

16 October 2007

TO: FCC OET

Subject: Question 7: Purpose of Experiment

Dear Sir or Madam;

A. One of our production aircraft will have a different antenna configuration due to a dual High Frequency (HF) radio system installation, Rockwell Collins HF-9000 series radio. The new configuration requires range, EMI and EMC testing for FAA certification. We're validating that harmonics from HF radio transmissions will not interfere with the avionic navigation systems such as ILS Localizer, GlideSlope and Global Positioning System (GPS) on the aircraft. Our test is scheduled to start on 1 Nov 2007 to meet production schedule.

a. HF-9000 technical data:

Frequency Stability:	4 parts/1,000,000 short term, 5 parts/1,000,000 long term
Output power:	175watts PEP
Emission:	Upper Sideband Voice
Antenna:	Sloper Long wire, 0dBi

b. Radio keying will be twenty seconds or less for GPS and general avionics interference testing, which will be performed on the ground at our facilities. Testing for harmonic interference into remaining navigation systems must be performed while the aircraft is locked onto the airport signals while on approach, and transmissions will not exceed three seconds for this testing. EMI and EMC tests will be conducted within 20 km of 37-38-34.1 N Lat, 97-25-01.2 W Lon. These coordinates correspond to Cessna facilities adjacent to Wichita Mid Continent Airport (KICT).

B. FAA CERTIFICATION BASIS. This report shows the means of compliance with the following portions of the certification basis: Federal Aviation Regulations 14 CFR Part 25: 25.1301(c)(d), 25.1301(d), 25.1431(c)

C. As stated earlier, this test is required by Federal Rules and Regulations. The test will also validate the feasibility for this antenna configuration on this aircraft and future production aircraft requiring this radio system and antenna configuration.

Very Respectfully,

Chris Confer
Engineering Technologist
Cessna Aircraft Company