

Minutes for AMiBA Engineering Telecon

Meeting Date: 17-June-2004

Participants:

Australia:

USA: Ming-Tang, Derek, Johnson, T.H. Chiueh, Jeff, Ferdinand

Taiwan: Michael, C.T., Homin, Steven, Ted, Kyle, Patrick

USA Dial-in = 1-800-653-5390, 6668081#

Outside USA Dial-in = 1 773 843 6301

Minutes Recorder: C.T. Li

[previous weeks comments](#)

I. New Action Items:

AI-June17-1: Paul Shaw - to check on the payment to Ludwig for interest and additional concrete.

II. Previous Action Items (still open):

AI-June10-1: Philippe/Ted - To check the results of previous acceptance measurements for the 30 and 60-cm dishes.

Ming-Tang/Ted - We found that the 2nd were made with wrong shapes, due to misunderstanding of coordinates. We need to find out how long it will take for Along to fix them.

AI-Apr22-2: Philippe/Ted - To check on Along's analysis and come up with a conclusion on how to repair the platform.

Ted - Philippe and I tried to explain to them the best-fitted plane that we need. We sent them some examples this week.

Ming-Tang - We should set up a deadline for them to finish the job, otherwise we should close it. I'll ask Philippe to come up with a plan or analysis then.

Ted - We have received Along's analysis. However, the result is not applicable because the unit is few orders of magnitude different. They have to re-calculate it again. Also they used best-fitted curve model, not the best-fitted plane model that we need.

III. Closed Action Items (as of this meeting):

AI-June10-2: Philippe/Ted/Paul - To discuss the items that CMA has not fulfilled according to the contract. Then Ming-Tang will follow up to discuss those issues with Bob Romeo.

Ming-Tang - Philippe, Ted and Paul had a meeting last week. They gave me some suggestion, and I sent an email to CMA explaining our intention to close the platform contract ASAP. However CMA doesn't quite finish the work yet, e.g. de-lamination, weld-nut, and end-fitting.

IV. Miscellaneous Discussions:

MMIC:

C.T. - Prof. Wang and his students will continue their work until next March.

Receiver:

Homin - We still work on Rx#3.

Johnson - We try to leak check the Rx #1.

Homin - We plan to ship Rx #3 by the end of this month.

Minutes for AMiBA Engineering Telecon

Ming-Tang - Rx #2 has arrived in Hilo. Rx#1 has warmed up due to the leakage. Johnson will come over the weekend to work on them. We also need to fix the vacuum window of one of prototype receiver.

LO/IF:

Steven - Prof. Chu has sent out an email about additional amplifiers. We will set up a meeting to discuss the details.

Steven - Prof. Chu will not be in Taiwan until next week. We haven't discussed with him about another IF amplifier yet. We're working on IF/LO module #4.

Calibration System:

Ferdinand - I need to design a translation stage. I agreed with Prof. Chiueh that there might be more power at lower frequencies. We can put the photonic noise source on a carrier to translate along the baseline of two prototype receivers to find out the signal spectrum from the fringes.

Ferdinand - I got the mock-up for the sub-reflector that I can design a translation stage fixture in this week. I received parts from Taipei, e.g. photo-couplers, power dividers, and some bias circuitry for photonic detectors. Still lots of work to do.

Correlator:

C.T. - I set up the correlator system again. Michael is going to connect the observation software to correlator.

C.T. - We're working on some minor modifications and mechanical designs. Plan to ship the system in July.

Platform/Mount:

Michael - For the mount, everything now is in place according to Ferdinand and Philippe. Vertex is going to have the jacks running up and down continuously for a while. A team from AMiBA is going to perform the acceptance test next week. The platform certainly deforms badly outside the ring containing the U-joints. There would be problem for use of big dishes - 1.2 or 2.4-meter diameter ones, which have to be on the outer region of platform. I wonder if the support of the U-joints put in bending stress into the platform. One option might be to have a steel ring to carry those stresses, and the platform just sit on top of that.

Ted - Philippe has considered whether to use a steel or carbon-fiber ring because of thermal expansion issue. However, a carbon fiber plate will take CMA a while to make it.

Michael - Current platform will suffice for 7-element compact array. We might be able to operate the system in the mean time to fabricate the plate. It might be worth to see if we can have access to Vertex's stress model while we're there next week.

Ming-Tang - The mount acceptance test will take place in the week of June 22.

Dish:

T.H. Chiueh - The dish temperature is about 25 degrees additional to the sky. Their shielding is not plated with metal.

Ming-Tang - We had a discussion before about whether the shielding should be reflective or absorptive.

Ferdinand - If the shielding is reflective, you could have standing waves or pick-up. If it looks like a semi-transparent absorber, you add more noise to the system due to the radiation at the ambient temperature.

Ming-Tang - For the large (2.4m diameter) dishes, we need to do some feasibility study and work out the detailed specs.

Site:

Ferdinand - I will try to contact the container and shelter companies for more updates.

Minutes for AMiBA Engineering Telecon

Ferdinand - I will send some blue prints of the site to the company for the shelter design. They're working on the engineering design. The container should be in Hilo by end of the month, shipped up to the mountain, then the electrical can be finished.

Paul Shaw - We will need to the inspection record to release the payment, which has been sent out by Ferdinand.

2-Element Prototype Testing:

Administration:

Update from Paul about the customs clearance issue for mount & platform -

We have consulted the import duty exemption issue with the TECO in Honolulu. They agreed to help us to apply the import duty exemption for mount. We need to provide all necessary shipping document to TECO once we got from VA. Then TECO will send it to Washington for approval. It may take one month or more to get paper work through.

Paul Shaw - Per funding agency's request, we will have a news conference for Cospa and AMiBA project in mid Sept to present our research results to the public. Hopefully platform and mount should be installed by then. I will follow up the shipping documents.