

DESCRIPTION:

Low Level Direct Drive (LLDD) Lightning Test

This experimental license is required to conduct testing necessary to validate the lightning protection design on a Wisk Aircraft. The test data will be scaled and transformed to obtain estimates of the peak voltage and current transients that can be expected on the aircraft systems.

The purpose of this experimental operation is to allow for testing in support of the FAA required aircraft Lightning Testing and Certification.

The tests to be conducted are low level, swept continuous wave tests on production aircraft/components. This type of testing is conducted as a **closed loop, non-intentional radiator**. The aircraft and ground plane form a closed loop transmission line; however parasitic emissions may occur. The emission type is CW. At best, the test set up is a very inefficient antenna, particularly at the higher frequencies, above 10 MHz. Although we do not have any measured data on the actual emission level, **Boeing is currently licensed (WE2XIE) to conduct this same test in the Seattle area and has ran it on numerous past occasions with no interference issues noted. Wisk Aero, LLC is a subsidiary of The Boeing Company. Trained Boeing personnel, who have conducted this test on Boeing aircraft, will be overseeing and assisting Wisk Aero with this test.**

In addition, this is a swept frequency test, using a single sweep and a limited dwell time, which should allow the test to be conducted without any interference.

TEST LOCATION:

Wisk Aero Hanger 1, Hollister, CA - NL 36-53-20; WL 121-24-41

Wisk Aero Hanger 2, Hollister, CA - NL 36-53-15; WL 121-24-45

TEST PARAMETERS:

Equipment: Vector Network Analyzer with standard antennas.

Frequency Band: DC – 100MHz

Test Frequencies: 101 test points/decade

Sweep Time: 10 Seconds

Max Dwell Time per Frequency: 50 milliseconds

Max ERP to Closed Loop Configuration: 50 Watts (see note-1)

Signal Type: NON

Stop Buzzers: Steven Henning, (206) 544-8386 / Faisal Ahmad, faisal.ahmad@wisk.aero, (650) 449-6575

Note-1: 50 watts is the maximum input power into the closed loop configuration. It is anticipated that the actual parasitic (unintentional emission) will be well below 1 watt.