How Do I Know If My Invention Is Patentable?

This Patent Stuff and My Semiconductor Business – Part 15

Welcome to this post about patents and chips. Not a lot has been written about this combination, but there is a lot to know, especially for the innovators and entrepreneurs themselves. In this three-weekly series, I talk about various aspects, from my dual points of view of a patent agent and a semiconductor entrepreneur. If you like the article and read it on LinkedIn, give it a thumbs up, and/or click on Follow. If you like to work with us for your next patent, "contact us" info is on www.icswpatent.com. You can also subscribe/unsubscribe for short email alerts when the next post is available.

15.1 Utility Patent

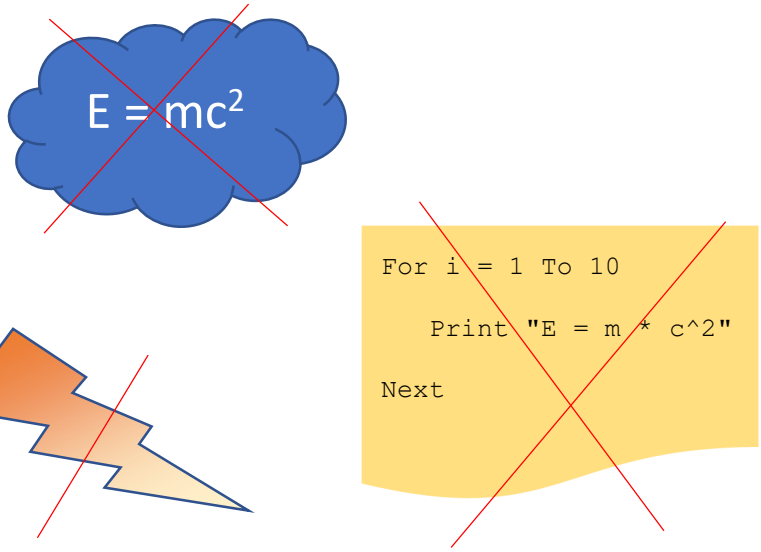
I had promised not to give you legal advice. So I'll need to answer this from a semiconductor business perspective, and leave out stuff that is not relevant to you. In the US there is only one type of patent that is interesting for semiconductor and software companies. It is called a utility patent. In some countries, there exists a second tier of patents. I write about those further down. In any case, before you decide anything on the basis of this post, talk with a patent practitioner.

Back to the utility patent, in the US and strategically relevant countries. Although the laws vary a little bit, they're fairly similar. You can patent:

- A circuit, a system, a machine
- A method, for example a method of processing a signal, or a method of manufacturing your product
- A material

You cannot patent:

- An abstract idea
- A computer program (although many software innovations are patentable, at least in the US)
- Laws of nature, physical phenomena, products of nature
- Algorithms
- Electric signals, data structures, games
- A new application to something that existed before



There are a few basics:

- It must be useful (hence utility patent)
- It must be new (unpublished) and innovative
- You must be the inventor, and the first one to patent it
- It must not be obvious to a "person having ordinary skill in the art"

There are endless details to add to this, but you've got the broad picture here. If you've invented something new, ingenious and useful, and it's a piece of electronics, a method, or a material, there's a good chance you can get a patent for it.

15.2 Software

Software is the one item for patentability where countries have huge differences. Many countries do not allow patenting software. Some countries theoretically allow it, but are temporarily in limbo for determining regulation. In the US, you cannot patent an algorithm, but you can patent a method. US patent laws changed significantly in 2013, and it took several years for case law, regulations, and rules toward patentability of software to crystallize. It is now much clearer what is allowable and what not, and I personally believe that it has benefited the quality of new patents.

For instance, even though you cannot patent an algorithm, an innovation in EDA may still be patentable. Of course, the above points must be respected. However, the details about patentability are beyond the scope of this post. Talk with your patent practitioner.

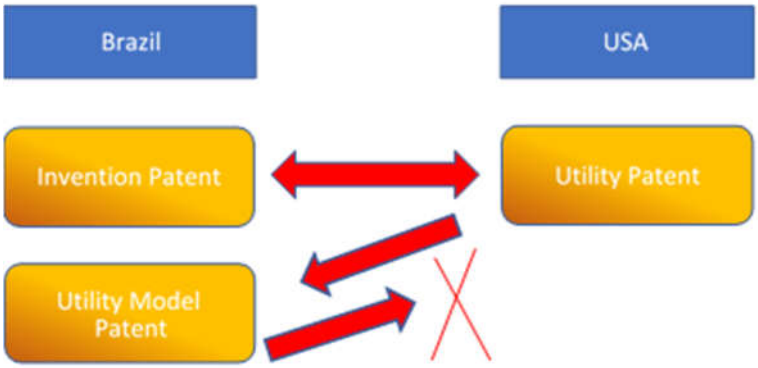
15.3 My Invention Involves a Custom Foundry Process

If you're the inventor of the custom foundry process, in all likelihood you already have an army of lawyers dancing around your desk (virtually dancing around your lockdown desk) to help you get your patent. The stakes for a foundry are high, even for the smallest foundries. If you have an innovation, they will patent it.

If you're the *user* of a custom foundry process, the question whether your invention is patentable may be a bit more nuanced. The basics described above all apply. The more ingenious and unexpected your use of the custom process is, the better your chances for a patent. But the question of obviousness lurks above your head—even though obviousness has loads of case law to help courts decide if something is obvious or not, there is always a gray area. If your invention is to use a SiGe process to get a faster RF circuit at a lower wafer price, then you shouldn't need a lot of lawyers before somebody tells you it's obvious, and not patentable. But there could be special circumstances, for instance leading experts have publicly advised against the use of SiGe for your type of circuits because there is some issue with it. The issue results in runaway currents and exploding packages. Now you have solved that problem in some way that is an inherent part of your invention. Your chances for a patent are suddenly excellent.

Talk with a patent expert to learn about the chances in your particular case.

15.4 Some Countries Have an Additional Tier of Patents



In some other countries there is also a second type of patent. Usually it has lower thresholds for innovation and uniqueness. Compare for example the patents types in Brazil with those of the US. If you have invented a new wireless transmission coding system, you can apply for a utility patent in the US, and in Brazil you can apply for its equivalent, called an invention patent. Or you could apply there for a utility model patent, which is easier to get. But in contrast, an invention which could get a utility model patent, may not qualify for either a Brazilian invention patent or a US utility patent.

For a regular US chip company, you may not bother about those second-tier patents in other countries. However, it could be different if you have a subsidiary in Brazil (or another country with that kind of patent), or if you are a Brazilian chip company. Why? Normally that country might not be on your radar screen for patenting. But if your invention was made with the help of some technology subsidy in that country, there may be a requirement that you file a patent there. This is often the case when local authorities need a metric for the success of their innovation stimulus program. In such a case, you file a utility model patent or its local equivalent in that country, and regular (utility) patents in the countries where normal patenting makes strategic sense.

Upcoming:

16. How Do I Screen My Employee's Invention Before Deciding on A Patent?
17. A Prior Art Search Before Filing the Application
18. Should I Pay Extra to Get the Patent Faster?
19. How Many of Those Patent Office Actions Should I Budget For?
20. My Company is Located in Brazil. How Do I Manage Patenting Worldwide?

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1. So You Got This Great Idea That Will Wipe Out Competition. Now What?
2. Developing an IP Protection Strategy for Your Semiconductor Company – PART I
3. Developing an IP Protection Strategy for Your Semiconductor Company – PART II
4. In What Countries Should I Patent, Anyway?
5. Choosing the Right Patent Person for Your Inventions
6. How is a Chip or Firmware Patent Different than Other Patents? What About a Software Patent?

7. Woohoo! I Invented a Huge Improvement over My Competitor's Invention!
8. I'll Be A Billionaire Soon Enough. But Now I'll Just Buy This Book on Patent Writing on thriftbooks.com.
9. My CTO Can't Explain His Invention to Me. But He Is the Smartest Guy in the World.
10. Should I Do a Provisional, Non-Provisional, Or a PCT?
11. What Makes and Inventor, and How Can I Stimulate Innovation?
12. My Invention is Vital for My Business Plan. But I Don't Have Much Money Yet. How Can I Save?
13. I Want to Protect It Now, But Am Still Working Out Architecture Details. Can I Add Those Later?
14. I Want to Use an FPGA Before an ASIC. Can It Be One Patent?
15. How Do I Know If My Invention Is Patentable?
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