AirSatOne

Connect Your Jet to the Internet

Datalink Testing, Flight Crew Training and VAQ Testing

AirSatOne FANS 1/A Testing, VAQ Testing & Flight Crew Training:

AirSatOne has teamed with Overlook Consulting Inc. to bring FANS 1/A testing and pilot training services to our suite of offerings. Together with Overlook Consulting, our team has extensive FANS 1/A experience with over 31 years of avionics development, test and certification experience, having completed the first FANS-over-Iridium certification, and more than 20 FANS certification programs. From the very first FANS 1 program on a 747-400 to the latest business jet retrofit FANS solution, our engineering expertise has made the path to certification simple for our clients. Our team was involved in developing the FANS standards, chaired the committee that developed RTCA DO-306, and actively participates in FANS and SATCOM standards development to this day to keep on top of the ever-changing technologies and regulations.

	Features / Benefits	Description
✓	Pre-install Analysis	Analyze aircraft architecture and components to reduce certification risk.
✓	AC20-140C Compliance Matrix	Prepare customized AC20-140C compliance matrix based on installation program.
✓	Certification Coordination	Coordinate with your DER & FAA on certification issues.
✓	Live Testing	Send and receive FANS 1/A messages over the actual FANS 1/A global network using Iridium, Inmarsat or VHF.
✓	FANS 1/A Interoperability Compliance	Provide live analyses to ensure correct wiring.
✓	On-site Operation & Support	Perform company test at the aircraft.
✓	Technical Debugging Support	Provide FANS expertize to debug the installation together with your maintenance staff.
✓	OJT Training	Technical training for your technicians.
✓	FANS 1/A Performance Compliance	Send sample messages and provide post-analysis and charting to ensure compliance with RCP240, RSP180.
✓	STC Report Artifacts	Prepare detailed test report with analysis describing the interoperability and performance requirements compliance to AC20-140C
✓	Present results to your FAA & DER	Travel with your team to the FAA, as needed, to present certification results to the FAA to ensure STC approval.
✓	Customized Configuration Instructions	Prepare customized configuration instructions for **continued airworthiness**.
✓	Pilot Training	Classroom and aircraft training, on the ground, using our CNS/ATM workstation. Provide Training Certificate.
✓	VAQ Testing	Certification of new avionics or modifications to allow equipment to be used on the network.

CAUTION
FANS 1/A TESTING
IN PROGRESS
DO NOT DISTURB

FANS 1/A Testing:

Our team provides FANS testing for aircraft equipped with Datalink communication. Our CNS/ATM work-station supports full FANS 1/A functionality testing in accordance with RTCA DO-258A/ED-100A and supports real time live testing over the ACARS global network. Live testing can be conducted over VHF or over Iridium and/or Inmarsat's Satcom network. Our test reports meet the requirements of RTCA DO-258A/ED-100A, RTCA DO-306/ED-122 and FAA Advisory Circular AC 20-140C.

Initial STC Testing

- On-site support and testing.
- Provide Datalink Test Plans.
- Provide Regulatory Compliance Matrices.
- Troubleshooting support.
- Live testing over Satcom or VHF* through the ACARS network.
- Send and receive CPDLC messages to/from the aircraft & analyze ADS-C messages.
- Complete RCP/RSP report.
- Demonstrate compliance with AC 20-140C to support FANS 1/A Operational Approval.

Commissioning Testing

- Follow on installation testing.
- Remote testing capability.
- Live testing over Satcom or VHF* through the ACARS network.
- Send and receive CPDLC messages to/from the aircraft & analyze ADS-C messages.
- Complete RCP/RSP report.
- Demonstrate compliance with AC 20-140C to support FANS 1/A Operational Approval.

Troubleshooting Testing

- Equipment failures.
- After replacing components.
- Scalable depending on severity of problem.
- Analyze past flights.
- Conduct new tests to isolate malfunction.
- Monthly, quarterly and yearly plans are available for MRO's and Fleet operators.

Preflight Maintenance Checks

- Verify AFN Login before departure.
- Check basic ADS-C and CPDLC functionality.

* For testing over the VHF network the aircraft must be within VHF coverage area.

Pilot Training for FANS 1/A:

Our Flight Crew FANS 1/A training program includes both class room instruction and training on the aircraft. Our CNS/ATM workstation using the live ACARS global network allows an as close to real experience as possible by using the actual FANS 1/A systems in the customer's aircraft while safely on the ground. Training is provided on-site at the customer's aircraft and facilities or ours. After successful completion of training we will issue a training certificate for use with the FAA.

- Class Room Instruction
- Hands on Instruction
- Uses the actual aircraft and live ATC network.

- ADS-C and CPDLC training.
- Uses our CNS/ATM Workstation.
- At your facilities our ours.

VAQ Testing for Avionics OEM's and Airframe OEM's:

AirSatOne provides testing and certification to ensure that Datalink avionics equipment are compliant with the standards established by the AEEC (Airlines Electronic Engineering Committee) and to ensure their compatibility with the global datalink system. All new ACARS / Datalink related avionics including, but not limited to MU, CMU, DMU, FMS and Transceivers must have certification to be used on the network. Previously qualified avionics configurations that undergo hardware or software modifications that result in a part number change and any modifications to the loadable avionics application files or "databases" must complete a new VAQ certification.

- Phase 1; Avionics OEM performs factory test of the avionics with our AIRCOM ground station network emulator.
- Phase 2; Avionics OEM performs lab test with our on-line AIRCOM ground stations through the VHF, VDL and Satcom network.

- Phase 3; Supplier performs lab test at its own facilities.
- Phase 4: ; Testing during a scheduled flight.