



ETHIOPIAN COMMUNICATIONS AUTHORITY

Ethiopian Telecommunications Sector
Stakeholder Consultation No. 001-2019
Public Notice

Addis Ababa, October 22, 2019



Ethiopian Telecommunications Sector
Stakeholder Consultation No. 001-2019

1. Foreword

- 1.1. In October 2018, the Government of Ethiopia announced its decision to proceed with the reform of the Ethiopian telecommunications sector. Central to the reform agenda is attracting investment into the sector, while also laying the ground for more competition, which ensures improvements in service provision and transformation of the economy supported by technology. The Communications Service Proclamation No. 1148/2019, (“the Proclamation”) established the Ethiopian Communications Authority (“the ECA” or “the Authority”) as the regulator of the communications sector with a mandate, among others, to introduce competition in the sector¹.
- 1.2. This Public Notice initiates a Stakeholder Consultation, pursuant to Articles 35-37 of the Proclamation, to collect all interested stakeholders' contributions regarding the proposed regulatory framework and market opening process. The process and rules of the consultation, its background and scope are further detailed within this Public Notice. In addition to the main body of the Public Notice, we are also releasing for stakeholder comment the following annexes that elaborate on the planned market opening and regulatory framework:
 - Annex A – Full-service license
 - Annex A.1 – Spectrum License
 - Annex A.2 – Coverage obligations
 - Annex B – Spectrum band allocation
 - Annex C – Glossary
- 1.3. We invite interested stakeholders to submit their comments on the issues raised in this Public Notice. The procedure for responding to this Public Notice is detailed in the following section.

2. Process and Rules of the Stakeholder Consultation

- 2.1. The consultation period will be from October 22, 2019 to November 22, 2019. Interested parties may submit written comments, preferably in a Word document format, together with any related attachments. All contributions should be sent by email to consultation@eca-ethiopia.com no later than 11:59 pm, East Africa Time, November 22, 2019
- 2.2. We will organize a public stakeholder conference meeting on November 12, 2019 so that interested parties may directly ask questions concerning issues raised by this Public Notice and related annexes.² The ECA will not conduct individual face-to-face meetings during this period.
- 2.3. We will review all submissions we receive in response to this Public Notice and will consider the comments of stakeholders in preparing the Decision that the ECA must issue pursuant to Article 37 of the Proclamation. The ECA’s Decision in this proceeding will announce our resolution of the issues raised in this Public Notice and will explain the reasons underlying our actions. This Stakeholder Consultation will be a key input to the development of the regulatory framework for the

¹ Ethio Telecom is referred as the incumbent operator (“the incumbent operator” or “the incumbent”) in the following sections and annexes of this document

² Further information about the public stakeholder consultation can be found on ECA website www.eca.et.



Ethiopian Telecommunications Sector
Stakeholder Consultation No. 001-2019

telecommunications sector. A brief summary of received contributions, respecting anonymity of contributors, may be released after the consultation period is concluded.

- 2.4. We will conduct additional Stakeholder Consultations in the coming months, pursuant to Sub-Article (3) of Article 6 of the Proclamation, on key regulatory topics (e.g. interconnection, collocation & infrastructure sharing or universal access fund and its modalities).

3. Background of the Stakeholder Consultation

- 3.1. The Ethiopian Communications Authority was established by the Communications Service Proclamation No. 1148/2019, with the objective *“to promote the development of high quality, efficient, reliable and affordable Communications Service throughout the nation; to promote a competitive market for the achievement of these goals; and to promote accessibility and interests of consumers.”*
- 3.2. The Government decided to open the telecommunications market to full domestic and foreign competition in order to ensure that the industry will serve the needs of its citizens and be the catalyst as well as the foundation for a digital economy. Competition will lead to increased investment in infrastructure and services, increased choice and innovation for consumers, and better, more affordable service. This is consistent with the introduction of competition and private investment in many different sectors of the Ethiopian economy, which should in turn create additional demand for communication services. In order to achieve these objectives, the Government has planned to issue two new nationwide licenses for telecommunications service providers, covering a full range of telecommunications services and infrastructure.
- 3.3. We are, therefore, initiating this Stakeholder Consultation, pursuant to Article 35 of the Proclamation, to develop Guidelines for the establishment of a competitive market structure that will govern both the new entrants to the market and the incumbent provider of telecommunications services. As such, we hereby invite all interested parties to submit comments in response to this Public Notice.
- 3.4. The incumbent and new entrants will be subject to a license issued by the ECA. The proposed draft license is contained in Annex A.

4. Stakeholder Consultation Topics

Licensing Framework

- 4.1. We will issue three similar full-service licenses, one for the incumbent operator and two for new entrants. Under these licenses, all three service providers will have the right to provide any telecommunications service, including voice, text, and data, using any technology, whether fixed or wireless, anywhere within Ethiopia, and to send and receive telecommunications to and from outside Ethiopia. These full-service licenses will be accompanied by spectrum licenses that assign specific blocks of radio spectrum.
- 4.2. In addition, the licenses will provide each of the licensees the same right to obtain access to scarce resources, such as radio frequency spectrum, numbering and addressing resources, and rights of



Ethiopian Telecommunications Sector
Stakeholder Consultation No. 001-2019

way with considerations to the incumbent regarding duration required for completion of frequency refarming activities.

- 4.3. We propose to provide a grace period during which the ECA will not issue additional full-service licenses (and accompanying radio frequency spectrum licenses) for at least three years. We believe this will allow the market to develop and provide the basis for deciding whether additional market entry would be useful in promoting the provision of high quality, affordable services for consumers.
- 4.4. We shall, however, issue class licenses for specific services (e.g. active or passive infrastructure providers). These class licenses will not include access to spectrum for public mobile services.

Licensing Process

- 4.5. We will design a competitive licensing process that will select the applicants that are most likely to bring the full benefits of competition to the Ethiopian market.
- 4.6. There are two principal methods for selecting among competing license applicants: a comparative evaluation, sometimes referred to as a “beauty contest” and an auction. Some regulators have also used a hybrid of these two approaches. We discuss each of the two methods below.
- 4.7. A comparative hearing or beauty contest is a selection method in which the regulator seeks to determine which of the competing applicants would best meet the objectives of the licensing process under the Proclamation. In this case, if we were to conduct a comparative hearing, we would have to specify, in advance, the criteria that we would seek to evaluate in making this determination. These criteria might include:
 - the target coverage (share of the population and of the territory that an applicant proposed to serve);
 - the schedule for network buildout;
 - the types of service the applicant proposed to provide;
 - the bidder’s track record;
 - the bidder’s financial capability; and
 - potentially many other factors that will enable Ethiopia to fully utilize the benefits of a digital economy.
- 4.8. Auctions have become the predominant method around the world for selecting from among competing applicants. For the last 25 years, regulators have used auctions to award licenses and authorizations to use spectrum for a number of reasons. Auctions are based on the belief that the applicant that values the license most highly (and therefore bids the most for the license) will make the most economically efficient use of the license.
- 4.9. Regulators in other countries have frequently imposed minimum qualifications in order to bid for a license. These qualifications typically relate to experience in the telecom industry, including requirements that an applicant must provide similar services in one or more other countries and have a minimum number of customers. These requirements are intended to ensure that only companies with the technical and financial resources to build and operate a nationwide telecommunications network will participate in the licensing process. Bidding qualifications may also include a



Ethiopian Telecommunications Sector
Stakeholder Consultation No. 001-2019

requirement to provide financial statements or guaranteed bank financing commitments that show a minimum amount of available capital, a certain minimum to invest in infrastructure over a given period, and requirements that each applicant submit a deposit before bidding.

- 4.10. As we have stated above, the purpose of introducing competition is to ensure the provision of advanced and affordable telecommunications services throughout the nation. At the same time, these licenses will grant private companies the right to make commercial use of valuable national resources, including the radio frequency spectrum. We therefore believe it is important that the licensing process we select will also ensure the recovery of the value of these scarce national resources for the benefit of the people of Ethiopia. When regulators award licenses by auction, it is standard practice to establish a reserve price for the license, that is, the price below which the regulator will not award a license. If we adopt an auction, or a hybrid licensing method, we will establish a reserve price as well. We invite stakeholders to comment on which licensing method will best serve these objectives.

Scope of the full-service licenses

- 4.11. **Types of services** – as we have mentioned above, the full-service license that we will issue will permit the provision of any and all telecommunications services – voice, text, and data, including Internet access, throughout the nation over both fixed and wireless networks.
- 4.12. **Technology neutrality** – the full-service licenses will enable licensees to use any approved technical standard, including, for example 2G, 3G, 4G, and 5G wireless standards as well as any fixed line technology, such as copper or fiber optics.
- 4.13. **Term** – the full-service licenses specify the length of time for which they are granted and the process for license renewal as well as conditions under which the license could be suspended or revoked. The draft licenses provide for an initial license term of 15 (fifteen) years with the right to renew the license for subsequent periods of fifteen-years.

Spectrum (and other scarce resources) management and fees

- 4.14. **Spectrum allocation** – the licenses of all three service providers will specify the spectrum assignment for each of the licensees, including the amount of spectrum in each band that we will assign to each licensee. Annex B covers 1) spectrum bands reserved for mobile services and 2) the bands that will be allocated to new entrants in the forthcoming assignment process (900 MHz, 1800 MHz and 2100 MHz). We seek comment on the proposed spectrum assignments contained in the draft licenses, particularly regarding potential need of applications for additional spectrum within proposed bands or other bands to provide their services, being understood that additional spectrum would lead to increased fees in the allocation process and increased recurring fees as described in section 4.15.

Beyond these spectrum assignments, we also intend to make spectrum available for microwave links that the new entrants and the incumbent will need to provide service. This spectrum for microwave will be assigned through a fair and non-discriminatory process and based on the needs of operators. It will not be based on a competitive process such as an auction or comparative hearing.



Ethiopian Telecommunications Sector
Stakeholder Consultation No. 001-2019

- 4.15. **Spectrum fees** – the full-service licenses specify that the licensee must pay recurring fees, such as annual spectrum fees. These would be in addition to the amount that the new entrants bid for the opportunity to obtain the license. The level of the fees will be established by the ECA in accordance with Article 26 of the Proclamation, pursuant to Stakeholder Consultations. Sub-Article (2) of Article 26 specifies that spectrum fees recover from commercial providers of Communications Services a measure of the economic value of the radio frequency spectrum resources for the benefit of the people of Ethiopia and shall compensate the Authority for the cost of administering licensing and regulation of radio frequency spectrum resources, are to be reasonable, non-discriminatory and administered in a transparent manner and shall encourage the development and expansion of Communications Services to all areas of the Nation. Annual recurring fees per MHz will be defined based on an international benchmark of best practices (considering population size and GDP). We will seek to ensure that these fees will not restrict the bandwidth available for high-speed broadband service.
- 4.16. **License coverage and quality of service conditions** – the full-service licenses include proposed requirements for geographic and population coverage, and quality of service requirements, among others. In addition to the conditions contained in their licenses, licensees must also comply with all Guidelines and Directives that the ECA adopts, now or in the future. The minimal coverage obligations that will apply to all full-service licenses are contained in Annex A.2.
- 4.17. **Numbering** – the Proclamation entitles any telecommunications operator to obtain access to numbering resources, subject to the licensee’s compliance with any numbering Guidelines that the ECA may adopt, including but not limited to number portability. Vacant numbering blocks will be reserved for all licensees. We consider the existing numbering plan is adequate to accommodate the needs of the two new entrants and of the incumbent for the foreseeable future. Article 29 of the Proclamation gives the ECA the authority to establish fees for use of numbering resources in order to recover a measure of the value of the numbering resource for the public. We do not propose here numbering fees in this consultation. Sub-Article (2) of Article 29 of the Proclamation will guide the eventual decision to set numbering fees.

Competition and economic regulation

- 4.18. **Significant Market Power (SMP)** – We intend to consider potential SMP of any licensee in order to regulate the telecommunications market with appropriated ex-ante (or ex-post) regulation measures. We intend to develop any SMP measures consistent with principles of minimum required intervention and proportionality. We will make SMP designations in regard to individual relevant markets based on various criteria (e.g. market share, control of essential facilities, barriers to entry, economies of scale, economies of scope). Sub-Article (11) of Article 2 of the Proclamation defines “Significant Market Power” as “*the ability to materially affect the price or supply in the relevant market for Communications Service as a result of either control over essential facilities or use of a Person’s position in the market.*” These factors are subject to change over time and we intend to regularly re-evaluate questions of SMP. Without pre-judging the outcome of any future assessment of Significant Market Power, we intend to evaluate the conditions in specific geographic and product markets to determine which operator, if any, has SMP. At the present time, however, the incumbent will be presumably considered as having SMP and economic analysis will be conducted to determine if SMP is observed in any market.



Ethiopian Telecommunications Sector
Stakeholder Consultation No. 001-2019

- 4.19. **Tariffs** – The full-service licenses specify that the ECA retains authority to regulate the tariffs of any communications service provider. Sub-Article (1) of Article 45 of the Proclamation requires all telecommunications operators to charge lawful tariffs which must be just, reasonable, and not unduly discriminatory among users or classes of users. Sub-Article (1) of Article 46 of the proclamation requires that the Authority shall have the power to review and control tariffs of any licensed telecommunications operator and to develop directives for setting tariffs in order to ensure that such tariffs are lawful. Sub-Article (2) of Article 46 further provides that the Authority may, on its own motion, or in response to a petition filed by any interested party, initiate a proceeding to observe whether the tariffs of any telecommunications operator are lawful. In making such observations the Authority may rely on standards that it may develop pursuant to the provisions established in Articles 35-38 of the proclamation.
- 4.20. **Roaming** – As an added measure to facilitate the launch of services by the new entrants, ECA proposes to require all licensees – and in particular the incumbent – to provide roaming service to other licensees for a period of 18 months after license award. The full-service licenses also make clear that the licensees – both the new entrants and the incumbent – must meet coverage requirements contained in the licenses and will not be allowed to evade these requirements by simply allowing their customers to roam on another operator’s network.

Infrastructure, interconnection and colocation

- 4.21. **Infrastructure** – Infrastructure includes active as well as passive network equipment. The licenses state that the licensees have the right to build their own network infrastructure – both fixed and wireless – and also have the right to share infrastructure with another service provider. Article 44 of the Proclamation clearly gives all operators the right to obtain access to another operator’s infrastructure through commercial negotiations, provided however that an operator that has Significant Market Power (SMP) is obliged to share both passive and active infrastructure upon reasonable request. All operators must comply with mandatory quality of service standards, whether they are providing services over their own infrastructure or over infrastructure shared from another entity.
- 4.22. **Access to rights of way** – the full-service licenses specify that the licensee is entitled to reasonable access to land or building for the construction and maintenance of network facilities as provided for in Article 32 of the Proclamation. Land in Ethiopia is owned by the state and leased to private entities. The Proclamation provides, subject to procedural requirements set out in Article 32, that telecommunications operators have a legal right to access land for the construction, maintenance and operation of telecommunications facilities. At a later date, we will hold a Stakeholder Consultation for the purpose of issuing a Directive pursuant to Article 32 to further clarify the rights and responsibilities of telecommunications operators and of lessees and possessors of land in this regard. Interested parties are specifically invited to state their views of these issues in comments responding to this Public Notice.
- 4.23. **Interconnection.** The full-service licenses state that the licensee is entitled to interconnect with any other operator, as provided by Article 42 of the Proclamation. Interconnection will be based on generally agreed principles: (1) non-discrimination, (2) regulation of termination rates, (3)



Ethiopian Telecommunications Sector
Stakeholder Consultation No. 001-2019

interconnection sufficiently unbundled so that the supplier need not pay for components or facilities that it does not require for the services to be provided, and (4) a deadline for negotiations. If the new entrants are unable to interconnect with the incumbent's network, their customers will be unable to exchange voice, text and data traffic with the vast majority of existing subscribers in Ethiopia. The ECA will therefore be vigilant in ensuring that all operators, and especially the incumbent, permit reasonable and non-discriminatory interconnection and access to infrastructure sharing and collocation. We will impose strict deadlines for the negotiation of interconnection agreements and, if the parties are unable to agree on technical or commercial terms of interconnection, will quickly adjudicate any outstanding issues so that the operators can commence interconnection as soon as possible. We intend to require the operators to expeditiously agree to terms for infrastructure sharing and collocation as well. If parties are unable to reach a commercial agreement, we will mandate a "bill and keep" system of interconnection (in which neither party would pay the other to terminate traffic) or regulated tariffs (calculation method will be based on benchmark of international best practices).

- 4.24. **Collocation and Infrastructure Sharing** – The full-service licenses provide that the licensee must comply with any Directives on interconnection, collocation and infrastructure sharing that the ECA may adopt, including Directives concerning pricing for interconnection. In addition, the full-service licenses provide that the licensee may request collocation of its equipment at the facilities of any other telecommunications operator. In all cases – interconnection, collocation, and infrastructure sharing – the full-service licenses reinforce the language of the Proclamation that establishes that such arrangements between licensed operators are, in the first instance, to be agreed by the parties pursuant to commercial negotiations. In the event that the parties are unable to agree, however, the Authority shall prescribe the terms on which the parties will interconnect, collocate equipment, or share infrastructure. The full-service licenses also provide that the licensee may request infrastructure sharing from a telecommunications operator that the Authority has determined has SMP. Article 44(7) of the Proclamation requires an operator that has SMP to share both passive and active infrastructure on reasonable request. ECA will require all licensed operators to communicate dedicated information on infrastructure available for infrastructure sharing. ECA will pay particular attention to infrastructure sharing from telecommunications operator with respect to the following specific areas:
- collocation on towers;
 - sharing of (active and passive) long-distance infrastructure;
 - access to international gateways.

Other regulation topics

- 4.25. **Universal access** – The Universal Access Fund was established by Sub-Article (3) of Article 49 of the Proclamation, which also provides that the Council of Ministers shall, by regulation, determine the amount and sources of contributions to the Universal Access Fund. The Proclamation also directs the Authority to develop annual universal access objectives to ensure that Communications Services are accessible to the largest number of users possible. In conjunction with the development of universal access objectives we anticipate making recommendations to the Council of Ministers concerning the sources and amounts of contributions to the Universal Access Fund. We plan to hold a Stakeholder Consultation on universal access in the coming months. Initially, however, we note that based on international benchmarks of best practices, the contribution to the Universal Access



Ethiopian Telecommunications Sector
Stakeholder Consultation No. 001-2019

Fund would likely be in the range of between 1.5% and 2.5% of gross revenues of licensees. We anticipate that all licensees will be obligated to support the Universal Access Fund. A pay-or-play mechanism may also be proposed to any interested party, in addition to financing to be obtained through universal access charges to be paid by the licensees. In a pay-or-play system, an operator would either be required to build out in unserved areas or to pay into the Universal Access Fund to support such build out.

- 4.26. **National security** – Article 51 of the Proclamation requires any operator to comply with lawful orders from the Government for law enforcement purposes. The proposed draft licenses state that the licensee is obligated also to comply with any Directives that we may adopt to ensure that the licensee complies with requirements for law enforcement and also protects the security and confidentiality of its users' communications.

5. Conclusion

This Public Notice initiates the process of opening the telecommunications market to competition for the benefit of the people of Ethiopia and stakeholder comments on this Public Notice and the attached annexes is an essential part of the process. Consistent with the Government's policy decision, the ECA will issue two new licenses for the nationwide provision of a full range of telecommunications services. The task of bringing the benefits of the competitive provision of telecommunications services is urgent, and we intend to proceed expeditiously to develop a regulatory framework for a competitive market and to award these new licenses.

Eng. Balcha Reba
Director General
Ethiopian Communications Authority

A handwritten signature in blue ink, appearing to read 'Balcha Reba', written in a cursive style.



Annex A – Full-service license

LICENSE ISSUED FOR THE PROVISION OF COMMUNICATIONS SERVICES

WHEREAS, Licensee has applied to obtain a License for the provision of Communication Services;

WHEREAS, the **Ethiopian Communications Authority**, pursuant to Article 20 sub-article 2 of Proclamation No. 1148/2019, the Communications Service Proclamation, is authorized to grant licenses for the provision of communications service;

NOW THEREFORE, the **Ethiopian Communications Authority** issues this License to the Licensee on the terms and conditions prescribed herein to provide Telecommunications Services in the Federal Democratic Republic of Ethiopia.

PART ONE **GENERAL**

1. DEFINITIONS

- 1.1. In this License, unless otherwise stated, words and terms used shall have the same meaning as defined in the Communications Service Proclamation No. 1148/2019 (hereinafter referred to as “The Proclamation”)
- 1.2. In this License, unless the context requires otherwise;
 - 1.2.1. “Authority or Licensor” means the Ethiopian Communications Authority.
 - 1.2.2. “Licensee” means the entity authorized pursuant to the present License document by the Authority to provide Telecommunications Services,
 - 1.2.3. “License” means the License granted hereby to the Licensee by the Authority to provide Telecommunications Services,
 - 1.2.4. “Customer or Subscriber” means any person or legal entity that uses a telecommunications service from the Licensee through subscription.



Ethiopian Telecommunications Sector
Stakeholder Consultation No. 001-2019

- 1.2.5. "User or Consumer" means individuals or organizations using or requesting publicly available telecommunications services.
- 1.2.6. "Emergency" means an emergency of any kind, including any circumstances whatever resulting from major accidents, natural disasters and incidents involving toxic or radio-active materials.
- 1.2.7. "Emergency Call Services" means all calls to fire brigades, ambulance services, police stations and other organizations providing assistance to the public in emergencies, which are determined as such by the Authority.
- 1.2.8. "Data Communication" means electronic transmission of information that has been encoded digitally or a non-telephone communication or a communication that does not enable the users to conduct real-time two-way person-to-person voice communications.
- 1.2.9. "Broadband" means high-speed internet access (cf. definition to be later detailed within Annex A.2 coverage obligation)
- 1.2.10. "Telecommunications Service" means the provision by a licensee of the conveyance of Telecommunications directly to the public or to Telecommunications Operators.
- 1.2.11. "Telecommunications Operator" means an entity authorized by the Authority to provide Telecommunications Services.

PART TWO

TELECOMMUNICATIONS SERVICE

2. PROVISION OF PUBLIC TELECOMMUNICATIONS SERVICES

- 2.1. This License entitles the Licensee to provide Telecommunications Service, whether voice, text or data and whether provided over a fixed or a mobile network, in the Federal Democratic Republic of Ethiopia by any technical means and using any approved technical standard. The Licensee may construct its own infrastructure and network facilities for the provision of telecommunications service or it may lease or share infrastructure and facilities from another licensee.
- 2.2. Without affecting the generality of sub-article 2.1 of this Article, the Licensee is authorized, nothing in this License shall be interpreted as limiting the Licensee's right to connect to any



Ethiopian Telecommunications Sector
Stakeholder Consultation No. 001-2019

telecommunications network or service situated outside of Ethiopia or to connect any type approved equipment to its network :

- 2.3. This License entitles the Licensee to establish, install, operate and maintain internet network and to provide internet service in the Federal Democratic Republic of Ethiopia.

2.3.1. In the process of operating internet service, the Licensee shall be responsible for:

2.3.1.1. The installation of the Internet Nodes i.e., routers/Servers etc.

2.3.1.2. The proper operation and maintenance of its network infrastructure.

3. PROVISION OF TELECOMMUNICATIONS SERVICE

- 3.1. The Licensee shall fulfill the coverage obligations set for voice, text and very high broadband service under Annex A.2 of this License.
- 3.2. Subject to Annex A.2 and other provisions of this License, the Licensee shall provide any Telecommunications Service to any person in the country who requests it, including in particular: access to the public emergency call service.

4. DIRECTORY SERVICE

- 4.1. The Licensee shall, at a minimum, provide or make available, free of charge, directory information concerning:
 - 4.1.1. Special numbers of emergency call services, and
 - 4.1.2. Telephone numbers for hospitals and other federal and regional institutions.



PART THREE

GENERAL PROVISIONS

5. QUALITY OF SERVICE STANDARD

- 5.1. The Licensee shall ensure that the services it provides pursuant to this License and the data communication service shall at least meet the quality of service targets set forth in Annex XX³ of this License.
- 5.2. The Reporting Periods, which are the periods of time over which Quality of Service measurements are taken and recorded, shall be three (3) months, starting on 1st July, 1st October, 1st January and 1st April of the applicable calendar year.
- 5.3. The Licensee shall submit the Quality of Service report to the Authority within 4 weeks after the end of each reporting period.
- 5.4. Failure to fulfill the quality of service targets may result in monetary fines to be determined by the Authority consistent with the terms of the Proclamation and other applicable law.

6. TECHNICAL AND OTHER REQUIREMENTS

- 6.1. The services and network systems that the Licensee provides pursuant to this License shall be based on the standards of International Telecommunication Union which shall be approved by the Authority.
- 6.2. The network and terminal equipment employed in the network shall be of a type and model certified by an internationally accredited body with respect to ITU/ETSI standards or any other international standard as may be approved by the Authority. Such network and terminal equipment shall carry a marking specifying their compliance with such standards.
- 6.3. Any aerial or mast erected for use at any of the stations shall comply with requirements and Rules and Regulations of International Telecommunication Union and International Civil Aviation Organization and any requirements adopted by the Government to ensure safety.

³ Quality of service obligations will be defined at a later stage.



Ethiopian Telecommunications Sector
Stakeholder Consultation No. 001-2019

- 6.4. Last mile linkages may be freely permitted with local area either by copper cable, fiber optic or radio communication. In the case of radio links, a separate License is required from the Authority for the use of a radio frequency spectrum.
- 6.5. The Licensee shall provide necessary facilities in its system to counteract espionage, subversive acts, or any other unlawful activities in relation to the service. The Authority may specify the relevant time, the type and the extent of facilities required pursuant to a Stakeholder Consultation to be conducted in accordance with Articles 35-37 of the Proclamation.
- 6.6. The Licensee on request shall provide to the Licensor location details of network architecture, switching centers, Transmission centers, internet service provision nodes or Points of Presence (POP) including routing details.
- 6.7. The Licensee shall not make it a condition of providing the service that any person requesting the service should acquire from the Licensee any telecommunications equipment or service other than the service requested except where the service requested cannot otherwise be provided.
- 6.8. The Licensee, so long as practicable, is obliged to provide detailed information, without delay, and all the tracing facilities of any nuisance or malicious message or communication transported through its system to the Authority or any other appropriate authority upon request.
- 6.9. The Licensee shall ensure that its system cannot be used for activities that endanger or make vulnerable a networked infrastructure. Such activities include act of breaking or attempted break-ins of other telecommunications networks or other networks in the Federal Democratic Republic of Ethiopia.
- 6.10. The Licensee shall comply with ITU-T recommendations and other international conventions concerning public telecommunications, internet and data communication services applicable to Ethiopia.

7. TERMS OF CONTRACT BETWEEN THE LICENSEE AND A SUBSCRIBER OR CUSTOMER

- 7.1. Contents of the Contract



Ethiopian Telecommunications Sector
Stakeholder Consultation No. 001-2019

7.1.1. The Licensee shall prepare clear and understandable terms and conditions of contract for all available services it provides over its licensed telecommunications network, including for internet and data communications services. The contract shall, inter alia, include:

7.1.1.1. The rights and obligations of the Licensee and a customer which are acceptable to the Authority;

7.1.1.2. The conditions and procedures for terminating or canceling of the contract provided that termination and cancellation shall be implemented in exceptional circumstances when the situations under the provisions of sub articles 15.2.2, 15.2.3 or 15.2.4 of this License occur.

7.1.2. The Licensee, for the interest of corporate customers, may sign a separate Service Level Agreement (SLA).

7.2. Restriction on undue preference

7.2.1. The Licensee shall charge lawful tariffs that are just, reasonable, and not unduly discriminatory, in particular with respect to:

7.2.1.1. The provision of any telecommunications services (including, without limitation, whether in respect of charges, application of discount schemes, maintenance service or other terms or conditions applied or otherwise).

7.2.1.2. The connection of approved equipment to the Licensee's network.

7.2.2. The Licensee shall not make it a condition of providing the service that any person requesting the service should acquire from the Licensee any service other than the particular telecommunications service requested, except where the service requested cannot otherwise be provided.

8. BOOKS OF ACCOUNTS, TARIFF AND BILLING

8.1. Books of Accounts

8.1.1. The Licensee shall keep books of accounts of its operation based on generally accepted accounting principles and Directives of the Authority.



Ethiopian Telecommunications Sector
Stakeholder Consultation No. 001-2019

8.1.2. The Licensee shall submit an audited report of its accounts to the Authority within six months from the end of the Government's fiscal year.

8.2. Tariff

8.2.1. Tariff Setting

8.2.1.1. The Licensee shall comply with any Directives adopted by the Authority for setting the tariff for telecommunications services.

8.2.2. Publication of Tariffs

8.2.2.1. The Licensee shall publish tariffs for services for which the Authority determines the Licensee has Significant Market Power in the manner described under sub-article 8.2.2.2 of this Article and shall also publish the method by which it determines such tariffs, and other terms and conditions on which it offers:

8.2.2.1.1. to provide its licensed telecommunications service, including internet and data communications service by means of its licensed networks;

8.2.2.1.2. to provide value added services, which include call diverting, call waiting, call barring, roaming, SMS, voice mail.

8.2.2.2. Publication of the details referred to under sub-article 8.2.2.1 shall be made:

8.2.2.2.1. by sending a copy of relevant details to the Authority, and

8.2.2.2.2. by posting the relevant details on the Licensee's website, in its principal business place and other business premises of the Licensee as the Authority may by Directive require.

8.3. Bill and Billing Meter

8.3.1. A bill prepared by the Licensee in relation to telecommunications service, including internet service and data communications service, shall be clear and complete so that customers can confirm or challenge calls, payments, late charges and other similar issues.



Ethiopian Telecommunications Sector
Stakeholder Consultation No. 001-2019

- 8.3.2. The Licensee shall use the official working language of the Federal Democratic Republic of Ethiopia on its bills and may, in addition, provide translations into one or more other languages.
- 8.3.3. The Licensee shall take all reasonable steps to ensure that any bill metering record or Call Detail Register used in connection with telecommunications service, including internet service and data communications service, operated under this License is accurate and reliable.
- 8.3.4. The Licensee shall, in relation to the metering system or Call Detail Record used for the provision of the service, keep such records and make them available for inspection by the Authority at least for a period of three years.
- 8.3.5. Upon written request of the Authority, the Licensee shall conduct tests on metering equipment or Call Detail Record to assess its accuracy, reliability and conformity to the technical standards. The Licensee shall submit the test result to the Authority within 15 days after the date or such other longer period the Authority may determine.

9. COMPLAINT HANDLING

- 9.1. The Licensee shall establish a procedure for handling customer complaints on the basis of criteria set under sub-article 9.2 of this License.
- 9.2. Subject to the provisions of any Directive that the Authority may adopt, the Licensee's procedure for handling customer complaints shall include, inter alia, the following:
 - 9.2.1. Procedure for lodging complaints,
 - 9.2.2. The provision of reference number to each complainant,
 - 9.2.3. Categories of complaints, which may include complaints on areas of installation, billing, service degradation or failure, and repair.
 - 9.2.4. Timeframe for deciding or acting on each category of complaints,
 - 9.2.5. Timeframe for the retention of records following the resolution of complaints,
 - 9.2.6. The procedure for right of appeal.



Ethiopian Telecommunications Sector
Stakeholder Consultation No. 001-2019

- 9.3. The Authority shall have electronic real-time access to records of complaints.

10. EMERGENCY CALL SERVICES

- 10.1. The Licensee shall provide all available or possible services to organizations providing assistance to the public anywhere in the country. In circumstances where telephone numbers cannot be dialed directly, operator assisted voice telephony shall be provided to assist officials of the emergency organizations to send priority communications over the telecommunications network.
- 10.2. The Licensee shall, in consultation with the emergency organizations, make arrangements for the provisions or, as the case may be, rapid restoration of, telecommunications services that may reasonably be required in emergencies occurring in the country and that may be practically provided.
- 10.3. All calls made from the public switched or cellular mobile telephone to fire brigades, ambulance services, police stations and other emergency organization providing assistance to the public in emergencies that are determined as such by the Authority shall be free of charge.

11. PROVISION OF INFORMATION AND INSPECTION

- 11.1. The Licensee shall submit a quarterly report, within the Government fiscal year, at the end of each quarter, to the Authority, indicating, among other things, the Roll-out Targets and the quality of service targets set forth in Annex A.2 of this License.
- 11.2. The Licensee shall submit its report within the indicated due date using the standard reporting formats to be prescribed by the Authority by Directive.
- 11.3. The Licensee shall make available to the Authority such data as the Authority may require in the exercise of the Authority's regulatory functions.
- 11.4. On receiving reasonable prior written notice from the Authority, the Licensee shall allow the Authority and any person authorized in writing by the Authority to enter and inspect the offices, places and premises where the Licensee has installed telecommunications equipment, or used for the provision of the service, to verify that the Licensee is in compliance with the conditions and terms of this License.
- 11.5. The Licensee shall permit the Authority or any person authorized by the Authority to inspect and if required to make copies of records, documents and accounts relating to the Licensee's business for



Ethiopian Telecommunications Sector
Stakeholder Consultation No. 001-2019

the purpose of enabling the Authority to perform its functions under this License or under the Proclamation or any Directive that the Authority may hereafter adopt and to ensure the Licensee's compliance with this License or other legal requirements.

- 11.6. The Authority or its authorized representative shall have the right to inspect the sites used for the provision of service. The Licensee will provide the necessary facilities for continuous monitoring of the system, as required by the Licensor or its authorized representative. The Inspection will ordinarily be carried out after reasonable notice except in circumstances where giving such notice will defeat the purpose of the inspection.
- 11.7. The Authority may conduct any inquiry either on its own initiative or on complaint by any interested party to determine whether there has been any breach in compliance of terms and conditions of the License by the Licensee and upon such inquiry the Licensee shall allow access to all reasonable facilities without any hindrance.
- 11.8. The Licensee shall, subject to the provision by the Authority of reasonable prior written notice, provide a representative to be present at any such inspection, testing, reading or measurement.
- 11.9. On giving reasonable prior written notice, the Authority may direct the Licensee to demonstrate that the services comply with the technical requirements imposed by this License or any other legal instruments.

12. SIGNIFICANT MARKET POWER

- 12.1. The Licensor may determine that the Licensee has Significant Market Power in one or more markets for telecommunications service pursuant to a Stakeholder Consultation to be conducted in accordance with Articles 35-37 of the Proclamation.

13. INTERCONNECTION, COLLOCATION AND INFRASTRUCTURE SHARING

- 13.1. The Licensee shall have the right and obligation to interconnect its telecommunications network, including its internet and data communications networks, with the networks of any other licensed telecommunications operator in the territory of the Federal Democratic Republic of Ethiopia upon reasonable request and in conformance with the requirements of the Proclamation and of any relevant Directive that the Authority may from time to time adopt.



Ethiopian Telecommunications Sector
Stakeholder Consultation No. 001-2019

- 13.2. The Licensee shall negotiate the commercial and technical terms of interconnection with another licensed telecommunications operator within a reasonable time, such time to be prescribed by the Authority. In the event that the Licensee and the other licensed telecommunications operator cannot reach agreement on one or more terms of interconnection, the Authority may intervene and make binding rulings concerning the terms of interconnection in accordance with the provisions of the Proclamation.
- 13.3. The Licensee shall permit any other licensed telecommunications operator to collocate its equipment at its facilities, to the extent such collocation is technically feasible.
- 13.4. The Licensee shall negotiate reasonable compensation for such collocation with the other telecommunications operator within a reasonable time, such time to be prescribed by the Authority. In the event that the Licensee and the other telecommunications operator cannot reach agreement on one or more terms of collocation, the Authority may intervene and make binding rulings concerning the terms of collocation in accordance with the provisions of the Proclamation.
- 13.5. The Licensee shall share both passive and active infrastructure with any other licensed telecommunications operators upon reasonable request.
- 13.6. The Licensee shall negotiate reasonable compensation for sharing passive and active infrastructure with the other telecommunications operator within a reasonable time, such time to be prescribed by the Authority. In the event that the Licensee and the other telecommunications operator cannot reach agreement on one or more terms of sharing of passive and active infrastructure, the Authority may intervene and make binding rulings concerning the terms of sharing of passive and active infrastructure in accordance with the provisions of the Proclamation.

14. ROAMING

- 14.1. The Licensee may enter into an international roaming agreement with an operator licensed by other Administrations (Foreign Operator) for the provision of mobile telecommunications services to subscribers of the Licensee's services when traveling outside the territory of the Federal Democratic Republic of Ethiopia and for the provision of mobile telecommunications services to subscribers of such Foreign Operator's subscribers that are traveling within the territory of the Federal Democratic Republic of Ethiopia.
- 14.2. The Licensee shall enter into a roaming agreement with any other telecommunications operator licensed by the Authority upon reasonable request. In the event that the Licensee and such other telecommunications operator are unable to agree to terms for the provision of roaming service, the



Ethiopian Telecommunications Sector
Stakeholder Consultation No. 001-2019

Authority shall prescribe reasonable terms pursuant to a Stakeholder Consultation that the Authority shall conduct in accordance with the terms of the Proclamation.

15. FORCE MAJEURE AND OTHER LIMITATIONS

- 15.1. The Licensee shall have no liability for any failure or delay in complying with any provision of this License if, and to the extent and for so long as that compliance is prevented or hindered by force majeure.
- 15.2. The Licensee shall not have any obligation under this License to supply any apparatus, provide any telecommunications service, or permit any connection to telecommunications network, including the internet or data communications network, or to permit the continued connection to the telecommunications, internet or data communications network of any telecommunications apparatus, or telecommunications system, if the person requesting the same:
 - 15.2.1. Has not entered into, or refused to enter into, a contract with the Licensee for those purposes;
 - 15.2.2. Is in default of any liability owed to the Licensee in respect of that contract;
 - 15.2.3. Is using, or permitting the use of telecommunications apparatus or telecommunications services so supplied or provided for any illegal purpose;
 - 15.2.4. Has obtained, or attempted to obtain, any telecommunications apparatus, telecommunications service from the Licensee by corrupt, dishonest or illegal means at any time.
- 15.3. For the purpose of this License, Force Majeure shall mean any acts of God, war, natural calamities, strikes, lockouts, or other labor stoppages or disturbances, civil commotions or disruptions, riots, epidemics, acts of Government or any competent Authority having jurisdiction, or any other legitimate cause beyond the reasonable control of the Licensee, and which, by the exercise of due diligence stated under Article 1792-1794 of the civil code of Ethiopia, the Licensee could not have prevented.
- 15.4. Lack of financial capacity or funds of the Licensee shall not be deemed to be Force Majeure.



16. DURATION OF THE LICENSE

- 16.1. The License shall be valid for a term of fifteen (15) years from its date of issuance. The Licensee may, not earlier than one year prior to the expiration of the License, request renewal of the License for further terms of fifteen (15) years. The Authority shall grant renewal of the License unless it finds that the Licensee has materially failed to fulfill the terms of this License.

17. EVENTS INITIATING INVESTIGATIONS BY THE AUTHORITY

- 17.1. The Authority may commence an investigation concerning the Licensee's performance when, inter alia, any of the following events occurs:

17.1.1. Failures to comply with any of the obligations set forth in this License.

17.1.2. Partial or total interruption of any licensed service for a continuous period of two hours without just cause.

17.1.3. Failure of the Licensee to comply with the Roll-out and the Service Targets requirements of the service.

17.1.4. The Licensee changes frequencies that have been assigned by the Authority or uses frequencies that the Authority has not authorized the Licensee to use.

17.1.5. When the Licensee uses, installs or connects non-approved equipment.

17.1.6. When the Licensee, without good cause, fails to provide information to the Authority or fails to permit or impedes inspections by the Authority.

17.1.7. When the Licensee intentionally or by negligence, violates the Directives of the Authority as they exist or come into existence from time to time.

17.1.8. When any other violation of this License or other laws that relates to the service occur.

18. EFFECTS OF THE INVESTIGATION

- 18.1. In the event that the Authority determines after an investigation that an infraction has been committed the Licensee may be given reasonable time to rectify the failure.



Ethiopian Telecommunications Sector
Stakeholder Consultation No. 001-2019

- 18.2. If the Licensee fails to rectify the failure within a reasonable time, specified by the Authority, the Authority may impose one or more of the penalties enumerated in Article 52 of the Proclamation, including fines and other sanctions including revocation of this License. Any penalties that the Authority may impose shall be proportionate, non-discriminatory, and transparent.

PART FOUR

MISCELLANEOUS PROVISIONS

19. REPEAL

- 19.1. This License supersedes all other prior Agreements, both written and oral, between the Authority and the Licensee, that contravene the provisions of this License.

20. THIRD PARTIES NOT ALLOWED TO PROVIDE THE SERVICE

- 20.1. Unless stipulated by other laws, nothing in this License, expressed or implied, is intended to confer or shall confer any rights upon any person other than the Licensee.
- 20.2. The Licensee shall not, without the prior written consent of the Licensor, either directly or indirectly, transfer its License, assign or transfer its rights in any manner whatsoever to any other party or enter into any agreement for sub-License and / or partnership relating to any subject matter of the License to any third party either in whole or in part.
- 20.3. The provision of sub-article 20.2 of this article shall not prohibit the Licensee from outsourcing and sub-contracting its activities.

21. GOVERNING LAW AND COMPLIANCE WITH THE LAW

- 21.1. This License shall be governed by and construed in accordance with the laws of Federal Democratic Republic of Ethiopia, in particular the Communications Service Proclamation, No. 1148/2019.
- 21.2. Without affecting the generality of sub-article 21.1 of this article, the Licensee, shall comply with the Proclamation, Regulations, Directives and Technical Standards issued thereunder.



Ethiopian Telecommunications Sector
Stakeholder Consultation No. 001-2019

22. AMENDMENT

- 22.1. Amendment of this License may be made by the Authority either upon its own motion, pursuant to reasonable notice to the Licensee, or upon the request of the Licensee.

23. INTERPRETATION AND DISPUTE RESOLUTION

- 23.1. The Authority's interpretation of the terms of this License shall be binding.
- 23.2. The Licensee shall have the right to request that the Authority review any decision concerning the interpretation or application of any provision of this License and to seek review of such decision by the Appeals Tribunal and the Federal High Court according to the terms of the Proclamation.

24. EFFECTIVE DATE

- 24.1. This License shall come into force on the [x]st day of [Month], 2020.

DONE AT ADDIS ABABA ON THE Xth DAY OF _____, 2020

**H.E. ENG. BALCHA REBA
DIRECTOR GENERAL
ETHIOPIAN COMMUNICATIONS AUTHORITY**

A handwritten signature in blue ink, appearing to be 'Balcha Reba', written in a cursive style.



Annex A.1 – Spectrum license

1. USE OF RADIO FREQUENCY SPECTRUM AND FEES

- 1.1. The Licensee is hereby authorized to use the radio frequencies specifically assigned to it in Annex B to this License for the provision of telecommunications services, including internet and data communications services, throughout the territory of the Federal Democratic Republic of Ethiopia.
- 1.2. The Licensee shall not use radio frequencies or frequency bands that are not assigned to it by the Authority.
- 1.3. The Licensee shall use the radio frequencies or frequency bands efficiently and in a manner that does not cause harmful interference with radio communications authorized or permitted to be carried on in accordance with the relevant law by domestic or international operators. The Licensee shall comply with the terms of any international coordination agreements entered into by the Authority or other responsible organs of the Government with any foreign Administration.
- 1.4. The Licensee shall pay annual radio frequency spectrum fee to the Authority in accordance with such Directives as the Authority may from time to time adopt.

2. DURATION OF THE LICENSE

- 2.1. The License shall be valid for a term of fifteen (15) years from its date of issuance. The Licensee may, not later than one year prior to the expiration of the License, request renewal of the License for further terms of fifteen (15) years.



Annex A.2 – Coverage obligations

This Annex establishes the coverage obligations for voice, text and very high-speed broadband services.

A combination of population and geographic coverage minimum requirements will be imposed to licensees to cope with the demography and population distribution across Ethiopia:

- The population coverage requirement aims to ensure that telecommunications operators invest in infrastructure in the most favorable way for both customers’ interests as well as their own interests.
- The geographic coverage requirement aims to ensure all major infrastructures are covered as telecommunications service usage in these areas is high despite low levels of population living nearby.

The Licensee shall by each milestone provide, and thereafter maintain, an electronic communications network that is capable of providing, with 90% confidence, a telecommunications service with a defined downlink speed and a minimal signal strength for a given geographical area. These will be later defined based on international best practices.

Preliminary targets are detailed below and might be subject to modification based on comments collected during the Stakeholder Consultation.

1. Minimum population coverage requirement for voice, text and very high-speed broadband service at nationwide level by year

| Service | Within 12 months | Within 24 months | Within 36 months | Within 48 months | Within 60 months | Within 84 months | Within 120 months | Within 180 months |
|---|------------------|------------------|------------------|------------------|------------------|------------------|-------------------|-------------------|
| Voice service, text and very high-speed broadband | 25% | 40% | 55% | 70% | 85% | 90% | 95% | 97% |



2. Minimum geographic and infrastructure coverage requirement for voice, text and very high-speed broadband service by year

| Infrastructure Description | Service | Within 12 months | Within 24 months | Within 36 months | Within 48 months | Within 60 months | Within 120 months |
|----------------------------|---|------------------|------------------|------------------|------------------|------------------|-------------------|
| Highways/ major road | Selection of major roads to be further detailed | 35% | 50% | 65% | 80% | 95% | 97% |
| Airports | Airports of cities with population > 100,000 | 50% | 75% | 100% | 100% | 100% | 100% |
| Special Economic Zones | | 100% | 100% | 100% | 100% | 100% | 100% |

In addition to coverage requirements, quality of service obligations will be later defined.



Annex B – Spectrum band allocation

The Ethiopian Communications Authority (“ECA”), as the competent authority responsible for the effective management of the radio frequency spectrum, intends to establish appropriate band plans for the 900 MHz, 1800 MHz and the 2100 MHz bands in the Ethiopian territory in order to assign spectrum blocks to both the incumbent and two new entrants.

1. Background

In August 12, 2019, Ethiopian Communications Service Proclamation, No. 1148/2019 (“the Proclamation”) was signed by the President of the Federal Republic of Ethiopia and came into full force. The Proclamation, *inter alia*, establishes the ECA and empowers it to hold attribution process to license new telecommunications operators in Ethiopia, including licenses for the radio spectrum that might be required to offer telecommunications services. In accordance with this mandate, the ECA intends now to license two new telecommunications operators in Ethiopia and allow them to offer the same type of services presently provided by the incumbent operator. In addition, the new entrants will obtain the same right to access spectrum in the bands the incumbent is currently operating, to guarantee that equivalent conditions are met for the provision of telecommunications services in Ethiopia.

2. Radio Spectrum Bands for Mobile Service

The spectrum bands that could potentially be allocated for the provision of mobile telecommunications services in Ethiopia, as established in the ITU-R Recommendation M.1036-5⁴, are shown in Table 1:

Table 1: Spectrum Bands for Mobile Telecommunications Services

| Frequency Band | Range | Bandwidth |
|------------------|-----------------------------------|-----------|
| 700 MHz | 703-748MHz and 758-803MHz | 90 MHz |
| | 832-862MHz and 791-821MHz | 60 MHz |
| 800 MHz | or 824-849MHz and 869-894MHz | 50 MHz |
| 900 MHz | 880-915MHz and 925-960MHz | 70 MHz |
| 1,800 MHz | 1,710-1,785MHz and 1,805-1,880MHz | 150 MHz |
| 2,100 MHz | 1,920-1,980MHz and 2,110-2,170MHz | 120 MHz |
| 2,600 MHz | 2,500-2,690MHz | 190 MHz |
| 3,500 MHz | tbc | tbc |

(Note: Some of the bands may overlap and others are mutually exclusive)

⁴ Recommendation ITU-R M.1036-5 (10/2015) Frequency arrangements for implementation of the terrestrial component of International Mobile Telecommunications (IMT) in the bands identified for IMT in the Radio Regulations (RR) (see <https://www.itu.int/rec/R-REC-M.1036-5-201510-I/en>)



3. Radio Spectrum Band Planning in the 900MHz, 1800MHz and 2100MHz bands

Telecommunications services are currently provided by the incumbent within the 450 MHz, 800 MHz, 900 MHz, 1800 MHz and 2100 MHz spectrum bands.

The spectrum bands planned for attribution are the 900MHz, 1800MHz and 2100MHz.

The incumbent is presently using spectrum in these bands to provide mobile services.

When necessary refarming will be conducted in order to ensure that awarded spectrum is available to new entrants at the latest 6 (six) months after license award.

The ECA will assign to each of the new entrants specific blocks through the award process.

900 MHz Band Plan

The **900MHz** (880 – 960 MHz) band provides 70 MHz of paired spectrum. The Authority plans to adopt the harmonized frequency arrangement A2, as established in the ITU-R Recommendation M.1036-5 for the IMT band 694-960 MHz, with an uneven channelization which results in three (3) paired 10 MHz channels and one (1) paired 5 MHz channel.

The band plan is as per Figure 1 below.

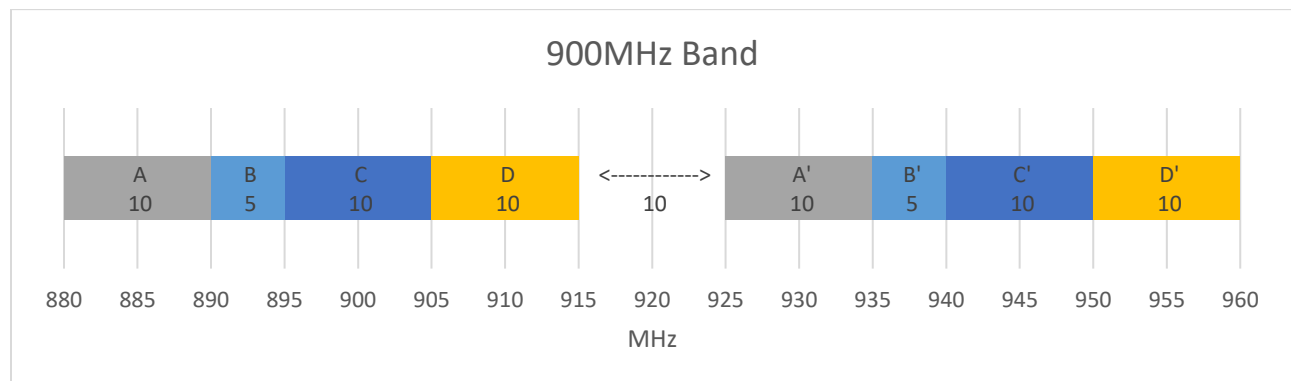


Figure 1: Band Plan for the 900MHz Band in Ethiopia

1800 MHz Band Plan

The **1800 MHz** (1710 – 1880 MHz) band provides 150 MHz of paired spectrum. The Authority plans to adopt the harmonized frequency arrangement B4, as established in the ITU-R Recommendation M.1036-5 for the IMT band 1,710-2,200 MHz, which results in a total of three (3) paired 20 MHz channels and one (1) paired 15 MHz channel.

The band plan is as per

Figure 2 below.



Ethiopian Telecommunications Sector
Stakeholder Consultation No. 001-2019

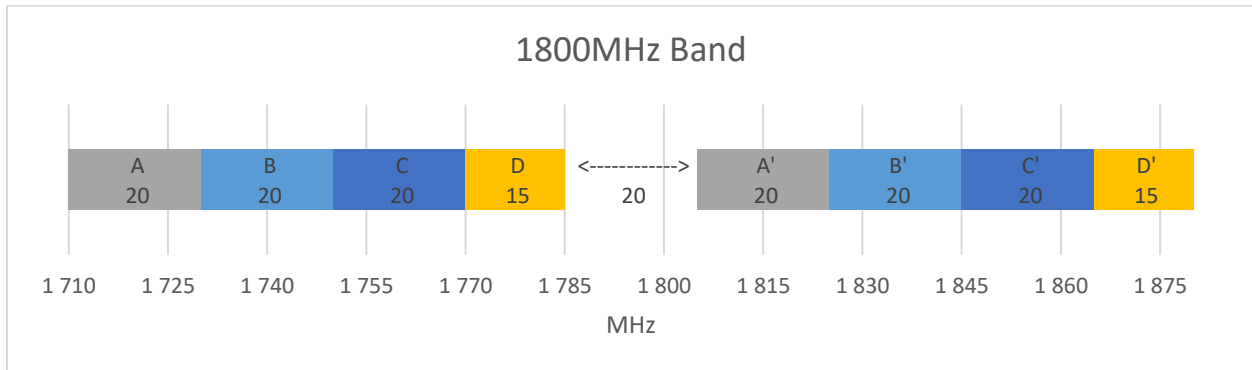


Figure 2: Band Plan for the 1800MHz Band in Ethiopia

2100 MHz Band Plan

The **2100 MHz** (1920 – 2170 MHz) band provides 120 MHz of paired spectrum. The Authority plans to adopt the harmonized frequency arrangement B4, as established in the ITU-R Recommendation M.1036-5 for the IMT band 1,710-2,200 MHz, which results in a total of four (4) paired 15 MHz channels.

The band plan is as per Figure 3 below.

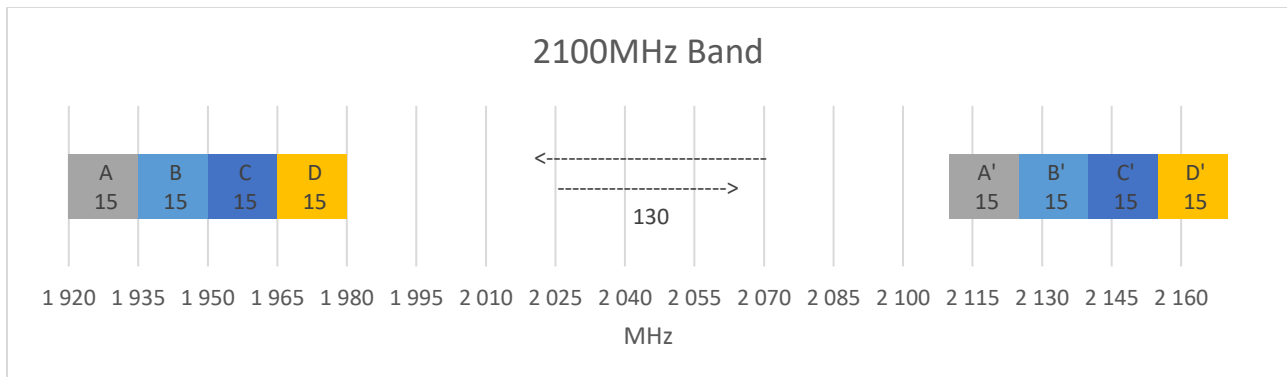


Figure 3: Band Plan for the 2100MHz Band in Ethiopia

4. Radio Spectrum Blocks for New Entrants

The spectrum bands described in section 3 will be assembled into blocks and then into individual lots ('Lot') for purposes of the attribution process. Two Lots shall be assigned by the ECA to the two new licensees,

900 MHz Blocks for New Entrants

A paired 10 MHz channel is considered to be a single block ('Block'). One (1) Block (A-A', C-C' or D-D') will be assigned by ECA to each of the two new entrants.

1800 MHz Blocks for New Entrants

A paired 20 MHz channel is considered to be a single block ('Block'). One (1) Block (A-A', B-B' or C-C') will be assigned by ECA to each of the two new entrants.



Ethiopian Telecommunications Sector
Stakeholder Consultation No. 001-2019

2100 MHz Blocks for New Entrants

A paired 15 MHz channel is considered to be a single block ('Block'). One (1) Block (A-A', B-B', C-C' or D-D') will be assigned by ECA to each of the two new entrants.



Annex C – Glossary

ECA: Ethiopian Communications Authority
ET or Incumbent: Ethio Telecom
ETIC: European Telecommunications Standards Institute
GDP: Gross Domestic Product
IMT: International Mobile Telecommunications
ITU: International Telecommunications Union
PDN: Public Data Network
SLA: Service Level Agreement
SMP: Significant Market Power