



**THE UGANDA COMMUNICATIONS COMMISSION
GUIDELINES FOR OPERATION OF
REMOTELY PILOTED AIRCRAFT (RPAS)/DRONES
IN UGANDA**

November 2021

1. INTRODUCTION

The use of Unmanned Aerial Vehicles (UAVs) has grown in popularity due to their increased capability of carrying out remote sensing, remote monitoring, courier delivery, medical supplies, and a lot more other tasks.

A UAV, also commonly referred to as Unmanned Aerial System (UAS), Remotely Piloted Aircraft System (RPAS), or drones, generally consists of an aircraft with no pilot on board, a remote pilot station, a command-and-control link, and a payload specific to the intended application/operation. As a such, UAS includes wireless devices and uses radio communications for control and payload communication.

There is a need to ensure manned and unmanned aircraft to operate safely in the airspace, preventing collisions between aircraft and mitigating air and ground risks. The operation of drones in Uganda is thus subject to regulation by the Civil Aviation Authority (CAA) under the statutory instruments 2020 No.23 “the Civil Aviation Authority (Remotely Piloted Aircraft Systems) Regulations, 2020”. Any person(s) wishing to operate a drone in Uganda must firstly, register with the CAA.

The use of drones (recreational. Commercial or else) must talso comply with the Ugandan Communications Commission’s requirements for the respective radio frequency spectrum usage to avert any potential risk of harmful interference to other duly licensed radio communications systems. Uganda Communications Commission (the Commission) is desirous to define the regulatory provisions and technical conditions to facilitate the use of PRAS/UAS in Uganda.

The authority to develop these standards is derived from among others, Sections 5(1)(c) and 25 of the Uganda Communications Act, 2013 (the “Act 2013”), the Uganda Communications (Licensing) Regulations concerning radio communication services, and installation and operation of radio communications services’ equipment.

2. OBJECTIVE

The guidelines present regulatory and technical requirements to facilitate operations of RPAS/UAS in Uganda.

3. AMENDMENT

These guidelines shall be subjected to periodic reviews to enable inclusion of any changes as a result of evolution in the radio communications industry, changes in policy or regulatory direction as well as emerging regional and international best practices.

4. INTERPRETATION

Terminologies used in this document shall have the same interpretation as that used in the Uganda Communications Act of 2013 and regulations issued thereunder with the exceptions of;

- a) **“Aircraft”** means any machine that can derive support in the atmosphere from the reactions of the air other than the reactions of the air against the earth’s surface.
- b) **“Uganda Communications Act 2013 (the Act 2013)”** refers to the Uganda Communications Act of 2013, the law that governs the communications sector in Uganda;
- c) **“Uganda Communications Commission (the Commission)”** refers to the regulator of the Communications Sector established by the Act;
- d) **“Ultra-Wide Band (UWB)”** refers to technology for short-range radiocommunication, involving the intentional generation and transmission of radio-frequency energy that spreads over a large frequency range;
- e) **“Unmanned Aircraft System (UAS)”** means an aircraft and its associated systems which are operated with no pilot on board;
- f) **“Remote Piloted Aircraft System (RPAS)”** means a remotely piloted aircraft, its associated remote pilot station, the required command and control links, and any other components as specified in the type design.

5. APPLICABLE LEGISLATION AND REGULATIONS

The implementation of this guideline is subject to the provisions of:

- (i) The Uganda Communications Act 2013,
- (ii) The Uganda Communications (Licensing) Regulations, 2019,
- (iii) The Uganda Communications (Equipment Type Approval) regulations 2019,
- (iv) The Civil Aviation Authority (Remotely Piloted Aircraft Systems) regulations, 2020.
- (v) The Uganda Communications Commission Spectrum Assignment Framework 2019,
- (vi) Guidelines for the use of Short-Range Radiocommunication Devices (SRDs) and Ultrawideband (UWB) Devices 2021
- (vii) Guidelines for the utilization of the 2.4GHz band and,
- (viii) Guidelines for the utilization of the 5.8GHz bands.

6. SCOPE

This guideline is limited to the operation of RPAS/UAS within the national geographical territory of the Republic of Uganda.

7 APPLICABILITY

These guidelines shall apply to the operation of RPAS/UAS including professional or non-professional, and the categories by Uganda Civil Aviation Authority A, B, and C as described in the table below.

Table 1: Categorization of RPAS/UAS

Category A	Category B	Category C
Basic operations that pose a low or minimal risk to the public, property, and manned aviation.	Specific operations which pose a medium risk to the public, property, and manned aviation	Complex, commercial or certified operation which pose a high risk to the safety of individuals, property, and manned aviation
These include RPAS operated within Visual Line of Sight (VLOS), a maximum height of 400 feet above ground level and 50 meters lateral distance from any persons, building, or object not associated with the operations. These shall not be more than 25kg maximum take-off mass together with associated payloads	RPAS operations in this category shall be operated within VLOS, including an extended visual line of sight at all times and heights above ground and distances from any persons, buildings, or objects not associated with the operations as may be determined by the CAA	RPAS operations in this category are conducted in airspace not classified as prohibited, restricted, or dangerous, and are subject to Air Traffic Control instructions and guidance and at heights and lateral distances from any persons, buildings, or objects as prescribed in the Civil Aviation (Rules of the Air) Regulations, 2020

8. REGULATORY AND TECHNICAL REQUIREMENTS

8.1. Regulatory Requirements

For the purposes of this framework, RPAS/UAS shall be categorized into small, medium, and large based on the range (km) in which line of sight (LOS) can be sustained as highlighted in table-2 below.

Table 2: Categorization of professional drones

UA category	Weight(kg)	Max altitude(m)	Cruise speed (km/hr.)	Endurance (hours)	Max range(km)
Small	<25	<300	<111	<5	Visual LoS <3

Medium	25-2000	300-5,500	111-185	5-30	RF LoS 150-250
Large	>2000	>5500	>185	>30	Beyond RF LoS

These categorizations have a direct bearing on the disposition of the Unmanned Aircraft and the required spectrum for their operations.

To facilitate the radio frequency spectrum coordination and/or authorization by the Commission before deployment and/or operation of RPAS/UASs in Uganda, the following information shall be required;

8.1.1. For commercial and non-commercial (excluding Defence) use of RPAS operating in non-controlled airspace.

- a)** A copy of the certificate of registration from the Uganda Civil Aviation Authority issued under the Civil Aviation Authority (Remotely Piloted Aircraft Systems) Regulations 2021;
- b)** A copy of data protection and privacy clearance certificate/letter from the National Information Technology Authority Uganda issued under the Data Protection and Privacy Act 2019;
- c)** A copy of the equipment type approval certificate from the Uganda Communications Commission issued under the Uganda Communications (Equipment Type Approval) Regulations 2019.
- d)** To apply for type approval, the following requirements shall apply;
 - (i)** An application for type approval, addressed to the Office of the Executive Director (UCC) outlining the Equipment type, Brand Name, Model & Manufacturer.
 - (ii)** duly completed type approval application form obtained at <https://www.ucc.co.ug/applications/>;
 - (iii)** sample of the equipment - Clearly marked or embedded with the trade name/brand, model, and serial number of the equipment;
 - (iv)** a copy of the applicable user manuals in **English**. Manuals not in English will not be considered.
 - (v)** a summary detailing the technical specifications of the Equipment;
 - (vi)** a declaration of conformity signed and stamped by the equipment manufacturer;

- (vii)* a GSMA Certificate (Applicable for all GSMA devices);
- (viii)* Test reports verifying the Electromagnetic Conformity, RF Conformity, Health & Safety Conformity and Operational Functions of the equipment or device from an accredited test laboratory;
- (ix)* Manufacturer's Authorization or Powers of Attorney (where applicable) ;
- (x)* Evidence of payment of the applicable fees (equipment type approval, application processing, and authorization fees) payable under the Uganda Communications (Fees and Fines) regulations 2019;
- (xi)* A brief description of what the drone(s) will be used for.
- (xii)* A passport copy (foreign national) or copy of Uganda national identity card (for Ugandan Nationals);
- (xiii)* Any other additional information that shall be deemed relevant by the Commission at the time of application processing.

8.1.2. For commercial and non-commercial (excluding Defense) use of RPAS operating in controlled airspace.

- a)* A copy of the certificate of registration/clearance from the Ministry of Defense and Veteran Affairs of Uganda,
- b)* A copy of the certificate of registration from the Uganda Civil Aviation Authority issued under the Civil Aviation Authority (Remotely Piloted Aircraft Systems) Regulations 2021;
- c)* Data protection and privacy clearance certificate/letter from the National Information Technology Authority Uganda issued under the Data Protection and Privacy Act 2019;
- d)* Equipment Type approval certificate issued by the Uganda Communications Commission under the Uganda Communications (Equipment Type Approval) Regulations 2019;
- e)* To apply for type approval, requirements highlighted in section 8.1.1 (d) above shall apply;

8.2 Technical Requirements

- a)* Any person (s) planning to operate drones shall comply with the requirements highlighted in tables 1 and 2 above;

- b) All prospective PRAS/UAS operators shall also be expected with respective Commission's guidelines on the use of short-range radiocommunication devices (SRD) and ultra-wideband (UWB) devices in Uganda;
- c) Table 3 below, an excerpt of the guide on the operation of SRD and UWB in Uganda highlights radio frequency spectrum bands applicable for the operation of all PRAS and UAS in Uganda. The operation of drones in any other radio frequency bands other than the ones specified in the table-3 below shall require special authorization.

Table 3: Technical parameters for the operation of RPAS and UAS

Frequency Range	Usage	Max. Permissible Emission limits	Standard
26.957 – 27.283 MHz	Non-specific	10 mW effective radiated power e.r.p.)	EN 300 330
34.995 – 35.225 MHz	Model control	100 mW e.r.p. 10 kHz channels)	EN 300 220
40.665, 40.675, 40.685, 40.695 MHz	Model control	100 mW e.r.p. 10 kHz channels)	EN 300 220
72.000 – 72.250 MHz	Model control	10 mW e.r.p. ≤ 10 kHz channels)	EN 300 220
138.2 – 138.45 MHz	Non-specific	≤ 10 mW e.r.p.)	EN 300 220
433.05 – 434.79 MHz	Non-specific	1 mW e.r.p. or 10 mW e.r.p. with ≤10% duty cycle)	EN 300 220
863 - 870 MHz	Non-specific	25 mW e.r.p. ≤ 0.1% duty cycle or LBT, ≤ 100 kHz channels)	EN 300 220
870.0 – 875.4 MHz	Non-specific	10 mW e.r.p. or 25 mW e.r.p. ≤ 1% duty cycle, ≤ 600 kHz channels)	EN 300 220
2400 – 2483.5 MHz	Non-specific	10 mW effective isotropic radiated power e.i.r.p.)	EN 300 440
5725 – 5875 MHz	Non-specific	50 mW e.i.r.p.)	EN 300 440
13.4 – 14 GHz	Non-specific	25 mW e.i.r.p.)	EN 300 440
17.1 – 17.3 GHz	Non-specific	100 mW e.i.r.p.)	EN 300 440
57 – 64 GHz	Non-specific	100 mW e.i.r.p.)	EN 305 550
122 – 123 GHz	Non-specific	100 mW e.i.r.p.)	EN 305 550

244 – 246 GHz	Non-specific	100 mW e.i.r.p.)	EN 305 550
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9 STAKEHOLDER RESPONSIBILITY

9.1 The Commission

Under this guide, the Commission shall regularly review and update the provisions of these guidelines to ensure continued relevance and effectiveness.

9.2 RPAS/UAS Operators

- a) It is the responsibility of the drone operator or any other person associated with drones applications to acquaint themselves with the relevant laws and regulations that govern the unmanned aircraft systems in Uganda;
- b) Ensure that the RPAS/UAS and associated radio equipment are duly type-approved and authorized by Uganda Communications Commission before use;
- c) Adhere to the provisions of these guidelines as well as all other applicable laws and regulations developed thereunder.

10 INFORMATION MANAGEMENT

The Commission shall maintain and update a database in respect of type-approved and authorized RPAS/UAS operations in Uganda.

11 ENFORCEMENT AND REMEDIAL MEASURES

- a) Any Operator who fails to comply with the requirements and obligations contained in these guidelines or any applicable regulations shall be deemed to have contravened the Uganda Communications Act 2013 and the regulations specified herein under section-5;
- b) Remedial action by the Commission in respect of such contravention may include:
 - (i) issuance of a written warning requiring the offender to comply within specified timelines;
 - (ii) imposing fines under the relevant provisions of the Act 2013;
 - (iii) take any other lawful measure deemed reasonable in the circumstances.