



Test GNSS functionality of equipment inside hangars saving time and costs

Introduction

All avionics fitted in aircraft have to be tested on a regular basis. Where GNSS is fitted, even if only as a back-up, it too has to be calibrated in order to ensure full functionality. When a plane is serviced or housed in a hangar, it does not have a clear view of the sky and as GPS signals are inherently low strength, GPS repeating systems allow the GPS signal to be received inside the hangar.

Benefits and Savings

- Flight navigation systems can be tested in a secure environment
- Saving on utilities—heating and cooling costs are minimized as hangar door can remain shut
- Less manpower—personnel are not required to move the aircraft in and out of the hangar for GPS avionics testing avoiding the need for a tow supervisor, brake person, two vehicle operator, a nose walker, wing walkers or a tail walker just to test the GPS avionics system



- Less fuel—no need to start up the aircraft as it remains in the hangar during testing
- Save time—equipment can be maintained at any time, no need to wait for an outside opportunity
- An aircraft which has to be airborne in minutes has a lock on the GPS satellites before it leaves the hangar



The GPS signal can be repeated using variable gain controlled amplifiers to anywhere in the hangar/building so that even quite large indoor spaces or shadowed areas can receive the signal. For large areas or multiple room scenarios, a combination of GPS splitters can be used to provide total coverage using a single external GPS antenna. An additional consideration must be made for Selective Availability/Anti-Spoofing Module (SAASM) capable GPS receivers. If the retransmitted signal is too strong insides the hangar, this could trigger the Anti-Spoofing capability. Conversely, the signal may be so low as to preclude signal acquisition and GPS lock by the receiver while still inside the hangar.

Chronos Technology provides a full GNSS repeating installation service from establishing the location of internal antennas, designing the layout and implementation of the solution through to comprehensive after sales support. The highly skilled Chronos installation team is fully competent with GPS equipment and solutions and has installed both military and civil repeating solutions in buildings, hangars and aircraft throughout the world over the last 15 years. Customers in the UK should be aware that a licence will be required to operate GPS repeating equipment. This is managed by Ofcom and further information can be found [here](#)»

[Product Information>>](#)

APPLICATION NOTE