

23-Oct-07

### **Question 7: Purpose of Experiment**

- a) The AN/ARC-210 transceiver will be installed in an aircraft. EMI/EMC testing is required to ensure that transmissions from the unit will not interfere with the aircraft navigation systems or any other systems on board the aircraft. Additionally, we must verify proper operation of the transceiver after installation. We have coordinated with DoD for test frequencies in bands allocated to federal use. Coordination information is contained in Exhibit 2 and is attached to this application.

The required duration of transmissions is expected to be less than 30 seconds for each frequency and emission combination. Frequencies were chosen to be at the bottom, middle and top of the transmitter bands to test for interference to general aircraft systems. Testing for interference to the navigation systems required the selection of frequencies with harmonics that fall on specific navigation signals available at our facility.

- b) The tests are required by 14 CFR 25.1301(c)(d), 25.1353(a) and 25.1431(c) to certify with the FAA that transmissions from the UHF radio will not interfere with GPS NAV systems on board the aircraft.
- c) Certification tests are required for each new configuration involving a transmitter and avionic navigation systems on a given model of aircraft. Any deviation from a previously certified configuration requires recertification with the FAA and/or their counterparts in other countries. We cannot deliver the aircraft to the customer until it has met all required certifications.

Very Respectfully,

Danny Hankins  
Engineer-Sr-D  
Cessna Aircraft Company