



Minutes of PLUME Phone meeting - 2010, May 4 -

J.Baudot

Participants

- **University of Bristol:** Joel Goldstein,
- **Desy, Hamburg:** Lena Bachynska, Ingrid Gregor, Ulrich Koetz,
- **University of Oxford:** Andrei Nomerotski,
- **IPHC, Strasbourg:** Jerome Baudot, Nathalie Chon-Sen, Mathieu Goffe, Marc Winter.

Agenda

The meeting was mostly devoted to a short status report of each activity, see agenda with some slides at <http://indico.cern.ch/conferenceDisplay.py?confId=93443>.

1 Status on module test, Nathalie

Nathalie explained we have now in Strasbourg a module made of a PCB-flex on which 3 sensors are glued. One (position 6, nearest to the conductor) is bonded. Unfortunately, it appears that the slow-control interface (JTAG protocol) is not operating properly. The sensor is not biased nominally and the power consumption is lower than expected. This problem is probably due to a defective chip but this is not 100% sure.

Since there is no way to test the other sensors if the first one is not functional due to signal daisy chain, a new sensor is being bonded on top of the defective one. Additional delay was introduced by a failure of the air cooling of the IPHC clean room where bonding is done.

We should absolutely succeed in operating the first sensor on the PCB-flex before moving to more complex tests (like using the kapton-flex).

Mathieu reported that two samples of the auxiliary board are ready and tested at IPHC. The jumper cable to connect the flex to this board should arrive before May 7. So the final setup (currently the setup is based on a small break-out board) for the module test shall be ready by next week.

2 Flex test and order status

The kapton-flex samples has arrived in Oxford some time ago already. 2 are in Strasbourg to prepare for the sensor mounting and 1 will go to Bristol for the design of the mechanics. Two issues were raised by Andrei:

- the trace width on the kapton-flex from Graphic is 40 μm instead of the 75 μm expected, Pete has asked for clarification to Graphic;
- the first attempt to mount passive components on the kapton flex in Oxford was not satisfactory, a second one will allow to fully evaluate the quality reachable.

Andrei has already obtained a quotation from a second vendor, OptiPrint, which is quite responsive, whereas the two others contacted (Datex and Cicorel) have not answered yet. OptiPrint proposes specification at least as good as Graphic with a price which is slightly lower. We plan to order flex to them as soon as the current flex design is validated by the successful operation of sensors bonded on a Graphic sample (June probably).

3 Power pulsing test status

Uli explained that the hardware setup is basically operational for the analogue part of MIMOSA26. There are still some questions which can be answered by emails. The analysis software with LabView is almost working according to Lena but some fix has still to be done.

Tests will start soon.

4 Mechanics update

Not much happened in Bristol but Joel pointed out that the manpower for the design will be available in the coming weeks to provide a final drawing by June.

5 Database discussion

Jerome reported that after some discussion with Nathalie and Matthieu, the following proposition is made to the collaboration. For this year a simple system based on files will be used.

- The main file is an Excel file wich contains one line per object (bare flex, module, jumper cable, ...) with basic fields giving the name, localisation, history, status and potential comments. One sheet will be devoted to each object type and the file will be available on the web.
- For modules, a dedicated file with the history and detailed test results will be created per object

Next year, we may move to a real database software with a web based interactive interface. The specifications of this more complex system will benefit from this year experience. The manpower for the software implementation is still to be clarified.

6 AID box-AIDA discussion

Andrei informed everybody that an engineer, Stephanie Yang, is working on the design of the Alignment (AID) box, focussing currently on the station support with the movable stages. Quotation are already available for different stages. There is a number of options about the stage specification (for instance the backlash tolerance). We will probably be able to elaborate choices once a drawing is available which should happen next week. Marc pointed out that the acquisition hardware for the box, which should match 80 sensors, represents a non negligible amount of money. In the present IPHC solution, it is based on 1 PXI crate including 2 PXI-Express board to serve 32 sensors.

The whole AIDA project is well on its track for the final submission to (or approval by ?) the EU Frame Program 7.

7 Planning, action items, next meeting

The PLUME planning stays more or less as it was, that is to say:

- May-June: ongoing test/validation of the module (flex+sensor).
- June: ordering flex to at least one different vendor; preparation of the tools for the assembly of ladder in Bristol.
- July: start to produce ladders with the “best” available flex.

Our next meeting should happen at CERN somewhere in June to allow extensive reporting and discussions, including:

- report on module testing,
- assess mechanics (support and assembly),
- flex situation with different vendors,
- AID-box progress, decisions on design (?).

We had to give-up the previous date, the new one will be defined with a Doodle poll.