

Belle2 Feature Extraction 5/15/14

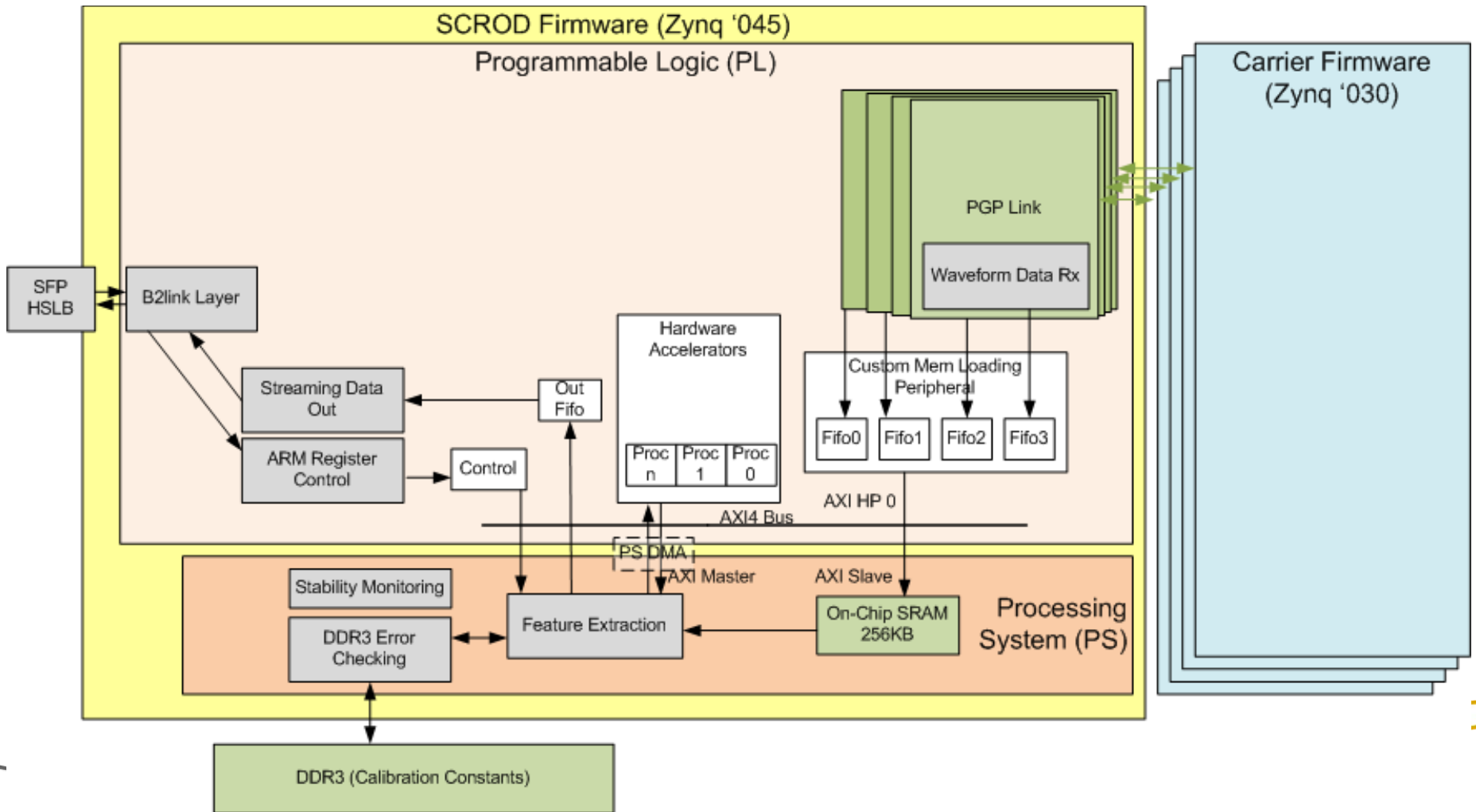
Ryan Conrad, Lynn Wood, Eric Choi, Hardeep Mehta



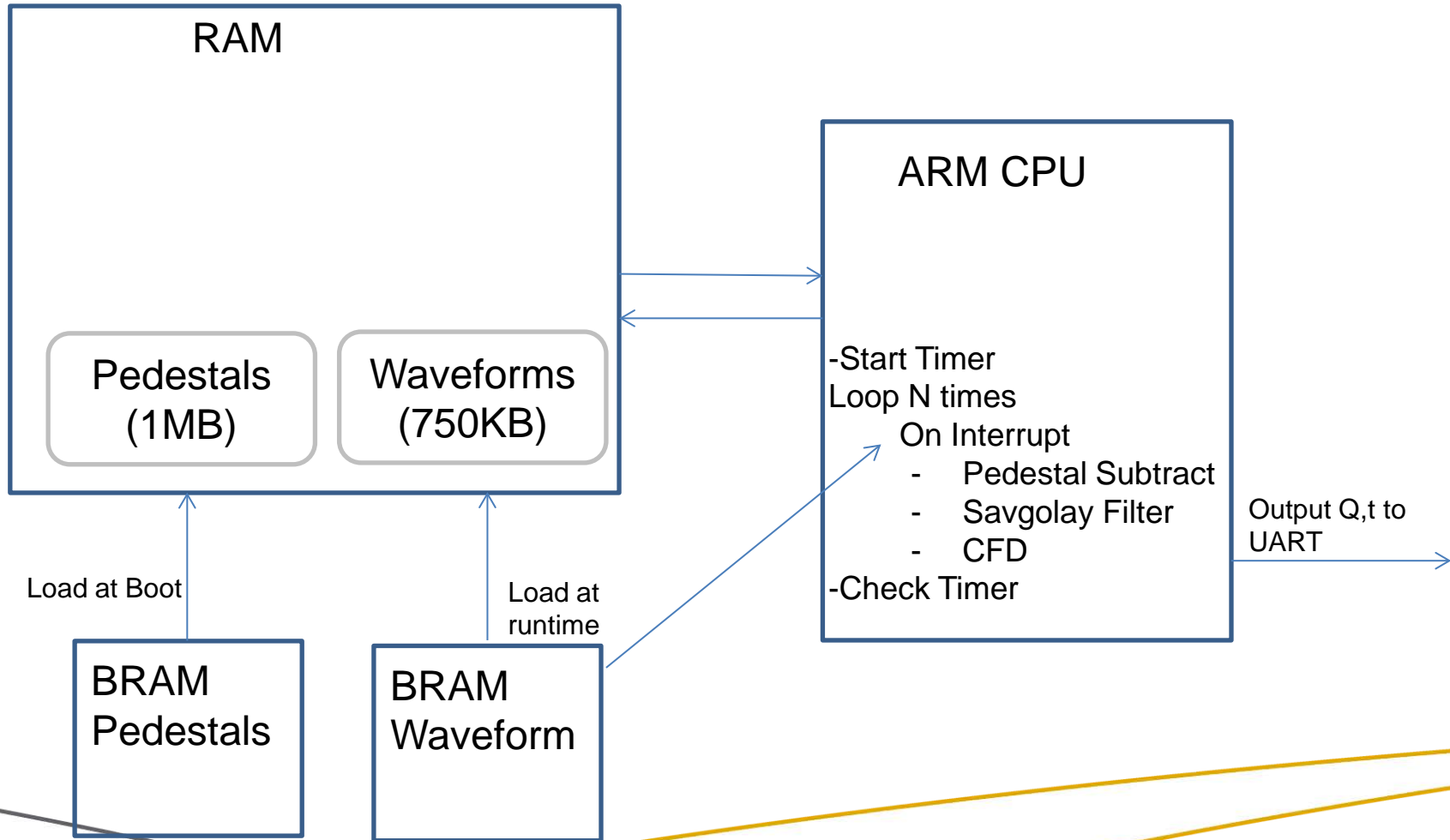
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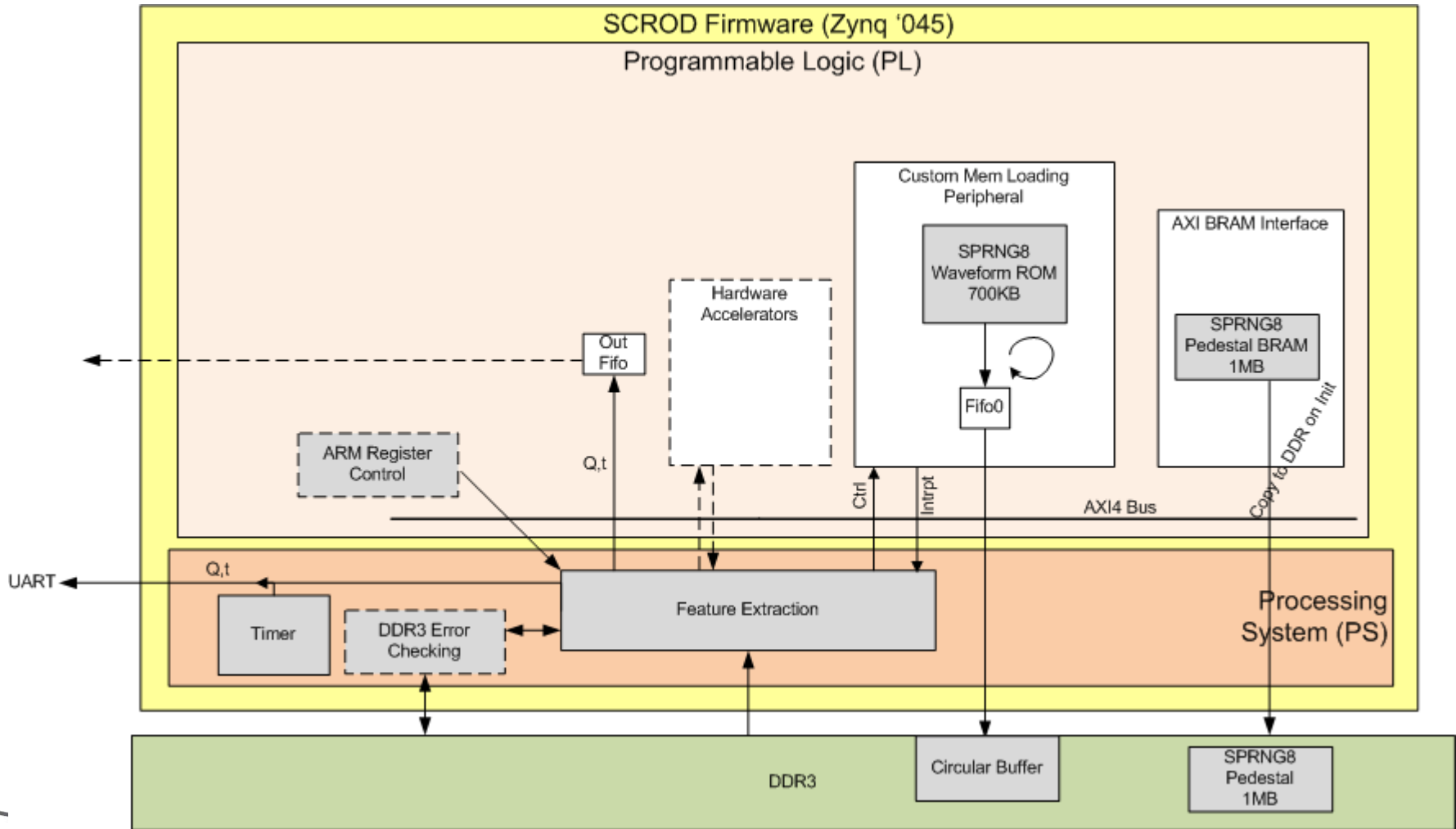
Conceptual Design



Testing Methodology



Test Configuration



Initial Results

- ▶ Timing (per 256 pt waveform)
 - <10K waveforms/s
 - Pedestal Subtraction – 215 us
 - Smoothing Filter – 760 us
 - CFD – 208 us
- ▶ Issues:
 - Code needs optimization
 - Memory access appear to be slow
- ▶ Next Steps for improvement
 - Optimize Code
 - Implement coherent caching
 - Move operations to on-chip RAM
 - Hardware Acceleration



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