

## Minutes for AMiBA Engineering Telecon

Meeting Date: 26-August-2004

Participants:

Australia:

USA: Ming-Tang, Pierre

Taiwan: Paul Shaw, C.T., Joshua, Johnson, Homin, Steven

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Minutes Recorder: C.T. Li

[previous weeks comments](#)

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### I. New Action Items:

### II. Previous Action Items (still open):

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

### IV. Miscellaneous Discussions:

MMIC:

C.T. - We're getting a quote for the doubler housing from the local machine shop. After the manufacturing, we will send all the components to Wisewave for packaging.

C.T. - There are some minor issues, e.g. exact MMIC chip dimensions, dimensions of chip capacitors and 50-ohm transmission lines that need to be resolved before finalizing doubler housing drawing. In the mean time, we will get a quote from the machine shop.

Receiver:

Ming-Tang - Kyle put IF/LO module #3 into Rx #2. However, one of the IF/LO channels is not working. Steven should have a report about pre-shipment inspection of IF/LO modules, and send a copy of schematic to Pierre that he can look into it in Hilo. Tashun is cooling down Rx #4 in Taipei. Kyle will send IF/LO module #2 back to Taipei for repairing.

LO/IF:

Steven - After the component acceptance test, I will work on IF/LO module documentation for future reference and trouble-shooting. Then I will assemble the modules #5 to #8. We will wait for the variable gain amplifiers to be installed in module #4.

Calibration System:

Ming-Tang - Kyle is on vacation these two weeks. He gave me a list of components for the calibration system, mostly from Wisewave. The total cost would be around 10K US dollars. They're necessary for prototyping. I will write a memo describing the system.

Kyle - I am looking for components for the CW calibration system. So far I have located the supplier for doublers, amplifiers, and power dividers, not the phase shifter yet. The plan is to generate 21-26 GHz CW signals, and then feed to each receiver. With power dividers and phase shifters, we can change the relative phase between each receiver. Using the 4<sup>th</sup> harmonic of the harmonic generator, we can have signals from 84 to 104 GHz.

Correlator:

C.T. - We're revising the total power detection circuit layout. We found the clock of correlator computer is drifting, about 6 seconds per hour. We're going to send one motherboard back to the manufacturer for inspection, while keep the other one for system testing. After Tashun put together one set of frame, we will put the components in and finish the wiring.

C.T. - The machine shop and Tashun retrofitted the frame. It's working right now. Tashun is putting them together. As I was checking the phase switching signals to the IF/LO module, we found the

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digital signals contaminate the analog ones from the total power detectors. I might need to revise layouts of two PCBs. In the mean time, I will ship the current modules to Hilo at first, and then swap them later on. We still can test the correlation, but not the total power detection at first.

### Platform/Mount:

Ming-Tang - According to Philippe, the platform is in L.A. and has been cleared of the custom. It hasn't been shipped to CMA yet, although we have an agent in L.A. to work on the shipment. Philippe is discussing with CMA on the details of the 3<sup>rd</sup> fix. We need to finalize it in order to issue the P.O. For the mount, Vertex hasn't shipped the computers yet, still working on the open issues.

### Dish:

Paul Shaw - I got an email from Prof. Chiueh about Jeff's offer for the 1.2-m dishes.

Jeff - One of my student is ray tracing the new secondary at the moment.

### Site:

Ming-Tang - We just got down from the site. Ludwig has finished all the open issues on the punch list provided by the architect. We also have the electricity hooked up to the containers. We should close the contract and pay the final bill.

Ming-Tang - Ted was in Florida in the past week to have a look at the shelter. The company has some difficulty putting the motor on the top of the shelter. They are trying to find another motor. At this point, the shelter will arrive in Hilo in early October. For electricity, the electrical company will switch on the power on Aug. 25<sup>th</sup>.

### 2-Element Prototype Testing:

### Administration: