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Expanded Very Large Array

Prototype Board Testing: current status, S/W requirements, testing scenarios

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Outline

- Current status.
- Briefly touch on software.
- Testing scenarios.

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Current Status

- Baseline Board just arrived(ing).
- Station Board early November.
- New Fanout Board ~mid November.
- New Common Backplane ~mid December/January
  - not required for 1st testing…required for prototype corrs and production.

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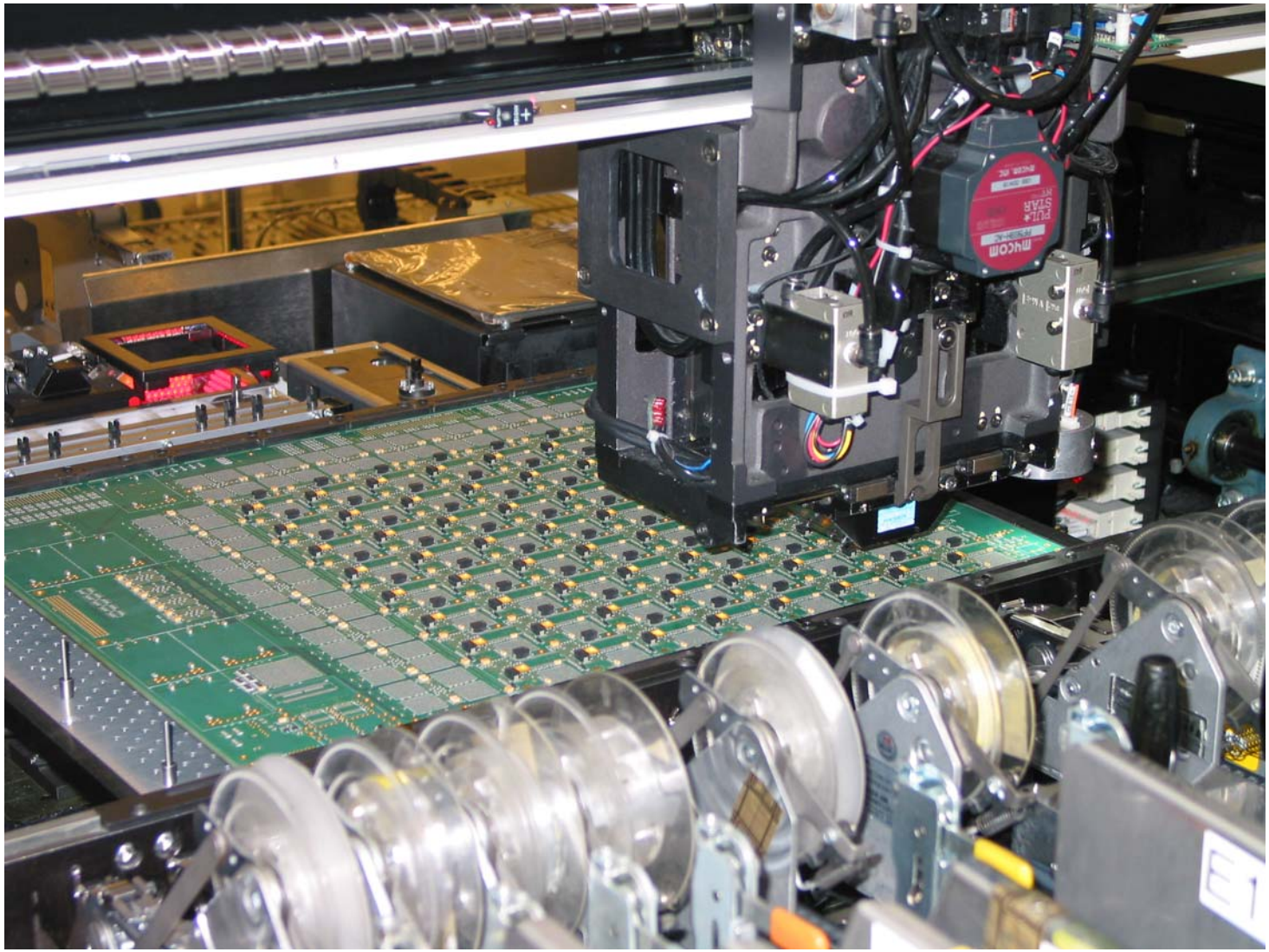

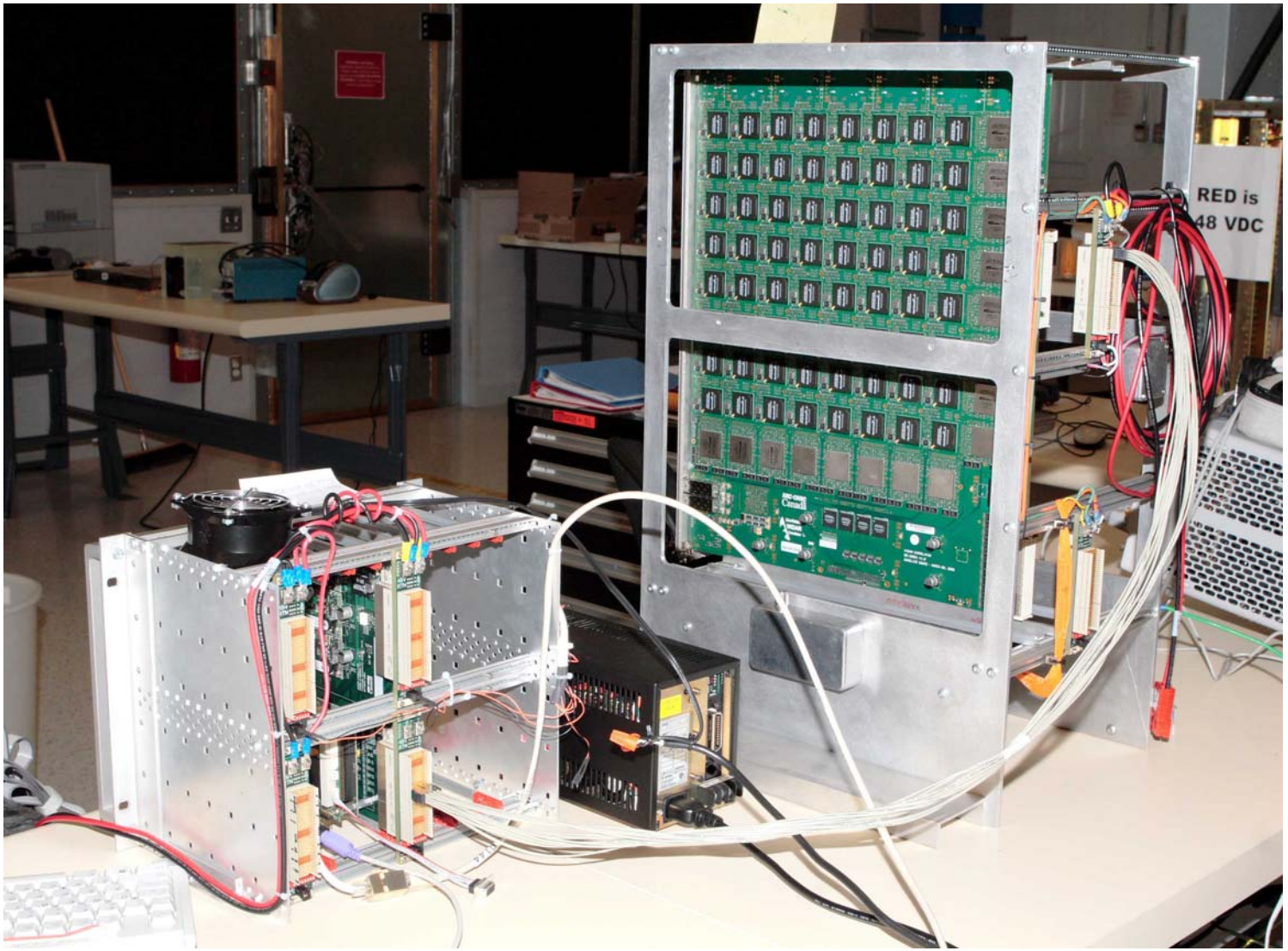
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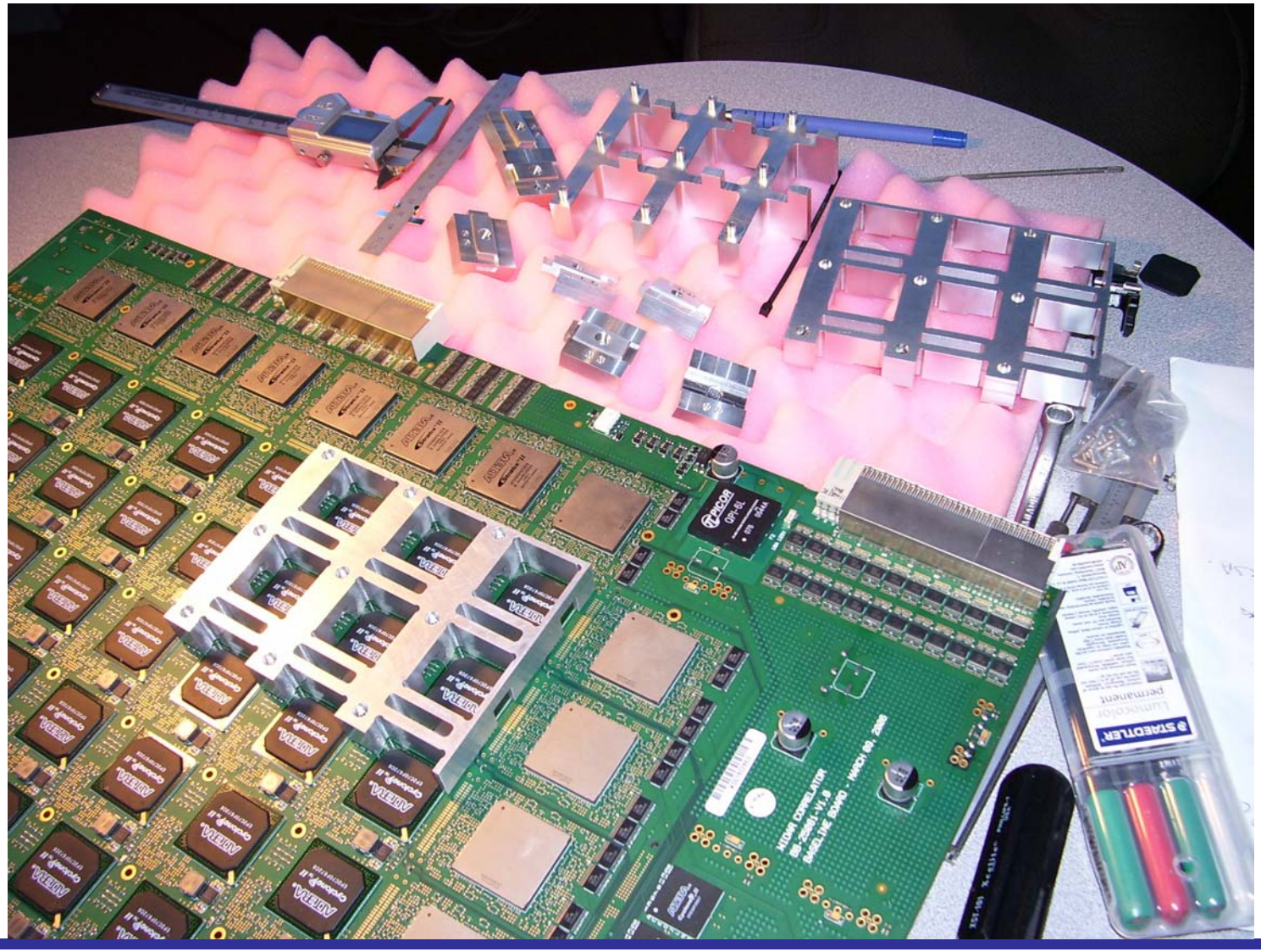
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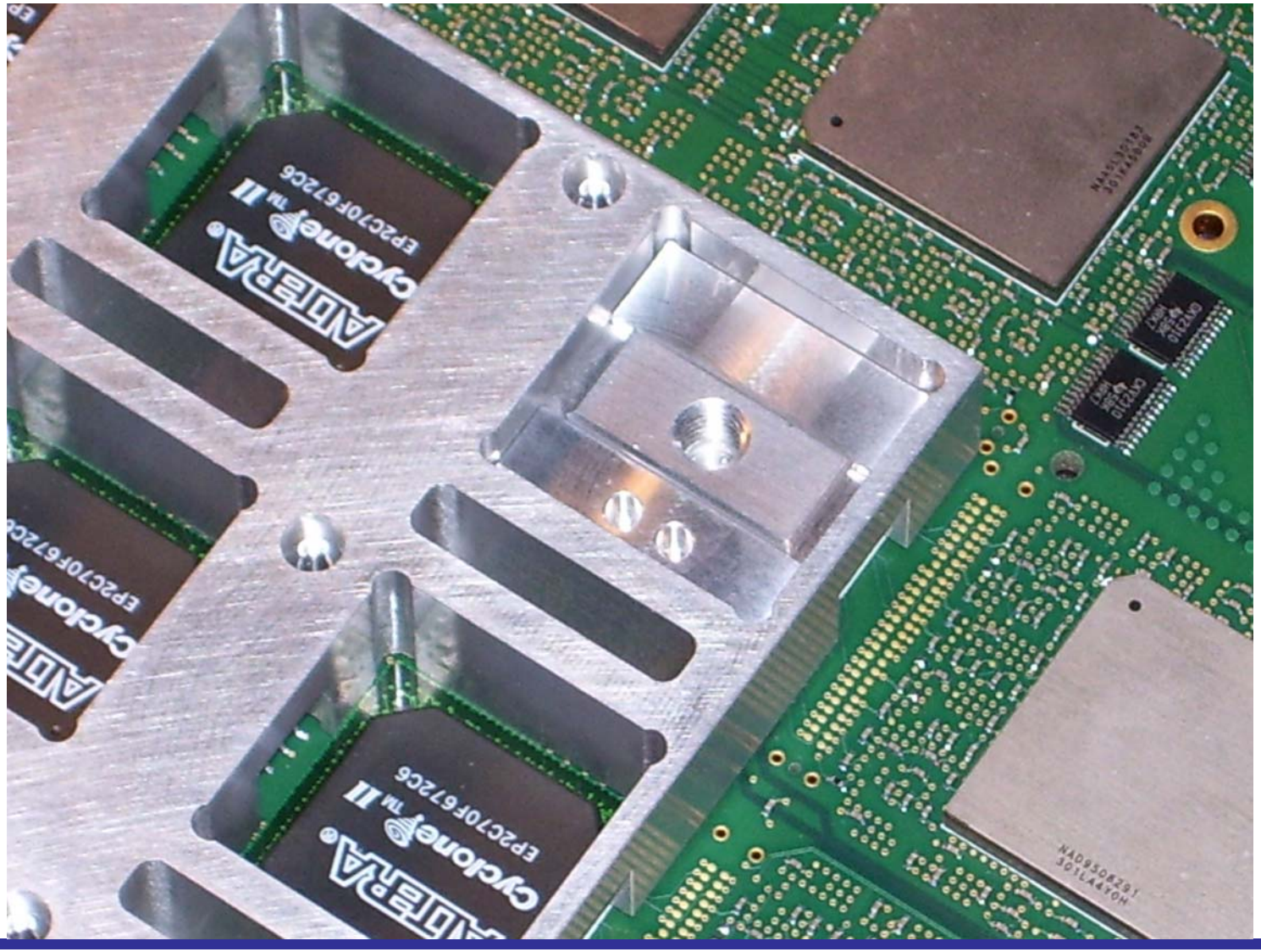
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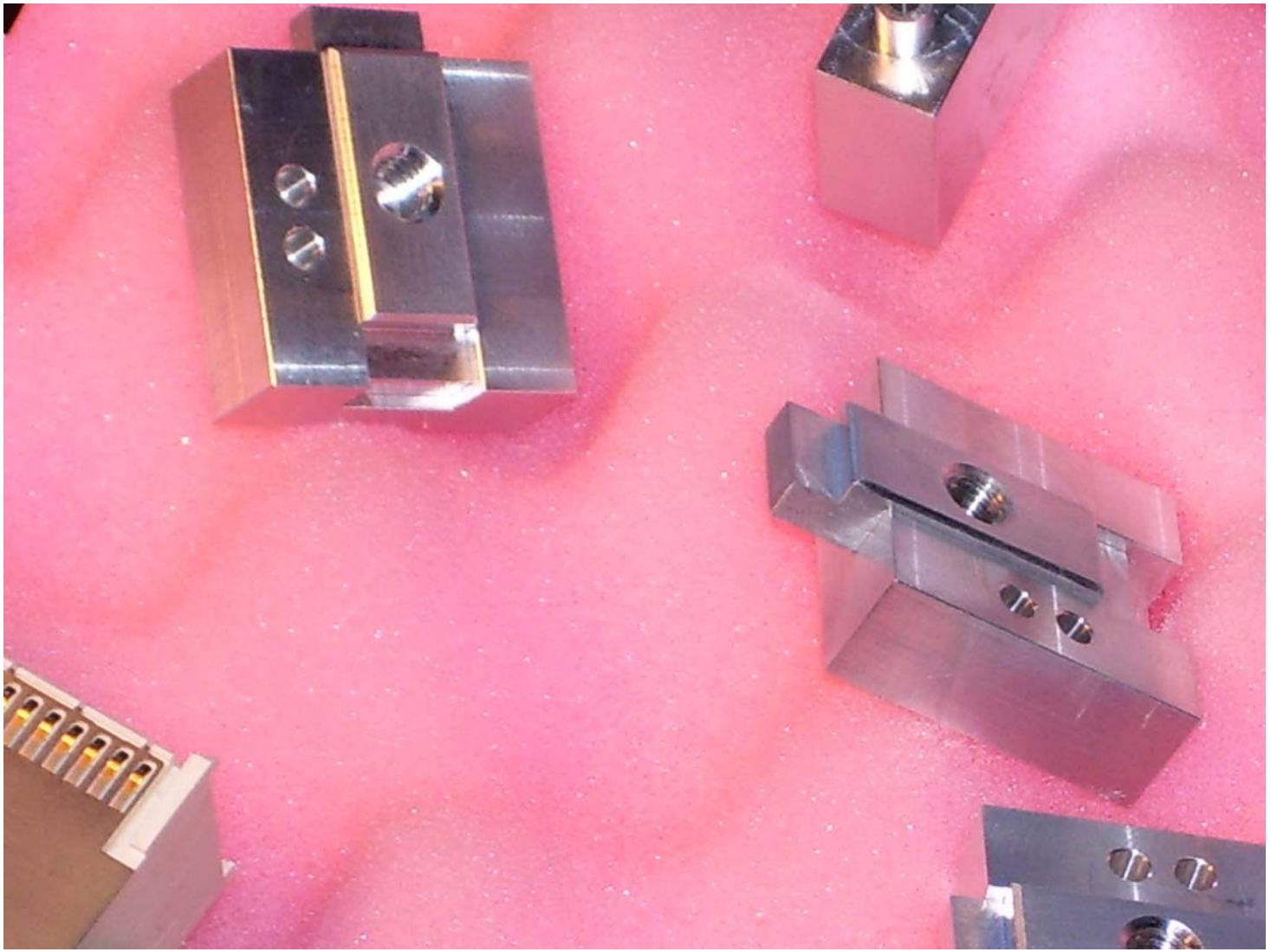

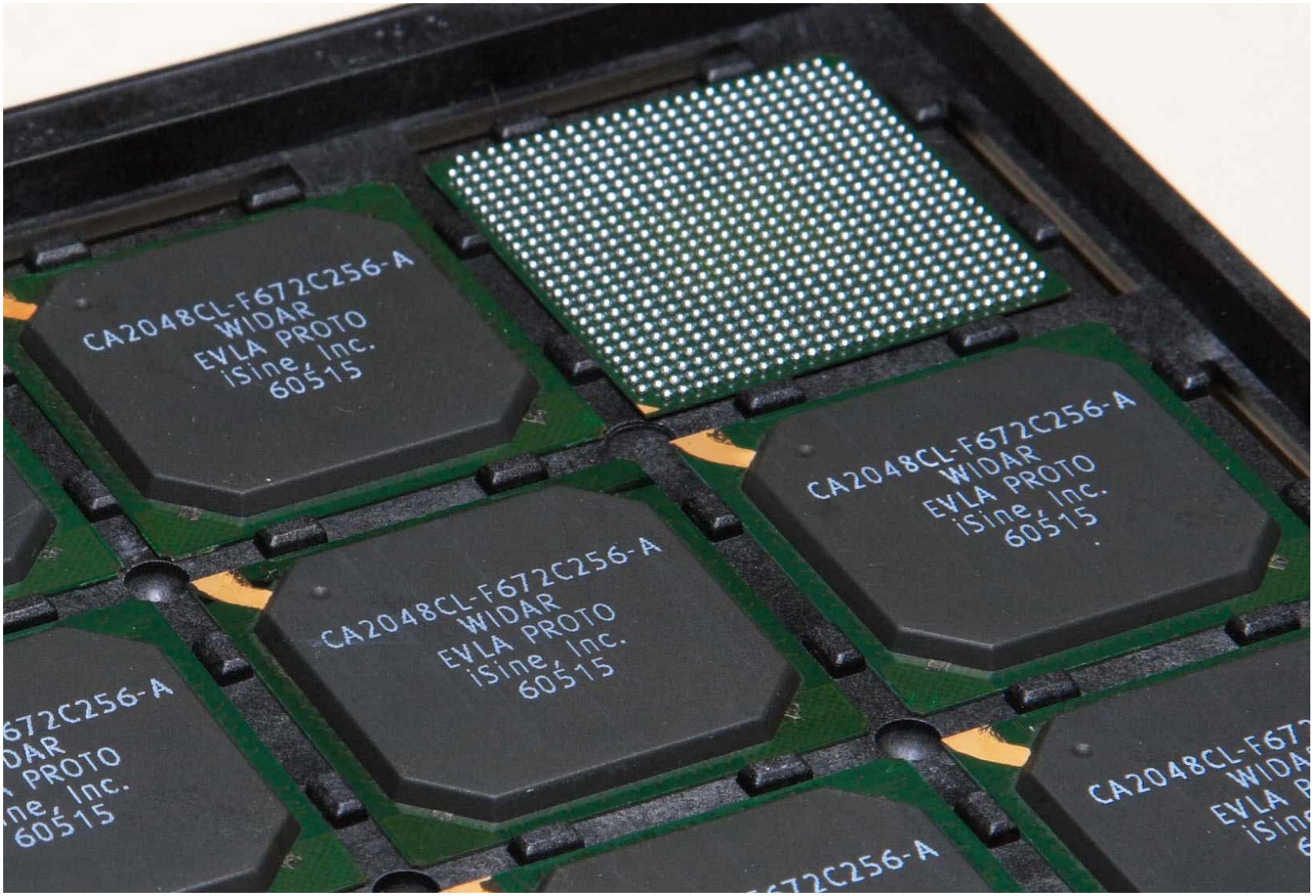
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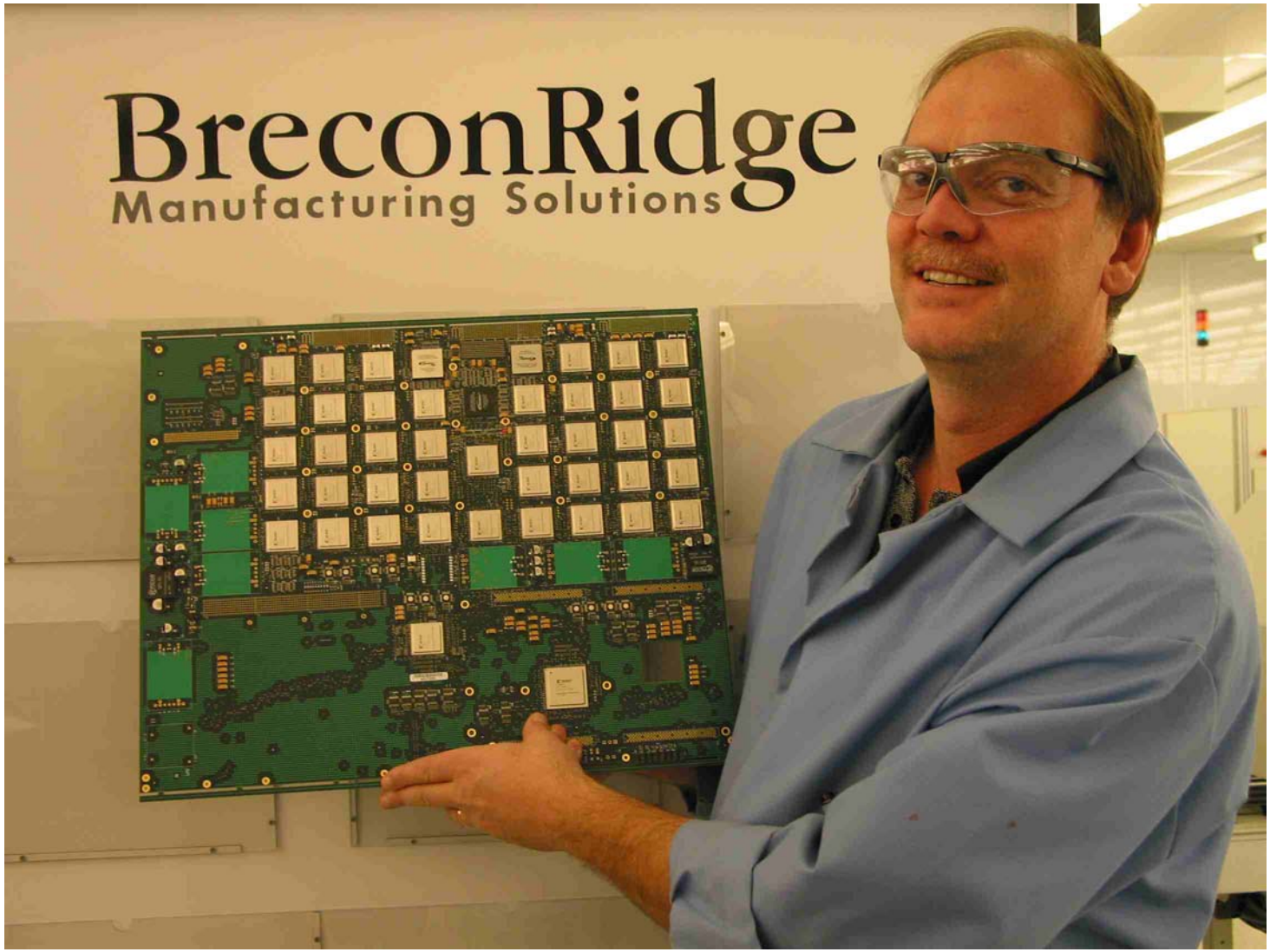
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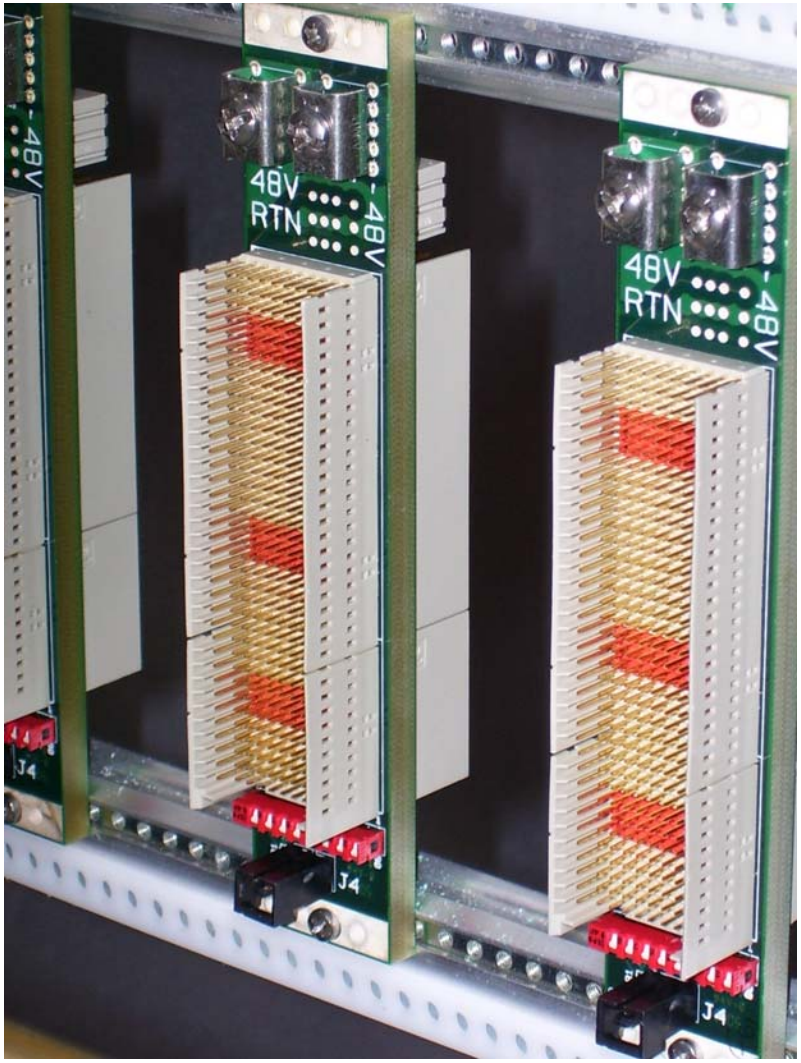
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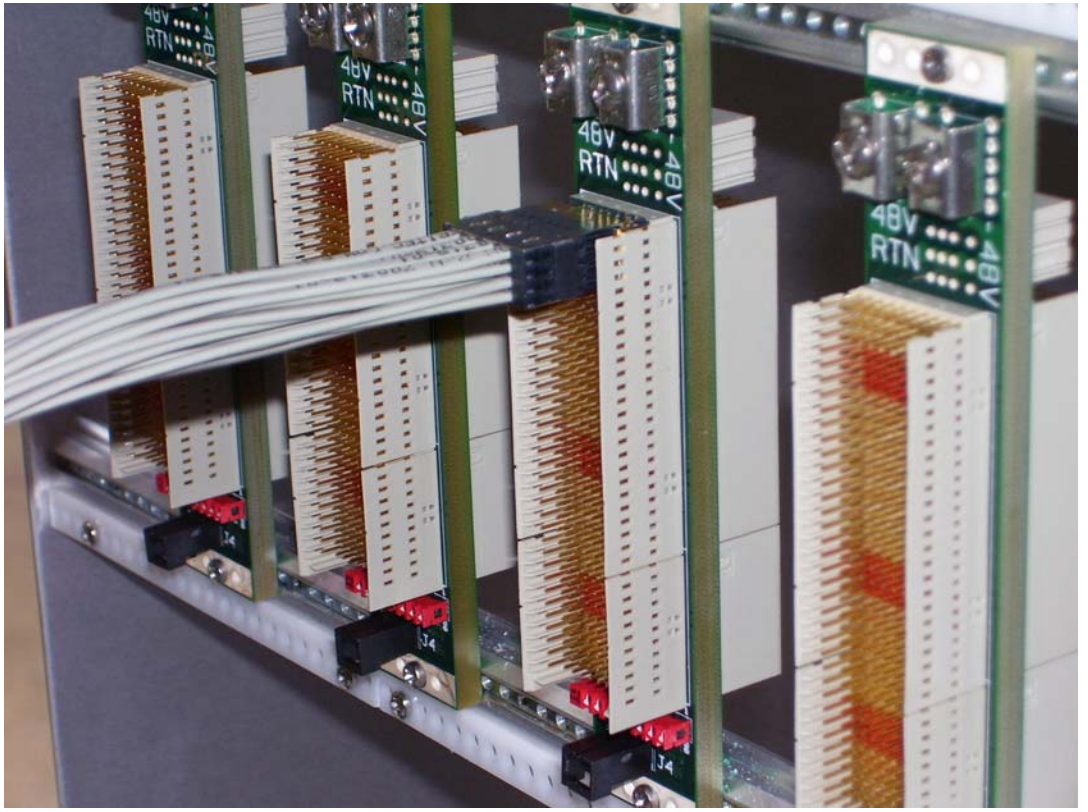
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S/W Requirements

- GUIs to facilitate testing chip and board-level functions.
- Build test suites using point and click GUIs.
  - Save test suites for future execution.
- GUIs also provide real-time display of chip status regs.
- "Test Generator FPGA" GUI for Baseline Board testing is ready to go…tested with actual board and FPGA and could read/write regs with GUI from DRAO and AOC.

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Prototype testing scenarios—Baseline Board

- Initial ad-hoc board and chip checkout…see if things seem to be working.
- Install 1st Correlator Chip, see if data transfers to LTA and to GigE chip. If ok, then give go-ahead to get rest of chips packaged.
- Check GigE to CBE connection…is CBE getting lag frames?
- Execute Correlator Chip test plan A25082N0005.

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Prototype testing scenarios—Baseline Board

- Execute Baseline Board test plan (TBD) to ensure all aspects of the board are tested.
- Final Correlator Chip and board test requires all Corr Chips in place.
- Initial incremental ESS testing of Correlator Chips.
- Probably no ESS testing of 1st Baseline Board.

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Prototype testing scenarios—SB, FB, BB

- Before final SB and BB test, to meet cable delivery timelines, will have to perform end-to-end test:
  - SB—cable—FB—cable—BB.
  - Requires eng samples of Meritec cable…probably Feb/March at earliest.

- Once SB and BB fully tested individually, connect together for 1st system integration testing.
  - Once successfully tested, can proceed with 2nd stage production…required for prototype correlators.