



INDIVIDUAL LICENCE NUMBER: BIECN/CMTV/NO. \_\_\_/ YEAR\_\_\_/

ISSUED TO

**(NAME OF LICENSEE)**

FOR THE PROVISION OF

**COMMERCIAL TELEVISION BROADCASTING SERVICES**

IN ACCORDANCE WITH SECTION 9 AS READ WITH SECTION 11 OF THE  
ELECTRONIC COMMUNICATIONS ACT, 9 OF 2013, AS MAY BE AMENDED

("the Licence")

AT MBABANE ON THIS \_\_\_ DAY OF \_\_\_\_\_

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**CHIEF EXECUTIVE  
MVILAWEMPHI DLAMINI  
ESWATINI COMMUNICATIONS COMMISSION**

## 1. DEFINITIONS

1.1. In this licence, all words and expressions shall, unless the context indicates otherwise, have the same meanings as in the Electronic Communications Act, 9 of 2013, as may be amended, read with the Eswatini Communications Commission Act, 10 of 2013, as may be amended. The following definitions apply:

- 1.1.1. "broadcasting" means the provision of vision, sound, multimedia and data service, principally intended for delivery of information, entertainment and education to the general public;
- 1.1.2. "broadcasting service" means a service that delivers vision, sound, multimedia and data programmes (content) to persons having equipment appropriate for receiving that service, whether the delivery uses the radio frequency spectrum, cable, optical fibre, satellite, internet or any other means or a combination of those means;
- 1.1.3. "code of conduct" means the Code of Conduct developed by the Commission and set out in Clause 10 of the Broadcasting Guidelines, 2017;
- 1.1.4. "commercial broadcasting" means a broadcasting service operated for profit;
- 1.1.5. "Commission" means the Eswatini Communications Commission established under Section 3 of the Eswatini Communications Commission Act, 2013;
- 1.1.6. "dead-air" is defined as:
  - i. a period of silence in a Television Broadcast;
  - ii. where program material comes to an unexpected halt, either through operator error or technical fault;
  - iii. a frozen image in the case of digital television transmission;
- 1.1.7. "information" includes signs, signals, writing, pictures, sounds or other information of any nature which constitutes the content transmitted by electronic communication;
- 1.1.8. "infomercials" are hard sell, direct response television commercials that last between 15 and 30 minutes in duration.

- 1.1.9. "licence" has the meaning assigned to it under Section 2 of the Eswatini Communications Commission Act, 2013;
- 1.1.10. "licensee" has the meaning assigned to it under Section 2 of the Eswatini Communications Commission Act, 2013;
- 1.1.11. "licensed service" means a service that is authorised to be undertaken under this licence;
- 1.1.12. "primetime television" refers to the block of time when audience viewership peaks for programming during a defined period of time and for purposes of this licence that shall be 17:30 Hrs to 21:30 Hrs;
- 1.1.13. "television" means the conveyance of visual information, together with one or more channels or associated audio or suitably encoded textual information;
- 1.1.14. "television broadcasting service" means a broadcasting service consisting in the sending of visual images or other visible signals with accompanying sounds, where the visual images are such that sequences of them are seen as moving pictures;
- 1.1.15. "warranted" means that there is enough justification of the infringement of privacy. If the reason is that it is in the public interest, then the broadcaster should be able to demonstrate that the public interest outweighs the right to privacy; and
- 1.1.16. "watershed period" means the period from 2300hrs to 0330hrs that is observed by Licensees to broadcast material unsuitable for children.

## **2. SCOPE OF THE LICENCE**

- 2.1. The Licensee is authorised to operate in the Kingdom of Eswatini and to provide Commercial Television Broadcasting Services in accordance with the Electronic Communications Act, 9 of 2013 and any other applicable statutory framework for the regulation of broadcasting services, as may be amended.
- 2.2. The Licensee shall be entitled to do the following Commercial Television

Broadcasting Services, among other things in terms of this licence:

- 2.2.1. Provide free-to-air television broadcasting services;
  - 2.2.2. Establish a television broadcasting network for transmission of television content over the area prescribed in this licence; or
  - 2.2.3. Use an authorized signal distributor for distribution of television broadcasting content over the area prescribed in this licence; or
  - 2.2.4. Use any other technology for signal distribution;
  - 2.2.5. Provide a diverse range of programming addressing a wide section of the Eswatini population;
  - 2.2.6. Provide programming in the official languages of the Kingdom of Eswatini (SiSwati and English).
- 2.3. The Licensee shall ensure that its broadcasting services contribute towards the advancement of the knowledge, sense of resourcefulness, duties and responsibilities of the population of Eswatini.
  - 2.4. The Licensee shall strive to offer a broad range of services to the general population and in particular aimed at children, women, the youth and people with disabilities within the Kingdom of Eswatini.
  - 2.5. The Licensee is subject to the statutes mentioned above as well as the regulations, decisions, guidelines, determinations and authorizations that may be issued under these statutes.
  - 2.6. The Licensee shall, at all times, ensure compliance with the totality of its obligations in terms of this licence and under the regulatory instruments mentioned hereinabove.
  - 2.7. Failure to comply with these obligations will be dealt with as a contravention of the terms of this licence and the Commission shall be entitled to take any corrective measures contained in the statutes, regulations, decisions, guidelines, determinations and/or authorizations.
  - 2.8. The Licensee may be required by the Commission to broadcast at no charge, information and/or advertisements informing audiences of their rights to complain against a breach of broadcasting codes, guidelines or licence conditions by the Licensee to the Commission.

### **3. CONTACT DETAILS**

3.1. The primary contact person for the Licensee shall be:

3.1.1. **Name:**

3.1.2. **Tel:**

3.1.3. **Cell:**

3.1.4. **Email:**

### **4. NOTICES AND ADDRESSES**

The Licensee chooses the following addresses as its principal addresses:

4.1. **Postal Address:**

4.2. **Physical Address:**

### **5. OWNERSHIP AND CONTROL**

5.1. The Licensee's shareholding structure is as set out in **Annex D**.

5.2. The Licensee shall notify the Commission in writing of any changes to its ownership and control structure and shall not transfer, cede, pledge, assign or otherwise dispose of, or encumber:

5.2.1. This licence;

5.2.2. Shares in excess of 5% of the issued share capital; or

5.2.3. Voting share capital resulting in a change to the composition of one quarter of the board of directors,

without the prior written approval of the Commission.

5.3. This restriction shall not preclude the shares of the Licensee from being listed on the Eswatini Stock Market/Exchange, provided that such listing shall not have the effect of vesting greater than 30% of the voting share capital in any non-citizen of the Kingdom of Eswatini or a competitor, actual or potential, and/or supplier of the Licensee.

### **6. NOTIFICATION OF LICENSEE DETAILS AND INFORMATION CHANGE**

6.1. The Licensee shall submit written notice to the Commission within thirty (30) days of the occurrence of any of the following changes in its licence:

6.1.1. the contact person;

- 6.1.2. contact details;
  - 6.1.3. physical address of the main office of the Licensee; or
  - 6.1.4. financial year end;
  - 6.1.5. any change affecting the characteristics of the body or structure; or
  - 6.1.6. any change in the person having control over or interests in the body;
- 6.2. Where a Licensee fails to notify the Commission of any of the changes mentioned above, the Commission may revoke the licence by notice served on the Licensee, and the revocation shall take effect on a date specified in the notice, subject to the Licensee being afforded the right to be heard.

## **7. DURATION, COMMENCEMENT AND RENEWAL**

- 7.1. This licence is granted for a period of five (5) years from the date of issue.
- 7.2. The licence shall be effective from the \_\_\_\_\_
- 7.3. The Licensee shall be required to establish the necessary broadcasting infrastructure / studio and processes and shall commence the provision of commercial services within a maximum period of twelve (12) months from the date of issuance of the licence.
- 7.4. The Licensee may apply for renewal of this licence within the licence period term. The application to renew the licence shall be submitted to the Commission no less than twelve (12) months prior to the expiration of the licence, and the Commission shall make a decision relating to such renewal application by not later than three (3) months before the expiry date of the licence.
- 7.5. The Commission may renew the licence in accordance with prevailing legislation, regulations and guidelines, provided that the Licensee has not been in material breach of the licence conditions.
- 7.6. The licence terminates on the last day of the licence period if it is not renewed or where an application for renewal has been declined. Notwithstanding, the Commission may extend the licence for a period that may be specified by the Commission pending the renewal process.

## **8. AMENDMENT OF THE LICENCE**

Save as set out in this licence, any amendment of the terms and conditions of this licence together with its appendices may only be made in writing by the Commission, in accordance with Section 12 of the Electronic Communications Act, read together with clause 6.5 of the Broadcasting Guidelines, 2017 as may be applicable from time to time.

## **9. NATURE AND STRUCTURE OF PROGRAMMING**

9.1. All programmes broadcasted by the Licensee under this licence shall:

9.1.1. Reflect the culture, character, needs and aspirations of the people in the areas that the Licensee is licensed to serve;

9.1.2. Provide an appropriate amount of local or national programming as may be prescribed by the Commission from time to time;

9.1.3. Provide news and information programmes on a regular basis, including discussion of matters of national, regional and where appropriate, local significance; and

9.1.4. Meet the highest standards of journalistic professionalism.

## **10. GENERAL CONDITIONS**

10.1. In the provision of the broadcasting services under this license, the Licensee shall comply with the Broadcasting Guidelines, 2017 as may be amended and applicable from time to time, including the following:

10.1.1. Programming, scheduling and advertising shall be in accordance with clause 7 of the Broadcasting Guidelines, 2017;

10.1.2. Local content quota is as outlined in clause 8 of the Broadcasting Guidelines, 2017;

10.1.3. Infomercials shall not be broadcasted for a period of more than three (3) hours in a day and only one (1) hour of infomercials can be transmitted during primetime television;

10.1.4. Where a paid/sponsored live broadcast by the Licensee exceeds three (3) hours, prior written application shall be made to the Commission for authorization. The application shall state the duration and the amount charged for the broadcast.

10.2. The Licensee shall be required to have an independent editorial policy,

approved by the Commission in accordance with clause 9 of the Broadcasting Guidelines, 2017.

10.3. The Licensee shall provide broadcasting services in a fair, reasonable and non-discriminatory manner ('FRND' obligation). Under this obligation the Licensee shall inter alia:

10.3.1. not engage in any practice or enter into any arrangement or give effect to any arrangement (whenever made) which is prejudicial to fair and effective competition in the provision of the broadcasting services.

10.4. The licensee shall carry out their activities under this license in compliance with the Code of Conduct, as provided in clause 10 of the Guidelines for Broadcasting, 2017.

## **11. SEVERABILITY**

11.1 Where a Court of competent jurisdiction finds any provision of this licence unlawful, that provision shall be severed from this licence and the remainder of the licence conditions shall continue to apply as if such clause had not been part of the licence.

## **12. FEES**

12.1. The Licensee shall, annually, pay the following fees based on revenue from its Licensed Services:

12.1.1. Contribution of 0.5% of its audited Net Operational Income towards the Universal Service Obligation Fund;

12.1.2. Payment of 2% of its audited Net Operational Income towards annual royalties;

12.1.3. The licence fee payments are due annually within three (3) months of the end of the financial year of the Licensee and shall be accompanied by the audited Annual Financial Statement of the Licensee.



### **13. ACCESS TO FREQUENCY SPECTRUM**

- 13.1. The Licensee has the right to apply for and use Radio Frequency Spectrum.
- 13.2. Where a Licensee requires access to Radio Frequency Spectrum, the Licensee shall submit an application to the Commission for the assignment of such Radio Frequency Spectrum in accordance with the Electronic Communications (Radio Frequency Spectrum) Regulations, 2016.
- 13.3. The application shall be accompanied by a report detailing the usage of any existing assignments and the proposed efficient use of Radio Frequency Spectrum applied for.
- 13.4. The Licensee's assigned Radio Frequency Spectrum and the terms and conditions for the use of such assignment shall be set out in its Radio Frequency Spectrum Licence.
- 13.5. The Licensee may not use any other portion of Radio Frequency Spectrum not specifically authorised in its Radio Frequency Spectrum Licence unless such portion of Radio Frequency Spectrum is designated as licence exempt.

### **14. INFRASTRUCTURE SHARING**

- 14.1. The Licensee may, as far as practicable, utilise the existing Digital Terrestrial Television (DTT) infrastructure as duly controlled by the Signal Distributor.
- 14.2. Notwithstanding the above, the Licensee may, upon approval by the Commission, establish its own infrastructure where the circumstances are appropriate and necessary.
- 14.3. Where the Licensee owns/operates an infrastructure, it shall cause that infrastructure to be shared in accordance with the Electronic Communications (Facilities Sharing) Regulations, 2016.

### **15. TECHNICAL REQUIREMENTS**

- 15.1. The Licensee shall ensure that the video and audio signal and other parameters are in compliance with **ANNEX A**.
- 15.2. The Licensee shall ensure that all Terrestrial Television Broadcast transmission is according to the DVB-T2 standard parameters (ETSI EN 302 755) or any other applicable standards set from time to time.

- 15.3. The Licensee shall ensure that its broadcast studio is equipped with a Master Control which shall be used for monitoring the quality and the accuracy of the on-air product, and ensure that the transmission meets the requirements set out in the Broadcasting Guidelines, 2017.
- 15.4. The Licensee shall ensure that their broadcast studio is equipped with a Master Control which shall have the capability, among other things, to:
  - 15.4.1. Monitor and gather information on instances of dead-air in the transmission;
  - 15.4.2. Monitor and gather information on instances of over-modulation in their transmission;
  - 15.4.3 Monitor and control transmission during live or phone-in programs using professional profanity delay equipment.

## **16. QUALITY OF SERVICE REQUIREMENTS**

- 16.1. The Licensee shall ensure that the equipment carrying the Licensed Service attain high standards of technical quality and reliability. The standards set shall apply throughout the Licensed Area and for reasonably practicable time.
- 16.2. The Licensee shall take the necessary steps or actions to ensure that the relevant provisions of the Broadcasting Guidelines, 2017 are observed in all operations under the Licensee's direct control and by any third parties involved in the provision of other services in the broadcasting services or in the provision and operation of a system for the distribution and transmission of the broadcasting service.
- 16.3. The Licensee shall provide the Licensed Services at minimum Quality of Service ("QoS") targets as outlined in **Annex B**.
- 16.4. The Licensee shall select and include among its general service terms, miscellaneous target-values on the quality of the broadcasting service, so that the consumers can compare the data with the data of other service providers extending similar services.
- 16.5. The Licensee shall take immediate measures to restore quality, if the service fails to comply with any requirement for ("QoS"). The requirement for ("QoS") defaulted shall be inspected again after measures have been applied. The Licensee shall make publicly available, at its customer service desk and on

its homepage the results of such inspections within twenty (20) days after the inspection.

## **17. REPORTING AND CONTROL**

### **17.1. Annual Reporting**

The Licensee shall submit a detailed written report annually on the Licenced Service, within three (3) months of end of its Financial Year, containing data as follows:

- 17.1.1. changes in individual services in respect of coverage and availability to the viewers;
- 17.1.2. accounts on revenues realised by the Licensee in relation to the Licenced Service per income type, and in monthly breakdown;
- 17.1.3. data on the implemented technical standards, continuity of operation, number and duration of operation faults.
- 17.1.4. Quality of service reports.

### **17.2. Quarterly Reporting**

The Licensee shall submit a detailed written quarterly report in a format specified by the Commission, within thirty (30) days of the end of each quarter, which report shall include, but not limited to the following information on the Licensed Service:

- 17.2.1. List of programmes to be broadcast;
  - 17.2.2. Percentage of population served;
  - 17.2.3. Hours of operation;
  - 17.2.4. Percentage of local content broadcast;
  - 17.2.5. Type of local content broadcast;
  - 17.2.6. Percentage of advertisements broadcast per hour;
  - 17.2.7. Number of sponsorships;
  - 17.2.8. Value of sponsorships;
  - 17.2.9. Number and nature of Complaints received.
- 17.3. The Licensee shall submit a monthly report on the programs broadcasted during each period.
- 17.4. The Commission may request from the Licensee, at any time under the validity of the licence, information about the performance of the Licensee,

and any other information or data as deemed necessary by the Commission. Such information shall be furnished in writing, in a format prescribed by the Commission, within seven (7) days of the request.

**18. CONTRAVENTIONS, PENALTIES, SUSPENSION AND REVOCATION OF LICENCE**

18.1. Failure to comply with any applicable Statute, licence conditions contained herein, Regulations, Guidelines, authorizations or decisions issued by the Commission shall be deemed a contravention of the licence.

18.2. Where the Commission finds a Licensee guilty of a contravention in accordance with Section 21 of the Electronic Communications Act, 2013 read with Section 36 - 42 of the Eswatini Communication Commission Act, it may impose an appropriate penalty.

**19. FORCE MAJEURE**

Where the Licensee cannot provide any service due to circumstances beyond its control, for a continuous period of fifteen (15) minutes or longer, it shall notify the Commission in writing of such circumstances within twenty-four (24) hours of the occurrence thereof and shall endeavour to restore the services as soon as reasonably possible.

**20. TRANSITIONAL MATTERS**

The Licensee shall notify the Commission of any challenges which has been brought about by the issuance of this licence and the parties shall discuss and consider avenues to address and remedy those challenges on terms and conditions to be agreed upon by the parties to ensure compliance with the licence terms and conditions.

## **ANNEX A.**

### **Video and Audio Technical Requirements**

#### **1.0 Video Formats**

1.1.1 Ultra-High Definition Material delivered to this specification must be acquired, post-produced and delivered as follows:

- 3840 x 2160 pixels in an aspect ratio of 16:9;
- 50 or 25 frames per second progressive - known as 2160p/50 or 2160p/25;
- colour system must be YCrCb;
- colour sub-sampled at a ratio of 4:2:0 or 4:2:2;
- colour space – ITU-R BT.2100,3;
- The UHD format is fully specified in ITU-R BT.2100

1.1.2 High Definition Material delivered to this specification must be acquired, post-produced and delivered as follows:

- 1920 x 1080 pixels in an aspect ratio of 16:9 as defined in EBU TECH 3299 System 2;
- 25 frames per second (50 fields) interlaced – known as 1080i/25, top field first;
- colour sub-sampled at a ratio of 4:2:2;
- colour space – ITU-R BT.709. The HD format is fully specified in ITU-R BT.709.

1.1.3 Standard Definition must be as defined in ITU-R BT.601

- 702 x 576 pixels in an aspect ratio of 16:9;
- 25 frames per second (50 fields) interlaced - known as 576i/25, top field first; • colour sub-sampled at a ratio of 4:2:2;
- colour space – ITU-R BT.60

#### **1.2. Signal Parameters**

In a video signal, each primary component should lie between 0 and 100% of the video range between black level and the peak level (R, G and B). Ideally, video levels should lie within the specified limits so that programmes can be distributed without adjustment. When television signals are manipulated in YUV form, it is possible to produce "illegal" combinations that, when de-matrixed, would produce

R, G or B signals outside the range 0% to 100%.

### 1.2.1. Video Level Tolerance

In practice, it is difficult to avoid generating signals slightly out of range, and it is considered reasonable to allow a small tolerance:

- the RGB components and the corresponding Luminance (Y) signal, should not normally exceed the “Preferred Minimum/Maximum” range of digital sample levels in the table below,
- measuring equipment should indicate an “Out-of-Gamut” occurrence only after the error exceeds 1% of an integrated area of the active image.

For further details, see the EBU Recommendation, EBU R103. Any signals outside the “Preferred Minimum/Maximum” range are described as having a gamut error (or as being out of gamut). Signals cannot exceed the “Total Video Signal Range” and will therefore be clipped

System	Range in Digital Sample (Code) Values		
System Bit Depth	Expected Video Range	Preferred Minimum/Maximum	Total Video Signal Range
8 bit (SD Only)	16 – 235	5 – 246	1 – 254
10 bit (HD & UHD)	64 – 940	20 – 984	4 – 1019

Full range video levels must not be used for delivered television programmes. Colour gamut "legalisers" should be used with caution as they may create artefacts in the picture that are more disturbing than the gamut errors they are attempting to correct. It is advisable not to “legalise” video signals before all signal processing has been carried out.

### 1.3 Safe Areas for On-Screen

Text All on screen text must be clear and legible and must be within the safe areas specified. All font sizes must be legible after down conversion. There are two primary caption safe areas defined for Eswatini transmission of 16:9 programmes. At the discretion of the broadcaster, programmes such as feature films and some acquisitions may be excluded from this requirement.

### 1.3.1 Text Size

The minimum SD font height is 20 SD lines. Therefore, where burnt in UHD or HD text will be down converted, the minimum height of the text should be no less than:

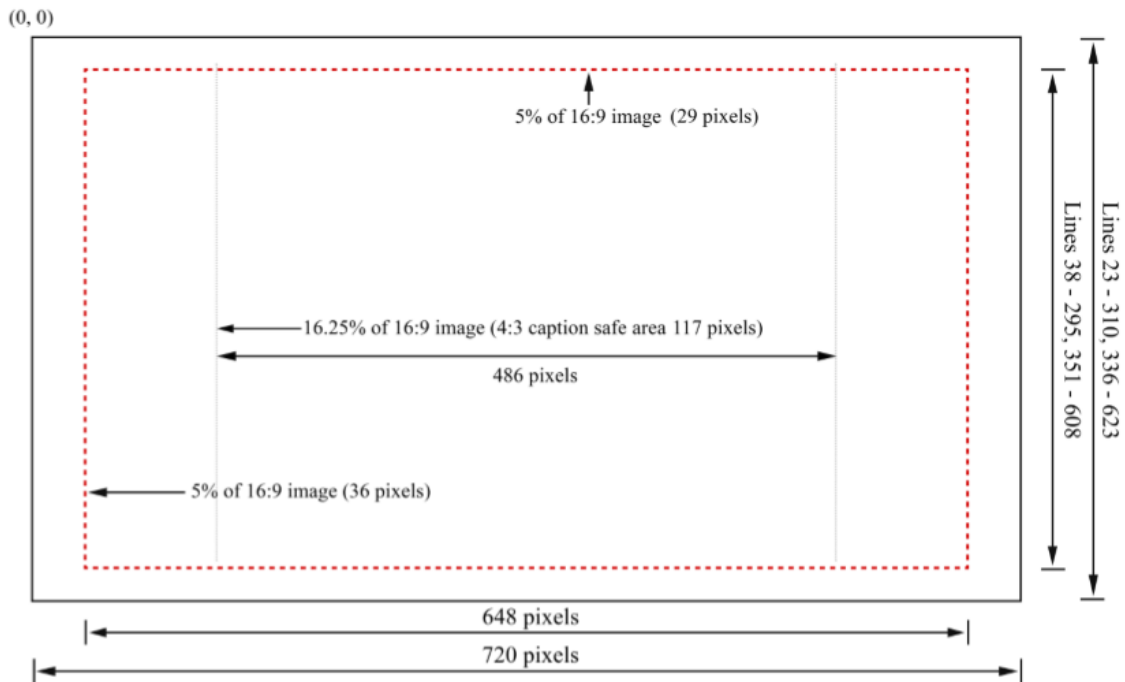
- 40 HD lines/pixels (to be legible after down conversion);
- 80 UHD lines/pixels (to be legible after down conversion).

### 1.3.2 In Vision Captions for Foreign Language Programs

Foreign dialogue should have burnt-in English/or Siswati subtitles, free from spelling and grammatical errors, and held for a sufficient time to be comfortably read. Subtitles must also be clearly visible at all times; if subtitles are positioned over an area of the screen which is the same colour as the font; a trim or drop shadow must be utilised and for consistency this should be used on all subtitles throughout the programme.

### 1.3.3 Safe Areas for SD On Screen Text

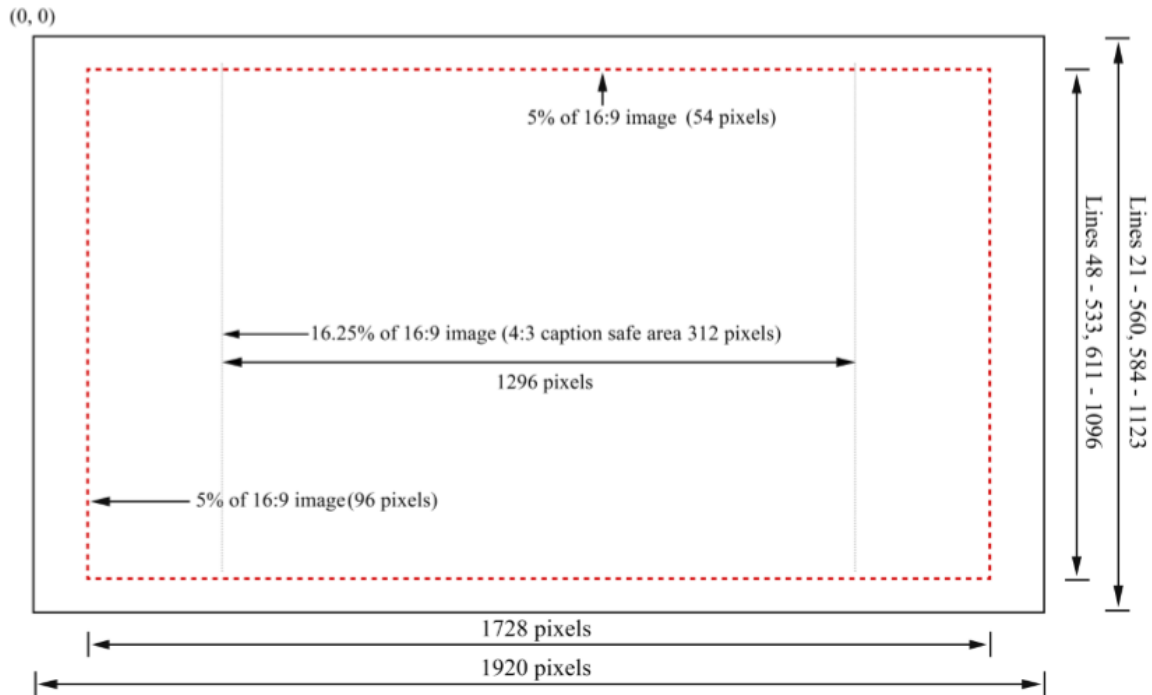
Text Safe Area for 720 x 576 (Interlace)	Defined as percentage (%) of active picture	SD pixels (inclusive) first pixel numbered 1	TV line numbers (inclusive) line numbering as per ITU-R BT.601
16:9 Text safe	90% of Width 90% of Height	36 – 684 29 – 546	- 38 – 295 (F1) & 351 – 608 (F2)
4:3 Text safe	67.5% of Width 90% of Height	117 – 603 29 – 546	- 38 – 295 (F1) & 351 – 608 (F2)





### 1.3.4 Safe Areas for HD On Screen Text

Text Safe Area for 1920 x 1080 (Interlace)	Defined as percentage (%) of active picture	HD pixels (inclusive) first pixel numbered 1	TV line numbers (inclusive) line numbering as per "ITU-R BT.709"
16:9 Text safe	90% of Width 90% of Height	96 – 1 823 54 – 1025	- 48 – 533 (F1) & 611 – 1096 (F2)
4:3 Text safe	67.5% of Width 90% of Height	312 – 1 607 54 – 1025	- 48 – 533 (F1) & 611 – 1096 (F2)



## 1.4 Audio Technical Requirements

### 1.4.1 Dialogue

It is the responsibility of the producer to ensure that dialogue is clear, easy to hear and to understand by a first-time viewer who is using consumer equipment.

### 1.4.2 Loudness

It is no longer acceptable to deliver new programmes mixed to the old PPM6 specifications. Programmes must be mixed to comply with EBU R128.

### 1.4.3 Loudness terms

R128 terms used in this document, how they are measured and the Digital

Production Partnership (DPP) delivery requirements are listed below.

Term	Description	Measurement	Reference
LU	Loudness Unit	1LU = 1dB change in loudness	<b>EBU Tech 3343</b>
LUFS	Loudness Unit relative to Full Scale	LUFS	<b>EBU Tech 3343</b>
LRA	Loudness Range	LU	<b>EBU Tech 3342</b>
<b>DPP Delivery Requirements</b>			
Programme Loudness <b>(EBU Tech 3343)</b>	The loudness measured over the duration of the programme.	LUFS	Non-live -23.0 LUFS $\pm$ 0.5LU Live (including as-live) -23.0 LUFS $\pm$ 1.0LU
Maximum True Peak <b>(EBU Tech 3343)</b>	The maximum value of the audio signal waveform.	dBTP (True Peak)	It is recommended that the maximum true peak level should not exceed -3dBTP. Content will fail if the maximum true peak exceeds -1dBTP
<b>Loudness Range is for guidance only</b>			
Loudness Range <b>(EBU Tech 3342 &amp; 3)</b>	This describes the perceptual dynamic range measured over the duration of the programme	LU	Programmes should <i>aim</i> for an LRA of no more than 18LU
Loudness Range of Dialogue	Dialogue must be acquired and mixed so that it is clear and easy to understand	LU	Speech content in factual programmes should aim for an LRA of no more than 6LU A minimum separation of 4LU between dialogue and background is recommended

**All** programmes must be compliant with the *Programme Loudness* and *Maximum True Peak* requirements below. Other parameters are currently given for guidance only.

## 1.5 Metering Requirements

Meters must comply with the specifications in EBU Tech 3341. Programmes must be measured using the EBU Integrated (I) mode and the measurement must be applied to the whole programme (EBU Tech 3343). The optional LFE channel must be excluded from all measurements.

### 1.5.1 Stereo Audio Requirements

Stereo tracks must carry sound in the A/B (Left/Right) form. If mono originated sound is used, it must be recorded as dual mono, so that it may be handled exactly as stereo. It must meet all the stereo standards regarding

levels, balance and phase.

### 1.5.2 Stereo Line-Up Tones

Each stereo audio pair must have either EBU stereo or GLITS line-up tone (not a mix of both). Tone must be 1kHz (2kHz is acceptable on M&E channels), sinusoidal, free of distortion and phase coherent between channels. Audio files of GLITS and EBU stereo tones may be downloaded from the DPP website. Digital Audio Reference level is defined as 18dB below the maximum coding value (-18dBFS).

### 1.5.3 Stereo Phase

Stereo programme audio must be capable of down-mixing to mono without causing any noticeable phase cancellation.

## ANNEX B

### 2 System Parameters for TV Broadcasting

#### 2.1 Transmission Standards

2.1.1 The digital television transmission standard shall be the DVB-T2 standard to ETSI EN302755 in an 8MHz channel.

2.1.2 The DVB-T2 operating mode, including the choice of system parameters shall be approved by the Authority.

2.1.3 The system parameters shall be selected from the list below:

Carrier Modulation	QPSK, 16-QAM, 64-QAM, 256-QAM, both rotated and non-rotated
Code rate	1/2, 3/5, 2/3, 3/4, 4/5, 5/6
FEC	LDPC + BCH 1/2, 3/5, 2/3, 3/4, 4/5, 5/6
Guard Interval	1/4, 19/256, 1/8, 19/128, 1/16, 1/32, 1/128
Transmission Mode	1K, 2K, 4K, 8K normal and extended, 16K normal and extended, 32K normal and extended)
Pilot pattern	PP1, PP2, PP3, PP4, PP5, PP6, PP7, PP8
Input Mode	Mode A (Single PLP) or Mode B (Multiple PLP)
FFT size	1k, 2k, 4k, 8k, 16k, 32k

2.1.4 The following operating modes are approved:

- Normal mode
- Input Mode A (Single PLP)

2.1.5 The use of Multiple PLPs (Input Mode B) and the choice of parameters therein shall be approved by the Authority.

2.1.6 The transmitter equipment shall comply with the following technical parameters:

- Transmitter power: as per Plan
- Transmitter frequency: as per Plan

- Frequency tolerance: 500 Hz
- 2 kHz < 100W pep
- 5 kHz < 1W pep (V)
- 10kHz<1W pep (U)
- Level of spurious emissions: 60dBc, < 1mW absolute mean power level for VHF and 12mW for UHF.
- Spectrum mask: non-critical
- Antenna pattern: as per Plan

## ANNEX.C

### Quality of Service Standards

#### 1. Network related QoS Standards

Parameter	Computation	Target	Test method / Data to be used to evaluate fulfilment of target	Reporting Areas
Service Availability	$\frac{\text{Service Uptime}}{24 \text{ hrs}} \times 100$	>99% availability	Quarterly reports on daily systems measurements of service availability submitted by the licensee	Areas that are within the service area of each broadcast transmitter/satellite / cable network
Picture Quality	ITU-R BT.500 discrete quality and impairment scale	≥4	Quarterly reports on daily system measurements of audio and video quality submitted by the licensee	Areas that are within the service area of each broadcast transmitter/satellite / cable network
Bitrate per program stream	Number of bits per second	Bitrate ≥ 1.5Mbit/s	Quarterly reports on daily systems measurement of bitrate per program stream submitted by the licensee	Head end of the terrestrial network
Modulation Error Ratio	$10 \log \frac{\text{Average Symbol Power}}{\text{Average error power}}$	MER > 32dB	Drive tests by ESCCOM on a monthly basis	Areas that are within the service area of each broadcast transmitter
Bit Error Rate	$\frac{\text{Number of errored bits}}{\text{Number of transmitted bits}}$	Bit error rate ≤ 1.5Mbit/s	Drive tests by ESCCOM on a monthly basis	Areas that are within the service area of each broadcast transmitter
Carrier Power to Noise	$\frac{\text{Carrier Power}}{\text{Noise}}$	C/N ≥ 10dB	Drive tests by ESCCOM on a monthly basis	Areas that are within the service area of each broadcast transmitter

Ratio				
Signal strength	Signal strength	Signal strength > 32dbm/μV	Drive tests by ESCCOM on a monthly basis	Areas that are within the service area of each broadcast transmitter

## 2. Customer Service related QoS Parameters

Parameter	Computation	Target	Test method / Data to be used to evaluate fulfilment of target	Reporting Areas
Customer support performance in complaints handling	$\frac{\text{No. of complaints on non – reception of services resolved within 24hrs}}{\text{No. of complaints on non – reception of services received within a month}} \times 100$	>99% of the complaints are redressed within 24hrs 100% within 36 hrs.	Quarterly reports on customer support performance submitted by the licensee	Customer care Service
	$\frac{\text{No. of other Complaints resolved within 24hrs}}{\text{No. of other Complaints received within a month}} \times 100$	>95% of the Other complaints are redressed within 24 hours 99% within 36 hrs.		
Notification time on service maintenance	Time of providing notice to the public – Time of the preventive maintenance work on the licensee's network (pay TV service operators & public signal distributor)	Notice should be at least 3 days in advance	Formal communication received from the licensee informing ESCCOM about the notification	Customer care Service

**ANNEX D**  
**Ownership and Control**

Shareholding

<b>Name</b>	<b>Natural / Juristic Person</b>	<b>Nationality/ Country of Registration</b>	<b>Percentage</b>	<b>Voting Rights</b>