

SPACE TEST PROGRAM'S STANDARD INTERFACE VEHICLE



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Ball Aerospace provides rapid and affordable access to space. Our flexible, standardized spacecraft accommodate multiple payloads/instruments — practically whatever your payload team can imagine. In partnership with the U.S. Air Force Space Test Program, Ball developed an ESPA-class standard interface vehicle to support acceleration of the DoD's space technology needs for our nation's future space superiority. This design is commercialized as the BCP-100 spacecraft platform.

OVERVIEW

Under the STP-SIV program we built STPSat-2 and STPSat-3 for the Space Test Program for the U.S. Air Force's Space Development & Test Directorate at Kirtland Air Force Base, New Mexico.

Selected payloads were designed to be compatible with the flexible, yet small, standardized spacecraft bus, resulting in lower spacecraft non-recurring costs, shorter acquisition timelines, decreased spacecraft build costs and increased spaceflight opportunities.

OUR ROLE

As the prime contractor for both vehicles, Ball was responsible for the overall system, including the spacecraft and standard payload interface design and build, payload integration, environmental testing, and launch and mission support.

Proven History

The first standard interface vehicle, STPSat-2, carried three payloads and launched on November 19, 2010 aboard a Minotaur IV rocket as part of the STP-S26 launch. STPSat-2 successfully met its initial experimental mission requirements and continues on an extended mission, far surpassing its initial 13-month design requirement.

With a full initial payload manifest, Ball built the STPSat-3 bus in only 47 days, completing the spacecraft in January 2011. In May 2012, the Air Force revised its payload manifest, and within 11 months, the Ball team had integrated and tested the new payloads and prepared STPSat-3 for delivery – highlighting the flexibility of the standard payload interface philosophy.

STPSat-3 carried six payloads and launched on November 19, 2013 aboard a Minotaur I as part of the ORS-3 launch. STPSat-3 also successfully met its mission requirements and continues on an extended mission.



QUICK FACTS

- The STP-SIV program was responsible for the creation of the BCP-100 spacecraft platform, an ESPA-class small satellite with standard payload interfaces
- The BCP 100 spacecraft bus measures approximately 24" W x 28" D x 38" H (including payload volume), weighs less than 110 kg, and can support a combined payload weight of 70 kg
- The BCP 100 spacecraft nominally supports four independent payloads; STPSat-3 is supporting six
- The BCP 100 spacecraft bus is designed for low Earth orbit missions between 400 and 850 km without design changes
- Built in only 47 days, the STPSat-3 bus demonstrated its ability to fully replace its payload manifest with almost no changes to the as-built spacecraft bus
- As part of the STP-S26 launch, STPSat-2 launched November 2010
- As part of the Operationally Responsive Space-3 mission, STPSat-3 launched November 2013

