

TPAC status

JC/Jan2010

TPAC boards

Newly bonded/trimmed boards

PCB	Bonded	Chip	Trimmed	Potted	Status
36	1/12/09 (W7)	12u-DPW	11/12/09	No	Good
38		12u-DPW	16/12/09	No	Good
44		12u+DPW	30/12/09	No	Ok (few bad cols)
42	27/1/10	Hires			
50	27/1/10	Hires			

Good data taken at 2009 beam test (not in my possession)

PCB	Bonded	Chip	Trimmed	Potted	Status
48		12u+DPW	Yes	Yes	
43		12u+DPW	Yes	Yes	
41		12u+DPW	Yes	Yes	
39		12u+DPW	Yes	Yes	
32		12u+DPW	Yes	Yes	
29		12u+DPW	Yes	Yes	
26		18u HiRes	Yes	Yes	
21	Aligned for laser	12u Hires	Yes	Yes	

TPAC boards

Status unknown

PCB	Bonded	Chip	Trimmed	Potted	Status
37		12u Hires	?	Yes	?
49		TPAC1.1			Sent to Bristol 2009
27	TPAC1.1 sensor	12u+DPW			PCB used for debug
25					
24				No	Lab 9?
23	Aligned for laser	18u hires		No	Lab 9?

Likely dead boards

PCB	Bonded	Chip	Trimmed	Potted	Status
47				Yes	Died at cern
46				Yes	Power shorts
45				Yes	Died at cern
35				Yes	Low current, no hits
33		12u+DPW		Yes	Bad config at cern
22	Never			No	PCB DACs fail

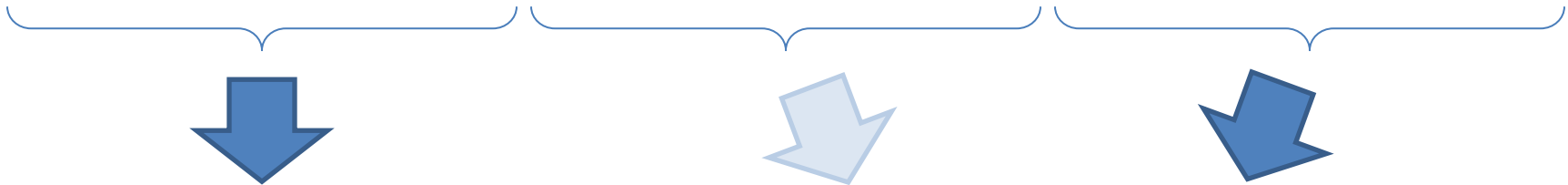
TPAC boards

Retained for analog pixel laser tests

PCB	Bonded	Chip	Trimmed	Potted	Status
40	TPAC1.1 sensor	5u+DPW		No	(Alignment?)
34	TPAC1.1 sensor	5u+DPW		No	Aligned for laser
31	TPAC1.1 sensor	5u-DPW		No	Aligned for laser
30	TPAC1.1 sensor	12u-DPW		No	Aligned for laser
28	TPAC1.1 sensor	12u+DPW		No	Aligned for laser

TPAC variants

GDS	TPAC 1.0				TPAC1.1				TPAC 1.2			
Epi	5u		12u		5u		12u		12u		12u Hires	18u Hires
DPW	✓	✗	✓	✗	✓	✗	✓	✗	✓	✗	✓	✓



Pixel	preSample		preShape	
	C1	C2	C1	C2
Variant	✓	✓	✗	✗
Test pixel	✓	✓	✗	✗
Array	✓	✓	✓	✓

Pixel	preShape	
	C2 revised layout	C2 from TPAC1.0
Variant	✓	✓
Test pixel	✓	✓
Array	✓	✗

TPAC results map

GDS		TPAC 1.0				TPAC1.1				TPAC 1.2			
Epi		5u		12u		5u		12u		12u		12u Hires	18u Hires
DPW		✓	✗	✓	✗	✓	✗	✓	✗	✓	✗	✓	✓
Pixel variant													
preSample 1.0	Test pixels	Laser	Laser	Laser 55Fe Timing	Laser								
	Array			(Beam)	(Beam)								
preShape 1.0	Test pixel							55Fe	55Fe	55Fe			
	Array			55Fe (Beam)	(Beam)								
preShape 1.2	Test pixel							(Laser)	(Laser)				
	Array									55Fe	55Fe	55Fe	55Fe
	Array									Beam		Beam	Beam

My TPAC testing wish-list

- Laser has now been mended
 - Hopefully this will have eliminated
 - The asymmetry we saw in laser scans on TPAC1.2 pixels
 - The difficulty I had stimulating the 5u (esp –DPW) pixel at all (weak pulse)
 - The wavelength
 - assumed to be white light, not IR towards the end of previous laser tests
- Would ideally like to take a new & complete set of laser results
 - Shaper pixel
 - Amplitude maps (or selected line scans)
 - 5u ±DPW
 - 12u ±DPW
 - Hires 12/18u
 - Timing
 - 12u STD vs 12u Hires
- Need
 - One USBDAQ for the laser system (calicedaq1)
 - Approx 1 month
 - Can't expect to get started immediately
 - Bound to be some new artefact to understand!
 - Some preliminary calibration/cross-checks with old results necessary
 - » Treat as a new laser
 - » Comparison with previous results cannot be gaurenteed
 - 2 months linear time?