

Step	PP3A hybrid	PP3A module	BNL	LBNL	SCIPP
1.1 HV Tab Bonding Procedures		Required	Under Review	Under Review	Passed
3.1 Sensor Reception		Required	Passed	Passed	Passed
3.2 Sensor Storage		Required	Passed	Passed	Passed
3.3 Sensor I-V					Under Review
6.1 Powerboard Reception		Required	Passed	Passed	Passed
6.3 Powerboard Visual Inspection		Required	Passed	Passed	Passed
6.4 Powerboard Storage		Required	Passed	Passed	Passed
8.1 Hybrid Tools			NA	Passed	NA
8.2 Storage + Shipping of Glue for Hybrid	Required		Passed	Passed	Passed
8.3 Hybrid Assembly	Required		Passed	Passed	Passed
8.4 Glue Weight Measurements	Required		Passed	Passed	Passed
8.5 Hybrid Bonding Procedures		Required	Passed	Passed	Passed
8.6 Hybrid Metrology			Passed	Passed	Passed
8.7 Hybrid Visual Inspection	Required		Passed	Passed	Passed
8.10 Hybrid Storage		Required	Passed	Passed	Passed
11.1 Module Storage		Required	Passed	Passed	Passed
11.2 Cleaning Module Jigs	Required		Passed	Passed	Passed
11.3 Module Tools			NA	Passed	NA
11.4 Storage + Shipping of Glue for Module		Required	Passed	Passed	Passed
11.5 Removing Hybrids from Panel		Required		Passed	Passed
11.6 Module Assembly		Required			Passed
11.7 Module Metrology			Passed	Passed	Passed
11.8 Module Bonding Procedures		Required			Passed
11.9 Module Visual Inspection		Required	Passed	Passed	Passed
12.1 Shipping Modules			NA		Passed
13.1 Cleanroom Standards	Required		Passed	Passed	Passed
13.2 ASIC Compliance & Handling	Required		Passed	Passed	Passed
13.3 Bond Pulling		Required	Passed	Passed	Passed

PP3A Hybrids / Modules

- All 3 sites have completed PP3A hybrid assembly
 - 84 good hybrids
 - Just enough for 1 LS + 1 SS staves
- UCSC has assembled 11 LS modules + 1 SS module
 - Metrology found 5 modules (out of 10 measured) with X-Y displacements > 100 μm
 - All have been successfully wire-bonded

	BNL	LBNL	UCSC	Total
Assembled	27	27	33	87
Failed metrology	1	0	0	1
Failed e-test	2	0	0	2
Passed QC	24	27	33	84

Module Name	Assembly Jig	Hybrid Pick	PBPu	PB align	H_X_P1 (um)	H_X_P2 (um)	H_Y_P1 (um)	H_Y_P2 (um)	PB_X_P1 (um)	PB_X_P2 (um)	PB_Y_P1 (um)	PB_Y_P2 (um)
PPA_LS-001	Jig_PROD_004	4	2	2	-40	-40	20	0	-80	-40	-40	5
PPA_LS-002	Jig_PROD_001	1	2	1	-20	-30	-20	-30	-70	-40	-10	0
PPA_LS-003	Jig_PROD_001	1	2	1	-50	-50	-90	90	-50	-30	0	-20
PPA_LS-004	Jig_PROD_001	1	2	1	-120	-120	60	-10	-75	-20	0	10
PPA_LS-005												
PPA_LS-006	Jig_PROD_001	3	2	1	-78	-80	-70	-20	-40	-20	10	-45
PPA_LS-007												
PPA_LS-008	Jig_PROD_002	3	2	1	-10	-10	10	-40	-60	-20	10	0
PPA_LS-009	Jig_PROD_001	3	2	1	-60	-60	-390	210	-70	-43	-15	-15
PPA_LS-010	Jig_PROD_003	3	2	1	-140	-140	30	30	-60	-40	-30	20
PPA_LS-011	Jig_PROD_002	4	2	1	-200	-220	35	-20	-190	-160	80	10
PPA_SS-001	Jig_PROD_002	1	2	1	-70	-120	-60	-60	-43	-40	-20	10

- 9 (out of 9) modules passed electrical tests

Site Status — BNL

- SQ: 20 passed. 1 under review. 4 more to go
 - **3 steps to qualify** for module assembly: hybrid removal, module assembly, module bonding
- PPA hybrids
 - 18 X + 9 Y were assembled.
 - 1 X + 1 Y lost due to bonding error. 1 X damaged during storage, but recovered
- Burn-in crate
 - Setting up following instructions from Liverpool
 - Modified old powerboard carriers to work with the new hybrids + test panels, to better test the functionality of the burn-in system
- New desiccator will be moved into the assembly clean room this week. Hybrid/module assembly area will be rearranged to accommodate

Site Status — LBNL

- SQ: 23 passed. 1 under review. 4 more to go.
 - **2 steps to qualify** for module assembly: module assembly, module bonding
 - Module assembly: commissioning the second glue robot. Tests with dummy -> real hybrids
 - Sensor IV is very close to complete
 - Module bonding: Phat working on programs, esp. on Y hybrid
 - Module shipping is close to complete
- PP3A hybrids
 - 18 X + 9 Y assembled, passed metrology and e-test
- HCC fuse ID
 - Shuo and Ian checked HCC fused IDs against DB and found mismatches
 - Communicated with Peter, Jeff, Paul, Jaya

Site Status — SCIPP

- SQ: 1 (sensor I-V) under review
- PP3A modules
 - LS modules (11) completed. First SS module has been assembled
 - SS metrology program and SS bonding program have been written
 - Investigating the X-Y displacement
 - Problems are (mostly) in X, and systematically negative → Suspect the procedure
 - Try cutting off hybrid tabs on the hybrid assembly jig, not on the test panel
 - All LS modules passed electrical tests → Testing the first SS module now
- Production sensors
 - Completed reception of the 3rd batch
- Presented two talks at the module meeting: Kirsten on tabs, Andrew on glue curing times.
 - The community endorsed our plans for removing the hybrid pickup tool after 4-5 hours to allow the power boards to be glued in the same day.