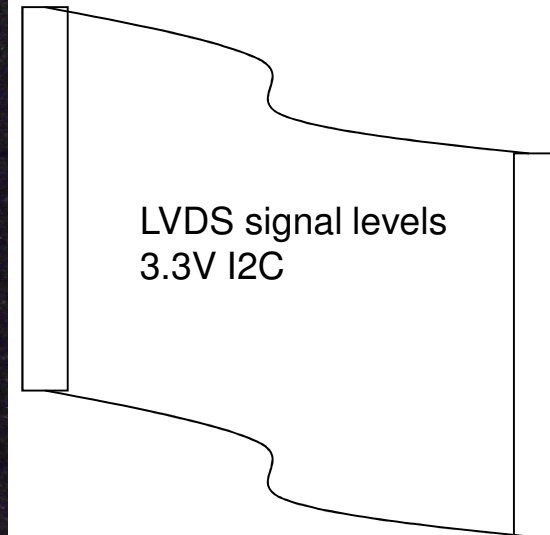
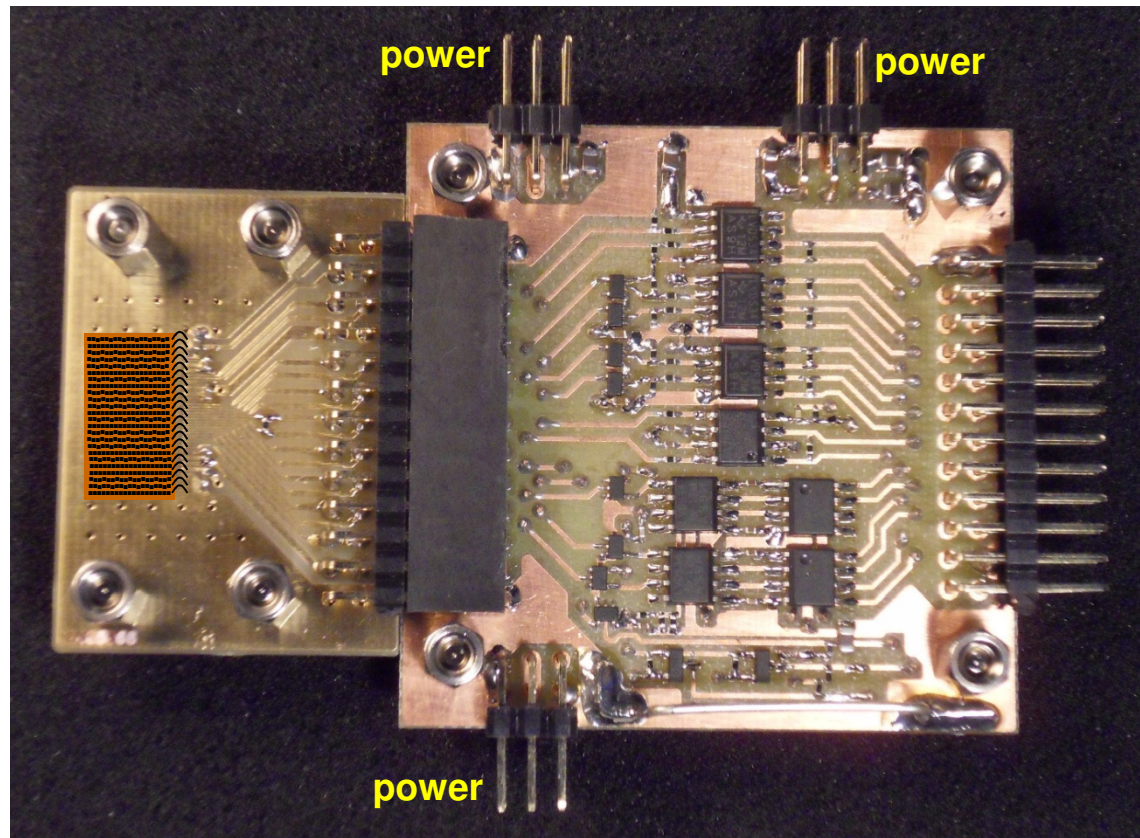


CBC2 update

CMS Tk phase II electronics meeting – Jan. 30th, 2013

wirebond CBC2 test setup



use wafer probe pads to wirebond single CBC2 die to carrier
(CBC2 chips from diced wire-bond (XFEL) wafer)

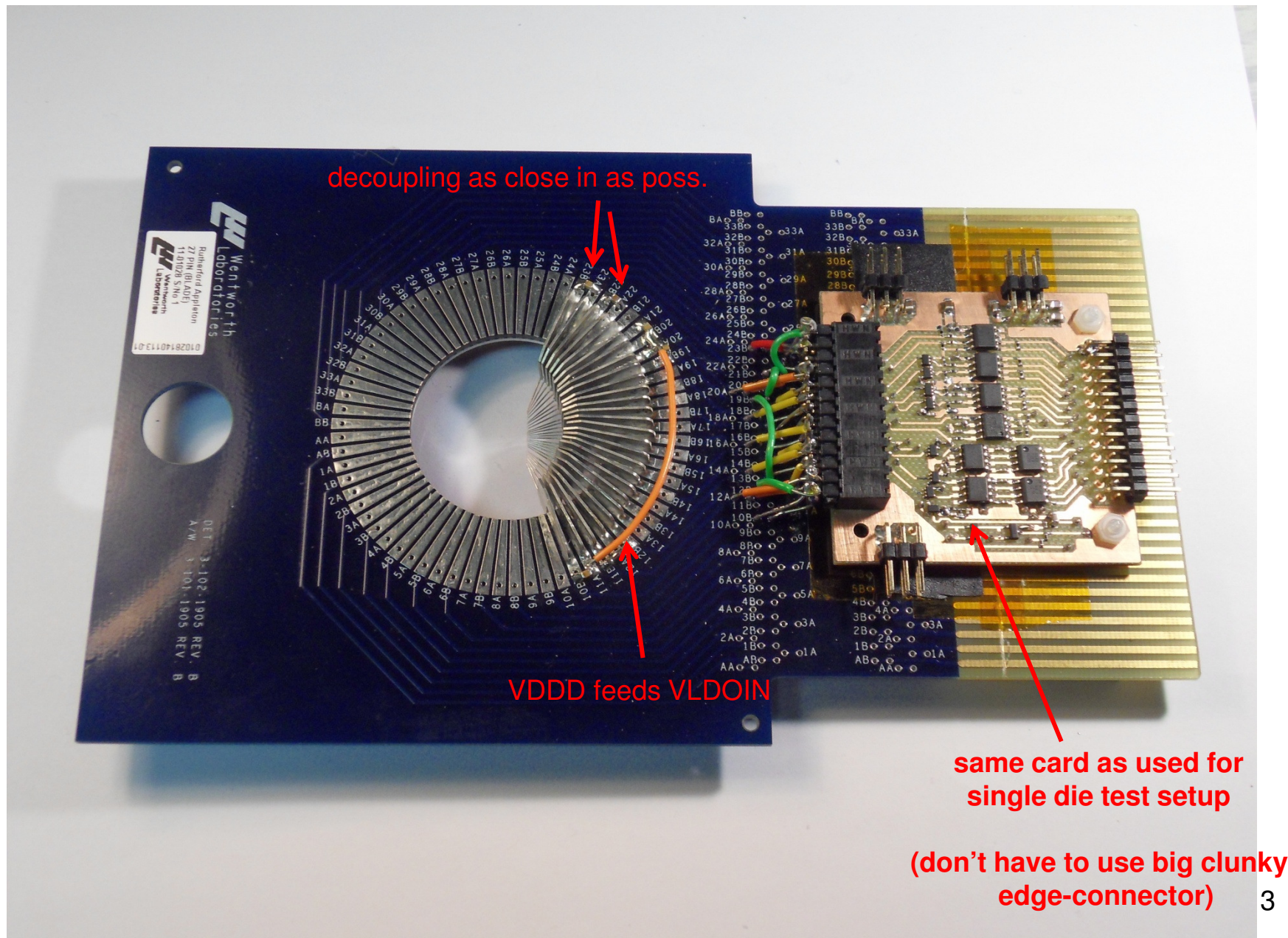
convenient setup for developing detailed wafer probe procedures

interface board tested and working

VME-based DAQ hardware ready

**can expect CBC2 specific software to need
some debugging (fast interfaces, I2C), but
shouldn't take long**

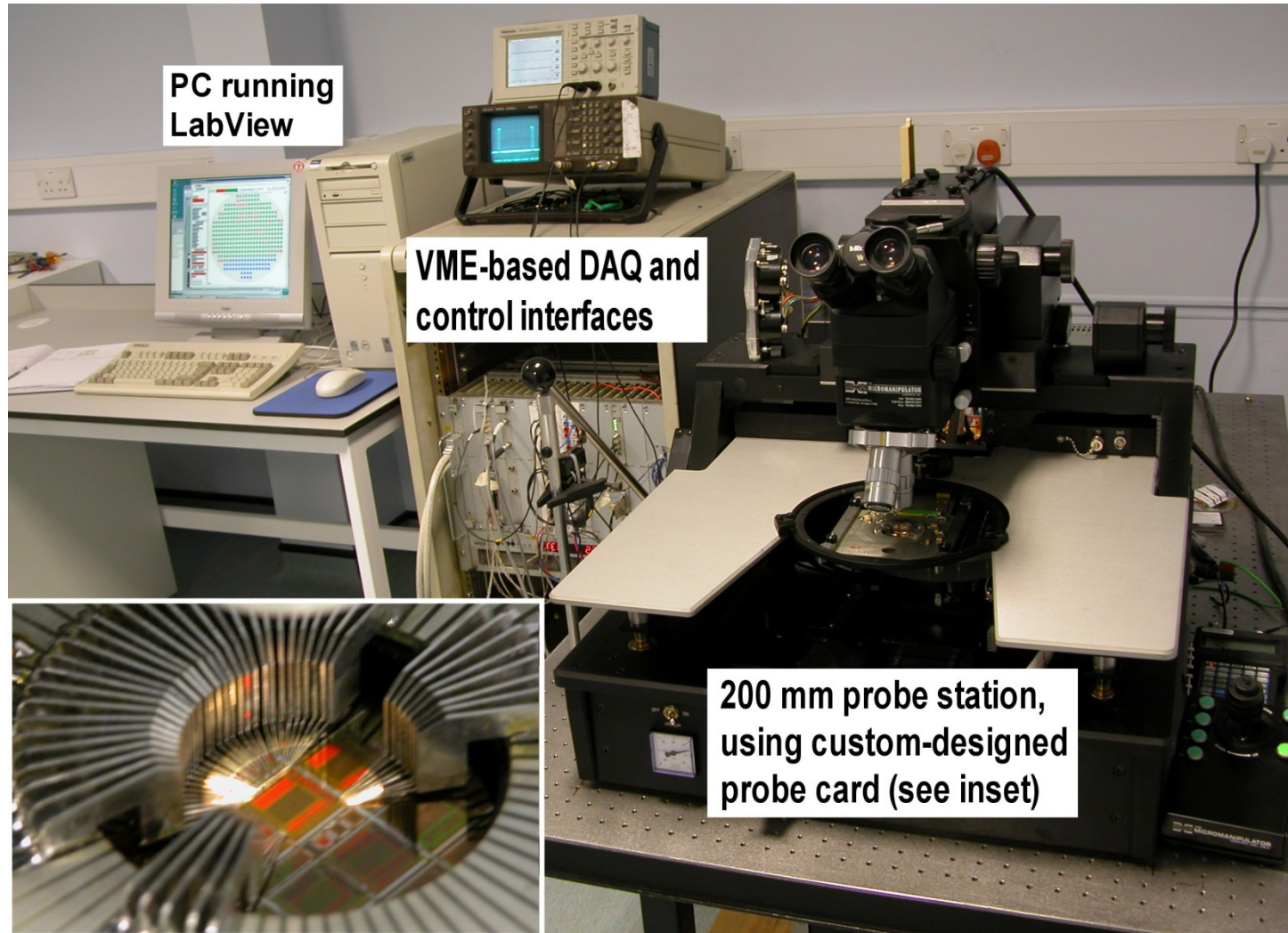
blade probe card for CBC2



Wafer Test Probe Station

will re-use some of APV probe-card interface hardware

ancient PC now replaced and probe-station controlling software checked ok



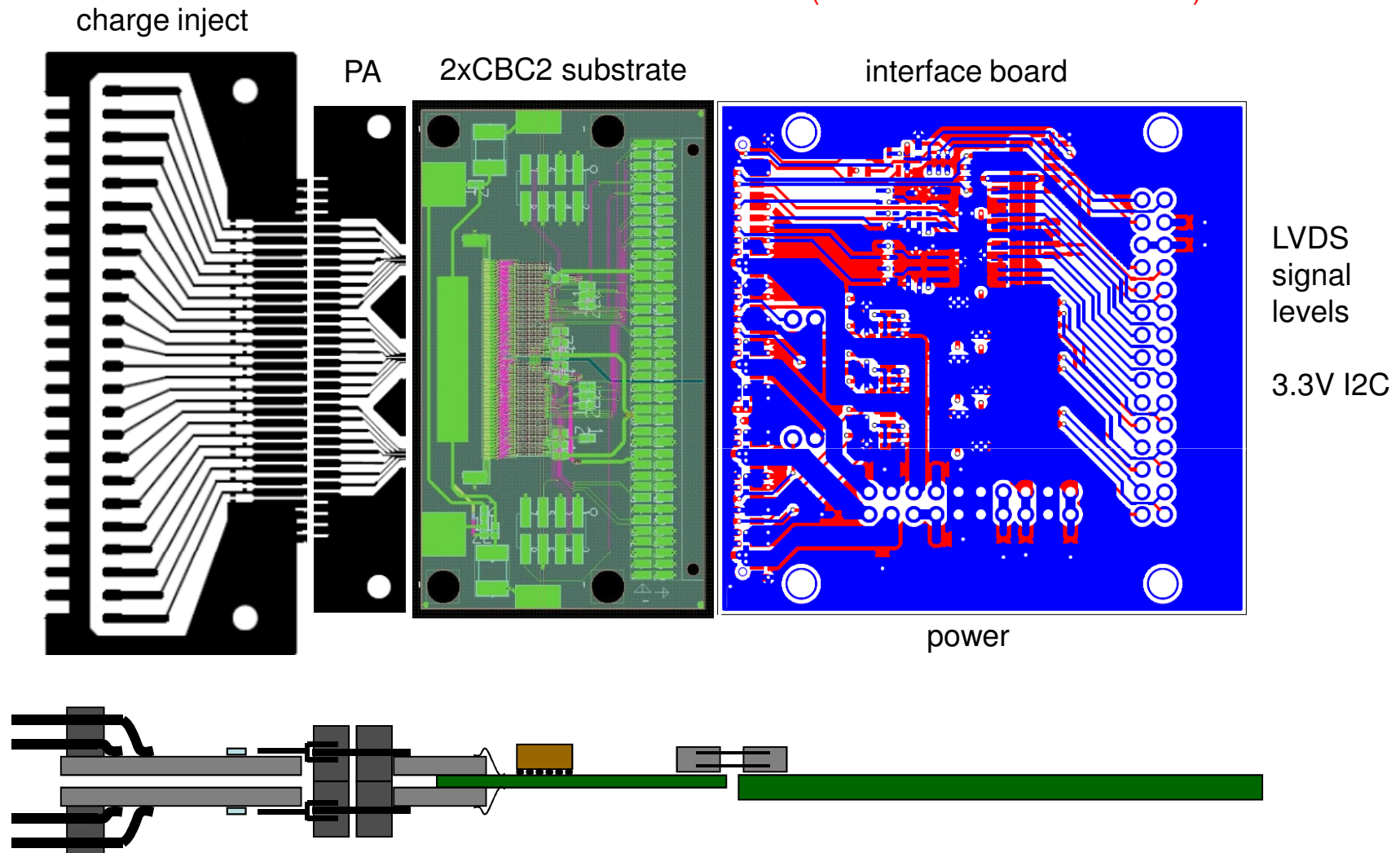
Micromanipulator
8 inch semi-automatic
probe station

VME based
ADC (8 bits)
RAL SeqSi
40 MHz CK/T1
CERN VI2C I/F

PC controls both
DAQ (VME)
& probe-station (RS232)

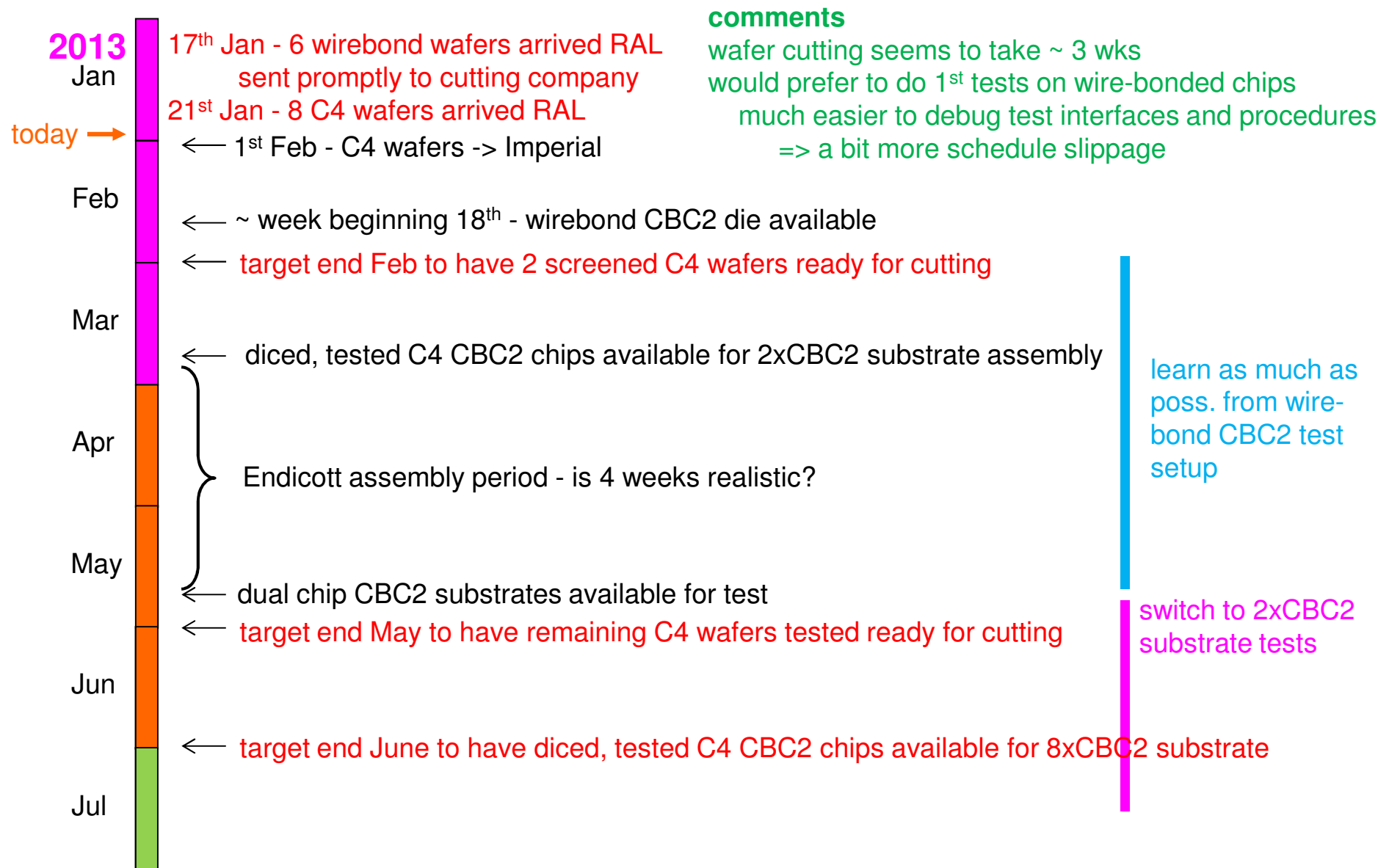
2xCBC2 substrate test setup

interface, PA and charge inject boards
in manufacture (should arrive this week)
(20 interface boards ordered)



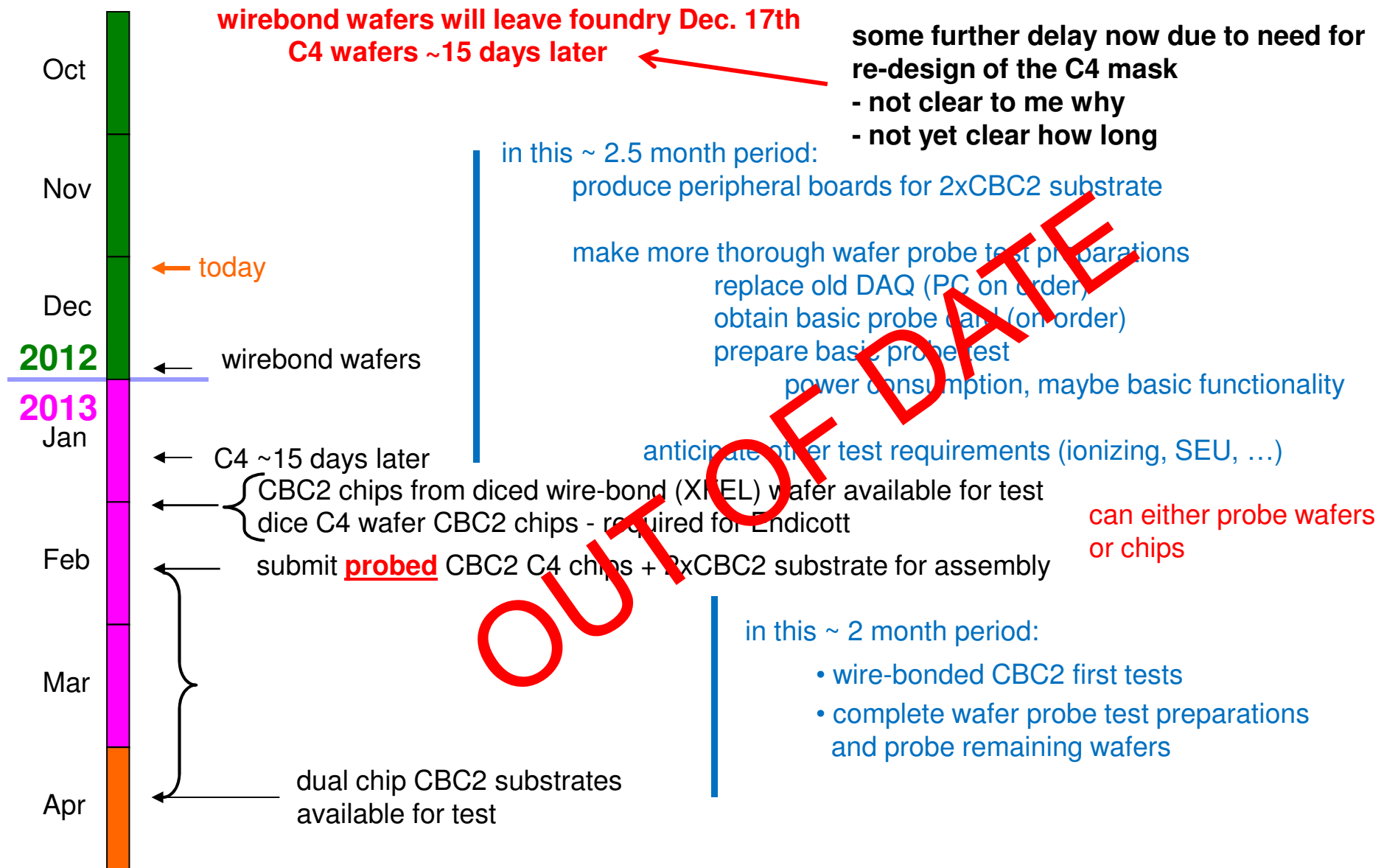
2xCBC substrate + PA (both sides) becomes device under test
pluggable charge inject board allows different external capacitance

updated timeline for next ~ 6 months



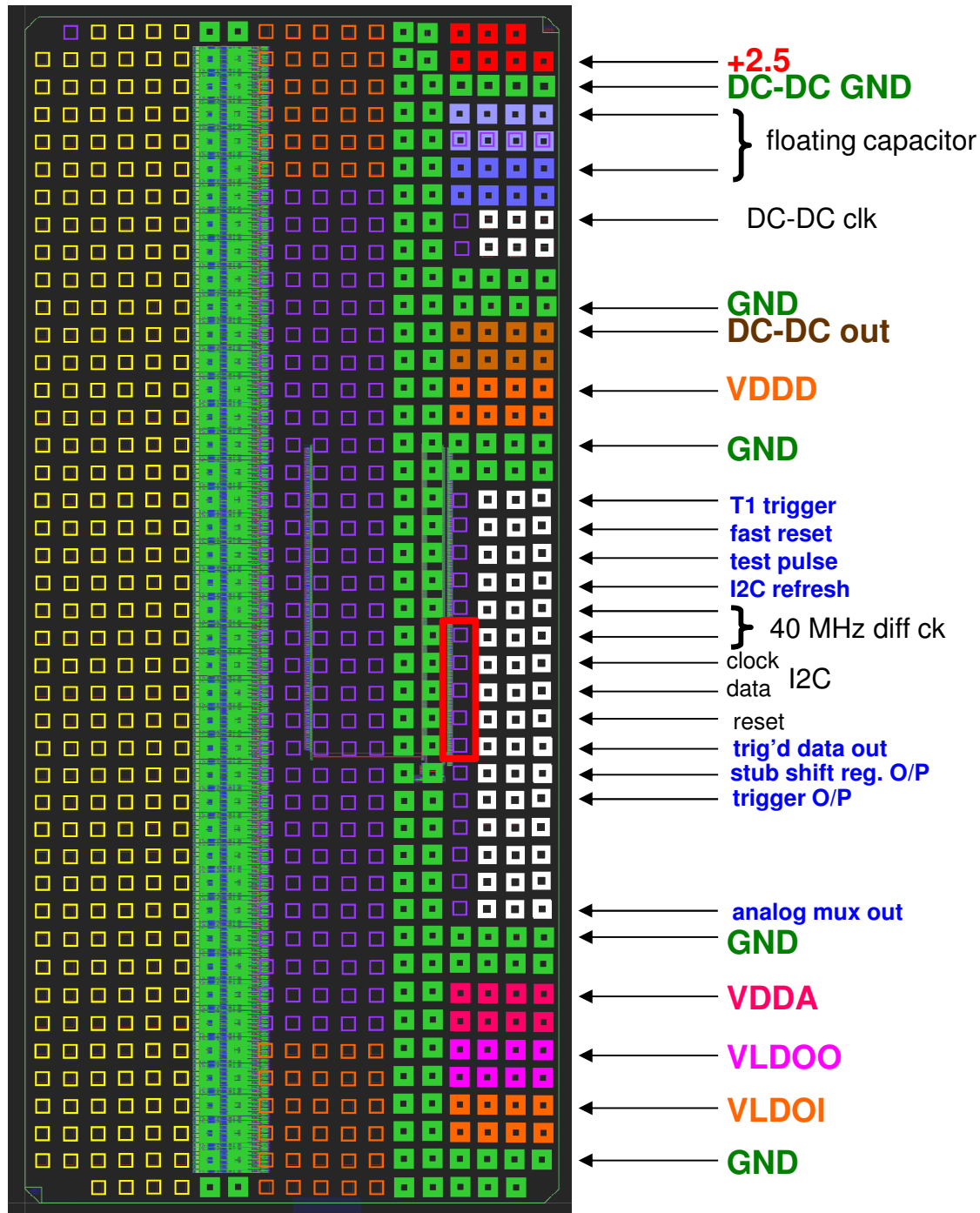
extra

previous timeline for next ~ 6 months



... 8 chip substrates and prototype SS-Pt module studies follow on later in 2013

probe card signals



27 altogether

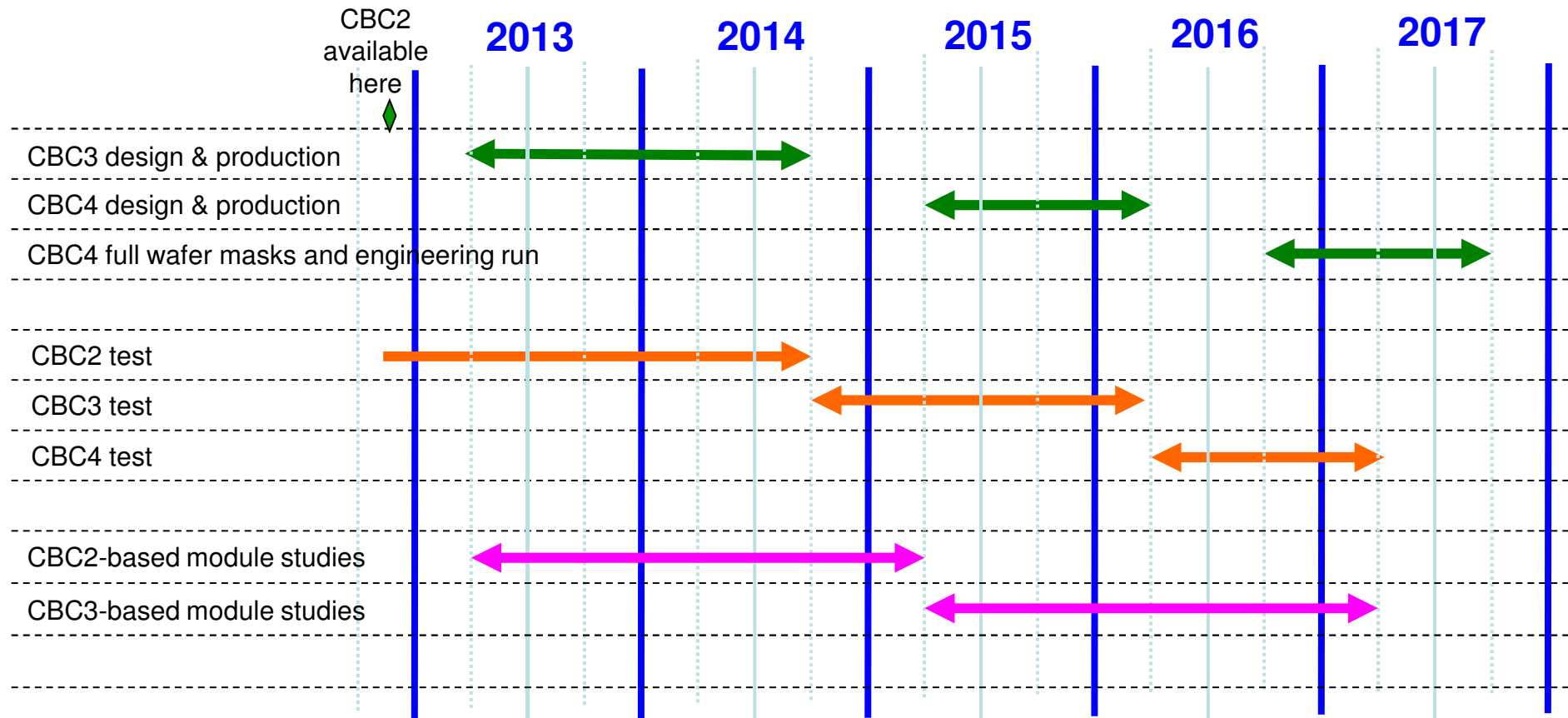
160 MHz signals left out

can try and use DC-DC and LDO

but unlikely to work well

necessary associated capacitors
a long way away from pads

UK Phase II programme



CBC3 should be very close to final chip – available late 2014
incorporate architecture to transmit stub addresses
slow ADC for on-chip monitoring

...

CBC4 pre-production iteration (2015/16) allows final bug fixes before full-wafer engineering run in 2017