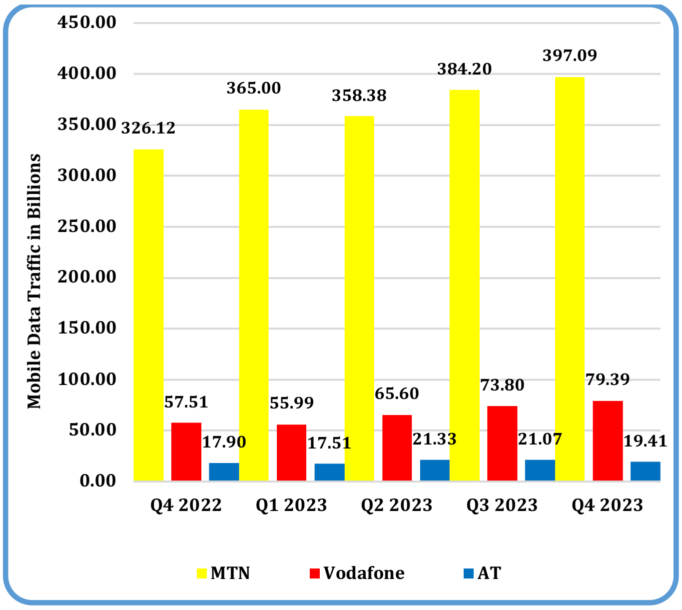


Figure 16: Mobile Internet Traffic (MB) per Operator

1.6 Mobile Telecommunications Service Tariffs

Quarter-on-Quarter average tariffs for off net mobile voice was 0.13 pesewas at the end of Q4 2023. Average on net tariff mobile voice was also 0.13 pesewas. Average off net and on net SMS tariffs both stood at 0.06 pesewas. The average data tariff for the quarter under review was 0.12 pesewas. (Figure 17) (Appendix, Table 14).

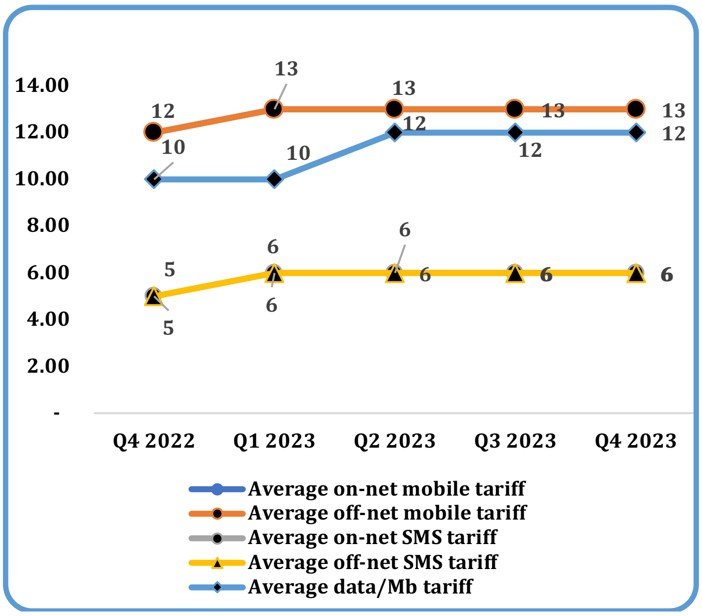


Figure 17: Average Mobile Tariffs per Service

4 Mobile Internet usage per subscription is calculated by dividing the total volume of internet traffic for the quarter by the total average mobile internet subscription for that quarter.

2.0 BROADBAND WIRELESS ACCESS (BWA)

There are three (3) licensed Broadband Wireless Access (BWA) operators in Ghana namely Busy Internet, Surfline and Telesol. As at Q4 2023, only Telesol is operational and submitted data for this report.

2.1 BWA Subscriptions and Penetration Rate

BWA subscriptions increased from 1,420 in Q3 2023 to 1,431 in Q4 2023, representing an increase in growth by 0.77%.

Year-on-Year subscriptions also declined by 96.24%, which was from 38,073 in Q4 2022 to 1,431 at the end Q4 2023.

Penetration rate for broadband wireless access was 0.004% at the end of Q4 2023. (Figure 18) (Appendix, Table 15).

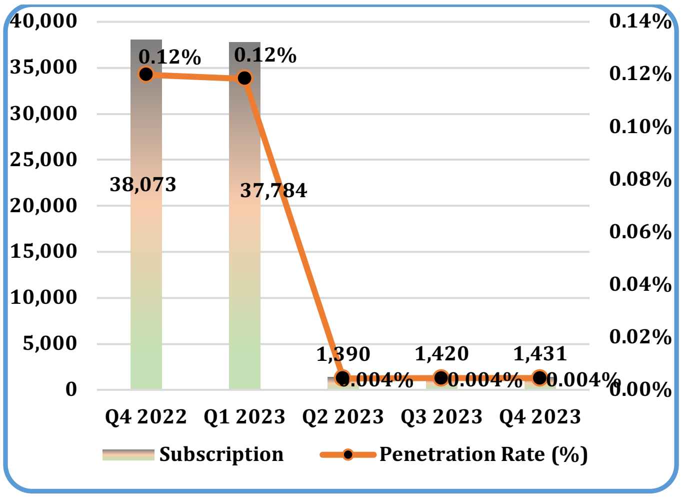


Figure 18: BWA Subscription and Penetration Rate

2.1.1 Subscriptions per Broadband Wireless Access (BWA) Operator

Telesol is the only Broadband Wireless Access Operator that provided data during the quarter under review.

Telesol ended the quarter with a subscription of 1,431 and a market share of 100.00%. (Figure 19) (Appendix, Table 16).

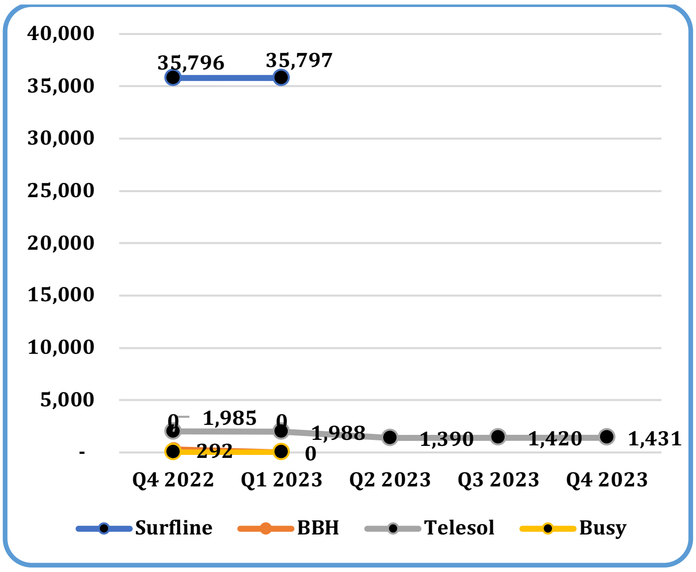


Figure 19: Subscriptions per Broadband Wireless Access (BWA) Operator

2.2 Broadband Wireless Access (BWA) Volume of Internet Traffic

The total volume of internet traffic generated by the BWAs decreased from 0.265 billion megabytes at the end of Q3 2023 to 0.257 billion megabytes at the end of Q4 2023 indicating a decline in growth by 3.11%.

Year-on-Year internet traffic generated by the BWAs decreased from 4.653 billion megabytes at the end of Q4 2022 to 0.257 billion megabytes at the end of Q4 2023, representing a decline in growth by 94.47%. (Figure 20) (Appendix A, Table 17).

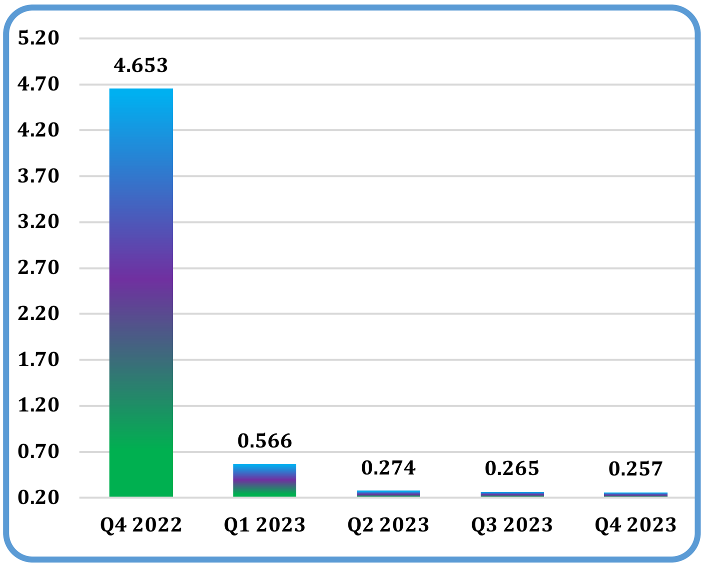


Figure 20: BWA Internet Traffic in Billions of Megabytes (MB)

2.2.1 Volume of BWA Traffic per Operator

Telesol is the only Broadband Wireless Access Operator that provided data during the quarter under review.

Telesol's total volume of internet traffic for the quarter under review was 0.257 billion MB with a market share of 100.00%.

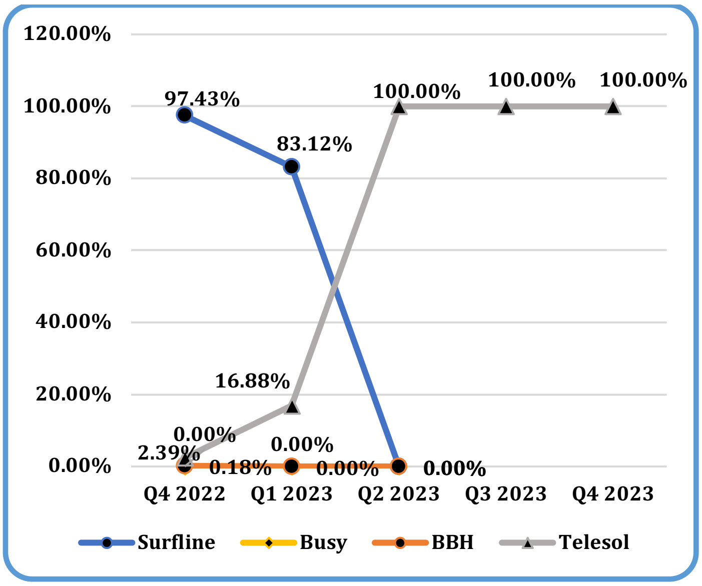


Figure 21: BWA Traffic Market Share per Operator (MB)

2.2.2 Internet Usage per BWA Subscription[5]

Internet usage per BWA subscription decreased from 18.78 thousand megabytes in Q3 2023 to 18.01 thousand megabytes in Q4 2023.

Year-on-Year internet usage per subscription also increased from 12.14 thousand megabytes in Q4 2022 to 18.01 thousand megabytes at the end of Q4 2023 (Figure 22) (Appendix, Table 18).

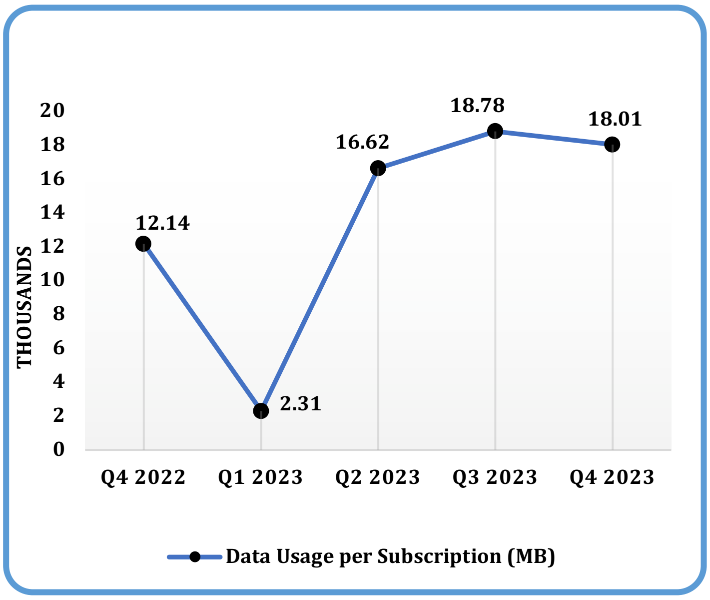


Figure 22: Average Internet Usage per BWA Subscription

5BWA data per subscriptions is calculated by dividing the total volume of BWA's traffic for the quarter by the total average of BWA subscriptions for that quarter.

3.0 FIXED NETWORK

This section analyses the Fixed Telephone industry in Ghana. Three (3) operators namely Vodafone, AT and MTN have been licensed by the NCA to provide this service.

3.1 Fixed Voice Subscriptions and Penetration Rate

Total number of Fixed Line subscriptions decreased from 320,093 in Q3 2023 to 318,460 at the end of Q4 2023. This shows a penetration rate of 0.98% and a negative growth rate of 0.51%

Year-on-Year subscription decreased from 330,016 in Q4 2022 to 318,460 at the end of Q4 2023, representing a negative growth rate of 3.50% (Figure 23) (Appendix, Table 19).

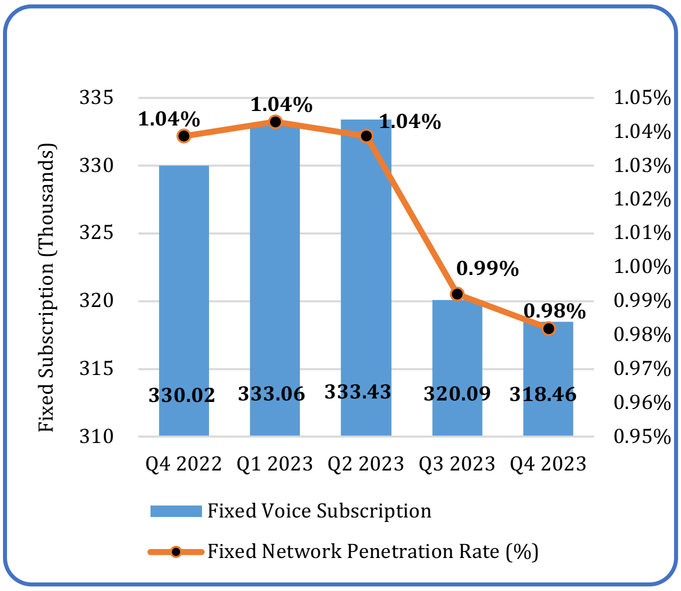


Figure 23: Fixed Network Voice Subscription and Penetration Rate

3.2 Fixed Voice Traffic

Total Fixed Voice Traffic decreased by 8.97% from 7.98 million minutes in Q3 2023 to 7.27 million minutes in Q4 2023.

Year-on-Year Total Fixed Voice Traffic also decreased by 17.40%, from 8.80 million minutes in Q4 2022 to 7.27 million minutes in Q4 2023. (Figure 24) (Appendix, Table 20).

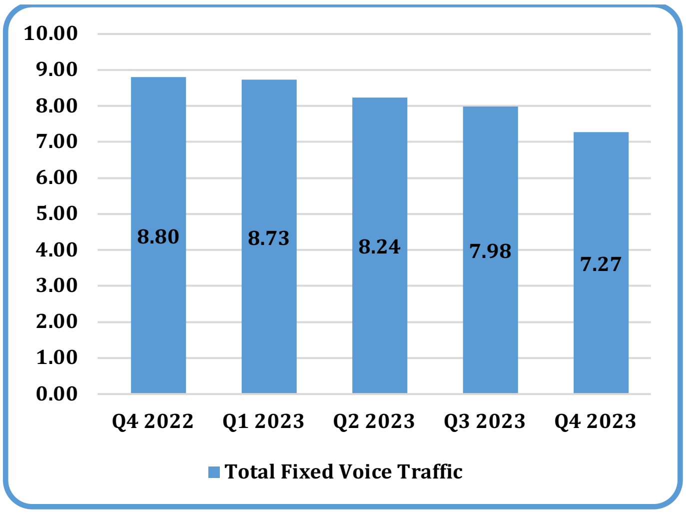


Figure 24: Total Fixed Voice Traffic

3.3 Fixed Voice Minute of Use[6]

Fixed Voice Traffic per subscription decreased by 7.72% from 24.72 minutes in Q3 2023 to 22.81 minutes at the end of Q4 2023.

Year-on-Year minutes of use per subscription decreased by 14.77% from 26.76 minutes in Q4 2022 to 22.81 minutes at the end of Q4 2023 (Figure 25) (Appendix A, Table 21).

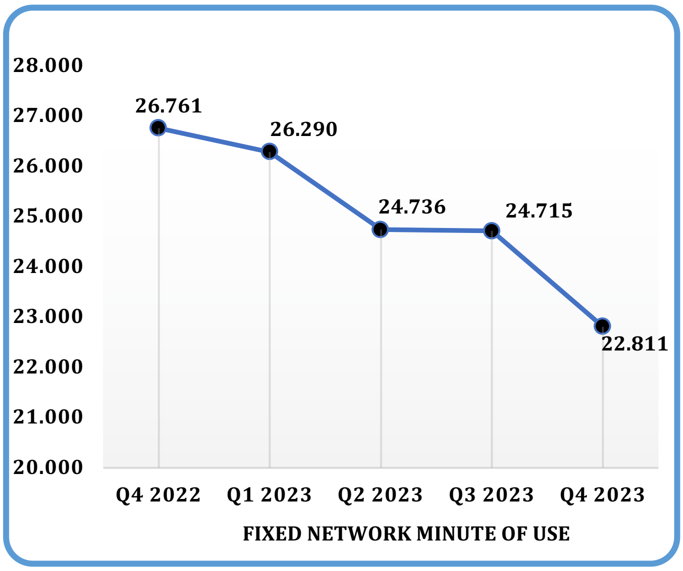


Figure 25: Fixed Network Minute of Use

6 Fixed Network Minutes of use per subscriptions is calculated by dividing the total volume of traffic for the quarter by the total average fixed subscriptions for that quarter.

3.4 Fixed Data Subscriptions and Penetration Rate

Fixed Data subscriptions went up from 113,637 in Q3 2023 to 116,860 in the quarter under review, which represents a growth rate of 2.84%.

Year-on-Year Fixed Data subscriptions increased from 102,952 in the preceding year to 116,860 at the end of Q4 2023 representing a growth rate of 13.51%.

Fixed Data penetration rate at the end of Q4 2023 was 0.36%. (Figure 26) (Appendix, Table 22).

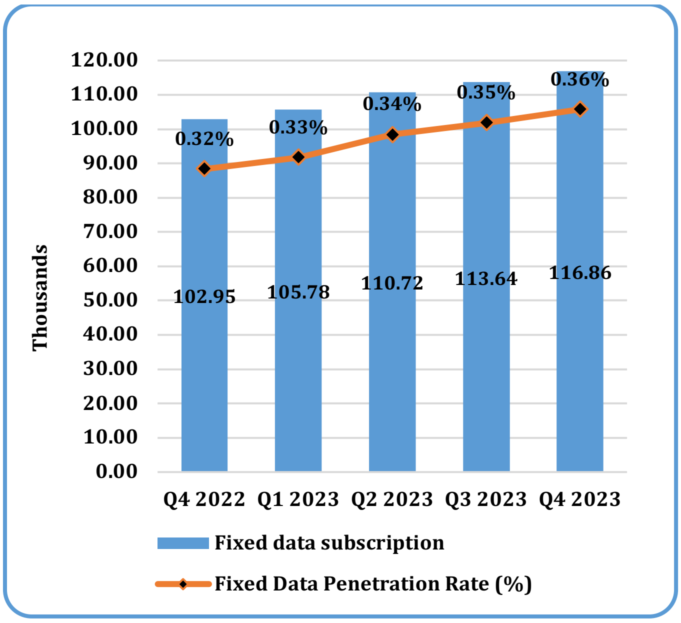


Figure 26: Fixed Data Subscriptions and Penetration

3.5 Fixed Data Subscriptions per Fixed Network Operator

Vodafone's subscriptions at the end of Q4 2023 was 80,465 representing 68.86% of the market share as against 79,057 in Q3 2023.

MTN's subscriptions at the end of Q4 2023 was 36,047 representing 30.85% of the market share as compared to 33,665 in Q3 2023.

AT recorded 348 subscriptions at the end of Q4 2023 with a market share of 0.30% as compared to 915 subscriptions in the previous quarter. (Figure 27) (Appendix, Table 23).

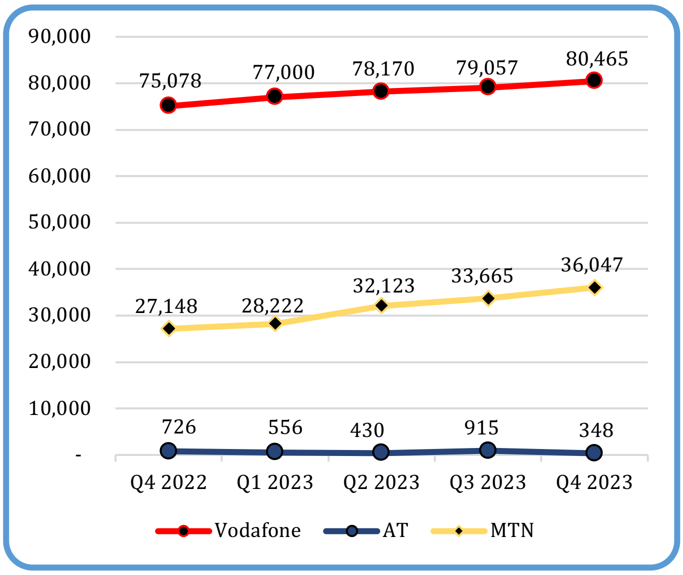


Figure 27: Fixed Data Subscription per Operator

4.0 BROADCASTING

4.1 Authorised Frequency Modulation (FM) Radio Stations

The total number of Authorised FM Stations in Ghana as at the end of Q4 2023 was 747 with 550 in operation as at the end of Q4 2023.

The Ashanti Region had the highest number of FM stations (111), representing 14.86% of the total number of Authorised FM Stations in the country. The North East Region had the least number of Authorised FM Stations (11), representing 1.47% of the total Authorised FM Stations in the country. (Figure 28) (Appendix A, Table 25).

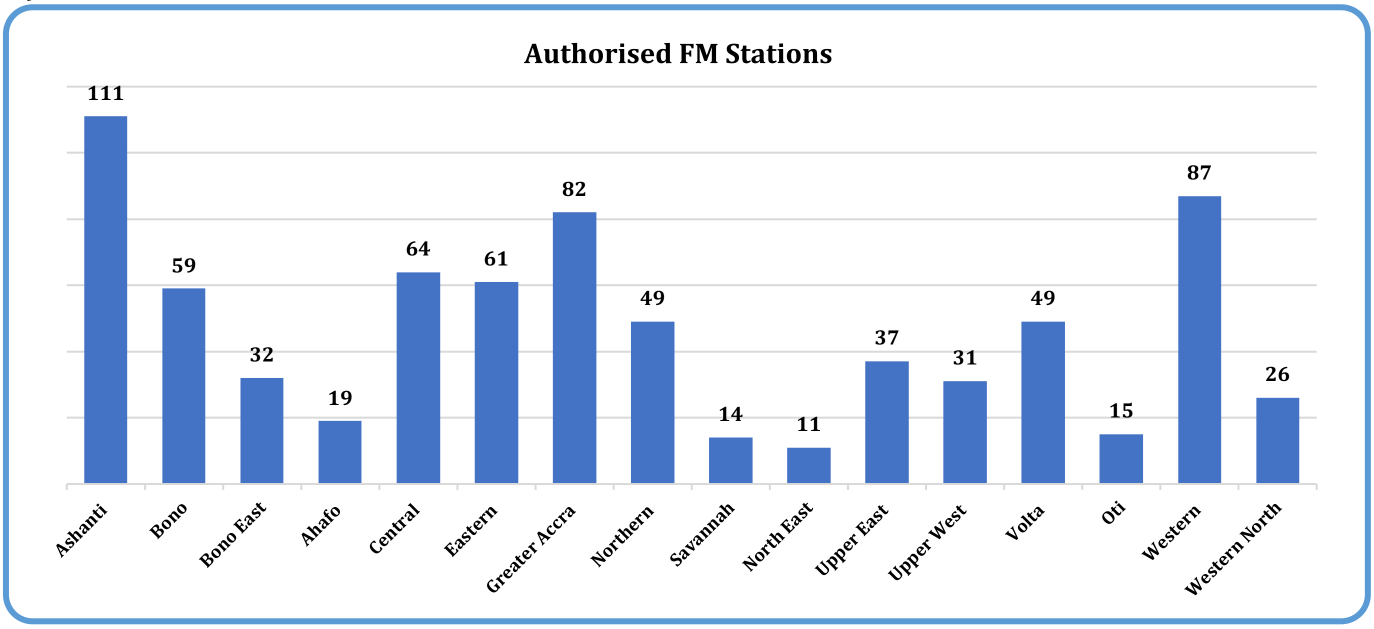


Figure 28: Regional distribution of Authorised FM Stations as at end of Q4 2023

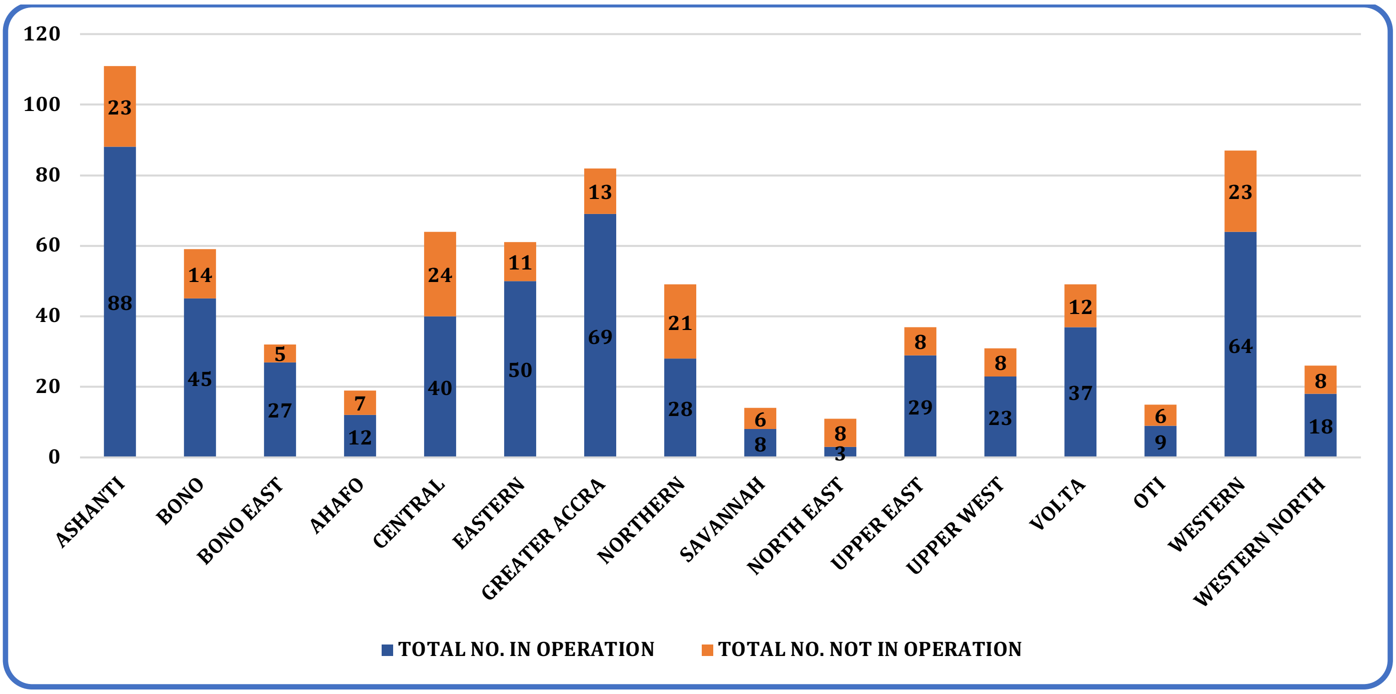


Figure 29: Regional distribution of On-air and Off-air FM Stations as at end of Q4 2023

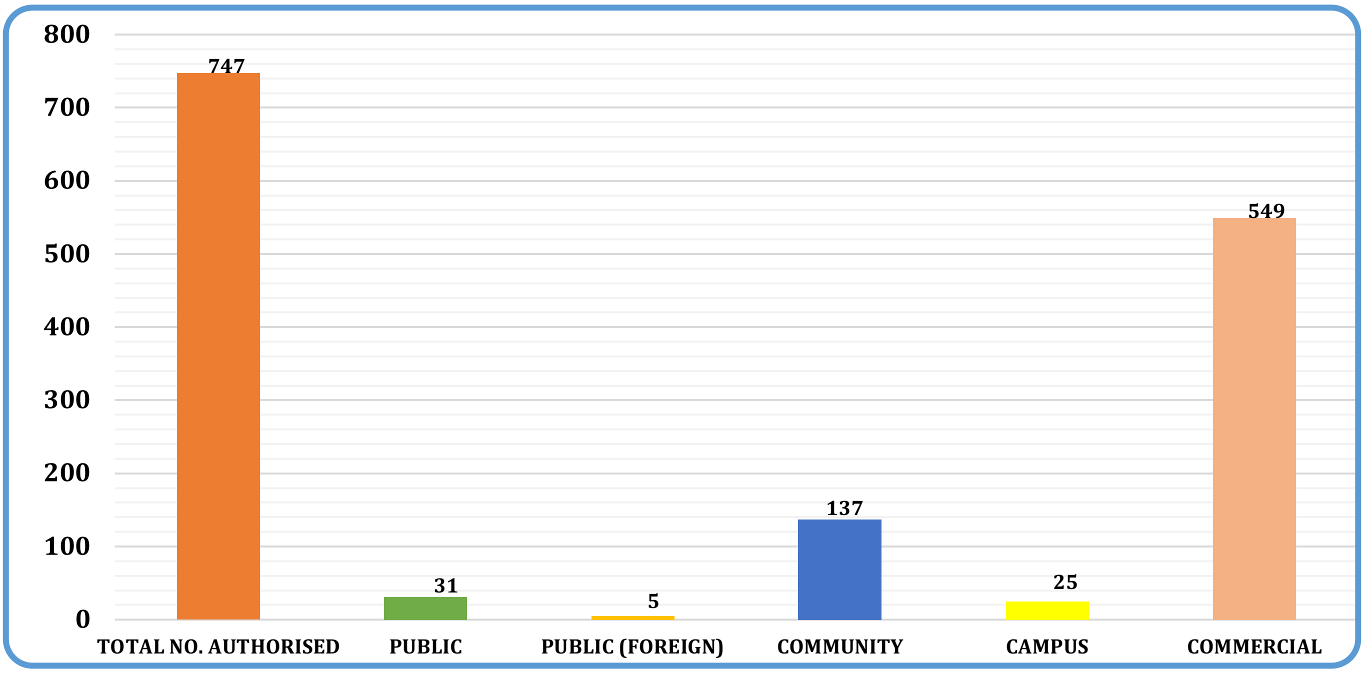


Figure 30: Purpose of Authorised Radio Stations as at Q4 2023

4.2 Authorised Television Stations

The total number of Authorised TV Stations in Ghana at the end of Q4 2023 was 175 out of which 137 were operational during the quarter under review, representing 78.29% of the total number of Authorised TV Stations in the country (Figure 32) (Appendix A, Table 26).

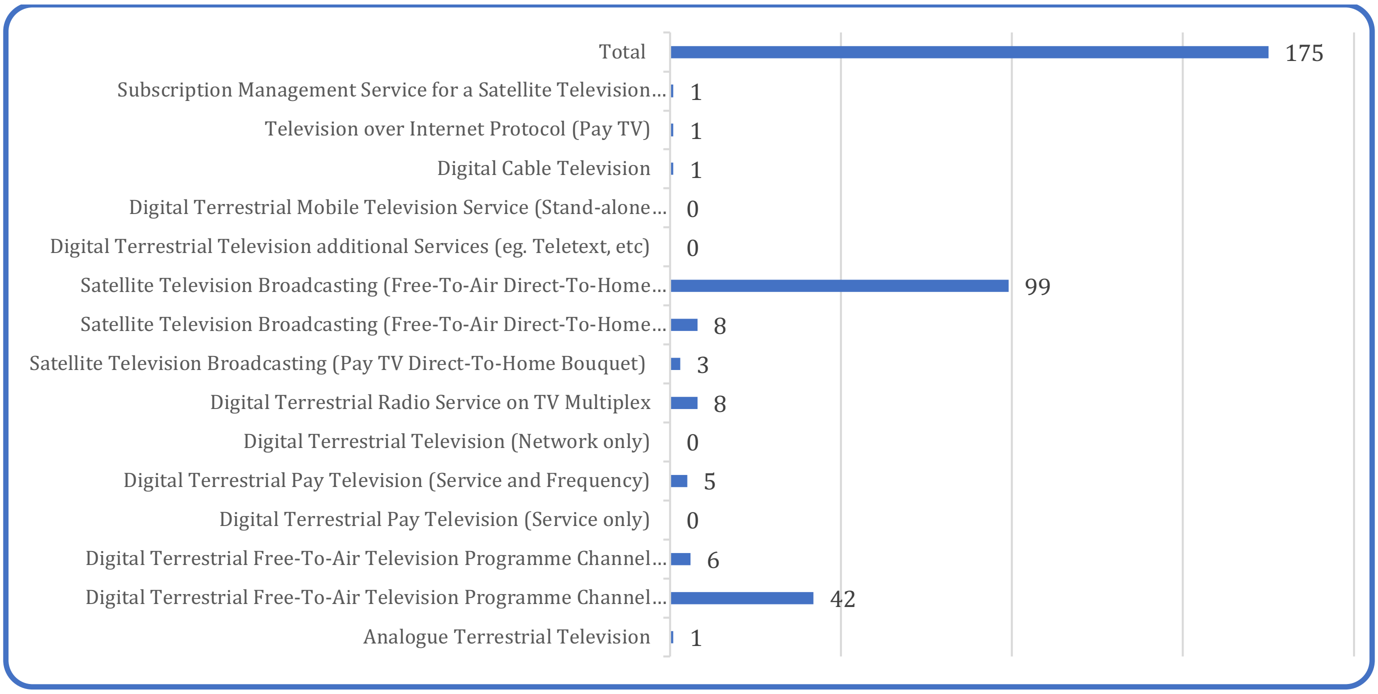


Figure 31: Authorised TV Stations as at Q4 2023

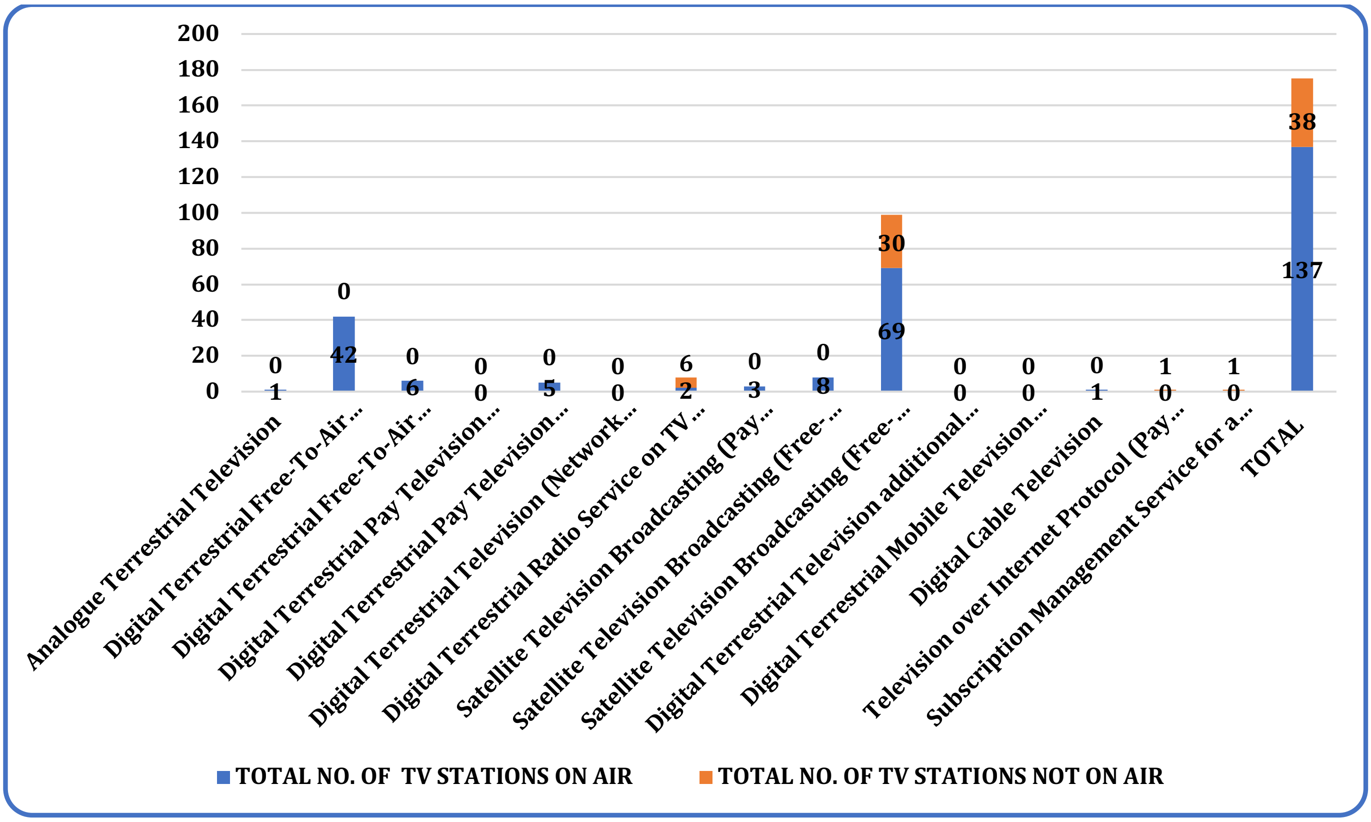


Figure 32: Distribution of Types of TV Services (On-Air and Off-Air TV Stations) as at end of Q4 2023

5. CORRINGENDA AND NOTES TO Q1 2023 – Q3 2023

Note 1: Traffic Off-Net for Domestic Mobile Voice were revised for Q1 2023.

Note 2: Total Traffic (On-Net & Off-Net) for Domestic Mobile Voice was revised for Q1 2023.

Note 3: Total Number of SMS per Mobile Network Operator for GLO was revised for Q3 2023

Note 4: Mobile Data Traffic was revised for Q4 2022

Note 5: Mobile Internet Usage per Subscription were revised for Q4 2022 – Q3 2023

Note 6: BWA Data Subscriptions was revised for Q1 2023

Note 7: BWA Data Subscriptions Net Additions was revised for Q1 2023

Note 8: BWA Data Subscriptions Net Additions was revised for Q2 2023

Note 9: Internet Usage per BWA Subscriptions Total Volume was revised for Q2 2023

Note 10: Fixed Line Data Subscriptions growth rate for AT was revised for Q3 2023

Appendix A (List of Tables)

Table 1: Mobile Voice Subscriptions and Penetration Rate

Subscription	Q4 2022	Q1 2023	Q2 2023	Q3 2023	Q4 2023
Mobile Subscription	40,045,308	38,408,481	34,153,684	32,547,305	33,384,460
Mobile Subscription Growth Rate (%)	-1.88%	-4.09%	-11.08%	-4.70%	2.57%
Net additions	-767,710	-1,636,827	-4,254,797	-1,606,379.00	837,155
Population	31,769,363	31,934,420	32,099,477	32,264,534	32,429,591
Penetration Rate (%)	**126.05%**	**120.27%**	**106.40%**	**100.88%**	**102.94%**

Table 2: Mobile Voice Subscriptions and Market Share per Operator

Mobile Network Operator		Q4 2022	Q1 2023	Q2 2023	Q3 2023	Q4 2023
MTN	Subscriptions	26,613,845	25,625,097	25,164,189	23,345,146	24,652,582
	Market Share (%)	66.46%	66.72%	73.68%	71.73%	73.84%
Vodafone	Subscriptions	7,537,400	7,080,107	6,193,870	6,327,342	6,275,415
	Market Share (%)	18.82%	18.43%	18.14%	19.44%	18.80%
AT	Subscriptions	5,585,510	5,703,277	2,795,625	2,874,817	2,456,463
	Market Share (%)	13.95%	14.85%	8.19%	8.83%	7.36%
Glo	Subscriptions	308,553	-	-	-	-
	Market Share (%)	0.77%	-	-	-	-
Total Industry Subscription		**40,045,308**	**38,408,481**	**34,153,684**	**32,547,305**	**33,384,460**

Table 3: Prepaid and Post-paid Voice Subscriptions and Market Share

Subscription	Q4 2022	Q1 2023	Q2 2023	Q3 2023	Q4 2023
Prepaid	39,617,681	37,933,736	33,667,743	32,059,243	32,941,379
Market Share	98.93%	98.76%	98.58%	98.50%	98.67%
Post-paid	427,627	474,745	485,941	488,062	443,081
Market Share	1.07%	1.24%	1.42%	1.50%	1.33%
Total mobile subscription	**40,045,308**	**38,408,481**	**34,153,684**	**32,547,305**	**33,384,460**

Table 4: Mobile Off-Net Traffic Distribution between Mobile and Fixed Network

Breakdown of Off-Net Traffic	Q4 2022	Q1 2023	Q2 2023	Q3 2023	Q4 2023
Traffic (Mobile to Mobile)	2,019,023,010	2,146,689,405	1,790,607,442	1,993,212,728	2,025,958,893
Share (%)	99.36%	99.44%	99.35%	99.39%	99.37%
Growth (%)	-5.44%	6.32%	-16.70%	11.31%	1.64%
Traffic (Mobile to Fixed)	12,990,823	12,077,085	11,680,545	12,160,587	12,894,212
Share (%)	0.64%	0.56%	0.65%	0.61%	0.63%
Growth (%)	3.72%	-7.03%	-3.28%	4.11%	6.03%
Total Off-Net Traffic	**2,032,013,833**	**2,158,766,489**	**1,802,287,986**	**2,005,373,315**	**2,038,853,106**

Table 5: Total Domestic Mobile Voice Traffic in Minutes

Traffic	Q4 2022	Q1 2023	Q2 2023	Q3 2023	Q4 2023
Traffic (Off-Net)	2,032,013,833	2,158,766,489	1,802,287,986	2,005,373,315	2,038,853,106
Share (%)	8.51%	8.84%	7.65%	8.09%	7.76%
Growth (%)	-5.38%	6.24%	-16.15%	11.27%	1.67%
Traffic (On-Net)	21,841,970,013	22,270,082,599	21,758,954,499	22,788,636,170	24,221,174,621
Share (%)	91.49%	91.16%	92.35%	91.91%	92.24%
Growth (%)	-9.16%	1.96%	-2.30%	4.73%	6.29%
Total traffic	**23,873,983,846**	**24,428,849,088**	**23,561,242,485**	**24,794,009,485**	**26,260,027,728**

Table 6: Mobile Voice Traffic Minutes of Use (MoU) per Subscriptions

Traffic	Q4 2022	Q1 2023	Q2 2023	Q3 2023	Q4 2023
Total mobile voice traffic	23,873,983,846	24,428,849,088	23,561,242,485	24,794,009,485	26,260,027,728
Average Mobile voice subscription	40,427,086	39,005,398	34,427,232	33,043,805	31,497,503
Minutes of Use (MoU) per Subscription	590.54	626.29	684.38	750.34	833.72
MoU growth rate (%)	**-8.06%**	**6.05%**	**9.27%**	**9.64%**	**11.11%**

Table 7: International Traffic

Traffic	Q4 2022	Q1 2023	Q2 2023	Q3 2023	Q4 2023
Incoming International Traffic	61,233,303	51,619,868	50,014,259	51,820,393	40,679,020
Growth (%)	-5.23%	-15.70%	-3.11%	3.61%	-21.50%
Outgoing International Traffic	73,877,581	71,482,592	66,131,091	67,111,911	66,062,015
Growth (%)	**-4.37%**	**-3.24%**	**-7.49%**	**1.48%**	**-1.56%**

Table 8: Total Number of SMS per Mobile Network Operator in Millions

Mobile Operators	Q4 2022	Q1 2023	Q2 2023	Q3 2023	Q4 2023
Off-Net					
MTN	92,778,474	105,533,537	122,133,162	148,915,394	160,524,754
Vodafone	117,962,480	108,226,057	155,082,502	141,125,845	216,280,109
AT	11,403,412	11,939,120	11,681,651	10,997,845	2,842,964
Glo	262,563	-	-	-	**6,801,347**
Total	**222,406,929**	**225,698,714**	**288,897,315**	**301,039,062**	**383,606,210**
On- net					
MTN	454,222,145	476,222,794	529,070,256	483,733,807	494,182,894
Vodafone	69,500,826	64,166,409	76,241,869	88,086,761	86,307,280
AT	1,714,490	1,450,072	1,815,605	1,279,884	366,500
Glo	68,354	-	-	-	**823,274**
Total	**525,505,815**	**541,839,275**	**607,127,730**	**573,100,452**	**581,313,447**
Total					
MTN	547,000,619	581,756,331	651,203,418	632,649,201	654,707,648
Vodafone	187,463,306	172,392,466	231,324,371	229,212,606	302,587,389
AT	13,117,902	13,389,192	13,497,256	12,277,707	3,209,464
Glo	330,917	-	-	-	-
Total	**747,912,744**	**767,537,989**	**896,025,045**	**874,139,514**	**964,919,658 m**

Table 9: Average SMS per Subscription

	Q4 2022	Q1 2023	Q2 2023	Q3 2023	Q4 2023
Total SMS	747,912,744	767,537,989	896,025,045	874,139,514	964,919,658
Average Mobile Subscription	40,427,086	39,005,398	34,427,232	33,043,805	31,497,503
SMS per Subscription	**18.5**	**19.7**	**26.0**	**26.5**	**30.5**

Table 10: Mobile Data Subscriptions (Prepaid/Postpaid)

Mobile Data Subscriptions		Q4 2022	Q1 2023	Q2 2023	Q3 2023	Q4 2023
Prepaid	Subscription	22,657,917	22,430,107	22,138,314	22,086,945	22,996,027
	Market Share	99.18%	99.14%	99.09%	99.07%	99.09%
Post-paid	Subscription	188,331	194,883	202,700	206,542	211,601
	Market Share	0.82%	0.86%	0.91%	0.93%	0.91%
Total mobile data subscriptions		**22,846,248**	**22,624,990**	**22,341,014**	**22,293,487**	**23,207,628**

Table 11: Mobile Data Traffic in Billions of Megabytes (MB)

Mobile Operator	Q4 2022	Q1 2023	Q2 2023	Q3 2023	Q4 2023
Total Mobile data usage (MB)	403,042,380,881	438,500,459,143	445,300,910,914	479,080,573,930	495,892,100,256

Table 12: Mobile Internet Usage per Subscription (MB)

Mobile Operator	Q4 2022	Q1 2023	Q2 2023	Q3 2023	Q4 2023
Total Mobile data usage (MB)	403,042,380,881	438,500,459,143	445,300,910,914	479,080,573,930	495,892,100,256
Average Data Subscription	23,641,217	22,507,381	22,625,341	21,878,245	21,665,270
Data Usage per Subscription (MB)	**17,048**	**19,483**	**19,682**	**21,898**	**22,889**

Table 13: Mobile Data Traffic (MB) per Operator

Mobile Operator	Q4 2022	Q1 2023	Q2 2023	Q3 2023	Q4 2023
MTN	326,118,124,526	365,001,280,155	358,375,826,693	384,202,677,398	397,093,962,380
	80.91%	83.24%	80.48%	80.20%	80.08%
Vodafone	57,510,398,564	55,991,841,389	65,598,080,560	73,803964,062	79,391,712,453
	14.27%	12.77%	14.73%	15.41%	16.01%
AT	17,898,494,537	17,507,337,599	21,327,003,662	21,073,932,470	19,406,425,423
	4.44%	3.99%	4.79%	4.40%	3.91%
Glo	1,515,363,255	-	-	-	-
	0.38%	-	-	-	-
Total Industry Traffic (MB)	**403,042,380,881**	**438,500,459,143**	**445,300,910,914**	**479,080,573,930**	**495,892,100,256**

Table 14: Average Mobile Tariff per Service (GHp)

Tariff	Q4 2022	Q1 2023	Q2 2023	Q3 2023	Q4 2023
Average On-Net mobile tariff	0.12	0.13	0.13	0.13	0.13
Average Off-Net mobile tariff	0.12	0.13	0.13	0.13	0.13
Average On-Net SMS tariff	0.05	0.06	0.06	0.06	0.06
Average Off-Net SMS tariff	0.05	0.06	0.06	0.06	0.06
Average data/Mb tariff	0.10	0.12	0.12	0.12	0.12

Table 15: BWA Data Subscriptions and Penetration

BWA Operator	Q4 2022	Q1 2023	Q2 2023	Q3 2023	Q4 2023
Subscription	38,073	37,784	1,390	1,420	1,431
Growth rate (%)	-12.27%	-0.76%	-96.32%	2.16%	0.77%
Net Additions	-5,327	-289	-36,395	30	11
Population	31,769,363	31,934,420	32,099,477	32,264,534	32,429,591
Penetration Rate (%)	**0.12%**	**0.12%**	**0.004%**	**0.004%**	**0.004%**

Table 16: Subscriptions per Broadband Wireless Access (BWA) Operator

BWA Operator	Subscription and Market Share	Q4 2022	Q1 2023	Q2 2023	Q3 2023	Q4 2023
Surfline	Subscription	35,796	35,797	-	-	-
	Market share (%)	94.02%	94.74%	-	-	-
Busy	Subscription	-	-	-	-	-
	Market share (%)	-	-	-	-	-
Telesol	Subscription	1,985	1,988	1,390	1,420	1,431
	Market share (%)	5.21%	5.26%	100.00%	100.00%	100.00%
BBH	Subscription	292	-	-	-	-
	Market share (%)	0.77%	-	-	-	-
Industry Total		**38,073**	**37,785**	**1,390**	**1,420**	**1,431**

Table 17: Data Traffic (MB) per Broadband Wireless Access (BWA) Operator

BWA Operator		Q4 2022	Q1 2023	Q2 2023	Q3 2023	Q4 2023
Surfline	Data usage (MB)	4,533,551,472	470,238,060	-	-	-
	Market share (%)	97.43%	83.12%	-	-	-
Busy	Data usage (MB)	-	-	-	-	-
	Market share (%)	-	-	-	-	-
BBH	Data usage (MB)	8,242,456	-	-	-	-
	Market share (%)	0.18%	-	-	-	-
Telesol	Data usage (MB)	111,372,030	95,465,980	278,671,810	265,489,254	257,225,394
	Market share (%)	2.39%	16.88%	100.00%	100.00%	100.00%
Industry Total (MB)		**4,653,165,958**	**565,704,040**	**273,671,810**	**265,489,254**	**257,225,394**

Table 18: Internet Usage per BWA Subscriptions (MB)

BWA Operator	Q4 2022	Q1 2023	Q2 2023	Q3 2023	Q4 2023
Total Volume of	4,653,165,958	565,704,040	273,671,810	265,489,254	257,225,394
Average BWA	38,325	24,527	1,647	1,413	1,428
Data Usage per	**121,413.33**	**23,065**	**166,164**	**187,846**	**180,088**

Table 19: Fixed Network Voice Subscriptions and penetration

Fixed Operator	Q4 2022	Q1 2023	Q2 2023	Q3 2023	Q4 2023
Vodafone	326,579	329,068	331,080	317,757	316,120
	98.96%	98.80%	99.30%	99.27%	99.27%
AT	2,247	2,698	1,092	1065	**93.3**
	0.68%	0.81%	0.33%	0.33%	**0.29%**
MTN	1,190	1,291	1,254	1,271	1,407
	0.36%	0.39%	0.38%	0.40%	0.44%
Total industry subscription	330,016	333,057	333,426	320,093	318,460
Population	31,769,363	31,934,420	32,099,477	32,264,534	32,429,591
Fixed Network Penetration Rate (%)	**1.04%**	**1.04%**	**1.04%**	**0.99%**	**0.98%**

Table 20: Fixed Network voice(Volume of Traffic in Minutes)

Traffic	Q4 2022	Q1 2023	Q2 2023	Q3 2023	Q4 2023
On-Net Fixed voice traffic	-	-	-	-	-
Off-Net fixed voice traffic	8,798,173	8,726,139	8,235,905	7,983,343	7,268,804
Total Fixed Voice Traffic	**8,798,173**	**8,726,139**	**8,235,905**	**7,983,343**	**7,268,804**

Table 21: Fixed Network voice(Minute of Use per Subscriptions)

Fixed Network (MoU)	Q4 2022	Q1 2023	Q2 2023	Q3 2023	Q4 2023
Total Fixed Voice Traffic	8,798,173	8,726,139	8,235,905	7,983,343	7,268,804
Average Fixed Subscription	328,773	331,923	332,948	323,018	318,658
Minutes of Use per Subscription (MoU)	26.761	26.290	24.736	24.715	22.811
Growth Rate	**-7.00%**	**-1.76%**	**-5.91%**	**-0.09%**	**-7.70%**

Table 22: Fixed Line Data Subscriptions and Penetration

Fixed network	Q4 2022	Q1 20223	Q2 2023	Q3 2023	Q4 2023
Vodafone	75,078	77,000	78,170	79,057	80,465
	72.93%	72.79%	72.07%	69.57%	68.86%
AT	726	556	430	915	348
	0.71%	0.53%	0.40%	0.81%	0.30%
MTN	27,148	28,222	32,123	33,665	36,047
	26.37%	26.68%	29.01%	29.63%	30.85%
Total fixed data	102,952	105,778	110,723	113,637	116,860
Population	31,769,363	31,934,420	32,099,477	32,264,534	32,429,591
Fixed Data Penetration	**0.32%**	**0.33%**	**0.34%**	**0.35%**	**0.36%**

Table 23: Regional Distribution of FM Stations by Purpose as at the end of Q4 2023

Name of Regions	Public	Public (Foreign)	Community	Campus	Commercial
Ashanti	2	1	21	5	82
Bono	1	0	6	3	49
Bono East	2	0	4	0	26
Ahafo	0	0	3	0	16
Central	2	0	17	3	42
Eastern	2	0	20	1	38
Greater Accra	2	3	13	4	60
Northern	3	0	10	1	35
Savannah	3	0	4	0	7
North East	1	0	3	0	7
Upper East	2	0	10	3	22
Upper West	2	0	10	2	17
Volta	3	0	5	1	40
Oti	1	0	3	0	11
Western	2	1	8	2	74
Western North	3	0	0	0	23
Total	**31**	**5**	**137**	**25**	**549**

Table 24: Regional Distribution of FM Stations as at the end of Q4 2023

Name Of Regions	Authorised FM Stations	FM Stations In Operation
Ashanti	111	88
Bono	59	45
Bono East	32	27
Ahafo	19	12
Central	64	40
Eastern	61	50
Greater Accra	82	69
Northern	49	28
Savannah	14	8
North East	11	3
Upper East	37	29
Upper West	31	23
Volta	49	37
Oti	15	9
Western	87	64
Western North	26	18
Total	**747**	**550**

Table 25: Authorised TV Stations as at the end of Q4 2023

Type of Television Service	Authorised TV Stations		No. of TV Stations in Operation (Q4 2023)	No. of TV Stations not in Operation (Q4 2023)
	End of Q3 2023	End of Q4 2023		
Analogue Terrestrial Television	1	1	1	0
Digital Terrestrial Free-To-Air Television Programme Channel (Nationwide Coverage)	42	42	42	0
Digital Terrestrial Free-To-Air Television Programme Channel (Regional Coverage)	6	6	6	0
Digital Terrestrial Pay Television (Service only)	0	0	0	0
Digital Terrestrial Pay Television (Service and Frequency)	5	5	5	0
Digital Terrestrial Television (Network only)	0	0	0	0
Digital Terrestrial Radio Service on TV Multiplex	8	8	2	6
Satellite Television Broadcasting (Pay TV Direct-To-Home Bouquet)	3	3	3	0
Satellite Television Broadcasting (Free-To-Air Direct-To-Home Bouquet)	8	8	8	0

Satellite Television Broadcasting (Free-To-Air Direct-To-Home Single Channel)	99	99	69	30
Digital Terrestrial Television Additional Services (e.g. Teletext, etc.)	0	0	0	0
Digital Terrestrial Mobile Television Service (Stand-alone Authorisation)	0	0	0	0
Digital Cable Television	1	1	1	0
Television over Internet Protocol (Pay TV)	1	1	0	1
Subscription Management Service for a Satellite Television Broadcasting (Pay TV Direct-To-Home Bouquet)	1	1	0	1
Total	**175**	**175**	**137**	**38**

Source: NCA, 2023

NCA CONTACTS AND PRESENCE COUNTRYWIDE

The Authority currently has eight (8) regional offices to support its operations. Their addresses are listed below

- ### Accra, Head Office

National Communications Authority,
NCA Tower, No 6 Airport City
Close to the Marina Mall
P. O. Box CT 1568, Cantonments, Accra
Tel: +233 (0) 302 776621, 771701
Fax: +233 (0) 302 763449
E-mail: info@nca.org.gh
Complaints: +233 (0) 30 701 1419
complaints@nca.org.gh
Website: www.nca.org.gh

- ### Accra Office

National Communications Authority
1st Rangoon Close,
Switchback Road, Cantonment, Accra
P. O. Box CT 1568,
Cantonment, Accra
Tel: +233 (0) 553 369862, (0) 553 432215
E-mail: complaints.accra@nca.org.gh

- ### Bolgatanga Office

National Communications Authority,
Zorbisi Zaare Residential Area in Bolgatanga Municipality
Private Mail Bag, Bolgatanga,
Upper East Region
Tel: +233 (0) 3820 21141
E-mail: complaints.bolgatanga@nca.org.gh

- ### Ho Office

National Communications Authority,
Plot No. 75, Stadium Road, Kabore Junction
P. O. Box HP1576, Ho, Volta Region
Tel: +233 (0) 3620 26339
E-Mail: complaints.ho@nca.org.gh

- ### Koforidua Office

National Communications Authority,
Block C along the Galloway Road
Private Mail Bag, Koforidua, Eastern Region
Tel: +233 (0) 3420 28378, 28380, 28382
E-Mail: complaints.koforidua@nca.org.gh

- ### Kumasi Office

National Communications Authority,
Fuller Road, Danyame, Kumasi
P. O. Box KS 10768, Kumasi,
Ashanti Region, Ghana
Tel: + 233 (0) 32 202 0014 / 32 202 0018 / 32 202 0019
Fax: (+233) 32 002 0064
E-Mail: complaints.kumasi@nca.org.gh

- ### Sunyani Office

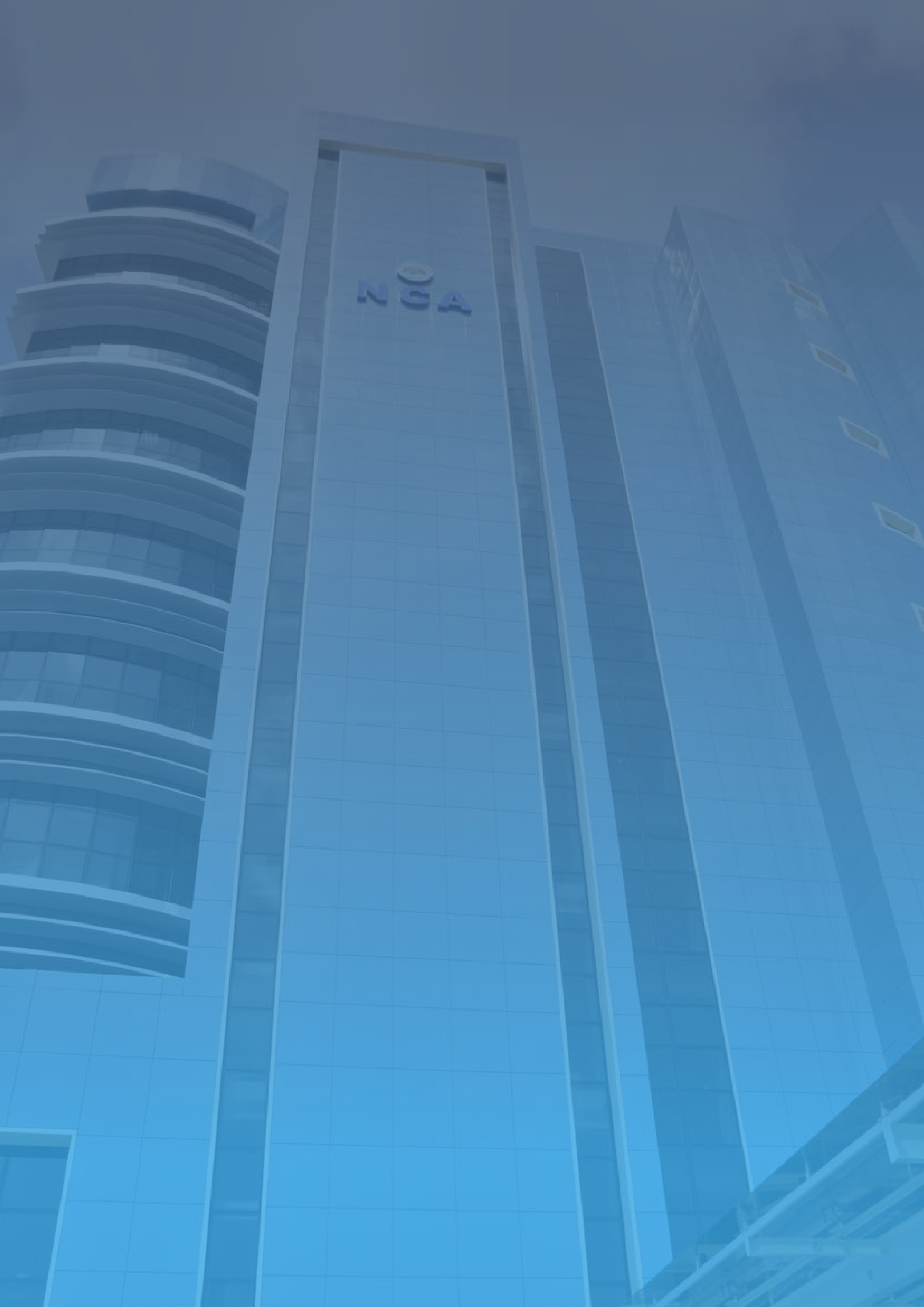
National Communications Authority,
House No 83, North Nkwabeng
P. O. Box SY125, Sunyani, Brong Ahafo Region
Tel: +233 (0) 3520 27564
E-Mail: complaints.sunyani@nca.org.gh

- ### Takoradi Office

National Communications Authority,
Bakado, 3kms away from the Prisons
(R.S.,K. Barnes CT, Sekondi - Takoradi
P. O. Box SL 409, Sekondi,
Western Region, Ghana
Tel: +233 (0) 31 202 8073 / 31 202 8049
Fax: +233 (0) 31 202 8063
E-Mail: complaints.takoradi@nca.org.gh

- ### Tamale Office

National Communications Authority,
Watherson Residential Area
Plot No. 3 & 4, Tamale
P. O. Box TL 1590, Tamale,
Northern Region, Ghana
Tel: + 233 (0) 37 202 8105 / 37 020 8104
Fax: +233 (0) 37 202 8104
E-Mail: complaints.tamale@nca.org.gh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