QUARTERLY STATISTICAL BULLETIN ON COMMUNICATIONS IN GHANA

Volume 8 Issue 1

NATIONAL COMMUNICATIONS AUTHORITY

FIRST QUARTER

JANUARY - MARCH, 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, AirtelTigo, Glo, Surfline, BBH, Telesol, Busy and BLU

DEFINITION OF TERMS

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

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

Mobile Data-refers to active mobile data subscriptions to GPRS, EDGE, HSPA, UMTS, EV-DO, 3G, 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 average volume of data traffic for the quarter with 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

A1. Service Providers Authorised/Licensed to Operate

Operator/Service Providers	Number of Authorisation/Licenses	Number in Operation
Mobile Network Operators	4	4
Fixed Network Operators	3	3
Broadband Wireless Access	5	5
Television Stations	162	123
FM Stations	714	517

B1. Total Subscriptions

SUBSCRIPTION	Units	QUARTER-ON-QUARTER			YEAR-ON-YEAR		
		Q4 2022	Q1 2023	*Growth (%)*	Q1 2022	Q1 2023	*Growth (%)*
Mobile Voice Subscription	Million	40.05	38.41	*-4.09%*	41.48	38.41	*-7.40%*
Fixed Voice Subscription	Thousand	330.02	333.06	*0.92%*	320.46	333.06	*3.93%*
Mobile Data Subscription	Million	22.85	22.62	*-1.01%*	23.70	22.62	*-4.56%*
Fixed Data Subscription	Thousand	102.95	105.78	*2.75%*	102.75	105.78	*2.95%*
Broadband Wireless Access	Thousand	38.07	37.79	*-0.74%*	48.90	37.79	*-22.72%*

B2. Voice, Data and SMS Traffic

TRAFFIC	Units	QUARTER-ON-QUARTER			YEAR-ON-YEAR		
		Q4 2022	Q1 2023	*Growth (%)*	Q1 2022	Q1 2023	*Growth (%)*
Mobile Voice Traffic (Domestic)	Billion minutes	23.87	24.42	*2.30%*	25.87	24.42	*-5.60%*
Fixed Voice Traffic	Million minutes	8.80	8.73	*-0.80%*	9.77	8.73	*-10.64%*
Incoming International Traffic (Direct to Network Only)	Million minutes	61.23	51.62	*-15.69%*	58.20	51.62	*-11.31%*
Outgoing International Traffic	Million minutes	73.88	71.48	*-3.25%*	88.22	71.48	*-18.98%*
Mobile Data Traffic (MB)	Billion MB	403.04	438.50	*8.80%*	304.15	438.50	*44.17%*
BWA Data Traffic (MB)	Billion MB	4.65	0.57	*-87.74%*	6.55	0.57	*-91.30%*
SMS Count	Million	747.91	767.54	*2.62%*	630.73	767.54	*21.69%*

[1] Glo did not submit report on all indicators for Jan. Feb. & Mar. 2023.
[3] 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		
	Q4 2022	Q1 2023	*Growth (%)*	Q1 2022	Q1 2023	*Growth (%)*
Mobile Voice Subscription	126.05	120.27	*-4.59%*	134.71	120.27	*-10.72%*
Fixed Voice Subscription	1.04	1.04	*0.00%*	1.04	1.04	*0.00%*
Mobile Data Subscription	71.91	70.85	*-1.47%*	76.94	70.85	*-7.92%*
Fixed Data Subscription	0.32	0.33	*3.13%*	0.33	0.33	*0.00%*
Broadband Wireless Access	0.12	0.12	*0.00%*	0.16	0.12	*-25.00%*

C1. Broadcasting Sector

FM/TV AUTHORISATION & OPERATIONS	QUARTER-ON-QUARTER			YEAR-ON-YEAR		
	Q4 2022	Q1 2023	*Growth (%)*	Q1 2022	Q1 2023	*Growth (%)*
FM Authorisation	707	714	*0.99%*	698	714	*2.29%*
FM Stations Operating	513	517	*0.78%*	502	517	*2.99%*
TV Authorisations	156	162	*3.85%*	149	162	*8.72%*
TV Stations Operating	117	123	*5.13%*	112	123	*9.82%*

C2. Categories of Authorised FM Radio Stations

CATEGORIES OF FM RADIO STATIONS	QUARTER-ON-QUARTER			YEAR-ON-YEAR		
	Q4 2022	Q1 2023	*Growth (%)*	Q1 2022	Q1 2023	*Growth (%)*
PUBLIC	31	31	*0.00%*	31	31	*0.00%*
PUBLIC FOREIGN	5	5	*0.00%*	5	5	*0.00%*
CAMPUS	24	24	*0.00%*	24	24	*0.00%*
COMMUNITY	121	123	*1.65%*	117	123	*5.13%*
COMMERCIAL	526	531	*0.95%*	521	531	*1.92%*

1.0 MOBILE NETWORK

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

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

1.1 Mobile Voice Subscriptions and Penetration Rate[3]

Mobile Voice subscriptions decreased from 40.05 million in Q4 2022 to 38.41 million at the end of Q1 2023, representing a decline in growth by 4.09%.

Year -on-year subscriptions also decreased from 41.48 million at the end of Q1 2022 to 38.41 million at the end of Q1 2023, recording a decrease of 7.41% growth rate.

The penetration rate as at the end of Q1 of 2023 was 120.27% as compared to 126.05% recorded in Q4 2022, indicating a decrease in growth rate by 4.58 (Figure 1) (Appendix, Table 1).

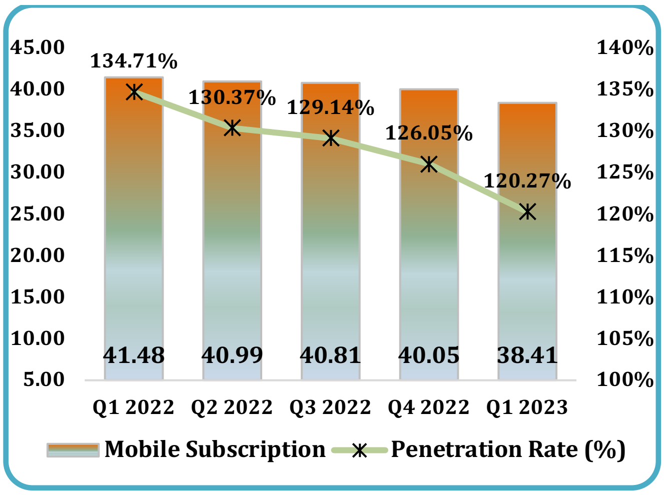


Figure 1: Mobile Voice Subscription and Penetration Rate

1.1.1 Voice Subscription Market Share per Operator

At the end of Q1 2023, MTN recorded 66.72% of the market share with 25.63 million subscriptions.

Vodafone followed with 7.08 million subscriptions (18.43%).

AirtelTigo ended the quarter with a market share of 14.85% with a subscription base of 5.70 million. Figure 2) (Appendix, Table 2).

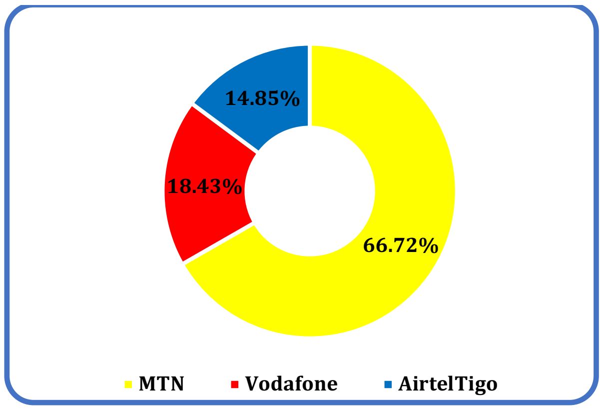


Figure 2: Market Share per Operator

1.1.2 Quarter on Quarter Market Share per Operator in Percentage

At the end of Q1 2023, MTN increased its market share in percentage from 66.46% in Q4 2022 to 66.72% representing a growth of 0.39%. Vodafone had a decline in growth by 2.06% (from 18.82% in Q4 2022 to 18.43% in Q1 2023) AirtelTigo market share increased in percentage from 13.95% in Q4 2022 to 14.85% representing a growth of 6.46%

The mobile penetration rate is estimated by dividing the total number of mobile subscribers by the total opulation.

1.1.3 Prepaid and Postpaid Mobile Voice Subscriptions

Mobile voice subscription for prepaid subscribers was 37.93 million representing a market share of 98.76%.

Post-paid subscription at the end of the quarter under review was 0.47 million and a market share of 1.24%. (Figure 3) (Appendix, Table 3).

Mobile voice subscriptions for prepaid subscribers decreased from 39.62 million at the end of Q4 2022 to 37.93 million at the end of Q1 2023 representing a percentage decrease of 4.25%.

Mobile voice subscription for postpaid subscribers grew from 0.43 million in Q4 of 2022 to 0.47 million in Q1 of 2023 representing a percentage increase of 11.02%.

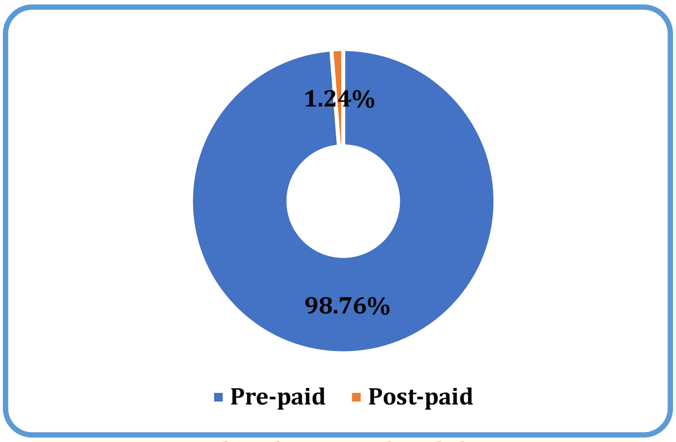


Figure 3: Prepaid and Postpaid Mobile Voice Subscriptions

1.2 Off-Net Domestic Voice Traffic

Mobile-to-Mobile Off-Net traffic increased from 2.02 billion minutes at the end of Q4 2022 to 2.15 billion at the end of Q1 2023 representing an increase in growth by 6.32%.

Year-on-Year Mobile-to-Mobile Off-Net traffic declined from 2.18 billion minutes at the end of Q1 2022 to 2.15 billion minutes at the end of Q1 2023, representing a decrease in growth by 1.70%.

Quarter-on-Quarter Mobile-to-Fixed Off-Net Traffic decreased from 12.99 million minutes in Q4 2022 to 12.08 million minutes at the end of Q1 2023 indicating a decrease in growth by 7.03%.

Year-on-Year Mobile-to-Fixed Off-Net traffic decreased at 2.01% from 12.32 million minutes at the end of Q1 2022 to 12.08 million minutes at the end of Q1 2023. (Figure 4) (Appendix, Table 4)

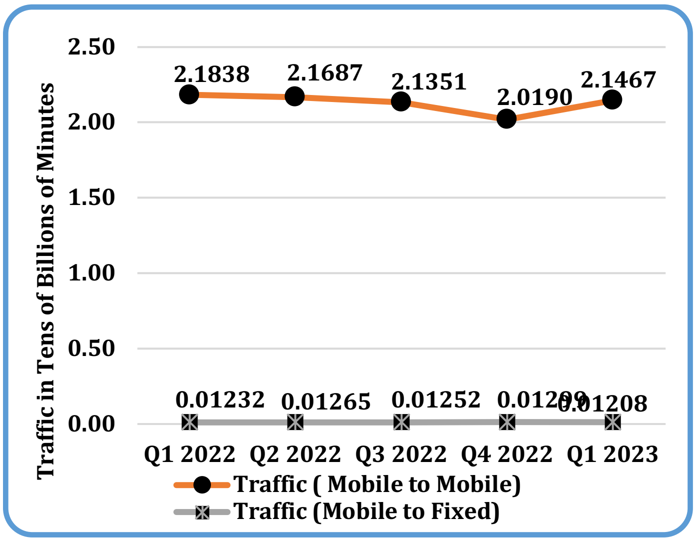


Figure 4: Off-Net Traffic Distribution between Mobile and Fixed Networks

1.2.1 Total Domestic Mobile Voice Traffic

Total domestic mobile voice traffic recorded an increase from 23.87 billion minutes in Q4 2022 to 24.42 billion minutes in Q1 2023, representing a 2.27% increase in growth.

Year-on-year mobile voice traffic dropped from 25.87 billion minutes at the end of Q1 2022 to 24.42 billion minutes at the end of Q1 2023, representing a decreased growth rate of 5.62%.

Off-Net traffic increased from 2.03 billion minutes at the end of Q4 2022 to 2.16 billion minutes at the end of Q1 2023, giving a growth rate of 6.24%.

Year-on-year Off-Net traffic decreased from 2.20 billion minutes in Q1 2022 to 2.16 billion minutes at the end of Q1 2023 representing a 1.70% decline in growth.

On-Net traffic increased from 21.84 billion minutes in the previous quarter to 22.27 billion minutes at a growth rate of 1.96% during the quarter under review.

Year-on-year On-Net traffic also declined from 23.64 billion minutes in Q1 2022 to 22.27 billion minutes at the end of Q1 2023 representing a 5.81% decrease in growth rate. (Figure 5) (Appendix, Table 5)

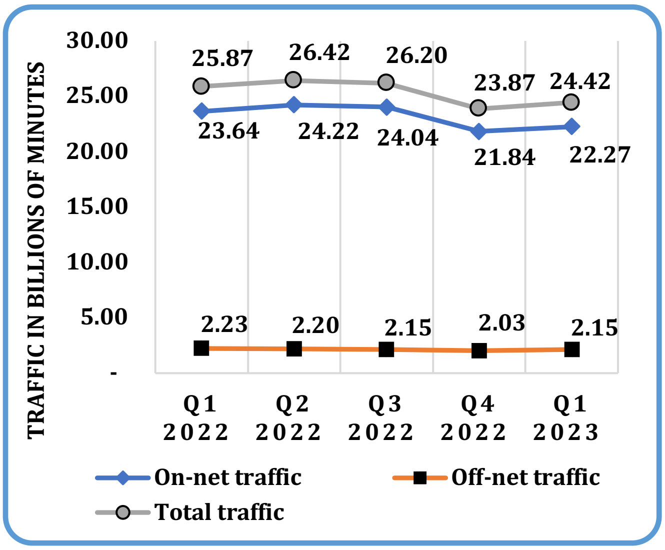


Figure 5: Total Domestic Mobile Voice Traffic in Billions of Minutes

1.2.2Minutes of Use (MoU)

Quarter-on-quarter average minutes of use per subscription increased from 590.54 minutes in Q4 2022 to 626.29 minutes (6.05%) in Q1 2023. Year-on-year minutes of use per subscription also decreased from 628.60 minutes in Q1 2022 to 626.29 minutes in Q1 2023, representing a 0.37% decline in growth (figure 6) (Appendix, Table 6).

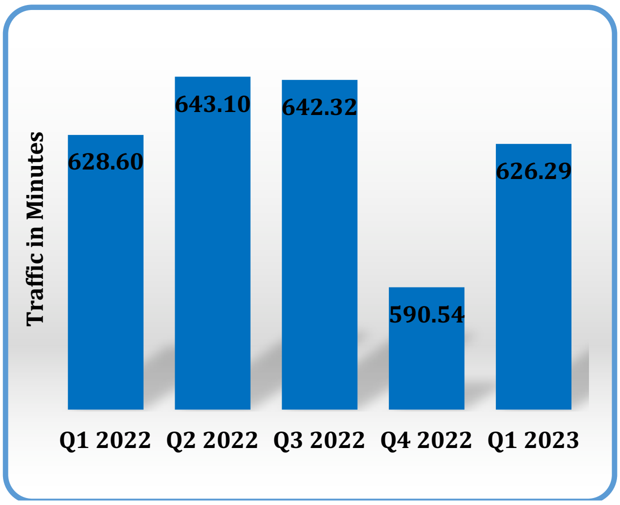


Figure 6: Mobile Voice Traffic Minutes of Use (MoU) per subscriptions

1.3 International Traffic

Inbound international traffic decreased from 61.23 million minutes in Q4 2022 to 51.62 million minutes in Q1 2023, representing a percentage decrease in growth rate by 15.70%.

Year-on-year inbound international traffic also declined from 58.20 million minutes in Q1 2022 to 51.62 million minutes in Q1 2023 with a decreased growth rate of 11.31%.

Quarter-on-quarter outbound International Traffic showed a 3.24% decline in growth from 73.88 million to 71.48 million in the quarter under review.

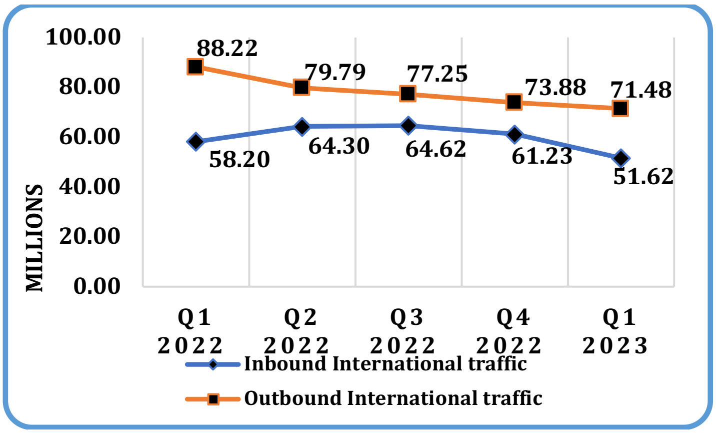


Figure 7: International Traffic in Millions of Minutes

1.3.1 Short Messaging Services (SMS)

The total number of short messages service (SMS) sent at the end of Q1 2023 was 767.54 million as compared to 747.91 million in the preceding quarter, recording an increase of 2.62% in growth.

Year-on-year total SMS counts increased from 630.73 million in Q1 2022 to 767.54 million at the end Q1 2023 representing a growth rate of 21.69% (figure 8) (Appendix, Table 8)

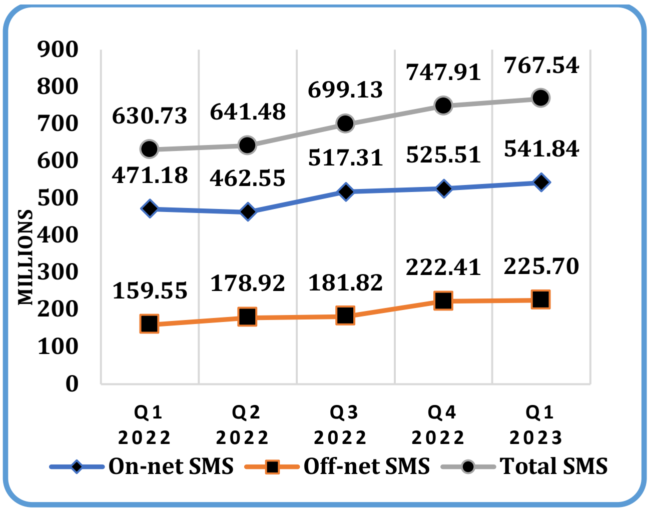


Figure 8: Total Number of SMS in Millions

1.3.2 SMS Counts per Mobile Network Operator/Market Share

The volume of SMS traffic originating from MTN was 581.76 million at the end of Q1 2023; representing a market share of 75.80% of the total, SMS count.

The volume of SMS traffic from Vodafone was 172.39 million, representing a market share of 22.46% of the total SMS count.

AirtelTigo had an SMS count of 13.39 million, representing 1.74% of the market share of the total SMS count. (Figure 9) (Appendix, Table 8).

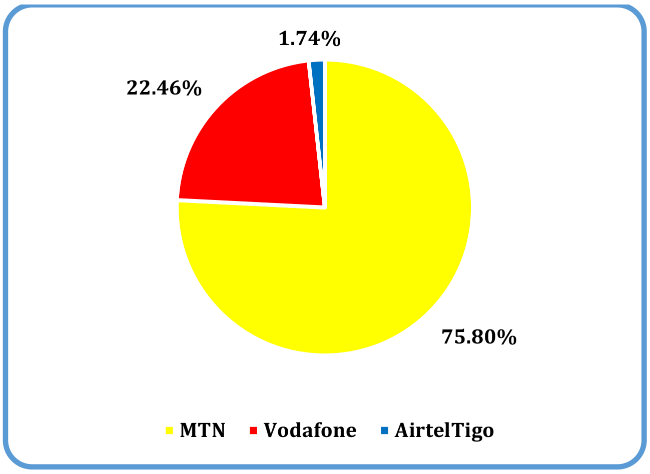


Figure 9: SMS Counts Market Share per Operator

1.3.3 SMS per Subscription

Quarter-on-quarter SMS sent per subscription at the end of Q1 2023 was 19.7 SMS, indicating a 6.36% increase in SMS per subscriptions as compared to the end of Q4 2022 (18.5).

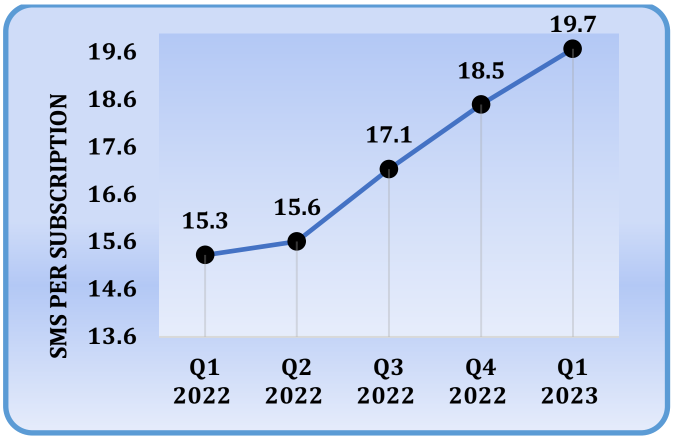


Figure 10: SMS per Subscription

1.4 Mobile Data Subscriptions and Penetration Rate (%)

At the end of Q1 2023, mobile data subscriptions decreased by 0.97% from 22.85 million at the end of Q4 2022 to 22.62 million at the end of Q1 2023.

Year-on-year subscriptions also decreased by 4.51% from 23.70 million at the end of Q1 2022 to 22.62 million at the end of Q1 2023. The penetration rate as at the end of the first quarter of 2023 was 70.85% (Figure 11) (Appendix, Table 10).

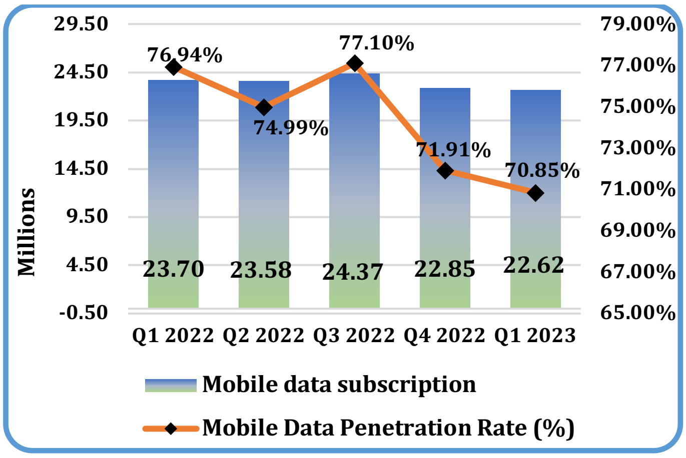


Figure 11: Mobile Data Subscriptions in Millions and Penetration Rate (%)

1.4.1 Mobile Data Pre-paid and Post-paid Subscriptions/Market Share

Mobile data pre-paid subscriptions decreased from 22.66 million at the end of Q4 2022 to 22.43 million subscriptions at the end of Q1 2023, representing a market share of 99.14% of the total mobile data subscriptions.

Mobile data post-paid subscriptions increased from 188,331 at the end of Q4 2022 to 194,883 subscriptions representing a market share of 0.86% of the total mobile data subscriptions at the end of Q1 2023 (Figure: 12) (Appendix, Table 10).

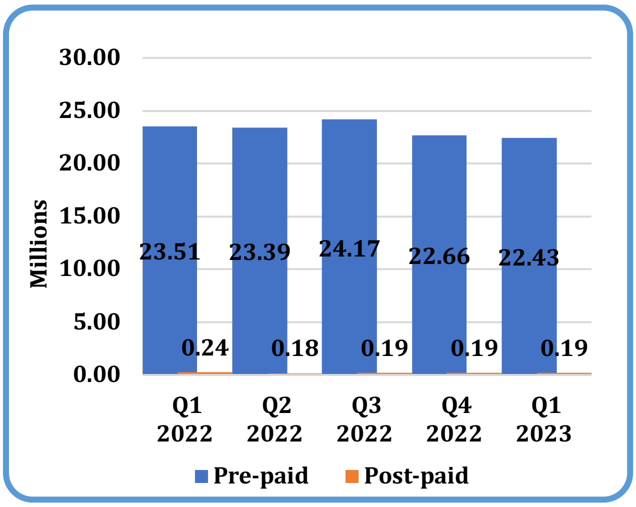


Figure 12: Mobile Data Pre-paid and Post-paid Subscriptions

1.4.2 Mobile Data Subscriptions per Mobile Network Operator /Market Share

MTN recorded 17.48 million subscriptions, which represents 77.25% of the market.

While Vodafone recorded 2.90 million subscriptions with a 12.83% share of the market,

AirtelTigo had 2.25 million in mobile data subscriptions with a 9.93% share of the market. (Figure13).

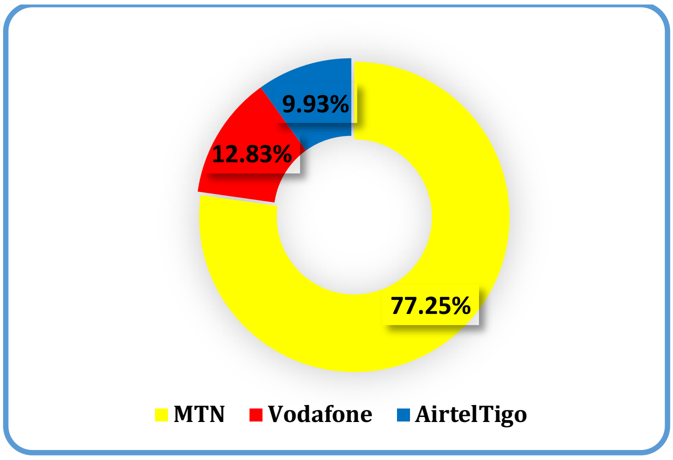


Figure 13: Mobile Data Market Share per Operator

1.5 Mobile Data Traffic in Billions of Megabytes (MB)

At the end of Q1 2023, internet traffic generated by the mobile network operators was 438.50 billion megabytes of data, recording an increase in growth by 8.80% as compared to 403.04 billion megabytes of data at the end of Q4 2022.

Year-on-year internet traffic increased from 304.15 billion megabytes at the end of Q1 2022 to 438.50 billion megabytes at the end of Q1 2023, representing an increase of 44.17% (Figure 14) (Appendix, Table 11).

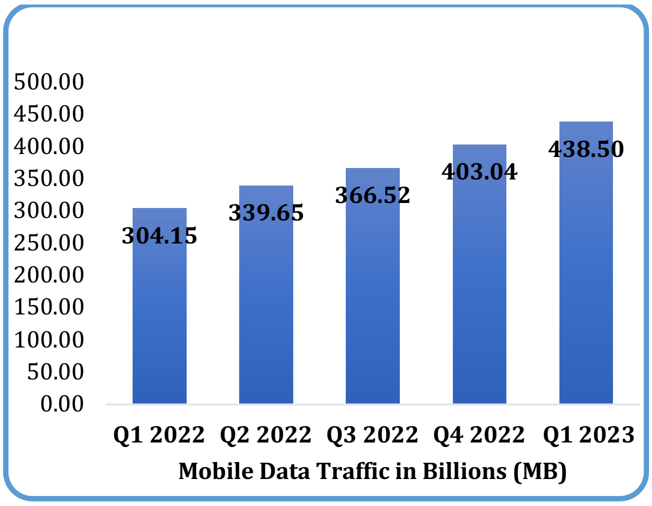


Figure 14: Mobile Data Traffic in Billions of Megabytes (MB)

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

Mobile internet usage per subscription increased from 17,048.3 MB at the end of Q4 2022 to 19,482.5

MB at the end of Q1 2023 recording a growth of 14.28%.

Year-on- year mobile data usage per subscription increased from 12,880.4 MB at the end of Q1 2022 to 19,482.5 MB at the end of Q1 2023, recording a growth of 51.26% (Figure 15) (Appendix, Table 12).

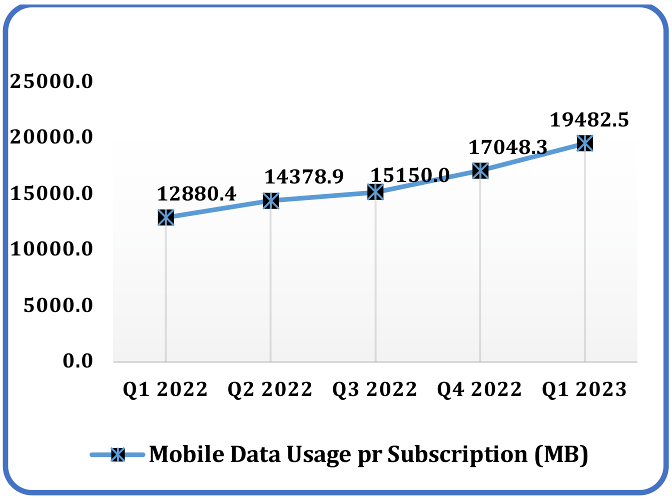


Figure 15: Mobile Data Usage per Subscription (MB)

1.5.2 Mobile Internet Traffic (MB) per Mobile Network Operator

MTN generated the highest volume of internet traffic, 365.00 billion megabytes with a market share of 83.24%.

Vodafone followed with a traffic of 55.99 billion megabytes and a market share of 12.77%.

AirtelTigo also had 17.51 billion megabytes of data, recording a market share of 3.99%.

(Figure 16) (Appendix, Table 13)

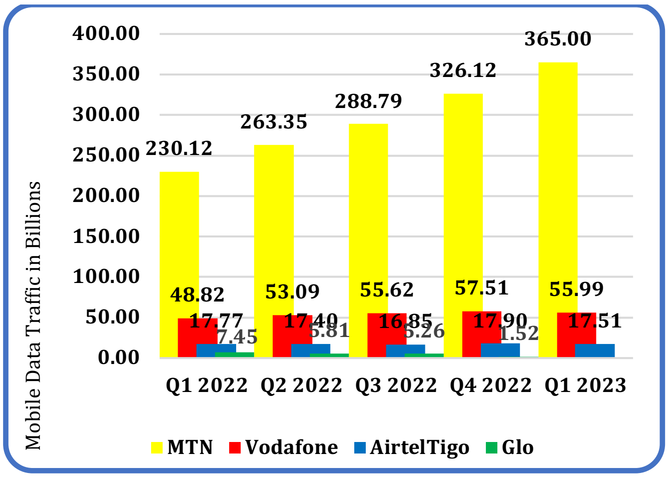


Figure 16: Mobile Internet Traffic (MB) per Operator

1.6 Mobile Telecommunications Service Tariffs

Quarter- on -quarter average tariffs for off net mobile voice was 0.13 pesewas at the end of Q1 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).

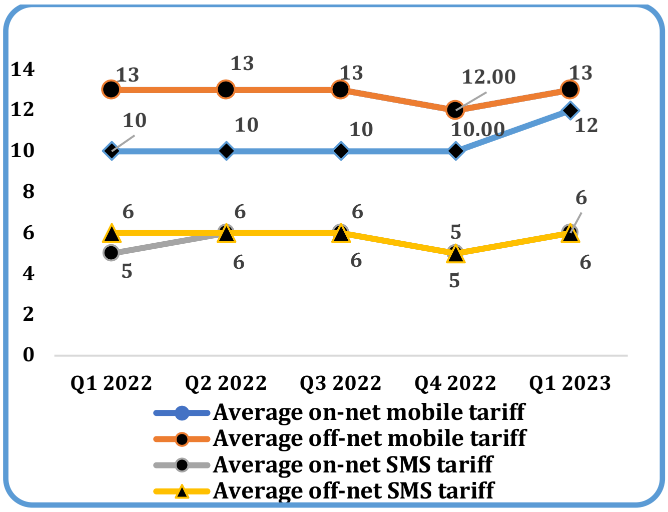


Figure 17: Average Mobile Tariffs per Service

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 five (5) Broadband Wireless Access operators in Ghana namely BLU Telecommunications, Broadband Home (BBH), Busy Internet, Surfline and Telesol. This report will focus mainly on Surfline and Telesol due to non-submission of data from BBH, Busy and BLU Telecommunications.

2.1 BWA Subscriptions and Penetration Rate

BWA subscriptions decreased from 38,078 in Q4 2022 to 37,785 in Q1 2023, representing a decline in growth by 0.76%.

Year-on-year subscriptions also declined by 22.73%, which was from 48,901 in Q1 2022 to 37,785 at the end Q1 2023.

Penetration rate for broadband wireless access was 0.12% at the end of Q1 2023. (Figure 18) (Appendix, Table 15).

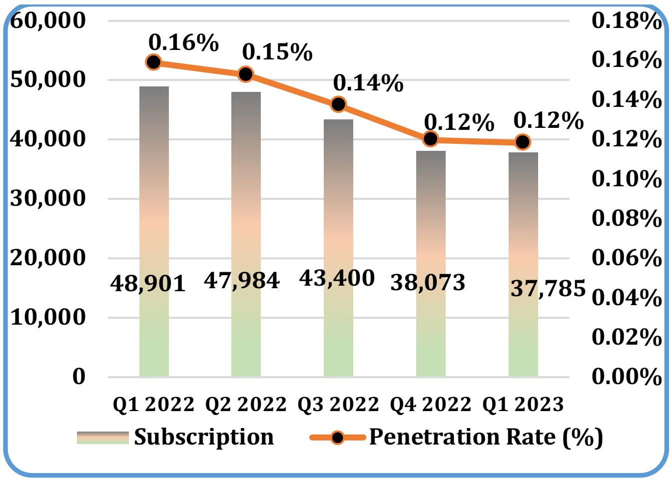


Figure 18: BWA Subscription and Penetration Rate

2.1.1 Subscriptions per Broadband Wireless Access (BWA) Operator

Surfline recorded 35,797 subscriptions at the end of the quarter under review representing 94.74% of the market share, as against 35,796 in the previous quarter.

Telesol ended this quarter with a subscription of 1,988 and a market share of 5.26%. (Figure 19) (Appendix, Table 16).

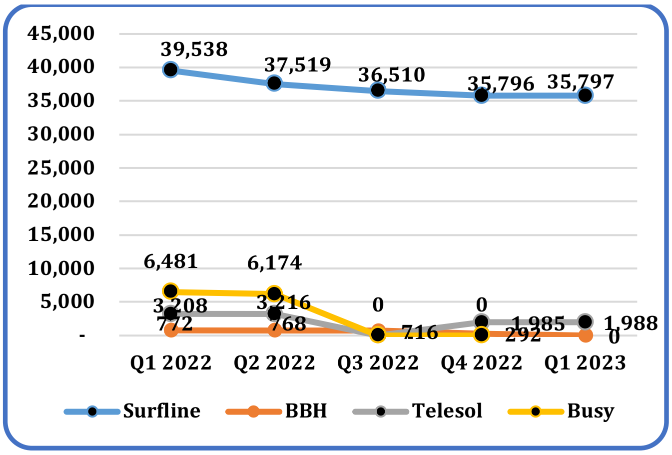


Figure 19: Subscriptions per Broadband Wireless Access (BWA) Operator

2.2 Broadband Wireless Access (BWA) Volume of Internet Traffic

The total volume of internet traffic generated by the BWAs decreased from 4.65 billion megabytes at the end of Q4 2022 to 0.57 billion megabytes at the end of Q1 2023, indicating a decline in growth of 87.84%.

Year-on-year internet traffic generated by the BWAs decrease from 6.55 billion megabytes at the end of Q1 2022 to 0.57 billion megabytes at the end of Q1 2023, representing a decline in growth by 91.36%. (Figure 20) (Appendix A, Table 17).

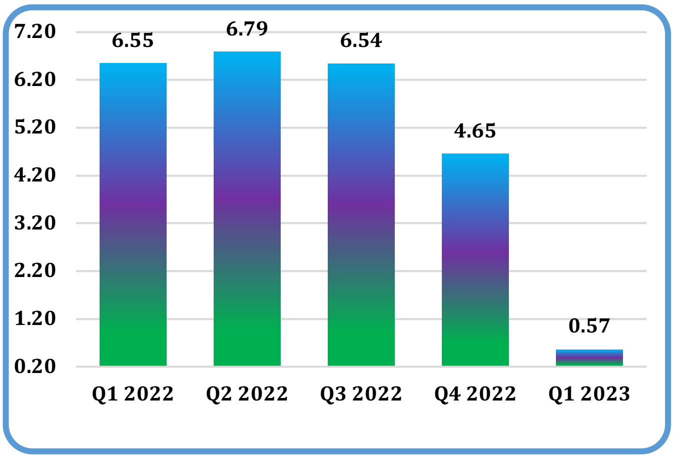


Figure 20: BWA Internet Traffic in Billions of Megabytes (MB)

2.2.1 Volume of BWA Traffic per Operator

Surfline's total volume of internet traffic for the quarter under review was 0.47 billion MB, as against 4.53 billion MB in the previous quarter representing 83.12% of the total volume of traffic.

Telesol recorded 0.095 billion MB with a market share of 16.88%.

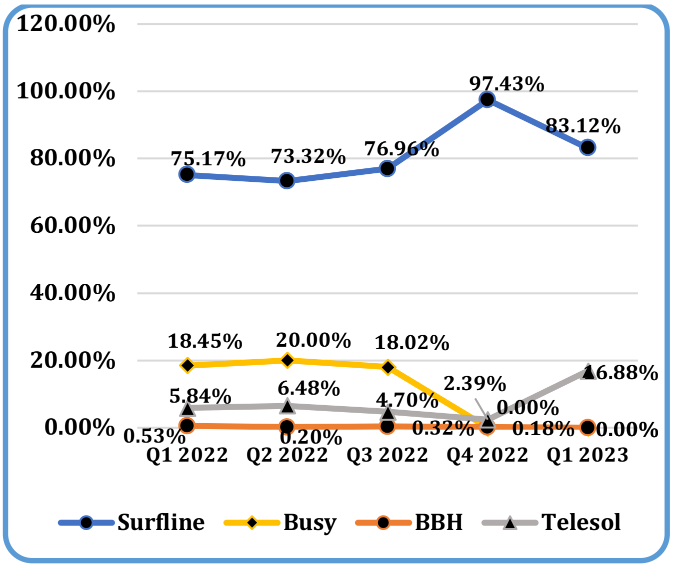


Figure 21: BWA Traffic Market Share per Operator (MB)

2.2.2 Internet Usage per BWA Subscription[5]

Internet usage per BWA subscription decreased from 12.14 thousand megabytes in Q4 2022 to 2.31 thousand megabytes in Q1 2023.

Year-on-year internet usage per subscription also decreased from 13.22 thousand megabytes in Q1 2022 to 2.31 thousand megabytes at the end of Q1 2023 (Figure 22) (Appendix, Table 18).

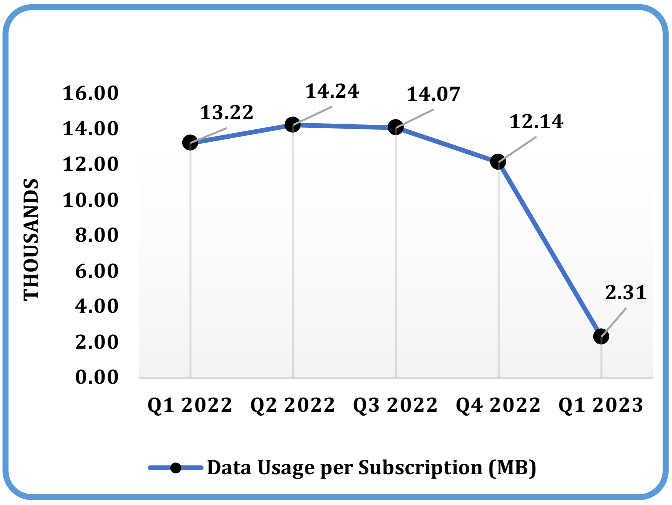


Figure 22: Average Internet Usage per BWA Subscription

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, AirtelTigo and MTN have been licensed by the NCA to provide this service.

3.1Fixed Voice Subscriptions and Penetration Rate

Total number of fixed line subscriptions increased from 330,016 in Q4 2022 to 333,057 at the end of Q1 2023. This shows a penetration rate of 1.04% and a 0.92% growth rate.

Year-on-year subscription increased from 320,460 in Q1 2022 to 333,057 at the end of Q1 2023, representing a growth rate of 3.93% (Figure 23) (Appendix, Table 19).

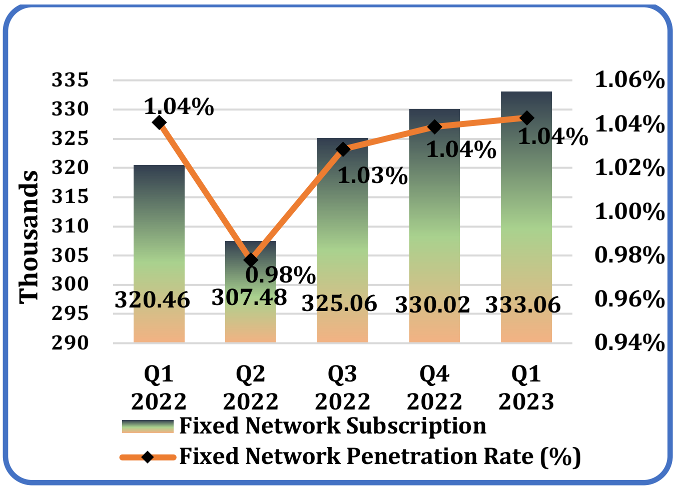


Figure 23: Fixed Network Voice Subscription and Penetration Rate

3.2 Fixed Voice Network Traffic

Total fixed voice traffic decreased by 0.82% from 8.80 million minutes in Q4 2022 to 8.73 million minutes in Q1 2023.

Year-on-year total fixed voice traffic also decreased by 10.65%, from 9.77 million minutes in Q1 2022 to 8.73 million minutes in Q1 2023. (Figure 24) (Appendix, Table 20).

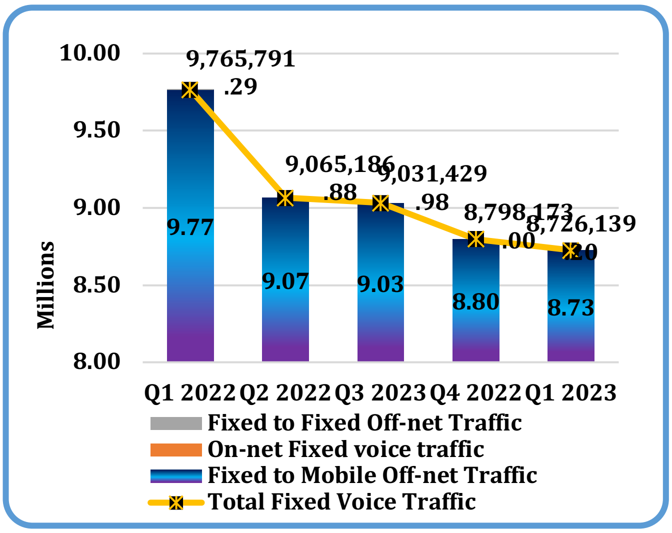


Figure 24: Total Fixed Voice Traffic

3.3 Fixed Voice Minute of Use[6]

Fixed voice traffic per subscription decreased from 26.76 minutes to 26.29 minutes at the end of Q1 2023 (-1.76%).

Year-on-year minutes of use per subscription decreased from 30.31 minutes in Q1 2022 to 26.29 minutes at the end of Q1 2023 (-13.27%) (Figure 25) (Appendix A, Table 21).

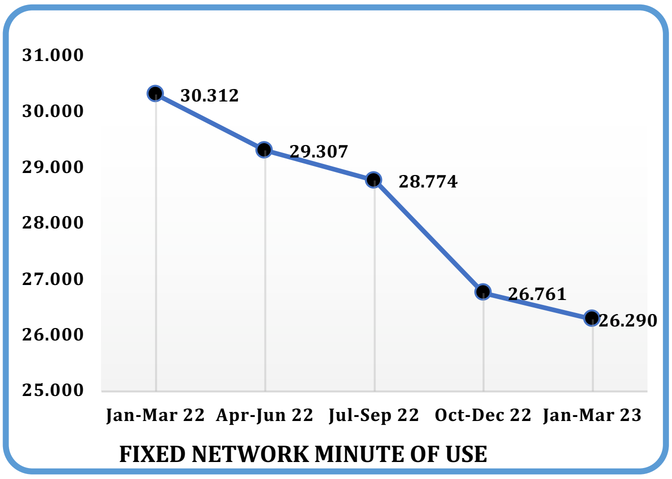


Figure 25: Fixed Network Minute of Use

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

Fixed data subscriptions went up from 102,952 in the previous quarter to 105,778 in the quarter under review, which represents a growth rate of 2.74%.

Year-on-year fixed data subscriptions increased from 102,745 in the preceding year to 105,778 at the end of Q1 2023 representing a growth rate of 2.95%.

Fixed data penetration rate at the end of Q1 2023 was 0.33%. (Figure 26) (Appendix, Table 22).

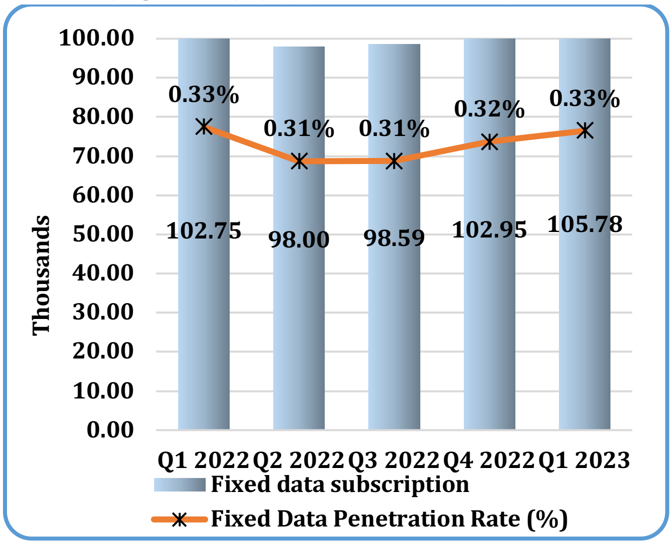


Figure 26: Fixed Data Subscriptions and Penetration

3.5 Fixed Data Subscriptions per Mobile Network Operator

Vodafone's subscriptions at the end of Q1 2023 was 77,000 representing 72.79% of the market share as against 75,078 in Q4 2022.

MTN's subscriptions at the end of Q1 2023 was 28,222 representing 26.68% of the market share as compared to 27,148 in Q4 of 2022.

AirtelTigo recorded 556 subscriptions at the end of Q1 2023 with a market share of 0.53% as compared to 726 in the previous quarter. (Figure 27) (Appendix, Table 23).

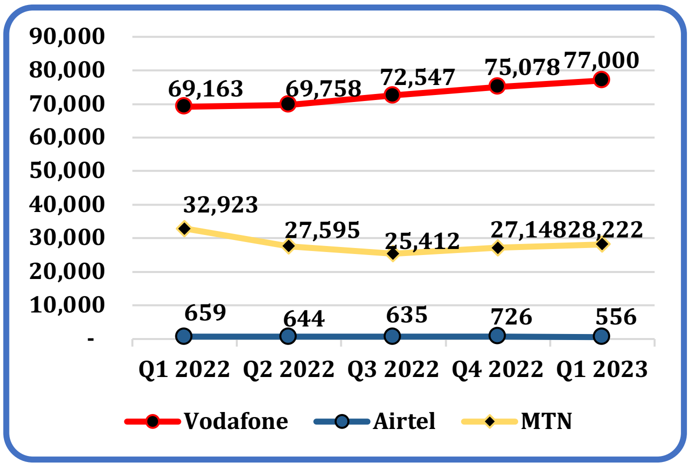


Figure 27: Fixed Data Subscription per Operator

4.0 BROADCASTING

4.1 Authorised Frequency Modulation (FM) Radio Station

The total number of authorised FM stations in Ghana as at the end of Q1 2023 was 714. The total number of FM stations in operation was 517 in the quarter under review.

The Ashanti Region had the highest number of FM stations (105), representing 14.71% of the total number of authorised FM stations in the country. The North East Region had the least number of authorised FM Stations (12), representing 1.68% of the total authorised FM Stations in the country. (Figure 28) (Appendix A, Table 25).

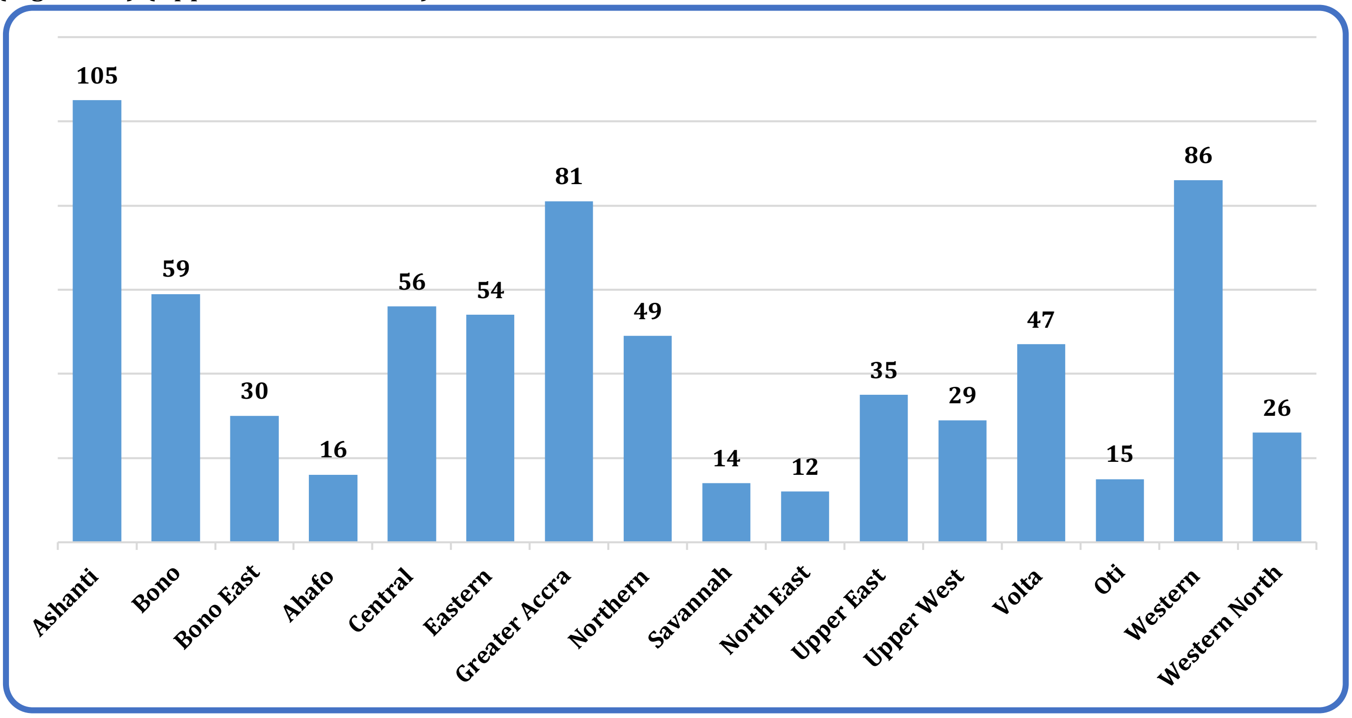


Figure 28: Regional distribution of authorised FM stations as at end of Q1 2023

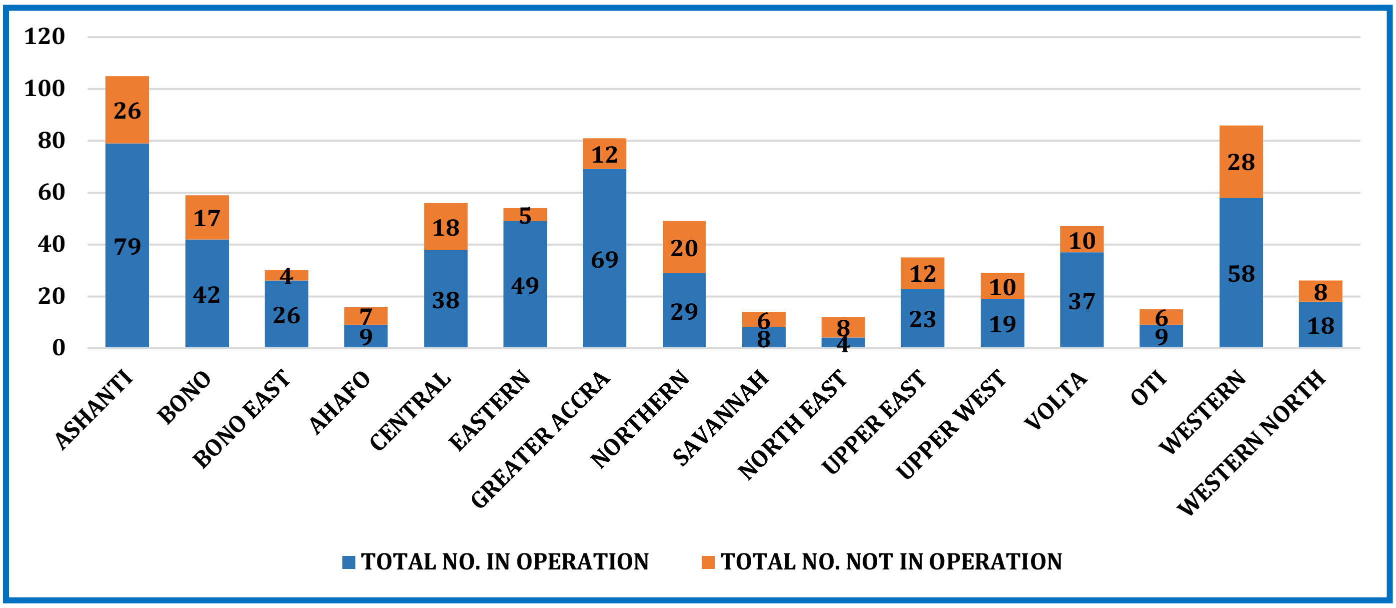


Figure 29: Regional distribution of On-air and Off-air FM stations as at end of Q1 2023

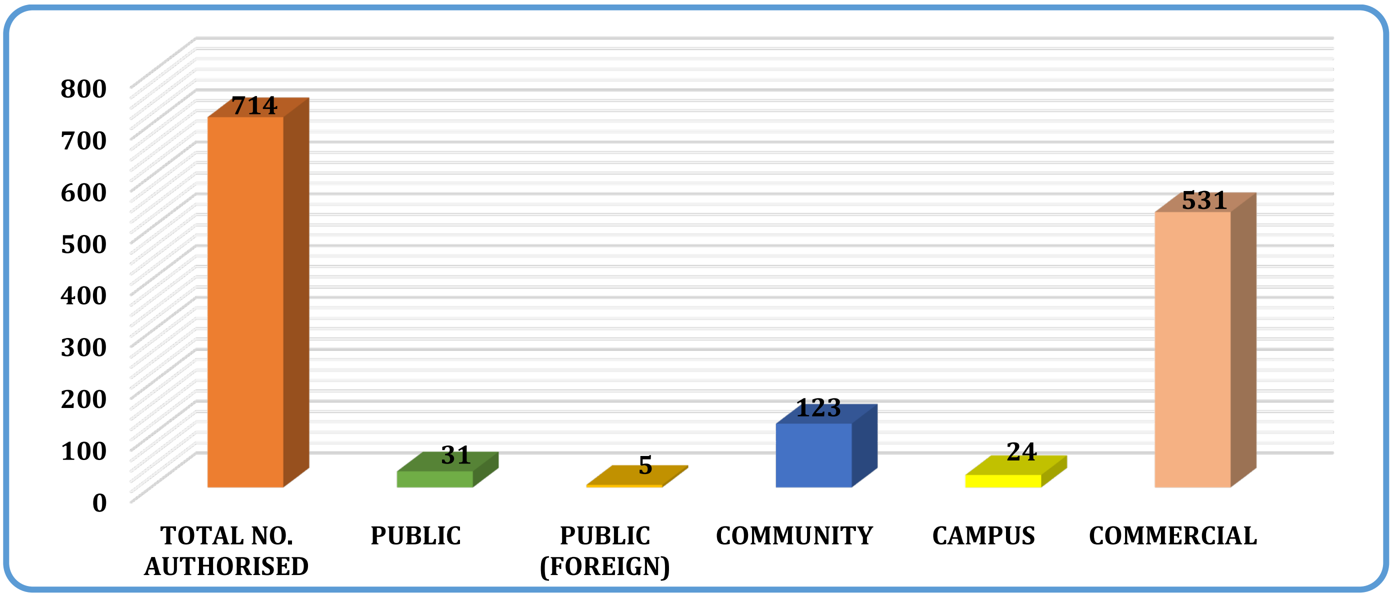


Figure 30: Purpose of Authorised Radio Stations as at Q1 2023

4.2 Authorised Television Stations

The total number of authorised TV stations in Ghana at the end of the first quarter of 2023 was 162 out of which 123 were operational during the quarter under review, representing 75.93% of the total number of authorised TV stations in the country (Figure 32) (Appendix A, Table 26).

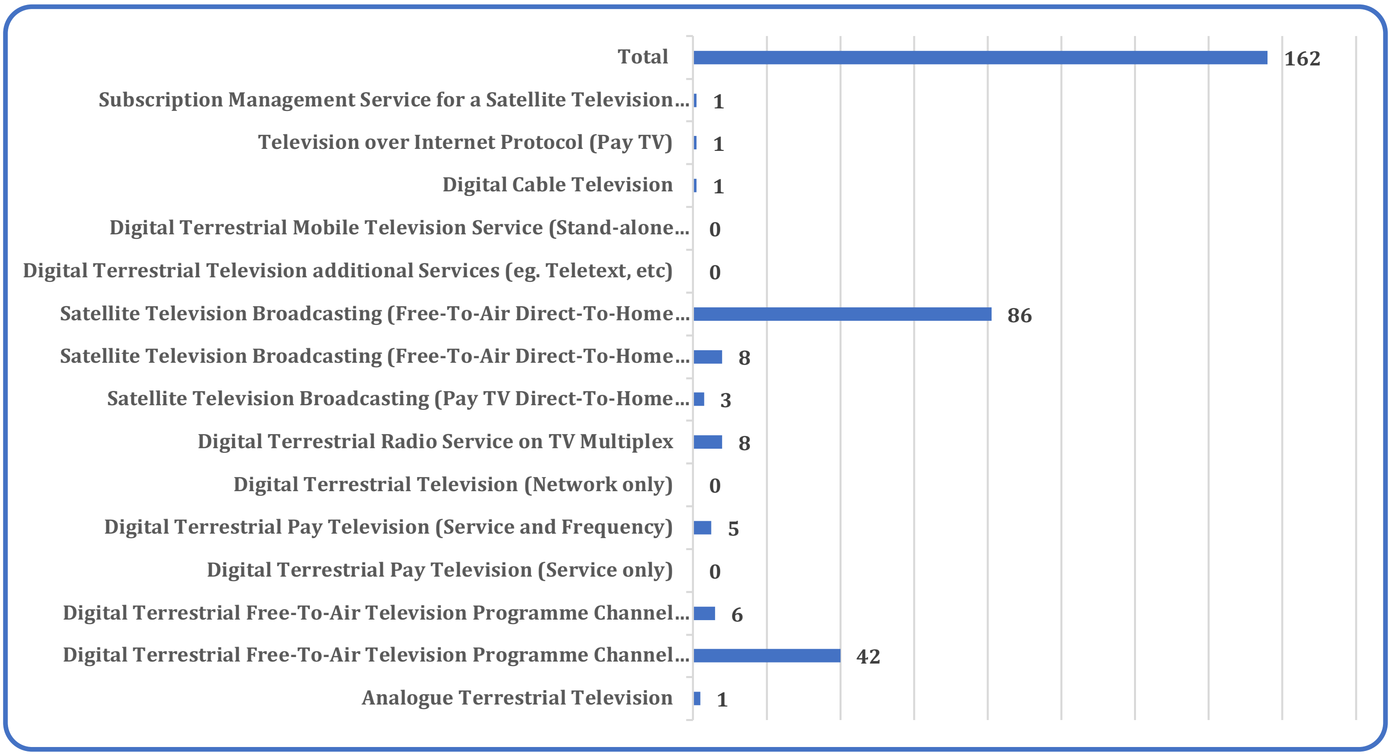


Figure 31: Authorised TV Stations as at Q1 2023

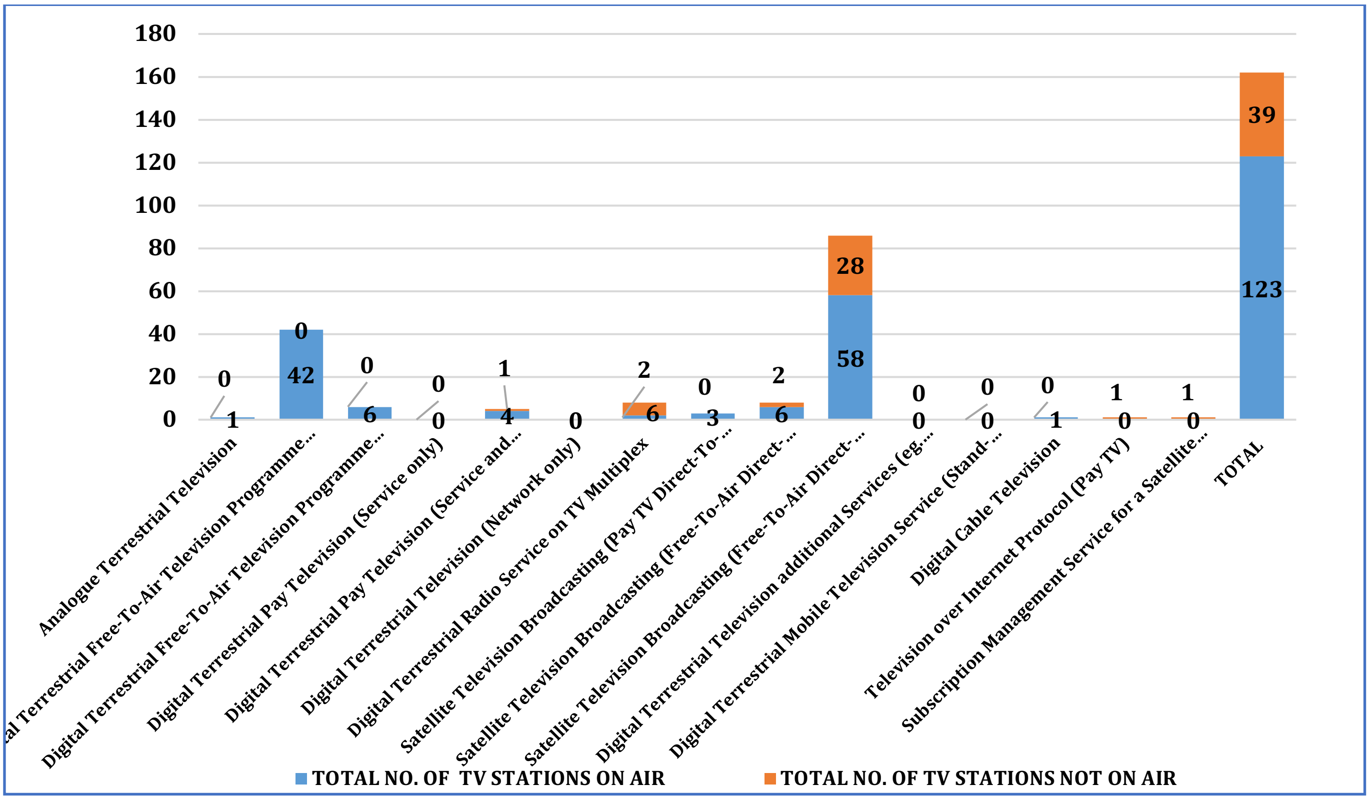


Figure 32: Distribution of Types of TV Services (On-Air and Off-Air TV Stations) as at end of Q1 2023

Appendix A (List of Tables)

Table 1: Mobile Voice Subscriptions and Penetration Rate

Subscription	Q1 2022	Q2 2022	Q3 2022	Q4 2022	Q1 2023
Mobile Subscription	41,481,767	40,988,879	40,813,018	40,045,308	38,408,481
Mobile Subscription Growth Rate (%)	2.54%	-1.19%	-0.43%	-1.88%	-4.09%
Net additions	1,027,694	-492,888	-175,861	-767,710	-1,636,827
Population	30,792,608	31,439,251	31,604,308	31,769,363	31,934,420
Penetration Rate (%)	**134.71%**	**130.37%**	**129.14%**	**126.05%**	**120.27%**

Table 2: Mobile Voice Subscriptions and Market Share per Operator

Mobile Network Operator		Q1 2022	Q2 2022	Q3 2022	Q4 2022	Q1 2023
MTN	Subscriptions	25,558,928	25,848,409	26,689,330	26,613,845	25,625,097
	Market Share (%)	61.61%	63.06%	65.39%	66.46%	66.72%
Vodafone	Subscriptions	7,732,622	7,323,652	7,457,708	7,537,400	7,080,107
	Market Share (%)	18.64%	17.87%	18.27%	18.82%	18.43%
AirtelTigo	Subscriptions	7,403,254	6,826,853	6,312,864	5,585,510	5,703,277
	Market Share (%)	17.85%	16.66%	15.47%	13.95%	14.85%
Glo	Subscriptions	786,963	989,965	353,116	308,553	-
	Market Share (%)	1.90%	2.42%	0.87%	0.77%	-
Total Industry Subscription		**41,481,767**	**40,988,879**	**40,813,018**	**40,045,308**	**38,408,481**

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

Subscription	Q1 2022	Q2 2022	Q3 2022	Q4 2022	Q1 2023
Prepaid	41,054,936	40,543,100	40,377,746	39,617,681	37,933,736
Market Share	98.97%	98.91%	98.93%	98.93%	98.76%
Post-paid	426,831	445,779	435,272	427,627	474,745
Market Share	1.03%	1.09%	1.07%	1.07%	1.24%
Total mobile subscription	**41,481,767**	**40,988,879**	**40,813,018**	**40,045,308**	**38,408,481**

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

Breakdown of Off-Net Traffic	Q1 2022	Q2 2022	Q3 2022	Q4 2022	Q1 2023
Traffic (Mobile to Mobile)	2,183,773,095	2,168,717,436	2,135,102,224	2,019,023,010	2,146,689,405
Share (%)	99.44%	99.42%	99.42%	99.36%	99.44%
Growth (%)	2.29%	-0.69%	-1.55%	-5.44%	6.32%
Traffic (Mobile to Fixed)	12,324,522	12,654,883	12,524,403	12,990,823	12,077,085
Share (%)	0.56%	0.58%	0.58%	0.64%	0.56%
Growth (%)	-7.16%	2.68%	-1.03%	3.72%	-7.03%
Total Off-Net Traffic	**2,196,097,617**	**2,181,372,319**	**2,147,626,627**	**2,032,013,833**	**2,158,766,489**

Table 5: Total Domestic Mobile Voice Traffic in Minutes

Traffic	Q1 2022	Q2 2022	Q3 2022	Q4 2022	Q1 2023
Traffic (Off-Net)	2,227,373,879	2,203,886,562	2,147,629,899	2,032,013,833	2,146,839,517
Share (%)	8.61%	8.34%	8.20%	8.51%	8.79%
Growth (%)	3.68%	-1.92%	-2.55%	-5.38%	5.65%
Traffic (On-Net)	23,643,478,673	24,215,251,832	24,043,275,209	21,841,970,013	22,270,082,599
Share (%)	91.39%	91.66%	91.80%	91.49%	91.21%
Growth (%)	-2.85%	2.42%	-0.71%	-9.16%	1.96%
Total traffic	**25,870,852,552**	**26,419,138,394**	**26,190,905,107**	**23,873,983,846**	**24,416,922,116**

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

Traffic	Q1 2022	Q2 2022	Q3 2022	Q4 2022	Q1 2023
Total mobile voice traffic	25,870,852,552	26,419,138,394	26,190,905,107	23,873,983,846	24,428,849,088
Average Mobile voice subscription	41,156,208	41,080,956	40,775,738	40,427,086	39,005,398
Minutes of Use (MoU) per Subscription	628.60	643.10	642.32	590.54	626.29
MoU growth rate (%)	**-2.68%**	**2.31%**	**-0.12%**	**-8.06%**	**6.05%**

Table 7: International Traffic

Traffic	Q1 2022	Q2 2022	Q3 2022	Q4 2022	Q1 2023
Incoming International Traffic	58,199,657	64,296,540	64,615,058	61,233,303	51,619,868
Growth (%)	-1.07%	10.48%	0.50%	-5.23%	-15.70%
Outgoing International Traffic	88,218,754	79,794,526	77,253,782	73,877,581	71,482,592
Growth (%)	**-11.85%**	**-9.55%**	**-3.18%**	**-4.37%**	**-3.24%**

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

Mobile Operators	Q1 2022	Q2 2022	Q3 2022	Q4 2022	Q1 2023
Off-Net					
MTN	71,706,837	70,917,153	78,335,284	92,778,474	105,533,537
Vodafone	78,586,700	94,748,489	93,371,708	117,962,480	108,226,057
AirtelTigo	6,933,089	11,557,613	9,232,475	11,403,412	11,939,120
Glo	2,325,071	1,700,940	879,715	262,563	-
Total	**159,551,697**	**178,924,195**	**181,819,182**	**222,406,929**	**225,698,714**
On- net					
MTN	362,681,706	392,514,195	442,680,314	454,222,145	476222794
Vodafone	106,170,295	68,192,778	72,975,081	69,500,826	64,166,409
AirtelTigo	1,947,850	1,656,882	1,425,920	1,714,490	1,450,072
Glo	379,052	188,593	227,807	68,354	-
Total	**471,178,903**	**462,552,448**	**517,309,122**	**525,505,815**	**541,839,275**
Total					
MTN	434,388,543	463,431,348	521,015,598	547,000,619	581,756,331
Vodafone	184,756,995	162,941,267	166,346,789	187,463,306	172,392,466
AirtelTigo	8,880,939	13,214,495	10,658,395	13,117,902	13,389,192
Glo	2,704,123	1,889,533	1,107,522	330,917	-
Total	**630,730,600**	**641,476,643**	**699,128,304**	**747,912,744**	**767,537,989**

Table 9: Average SMS per Subscription

	Q1 2022	Q2 2022	Q3 2022	Q4 2022	Q1 2023
Total SMS	630,730,600	641,476,643	699,128,304	747,912,744	767,537,989
Average Mobile Subscription	41,156,208	41,080,956	40,775,738	40,427,086	39,005,398
SMS per Subscription	**15.3**	**15.6**	**17.1**	**18.5**	**19.7**

Table 10: Mobile Data Subscriptions (Prepaid/Postpaid)

Mobile Data Subscriptions		Q1 2022	Q2 2022	Q3 2022	Q4 2022	Q1 2023
Prepaid	Subscriptions	23,507,496	23,388,524	24,174,770	22,657,917	22,430,107
	Market Share %)	99.22	99.20%	99.21%	99.18%	99.14%
Post-paid	Subscriptions	185,085	189,077	193,192	188,331	194,883
	Market Share %)	0.78%	0.80%	0.79%	0.82%	0.86%
Total mobile data subscriptions		**23,692,581**	**23,577,601**	**24,367,962**	**22,846,248**	**22,624,990**

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

Mobile Operator	Q1 2022	Q2 2022	Q3 2022	Q4 2022	Q1 2023
Total Mobile data usage (MB)	304,154,750,559	339,648,306,422	366,524,897,339	401,527,017,627	438,500,459,143

Table 12: Mobile Internet Usage per Subscription (MB)

Mobile Operator	Q1 2022	Q2 2022	Q3 2022	Q4 2022	Q1 2023
Total Mobile data usage (MB)	304,154,750,559	339,648,306,422	366,524,897,339	403,042,380,881	438,500,459,143
Average Data Subscription	23,613,836	23,621,298	24,193,140	23,641,217	22,507,381
Data Usage per Subscription (MB)	**12880.4**	**14378.9**	**15150.0**	**17048.3**	**19482.5**

Table 13: Mobile Data Traffic (MB) per Operator

Mobile Operator	Q1 2022	Q2 2022	Q3 2022	Q4 2022	Q1 2023
MTN	230,117,454,491	263,350,389,862	288,793,194,188	326,118,124,526	365,001,280,155
	75.66%	77.54%	78.79%	80.91%	83.24%
Vodafone	48,820,372,630	53,086,746,466	55,623,494,664	57,510,398,564	55,991,841,389
	16.05%	15.63%	15.18%	14.27%	12.77%
AirtelTigo	17,771,836,916	17,403,073,281	16,851,920,062	17,898,494,537	17,507,337,599
	5.84%	5.12%	4.60%	4.44%	3.99%
Glo	7,445,086,522	5,808,096,813	5,256,288,425	1,515,363,255	-
	2.45%	1.71%	1.43%	0.38%	-
Total Industry Traffic (MB)	**304,154,750,559**	**339,648,306,422**	**366,524,897,339**	**403,042,380,881**	**438,500,459,143**

Table 14: Average Mobile Tariff per Service (GHp)

Tariff	Q1 2022	Q2 2022	Q3 2022	Q4 2022	Q1 2023
Average On-Net mobile tariff	0.13	0.13	0.13	0.12	0.13
Average Off-Net mobile tariff	0.13	0.13	0.13	0.12	0.13
Average On-Net SMS tariff	0.05	0.06	0.06	0.05	0.06
Average Off-Net SMS tariff	0.06	0.06	0.06	0.05	0.06
Average data/Mb tariff	0.10	0.09	0.10	0.10	0.12

Table 15: BWA Data Subscriptions and Penetration

BWA Operator	Q1 2022	Q2 2022	Q3 2022	Q4 2022	Q1 2023
Subscription	48,901	47,984	43,400	38,073	37,785
Growth rate (%)	-3.57%	-1.88%	-9.55%	-12.27%	-0.76%
Net Additions	-1,813	-917	-4,584	-5,327	-288
Population	30,792,608	31,439,251	31,604,308	31,769,363	31,934,420
Penetration Rate (%)	**0.16%**	**0.15%**	**0.14%**	**0.12%**	**0.12%**

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

BWA Operator	Subscription and Market Share	Q1 2022	Q2 2022	Q3 2022	Q4 2022	Q1 2023
Surfline	Subscription	39,538	37,519	36,510	35,796	35,797
	Market share (%)	80.85%	78.19%	84.12%	94.02%	94.74%
Busy	Subscription	5,383	6,481	6,174	-	-
	Market share (%)	11.01%	13.51%	14.23%	-	-
Telesol	Subscription	3,208	3,216	-	1,985	1,988
	Market share (%)	6.56%	6.70%	-	5.21%	5.26%
BBH	Subscription	772	768	716	292	-
	Market share (%)	1.58%	1.60%	1.65%	0.77%	-
Industry Total		**48,901**	**47,984**	**43,400**	**38,073**	**37,785**

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

BWA Operator		Q1 2022	Q2 2022	Q3 2022	Q4 2022	Q1 2023
Surfline	Data usage (MB)	4,920,450,040	4,975,295,210	5,032,423,490	4,533,551,472	470,238,060
	Market share (%)	75.17%	73.32%	76.96%	97.43%	83.12%
Busy	Data usage (MB)	1,207,650,049	1,357,054,445	1,178,623,480	-	-
	Market share (%)	18.45%	20.00%	18.02%	-	-
BBH	Data usage (MB)	34,938,110	13,303,327	20,805,337	8,242,456	-
	Market share (%)	0.53%	0.20%	0.32%	0.18%	-
Telesol	Data usage (MB)	391,752,190	439,706,672	307,328,919	111,372,030	95,465,980
	Market share (%)	5.84%	6.48%	4.70%	2.39%	16.88%
Industry Total (MB)		**6,545,608,897**	**6,785,359,654**	**6,539,181,227**	**4,653,165,958**	**565,704,040**

Table 18: Internet Usage per BWA Subscriptions (MB)

BWA Operator	Q1 2022	Q2 2022	Q3 2022	Q4 2022	Q1 2023
Total Volume of	6,545,608,897	6,785,359,654	6,539,181,227	4,653,165,958	565,704,040
Average BWA	49,515	47,666	46,470	38,325	24,527
Data Usage per	**132,195.35**	**142,351.20**	**140,719.35**	**121,413.33**	**23,065**

Table 19: Fixed Network Voice Subscriptions and penetration

Fixed Operator	Q1 2022	Q2 2022	Q3 2022	Q4 2022	Q1 2023
Vodafone	312,981	299,897	321,260	326,579	329,068
	97.67%	97.53%	98.83%	98.96%	98.80%
AirtelTigo	3,088	2,566	2,658	2,247	2,698
	0.96%	0.83%	0.82%	0.68%	0.81%
MTN	4,391	5,020	1,141	1,190	1,291
	1.37%	1.63%	0.35%	0.36%	0.39%
Total industry subscription	320,460	307,483	325,059	330,016	333,057
Population	30,792,608	31,439,251	31,604,308	31,769,363	31,934,420
Fixed Network Penetration Rate (%)	**1.04%**	**0.98%**	**1.03%**	**1.04%**	**1.04%**

Table 20: Fixed Network Volume of Traffic in Minutes

Traffic	Q1 2022	Q2 2022	Q3 2022	Q4 2022	Q1 2023
On-Net Fixed voice traffic	-	-	-	-	-
Off-Net fixed voice traffic	9,765,791	9,065,187	9,031,430	8,798,173	8,726,139
Total Fixed Voice Traffic	**9,765,791**	**9,065,187**	**9,031,430**	**8,798,173**	**8,726,139**

Table 21: Fixed Network Minute of Use per Subscriptions

Fixed Network (MoU)	Q1 2022	Q2 2022	Q3 2022	Q4 2022	Q1 2023
Total Fixed Voice Traffic	9,765,791	9,065,187	9,031,430	8,798,173	8,726,139
Average Fixed Subscription	321,856	309,318	313,878	328,773	331,923
Minutes of Use per Subscription (MoU)	30.312	29.307	28.774	26.761	26.290
Growth Rate	**-0.67%**	**-3.32%**	**-1.82%**	**-7.00%**	**-1.76%**

Table 22: Fixed Broadband Data Subscriptions and Penetration

Fixed network	Q1 2022	Q2 2022	Q3 2022	Q4 2022	Q1 2023
Vodafone	69,163	69,758	72,547	75,078	77,000
	67.32%	71.18%	73.58%	72.93%	72.79%
Airtel	659	644	635	726	556
	0.64%	0.66%	0.64%	0.71%	0.53%
MTN	32,923	27,595	25,412	27,148	28,222
	32.04%	28.16%	25.77%	26.37%	26.68%
Total fixed data	102,745	97,997	98,594	102,952	105,778
Population	30,792,608	31,439,251	31,604,308	31,769,363	31,934,420
Fixed Data Penetration	**0.33%**	**0.31%**	**0.31%**	**0.32%**	**0.33%**

Table 23: Regional Distribution of FM Stations by Purpose as at the end of Q1 2023

Name of Regions	Public	Public (Foreign)	Community	Campus	Commercial
Ashanti	2	1	16	5	81
Bono	1	0	6	2	50
Bono East	2	0	4	0	24
Ahafo	0	0	2	0	14
Central	2	0	13	3	38
Eastern	2	0	16	1	35
Greater Accra	2	3	13	4	59
Northern	3	0	10	1	35
Savannah	3	0	4	0	7
North East	1	0	3	0	8
Upper East	2	0	10	3	20
Upper West	2	0	10	2	15
Volta	3	0	5	1	38
Oti	1	0	3	0	11
Western	2	1	8	2	73
Western North	3	0	0	0	23
Total	**31**	**5**	**123**	**24**	**531**

Table 24: Regional Distribution of FM Stations as at the end of Q1 2023

Name Of Regions	Authorized FM Stations	FM Stations In Operation
Ashanti	105	79
Bono	59	42
Bono East	30	26
Ahafo	16	9
Central	56	38
Eastern	54	49
Greater Accra	81	69
Northern	49	29
Savannah	14	8
North East	12	4
Upper East	35	23
Upper West	29	19
Volta	47	37
Oti	15	9
Western	86	58
Western North	26	18
Total	**714**	**517**

Table 25: Authorised TV Stations as at the end of Q1 2023

Type of Television Service	Authorised TV Stations		No. of TV Stations in Operation (Q1 2023)	No. of TV Stations not in Operation (Q1 2023)
	End of Q4 2022	End of Q1 2023		
Analogue Terrestrial Television	2	1	1	0
Digital Terrestrial Free-To-Air Television Programme Channel (Nationwide Coverage)	40	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	4	1
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	6	2
Satellite Television Broadcasting (Free-To-Air Direct-To-Home Single Channel)	81	86	58	28

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	**156**	**162**	**123**	**39**

Source: NCA, 2023

Disclaimer:

The National Communications Authority has been diligent to ensure the data in this bulletin are accurate. However, the Authority is not liable for inconsistencies, errors, and gaps in any data or information contained in this bulletin, which is dependent upon the various licensees data submissions to the Authority.

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

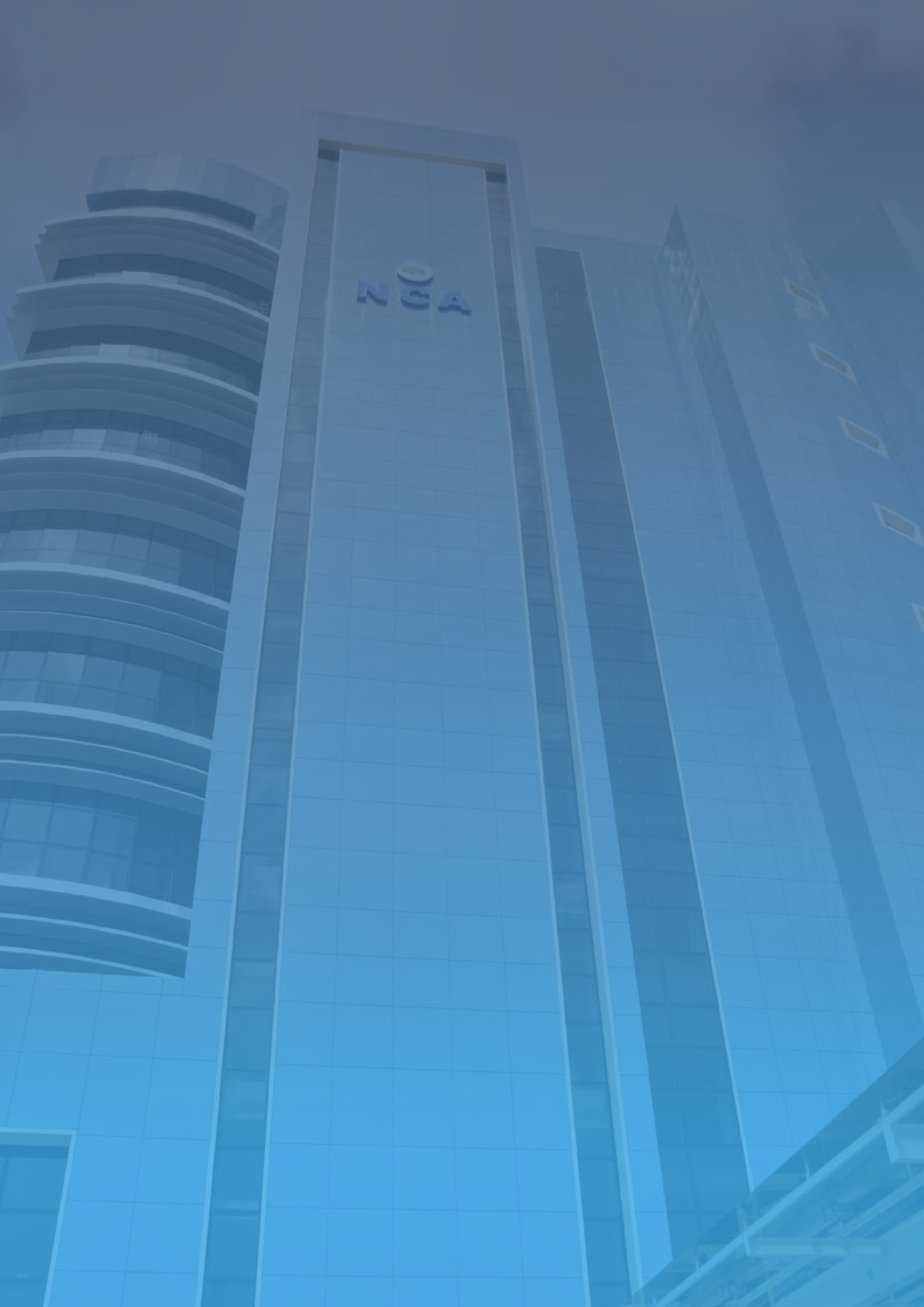
National Communications Authority,
House No 83, North Nkwabeng
P. O. Box SY125, Sunyani, Brong Ahafo Region
Tel: +233 (0) 3520 27564
E-Mail: complaints.sunyani@nca.org.gh

- ### 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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