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Licensing Strategies to Monetize Existing IP in Semiconductor Industry

With market valuation forecasted to exceed $500 billion by 2020, the semiconductor industry has grown tremendously over the last few decades. Semiconductors, from electronic gadgets such as computers, mobile phones, desktops to consumer goods such as intelligent furniture or lightings, have penetrated every aspect of human life. Big brands, start-ups, or universities, each entity wants its share of the pie in this multibillion dollar industry. Generally, semiconductor companies are classified into two categories: integrated device manufacturers (IDMs) that have fabrication facilities and fabless companies that outsource device fabrication to third-party foundries. With investment ranging from $50 to $100 million, starting a fabless semiconductor company can be very expensive. The question, therefore, is that given the heavy investments and risks involved, is every entity successful in establishing a strong foothold in the market? Well, the answer is a "no"! The recent case of Tabula Inc., a Santa Clara–based semiconductor company that had raised more than $200 million funding, is a case in point—it had to shut down as the products failed to have the desired impact on the market.

Big brands such as Intel, IBM, and Samsung are constantly trying to expand share in the market by creating strong IP roadblocks in their products. These companies generally in-license various technologies from companies to create off-the-edge products. Thus, various companies have adopted effective patent-licensing strategies to generate passive revenue and build an unwavering position in the market. Companies such as Texas Instruments, IBM, Qualcomm, and Micron have generated billions of dollars by effectively licensing IP portfolios to competitors or to adjacent industries. Here are a few key strategies adopted by companies to maximize benefits from licensing programs.

Effective Licensing of IP Blocks

Existing system on chip (SOC) devices require integration of many system functions with various hardware, embedded software, and different operating systems. Thus, developing such devices from the scratch is too costly even for integrated device manufacturers with in-house engineering capabilities. Design IP facilitates the development of SOC using existing software and hardware IP blocks. The challenge here is to negotiate, manage, and keep track of the licensed IP being used across the end-products of various big corporations. To address this, the strategy followed is to develop a novel licensing scheme for core blocks such as "pay-per-use", where a third party executes a metering service to monitor the use of design IPs.

Software IP Protection

With the increasing shift toward development of novel software from hardware, protecting the software has become an integral part of IP licensing programs. Software IP protection laws are different across countries, with some not even having any. Thus, an entity must choose the territory judiciously to ensure its software gets maximum protection under the prevailing law.

Complex Ecosystem

The semiconductor supply chain ecosystem is highly complex. Many semiconductor companies usually service the same set of system customers and generally use same suppliers, equipment, and design IP. This increases the complexity of the licensing agreement when the companies intend to cover the licensing rights over their suppliers, customers, and affiliates. Keeping the complexity in mind, a licensor must, therefore, carefully license just the right technology. The licensor should ensure that the technology licensed is used only for particular systems and products. Another factor to consider is the ever evolving patent law over patent injunctions and exhaustion. Given the backdrop of the complex ecosystem, it is imperative to prudently plan the licensing campaign.

The Foundry Problem

Patent exhaustion laws and broad cross-licensing schemes have created the *foundry problem* in the semiconductor industry. Let us look at a typical scenario pertaining to this issue. Company A grants license to company B to use, sell, and make the patented invention. Now, a third company, C, develops a novel design for a semiconductor chip, but is unable to manufacture it either due to the absence of manufacturing capabilities or due to the likelihood of the design infringing on company A's licensed IP. This leads company C to contract with company B for fabricating the chip. If company B fabricates the chip for company C, there may be opposition from company A as A is a competitor to C. Such a quagmire can be overcome if the licensor avoids broad cross-licenses and negotiates on patent-by-patent basis.

Correctly Designing an IP Portfolio

A licensing company must design its IP portfolio judiciously after considering the technical and business value of the patents. The company must build its portfolio around critical technologies and add external IP to strengthen its portfolio. The best approach can be to score its patents over a propriety matrix such as Aranca's propriety PQI matrix and identify critical high-value patents relevant to the company's business strategy.

The significance of strategies in effective licensing of semiconductor IP notwithstanding, entities would do well to hire an experienced attorney or licensing expert. As drafting and executing a licensing agreement is both tedious and tricky, leveraging on an expert's skill, a licensor can smoothly negotiate/prepare the deal as well as ensure hassle-free execution without inadvertent anti-trust breaches and collisions.

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