QUARTERLY STATISTICAL BULLETIN ON COMMUNICATIONS IN GHANA

Volume 8 Issue 2

NATIONAL COMMUNICATIONS AUTHORITY

SECOND QUARTER

APRIL - JUNE, 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".

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[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

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	2	1
Television Stations	170	118
FM Stations	728	546

B1. Total Subscriptions

		QUARTER-ON-QUARTER			YEAR-ON-YEAR		
SUBSCRIPTION	UNITS	Q1 2023	Q2 2023	*Growth (%)*	Q2 2022	Q2 2023	*Growth (%)*
Mobile Voice Subscription	Million	38.41	34.15	*-11.08%*	40.99	34.15	*-16.68%*
Fixed Voice Subscription	Thousand	333.06	333.43	*0.11%*	307.48	333.43	*8.44%*
Mobile Data Subscription	Million	22.62	22.34	*-1.24%*	23.58	22.34	*-5.26%*
Fixed Data Subscription	Thousand	105.78	110.72	*4.67%*	98.00	110.72	*12.98%*
Broadband Wireless Access	Thousand	37.79	1.39[3]	*-96.32%*	47.98	1.39	*-97.10%*

B2. Voice, Data and SMS Traffic

		QUARTER-ON-QUARTER			YEAR-ON-YEAR		
TRAFFIC	UNITS	Q1 2023	Q2 2023	*Growth (%)*	Q2 2022	Q2 2023	*Growth (%)*
Mobile Voice Traffic (Domestic)	Billion minutes	24.43	23.56	*-3.55%*	26.42	23.56	*-10.82%*
Fixed Voice Traffic	Million minutes	8.73	8.24	*-5.61%*	9.07	8.24	*-9.15%*
Incoming International Traffic (Direct to Network Only)	Million minutes	51.62	50.01	*3.12%*	64.30	50.01	*-22.22%*
Outgoing International Traffic	Million minutes	71.48	66.13	*-7.48%*	79.79	66.13	*-17.12%*
Mobile Data Traffic (MB)	Billion MB	438.50	445.30	*1.55%*	339.65	445.30	*31.11%*
BWA Data Traffic (MB)	Billion MB	0.57	0.28	*-52.63%*	6.79	0.28	*-96.02%*
SMS Count	Million	767.54	896.03	*16.74%*	641.48	896.03	*39.68%*

[1] Glo did not submit report on all indicators for April. May. & June. 2023.
[3] The decimals may not be exact due to the rounding-off of the actual figures.
[3] Telesol is the only Broadband Wireless Access Operator that provided data during the quarter under review.

B3. Penetration Rate (%)

PENETRATION RATE (%)	QUARTER-ON-QUARTER			YEAR-ON-YEAR		
	Q1 2023	Q2 2023	*Growth (%)*	Q2 2022	Q2 2023	*Growth (%)*
Mobile Voice Subscription	120.27	106.40	*-11.53%*	130.37	106.40	*-18.39%*
Fixed Voice Subscription	1.04	1.04	*0.00%*	0.98	1.04	*6.12%*
Mobile Data Subscription	70.85	69.60	*-1.76%*	74.99	69.60	*-7.19%*
Fixed Data Subscription	0.33	0.34	*3.03%*	0.31	0.34	*9.68%*
Broadband Wireless Access	0.12	0.004	*-96.67%*	0.15	0.004	*-97.33%*

C1. Broadcasting Sector

FM/TV AUTHORISATION & OPERATIONS	QUARTER-ON-QUARTER			YEAR-ON-YEAR		
	Q1 2023	Q2 2023	*Growth (%)*	Q2 2022	Q2 2023	*Growth (%)*
FM Authorisation	714	728	*1.96%*	699	728	*4.15%*
FM Stations Operating	517	546	*5.61%*	507	546	*7.69%*
TV Authorisations	162	170	*4.94%*	152	170	*11.84%*
TV Stations Operating	123	118	*-4.07%*	112	118	*5.36%*

C2. Categories of Authorised FM Radio Stations

CATEGORIES OF FM RADIO STATIONS	QUARTER-ON-QUARTER			YEAR-ON-YEAR		
	Q1 2023	Q2 2023	*Growth (%)*	Q2 2022	Q2 2023	*Growth (%)*
Public	31	31	*0.00%*	31	31	*0.00%*
Public Foreign	5	5	*0.00%*	5	5	*0.00%*
Campus	24	25	*4.17%*	24	25	*4.17%*
Community	123	126	*2.44%*	117	126	*7.69%*
Commercial	531	541	*1.88%*	522	541	*3.64%*

1.0 MOBILE NETWORK

The National Communications Authority (NCA) has licensed four 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 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[4]

Mobile Voice subscriptions decreased from 38.41 million in Q1 2023 to 34.15 million at the end of Q2 2023, representing a decline in growth by 11.08%.

Year -on-year subscriptions also decreased from 40.99 million at the end of Q2 2022 to 34.15 million at the end of Q2 2023, recording a decrease of 16.68% growth rate.

The penetration rate as at the end of Q2 2023 was 106.40% as compared to 120.27% recorded in Q1 2023, indicating a decrease in growth rate by 11.53% (Figure 1) (Appendix, Table 1).

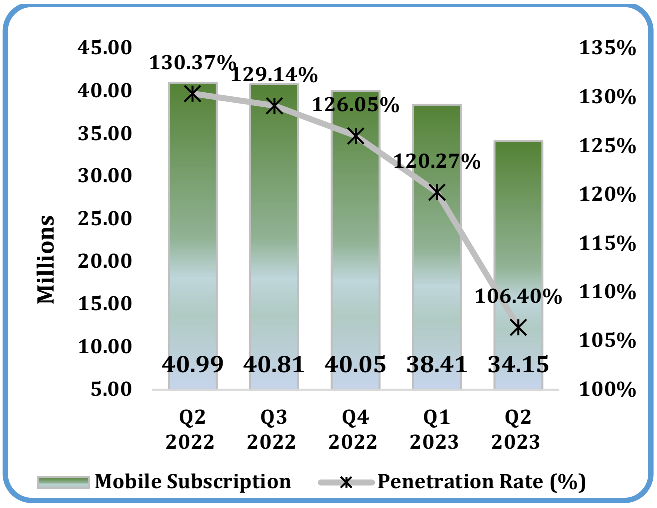


Figure 1: Mobile Voice Subscription and Penetration Rate

1.1.1 Mobile Voice Subscriptions and Market Share per Operator

At the end of Q2 2023, MTN recorded 73.68% of the market share with 25.16 million subscriptions. Vodafone followed with 6.19 million subscriptions (18.14%).

AT ended the quarter with a market share of 8.19% with a subscription base of 2.80 million.

(Figure 2) (Appendix, Table 2).

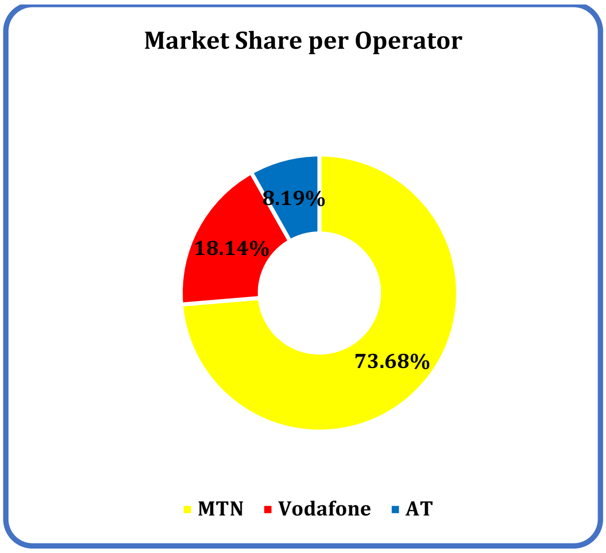


Figure 2: Market Share per Operator

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 66.72% to 73.68% in Q2 2023, representing a growth of 10.44%. Vodafone had a decline in growth by 1.57% from 18.43% in Q1 2023 to 18.14% in Q2 2023. AT's market share also decreased in percentage from 14.85% in Q1 2023 to 8.19% in Q2 2023 representing a negative growth of 44.88%.

[4] 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 subscriptions for prepaid subscribers was 33.67 million representing a market share of 98.58%.

Post-paid subscriptions at the end of the quarter under review was 0.49 million and a market share of 1.42%. (Figure 3) (Appendix, Table 3).

Mobile voice subscriptions for prepaid subscribers decreased from 37.93 million at the end of Q1 2023 to 33.67 million at the end of Q2 2023 representing a percentage decrease of 11.25%.

Mobile voice subscription for postpaid subscribers grew from 0.47 million in Q1 2023 to 0.49 million in Q2 2023 representing a percentage increase of 2.36%.

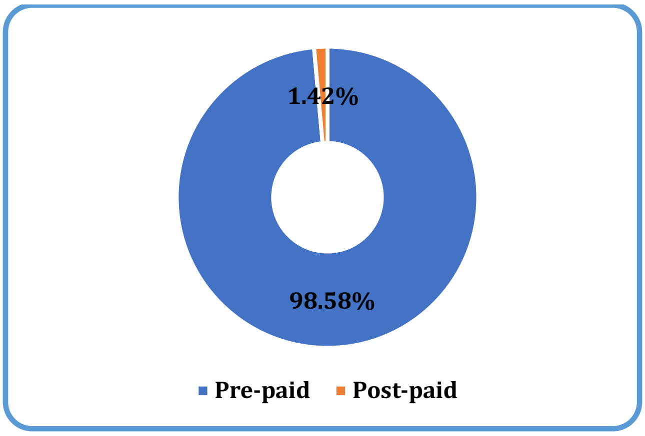


Figure 3: Prepaid and Postpaid Mobile Voice Subscriptions

1.2 Off-Net Domestic Voice Traffic

Mobile-to-Mobile Off-Net traffic decreased from 2.15 billion minutes at the end of Q1 2023 to 1.79 billion at the end of Q2 2023 representing a decrease in growth by 16.70%.

Year-on-Year Mobile-to-Mobile Off-Net traffic declined from 2.18 billion minutes at the end of Q2 2022 to 1.79 billion minutes at the end of Q2 2023, representing a decrease in growth by 17.55%.

Quarter-on-Quarter Mobile-to-Fixed Off-Net Traffic decreased from 12.08 million minutes in Q1 2023 to 11.68 million minutes at the end of Q2 2023 indicating a decrease in growth by 3.28%.

Year-on-Year Mobile-to-Fixed Off-Net traffic decreased by 7.70% from 12.65 million minutes at the end of Q2 2022 to 11.68 million minutes at the end of Q2 2023. (Figure 4) (Appendix, Table 4)

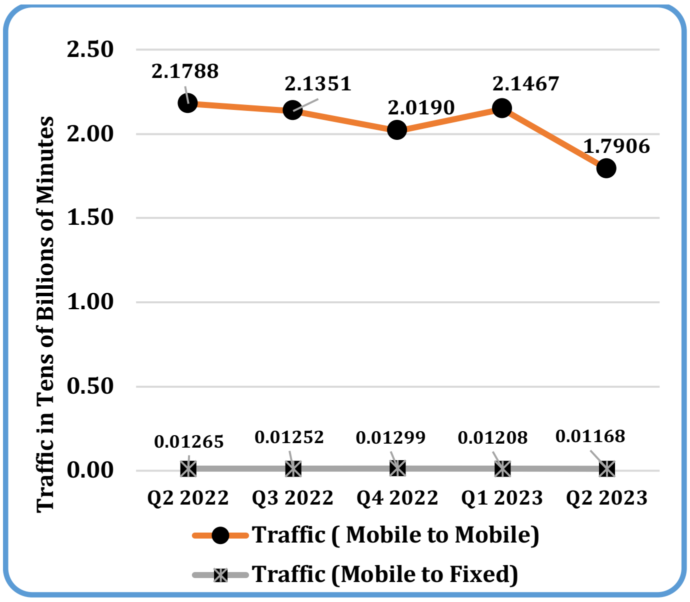


Figure 4: Off-Net Traffic Distribution between Mobile and Fixed Networks

1.2.1 Total Domestic Mobile Voice Traffic

Total domestic mobile voice traffic recorded a decrease from 24.43 billion minutes in Q1 2023 to 23.56 billion minutes in Q2 2023, representing a 3.55% decrease in growth.

Year-on-year mobile voice traffic dropped from 26.42 billion minutes at the end of Q2 2022 to 23.56 billion minutes at the end of Q2 2023, representing a decreased growth rate of 10.82%.

Off-Net traffic decreased from 2.16 billion minutes at the end of Q1 2023 to 1.80 billion minutes at the end of Q2 2023, giving a negative growth rate of 16.51%.

Year-on-year Off-Net traffic decreased from 2.19 billion minutes in Q2 2022 to 1.80 billion minutes at the end of Q2 2023 representing a 18.22% decline in growth.

On-Net traffic reduced from 22.27 billion minutes in the previous quarter to 21.76 billion minutes at the end of Q2 2023 representing a negative growth rate of 2.30% during the quarter under review.

Year-on-year On-Net traffic also declined from 24.22 billion minutes in Q2 2022 to 21.76 billion minutes at the end of Q2 2023 representing a 10.14% decrease in growth rate. (Figure 5) (Appendix, Table 5)

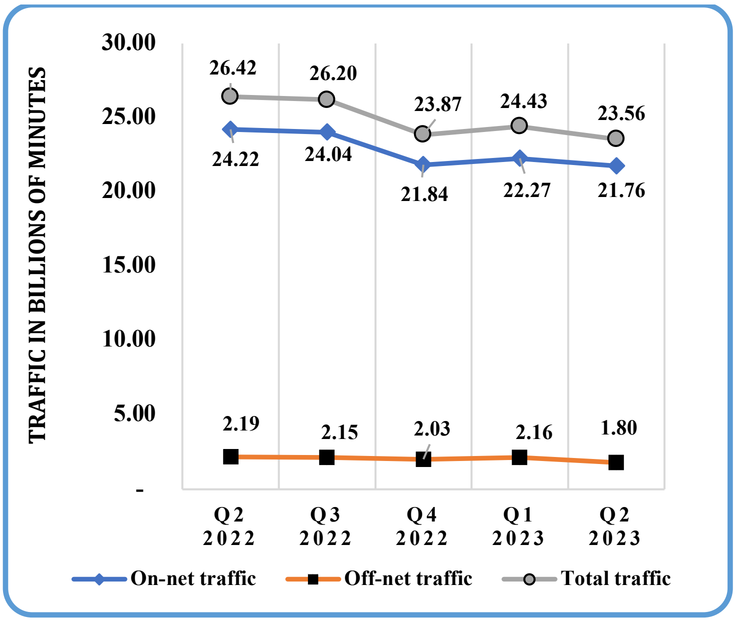


Figure 5: Total Domestic Mobile Voice Traffic in Billions of Minutes

1.2.2 Minutes of Use (MoU)

Quarter-on-quarter average minutes of use per subscription increased from 626.29 minutes in Q1 2023 to 684.38 minutes representing a 9.27% increase in growth rate in Q2 2023.

Year-on-year minutes of use per subscription also increased from 643.10 minutes in Q2 2022 to 684.38 minutes in Q2 2023, representing a 6.42% increase in growth (figure 6) (Appendix, Table 6).

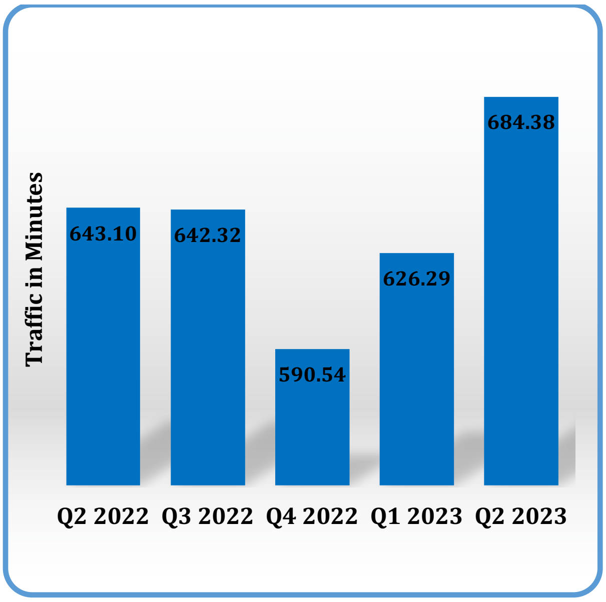


Figure 6: Mobile Voice Traffic Minutes of Use (MoU) per subscriptions

1.3 International Traffic

Inbound international traffic decreased from 51.62 million minutes in Q1 2023 to 50.01 million minutes in Q2 2023, representing a percentage decrease in growth rate by 3.11%.

Year-on-year inbound international traffic also declined from 64.30 million minutes in Q2 2022 to 50.01 million minutes in Q2 2023 with a decreased growth rate of 22.21%.

Quarter-on-quarter outbound International Traffic showed a 7.49% decline in growth from 71.48 million to 66.13 million in the quarter under review.

Year-on-year outbound International Traffic showed a 17.12% decline in growth from 79.79 million in Q2 2022 to 66.13million in Q2 2023. (Figure 7) (Appendix, Table 7)

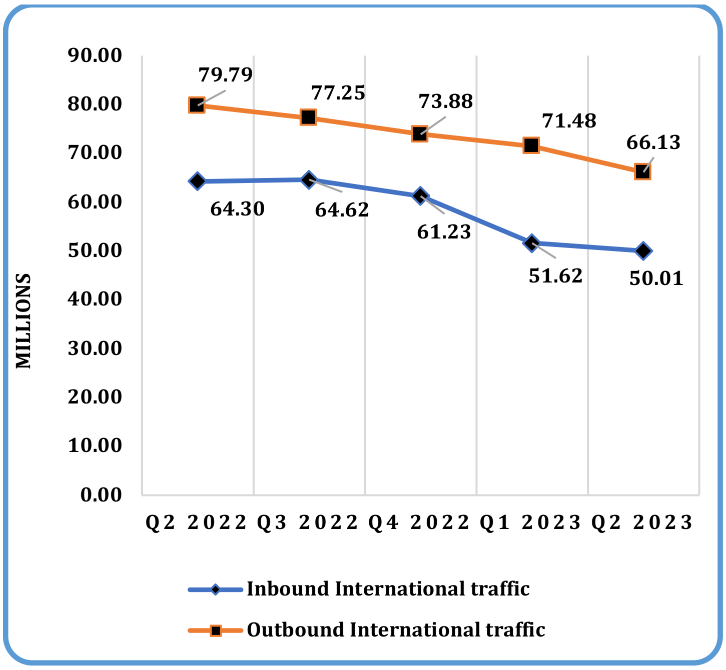


Figure 7: International Traffic in Millions of Minutes

1.3.1 Short Message Services (SMS)

The total number of short message service (SMS) sent at the end of Q2 2023 was 896.03 million as compared to 767.54 million in the preceding quarter, recording an increase of 16.74% in growth.

Year-on-year total SMS counts increased from 641.48 million in Q2 2022 to 896.03 million at the end of Q2 2023 representing a growth rate of 39.68% (figure 8) (Appendix, Table 8)

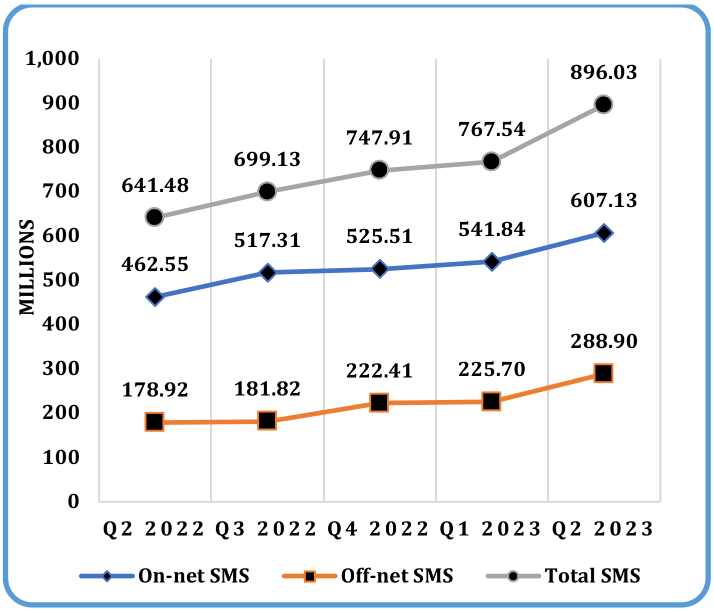


Figure 8: Total Number of SMS in Million

1.3.2 SMS Counts per Mobile Network Operator and Market Share

The volume of SMS traffic originating from MTN was 651.20 million at the end of Q2 2023; representing a market share of 72.68% of the total SMS counts.

The volume of SMS traffic from Vodafone was 231.32 million, representing a market share of 25.82% of the total SMS counts.

AT had an SMS count of 13.50 million, representing 1.51% of the market share of the total SMS counts. (Figure 9) (Appendix, Table 8).

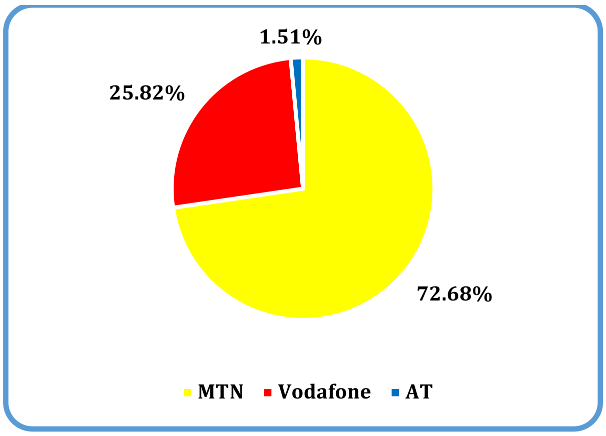


Figure 9: SMS Counts Market Share per Operator

1.3.3 SMS per Subscription

Quarter-on-quarter SMS sent per subscription at the end of Q2 2023 was 26.0 SMS, indicating a 32.26% increase in SMS per subscriptions as compared to the end of Q1 2023 (19.70). (Figure 10) (Appendix, Table 9).

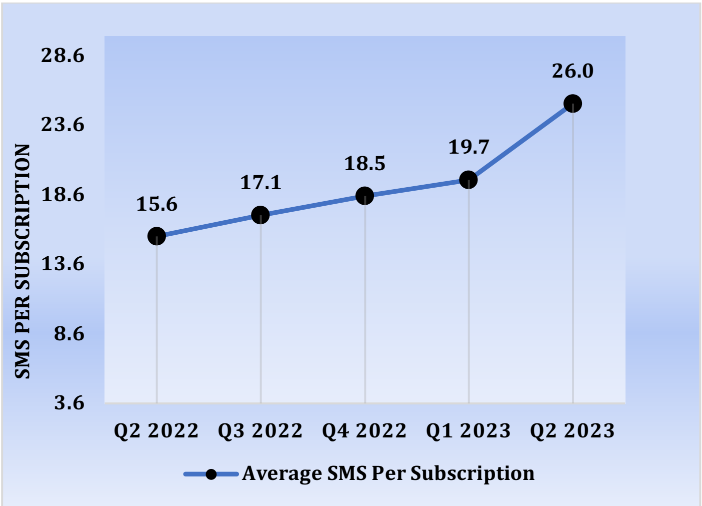


Figure 10: SMS per Subscription

1.4 Mobile Data Subscriptions and Penetration Rate (%)

Mobile data subscriptions decreased by 1.25% from 22.62 million at the end of Q1 2023 to 22.34 million at the end of Q2 2023.

Year-on-year subscriptions also decreased by 5.24% from 23.58 million at the end of Q2 2022 to 22.34 million at the end of Q2 2023. The penetration rate as at the end of the Q2 2023 was 69.60% (Figure 11) (Appendix, Table 10)

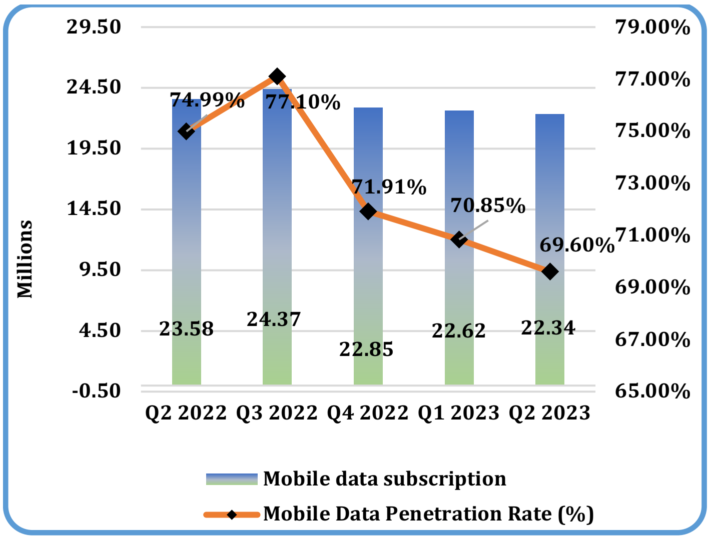


Figure 11: Mobile Data Subscriptions in Millions and Penetration Rate (%)

1.4.1 Mobile Data Prepaid and Postpaid Subscriptions and Market Share

Mobile data prepaid subscriptions decreased from 22.43 million at the end of Q1 2023 to 22.14 million subscriptions at the end of Q2 2023, representing a market share of 99.09% of the total mobile data subscriptions.

Mobile data postpaid subscriptions increased from 194,883 at the end of Q1 2023 to 202,700 at the end of Q2 2023 by 4.01%, representing a market share of 0.91% of the total mobile data subscriptions. (Figure: 12) (Appendix, Table 10).

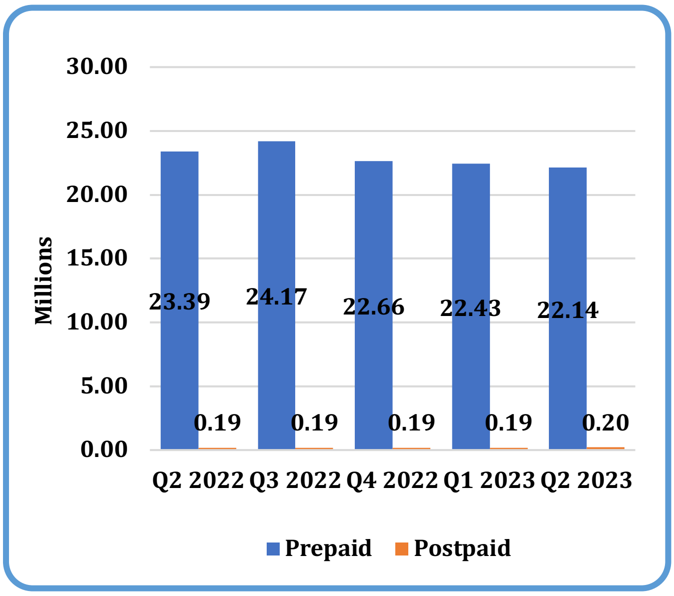


Figure 12: Mobile Data Pre-paid and Post-paid Subscriptions

1.4.2 Mobile Data Subscriptions per Mobile Network Operator and Market Share

MTN recorded 17.47 million subscriptions, which represents 78.19% of the market, while Vodafone recorded 3.12 million subscriptions with a 13.95% share of the market.

AT had 1.76 million in mobile data subscriptions with a 7.86% share of the market. (Figure13).

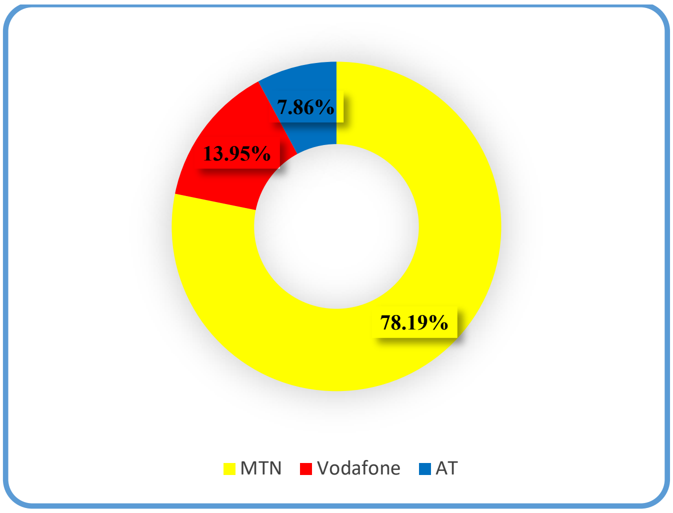


Figure 13: Mobile Data Market Share per Operator

1.5 Mobile Data Traffic in Billions of Megabytes (MB)

At the end of Q2 2023, internet traffic generated by the mobile network operators was 445.30 billion megabytes of data, recording an increase in growth by 1.55% as compared to 438.50 billion megabytes of data at the end of Q1 2023.

Year-on-year internet traffic increased from 339.65 billion megabytes at the end of Q2 2022 to 445.30 billion megabytes at the end of Q2 2023, representing an increase of 31.11% (Figure 14) (Appendix, Table 11).

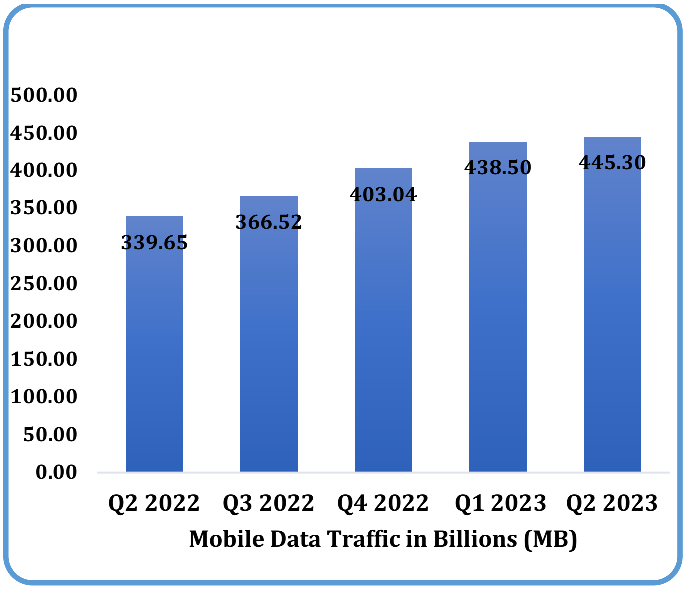


Figure 14: Mobile Data Traffic in Billions of Megabytes (MB)

1.5.1 Mobile Internet Usage per Subscription (MB) [5]

Mobile internet usage per subscription increased from 19,482.5MB at the end of Q1 2023 to 19,681.1MB at the end of Q2 2023 recording a growth of 1.02%.

Year-on- year mobile data usage per subscription increased from 14,378.9 MB at the end of Q2 2022 to 19,681.1MB at the end of Q2 2023, recording a growth of 36.88% (Figure 15) (Appendix, Table 12).

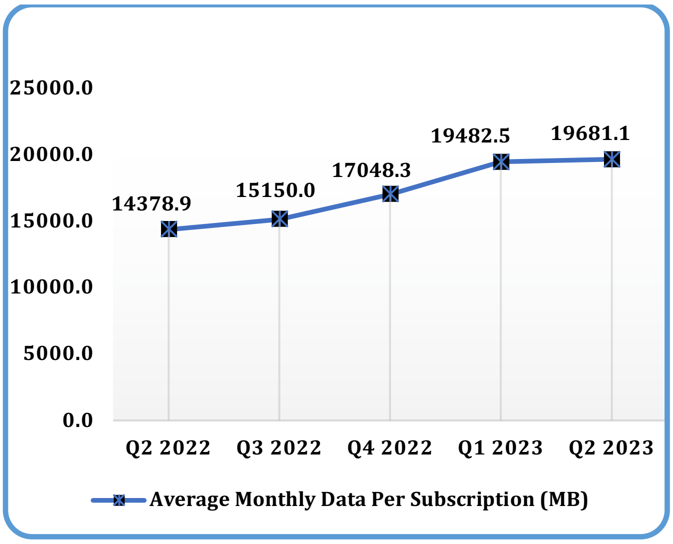


Figure 15: Mobile Data Usage per Subscription (MB*)*

1.5.2 Mobile Internet Traffic (MB) per Mobile Network Operator

MTN generated the highest volume of internet traffic, 358.38 billion megabytes with a market share of 80.48%.

Vodafone followed with a traffic of 65.60 billion megabytes with a market share of 14.73%.

AT also had 21.33 billion megabytes of data, recording a market share of 4.79%.

(Figure 16) (Appendix, Table 13)

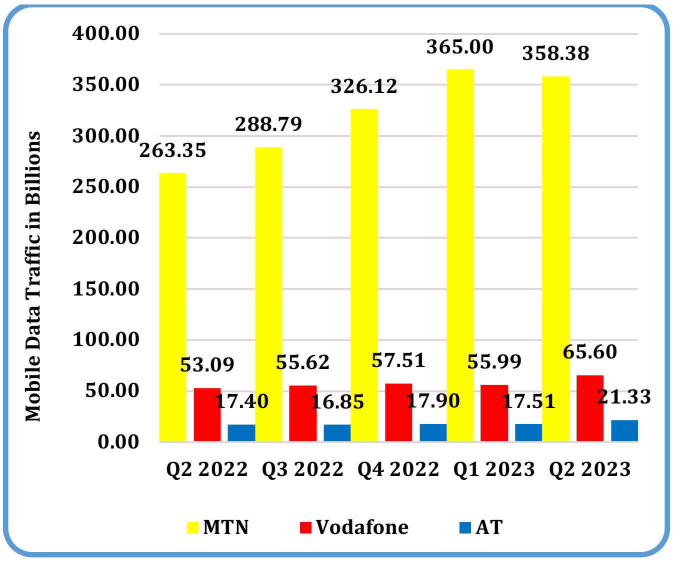


Figure 16: Mobile Internet Traffic (MB) per Operator

1.6 Mobile Telecommunications Service Tariffs

Quarter- on -quarter average tariffs for off net mobile voice was 0.13 pesewas at the end of Q2 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).

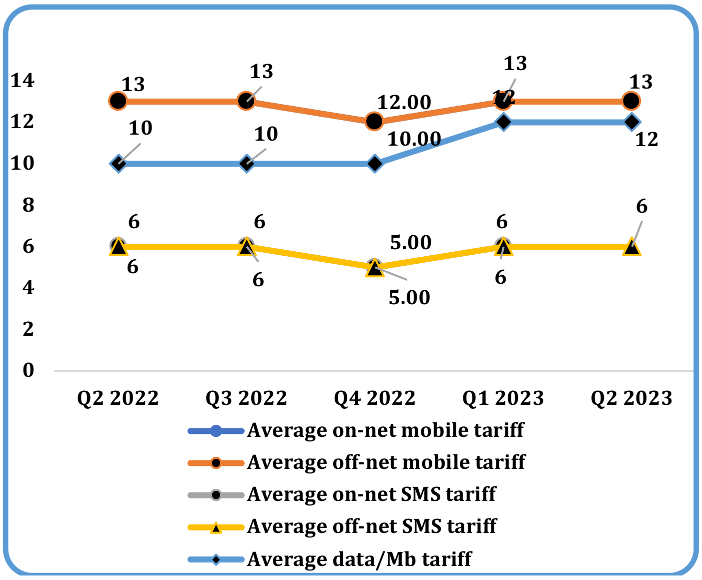


Figure 17: Average Mobile Tariffs per Service

5 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) licensed Broadband Wireless Access operators in Ghana namely BLU Telecommunications, Broadband Home (BBH), Busy Internet, Surfline and Telesol. As at Q2 2023, only Telesol is operational and submitted data for this report.

2.1 BWA Subscriptions and Penetration Rate

BWA subscriptions decreased from 37,785 in Q1 2023 to 1,390 in Q2 2023, representing a decline in growth by 96.32%.

Year-on-year subscriptions also declined by 97.10%, from 47,984 in Q2 2022 to 1,390 at the end Q2 2023.

Penetration rate for broadband wireless access was 0.004% at the end of Q2 2023. (Figure 18) (Appendix, Table 15).

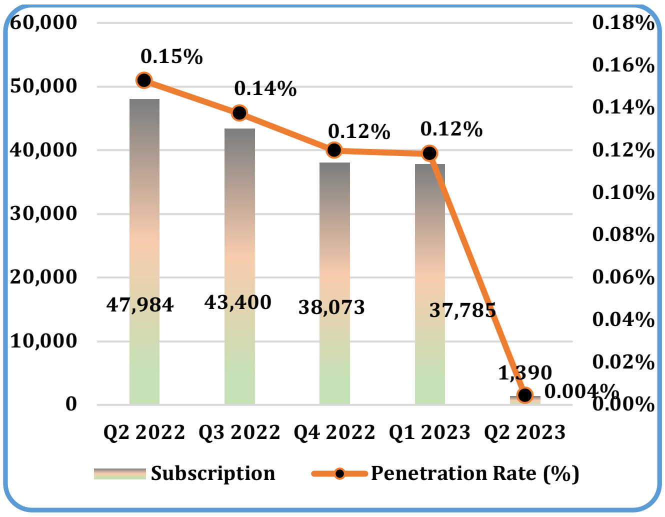


Figure 18: BWA Subscription and Penetration Rate

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 1,390 and a market share of 100.00%. (Figure 19) (Appendix, Table 16).

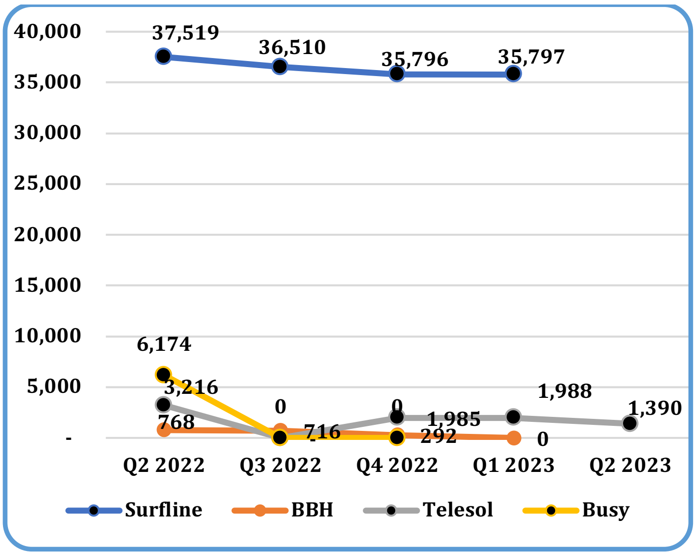


Figure 19: Subscriptions per Broadband Wireless Access (BWA) Operator

2.2 Broadband Wireless Access (BWA) Volume of Internet Traffic

The total volume of internet traffic generated by the BWAs decreased from 0.57 billion megabytes at the end of Q1 2023 to 0.28 billion megabytes at the end of Q2 2023, indicating a decline in growth by 51.62%.

Year-on-year internet traffic generated by the BWAs decrease from 6.79 billion megabytes at the end of Q2 2022 to 0.28 billion megabytes at the end of Q2 2023, representing a decline in growth by 95.96%. (Figure 20) (Appendix A, Table 17).

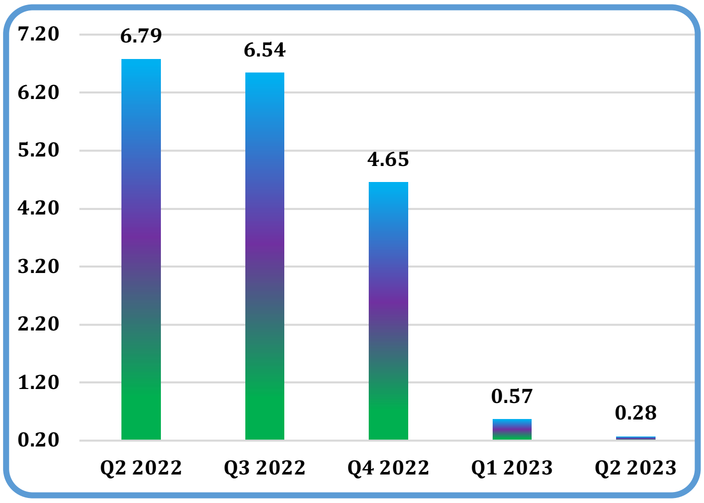


Figure 20: BWA Internet Traffic in Billions of Megabytes (MB)

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 0.28 billion MB with a market share of 100.00%.

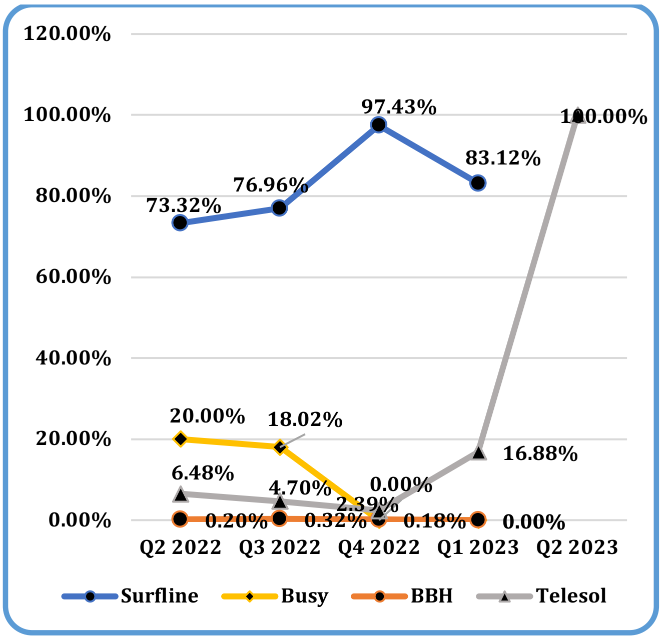


Figure 21: BWA Traffic Market Share per Operator (MB)

2.2.2 Internet Usage per BWA Subscription[6]

Internet usage per BWA subscription increased from 2.31 thousand megabytes in Q1 2023 to 16.62 thousand megabytes in Q2 2023.

Year-on-year internet usage per subscription also increased from 14.24 thousand megabytes in Q2 2022 to 16.62 thousand megabytes at the end of Q2 2023 (Figure 22) (Appendix, Table 18).

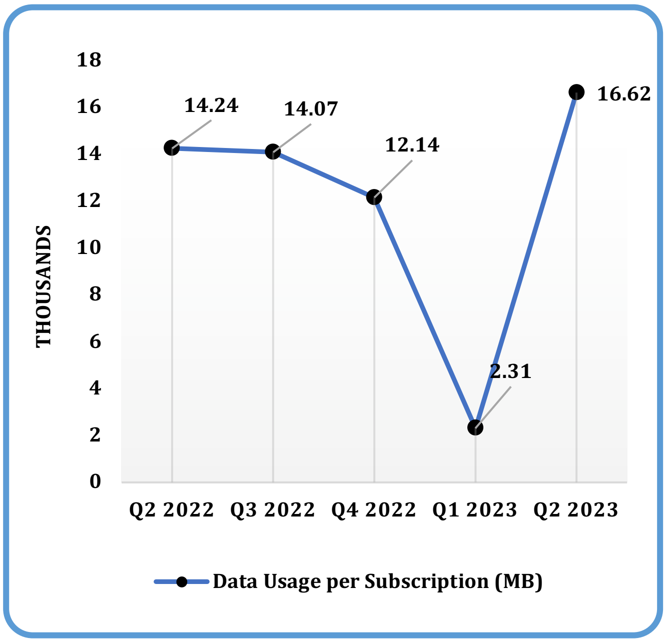


Figure 22: Average Internet Usage per BWA Subscription

6BWA 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 increased from 333,057 in Q1 2023 to 333,426 at the end of Q2 2023. This shows a penetration rate of 1.04% and a 0.11% growth rate.

Year-on-year subscription increased from 307,483 in Q2 2022 to 333,426 at the end of Q2 2023, representing a growth rate of 8.44% (Figure 23) (Appendix, Table 19).

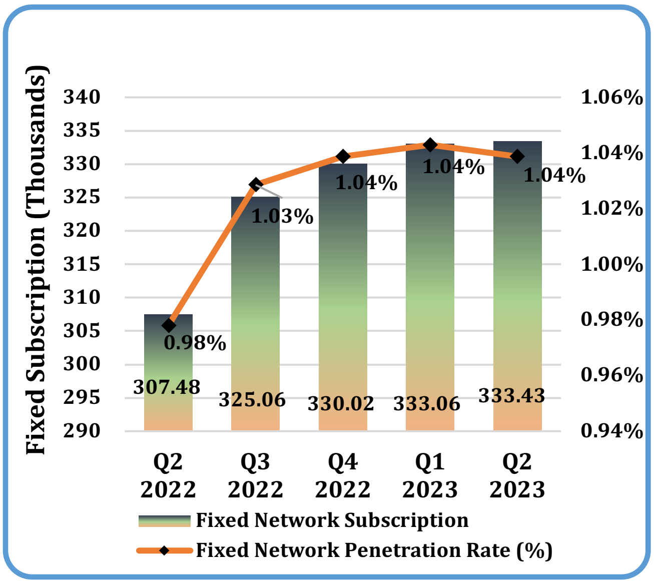


Figure 23: Fixed Network Voice Subscription and Penetration Rate

3.2 Fixed Voice Traffic

Total fixed voice traffic decreased by 5.26% from 8.73 million minutes in Q1 2023 to 8.24 million minutes in Q2 2023.

Year-on-year total fixed voice traffic also decreased by 9.15%, from 9.07 million minutes in Q2 2022 to 8.24 million minutes in Q2 2023. (Figure 24) (Appendix, Table 20).

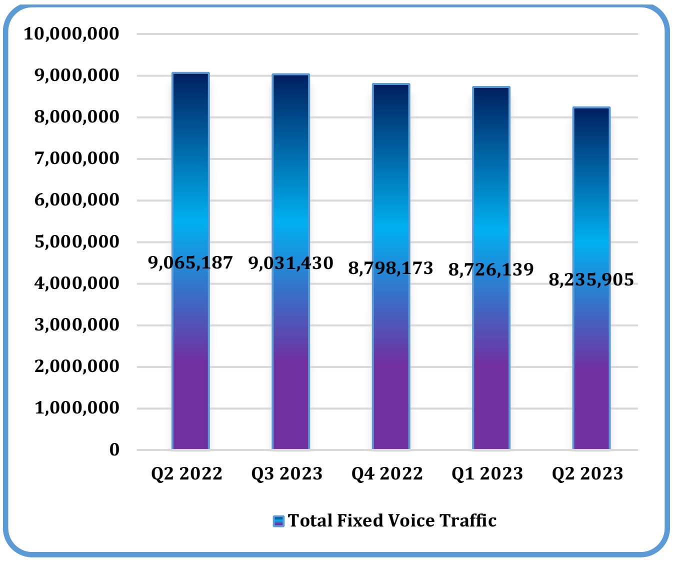


Figure 24: Total Fixed Voice Traffic

3.3 Fixed Voice Minute of Use[7]

Fixed voice traffic per subscription decreased by 5.91% from 26.29 minutes in Q1 2023 to 24.74 minutes at the end of Q2 2023.

Year-on-year minutes of use per subscription decreased by 15.60% from 29.31 minutes in Q2 2022 to 24.74 minutes at the end of Q2 2023 (Figure 25) (Appendix A, Table 21).

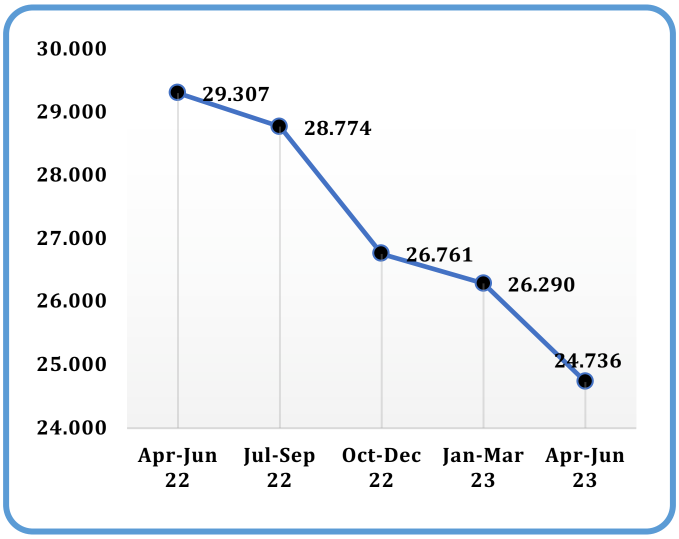


Figure 25: Fixed Network Minute of Use

7 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 105,778 in the previous quarter to 110,723 in the quarter under review, which represents a growth rate of 4.67%.

Year-on-year fixed data subscriptions increased from 97,997 in the preceding year to 110,723 at the end of Q2 2023 representing a growth rate of 12.98%.

Fixed data penetration rate at the end of Q2 2023 was 0.34%. (Figure 26) (Appendix, Table 22).

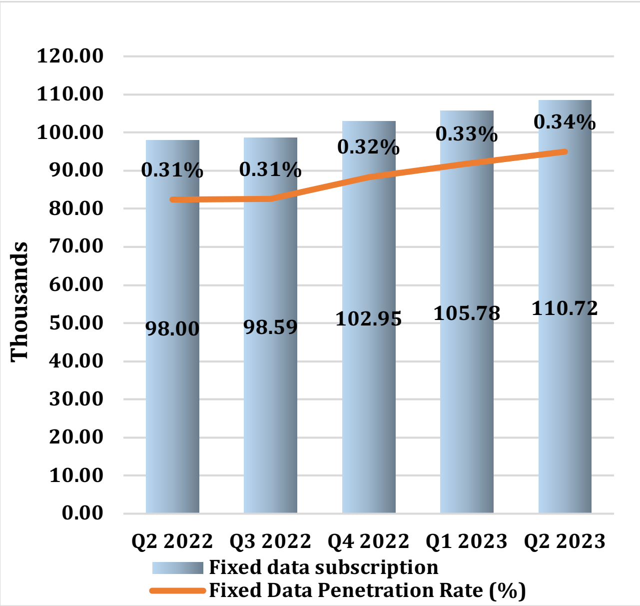


Figure 26: Fixed Data Subscriptions and Penetration

3.5 Fixed Data Subscriptions per Fixed Network Operator

Vodafone's subscriptions at the end of Q2 2023 was 78,170 representing 70.60% of the market share as against 77,000 in Q1 2023.

MTN's subscriptions at the end of Q2 2023 was 32,123 representing 27.53% of the market share as compared to 28,222 in Q1 2023.

AT recorded 430 subscriptions at the end of Q2 2023 with a market share of 0.39% as compared to 556 in the previous quarter. (Figure 27) (Appendix, Table 22).

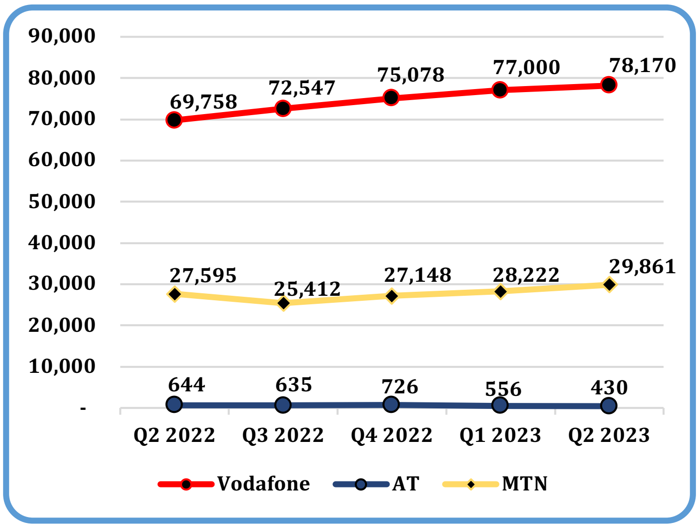


Figure 27: Fixed Data Subscription per Operator

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 Q2 2023 was 728 with 546 in operation as at the end of Q2 2023.

The Ashanti Region had the highest number of FM stations (106), representing 14.56% 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 1.65% of the total authorised FM Stations in the country. (Figure 28) (Appendix A, Table 24).

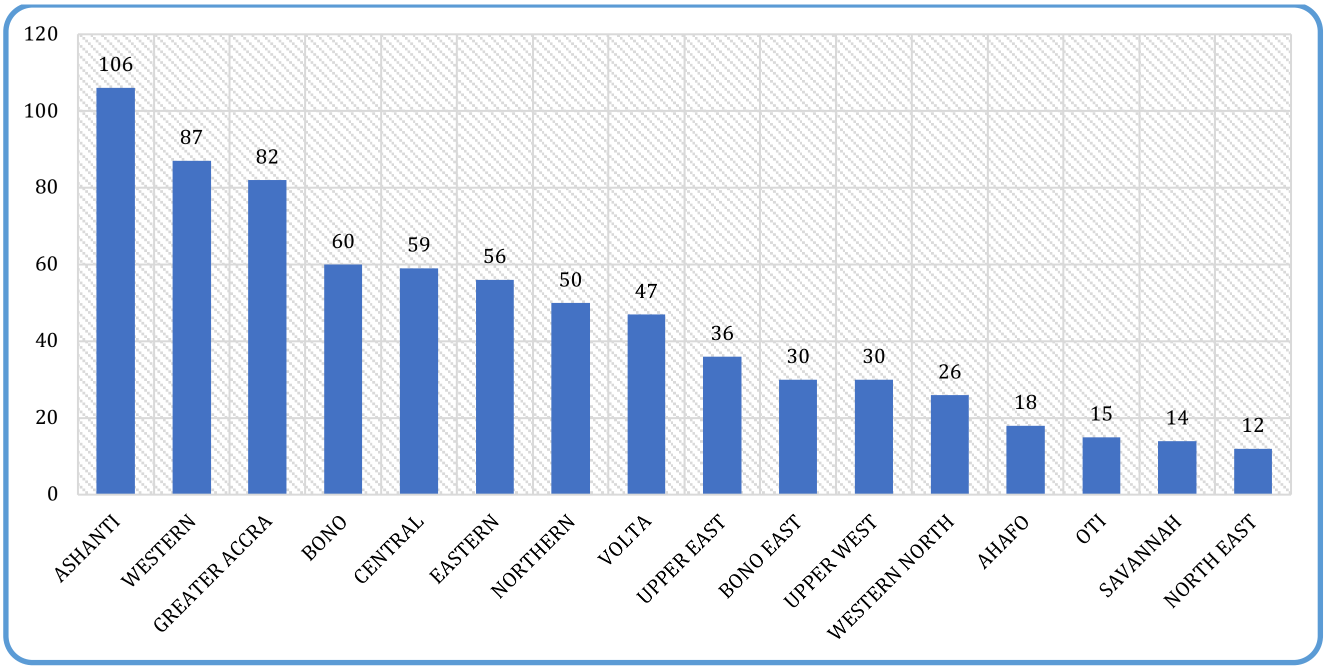


Figure 28: Regional distribution of authorised FM stations as at end of Q2 2023

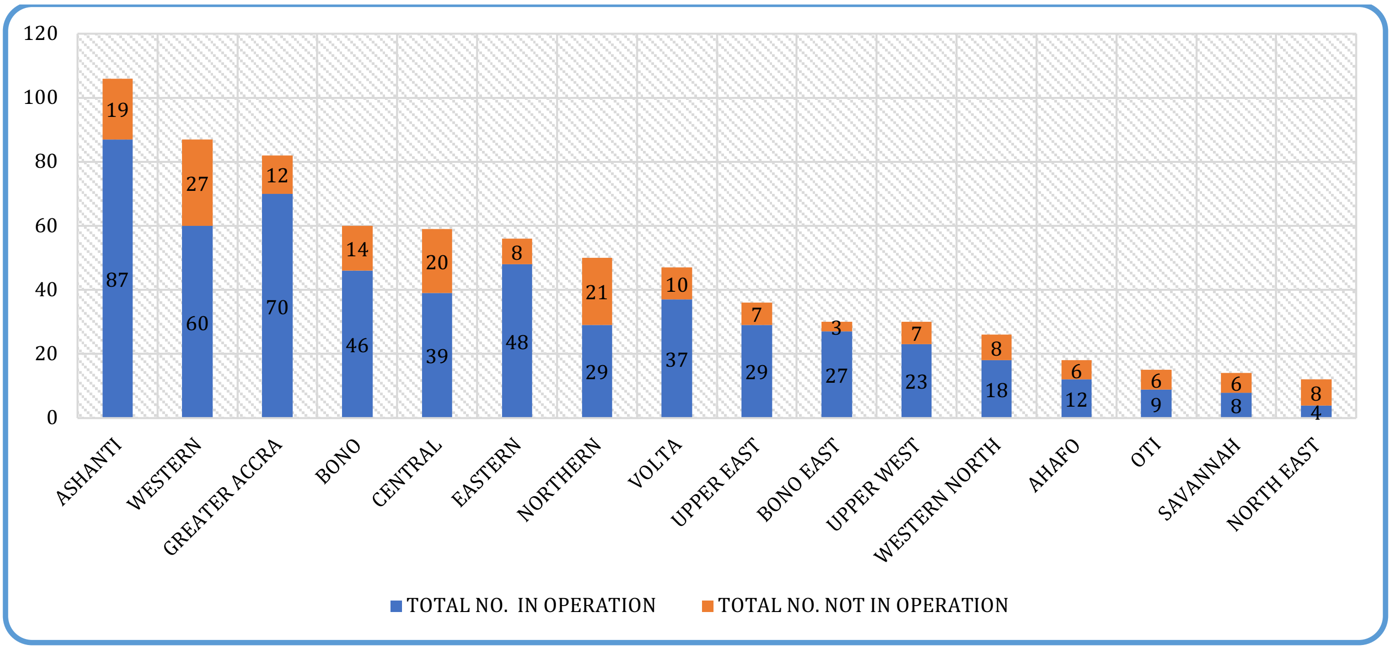


Figure 29: Regional distribution of On-air and Off-air FM stations as at end of Q2 2023

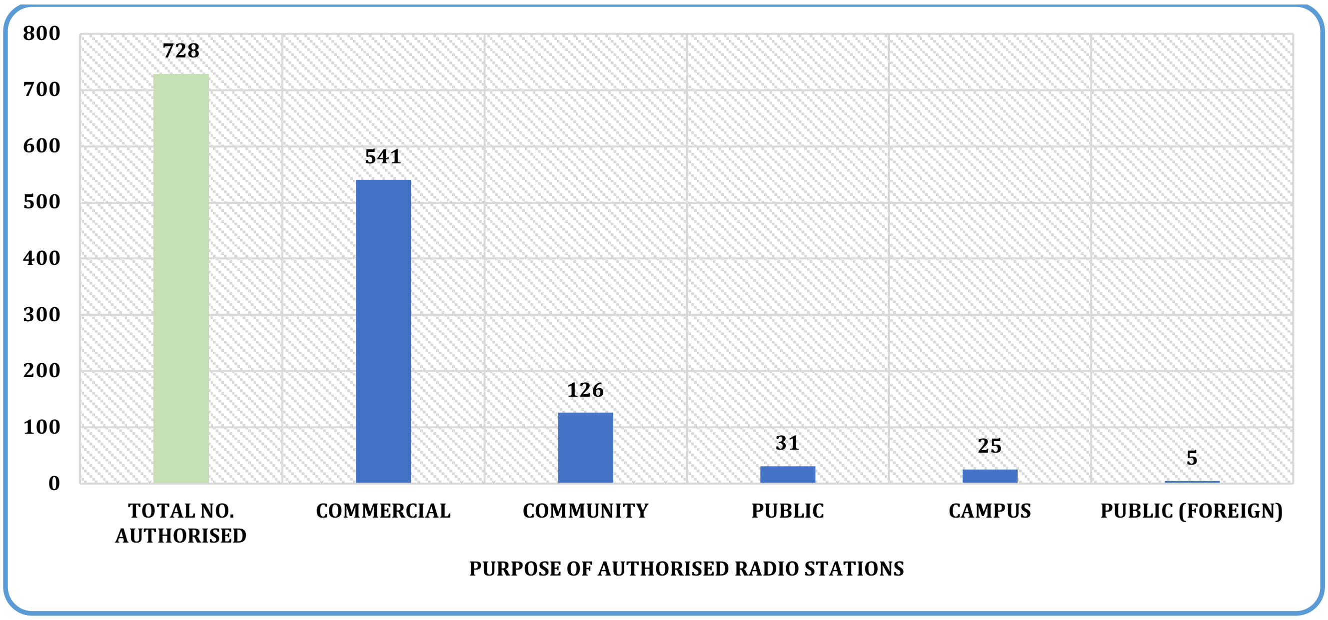


Figure 30: Purpose of Authorised Radio Stations as at Q2 2023

4.2 Authorised Television Stations

The total number of authorised TV stations in Ghana at the end of Q2 2023 was 170 out of which 118 were operational during the quarter under review, representing 69.82% of the total number of authorised TV stations in the country (Figure 32) (Appendix A, Table 25).

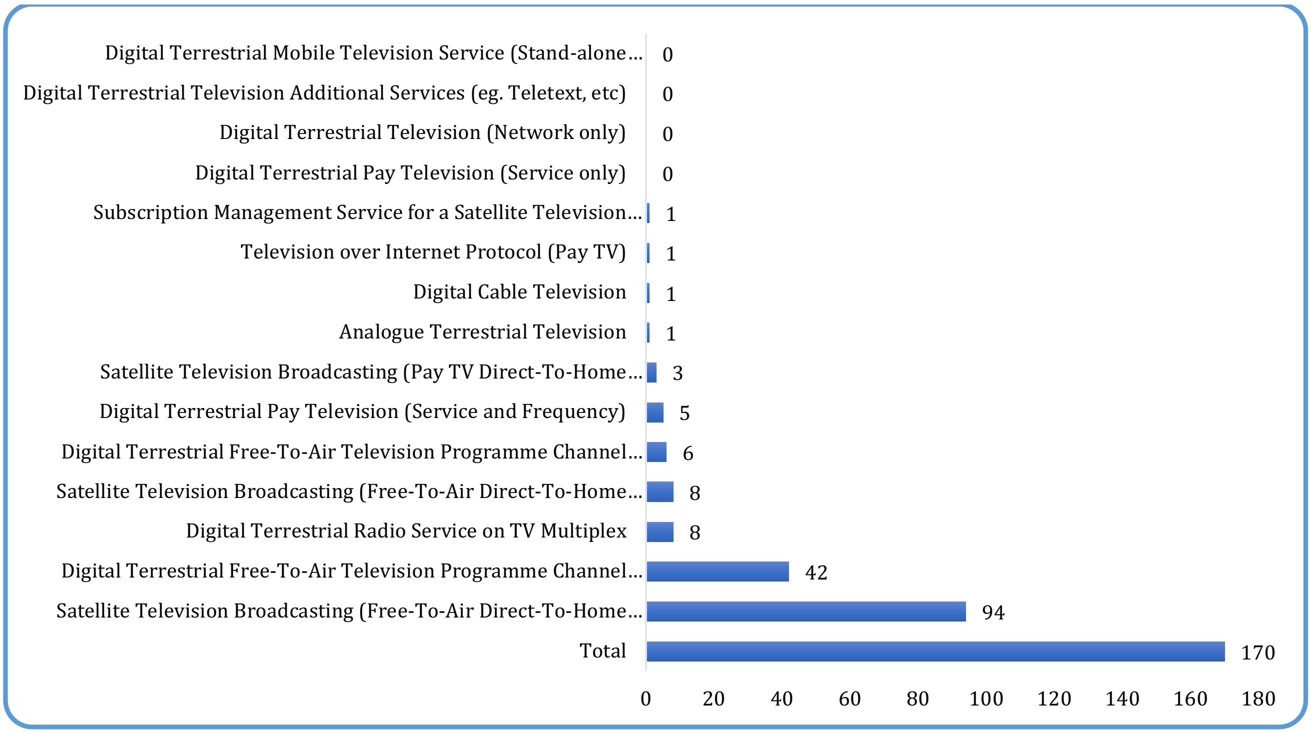


Figure 31: Authorised TV Stations as at Q2 2023

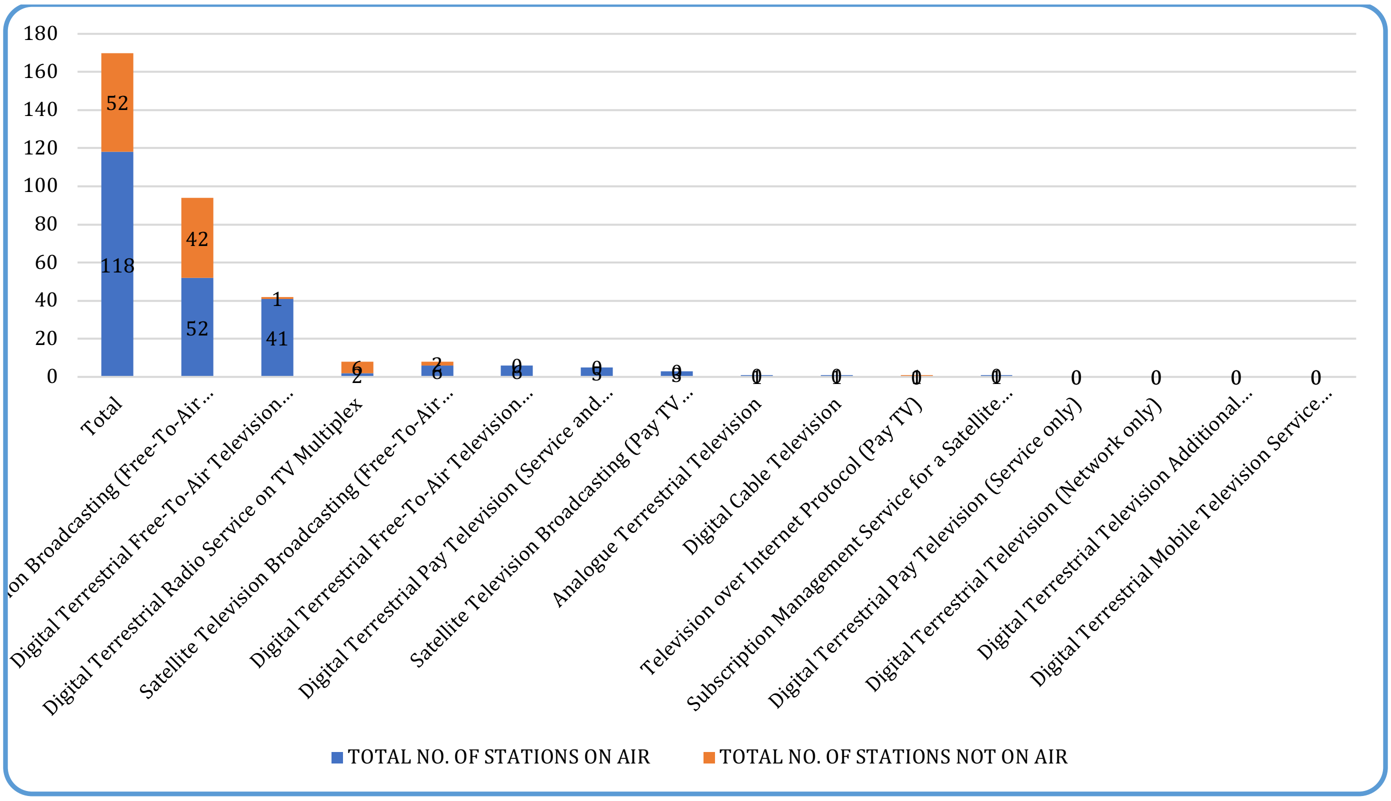


Figure 32: Distribution of Types of TV Services (On-Air and Off-Air TV Stations) as at end of Q2 2023

Appendix A (List of Tables)

Table 1: Mobile Voice Subscriptions and Penetration Rate

Subscription	Q2 2022	Q3 2022	Q4 2022	Q1 2023	Q2 2023
Mobile Subscription	40,988,879	40,813,018	40,045,308	38,408,481	34,153,684
Mobile Subscription Growth Rate (%)	-1.19%	-0.43%	-1.88%	-4.09%	-11.08%
Net additions	-492,888	-175,861	-767,710	-1,636,827	-4,254,797
Population	31,439,251	31,604,308	31,769,363	31,934,420	32,099,477
Penetration Rate (%)	**130.37%**	**129.14%**	**126.05%**	**120.27%**	**106.40%**

Table 2: Mobile Voice Subscriptions and Market Share per Operator

Mobile Network Operator		Q2 2022	Q3 2022	Q4 2022	Q1 2023	Q2 2023
MTN	Subscriptions	25,848,409	26,689,330	26,613,845	25,625,097	25,164,189
	Market Share (%)	63.06%	65.39%	66.46%	66.72%	73.68%
Vodafone	Subscriptions	7,323,652	7,457,708	7,537,400	7,080,107	6,193,870
	Market Share (%)	17.87%	18.27%	18.82%	18.43%	18.14%
AT	Subscriptions	6,826,853	6,312,864	5,585,510	5,703,277	2,795,625
	Market Share (%)	16.66%	15.47%	13.95%	14.85%	8.19%
Glo	Subscriptions	989,965	353,116	308,553	-	-
	Market Share (%)	2.42%	0.87%	0.77%	-	-
Total Industry Subscription		**40,988,879**	**40,813,018**	**40,045,308**	**38,408,481**	**34,153,684**

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

Subscription	Q2 2022	Q3 2022	Q4 2022	Q1 2023	Q2 2023
Prepaid	40,543,100	40,377,746	39,617,681	37,933,736	33,667,743
Market Share	98.91%	98.93%	98.93%	98.76%	98.58%
Post-paid	445,779	435,272	427,627	474,745	485,941
Market Share	1.09%	1.07%	1.07%	1.24%	1.42%
Total mobile subscription	**40,988,879**	**40,813,018**	**40,045,308**	**38,408,481**	**34,153,684**

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

Breakdown of Off-Net Traffic	Q2 2022	Q3 2022	Q4 2022	Q1 2023	Q2 2023
Traffic (Mobile to Mobile)	2,178,811,683	2,135,102,224	2,019,023,010	2,146,689,405	1,790,607,442
Share (%)	99.42%	99.42%	99.36%	99.44%	99.35%
Growth (%)	-0.69%	-1.55%	-5.44%	6.32%	-16.70%
Traffic (Mobile to Fixed)	12,654,883	12,524,403	12,990,823	12,077,085	11,680,545
Share (%)	0.58%	0.58%	0.64%	0.56%	0.65%
Growth (%)	2.68%	-1.03%	3.72%	-7.03%	-3.28%
Total Off-Net Traffic	**2,191,466,566**	**2,147,626,627**	**2,032,013,833**	**2,158,766,489**	**1,802,287,986**

Table 5: Total Domestic Mobile Voice Traffic in Minutes

Traffic	Q2 2022	Q3 2022	Q4 2022	Q1 2023	Q2 2023
Traffic (Off-Net)	2,191,466,566	2,147,626,627	2,032,013,833	2,158,766,489	1,802,287,986
Share (%)	8.30%	8.20%	8.51%	8.84%	7.65%
Growth (%)	-1.92%	-2.55%	-5.38%	6.24%	-16.51%
Traffic (On-Net)	24,215,251,832	24,043,275,209	21,841,970,013	22,270,082,599	21,758,954,499
Share (%)	91.70%	91.80%	91.49%	91.16%	92.35%
Growth (%)	2.42%	-0.71%	-9.16%	1.96%	-2.30%
Total traffic	**26,419,138,394**	**26,190,905,107**	**23,873,983,846**	**24,428,849,088**	**23,561,242,485**

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

Traffic	Q2 2022	Q3 2022	Q4 2022	Q1 2023	Q2 2023
Total mobile voice traffic	26,419,138,394	26,190,905,107	23,873,983,846	24,428,849,088	23,561,242,485
Average Mobile voice subscription	41,080,956	40,775,738	40,427,086	39,005,398	34,427,232
Minutes of Use (MoU) per Subscription	643.10	642.32	590.54	626.29	684,38
MoU growth rate (%)	**2.31%**	**-0.12%**	**-8.06%**	**6.05%**	**9.27%**

Table 7: International Traffic

Traffic	Q2 2022	Q3 2022	Q4 2022	Q1 2023	Q2 2023
Incoming International Traffic	64,296,540	64,615,058	61,233,303	51,619,868	50,014,259
Growth (%)	10.48%	0.50%	-5.23%	-15.70%	-3.11%
Outgoing International Traffic	79,794,526	77,253,782	73,877,581	71,482,592	66,131,091
Growth (%)	**-9.55%**	**-3.18%**	**-4.37%**	**-3.24%**	**-7.49%**

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

Mobile Operators	Q2 2022	Q3 2022	Q4 2022	Q1 2023	Q2 2023
Off-Net					
MTN	70,917,153	78,335,284	92,778,474	105,533,537	122,133,162
Vodafone	94,748,489	93,371,708	117,962,480	108,226,057	155,082,502
AT	11,557,613	9,232,475	11,403,412	11,939,120	11,681,651
Glo	1,700,940	879,715	262,563	-	-
Total	**178,924,195**	**181,819,182**	**222,406,929**	**225,698,714**	**288,897,315**
On- net					
MTN	392,514,195	442,680,314	454,222,145	476,222,794	529,070,256
Vodafone	68,192,778	72,975,081	69,500,826	64,166,409	76,241,869
AT	1,656,882	1,425,920	1,714,490	1,450,072	1,815,605
Glo	188,593	227,807	68,354	-	-
Total	**462,552,448**	**517,309,122**	**525,505,815**	**541,839,275**	**607,127,730**
Total					
MTN	463,431,348	521,015,598	547,000,619	581,756,331	651,203,418
Vodafone	162,941,267	166,346,789	187,463,306	172,392,466	231,324,371
AT	13,214,495	10,658,395	13,117,902	13,389,192	13,497,256
Glo	1,889,533	1,107,522	330,917	-	-
Total	**641,476,643**	**699,128,304**	**747,912,744**	**767,537,989**	**896,025,045**

Table 9: Average SMS per Subscription

	Q2 2022	Q3 2022	Q4 2022	Q1 2023	Q2 2023
Total SMS	641,476,643	699,128,304	747,912,744	767,537,989	896,025,045
Average Mobile Subscription	41,080,956	40,775,738	40,427,086	39,005,398	34,427,232
SMS per Subscription	**15.6**	**17.1**	**18.5**	**19.7**	**26.0**

Table 10: Mobile Data Subscriptions (Prepaid/Postpaid)

Mobile Data Subscriptions		Q2 2022	Q3 2022	Q4 2022	Q1 2023	Q2 2023
Prepaid	Subscriptions	23,388,524	24,174,770	22,657,917	22,430,107	22,138,314
	Market Share %)	99.20%	99.21%	99.18%	99.14%	99.09%
Post-paid	Subscriptions	189,077	193,192	188,331	194,883	202,700
	Market Share %)	0.80%	0.79%	0.82%	0.86%	0.91%
Total mobile data subscriptions		**23,577,601**	**24,367,962**	**22,846,248**	**22,624,990**	**22,341,014**

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

Mobile Operator	Q2 2022	Q3 2022	Q4 2022	Q1 2023	Q2 2023
Total Mobile data usage (MB)	339,648,306,422	366,524,897,339	401,527,017,627	438,500,459,143	445,300,910,914

Table 12: Mobile Internet Usage per Subscription (MB)

Mobile Operator	Q2 2022	Q3 2022	Q4 2022	Q1 2023	Q2 2023
Total Mobile data usage (MB)	339,648,306,422	366,524,897,339	403,042,380,881	438,500,459,143	445,300,910,914
Average Data Subscription	23,621,298	24,193,140	23,641,217	22,507,381	22,625,759
Data Usage per Subscription (MB)	**14378.9**	**15150.0**	**17048.3**	**19482.5**	**19681.1**

Table 13: Mobile Data Traffic (MB) per Operator

Mobile Operator	Q2 2022	Q3 2022	Q4 2022	Q1 2023	Q2 2023
MTN	263,350,389,862	288,793,194,188	326,118,124,526	365,001,280,155	358,375,826,693
	77.54%	78.79%	80.91%	83.24%	80.48%
Vodafone	53,086,746,466	55,623,494,664	57,510,398,564	55,991,841,389	65,598,080,560
	15.63%	15.18%	14.27%	12.77%	14.73%
AT	17,403,073,281	16,851,920,062	17,898,494,537	17,507,337,599	21,327,003,662
	5.12%	4.60%	4.44%	3.99%	4.79%
Glo	5,808,096,813	5,256,288,425	1,515,363,255	-	-
	1.71%	1.43%	0.38%	-	-
Total Industry Traffic (MB)	**339,648,306,422**	**366,524,897,339**	**403,042,380,881**	**438,500,459,143**	**445,300,910,914**

Table 14: Average Mobile Tariff per Service (GHp)

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

Table 15: BWA Data Subscriptions and Penetration

BWA Operator	Q2 2022	Q3 2022	Q4 2022	Q1 2023	Q2 2023
Subscription	47,984	43,400	38,073	37,785	1,390
Growth rate (%)	-1.88%	-9.55%	-12.27%	-0.76%	-96.32%
Net Additions	-917	-4,584	-5,327	-288	-36395
Population	31,439,251	31,604,308	31,769,363	31,934,420	32,099,477
Penetration Rate (%)	**0.15%**	**0.14%**	**0.12%**	**0.12%**	**0.004%**

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

BWA Operator	Subscription and Market Share	Q2 2022	Q3 2022	Q4 2022	Q1 2023	Q2 2023
Surfline	Subscription	37,519	36,510	35,796	35,797	-
	Market share (%)	78.19%	84.12%	94.02%	94.74%	-
Busy	Subscription	6,481	6,174	-	-	-
	Market share (%)	13.51%	14.23%	-	-	-
Telesol	Subscription	3,216	-	1,985	1,988	1,390
	Market share (%)	6.70%	-	5.21%	5.26%	100.00%
BBH	Subscription	768	716	292	-	-
	Market share (%)	1.60%	1.65%	0.77%	-	-
Industry Total		**47,984**	**43,400**	**38,073**	**37,785**	**1,390**

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

BWA Operator		Q2 2022	Q3 2022	Q4 2022	Q1 2023	Q2 2023
Surfline	Data usage (MB)	4,975,295,210	5,032,423,490	4,533,551,472	470,238,060	-
	Market share (%)	73.32%	76.96%	97.43%	83.12%	-
Busy	Data usage (MB)	1,357,054,445	1,178,623,480	-	-	-
	Market share (%)	20.00%	18.02%	-	-	-
BBH	Data usage (MB)	13,303,327	20,805,337	8,242,456	-	-
	Market share (%)	0.20%	0.32%	0.18%	-	-
Telesol	Data usage (MB)	439,706,672	307,328,919	111,372,030	95,465,980	278,627,810
	Market share (%)	6.48%	4.70%	2.39%	16.88%	100.00%
Industry Total (MB)		**6,785,359,654**	**6,539,181,227**	**4,653,165,958**	**565,704,040**	**278,627,810**

Table 18: Internet Usage per BWA Subscriptions (MB)

BWA Operator	Q2 2022	Q3 2022	Q4 2022	Q1 2023	Q2 2023
Total Volume of	6,785,359,654	6,539,181,227	4,653,165,958	565,704,040	278,627,810
Average BWA	47,666	46,470	38,325	24,527	1,647
Data Usage per	**142,351**	**140,719**	**121,413**	**23,065**	**166,164**

Table 19: Fixed Network Voice Subscriptions and penetration

Fixed Operator	Q2 2022	Q3 2022	Q4 2022	Q1 2023	Q2 2023
Vodafone	299,897	321,260	326,579	329,068	331,080
	97.53%	98.83%	98.96%	98.80%	99.30%
AT	2,566	2,658	2,247	2,698	1,092
	0.83%	0.82%	0.68%	0.81%	0.33%
MTN	5,020	1,141	1,190	1,291	1,254
	1.63%	0.35%	0.36%	0.39%	0.38%
Total industry subscription	307,483	325,059	330,016	333,057	333,426
Population	31,439,251	31,604,308	31,769,363	31,934,420	32,099,477
Fixed Network Penetration Rate (%)	**0.98%**	**1.03%**	**1.04%**	**1.04%**	**1.04%**

Table 20: Fixed Network Volume of Traffic in Minutes

Traffic	Q2 2022	Q3 2022	Q4 2022	Q1 2023	Q2 2023
On-Net Fixed voice traffic	-	-	-	-	-
Off-Net fixed voice traffic	9,065,187	9,031,430	8,798,173	8,726,139	8,235,905
Total Fixed Voice Traffic	**9,065,187**	**9,031,430**	**8,798,173**	**8,726,139**	**8,235,905**

Table 21: Fixed Network Minute of Use per Subscriptions

Fixed Network (MoU)	Q2 2022	Q3 2022	Q4 2022	Q1 2023	Q2 2023
Total Fixed Voice Traffic	9,065,187	9,031,430	8,798,173	8,726,139	8,235,905
Average Fixed Subscription	309,318	313,878	328,773	331,923	332,948
Minutes of Use per Subscription (MoU)	29.307	28.774	26.761	26.290	24.736
Growth Rate	**-3.32%**	**-1.82%**	**-7.00%**	**-1.76%**	**-5.91%**

Table 22: Fixed Data Subscriptions and Penetration

Fixed network	Q2 2022	Q3 2022	Q4 2022	Q1 2023	Q2 2023
Vodafone	69,758	72,547	75,078	77,000	78,170
	71.18%	73.58%	72.93%	72.79%	70.60%
Airtel	644	635	726	556	430
	0.66%	0.64%	0.71%	0.53%	0.39%
MTN	27,595	25,412	27,148	28,222	32,123
	28.16%	25.77%	26.37%	26.68%	27.53%
Total fixed data	97,997	98,594	102,952	105,778	110,723
Population	31,439,251	31,604,308	31,769,363	31,934,420	32,099,477
Fixed Data Penetration	**0.31%**	**0.31%**	**0.32%**	**0.33%**	**0.34%**

Table 23: Regional Distribution of FM Stations by Purpose as at the end of Q2 2023

Name of Regions	Public	Public (Foreign)	Community	Campus	Commercial
Ashanti	2	1	16	5	82
Bono	1	0	6	3	50
Bono East	2	0	4	0	24
Ahafo	0	0	2	0	16
Central	2	0	14	3	40
Eastern	2	0	18	1	35
Greater Accra	2	3	13	4	60
Northern	3	0	10	1	36
Savannah	3	0	4	0	7
North East	1	0	3	0	8
Upper East	2	0	10	3	21
Upper West	2	0	10	2	16
Volta	3	0	5	1	38
Oti	1	0	3	0	11
Western	2	1	8	2	74
Western North	3	0	0	0	23
Total	**31**	**5**	**126**	**25**	**541**

Table 24: Regional Distribution of FM Stations as at the end of Q2 2023

Name Of Regions	Authorised FM Stations	FM Stations In Operation
Ashanti	106	87
Bono	60	46
Bono East	30	27
Ahafo	18	12
Central	59	39
Eastern	56	48
Greater Accra	82	70
Northern	50	29
Savannah	14	8
North East	12	4
Upper East	36	29
Upper West	30	23
Volta	47	37
Oti	15	9
Western	87	60
Western North	26	18
Total	**728**	**546**

Table 25: Authorised TV Stations as at the end of Q2 2023

Type of Television Service	Authorised TV Stations		No. of TV Stations in Operation (Q2 2023)	No. of TV Stations not in Operation (Q2 2023)
	End of Q1 2023	End of Q2 2023		
Analogue Terrestrial Television	1	1	1	0
Digital Terrestrial Free-To-Air Television Programme Channel (Nationwide Coverage)	42	42	41	1
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	6	2

Satellite Television Broadcasting (Free-To-Air Direct-To-Home Single Channel)	86	94	52	42
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	1	0
Total	**162**	**170**	**118**	**52**

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

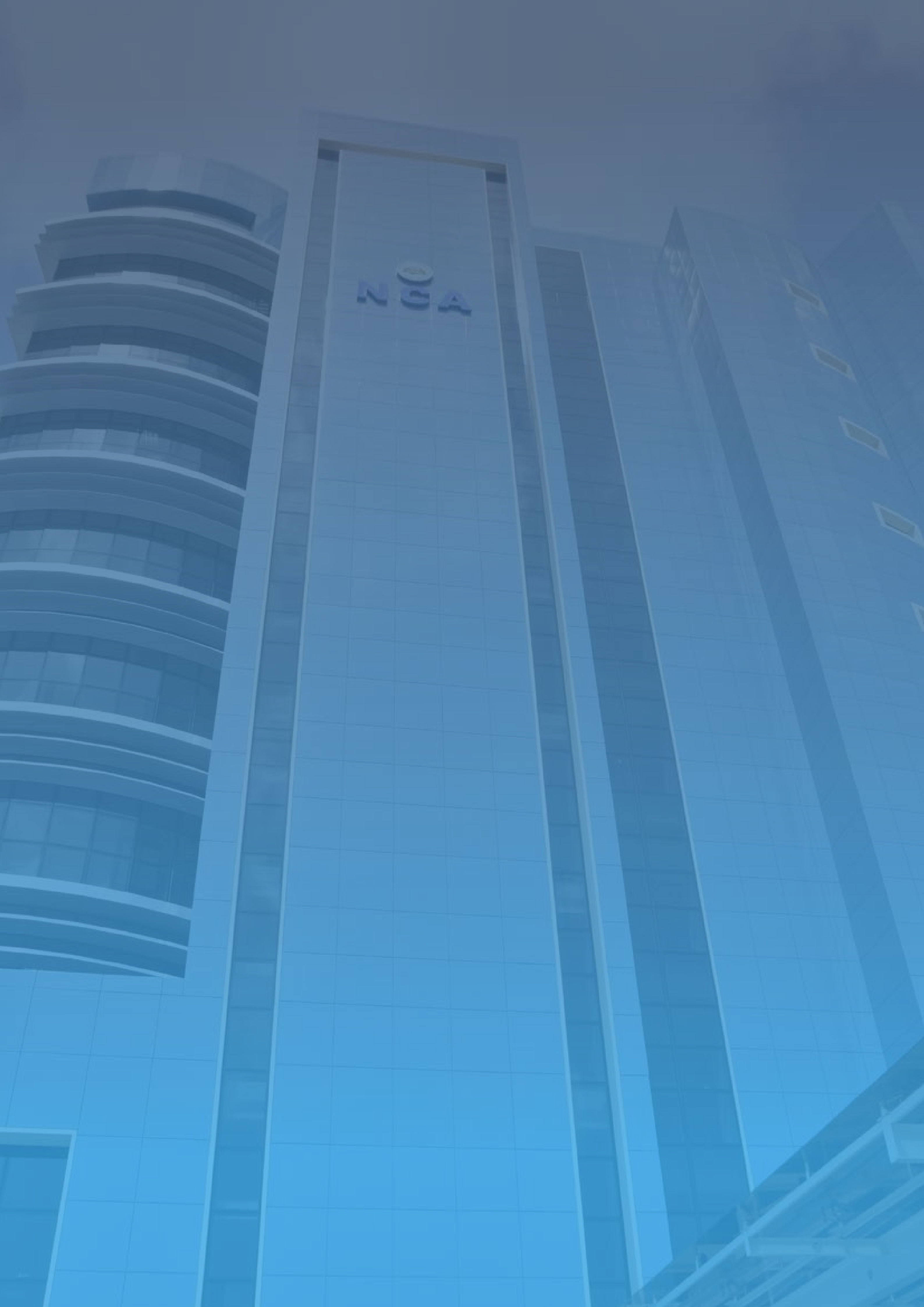
National Communications Authority,
House No 83, North Nkwabeng
P. O. Box SY125, Sunyani, Brong Ahafo Region
Tel: +233 (0) 3520 27564
E-Mail: complaints.sunyani@nca.org.gh

- ### 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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