



FUZE TECHNOLOGY AND PROTOTYPE ADVANCEMENT CENTER

LABORATORY INFORMATION FACT SHEET

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The Fuze Technology and Prototype Advancement Center (FTPAC) uses production representative manufacturing equipment and processes to advance new fuzing technologies from idea to hardware.

TECHNOLOGY/FACILITY DESCRIPTION:

The FTPAC includes technologies to advance electronics, metal parts, and electro-mechanical assemblies from novel ideas to production ready hardware. The mechanical fabrication shop include Computerized Numerical Control (CNC) equipment; a dual

spindle lathe, multiple mills, wire electrical discharge machine (EDM), and a water jet. The shop also includes manual machining capability utilizing traditional lathes, knee-mills, and band saws. The electronics laboratory includes equipment to assemble surface mount technology (SMT) electronics employing a solder paste jet printer, solder paste inspector, a pick and place machine, and an eight zone reflow oven. Thru-hole electronics are assembled using a combination of the selective solder machine and manual soldering stations. Electronics are inspected using an automated optical inspection (AOI), x-ray, or with microscopes. Both electronics and metal parts are integrated by taking advantage of a large flexible space that offers organized, dedicated workspace for complex electro-mechanical assemblies.

EQUIPMENT AND EXPERTISE AVAILABLE:

Electronics Assembly Lab:

Surface Mount Assembly

- Solder Paste Jet Printer
- Solder Paste Inspection
- Pick and Place (7 Spindle Head)
- Reflow Oven (8 Zone)
- Circuit Board Washer

Thru-hole Assembly

- Selective Solder
- IPC J-Std-001 Certified Technicians

Inspection

- X-ray
- Automated Optical Inspection
- IPC-610 Certified Inspectors
- Functional Electrical Testing

Mechanical Fabrication Shop:

CNC Machines

- Lathe (Dual Spindle Live-Tooling)
- Mills (3 Axis +2)

- Wire EDM

- Waterjet

Manual Machines

- Lathe
- Knee-Mill
- Bandsaws

Electro-Mechanical Integration:

Flexible Workspace

- Modular and Mobile Bench Space
- First Article Fit Checks

Encapsulation Equipment

- Potting
- Staking
- Conformal Coating

Expertise:

Prototype Manufacturing

- Design Maturity Characterization
- Documentation Prove Out
- Prototype Hardware



- Concept Reviews
- Manufacturing Readiness Reviews
- Post Build Reports
- Production Support
- Design Troubleshooting
- Failure Investigation and Analysis

Accommodations for Co-location

- Real Time Manufacturing Advice
- Witness Hardware Manufacturing
- Immersive Manufacturing Experience
- Manufacturing Mentoring