Minutes for AMiBA Engineering Telecon

Meeting Date: 14-October-2004

Participants:
Australia:
USA: Derek, Kyle, Pierre, Johnson, Philippe
Taiwan: C.T., Joshua, Homin, Steven, West, Tashun, Patrick

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Minutes Recorder: C.T. Li
previous weeks comments

I. New Action Items:

II. Previous Action Items (still open):

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

IV. Miscellaneous Discussions:

MMIC:
C.T. – Purchase request for the doubler housing was filled out.

Receiver:
Johnson – After bias is turned on, temperature of Rx #2 is varying between 9 and 13K, while temperature of Rx #1 rises about 1 degree.

Johnson – Receivers in Hilo are kept cold. There is still a large power difference (1.5dB) between phase switching.

LO/IF:
Steven – Control voltage units for the variable gain amplifiers have been verified. IF output power of Rx #1 is abnormal (-15 dBm vs. -5 dBm for Rx #2).

Calibration System:

Kyle – I found some components to distribute the calibration signals at 13 GHz. The total cost is about 24,000 US dollars for 7 elements. Whether phase drifting of receivers and calibration system can be de-coupled by inspecting the phase closure is still a question.

Correlator:
C.T. – I found that the residual counts are larger (about 20 ~ 50 counts) when correlator 2nd and 3rd sections were powered up by the DC-to-DC converter, compared to a small offset (~ 3 counts) with a commercial power supply.

C.T. – We're ready to ship one corr frame with components.

Platform/Mount:
Philippe – The cone has arrived and will be delivered to the site on next Tuesday. We will start the assembly of the cone on the following day. Vertex engineer will be in Hilo around the end of Oct. to check the leveling of the cone. In the first week of Nov. we will do the grounding. The dummy ring will be delivered in the first week of Dec. I'll be in CMA next week to check on platform status.

Philippe – The cone will be in Hilo on Oct. 11th. We will start the cone installation on 25th, which will last for about 2 weeks. The shelter should leave Florida tomorrow, and will arrive in Honolulu on Nov. 3rd. We can start the erection of the shelter right after the cone. We will try to do it within 10 days. We start the hexapod assembling on Nov. 2nd, with Vertex people. In the end of 2-week assembly, we will have the dummy ring (around the end of Nov.). Then cabling will follow. Testing of pointing with the dummy ring could be around Jan. 2005.

Dish:

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Patrick – We did an extended measurement on the new dish last Saturday night. The power level difference between the main lobe and side lobe is as expected. The pattern is quite symmetric now except the 1st side lobes (about 1~2 dB difference). We did rotate the dish by +/- 120 degrees. We also did some fitting to check on the focal length.

Patrick – We did another beam pattern measurement on Thursday, still with the old dish. The purpose was to investigate the asymmetric. We used a cylinder to the feed-horn in the right position. The asymmetric is improved. The factor of one side lobe to the one on the other side is improved from more than 2 to about 1.2. The other part of asymmetric could be because we did vertical scans, the difference between sky and the building as the building might have some effect. We had the new 60-cm dish. But we don't have a chance to test it yet.

Site:

Pierre – The drive cabinet and the transformer have been installed. I am buying components and install them for the network.

Pierre – We will install the drive cabinet and the transformer tomorrow afternoon. The cables from Helix may not fit our need due to the temperature and UV.
Homin – The cold head control box from Helix can not control each unit separately. We have to make it ourselves.