

Report by RFI

- Ding Sun – Absorber Design
 - Specification
 - Attenuation: more than -15 db
 - Reflection: less than -15 db
 - Feature of the design
 - Beam Pipe: step transition between different bands (no tapered parts) --- to make structure and parts simple to be fabricated.
 - Absorber: within beam pipe to get maximum absorption, use quarter-wave step to decrease reflection
 - Aperture: 1.20 inch wide

Report by RFI

- Ding Sun – Absorber Design
 - Results (only side bar)
 - Band1 to entrance
 - reflection: -21 --- -23 db
 - attenuation: -70 --- -30 db
 - band1 to band2
 - reflection (band1 side) -20 --- -25 db
 - reflection (band2 side) -21 --- -26 db
 - attenuation (band1 to band2) -60 --- -40 db
 - attenuation (band2 to band1) -45 --- -20 db
 - band2 to band3
 - reflection (band2 side) -23 --- -25 db
 - reflection (band3 side) -27 --- -29 db
 - attenuation (band2 to band3) -70 --- -30 db
 - attenuation (band3 to band2) -42 --- -20 db
 - band 3 to exit
 - reflection: -28 --- -32 db
 - attenuation: -37 --- -17 db

Report by RFI

- Ding Sun – Absorber Design
 - Absorber dimension (thickness x length)
 - entrance-band1: 0.23" x 5", 0.1"x1
 - band1-band2: 0.1"x1", 0.23"x2", 0.125"x3.18", 0.09"x0.82"
 - band2-band3: 0.1"x0.82", 0.195"x2.18", 0.125"x3.368", 0.09"x0.632"
 - band3-exit: 0.09"x0.632", 0.125"x5"
 - Beam pipe dimension
 - Band1: 1.872" x 1.244"
 - Band2: 1.590" x 1.244"
 - Band3: 1.450" x 1.244"
- Pete Seifrid
 - Came up with prototype design of power termination using SMA elbow with KDI 15 Watt tab resistor. –30 dB S11
- Cullerton
 - Designed reflective filter using 3 layer boards, broadside coupled lines and 4 elements.
 - Has prototype of a high power Petter hybrid in machine stops. Expects to test hybrid by next week.

Report by Mechanical Support

- Have preliminary design of tank, arrays and absorber assemblies
 - Same tank used for both kickers and Pickup
 - RF wave to travel from low bands to high bands
 - Vertical flanges in A10 on wall side, in A30 aisle side
- More work needed on
 - Water connections
 - Array support
 - Alignment fixtures
 - Array transition to end flanges
 - Final locations of launchers
 - Power Terminations
- Need to build prototype of absorber clip
- Absorber Vacuum test
 - Needed and empty tank re-bake because of too much water
 - Empty tank elevated temperature test to start next week

Discussions

- Because of band overlap single trunk system needs fan-in and fanout trombones.
- Single trunk system would require fairly tight tolerances on phases at edge of each band
- Should we use a multi-trunk system instead?
 - Because of low power, Avoid TWTs by ganging 1 watt amps together for each band
 - Lots of microwave parts

Assignments

- McGinnis
 - Give Band 3 slot Dimensions to Dave Tinsley
- Ding Sun
 - Finalize absorber tolerances with Dave Tinsley next week
 - Prepare request for quote for Trans-Tech
- Pete Seifrid
 - Finish prototyping termination design. Give design to Dave Tinsley
 - Inventory microwave hardware parts
 - Keep Ed in line
- Ed Cullerton
 - Order material for filters
 - Sensitivity analysis for Filters
 - Test prototype Petter hybrid
- Pasquinelli, Seifrid, and Cullerton
 - Decide on multi-trunk system or not.
 - Produce rough schematics of electronic design before X mas
- Dave Tinsley
 - Prototype Absorber clips
 - Continue on Tank Design
 - Continue on Bake-out test
 - Vacuum test flexible cable
- Next Meeting will be on Fri. Dec. 14 at 10 am in the Penthouse