

# Omega

## Status of SPIROC: Next generation of SPIROC

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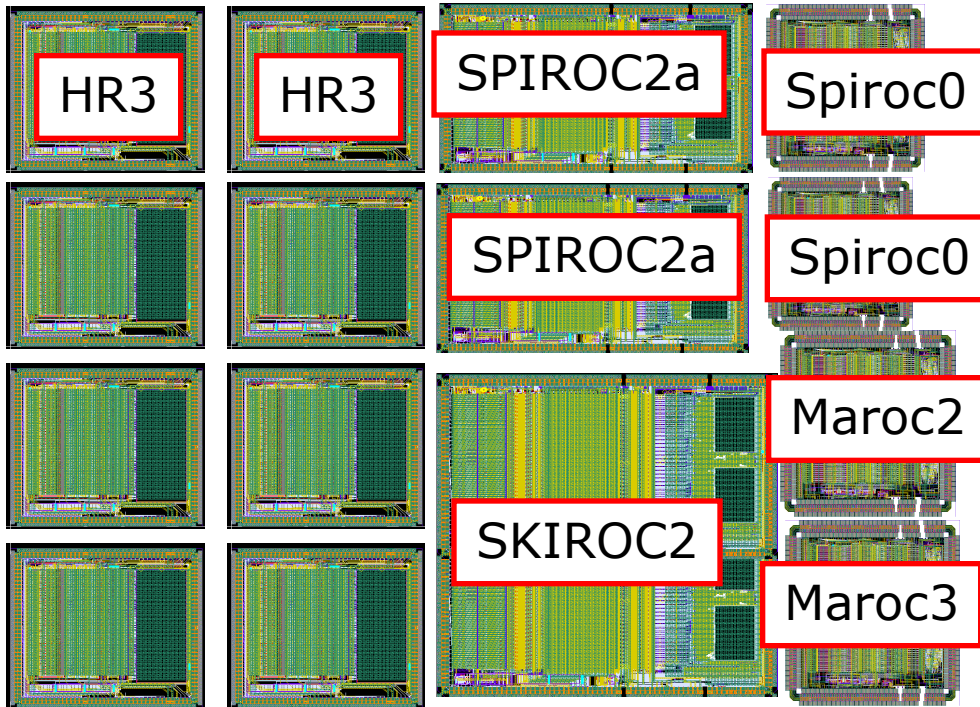
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- Plan for next year:
  - New **conservative** iteration (SPIROC 2a) expected on end of january 2010 which fixed the bugs of SPIROC 2 at the same time of Hardroc 2B production run
    - SKIROC 2 prototype will be submitted at the same time
  - Before the end of the year, submission of a SPIROC 3 with **agressive modifications and improvements**

# Engineering run



- Reticle size : 18x25 mm2
  - 50-55 reticles/Wafer
- Arrangement to be finalized
  - 8 Hardroc 2b
  - 2 Spiroc 2a
  - 1 Skiroc 2
  - 1 Maroc 2
  - 1 Maroc 3
  - 1 Spiroc 0
- Will be launched as soon as measurements are complete !
  - Exp. Beg. 2010





- Conservative version of SPIROC 2:
  - fix the slow control and probe bus as done in HARDROC2B
    - By adding buffers et des D flip-flop with CLK\* in critical points
    - By correcting the Bug on the reset signal of the new multiplexed probe and slow control register
      - » **Active low reset forced to 0 when not selected**
      - » **Intempestive reset when register is unselected**
    - By putting a default Slow control set-up
  - put the improved version of input DAC
  - add the POD module to reduce idle power dissipation
  - fix the first "zero-frame" by adding a pull-up to reference voltage on ADC disci input
  - Put a OR36 output on a non selected
  - Decrease the consumption of the low gain preamp

# SPIROC 3: modifications and improvements *Omega*

- Preamplifier gain adjustment per channel
- New bandgap
- New threshold 10-bit DAC
- Replace the ADC ramp by an optimized one
- external trigger input (LVDS)
- possibly Wei's input stage after testing
- possibly new I2C slow control interface
- new TDC to 100 ps (just submitted last week on PARISROC 2 Chip)
- powering-up mode of SCA columns to save power
- New improved and optimized digital part

- SPIROC 2a chip :
  - **Conservative prototype** submitted at the same time of the Hardroc2b production run
- SPIROC 3 chip :
  - Agressive modifications and improvements (before the end 2010?)

