

Petition for Exemption

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Section 333 Exemption Application

I am applying for an exemption to operate an Unmanned Aircraft System for the purpose of real estate photography. The following application outlines the specifications of the UAS, operating procedures and my qualifications. My request for exemption is identical in terms of the aircraft used and the mission to be flown, as the exemption granted to Douglas Trudeau, Docket ID FAA-2014-0481.

Aircraft	PHANTOM 2 VISION+ SUPPORTED BATTERY DJI 5200mAh LiPo Battery WEIGHT (BATTERY & PROPELLERS INCLUDED) 1242g HOVER 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 (Not Recommended) DIAGONAL MOTOR-MOTOR DISTANCE 350mm
Gimbal	WORKING CURRENT Static : 750mA; Dynamic : 900mA CONTROL ACCURACY ±0.03° CONTROLLABLE RANGE Pitch : -90°—0° MAXIMUM ANGULAR SPEED Pitch : 90°/s
Camera	OPERATING ENVIRONMENT TEMPERATURE 0°C-40°C SENSOR SIZE

	<p>1/2.3"</p> <p>EFFECTIVE PIXELS</p> <p>14 Megapixels</p> <p>RESOLUTION</p> <p>4384×3288</p> <p>HD RECORDING</p> <p>1080p30 & 720p</p> <p>RECORDING FOV</p> <p>110° / 85°</p>
Remote Control	<p>OPERATING FREQUENCY</p> <p>5.728 GHz—5.85 GHz</p> <p>COMMUNICATION DISTANCE (OPEN AREA)</p> <p>CE Compliance: 400m; FCC Compliance: 800m</p> <p>RECEIVER SENSITIVITY (1%PER)</p> <p>-93dBm</p> <p>TRANSMITTER POWER</p> <p>CE Compliance: 25mW; FCC Compliance: 100mW</p> <p>WORKING VOLTAGE</p> <p>120 mA@3.7V</p> <p>BUILT-IN LIPO BATTERY WORKING CURRENT/CAPACITY</p> <p>3.7V, 2000mAh</p>
Range Extender	<p>OPERATING FREQUENCY</p> <p>2412-2462MHz</p> <p>COMMUNICATION DISTANCE (OPEN AREA)</p> <p>500-700m</p> <p>TRANSMITTER POWER</p> <p>20dBm</p> <p>POWER CONSUMPTION</p> <p>2W</p>
DJI VISION App	<p>SYSTEM REQUIREMENT OF MOBILE DEVICE</p> <p>iOS version 6.1 or above/ Android system version 4.0 or above</p> <p>MOBILE DEVICE SUPPORT</p> <ul style="list-style-type: none"> • iOS recommended: iPhone 4s, iPhone 5, iPhone 5s, iPhone 6, iPhone 6 Plus, iPod touch 5 (available but not recommended: iPad 3, iPad 4, iPad mini) • Android recommended: Samsung Galaxy S3, S4, Note 2, Note 3 or phones of similar configuration

Preflight Checklist (from the User Manual)

Flight Environment Requirements

1. Do not use the aircraft in severe weather conditions. These include wind speed exceeding category 4, snow, rain and smog.
2. Fly in open fields as high buildings or steel structures may affect the accuracy of the onboard compass.
3. Keep the Phantom away from obstacles, crowds, high voltage power lines, trees or bodies of water when in flight.
4. Reduce the chance of electromagnetic interference by not flying in areas with high levels of electromagnetism, including base stations or radio transmission towers.
5. The Phantom cannot operate within the polar areas.
6. Do not fly the aircraft within no-fly zones specified by local laws and regulations.

Preflight Checklist

1. Remote Controller, smart battery, Range Extender and smartphone are fully charged.
2. Propellers are mounted correctly.
3. Gimbal clamp has been removed.
4. Damping absorbers are in good condition, not broken or worn.
5. Anti-drop kits have been mounted correctly.
6. Camera lens cap has been removed.
7. Micro-SD card has been inserted if necessary.
8. Gimbal is functioning as normal.
9. Motors can start and are functioning as normal.
10. DJI VISION App can connect to the camera.

Pilot in Command

I am a Commercial pilot with Multi-Engine, Instrument and Seaplane Ratings (sea plane has private pilot privileges only) and hold a 2nd Class Medical Certificate. In addition to my flying experience I have operated remote control hobby aircraft for many years.

Operation of the Unmanned Aircraft

The UAS is capable of taking off and landing at a single point. The maneuverability of the aircraft allows for operation within a confined area. The aircraft will be flown in a manner to obtain video of the subject property to illustrate the property features its and proximity to nearby features. I will obtain written consent from the home owner's to perform the flight, in addition to posting warning signs alerting anyone in the area to the activity.

The motors, rotors, propellers, body/frame, landing pads, etc. for the UAV utilized in this petition are not complicated. Engineering and design allows layman maintenance. Recording part replacement for this UAV may prove redundant due to the simplicity of the craft. Therefore Petitioner requests waiver or exemption for maintenance records. However, pre-flight inspection for cracks, damage or other physical conditions that could hamper safe flight is a reasonable expectation. As well as post flight inspection that may aid in identifying flight conditions that may cause stress to propellers, landing gear, etc. Thorough inspection of UAV shall be conducted and flight response tested should a hard landing or crash occur. Insuring that the UAV can operate in a safe manner before conducting any further video/photography.¹

I am requesting exemption of 91.119 – Prohibition of Flight in Congested Areas. I propose to use the Phantom 2+ to obtain video or photographs from an aerial perspective of property to illustrate various features of the property and surrounding features. I am also requesting exemption from 91.203 (a) due to the fact that the Phantom 2+ is a hobby grade UAV/UAS that should not require an airworthiness certificate or registration certificate.

¹ Supplemental Response for Petition (2) Douglas Trudeau, FAA-2014-0481-0010