FCC License Exhibit 1 – Experimental Description

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From: KRATOS
To: FCC
Date: March 30, 2020 1245 PM
Subject: FCC File No. 0077-EX-CM-2020

Message:

1. *Please select the frequency bands that you intend to use during testing and remove the ones you don't need.*

   Kratos Response:

   1575.42 MHz – GPS Re-Radiation Kit for use within the facility under a metallic roof. System functional test will require the navigation system and payload systems to acquire the GPS satellites. The facility blocks GPS signals due to a metallic roof structure. The re-radiation kit is necessary for the validation process.

   1030 MHz – This frequency will be used to interrogate the onboard IFF system of the aircraft. It will be used in a factory test configuration when validating the aircraft prior to delivery.

   1090 MHz – Integration, test and operational verification of the aircraft IFF systems is required prior to field operation.

   S-Band [~~2365~~, 2367, 2369, 2371, 2373, 2375, 2377, 2379 MHz] – These frequencies are used for the aircraft's command and control system. Specifically, these frequencies are used for the ground system to radiate commands to the aircraft.

   C-Band [4500, 4502, 4504, 4506, 4508, 4510, 4800, 4810 MHz] – These frequencies are used for the aircraft's command and control system. Specifically, these frequencies are used for the aircraft to radiate telemetry to the ground system.

   L-Band [1358.16, ~~1371.5,~~ 1384.83, 1443.16, 1496.5, 1509.833, 1763.1670, **1776.5**, 1815.16, 1828.5, 1841.833 MHz] – These frequencies are used for the aircraft's command and control system. The system uses these frequencies for both uplink commands and downlinked telemetry.

2. *In great details, please explain the purpose of your testing.*

   Kratos Response:

   Kratos designs and manufactures high speed UAV systems to support DOD customers. Our products are used across different applications including aerial target applications, tactical assets, and as test beds to validate new payload technologies and/or tactical concepts of operations. The RF systems onboard our aircraft include navigation subsystems, command and control subsystems, Identification Friend or Foe subsystems, telemetry subsystems, and various payload subsystems.

   During the development and production of these complex systems extensive testing must be conducted to ensure that the vehicles will operate as intended. The types of tests that we routinely conduct will validate that the system in electromagnetically compatible with itself, that it does not cause adverse interference to other supporting systems, and that the system meets all

functional requirements. To ensure proper functionality these tests do require the system to radiate prior to being delivered to a customer or shipped out to support a demonstration/deployment.

3. *What are the coordinates, the maximum height and radius of operation of the UAV?*

   Kratos Response:

   The coordinates for the location are NL 38-39-21, WL 121-23-31. The UAV will be located on the ground within the facility located at these coordinates.