



Overview

We design the electronics, write the flight firmware/software, develop the algorithms, build the ground processing, and take the hardware into the beam to prove it survives. Senior engineers stay on your program from the first schematic to the final report.

Differentiators

Senior engineers on every job. A principal engineer owns your program from proposal through delivery.

Proposal to delivery. We have led programs as principal investigators from the first concept through delivered hardware.

Revector in a meeting, not a contract mod. Requirements move. We move with them without a change-order fight.

We deliver the documentation with the hardware. Schematics, firmware sources, test data, and the report, in a state someone else can pick up.

Team

Co-founders Hunter Earnest and Willie Marchetto are former principal investigators at Sandia National Laboratories, where they carried ground- and space-based R&D programs from proposal to delivered hardware.

Company information

Small business. ITAR registered. Cleared facility.

UEI **EV5ZM5358G35** · CAGE **9AXK8** · ITAR **M46974**

NAICS 541715 Research and Development in the Physical, Engineering, and Life Sciences. **541330** Engineering Services. **927110** Space Research and Technology. **541511**, **541512**, **541519**, **541690**, **541990**.

PSC AC33 National Defense R&D Services, Experimental Development. **AR13** Space R&D Services, Experimental Development. **AS23** Aerospace Research, Experimental Development.

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Engineering services for satellites and strategic systems, from **development build zero** to flight.

Core competencies

Electronics design. Payload and instrument electronics, high-speed digital, radiation-tolerant part selection and mitigation.

Flight firmware and software. Flight software, command and data handling, FPGA firmware for sensor interfaces and high-rate data paths.

Algorithm development. Signal processing, detection and classification, and sensor fusion.

Ground processing software. Pipelines, data products, and analysis tooling that turn downlinked bits into answers.

Radiation effects testing. We have run 40+ campaigns across every environment that matters for space and strategic systems: proton, heavy ion, neutron, flash x-ray, and total ionizing dose.

Radiation effects testing

We specialize in complex parts: SoCs, FPGAs, high-density memories, and custom ASICs, where the test harness is most of the work.

Next-gen technology nodes · Commercial SoCs & FPGAs · Custom ASICs · Serial & parallel SRAM/MRAM/FRAM · Ethernet PHY & switch ICs · DDR4/LPDDR4 & DDR5/LPDDR5

Typical time from hardware in hand to test-ready, across 2026 campaigns:

Modified vendor eval board		3 days
Eval board plus custom support hardware		2 weeks
Part swap onto a host development kit		3 weeks
Fully custom hardware and software		4 weeks

Past performance

4 months, concept to flight **Sounding rocket payload delivered in four months.** Custom electronics processing real-time inertial and position data in flight.

LEO now on orbit **Experimental module in low Earth orbit.** Schematic, layout, fabrication, assembly, and electrical checkout.

64-bit ECC block RAM **Next-generation FPGA SoC characterization.** Single-event characterization across GPIO, PLLs, DSPs, configuration memory, and ECC block RAM.

3 days to test-ready **Ethernet ICs test-ready in three days.** We modified off-the-shelf eval boards for power injection and current monitoring.

Trusted by programs at

DOE national laboratories · Defense primes · Major component vendors · Mil/Aero ASIC designers