

Month Day, Year

The Managing Director,
Company Nigeria Limited,
Street, District,
City,
State.

Dear Sir,

EARTH STATION IN MOTION (ESIM) NETWORK FREQUENCY LICENCE - AERONAUTICAL

Following your acceptance of the provisional offer of the Commission vide your letter dated Month XX, Year and your payment of the stipulated fee, the Commission hereby assigns Frequency pairs to you for the deployment of an **ESIM Network – AERONAUTICAL** in **NIGERIA**, subject to the conditions stated below:

(1) **EARTH STATION PARAMETERS:**

- a. Type of Earth Station: **ESIM - AERONAUTICAL**
- b. Frequency Band of Operation: Ka-Band

(2) **TRANSMITTER PARAMETERS:**

- a. Frequency Range of Operation: From: _____ **MHz**, To: _____ **MHz**
- b. Bandwidth: _____ **MHz**
- c. ITU Class of Emission Designator:
- d. Max. EIRP/Carrier (dBW):
- e. Max. ERP Density per Carrier (dBW/Hz):

(3) **RECEIVER PARAMETERS:**

- a. Frequency Range of Operation: From _____ **MHz** To: _____ **MHz**
- b. Bandwidth of Receive Signal: _____ **MHz**

(4) **PROVISIONS FOR AERONAUTICAL ESIM TO PROTECT OTHER SERVICES:**

The Aeronautical ESIM characteristics shall comply with the Part II, Annex 3 to RESOLUTION 169 of ITU WRC-19.

(5) **ASSOCIATED SPACE SATELLITE:**

- a. Name of Space Satellite:
- b. Orbital Position of Space Satellite: Degree E: Degree W:
- c. Satellite Orbit: XXX

(6) **Effective Date** shall be Month XX, Year.

(7) The next renewal will be due by Month XX, Year. The renewal fee shall be based on the Frequency License Fee and Pricing Regulation in force at the time of renewal.

(8) The frequency spectrum to be used by the Earth Station in Motion has also been assigned to other terrestrial services with co-primary allocation. You are to ensure that there is proper coordination with these services to avoid harmful interference.

(9) The Earth Station in Motion network can be used to provide data or other services directly to customers.

(10) With respect to space services in the frequency bands 17.7 – 19.7 GHz and 27.5 – 29.5 GHz,

10.1. The Aeronautical ESIM's shall comply with the following conditions:

10.1.1. With respect to satellite networks or systems of other administrations, the ESIM characteristics shall remain within the envelope characteristics of typical earth stations associated with the satellite network with which these ESIMs communicate;

10.1.2. The use of Aeronautical ESIM by XXX within the territory of Nigeria shall not cause more interference and shall not claim more protection than for typical earth stations in this GSO FSS network;

10.1.3. that the notifying administration of the GSO FSS network with which Aeronautical ESIMs communicate shall ensure that the operation of Aeronautical ESIM complies with the coordination agreements for the frequency assignments of the typical earth station of this GSO FSS network obtained under the relevant provisions of the Radio Regulations, taking into account recognizing b) in RESOLUTION 169 (WRC-19);

10.1.4. for the protection of non-GSO FSS systems operating in the frequency band 27.5 – 28.6 GHz, Aeronautical ESIM communicating with GSO FSS networks shall comply with the provisions contained in Annex 1 to RESOLUTION 169 (WRC-19);

10.1.5. For the protection of non-GSO MSS feeder links of non-GSO systems for which complete coordination information was received before, and for which feeder-link earth stations were in service as of, 28 October 2019 in the frequency band 29.1-29.5 GHz, Aeronautical ESIM communicating with GSO FSS networks should consider Annex 2 to RESOLUTION 169 (WRC-19);

10.1.6. Aeronautical ESIM shall not claim protection from non-GSO FSS systems operating within the territory of Nigeria in the frequency band 17.8-18.6 GHz in accordance with the Radio Regulations, including No. 22.5C;

10.1.7. Aeronautical ESIM shall not claim protection from broadcasting-satellite service feeder-link earth stations operating in the frequency band 17.7-18.4 GHz in accordance with the Radio Regulations;

10.2. With respect to the protection of terrestrial services to which the frequency bands 17.7-19.7 GHz and 27.5-29.5 GHz are allocated and operating in accordance with the Radio Regulations, Aeronautical ESIMs shall comply with the following conditions:

10.2.1 Receiving ESIMs in the frequency band 17.7-19.7 GHz shall not claim protection from terrestrial services to which the frequency band is allocated and operating in accordance with the Radio Regulations;

10.2.2 Transmitting aeronautical ESIMs in the frequency band 27.5-29.5 GHz shall not cause unacceptable interference to terrestrial services to which the frequency band is allocated and operating in accordance with the Radio Regulations and Part II, Annex 3 to RESOLUTION 169 (WRC-19) shall apply;

10.2.3 the provisions in RESOLUTION 169 (WRC-19), including Part II, Annex 3, set the conditions for the purpose of protecting terrestrial services from unacceptable interference from aeronautical ESIMs in neighboring countries in the frequency band 27.5-29.5 GHz; however, the requirement for Aeronautical ESIMs not to cause unacceptable interference to, or claim protection from, terrestrial services to which the frequency band is assigned and operating in accordance with the Radio Regulations remains valid (see resolves 4);

- (11) Aeronautical ESIM shall not be used or relied upon as the main network for safety-of-life applications within the territories of Nigeria,
- (12) In case of unacceptable interference caused by Aeronautical ESIM, the notifying administration of the GSO FSS network with which the Aeronautical ESIM communicates shall, jointly with NCC or individually, as the case may be, upon receipt of a report of unacceptable interference take required action to eliminate or reduce interference to an acceptable level.
- (13) That the administration responsible for the GSO FSS satellite network with which Aeronautical ESIM communicate shall ensure that:

13.1 For the operation of the ESIM, techniques to maintain pointing accuracy with the associated GSO FSS satellite, without inadvertently tracking adjacent GSO satellites, are employed.

13.2 all necessary measures are taken so that the ESIM are subject to permanent monitoring and control by a Network Control and Monitoring Centre (NCCMC) or equivalent facility in order to comply with provisions in RESOLUTION 169 (WRC-19), and are capable of receiving and acting upon at least "enable transmission" and "disable transmission" commands from the NCCMC or equivalent facility.

13.3 measures, when required, are taken to limit the operation of the Aeronautical ESIM in the territory, including territorial waters and territorial airspace, under the jurisdiction of the Federal Republic of Nigeria.

13.4 A permanent point of contact for the purpose of tracing any suspected cases of unacceptable interference from ESIM and immediately respond to requests,

- (14) This Frequency Assignment does not provide regulatory status to Aeronautical ESIM different from that derived from the GSO FSS network with which they communicate.
- (15) Aeronautical ESIM shall ensure compliance to pfd levels as contained in Part II of Annex 3 of RESOLUTION 169 (WRC-19) within the territory of Nigeria.
- (16) XXX is required to submit to the Commission, data on the ESIM being deployed in Nigeria. A copy of the template for submission can be downloaded from the Commission's website through the path: <http://www.ncc.gov.ng/technology/spectrum/earthstation-report-templates>.

XXX is required to complete all the fields and submit in both hard and soft copies. The soft copy should be sent to spectrum-space@ncc.gov.ng. A CD copy should also be sent to the Commission. XXX should comply strictly with this template when sending data to the Commission.

- (17) XXX is required to submit regular updates of the data referred to in **(16) above** to the Commission **twice** every year.
- (18) Updates should be submitted on **January 7** and **July 7** of each year. In situations where these dates fall on weekends or Public Holidays, the submission will be due on the next working day following the due dates.
- (19) XXX are hereby reminded that all equipment must be **Type Approved** by the Commission before installation.
- (20) The Commission may withdraw this assignment and invoke sanctions if it is used contrary to the stipulated conditions without prior written approval from the Commission, or if false information on the actual usage of the frequency is provided to the Commission.

Thank you.

Yours faithfully,

For: Nigerian Communications Commission

EXECUTIVE VICE CHAIRMAN/CEO