Major GPS III flight software milestone completed

February 7 2013

The Lockheed Martin team developing the U.S. Air Force's next generation Global Position System III satellites has completed a key flight software milestone validating the software's ability to provide reliable and effective command and control for the GPS III satellites planned for launch into orbit.

The GPS III program will affordably replace aging GPS satellites, while improving capability to meet the evolving demands of military, commercial and civilian users. GPS III satellites will deliver better

accuracy and improved anti-jamming power while enhancing the spacecraft's design life and adding a new civil signal designed to be interoperable with international global navigation satellite systems.

The milestone, known as Software Item Qualification Testing (SIQT), was completed for the satellite's spacecraft bus flight software, which is critical to controlling the spacecraft on orbit and monitoring the health and safety of the satellite's subsystems. SIQT included 131 individual test events and represented the culmination of a rigorous software engineering risk reduction and development phase. The software will next be integrated and tested on the first GPS III satellite, which is on schedule for launch availability in 2014.

"Completion of this flight software milestone demonstrates our continued positive program momentum and is another step forward in reducing risk up front to facilitate long term affordability," said Lt. Col. William 'Todd' Caldwell, the U.S. Air Force's GPS III program manager. "In this challenging budget environment, the entire government and industry team is focused on delivering the critical GPS III satellites affordably and efficiently for users worldwide."

To further reduce risk, the flight software has already been integrated and tested on the program's satellite prototype, known as the GPS III Non-Flight Satellite Testbed (GNST).

"Delivering fully qualified flight software this early in program development demonstrates the rigor of our GPS III software development processes," said Keoki Jackson, vice president of Lockheed Martin's Navigation Systems mission area. "Through up-front investments in high-fidelity, flight equivalent hardware and software testbeds, our team successfully executed on schedule to develop and qualify the flight software critical to the success of the GPS III program."

Lockheed Martin is on contract to deliver the first four GPS III satellites for [launch](link). The Air Force plans to purchase up to 32 GPS III satellites.

Provided by Lockheed Martin

Citation: Major GPS III flight software milestone completed (2013, February 7) retrieved 22 June 2024 from https://phys.org/news/2013-02-major-gps-iii-flight-software.html