P09343: Microwave Data II

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February 19th, 2009
Project Description

- Research project to create wideband antenna feed systems using novel components
- Design and simulate microwave components
- Design, simulate and define layout for two Butler matrices
- Test and verify two system and three component prototypes
System Topology

System A

90° Branchline
Hybrid Coupler

45° Schiffman
Phase Shifter

SMA Launch
System Topology
System B

180° Knöchel Hybrid Coupler

SMA Launch

90° Branchline Hybrid Coupler
Current State of Design

- Design of components/systems have been completed on schedule
- All customer needs and specifications for components and systems have been met as per customer design review on 2/13
- System layouts in progress, on schedule
- Review on Friday 2/20 at Anaren to assess manufacturing readiness
Technical Risk Assessment

- **Manufacturing Review Friday 2/20** to determine manufacturability of all components
  - SMA Connector Layout risk may be neutralized by designing connector performance to take into account manufacturing tolerance

- **Tolerance Risk**
  - Component Layout, stackup design exceeds trace thicknesses
  - Mitigation: Larger than minimum manufacturing tolerances were utilized for trace thicknesses making the performance of the systems less likely to be impacted

- Minimum six week manufacturing timeline may leave minimal time for testing in MSD II
MSD II Project Schedule Milestones

- April 10 (Week 5)
  Complete manufacturing of System A, System B, and components

- Week 9
  Complete testing and verification

- May 8 (Week 9)
  Documentation (poster, technical paper, results and files for Anaren) finalized

- Week 10
  Project Review