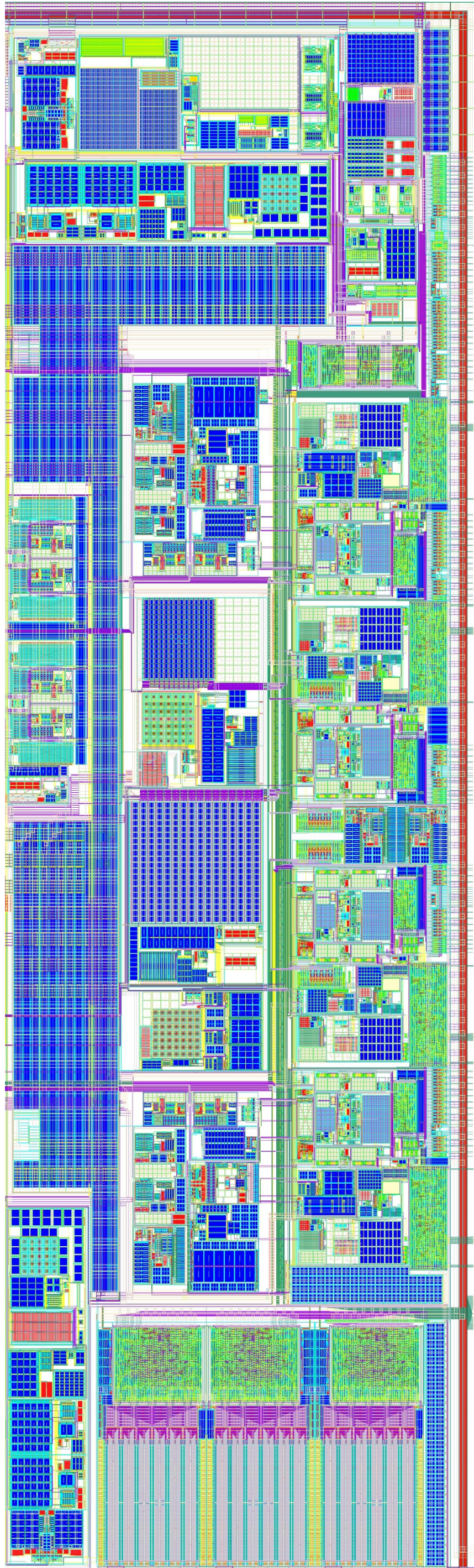


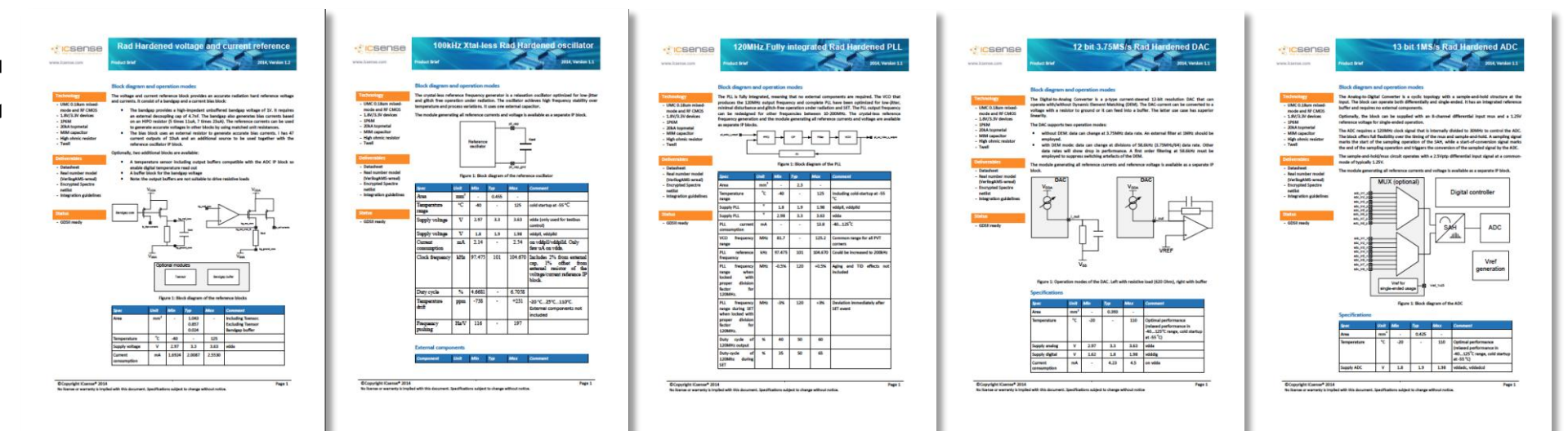
## ICSENSE MIXED-SIGNAL RAD HARD IP IN UMC/XFAB DARE



- 10-13 bit, 0.1 - 1 MSps ADC
- 12 bit, 3.75 MSps DAC
- 120 MHz fully integrated PLL
- Accurate voltage/current bandgap reference
- 100kHz reference oscillator without crystal
- 120 MHz voltage-controlled ring oscillator
- 3.3V - 1.8V low drop-out regulators
- 15V - 3.3/1.8V DCDC converters (XFAB only)
- Several auxiliary circuits:
  - Instrumentation PGAs
  - Comparators, overvoltage and overcurrent protection
  - Voltage buffers, R2R buffers, differential to single-ended buffers
  - UVLO
  - POR, Brownout detection
  - Levelshifters: 1.8-3.3V, 3.3V-1.8V

### Datasheets are available upon request

Silicon proven in UMC 180nm  
Under development in XFAB XH018



#### Radiation Hardening development flow at ICsense

ICsense has implemented a proprietary ECSS-9000 compatible IC development flow that allows for extensive SET simulations and TID-aware design for mixed-signal developments. It is based on industry-standard tools as Cadence and Matlab and allow for automated monte-carlo, process-temperature-voltage and radiation tolerance simulations. The flow has been successfully demonstrated and published on AMICSA 2012 and 2014.

#### About ICsense

ICsense is an ISO 9001:2008 – ISO 13485:2012 certified IC design house offering analog, mixed-signal and high-voltage IC design services and ASIC design and supply solutions for the automotive, aerospace, medical, industrial and consumer market. ICsense provides best-in-class IC design from consultancy and building block/IP design up to complete mixed-signal ASICs. More information on [www.icsense.com](http://www.icsense.com)

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