

Minutes for AMiBA Engineering Telecon

Meeting Date: 22-July-2004

Participants:

Australia:

USA: Ming-Tang, Derek, Pierre, Ferdinand, Ted, Johnson

Taiwan: Huei, Paul Shaw, Ted, West, C.T., Joshua, Tashun

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:

II. Previous Action Items (still open):

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

IV. Miscellaneous Discussions:

MMIC:

Huei - We will call Wisewave to discuss the packaging of MMICs for LO chain. The cost should be less than 100K NT dollars per one module.

C.T. - One major issue is whether we can use their standard packaging or we prefer custom housing the same as those we're currently using for 7 element.

Receiver:

Ming-Tang - Rx #3 and #4 have been cryogenically checked. Within next few weeks, we will ship Rx #3 to Hilo.

Homin - Tashun is doing leak detection on Rx #3. Once it's done, Rx #3 will be shipped out. Joshua has done the DC power test of Rx electronics, 1st section of correlator, and IF/LO. The total power consumption is around 100W (with 48V DC), much lower than expected.

Johnson - After measuring the spectra of receiver outputs, each channel has about 5dB difference (or slope) in output power across the band. I am trying to find where the slope comes from, prior to or after the IF amplifier.

LO/IF:

Steven - Prof. Chu has two concerns about the variable gain amplifier - one is how to implement the control voltage, the 2nd one is about the phase variations with gain. We will test the bias circuit in IF/LO to see if it can support totally 4 IF amplifiers. For the DRO, Prof. Chu will not send the module back to the vendor. He will deliver the production unit unless we can confirm the LO power is not enough.

Derek - The control loop doesn't have to be closed loop. We don't want to adjust the gain by itself. We want to make cautious effort to make the change only when we want to. Using the total power detector in correlator 1st section to measure the power from the receiver, we can make adjust Miteq's variable gain amplifier with a DAC, digital-to-analog converter.

C.T. - Steven may want to see if we can find some computer interface card off the shelf that can output voltage to the amplifier, preferably for Linux.

Calibration System:

Kyle - There may be two approaches for the CW calibration source - one is by tuning the CW across the band, the other is by coupling the broadband noise thru the CW. Both approaches will require putting in some variable delay.

Correlator:

C.T. - The revised frame will come in today. One of hard drive of correlator control computer failed last week. I plan to install a mirror hard drive kit in the CCC. The delivery is about 2 weeks.

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C.T. - We received the frame last week. However, machine shop made some mistakes. We will have them revise it, expecting to have it back in next week. I plan to ship the frame with all the other components the week after next week.

Platform/Mount:

Ming-Tang - Platform is on its way to CMA. We are also discussing the 3rd fix with them. Currently CMA is busy with other project. Some items of the 3rd fix require long lead-time. The schedule for the 3rd fix will come in about 12 weeks. I'll try to get CMA to start ordering parts before issuing P.O. Overall they will finish it around end of October. Between early and mid November, platform will arrive in Hilo. Mount has been shipped out in two containers. Jackie and others are working on the custom clearance. Michael has sent some software that Vertex can continue working on the control computers. I would like Vertex to ship out the computers by early August.

Ming-Tang - Vertex has disassembled the mount and planed to ship it with two containers. Jackie is working with TECO to get the custom clearance for it. We received the quotation from CMA for 3rd fix of the platform. I'll work with Philippe on the in-plant test program.

Dish:

Ming-Tang - Sun has agreed to proceed with 1.2-m dishes. I have asked Jeff how to revise his current ones for our use.

Site:

Ferdinand - Ted and I went to the enclosure company today. They will do a test assembly and test run about how to open and close all the structure. They had problem with one of the machine. Therefore they're a little bit behind. Ted will stay a bit longer till next week. Tomorrow we will show them the simulation of the mount, and then go to the factory.

Ming-Tang - The electrical work with the container is done. Pierre will arrange to ship it up to ML to have the electrical hooked up.

Ferdinand - We got the container to Hilo this Tuesday. We plan to ship it up to the summit on the 29th, and then have the electrical hooked up in a week.

2-Element Prototype Testing:

Administration:

Paul Shaw - Please take a look at the email I sent out about Cospa presentation and give us the update.