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**ELECTRONIC AND POSTAL COMMUNICATIONS ACT
(CAP. 306)**

REGULATIONS

(Made under section 165)

**THE ELECTRONIC AND POSTAL COMMUNICATIONS (DIGITAL AND OTHER
BROADCASTING NETWORKS AND SERVICES)
REGULATIONS, 2018**

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**ELECTRONIC AND POSTAL COMMUNICATIONS ACT
(CAP. 306)**

REGULATIONS

(Made under section 165)

**THE ELECTRONIC AND POSTAL COMMUNICATIONS (DIGITAL AND OTHER
BROADCASTING NETWORKS AND SERVICES) REGULATIONS, [2018](#)**

**PART I
PRELIMINARY PROVISIONS**

- Citation 1. These Regulations shall be cited as the Electronic And Postal Communications (Digital and other Broadcasting Networks) Regulations, 2018.
- Application 2. These Regulations shall apply in relation to:-
(a) digital broadcasting networks;
(b) broadband broadcasting networks;
(c) terrestrial analogue broadcasting networks;
(d) subscription broadcasting services;
(e) digital terrestrial broadcasting radio frequency spectrum planning, procedures, guidelines and conditions for assignment to terrestrial Broadcasting Networks;
(f) standards for broadcasting networks and other subsequent revisions thereof;
(g) hybrid networks and value added services in relation to digital broadcasting as may be determined by the Authority.
- Interpretation 3. In these Regulations, unless the context otherwise requires:-
- Cap. 306 “Act” means the Electronic and Postal Communications Act;
“access” means the making available by one person or network of electronic communications services or

electronic communications networks, or parts thereof, to another person or network, for the purpose of enabling:-

- (a) construction, maintenance and operation of an electronic communications network;
- (b) provision of an electronic communications service; and use of electronic communications services;

“analogue broadcasting” means the transmission of sound, text and images whether still or moving in a continuously variable signal in the form of - radio waves;

“Amplitude Modulation” in its acronym “AM” means a process of varying amplitude of a carrier radio frequency spectrum by using input baseband frequency signal for the purpose of transmitting signal information;

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“Authority” means the Tanzania Communications Regulatory Authority established under Tanzania Communications Regulatory Authority Act;

“bouquet” means a collection of television or radio channels marketed as a package for the purpose of selling;

“broadband terrestrial broadcasting network” means a broadcasting network capable of carrying video, audio and data at the recommended speed and quality;

“cable operator” means entity that provides subscription broadcasting services through a cable television network and is responsible for the management and operation of a cable television network;

“cable service” means the transmission by cables of programmes including retransmission by cables of any broadcast television signals;

“cable subscription broadcasting service” means subscription broadcasting service delivered via cable networks;

“cable television network” means any system consisting of a set of closed transmission paths and associated signal generation, control and distribution equipment, designed to provide cable service for reception by multiple subscribers;

- “channel aggregator ” means any entity licensed to package individual licensed or authorized channels into a specific basket of channels for distribution by a multiplex operator;
- “conditional access” means to restrict television programme access to certain groups of users either because of concerns of privacy or the desire to collect revenue for the services that requires secure encryption of the programme content and secure decryption in digital television receivers;
- “content services” means services offered for speech or other sound, data, text or images whether still or moving, except where transmitted in private communications;
- “content services licence” means an electronic communications licence entitling the holder to provide one or more content applications services;
- “content services licensee” means a holder of a content services licence;
- “digital broadcasting” means the practice of using advanced digital compression techniques to encode and transmit audio, text, images and video signals resulting in more efficient bandwidth usage;
- “digital terrestrial television or in its acronym (DTT)” means a television service delivered through a terrestrial digital broadcasting network;
- “Digital Sound Broadcasting (DSB)” in its means audio services delivered through a terrestrial digital broadcasting network;
- “EAC” means the East African Community established by the Treaty for establishment of the East African Community;
- “Effective Radiated Power” in its abbreviation “ERP”, means the product of the power supplied to the antenna and its gain relative to a half wave dipole antenna in a given direction;
- “Electronic Programme Guide” in its abbreviation “EPG” means on-screen guide to scheduled television or sound broadcasting programmes;

- “Electronic Programme Information” in its abbreviation “EPI” means a basic initiated call to display a banner over the video indicating at a minimum, the current and upcoming programme title;
- “existing content services provider” means a content service licensee providing content services before licensing of multiplex operators;
- “frequency assignment” means the authorisation to use frequencies by the multiplex operator;
- “Free to Air Broadcasting Service Licensee” means a licensee who provides broadcasting services without being paid subscription fee;
- “ Frequency Modulation” or in its acronym “FM” means a process of varying frequency of a carrier radio frequency spectrum by using input baseband frequency for the purpose of transmitting signal information;
- “High Definition Television” or in its acronym “HDTV” means high quality digital television transmission system providing image resolution of 1920 by 1080 pixels;
- “hybrid network” means a multiplatform network which distributes signals using a number of digital electronic media which can be used in part or a combination of terrestrial, satellite , broadband broadcasting, and any other platforms as may arise;
- “Internet Protocol Television in its acronym (IPTV)” means multimedia services such as television, video, sound, text, graphics or data delivered over IP based networks managed to provide the required level of quality of service and experience, security , interactivity and reliability;
- “licence” means a licence issued under the provisions of the Acts;
- “licensee” means any person licensed by the Authority;
- “licence period” means the period authorised to the holder of the licence to provide services;

- “Live” means broadcasting programmes or events as it happens;
- “Local entities” means Registered companies in the United Republic of Tanzania who wishes to advertise or sponsor television programmes for the purpose of selling, informing or persuading the public about particular products or services;
- “Local Free To Air channels” means channels licensed by the Authority to provide Free To Air broadcasting television services;
- “Minister” means the Minister responsible for communications except in relation to content matters;
- “Motion Picture Expert Group” or in its acronym “MPEG” means, a working group of experts that was formed by the International Standards Organization (ISO) for setting standards for audio and video compression and transmission;
- Multi Frequency Network” in its acronym “MFN” means a network of transmitting stations with different radio frequency channels;
- “multiplex” means a digital transmission channel which combines program material and other data in a digital form for transmission via a frequency channel;
- “multiplex operator” means that entity that combines, operates content offering on a digital multiplex that decides on the conditional access and Subscriber Management System (SMS) to be used and provides signal transmission to the end user;
- “must carry obligations” means mandatory carrying of a Public Service Broadcaster (PSB) Channel to the end user on any transmission media without charging transmission and subscription fees to the PSB and viewers respectively;
- “network facilities” means any element or combination of elements, of physical infrastructure used principally for or in connection with, the provision of one or more network services or multiplex operation, but not including customer equipment;

- “network operator” means an entity that manage and operate broadcasting facilities for a purpose of delivery of broadcasting services to the end user;
- “public services broadcaster” means content service provider whose costs are borne out of expenditure appropriated by Parliament or other public finances collected through other means of revenue collection;
- “service area” means the geographical area within which a licensee is authorised to cover;
- “single frequency network or in its acronym “SFN” means network of synchronized transmitting stations broadcasting simultaneously identical or different signals (contents) by using the same RF television channel;
- “special event channels” means the transmission of a channel within the network operators’ bouquet of channels, for a specified temporary duration;
- “standard definition television or in its acronym “SDTV” means digital television transmission system with 720 x 576 resolutions either interlaced or progressive scanned formats;
- “subscription broadcasting services” means broadcasting service which may be made available to person on payment of a subscription fee;
- “subscriber” means a person who has entered into an agreement with a provider of subscription content services for access to content through payment of a fee;
- “subscriber management system” means a system which enable pay TV operators to manage their business through access to end user data such as contracts, commercial options and smart cards also manage administration of customers’ subscriptions including create, modify and delete customers’ rights as well as management of commercial offers like TV channels packaging, business models and keeps track of the requests and results to provide comprehensive reporting;

“support services” means a service which consists of the provision of management services to a subscription broadcasting service which may include, but is not limited to subscriber management support, subscription fee collection, call centres, sales and marketing and technical and installation;

“unsuitable content” means broadcasted content which breach content regulations governing the broadcasting services;

“value added services” means an additional application which may be given to subscriber like internet, text messages, payment systems and telephone with an additional cost; and

“Video-on-Demand or in its acronym VoD” means a service in which the end-user can on demand, select and view a video content and where the end-user can control the temporal order in which the video content is viewed such has the ability to start the viewing, pause, fast forward, rewind, etc.

**PART II
POWERS OF THE AUTHORITY AND OBLIGATIONS OF
SERVICE PROVIDERS**

Powers of the Authority in relation to broadcasting networks

4.-(1) The Authority shall have the following obligations in relation to the broadcasting networks:-

- (a) determine standards for broadcasting networks;
- (b) plan and assign frequencies in accordance with the market segment and service area;
- (c) determine categories of multiplex operators as deemed necessary;
- (d) determine number of multiplexes to be used for free to air, pay television and value added services;
- (e) issue construction permit to the successful applicants for broadcasting networks; and
- (f) determine - number of broadcasting networks and content services providers in every broadcasting market segment and service area.

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- Frequency Assignments for broadcasting networks
- (2) For the purpose of sub regulation (1), the Authority shall have powers to determine the number of multiplex operators.
- 5.-(1) The frequency assignments for broadcasting networks shall be issued by the Authority, under the following conditions:-
- (a) for analogue terrestrial broadcasting networks, in accordance with the market segments and licensed service areas; and
 - (b) for digital terrestrial broadcasting networks, according to the demand and rollout requirements.
- (2) For the purpose of regulation (1), the Authority shall plan frequency spectrum to accommodate emerging digital broadcasting services.
- (3) The Authority shall have powers to:-
- (a) review multiplex assignments and allocations of frequency spectrum;
 - (b) announce availability of free multiplexes which may be allocated to new applicants for free to air and subscription content service licence; and
 - (c) announce the availability of frequency spectrum for analogue radio in competitive manner taking into consideration the need of underserved areas.
- Obligations of multiplex operators
6. The network facilities licensee who is authorised to provide digital terrestrial broadcasting multiplexing and signal distribution services shall comply with the following conditions:-
- (a) to provide access to free to air content services licensees as primary obligation;
 - (b) to provide access to subscription pay television on secondary basis;
 - (c) to make available, provisioning of content aggregation and programme bouquet handling system that shall support data paths embedded in the video stream based on open source (non-proprietary) multimedia system to support

Electronic Programme Guide (EPG) and Electronic Programme Information (EPI) for Free-To-Air (FTA) and Conditional Access for subscription services;

- (d) to submit annually to the Authority for its approval an updated roll-out plan for the provision of national network facilities to provide digital terrestrial broadcasting multiplexing and signal distribution services;
- (e) to provide services to current and new content service licensee on a fair, transparent, impartial and non-discriminatory manner;
- (f) to construct, operate, install, manage and maintain network facilities in accordance with the regulations made under the Act;
- (g) to ensure that every broadcasting transmission is identified by transmitting identification signals or announcements periodically;
- (h) to ensure that transmission tower heights, antenna and transmission characteristics are in accordance with the parameters as specified in the Rules issued by the Authority;
- (i) to ensure compliance with infrastructure sharing requirements and standards as provided for under the Electronic and Postal Communications Act;
- (j) to submit to the Authority any plan for development or facility upgrade for approval for which the Authority reserves the right to reject any such request;
- (k) within thirty days of a request by a content service licensee enter into a service level agreement with such licensee and provide the access services;
- (l) to provide, within five years of being licensed, a Head-end in each administrative region of Tanzania for collection of signals for distribution;

- (m) to provide connectivity fees which are transparent, non discriminatory and cost based in accordance with the bandwidth used per annum;
- (n) to comply with any regulations, rules and directives issued by the Authority on applicable tariffs;
- (o) to submit to the Authority, quarterly reports on network utilisation, spectrum utilisation, interference within and across borders of the United Republic of Tanzania;
- (p) to provide to the Authority, billing information;
- (q) to carry signals of content services licensees to service areas in accordance with their licence conditions; and
- (r) to submit to the Authority annually audited financial report.

Obligations of Content Services Licensees in relation to terrestrial digital television broadcasting networks

7. A content services licensee shall have the following obligations in relation to terrestrial digital television broadcasting networks:-

- (a) prepare and submit to the Authority roll-out plan for content services, service area and programmes;
- (b) prepare and submit to the Authority business plans for digital terrestrial broadcasting network;
- (c) ensure that content for transmission carries station identification information by periodic announcements for radio station and logo for television station;
- (d) be responsible to route its source signal to the regional multiplex head-end;
- (e) provide information to multiplex operator for electronic program guide;
- (f) provide periodic viewers guide, warning and information on the rating of content; and
- (g) construct and install infrastructure in accordance with the parameters provided under the Rules made by the Authority.

Obligations of content services licensee in relation to analogue terrestrial broadcasting networks

8. A content services licensee shall have the following obligations in relation to analogue terrestrial broadcasting networks:-

- (a) prepare and submit to the Authority roll-out plan for content services, service area and programmes;
- (b) prepare and submit to the Authority business plans for analogue terrestrial broadcasting network;
- (c) ensure that content for transmission carries station identification information by periodic announcements for radio station;
- (d) provide periodic listeners guide, warning and information on the rating of content;
- (e) provide quarterly report to the Authority on the performance of the network that shall include:-
 - (i) printed footprint of the service area of each transmitter;
 - (ii) effective radiated power of each transmitter; and
 - (iii) percentage of the network availability of each transmitter; and
- (f) construct and install infrastructure for analogue terrestrial broadcasting networks in accordance with the parameters provided under the Rules made by the Authority.

PART III TECHNICAL STANDARDS

Digital Terrestrial Broadcasting-terrestrial standards

9.-(1) A multiplex operator shall provide services based on standard as provided under the First Schedule to these Regulations.

(2) The Authority may from time to time review the standards as provided for under these Regulations.

Network Configuration

10.-(1) A multiplex operator shall comply with the following network configuration requirements:-

- (a) use of Single Frequency Network (SFN) configuration for National coverage and Multiple Frequency Network (MFN) configuration for gap-

fillers for deployment of digital terrestrial signal transmission, based on the National Frequency Spectrum Plan;

- (b) deployment of transmitters without put powers and ERPs for both MFN or SFN shall be in accordance with the provision stipulated in the Digital Broadcasting Rules; and
- (c) configure the network in accordance with reception modes as specified in the Second Schedule to these Regulations;

(2) A multiplex operator shall limit the transmitter powers of gap fillers to 50 Watts and ensure that does not cause interference to the main networks.

Multiplex
capacity
framework

11.-(1) A multiplex operator shall offer digital broadcasting services in the following manner:-

- (a) allocate a minimum of one third of total multiplex capacity for Free To Air services or as may be prescribed from time to time by the Authority;
- (b) in allocation of multiplex capacity, priority shall be given to Free To Air Services;
- (c) frequency channels shall be assigned upon justification of demand and availability;
- (d) shall not avail to one content service licensee more than 20% of a multiplex;
- (e) transparency in separation of content services functions and multiplex operator functions in the Digital Broadcasting value chain;
- (f) the maximum compression ratio shall be prescribed by the Authority in the digital broadcasting rules; and
- (g) Value added services shall not exceed 5% capacity of one Multiplex in use.

(2) For the purpose of providing content services, a Multiplex Operator shall form a subsidiary company and apply for a relevant licence.

Quality of service

12.-(1) A multiplex operator and content services licensee shall be required to comply with quality of service requirements that includes:-

- (a) point of interface between content services licensee's studio and multiplex operator's Head-end;
- (b) coding, compression and multiplexing stages;
- (c) signal distribution system;
- (d) signal transmission system;
- (e) point of audio and visual production;
- (f) customer premise equipment;
- (g) customer perception of quality or quality of experience; and
- (h) service availability.

Systems Interoperability

13.-(1) A multiplex operator shall ensure that there is interoperability in the digital broadcasting chain in the following manner:-

- (a) all free to air channels shall be accessible without any subscription fees on any digital platform through an integrated digital television or a set top box;
- (b) the Authority shall type approve set top boxes and integrated digital television for use by consumers to access digital broadcasting services by Content Service providers through Multiplex Operators;
- (c) provide all conditional access television channels to be accessible through a single Set-Top-Box and integrated digital television using mechanisms such as, smart cards, passwords or keys or any other mechanisms compatible with the single receiver system; and
- (d) flexibility to content services licensee to change multiplex operator without need for additional interface.

(3) Multiplex operator and content service licensee shall ensure that all the equipment comprised in and contacted

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to the licensed systems used in the provision of the licensed services are approved by the Authority.

Set-Top-Box Specifications

14. Any person who intends to assemble, maintain, import, distribute or sell integrated digital television, set top box, digital radio receiver or any other customer premise equipment for digital terrestrial broadcasting reception apply to the Authority to obtain the approval for appropriate class licence.

**PART IV
DIGITAL BROADCASTING TELEVISION NETWORK AND
SUBSCRIPTION SERVICES**

Channel aggregation on DTT platform

15.-(1) Channel aggregation on the DTT platform shall:-
(a) not produce its own content and make it part of its bouquet;
(b) obtain right clearances from relevant television channel owners; and
(c) be allowed to have information channel restricted for description of the service offered without including any commercial advertisements.
(2) Subject to availability of spectrum and demand, the Authority shall determine the number of channel aggregators.

Advertising on subscription channels

16. A subscription channel shall not be sponsored or use commercial advertisements obtained from local entities

Must carry obligations

17. All broadcasting network operators shall be obliged to carry the public service broadcaster without charging transmission fee for the interest of the public all the time.

Carriage of local free to air channels

18. carriage of local free to air television channels to the end user shall be through multiplex operators networks and abide by the licence conditions of a content service licence

Condition for exclusive

19. A licensee granted exclusive rights to broadcast live sports events shall undertake the following conditions:-

rights of
broadcasting
live events

- (a) subject to copyrights agreement from relevant bodies, submit to the Authority a copy of agreement to air live local sport event three weeks before the programme commences;
- (b) in the case of a licensee who has acquired rights to broadcast live foreign sport events, submit to the Authority copyright agreement to the Authority at least one month before commencement of the event; and
- (c) in the case of a licensee who acquires exclusive rights to broadcast any live sports event, inform the public of such rights by publishing in three newspapers of wide circulation at least three weeks before commencement of the programme.

Locking
channels with
unsuitable
content

20. Criteria for locking channels with unsuitable content shall be as follows:-

- (a) aggregator shall ensure the provision of locking mechanisms to prevent access to unsuitable content by minors;
- (b) a Content Services (Subscription Broadcasting Terrestrial) licensee shall, wherever practicable, implement adequate mechanisms to enable a subscriber, using a reasonably secure mechanism such as a PIN number selected by the subscriber, to block a programme based on the classification of the programme or a channel included in its service;
- (c) in order to enable a subscriber to block a programme based on the classification of the programme, a channel aggregator licensee shall, wherever practicable capture the programming classification information "the classification data"; electronically and:-
 - (i) a Content Services (Subscription Broadcasting Terrestrial) licensee shall inform all its subscribers of the parental control mechanism available and provide the

subscriber with a step-by-step guide on how to use the parental control guide;

- (ii) the channel aggregator licensee shall:-
 - (aa) provide every subscriber a copy of the parental control guide to its subscription broadcasting service;
 - (bb) ensure that the parental control guide is accessible to its subscribers through the EPG;
 - (cc) post a copy of the parental control guide on its website; and
 - (dd) provide call centre facility to assist subscribers in using the parental control mechanism.

Service Level Agreement between Multiplex Operator and Channel Aggregator

21. A channel aggregator shall enter into and submit to the Authority for approval service level agreement with Multiplex Operators for the purpose of provision of subscription broadcasting services.

Obligation of channel aggregator in relation to subscription broadcasting licensee

22. A Channel Aggregator shall have the following obligations in relation to Content Services (Subscription Broadcasting Terrestrial) licensee:-

- (a) provision and facilitate of fair, nondiscriminatory and equitable access to subscription broadcasting licensee;
- (b) observation of copyright laws;
- (c) enter into service level agreement with subscription broadcasting licensee;

- (d) retain at least one channel dedicated for educational purposes; and
- (e) to ensure that any foreign aggregated channel does not offend good taste of decency, not offensive to public feelings, not likely encourage crime or lead to disorder, is not abusive or threatening in nature and adheres to Tanzanian culture and national values.

Value added services for subscription content services

23. The facility of subscription content services licence shall, unless specific license for the value-added services has been obtained from the Authority, not be used for other modes of communication such as voice, fax, data, communication or Internet.

Support services for subscription broadcasting

24.-(1) A licensed company providing support services for subscription broadcasting content services shall provide management services to a subscription broadcasting service which may include:-

- (a) subscriber management support;
- (b) subscription fee collection;
- (c) call centers;
- (d) sales and marketing; and
- (e) technical support and installation.

(2) A licensee for support services for subscription broadcasting content services shall provide subscribers with the following information in writing:-

- (a) type of product, bouquets and services offered;
- (b) cost structure for products and services;
- (c) subscriber service level contract describing not only the conditions for the product and service offered but also the information about the physical address of the licensee;
- (d) billing and collection of subscriber fee;
- (e) complaints handling procedures and resolution; and

(f) provide information on the control mechanisms for access of content inappropriate for children.

(3) Every licensee for support services for subscription broadcasting services shall have the following obligations to:-

- (a) import and distribute by the licensee or through agents broadcasting apparatus to subscribers after obtaining the required license from the Authority;
- (b) conduct installation, commissioning, repair of subscriber terminal equipment;
- (c) provide Electronic Programme Guide support;
- (d) provide customer care support; and
- (e) provide any other services prescribed in writing by the Authority from time to time.

(4) The support services licensee shall be responsible and accountable to all issues pertaining to subscription broadcasting services and subscribers.

Reporting to the Authority

25. A channel aggregator shall submit to the Authority the following information on quarterly basis:-

- (a) name of bouquet with number of channels;
- (b) subscription rate for bouquet;
- (c) total number of subscribers; and
- (d) name of video on demand channels.

Limits to aggregation

26. Aggregation services ownership shall ensure that no single entity shall use more than twenty percent of total DTT subscription capacity.

(2) The Authority shall, depending on available best compression techniques used, prescribe maximum number of channels for the channel aggregator and applicable data rates.

Consumer Issues

27.-(1) A licensee shall comply with the following conditions:-

- (a) protection of subscribers privacy;
- (b) not use their systems to collect personal identifiable information concerning any subscriber

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without their prior written or electronic consent;
and

- (c) prohibited from disclosing personal identifiable information without prior concern of the subscriber.

(2) The operator may collect the information under regulation (1), if its necessary to render subscription services or to detect unauthorized reception of services.

(3) At the time of entering into agreement with subscriber the service provider shall notify subscriber of any personally identifiable information collected or to be collected regarding the use of such information its frequency, time and purpose of any disclosure of such information.

Broadcasting
Lottery
Cap.41

28. A licensee who broadcasts any lottery event shall comply with the Gaming Act.

Advertisement
and
sponsorships

29.-(1) The main source of income for:-

- (a) subscription broadcasting services, shall be subscription fees;
(b) commercial advertisements, shall be exclusive for local free to air television licensee;

(2) Subscription broadcasting services shall not carry any advertising except for live events.

(3) Advertisement in the live events may be aired thirty minutes before the event, during break and after the event.

Authorization
of foreign
channels for
aggregation

30.-(1) The Authority shall authorize foreign channels submitted by the channel aggregator.

(2) The channel aggregator shall not add a channel to its service unless the Authority, on application by the licensee, has authorized the channel.

(3) An application by a channel aggregator to the Authority for the authorization of one or more channels shall be made in writing and shall state:-

- (a) name of the channel;

- (b) nature of the channel and its content;
- (c) country where the channel was packaged;
- (d) full name of channel supplier;
- (e) primary language of the channel; and
- (f) duration of the channel where it is a special event channel.

(4) The application must be accompanied by the prescribed fee.

(5) Within thirty days of receipt of an application made in terms of this regulation, the Authority shall issue a certificate authorising or refusing to authorize the channel.

(6) Where the Authority refuses to authorise a channel, the Authority shall give reasons in writing to the applicant for the refusal within thirty days of issuing of the certificate.

Disconnection of channel

31. (1)The channel aggregator shall observe the following conditions in regards to disconnection of a channels:
- (a) no television channel shall be disconnected by the channel aggregator without giving two months notice to subscription broadcasting licensee specifying the reasons for disconnection; and
 - (b) every intention to disconnect television channel shall be communicated to the Authority and published in three local newspapers of wide circulation.

Licensing of local multiple television channels

32. The Authority shall licence multiple television channels locally produced taking into consideration the following:-
- (a) each channel in the multiplexes to be aggregated shall require a separate licence;
 - (b) subject to these Regulations, each licensed channel shall have service level agreement with multiplex operator;
 - (c) each licensee may, in addition to the licensed channel, have a maximum of three channels in one licensed service area; and

- (d) the additional channels shall be licensed, if has different purposes and objective from the licensed channels.

**PART V
GENERAL PROVISIONS**

Service level agreements

33.-(1) The Authority shall issue guidelines on service level agreements between the content services licensees and the multiplex operator.

(2) The service level agreement shall include the following:-

- (a) obligations of multiplex operator;
- (b) obligations of content services licensee;
- (c) connectivity charges and billing arrangements;
- (d) technical and installation support;
- (e) parental control mechanism;
- (f) electronic program guide;
- (g) subscriber management support;
- (h) content service licensee studio to multiplex operator equipment;
- (i) disputes settlement mechanism;
- (j) customer care service; and
- (k) electronic communication contractors for construction, selling, distribution, installation, commissioning, maintenance, importation etc.

(3) The multiplex operator shall submit to the Authority for notification, the service level agreement between content services licensee before commencement of service.

Interruptions and outages

34. -(1) Save for emergency situation or other circumstances beyond the control of the licensee, a multiplex operator shall not:-

- (a) intentionally interrupt the operation of the network; or
- (b) suspend access to content services licensees;

(2) Where interruption or suspension of services is necessary for maintenance or network upgrade, the multiplex operator shall notify the Authority and content services licensee in writing of such interruption or suspension.

Appeal

35.-(1) Where the period for negotiations has lapsed and there is failure to reach agreement or a dispute arises between parties under a Service Level Agreement, any aggrieved party may appeal to the Authority and serve to the opposite party a copy of document containing the appeal.

(2) The party that appeal to the Authority shall at the time of filing the appeal, provide all relevant information concerning:-

- (a) unresolved issues;
- (b) the position of each party with respect to unresolved issues; and
- (c) any other issue discussed and resolved by the parties.

(3) A licensee against whom an appeal is filed shall file a reply within twenty one days from the date the appeal was served to him.

(4) The Authority may request any additional information from parties that may be necessary for the Authority to determine the unresolved issues.

(5) Where any party refuses or fails to respond within thirty days from the date of any request by the Authority, the Authority may proceed to determine the appeal on the basis of the information available to it and make a determination on the issues including imposing appropriate conditions on implementation of the terms and conditions of parties to the agreement.

(6) A multiplex operator shall submit all disputes involving other licensees to the Authority for determination.

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Penalties

36.-(1) Any licensee who contravenes any provision of these Regulations commits an offence and shall be liable on conviction to a fine of not less than five millions or to imprisonment for a term of not less than twelve months or to both.

(2) Notwithstanding sub regulation (1), where a person commits an offence under these Regulations, the Director General may, where such person admits in writing compound such offence by collecting from that person a sum of money not exceeding the amount of the fine prescribed for the offence.

Revocation
G.N No. 418
of 2011

37. The Electronic and Postal Communications (Digital and other broadcasting networks and services), 2011 Regulations are hereby revoked.

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FIRST SCHEDULE
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(Made under Regulation 9)

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TECHNICAL STANDARDS FOR MULTIPLEX

- (a) Digital Video Broadcasting-Terrestrial2 (DVB-T2 EN 300 744) or its higher version for free to air and subscription services and where necessary Digital Video Broadcasting-Satellite2 (DVB-S2 EN 300 421) or its higher version to compliment the terrestrial service as a relaying standard to remote areas due to terrain and lack of terrestrial infrastructure;
- (b) MPEG-4/H.264 AVC or its higher compression format developed for DTT after issuance of these Regulations and as may be approved by the Authority;
- (c) MPEG-4 based STB and backward compatible with MPEG-2;
- (d) Multiplex Operators to provide network security to prevent stolen STBs from being used outside Tanzania and the East African Community region.
- (e) STB to be open and Interoperable with networks in Tanzania Mainland or the East African Community.;
- (f) The DVB-T2 Head-end shall support Standard Television (SDTV) and upgradeable to support High Definition (HDTV) programming.
- (g) Standards applicable to STBs should also apply to IDTV (Integrated Digital Television Receivers)]
- (h) Provision of Over The Air (OTA) capability by the STB;
 - (i) STB-Cost, (Multicrypt vs Simulcrypt) Simulcrypt to be the option;
 - (ii) Use of technology which shall ensure low cost to end-users

SECOND SCHEDULE

(Made under Regulation 10)

REQUIREMENTS FOR NETWORK CONFIGURATIONS
INCLUDING PARAMETER FOR MFN

1. In planning network configuration, a Multiplex Operator is required to consider the following:-

- (a) Effective Radiated Power;
- (b) Service Area;
- (c) Transmitter Arrays;
- (d) Reception Modes.

2.-(1) A Multiplex Operator shall adhere to reference planning configurations for DVB-T2 in accordance with the following reception modes and frequency bands:-

- (a) fixed reception;
- (b) portable outdoor reception or lower coverage quality portable indoor reception or mobile reception;
- (c) higher coverage quality for portable indoor reception.

(2) The reference planning configurations for DVB-T2 that shall be used are summarized in Table 1.

Table 1: Reference Planning Configurations for DVB-T2

RPC	RPC 1	RPC 2	RPC 3
Reference location probability	95%	95%	95%
Reference C/N (dB)	21	19	17
Reference $(E_{med})_{ref}$ (dB(μ V/m)) at $f_r = 200$ MHz	50	67	76
Reference $(E_{med})_{ref}$ (dB(μ V/m)) at $f_r = 650$ MHz	56	78	88

$(E_{med})_{ref}$: Reference value for minimum median field strength

RPC 1: RPC for fixed reception.

RPC 2: RPC for portable outdoor reception or lower coverage quality portable indoor reception or mobile reception.

RPC 3: RPC for higher coverage quality for portable indoor reception

Reference frequencies for VHF Band is 200 MHz and for UHF Band is 650 MHz. For other frequencies, the reference field-strength values in Table 1 shall be adjusted by adding the correction factor defined according to the following rule:

$$- (E_{med})_{ref}(f) = (E_{med})_{ref}(f_r) + \text{Corr};$$

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- for fixed reception, $\text{Corr} = 20 \log_{10} (f/f_r)$, where f is the actual frequency and f_r the reference frequency of the relevant band quoted in Table 1;
- for portable reception and mobile reception, $\text{Corr} = 30 \log_{10} (f/f_r)$ where f is the actual frequency and f_r the reference frequency of the relevant band quoted in Table 1.

The standard deviation used for the calculation of the location correction factor of each RPC shall be as follows:-

- for RPC 1 and RPC 2: 5.5 dB in VHF and UHF,
- for RPC 3: 6.3 dB in VHF and 7.8 dB in UHF.

(c) A Multiplex Operator shall use four Reference Networks (RNs) in order to cover the different implementation requirements for DVB-T2 networks as follows: large service-area SFN, small service area SFN & dense SFN, small service area SFN for urban environment and semi-closed small service area SFN.

I: Large service-area SFN (Table 2)

- (a) This network consists of seven transmitters situated at the centre and at the vertices of a hexagonal lattice;
- (b) The transmitters have non-directional antenna patterns;
- (c) The service area is assumed to exceed the transmitter hexagon by about 15%;
- (d) This network applies to: fixed, outdoor/mobile, and indoor reception, for both Band III and Bands IV/V;
- (e) For portable and mobile reception, the size of the real service areas for this type of SFN coverage is restricted to 150 to 200 km in diameter.

Table 2: Parameters of Large Service Area SFN

RPC and reception type	RPC 1 Fixed antenna	RPC 2 Portable outdoor and mobile	RPC 3 Portable indoor
Type of network	Open	Open	Open
Geometry of service area	Hexagon	Hexagon	Hexagon
Number of transmitters	7	7	7
Geometry of transmitter lattice	Hexagon	Hexagon	Hexagon
Distance between transmitters d (km)	70	50	40
Service area diameter D (km)	161	115	92
Tx effective antenna height (m)	150	150	150
Tx antenna pattern	Non-directional	Non-directional	Non-directional

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e.r.p.* (dBW)	Band III	34.1	36.2	40.0
	Bands IV/V	42.8	49.7	52.4

The e.r.p. is given for 200 MHz in Band III and 650 MHz in Bands IV/V; for other frequencies (f in MHz) the frequency correction factor to be added is: $20 \log_{10}(f/200)$ or $f/650$ for RPC 1 and $30 \log_{10}(f/200)$ or $f/650$ for RPC 2 and RPC 3.

* The e.r.p. values indicated in this table incorporate an additional power margin of 3 dB.

For the guard interval length, the maximum value $1/4 T_u$ of the 8k FFT mode is used. The Licensed Multiplex Operator shall ensure that the distance between transmitters in an SFN does not exceed the distance equivalent to the guard interval duration.

II: Small service area SFN, dense SFN (Table 3)

- (a) The network consists of three transmitters situated at the vertices of an equilateral triangle.
- (b) The transmitters have non-directional antenna patterns.
- (c) The reference service area is hexagonal.
- (d) This network applies to: fixed, outdoor/mobile and indoor reception, for both Band III and Bands IV/V.
- (e) The network is intended for small service area SFN coverage.
- (f) Transmitter sites with appropriate effective antenna heights are required to be available for this type of network and self-interference restrictions are small.
- (g) Typical service area diameters should be from 30 to 50 km.

TABLE 3: PARAMETERS OF SMALL SERVICE AREA SFN

RPC and reception type	RPC 1 Fixed antenna	RPC 2 Portable outdoor and mobile	RPC 3 Portable indoor	
Type of network	Open	Open	Open	
Geometry of service area	Hexagon	Hexagon	Hexagon	
Number of transmitters	3	3	3	
Geometry of transmitter lattice	Triangle	Triangle	Triangle	
Distance between transmitters d (km)	40	25	25	
Service area diameter D (km)	53	33	33	
Tx effective antenna height (m)	150	150	150	
Tx antenna pattern	Non-directional	Non-directional	Non-directional	
e.r.p.* (dBW)	Band III	24.1	26.6	34.1
	Bands IV/V	31.8	39.0	46.3

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The e.r.p. is given for 200 MHz in Band III and 650 MHz in Bands IV/V; for other frequencies (f in MHz) the frequency correction factor to be added is: $20 \log_{10}(f/200)$ or $f/650$ for RPC 1 and $30 \log_{10}(f/200)$ or $f/650$ for RPC 2 and RPC 3.

* The e.r.p. values indicated in this table incorporate an additional power margin of 3 dB. In this network the inter-transmitter distance is 25 km in the case of portable and mobile receptions.

It is therefore possible to use a value of $1/8 T_u$ (8k FFT) for the guard interval. The same guard interval value might also be feasible for fixed reception, with its greater distance between transmitters of 40 km, since fixed roof-level reception is less sensitive to self-interference because of the directional properties of the receiving antenna. The parameters and the power budgets of this network given in Table 3 shall be used.

III: Small service area SFN for urban environment (Table 4)

- (a) The geometry of the transmitter lattice of this network and the service area are identical to those of Small Service Area SFN, dense
- (b) This network applies to: fixed, outdoor/mobile and indoor reception, for both Band III and Bands IV/V.
- (c) This Network is intended for small service area SFN coverage in an urban environment.

TABLE 4: PARAMETERS OF SMALL SERVICE AREA SFN FOR URBAN ENVIRONMENT

RPC and reception type	RPC 1 Fixed antenna	RPC 2 Portable outdoor and mobile	RPC 3 Portable indoor	
Type of network	Open	Open	Open	
Geometry of service area	Hexagon	Hexagon	Hexagon	
Number of transmitters	3	3	3	
Geometry of transmitter lattice	Triangle	Triangle	Triangle	
Distance d (km)	40	25	25	
Service area diameter D (km)	53	33	33	
Tx effective antenna height (m)	150	150	150	
Tx antenna pattern	Non-directional	Non-directional	Non-directional	
e.r.p.* (dBW)	Band III	24.1	32.5	40.1
	Bands IV/V	31.8	44.9	52.2

The e.r.p. is given for 200 MHz in Band III and 650 MHz in Bands IV/V; for other frequencies (f in MHz) the frequency correction factor to be added is: $20 \log_{10}(f/200)$ or $f/650$ for RPC 1 and $30 \log_{10}(f/200)$ or $f/650$ for RPC 2 and RPC 3.

* The e.r.p. values indicated in this table incorporate an additional power margin of 3 dB.

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IV: Semi-closed small service area SFN (Table 5)

- (a) This network is intended for cases in which increased implementation efforts regarding transmitter locations and antenna patterns are undertaken in order to reduce the outgoing interference of the network.
- (b) The geometry for this network is identical to Small Service Area SFN, dense, except for the antenna patterns of the transmitters, which have a reduction of the outgoing field strength of 6 dB over 240 degrees (i.e. it is a semi-closed RN).
- (c) This network applies to: fixed, outdoor/mobile and indoor reception, for both Band III and Bands IV/V.

TABLE 5:PARAMETERS OF SEMI-CLOSED SMALL SERVICE AREA SFN

RPC		RPC 1	RPC 2	RPC 3
Type of network and reception type		Semi-closed Fixed antenna	Semi-closed Portable outdoor and mobile	Semi-closed Portable indoor
Geometry of service area		Hexagon	Hexagon	Hexagon
Number of transmitters		3	3	3
Geometry of transmitter lattice		Triangle	Triangle	Triangle
Distance between transmitters d (km)		40	25	25
Service area diameter D (km)		46	29	29
Tx effective antenna height (m)		150	150	150
Tx antenna pattern		Directional 6 dB reduction over 240°	Directional 6 dB reduction over 240°	Directional 6 dB reduction over 240°
e.r.p.*(dBW)	Band III	22.0	24.0	32.5
	Bands IV/V	29.4	37.2	44.8

The e.r.p. is given for 200 MHz in Band III and 650 MHz in Bands IV/V; for other frequencies (f in MHz) the frequency correction factor to be added is: $20 \log_{10}(f/200)$ or $f/650$ for RPC 1 and $30 \log_{10}(f/200)$ or $f/650$ for RPC 2 and RPC 3.

* The e.r.p. values indicated in this table incorporate an additional power margin of 3 dB.

Dodoma,
26th March, 2018

MAKAME M. MBARAWA,
*Minister for Works, Transport and
Communications*