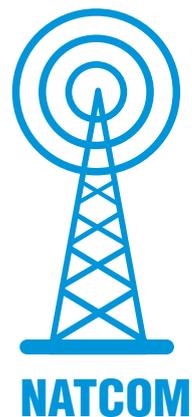


# National Telecommunications Commission

2019

## ANNUAL REPORT



# **National Telecommunications Commission**

## **Annual Report 2019**

# ***VISION***

To be a leading ICT Regulator in Sub-Saharan Africa

# ***MISSION***

To foster a progressive and enabling environment for the development of the ICT industry in Sierra Leone

# ***CORE VALUES***

Our Core Values reflect principles which would guide our operations for the achievement of our strategic objectives. These are:

- \* Professionalism
- \* Respect
- \* Integrity
- \* Fairness
- \* Innovation
- \* Transparency

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## Message from the Acting Chairman/Commissioner



It is with great pleasure I am conveying this message regarding the 2019 annual report for the National Telecommunications Commission (NATCOM). I would like to thank H.E. President Julius Maada Bio for the confidence reposed in me to act as a chairperson of the Board of Commissioners, which I consider an honour and an exciting challenge.

NATCOM is a statutory telecommunications regulatory authority mandated to license and regulate the activities of all licensed telecommunications service providers including mobile network operators, internet service providers and other communications service providers in the country.

In the past year, there has been a remarkable growth in the telecommunications sector because of the decisive and positive regulatory interventions of the Commission. There were significant nationwide network expansion in 3G and 4G technologies, which has led to an increase in internet penetration. These impressive improvements in the regulatory functions created the platform for expansion of existing networks and enticed investments in various businesses in the sector, as well as improving the uptake of telecommunications services and products by end-users. Such actions brought about the establishment and operationalization of a new entrant in the sector- Q CELL (SL) Ltd, which has further enhanced sector growth because of a liberalized market.

Our regulatory relationship with external telecommunications bodies such as ITU, CTO, WATRA, FCC, NCA and ICASA continued to be excellent. Consequently, the Commission hosted the Commonwealth Telecommunications Organization (CTO) conference on ICT with the view of leveraging ICT and telecommunications regulations. Having in mind that roaming is a very vital communications tool, we also successfully launched the Regional Free Roaming (One Area Network) Initiative to ensure cheaper telecommunications services and products for citizens travelling in ECOWAS member states.

For us to improve on the turnaround time of consumer complaints, and considering services to our consumers is paramount for the development and expansion of ICT services, a consumer Help Desk was established to speedily resolve such complaints.

The Ministry of Information and Communications continued to give Ministerial support to the Commission in the performance of its statutory regulatory functions, for which we remain to be very grateful to Hon. Minister Mohamed Rahman Swaray and his team.

Let me hasten to express my sincere thanks to my fellow Commissioners, the Director-General and Deputy Director-General, Management and staff of NATCOM and other relevant stakeholders for their active support and engagement during the year under reference.

It will be my resolve to lead the National Telecommunications Commission to reach greater heights by harnessing the full potentials of telecommunications solutions in this fast changing modern world of communications.

I look forward to working closely with our Board of Commissioners, the Director General and the general staff body to continue NATCOM's journey of transformation in the years ahead. To our stakeholders, let me ask for your continued trust and support for greater things ahead of us.

Mrs. Madiana Nyanda Samba

**Acting Chairman/ Commissioner**

## Foreword

Our mandate to provide the enabling environment for the operations of telecommunications and ICT services in Sierra Leone continues unabated in an upward trajectory.

In the past year, the remarkable performances carried out by the Commission have been in harmony with the Medium Term National Development Plan (MTNDP) Cluster 3.5 of the Government of Sierra Leone. This cluster seeks to provide greater efficiency in connectivity service delivery, because of the digital divide. With this drive, we have facilitated the increase in network coverage area for 2G technology to 80%, 3G technology to 65%, and 4G technology to 35%.



Cognizant of the fact that ICT is a key driver of transformation in almost all spheres of our live; the Commission has been dynamic, consistent and predictable in its stringent regulatory processes and regulatory roles, for which two new regional offices were established in Pujehun and Moyamba towns to provide prominent regulatory position.

During the period under review, the Commission successfully hosted an International ICT Commonwealth Conference with the theme: “Broadband for Inclusive Digital Transformation.” The conference brought together stakeholders in the telecommunications sector from across Commonwealth countries and beyond to deliberate on pertinent issues relating to Rural Connectivity, Analog to Digital Broadcasting, Enhancing Local Innovation, Emerging Technologies, 5G Deployment, Youth and Information Communications Technology, Digital Economy, among others. Moreover, the Commission joined the International Telecommunications Union (ITU) and the global ICT community to celebrate the World Telecommunications Day with the theme: “Bridging the Standardization Gap.”

Additionally, the Regional Free Roaming was implemented based on the Abidjan protocol with the theme “Roam Like Home, Roam Like Local.” The country stands to benefit immensely as roaming services have now been established with seven (7) ECOWAS member states, namely, Guinea, Senegal, Ivory Coast, Mali, Togo, Benin, and Burkina Faso.

Under our regulatory mandate, we harmonized mobile tariffs across different networks, revised the Mobile Termination Rate (MTR), removed surcharges on local off-net voice calls and international outgoing calls, prescribed price ceiling and price floor for local voice calls and eliminated capping on international inbound and outbound calls as well as Short Message Service (SMS).

In its quest to assess the Quality of Experience (QoE) of telecommunications subscribers, a consumer perception survey was conducted in Bombali, Tonkolili, Kenema and Kailahun Districts to evaluate the perception of consumers with respect to the quality of service provided by Mobile Network Operators and Internet Service Providers. The outcome of this survey

provided insight into the performance of mobile network operators in service delivery and compliance to pre-defined thresholds provided for in their various licences.

In all these engagements, the leadership of the Ministry of Information and Communications has been supportive and pivotal in our successes.

We are grateful to the H.E President Julius Maada Bio for giving us the sterling leadership to drive through the strategic objectives of the national ICT policy going forward. We are more than poised to face the challenges head-on on the new and emerging trends in the ICT industry as we fully implement the adopted Electronics Communications Act 2020 in the coming years.

Let me conclude by expressing my sincere thanks and appreciation to the team at NATCOM, including the Board of Commissioners, Management and the entire staff body.

Daniel B. Kaitibi  
**Director-General**

**Board of Commissioners**



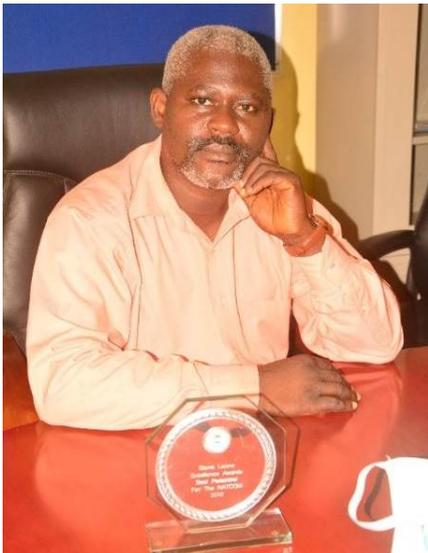
**Madiana Nyanda Samba  
Acting  
Chairman/Commissioner**



**Hon. Jusufu B. Mansaray  
Commissioner**



**Ing. Sheikh A. Swarray-Deen  
Commissioner**



**Joseph A. Sannoh  
Commissioner**



**Paul Squire Esq.  
Commissioner**



**Robert K. Kargbo  
Commissioner**



**Daniel B. Kaitibi**  
**Director-General**



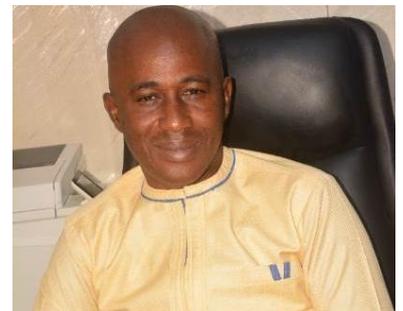
**Amara Brewah**  
**Deputy Director-General**



**Braima R. Kargbo**  
**Director of Administration**



**Ibrahim Dumbuya**  
**Director of Finance**



**Ing. Abdul Bah, Director**  
**Engineering & Infrastructure**



**Ing. Sahr M. Sewah, Director**  
**Regulatory Administration**



**Abdul Ben-Foday, Director**  
**Corporate & Industry Affairs**



**Harding Tommy, Director**  
**Policy & Government Relations**



**Juldeh O. Bah, Director**  
**Internal Audit & Risk**  
**Management**



**Dauda Yoki**  
**Deputy Director, Legal Affairs**

## **1.0 Introduction**

The Telecommunications Act 2006 (as amended) established the National Telecommunications Commission (NATCOM) to regulate the telecommunications sector and provide licenses for telecommunications operators and service providers, protect consumer interests and ensure fair competition among service providers.

### **1.1 The Mandate of the Commission**

The functions of the Commission among others include the following:

- a. license and regulate ICT service providers in Sierra Leone;
- b. plan, manage and assign the national frequency spectrum;
- c. establish, manage, assign the national numbering resources;
- d. ensure fair competition and investment in the sector;
- e. protect the users or consumers of ICT products and services;
- f. promote the progressive development of ICTs in Sierra Leone;
- g. support Universal Access to ICT services;
- h. provide guidelines on tariffs chargeable for the provision of telecommunications services;
- i. ensure the mitigation of cybercrime and increase cybersecurity awareness;
- j. ensure the maintenance of standards of telecommunications equipment; and
- k. represent Sierra Leone internationally in matters of telecommunications and effectively collaborate with global telecommunications regulators.

### **1.2 Strategic Objectives of the Commission**

The strategic objectives of the Commission are as follows:

1. improve the effectiveness, efficiency and transparency in ICT licensing processes and regimes;
2. ensure fair, effective and efficient management of the electromagnetic spectrum and monitor adherence to assigned frequency band(s);
3. foster the enhancement of Quality of Service (QoS) of telecommunications services and ensure compliance to international equipment standards;
4. review, update and develop telecommunications regulations and guidelines to increase access to technology and services;
5. interface with public and private sectors, and other stakeholders through the promotion of continuous engagements;
6. enhance staff productivity and develop their career path in proper regulatory management & administration; and

7. create enabling regulatory framework for expansion and optimization of domestic telecommunications services (voice and data) across the country.

### **1.3 The Annual Report**

Pursuant to Section 19 (1) of the Telecommunications Act 2006 (as amended), “the Commission shall, as soon as possible but not later than six months after the end of each financial year, submit to the Minister a report of the activities, operations, undertakings, property and finances of the Commission for that year, including the Auditor-General’s report and a list of persons granted licenses in that year”.

Additionally, Section 19 (2) of the Telecommunications Act 2006 (as amended) states that “the Minister shall, within thirty days of the receipt of the report referred to in Subsection (1), lay a copy before Parliament.

This Annual Report outlines the corporate activities of the Commission particularly telecommunications operators and the public sector in an accountable and transparent manner. Although it is a statutory obligation of the Commission to prepare an annual report, this Report is the first in seven (7) years that is being prepared and published. It is against this backdrop that the Report contains comprehensive details to enable our esteemed readers to understand our core functions, mandate and the activities carried out during the year under review. It also provides highlights of the achievements and challenges during the reporting period.

During the reporting period, the Commission witnessed significant transformation that was characterized by process re-engineering, alignment and re-alignment of programs and systems, while at the same time streamlining and mainstreaming telecommunications regulations, policies and programs. It was also a period of proactive repositioning of the Commission to play its role and effectively deliver on its mandate. As a sequel of the re-engagements, the Policy and Government Relations Directorate, a new Directorate, was set up during the reporting period.

While we take responsibility for errors, we also appreciate comments and observations on this Report, as we believe in continuous improvement in line with our commitment to our standards and quality of service.

## **2.0 Departments of Regulatory Administration & Engineering and Infrastructure**

### **2.1 Mandate of the Departments of Regulatory Administration & Engineering and Infrastructure**

The department of Regulatory Administration is charged with the responsibility of performing the following functions:

- i. develop telecommunications Regulations in accordance with Section 82 of Telecommunications Act 2006 (as amended);
- ii. oversee the review and generation of all license types or authorizations for approved telecommunications services;
- iii. determine, administer and enforce regulatory compliance with license conditions;
- iv. formulate standards for telecommunications and Information Technology (IT) systems and enforce compliance;
- v. lead in the review, determination and monitoring of tariffs and international rates applicable to communications services and participate in dispute resolution processes whenever necessary;
- vi. establish inspection procedures for equipment importation approval with relevant Statutory Agencies;
- vii. develop effective administration of the National Numbering Plan (NNP) for the domestic telecommunications market and coordinate and update ITU on numbering issues in compliance with international best practices;
- viii. supervise the sale and administration of number blocks for new applications and services deployed;
- ix. collate and report ICT and industry data periodically;
- x. ensure the mitigation of cybercrime and increase cybersecurity awareness; and
- xi. supervise the International Gatekeeper services, ensure revenue assurance and fraud management

The department of Engineering is responsible to perform the following functions

- i. process all applications for the acquisition and use of radio frequency spectrum and make recommendations to the Commission;
- ii. assign radio frequency spectrum subsequent to the approval of the Commission;
- iii. oversee the management, monitoring and planning of the nation's radio frequency spectrum;
- iv. conduct periodically appropriate tests (drive tests) to ascertain quality of services standards;
- v. review and update ITU, ATU, CTO, WATRA, ECOWAS, ETSI and FCC approved standards for ICT/Communications systems in conformity with assigned spectral bands;
- vi. develop a succinct frequency plan and maintain a national frequency allocation table for Sierra Leone in accordance with ITU standards;
- vii. develop technical standards for network rollouts and planning;
- viii. create and maintain a list of type approval conditions for related telecommunications equipment and effect type approval of all telecommunications equipment;
- ix. establish training guidelines and standards to be adhered to by operators of public telecommunications services and ensure operators implement the sanctioned training standards; and
- x. maintain technical infrastructure of the Commission and develop a comprehensive plan for improving telecommunications infrastructure in Sierra Leone.

## 2.2 The Telecommunications Industry at a Glance

### 2.2.1 Overview of the Industry

The overall outlook of the telecommunications sector is provided in the tables below with figures expressing the number of operators, subscribers and other related statistics and data.

The total number of authorized mobile network operators is four (4) among which one of them operates a fixed network known as the Public Switched Telephone Network (PSTN). There were sixteen (16) operators granted to provide Internet Services but fifteen (15) Internet Service Providers are operational. Fourteen (14) Television (TV) establishments were granted licenses to operate but Eleven (11) TV stations are functioning. Similarly, 138 Frequency Modulation (FM) operators were authorized to broadcast, however, 136 FM radio stations were on air as at end of December 2019. All authorization details for operators are catalogued in Table. 2.1

**Table 2.1- Authorized/Licensed Service Providers**

Operators/Service Providers	Number of Authorization/Licenses	Number of Authorization/Licenses in Operation
Mobile Network Operators	4	4
Fixed Network Operators	1	1
Internet Service Providers (ISP)	16	15
Television Stations	14	11
FM Stations	138	136

### 2.2.2 Network Coverage by Area and Technology

The population covered by cellular network based on the total square meters is approximately 80%. The nationwide coverage of the Second Generation (2G) Technology is about 80%, the Third Generation (3G) is around 60% and the Fourth Generation (4G) stands at 35% as detailed in Table. 2.2

**Table 2.2- Mobile Cellular Network Coverage by Area and Technology**

Description	Total Area (Sq. meters)	Orange (SL)	Africell (SL)	Qcell (SL)	Nationwide
		% Coverage	% Coverage	% Coverage	% Coverage
2G Technology coverage	-	80%	73%	28%	80%
3G Technology coverage	-	60%	48%	28%	60%
4G Technology coverage	-	35%	28%	-	35%
Population Covered by Mobile Cellular Network	80%	-	-	-	80%

### 2.2.3 Total Subscriptions and Penetration Rates

The statistics on the number of subscriptions was analyzed based on data provided by all Mobile Network Operators (MNOs). The total number of subscriptions are not unique mobile subscribers as due consideration was given to the multiplicity of Subscriber Identification Modules (SIMs) owned by end-users. Mobile voice subscriptions decreased from 6,896,800 in the third quarter 2019 to 6,863,347 as at end of December 2019, representing a negative growth of 0.49%.

The penetration rate for mobile voice subscriptions at the end of the fourth quarter of 2019 was 88% as compared with 84% recorded in the first quarter of the same year, indicating a growth of 4.76%. Similarly, the data penetration as at end of December 2019 was 18.07% compared with 12.22% in the first quarter of the same year, representing a growth of 47.92%.

The details of total subscriptions together with both voice and data penetration rates are provided in Table 2.3.

**Table 2.3- Total Subscriptions and Voice and Data Penetration**

Subscription	Quarter on Quarter			
	Q1-2019	Q2-2019	Q3-2019	Q4- 2019
Mobile Voice Subscription	6,585,097	6,650,189	6,896,800	6,863,347
Mobile Data Subscription	948,692	1,127,875	1,349,694	1,404,600
Fixed Data Subscription	1,167	1,001	15,177	15,177
Fixed Voice Subscription	30,641	35,558	45,993	45,993
Voice Penetration (%)	84	85	88	88
Data Penetration (%)	12.22	14.49	17.37	18.07

### 2.2.4 Total Domestic and International Voice, Data and SMS Traffic

In 2019, inbound international traffic dropped from 11.5 million minutes in quarter 1 to 7.2 million minutes in quarter 4, representing a decrease of 37.8%. Similarly, outbound international traffic decreased from 8.14 million minutes at the end of the first quarter of 2019 to 6.12 million minutes at the end of the fourth quarter of 2019, representing a decline of 24.75%.

Total domestic mobile voice traffic recorded a rise from 423.47 million minutes in the first quarter to 430.40 million minutes as at end of December 2019, representing 1.63% growth. On-net traffic increased from 100.86 million minutes in quarter 1 to 118.88 million minutes at the end of 2019, representing a growth rate of 17.86%. Similarly, off-net traffic decreased from 322.60 million minutes in the first quarter of 2019 to 311.52 million minutes at the end of the fourth quarter of 2019, representing a decrease of 3.43%.

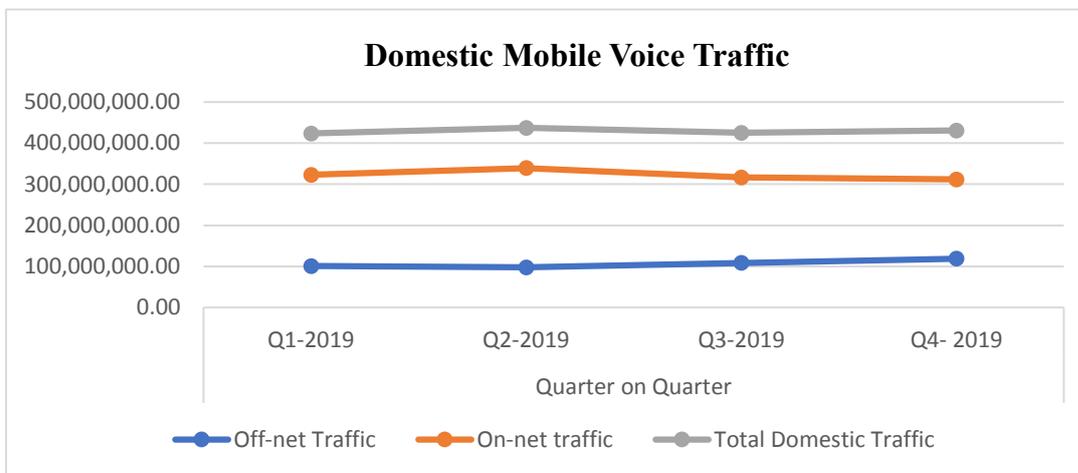
Additionally, the total number of international short messages service (SMS) sent at the end of the quarter 1 was 700,283 as compared to 772,786 at the end of 2019, recording an increase of SMS count by 10.35%. Similarly, the volume of domestic SMS traffic was 31.41 million at the end of the first quarter as compared to 40.60 million in the fourth quarter of 2019, representing a total increase of SMS count of 29.25%.

The details of total domestic and international voice, data and SMS traffic are outlined in Table 2.4. The analysis in Table 2.4 are also pictorially represented in Figures 2.4.1, 2.4.2 & 2.4.3

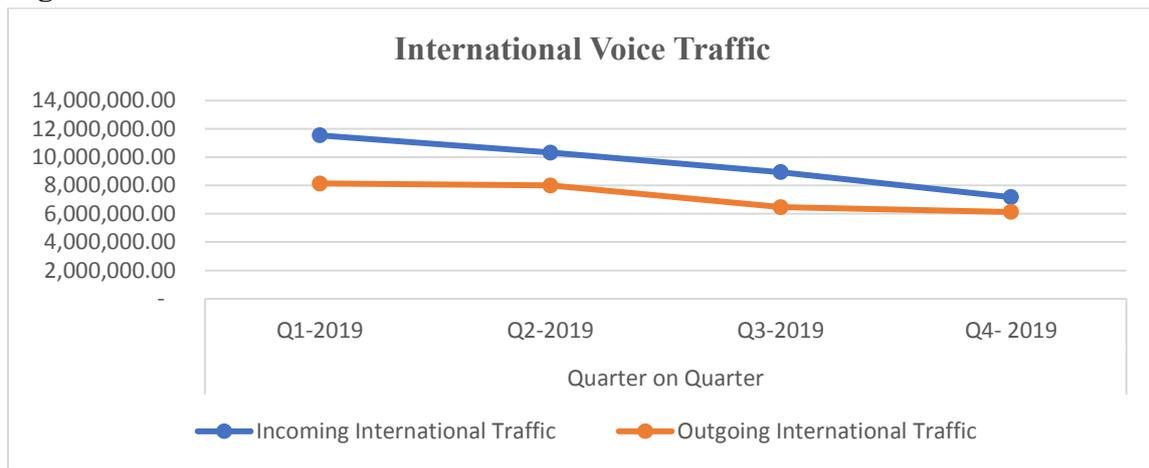
**Table 2.4- Total Voice and SMS Traffic**

Traffic	Quarter on Quarter			
	Q1-2019	Q2-2019	Q3-2019	Q4- 2019
Incoming International Traffic (Minutes)	11,537,778.47	10,323,025.20	8,942,849.01	7,172,740.62
Outgoing International Traffic (Minutes)	8,139,157.18	7,992,430.05	6,468,902.41	6,124,063.53
Off-net Traffic (Minutes)	100,868,225.90	97,835,813.40	108,574,821.20	118,881,281.90
On-net Traffic (Minutes)	322,607,461.5	339,078,438.8	316,325,281.7	311,522,112.9
International SMS Count	700,283	696,920	596,281	772,786
Domestic SMS Count	31,419,426	32,304,998	26,814,681	40,607,126

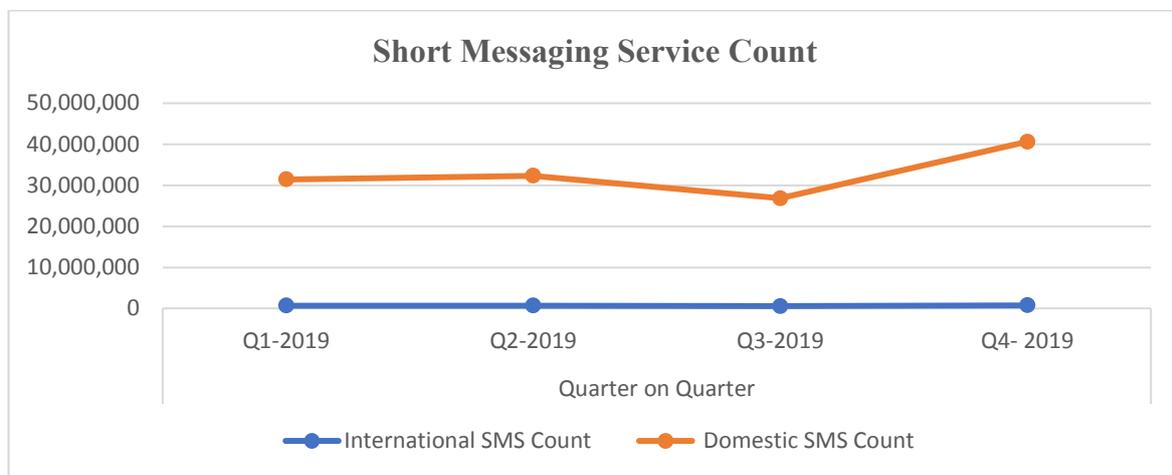
**Figure 2.4.1- Domestic Mobile Voice Traffic in Minutes**



**Figure 2.4.2- International Voice Traffic in Minutes**



**Figure 2.4.3- Domestic and International SMS Count**



**2.2.5 Authorization in the Broadcasting Sector**

In 2019, the number of authorized and operational FM radio stations in quarter 1 was 120. The number of stations in operation rose to 125 and 132 with growth rates of 4.17% and 5.6% in quarters 3 and 4 respectively.

The number of TV stations in operation in quarter 1 of 2019 was 11, which remained the same throughout the year, implying no TV station was established after first quarter of 2019.

The details of the total authorized and operational FM radio and TV stations are encapsulated in Table 2.5.

**Table 2.5- Authorization in the Broadcasting Sector**

FM/TV Authorization & Operation	Quarter on Quarter						
	Q1-2019	Q2-2019	Growth (%)	Q3-2019	Growth (%)	Q4-2019	Growth (%)
FM Authorization	120	120	0	125	4.17	132	5.6
FM Station Operating	120	120	0	125	4.17	132	5.6
TV Authorizations	13	13	0	13	0	13	0
TV Stations Operating	11	11	0	11	0	11	0

### 2.2.6 Categories of Authorized FM Radio Stations

The number of authorized public and public foreign FM radio stations in operation throughout 2019 was 11 and 5 respectively. The number of commercial FM radio stations in operation in the first quarter of 2019 was 58, which increased steadily to 60 and 63 stations in the third and fourth quarters of 2019, representing 3.45% and 5% respectively.

The number of authorized religious FM radio stations in operation in quarter 1 of 2019 was 26 and increased to 32 in the final quarter of 2019, representing a growth of 14.29%, while the number of community FM radio stations in quarter 1 of 2019 was 24 and increased slightly to 25 station in quarter 4, representing 4.17%. There were 2 authorized campus FM radio stations in the first quarter of 2019, which experienced zero growth rate throughout 2019.

The details of the categories of authorized FM radio stations are summarized in Table 2.6.

**Table 2.6- Categories of Authorized FM Radio Stations**

Category of FM Radio Stations	Quarter on Quarter						
	Q1-2019	Q2-2019	Growth (%)	Q3-2019	Growth (%)	Q4-2019	Growth (%)
Public	11	11	0	11	0	11	0
Public Foreign	5	5	0	5	0	5	0
Commercial	58	58	0	60	3.45	63	5
Religious	26	26	0	28	7.69	32	14.29
Community	24	24	0	25	4.17	25	0
Campus	2	2	0	2	0	2	0

### 2.2.7 Mobile Voice Subscriptions and Market Share

At the end of the fourth quarter of 2019, Africell (SL) had 60.40% of the market share with 4,145,383 subscriptions, followed by Orange (SL) with 2,473,881 subscriptions, representing a market share of 36.04%. Sierratel is the third largest mobile network operator by subscription

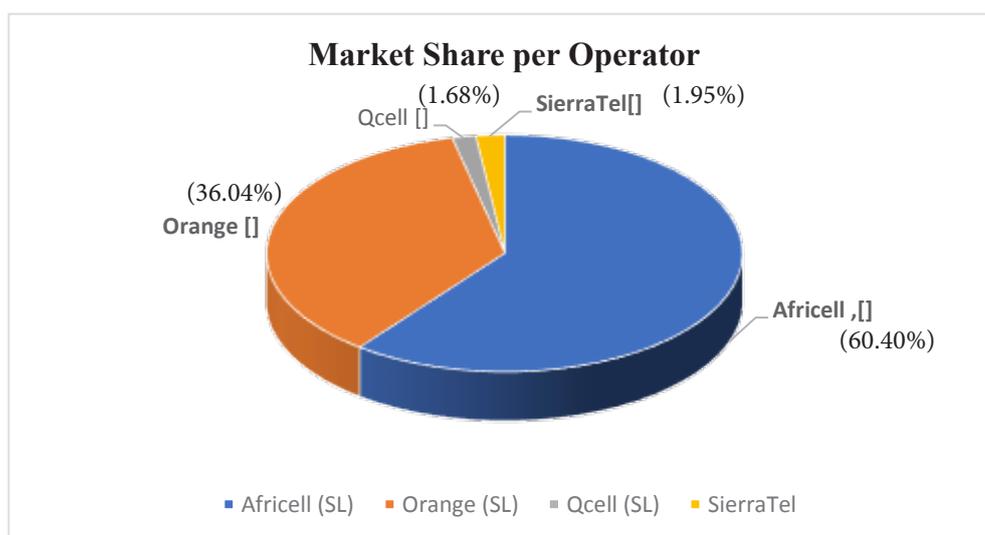
with a market share of 1.95% and a subscriber base of 133,543. Qcell (SL) recorded 110,540 subscriptions with a market share of 1.61%.

A detailed analysis of mobile voice subscriptions and market share per Operator is outlined in Table 2.7 and also represented pictorially in Figure 2.2.4

**Table 2.7- Mobile Voice Subscriptions and Market Share per Operator**

Mobile Network Operator		Q1 2019	Q2 2019	Q3 2019	Q4 2019
Africell (SL)	Subscriptions	4,270,814	4,269,350	4,240,793	4,145,383
	Market Share (%)	64.86	64.20	61.49	60.40
Orange (SL)	Subscriptions	2,152,724	2,190,114	2,440,802	2,473,881
	Market Share (%)	32.69	32.93	35.39	36.04
Qcell (SL)	Subscriptions	31,345	60,212	84,328	110,540
	Market Share (%)	0.48	0.91	1.22	1.61
SierraTel	Subscriptions	130,214	130,513	130,877	133,543
	Market Share (%)	1.98	1.96	1.90	1.95
<b>Total Industry Subscriptions</b>		<b>6,585,097</b>	<b>6,650,189</b>	<b>6,896,800</b>	<b>6,863,347</b>

**Figure 2.2.4- Market Share on Mobile Voice Subscriptions per Operator**



### 2.2.8 Minutes of Use (MoU) and Average Revenue Per User (ARPU)

The Minutes of Use (MoU) per subscription is the total average volume of traffic for a specific period divided by the total average subscriptions for that defined period. Average minutes of use per subscription increased slightly from 64.3 minutes in the first quarter of 2019 to 65.7 minutes in quarter 2 of the same year but reduced sharply to 62.7 minutes in the fourth quarter of 2019, registering a negative growth of 0.49%.

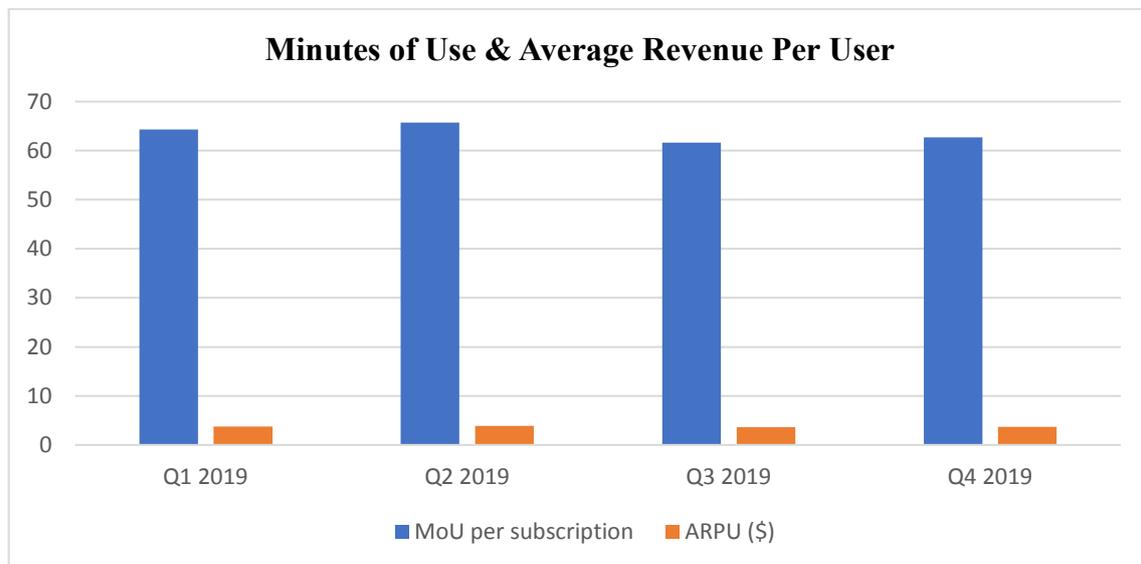
The Average Revenue Per User (ARPU) in United States Dollars was \$3.79 in quarter 1 of 2019 which increased steadily to \$3.88 in quarter 2 but plummeted to \$3.7 in the final quarter of 2019.

A detailed analysis of the minutes of use and average revenue per user is outlined in Table 2.8 and the pictorial representation is shown in Figure 2.2.5.

**Table 2.8- Minutes of Use and Average Revenue Per User**

Traffic	Quarter on Quarter			
	Q1-2019	Q2-2019	Q3-2019	Q4- 2019
<b>Total Domestic Voice Traffic</b>	423,475,687.4	436,914,252.2	424,900,102.9	430,403,394.8
<b>Mobile voice Subscriptions</b>	6,585,097	6,650,189	6,896,800	6,863,347
<b>Minutes of Use (MoU) Per Subscriber</b>	64.3	65.7	61.6	62.7
<b>MoU Growth Rate (%)</b>	0.00	2.16	-6.24	-0.49
<b>Average Revenue Per User (SLL) @ 590 SLL</b>	37,942	38,763	36,349	36,999
<b>Average Revenue Per User (\$) @ 10,000 SLL</b>	3.79	3.88	3.63	3.70

**Figure 2.2.5- Minutes of Use and Average Revenue Per User**



### 2.3 Licenses and Authorization

The National Telecommunications Commission has granted a number of Licenses or Authorizations to several service providers including Internet Service Providers, Broadcasting Stations, Mobile Network Operators, Ship Stations, VSAT Operators, UHF, VHF & HF Services, Type Approval for Electronic Communication Equipment, Numbering Resources, etc.

### 2.3.1 Mobile/Cellular Network Operator License

The Telecommunications sector has evolved dramatically with many diversifications over the past years, characterized by vibrant competition and innovative products and services. The Commission has granted telephony licenses to Operators, which are classified into fixed and mobile licenses, and they provide services and products to the market using the 2G, 3G, 4G and CDMA technologies.

As at December 2019, there were four (4) mobile telephony licensees in the country delivering services and products as outlined in Table 2.9.

**Table 2.9- Licensed Mobile Network Operators & Technologies utilized**

SN	Licensed Mobile Network Operator	Technology
1	Africell (SL) Limited	2G, 3G & 4G
2	Orange (SL) Limited	2G, 3G & 4G
3	Qcell (SL) Limited	2G & 3G
4	Sierra Leone Telecommunications Company	CDMA

### 2.3.2 Internet Service Provider License

An Internet Service Provider (ISP) is a company that provides Internet connectivity to homes and business customers to Internet services using the traditional modem dial-up, Digital Subscriber Line (DSL), Asymmetric Digital Subscriber Line (ADSL), cable modem broadband service, dedicated fiber optic cables etc. Quite recently, Wireless Internet Service Providers have started offering Internet access through wireless LAN or wireless broadband networks.

In addition to the four (4) mobile/cellular operators that provide mobile data to subscribers, the total number of authorized Internet Service Providers (ISPs) providing data services in the market as at December 2019 was sixteen (16), as outlined in the Table 2.10.

**Table 2.10- Summary Statistics for Authorized ISPs in Sierra Leone as at December 2019**

Type of Internet Service Provider (ISP)	Total No. of Authorized ISP	Total No. of ISP in Service	Total No. of ISP not in Service
Tier 1& 2 ISP	16	15	1

### 2.3.3 Frequency Modulation (FM) Station Authorization

The National Telecommunications Commission (NATCOM) granted authorizations to **138** FM Broadcasting Stations in Sierra Leone. Out of the total number of authorized FM Broadcasting Stations, **136** stations were operational as at December 2019.

The authorizations of FM broadcasting stations are classified into different groups, which are detailed below:

- a) Public Stations- These are stations owned and operated by the Sierra Leone Broadcasting Corporation, and/or any other station established by the Government of Sierra Leone by a statutory enactment or policy.
- b) Public Foreign Stations- These are stations established by Foreign Governments through diplomatic arrangements to re-broadcast/relay content from foreign countries such as BBC, RFI, VoA, etc.
- c) Commercial. Stations - They are stations that are privately owned and operated for profit and controlled solely by independent commercial groups or individuals.
- d) Community Stations- These are stations meant for a non-profit broadcasting service provided for a specific marginalized community by a radio station whose ownership and management are representative of the community for which the service is provided.
- e) Religious Stations- These are stations established by religious organizations or churches and mosques for non-profit broadcasting service to promulgate the teachings and the word of God to its congregation or followers.
- f) Campus Stations- These are stations operated within the ambit of educational institutions.

A breakdown of authorizations in classification groups for all FM radio stations across the country as at December 2019 is provided below:

- 11 Public Radio Stations;
- 5 Public (Foreign) Radio Stations;
- 63 Commercial Radio Stations;
- 25 Community Radio Stations;
- 32 Religious Radio Stations; and
- 2 Campus Radio Stations.

The details of the authorized FM radio broadcasting stations are provided in Table 2.11.

**Table 2.11- Summary Statistics for Authorized FM Station in the Country as at end of 2019**

No.	Name of District	Total No. Authorized	Public	Public Foreign	Commercial	Religious	Community	Campus	Total No. in Operation	Total No. not in Operation
1	Western Urban	42	2	2	23	14		1	42	
2	Western Rural	7		0	5	1	1	0	6	1
3	Bo	17	2	1	9	5		0	17	
4	Bonthe	4	0	0	1	0	3	0	3	1
5	Moyamba	3	0	0	0	1	1	1	3	
6	Pujehun	4	0	0	1	0	3	0	4	
7	Kailahun	5	2	0	2	0	1	0	5	
8	Kenema	18	2	1	9	5	1	0	18	
9	Kono	5	1	0	3	0	1	0	5	
10	Bombali	13	1	1	6	4	1	0	13	
11	Koinadugu	2	0	0	0	1	1	0	2	
12	Tonkolili	5	1	0	0	1	3	0	5	
13	Karene	1	0	0	0	0	1	0	1	
14	Falaba	0	0	0	0	0	0	0	0	
15	Port Loko	7	0	0	3	0	4	0	7	
16	Kambia	5	0	0	1	0	4	0	5	
	<b>Total</b>	<b>138</b>	<b>11</b>	<b>5</b>	<b>63</b>	<b>32</b>	<b>25</b>	<b>2</b>	<b>136</b>	<b>2</b>

### 2.3.4 Television (TV) Broadcasting Station Authorization

The Commission granted authorizations to **14** TV Broadcasting Stations in Sierra Leone. Out of the total number of authorized TV Broadcasting Stations, 11 stations were on-air as at December 2019.

The TV broadcasting stations are classified into Analogue Terrestrial Television, Digital Terrestrial Free-To-Air Television, Digital Terrestrial Pay Television, Satellite Television, Digital Cable Television and Television over Internet Protocol.

Analogue Terrestrial Television Stations are TV stations that transmit analogue waveforms and receive both voice and video signal using common aerials on a TV set. These stations are to be migrated from analogue broadcasting technology to digital broadcasting technology in compliance with the 2006 Geneva Agreement of the International Telecommunications Union (ITU) on Digital Migration.

The number of TV Broadcasting Stations under different classifications is as follows:

- 8 Analogue Terrestrial Television;
- 2 Digital Terrestrial Television;
- 2 Digital Terrestrial Television;
- 1 Satellite Television (Free-To-Air Direct-To-Home Bouquet); and
- 1 Satellite Television (Pay TV Direct-To-Home Bouquet).

The details of the authorized TV broadcasting stations are provided in Table 2.12.

**Table 2.12- Summary Statistics of Authorized Television Broadcasting Stations in Sierra Leone as at December 2019**

No.	Type of Television Services	Total No. of Authorized TV Stations	Total No. of TV Stations on Air	Total No. of TV Stations Off- Air
1	Analogue Terrestrial Television	8	5	3
2	Digital Terrestrial Television	2	2	-
3	Digital Terrestrial Pay Television	2	2	-
4	Satellite Television (Free-To-Air Direct-To-Home Bouquet)	1	1	-
5	Satellite Television (Pay TV Direct-To-Home Bouquet)	1	1	-
Total		14	11	3

### 2.3.5 Type Approval Authorization

Pursuant to Sections 44 & 45 of the Telecommunications Act of 2006 (amended 2009), the Commission is authorized to establish technical standards applicable to telecommunications equipment, including customer premises equipment, so as to ensure against damage to telecommunications network or services or to public health, safety or the environment as well as to type approve and inspect such equipment.

In order to ensure maximum interoperability and conformity of equipment, the Type Approval standards set by NATCOM were based on international standards from the:

- International Electro technical Commission (IEC) and its International Special Committee on Radio Interference (CISPR);
- European Committee for Electro technical Standardization (CENELEC);
- European Telecommunications Standards Institute (ETSI), and
- practices predominantly adopted in Europe as a member of ITU World Region 1 for spectrum allocation and by using GSM/UMTS/LTE very extensively.

The following categories of equipment specifically excluded from Type Approval Standards were:

- i. Services (such as broadcasting) that are currently outside the scope of the Commission's authority under the Act.
- ii. Services (such as Public Access Mobile Radio and Integrated Services Digital Networks) that are not likely to be provided in Sierra Leone.
- iii. Services (such as analogue mobile telephony) that are obsolescent in Sierra Leone.

As at December 2019, **130** devices/equipment were type approved and some of the equipment/devices were in the categories provided below:

- Tire pressure-monitoring sensor;
- Body Control Module (BCM)/Key FOB/ Remote Keyless Entry Unit;
- Radio Identification Device;
- Apple Products which includes mobile (Phones, Tablets, Wireless chargers, Smart Battery Case Wireless Accessories, AirPods, etc.);
- Remote Control with Bluetooth (Smart Control);
- Transceiver for Smart TV (Wi-Fi/BT Transceiver);
- Head Unit with Bluetooth;
- WLAN and GPS Technology;
- Automotive Control Unit with Car Access and Immobilizer Function;
- Combo WLAN/BT Module for computers (notebooks, tablets, etc.);
- NFC for Cars;
- Product Link Cellular Radio Telematics Device;

- Wireless Mobile Interface;
- Passive Entry/Passive Start Radio Identification Device; and
- Car Navigation System, Real-Time PCR System.

The different modulation techniques for most of the equipment type approved were ASK, FSK, OFDM, DSSS, GFSK, WCDMA,  $\pi/4$ -DQPSK, 8DPSK, CCK, DQPSK, DBPSK, 256QAM, 64QAM, 16QAM, QPSK and BPSK.

## **2.4 Tariff and Pricing Mechanism of Products and Services**

Pursuant to Sections 52, 53 and 54 of the Telecommunications Act 2006 (as amended), the Commission is mandated to regulate, approve and review tariffs payable for telecommunications services rendered by public telecommunications operators, if such review is warranted by any rapid changes in the cost of living index and foreign exchange rates.

Following a sectorial retreat held at Tokeh on 19<sup>th</sup> November 2018, the board of Commissioners resolved in March 2019 to harmonize both off-net and on-net tariffs to Le. 650 per minute for voice calls, making the tariff for interconnect calls cheaper. In December 2019, the Commission approved the Price Floor of Le. 590 per minute for voice calls. Furthermore, on 1<sup>st</sup> June 2019, the Commission removed \$0.02 per minute levy on all domestic off-net voice traffic and requested Mobile Network Operators (MNOs) to make the necessary adjustments to their off-net domestic tariffs accordingly. In October 2019, the Commission prescribed \$0.047 per minute as the Mobile Termination Rate (MTR) of all interconnect traffic.

Additionally, the Commission removed the maximum upper limit capping on outgoing international tariffs and further granted the removal of a surcharge of \$0.01 per minute on outbound international traffic. However, the Commission increased the surcharge on inbound international traffic from \$0.09 per minute to \$0.14 per minute.

## **2.5 Quality of Service (QoS) Monitoring**

In accordance with the mandate of the Commission to ensure fair competition and protect the consumer as provided for in Section 9 (2) (a) & (b) of the Telecommunications Act 2006 as amended, as well as the Quality of Service (QoS) obligations outlined in the relevant Sections of the cellular mobile licenses for Operators, the Commission hired BlueRibbon Solutions to monitor QoS of telecommunications services. The QoS obligations were monitored and enforced through six (6) consumer-oriented methodologies, evaluated using Key Performance Indicators (KPIs) of radio network parameters including network availability, call setup success rate, handover success rate, SDCCH call drop rate, TCH call drop rate and TCH congestion rate.

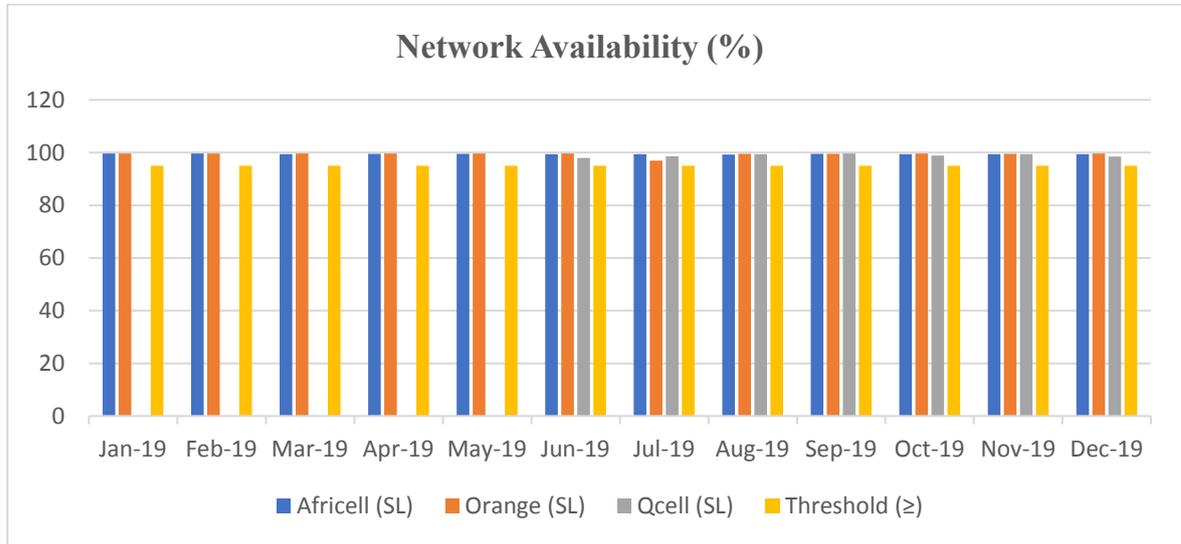
### **2.5.1 Network Availability**

Network availability is the ratio of probable attempts for mobile network services to total number of attempts. The calculation of network availability gives the percentage values of the site availability on the network. This is measured using performance monitoring systems by

analyzing CDRs of Operator’s networks, test stations and drive test systems. The threshold for network availability is  $\geq 95\%$ .

Throughout 2019, no Operator recorded network availability values below the predefined threshold of 95%. The details of network availability are outlined in Figure 2.2.6.

**Figure 2.2.6- Network Availability**

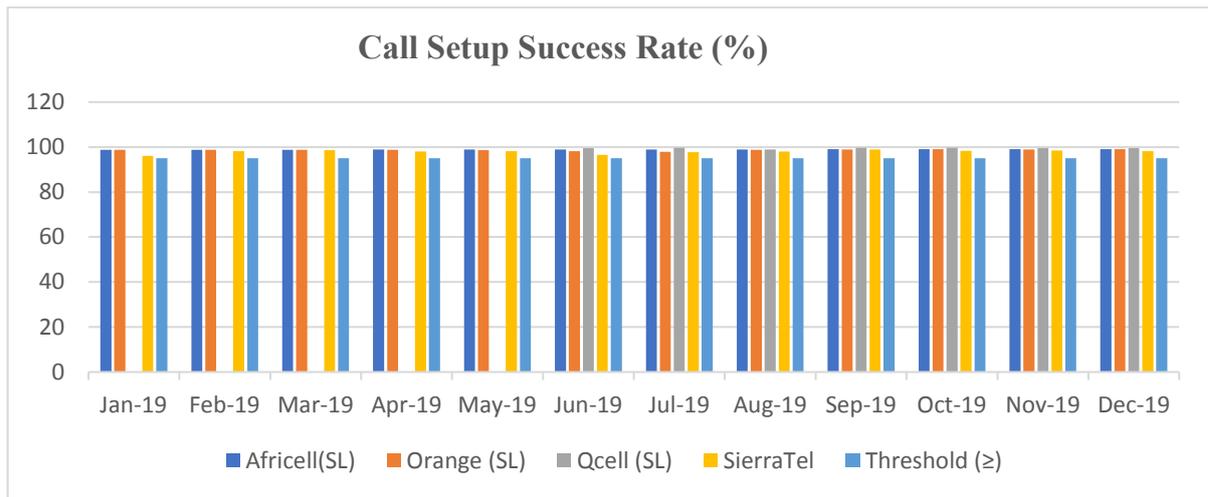


### 2.5.2 Call Setup Success Rate (CSSR)

The Call Setup Success Rate (CSSR) indicates the probability of successful calls initiated by the mobile station. The CSSR is an important KPI for evaluating the network performance. If this KPI is too low, the subscribers are not likely to make calls successfully. This is measured using performance monitoring systems by analyzing CDRs of Operator’s networks, test stations and drive test systems. The threshold for call setup success rate is  $\geq 95\%$ .

Throughout 2019, no Operator recorded call setup success rate values below the predefined threshold of 95%. The details of CSSR are outlined in Figure 2.2.7.

**Figure 2.2.7- Call Setup Success Rate**

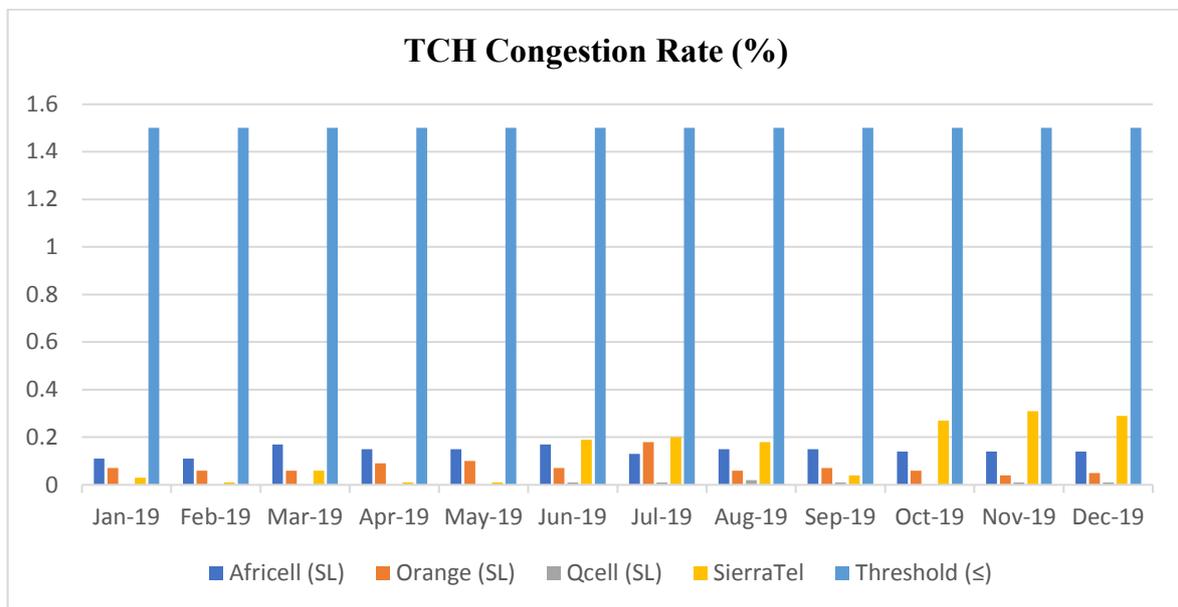


**2.5.3 TCH Congestion Rate**

The TCH congestion rate is the proportion of the number of TCH assignment failures to the number of TCH seizure requests. If the TCH congestion rate is high, the network service quality deteriorates. It is measured using performance monitoring systems by analyzing CDRs of Operator’s networks, test stations and drive test systems. The threshold for TCH congestion rate is  $\leq 1.5\%$

Throughout 2019, no Operator exceeded the predefined TCH congestion rate value threshold of 1.5%. The details of TCH congestion rate are outlined in Figure 2.2.8.

**Figure 2.2.8- TCH Congestion Rate**

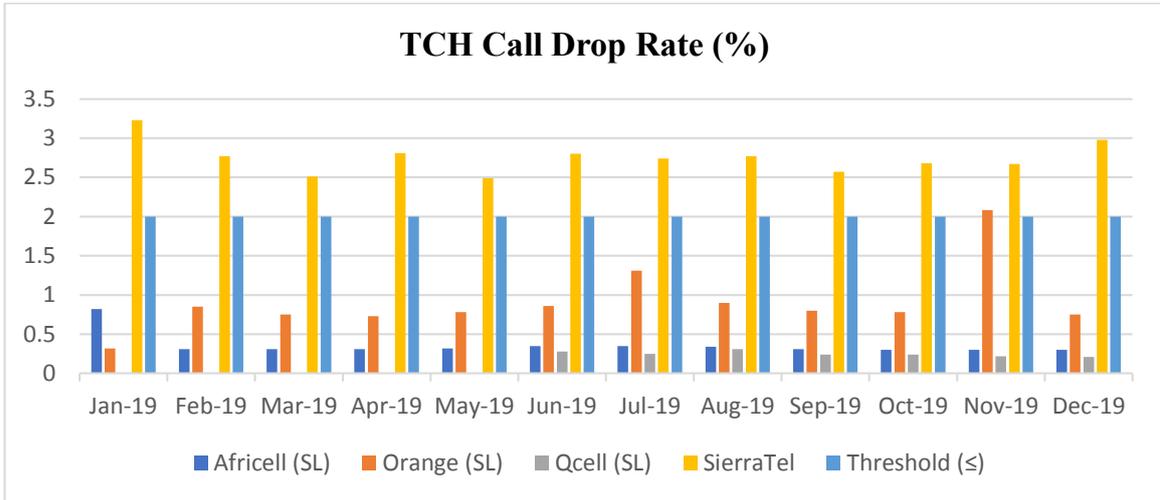


**2.5.4 Traffic Channel (TCH) Drop Call Rate**

The Traffic channels (TCHs) are the combination of voice and data signals (time slot assignments) that exist within a communication channel. The TCH call drop rate refers to the ratio of call drops to successful TCH seizures after the Base Station Controller (BSC) successfully assigns TCHs to mobile stations. It is measured using performance monitoring

systems by analyzing CDRs of Operator’s networks, test stations and drive test systems. The threshold for TCH drop call rate is  $\leq 2\%$ .

Throughout 2019, SierraTel exceeded the predefined TCH drop call rate threshold of 2% by recording up to **3.23%** of drop calls in January 2019, while Orange (SL) exceeded the threshold in November 2019 by recording **2.08%** of drop calls. Africell and Qcell did not exceed the threshold of this KPI in 2019. The details of TCH drop call rate are outlined in Figure 2.2.9. **TCH Drop Call Rate**

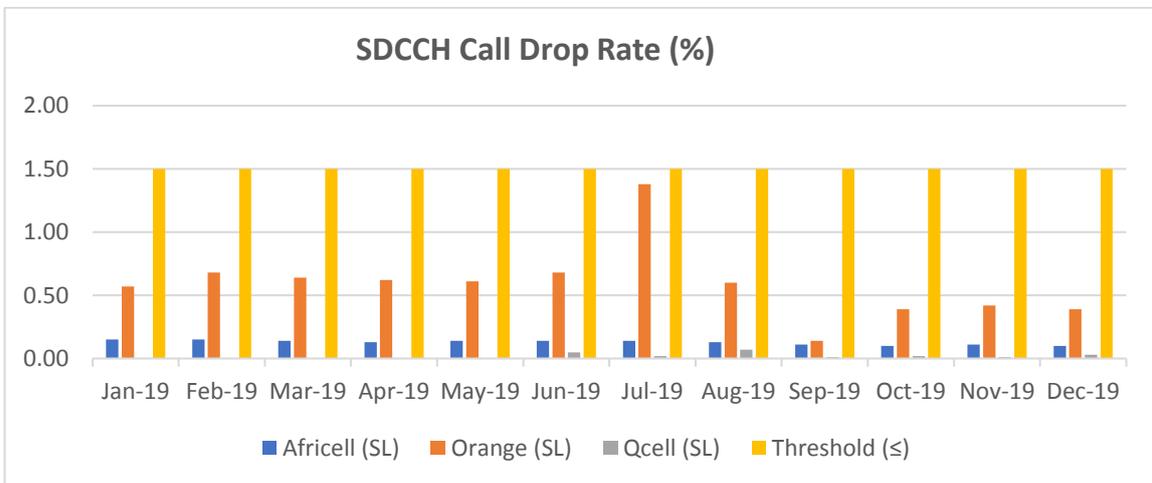


**2.5.5 Stand-alone Dedicated Control Channel (SDCCH) Call Drop Rate**

The Stand-alone Dedicated Control Channel (SDCCH) is a signaling channel that exists between the GSM Mobile and Base Station. The SDCCH is used for most short transactions, including initial call setup, registration and SMS transfer. The SDCCH call drop rate indicates the probability of call drops when the mobile station occupies the SDCCH. It is measured using performance monitoring systems by analyzing CDRs of Operator’s networks, test stations and drive test systems. The threshold for SDCCH drop call rate is  $\leq 1.5\%$ .

Throughout 2019, no Operator exceeded the predefined SDCCH drop call rate threshold of 1.5%. The details of SDCCH call drop rate are outlined in Figure 2.2.10.

**Figure 2.2.10- SDCCH Call Drop Rate**

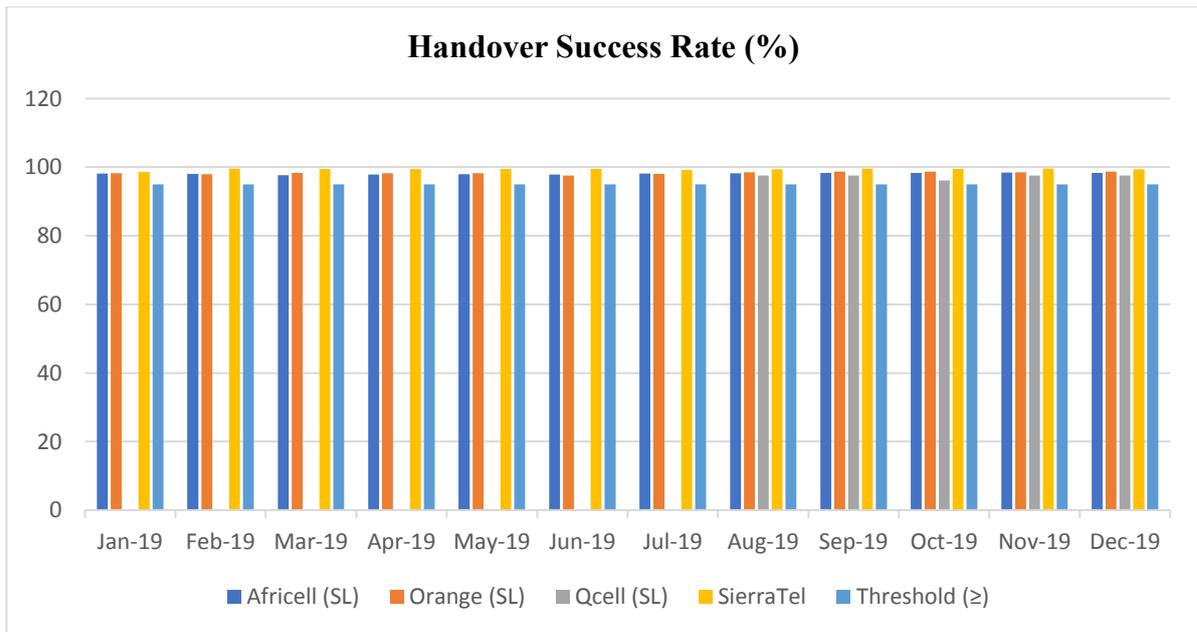


### 2.5.6 Handover Success Rate

This is the ratio of the number of successful handovers to the total number of handover requests. Handover capability enables users to communicate continuously when they traverse different cells. It is measured using performance monitoring systems through accessing CDRs of Operator’s networks, test stations and drive test systems. The threshold for handover success rate is  $\geq 95\%$ .

Throughout 2019, no Operator recorded handover success rate below the predefined threshold of 95%. The details of handover success rate are outlined in Figure 2.2.11.

**Figure 2.2.11- Handover Success Rate**



## 2.6 Assignment of Scarce Resources

### 2.6.1 Spectrum Management and Assignment

The management, assignment, licensing and regulations of the use of the radio frequency spectrum and the geostationary satellite orbits in Sierra Leone are provided for in Sections 9 (2) (e) and 64 of the Telecommunications Act 2006 (as amended). In ensuring the dictates of the provisions of the spectrum management, activities undertaken in 2019 relating to planning, engineering, authorization and monitoring are summarized as follows:

### 2.6.2 Spectrum Planning

Spectrum Planning involves the allocation of portions of the frequency spectrum to specified uses in accordance with international agreements, technical characteristics and potential use of different parts of the spectrum, and national priorities and policies. As at December 2019, the Commission accomplished under spectrum planning the following:

- Re-planned FM frequencies from even to odd channels with a separation of 400 KHz, thereby increasing the usable channels to 50 between 88.0MHz to 108.0MHz. The re-

planning of even to odd channels has expanded radio reception and improved the listenership.

- Facilitated the migration of FM stations in the Western Urban, Western Rural and Lungi to the re-planned FM frequencies.
- Assigned analogue Television frequencies to some TV operators like ITV/Le Wireless and SATCON using digital channels.
- Modernized CALL SIGN table for vessels/ships operating within the territorial waters of the Country and established a collaborative working relationship with the Sierra Leone Maritime Administration.
- Re-planned Band 41 with 2600MHz frequency spectrum into Time Division Duplex (TDD) and Frequency Division Duplex (FDD) frequency channels.
- Notified the International Telecommunications Union (ITU) on GE84 optimization plan to achieve an efficient use of the 87.5-108 MHz (FM) band for analogue sound broadcasting and to allocate new frequencies to FM broadcasting to meet the increasing need for additional frequencies in African countries.

### 2.6.3 Spectrum Authorization

Spectrum Authorization involves granting access under specific conditions to the spectrum resources by various types of Radio Communication equipment and the certification of radio operators. As at December 2019, the Commission granted authorization to different categories of Operators including:

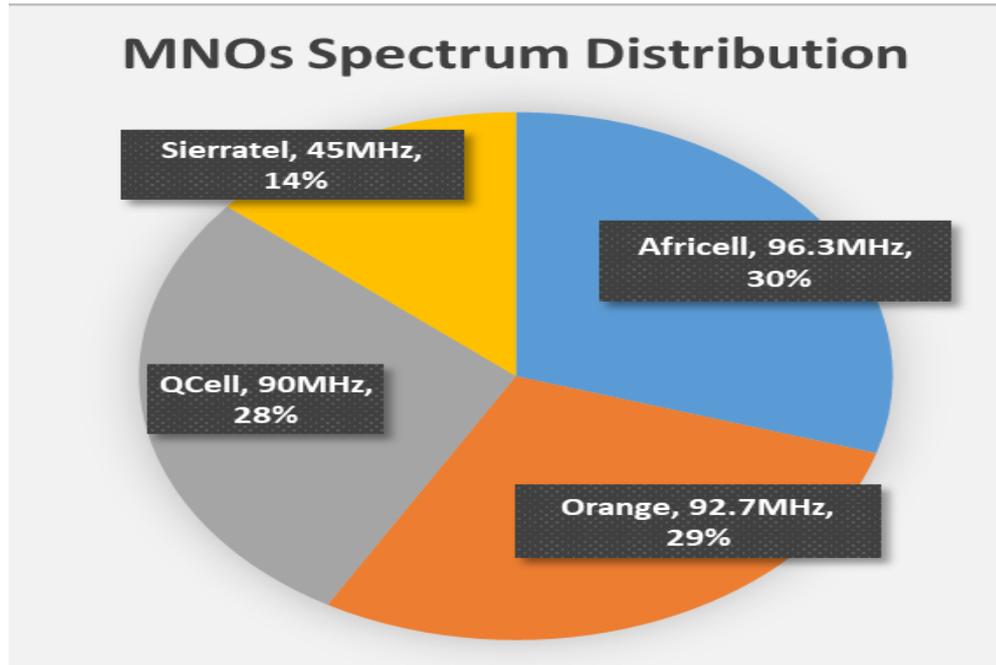
- 16 FM Stations for radio broadcasting;
- 16 vessels/ships for Call Sign;
- several VHF mobile/handsets, Base stations and Repeaters; and
- several access and microwave transmission resources to MNOs for network expansions.

A summary of assignments of access radio frequencies as at December 2019 is detailed in Table 2.13.

**Table 2.13- Summary of Assignments of Access Radio Frequencies**

<b>Freq. Band</b>	<b>Spectrum Bandwidth</b>	<b>Africell (SL)</b>	<b>Orange (SL)</b>	<b>Qcell (SL)</b>	<b>SierraTel</b>	<b>Total Utilization</b>
<b>700</b>	30 MHz			50%		50%
<b>800</b>	30 MHz	50%			50%	100%
<b>900</b>	35 MHz	21%	36%	43%		100%
<b>1800</b>	75 MHz	32%	34%	20%		86%
<b>2100</b>	60 MHz	33%	25%	25%		83%
<b>2300</b>	100 MHz		40%			40%
<b>2600</b>	190 MHz	16%			16%	32%
<b>3500</b>	200 MHz			15%		15%

**Figure 2.2.12- Distribution of Access Frequency Spectrum to Mobile Network Operators**



#### **2.6.4 Spectrum Engineering**

Spectrum Engineering involves the development of electromagnetic compatibility standards for equipment that emits or is susceptible to radio frequencies. This aspect is related to type approval of different electronic equipment, which requires the submission of declaration of conformity certificate, culminating into the issuance of type approval certificates for 130 devices as at the end of December 2019.

#### **2.6.5 Spectrum Monitoring and Compliance**

Spectrum Monitoring and Compliance involves the monitoring of the use of the radio spectrum and the implementation of measures to control unauthorized use. As at December 2019, the following were the achievement of the Commission:

- conducted spectrum monitoring across the country using a Spectrum monitoring vehicle. Spectrum vehicle has a limitation of monitoring up to 3GHz frequencies, which is recently compounded with a faulty UHF card inhibiting the effective monitoring of all frequencies from 2100MHz and above including HF, VHF, and TV frequencies;
- coordinated and identified interference source;
- identified and located illegal transmitters;
- provided general measurement of channel and band occupancy;
- obtained statistical information related to spectrum occupancy; and
- investigated interference complaints and inspected radio equipment across the country.

## 2.7 Numbers and Numbering Resources

Numbers and Numbering Resources are managed by the Commission as provided for in Section 9 (2) (g) of the Telecommunications Act 2006 (as amended). The Commission among other things is mandated to establish the National Numbering Plan (NNP) and to assign numbers accordingly and develop guidelines on the assignment and use of numbering resources.

The national numbering resources are categorized into geographic, non-geographic and non-network dependent numbers. The non-network numbering resources are known as Special Numbering Resources (SNR) and these include Short Codes, Premium Rate Numbers, Toll Free Numbers, and Shared Cost Numbers, which are used for carrying voice and data. Short Codes are Numbers that are shorter than the ITU-T E.164 format and may be used for short message services (SMS) which have become popular for providing Value Added Services (VAS).

Numbering Plan is a type of numbering scheme put in place for the management and administration of numbering resources structured in a standard format to provide unique telephone numbers and identities to user-to-network interface, services or end users.

The numbering plan established by the Commission has enormous benefits, which includes to:

- i. provide an efficient management of National Numbering Resources;
- ii. create equal access, transparency and fair competition;
- iii. enhance consumer protection;
- iv. help reduce complaints of Unsolicited Electronic Communications;
- v. track sources of all Electronic Communications; and
- vi. provide access to public social services such as Fire Force, Police, Health, Ambulance, etc.

The Commission assigned the following non-geographic numbering resources to Operators with a minimum and maximum number length of 8 digits excluding country code which is +232, to provide services such as voice calls, SMS, data and value added services to end-users, as detailed in Table 2.14. The Commission has also assigned assorted Short Codes to Operators to provide other network-related services.

**Table 2.14- Assignment of Non-Geographic Numbering Resources**

Assignee	Number of National Destination Code (NDC)	Number of Subscriber Numbers
<b>Africell (SL) Limited</b>	6	6,000,000
<b>Orange (SL) Limited</b>	5	5,000,000
<b>Qcell (SL) Limited</b>	2	2,000,000
<b>Sierra Leone Telecommunications Company</b>	2	2,000,000

The Commission assigned Special Numbering Resources to predominantly financial institutions to facilitate access to funds through Financial Technologies (FINTECH) as detailed in Table 2.15.

**Table 2.15- Special Numbering Resources (SNR) and Services**

SNR Code	Institution	Services/Applications
<b>966</b>	ZENITH BANK SL	Financial Services
<b>901</b>	ACCESS BANK SL	Financial Services
<b>955</b>	ECOBANK MICROFINANCE	Financial Services
<b>944</b>	SIERRA LEONE COMMERCIAL BANK	Financial Services
<b>977</b>	ECOBANK SL LTD	Financial Services
<b>880</b>	National Assets and Government's Property Commission (NAGPC)	Toll free line to solicit information from the public on the misuse, abuse and disposal of government assets and property
<b>8447</b>	Ministry of Basic and Senior Secondary Education	Ministry of Basic and Senior Secondary Education platform for education service delivery including news, updates, resources, and learning materials and applications.

The Commission also assigned relevant Short Codes to support and address public social services as outlined in Table 2.16

**Table 2.16- Emergency (Helpline) and Security Based Services**

SNR Code	Institution	Services/Applications
<b>112</b>	Sierra Leone Police	Security Emergency
<b>117</b>	Ministry of Health	Health Emergency
<b>1919</b>	Directorate of Science, Technology and Innovation (DSTI)	Verification of e-passes by relevant authorities during the lockdown
<b>116</b>	Ministry of Gender and Children's Affairs	Helpline for Sexual-Gender Based Violence and Child Protection

## 2.8 Telecommunications Regulations and Guidelines

### 2.8.1 Overview on Regulations and Guidelines

The introduction of Regulations in the telecommunications sector varies widely depending on the conditions of the marketplace. The design of regimes may differ but certain critical elements of an effective regulatory framework include the following:

- i. functional aspects of the regulatory authority;
- ii. decision-making processes;
- iii. accountability and predictability;
- iv. consumer protection;
- v. dispute resolution; and
- vi. enforcement powers.

Although the introduction of a regulation is not an end in itself, the goals of a regulation are to:

- a) Avoid market failure;
- b) Foster effective competition;
- c) Protect consumer interest; and
- d) Increase access to technology and services.

An effective implementation of regulatory framework results in greater economic growth, increased investment, lower prices, better quality of service, higher penetration and more rapid technological innovation in the sector.

Pursuant to Section 82 of the Telecommunications Act 2006 (as amended), which stipulates, “The Commission may, by statutory instrument, make regulations for the effective implementation of this Act”, the Commission developed six (6) draft telecommunications Regulations to give effect to this portion of the Act, which were forwarded to stakeholders for review, and to solicit comments, suggestions and recommendations. The Regulations are as follows:

1. Telecommunications Licensing Regulations;
2. Telecommunications Quality of Service Regulations;
3. Radio Frequency Spectrum Regulations;
4. Subscriber Identification and Registration Management Regulations;
5. Electronic Communications Equipment Type Approval Regulations; and
6. National Numbering Resources Regulations.

In accordance with Section 9 (2) (a) (g) & (k) of the Telecommunications Act 2006 (as amended), the Commission shall “promote fair competition among telecommunications operators, establish the National Telephone Numbering Plan and to assign numbers accordingly and provide guidelines on tariffs chargeable for the provision of telecommunications services”, the Commission developed two (2) draft guidelines on:

1. Free and Promotional Telecommunications Services; and
2. Special Numbering (Short Codes) Resources.

## **2.9 Telecommunications Regulations**

### **2.9.1 Telecommunications Licensing Regulations**

The objectives of the Telecommunications Licensing Regulations are to:

- a) promote fair competition, transparency in licensing procedures, technical standards and compliance with essential requirements by setting out rights and obligations of licensees and providers of telecommunications networks, infrastructure facilities or services;
- b) create harmonized and interoperable nationwide telecommunications networks;
- c) promote an optimal approach to infrastructure development, through the expansion of networks and services by multiple players in the sector;
- d) provide the legal basis for the implementation of information and communications sector reform policies;
- e) establish a transparent regulatory framework for the transformation and operation of a national electronic communications network that delivers efficient, effective, reliable and affordable services;
- f) facilitate and regulate the development of a nationwide viable communications network for the provision of universal communications services and the fulfilment of the public social interest and economic objectives of the Act and consumer satisfaction;
- g) provide a conducive environment for greater product choice, more competitive pricing, higher standards of service and greater innovation in the range of telecommunications services and products made available to the public through competition; and
- h) adopt a consumer-oriented approach that focuses on delivery of quality services at reasonable and affordable costs.

These Regulations are related to:

- 1) the process of granting business licenses and authorizations for telecommunications, broadband communications and ancillary services in Sierra Leone;
- 2) the enforcement of license conditions of telecommunications operators or broadband service providers; and
- 3) the use and operation of networks, systems, equipment or apparatus and the provision of telecommunications and broadband services.

### **2.9.2 Telecommunications Quality of Service Regulations**

The objectives of the Telecommunications Quality of Service Regulations are to:

- a) implement a transparent Quality of Service Framework whereby the quality of service of electronic communications shall be objectively measured, reported and published based on definitions and measurement methodologies;
- b) create conditions for improvement in the Quality of Experience (QoE) of customers by making known the quality of services which the service provider is required to provide, and the user should expect;
- c) objectively assess the quality of service provided by the service providers from time to time, by measuring and comparing them with established benchmarks and norms;
- d) protect the interests of consumers of electronic communications services;
- e) make information readily and publicly available to help with informed customer choice of services and comparative performance of Licensees; and
- f) improve the operation and performance of interconnected networks.

These Regulations apply to all providers of licensed communications services in Sierra Leone, including but not limited to Mobile Telephony Network Operators, Broadband Internet Service Providers and Cabled (copper & fibre optic cable) Network Services.

### **2.9.3 Radio Frequency Spectrum Regulations**

The objectives of the Radio Frequency Spectrum Regulations are to:

- a) establish the framework through which the Commission may assign radio frequency spectrum under the National Radio Frequency plan;
- b) establish standard terms and conditions which will be applicable to all frequency bands and applications, as well as radio frequency spectrum licenses;
- c) establish transparent, fair and efficient procedures and processes for radio frequency spectrum license applications;
- d) provide for circumstances under which the use or possession of radio apparatus does not require a radio frequency spectrum license;
- e) provide procedures and criteria for awarding radio frequency spectrum license for competing applications or instances whereby there is insufficient spectrum available to accommodate demand;
- f) set out the procedures for application and permission to assign, cede or transfer ownership and control of a radio frequency spectrum license;
- g) set out the principles and procedures for frequency coordination for unlicensed radio frequencies utilized by multiple persons or bodies;
- h) provide dispute resolution mechanisms with regard to shared or unlicensed spectrum;
- i) provide a framework for the radio frequency application fees, radio frequency examination and certificate fees; and
- j) prescribe relevant application forms.

These Regulations shall apply to:

- i. applicants for or holders of individual, class and unified communications business licenses, who require or utilize radio frequencies for their business operations;
- ii. applicants for or assignees of Frequency Modulation (FM)/Amateur radio frequencies for the operation of their radio stations; or
- iii. other persons or bodies that require the use of radio frequency spectrum for their private use.

#### **2.9.4 Subscriber Identification and Registration Management Regulations**

The objectives of the Subscriber Identification and Registration Management Regulations are to:

- a) provide a clear framework for identifying subscribers of electronic communications services and a minimum framework for verifying the identification details provided by subscribers at the time of registration; and
- b) establish minimum standards for maintaining customer registration information for legal and national security purposes.

These Regulations are applicable to:

- i. the process by which all licensed fixed communications operators register subscribers of fixed telephone communications services;
- ii. the process by which all licensed mobile communications operators register subscribers of mobile communications services using electronic Universal Integrated Service (UIS) cards utilized for delivery of voice, Short Message Service (SMS) and Internet data;
- iii. operators and their agents involved in the registration of subscribers for communications services;
- iv. the process by which all Internet Service Providers register subscribers for fixed-wireless broadband Internet;
- v. the process by which satellite service providers register subscribers for satellite communications services;
- vi. maintaining customer records during active service delivery;
- vii. maintaining and disposing of customer records after licensees stop delivering services to customers or on cessation of operations; and
- viii. subscribers of foreign operators who are roaming on the network of a licensee in the Republic of Sierra Leone.

#### **2.9.5 Electronic Communications Equipment Type Approval Regulations**

The objectives of the Electronic Communications Equipment (ECE) Type Approval Regulations are to:

- a) ensure that ECEs are interoperable and can be interconnected with any communications networks;

- b) ensure that ECEs do not generate electromagnetic disturbance exceeding the prescribed internationally accepted level;
- c) ensure that ECEs do not cause any damage to any public telecommunications network and public health;
- d) promote and assure the quality of ECEs used to provide services to customers;
- e) ensure effective use of the frequency spectrum;
- f) promote the development of communications networks including the supply of ECEs by approved suppliers;
- g) define processes for Type Approval of ECEs; and
- h) identify applicable technical standards, including those promulgated by International and Regional standardization organizations or bodies.

These Regulations are applicable to:

- i. licensed communications operators that import ECE apparatus for use on communications networks installed or interconnected with networks within the Republic of Sierra Leone;
- ii. trading businesses or individuals importing ECE apparatus for sale and distribution within the Republic of Sierra Leone; and
- iii. any foreign parties, such as manufacturers or agents, that intend to Type Approve ECE apparatus for sale in Sierra Leone.

### **2.9.6 National Numbering Resource Regulations**

The objectives of the National Numbering Resources Regulations are to:

- a) establish the framework through which the Commission may assign numbering blocks, National Destination Codes (NDC), exchange codes, short codes, and other unique numbering resources to different classes of Resource Users and applications; and
- b) ensure the administration of definition and assignment of numbering resources in a predictable, competitively neutral, and non-discriminatory manner among all participants in the market.

These Regulations apply to:

- i. the assignment and use of Universal Personal Telecommunication numbers in the 9-digit National Numbering Plan format administered by the Commission;
- ii. the assignment and use of short codes for emergency services, public information and other ancillary communication services; and
- iii. the assignment and use of other individual numbers with different length of digits and short codes as described herein.

### **2.10 Telecommunications Guidelines**

### **2.10.1 Guidelines on Free and Promotional Telecommunications Services**

The objectives of Free and Promotional Telecommunications Services Guidelines are as follows:-

- a) outline clear procedures and processes of implementing free and promotional voice calls, data (Internet) and Short Message Services (SMS);
- b) provide clear rules on tariffs chargeable on promotional telecommunications services;
- c) set clear requirements and standards for matters relating to promotions and bonuses; and
- d) develop record keeping mechanism for all free and promotional telecommunications services.

These Guidelines are applicable to any licensed operator who intends to provide free or promotional services including voice calls, Short Messaging Services (SMS) and data bundle (Internet) with the exception of free voice calls, bulk SMS and data bundle on non-commercial basis, meant to support government related functions including security, education, health, etc.

### **2.10.2 Guidelines on Special Numbering (Short Codes) Resources**

The objectives of these Special Numbering (Short Codes) Resources Guidelines are to:

- a) provide a regulatory framework for the efficient and continuous administration of the numbering resources;
- b) provide guidance on the processes and standards to be followed in providing services using Special Numbering Resources;
- c) ensure equitable access, fair competition and protection of the consumer;
- d) safeguard a well-developed and structured Special Numbering Resource market in Sierra Leone with a suitable legal framework that conforms to international best practices; and
- e) formulate a minimum standard of practice for service providers in the use of Special Numbering Resources and to provide procedures for the provision of these services.

These Guidelines cover the following applicants:

- i. Public and Private Communications Network Operators;
- ii. Governmental and Non-Governmental Agencies with interest in Special Numbering Resources;
- iii. Network Facilities Providers;
- iv. Applications Service Providers / Value Added Service Providers;
- v. Entities with interest in acquiring Special Numbering Resources; and
- vi. Financial institutions interested in utilizing special numbering resources to promote their business.

## **2.11 Regional Free Roaming**

On 16<sup>th</sup> December 2017, the Ministers in charge of Telecommunications and ICT adopted the Free Regional Roaming Regulation for ECOWAS member countries in Abuja, Nigeria. This Regulation is in line with the Africa Telecommunications Union (ATU) on “Mobile Roaming in Africa”, ITU International Mobile Roaming (IMR) and European Union (EU) initiatives on mobile roaming.

The overarching objective of the Regulation is to establish a single ICT market in West Africa, as well as set up harmonized legal and tariff frameworks for free roaming on public mobile communications networks within ECOWAS member states.

Since early 2018, Senegal, Mali, Guinea, Cote D’Ivoire, Burkina Faso, Benin and Togo implemented the free roaming initiative based on the Abidjan Protocol. As a sequel to the aforementioned, on 26<sup>th</sup> April 2019, the Commission signed a Memorandum of Understanding with other Mano River Union (MRU) member countries for the actualization of the free roaming initiative based on the principle of collective responsibility and best practices.

On 16<sup>th</sup> December 2019, Sierra Leone implemented the Regional Free Roaming Initiative based on the Abidjan Protocol.

The benefits of the regional free roaming initiative among others are as follows:

- i. reduce or eliminate roaming charges within the sub-region, leading to digital ubiquity;
- ii. create integrated ICT markets in member states, thereby improving the daily lives of citizens;
- iii. promote borderless communication and regional integration;
- iv. strengthen cohabitation and promotion of a common field for telecommunications and ICT services, in line with the vision of SMART Africa; and
- v. facilitate the mobility of inhabitants through the use of ICTs.

Once a country implements a regional free roaming, the subscribers of an operator that have signed roaming agreement with other operators should provide access to voice and SMS services, including emergency numbers of the visited country, and receive emergency alerts under the same conditions as subscribers in the visited country.

Under regional free conditions, the tariff chargeable does not exceed the highest tariff for international call and SMS from the visited country to other countries in the ECOWAS region. Furthermore, the tariff for roaming calls and SMS originating from the visited network and terminating on any network of a visited country does not exceed the highest tariff for local calls of the visited country.

Based on the Abidjan Protocol, reception of roaming voice calls and SMS are free of charge within a maximum period of thirty (30) consecutive days or three hundred (300) minutes, whichever comes first, in any of the free roaming countries in the sub-region. Also, receiving

and listening to a voice message while roaming is free of charge and calls to emergency numbers and emergency alerts are free of charge for the roaming customer.

Prior to the implementation of the regional free roaming services in Sierra Leone, roamers paid extra cost of approximately 90.03% of the retail price of services, while after the launching of free roaming services, the cost of telecoms services reduced by 70.66%. The implementation of free roaming services also eradicated SIM card swap in all free roaming countries as well as making SIM Box activities largely not lucrative and profitable.

The Commission is closely working with other Regulatory Authorities in the ECOWAS community to migrate free roaming services to the ECOWAS Regulation, following the domestication of the ECOWAS Regulation.

### **2.12 Enforcement and Compliance**

Pursuant to Section 39 of the Telecommunications Act (as amended), the Commission conducted several compliance checks across the country where 793 unregistered SIM cards belonging to the Orange, Africell and Qcell Networks were confiscated. In similar joint compliance raids with the Sierra Leone Police (SLP), the Police arrested seven (7) Sales Agents for selling unregistered SIM cards and they were taken to different Police Stations for questioning.

During the course of enforcing the provisions of the Act, six (6) pirate Frequency Modulation (FM) radio stations were discovered and the transmitters of the said radio stations were confiscated. The owners of the aforementioned radio stations were requested to regularize their authorization status with the Independent Media Commission (IMC) and NATCOM.

In the course of performing spectrum scanning and triangulation for occupancy and over-modulation, the Commission discovered that some FM radio stations were over-broadcasting as their transmit power were above the stipulated threshold. Consequently, the Commission ensured that the transmit power were re-tuned to the appropriate levels of wattage to mitigate harmful interference.

### **2.13 Cybercrime and Cybersecurity**

In May 2019, telecommunications fraudsters were found utilizing both the Country Code (+232) and National Destination Code (021) of Sierra Leone, to perpetrate International “One Ring” Robo Call Phone Scam, predominantly targeting subscribers in the United States of America. The Commission notified the International Telecommunications Union (ITU) to immediately expunge the said National Destination Code (021) from their database and all international carriers. Additionally, the Commission also announced the cancellation or deletion of other dormant National Destination Codes (NDCs) detailed in Table 2.17 by the International Telecommunications Union (ITU), in order to mitigate the prevalence of similar Wangiri (Robo) Phone Scam activities.

**Table 2.17- Dormant National Destination Codes (NDCs)**

<b>Operator</b>	<b>Network Destination Code (NDC)</b>	<b>Additional Information</b>
<b>Datatel/Cellcom (GSM)</b>	40	This NDC is not in use, which requires its cancellation from the ITU database and all international carriers. It is a potential source of phone scam
<b>Datatel/Cellcom (CDMA)</b>	50	This NDC is not in use, which requires its cancellation from the ITU database and all international carriers. It is a potential source of phone scam
<b>Ambitel (GSM)</b>	55	This NDC is not in use, which requires its cancellation from the ITU database and all international carriers. It is a potential source of phone scam
<b>Intergroup (GSM)</b>	44	This NDC is not in use, which requires its cancellation from the ITU database and all international carriers. It is a potential source of phone scam

Additional cybercrime related issues addressed by Commission were those bordering on mobile money fraud, where a joint team of the Commission and the Sierra Leone Police arrested several culprits. In terms of phone theft in 2019, the Commission, MNOs and the Scientific Support Unit of the Criminal Investigation Department (CID) retrieved approximately 750 stolen mobile phones.

**2.14 Capacity Building**

The Commission is committed to building the capacity of its staff and in this regard, staff members of the Commission continue to pursue training at various institutes locally and internationally including the United States Telecommunications Training Institute (USTTI) and the African Advanced Level Telecommunications Institute (AFRALTI)

Furthermore, staff members undertook five-day working visits to Liberia and Guinea in order to understudy and benchmark telecommunications regulatory activities of the regional counterparts.

### **3.0 Department of Legal Affairs**

#### **3.1 Mandate of the Department**

The Department is charged with the responsibility of providing legal advice to the Commission and addressing all legal issues relating to the statutory regulatory functions of the Commission, in collaboration with other relevant departments of the Commission.

It is also responsible for the enforcement of compliance by all licensees with the statutory mandate of the Commission.

#### **3.2 Activities of the Department**

During the period under review, the department was involved in the following activities:

- i. drafted a contractual agreement between the Commission and International Construction Company (ICC) in respect of the services for the Commission's building project;
- ii. drafted a contractual agreement for the refurbishment of the Commission's Headquarter and the Zonal offices;
- iii. developed a contractual agreement for the procurement of works such as drilling of electrical boreholes for various offices and institutions;
- iv. drafted 4G License for Orange, as well as new Infrastructure and Interconnection Clearing house Licenses as the Commission continues its strive towards producing a Unified License Regime in readiness for market expansion and investment in the Telecoms Industry in Sierra Leone;
- v. represented the Commission in Court on matters bordering on regulatory compliance for the case against DATATEL;
- vi. participated and contributed in drafting and validating five (5) telecommunications regulations including Type Approval, Quality of Service, Radio Frequency Spectrum, Licensing and Subscriber Identification and Registration Regulations;
- vii. participated in the drafting of the Numbering and Interconnect Clearing house Regulations;
- viii. contributed in drafting and validating the Electronic Communications Act, which is designed to modernize the telecommunications landscape and further strengthen the Commission in discharging its statutory functions; and
- ix. involved actively in the enactment of the new Cyber Crime Act, Electronic Transactions Act and Computer Misuse Act for the immediate and distant future.

## **4 Department of Corporate and Industry Affairs**

### **4.1 Mandate of the Department**

The Department of Corporate and Industry Affairs principally upholds the Commission's core values of transparency, integrity, fairness, industry participation and awareness. It also widens and deepens public education and engagement.

The primary responsibility of the Department is to provide safeguard mechanisms to promote a positive image of the Commission to its stakeholders. It is also responsible for educating and informing consumers, protecting their rights and resolving complaints amongst others, in order to foster business and consumer confidence in the sector. In addition, it ensures that the regulator is accountable by having appropriate procedures to channel consumer inquiries or claims, educate consumers regarding their rights and protect operators from market failures.

### **4.2 Activities of the Department**

During the period under review, the department conducted the under-mentioned activities and made the following accomplishments:

- i. successfully organized NATCOM HOUR radio program as part of its broader communication strategy, thereby raising awareness on the scope, benefits and impact of SIM card registration and the provision of telecommunication services in Sierra Leone;
- ii. conducted consumer education on the Emergency Alert Telephone Call regulations 2020 (against prank calls to the 117 hotline);
- iii. defended the industry from unjustified criticisms, misinformation, disinformation and conspiracy theories against 5G (Fifth Generation) network technology and Corona Virus (COVID-19) that nearly led to potential threats to sector workers, cell sites (Base Stations) and telecommunications equipment in some parts of the country;
- iv. conducted surveys on consumer satisfaction, market forces and related matters as a basis for informed decision-making to improve the 'Consumer and Industry relationship';
- v. established a functional consumer help desk for handling complaints and resolving disputes between Consumers and Service Providers in the industry, and also to handle consumer complaints relating to cybercrimes, device theft, EI-connections, unexpected loss of credits or top up and data bundles, and unsolicited text messages;
- vi. developed and implemented the Commission's outreach programs for proper dissemination of information;
- vii. initiated public education on the migration process of Free Roaming services from the Abidjan Protocol to the ECOWAS Regulations in line with the SMART Africa initiatives;
- viii. collaborated with the Mobile Network Operators (MNOs) and National Revenue Authority (NRA) to put into effect the agreed floor price of Le590 per minute on all voice calls, pursuant to Section 36 (b) of the Finance Act 2020; and

- ix. developed guidelines on Consumer Protection and updated the Consumer Bill of Rights.

### **4.3 NATCOM Takes ITU Day Celebration to Moyamba**

The National Telecommunications Commission (NATCOM) joined the International Telecommunications Union (ITU) and the global Information Communications Technology (ICT) community to celebrate the 50<sup>th</sup> Anniversary of the World Telecommunications and Information Society Day by providing ICT training to five hundred (500) girls in Moyamba Town, Southern Sierra Leone.

The theme of the worldwide celebration, which was “Bridging the Standardization Gap”, aimed at demonstrating the importance of ICT particularly and the Internet in providing teaching and learning solutions. The pupils were encouraged to take their academic pursuits seriously and to avoid the misuse of social media.

*ICT training for girls in Moyamba*



### **4.4 Civil Society, Media and Other Stakeholder Engagement**

The Commission successfully facilitated engagements with the Media, Civil Society Organizations (CSOs), and other Stakeholders on the review of Mobile Termination Rate (MTR). The significance was to ease consumer communication across networks as well as to prevent dominant carriers from hindering or eliminating competition by delaying interconnection, degrading the quality of interconnection or charging prohibitive prices for interconnection.

As a way of giving updates on the activities of the Commission, the engagement with CSOs and the Media continued robustly throughout the period under review as part of the public awareness package.

#### **4.5 Consumer Perception Survey in the Provinces**

A public perception survey on consumer satisfaction was successfully conducted in Kenema, Kailahun, Bombali and Tonkolili Districts, to assess the perceptions of consumers in respect of services provided by Mobile Network Operators (MNOs), through administering of over five thousand (5,000) questionnaires. During the survey, town hall meetings were held in the form of consumer public dialogues to sound the views of consumers on Quality of Service (QOS) and Quality of Experience (QOE).

#### **4.6 Commonwealth Telecommunications Organization (CTO) Conference**

The National Telecommunications Commission (NATCOM) held a three-day Commonwealth Telecommunications Organization (CTO) conference at the Bintumani Conference Centre in Freetown from 31<sup>st</sup> July to 2<sup>nd</sup> August 2019. The theme of the conference was “Broadband for Inclusive Digital Transformation”. The Conference brought together stakeholders in the Telecoms Sector from Commonwealth and other countries to deliberate on pertinent issues relating to:

- Rural Connectivity
- Analogue to Digital Broadcasting
- Enhancing Local Innovation
- Emerging Technologies
- 5G Deployment
- Youth and Information Communications Technology
- Digital Economy
- ICTs and Sustainable Development
- Cybersecurity

The Conference was in line with H.E. President Bio’s vision of having a ‘digitally inclusive’ Sierra Leone, cognizant of the fact that communication is an essential tool for reaching every one and enabling individuals to reduce poverty and improve the quality of their lives. Because of the outcome of the conference, the Commission continued to provide the enabling environment for the expansion of ICT coverage in Sierra Leone.



*Town hall meeting, cross section of participants at Segbwema Community Centre*

*NATCOM staff posing for a group photo with some residents of Tonkolili District after the town hall meeting*



*Media, Civil Society and NATCOM Staff during the MTR review meeting*

*Cross section of participants during the launch of the Free Regional Roaming Services at the Miatta Conference Center*





*NATCOM meets FM Radio and TV Station Managers*

*Sierra Leone's NATCOM hosts CTO Conference*



*Sierra Leone and Guinea fiber optic cables interconnected at Gbalamuya*



## **5.0 Department of Administration and Human Resources**

### **5.1 Mandate of the Department**

The Department of Administration and Human Resources is the backbone of the Commission as it ensures the smooth running of operations and brings about efficiencies through best practices.

Principally, the department is responsible to carry out the following:

- i. Handle a broad spectrum of human resources from entry to exit;
- ii. develop and administer HR/Management policies, policy enforcement and inter-departmental coordination of the Commission's routine business to ensure alignment with the Commission's overall Strategic Plan;
- iii. Manage and secure the Commission's properties, utilities and maintain accurate records of both land property and the Commission's other assets;
- iv. Ensure the implementation of the Human Capital Development Plan;
- v. Manage Vehicle Fleet and Logistic Services;
- vi. Manage the Asset/Inventory register of the Commission including Zonal Offices;
- vii. Collect, collate and analysis monthly and annual reports of Zonal Offices;
- viii. Serve as the first port of call in liaising with other Departments of the Commission in the dissemination of information and collaboration of activities and related matters originating from the Zone Offices; and
- ix. Manage, coordinate and organize the day-to-day activities/operations of the Commission and execute quality control and internal control mechanisms.

### **5.2 Activities of the Department**

During the period under review, the department conducted the undermentioned activities and made the following accomplishments:

- i. re-structured the overall Human Capital of the Commission with the aim of ensuring that roles, responsibilities and functions are re-aligned with the Commission's Strategic Plan, following a critical recruitment process;
- ii. developed a HR Strategic Plan (2019-2023) in an effort to streamline its operations in accordance with the Commission's Strategic Objectives;
- iii. reviewed fourteen (14) Policies, HR Systems and Processes, as well as the 2011 Employee Handbook for approval by the Board of Commissioners to enhance employee welfare;
- iv. harmonized the salary structure of staff across the Commission, and simultaneously developed a notch system;
- v. developed an Employee Savings Scheme as a contributory savings scheme that allows employees to save for their retirement or other long-term goals (e.g. paying for university tuition, building a house, buying a car, etc.);
- vi. collaborated with the Commonwealth Telecommunications Organization and the International Telecommunications Union to conduct industry-specific training

- through Study Groups of other Regulators for employees in the Engineering and Regulatory Administration & Human Resources Departments;
- vii. organized a 5-day Corporate Governance Training Programme for the Board of Commissioners, the Director-General and Deputy Director-General, facilitated by the Africa Corporate Governance Advisory Services Limited based in Nairobi, Kenya;
  - viii. engaged the services of a second Medical Retainer, a Health Maintenance Firm which renders its services through some selected and specialized well-equipped clinics with state-of-the-art facilities in the City and partners with private and public health organizations nationwide to serve our Zonal Offices and to enhance staff productivity;
  - ix. facilitated and recommended the granting of loan facility by Commercial Banks to employees;
  - x. coordinated an end of year get-together party designed to enable staff and their families to interact informally in the true spirit of togetherness and relaxation;
  - xi. outsourced security services to P.T.N Services Limited to provide services in the area of general security of properties, effective control of visitors' and vehicular movements;
  - xii. drilled a borehole to augment the supply of water for use by employees and ensure a high degree of hygiene, health and safety; and
  - xiii. secured an insurance Broker to cover policies for Building, Vehicle, Life, Fire and Public Liability.

## **6.0 Department of Policy and Government Relations**

### **6.1 Mandate of the Department**

The Policy and Government Relations Department is a new directorate that came into existence under the New Direction administration in June 2019 to help the Commission meet legislative goals by creating policy proposals and working with government agencies and citizens. It has the responsibility to carry out the following functions:

- i. conduct communications sector research and publish sector performance data for public consumption;
- ii. coordinate regulatory policy formulation through evidence-driven research and international best practice; and
- iii. serve as a liaison between NATCOM and other Government Agencies and institutions, for the purpose of reducing bottlenecks and enhancing information flow.

### **6.2 Activities of the Department**

During the period under review, the department carried out the following activities:

- i. supervised the successful preparation and conduct of the Access Gap Survey with the Universal Access Development Fund (UADF), leading to the identification of the mobile access gap in the country, thereby informing policymakers of expanding mobile coverage in order to provide access to mobile and internet connectivity to health centers, schools, and communities;
- ii. facilitated the development of a Memorandum of Understanding (MoU) with the Bank of Sierra Leone on Digital Financial Services (FINTECH) and customer protection;
- iii. collaborated with the Sierra Leone Broadcasting Corporation (SLBC) for the fencing and securing of Leicester Peak Communications site area;
- iv. finalized an MoU between the Commission and Public Utility Regulatory Authority (PURA) of Gambia on sharing information, expertise and training;
- v. alongside Parliament, the Commission resolved complaints and concerns of the False Cape Garden and Development Forum of the Metchem community against Qcell and Orange with regards the installation of Cellular Mobile Towers through the intervention of the National Safety and Radiation Protection Agency and the Environmental Protection Agency (EPA); and
- vi. worked with Maritime Administration and Sierra Leone Industrial Fisheries Association to update data on vessels operating call signs and total number of vessels on the shores of Sierra Leone with similar equipment.

## **7.0 Department of Internal Audit and Risk Management**

### **7.1 Mandate of the Department**

The Department of Internal Audit and Risk Management (DIARM) provides Management and the Board with objective assurance on governance risk, and internal control processes and systems.

### **7.2 Activities of the Department**

The department pre-audits the payment process in the Commission. All documents relating to payments from the Commission are reviewed before any payments are made. Any issues/queries are cleared before allowing the process to continue. In addition, the department carried out quarterly financial performance reviews.

The following pre-audits and audits were conducted in 2019:

- i. Payment Vouchers;
- ii. Statutory Audits – Pay As You Earn (PAYE) tax deductions, NASSIT contributions, and Withholding of Tax;
- iii. Stock Control and fuel;
- iv. Special Audit on the New HQ Building;
- v. Audit of Zonal Offices, including petty cash, fuel, the register of all assets, and the training of staff;
- vi. Conferences and events, including the CTO ICT forum held in Freetown; and
- vii. A continuous follow-up on both external and internal recommendations.

Because of these audit reviews, there were significant improvement in the responses relating to the audited documents. This ensured Management's timely interventions to ensure compliance and implementation of audit recommendations.

The department revived the Integrity Management Committee (IMC) and played a significant role in implementing the National Anti-Corruption Strategy (NACS) by agreeing with the NASC Secretariat on the Commission's work plan for implementing the NACS strategy.

## **8.0 Department of Finance**

### **8.1 NATCOM Adopt General Purpose Financial Statements (GPFS)**

Following Government's adoption of the Public Financial Management (PFM), the Commission prepared its financial reports using the General Purpose Financial Statements (GPFS) and cash basis International Public Sector Accounting Standard (IPSAS), consistent with the strong commitment to reform the drive for transparency and accountability.

Since 2018, the Commission changed its financial reporting from the International Financial Reporting Standard (IFRS) to General Purpose Financial Statements (GPFS) and cash basis International Public Sector Accounting Standard (IPSAS).

### **8.2 Standardized Statement of Accounting Policies**

The standardized accounting policies adopted in the preparation of the General Purpose Financial Statements (GPFS) are detailed below:

#### **8.2.1 Statement of Compliance and Basis of Preparation**

The financial statements were prepared in accordance with the requirements of the Public Financial Management (PFM) Act 2016, and in compliance with the financial reporting of the International Public Sector Accounting Standard (IPSAS) and the Cash Basis of Accounting. The measurement basis applied were the historical cost basis, except where otherwise stated in the accounting policies below. The financial statements were prepared on the Cash Basis using the Government's standard chart of accounts.

#### **8.2.2 Reporting Currency**

The financial statements are presented in Leones, which is the functional and reporting currency of the Government of Sierra Leone

#### **8.2.3 Reporting Period**

The reporting period for these financial statements is twelve months starting from 1<sup>st</sup> January to 31<sup>st</sup> December 2019, as specified in Section 1 of the PFM Act 2016.

#### **8.2.4 Receipts**

The receipts are cash inflows within the Financial Year, comprising of receipts from Statutory/Authorized Allocations, Receipts from Trading activities, fines, levies and other receipts.

#### **8.2.5 Payments**

The payments were recurrent and capital cash outflows made during the financial year, categorized either by major economic categories/programs (activities) and / or by function in the statement of cash receipts and payments.

The prepaid expenses were amounts paid in advance of receipt of goods/services or work done (under contractual arrangements) and were charged directly to the respective expenditure item in the period of payment.

## 8.2.6 Cash and Cash Equivalents

The cash and cash equivalents comprised cash in hand and cash at bank. These comprised mainly Bank account balances, include amounts held at the Bank of Sierra Leone and various Commercial Banks, cash imprest and other short-term obligations held at the end of the financial year.

## 8.3 Statement of Cash Receipts and Payments

The 2019 annual financial report provides the statement of receipts and payments, and the disclosures that provide further information on the transactions. The statement of cash receipts and payments are detailed in Table 8.1.

**Table 8.1- Statement of Cash Receipts and Payments**

<b>Statement of cash receipts and payments for the year ended 31<sup>st</sup> December 2019</b>		
	<b>2019</b>	<b>2018</b>
	<b>Receipts/ Payments by</b>	<b>Receipts/ Payments by</b>
<b>Receipts</b>	<b>SLL</b>	<b>SLL</b>
	<b>‘000’</b>	<b>‘000’</b>
Authorized Allocation/MOF Transfers	98,700,306	37,310,423
Trading Activities Proceeds from trading activities	165,191,546	144,688,083
Other Receipts	85,882	4,900
<b>Total Receipts</b>	<b>263,977,734</b>	<b>182,003,406</b>
<b>Payments</b>		
Compensation of employees	39,536,652	19,786,775
Use of goods and services	46,301,810	34,335,696
Capital/Development	7,712,818	15,810,766
<b>Expenditure</b>		
Transfers GOSL	165,191,546	115,862,873
Other payments-Social Benefits	7,005,058	3,163,941
<b>Total Payments</b>	<b>265,747,884</b>	<b>188,960,051</b>
Surplus/(deficit)	-1,770,150	-6,956,645
<b>Cash at beginning of the year</b>	<b>5,736,568</b>	<b>12,693,212</b>
<b>Cash at close of the year</b>	<b>3,966,418</b>	<b>5,736,568</b>

## 8.4 Revenue for 2019

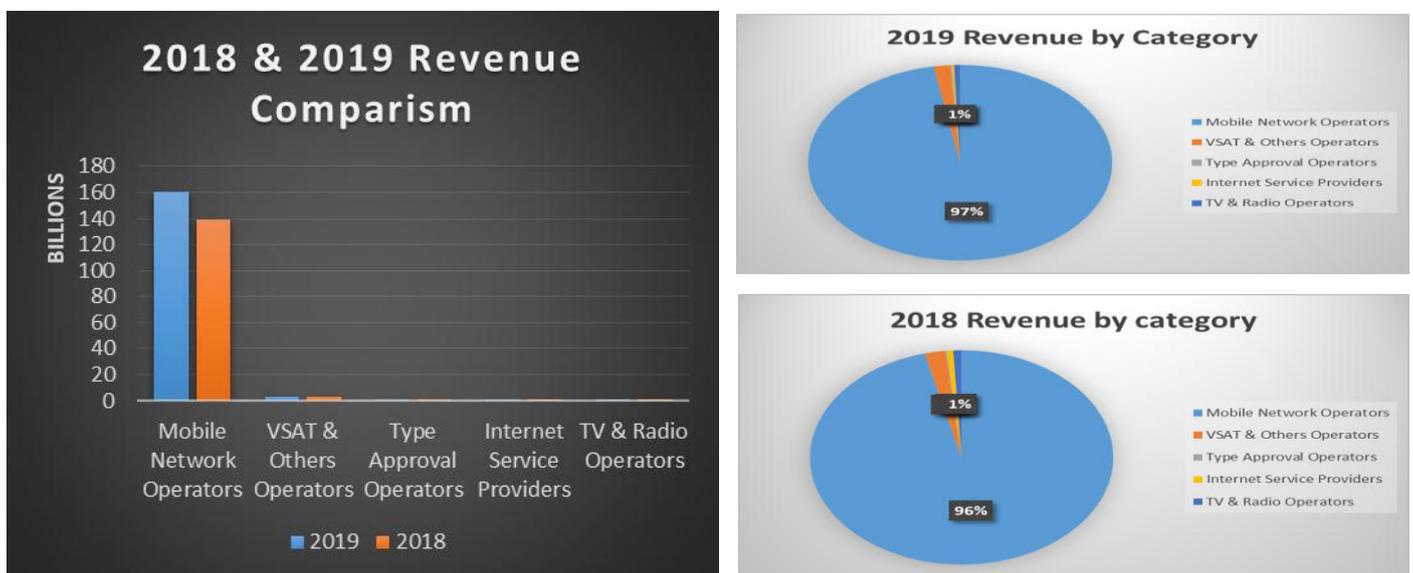
Due to the effect of significant reforms and robust revenue collection mechanisms in 2019, revenue generated by NATCOM increased by 12 %. After the effectiveness of the Treasury Single Account (TSA) in 2018 by the Government of Sierra Leone, the Commission generated 165 billion Leones in receipts for 2019, of which Government received 33%, being its share, pursuant to the Telecommunications Act 2006 (as amended).

In improving its governance and compliance with the Public Financial Management Act 2016, the Commission utilized the cash basis reporting as stipulated in the Act, and all revenue reported were actual cash generated from its operational activities for the year 2018 and 2019, as detailed in Table 8.2, for which the pictorially representation is shown in Figure 8.1.1.

**Table 8.2- Sources of Funds**

Sources of Funds	2019	2018
	'000'	'000'
Mobile Network Operators (GSM, 3G, 4G License & other Regulatory Fees)	160,602,014	139,044,058
VSAT & Others Operators	2,857,328	3,184,516
Type Approval Operators	288,853	220,363
Internet Service Providers	373,693	957,658
TV & Radio Operators	1,069,658	1,281,488
<b>Total</b>	<b>165,191,546</b>	<b>144,688,083</b>

**Figure 8.1.1- Revenue Comparison and by Category**



## 8.5 Expenditure Summary 2019

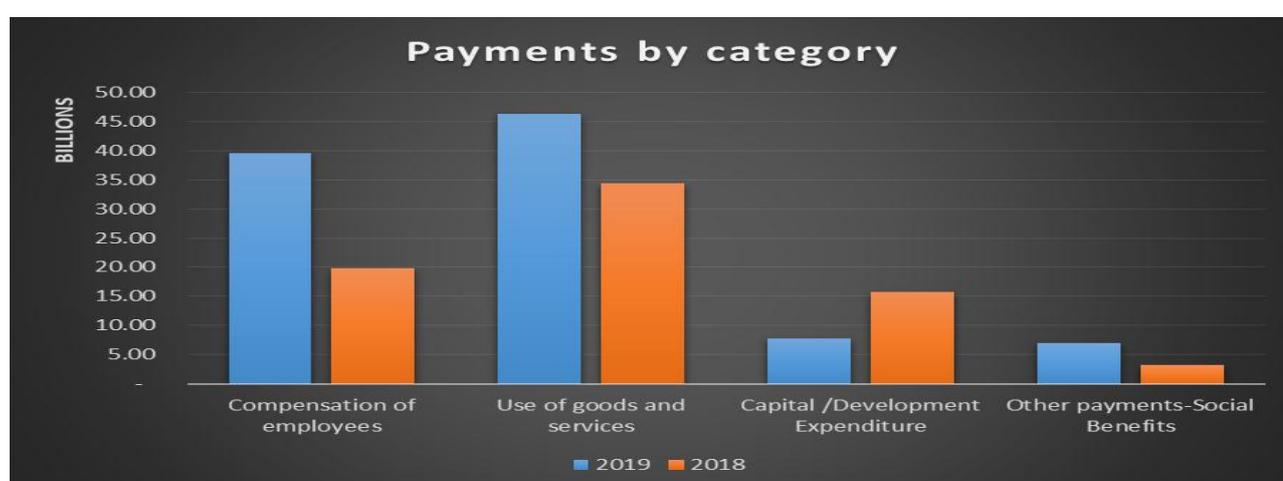
In 2019, NATCOM established more regional offices, leading to an increase in the number of employees with improved salaries and employee compensation packages. Additionally, the Commission made stronger commitment to supporting National Development thereby

increasing spending on social services. There were more training opportunities for employees, all of which led to an increase in expenditure for 2019 compared with 2018.

**Table 8.3- Expenditure Summary 2019**

Payments	2019	2018
	'000'	'000'
Compensation of employees	39,536,652.00	19,786,775.00
Use of goods and services	46,301,810.00	34,335,696.00
Capital/Development Expenditure	7,712,818.00	15,810,766.00
Other payments-Social Benefits	7,005,058.00	3,163,941.00
<b>Total</b>	<b>100,556,338.00</b>	<b>73,097,178.00</b>

**Figure 8.1.2- Expenditure by Category**



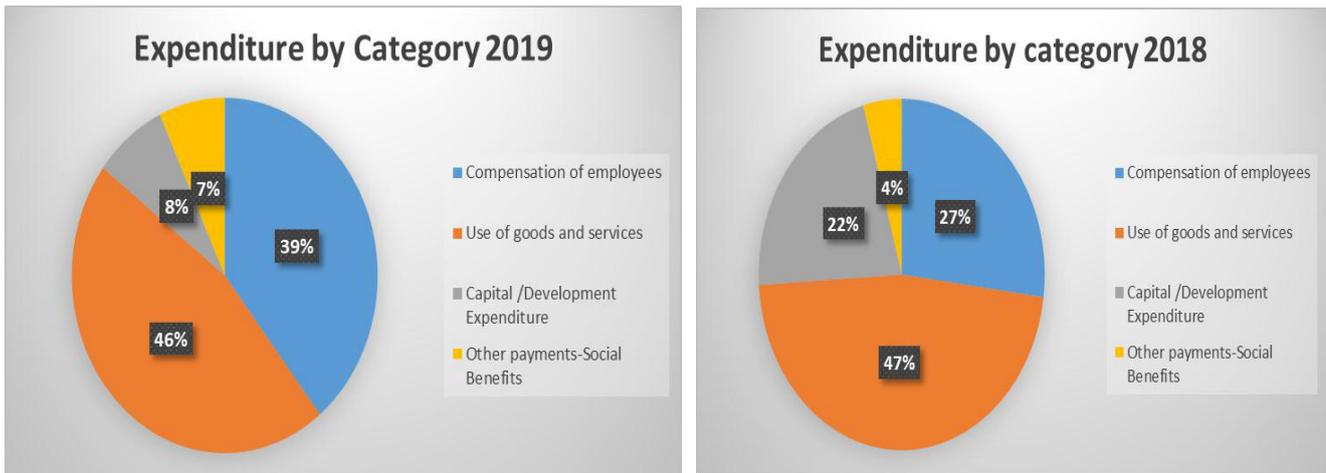
### 8.6 Capital Expenditure 2018 & 2019

The Commission's commitment to the building project has been at the forefront of our capital expenditure with over 70% committed to advancing and completing the project, in fulfillment of one of our strategic objectives.

**Table 8.4- Capital Expenditure 2018 & 2019**

Capital Expenditure Payments	2019	2018
	'000'	'000'
Land & Building	5,648,758	15,596,969.00
Plant & Machinery	172,500	-
Furniture & Fixtures	669,774	1,956.00
Office Equipment	642,499	190,106.00
Motor Vehicles		21,705.00
Computer Equipment	457,808	0
Software	121,479	0
<b>Total</b>	<b>7,712,818.00</b>	<b>15,810,736.00</b>

**Figure 8.1.3- Capital Expenses**



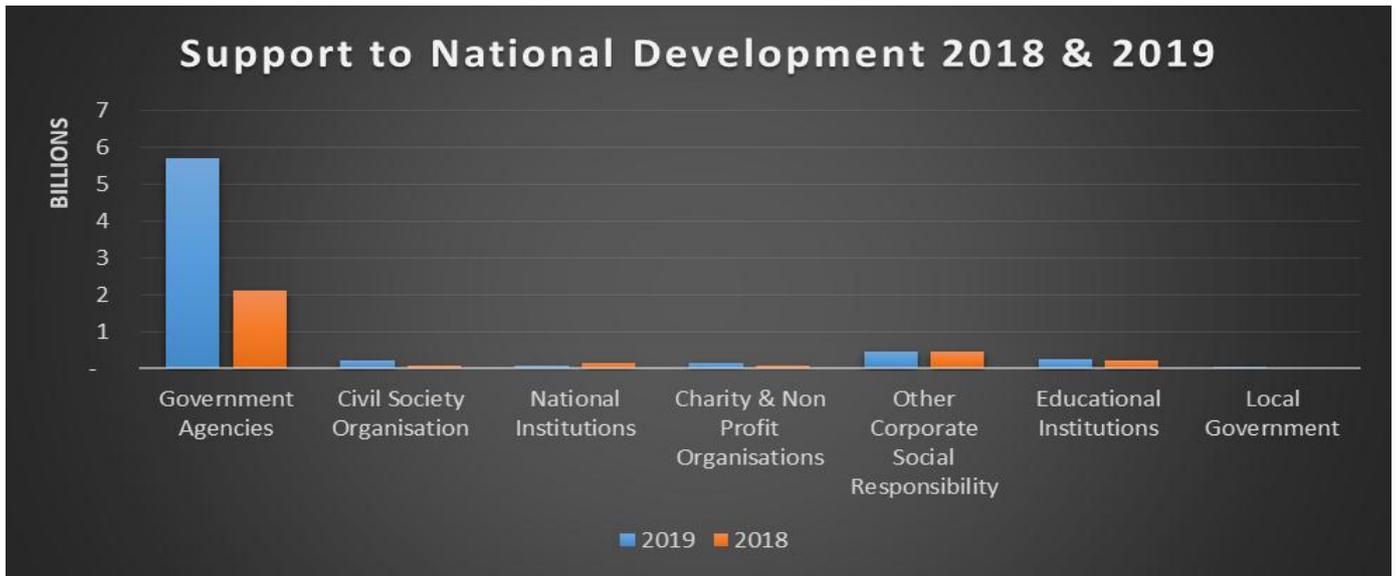
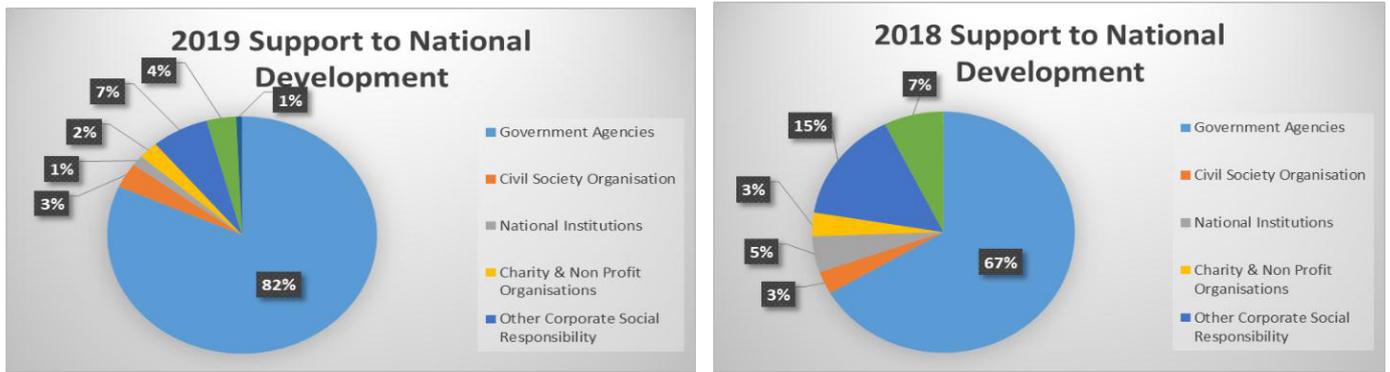
**8.7 Support to National Development**

The Support for National Development increased dramatically in 2019 due to among other things the hosting of the National ICT conference and the promotion of ICT in schools and government ministries. In addition, the Commission supported non-profit organizations, civil society organizations and national institutions to improve their capacity effectively and efficiently. The Commission’s Corporate Social Responsibility and its strive towards Universal Access to Telecommunications as espoused in the Sustainable Development Goals has remarkably increased expenditure.

**Table 8.5- Support to National Development**

Support to National Development	2019	2018
	'000'	'000'
Government Agencies	5,722,845	2,106,431
Civil Society Organization	238,300	96,510
National Institutions	101,912	152,800
Charity & Non Profit Organizations	165,000	100,000
Other Corporate Social Responsibility	478,843	476,122
Educational Institutions	248,158	232,078
Local Government	50,000	
<b>Total</b>	<b>7,005,058</b>	<b>3,163,941</b>

**Figure 8.1.4- Support to National Development**



## 9.0 Challenges

Amidst the varying achievements in 2019, the Commission was challenged with the following:

- i. unavailability of HR/Management software tools to enhance efficiency and increase productivity;
- ii. non-existence of cybersecurity laboratory (CERT) for forensic investigations and surveillance;
- iii. non-existence of upgraded spectrum enforcement and monitoring tool for occupancy and interference;
- iv. lack of Type Approval laboratory to determine the standards of imported electronic communications equipment;
- v. lack of International Gatekeeping to handle Revenue Assurance & Fraud Management mechanisms;
- vi. increase in Over-The-Top (OTT) traffic thereby reducing international traffic volumes;
- vii. inadequate tools and equipment to conduct engineering and regulatory tasks;
- viii. poor coordination with MNOs and other Operators to access relevant information on their operations;
- ix. lack of required equipment to conduct drive test to ascertain the Quality of Service (QoS) parameters of telecommunications services;
- x. inadequate office space at the Commission's Head Quarters; and
- xi. lack of SIM Box detection equipment to combat SIM Box fraud.



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