

Module Test Rapid Overview

Are Production Data Available on the Web?

- Data on web are necessary for crosschecking, analysis, re-running, quality assurance etc.
- They have been already used by many people
- I asked in (almost all) past meetings to put ALL data (root files and plots) on local web pages to be linked from Module Test website in Firenze



Test Results on Final Production Modules

TIB Centers: [Bari](#) [Catania](#) [Firenze](#) [Padova](#) [Perugia](#) [Pisa](#) [Torino](#)

TOB Centers: [UCSB](#)

TEC Centers:

The Links

- Not all the test centres reacted positively... and some centres did not react at all !

I state here again:

PLEASE PREPARE A WEB PAGE TO LINK ALL ROOT FILES, PLOTS, LISTS, FOR BOTH ARC AND LT !

Picture of "Today Situation"

- Very different choices for web page style and functionality, you can have a look from hep.fi.infn.it/CMS/marchett/production/centers.html
 - UCSB has nice summary pages (from local DB queries);
Root files not yet available?
 - FNAL not reachable for security reasons?
Workaround? Hosting outside FNAL?
 - TIB centres: almost ALL have web pages with Root files, plots, bad channels list. Very good progress since last meeting. Still some bugs present. Check the stuff you put on web. Must be corrected!
 - TEC centres: to be done, production not yet started, but... please be prepared and send me your link!
- Let's try to reach a reasonable homogeneity!

UCSB Results Web Page (Query Output)

You have requested data for **Module 30200020005014**

30210422067910 2 4.2
30210423860209 3 4.2
30216711601402 1 3.1.1.110

Bad Channel Lists

Checklists

Date: Tue Feb 3 16:47:33 2004

Tester Data		
Tester:	Derek	
Bad Hybrid Channels:	null	
Bonding Data		
	PA to Near Sensor	Near Sensor to Far Sensor
Missing Bonds:	006 072 119	331
Pulled Bonds:	null	null
Loading Module		
1.	Properly ground self (heel straps), wear mask & booties	X

UCSB Results Web Page (Query Output)

**You have
requested data
for Module
30200020005014**

6.	All Tests: Run all noise tests, all pulse shape tests, pipeline in PeakOn, LED test, and pinhole test	X
7.	Ramp HV down to 0V	X
8.	Note irregular channels	X

Fault	Expected	Unexpected
2 Sensor Open:	006 072 119	null
1 Sensor Open:	331	null
Pinhole:	null	null
Short:	null	null
High Noise:	null	005

9.	If module needs repair, send to repair queue; else proceed	X
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Unloading Module

1.	Check that HV is at 0V, Turn off LV and HV	X
2.	Disconnect LV and HV cables and Flying Wire	X
3.	Remove from clamshell and stock on appropriate shelf	X

Grading

Grade: A

Pass: P

Firenze Results Web Page

Modules bonded in Firenze



Bad strip list doesn't include module and chip edges

Module number	Date	Bad strips	CMN	Arrival	Bonding	Long Term
30200020000024	Sep 11, 2003	1	0.29	done	done	
30200020000025	Sep 11, 2003		0.28	done	done	
30200020000026	Sep 11, 2003	1	0.28	done	done	
30200020000027	Sep 12, 2003		0.27	done	done	
30200020000028	Sep 9, 2003		0.29	done	done	
30200020000030	Sep 9, 2003		0.27	done	done	
30200020000031	Sep 9, 2003	1	0.29	done	done	
30200020000032	Sep 8, 2003		0.29	done	done	
30200020035024	Dec 19, 2003	2	0.33	done	done	done
30200020035025	Dec 19, 2003		0.32	done	done	done
30200020035026	Dec 19, 2003	2	0.36	done	done	done
30200020035027	Dec 19, 2003		0.3	done	done	done
30200020035034	Dec 22, 2003		0.31	done	done	done
30200020035035	Dec 22, 2003		0.31	done	done	done
30200020035036	Dec 22, 2003	1	0.33	done	done	done
30200020035038	Dec 22, 2003		0.34	done	done	done
30200020035056	Jan 15, 2004		0.33	done	done	done
30200020035057	Jan 16, 2004		0.31	done	done	done
30200020035059	Jan 15, 2004	1	0.33	done	done	done

Pisa Results Web Page

CMS-Pisa Modules E-logbook

Summary

Module by <input type="text" value="score"/>	Reception	Optical Inspection	ARC Fast Test	Bonding	IV post BB	ARC Post Bonding Test	Passive Cooling	ARC Final DB Test	Long Term Test	Extra
30200020033065	✓	✓	✓	✓	✓	✓	✓	✓	✓	--
30200020033018	✓	✓	✓	✓	✓	✓	✓	✓	✓	--
30200020033063	✓	✓	✓	✓	✓	✓	✓	✓	✓	--
30200020033058	✓	✓	✓	✓	✓	✓	✓	✓	✓	--
30200020033031	✓	✓	✓	✓	✓	✓	✓	✓	✓	--
30200020033041	✓	✓	✓	✓	✓	✓	✓	✓	✓	--
30200020033008	✓	✓	✓	✓	✓	✓	✓	✓	✓	--
30200020033017	✓	✓	✓	✓	✓	✓	✓	✓	✓	--
30200020033002	✓	✓	✓	✓	✓	✓	✓	✓	✓	--
30200020033003	✓	✓	✓	✓	✓	✓	✓	✓	✓	--
30200020033076	✓	✓	✓	✓	✓	SKIP	SKIP	✓	✓	--
30200020033007	✓	✓	✓	✓	✓	✓	✓	✓	✓	--
30200020033033	✓		✓	✓	✓	✓	✓	✓	✓	--
30200020033001	✓		✓	✓	✓	✓	✓	✓	✓	--

On Procedures... Again!

- For quality assurance we must follow agreed **procedures** during tests
- In case of problems the procedures could allow to trace back the origin of the faults in the production chain
- I presented the **sequence of operations** already in October 2003 (see presentations and write-up in modtest web page)
- Centres which still have to start final production should begin with Full Set of operations as in hep.fi.infn.it/CMS/moduletest/proc_prod/Procedure3.html

Shortened Sequences

- TOB and TIB centres which have already made more than 30 final production modules can step to the reduced set of operations,

provided NO problems have shown up

Reduced set of operations used by TIB can be found in

hep.fi.infn.it/CMS/moduletest/proc_prod/Procedure.html

- The main savings come from:
 - 1 mode only test upon arrival
 - HV bias and strip bonding in one go, IV only at the end
 - Skip passive cold test (never seen any effect up to now)

Long Term Cycles: an Alarm ?

LT tests on TIB modules are giving some "worries":

a few modules are lost in DAQ during 3 days thermal cycles

- Investigations are going on in different sites
- Huge amount of time required to reproduce and possibly understand the effect: no effects seen on hours scale
- Presently very difficult to disentangle between:
 - Actual module defects
 - DAQ HW chain failures
 - SW bugs
- NO EFFECTS IN UCSB DATA (but ≤ 12 hours runs)
- Wim has not enough modules to make extensive tests!