



Backup LLRF System for the SNS RFQ



Project Planning

A. Ratti

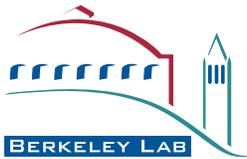
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Schedule

Back-up 402.5-MHz LLRF System for SNS RFQ																	
LBNL Berkeley																	
<i>Schedule of 8/29/02</i>																	
Calendar week (first day)	7/29	8/5	8/12	8/19	8/26	9/2	9/9	9/16	9/23	9/30	10/7	10/14	10/21	10/28	11/4	11/11	11/18
Week from start	1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16	17
Order long-lead items	█																
Simulations	█																
Interface documentation and block diagrams	█																
Preliminary circuits, assembly plans	█																
Board laid out, sent for fabrication							█	█									
Fabrication									█								
Load&test										█	█	█	█	█			
Write, simulate, synthesize FPGA firmware					█	█	█	█	█	█	█	█	█	█	█	█	█
Assemble 1 chassis, verify I/O										█	█						
Low-power closed loop testing (on RFQ)														█	█	█	█

RFQ power conditioning could start





Local Organization and Critical Interfaces



- LBNL Organization
 - Keller - Project Oversight
 - Ratti - Project Management
 - Doolittle - Project Engineer
 - Monroy, Regis, Ayers, Choy, E-shop -
- Interfaces and support crucial to the success of this project
 - Hengjie is the point of contact at ORNL
 - Will need significant FTE efforts and commitment from Hengjie and Chip, as well as HLRF staff
 - Will need the support of the LANL team
 - Interfaces
 - HLRF
 - LLRF

Direct assignments

- Simulations - Larry
- Hardware Development - Marco
- Bench Test - Mark/ □Larry/Marco
- System Integration - Jim/Alex/Larry



Summary



- Viable backup solution for RFQ re-commissioning
- Can be replaced by LANL-built “baseline system” anytime
- Contributions from Partner Labs essential
 - Technical support by SNS RF engineers
 - Information on interfaces and system characteristics by LANL cognizant staff
- Design could easily be adapted for other tasks
 - Different frequency
 - Additional input/output functions
 - Pattern recognition
 - Beam-current waveform for machine protection