

## Fwd: Questions

Jie Zhang, Me



Joao Guimaraes da Costa  
Jie Zhang

Mar 23, 9:38 PM

Hi Jie,

It seems they had forgotten about the bumps for our upgraded module solution. I brought it up with Laurent and they are checking on this again. Can you take a look at the email below and let me know your opinion?

There is also a question about packaging MUXs. What do you know about this?

Regards,  
-Joao

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Joao Guimaraes da Costa  
Professor, Institute of High Energy Physics  
Chinese Academy of Sciences, Beijing

Sent from [Polymail](#)

----- Forwarded message -----

From: Laurent Serin <[serin@lal.in2p3.fr](mailto:serin@lal.in2p3.fr)>  
Date: Mon, Mar 23rd, 2020 at 8:59 PM  
Subject: Questions  
To: "Joao Guimaraes da Costa" <[guimaraes@ihep.ac.cn](mailto:guimaraes@ihep.ac.cn)>

Hi Joao

I discussed with Nathalie the question of having bump for the ASIC and got the following questions that you might forward to your expert :

- 1) Could wire bonded pads be used for you bump bonding option ?  
What should be the size of the bump and the minimal space between them ?
- 2) If 1) would not be a viable solution, could the attached solution with two rows acceptable ?  
During UBM of the matrix asic obviously the bumps need to be protected.
- 3) If we succeed, would do you have any interest to have already 1) or 2) done with ALTIROC1 ?  
(an ALTIROC

On a different topic, SMU is designing the MUX asic but they clearly said that they will not follow the production/packaging (~1000 ASICS) not make the QA/QC. Jingbo told me that they could have some interest at IHEP, NJU and IPAS before contacting I would like to understand IHEP's interest ?

Thanks, Laurent

1 attachment



bumps.jpg  
200.0 KB • Saved!

Open



Jie Zhang  
Me

Mar 24, 9:19 PM



Dear Joao,

- 1) Could wire bonded pads be used for you bump bonding option ?  
What should be the size of the bump and the minimal space between them ?

I don't know the limits for company, we only tested 150 um space with 60um ball in diameter.

- 2) If 1) would not be a viable solution, could the attached solution with two rows acceptable ?  
During UBM of the matrix asic obviously the bumps need to be protected.

Possible, but this is only two lines, not matrix, I don't know if the stress can make them flat.

- 3) If we succeed, would do you have any interest to have already 1) or 2) done with ALTIROC1 ?

Impossible, UBM needs full wafer mask. ALTIROC1 was been diced.

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Bad news. In fact I am not interested in QA/QC, and the main issue is the manpower. In JUNO project, this kinds of repetitive work is completed in the factory/company.

在 2020/3/23 21:38, Joao Guimaraes da Costa 写道:  
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Best wishes,

Jie Zhang/ 张杰

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19B Yuquan Road, Shijingshan District, Beijing, 100049  
TEL: 86-10-88233061  
FAX: 86-10-88236169

 Joao Guimaraes da Costa  
Jie Zhang

Mar 25, 1:51 AM

Hi Jie,

Perhaps we can talk tomorrow? I don't fully understand some of the answers.

For the last question there are two parts:

- 1) Production of the packaging
- 2) QA/QC

I don't know how any interest from those people got to Laurent, but I was not from me... We do have to find out items to cover for a total cost of up to 2.1 MCHF. So, if we can have things sent to Chinese companies we should benefit from that.

If you don't have personal interest in this, which I understand, perhaps this is something good for Nanjing. What do you think?

If you want to send things to be done at a company, you need to put them in the total cost of the PEB. You are the boss there.

Cheers,  
-Joao

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Joao Guimaraes da Costa  
Professor, Institute of High Energy Physics  
Chinese Academy of Sciences, Beijing

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