Boeing Demonstrates FAB-T Multi-terminal Link Capability to U.S. Air Force

The Boeing Company [NYSE: BA] has successfully demonstrated secure interoperable communications between two Family of Advanced Beyond line-of-sight Terminals (FAB-T) software-defined radios, validating a capability that eventually will link ground, air and space platforms.

The demonstration, held in October at Boeing's FAB-T Systems Integration Laboratory in Anaheim, Calif., completes the initial Engineering Development Model (EDM) hardware and software integration of a Block 6 Phase 1 terminal for the U.S. Air Force.

"Completion of the Block 6 hardware is a significant step for our team as we remain on target to meet the needs of the warfighter with this technology," said Jim Dodd, Boeing FAB-T program director. "FAB-T is programmable and reconfigurable in the field, allowing warfighters to customize high data rate communications to meet changing mission requirements."

The multi-terminal link capability demonstration used a simulated Advanced Extremely High Frequency (AEHF)/Military Strategic and Tactical Relay (Milstar) satellite to communicate over live radio frequency links. Demonstrating product maturity, the FAB-T team also integrated terminal software with the first EDM Modem Processor Group. Engineers then transferred the capability to the L-3 Communications FAB-T Terminal Integration Laboratory, where antenna layer integration with additional systems is being completed.

In July, Boeing successfully demonstrated for the first time that its FAB-T system can acquire an operational satellite and complete downlink data transmissions. During the Low Data Rate test, a FAB-T radio communicated with an operational Milstar satellite and completed a series of downlink tests, meeting program schedule commitments and laying the foundation for uplink tests and other interoperability assessments. The Boeing team continues to evaluate the system, with several uplink, logon and management tests completed, and expects the first phase of over-the-air testing to conclude by the end of the year.

FAB-T is intended to provide military forces with a secure multi-mission capable family of software-defined radios that use a common open system architecture to link to different satellites and enable information exchange between ground, air and space platforms. The FAB-T family includes software-defined radios, antennas and associated user interface hardware that will provide the government with a powerful system capable of hosting a multitude of waveforms that accommodate data rates in excess of 300 Megabits per second. FAB-T represents a key building block in Boeing's vision of the integrated battlespace of the future, where networked information and communications systems provide a competitive edge to decision-makers and military personnel.

The Increment 1 development phase will create a FAB-T system that fulfills operational terminal requirements for the Milstar and AEHF satellite systems. Using the first increment as a baseline, Increment 2 will develop terminals to support Wideband Global SATCOM satellite operations on surveillance aircraft like Global Hawk with other platforms to follow.

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