

Form 405 Confirmation Number: **EL319160**

Form 405 File Number: **0223-EX-CR-2021**

FAA Coordination Number:

FREQ

M9000-M9200

SER#

NGT 110661

Coordination with FAA Eastern Regional Frequency Management Office

| <b>Radar Parameter</b>                                                                                                                                                                                                                                                                                             | <b>Value</b>                                                                                                                                                                                                                                                                                                                                    |
|--------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|-------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|
| (*) Peak Envelope Power (PEP)                                                                                                                                                                                                                                                                                      | 7943 W                                                                                                                                                                                                                                                                                                                                          |
| Type of Antenna                                                                                                                                                                                                                                                                                                    | Double-sided mechanically-steered Planar Array                                                                                                                                                                                                                                                                                                  |
| Transmit Antenna Gain                                                                                                                                                                                                                                                                                              | VV-polarized Antenna: 34.5 dB<br>HH-polarized Antenna: 35.1 dB                                                                                                                                                                                                                                                                                  |
| Elevation above Sea Level of the antenna site                                                                                                                                                                                                                                                                      | 76' above sea level                                                                                                                                                                                                                                                                                                                             |
| Height above ground of the focal point of the antenna                                                                                                                                                                                                                                                              | 49' above the ground                                                                                                                                                                                                                                                                                                                            |
| Antenna Polarization                                                                                                                                                                                                                                                                                               | HH-polarized & VV-polarized Antennas                                                                                                                                                                                                                                                                                                            |
| Azimuth that the antenna is pointed or appropriate designator to indicate whether the antenna is rotating, non-directional, etc.;                                                                                                                                                                                  | <ul style="list-style-type: none"><li>• Rotating Antenna</li><li>• Directional Antenna with ~2° azimuth beamwidth.</li></ul>                                                                                                                                                                                                                    |
| (*) Pulse repetition rate (prf) that the equipment is capable of operating on to include PRR stagger sequences if appropriate, whether the PRR is adjustable and what PRR's the equipment can accept, and any other information that would be helpful in understanding the pulse characteristics of the Equipment. | <ul style="list-style-type: none"><li>• PRF min-max values: 383 – 1600 Hz</li><li>• Supports PRF staggering.</li><li>• PRF is adjustable for certain modes.</li></ul>                                                                                                                                                                           |
| (*) Pulse Width                                                                                                                                                                                                                                                                                                    | <ul style="list-style-type: none"><li>• Pulse Width min-max values: 0.1 to 180 µsec.</li><li>• Rise Time: 0.1 µsec.</li><li>• Fall Time: 0.2 µsec.</li></ul>                                                                                                                                                                                    |
| Equipment Nomenclature                                                                                                                                                                                                                                                                                             | CP140 Integrated Radar Interrogator Subsystem (IRIS)                                                                                                                                                                                                                                                                                            |
| (*) Whether the equipment is capable of blanking transmissions in certain azimuths and any limitations with respect to blanking;                                                                                                                                                                                   | <ul style="list-style-type: none"><li>• Sector blanking (128 sectors available in 2.8125 degrees increments)<ul style="list-style-type: none"><li>○ Permanent blanking sector in the rear 120.9375 degrees (using 43 of the available sectors)</li><li>○ 85 blanking sectors each 2.8125 degrees, available to the operator</li></ul></li></ul> |

| <b>Radar Parameter</b>                                                                                                     | <b>Value</b>                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               |
|----------------------------------------------------------------------------------------------------------------------------|--------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|
| Radius of operations if appropriate;                                                                                       | <ul style="list-style-type: none"><li>• Radar Location<ul style="list-style-type: none"><li>○ Latitude: 40° 43' 54.9"</li><li>○ Longitude: 73° 25' 21.4"</li></ul></li><li>• Radius of operation: 340 km (Strictly based on radar operation; value does not consider factors such as height above sea level of antenna, elevation angle, etc.)</li></ul>                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   |
| Detailed description of the proposed operation to include any technical parameters that will be altered during operations. | The CP140 IRIS is a radar system that supports surveillance and imaging modes of operation. The surveillance radar modes is capable of detecting and tracking small, medium and large targets at low and high speeds, provides surface mapping for aircraft aid navigation, and detect rainfall intensity over short to long ranges. The imaging radar mode supports Stripmap SAR (image of a continuous swath of land), Spotlight SAR (image of a fixed geodetic land surface point) and ISAR (image of moving targets) imaging with variable imaging resolutions. In both operational modes, the radar employs Linear FM chirp waveforms with transmit bandwidths ranging from 11.25 MHz to 630 MHz (3 separate pulses of 210 MHz transmitted in sequence and stitched together at the receiver). The radar transmitter is capable of generating signals from 9050 MHz to 10050 MHz with 100 MHz step frequency resolution and supports the use of PRF staggering and Frequency agility. |

(\*) Information is required for operation on 9000-9200 MHz frequency band.

- Write "None" for a parameter if it is considered not applicable to the experiment.

If anything is unclear or appears to be an issue, please contact us and we will provide answers to questions.

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