

Re: TQFP handling while developing

Source: <http://coding.derkeiler.com/Archive/General/comp.arch.embedded/2004-05/1227.html>

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Date: 05/17/04

Date: Mon, 17 May 2004 04:21:22 +0200

Thank you, Paul for your long answer.

First I want to say, that my English is not very good. I do not know, whether I understood everything correctly. And do not know, whether I say everything that way, I want it to say. Sorry for this.

"Paul E. Bennett" <peb@amleth.demon.co.uk> schrieb:

>Either your project planning capabilities and project control are very
>naff or you are dealing with the cutting (or even bleeding) edge
>technologies. I will stay with the charitable side and consider that
>you are on the bleeding edge of developments. This then puts you in the
>realm of prototyping designs or parts of designs to ensure that you
>achieve the desired performance.

This is a problem. I am the only designer in our company. The possibilities are a bit poor. :(I have to solve every problem without companion and without assistance.

What is a naff project control? Or better: What makes a project control the opposite of naff?

>cutting vs bleeding edge

Could you explain that with other words ... my limited English. Sometimes I think, a good equipment makes your thoughts poor. I do not really know, which side is better to switch charitable mode on or off. ;-) But the die of PLCC is too hard. Some effects maybe compensated, but others not.

>OK, so you are already using prototyping boardlets with impedance
>controlled padding.

You are speaking from the little PCBs with the controller on it? Please, tell me more about "impedance controlled padding".

The analog section is divided from the digital by both grounds, which goes closed to the controller as possible. The backside (two layers) of the pcb is filled with ground – digital and analog divided to their

sections.

*>The practice of keeping other component leads
>very short should still apply. Use a small tipped soldering iron but
>as large as your dare (this is all about plenty of heat for very
>short periods of time – mere dabs to connect).*

*>If the prototype
>boardlets do not keep the footprint close to what you need for the
>final layout the trim these boardlets down further till they nearly
>fit.*

Very good!!

*>Be cognizant of the impedances between layers for your chosen
>PCB materials.*

Isn't it capacity? Please, tell me more.

*>Sounds like youi may need to also consider your decoupling philosophy
>or your layout topologies to ensure that you minimise cross-talk and
>pickup. Take your time doing this.*

I think I do it. Maybe there are some points, which I do not know. I use two or more grounds. Every section is screened by its own ground. Critical signals are double screened with its own signal, hardened by an amp and then with its ground. Astral wiring as most as possible.. Very critical points (high impedance) are devided by gaps in the PCB or sometimes wired in the air. In extreme situations they are sealed from the humidity. I use screen-sheets. I always use kelvin-design for critical measurements. I decouple wires with high and low current. The thermo effect of a soldering joint is annihilated by an inverse one, if disturbing. I take care of the route of every lead. I decouple switched high-voltage leads by resistances near to the switches, to avoid broadcast. This all for PCB route and real wire route. I hope I did not forget anything. Anything more to do?

But there is the mechanical process equipment, which is not always asked me. And sometimes the design of the electronic is made by optical aspects. They do not want the electronic to "get cluttered" to different places of the equipment, which would be useful for good decoupling. And sometimes the mechanical eqipment lets you not do, what would be good to avoid crosstalk and pickup. Although this, you have to provide a working design. And that could make problems when changing a working prototype layout because TQFP. But it helps, what you said above.

*>> And what is about emulation, when the processor is soldered into the
>> board?*

Still unanswered

*>Relax a little more and don't get so flustered. Sit and think a bit
>more about what you are doing and whether there may be better
>approaches. I haven't followed this thread from the beginning but I
>am sure that pausing for thought to think what others have said here
>will help you resolve the problems you feel you are having.*

They said, that I could program the controllers in-circuit. I know that. This helps only for the software, but not for the hardware.

Maybe, I should calm down But that does not change this fact: The die of PLCC makes problems for analog-development not easier. And I am quite safe, that this bothers not only me.

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Paul dankt den Helfern,
wünscht jedem viel Spaß im Usenet
und grüßt alle, die dies lesen. :-)
Thanks to all usenet-helpers and regards.