

April 12, 2022

Test Purpose and Description

The purpose of the testing is to certify that radio transmissions from the UHF comm. radio installed in the test aircraft will not interfere with the GPS navigation systems on board the aircraft. The testing is required for new and modified configurations of UHF radios and GPS avionics receivers.

All testing will be conducted by trained personnel while the aircraft is on the ground at our facilities located on the Beech Factory Airport (BEC) campus in Wichita, KS. There are many buildings on and surrounding our facilities, which serve to contain the transmitted UHF signals from radiating horizontally.

The test frequencies were chosen because their 4th or 5th harmonics occur on or very near to the GPS L1 frequency M1575.42, or GPS L2 frequency M1227.6. The procedure requires that the GPS avionics systems acquire satellites. The UHF radio is tuned to a test frequency and transmits for less than 20 seconds while the GPS system is monitored to verify that no satellites are dropped, or other indication of interference is observed. This procedure is repeated until all of the test frequencies required for certification have been tested.

We are requesting a 2-year license to minimize the number of subsequent authorizations we anticipate will be needed for the long term. In addition to this specific program and radio make and model, we also have a continuing need to perform this test for other makes and models of UHF comm radios for customers approved by the U.S. Government. The testing would be a few times per year at most. We understand that we are limited to the power, bandwidth and emissions that are authorized on the granted license or STA.

If a 2-year license cannot be approved, we request that a Special Temporary Authority be granted to get us through the current phase of testing. We can limit our testing to specified hours, and give prior notification to designated entities, before conducting any testing, if needed.

Very Respectfully,

Dan Hankins
Engineer Spc
Textron Aviation, Inc.