

Noise Certification

360° Solutions for Aircraft Noise Certification

ANOTEC has extensive experience in noise certification for a wide range of aircraft. Our services cover all Chapters of **ICAO Annex 16 Volume I** and all Appendices of **FAR Part 36**. No matter if you need to certify a helicopter, a propeller or a jet aircraft, small or large, we can support you. We provide aircraft noise certification services as part of your Type Certificate (**TC**) and Supplemental Type Certificates (**STC**) efforts, for new designs and for any modification. ANOTEC staff members have acted as CVE for noise in a variety of aircraft noise certification projects.

Our fully equipped mobile laboratory is at your service for noise flight tests anywhere in the world. Our test equipment and data analysis software has been approved by Civil Aviation Authorities worldwide. Whenever possible, we will pursue your Noise Certificate by analysis, rather than by flight tests. From a small non-acoustical change up to the family plan concept, we can support you with our tools.

We offer our 360° aircraft noise certification solution, which covers all stages of the aircraft noise certification process, from initiating the Flight Test Plan up to the approval of the Final report, as part of the (Supplemental) Type Certificate. During the whole process we support you with all your interactions with the certifying authority.

Mobile Laboratory

Our mobile laboratory consists of high-end measurement systems. Our multiple noise stations have been designed for fast field deployment and can be used in microphone grids covering hundreds of meters, without cables. Weather conditions are measured with our quick-mounting 10 meter meteo mast. All ground-based systems are remotely controlled from our Central Ground Station, where we record all data in real time. This allows us to perform a quick-look analysis on the results immediately after each test run.

For noise flight tests it is also required to measure several parameters on-board the aircraft. Our differential GPS system measures aircraft position with decimeter precision. This drives our purpose-built pilot guidance system, with which the requested flightpath can easily be controlled. This significantly enhances data quality and minimizes flight test time and cost. Additional systems are at your disposal to measure other parameters as per specific flight test requirements. For highly specialized flight tests we can provide surface microphones, capable of measuring noise on the fuselage of your aircraft and also a boom-mounted microphone for measurements in undisturbed flow. Simultaneously we can measure the noise inside the aircraft.

Our equipment has been approved by main Authorities for the use in noise certification flight tests. From single microphone measurements up to flight tests with more than 30 noise stations.

Family Plan Concept

If it is envisaged that several versions of an aircraft/engine combination will be developed, the effort to obtain the noise certificate of the derivative models may significantly be reduced by following the **Family Plan Concept**. This concept is based on a combination of flight tests, static tests and noise predictions. We have developed a suite of tools, that are available to support you in all the stages of the noise certification of an aircraft family.

Certification by Analysis

When a noise certificate is needed for a modification of an existing aircraft, we will first consider the possibility to perform this certification by analysis. We have all the tools available to verify if the modification can be considered a non-acoustical change. We can then prepare all required documentation for compliance demonstration. In this case the certification effort will significantly be reduced.

