U.S. Department
of Transportation
**Federal Aviation
Administration**

800 Independence Ave., S.W.
Washington, D.C. 20591

September 2, 2015

Exemption No. 12727
Regulatory Docket No. FAA−2015−2519

Mr. Craig Fonseca
Sparktech Imagery LLC
1500 Beville Road, 606-416
Daytona Beach, FL 32114

Dear Mr. Fonseca:

This letter is to inform you that we have granted your request for exemption. It transmits our decision, explains its basis, and gives you the conditions and limitations of the exemption, including the date it ends.

By letter dated June 2, 2015, you petitioned the Federal Aviation Administration (FAA) on behalf of Sparktech Imagery LLC (hereinafter petitioner or operator) for an exemption. The petitioner requested to operate an unmanned aircraft system (UAS) to conduct aerial videography and photography.

See Appendix A for the petition submitted to the FAA describing the proposed operations and the regulations that the petitioner seeks an exemption.

The FAA has determined that good cause exists for not publishing a summary of the petition in the Federal Register because the requested exemption would not set a precedent, and any delay in acting on this petition would be detrimental to the petitioner.

Airworthiness Certification

The UAS proposed by the petitioner are the DJI Phantom 2 Vision +, DJI Phantom 3 Professional, and DJI Inspire.

The petitioner requested relief from 14 CFR part 21, *Certification procedures for products and parts, Subpart H—Airworthiness Certificates*. In accordance with the statutory criteria provided in Section 333 of Public Law 112−95 in reference to 49 U.S.C. § 44704, and in

consideration of the size, weight, speed, and limited operating area associated with the aircraft and its operation, the Secretary of Transportation has determined that this aircraft meets the conditions of Section 333. Therefore, the FAA finds that the requested relief from 14 CFR part 21, *Certification procedures for products and parts, Subpart H—Airworthiness Certificates,* and any associated noise certification and testing requirements of part 36, is not necessary.

The Basis for Our Decision

You have requested to use a UAS for aerial data collection[1]. The FAA has issued grants of exemption in circumstances similar in all material respects to those presented in your petition. In Grants of Exemption Nos. 11062 to Astraeus Aerial (*see* Docket No. FAA−2014−0352), 11109 to Clayco, Inc. (*see* Docket No. FAA−2014−0507), 11112 to VDOS Global, LLC (*see* Docket No. FAA−2014−0382), and 11213 to Aeryon Labs, Inc. (*see* Docket No. FAA−2014−0642), the FAA found that the enhanced safety achieved using an unmanned aircraft (UA) with the specifications described by the petitioner and carrying no passengers or crew, rather than a manned aircraft of significantly greater proportions, carrying crew in addition to flammable fuel, gives the FAA good cause to find that the UAS operation enabled by this exemption is in the public interest.

Having reviewed your reasons for requesting an exemption, I find that—

- They are similar in all material respects to relief previously requested in Grant of Exemption Nos. 11062, 11109, 11112, and 11213;
- The reasons stated by the FAA for granting Exemption Nos. 11062, 11109, 11112, and 11213 also apply to the situation you present; and
- A grant of exemption is in the public interest.

Our Decision

In consideration of the foregoing, I find that a grant of exemption is in the public interest. Therefore, pursuant to the authority contained in 49 U.S.C. 106(f), 40113, and 44701, delegated to me by the Administrator, Sparktech Imagery LLC is granted an exemption from 14 CFR §§ 61.23(a) and (c), 61.101(e)(4) and (5), 61.113(a), 61.315(a), 91.7(a), 91.119(c), 91.121, 91.151(a)(1), 91.405(a), 91.407(a)(1), 91.409(a)(1) and (2), and 91.417(a) and (b), to the extent necessary to allow the petitioner to operate a UAS to perform aerial data collection. This exemption is subject to the conditions and limitations listed below.

[1] Aerial data collection includes any remote sensing and measuring by an instrument(s) aboard the UA. Examples include imagery (photography, video, infrared, etc.), electronic measurement (precision surveying, RF analysis, etc.), chemical measurement (particulate measurement, etc.), or any other gathering of data by instruments aboard the UA.

Conditions and Limitations

In this grant of exemption, Sparktech Imagery LLC is hereafter referred to as the operator.

Failure to comply with any of the conditions and limitations of this grant of exemption will be grounds for the immediate suspension or rescission of this exemption.

1. Operations authorized by this grant of exemption are limited to the DJI Phantom 2 Vision +, DJI Phantom 3 Professional, and DJI Inspire when weighing less than 55 pounds including payload. Proposed operations of any other aircraft will require a new petition or a petition to amend this exemption.

2. Operations for the purpose of closed-set motion picture and television filming are not permitted.

3. The UA may not be operated at a speed exceeding 87 knots (100 miles per hour). The exemption holder may use either groundspeed or calibrated airspeed to determine compliance with the 87 knot speed restriction. In no case will the UA be operated at airspeeds greater than the maximum UA operating airspeed recommended by the aircraft manufacturer.

4. The UA must be operated at an altitude of no more than 400 feet above ground level (AGL). Altitude must be reported in feet AGL.

5. The UA must be operated within visual line of sight (VLOS) of the PIC at all times. This requires the PIC to be able to use human vision unaided by any device other than corrective lenses, as specified on the PIC's FAA-issued airman medical certificate or U.S. driver's license.

6. All operations must utilize a visual observer (VO). The UA must be operated within the visual line of sight (VLOS) of the PIC and VO at all times. The VO may be used to satisfy the VLOS requirement as long as the PIC always maintains VLOS capability. The VO and PIC must be able to communicate verbally at all times; electronic messaging or texting is not permitted during flight operations. The PIC must be designated before the flight and cannot transfer his or her designation for the duration of the flight. The PIC must ensure that the VO can perform the duties required of the VO.

7. This exemption and all documents needed to operate the UAS and conduct its operations in accordance with the conditions and limitations stated in this grant of exemption, are hereinafter referred to as the operating documents. The operating documents must be accessible during UAS operations and made available to the Administrator upon request. If a discrepancy exists between the conditions and limitations in this exemption and the procedures outlined in the operating documents,

the conditions and limitations herein take precedence and must be followed. Otherwise, the operator must follow the procedures as outlined in its operating documents. The operator may update or revise its operating documents. It is the operator's responsibility to track such revisions and present updated and revised documents to the Administrator or any law enforcement official upon request. The operator must also present updated and revised documents if it petitions for extension or amendment to this grant of exemption. If the operator determines that any update or revision would affect the basis upon which the FAA granted this exemption, then the operator must petition for an amendment to its grant of exemption. The FAA's UAS Integration Office (AFS−80) may be contacted if questions arise regarding updates or revisions to the operating documents.

8. Any UAS that has undergone maintenance or alterations that affect the UAS operation or flight characteristics, e.g., replacement of a flight critical component, must undergo a functional test flight prior to conducting further operations under this exemption. Functional test flights may only be conducted by a PIC with a VO and must remain at least 500 feet from other people. The functional test flight must be conducted in such a manner so as to not pose an undue hazard to persons and property.

9. The operator is responsible for maintaining and inspecting the UAS to ensure that it is in a condition for safe operation.

10. Prior to each flight, the PIC must conduct a pre-flight inspection and determine the UAS is in a condition for safe flight. The pre-flight inspection must account for all potential discrepancies, e.g., inoperable components, items, or equipment. If the inspection reveals a condition that affects the safe operation of the UAS, the aircraft is prohibited from operating until the necessary maintenance has been performed and the UAS is found to be in a condition for safe flight.

11. The operator must follow the UAS manufacturer's maintenance, overhaul, replacement, inspection, and life limit requirements for the aircraft and aircraft components.

12. Each UAS operated under this exemption must comply with all manufacturer safety bulletins.

13. Under this grant of exemption, a PIC must hold either an airline transport, commercial, private, recreational, or sport pilot certificate. The PIC must also hold a current FAA airman medical certificate or a valid U.S. driver's license issued by a state, the District of Columbia, Puerto Rico, a territory, a possession, or the Federal government. The PIC must also meet the flight review requirements specified in 14 CFR § 61.56 in an aircraft in which the PIC is rated on his or her pilot certificate.

14. The operator may not permit any PIC to operate unless the PIC demonstrates the ability to safely operate the UAS in a manner consistent with how the UAS will be operated under this exemption, including evasive and emergency maneuvers and maintaining appropriate distances from persons, vessels, vehicles and structures. PIC qualification flight hours and currency must be logged in a manner consistent with 14 CFR § 61.51(b). Flights for the purposes of training the operator's PICs and VOs (training, proficiency, and experience-building) and determining the PIC's ability to safely operate the UAS in a manner consistent with how the UAS will be operated under this exemption are permitted under the terms of this exemption. However, training operations may only be conducted during dedicated training sessions. During training, proficiency, and experience-building flights, all persons not essential for flight operations are considered nonparticipants, and the PIC must operate the UA with appropriate distance from nonparticipants in accordance with 14 CFR § 91.119.

15. UAS operations may not be conducted during night, as defined in 14 CFR § 1.1. All operations must be conducted under visual meteorological conditions (VMC). Flights under special visual flight rules (SVFR) are not authorized.

16. The UA may not operate within 5 nautical miles of an airport reference point (ARP) as denoted in the current FAA Airport/Facility Directory (AFD) or for airports not denoted with an ARP, the center of the airport symbol as denoted on the current FAA-published aeronautical chart, unless a letter of agreement with that airport's management is obtained or otherwise permitted by a COA issued to the exemption holder. The letter of agreement with the airport management must be made available to the Administrator or any law enforcement official upon request.

17. The UA may not be operated less than 500 feet below or less than 2,000 feet horizontally from a cloud or when visibility is less than 3 statute miles from the PIC.

18. If the UAS loses communications or loses its GPS signal, the UA must return to a pre-determined location within the private or controlled-access property.

19. The PIC must abort the flight in the event of unpredicted obstacles or emergencies.

20. The PIC is prohibited from beginning a flight unless (considering wind and forecast weather conditions) there is enough available power for the UA to conduct the intended operation and to operate after that for at least five minutes or with the reserve power recommended by the manufacturer if greater.

21. Air Traffic Organization (ATO) Certificate of Waiver or Authorization (COA). All operations shall be conducted in accordance with an ATO-issued COA. The exemption holder may apply for a new or amended COA if it intends to conduct operations that cannot be conducted under the terms of the attached COA.

22. All aircraft operated in accordance with this exemption must be identified by serial number, registered in accordance with 14 CFR part 47, and have identification (N−Number) markings in accordance with 14 CFR part 45, Subpart C. Markings must be as large as practicable.

23. Documents used by the operator to ensure the safe operation and flight of the UAS and any documents required under 14 CFR §§ 91.9 and 91.203 must be available to the PIC at the Ground Control Station of the UAS any time the aircraft is operating. These documents must be made available to the Administrator or any law enforcement official upon request.

24. The UA must remain clear and give way to all manned aviation operations and activities at all times.

25. The UAS may not be operated by the PIC from any moving device or vehicle.

26. All Flight operations must be conducted at least 500 feet from all nonparticipating persons, vessels, vehicles, and structures unless:
    a. Barriers or structures are present that sufficiently protect nonparticipating persons from the UA and/or debris in the event of an accident. The operator must ensure that nonparticipating persons remain under such protection. If a situation arises where nonparticipating persons leave such protection and are within 500 feet of the UA, flight operations must cease immediately in a manner ensuring the safety of nonparticipating persons; and
    b. The owner/controller of any vessels, vehicles or structures has granted permission for operating closer to those objects and the PIC has made a safety assessment of the risk of operating closer to those objects and determined that it does not present an undue hazard.

    The PIC, VO, operator trainees or essential persons are not considered nonparticipating persons under this exemption.

27. All operations shall be conducted over private or controlled-access property with permission from the property owner/controller or authorized representative. Permission from property owner/controller or authorized representative will be obtained for each flight to be conducted.

28. Any incident, accident, or flight operation that transgresses the lateral or vertical boundaries of the operational area as defined by the applicable COA must be reported to the FAA's UAS Integration Office (AFS−80) within 24 hours. Accidents must be reported to the National Transportation Safety Board (NTSB) per instructions contained on the NTSB Web site: www.ntsb.gov.

If this exemption permits operations for the purpose of closed-set motion picture and television filming and production, the following additional conditions and limitations apply.

29. The operator must have a motion picture and television operations manual (MPTOM) as documented in this grant of exemption.

30. At least 3 days before aerial filming, the operator of the UAS affected by this exemption must submit a written Plan of Activities to the local Flight Standards District Office (FSDO) with jurisdiction over the area of proposed filming. The 3-day notification may be waived with the concurrence of the FSDO. The plan of activities must include at least the following:
    a. Dates and times for all flights;
    b. Name and phone number of the operator for the UAS aerial filming conducted under this grant of exemption;
    c. Name and phone number of the person responsible for the on-scene operation of the UAS;
    d. Make, model, and serial or N−Number of UAS to be used;
    e. Name and certificate number of UAS PICs involved in the aerial filming;
    f. A statement that the operator has obtained permission from property owners and/or local officials to conduct the filming production event; the list of those who gave permission must be made available to the inspector upon request;
    g. Signature of exemption holder or representative; and
    h. A description of the flight activity, including maps or diagrams of any area, city, town, county, and/or state over which filming will be conducted and the altitudes essential to accomplish the operation.

31. Flight operations may be conducted closer than 500 feet from participating persons consenting to be involved and necessary for the filming production, as specified in the exemption holder's MPTOM.

Unless otherwise specified in this grant of exemption, the UAS, the UAS PIC, and the UAS operations must comply with all applicable parts of 14 CFR including, but not limited to, parts 45, 47, 61, and 91.

This exemption terminates on September 30, 2017, unless sooner superseded or rescinded.

Sincerely,

/s/
John S. Duncan
Director, Flight Standards Service

Enclosures

UNITED STATES OF AMERICA
DEPARTMENT OF TRANSPORTATION
FEDERAL AVIATION ADMINISTRATION
WASHINGTON, DC

IN THE MATTER OF THE PETITION FOR EXEMPTION OF:
SPARKTECH IMAGERY LLC
FOR AN EXEMPTION SEEKING RELIEF FROM THE REQUIREMENTS OF TITLE 14
OF THE CODE OF FEDERAL REGULATIONS SECTIONS
14 C.F.R §§ 45.23(b); Part 21, Subpart H; 61.23(a); 61.113(a); 91.7(a); 91.119(c); 91.121; 91.151(a);
91.405(a); 91.407(a)(1); 91.409(a)(1)&(2); 91.417(a)&(b);
CONCERNING COMMERCIAL OPERATION OF DJI UNMANNED AIRCRAFT SYSTEMS
PURSUANT TO SECTION 333 OF
THE FAA MODERNIZATION AND REFORM ACT OF 2012 (PUBLIC LAW 112-95)

Submitted on June 2nd 2015

Craig Fonseca
Sparktech Imagery LLC
1500 Beville Road, 606-416,
Daytona Beach, FL, 32114
Tel: 386-675-4879
support@sparktechimagery.com

Sparktech Imagery LLC, formally requests exemption from the requirements of 14 C.F.R §§ 45.23(b); Part 21, Subpart H; 61.23(a); 61.113(a); 91.7(a); 91.119(c); 91.121; 91.151(a); 91.405(a); 91.407(a)(1); 91.409(a)(1)&(2); 91.417(a)&(b); to operate an Unmanned Aircraft System pursuant to Section 333 of the FAA Modernization and Reform Act of 2012 (FMRA). This exemption will permit Sparktech Imagery LLC to operate its Unmanned Aircraft System(s) (UAS) for the commercial purpose of conducting aerial video and photography in airspace regulated by the Federal Aviation Administration over various locations, including landscapes, waterways and oceans within the United States of America.

Sparktech Imagery LLC's objective is to capture, document and archive images and video using aerial photographic & video technology, thus providing its clients low cost, high quality imaging and views from different perspectives.

THE UNMANNED AIRCRAFT SYSTEMS of SPARKTECH IMAGERY LLC :

(1) DJI Phantom 2 Vision +

(2) DJI Phantom 3 Professional

(3) DJI Inspire

The petitioner requests permission to operate the DJI Phantom 2 Vision +, the DJI Phantom 3 Professional and the DJI Inspire UAS within the National Airspace System for hire or compensation. All of the DJI systems listed above are vertical takeoff and landing, unmanned aircraft with a ground control station utilizing electronic tablet or smart phone systems. They also have a maximum speed under 50 knots and weighing less than 7 pounds. No operation will be conducted within 5NM of an airport. Included as the appendix to this document are the data specifications and links to the user manuals to the UAS. Similar exemptions utilizing such UAS have been approved and deemed airworthy, not requiring any airworthiness certification, including exemptions Nos. 11109 Clayco, Inc, 11595 Gary Huett, 11669 Photobird LLC.

In accordance with 14 C.F.R § 11.81, Sparktech Imagery LLC provides the following information in support of its petition for exemption.

NAME AND ADDRESS OF PETITIONER:

Sparktech Imagery LLC
Attn: Mr. Craig Fonseca
Mailing address: 1500 Beville Road, 606-416, Daytona Beach, FL, 32114
Email: support@sparktechimagery.com
Tel: 386-675-4879

Sparktech Imagery LLC submits that proper safety will be ensured and can serve to benefit the general public and pose no threat to national security.

Sparktech Imagery LLC will use experienced personnel or technicians to perform maintenance, alterations, or preventative maintenance on the UAS using the methods, techniques and practices prescribed in the operating documents. Sparktech Imagery LLC will document and maintain a maintenance record for its UAS.

Sparktech Imagery LLC will have a Pilot in Command (PIC) that holds either an airline transport, commercial, private, recreational, or sport pilot certificate and medical certificate or valid US driver's license. The PIC will operate the UAS within visual line of sight and use a visual observer at all times. All operations will be at a maximum of 400ft above ground level. The PIC will conduct pre-flight inspections with every flight; in addition a post-flight inspection will also be performed. To ensure further safety, no PIC will be allowed to operate the UAS unless that PIC has met certain flight-hour requirements, demonstrating that the PIC is able to safely operate either of the UAS including evasive and emergency maneuvers, as well as maintaining appropriate distances from people, vessels, vehicles and structures. Utilization of the built-in features in the DJI systems such as flight telemetry and records will be logged.

Sparktech Imagery LLC's operations utilizing the UAS will provide a great benefit to the general public and serve the interest of the public by providing a service that was once only available by hiring a much larger manned aircraft. In comparison, the UAS will provide a service of quality aerial photographic images and video to many different business and individuals for considerably less cost than that of utilizing a manned aircraft. In addition to saving money, the time required for setup and flight is also considerably shorter, including the fact that you are documenting on site versus taking off from an airport to then go to the location or site. These UAS have significant safety, noise, emission, security and environmental benefits, not available to larger manned aircrafts, by using battery power and electric motors. They also have numerous safety features such as 'Failsafe mode', automatic landing should the signal between PIC and the UAS be interrupted, GPS based altitude and distance locks, flight limit functions and low battery warnings.

The use of the UAS will decrease congestion of the National Airspace System and reduce air and noise pollution. Further, by this reduction it can increase the safety of life and property in the air and on the ground. Airport congestion will also be reduced as the UAS do not require an airport for takeoff or

landing, thus aiding to reduce the load on the air traffic control during ground, departure, arrival and landing phases of flight operations.

Sparktech Imagery LLC proposed commercial operations would not implicate any privacy issues. The UAS will be operated in compliance with property owners, as well as any local law enforcement requests or notifications if applicable and in accordance with the Federal Aviation Regulations.

Specific Sections of 14 C.F.R from which Sparktech Imagery LLC seeks exemption:

1.	45.23(b)	Aircraft markings
2.	Part 21, Subpart H	Certification procedures; Airworthiness Certificates
3.	61.23(a)	Medical Certificate requirements
4.	61.113(a)	Private pilot privileges
5.	91.7(a)	Airworthiness certificate
6.	91.119(c)	Minimum safe altitudes
7.	91.121	Altimeter settings
8.	91.151(a)	Fuel requirements for flights in VFR conditions
9.	91.405(a)	Maintenance required
10.	91.407(a) (1)	Operation after maintenance
11.	91.409(a)(1)and(2)	Inspections
12.	91.417(a)&(b)	Maintenance records

Extent of Relief and Reasons Requesting Relief

14 C.F.R.45.23(B): DISPLAY OF MARKS; GENERAL

Sparktech Imagery LLC has Unmanned Aircraft Systems, which, as unmanned, do not have a cabin, cockpit or pilot station to mark certain words. Furthermore, the two-inch lettering is also difficult to place on such a small aircraft. Sparktech Imagery LLC's UAS will have identification by serial number, registered in accordance with 14 C.F.R. part, and have identification (N-Number) markings in accordance with 14 C.F.R. Part 45, Subpart C. Markings will be large as possible. The FAA has previously issued exemptions to this regulation through Exemptions Nos. 8738, 10167, 10700 and 11595.

14 C.F.R. PART 21, SUBPART H & 14 C.F.R. 91 – AIRWORTHINESS CERTIFICATES, MANUALS AND OTHER REQUIREMENTS

Sparktech Imagery LLC uses UAS that when considering their size, weight, speed, and the limited operating area associated with the aircrafts and their operations meet the conditions of Section 333, and requests relief from the regulation. With regards to the requirements 14 C.F.R 91.7(a); considering the exemption of requiring an airworthiness certificate, size and unmanned status of the UAS the

regulations are inapplicable to this operation. The petitioner will meet all safety requirements and registrations of the FAA and maintain a safety record and manual for the UAS. To ensure the UAS are airworthy, proper maintenance will be regularly applied.

14 C.F.R. §61.23(a), 61.113 (a): Medical certificate & Private Pilot Privileges and Limitations: Operator.

Sparktech Imagery LLC's UAS will not carry any persons on board. It will be remotely controlled and operated by a PIC holding either an airline transport, commercial, private, recreational, or sport pilot certificate ensuring that the PIC has the skills to safely operate the system in a manner acceptable to the FAA. In addition all PIC operators will go through guidance, training and meet certain flight-hour requirements, demonstrating that the PIC is able to safely operate either of the UAS including evasive and emergency maneuvers, as well as maintaining appropriate distances from people, vessels, vehicles and structures prior to operating any of Sparktech Imagery LLC's UAS. The PIC will hold either a current FAA airman medical certificate or a valid U.S. driver's license issued by a state, the District of Columbia, Puerto Rico, a territory, a possession, or the Federal Government. All Sparktech Imagery LLC operations will be controlled and limited. All flights will be coordinated ahead of time ensuring a level of safety that is in accordance with FAA requirements.

14 C.F.R. § 91.119 : Minimum Safe Altitudes

Sparktech Imagery LLC's UAS will never operate at an altitude greater than 400 feet AGL unless other altitude limits are forthcoming by the FAA. The petitioner will operate the UAS in a manner protecting the public and any consenting participants, providing a level of safety at least equivalent to or below those in relation to minimum safe altitudes.

14 C.F.R. § 91.121: Altimeter Settings

Sparktech Imagery LLC's UAS have no altimeter settings. They, however, utilize electronic global positioning systems with a barometric sensor providing instantaneous telemetry to the PIC as to the altitude (AGL) of the UAS above the takeoff location.

14 C.F.R. §91.151(a) Fuel Requirements for Flight in VFR Conditions.

Sparktech Imagery LLC believes that an equivalent level of safety can be achieved by following the UAS manufacturer's operating documents with regard to battery voltage. In order to achieve or exceed the level of safety, the PIC will not begin a flight unless (considering wind and forecast weather conditions) there is enough power to conduct the intended operation and to operate after that for at least 5 minutes.

14 C.F.R. § 91.405(a); 407 (a)(1); 409 (a) (1)&(2); 417(a)&(b): Maintenance inspections

Sparktech Imagery LLC operators and PIC will perform preventative and required maintenance on its UAS as required by the manufacturer and/or FAA safety/service bulletins. If a mechanical event occurs the UA will land immediately. The operator will make sure that the UAS is in an airworthy condition prior to each flight operation. The operator will perform maintenance on its UAS and will maintain thorough record keeping of any maintenance performed.

In order to meet or exceed level of safety as described in 14 C.F.R operations will include:

Pre-flight operations: prior to each flight the PIC will conduct and preflight inspection of the UAS and Ground Control Station to ensure they are in such condition safe for flight. All discrepancies found during the preflight inspection will prohibit flight operations until the necessary maintenance has been performed and the UAS is found to be in a condition for safe flight. All discrepancies, maintenance, alterations will be properly documented in the aircraft records.

If the UAS has undergone maintenance or alterations that affect the UAS operation or flight characteristics there will be a functional flight test by the PIC and the PIC will make and entry in the aircraft records. All maintenance will follow the UAS manufacturer's aircraft/component, maintenance, overhaul, replacement and inspection requirements.

Each UAS will comply with all manufacturers' safety bulletins.

The operator will carry out its maintenance, inspections, and record keeping requirements, in accordance with the manufacturers operating documents. All maintenance, inspection, alterations, and status of replacement/overhaul component parts must be noted in the aircraft records, including total time in service, description of work accomplished, and the signature of the authorized person returning the UAS to service.

Authorized persons will make entry in the aircraft record of corrective action taken against discrepancies discovered between inspections.

STATUTORY AUTHORITY FOR EXEMPTION

In accordance with the FMRA, Section 333 & 334 states that the Secretary of Transportation has the authority to grant which types of unmanned aircraft systems can be used in the national airspace system and whether a certificate of waiver, authorization or airworthiness is required for operation. Furthermore, subject to operating restrictions required by the FAA, facilitate the capability of public agencies to develop, test and operate unmanned aircraft systems.

SUMMARY FOR PUBLISH IN THE FEDERAL REGISTER

Sparktech Imagery LLC requests exemption from the requirements of 14 C.F.R §§ 45.23(b); Part 21, Subpart H; 61.23(a); 61.113(a); 91.7(a); 91.119(c); 91.121; 91.151(a); 91.405(a); 91.407(a)(1); 91.409(a)(1)&(2); 91.417(a)&(b).

This exemption will permit Sparktech Imagery LLC to operate its unmanned aircraft systems (UAS) for the commercial purpose of conducting aerial video and photography in airspace regulated by the Federal Aviation Administration over various locations within the United States of America.

It is the request of Sparktech Imagery LLC, with the equipment used, trained personnel and level of safety implemented, that the FAA grants an exemption to Sparktech Imagery LLC for commercial UAS aerial photography and video operations in the national airspace system, pursuant to Section 333 of the FAA Modernization and Reform Act of 2012.

Respectfully submitted

SPARKTECH IMAGERY LLC

Craig Fonseca (AMBR)

Kavita Fonseca (AMBR)

APPENDIX

DJI is an industry leader in small UAS production. DJI UASs are loaded with ground breaking software enabling the user to set parameters which will not allow flight into controlled airspace. Parameters can also be set to limit flight to no higher than a predetermined and set altitude as well as limit flight to a predetermined and set distance. In addition, DJI software provides real-time altitude and location information to the PIC via the linked monitor (smart phone/tablet devices). The following are the technical specifications of the DJI UAS to be used by Sparktech Imagery LLC:

DJI Phantom 2 Vision+ Technical Specifications

AIRCRAFT	
Supported Battery	DJI 5200mAH Li-Po Battery
Weight (Battery & Propellers Included) Recommended payload Maximum payload	1242g (2lbs 11.8oz) ≤ 1300g 1350g
Hovering Accuracy (Ready to Fly)	Vertical: 0.8m; Horizontal 2.5m
Max Yaw Angular Velocity	200°/s
Max Tiltable Angle	35°
Max Ascent/Descent Speed	Ascent: 6m/s; Descent: 2m/s
Max Flight Speed	15m/s [29knots] (Not Recommended)
Motor Diagonal Length	350mm

3-AXIAL STABILIZED GIMBAL	
Working current	Static: 750mA; Dynamic: 900mA
Control Accuracy	±0.03°
Controllable Range	Pitch: -90° -0°
Maximum Angular Speed	Pitch: 90°/s
Max Tiltable Angle	35°

CAMERA	
Operating Environment Temperature	0°C-40°C
Sensor size	1/2.3"
Effective Pixels	14 Megapixels
Resolution	4384 x 3288
HD Recording	1080p30 / 1080i60
Recording FOV	110° / 85°

DJI Phantom 2 Vision+ Technical Specifications cont'd

REMOTE CONTROLLER	
Operating Frequency	5.728GHz – 5.85GHz
Communication Distance (open area)	CE Compliance: 400m; FCC Compliance: 800m
Receiver Sensitivity (1%PER)	-93dBm
Transmitting Power (EIRP)	CE Compliance: 25mW; FCC Compliance: 100mW
Working Current / Voltage	120mA@3.7V
Battery	2000mAh rechargeable Li-Po battery

RANGE EXTENDER	
Operating Frequency	2412MHz – 2462MHz
Communication Distance (open area)	500m – 700m
Transmitting power	20dBm
Power consumption	2W

The complete user manual for can be found: http://www.dji.com/product/phantom-2-vision/download

DJI Phantom 3 Professional Technical Specifications

AIRCRAFT	
Weight (Battery & Propellers Included)	1280g (2lbs 13.1oz)
Max Ascent/Descent Speed	Ascent: 5m/s; Descent: 3m/s
Max Speed	16m/s (ATTI mode, no wind)
Max Flight Altitude	6000m
Max Flight Time	Approx. 23minutes
Operating Temperature	0°C - 40°C
GPS mode	GPS/GLONASS

GIMBAL	
Controllable Range	Pitch: -90° to + 30°

DJI Phantom 3 Professional Technical Specifications cont'd

VISION POSITIONING	
Velocity Range	< 8m/s (2m above ground)
Altitude Range	30cm – 300cm
Operating Range	30cm – 300cm
Operating Environment	Brightly lit (lux > 15) pattern surfaces

CAMERA	
Sensor	Sony EXMOR 1/2.3" Effective pixels:12.4 M (total pixels: 12.76 M)
Lens	FOV 94° 20mm (35mm format equivalent) f/2.8
ISO Range	100-3200(video) 100-1600(photo)
Electronic Shutter Speed	8s -1/8000s
Image Max size	4000 x 3000
Still Photography Modes	Single shot Burst shooting: 3/5/7 frames Auto Exposure Bracketing (AEB): 3/5 Bracketed frames at 0.7EV Bias Time-lapse
Supported SD Card Types	Micro SD Max. capacity: 64 GB. Class 10 or UHS-1 rating required
Video Recording Modes	UHD : 4096x2160p 24/25, 3840x2160p24/25/30 FHD:1920x1080p 24/25/30/48/50/60 HD:1280x720p 24/25/30/48/50/60
Max. Bitrate Of Video Storage	60 Mbps
Supported File Formats	FAT32/exFAT Photo: JPEG, DNG Video: MP4/MOV (MPEG-4 AVC/H.264)
Operating Temperature Range	0°C to 40°C

DJI Phantom 3 Professional Technical Specifications cont'd

REMOTE CONTROLLER	
Operating Frequency	2.400 GHz-2.483 GHz
Transmitting Distance	2000 m (Outdoor And Unobstructed)
Video Output Port	USB
Operating Temperature Range	0°C- 40°C
Battery	6000 mAh LiPo 2S
Mobile Device Holder	Tablets and smartphones
Transmitter Power(EIRP)	FCC: 20 dbm; CE:16 dbm
Working Voltage	1.2 A @7.4 V

CHARGER	
Voltage	17.4 V
Rated Power	100 W

INTELLIGENT FLIGHT BATTERY (PH3-4480 MAH-15.2 V)	
Capacity	4480 mAh
Voltage	15.2 V
Battery Type	LiPo 4S
Energy	68 Wh
Net Weight	365 g
Operating Temperature	-10°C- 40°C
Max. Charging Power	100 W

The complete user manual for can be found: http://www.dji.com/product/phantom-3/download

DJI Phantom Inspire 1 Technical Specifications

AIRCRAFT	
Model	T600
Weight (Battery & Propellers Included)	2935g (approx.6lbs 8oz)
Hovering Accuracy (P Mode)	Vertical: 0.5 m Horizontal: 2.5 m
Max Angular Velocity	Pitch: 300°/s Yaw: 150°/s
Max Tilt Angle	35°
Max Ascent/Descent Speed	Ascent: 5m/s; Descent: 4m/s
Max Speed	22m/s (ATTI mode, no wind)
Max Flight Altitude	4500m
Max Wind Speed Resistance	10 m/s
Max Flight Time	Approx. 18minutes
Motor Model	DJI 3510
Propeller Model	DJI 1345
Indoor Hovering	Enabled by default
Operating Temperature	-10°C - 40°C
Diagonal Distance	559 to 581mm
Dimensions	438 x 451 x 301 mm

GIMBAL	
Model	ZENMUSE X3
Output Power (With Camera)	Static: 9 W; In Motion: 11 W
Operating Current	Station: 750 mA; Motion: 900 mA Detachable
Angular Vibration Range	±0.03°
Mounting	Detachable
Controllable Range	Pitch: -90° to + 30° Pan: ±320°
Mechanical Range	Pitch: -125° to +45° Pan: ±330°
Mac Controllable Speed	Pitch: 120° /s Pan: 180°/s

DJI Phantom Inspire 1 Technical Specifications cont'd

CAMERA	
Name	X3
Model	FC350
Total Pixels	12.76M
Effective Pixels	12.4M
Image Max Size	4000 x3000
ISO Range	100-3200(video) 100-1600(photo)
Electronic Shutter Speed	8s -1/8000s
Field of View (FOV)	94°
CMOS	Sony EXMOR 1/2.3"
Lens	20mm (35mm format equivalent) f/2.8 focus at ∞ 9 Elements in 9 groups Anti-distortion
Still Photography Modes	Single shot Burst shooting: 3/5/7 frames Auto Exposure Bracketing (AEB): 3/5 bracketed frames at 0.7EV Time-lapse
Video Recording Modes	UHD (4K): 4096x2160p 24/25, 3840x2160p24/25/30 FHD:1920x1080p 24/25/30/48/50/60 HD:1280x720p 24/25/30/48/50/60
Max. Bitrate Of Video Storage	60 Mbps
Supported File Formats	FAT32/exFAT Photo: JPEG, DNG Video: MP4/MOV (MPEG-4 AVC/H.264)
Supported SD Card Types	Micro SD Max. capacity: 64 GB. Class 10 or UHS-1 rating required
Operating Temperature Range	0°C to 40°C

DJI Phantom Inspire 1 Technical Specifications cont'd

REMOTE CONTROLLER	
Name	C1
Operating Frequency	922.7MHz~927.7 MHz (Japan Only) 5.725~5.825 GHz;2.400~2.483 GHz
Transmitting Distance	2km (Outdoor And Unobstructed)
EIRP	10dBM@900m, 13dBm@5.8G, 20dMb@2.4G
Video Output Port	USB, Mini-HDMI
Power Supply	Built-in battery
Charging	DJI Charger
Dual User Capacity	Host-and-Slave connection
Mobile Device Holder	Tablets or smartphones
Output Power	9W
Operating Temperature Range	-10°C- 40°C
Storage Temperature Range	Less than 3months: -20°C – 45°C More than 3months: 22°C – 28°C
Charging Temperature Range	0°C-40°C
Battery	6000 mAh LiPo 2S

CHARGER	
Model	A14-100P1A
Voltage	26.3 V
Rated Power	100 W

BATTERY (STANDARD)	
Name	Intelligent Flight Battery
Model	TB47
Capacity	4500 mAh
Voltage	22.2 V
Battery Type	LiPo 6S high voltage battery
Energy	99.9 Wh
Net Weight	570 g
Operating Temperature	-10°C- 40°C
Storage Temperature	Less than 3months: -20°C – 45°C More than 3months: 22°C – 28°C
Charging Temperature	0°C-40°C
Max. Charging Power	180 W

DJI Phantom Inspire 1 Technical Specifications cont'd

BATTERY (OPTIONAL)	
Name	Intelligent Flight Battery
Model	TB48
Capacity	5700 mAh
Voltage	22.8 V
Battery Type	LiPo 6S
Energy	129.96 Wh
Net Weight	670 g
Operating Temperature	-10°C- 40°C
Storage Temperature	Less than 3months: -20°C – 45°C More than 3months: 22°C – 28°C
Charging Temperature	0°C-40°C
Max. Charging Power	180 W

VISION POSITIONING	
Velocity Range	Below 8 m/s (2 m above ground)
Altitude Range	5-500 cm
Operating Environment	Brightly lit (lux > 15) patterned surfaces
Operating Range	0-250 cm

DJI PILOT APP	
Mobile Device System Requirements	iOS version 7.1 or later; Android version 4.1.2 or later
Supported Mobile Devices	* iPhone 6 Plus, iPhone 6, iPhone 5S, iPad Air 2, iPad Mini 3, iPad Air, iPad Mini 2, iPad 4;* Samsung Note 3, Samsung S5, Sony Z3 EXPERIA; * Note: It is recommended that you use a tablet for the best experience

The complete user manual for can be found: http://www.dji.com/product/inspire-1/download