



FM Radio Station Regulations

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Part I: Introduction

1. Preamble

These Regulations have been developed by the Liberia Telecommunications Authority (LTA) pursuant to Part VI Section 25 (2) of the Telecommunications Act (2007).

These Regulations may be cited as the “FM Broadcasting Regulations”.

2. Purpose and Scope of these Regulations

These Regulations seek to provide basic guidance for the management, allocation, assignment, and use of radio frequency required for the operation of FM broadcast services in Liberia; and also to establish minimum standards with respect to power limitations, coverage, interference, technical installation, environmental and safety concerns.

These Regulations apply to all FM Radio Stations licensed to operate in the Republic of Liberia.

3. Objectives of these Regulations

The Objectives of these Regulations are to:

- a. Facilitate the orderly and efficient allocation, assignment, management and use of Liberia’s FM radio frequency resource;
- b. Ensure that FM radio communication equipment or systems are deployed with strict adherence to ITU’s technical standards, LTA’s requirements for FM Radio broadcasting, and environmental and employee safety standards;

- c. Mitigate interference in FM broadcast transmission;
- d. Develop a framework to adequately monitor and measure the technical performance of FM Radio Stations in the Republic of Liberia;
- e. Make the management, allocation, and assignment of radio frequency effective and transparent; and
- f. Ensure compliance with terms and conditions of licenses and authorizations.

4.0 Terms and Definitions

As used in these Regulations, the defined terms shall have the following meanings and shall refer to both the singular and plural:

Act: means the Telecommunications Act, 2007.

Allocation: means the entry of a designated frequency or frequency band for use by one or more users for terrestrial or space radiocommunication service in Liberia.

Assignment: means frequency authorization given by the LTA for a radio station to use a radiofrequency under specified conditions.

Authorization: means a Frequency Spectrum Authorization granted by the LTA.

Cavity Filter: means the basic circuitry behind a Duplexer and are sharply tuned resonant circuit that allow only certain frequencies to pass.

FM Radio Service Provider: means a person or entity under permit, authorization or license by the LTA to use assigned frequency from the 87.5 – 108.0 MHz frequency band for the provision of Broadcasting Services.

FM: means frequency modulation.

Frequency Modulation: Means the encoding of information in a carrier wave by varying the instantaneous frequency of the wave.

Interference: “interference” for the purposes of Part VI of the Act, means the effect of unwanted energy due to one or a combination of emissions, radiations, or inductions upon reception by radiocommunication equipment or in a radiocommunication system, manifested by any performance degradation, misinterpretation, or loss of information resulting from such unwanted energy.

License: means an individual license or a class license issued pursuant to Part IV of the Act.

LTA: means the Liberia Telecommunications Authority.

Test Certificate/Transmission Letter: means a certificate or letter stating that a radio station is compliant with all the LTA’s technical installation and safety guidelines or requirements.

Minister: means the Minister of Posts and Telecommunications

Operating place: means the coverage area(s) and/or physical location of an FM Service Provider.

Person: means a natural or other legally recognized person or entity, and includes a joint stock company, a limited liability company, a partnership, a sole proprietorship, a joint venture, or other form of entity whether incorporated or unincorporated.

Radio Data System (RDS): Means a communications protocol standard for embedding small amounts of digital information in conventional FM radio broadcasts.

Part II: Management and Utilization of Frequency

Proper allocation, assignment, management and use of FM radio frequency are desired outcomes that ensure frequency efficiency.

5. Role of LTA

5.1 The LTA shall be responsible for the orderly and efficient allocation, assignment, management and use of radio frequencies, including all civilian, non-civilian and commercial usage of radio frequencies.

5.2 In relation to radio spectrum management, the LTA shall:

- a. Advise the Minister on matters relating to the use or management of the radio spectrum;
- b. Conduct public inquiries relating to the use or management of radio spectrum where the LTA determines such inquiries to be necessary or useful for its management;
- c. Prepare and publish:
 - i. a national table of frequency allocations and national frequency registry;
 - ii. a national radio spectrum plan; and
 - iii. any other radio spectrum plans, frequency band plans, commercialization plans or plans for the migration of spectrum users that the LTA deems necessary;
- d. Ensure that the use of the radio spectrum is consistent with any applicable international treaties, protocols and standards;
- e. Intervene in and resolve interference disputes, where such disputes are not resolved by the disputing parties;

- f. Issue advisory notices relating to the use of radio spectrum, where the LTA determines such notices to be necessary or useful for its management of the radio spectrum;
- g. Issue radio spectrum licenses and radiofrequency authorizations;
- h. Administer matters related to radio spectrum fees, including fees established by regulation under Part IV Section 14(1) of the Act;
- i. Determine, allocate and assign radiofrequency or determine any other matters relating to the transmission of radio communications (whether by satellite, terrestrial or other transmissions); and
- j. Perform such other radio spectrum-related functions as are conferred on the LTA by any other applicable laws, regulations or rules.

5.3 In exercising the spectrum management functions identified in Section 5.2 above, the LTA shall also be responsible for establishing and overseeing the operation of any committee or other body needed to coordinate the use of radio frequencies, including all civilian, non-civilian and commercial users. The LTA may issue any regulations, rules, orders or notices required for the establishment or operation of such a radio frequency committee or coordinating body.

6. Role of FM Radio Service Providers

6.1 FM Radio Service Providers shall obtain authorization for radio frequency for operation and ensure that said frequency use is in strict compliance with the terms and conditions of their authorizations or licenses.

6.2 Upon the grant of license or authorization, the FM Radio Service Provider shall immediately commence the construction and installation of its facilities for

broadcasting activities. Service providers shall have one (1) year to construct and install such facilities and begin using assigned frequency.

6.3 The LTA may withdraw a frequency for reassignment, as appropriate, upon failure of a Service Provider to complete construction, installation and deployment of the assigned frequency within the timeframe stipulated in Section 6.2 above.

6.4 Once construction, installation and engineering tests are completed, the FM Radio Service Provider shall invite the LTA to inspect the station. During such inspection, the LTA may make technical recommendations to the FM Radio Service Provider to compel compliance with the provisions of these Regulations.

6.5 After inspection of the radio station, the LTA shall provide its findings in writing to the Service Provider on its compliance or non-compliance with these Regulations. Upon correction of any compliance deficiencies, the Service Provider shall invite the LTA to conduct a second inspection. The cost of the second inspection shall be borne by the Service Provider.

6.6 The LTA shall issue a “Test Certificate” or “Test Transmission Letter” before an FM radio station can commence operations. Commencing operations without the LTA’s approval shall be subject to appropriate penalties as stipulated herein or as may be determined by the LTA.

6.7 In the event that an FM Radio Service Provider is non-compliant with these Regulations, and any other standards that may be established by the LTA, the LTA may, by written notice, suspend or revoke the license or frequency authorization.

6.8 All licensed FM Radio Service Providers shall:

- a. Maintain a means of contact for the general public; including but not limited to telephone number(s), email addresses, location address, postal address, etc.
- b. Install a signage/signboard close to its premises for purposes of identifying the station.
- c. Keep a copy of specification sheet of the following installed equipment readily available for verification and data collection by the LTA:
 - i. **Antenna:** Make, Model, Gain (dB), Mast Height (meters);
 - ii. **Transmitter:** Make, Model, Rated Power (watts), Operational Power (watts);
 - iii. **Antenna Cable:** Make, Model, Length (meters), Loss (dB/meter);
 - iv. **Studio Equipment:** List of type and quantity of equipment installed at the studio;
- d. Communicate to the LTA regarding any intended modification to their equipment installation (transmitter, antenna and transmission cable) prior to the implementation of such modifications;
- e. Settle their financial obligations to the LTA and GoL; and
- f. Provide information/data required by the LTA for its regulatory functions in a timely manner.

Part III: Categories of FM Radio Station, License Type and Duration

7.0 Categories

7.1. For the purpose of effectively utilizing the country's finite FM Frequency resource and reducing the possibility of unacceptable levels of interference in FM radio broadcasts, the LTA hereby establishes the following five (5) categories of FM Radio Stations:

- a. **Nation-Wide FM Radio Station** – The Nation-wide FM Radio Station shall be the FM radio broadcast entity authorized by the LTA to operate throughout the country on a single frequency or a combination of frequencies whether or not for profitmaking. Information dissimilated shall be the same when using more than one frequency.
- b. **Standard FM Radio Station** – Standard FM Radio Stations shall be FM stations owned and operated by public or private individual(s) or entity/entities whether or not for profitmaking. Standard FM Stations shall have a coverage range not exceeding 45 KM, and shall have the following sub-categories which are based on the potential market size of the site of operations of the FM station:
 - i. **Type A Standard FM Station:** All Standard FM Stations operating in markets with a potential audience of over 100,000 persons;

- ii. **Type B Standard FM Station:** All Standard FM Stations operating in markets with a potential audience of 24,000 to 100,000 persons;
 - iii. **Type C Standard FM Station:** All Standard FM Stations operating in markets with a potential audience of 7,000 to 24,000 persons;
 - iv. **Type D Standard FM Station:** All Standard FM Stations operating in markets with a potential audience of less than 7,000 persons.
- c. **Campus-Based FM Radio Station:** FM radio stations with a maximum permitted coverage of 5Km serving a campus-based audience, broadcasting programs of information, learning, and training, and are owned and operated by educational institutions; and
 - d. **Community FM Radio Station:** FM Radio Stations with a maximum coverage of 10Km serving specific geographic communities of interest, broadcasting programs of relevance and in the languages/dialects of those specific communities and generally owned and operated by the communities themselves or an NGO for nonprofit purposes.

8.0 License Type and Duration

- 8.1. Licenses issued to FM Radio Service Provider pursuant to these Regulations shall be Individual Licenses with duration of five (5) years.

Part IV: Eligibility Criteria and Procedures for FM Radio Frequency Assignment

9.0 Eligibility Criteria and Procedures

9.1. FM Radio Frequencies shall not be allocated or assigned for use by any Person except that Person has met or satisfied the following conditions:

- a. Has submitted a letter of intent signed by the entity's CEO (or duly authorized representatives) with contact details such as physical and postal address, telephone number, email, etc. requesting the assignment of frequency.
- b. Is a duly registered business with valid business registration certificate;
- c. Has (in the case of an existing business) a valid tax clearance from the Liberia Revenue Authority (LRA); and
- d. Has complied with the LTA's frequency assignment processes and has paid all required fees.

9.2 The LTA may allocate frequency if available, notify the applicant in writing and require the submission of a broadcast permit from MICAT before assignment of the allocated frequency.

Part V: Technical Issues

10.0 Coverage limitation

10.1. To avoid interference, all FM service providers shall consistently observe and absolutely adhere to the coverage limitations established by the LTA

Pursuant to Sub-Sections 7.1 (a), (b), (c) and (d) of these Regulations and by licenses or authorizations issued by the LTA.

11.0 Transmission System

11.1. Authorization for using radio spectrum for FM broadcasting shall be issued for each transmitter individually. The LTA may provide a single authorization for multiple transmitters intended for the same use at the same locations for redundancy or other purposes.

11.2 When building its transmission system, an FM Service Provider shall:

- a. Deploy the stereophonic pilot tone system (System 4) with maximum frequency deviation of $\pm 75\text{kHz}$;
- b. Transmit within a bandwidth of 200 kHz;
- c. Design and operate its transmission system such that the signal strength at the periphery of its coverage area does not exceed $54\text{dB}\mu\text{V/m}$;
- d. Not install external Radio Data System (RDS) Encoder/transmission system without prior approval from the LTA;
- e. Ensure that unwanted emissions (spurious, out-of-band emissions and cabinet radiations) remain within the limits indicated in ITU Radio Regulations ITU-R Recommendations SM.329-7, SM.328-10, SM.329-12 and SM.1541-6,
- f. Install cavity filters at the output of its transmitter with an isolation (attenuation) of not less than 70 dB to ensure compliance with 12.2 (e) above 5;
- g. Install directional antennas if the transmitting station is located at a distance of 45km or less from the border with a neighboring country.
- h. Ensure, when operating a Studio-to-Transmitter Link (STL), that the:

- i. maximum power for STL transmitter shall be within a range 10-25 W
- ii. STL shall operate within the frequency band 350-380 MHz;
- iii. STL antenna shall be directional;
- iv. channel bandwidth for the STL shall be 200 kHz;
- i. Ensure the antenna mast(s) and other equipment are properly earthed; and
- j. Ensure that the transmitter room/compartment shall be ventilated and/or temperature controlled.

12.0 Radio Data System

12.1 Radio Data System (RDS) is the technical standard that allows FM transmitters to broadcast additional types of information through encoded digital signals that can be displayed on RDS-compatible FM radio receivers. The operation of RDS in Liberia shall be in accordance with the European Standard EN 50067 and ITU-R Recommendations BS 450-3.

12.2 An FM Service Provider shall ensure that:

- a. The insertion of the RDS signal does not affect the reception quality of the main non-RDS receivers;
- b. The operation of the RDS must not interfere with other radio transmissions; and
- c. The maximum deviation of the main carrier by the total baseband signal shall not exceed ± 75 kHz.

Part VI: Environment and Safety

The safety of the vicinity of radio sites and the working environment must always remain a consideration of high importance to site operators and engineers.

13.0. Electrical Safety

- 13.1 FM Service Providers shall exercise maximum care to ensure that electrical installations at the transmitter site, the studio and other departments of the FM Station conform to best technical standard requirements of electrical wirings as provided for by the appropriate civil authorities.
- 13.2. All electrical installations shall be earthed, and there shall be no exposed wirings or improperly installed electrical sockets in the FM station's premises.

14.0 Design and Construction of Mast

- 14.1 All licensed FM Service Providers shall obtain all necessary permits from National County, Municipal and other authorities, including the Environmental Protection Agency, the Liberia Civil Aviation Authority, and the Ministry of Public Works as appropriate for the design and construction of masts.
- 14.2. The design and construction of any mast shall comply with LTA's guidelines or regulations on the deployment of telecommunications towers.
- 14.3 Licensed FM Service Providers shall install lightning arrestors at the apex of the Mast/Towers and ensure that they are earthed.
- 14.4 To reduce or limit the construction of masts and towers, the LTA shall encourage service providers to co-locate as technically and economically

feasible and consistent with Section 3.3 of the Interconnection Regulations of the LTA.

15.0 Radio Frequency Radiation

15.1 Exposure to high levels of RF radiation may cause damage to body tissues. FM Service Providers shall therefore avoid the exposure of personnel to high level RF fields near transmitters or antenna systems to prevent damage to body tissues and other hazards.

15.2 Careful consideration should be given to the safety of personnel working in radio site environments and in particular, the level of exposure experienced whilst climbing an antenna support structure. In this regard:

- a. FM Service Providers shall ensure that specific exposure limits are in conformity with those of the International Commission on Non-Ionizing Radiation Protection (ICNIRP), which are recommended by the World Health Organization (WHO), to protect workers and the public against excessive exposure to RF fields.

Part VII: Frequency Re-planning and Reassignment

16.0 Principle of Re-planning and Reassignment

To ensure the optimization of frequency usage, the LTA shall, pursuant to Part VI Section (20) (2) of the Act undertake and enforce the re-planning and reassignment of radiocommunication frequencies.

16.1 All licensed FM Service providers shall adhere to the frequency re-planning and re-assignment processes of the LTA.

16.2 The procedures for reassignment of FM Radio frequencies shall be provided for in appropriate guidelines to be published by the LTA.

Part VIII: Interference, Dispute Resolution, Renewal and Revocation of License

17.0 Interference

17.1 FM Radio Service Providers are to ensure that their broadcast transmission equipment is in strict adherence to these regulations to avoid interferences with other Service Providers.

17.2 Any FM Radio Service Provider failing to adhere to its defined coverage limitation and other technical standards as mandated by these Regulations, and as a result causes interference with other Service Providers, shall be required to remedy the breach within three (3) working days upon notification or shut down the transmitter until the interference is remedied.

17.3 Failure to remedy the breach as stipulated in 17.2, the FM Radio Service Provider shall be subject to the appropriate fines and/or penalties enshrined in these Regulations or as otherwise determined by the LTA.

17.4 Interference caused by factors other than those mentioned in these Regulations shall be investigated by the LTA to determine the causes. Once the causes are established, the LTA may:

- a) Collaborate with the service provider to ensure that the interference is mitigated to an acceptable level approved by the LTA;

- b) Take any other action that may be appropriate in the circumstances, provided such action will solve the problem; and
- c) Ensure that the service provider is penalized for negligence as stipulated in these Regulations.

18.0 Dispute Resolution

18.1 Any dispute that arises regarding the proper application of these Regulations, the procedure for obtaining broadcast licenses, the assignment of broadcast frequencies, interference resolution, type-approval certification, and usage of radiocommunication equipment, may be referred to the LTA for dispute resolution in accordance with the Confidentiality, Dispute Resolution, Compliance and Enforcement Regulations (2009).

19.0 Renewal, Suspension and Revocation of License

19.1 The renewal, suspension or revocation of any FM Radio Service Provider's license shall be done in accordance with Part VIII Section 26 of the Telecommunication Licensing & Authorization Regulations as amended 2015.

Part IX: Violations and Penalties

20.0 For the purpose of enforcing these Regulations, the following violations are liable to penalties stipulated hereunder:

20.1 Violation

Installation and establishment of FM Radio Station without license/authorization from the LTA.

Penalty

- i. The LTA shall cause the seizure or confiscation of the equipment used in the illegal operation.
- ii. The LTA shall impose a fine of twice the annual licensing/regulatory fees the violator should have paid for the duration of the violation.
- iii. The violator shall be barred from obtaining FM frequency assignment for a period of one (1) year.

20.2 Violation

Commencing operation of the FM Radio Station without Test Certificate from the LTA.

Penalty

- i. The Service Provider shall be liable to a fine of US\$250.00. The LTA may institute further regulatory sanction based on the gravity of the violation.

20.3 Violation

Broadcasting beyond the licensed geographical area.

Penalty

- i. The Service Provider shall be liable to a fine of US\$250.00, per violation plus the cost of administrative and technical investigation conducted by the LTA.

20.4 Violation

Interference with the frequency(ies) of other licensed frequency users and failing to remedy same within the time stipulated in these Regulations.

Penalty

- i. The Service Provider shall be subject to a fine of US\$500.00, per violation.
- ii. Any penalty imposed by the LTA shall not serve as a bar from criminal prosecution by competent authorities.

20.5 Violation

Obstructing or hindering the conduct of inspection by the LTA or the production of information intended for the LTA.

Penalty

- i. The Service Provider shall be liable for a fine of not less than US\$250.00 but not more than US\$1,000.00 as may be determined by the LTA.
- ii. The license of a Service Provider may be suspended or revoked upon repeated obstruction of inspections or failure to provide information.

20.6 Violation

Offering inducement directly or indirectly to an inspector, agent or employee of the LTA to influence the result of an inspection.

Penalty

- i. The Service Provider shall be subject to a fine of not less than US\$1,000.00 but not more than US\$5,000.00 as may be determined by the LTA.
- ii. The imposition of fine by the LTA shall not serve as bar to prosecution by competent authority.

20.7 Violation

Misrepresentation or omission of material information in responses and statements to the LTA.

Penalty

- i. The Service Provider shall be subject to a fine of not less than US\$500.00 but not more than US\$1,250.00 as may be determined by the LTA based on the gravity of the breach and/or the materiality of the information.
- ii.

Part X: Amendment and Entry into Force

21.0 Amendment

21.1 The LTA may review or amend these Regulations from time to time as it deems fit.

21.2 In conducting a review or amendment of these Regulations, the LTA shall comply with the Guidelines for Consultation Process to develop Regulations of 2009 (Consultation Guidelines)

21.3 The LTA may issue additional rules, orders, or notices on any aspect of these Regulations.

22.0 Entry into Force

22.1 These Regulations shall come into effect on the day they are published by the LTA.

Note: All fines in United States Dollars may be paid in the Liberian Dollar equivalent at the prevailing Central Bank Exchange Rate.

Appendix: Spectrum and Regulatory Fees for FM Radio Stations

Liberia Telecommunications Authority (LTA) Proposed Fees for FM Radio Stations Operating in Liberia				
No.	Category of FM Station	Application Fees	Annual Spectrum Usage Fee	License/Regulatory Fees
1	Nationwide FM Radio Station	\$ 500.00	\$ 5,000.00	\$ 1,000.00
2	Type A Standard FM Radio Station (45 KM) Covering above 100,000 person	\$ 200.00	\$ 2,500.00	\$ 500.00
3	Type B Standard FM Radio Station (45 KM) Covering 24,000 up to 100, 000 persons	\$ 150.00	\$ 1,500.00	\$ 500.00
4	Type C Standard FM Radio Station (45 KM) Covering 7,000 up to 24,000 persons	\$ 100.00	\$ 500.00	\$ 500.00
5	Campus Based FM Radio Station (5 KM)	\$ 100.00	\$ 100.00	\$ 100.00
6	Community FM Radio Station (Up to 10 KM)	\$ 100.00	\$ 250.00	\$ 100.00