Minutes for AMiBA Engineering Telecon

Meeting Date: 05-Feb-2004

Participants:
Australia: Warwick
USA: Paul Ho, Ming-Tang, Ferdinand, T.H. Chiueh, Derek
Taiwan: Paul Shaw, Huei, Kyle, C.T. Li, Johnson, West, Steven Teng

USA Dial-in = 1-800-653-5390, 6668081#
Outside USA Dial-in = 1 773 843 6301
Minutes Recorder: C.T. Li
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II. Previous Action Items (still open):

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Johnson - Circulated a test report by Prof. Chu and his student about the power level difference between 2 states.

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Ted – Since Philippe's model is not completely reflecting the current status of platform, we will co-operate with Along to re-build the FEA model and do the analysis.

IV. Miscellaneous Discussions:

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Warwick – For the multiplier noise measurement, things to consider is whether this new design has more gain than the old one, if it does, it will output more noise; the other thing is the current level running the transistor within the Gilbert cells because the current level is higher, you could get significant amount of shot noise.

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Ming-Tang – For platform, after talking to Philippe and Ong, somehow Philippe still doesn't feel comfortable about the 2nd fix. Dr. Ong convinced me that we need to do the finite element analysis as soon as possible. He has the capability of assembling a team to do that. Not quite confident that after the current load testing, it would be no problem to put the platform on the mount and load it with all equipments. Ferdinand proposed another meeting soon to discuss and update the platform test plan. We can test the platform with 2 or 3 different loads to extrapolate how the platform behaves. There is a conflict between Bob and Philippe's inspection on platform after manufacturing. Haven't seen a complete blue print so far(either a machine shop or design blue print from CMA or ourselves). Right now we tried to assemble an FEA team in Taipei and set up the modeling, in the mean time, to go over the load testing plan with Philippe.

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2-Element Prototype Testing:

Minutes for AMiBA Engineering Telecon

Meeting Date: 05-Feb-2004

Participants:
Australia: Warwick
USA: Paul Ho, Ming-Tang, Ferdinand, T.H. Chiueh, Derek
Taiwan: Paul Shaw, Huei, Kyle, C.T. Li, Johnson, West, Steven Teng

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):

AI-15Jan04-1: Johnson – Contact Prof. Chu to see whether there is any power balance mechanism in LO module, also look into the biasing of PIN diode switches, and the model number and manufacturer of PIN switches. If Prof. Chu has a plan to investigate this issue, he probably has to vary with temperature and power. Because supposedly he uses Mylar to do the compensation for another path, that might depend on temperature or power level. He might want to change the parameter regime a little bit.

Johnson - Circulated a test report by Prof. Chu and his student about the power level difference between 2 states.

AI-15Jan04-2: Ted/Philippe – Generate a report about the finite element analysis of the platform.

Ted – Since Philippe's model is not completely reflecting the current status of platform, we will co-operate with Along to re-build the FEA model and do the analysis.

IV. Miscellaneous Discussions:

MMIC:

Warwick – For the multiplier noise measurement, things to consider is whether this new design has more gain than the old one, if it does, it will output more noise; the other thing is the current level running the transistor within the Gilbert cells because the current level is higher, you could get significant amount of shot noise.

Huei – Paul Clenworld will ship InP chips to Taipei this week.

Ming-Tang – Sent Todd Gaeir an extension of MMIC contract few weeks ago, waiting for his reply.

Huei – Will contact Clenworld about how MMIC will be handled in Taipei or Hilo. He will send the chips directly to Taipei shortly.

Receiver:

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Ming-Tang – 2nd receiver is ready, however we like to keep it in Taipei for a while to test the electronic part. Plan to ship it after we finish the 3rd unit.

Ming-Tang – We will continue assembling more receivers in Taipei.

LO/IF:

Steven – Some components have arrived. Prof. Chu's student will assemble the parts next week. I would like to test the equalizers first. According to the LO temperature vs. power record, after 3-hour warm-up, the temperature is still rising up (due to the amplifiers), the output power from the amplifier is still reducing. (2dB drop in output power after 20-degree increase in temperature). Would like to measure the phase and amplitude change of the module over temperature.

Ming-Tang – We will have a new person come in to work on LO/IF with Prof. Chu's group.

Correlator:

C.T. – Haven't tested the phase switch generator circuit yet. Will test it soon. Started looking into Warwick's programs. West is still working on the drawing of IF cable routing from correlator 2nd to 3rd sections. I will work on the testing of circuit boards and software. Ted plan to have the correlator frame design sub-contracted in mid Feb. The lead-time is about 4~6 weeks. Probably will receive Derek's modules by end of this month. Around mid or end of March, I can start putting together correlator system. The initial testing of correlator, readout, and data acquisition system will start in April. Then I would like to ship the correlator system to Hilo to test with 2 receivers and W-band translating noise source. By end of June, Johnson and Mark can finish assembling of rest of power dividers and circuit boards.

C.T. – Mark has put together one phase switch circuit board, which will generate phase switch and demodulation signals. We will have to test it soon, probably in next week. Johnson is moving along with 3rd section power dividers.

Platform/Mount:

Ming-Tang – CMA will work on the 2nd modification of platform till receiving official PO from us, thru RCUH. The fix will start around Feb. 23rd in Vertex. Philippe, Ted, and CMA will be there for 2~3 weeks, including testing. In the mean time, we asked Along to do the FEA on the current status of platform.

Ming-Tang – For platform, after talking to Philippe and Ong, somehow Philippe still doesn't feel comfortable about the 2nd fix. Dr. Ong convinced me that we need to do the finite element analysis as soon as possible. He has the capability of assembling a team to do that. Not quite confident that after the current load testing, it would be no problem to put the platform on the mount and load it with all equipments. Ferdinand proposed another meeting soon to discuss and update the platform test plan. We can test the platform with 2 or 3 different loads to extrapolate how the platform behaves. There is a conflict between Bob and Philippe's inspection on platform after manufacturing. Haven't seen a complete blue print so far(either a machine shop or design blue print from CMA or ourselves). Right now we tried to assemble an FEA team in Taipei and set up the modeling, in the mean time, to go over the load testing plan with Philippe.

Calibration System:

Ferdinand – Photonic noise source is coming together. We will test it up on MLO sometime next week.

Ferdinand – Started testing the CW calibration system. There is some drifting, and some lines in receiver IF output. Plan to go up next week one day to have a look. The output power is large enough even to saturate everything. For the photonic calibration, most of the mechanical parts can be set up soon.

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Dish:

Ming-Tang – The burnt-out dish is repaired and back in Taipei's lab.

Site:

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