

U.S. DEPARTMENT OF TRANSPORTATION
FEDERAL AVIATION ADMINISTRATION
CERTIFICATE OF WAIVER OR AUTHORIZATION

ISSUED TO

**Mosaic, Responsible Person: John Anderson
Waiver Number: 107W-2016-01465**

ADDRESS –

**1316 Potash Mines Rd
Carlsbad, NM 88220**

This certificate is issued for the operations specifically described hereinafter. No person shall conduct any operation pursuant to the authority of this certificate except in accordance with the standard and special provisions contained in this certificate, and such other requirements of the Federal Aviation Regulations not specifically waived by this certificate.

OPERATIONS AUTHORIZED

Small unmanned Aircraft Systems (sUAS) operations performing agricultural remote sensing techniques beyond the visual line of sight of the Remote Pilot in Command (PIC) and Visual Observer (VO).

LIST OF WAIVED REGULATIONS BY SECTION AND TITLE

**14 CFR § 107.31 Visual line of sight aircraft operation
14 CFR § 107.33(b) Visual Observer**

STANDARD PROVISIONS

1. A copy of the application made for this certificate shall be attached to and become a part hereof.
2. This certificate shall be presented for inspection upon the request of any authorized representative of the Administrator of the Federal Aviation Administration, or of any State or municipal official charged with the duty of enforcing local laws or regulations.
3. The holder of this certificate shall be responsible for the strict observance of the terms and provisions contained herein.
4. This certificate is nontransferable.

NOTE—This certificate constitutes a waiver of those Federal rules or regulations specifically referred to above. It does not constitute a waiver of any State law or local ordinance.

SPECIAL PROVISIONS

Special Provisions Nos. 1 to 19, inclusive, are set forth on the attached pages.

This Certificate of Waiver is effective from November 28, 2017 to November 30, 2021 and is subject to cancellation at any time upon notice by the Administrator or an authorized representative.

BY DIRECTION OF THE ADMINISTRATOR

General Aviation and Commercial Division, AFS-800

**SPECIAL PROVISIONS ISSUED TO
Mosaic**

General.

The FAA's Flight Standards Service has reviewed your application to ensure compliance with the requirements of 14 CFR § 107.200. The Administrator finds that the proposed sUAS operation can be conducted safely under the provisions of this Certificate of Waiver (Waiver) as listed below, because you have established adequate mitigations for risks involved with operating your sUAS in the manner you described. Adherence to the provisions of this Waiver establishes the required level of safety within the national airspace system.

This Waiver may be canceled at any time by the Administrator, the person authorized to grant the Waiver, or the representative designated to monitor a specific operation. As a general rule, this Waiver may be canceled when it is no longer required, there is an abuse of its provisions, or when unforeseen safety factors develop. Failure to comply with any provision listed below is a violation of the terms of this Waiver and may serve as justification for cancellation.

List of Regulations Waived by Section and Title. The following regulations are waived:

14 CFR § 107.31 Visual line of sight aircraft operation, is waived to the extent necessary to allow the remote pilot in command (PIC) to operate the small unmanned aircraft (sUA) when they are no longer able to see the sUA using unaided vision.

14 CFR § 107.33 Visual observer, is waived to the extent necessary to allow operation of the small unmanned aircraft (sUA) when each VO may not be able see the unmanned aircraft in the manner specified in §107.31.

Common Provisions. The Responsible Person is directly responsible for safety of operations conducted under this Waiver and will ensure the remote Pilot in Command (PIC), manipulator of the controls, and Visual Observer (VO) complies with all provisions of this Waiver.

1. The Responsible Person listed on the Waiver is responsible to the FAA for the safe conduct of the operations. Prior to conducting operations that are the subject of this Waiver, the responsible person:
 - a. Must ensure the remote PIC, manipulators of the controls and VO are informed on the terms and provisions of this waiver and the strict observance of the terms and provisions herein;
 - b. Must ensure the remote PIC, manipulators of the controls, and VO are informed and familiar with part 107 regulations not waived; and
 - c. The above must be documented and must be presented for inspection upon request from the Administrator or an authorized representative.
2. This Waiver must not be combined with any other waiver(s), authorization(s), or exemption(s) without specific authorization from the FAA;

3. The FAA has the authority to cancel or delay any or all flight operations if the safety of persons or property on the ground or in the air, are in jeopardy or there is a violation of the terms of this Waiver;
4. Operations under this Waiver are to be conducted in Class G airspace only unless specific airspace authorization or Waiver is received from the FAA in accordance with § 107.41;
5. A copy of this Waiver must be available during sUAS operations that are the subject of this Waiver;
6. The Responsible Person listed on this Waiver must maintain a current list of pilots by name and remote pilot certificate number used in the Waiver holder's operations. This list must be presented for inspection upon request from the Administrator or an authorized representative;
7. The Responsible Person listed on this Waiver must maintain a current list of small unmanned aircraft (sUA) by registration number(s) used in the Waiver holder's operations. This list must be presented for inspection upon request from the Administrator or an authorized representative;
8. All operations under this Waiver must use one or more VO;

Visual Line of Sight Operations Special Provisions. sUAS operations may be conducted by the remote pilot in command beyond visual line of sight, provided:

9. All planned launches and recoveries of the sUA must be within VLOS of the remote PIC;
10. As described in the waiver application, sUA operations are limited to a maximum of 100 feet above ground level;
11. Prior to operations under this Waiver, all persons who will act as remote PIC, participate in the operation as a part 107 certificated airman, and VO's must participate in a safety briefing that addresses at minimum, the following items:
 - a) Designated positions and responsibilities/Crew Resource Management,
 - b) Flight operating area,
 - c) Designated launch and recovery area,
 - d) Verification of geo-fence boundaries,
 - e) Return to Home (RTH) flight profile and course,
 - f) Normal procedures,
 - g) Abnormal procedures, and
 - h) Emergency procedures;
12. The remote PIC must ensure sufficient VO's are used to identify any non-participating aircraft and any non-participating persons prior to their entry into the planned operational area;
13. Prior to conducting operations under this Waiver, the remote PIC must establish

continuous full-duplex hands-free audio communications with the VO or VO's. The full-duplex audio communications must occur over an independent transmission and reception system, and not be dependent on the ground station method of data transmission and reception;

14. Communication between the remote PIC and VO, must allow for the remote PIC to maneuver the sUA with sufficient time to perform necessary maneuvers to avoid other aircraft in accordance with § 107.37, or react to any unforeseen operational or mechanical failure;
15. The Responsible Person listed on this Waiver must ensure each remote PIC is trained in a manner consistent with how the sUAS will be operated under this Waiver. All training and demonstration for any remote PIC and VO must be documented and made available upon request by the Administrator or an authorized representative. Training operations may only be conducted under the standard requirements of part 107 (without waiver). The training must include:
 - a) sUA limitations,
 - b) sUA programming,
 - c) sUA Operational procedures,
 - d) Abnormal and contingency procedures,
 - e) Evasive and Emergency procedures,
 - f) Crew Resource Management,
 - g) sUA flight training,
 - h) A demonstration of sUA ground and flight proficiency;
16. sUA Operations conducted subject to this waiver must cease if, at any time—
 - a) Safety of human beings or property on the ground or in the air is in jeopardy,
 - b) There is a failure to comply with the provisions of this Waiver,
 - c) Full-duplex communications cannot be maintained,
 - d) sUA onsite loss of control link,
 - e) sUA offsite ground station communication link failure,
 - f) A non-participating vehicle enters into the area, or
 - g) Degraded sUA GPS location information;
17. At all times during sUAS operations subject to this Waiver, the remote pilot must be able to determine the position, attitude, altitude, and direction of flight of the sUA;
18. The sUA must remain within the preplanned designated operational area, and the area must remain free of non-participating human beings;
19. Operations conducted under this Waiver are permitted in zones A and B as described in the waiver application.