



Preparation of long slab construction ECAL meeting LPNHE 3-4 june 2013

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The goal is to simulate a long slab to verify signal integrity with:
First time 1 FEV8 COB + 6 FEV8 3C + 1 Adapt Diff Barrel configuration
Second time 1 FEV8 COB + 9 FEV8 3C + 1 Adapt Diff Endcap configuration
Before assembling a real slab

First step: 1 FEV8 COB + 1 FEV8 3C + 1 Adapt Diff

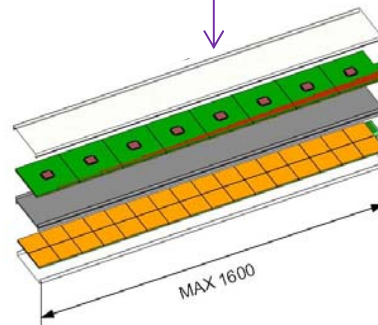
Second step: Electrical test

Third step: 1 FEV8 COB + 2 FEV8 3C + 1 Adapt Diff

Fourth step: Electrical test

Eleventh step: 1 FEV8 COB + 6 FEV8 3C + 1 Adapt Diff

Twelfth step: Electrical test

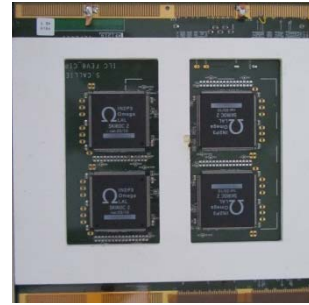


Equipment

Solder bench with
mechanical support length=1600 mm

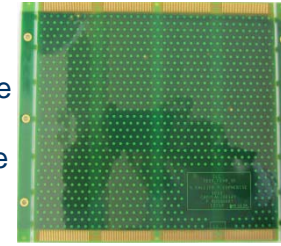


FEV8 COB



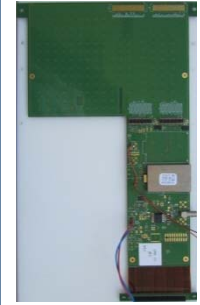
FEV8 3C

4 connectors each
with 36 channels

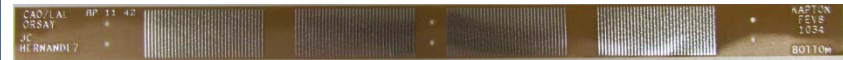


Wire
by
wire

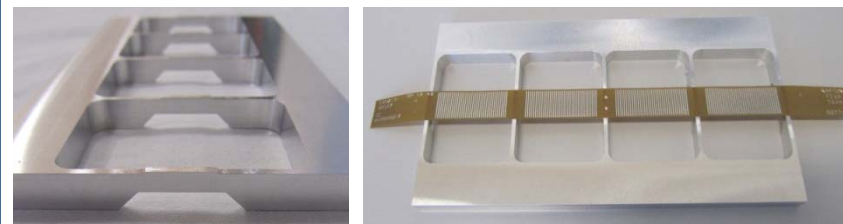
ADAPT



Kapton comb

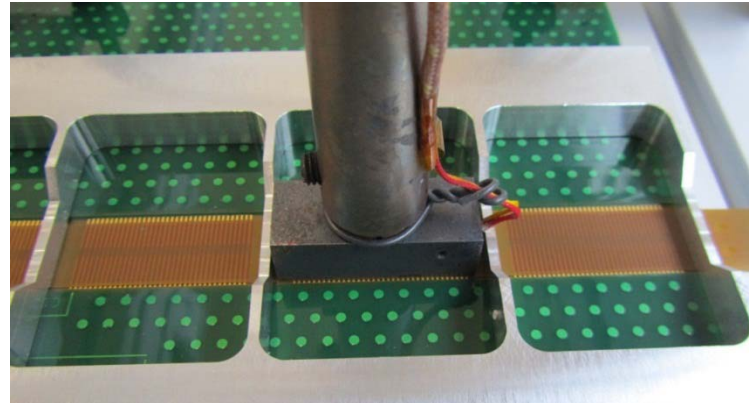


Kapton comb positioner

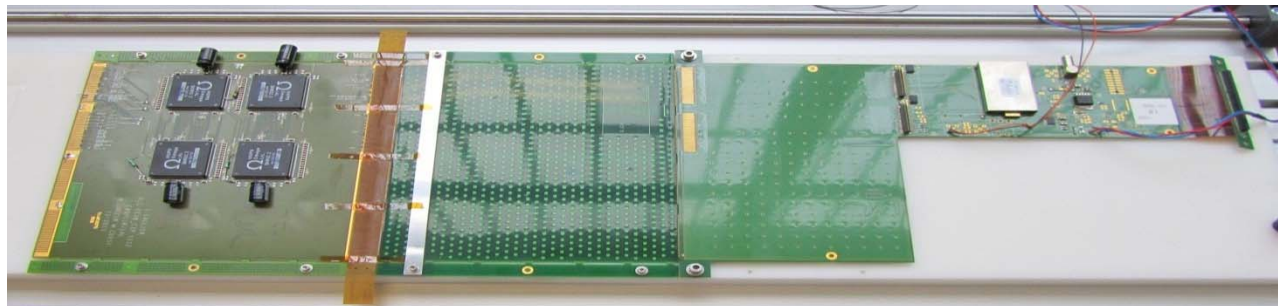


Process

After kapton's been positioned with its support
It was soldered with the special tool



1 FEV8 COB card+ 1 FEV8 3C card + 1 Adapt card
were interconnected
and electrical continuity between FEV8 COB and Adapt is ok



This configuration is ready for the test with ECAL setup

Next step :

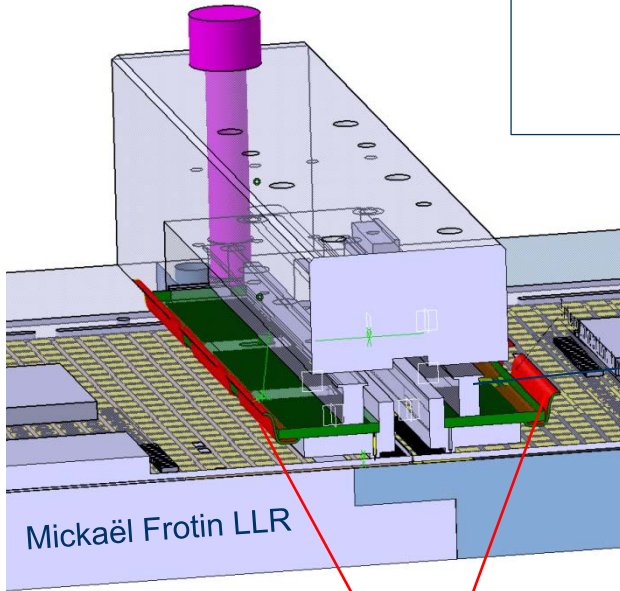
Simulate the noise due to the stubs in the PCB by placing resistors and capacitors on some digital lines at the Kapton comb (not initially designed for, thus not obvious to realize)



Next time

Interconnection will be tested with connector by LLR and the new data logger Keithley 2750

With this special connector and the data acquisition system we can test the interconnection of 144 channels and record all resistance values in the PC



Connector with 2x4x36 quick spring contacts
By LLR



Keithley with currently one of four cards with 40 channels



Received in May

Excel INX		KEITHLEY	
Task Configure Remaining DMM Channels			
Task Name: Configure Remaining DMM Channels			
Task	Created By: alice.thiebault	Created On: 2010-05-03 10:00:00	
	Company: LAL		
	Data Group: 00000001		
	Data Method: 00000001		
	Task Owner: alice.thiebault		
	Task Path: C:\Program Files\Keithley\Excel\Task		
	Task Description:		
	Procedure:		
	Step 1: Measure DMM		
	Step 2: Measure DMM		
	Step 3: Measure DMM		
	Step 4: Measure DMM		
	Step 5: Measure DMM		
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	Step 7: Measure DMM		
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	Step 200: Measure DMM		

If you have some money to buy other cards, I'm interested !!!



Thank you for your kind attention

special thanks to Alice, Alexandre, Christian, Mickaël, Stéphane,

