



MINISTRY OF INFORMATION, COMMUNICATIONS AND TECHNOLOGY

WIRELESS BROADBAND SPECTRUM POLICY

1. PREAMBLE

The radio-frequency spectrum is a critical and finite scarce resource which supports a wide range of wireless services and applications in the ICT sector namely telecommunications, broadcasting, emergency services, transport, and scientific research among others. Higher demand for spectrum arising out of convergence between fixed and mobile services, telecommunications and broadcasting, and the need for ever greater bandwidth mean that access to this scarce resource continues to increase.

This spectrum policy sets the framework for the development of electronic communications systems and services to support the implementation of the National Broadband Strategy, among others. The framework is expected to contribute towards the realization of other ICT sector requirements and policy objectives that support the development of an information and knowledge based society as envisioned in Kenya Vision 2030.

This policy aims at ensuring that spectrum will be efficiently managed in line with public policy objectives, with a view to making it available to all users under specific and clear conditions in a transparent and equitable manner. The policy strives to maintain a balance between the public and private interest. However, in the event of conflict, public interest shall prevail.

1.1. Kenya Vision 2030 and ICT

The Kenya Vision 2030 aims at transforming Kenya into a knowledge based economy that utilizes ICT for national growth and development. In the past few years the Government has made considerable efforts in providing broadband connectivity to Kenyans. International connectivity has been achieved through the landing of sub-marine cables providing quality and reliable international connectivity to the country at competitive costs.

Further, the Government is deploying the National Optical Fibre Backbone Infrastructure (NOFBI) to cover major towns and strategic public, social and learning institutions. The private sector players have also complimented Government efforts by laying fibre in some parts of the country.

Leveraging on NOFBI, connectivity is also being extended across the country thus enabling the Government to roll out e-services countrywide. Mobile Network Operators are also rolling out wireless mobile broadband network infrastructure.

Despite these successes and significant progress having been made to provide broadband to all Kenyans, there still exists connectivity gap between the urban and rural areas with the later having minimal broadband connectivity. The rural areas lag behind in development and utilization of ICTs and therefore are yet to exploit opportunities presented by innovative technologies.

1.2. International Spectrum Management

The International Telecommunication Union (ITU) is responsible for the international coordination of the radio frequency spectrum through the Radiocommunication Sector (ITU-R). ITU-R is responsible for the coordination and implementation of the Radio Regulations, which are revised by World Radiocommunication Conferences (WRCs), normally held every three to four years. Article 5 of the Radio Regulations contains the Table of frequency allocations listing frequency bands allocated to the various services according to three ITU geographic regions. Kenya is in ITU Region 1 and the Communications Authority of Kenya (CA) is the lead agency in representing the Government of Kenya at the ITU.

2. INTRODUCTION

Broadband connectivity is universally considered essential for socio-economic development and a fundamental resource for all citizens. To encourage and facilitate the extensive use of broadband wireless services the Government is committed to promote the development and implementation of Wireless Broadband Spectrum policy for the 21st century that will, among others:

- Foster economic growth;
- Ensure our national security;
- Maintain Kenya's regional leadership in ICT development and services;
- Satisfy other vital Kenyan needs in areas such as public protection and disaster relief, government services; research, development & innovation; education, and national transportation infrastructure.

3. EXISTING FRAMEWORK ON SPECTRUM MANAGEMENT

The current policy framework as contained in the National ICT Policy Guidelines, spells out policy objectives and the strategies to achieve them. Under the existing framework, the Government, through the regulator, reviews every change in spectrum use. The current legislative framework is contained in the Kenya Information and Communications Act (KICA), Cap 411A (as amended) and the Cabinet Secretary in consultation with the Regulator issues regulations on the use and management of spectrum. Considering the new technological and regulatory changes worldwide, it is important that the existing spectrum policy principles, practices and strategies are reviewed to align them with the new developments.

4. OBJECTIVES OF THE WIRELESS BROADBAND SPECTRUM POLICY

This policy aims to:

- Undertake a comprehensive review of spectrum management practices in the country with the objective of identifying strategies that promote more efficient and beneficial use of spectrum without harmful interference to users;
- Ensure that spectrum, being a scarce resource, is allocated in transparent, fair and equitable manner and managed efficiently
- Ensure global and regional coordination and harmonization of spectrum usage to decrease cost of technology by increasing economies of scale.
- Unlock the economic value and entrepreneurial potential of Kenyan spectrum assets while ensuring that sufficient spectrum is available to support critical Government functions;
- Create a broad framework for spectrum management of which the detailed implementation plan will be put in place by the CA;
- Promote the provision of last mile broadband services by small operators through conducive open access framework, including the provision of broadband services in areas such as housing developments among others;
- Ensure that all public institutions at the National and County level benefit from broadband connectivity with the expectation that this connectivity will eventually be extended to the communities these institutions serve;
- Ensure public services, such as e-government, are better delivered by aggregating broadband requirements by public institutions at the National and County level;

- Ensure the benefits of the “digital dividend” are maximized as well as maintaining consistency with the provisions of the agreements of the International Telecommunication Union;
- Ensure that measures are put in place to implement objectives in the National Broadband Strategy with the aim of achieving the Sustainable Development Goals.

To implement this policy, the Ministry of Information, Communications and Technology may prepare, if necessary, additional legislation and policies.

5. PRINCIPLES FOR SPECTRUM MANAGEMENT

5.1. Spectrum Management should be dynamic and responsive to user needs to: -

- Foster competition, growth and innovation in the use of spectrum;
- Promote flexible, open and responsive management of spectrum;
- Promote universal access to broadband services;
- Provide clarity and certainty to stakeholders and the general public regarding spectrum usage;
- Take account of developments in radio frequency spectrum management in the international environment, such as the ITU at the global level, embracing best practices in use within the East African Community and other regional blocs.

5.2. Make spectrum available to all users under specific and clear conditions in a transparent and equitable manner

The conditions for availability of spectrum resources should be clear to enable users have certainty and comfort when procuring them to facilitate their operations. It is therefore important that there are clear and specific conditions which are transparent and equitable to assure users of continual rollout and sustainability of their services.

5.3. Enable and encourage spectrum to move to its highest value use or uses.

Access to radio frequency spectrum to the highest value use in a timely manner will ensure that associated benefits are realised promptly, without undue delay and costs of regulatory intervention. In this regard, public benefit will be maximised where radio frequency spectrum resources are allocated to the highest value use or uses to consumers and the broader public good or social benefit.

5.4. Use the least cost and least restrictive approach to achieving policy objectives.

Planning, licensing, allocation, assignment and compliance measures should aim to minimise the total cost of achieving the objectives of spectrum management, including the cost to government, licensees and the public.

5.5. Access to spectrum resources should be simple

In authorising the right to use spectrum resources, the approach adopted ought to be appropriate for the uses/sectors under consideration:

- Market mechanisms may be appropriate where its use is directly subject to market forces and demand is deemed to exceed supply;
- Where the use of spectrum is required for the provision of public protection and disaster relief, social or cultural objectives; the regulator may use other mechanisms as appropriate, including imposing conditions, direct participation in projects to spur effective spectrum use and administrative assignment directly to the user taking into account due process.

5.6. Public Consultations

Stakeholders may be consulted where appropriate, to provide inputs to the spectrum management process. Similarly, Government-sponsored initiatives to direct use of spectrum resources will also be subject to consultation processes to elicit feedback on the proposed initiatives as well as potential alternative approaches.

5.7. Exemption from payment of Spectrum licence and usage fees

Public protection and disaster relief services and research and development initiatives may be exempted in whole or in part from paying the requisite spectrum licence and usage fees. Guidelines on such exemptions will be prescribed by CA.

5.8. Encouragement to deploy services in rural areas

Provide incentives plus coverage obligations to the licensed players to address the unserved and underserved areas or licensing of County-based service providers to offer last mile broadband access solutions.

5.9. Clarity on rights and access to spectrum

In line with best practice, clear rules shall be developed and applied by CA on, inter alia:

- The rights and obligations of spectrum users, including:
 - Licence duration and conditions regarding issuance and renewal of licence;
 - Alignment of the spectrum license and the operating license;
 - Rights and obligations regarding change of use of the spectrum;
 - Rights and obligations regarding capacity sharing of certain bands of spectrum essential for wireless broadband access;

- Timely use of spectrum for stated purposes;
- Prompt surrender of assigned spectrum when licensee ceases operations.
- Rights and obligations regarding frequency fee charging criteria in case of administrative based spectrum assignment mechanisms;
- Rights and obligations concerning spectrum use.

5.10. Discourage Over-concentration of spectrum resources in the hands of a few

Safeguards to be provided to discourage over-concentration of spectrum in the hands of a few operators that would prevent existing operators or new entrants from acquiring and effectively using spectrum.

5.11. Promoting Research and Innovation

Access to spectrum resources is an essential prerequisite for research and innovation in wireless technologies. The policy will promote competitiveness, encourage research and innovation and facilitate unique experimentation. For example, the test-and-trial regime for new wireless technologies, applications and services shall be encouraged and continue to be developed under clear terms and conditions set by CA

5.12. Technology & Service Neutrality

- Technology and service neutrality shall be promoted, where appropriate.
- Any limitations on applying the principle of technology and service neutrality in any given band shall be specified.

5.13. Efficient Use of Radiofrequency Spectrum

Use of efficient radio frequency spectrum technologies and techniques will be encouraged. The policy will be reviewed from time to time to keep pace with technological developments that promote efficient use of spectrum.

In assessing the efficient use of spectrum, the focus shall be on economic, social and National policy objectives to ensure that:

- A balance is struck between efficient use and promoting innovative development;
- Benefits of flexibility of use against those of harmonised are taken into account;
- Spectrum pricing is used as appropriate to promote its efficient utilisation.

5.14. Spectrum sharing

To address the growing demand for wireless services, spectrum sharing will be encouraged to improve efficiency and maximize its use. In this regard use of unlicensed spectrum will be encouraged in order to unlock the next generation of wireless technologies.

5.15. Spectrum Re-farming

Spectrum re-farming (redeployment) is a process where existing operators use their existing spectrum holdings to deploy new technologies that provide greater social and economic benefits.

- The National Broadband Strategy calls for expediting frequency re-farming to optimise the utilisation of the currently allocated spectrum for deployment of mobile broadband services;
- CA shall encourage the existing operators to re-farm their current spectrum holdings in line with the existing Unified Licensing Framework.

5.16. Monitoring and enforcement

The methodology for monitoring and enforcement of proper use of radiofrequency spectrum resources shall be regularly reviewed so as to be able to respond to any interference issues.

6. DEPLOYMENT OF WIRELESS BROADBAND NETWORKS

The deployment of wireless broadband networks will result in provision of broadband connectivity to the entire country and meet the wireless broadband access targets set in the National Broadband Strategy. This policy sets a framework for availing spectrum for deployment of wireless broadband networks that will build on the existing broadband environment and increase the penetration of broadband connectivity countrywide and especially in the rural and underserved areas for both commercial and government services.

6.1. The National Broadband Strategy

Vision 2030 recognises the enabling role of ICTs and anchors some of its key aspirations upon the availability and adoption of broadband technologies. The National Broadband Strategy (NBS) is premised on the vision to transform Kenya into a knowledge-based society driven by a high capacity nationwide broadband network. The Strategy is critical to the achievement of Vision 2030 that seeks to provide Kenyan citizens with a lifestyle that is equivalent to the experience that a newly industrialized country provides.

The overall objective of the NBS is to provide quality broadband services to all citizens. Broadband is vital to achieving the Sustainable Development Goals (SDGs).

It plays a vital role in improving sustainable development by supporting the provision of basic needs such as education and healthcare, helping to lift people out of poverty through e-commerce and job growth, monitoring climate change and planetary processes, and bridging the digital gender divide. Therefore, the roll-out of broadband infrastructure and broadband-enabled applications and services can help foster inclusive economic growth.

The role of the government focuses on the supply-side promotion of broadband as well as providing an enabling environment to allow optimum market growth of broadband services by leveraging private sector investment in critical infrastructure. It is expected that public and private sector investment and competition will expand the broadband market.

These policy guidelines provide the direction and scope of actions to be taken by Government in order to promote the deployment of Wireless Broadband taking into account the need for efficient utilization of spectrum in the bands identified for Wireless broadband services.

6.2. Spectrum Bands for Deployment of Wireless Broadband

Countries may deploy wireless broadband services in various frequency bands other than those identified in the Radio Regulations, and they may also deploy these services only in some or parts of the bands identified for IMT in the Radio Regulations.

This policy document recommends that CA develops a spectrum plan for Kenya that proposes bands for deployments of wireless broadband services in the country: such as 450-470 MHz, 700 MHz, 800 MHz, 900 MHz, 1500 MHz, 1800 MHz, 1900 MHz and 2100 MHz, 2300 MHz, 2500MHz, 3300-3600 MHz, bands, among others.

The envisaged wireless broadband infrastructure and services can either be implemented in the newly available lower frequency bands, in the higher frequency bands or any bands to be identified in future. The low frequency bands are key for driving nationwide coverage (particularly in sparsely populated areas), while the high frequency bands are required for capacity and urban hotspot coverage. This makes the lower bands ideally suited for achieving broadband nationwide coverage, and the higher bands optimal for coverage in densely populated areas.

The use of the lower frequencies has the potential to provide mass market broadband at a lower cost, because broadband wireless coverage of a given area could be achieved with fewer base stations as compared to coverage of the same area using higher frequency bands.

Thus, utilization of this spectrum will enable the Government to achieve the objectives of delivering efficient, competitive, affordable and responsive wireless mobile broadband infrastructure and services.

6.3. Spectrum Assignment Strategies to be adopted for Wireless Broadband Rollout

CA will employ strategies that promote deployment of efficient and affordable telecommunications services, research and development as well as social progress and economic development.

The Regulator shall promote fair competition and equality of treatment among licensees, and promotion of the public interest; will ensure efficient allocation of spectrum to both existing licensed operators and new entrants in the mobile broadband sub-sector, taking into account the need for universal access to broadband, market conditions and the availability of radio spectrum resources.

7. INSTITUTIONAL FRAMEWORK FOR IMPLEMENTATION OF THE WIRELESS BROADBAND SPECTRUM POLICY

7.1. Ministry of Information, Communications & Technology

The Ministry's role will include:

- Oversight in the implementation of the policy.
- Strengthening existing institutions to champion and deliver on the objectives of the policy.
- Provision of an enabling environment for investment in the sector.
- Draft, review and ensure adoption of policy
- Monitor and evaluate the implementation of the policy

7.2. National Communications Secretariat

The National Communications Secretariat, established through the Kenya Information and Communications Act of 1998 (as amended), will;

- Continue to be the policy advisory arm of the Government on matters pertaining to the ICT sector including radio frequency spectrum management.
- Carry out research related to ICT policy including radio frequency spectrum management.

7.3. The Communications Authority of Kenya (CA)

The CA, as the independent ICT sector regulator, is vested with the responsibility of management of the radio spectrum under the Kenya Information and Communications Act of 1998 (as amended). In carrying out this responsibility, the CA is expected to, amongst other things:

- Ensure the spectrum is utilized efficiently to meet the current and future needs of the Kenyan communication industry;
- Develop a national radio frequency plan in accordance with sector policy, taking into account current and likely future use of the radio frequency spectrum;
- Encourage the efficient use of radio spectrum to facilitate the introduction of advanced and innovative communications services;
- Make use of various spectrum management tools to ensure efficient use of spectrum;
- make adequate provision of the spectrum:
 - for use by agencies involved in the defence or national security of Kenyans, law enforcement or the provision of emergency services;
 - for use by other public or community services;
- provide a responsive and flexible approach to meeting the needs of users of the spectrum;
- encourage the use of efficient radiocommunications technologies so that a wide range of services of an adequate quality can be provided;
- provide an efficient, equitable and transparent system of charging for the use of spectrum;
- support the communications policy objectives of the National and County Governments;
- provide a regulatory environment that maximises opportunities for the Kenyan communications industry in domestic and international markets; and
- Promote Kenya's interests concerning international agreements, treaties and conventions relating to radiocommunications or the radiofrequency spectrum.

In performing its role, the CA may take into account the principle that maximising the overall public benefit from use of the radiofrequency spectrum requires balanced application of both regulatory and market mechanisms.

7.4. The ICT Authority (ICTA)

The ICT Authority is a State Corporation under the Ministry of Information, Communication and Technology (ICT). It has a broad mandate to foster the development of ICTs in Kenya (including businesses, innovation and capacity building), implement and maintain systems and technology for the Government, oversee the development of integrated ICT projects, and to develop and enforce ICT standards for the Government.