



**GOVERNMENT OF INDIA
DIRECTORATE GENERAL OF CIVIL AVIATION
DRONE DIRECTORATE**

TYPE CERTIFICATE

No.: T1023000000X

This certificate, issued to **M/s PARAS AEROSPACE PRIVATE LIMITED** certifies that the Unmanned Aircraft System

"PARAS-AGRICOPTER V2.1"

*its technical specifications and operating limitations for which are contained in Datasheet No **T1023000000X** dated **19th October, 2023** is of proper design, material, specification, construction and performance for safe operation based on the recommendation of **TQ Cert Services Private Limited** as required by the Certification Scheme for Unmanned Aircraft Systems notified by the Ministry of Civil Aviation vide S.O. 347(E) dated the 26th of January, 2022.*

This Type Certificate is issued under the provision of Rule 8 and Rule 9 (3) of the Drone Rules 2021.

This certificate shall remain valid until suspended or cancelled.

Date: 19th October, 2023

Director General of Civil Aviation

**Technical Specifications Of M/S PARAS AEROSPACE PRIVATE LIMITED's UAS Model
PARAS-AGRICOPTER V2.1**

Manufacturer Name	PARAS AEROSPACE PRIVATE LIMITED
Address	D-112, TTC Industrial Area, MIDC , Nerul Navi Mumbai 400706 MH IN , Thane , MAHARASHTRA , 400706 , INDIA
UAS Model Name	PARAS-AGRICOPTER V2.1
Description	PARAS-AGRICOPTER V2.1 is a rotorcraft with Hexacopter-X configuration having a spray system consisting of 4 flat jet nozzles or 2 centrifugal nozzles, FPV camera and spray system and 10-liter tank for spraying of agrochemicals
UAS Details	
Category/Sub-Category	rotorcraft (RPAS)
Class	MEDIUM
Maximum all-up-weight(including payload) in kg	27.15
Overall dimensions (l x b x h) in mm	1947.0 x 1947.0 x 665.0
Payload Details	
Details of each Compatible Payload (including Manufacturer Name, Payload Specifications with Model No., Intended Applications)	Sprayer tank with maximum allowed capacity of 10 litres or 10 Kg for spraying mode only and FPV Camera
Variable Load/Consumables (Like fluid etc., if any)	Pesticides, Organic Fertilizers, Plant Nutrients (Agro Chemicals)
Power plant Details	
Engine details (Manufacturer details, Model No.)	NOT , APPLICABLE
Engine/Motor	BLDC Motor
Power Rating	1295 watts
No. of Engines/ Motors	6
Total fuel capacity (kg)/ Battery capacity (mAh)	25200.0 mAh
Propeller details (Diameter, Max RPM)	Diameter - 23 inches , Pitch - 8.8 , Max RPM - 6016
Equipment Details	
GNSS	Available
Autonomous Flight Termination System or Return Home (RH)	Available Available
Flashing anti-collision strobe lights	Not Available

RFID and GSM SIM Card	RFID- Not Available GSM SIM Card- Available
Flight control Module	Available
SSR transponder (Mode 'C' or 'S') or ADS-B OUT equipment (if applicable)	Not Available Not Available
Barometric equipment (with capability for remote sub-scale setting) (if applicable)	Not Available
Geo-fencing Capability	Available
Detect and Avoid Capability (if applicable)	Available
Remote Pilot Station	
Ground Control Station Model No.	AeroGCS Green
GCS App. Version	V 1.39
C2 Link	
Equipment details	MK15
Frequency Band	2.412-2.472 GHz
ETA issued by WPC Wing, DoT	Details- ETA-SD-20220806796 dated 14th April, 2023
Performance Details	
Maximum Endurance (hr/m)	23 minutes
Maximum Range (in km)	1.5 Km
Maximum Speed (in m/s)	10.0 m/sec
Maximum Height attainable/ Maximum Ceiling Height (in ft)	196.86 ft
Operating Altitude (in ft)	196.86 ft
Operational Envelope	VLOS Day
Engine limits (Maximum RPM) / Max. Battery Temperature (in deg C)	50.0 deg C
Propeller limits (Maximum)	6016 RPM
Documents / Manuals	
Manufacturer's Operating Manual (as applicable)	PARAS- AGRICOPTER V2.1 FLIGHT MANUAL Ver. 2.1 dated 6th October, 2023
Manufacturer's Maintenance guidelines (as applicable)	PARAS- AGRICOPTER V2.1 Maintenance Manual Ver. 2 dated 21st August, 2023
Maintenance Inspection Schedule/Overhaul interval	PARAS- AGRICOPTER V2.1 Maintenance Inspection Schedule Ver. 2 dated 20th July, 2023
Maintenance Log Book	PARAS-AGRICOPTER V2.1 Maintenance Logbook Ver. 2 dated 31st July, 2023

Flight Log Book	PARAS -AGRICOPTER V2.1 Operation Logbook Ver. 2 dated 20th July, 2023
User Guide/ Self Explanatory Information Booklet for end users	PARAS- AGRICOPTER V2.1 FLIGHT MANUAL Ver. 2.1 dated 6th October, 2023
Intended Applications	
Intended Applications	PARAS-AGRICOPTER V2.1 is an agriculture drone mainly used for agrochemical spraying and crop monitoring.

Limitations & Conditions to PARAS AEROSPACE PRIVATE LIMITED for manufacturing of UAS Model PARAS-AGRICOPTER V2.1

1. **M/ s Paras Aerospace Private Limited, Mumbai** henceforth referred as manufacturer in this documents shall comply with the applicable Rules, Regulations & Requirements issued from time to time. The manufacturer shall comply with mandatory safety features (if any) as and when mandated by Ministry of Civil Aviation/DGCA.
2. Design documents and manuals submitted shall be frozen and controlled. Any changes effecting to the Type Certificate/Data sheet, the manufacturer shall approach through Authorised Testing Entity for up-dation of the Type Certificate/Data Sheet issued there under.
3. Manufacturer shall be responsible for all UAS Model “ **PARAS-AGRICOPTER V2.1** ” produced by them conforms to this type certificate & data sheet and shall issue a certificate of conformity for each UAS produced.
4. Manufacturer shall ensure that their UAS is not tampered at the time of sale and also at the time of maintenance. Manufacturer shall monitor the same and notified to DGCA as and when required.
5. Manufacturer shall maintain list of their vendors, bill of materials, inventory of UAS including buyer details with configurations sold to them etc. and access to the same shall be provided to DGCA during surveillance and as & when requested for. It shall be the responsibility of the manufacturer to ensure that their UAS are sold to bonafide customers.
- 6. Manufacturer shall ensure that operations is restricted to Visual Line of Sight & day operations only and within the operations/ performance limitations specified in the frozen manuals.**
7. Manufacturer shall affix fireproof plate for indicating UIN, Manufacturer’s name, model no. and serial no. in all the UAS manufactured before it is transferred to the buyer.
8. Manufacturer shall intimate DGCA about any violations, defects, faults, malfunctions, incidents and accidents involving the subject UAS model quarterly and as when sought for.
- 9. PARAS- AGRICOPTER V2.1 can be used for intended applications only. Manufacturer shall ensure that the drone is flown away (30m) from uninvolved people and not flown over the crowd/ uninvolved people. The manufacturer shall be responsible for ensuring this condition and educate end users accordingly.**
10. Manufacturer shall be responsible for rights related to design and development of the UAS model “**PARAS-AGRICOPTER V2.1**” and DGCA shall not be party to any dispute arising due to proprietary right issues.
11. Manufacturer shall abide by the IT Act 2000 and any subsequent revision.
12. In case of violation of any of the above mentioned conditions and/ or operating requirements & restrictions specified in this Type Certificate, penal action shall be initiated in line with the Drone Rules, 2021 and other applicable Rules issued from time to time.