



Federal Communications Commission
Experimental Radio service

Subject : Request for Special Temporary Authorization (STA)
High Intensity radiated Field (HIRF) – Gardener, KS
Ref 0219-EX-ST-2009
Ref 0546-EX-ST-2008 (previously approved STA for similar project)

This request for a Special Temporary Authorization (STA) is submitted in accordance with CFR 47, part 5.61. The purpose of this STA is to perform Low Level Swept Coupling (LLSC) testing on a Part 23, 25, 27, or 29 aircraft for the purpose of aircraft threat development for a High Intensity Radiated Field (HIRF) environment. The threat development determines the required equipment bench test levels. This test is required to satisfy the HIRF certification directives found in Exhibit 2. Further details are provided below.

Name and Address of Applicant

Garmin International
1200 E.151st street
Olathe, KS 66062
Attn: David Kerr, Aviation Engineering

Need for special action: The tests to be conducted include the use of swept frequencies from 500 KHz to 18 GHz with the exception of prohibited frequency bands. Testing using widely spaced discrete frequencies would miss possible critical resonant frequencies. The proposed testing will include the following.

From approximately 500 KHz to 400 MHz, the aircraft under test will be illuminated with a known low level swept frequency electromagnetic field and the resulting induced cable bundle currents will be measured on the aircraft using current probes.

From 100 MHz to 18 GHz, the aircraft under test will be illuminated with a known low level swept frequency electromagnetic field and the resulting electromagnetic field strengths will be measured within the various compartments of the aircraft.

Time and Date: Testing is planned to occur between the dates of June 1 and December 1 of 2009.

Location: Proposed testing will occur at the Garmin Flight test facility at New Century Airport, Gardener, KS. This is a company owned facility at the coordinates N38 Deg, 53.307 Seconds, W094 Deg, 51.650 Seconds.

Field Generation and Measurement Test Equipment

Reference Exhibit 2 for equipment information

Frequency Bands and Power:

Reference Exhibit 2 for further supplemental information on test frequency, modulation, and Effective Radiated Power (ERP).

Should you require additional information please contact David Kerr at 913 440 5208 or Email david.kerr@garmin.com.

David Kerr
Garmin International
1200 E. 151st Street
Olathe, KS 66062